


made in germany 



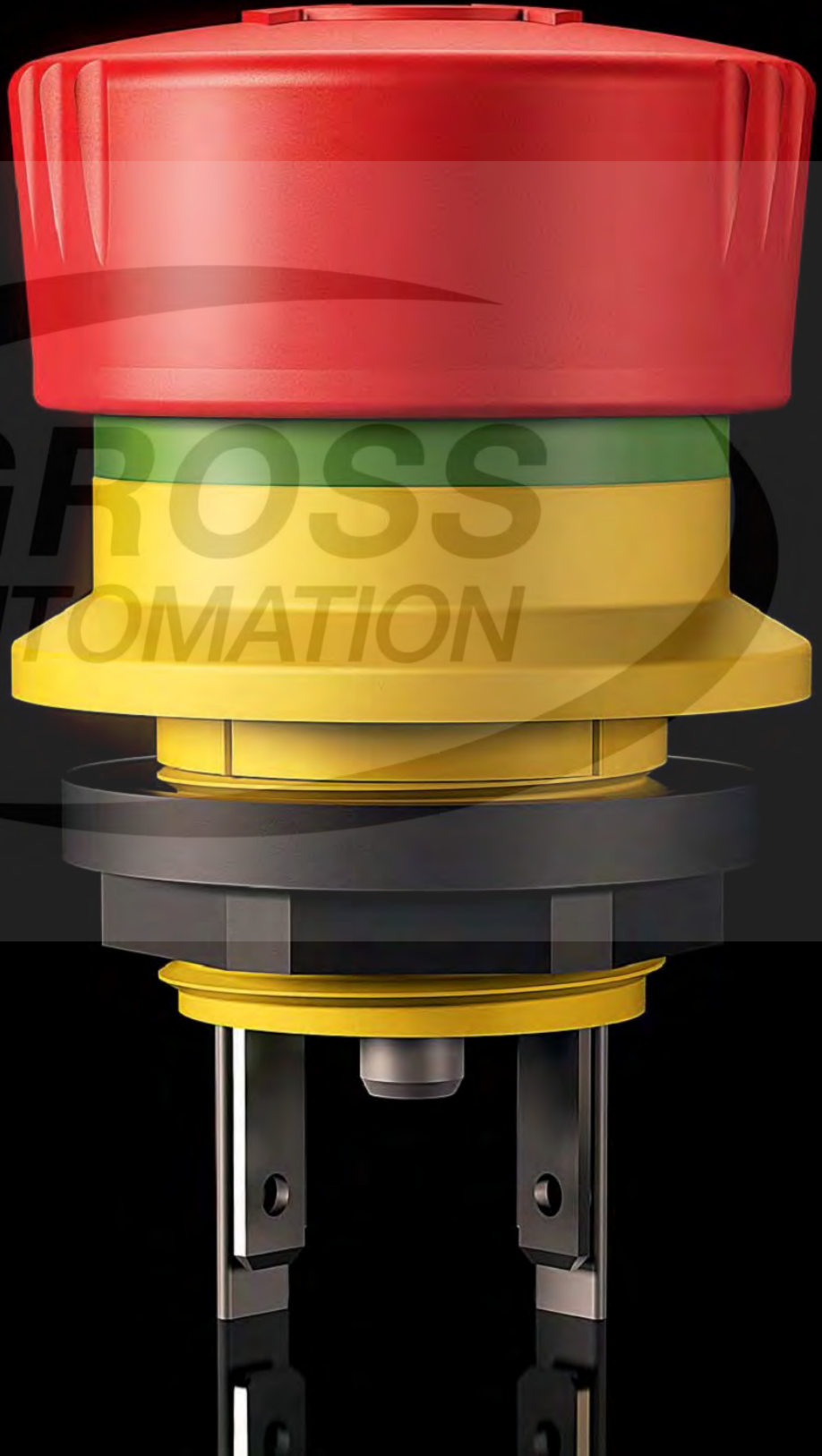
GROSS
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Product Catalogue
Fascinating Electrotechnics

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6-7-8

Control Units
Fieldbus Interfaces
Terminal Blocks
Limit Switches
Pedal Switches
Enclosures
Customised Solutions



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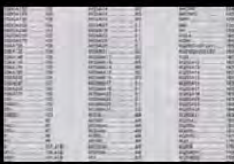
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SN 1100QA

About Us

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Tradition and Progress

The company Schlegel Elektrokontakt stands for innovation, good design and quality "Made in Germany". From tradition the best has been taken over, however, development has never stopped though.

To actively shape the future, Schlegel has continuously developed new products for new applications. Thus in-house production includes not only control units, pilot lights and terminal blocks but also emergency stops, pedal switches, membrane and short-stroke pushbuttons, enclosures, limit switches, operator control panels and functional modules. Moreover, electronic solutions with integrated fieldbus technology are part of the product portfolio, just as customer-specific solutions for individual fields of application.

The products are all-over made in Germany, from development and toolmaking to final production. The company purchases the necessary raw materials on the world market. Schlegel goes global. Whether in the car wash, the fire engine, in laboratory techniques,

on ships, in trains or international airports - Schlegel control units are in demand all over the world.

In addition to sales branches in Austria and Singapore, Schlegel maintains industrial representatives in 88 countries. The export share is 45 percent but is likely to be closer to 70 percent, if it is considered that German customers also sell their equipment and machines on international markets.

Good Design

The Schlegel products have received more than 90 national and international design awards. Fact is that decades ago Schlegel has realised that technical functionality and operator convenience make the switch or pushbutton the "calling card" of a device. They

are the link between human and machine and are used wherever a command is triggered at the touch of a button. The shape thereby shall support the function.

Schlegel Leipzig

The company was founded in Leipzig on 10th March 1937 under the name Monopol. In 1951 it was renamed as DUX Elektrotechnische Fabrik.

Different combines were successively responsible for DUX. In 1980 the company merged into the VEB combine Robotron.

With effect from 30th June 1990 DUX Schaltgeräte GmbH was registered again as independent enterprise.

On 1st April 1993 the company was sold to Georg Schlegel GmbH & Co. KG, with the assistance of the Treuhänder.

Since that day the two companies complement each other in the market, thus, rounding off their product portfolios.

In the initial years the company developed, produced and sold installation technology, starting with insulated indicator devices with drop indicator technology over doorbell buttons and panels to signal bells, door contacts and limit switches. Later on the company specialised in components for industrial circuit control systems. During the last years particular attention was paid to the production and development of control units, enclosures and limit switches

as well as to the production of control panels for the building automation sector. Another focus is the creation of customer-specific solutions. Here the company responds more and more to individual requirements, creating the desired solution in close collaboration with the customer. Our advantage is being able to resort to many components out of the Schlegel modular construction systems in order to provide a cost-efficient solution to the customer.

Another important aspect is the design, on which we have been focussing more and more during the last years. A typical example are our control units of the "DUX-Basic series".

In November 2005 DUX was certified according to DIN EN ISO 9001:2000.

In July 2013 DUX was renamed as Schlegel.



company building Schlegel Elektrokontakt GmbH, Leipzig

Subsidiary in Austria

The Schlegel Vertriebs Ges.mbH, as it is called today, was founded on 1st February 1980 as Schlegel-Sarel Vertriebsges.m.b.H.

Just as the two company names imply, this combination of firms was a very good basis for selling products like switch cabinets and the necessary components, such as terminal blocks and control units.

A quick growth of both companies affirmed this assumption, so that Schlegel-Sarel was converted into today's Schlegel Vertriebs Ges. mbH, being a 100% Schlegel subsidiary.

From the original location in Vienna-Mauer with a storage space of 10 m² and two employees Schlegel Austria quickly grew up to a sales office with 15 employees storing a large assortment of products in an area of 150 m². We supply our products from there to many reputable commercial and industrial enterprises. We also manufacture complete pushbutton panels, as well as customised terminal block assemblies and control stations.

Schlegel Österreich is responsible for sales and marketing in the following countries:

Bosnia-Herzegovina, Macedonia, Czechia, Hungary, Serbia, Slovenia, Croatia, Slovakia, Romania and Bulgaria.

In Czechia and Croatia we are represented by local companies with own stockkeeping.

The high quality, the outstanding design, but not least the proverbial Swabian reliability and price-worthiness of Schlegel products is being appreciated by a more and more increasing customer family.



company building of Schlegel Vertriebs Ges.mbH, Österreich

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Control Units

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Series Overview - Actuators

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Panel cut-out: **Ø 16.2 mm**



OKTRON

Front dimensions:
25 x 25 mm

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OKTRON-R

Front dimensions:
Ø 25 mm

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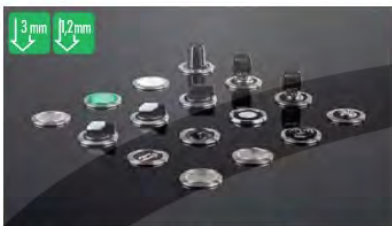


QUARTRON

Front dimensions:
25 x 25 mm

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Panel cut-out: **Ø 22.3 mm**



RONTRON-R-JUWEL

Front dimensions:
Ø 28 mm

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RONTRON-Q-JUWEL

Front dimensions:
28 x 28 mm

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SHORTRON

Front dimensions:
Ø 28 mm

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SHORTRON for base-plate mounting

Front dimensions:
Ø 28 mm

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SHORTRON M12

Front dimensions:
Ø 28 mm

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RX-JUWEL

Front dimensions:
Ø 28 mm

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RONDEX

Front dimensions:
Ø 28 mm

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RONDEX-M

Front dimensions:
Ø 28 mm

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214



DUX-Basic

Front dimensions:
Ø 30 mm

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QUARTEX-R

Front dimensions:
30 x 30 mm

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RVA stainless steel

Front dimensions:
Ø 28 mm

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Panel cut-out: **Ø 30.5 mm**

Panel cut-out: **25x25 mm**

Panel cut-out: **27x27 mm**



KOMBITAST-R-JUWEL

Front dimensions:
Ø 36 mm

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OKTRON-JUWEL

Front dimensions:
25 x 25 mm

page
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QUARTRON-JUWEL

Front dimensions:
27 x 27 mm

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Panel cut-out: **30x30 mm**



QUARTEX-R-JUWEL

Front dimensions:
30 x 30 mm

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Vandalism-proof Actuators



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>> Control Units

Use & Application Fields

Schlegel control units include a variety of complete pushbutton and switch series for front-panel and base-plate mounting. The actuators are designed for exclusive applications as well as for use in harsh environments. They are housed in attractive, square, rectangular or round insulating bodies, allowing side-by-side assembly and thus full keyboard arrangements.

Due to the flexible contact configurations and ease of assembly, the units can be used in every field of application.

Mounting of Actuators

First, the required mounting holes have to be drilled, punched or lasered (refer to the relative drilling pattern on the starting page of each series). For round cut-outs, keep in mind to provide a recess for the locating lug.

The actuators are then inserted into the cut-outs and fixed with a mounting nut on the rear.

Because they are almost completely recessed in the panel, the square Juwel actuator housings require a spacer to be put on from behind before securing them with the mounting nut.

Lenses and nameplates have to be ordered separately unless otherwise stated. This provides high flexibility to the combination of lens colours and inscriptions once the control units are mounted in the panel (see illustration under "Mounting and Service Instructions").

Mounting of Contact Blocks

All Schlegel contact blocks have rounded corners and edges and thus allow a comfortable use without risk of injury.

For the 22 mm series with bayonet applies: With the M...type series, first insert the contact modules into a module holder, then snap the module holder onto the actuator neck by a rotary motion (bayonet coupling). For side-by-side arrangements with the D... type series, snap the module holder onto the actuator neck first by a rotary motion, then insert the contact modules into the module holder. The contact blocks ETR... (one-piece) do not need a module holder, so snap them directly onto the actuator. As to the actuators with 16mm bayonet, simply snap the contact blocks of the type series A, B, C and P onto the actuator neck (no module holder necessary). A slight twist enables to snap them off again.

The contact units of the type series CTP and CZ (suitable for PCB's) are first soldered onto the PCB, then put onto the actuator of the 16 mm series and fixed by a small locking bolt. This bolt can be moved with a screwdriver through a hole in the PCB.

Assembly Instructions for Base-plate Mounted Version

- snap the relative contact block onto the actuator neck
- Spacer sleeves ensure the correct distance between PCB and mounting plate.
- Screws must be secured against loosening.

Note for base-plate mounted type "FRVKZ" (with plunger extension): ATTENTION: must not be used for the illuminated version !

Note for base-plate mounted type "FRVKZL" (with plunger extension): ATTENTION. use only for the illuminated version !

Illumination

For the illumination of pushbuttons, selector or key switches and pilot lights either incandescent lamps, neon lamps or LED's can be used. The contact units are optionally available with BA9s, T5,5K or W2x4,6d sockets or integrated LEDs, depending on the particular type series.

Marking Options

With the importance of an efficient component marking in mind, the Schlegel control units have been designed to accept a clearly visible marking, easy to produce and comprising a variety of symbols and inscriptions. Hence, a multitude of standard nameplates are available, but also customer-specific imprints are possible.

The nameplates are inserted under the lenses and are thus protected from wearing and soiling. Still today this is the best system which was originally a development of Georg Schlegel. Other marking options offer the external markings using special nameplate holders. These nameplates can also be printed with standard symbols or according to users' requirements.

Front Bezel Colours (refer to the relative series)

Other front bezel colours can be supplied on request.

We reserve the right to make modifications in the interest of technical progress. All information given herein serves only for product description and is not legally binding.

Misprints and errors do not justify any claims.

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Illustrations can deviate.

Internationally protected design.

Please refer to www.schlegel.biz/web/de/manuals.php for detailed instructions for use and assembly.

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Degree of Protection (acc. to IEC/EN 60529)

The SCHLEGEL actuators generally comply with IP65 (this refers to the component in front of the switchboard). Special versions, as e.g. for the food processing sector, are classified up to IP69K. For extremely severe conditions, e.g. coarse dirt, chippings, flour, etc., there are membrane pushbuttons available or actuators with transparent silicone or PVC caps.

Materials

Only top-quality materials such as polyamide 6.6 / polyamide 12 (partially reinforced) and other proven engineering plastics are utilised. Tin-plated brass is mostly used for the terminals of the contact blocks. The contacts are of a silver-nickel alloy but can also be gold-plated on request (gold-plating 5 µm). A special surface makes them self-cleaning. All products are RoHS compliant.

Technical Characteristics

As to the technical characteristics, approvals and operating and ambient conditions of the contact blocks, please refer to the catalogue information given on the starting pages of the relevant type series.

The stroke / operating travel is shown in pictograms separately for each actuator and in switching diagrams for the relevant contact blocks. This information is included as well in the technical specifications.






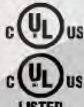












The positive opening function of the NC contacts, which is necessary for emergency-stop applications is identified by a symbol (circle with horizontal arrow) next to the relative switching diagram.

Definition of the IP Codes

Standards & Code Digits	Numerals or Letters	Protection of equipments	Protection of persons
EN 60529		Protection against solid foreign objects (incl. dust)	Protection against hazardous parts
First digit	0	non-protected	non-protected
	1	≥ Ø 50 mm	with the back of a hand
	2	≥ Ø 12.5 mm	with a finger
	3	≥ Ø 2.5 mm	with a tool
	4	≥ Ø 1.0 mm	with a wire
	5	dust-protected	with a wire
	6	dust-tight	with a wire
		Protection against ingress of water with harmful effects	
Second digit	0	non-protected	
	1	vertically falling water drops	
	2	water drops (tilted up to 15°)	
	3	spraying water	
	4	splashing water	
	5	water jets	
	6	powerful water jets	
	7	temporary immersion in water	
	8	continuous immersion in water	
9	high pressure and high temperature water jets		
ISO 20653:2013		Protection against solid foreign objects (incl. dust)	
Second digit	9K	high pressure and high temperature water jets	

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Approvals

Symbol	Name / Organisation	Explication
	CE Kennzeichen, Communautés Européennes	With the CE mark, the manufacturer confirms that the product meets the product-specific requirements of the applicable EC Directives.
	VDE Verband der Elektrotechnik Elektronik Informationstechnik e.V.	The VDE mark indicates conformity with the VDE Standards or European or internationally harmonised standards and confirms conformity with the safety requirements of the applicable directives.
	ENEC European Norms Electrical Certification	European approval mark (applies to switches for appliances acc. to EN 61058). Replaces the national European Directives of the participating countries. The figure after the ENEC marking refers to the relative national certification authority, e.g. 05=KEMA, 10=VDE.
	KEMA Keuring van Elektrotechnische Materialen te Arnhem	Certification mark of the Dutch approval authority
	Underwriters Laboratories	UL Listed mark, representative samples of the product have been tested by UL and are complying with the US safety requirements.
	Underwriters Laboratories	UL Listed mark, representative samples of the product have been tested by UL and are complying with the US and Canadian safety requirements.
	Underwriters Laboratories	UL Recognized mark, UL marking for approved components that are part of a larger product or system
	Underwriters Laboratories	UL Recognized mark, representative samples of the product have been tested by UL and are complying with the US and Canadian safety requirements.
	Canadian Standards Association	Approval mark of the Canadian certification authority, products bearing this mark have been certified by CSA and are complying with the applicable Canadian Standards.
	Canadian Standards Association	Approval mark of the Canadian certification authority, products bearing this mark have been certified by CSA and are complying with the applicable Canadian and US Standards.
	Demko	Danish approval mark which is registered and provided by UL International Demko A/S. The D mark demonstrates that the certified product complies with the applicable requirements.
	Nemko	Certification mark of the Norwegian approval authority
	Semko	Certification mark of the Swedish approval authority
	Fimko	Certification mark of the Finnish approval authority
	Det Norske Veritas	Certification mark of the Norwegian approval authority Products bearing this mark comply with the ship classification requirements
	Germanischer Lloyd	Certification mark of the German approval authority Products bearing this mark comply with the ship classification requirements
	UkrSEPRO	Certification mark of the Ukrainian approval authority
	Gost-R	Certification mark of the Russian approval authority

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Approvals

Symbol	Name / Organisation	Explication
	China Compulsory Certificate	Certification mark of the Chinese approval authority CQC
	TÜV	German approval authority Approval authority for safety-related components such as emergency-off / emergency-stop components
	AS-International Association	Mark for certified AS-Interface components
	Lloyd's Register	Lloyd's Register of Shipping, UK approval authority for ship certification

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Mode of Operation of 3-position Selector and Key Switches

One-piece plunger:

The one-piece plunger of the 3-position selector and key switches is not pushed in the left position, in the centre position it is pushed half way whereas in the right switching position it is entirely pushed through.

Using a contact block with a NC contact (opens after a travel of approx. 1.5mm) and a NO contact (closes after a travel of approx. 4mm), the switching mode changes as follows:

1. left-hand = switching travel 0mm = NC closed, NO open
2. centre = switching travel ~3mm = NC and NO are open
3. right-hand = switching travel 6 mm = NC open, NO closed

This yields the advantage that it is not important in which „direction“ the contact elements are snapped on, the switching situation always results from the switching travel. This also means that cross coupling of the contact elements is allowed.

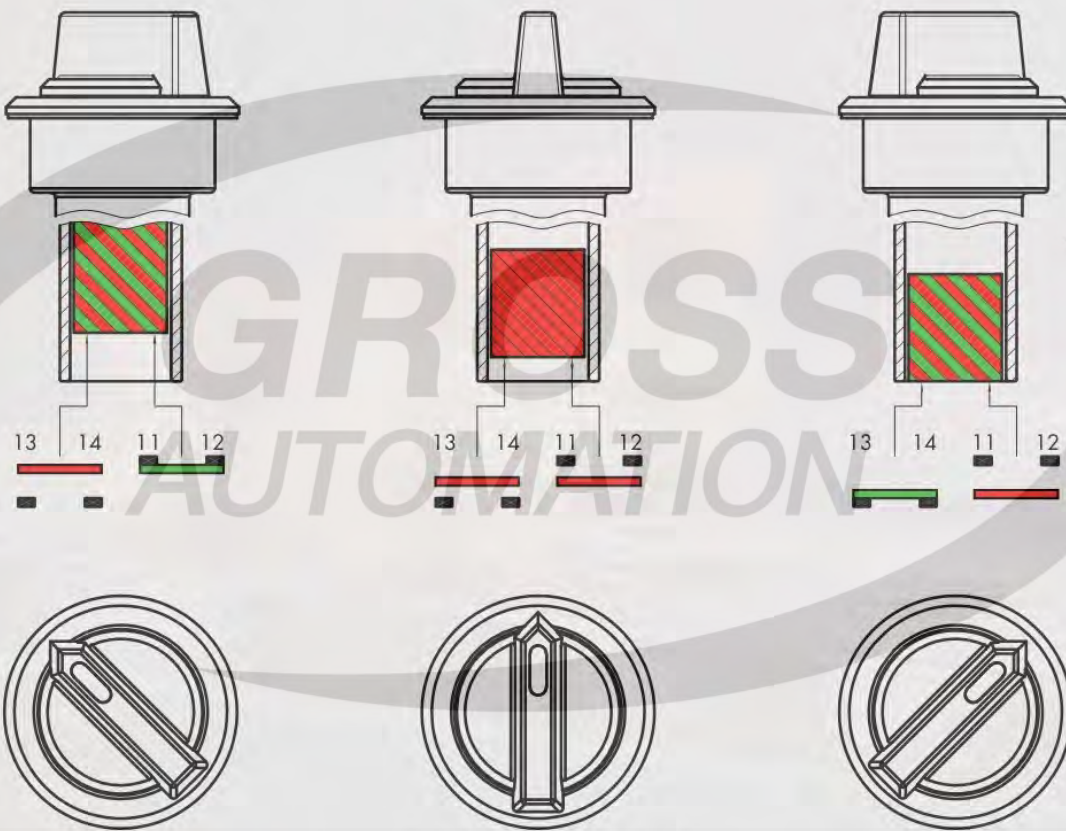


illustration of one-piece plunger

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Two-piece plunger:

The actuator plunger consists of 2 separate half shells. In the left switching position the left plunger part is operated, in the right switching position it is the right contact element. In the centre switching position none of the two contact elements is activated. Therefore, it should be noted that a cross-coupling of the contact elements is NOT allowed! In addition, the contact elements must be snapped on correctly, otherwise any actuation will lead to the opposite function.

In order to obtain the same switching situations as mentioned before, two NO contacts must be used:

1. left-hand = left plunger part operated = left NO contact closed, right NO contact open
2. centre = no plunger part operated = both NO contacts open
3. right-hand = right plunger part operated = left NO contact open, right NO contact closed.

The two-piece plunger is used in the selector heads and key actuators of the following series:

Oktron, Oktron-R, Oktron-Juwel, Rontron-R-Juwel, Rontron-RJ-Edelstahl, Rontron-Q-Juwel and RX-Juwel (RXJZSSA12E and RXJZWBL), Kombitast-R-Juwel (KRJZ...).

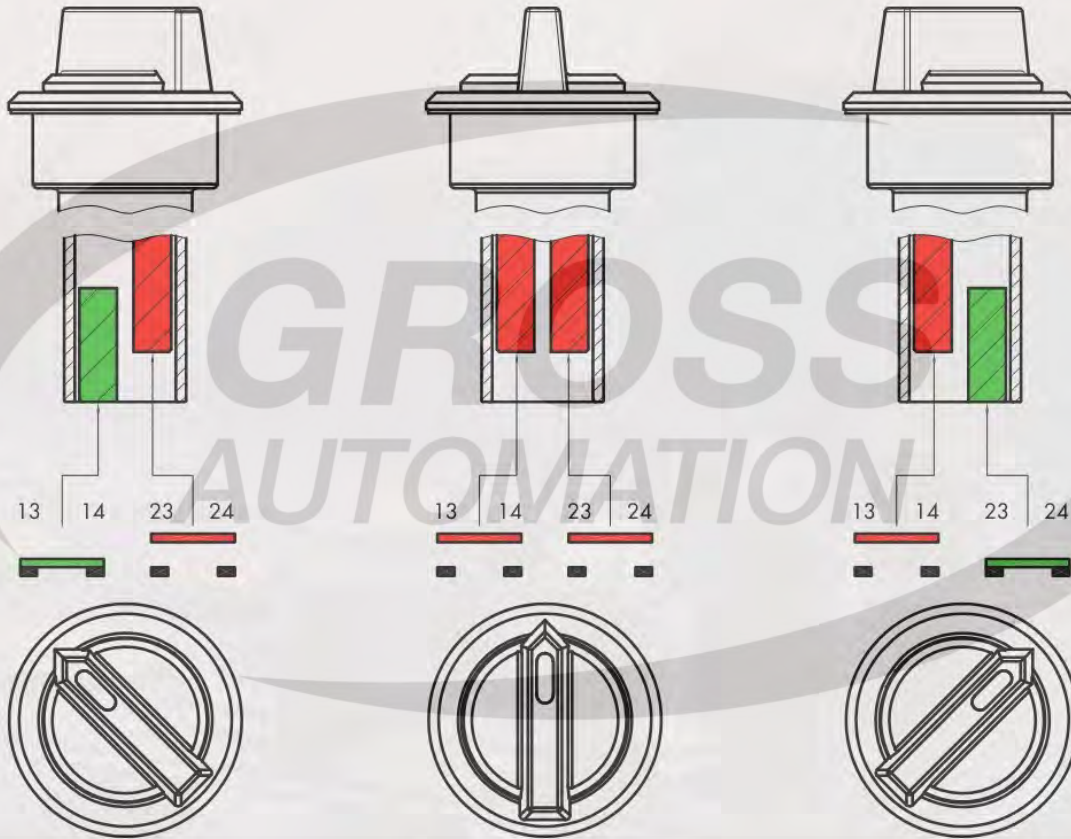


illustration of two-piece plunger

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Front dimensions: 25 x 25 mm
Panel cut-out: Ø 16.2 mm
Front bezel height: 7.5 mm
Travel: 3 mm

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OKTRON

 Product configurator



Overview OKTRON series



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Housing Colours



IP65 degree of protection


3mm operating travel

illuminating option


labelling option


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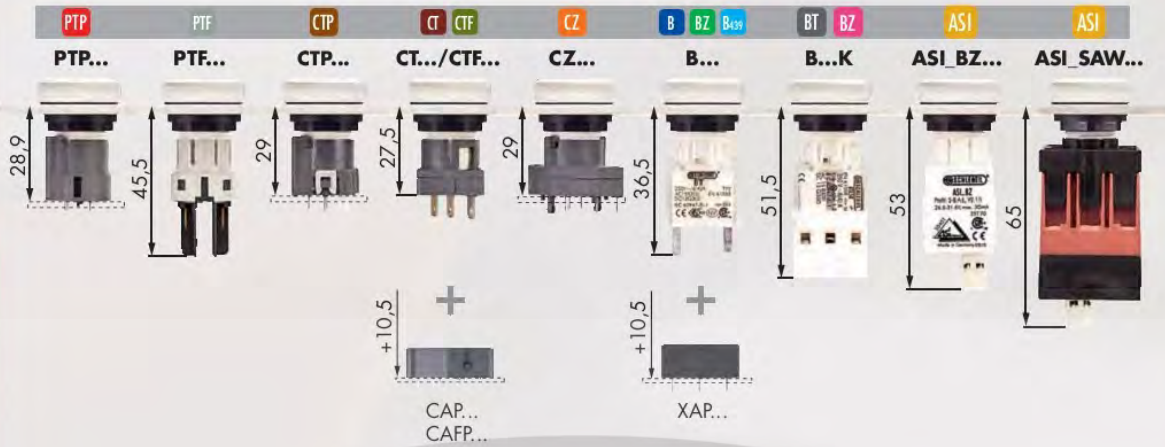
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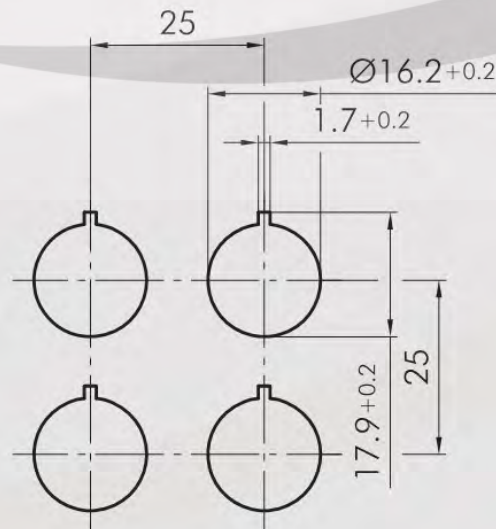
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Mounting Depth Dimensions



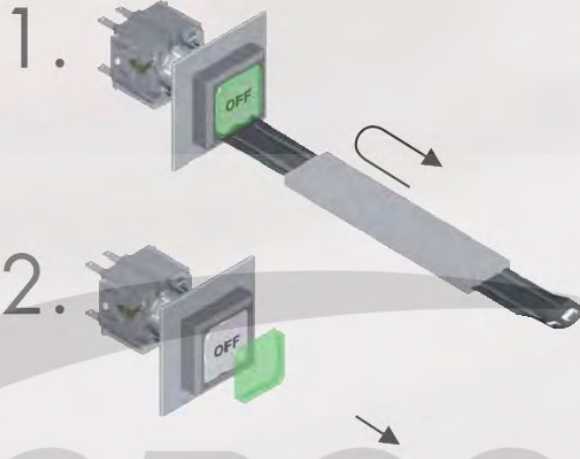
Cutout Dimensions

Min. mounting grid 25 x 38 mm when using external nameplate holders.



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Mounting and Service Instructions



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Ø 16.2 mm

Pushbutton Heads


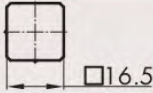

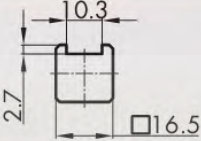
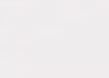
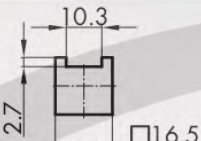

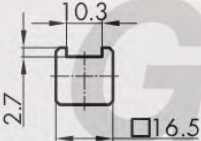
Lenses and nameplates to be ordered separately

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- Limit Switches
- Type Index

Illustration	Dimensions	Description	Type
		Pushbutton Head suitable contact blocks BUS ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel charcoal silver-coloured	OKT OKTM
		Pushbutton Head The light is concentrated to the border of the lens. suitable contact blocks BUS ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel charcoal silver-coloured	OKTLL OKTLLM
		Pushbutton Head with high front bezel suitable contact blocks BUS ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel charcoal	OKH
		Flat Lens, transparent colour	TOKFBL TOKFGB TOKFGN TOKFKL TOKFRT TOKFWS
		Flat Lens, non-transparent used in pushbuttons without inscription and illumination colour	TOKFGDG TOKFGBL TOKFGGB TOKFGGN TOKFGSW TOKFGRT TOKFGWS
		Nameplate with standard imprint please specify index number (see nameplates on pages 404)	BSOK...
		Nameplate with special imprint according to customer's specification	BSOKB

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Accessories for Actuators

Illustration	Dimensions	Description	Type
		Blank Nameplate	BSOKU
		Nameplate with standard imprint Please specify index number (see nameplates on pages 404)	BSOKLL...
		Nameplate with special imprint according to customer's specification	BSOKLLB
		Blank Nameplate	BSOKLLU

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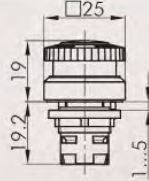
Emergency Stops

Illustration

Dimensions

Description

Type



Emergency-stop Head

Other mushroom colours on request

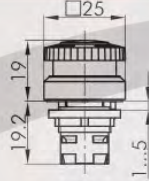
- foolproof No
- switching position indicator No
- anti-lock collar No
- release twist right or left

suitable contact blocks

AZ BZ BZ PTP PTF

- mushroom head red
- front bezel yellow

OKVGB



Emergency-stop Head with illuminating and labelling option

including blank nameplate (inscription on request)

- foolproof No
- switching position indicator No
- anti-lock collar No
- release twist right or left

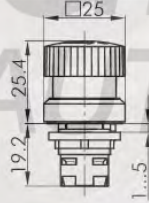
suitable contact blocks

AZ BZ BZ

- mushroom head red
- front bezel yellow

OKVLGB

IP65



Emergency-stop Head

- foolproof Yes
- switching position indicator No
- anti-lock collar No
- release twist right or left
- Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks

AZ BZ BZ PTP PTF

- mushroom head red
- front bezel yellow

OKUVGB



For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 366

The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

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Mushroom Heads

Illustration	Dimensions	Description	Type
<p>IP65 3 mm Sun icon</p>		<p>Mushroom Head, momentary other mushroom colours on request switching position indicator No anti-lock collar No suitable contact blocks BUS AZ B BF BZ BZ B439 CT CTF CTP CZ</p> <p>mushroom head red front bezel charcoal silver-coloured</p>	<p>OKS OKSM</p>
<p>IP65 3 mm</p>		<p>Pushbutton Head, latch-type red knob, momentary function on the left, latching/switching function on the right. Other mushroom colours on request switching position indicator No anti-lock collar No suitable contact blocks BUS AZ B BF BZ BZ B439 CT CTF CTP CZ</p> <p>mushroom head red front bezel red silver-coloured</p>	<p>OKTV OKTVM</p>

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**Knob Set for potentiometers
Selector Switches (momentary/maintained)**

I = Switching position
> = Spring return

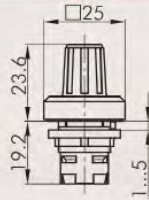
Illustration

Dimensions

Description

Type

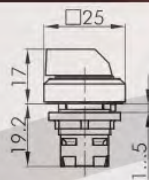
IP65



Knob Set for potentiometers
for potentiometers of 6 mm shaft dia. and thread M10x0.75. Delivery without potentiometer. Shaft length: approx. 32 mm

front bezel	charcoal		OKR
	silver-coloured		OKRM

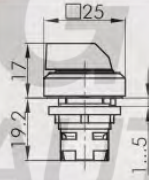
IP65



Selector Head, maintained

suitable contact blocks			OKWA
BUS ASI AZ B BF BZ BZ B499 CT CTF CTP CZ			
front bezel	charcoal		OKWAM
	silver-coloured		
suitable contact blocks			OKWB
ASI AZ BZ BZ B499 CT CZ			
front bezel	charcoal		OKWBM
	silver-coloured		

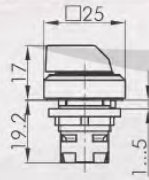
IP65



Selector Head, momentary

suitable contact blocks			OKSTA
BUS ASI AZ B BF BZ BZ B499 CT CTF CTP CZ			
front bezel	charcoal		OKSTAM
	silver-coloured		
suitable contact blocks			OKSTB
ASI AZ BZ BZ B499 CT CZ			
front bezel	charcoal		OKSTBM
	silver-coloured		

IP65



Selector Head, left maintained, right momentary


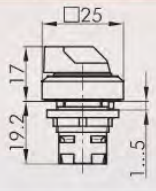







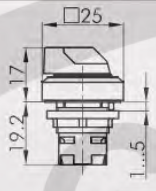







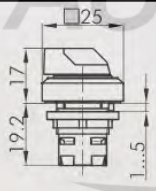





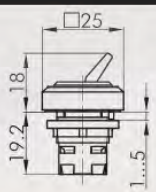


suitable contact blocks			OKWC
ASI AZ BZ BZ B499 CT CZ			
front bezel	charcoal		OKWCM
	silver-coloured		

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**Selector Switches (momentary/maintained)
Toggle Heads**

I = Switching position
> = Spring return

Illustration	Dimensions	Description	Type
		<p>Illuminated Selector Head, maintained Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. OKWAL_GN)</p> <p>suitable contact blocks BUS ASI AZ B BF BZ BZ B439 CT CTF CTP CZ</p> <p>front bezel charcoal  silver-coloured </p> <p>suitable contact blocks ASI AZ BZ BZ B439 CT CZ</p> <p>front bezel charcoal  silver-coloured </p>	<p>OKWAL... OKWALM...</p> <p>OKWBL... OKWBLM...</p>  
		<p>Illuminated Selector Head, momentary Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. OKSTAL_GN)</p> <p>suitable contact blocks BUS ASI AZ B BF BZ BZ B439 CT CTF CTP CZ</p> <p>front bezel charcoal  silver-coloured </p> <p>suitable contact blocks ASI AZ BZ BZ B439 CT CZ</p> <p>front bezel charcoal  silver-coloured </p>	<p>OKSTAL... OKSTALM...</p> <p>OKSTBL... OKSTBLM...</p>  
		<p>Illuminated Selector Head, left maintained, right momentary Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. OKWCL_GN)</p> <p>suitable contact blocks ASI AZ BZ BZ B439 CT CZ</p> <p>front bezel charcoal  silver-coloured </p>	<p>OKWCL... OKWCLM...</p>  
		<p>Toggle Head red toggle (other colours on request)</p> <p>suitable contact blocks BUS AZ B BF BZ BZ B439 CT CTF CTP CZ</p> <p>front bezel charcoal  silver-coloured </p>	<p>OKK_RT OKKM_RT</p>

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Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

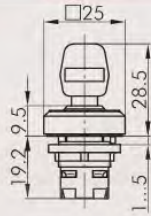
Illustration

Dimensions

Description

Type

IP65



Key Actuator, maintained

including two keys
other lock types on request

suitable contact blocks

ASI AZ BZ BZ B439 CT CZ

front bezel charcoal silver-coloured

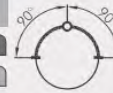


OKSSA12
OKSSMA12

suitable contact blocks

ASI AZ BZ BZ B439 CT CZ

front bezel charcoal silver-coloured



OKSSA13
OKSSMA13

suitable contact blocks

ASI AZ B BF BZ BZ B439 CT CTF CTP CZ

front bezel charcoal silver-coloured

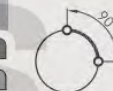


OKSSA14
OKSSMA14

suitable contact blocks

ASI AZ B BF BZ BZ B439 CT CTF CTP CZ

front bezel charcoal silver-coloured



OKSSA15
OKSSMA15

suitable contact blocks

ASI AZ B BF BZ BZ B439 CT CTF CTP CZ

front bezel charcoal silver-coloured

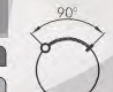


OKSSA16
OKSSMA16

suitable contact blocks

ASI AZ B BF BZ BZ B439 CT CTF CTP CZ

front bezel charcoal silver-coloured

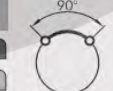


OKSSA17
OKSSMA17

suitable contact blocks

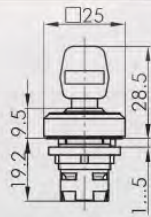
ASI AZ B BF BZ BZ B439 CT CTF CTP CZ

front bezel charcoal silver-coloured



OKSSA18
OKSSMA18

IP65



Key Actuator, maintained

including 3 keys:
1st key: two-way operation
2nd key: operation to the left only
3rd key: operation to the right only

suitable contact blocks

ASI AZ BZ BZ B439 CT CZ


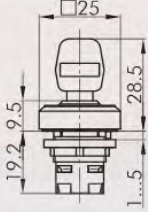



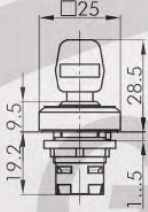


front bezel charcoal silver-coloured



OKSSA31
OKSSMA31

Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type
		Key Actuator, momentary including two keys, other lock types on request suitable contact blocks ASI AZ BZ BZ B439 CT CZ front bezel charcoal silver-coloured	 OKSSA23 OKSSMA23
		suitable contact blocks ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel charcoal silver-coloured	 OKSSA28 OKSSMA28
		Key Actuator, left maintained, right momentary suitable contact blocks ASI AZ BZ BZ B439 CT CZ front bezel charcoal silver-coloured	 OKSSA25 OKSSMA25
		Standard Spare Keys standard spare key, specify key number for special locks	ESMIC482

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Buzzers

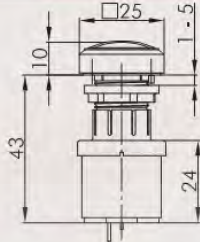
Illustration

Dimensions

Description

Type

IP65



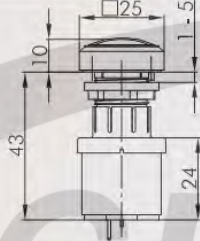
Buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: max. 30mA
 signal frequency: 3.5 +/- 0.5 Hz
 volume: max. 85 db (10cm, 24V)
 max. 75 db (10cm, 12V)
 operating temperature: -20°C ... 60°C
 front bezel charcoal
 silver-coloured



OKNSG+SG-24V
OKNMSG+SG-24V

IP65



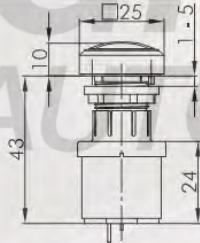
Interval Buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: max. 30mA
 signal frequency: 3.5 +/- 0.5 Hz
 volume: max. 85 db (10cm, 24V)
 max. 75 db (10cm, 12V)
 interval: 1 s
 operating temperature: -20°C ... 60°C
 front bezel charcoal
 silver-coloured



OKNSG+SGL-24V
OKNMSG+SGL-24V

IP65



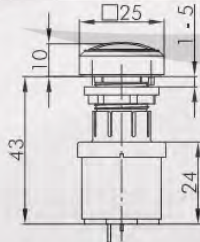
Illuminated Buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: approx. 30mA
 signal frequency: 3.5 +/- 0.5 Hz
 volume: max. 85 db (10cm, 24V)
 max. 75 db (10cm, 12V)
 operating temperature: -20°C ... 60°C
 front bezel charcoal
 silver-coloured



OKNSGL+SGLR-24V
OKNMSG+SGLR-24V

IP65



Illuminated Interval Buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: approx. 30mA
 signal frequency: 3.5 +/- 0.5 Hz
 volume: max. 85 db (10cm, 24V)
 max. 75 db (10cm, 12V)
 interval: 1 s
 operating temperature: -20°C ... 60°C
 front bezel charcoal
 silver-coloured



OKNSGL+SGLR-24V
OKNMSG+SGLR-24V



Faston Clamp 2.8 x 0.8 mm with snap-in pin

FH2,8

Cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8




Insulating Case

IH2,8

for Faston clamp FH2,8, slip on from the front

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Accessories for Contact blocks

Illustration	Dimensions	Description	Type
		Double Faston for the connection of 2 Faston clamps FH2.8	FD2,8

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Ø 16.2 mm

Pilot Lights

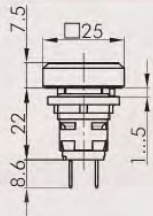
Lenses and nameplates to be ordered separately

Illustration

Dimensions

Description

Type



Pilot Light with Faston Terminals

2.8x0.8 mm

W2x4.6d socket

front bezel

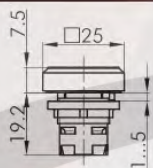
charcoal

silver-coloured



OKL4

OKL4M



Pilot Light Head

suitable lampholders

ASI B BF CT CTF CTP CZ

front bezel

charcoal

silver-coloured



OKN

OKNM



Convex Lens, transparent

colour

blue

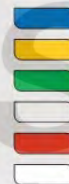
yellow

green

clear

red

white



KOKFBL

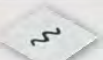
KOKFGB

KOKFGN

KOKFKL

KOKFRT

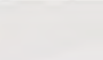
KOKFWS



Nameplate with standard imprint

please specify index number (see nameplates on pages 404)

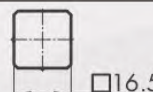
BSOK...



Nameplate with special imprint

according to customer's specification

BSOKB



Blank Nameplate

BSOKU

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Accessories for Actuators

Illustration	Dimensions	Description	Type
		Hexagonal Mounting Tool with torque limitation, for the series OKTRON, OKTRON-JUWEL, OKTRON-R, RONTRON-R-JUWEL, RONTRON-Q-JUWEL, QUARTRON, QUARTRON-JUWEL, RX-JUWEL	S16
		Mounting Tool Adapter with 1/4" connections for mounting tools S16 and S22	SRA
		External Nameplate Holder for outside marking of the actuators of the QUARTRON and OKTRON series, accepts self-adhesive nameplates colour charcoal  colour silver-coloured 	QXABT QXABT_M
		Self-adhesive Nameplate laser-printed Inscription according to customer's specification Dimensions: 22 x 11 mm	BZ16L
		Self-adhesive Nameplate blank Dimensions: 22 x 11 mm	BZ16U
		Self-adhesive Nameplate with standard imprint Please specify index no. (see nameplates on page 404) Dimensions: 22 x 11 mm	BZ16B...
		Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 60 mm for mounting dia. 16 mm colour yellow 	NAS_16
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 60 mm for mounting dia. 16 mm colour yellow 	NAS_16_548
		Lead-sealable Protective Lid fits onto the pushbuttons of the OKTRON series	KDOK

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Accessories OKTRON

Ø 16.2 mm

made in germany



Accessories for Actuators

Illustration

Dimensions

Description

Type



Universal Lens Remover

USK

IP65



Square Dummy

to close unused mounting apertures

colour

charcoal



Q16DG

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Front dimensions: \varnothing 25 mm
Panel cut-out: \varnothing 16.2 mm
Front bezel height: 7 mm
Travel: 3 mm

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R-NOR1.KO

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 Product configurator



Overview OKTRON-R series



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Housing Colours



degree of protection

operating travel

illuminating option

labelling option

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ASI
ASI...
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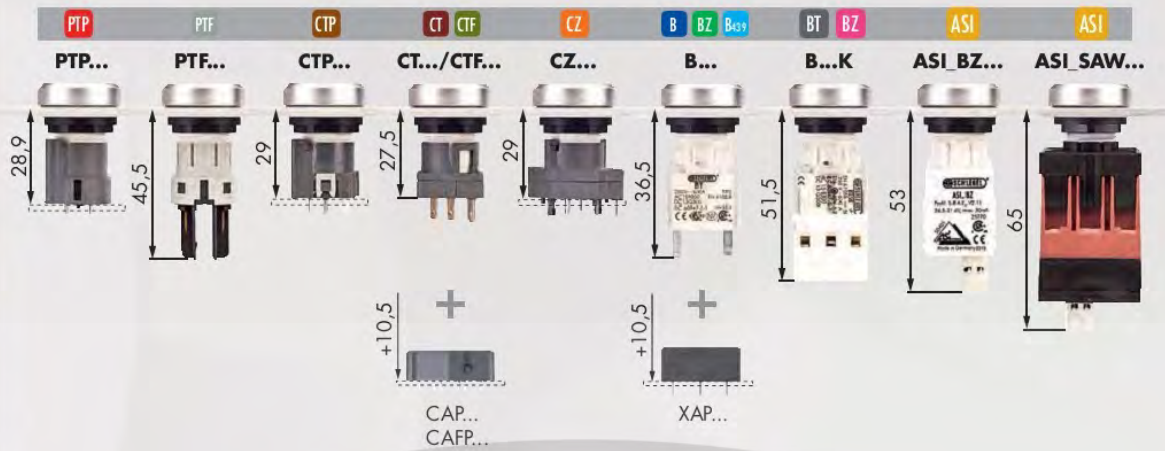
Pedal Switches

Limit Switches

Type Index

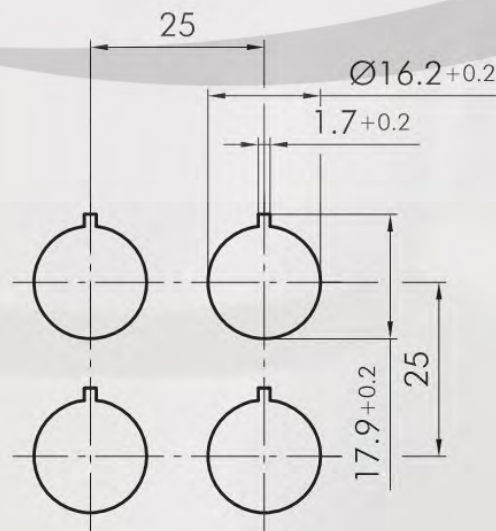
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Mounting Depth Dimensions



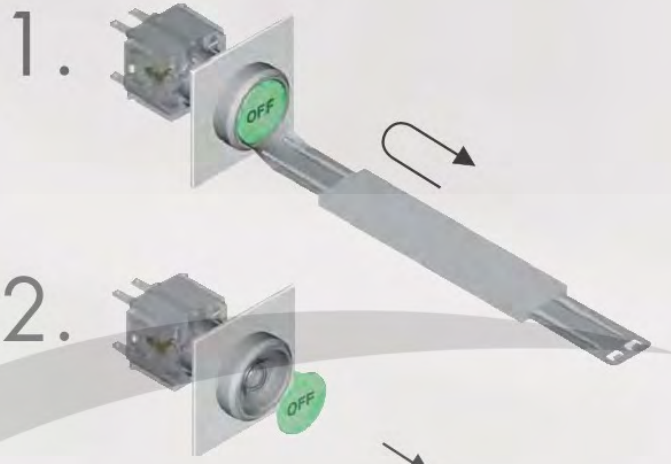
Cutout Dimensions

Min. mounting grid 25 x 38 mm when using external nameplate holders



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Mounting and Service Instructions



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Ø 16.2 mm

Pushbutton Heads



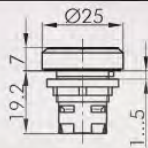

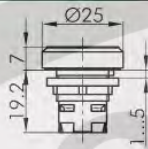

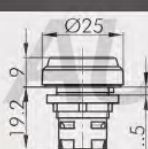

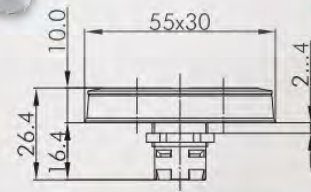

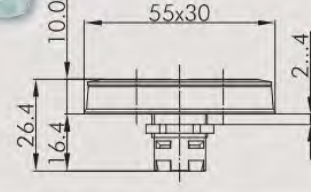
Lenses and nameplates to be ordered separately

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Illustration	Dimensions	Description	Type
		Pushbutton Head suitable contact blocks BUS ASI AZ B BF BZ BZ B43Y CT CTF CTP CZ front bezel charcoal silver-coloured	RKT RKTM
		Flat Lens, transparent colour blue yellow green clear red opalwhite	T20FBL T20FGB T20FGN T20FKL T20FRT T20FWS
		Flat Lens, non-transparent used in pushbuttons without inscription and illumination colour blue yellow green black red white	T20FGBL T20FGGB T20FGGN T20FGSW T20FGRT T20FGWS
		Nameplate with standard imprint Please specify index number (see nameplates on pages 404)	BSRX...
		Nameplate with special imprint according to customer's specification	BSRXB
		Blank Nameplate	BSRXU

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Pushbutton Heads

Illustration	Dimensions	Description	Type												
		Sealing Cap made of silicone rubber, down to -50°C	TK265												
		Pushbutton Head with ring illumination incl. lens suitable contact blocks <table border="0"> <tr> <td>BUS</td><td>ASI</td><td>AZ</td><td>B</td><td>BF</td><td>BZ</td><td>BZ</td><td>B439</td><td>CT</td><td>CTF</td><td>CTP</td><td>CZ</td> </tr> </table> push-cap silver-coloured front bezel silver-coloured push-cap black front bezel black	BUS	ASI	AZ	B	BF	BZ	BZ	B439	CT	CTF	CTP	CZ	RKTMLR RKTSWLR
BUS	ASI	AZ	B	BF	BZ	BZ	B439	CT	CTF	CTP	CZ				
		Pushbutton Head with ring illumination and laser printing incl. lens, standard imprints see nameplates on page 404 (please specify index no.), special inscription on request suitable contact blocks <table border="0"> <tr> <td>BUS</td><td>ASI</td><td>AZ</td><td>B</td><td>BF</td><td>BZ</td><td>BZ</td><td>B439</td><td>CT</td><td>CTF</td><td>CTP</td><td>CZ</td> </tr> </table> push-cap silver-coloured front bezel silver-coloured	BUS	ASI	AZ	B	BF	BZ	BZ	B439	CT	CTF	CTP	CZ	RKTMLRL...
BUS	ASI	AZ	B	BF	BZ	BZ	B439	CT	CTF	CTP	CZ				
		Membrane Pushbutton Head incl. white non-transparent lens (inscription on request) suitable contact blocks <table border="0"> <tr> <td>BUS</td><td>AZ</td><td>B</td><td>BF</td><td>BZ</td><td>BZ</td><td>B439</td><td>CT</td><td>CTF</td><td>CTP</td><td>CZ</td> </tr> </table> front bezel black	BUS	AZ	B	BF	BZ	BZ	B439	CT	CTF	CTP	CZ	RKTME	
BUS	AZ	B	BF	BZ	BZ	B439	CT	CTF	CTP	CZ					
		Double Pushbutton with ring illumination for panel cut-out Ø 16 mm locating pin to be on the right in case of horizontal installation laser printing on request suitable contact blocks <table border="0"> <tr> <td>BZ</td><td>BZ</td><td>CT</td><td>CZ</td> </tr> </table> front bezel silver-coloured	BZ	BZ	CT	CZ	RRDTLR								
BZ	BZ	CT	CZ												
		Double Pushbutton Head with ring illumination for cutouts 16 mm dia. when mounted horizontally, the anti-rotation tab is on the right suitable contact blocks <table border="0"> <tr> <td>BZ</td><td>BZ</td><td>CT</td><td>CZ</td> </tr> </table> push-cap red/green front bezel silver-coloured	BZ	BZ	CT	CZ	RRDTLRLW_0003								
BZ	BZ	CT	CZ												

Emergency Stops

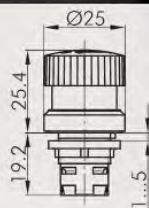
Illustration

Dimensions

Description

Type

IP65



Emergency-stop Head

foolproof Yes
 switching position indicator No
 anti-lock collar No
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5,
 EN ISO 13850



suitable contact blocks

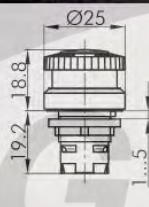
AZ BZ BZ PTP PTF

mushroom head red
 front bezel yellow



RKUVGB

IP65



Emergency-stop Head

Other mushroom colours on request
 foolproof No
 switching position indicator No
 anti-lock collar No
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5,
 EN ISO 13850



suitable contact blocks

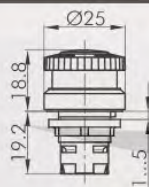
AZ BZ BZ PTP PTF

mushroom head red
 front bezel yellow



RKVGB

IP65



Emergency-stop Head

incl. blank nameplate (inscription on request)
 foolproof No
 switching position indicator No
 anti-lock collar No
 release twist right or left

suitable contact blocks

AZ BZ BZ

mushroom head red
 front bezel yellow



RKVLGB


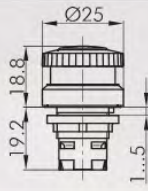




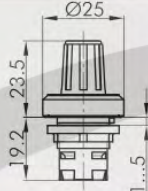




For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 366

The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

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**Mushroom Heads
Knob Set for potentiometers**

Illustration	Dimensions	Description	Type
 <p>IP65 3 mm Sun icon</p>		<p>Mushroom Head, momentary Other mushroom colours on request switching position indicator No anti-lock collar No</p> <p>suitable contact blocks BUS AZ B BF BZ BZ B4.39 CT CTF CTP CZ</p> <p>mushroom head red  front bezel charcoal  silver-coloured </p>	<p>RKS RKSM</p>
 <p>IP65</p>		<p>Knob Set for potentiometers for potentiometers of 6 mm shaft dia. and thread M10x0.75. Delivery without potentiometer. Shaft length: approx. 32 mm</p> <p>front bezel charcoal  silver-coloured </p>	<p>RKR RKRM</p>

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Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

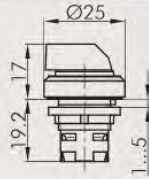
Illustration

Dimensions

Description

Type

IP65



Selector Head, maintained

suitable contact blocks
BUS ASI AZ B BF BZ BZ B439 CT CTF CTP CZ
 front bezel charcoal
 silver-coloured



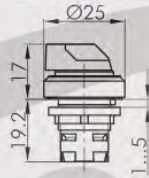
**RKWA
RKWAM**

suitable contact blocks
ASI AZ BZ BZ B439 CT CZ
 front bezel charcoal
 silver-coloured



**RKWB
RKWBM**

IP65



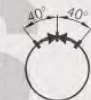
Selector Head, momentary

suitable contact blocks
BUS ASI AZ B BF BZ BZ B439 CT CTF CTP CZ
 front bezel charcoal
 silver-coloured



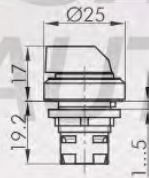
**RKSTA
RKSTAM**

suitable contact blocks
ASI AZ BZ BZ B439 CT CZ
 front bezel charcoal
 silver-coloured



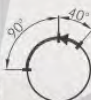
**RKSTB
RKSTBM**

IP65



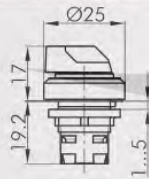
Selector Head, left maintained, right momentary

suitable contact blocks
ASI AZ BZ BZ B439 CT CZ
 front bezel charcoal
 silver-coloured



**RKWC
RKWCM**

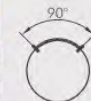
IP65



Illuminated Selector Head, maintained

Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. RKWAL_GN)

suitable contact blocks
BUS ASI AZ B BF BZ BZ B439 CT CTF CTP CZ
 front bezel charcoal
 silver-coloured



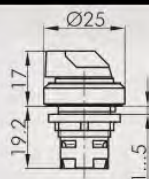
**RKWAL...
RKWALM...**

suitable contact blocks
ASI AZ BZ BZ B439 CT CZ
 front bezel charcoal
 silver-coloured



**RKWBL...
RKWBLM...**

IP65



Illuminated Selector Head, momentary

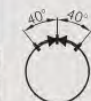
Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. RKSTAL_GN)

suitable contact blocks
BUS ASI AZ B BF BZ BZ B439 CT CTF CTP CZ
 front bezel charcoal
 silver-coloured



**RKSTAL...
RKSTALM...**

suitable contact blocks
ASI AZ BZ BZ B439 CT CZ
 front bezel charcoal
 silver-coloured


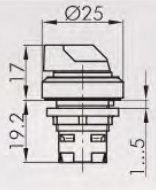
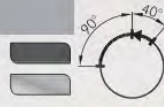



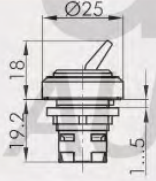


**RKSTBL...
RKSTBLM...**

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**Selector Switches (momentary/maintained)
Toggle Heads**

I = Switching position
> = Spring return

Illustration	Dimensions	Description	Type
		<p>Illuminated Selector Head, left maintained, right momentary Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. RKWCL_GN) suitable contact blocks ASI AZ BZ BZ B439 CT CZ front bezel charcoal silver-coloured</p> 	<p>RKWCL... RKWCLM...</p>
		<p>Selector Head for desert application, maintained tested with coarse Arizona dust suitable contact blocks BUS ASI AZ B BF BZ BZ B439 CT CTF CTP CZ knob colour black front bezel black suitable contact blocks ASI AZ BZ BZ CT CZ knob colour black front bezel black</p> 	<p>RKWA_514 RKWB_514</p>
		<p>Toggle Head red toggle (other colours on request) suitable contact blocks BUS AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel charcoal silver-coloured</p>	<p>RKK_RT RKKM_RT</p>

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Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

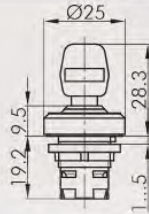
Illustration

Dimensions

Description

Type

IP65



Key Actuator, maintained

including two keys
other lock types on request

suitable contact blocks

ASI AZ BZ BZ B439 CT CZ

front bezel charcoal



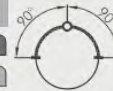
RKSSA12
RKSSMA12

front bezel silver-coloured

suitable contact blocks

ASI AZ BZ BZ B439 CT CZ

front bezel charcoal



RKSSA13
RKSSMA13

front bezel silver-coloured

suitable contact blocks

ASI AZ B BF BZ BZ B439 CT CTF CTP CZ

front bezel charcoal



RKSSA14
RKSSMA14

front bezel silver-coloured

suitable contact blocks

ASI AZ B BF BZ BZ B439 CT CTF CTP CZ

front bezel charcoal



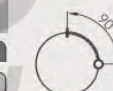
RKSSA15
RKSSMA15

front bezel silver-coloured

suitable contact blocks

ASI AZ B BF BZ BZ B439 CT CTF CTP CZ

front bezel charcoal



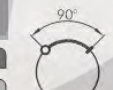
RKSSA16
RKSSMA16

front bezel silver-coloured

suitable contact blocks

ASI AZ B BF BZ BZ B439 CT CTF CTP CZ

front bezel charcoal



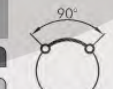
RKSSA17
RKSSMA17

front bezel silver-coloured

suitable contact blocks

ASI AZ B BF BZ BZ B439 CT CTF CTP CZ

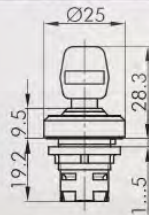
front bezel charcoal



RKSSA18
RKSSMA18

front bezel silver-coloured

IP65



Key Actuator, maintained

requires 3 keys:
1st key: two-way operation
2nd key: operation to the left only
3rd key: operation to the right only

suitable contact blocks

ASI AZ BZ BZ B439 CT CZ

front bezel charcoal


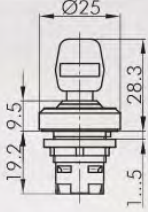



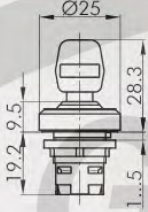




RKSSA31
RKSSMA31

front bezel silver-coloured

Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type
		Key Actuator, momentary including two keys other lock types on request suitable contact blocks ASI AZ BZ BZ B439 CT CZ front bezel charcoal silver-coloured	 RKSSA23 RKSSMA23
		suitable contact blocks ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel charcoal silver-coloured	 RKSSA28 RKSSMA28
		Key Actuator, left maintained, right momentary suitable contact blocks ASI AZ BZ BZ B439 CT CZ front bezel charcoal silver-coloured	 RKSSA25 RKSSMA25
		Standard Spare Keys standard spare key, specify key number for special locks	ESMIC482

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Buzzers

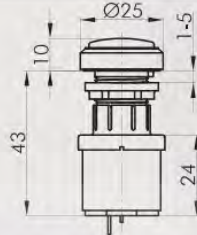
Illustration

Dimensions

Description

Type

IP65



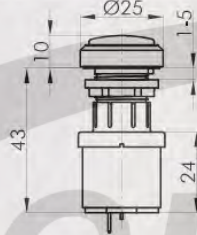
Buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: max. 30mA
 signal frequency: 3.5 +/- 0.5 Hz
 volume: max. 90 db (10cm, 24V)
 max. 80 db (10cm, 12V)
 operating temperature: -20°C ... 60°C
 front bezel charcoal
 silver-coloured



RKNSG+SG-24V
RKNMSG+SG-24V

IP65



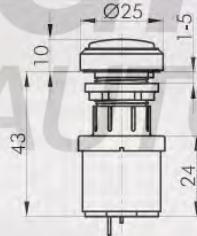
Interval Buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: max. 30mA
 signal frequency: 3.5 +/- 0.5 Hz
 volume: max. 90 db (10cm, 24V)
 max. 80 db (10cm, 12V)
 interval: 1 s
 operating temperature: -20°C ... 60°C
 front bezel charcoal
 silver-coloured



RKNSG+SGI-24V
RKNMSG+SGI-24V

IP65



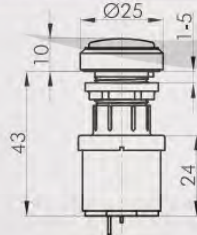
Illuminated Buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: approx. 30mA
 signal frequency: 3.5 +/- 0.5 Hz
 volume: max. 90 db (10cm, 24V)
 max. 80 db (10cm, 12V)
 operating temperature: -20°C ... 60°C
 front bezel charcoal
 silver-coloured



RKNSGL+SGLR-24V
RKNMSGL+SGLR-24V

IP65



Illuminated Interval Buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: approx. 30mA
 signal frequency: 3.5 +/- 0.5 Hz
 volume: max. 90 db (10cm, 24V)
 max. 80 db (10cm, 12V)
 interval: 1 s
 operating temperature: -20°C ... 60°C
 front bezel charcoal
 silver-coloured



RKNSGL+SGILR-24V
RKNMSGL+SGILR-24V



Faston Clamp 2.8 x 0.8 mm with snap-in pin

FH2,8

Cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8




Insulating Case

IH2,8

for Faston clamp FH2,8, slip on from the front

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Accessories for Contact blocks

Illustration	Dimensions	Description	Type
		Double Faston for the connection of 2 Faston clamps FH2.8	FD2,8

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Pilot Lights

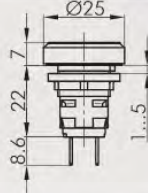
Lenses and nameplates to be ordered separately

Illustration

Dimensions

Description

Type



Pilot Light with Faston terminals 2.8x0.8 mm

W2x4.6d socket

front bezel

charcoal

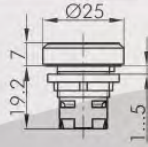


RKL4

silver-coloured



RKL4M



Pilot Light Head

suitable lampholders

AST B BF CT CTF CTP CZ

front bezel

charcoal



RKN

silver-coloured



RKNM

yellow



KH20GB

green



KH20GN

clear



KH20KL

red



KH20RT

opalwhite



KH20WS

yellow



T20FGB

Flat Lens, transparent

colour

blue



T20FBL

green



T20FGN

clear



T20FKL

red



T20FRT

opalwhite



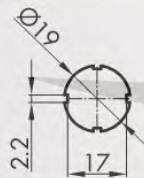
T20FWS



Nameplate with standard imprint

Please specify index number (see nameplates on pages 404)

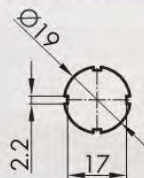
BSRX...



Nameplate with special imprint

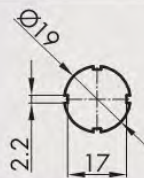
according to customer's specification

BSRXB





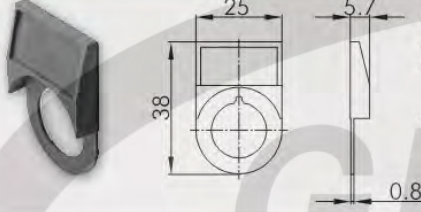







Blank Nameplate

BSRXU



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Accessories for Actuators

Illustration	Dimensions	Description	Type
		Hexagonal Mounting Tool with torque limitation, for the series OKTRON, OKTRON-JUWEL, OKTRON-R, RONTRON-R-JUWEL, RONTRON-Q-JUWEL, QUARTRON, QUARTRON-JUWEL, RX-JUWEL	S16
		Mounting Tool Adapter with 1/4" connections for mounting tools S16 and S22	SRA
	25, 5.7, 38, 0.8	External Nameplate Holder for outside marking of the actuators of the OKTRON-R series, accepts self-adhesive nameplates colour charcoal	RKABT
		Self-adhesive Nameplate laser-printed Inscription according to customer's specification Dimensions: 22 x 11 mm	BZ16L
		Self-adhesive Nameplate blank Dimensions: 22 x 11 mm	BZ16U
		Self-adhesive Nameplate with standard imprint Please specify index no. (see nameplates on page 404) Dimensions: 22 x 11 mm	BZ16B...
		Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 60 mm for mounting dia. 16 mm colour yellow	NAS_16
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 60 mm for mounting dia. 16 mm colour yellow	NAS_16_548
		Universal Lens Remover	USK
		Round Dummy to close unused mounting apertures colour charcoal	RX16

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Front dimensions: 25 x 25 mm
Panel cut-out: Ø 16.2 mm
Front bezel height: 12 mm
Travel: 6 mm

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NOORLAVNO

GROSS
AUTOMATION

 Product configurator



Overview QUARTRON series




01 Pushbutton Heads	page 60	07 Key Actuators	page 65
02 Emergency Stop Buttons	page 62	08 Acoustic Buzzers	page 67
03 Mushroom Heads	page 62	09 Pilot Lights	page 68
04 Knob Set for Rotary Switch / Potentiometer	page 63		
05 Selector Heads	page 64		
06 Toggle Heads	page 64		
		Contact Blocks / Lampholders	page 408


Housing Colours



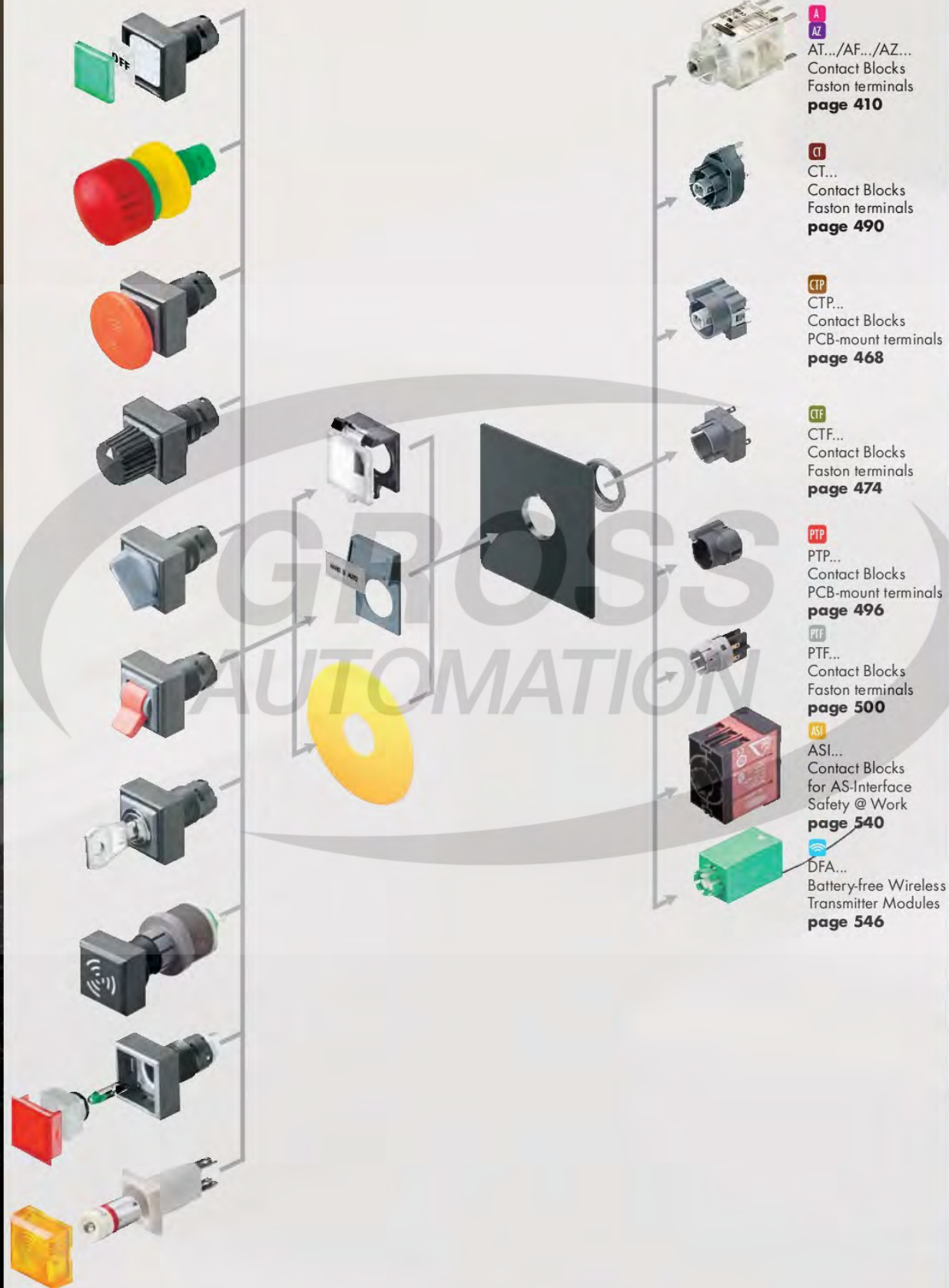
IP65 degree of protection

6 mm operating travel

 illuminating option

 labelling option

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A
AZ
AT.../AF.../AZ...
Contact Blocks
Faston terminals
page 410

CT
CT...
Contact Blocks
Faston terminals
page 490

CTP
CTP...
Contact Blocks
PCB-mount terminals
page 468

CTF
CTF...
Contact Blocks
Faston terminals
page 474

PTP
PTP...
Contact Blocks
PCB-mount terminals
page 496

PTF
PTF...
Contact Blocks
Faston terminals
page 500

ASI
ASI...
Contact Blocks
for AS-Interface
Safety @ Work
page 540

DFA
DFA...
Battery-free Wireless
Transmitter Modules
page 546

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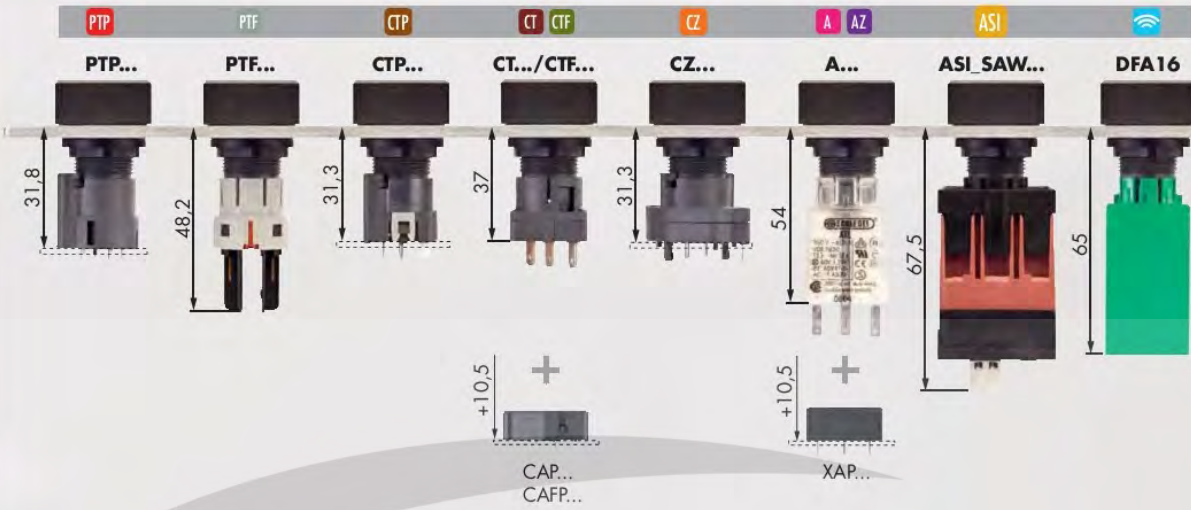
Pedal Switches

Limit Switches

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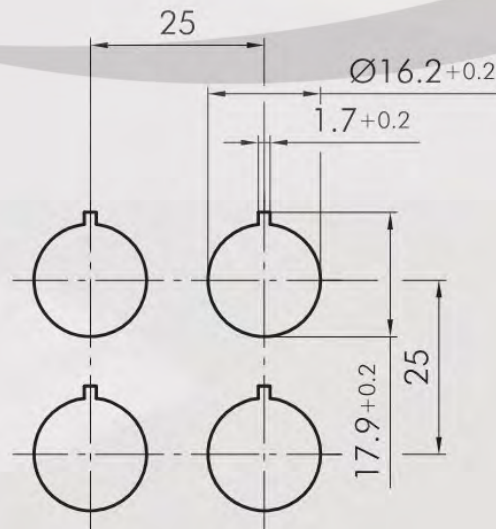
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Mounting Depth Dimensions



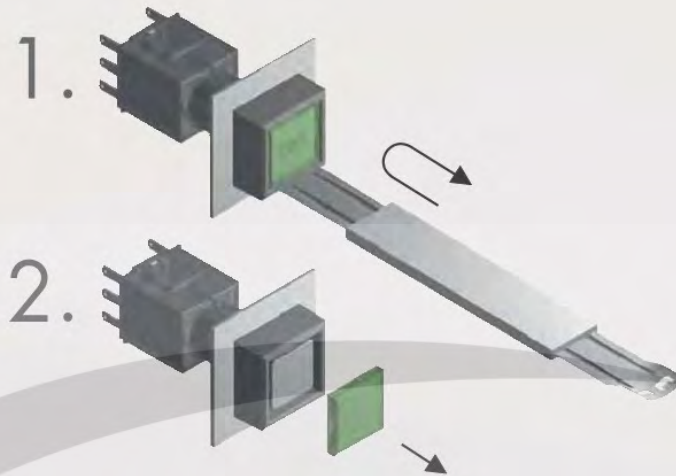
Cutout Dimensions

Min. mounting grid 25 x 38 mm when using external nameplate holders



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Mounting and Service Instructions



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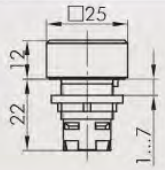


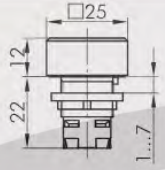


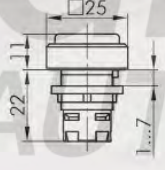

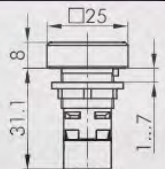




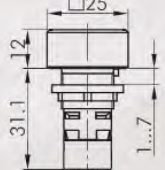



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Pushbutton Heads


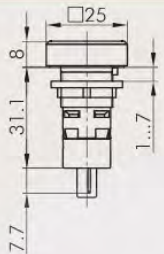
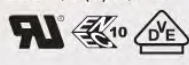










































































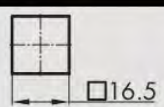
*) 24 x 24 mm on request,
lenses and nameplates to be ordered separately

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- Pedal Switches
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Illustration	Dimensions	Description	Type
		Pushbutton Head* suitable contact blocks BUS A AZ CT CTF CTP CZ  front bezel black	QXT
		Pushbutton Head* with transparent silicone cap suitable contact blocks BUS A AZ CT CTF CTP CZ front bezel black charcoal	QXP QXTDG
		Sealing Cap made of silicone rubber, down to -50°C	TK25S
		Short-stroke Membrane Pushbutton Head - with transparent silicone cap, down to -50° C - with transparent, flat lens, add code letter to type number, e.g. QXDMRT (red-RT, green-GN, yellow-GB, blue-BL, clear-KL) - with illuminating option, blank nameplate included. Standard or special imprints on request. suitable contact blocks BUS ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel black charcoal	QXDM... QXDMDG...
		Short-stroke Pushbutton 1 NO with 2 Faston terminals 2.8x0.8 mm, 250 V, 6(4) A, AC    front bezel black	QXDI
		Pushbutton 1 NC with 2 Faston terminals 2.8x0.8 mm, 250 V, 6(4) A, AC, (plug sockets for PCB's, type YAP...)    front bezel black	QXTO

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Pushbutton Heads

Illustration	Dimensions	Description	Type																								
		<p>Short-stroke Pushbutton 1 NC with 2 Faston terminals 2.8x0.8 mm, 250 V, 6(4) A, AC</p>  <p>front bezel black</p>	QXDO																								
		<p>Concave Lens, transparent</p> <table border="0"> <tr><td>colour</td><td>blue</td><td></td><td>T25DBL</td></tr> <tr><td></td><td>yellow</td><td></td><td>T25DGB</td></tr> <tr><td></td><td>green</td><td></td><td>T25DGN</td></tr> <tr><td></td><td>clear</td><td></td><td>T25DKL</td></tr> <tr><td></td><td>red</td><td></td><td>T25DRT</td></tr> <tr><td></td><td>opalwhite</td><td></td><td>T25DWS</td></tr> </table>	colour	blue		T25DBL		yellow		T25DGB		green		T25DGN		clear		T25DKL		red		T25DRT		opalwhite		T25DWS	
colour	blue		T25DBL																								
	yellow		T25DGB																								
	green		T25DGN																								
	clear		T25DKL																								
	red		T25DRT																								
	opalwhite		T25DWS																								
		<p>Flat Lens, transparent</p> <table border="0"> <tr><td>colour</td><td>blue</td><td></td><td>T25FBL</td></tr> <tr><td></td><td>yellow</td><td></td><td>T25FGB</td></tr> <tr><td></td><td>green</td><td></td><td>T25FGN</td></tr> <tr><td></td><td>clear</td><td></td><td>T25FKL</td></tr> <tr><td></td><td>red</td><td></td><td>T25FRT</td></tr> <tr><td></td><td>opalwhite</td><td></td><td>T25FWS</td></tr> </table>	colour	blue		T25FBL		yellow		T25FGB		green		T25FGN		clear		T25FKL		red		T25FRT		opalwhite		T25FWS	
colour	blue		T25FBL																								
	yellow		T25FGB																								
	green		T25FGN																								
	clear		T25FKL																								
	red		T25FRT																								
	opalwhite		T25FWS																								
		<p>Flat Lens, non-transparent</p> <table border="0"> <tr><td>colour</td><td>blue</td><td></td><td>T25FGBL</td></tr> <tr><td></td><td>yellow</td><td></td><td>T25FGGB</td></tr> <tr><td></td><td>green</td><td></td><td>T25FGGN</td></tr> <tr><td>colour</td><td>black</td><td></td><td>T25FGSW</td></tr> <tr><td></td><td>red</td><td></td><td>T25FGRT</td></tr> <tr><td></td><td>white</td><td></td><td>T25FGWS</td></tr> </table>	colour	blue		T25FGBL		yellow		T25FGGB		green		T25FGGN	colour	black		T25FGSW		red		T25FGRT		white		T25FGWS	
colour	blue		T25FGBL																								
	yellow		T25FGGB																								
	green		T25FGGN																								
colour	black		T25FGSW																								
	red		T25FGRT																								
	white		T25FGWS																								
		<p>High Lens, transparent</p> <table border="0"> <tr><td>colour</td><td>blue</td><td></td><td>T25HBL</td></tr> <tr><td></td><td>yellow</td><td></td><td>T25HGB</td></tr> <tr><td></td><td>green</td><td></td><td>T25HGN</td></tr> <tr><td></td><td>clear</td><td></td><td>T25HKL</td></tr> <tr><td></td><td>red</td><td></td><td>T25HRT</td></tr> </table>	colour	blue		T25HBL		yellow		T25HGB		green		T25HGN		clear		T25HKL		red		T25HRT					
colour	blue		T25HBL																								
	yellow		T25HGB																								
	green		T25HGN																								
	clear		T25HKL																								
	red		T25HRT																								
		<p>Nameplate with standard imprint Please specify index number (see nameplates on pages 404)</p>	BSQX...																								

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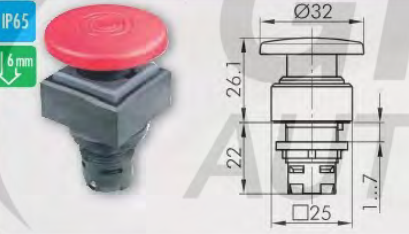
Distributed by: Gross Automation
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Emergency Stops
Mushroom Heads
*) 24 x 24 mm auf Anfrage

Illustration	Dimensions	Description	Type
		Nameplate with special imprint according to customer's specification	BSQXB
		Blank Nameplate	BSQXU



For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 366
The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.



IP65
6 mm

Ø32
26.1
22
1...7
□25

Mushroom Head, momentary*
other mushroom colours on request

switching position indicator	No
anti-lock collar	No

suitable contact blocks


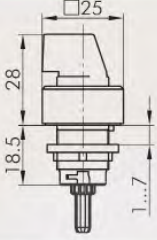

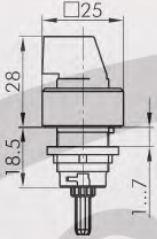

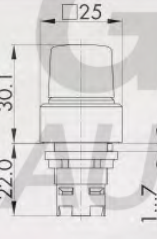
BUS A AZ CT CTF CTP CZ

front bezel	black		QXS
	charcoal		QXSDG

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Knob Set for rotary switches
Knob Set for potentiometers

*) 24 x 24 mm on request

Illustration	Dimensions	Description	Type
		<p>Knob Set for rotary switches, without inscription* different versions on request</p> <p>front bezel black charcoal</p>	<p>QXDAU QXDAUDG</p>
		<p>Knob Set for rotary switches, with inscription* different versions on request</p> <p>front bezel black charcoal</p>	<p>QXDAB... QXDABDG...</p>
		<p>Knob Set for potentiometers* for potentiometers of 6 mm shaft dia. and thread M10x0.75. Delivery without potentiometer. Shaft length: approx. 50 mm ± 4 mm</p> <p>front bezel black charcoal</p>	<p>QXR QXRDG</p>

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QUARTRON

Ø 16.2 mm

made in germany



Selector Switches (momentary/maintained)

*) 24 x 24 mm on request

Toggle Heads

I = Switching position

> = Spring return

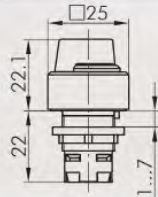
Illustration

Dimensions

Description

Type

IP65



Selector Head*, maintained

suitable contact blocks

A AZ CT CTF CTP CZ

front bezel black charcoal



QXWA
QXWADG

suitable contact blocks

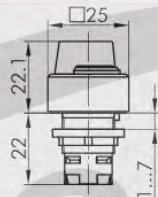
A AZ

front bezel black charcoal



QXWB
QXWBDG

IP65

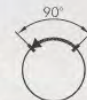


Selector Head*, momentary*

suitable contact blocks

A AZ CT CTF CTP CZ

front bezel black charcoal



QXSTA
QXSTADG

suitable contact blocks

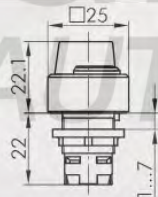
A AZ

front bezel black charcoal



QXSTB
QXSTBDG

IP65



Selector Head*, left maintained, right momentary

suitable contact blocks

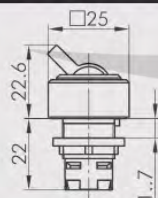
A AZ

front bezel black charcoal



QXWC
QXWCDG

IP65



Toggle Head

other toggle colours on request

suitable contact blocks

BUS A AZ CT CTF CTP CZ

front bezel black charcoal

QXK
QXKDG

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Key Switches (momentary/maintained)

*) 24 x 24 mm on request

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type		
		Key Actuator* including two keys other lock types on request suitable contact blocks A AZ		front bezel black	QXSSA12E
		front bezel charcoal		QXSSDGA12E	
		suitable contact blocks A AZ		front bezel black	QXSSA13E
		front bezel charcoal		QXSSDGA13E	
		suitable contact blocks A AZ CT CTF CTP CZ		front bezel black	QXSSA14E
		front bezel charcoal		QXSSDGA14E	
suitable contact blocks A AZ CT CTF CTP CZ		front bezel black	QXSSA15E		
front bezel charcoal		QXSSDGA15E			
suitable contact blocks A AZ CT CTF CTP CZ		front bezel black	QXSSA17E		
front bezel charcoal		QXSSDGA17E			
suitable contact blocks A AZ CT CTF CTP CZ		front bezel black	QXSSA18E		
front bezel charcoal		QXSSDGA18E			
		Key Actuator, momentary* suitable contact blocks A AZ		front bezel black	QXSSA23E
		front bezel charcoal		QXSSDGA23E	
		suitable contact blocks A AZ CT CTF CTP CZ		front bezel black	QXSSA27E
		front bezel charcoal		QXSSDGA27E	
		Key Actuator, left maintained, right momentary* suitable contact blocks A AZ		front bezel black	QXSSA24E
		front bezel charcoal		QXSSDGA24E	
		suitable contact blocks A AZ		front bezel black	QXSSA25E
		front bezel charcoal		QXSSDGA25E	

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Key Switches (momentary/maintained)

*) 24 x 24 mm on request

- I = Switching position
- > = Spring return
- = Key removable position

Illustration

Dimensions

Description

Type

IP65



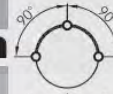
Key Actuator with protection cap, maintained*

including two keys,
other lock types on request

suitable contact blocks

A AZ

front bezel black



QXSSKA12E

suitable contact blocks

A AZ

front bezel black



QXSSKA13E

suitable contact blocks

A AZ CT CTF CTP CZ

front bezel black

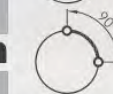


QXSSKA14E

suitable contact blocks

A AZ CT CTF CTP CZ

front bezel black

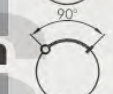


QXSSKA15E

suitable contact blocks

A AZ CT CTF CTP CZ

front bezel black

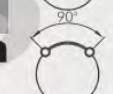


QXSSKA17E

suitable contact blocks

A AZ CT CTF CTP CZ

front bezel black



QXSSKA18E

IP65



Key Actuator with protection cap, momentary*

including two keys,
other lock types on request

suitable contact blocks

A AZ

front bezel black

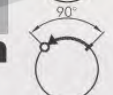


QXSSKA23E

suitable contact blocks

A AZ CT CTF CTP CZ

front bezel black



QXSSKA27E

IP65



Key Actuator with protection cap, left maintained, right momentary*

including two keys,
other lock types on request

suitable contact blocks

A AZ

front bezel black



QXSSKA24E

suitable contact blocks

A AZ

front bezel black



QXSSKA25E



Spare Key (standard)

standard spare key, specify key number for special locks

ESE845

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Buzzers

Illustration	Dimensions	Description	Type
		<p>Buzzer</p> <p>operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 85 db (10cm, 24V) max. 80 db (10cm, 12V)</p> <p>operating temperature: -20°C ... 60°C front bezel: black</p>	QXNSG+SG-24V
		<p>Interval Buzzer</p> <p>operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 85 db (10cm, 24V) max. 80 db (10cm, 12V)</p> <p>interval: 1 s operating temperature: -20°C ... 60°C front bezel: black</p>	QXNSG+SGI-24V
		<p>Illuminated Buzzer</p> <p>operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 85 db (10cm, 24V) max. 80 db (10cm, 12V)</p> <p>operating temperature: -20°C ... 60°C front bezel: black</p>	QXNSGL+SGLR-24V
		<p>Illuminated Interval Buzzer</p> <p>operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 85 db (10cm, 24V) max. 80 db (10cm, 12V)</p> <p>interval: 1 s operating temperature: -20°C ... 60°C front bezel: black</p>	QXNSGL+SGILR-24V
		<p>Faston Clamp 2.8 x 0.8 mm with snap-in pin</p> <p>Cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8</p>	FH2,8
		<p>Insulating Case</p> <p>for Faston clamp FH2,8, slip on from the front</p>	IH2,8
		<p>Double Faston</p> <p>for the connection of 2 Faston clamps FH2.8</p>	FD2,8

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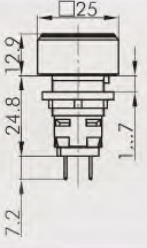



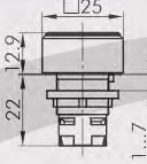















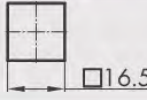

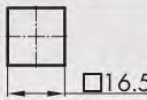
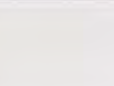
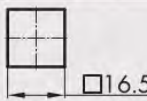

Limit Switches

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Pilot Lights

*) 24 x 24 mm on request,
lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type
 <p>IP65 Sun icon Pencil icon</p>	 <p>25 12.9 24.8 7.2 1...7</p>	<p>Pilot Light with Faston terminals 2.8x0.8 mm*</p> <p>front bezel black  charcoal </p>	<p>QXL5 QXL5DG</p>
 <p>IP65 Sun icon Pencil icon</p>	 <p>25 12.9 22 1...7</p>	<p>Pilot Light Head* suitable lampholders</p> <p>front bezel black  charcoal </p>	<p>QXN QXNDG</p>
		<p>Flat Lens, depolished colour</p> <p>blue  yellow  green  red  opalwhite </p>	<p>KF25BL KF25GB KF25GN KF25RT KF25WS</p>
		<p>Flat Lens, transparent colour</p> <p>blue  yellow  green  clear  red </p>	<p>KF25KSBL KF25KSGB KF25KSGN KF25KSKL KF25KSRT</p>
	 <p>16.5</p>	<p>Nameplate with standard imprint Please specify index number (see nameplates on pages 404)</p>	<p>BSQX...</p>
	 <p>16.5</p>	<p>Blank Nameplate</p>	<p>BSQXU</p>
	 <p>16.5</p>	<p>Nameplate with special imprint according to customer's specification</p>	<p>BSQXB</p>
 <p>Sun icon</p>		<p>Lampholder</p>	<p>L5</p>

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Pilot Lights

Lenses and nameplates to be ordered separately

Seven-segment Displays

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Illustration	Dimensions	Description	Type
 <p>IP65</p>		Panoramic Pilot Light with Faston terminals 6.3/2.8x0.8 mm BA9s socket max. 250V 2W	QX19

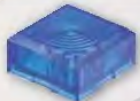






Panoramic Lens		colour		
	blue		KH25BL	
	yellow		KH25GB	
	green		KH25GN	
	clear		KH25KL	
	red		KH25RT	
	opalwhite		KH25WS	


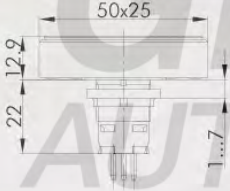


Illustration	Dimensions	Description	Type
 <p>IP65</p>		4-Digit 7-Segment Display with serial interface Operating temperature : -30 bis +70°C Operating voltage: 24V DC (18-28V) Current consumption: 70mA at 24V Inputs (Enable, Clock, Data): 24V PLC level Clock pulse rate: 0...10kHz Data telegram: 20 bit, serial Available character set: 0..9, A, I, II, U, -, blank Connection: via integrated 6-pole diode plug acc. to DIN 45322 Option: parallel control (8 bit) via additional module front bezel black 	LXLASCE-SPS

Illustration	Description	Type
	DIN Female Connector serves to connect the 7-segment displays in compliance with DIN 45322	MAK6

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Illustration	Dimensions	Description	Type
		Hexagonal Mounting Tool with torque limitation, for the series OKTRON, OKTRON-JUWEL, OKTRON-R, RONTRON-R-JUWEL, RONTRON-Q-JUWEL, QUARTRON, QUARTRON-JUWEL, RX-JUWEL	S16
		Mounting Tool Adapter with 1/4" connections for mounting tools S16 and S22	SRA
		Threaded Adapter Allows true-to-size mounting of actuators for 16 mm mounting dia. into 22.5 mm holes. Includes also a suitable sealing.	R16X1
		External Nameplate Holder for outside marking of the actuators of the QUARTRON and OKTRON series, accepts self-adhesive nameplates colour charcoal	QXABT
		Self-adhesive Nameplate laser-printed Inscription according to customer's specification Dimensions: 22 x 11 mm	BZ16L
		Self-adhesive Nameplate blank Dimensions: 22 x 11 mm	BZ16U
		Self-adhesive Nameplate with standard imprint Please specify index no. (see nameplates on page 404) Dimensions: 22 x 11 mm	BZ16B...
		Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 60 mm for mounting dia. 16 mm colour yellow	NAS_16
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 60 mm for mounting dia. 16 mm colour yellow	NAS_16_548

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Accessories for Actuators

Illustration	Dimensions	Description	Type
		Lead-sealable Protective Lid fits onto the pushbuttons of the QUARTRON series	KDQ16
		Universal Lens Remover	USK
 IP65		Square Dummy to close unused mounting apertures colour black	Q16

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Front dimensions: \varnothing 28 mm
Panel cut-out: \varnothing 22.3 mm
Front bezel height: 2 mm
Travel: 3 mm


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CONTROLNOR-2-2-NORLNOA

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Product configurator



RONTRON-R-JUWEL

Ø 22.3 mm

made in germany



Overview RONTRON-R-JUWEL series



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03 Knob Sets for Potentiometers / Incremental Encoders	page 82	08 Pilot Lights	page 101
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05 Key Actuators	page 87	Contact Blocks / Lampholders	page 408

Housing Colours



IP65 degree of protection

3mm operating travel

illuminating option

labelling option

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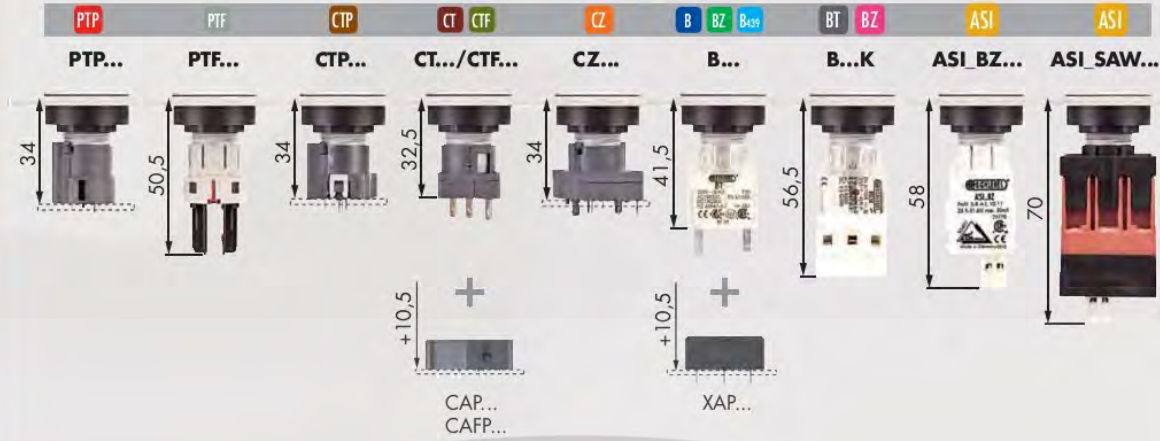
Pedal Switches

Limit Switches

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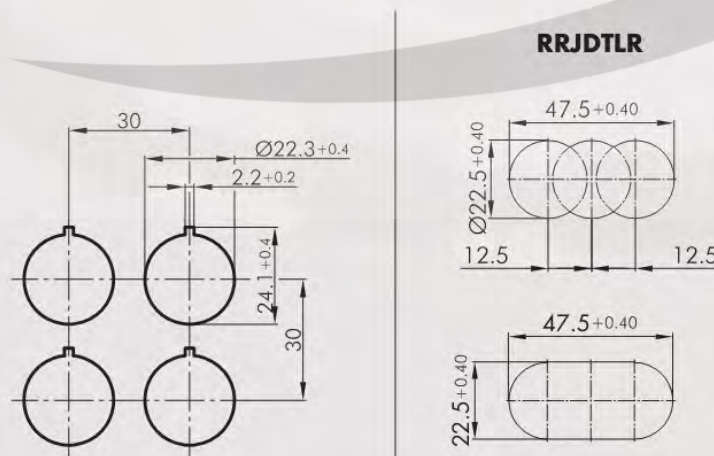
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Mounting Depth Dimensions



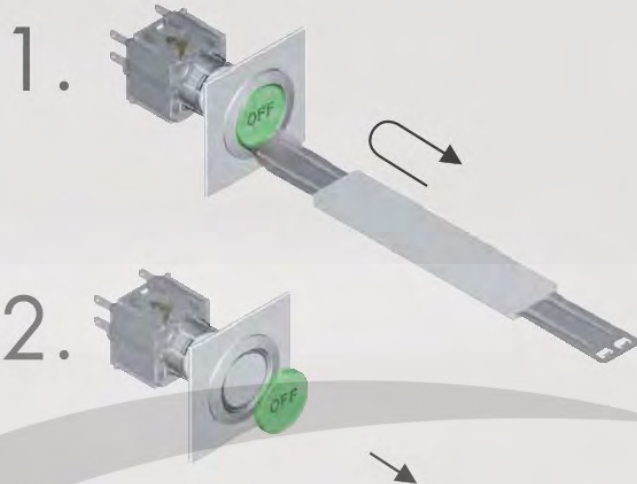
GROSS
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Cutout Dimensions



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Mounting and Service Instructions



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RONTRON-R-JUWEL

made in germany



Ø 22.3 mm

Pushbutton Heads

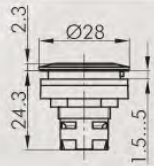
Lenses and nameplates to be ordered separately

Illustration

Dimensions

Description

Type



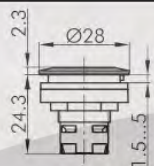
Pushbutton Head

suitable contact blocks

ASI AZ B BF BZ BZ B439 CT CTF CTP CZ

front bezel silver-coloured

RRJT



Pushbutton Head, stainless steel

suitable contact blocks

ASI AZ B BF BZ BZ B439 CT CTF CTP CZ

front bezel stainless steel, polished

RRJVAT

Flat Lens, transparent

colour blue
yellow
green
clear
red
opalwhite



T22RRBL
T22RRGB
T22RRGN
T22RRKL
T22RRRT
T22RRWS

Flat Lens, non-transparent

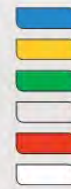
colour blue
yellow
green
black
red
white
silver-coloured



T22RRGBL
T22RRGGB
T22RRGGN
T22RRGSW
T22RRGRT
T22RRGWS
T22RRGM

High Lens, transparent

colour blue
yellow
green
clear
red
opalwhite

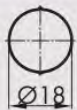


T22HRRBL
T22HRRGB
T22HRRGN
T22HRRKL
T22HRRRT
T22HRRWS



Blank Nameplate

BSRRU





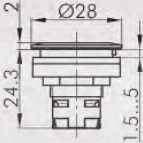

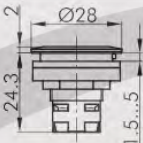



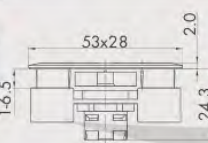



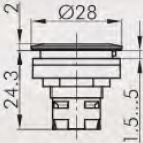
Nameplate with standard imprint

Please specify index number (see nameplates on pages 404)

BSRR...

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Pushbutton Heads

Illustration	Dimensions	Description	Type
		Nameplate with special imprint according to customer's specification	BSRRB
		Pushbutton Head with ring illumination, silver-coloured incl. lens suitable contact blocks AS1 AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel silver-coloured	RRJTLR
		Pushbutton Head with ring illumination and laser printing, silver-coloured incl. lens, standard imprints see nameplates on pages 404 (please specify index number), special imprints on request suitable contact blocks AS1 AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel silver-coloured	RRJTLRL...
		Double Pushbutton Head with ring illumination silver-coloured laser printing on request suitable contact blocks BZ BZ CT CZ front bezel silver-coloured	RRJDTLR
		Double Pushbutton Head with ring illumination silver-coloured suitable contact blocks BZ BZ CT CZ push-cap red/green front bezel silver-coloured	RRJDTLRLW_0003
		Double Pushbutton Head with ring illumination and high, red lens, silver-coloured suitable contact blocks BZ BZ CT CZ push-cap red/green front bezel silver-coloured	RRJDTLRHGR
		Pushbutton Head with ring illumination and burl wood decor incl. push-cap suitable contact blocks AS1 AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel burl wood decor black	RRJTLRE01 RRJTLRSW

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RONTRON-R-JUWEL

made in germany



Ø 22.3 mm


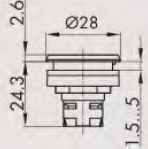

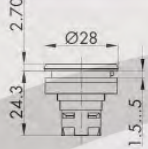

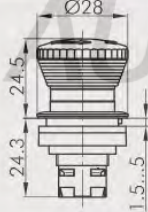

Pushbutton Heads

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Illustration	Dimensions	Description	Type
 <p>IP65 3mm Sun icon</p>		<p>Pushbutton Head with ring illumination and carbon decor incl. push-cap</p> <p>suitable contact blocks AS1 AZ B BF BZ BZ B439 CT CTF CTP CZ</p> <p>front bezel carbon decor</p>	RRJTLRE02
 <p>IP65 3mm Sun icon</p>		<p>Pushbutton head with ring illumination, white coated incl. lens</p> <p>suitable contact blocks AS1 AZ B BF BZ BZ B439 CT CTF CTP CZ</p> <p>front bezel white</p>	RRJTLREWS
 <p>IP65 3mm Sun icon</p>		<p>Pushbutton Head with ring illumination stainless steel including lens, inscription on request</p> <p>suitable contact blocks AS1 AZ B BF BZ BZ B439 CT CTF CTP CZ</p> <p>front bezel stainless steel, polished</p>	RRJVATLR
 <p>IP65 3mm Sun icon Laser icon</p>		<p>Pushbutton Head with ring illumination and laser printing, stainless steel incl. lens, standard imprint, see nameplates on page 404 (please specify index number), special inscription on request</p> <p>suitable contact blocks AS1 AZ B BF BZ BZ B439 CT CTF CTP CZ</p> <p>front bezel stainless steel, polished</p>	RRJVATLRL...
 <p>IP67</p>		<p>Sealing Cap made of silicone rubber, down to -50°C</p>	TK285

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Membrane Pushbuttons Emergency Stops

Illustration	Dimensions	Description	Type
 <p>IP66 IP69K 5mm Sun Hand</p>	 <p>2.6 Ø28 24.3 1.5...5</p>	<p>Individual Membrane Pushbutton Head, black combining the advantages of a membrane keypad with the flexibility of conventional actuators, blank nameplate included. Standard (see pages 404) or special imprint on request.</p> <p>suitable contact blocks CT CTF CTP CZ</p> <p>front ring black front bezel black</p>	<p>RRJFTSW</p>
 <p>IP66 IP69K 5mm Sun Hand</p>	 <p>2.70 Ø28 24.3 1.5...5</p>	<p>Individual Stainless Steel Membrane Pushbutton Head combining the advantages of a membrane keypad with the flexibility of conventional actuators, with blank nameplate. Standard inscription (see page 404) or special imprints on request.</p> <p>suitable contact blocks CT CTF CTP CZ</p> <p>front ring black front bezel stainless steel, polished front ring green front ring red</p>	<p>RRJVAFT RRJVAFTGN RRJVAFTRT</p>
 <p>IP66 IP67 IP69K</p>	 <p>Ø28 24.5 24.3 1.5...5</p>	<p>Emergency-stop Head foolproof Yes switching position indicator Yes anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p>TUV RU</p> <p>suitable contact blocks AS1 AZ BZ BZ PTP PTF</p> <p>mushroom head red front bezel yellow</p>	<p>RRJUV</p>
		<p>For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 366 The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.</p>	

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RONTRON-R-JUWEL

Ø 22.3 mm

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Knob Set for potentiometers Incremental Encoder

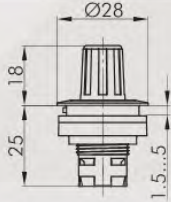
Illustration

Dimensions

Description

Type

IP65



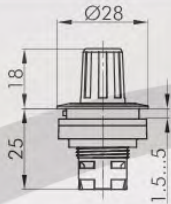
Knob Set for potentiometers, silver-coloured

for potentiometers of 6 mm shaft dia. and thread M10 x 0.75.
Delivery without potentiometer.
Shaft length: approx. 32 mm
front bezel silver-coloured



RRJR

IP65



Knob Set for potentiometers, stainless steel

for potentiometers of 6 mm shaft dia. and thread M10 x 0.75.
Delivery without potentiometer.
Shaft length: approx. 32 mm
front bezel stainless steel, polished



RRJVAR

IP65



Knob Set for incremental encoder, silver-coloured

with rotary knob, but without encoder. For encoders with 6 mm shaft dia. and thread M7x0,75
Shaft length approx. 32mm
front bezel silver-coloured



RRJE

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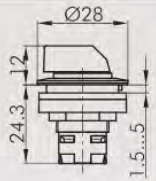



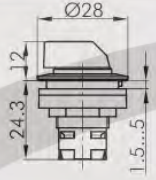



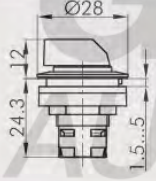


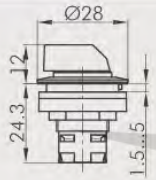



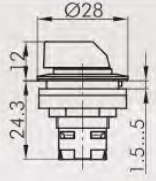



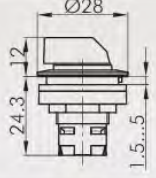

Pedal Switches

Limit Switches

Type Index

Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

Illustration	Dimensions	Description	Type
		Selector Head, maintained, silver-coloured suitable contact blocks ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel silver-coloured	 RRJWA
		suitable contact blocks ASI AZ BZ BZ B439 CT CZ front bezel silver-coloured	 RRJWB
		Selector Head, momentary, silver-coloured suitable contact blocks ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel silver-coloured	 RRJSTA
		suitable contact blocks ASI AZ BZ BZ B439 CT CZ front bezel silver-coloured	 RRJSTB
		Selector Head, left maintained, right momentary silver-coloured suitable contact blocks ASI AZ BZ BZ B439 CT CZ front bezel silver-coloured	 RRJWC
		Selector Head, maintained, stainless steel suitable contact blocks ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel stainless steel, polished	 RRJVAWA
		suitable contact blocks ASI AZ BZ BZ B439 CT CZ front bezel stainless steel, polished	 RRJVAWB
		Selector Head, momentary, stainless steel suitable contact blocks ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel stainless steel, polished	 RRJVASTA
		suitable contact blocks ASI AZ BZ BZ B439 CT CZ front bezel stainless steel, polished	 RRJVASTB
		Illuminated Selector Head, left maintained, right momentary stainless steel suitable contact blocks ASI AZ BZ BZ B439 CT CZ front bezel stainless steel, polished	 RRJVAWC

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RONTRON-R-JUWEL

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Ø 22.3 mm

Selector Switches (momentary/maintained)

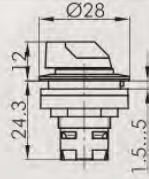
- I = Switching position
- > = Spring return

Illustration

Dimensions

Description

Type



Illuminated Selector Head, maintained, silver-coloured

Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. RRJWAL_GN)

suitable contact blocks

ASI AZ B BF BZ BZ B439 CT CTF CTP CZ

front bezel silver-coloured

suitable contact blocks

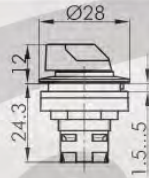
ASI AZ BZ BZ B439 CT CZ

front bezel silver-coloured



RRJWAL...

RRJWBL...



Illuminated Selector Head, momentary, silver-coloured

Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. RRJSTAL_GN)

suitable contact blocks

ASI AZ B BF BZ BZ B439 CT CTF CTP CZ

front bezel silver-coloured

suitable contact blocks

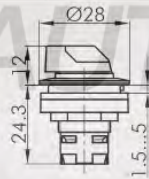
ASI AZ BZ BZ B439 CT CZ

front bezel silver-coloured



RRJSTAL...

RRJSTBL...



Illuminated Selector Head, left maintained, right momentary silver-coloured

Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. RRJWCL_GN)

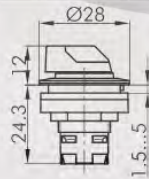
suitable contact blocks

ASI AZ BZ BZ B439 CT CZ

front bezel silver-coloured



RRJWCL...



Illuminated Selector Head, maintained, stainless steel

Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. RRJVAWAL_GN)

suitable contact blocks

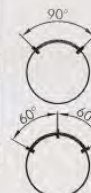
ASI AZ B BF BZ BZ B439 CT CTF CTP CZ

front bezel stainless steel, polished

suitable contact blocks

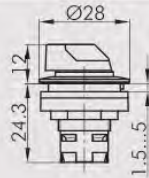
ASI AZ BZ BZ B439 CT CZ

front bezel stainless steel, polished



RRJVAWAL...

RRJVAWBL...



Illuminated Selector Head, momentary, stainless steel

Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. RRJVASTAL_GN)

suitable contact blocks

ASI AZ B BF BZ BZ B439 CT CTF CTP CZ

front bezel stainless steel, polished

suitable contact blocks

ASI AZ BZ BZ B439 CT CZ

front bezel stainless steel, polished



RRJVASTAL...



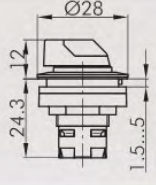

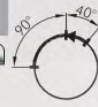
RRJVASTBL...

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Selector Switches (momentary/maintained)
made of stainless steel V4A (1.4404)

I = Switching position
> = Spring return

Illustration	Dimensions	Description	Type
 		<p>Illuminated Selector Head, left maintained, right momentary stainless steel Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. RRJVAWCL_GN) suitable contact blocks AS1 AZ BZ BZ B439 CT CZ</p> <p>front bezel stainless steel, polished </p>	 <p>RRJVAWCL...</p>

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RONTRON-R-JUWEL

made in germany



Ø 22.3 mm

Selector Switches (momentary/maintained)

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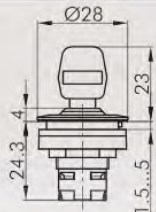


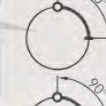
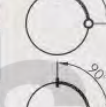
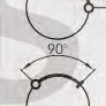

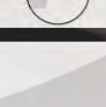

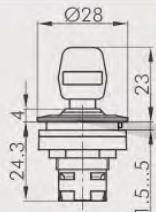


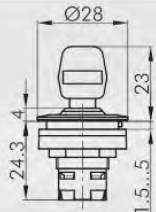

Illustration	Dimensions	Description	Type
		Selector Head for desert application, maintained silver-coloured tested with coarse Arizona dust suitable contact blocks ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel silver-coloured	 RRJWA_514
		suitable contact blocks ASI AZ BZ BZ CT CZ front bezel silver-coloured	 RRJWB_514
		Selector Head for desert application, momentary, silver-coloured tested with coarse Arizona dust suitable contact blocks ASI AZ BZ BZ CT CZ front bezel silver-coloured	 RRJSTB_514

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Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type
		Key Actuator, maintained, silver-coloured including two keys other lock types on request suitable contact blocks ASI AZ BZ BZ B439 CT CZ front bezel silver-coloured	 RRJSSA12
		suitable contact blocks ASI AZ BZ BZ B439 CT CZ front bezel silver-coloured	 RRJSSA13
		suitable contact blocks ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel silver-coloured	 RRJSSA14
		suitable contact blocks ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel silver-coloured	 RRJSSA15
		suitable contact blocks ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel silver-coloured	 RRJSSA16
		suitable contact blocks ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel silver-coloured	 RRJSSA17
		suitable contact blocks ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel silver-coloured	 RRJSSA18
			
Key Actuator, momentary, silver-coloured including two keys other lock types on request suitable contact blocks ASI AZ BZ BZ B439 CT CZ front bezel silver-coloured	 RRJSSA23		
		suitable contact blocks ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel silver-coloured	 RRJSSA28

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RONTRON-R-JUWEL

Ø 22.3 mm

made in germany



Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

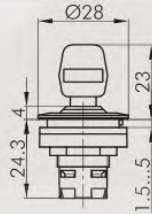
Illustration

Dimensions

Description

Type

IP65



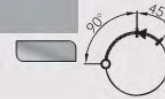
Key Actuator, left maintained, right momentary silver-coloured

suitable contact blocks

AS1 AZ BZ BZ B499 CT CZ

front bezel

silver-coloured



RRJSSA25

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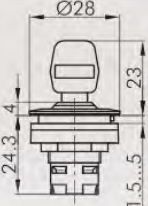








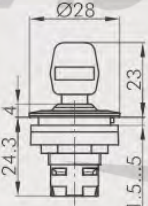

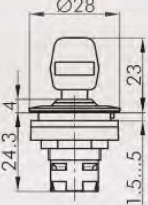


Pedal Switches

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Key Switches (momentary/maintained)
made of stainless steel V4A (1.4404)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type
		Key Actuator, maintained, stainless steel suitable contact blocks ASI AZ BZ BZ B439 CT CZ front bezel stainless steel, polished	 RRJVASSA12
		suitable contact blocks ASI AZ BZ BZ B439 CT CZ front bezel stainless steel, polished	 RRJVASSA13
		suitable contact blocks ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel stainless steel, polished	 RRJVASSA14
		suitable contact blocks ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel stainless steel, polished	 RRJVASSA15
		suitable contact blocks ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel stainless steel, polished	 RRJVASSA16
		suitable contact blocks ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel stainless steel, polished	 RRJVASSA17
		suitable contact blocks ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel stainless steel, polished	 RRJVASSA18
			
		Key Actuator, momentary, stainless steel including two keys other lock types on request suitable contact blocks ASI AZ BZ BZ B439 CT CZ front bezel stainless steel, polished	 RRJVASSA23
		suitable contact blocks ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel stainless steel, polished	 RRJVASSA28

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RONTRON-R-JUWEL

made in germany



Ø 22.3 mm

Key Switches (momentary/maintained)
made of stainless steel V4A (1.4404)

- I = Switching position
- > = Spring return
- = Key removable position

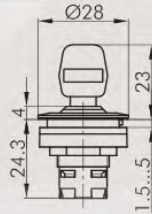
Illustration

Dimensions

Description

Type

IP65



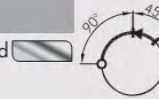
Key Actuator, left maintained, right momentary stainless steel

suitable contact blocks

AS1 AZ BZ BZ B419 CT CZ

front bezel

stainless steel, polished



RRJVASSA25



Standard Spare Keys

standard spare key, specify key number for special locks

ESMIC482

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Buzzers

Illustration	Dimensions	Description	Type
		<p>Buzzer, silver-coloured</p> <p>operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 85 db (10cm, 24V) max. 80 db (10cm, 12V)</p> <p>operating temperature: -20°C ... 60°C front bezel: silver-coloured</p>	RRJNSG+SG-24V
		<p>Buzzer, stainless steel</p> <p>operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 85 db (10cm, 24V) max. 80 db (10cm, 12V)</p> <p>operating temperature: -20°C ... 60°C front bezel: stainless steel, polished</p>	RRJVANSG+SG-24V
		<p>Interval Buzzer, silver-coloured</p> <p>operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 85 db (10cm, 24V) max. 80 db (10cm, 12V)</p> <p>interval: 1 s operating temperature: -20°C ... 60°C front bezel: silver-coloured</p>	RRJNSG+SIGI-24V
		<p>Interval Buzzer, stainless steel</p> <p>operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 85 db (10cm, 24V) max. 80 db (10cm, 12V)</p> <p>interval: 1 s operating temperature: -20°C ... 60°C front bezel: stainless steel, polished</p>	RRJVANSG+SIGI-24V
		<p>Illuminated Buzzer, silver-coloured</p> <p>operating voltage: 12 ... 24V AC/DC operating current: approx. 30mA signal frequency: 3.5 +/- 0.5 kHz volume: max. 85 db (10cm, 24V) max. 80 db (10cm, 12V)</p> <p>operating temperature: -20°C ... 60°C front bezel: silver-coloured</p>	RRJNSGL+SGLR-24V

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RONTRON-R-JUWEL

Ø 22.3 mm

made in germany



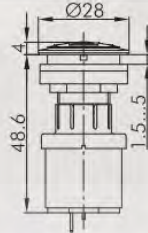
Buzzers

Illustration

Dimensions

Description

Type



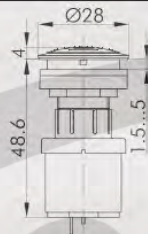
Illuminated Buzzer, stainless steel

Operating voltage: 12 ... 24V AC/DC
 Operating current: approx. 30mA
 Signal frequency: 3.5 +/- 0.5 kHz
 Volume: max. 85 db (10cm, 24V)
 max. 80 db (10cm, 12V)

Operating temperature: -20°C ... 60°C

front bezel stainless steel, polished

**RRJVANSGL+
SGLR-24V**



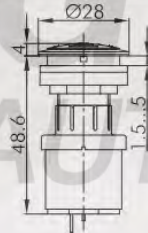
Illuminated Interval Buzzer, silver-coloured

operating voltage: 12 ... 24V AC/DC
 operating current: approx. 30mA
 signal frequency: 3.5 +/- 0.5 Hz
 volume: max. 85 db (10cm, 24V)
 max. 80 db (10cm, 12V)

interval: 1 s
 operating temperature: -20°C ... 60°C

front bezel silver-coloured

**RRJNSGL+SGILR-
24V**



Illuminated Interval Buzzer, stainless steel

Operating voltage: 12 ... 24V AC/DC
 Operating current: approx. 30mA
 Signal frequency: 3.5 +/- 0.5 kHz
 Volume: max. 85 db (10cm, 24V)
 max. 80 db (10cm, 12V)

Interval: 1 s
 Operating temperature: -20°C ... 60°C

front bezel stainless steel, polished

**RRJVANSGL+
SGILR-24V**



Faston Clamp 2.8 x 0.8 mm with snap-in pin

FH2,8

Cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8



Insulating Case

IH2,8

for Faston clamp FH2,8, slip on from the front




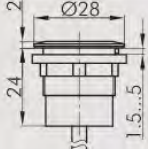


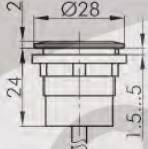


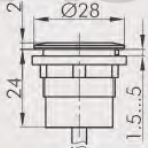


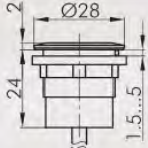

Double Faston

FD2,8

for the connection of 2 Faston clamps FH2.8

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Panel Mount Jacks

Illustration	Dimensions	Description	Type
		<p>USB Jack, silver-coloured</p> <p>front: USB jack type A</p> <p>rear: USB2.0 cable (length 60 cm) with plug type A</p> <p>other lengths on request</p> <p>Attention: Mounting position of USB jack does not conform to the USB2.0 specification.</p> <p>front bezel silver-coloured </p>	RRJ_USB
		<p>USB Jack, stainless steel</p> <p>front: USB jack type A</p> <p>rear: USB2.0 cable (length 60 cm) with plug type A</p> <p>other lengths on request</p> <p>Attention: Mounting position of USB jack does not conform to the USB2.0 specification.</p> <p>front bezel stainless steel, polished </p>	RRJVA_USB
		<p>USB3.0 Jack, silver-coloured</p> <p>front: USB jack type A</p> <p>rear: USB3.0 cable (length 60 cm) with plug type A</p> <p>other lengths on request</p> <p>front bezel silver-coloured </p>	RRJ_USB3
		<p>USB3.0 Jack, stainless steel</p> <p>front: USB jack type A</p> <p>rear: USB3.0 cable (length 60 cm) with plug type A</p> <p>other lengths on request</p> <p>front bezel stainless steel, polished </p>	RRJVA_USB3

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RONTRON-R-JUWEL

Ø 22.3 mm

made in germany



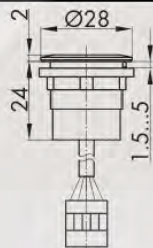
Panel Mount Jacks

Illustration

Dimensions

Description

Type



USB Jack, silver-coloured

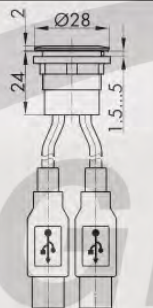
front:
USB jack type A

rear:
USB2.0 cable (length 100 cm) with jack housing, 5 poles
(spacing 2.54 mm)
for direct connection to a motherboard

other lengths on request
front bezel silver-coloured



RRJ_USB-100CM_673



Double USB Jack, silver-coloured

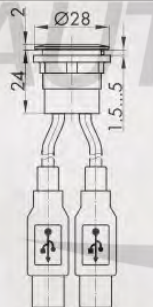
front:
2x USB jack type A

rear:
2x USB2.0 cable (length 60 cm) with plug type A

other lengths on request
front bezel silver-coloured



RRJ_2USB



Double USB Jack, stainless steel

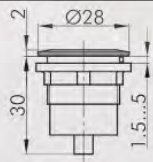
front:
2x USB jack type A

rear:
2x USB2.0 cable (length 60 cm) with plug type A

other lengths on request
front bezel stainless steel, polished



RRJVA_2USB



USB Jack, silver-coloured

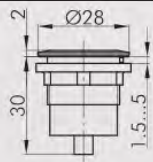
front:
USB jack type A

rear:
USB jack type A

front bezel silver-coloured



RRJ_USB_AA



USB Jack, stainless steel

front:
USB jack type A

rear:
USB jack type A

front bezel stainless steel, polished



RRJVA_USB_AA

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Illustration	Dimensions	Description	Type
		USB3.0 Jack, silver-coloured pinout 1:1 front: USB jack type A rear: USB jack type A front bezel silver-coloured	RRJ_USB3_AA
		USB3.0 Jack, stainless steel pinout 1:1 front: USB jack type A rear: USB jack type A front bezel stainless steel, polished	RRJVA_USB3_AA
		USB3.0 Jack, silver-coloured Pinout: twisted data line front: USB jack type A rear: USB jack type A front bezel silver-coloured	RRJ_USB3_AA_633
		USB3.0 Jack, stainless steel Pinout: twisted data line front: USB jack type A rear: USB jack type A front bezel stainless steel, polished	RRJVA_USB3_AA633
		USB Jack, silver-coloured front: USB jack type A rear: USB jack type B front bezel silver-coloured	RRJ_USB_AB
		USB Jack, stainless steel front: USB jack type A rear: USB jack type B front bezel stainless steel, polished	RRJVA_USB_AB

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RONTRON-R-JUWEL

Ø 22.3 mm

made in germany



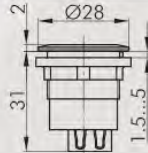
Panel Mount Jacks

Illustration

Dimensions

Description

Type



USB Jack, silver-coloured

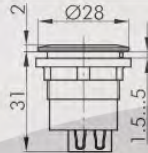
front:
USB jack type B

rear:
USB jack type A
front bezel

silver-coloured



RRJ_USB_BA



USB Jack, stainless steel

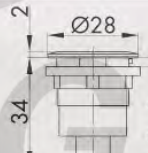
front:
USB jack type B

rear:
USB jack type A
front bezel

stainless steel, polished



RRJVA_USB_BA



USB Jack, silver-coloured

front:
USB jack type B

rear:
USB jack type B
front bezel

silver-coloured



RRJ_USB_BB



USB Jack, stainless steel

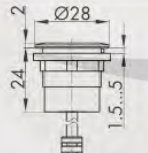
front:
USB jack type B

rear:
USB jack type B
front bezel

stainless steel, polished



RRJVA_USB_BB



USB Jack, silver-coloured

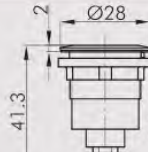
front:
USB jack type B

rear:
USB2.0 cable (length 50 cm) with plug type B
front bezel

silver-coloured



RRJ_USB_BB_50CM



FireWire Jack, silver-coloured

front:
FireWire jack

rear:
FireWire jack
front bezel

silver-coloured



RRJ_FW6_STB

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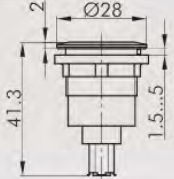


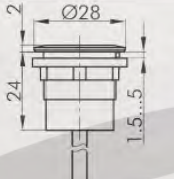


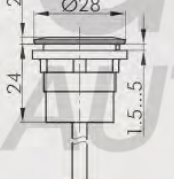


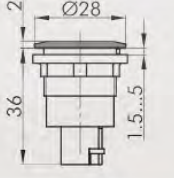


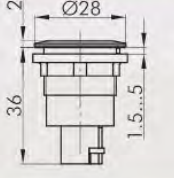

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Panel Mount Jacks

Illustration	Dimensions	Description	Type
		FireWire Jack, stainless steel front: FireWire jack rear: FireWire jack front bezel	stainless steel, polished  RRJVA_FW6_STB
		RJ45 Jack, silver-coloured front: RJ45 jack with screen rear: 60 cm cable screened with RJ45 connector front bezel	silver-coloured  RRJ_RJ45
		RJ45 Jack, stainless steel front: RJ45 jack with screen rear: 60cm cable with screened RJ45 connector front bezel	stainless steel, polished  RRJVA_RJ45
		RJ45 Jack, silver-coloured front: RJ45 jack with screen rear: RJ45 jack with screen front bezel	silver-coloured  RRJ_RJ45_STB
		RJ45 Jack, stainless steel front: RJ45 jack with screen rear: RJ45 jack with screen front bezel	stainless steel, polished  RRJVA_RJ45_STB

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RONTRON-R-JUWEL

Ø 22.3 mm

made in germany


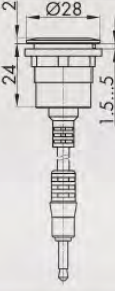


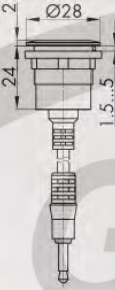


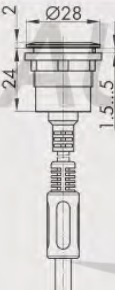


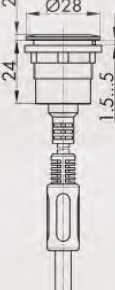



Panel Mount Jacks

Illustration	Dimensions	Description	Type
		<p>PS2 Jack, silver-coloured</p> <p>front: PS2 jack</p> <p>rear: PS2 cable (length 200 cm) with PS2 plug</p> <p>other lengths on request</p> <p>front bezel silver-coloured </p>	RRJ_PS2_200CM
		<p>SVHS Jack, silver-coloured</p> <p>front: SVHS jack</p> <p>rear: SVHS cable (length 200 cm) with SVHS plug</p> <p>other lengths on request</p> <p>front bezel silver-coloured </p>	RRJ_SVHS_200CM
		<p>HDMI Jack, silver-coloured</p> <p>front: HDMI jack</p> <p>rear: HDMI jack</p> <p>front bezel silver-coloured </p>	RRJ_HDMI_STB
		<p>2.5 mm Jack Plug, silver-coloured</p> <p>front: 2.5 mm jack socket (TRS)</p> <p>rear: cable (length 200 cm) with 2.5 mm jack plug</p> <p>other lengths on request</p> <p>front bezel silver-coloured </p>	RRJ_KL2,5_200CM
		<p>2.5 mm Jack Plug, stainless steel</p> <p>front: 2.5 mm jack socket (TRS)</p> <p>rear: cable length 200 cm) with 2.5 mm jack plug</p> <p>other lengths on request</p> <p>front bezel stainless steel, polished </p>	RRJVA_KL2,5_200

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Panel Mount Jacks

Illustration	Dimensions	Description	Type
		<p>3.5 mm Jack Plug, silver-coloured</p> <p>front: 3.5 mm jack socket (TRS)</p> <p>rear: cable (length 200 cm) with 3.5 mm jack plug</p> <p>other lengths on request</p> <p>front bezel silver-coloured </p>	RRJ_KL3,5_200CM
		<p>3.5 mm Jack Plug, stainless steel</p> <p>front: 3.5 mm jack socket (TRS)</p> <p>rear: cable length 200 cm) with 3.5 mm jack plug</p> <p>other lengths on request</p> <p>front bezel stainless steel, polished </p>	RRJVA_KL3,5_200
		<p>6.3 mm Jack Plug, silver-coloured</p> <p>front: 6.3 mm jack socket (TRS)</p> <p>rear: cable (length 200 cm) with 6.3 mm jack plug</p> <p>other lengths on request</p> <p>front bezel silver-coloured </p>	RRJ_KL6,3_200CM
		<p>6.3 mm Jack Plug, stainless steel</p> <p>front: 6.3 mm jack socket (TRS)</p> <p>rear: cable (length 200 cm) with 6.3 mm jack plug</p> <p>other lengths on request</p> <p>front bezel stainless steel, polished </p>	RRJVA_KL6,3_200

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RONTRON-R-JUWEL

Ø 22.3 mm

made in germany



Panel Mount Jacks

Illustration

Dimensions

Description

Type



**For panel mount jacks,
please refer to page 552**

GROSS AUTOMATION

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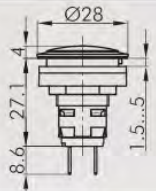


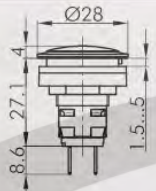


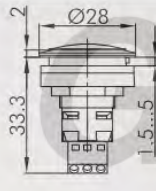


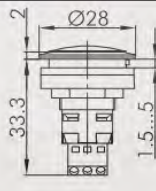

Limit Switches

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Pilot Lights

Lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type
 <p>IP65 Sun icon Light icon</p>		<p>Pilot Light with Faston Terminals 2.8x0.8 mm, silver-coloured W2x4.6d socket</p> <p>front bezel silver-coloured</p> 	RRJL4
 <p>IP65 Sun icon Light icon</p>		<p>Pilot Light with Faston terminals 2.8x0.8 mm, stainless steel W2x4.6d socket</p> <p>front bezel stainless steel, polished</p> 	RRJVAL4
 <p>IP65 Sun icon Light icon</p>		<p>Two-colour LED Pilot Light 24V, silver-coloured</p> <p>Operating temperature: -25°C ... 60°C Rated voltage: 24V DC Rated current: max. 10mA per LED Insulating voltage: 0.5kV Insulating resistance: ≥ 2MOhm Connection type: screw connection 3x1mm²</p> <p><u>Pin Assignment</u> Pin 1: red Pin 2: GND Pin 3: green</p> <p>other colours on request</p> <p>incl. lens and nameplate</p> <p>LED colour red/green front bezel silver-coloured</p> 	RRJL_24R_G
 <p>IP65 Sun icon Light icon</p>		<p>Two-colour LED Pilot Light 230V, silver-coloured</p> <p>Operating temperature: -25°C ... 55°C Rated voltage: 230V AC / 50 ... 60Hz Rated current: max. 4mA per LED Insulating voltage: 2.5kV Insulating resistance: ≥ 2MOhm Connection: : screw connection 3x1mm²</p> <p><u>Pin Assignment</u> Pin 1: red Pin 2: GND Pin 3: green</p> <p>other colours on request</p> <p>incl. lens and nameplate</p> <p>LED colour red/green front bezel silver-coloured</p> 	RRJL_230R_G

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RONTRON-R-JUWEL

made in germany



Ø 22.3 mm

Pilot Lights

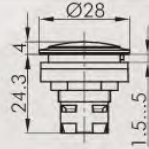
Lenses and nameplates to be ordered separately

Illustration

Dimensions

Description

Type



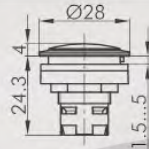
Pilot Light Head, silver-coloured

suitable lampholders

ASI B BF CT CTF CTP CZ

front bezel silver-coloured

RRJN



Pilot Light Head, stainless steel

suitable lampholders

ASI B BF CT CTP CZ

front bezel stainless steel, polished

RRJVAN



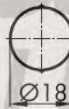
Lens

colour

blue
yellow
green
clear
red
opalwhite

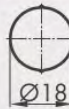


K22RRBL
K22RRGB
K22RRGN
K22RRKL
K22RRRT
K22RRWS



Blank Nameplate

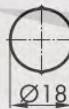
BSRRU



Nameplate with standard imprint

Please specify index number (see nameplates on pages 404)

BSRR...
























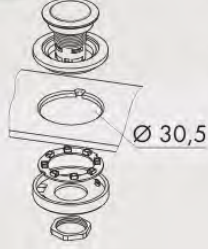




Nameplate with special imprint

according to customer's specification

BSRRB

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Accessories for Actuators

Illustration	Dimensions	Description	Type										
		Hexagonal Mounting Tool with torque limitation, for the series OKTRON, OKTRON-JUWEL, OKTRON-R, RONTRON-R-JUWEL, RONTRON-Q-JUWEL, QUARTRON, QUARTRON-JUWEL, RX-JUWEL	S16										
		Mounting Tool with torque limitation for the series QUARTEX-R(-JUWEL), KOMBITAST-R-JUWEL, RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of the RONTRON-R/-Q-JUWEL series	S22										
		Mounting Tool Adapter with 1/4" connections for mounting tools S16 and S22	SRA										
 IP65	 Ø 30,5	LED Light Ring for status indication or additional illumination - for an additional light signal - rated voltage: 24V AC/DC - rated current: 25 ... 35 mA (DC) - 30.5 mm mounting aperture - Connection: for JST plug ZHR-3 delivery without actuator LED colour	<table border="0"> <tr><td></td><td>LR22K_24B</td></tr> <tr><td></td><td>LR22K_24W</td></tr> <tr><td></td><td>LR22K_24R</td></tr> <tr><td></td><td>LR22K_24G</td></tr> <tr><td></td><td>LR22K_24Y</td></tr> </table>		LR22K_24B		LR22K_24W		LR22K_24R		LR22K_24G		LR22K_24Y
	LR22K_24B												
	LR22K_24W												
	LR22K_24R												
	LR22K_24G												
	LR22K_24Y												
 IP65	 Ø 30,5	Two-colour Alternate LED-illuminated Ring for status indication - for two alternate light signals - rated voltage: 24V AC/DC - rated current: green 12mA (D) / red 17mA (DC) - 30.5 mm mounting aperture - Connection: for JST plug ZHR-3 delivery without actuator LED colour	<table border="0"> <tr><td></td><td>LR22K_24R_G</td></tr> </table>		LR22K_24R_G								
	LR22K_24R_G												
		Connection Cable for LED light ring with open end, to connect the LED light rings to a voltage supply source, length approx. 80 cm, cross section 0.14 mm ²	VK_JST3_014										

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RONTRON-R-JUWEL

Ø 22.3 mm

made in germany



Accessories for Actuators

Illustration

Dimensions

Description

Type

IP65



RGB LED Light Ring for status indication or illumination

- as an additional light signal
- one-piece ring (360°)
- rated voltage 24V AC (half-wave rectifier)/DC
- up to 16.7 m colours are possible (colour mixing via PWM signal)

LED colour red/green/blue

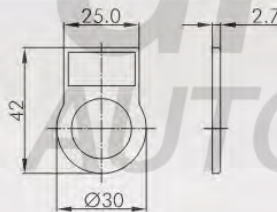
LR22K_24RGB



Connection Cable for RGB-LED Light Ring

with open end, to connect the RGB-LED light rings to a voltage supply source, length approx. 80 cm, cross section 0.14 mm²

VK_LRR22_RGB



External Nameplate Holder

for outside marking of the actuators of the RONTRON-R-JUWEL and SHORTRON series, accepts self-adhesive nameplates, mountable from the front
colour transparent

RRJABT

Self-adhesive Nameplate laser-printed

Inscription according to customer's specification
Dimensions: 22 x 11 mm

BZ16L



Self-adhesive Nameplate blank

Dimensions: 22 x 11 mm

BZ16U



Self-adhesive Nameplate with standard imprint

Please specify index no. (see nameplates on page 404)
Dimensions: 22 x 11 mm

BZ16B...



Yellow Nameplate

self-adhesive PVC foil
printing on request
outer dia. 75 mm
for mounting dia. 22 mm
colour yellow

NAS_22

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Illustration	Dimensions	Description	Type
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting dia. 22 mm colour yellow	NAS_22_548
		Lead-sealable Protective Lid from -30 °C to +70°C colour transparent	KDP22RR
		Lead-sealable, robust Protective Lid Lifetime: >100,000 cycles colour transparent black	KDPR22RR KDPR22RR_SW
		Protective Lid made of TPE from -50 °C to +100°C colour black	AK22RRSW
		Robust Aluminium Protection Cap - captive lid, threadable - suitable for all jacks of the Rontron-R-Juwel series colour silver-coloured	SDAL22RR
		Universal Lens Remover	USK
		Dummy, silver-coloured to close unused mounting apertures front bezel silver-coloured	BVRRJ
		Dummy, stainless steel to close unused mounting apertures front bezel stainless steel, polished	BVRRJVA

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Front dimensions: 28 x 28 mm
Panel cut-out: Ø 22.3 mm
Front bezel height: 2 mm
Travel: 3 mm



GROSS
AUTOMATION

73M71-0-NORLNO3

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 Product configurator



RONTRON-Q-JUWEL

Ø 22.3 mm

made in germany




Overview RONTRON-Q-JUWEL series





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02 Emergency Stop Buttons	page 113	08 Pilot Lights	page 121
03 Knob Set for Potentiometers	page 114		
04 Selector Heads	page 114		
05 Key Actuators	page 116		
06 Acoustic Buzzers	page 118		


Housing Colour



 degree of protection

 operating travel

 illuminating option

 labelling option

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CZ...
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PCB-mount terminals
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CTP
CTP...
Contact Blocks
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CTF
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Faston terminals
page 474

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page 500

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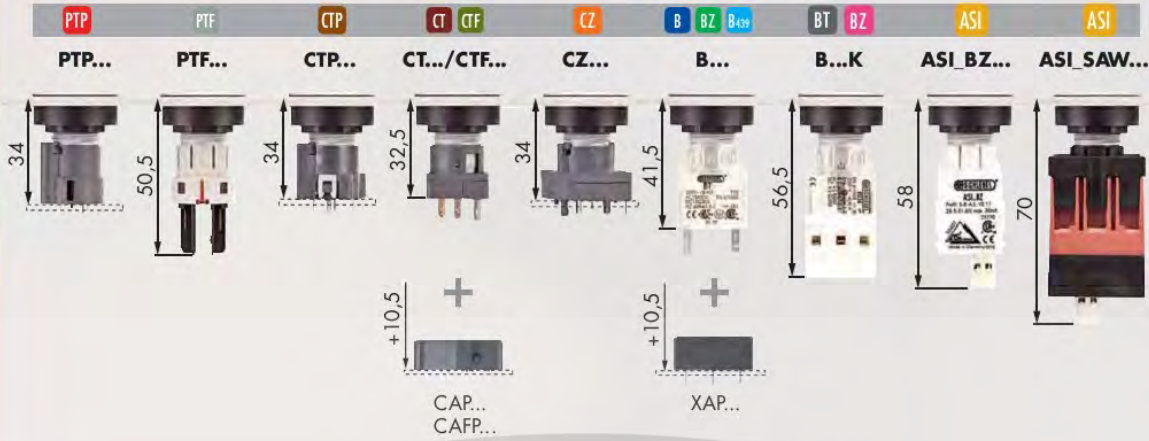
RONTRON-Q-JUWEL

made in germany

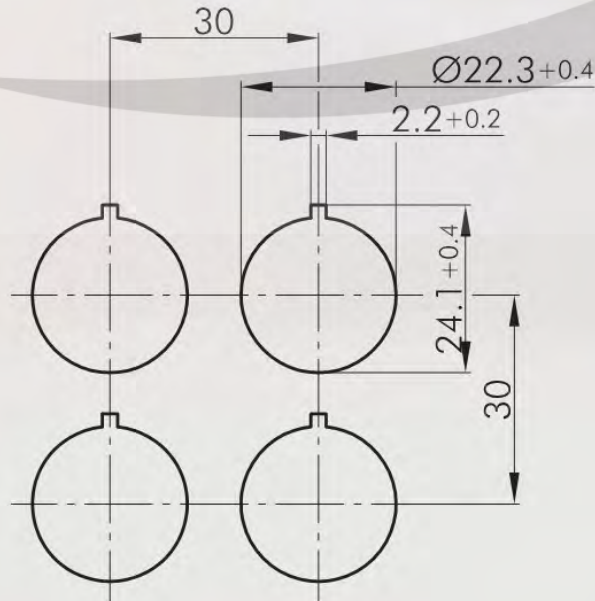


Ø 22.3 mm

Mounting Depth Dimensions

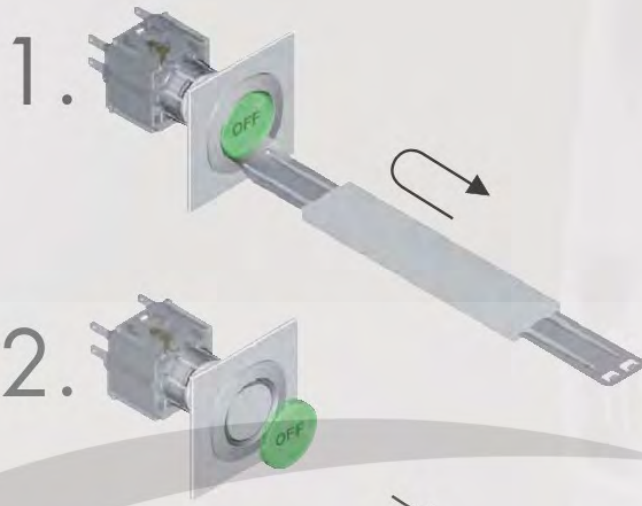


Cutout Dimensions



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Mounting and Service Instructions



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RONTRON-Q-JUWEL

made in germany



Ø 22.3 mm

Pushbutton Heads

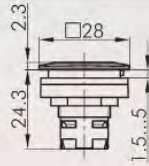
Lenses and nameplates to be ordered separately

Illustration

Dimensions

Description

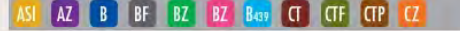
Type



Pushbutton Head



suitable contact blocks



front bezel silver-coloured

RQJT



Flat Lens, transparent

colour		
blue		T22RRBL
yellow		T22RRGB
green		T22RRGN
clear		T22RRKL
red		T22RRRT
opalwhite		T22RRWS



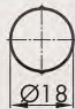
Flat Lens, non-transparent

colour		
blue		T22RRGBL
yellow		T22RRGGB
green		T22RRGGN
black		T22RRGSW
red		T22RRGRT
white		T22RRGWS
silver-coloured		T22RRGM



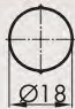
High Lens, transparent

colour		
blue		T22HRRBL
yellow		T22HRRGB
green		T22HRRGN
clear		T22HRRKL
red		T22HRRRT
opalwhite		T22HRRWS



Blank Nameplate

BSRRU



Nameplate with standard imprint

Please specify index number (see nameplates on pages 404)

BSRR...




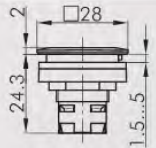




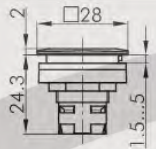


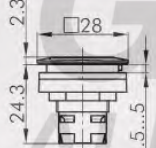


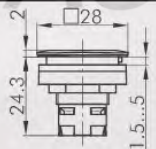

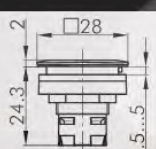
Nameplate with special imprint

according to customer's specification

BSRRB

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Pushbutton Heads Emergency Stops

Illustration	Dimensions	Description	Type
 <p>IP65 3 mm Sun icon</p>	 <p>2 28 24.3 1.5...5</p>	<p>Pushbutton Head with ring illumination incl. lens, inscription on request</p> <p> c US</p> <p>suitable contact blocks AS1 AZ B BF BZ BZ B439 CT CTF CTP CZ</p> <p>front bezel silver-coloured  black </p>	<p>RQJTLR RQJTLRSW</p>
 <p>IP65 3 mm Sun icon Laser icon</p>	 <p>2 28 24.3 1.5...5</p>	<p>Pushbutton Head with ring illumination and laser printing with push-cap, standard imprint, see nameplates on page 404 (please specify index number), special inscription on request</p> <p>AS1 AZ B BF BZ BZ B439 CT CTF CTP CZ</p> <p>front bezel silver-coloured </p>	<p>RQJTLRL...</p>
 <p>IP65 3 mm Sun icon</p>	 <p>2.3 28 24.3 1.5...5</p>	<p>Pushbutton Head with ring illumination, white coated incl. lens</p> <p>suitable contact blocks AS1 AZ B BF BZ BZ B439 CT CTF CTP CZ</p> <p>front bezel white </p>	<p>RQJTLREWS</p>
 <p>IP65 3 mm Sun icon</p>	 <p>2 28 24.3 1.5...5</p>	<p>Pushbutton Head with ring illumination and burl wood decor lens</p> <p>suitable contact blocks AS1 AZ B BF BZ BZ B439 CT CTF CTP CZ</p> <p>front bezel burl wood decor</p>	<p>RQJTLRE01</p>
 <p>IP65 3 mm Sun icon</p>	 <p>2 28 24.3 1.5...5</p>	<p>Pushbutton Head with ring illumination and carbon decor incl. push-cap</p> <p>suitable contact blocks AS1 AZ B BF BZ BZ B439 CT CTF CTP CZ</p> <p>front bezel carbon decor</p>	<p>RQJTLRE02</p>



For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 366

The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

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RONTRON-Q-JUWEL

made in germany



Ø 22.3 mm

Knob Set for potentiometers Selector Switches (momentary/maintained)

I = Switching position
> = Spring return


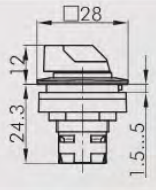





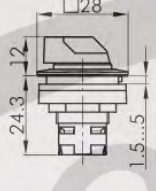


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Illustration	Dimensions	Description	Type
		Knob Set for potentiometers for potentiometers of 6 mm shaft dia. and thread M10 x 0.75. Delivery without potentiometer. Shaft length: approx. 32 mm front bezel silver-coloured	RQJR
		Selector Head, maintained suitable contact blocks ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel silver-coloured suitable contact blocks ASI AZ BZ BZ B439 CT CZ front bezel silver-coloured	 RQJWA RQJWB
		Selector Head, momentary suitable contact blocks ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel silver-coloured suitable contact blocks ASI AZ BZ BZ B439 CT CZ front bezel silver-coloured	 RQJSTA RQJSTB
		Selector Head, left maintained, right momentary suitable contact blocks ASI AZ BZ BZ B439 CT CZ front bezel silver-coloured	 RQJWC
		Illuminated Selector Head, maintained Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. RQJWAL_GN) suitable contact blocks ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel silver-coloured suitable contact blocks ASI AZ BZ BZ B439 CT CZ front bezel silver-coloured	 RQJWAL... RQJWBL...

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Selector Switches (momentary/maintained)

- I = Switching position
- > = Spring return

Illustration	Dimensions	Description	Type
		<p>Illuminated Selector Head, momentary Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. RQJSTAL_GN)</p> <p>suitable contact blocks AS1 AZ B BF BZ BZ B439 CT CTF CTP CZ</p> <p>front bezel silver-coloured </p> <p>suitable contact blocks AS1 AZ BZ BZ B439 CT CZ</p> <p>front bezel silver-coloured </p>	<p>RQJSTAL...</p>  <p>RQJSTBL...</p> 
		<p>Illuminated Selector Head, left maintained, right momentary Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. RQJWCL_GN)</p> <p>suitable contact blocks AS1 AZ BZ BZ B439 CT CZ</p> <p>front bezel silver-coloured </p>	<p>RQJWCL...</p> 

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AUTOMATION

RONTRON-Q-JUWEL

made in germany



Ø 22.3 mm

Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

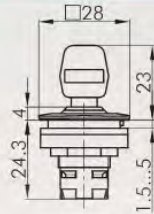
Illustration

Dimensions

Description

Type

IP65



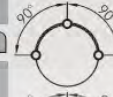
Key Actuator, maintained

including two keys
other lock types on request

suitable contact blocks

ASI AZ BZ BZ B439 CT CZ

front bezel silver-coloured

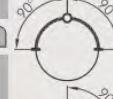


RQJSSA12

suitable contact blocks

ASI AZ BZ BZ B439 CT CZ

front bezel silver-coloured



RQJSSA13

suitable contact blocks

ASI AZ B BF BZ BZ B439 CT CTF CTP CZ

front bezel silver-coloured

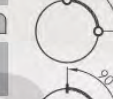


RQJSSA14

suitable contact blocks

ASI AZ B BF BZ BZ B439 CT CTF CTP CZ

front bezel silver-coloured

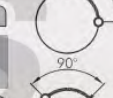


RQJSSA15

suitable contact blocks

ASI AZ B BF BZ BZ B439 CT CTF CTP CZ

front bezel silver-coloured

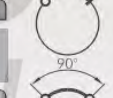


RQJSSA16

suitable contact blocks

ASI AZ B BF BZ BZ B439 CT CTF CTP CZ

front bezel silver-coloured

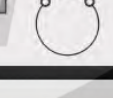


RQJSSA17

suitable contact blocks

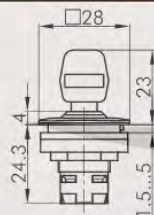
ASI AZ B BF BZ BZ B439 CT CTF CTP CZ

front bezel silver-coloured



RQJSSA18

IP65



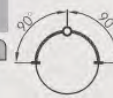
Key Actuator, maintained

including 3 keys:
1st key: two-way operation
2nd key: operation to the left only
3rd key: operation to the right only

suitable contact blocks

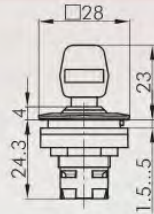
ASI AZ BZ BZ B439 CT CZ

front bezel silver-coloured



RQJSSA31

IP65



Key Actuator, momentary

including two keys
other lock types on request

suitable contact blocks

ASI AZ BZ BZ B439 CT CZ

front bezel silver-coloured



RQJSSA23

suitable contact blocks

ASI AZ B BF BZ BZ B439 CT CTF CTP CZ

front bezel silver-coloured


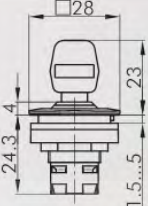
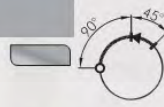



RQJSSA28

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Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type
		<p>Key Actuator, left maintained, right momentary including two keys other lock types on request suitable contact blocks</p> <p>ASI AZ BZ BZ B439 CT CZ</p> <p>front bezel silver-coloured</p> 	RQJSSA25
		<p>Standard Spare Keys standard spare key, specify key number for special locks</p>	ESMIC482

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RONTRON-Q-JUWEL

Ø 22.3 mm

made in germany



Buzzers

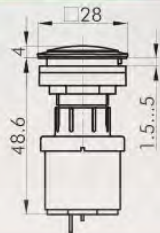
Illustration

Dimensions

Description

Type

IP65

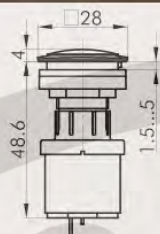


Buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: max. 30mA
 signal frequency: 3.5 +/- 0.5 Hz
 volume: max. 90 db (10cm, 24V)
 max. 85 db (10cm, 12V)
 operating temperature: -20°C ... 60°C
 front bezel: silver-coloured

RQJNSG+SG-24V

IP65

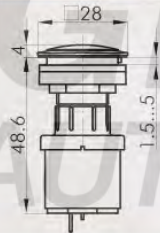


Interval Buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: max. 30mA
 signal frequency: 3.5 +/- 0.5 Hz
 volume: max. 90 db (10cm, 24V)
 max. 85 db (10cm, 12V)
 interval: 1 s
 operating temperature: -20°C ... 60°C
 front bezel: silver-coloured

RQJNSG+SGL-24V

IP65

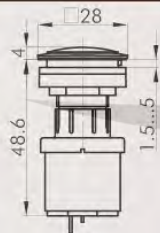


Illuminated Buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: approx. 30mA
 signal frequency: 3.5 +/- 0.5 Hz
 volume: max. 90 db (10cm, 24V)
 max. 85 db (10cm, 12V)
 operating temperature: -20°C ... 60°C
 front bezel: silver-coloured

RQJNSGL+SGLR-24V

IP65



Illuminated Interval Buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: approx. 30mA
 signal frequency: 3.5 +/- 0.5 Hz
 volume: max. 90 db (10cm, 24V)
 max. 85 db (10cm, 12V)
 interval: 1 s
 operating temperature: -20°C ... 60°C
 front bezel: silver-coloured

RQJNSGL+SGLR-24V



Faston Clamp 2.8 x 0.8 mm with snap-in pin

FH2,8

Cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8



Insulating Case

IH2,8

for Faston clamp FH2,8, slip on from the front



Double Faston

FD2,8

for the connection of 2 Faston clamps FH2.8

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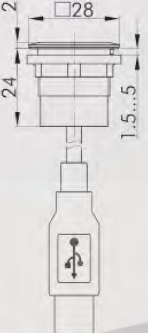


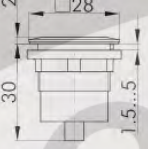


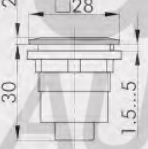

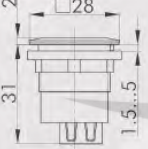


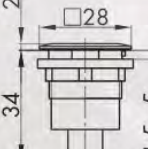


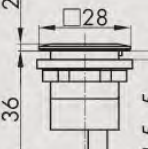

Terminal Blocks

Pedal Switches

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Panel Mount Jacks

Illustration	Dimensions	Description	Type
		<p>USB Jack front: USB jack type A</p> <p>rear: USB2.0 cable (length 60 cm) with plug type A</p> <p>other lengths on request</p> <p>Attention: Mounting position of USB jack does not conform to the USB2.0 specification.</p>	front bezel silver-coloured  RQJ_USB
		<p>USB Jack front: USB jack type A</p> <p>rear: USB jack type A</p>	front bezel silver-coloured  RQJ_USB_AA
		<p>USB Jack front: USB jack type A</p> <p>rear: USB jack type B</p>	front bezel silver-coloured  RQJ_USB_AB
		<p>USB Jack front: USB jack type B</p> <p>rear: USB jack type A</p>	front bezel silver-coloured  RQJ_USB_BA
		<p>USB Jack front: USB jack type B</p> <p>rear: USB jack type B</p>	front bezel silver-coloured  RQJ_USB_BB
		<p>USB3.0 Jack front: USB jack type A</p> <p>rear: USB jack type A</p>	front bezel silver-coloured  RQJ_USB3_AA

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RONTRON-Q-JUWEL

made in germany



Ø 22.3 mm

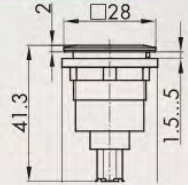
Panel Mount Jacks

Illustration

Dimensions

Description

Type



Fire Wire Jack

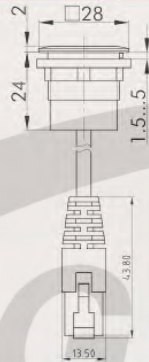
front:
Fire Wire jack

rear:
Fire Wire jack
front bezel

silver-coloured



RQJ_FW6_STB



RJ45 Jack

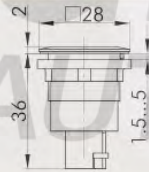
front:
RJ45 jack with screen

rear:
60cm cable screened with RJ45 connector
front bezel

silver-coloured



RQJ_RJ45



RJ45 Jack

front:
RJ45 jack with screen

rear:
RJ45 jack with screen
front bezel

silver-coloured



RQJ_RJ45_STB

**For panel mount jacks,
please refer to page 552**



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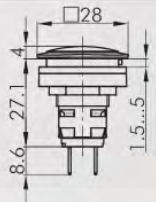

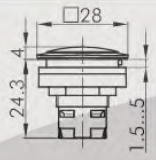



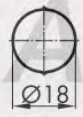

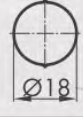

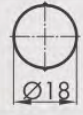
Pedal Switches

Limit Switches

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Pilot Lights

Lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type
 <p>IP65 Sun icon Lightbulb icon</p>	 <p>28 4 27.1 8.6 1.5...5</p>	<p>Pilot Light with Faston terminals 2.8x0.8 mm W2x4.6d socket front bezel silver-coloured</p>	RQJL4
 <p>IP65 Sun icon Lightbulb icon</p>	 <p>28 4 24.3 1.5...5</p>	<p>Pilot Light Head suitable lampholders AST B BF CT CTF CZ front bezel silver-coloured</p>	RQJN
	<p>Lens colour</p> <ul style="list-style-type: none"> blue yellow green clear red opalwhite 		<p>K22RRBL K22RRGB K22RRGN K22RRKL K22RRRT K22RRWS</p>
	 <p>Ø18</p>	<p>Nameplate with standard imprint Please specify index number (see nameplates on pages 404)</p>	BSRR...
	 <p>Ø18</p>	<p>Nameplate with special imprint according to customer's specification</p>	BSRRB
	 <p>Ø18</p>	<p>Blank Nameplate</p>	BSRRU

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RONTRON-Q-JUWEL

made in germany



Ø 22.3 mm

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Illustration	Dimensions	Description	Type
		Hexagonal Mounting Tool with torque limitation, for the series OKTRON, OKTRON-JUWEL, OKTRON-R, RONTRON-R-JUWEL, RONTRON-Q-JUWEL, QUARTRON, QUARTRON-JUWEL, RX-JUWEL	S16
		Mounting Tool with torque limitation for the series QUARTEX-R(-JUWEL), KOMBITAST-R-JUWEL, RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of the RONTRON-R/-QJUWEL series	S22
		Mounting Tool Adapter with 1/4" connections for mounting tools S16 and S22	SRA
		Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 75 mm for mounting dia. 22 mm colour yellow	NAS_22
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting dia. 22 mm colour yellow	NAS_22_548
		Lead-sealable Protective Lid from -30 °C to +70°C colour transparent	KDP22RR
		Lead-sealable, robust Protective Lid Lifetime: >100,000 cycles colour transparent black	KDPR22RR KDPR22RR_SW
		Universal Lens Remover	USK
		Dummy to close unused mounting apertures front bezel silver-coloured	BVRQJ

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Front dimensions: \varnothing 28 mm
Panel cut-out: \varnothing 22.3 mm
Front bezel height: 2 mm
Travel: 2.3 mm / 1.8 mm



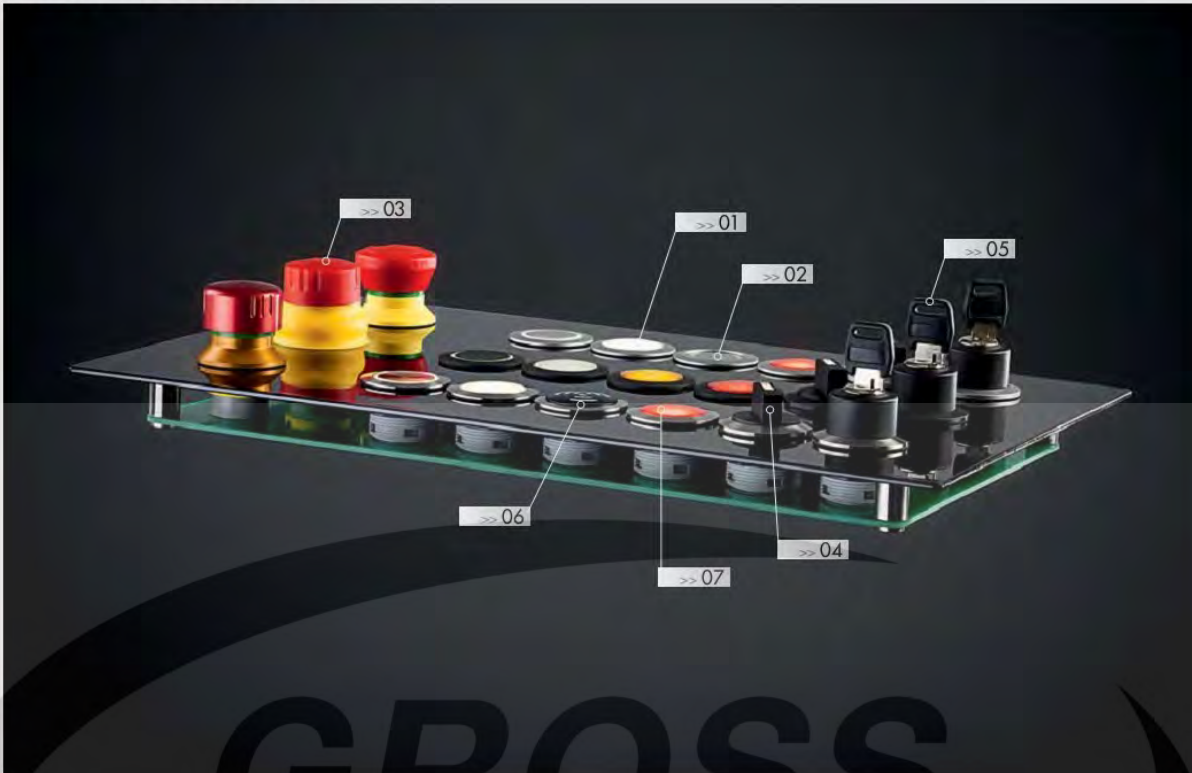
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NOORLROHHS

 Product configurator



Overview - SHORTRON series




01 Pushbuttons	page 134	05 Key Switches	page 150
02 Capacitive Pushbuttons	page 143	06 Buzzers	page 152
03 Emergency-stop Buttons	page 144	07 Pilot Lights	page 153
04 Selector Switches	page 146		


Housing Colour (silver-coloured, black, polished stainless steel)



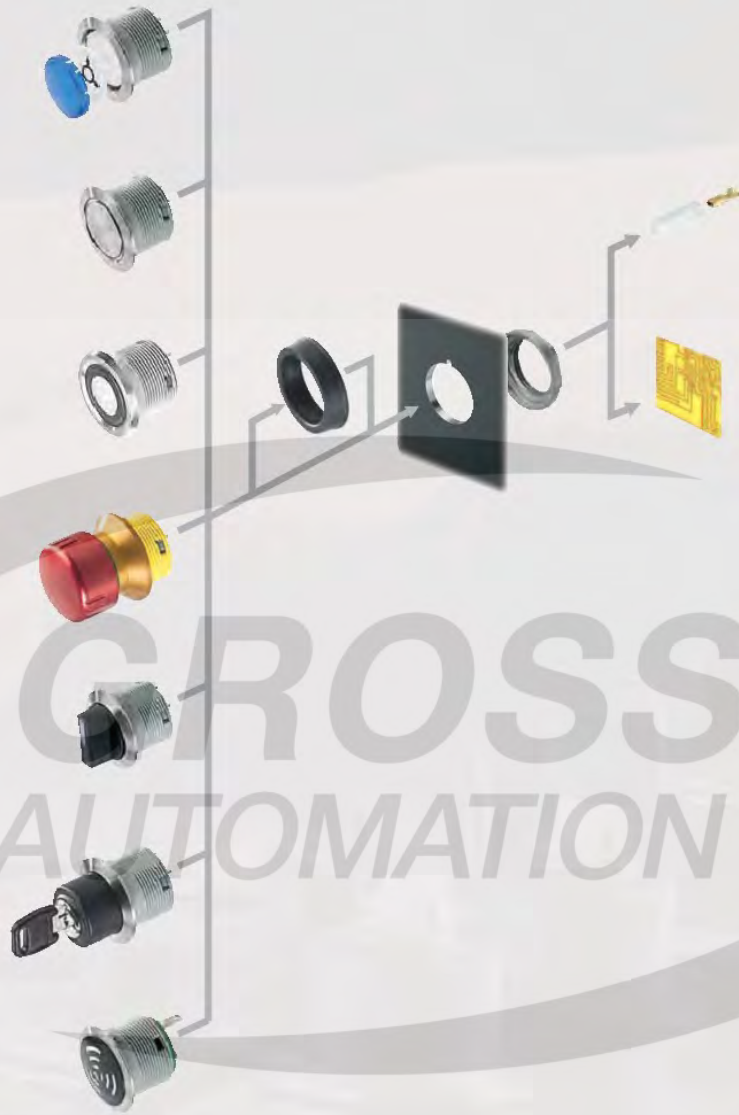
IP65 degree of protection

2.3mm operating travel

 illuminating option

 labelling option

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Mounting Faston Clamp 2.8x0.8mm



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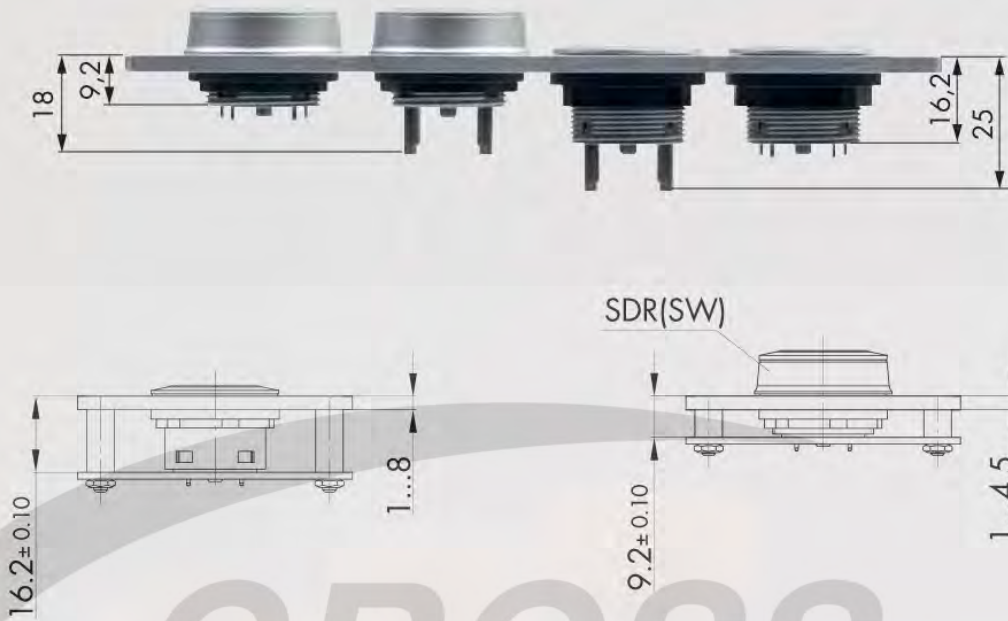
Pedal Switches

Limit Switches

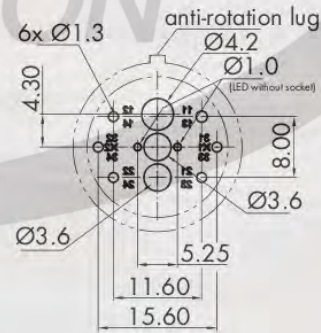
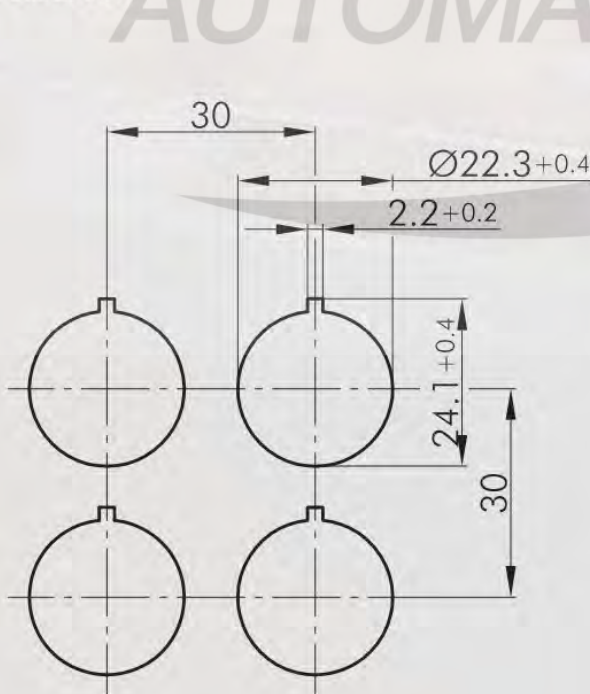
Type Index

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Mounting Depth Dimensions



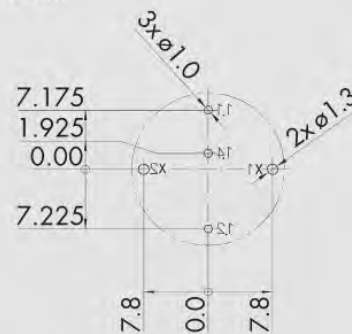
Cutout Dimensions



Component side view

Contact assignment: see wiring scheme of the relevant types

PCT...



General Data

Type Reference:	S(VA)(SW)(T)(TLR)(WA)(WB)(SSA...)(N)(STA)(STB)(L)(I)(II)(O)(OO)(OI)(P)(L)_AU
Description:	Short-stroke Pushbutton with integrated contact block, flat/high version, with Faston or PCB-mount terminals
Approvals:	CCC, CE, ENEC10, VDE, CE
Nature of contact:	2NC / 1NC+1NO / 2 NO / 1NO / 1NC
Degree of protection:	IP65 / IP67 (T, TLR, N) IP65 (SSA, STA, STB, WA, WB)
Operation travel:	2.3 mm
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	1 m switching cycles (T, TLR) 30,000 (WA, WB, STA)
Electrical life (rated load):	1 m switching cycles (T, TLR) 30,000 (WA, WB, STA)
Contact resistance NO:	< 20 mOhm
Contact resistance NC:	< 20 mOhm
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10 ms
Bouncing time NC:	< 10 ms
Positive opening contact:	acc. to EN60947-5-1, appendix. K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 B300	DC13 Q300
Rated insulation voltage Ui:	250 V	250 V
Rated operating voltage Ue:	240V / 120V	250V / 125V / 60V / 24V
Rated operating current Ie:	1.5A / 3A	0.27 A / 0.55 A / 1 A / 2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	5A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage Ue:	250 V~
Rated current Ie:	6(4) A

Technical Data - Lamp

Lamp socket:	with integrated white 3 mm LED
Max. lamp voltage:	30 V AC/DC
Max. lamp output:	14mA (at 24 V DC)
Definition:	X1...anode, X2...cathode

Additional Data

Mounting aperture:	22.3mm
Tightening torque (mounting nut):	1.5 ... 1.9 Nm
Mounting position:	any
Standards:	EN 60947-5-1, EN 61058

Electrical Features - 5µm gold-plating, type addition ...AU

Operational voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 100mA
Contact resistance (new state):	< 50 mOhm

Note

T...pushbutton, TLR...pushbutton with ring illumination, N...pilot light
T...key-operated switch
STA, STB...momentary selector switch
WA, WB...maintained selector switch

Standard version with Faston terminals 2.8x0.8mm
(P)=with PCB-mount terminals (Z)=base-plate-mounted version with PCB-mount terminals

DC13: > 100,000 switching cycles

versions with Faston terminals: use partially or fully insulated Faston clamps
illuminated versions (24 V LED): overvoltage category II (2.5kV), pollution degree 2
versions with three contacts: overvoltage category II (2.5kV), pollution degree 2

This data sheet is not applicable for the types S..C..* (tactile versions of the Shortron range)

Mounting depth of the base-plate versions	
Flat mounting:	16.2 mm
Mounting with spacer ring:	9.2 mm

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Ø 22.3 mm

General Data

Type Reference:	S(VA)(SW)C(T)(TLR)(...)(L)(F)
Description:	Tactile Short-stroke Pushbutton with integrated contact block, flat/high version, with Faston or PCB-mount terminals
Approvals:	CCC, CE, ENEC10, VDE, CE
Nature of contact:	1 inverter
Degree of protection:	IP65 / IP67
Operation travel:	2.3 mm
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1 m operations
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 100 mOhm (new state)
Bouncing time NO:	< 10 ms
Bouncing time NC:	< 10 ms

Technical Data - Lamp

Lamp socket:	with integrated white 3 mm LED
Max. lamp voltage:	30 V AC/DC
Max. lamp output:	14mA (at 24 V DC)
Definition:	X1...anode, X2...cathode

Additional Data

Mounting aperture:	22.3mm
Tightening torque (mounting nut):	1.5 ... 1.9 Nm
Mounting position:	any
Standards:	EN 61058-1

Electrical Features

Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

Note

Standard version with PCB-mount terminals
 (F)= with Faston terminals 2.8x0.8mm (Z)=base-plate-mounted version with PCB-mount terminals

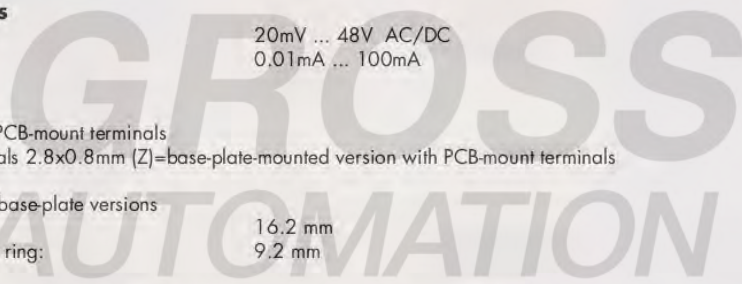
Mounting depth of the base-plate versions	
Flat mounting:	16.2 mm
Mounting with spacer ring:	9.2 mm

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC12	DC12
Rated insulation voltage Ui:	60V	60V
Rated operating voltage Ue:	48V	48V
Rated operating current Ie:	0.1A	0.1A
Continuous thermal current:	100mA	100mA

Remark

GB14048.5-2008 (IEC60947-5-1)



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General Data

Type Reference:	SVACFT(L)(X)(F)(P)
Description:	Single Membrane Pushbutton with integrated contact block, with Faston or PCB-mount terminals
Approvals:	CE, DGUV_Test
Nature of contact:	1 inverter
Degree of protection:	IP66 / IP67 / IP69K
Operation travel:	1.8 mm
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	1 m switching cycles (20°C)
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 100 mOhm (new state)
Bouncing time NO:	< 10 ms
Bouncing time NC:	< 10 ms

Technical Data - Lamp

Lamp socket:	with integrated white 3 mm LED
Max. lamp voltage:	30 V AC/DC
Max. lamp output:	14mA (at 24 V DC)
Definition:	X1...anode, X2...cathode

Additional Data

Mounting aperture:	22.3mm
Tightening torque (mounting nut):	1.5 ... 1.9 Nm
Mounting position:	any
Standards:	EN 61058-1

Electrical Features

Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

Note

SVACFT(L)(X)(F)(P)(Z) ()...optional
 (L) = illuminating option
 (X) = foil ring colours: standard=black (W=white, R=red, Y=yellow, G=green, B=blue)
 (F) = with Faston terminals 2.8x0.8mm
 (P) = with PCB-mount terminals
 (Z) = base-plate mounted version with PCB-mount terminals

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Ø 22.3 mm

General Data

Type Reference: FRVKAL(O)(OO)(OOO)(OI)(OOI)(OII)(P)(_AU)
 Description: Emergency Stop, aluminium version, foolproof
 Approvals: CE, TÜV_Süd, Zwangsöffnung, UR
 Nature of contact: 1 NC / 2NC / 3 NC / 1 NC+1NO / 2NC+1NO / 1NC+2NO
 Degree of protection: IP65 / IP67
 Connection type: Faston terminals 2.8x0.8 mm / PCB-mount terminals
 Contact material: AgNi / AgNi, gold-plated 5µm
 Max. storage temperature: -40°C ... 80°C
 Max. operating temperature: -25°C ... 70°C
 Mechanical life: 50,000
 Electrical life (rated load): 50,000 at rated load
 Contact resistance NO: < 50 mOhm (new state)
 Contact resistance NC: < 50 mOhm (new state)
 Bouncing time NO: < 10 ms
 Bouncing time NC: < 10 ms
 Positive opening contact: acc. to EN60947-5-1, appendix. K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 B300	DC13 Q300
Rated insulation voltage Ui:	250 V	250 V
Rated operating voltage Ue:	240V / 120V	250V / 125V / 60V / 24V
Rated operating current Ie:	1.5A / 3A	0.27 A / 0.55 A / 1 A / 2 A
Breaking capacity:	10Ie	1, 1Ie
Continuous thermal current:	5A	

Additional Data

Mounting aperture: 22.3mm
 Tightening torque (mounting nut): 1.3 ... 1.9 Nm
 Release: twist release, left or right
 Mounting position: any
 Standards: EN 60947-5-1, EN 60947-5-5, EN ISO 13850
 Pollution degree : 3

Reliability Data

Ld: 20% (NC)
 B10d: 250.000

Note

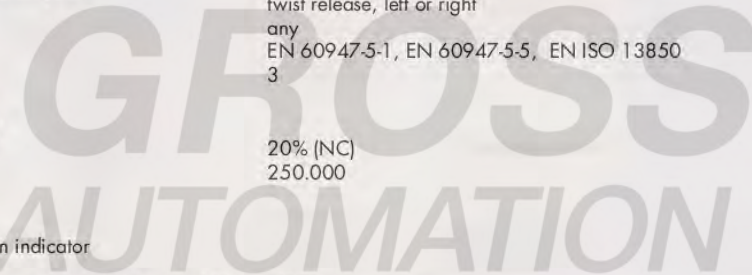
with switching position indicator

Electrical Features - 5µm gold-plating (type addition ...AU)
 Switching voltage: 20mV ... 42V AC/DC
 Switching current: 1 mA ... 250mA

For the version with Faston terminals use partially or fully insulated Faston clamps.
 Version with 3 contacts: overvoltage category II (2.5 kV), pollution degree 2

Data acc. to UL508

Ratings: silver: B300, 24Vdc/3A gold: 24Vdc/100mA



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General Data

Type Reference:	FRVK(P)(L)(O)(OO)(OOO)(OI)(OOI)(OII)(Z)(LZ)(P)(L)AU
Description:	Emergency Stop, foolproof
Approvals:	CCC, CE, TÜV_Süd, Zwangsöffnung, UR
Nature of contact:	1 NC / 2NC / 3 NC / 1 NC+1NO / 2NC+1NO / 1NC+2NO
Degree of protection:	IP65 / IP67
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Contact material:	AgNi / AgNi, gold-plated 5µm
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	50,000
Electrical life (rated load):	50,000 at rated load
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 50 mOhm (new state)
Bouncing time NO:	< 10 ms
Bouncing time NC:	< 10 ms
Positive opening contact:	acc. to EN60947-5-1, appendix. K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 B300	DC13 Q300
Rated insulation voltage Ui:	250 V	250 V
Rated operating voltage Ue:	240V / 120V	250V / 125V / 60V / 24V
Rated operating current Ie:	1.5A / 3A	0.27 A / 0.55 A / 1 A / 2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	5A	

Technical Data - Lamp

Lamp socket:	none, with integrated 3 mm LED
Max. lamp voltage:	30 V AC/DC
Max. lamp output:	4 mA at 24 V DC
Definition:	X1...anode, X2...cathode

Additional Data

Mounting aperture:	22.3mm
Tightening torque (mounting nut):	1.3 ... 1.9 Nm
Release:	twist release, left or right
Mounting position:	any
Standards:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850
Ld:	20% (NC)
B10d:	250.000
Pollution degree :	3

Note

with switching position indicator

Electrical Features - 5µm gold-plating (type addition ...AU)	
Switching voltage	20mV ... 42V AC/DC
Switching current	1 mA ... 250mA

For the version with Faston terminals use partially or fully insulated Faston clamps.
Illuminated version (24V-LED): overvoltage category II (2.5kV), pollution degree 2
Version with 3 contacts: overvoltage category II (2.5 kV), pollution degree 2

FRVKP...	emergency stop for hygienic areas
Approvals:	CE, DGUV-Test
Mechanical life:	20,000 (20°C)
	>6050 (-25°C)
	>6050 (+70°C)
B10d/Ld:	150,000/20% (20°C)

FRVK...(Z)	...emergency stop for base-plate mounting
FRVK...(LZ)	...emergency stop for base-plate mounting with height compensation to use the Shortron series

Approvals: CE
Snap-fit the corresponding contact block (PTS...) to the actuator neck.
Spacer sleeves ensure the correct distance between PCB and mounting plate. Screws must be secured against loosening.

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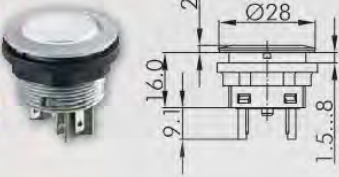
Ø 22.3 mm

Pushbutton Heads

Lenses and nameplates to be ordered separately.
Type addition for gold-plated contacts _AU (e.g. STLOI_AU)

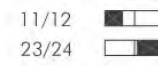
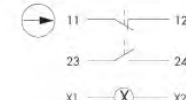
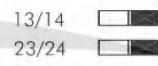
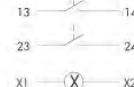
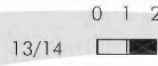
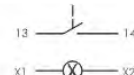
Illustration

Dimensions

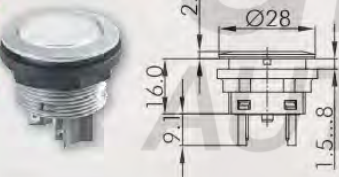


Illuminated Pushbutton

incl. white LED
Faston terminals 2.8x0.8 mm

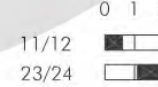
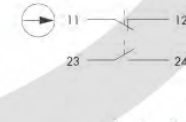
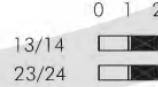
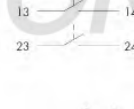
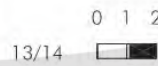
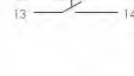


front bezel		1NO	2NO	1NC + 1NO
silver-coloured		STLI	STLII	STLOI
black		SSWTLI	SSWTLII	SSWTLOI
stainless steel, polished		SVATLI	SVATLII	SVATLOI



Pushbutton

Faston terminals 2.8x0.8 mm



front bezel		1NO	2NO	1NC + 1NO
silver-coloured		STI	STII	STOI
black		SSWTI	SSWTII	SSWTOI
stainless steel, polished		SVATI	SVATII	SVATOI

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Pushbutton Heads

Lenses and nameplates to be ordered separately.

Illustration

Dimensions



Flat Lens, transparent

colour	blue		T22RRBL
	yellow		T22RRGB
	green		T22RRGN
	clear		T22RRKL
	red		T22RRRT
	opalwhite		T22RRWS



High Lens, transparent

colour	blue		T22HRRBL
	yellow		T22HRRGB
	green		T22HRRGN
	clear		T22HRRKL
	red		T22HRRRT
	opalwhite		T22HRRWS



Flat Lens, non-transparent

colour	blue		T22RRGBL
	yellow		T22RRGGB
	green		T22RRGGN
	black		T22RRGSW
	red		T22RRGRT
	white		T22RRGWS



Blank Nameplate

BSRRU



Nameplate with standard imprint

BSRR...

Please specify index number (see nameplates on pages 404)



Nameplate with special imprint

BSRRB

according to customer's specification

IP67



Sealing Cap

TK28S

made of silicone rubber, down to -50°C

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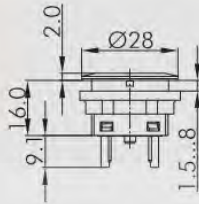
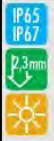
Ø 22.3 mm

Pushbutton Heads

Type addition for gold-plated version _AU (e. g. STLRWOI_AU)

Illustration

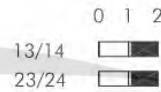
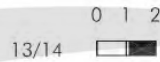
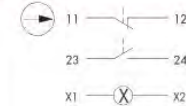
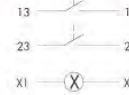
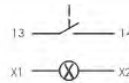
Dimensions



Pushbutton with ring illumination

incl. lens and white LED

Faston terminals 2.8x0.8 mm



front bezel	illuminated ring	1NO	2NO	1NC + 1NO
silver-coloured	white	STLRWI	STLRWII	STLRWOI
	red	STLRR	STLRRII	STLRROI
	green	STLRGI	STLRGII	STLRGOI
	yellow	STLRYI	STLRYII	STLRYOI
	blue	STLRBI	STLRBII	STLRBOI
black	white	SSWTLRWI	SSWTLRWII	SSWTLRWOI
	red	SSWTLRRI	SSWTLRRII	SSWTLRROI
	green	SSWTLRGI	SSWTLRGII	SSWTLRGOI
	yellow	SSWTLRYI	SSWTLRYII	SSWTLRYOI
	blue	SSWTLRBI	SSWTLRBII	SSWTLRBOI
stainless steel, polished	white	SVATLRWI	SVATLRWII	SVATLRWOI
	red	SVATLRR	SVATLRRII	SVATLRROI
	green	SVATLRGI	SVATLRGII	SVATLRGOI
	yellow	SVATLRYI	SVATLRYII	SVATLRYOI
	blue	SVATLRBI	SVATLRBII	SVATLRBOI

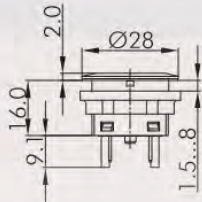
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Pushbutton Heads

Type addition for gold-plated version _AU (e. g. STLRWOI..._AU)

Illustration

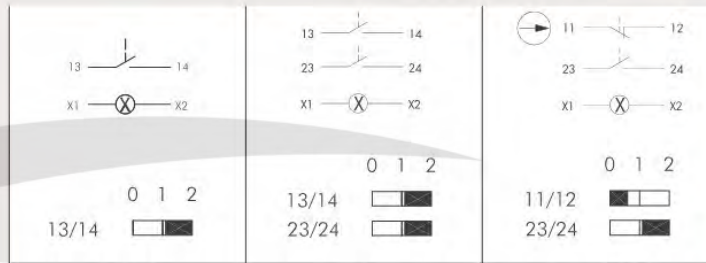
Dimensions



Pushbutton with ring illumination and inscription

incl. lens and white LED,
standard imprints see nameplates on page 404 (please specify index no.),
special inscription on request

Faston terminals 2.8x0.8 mm



front bezel	illuminated ring	1NO	2NO	1NC + 1NO
silver-coloured	white	STLRWI...	STLRWII...	STLRWOI...
	red	STLRRI...	STLRRII...	STLRROI...
	green	STLRGI...	STLRGII...	STLRGOI...
	yellow	STLRYI...	STLRYII...	STLRYOI...
	blue	STLRBI...	STLRBII...	STLRBOI...
stainless steel, polished	white	SVATLRWI...	SVATLRWII...	SVATLRWOI...
	red	SVATLRRI...	SVATLRRII...	SVATLRROI...
	green	SVATLRGI...	SVATLRGII...	SVATLRGOI...
	yellow	SVATLRYI...	SVATLRYII...	SVATLRYOI...
	blue	SVATLRBI...	SVATLRBII...	SVATLRBOI...

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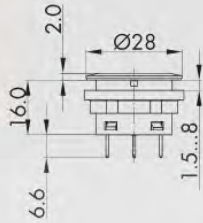
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Ø 22.3 mm

Pushbutton Heads

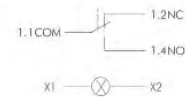
Illustration

Dimensions

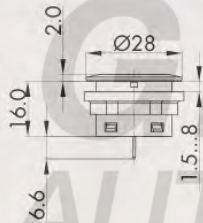


Tactile Pushbutton, illuminated

incl. white LED, gold-plated contacts
Faston terminals 2.8x0.8 mm



front bezel		1 inverter
silver-coloured		SCTLF
black		SSWCTLF
stainless steel, polished		SVACTLF



Tactile Pushbutton

gold-plated contacts
Faston terminals 2.8 mm



front bezel		1 inverter
silver-coloured		SCTF
black		SSWCTF
stainless steel, polished		SVACTF

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Pushbutton Heads

Illustration

Dimensions



Domed Lens, transparent

colour	blue		T22DRRBL
	yellow		T22DRRGB
	green		T22DRRGN
	clear		T22DRRKL
	red		T22DRRRT
	opalwhite		T22DRRWS



Flat Lens, transparent

colour	blue		T22RRBL
	yellow		T22RRGB
	green		T22RRGN
	clear		T22RRKL
	red		T22RRRT
	opalwhite		T22RRWS



High Lens, transparent

colour	blue		T22HRRBL
	yellow		T22HRRGB
	green		T22HRRGN
	clear		T22HRRKL
	red		T22HRRRT
	opalwhite		T22HRRWS



Flat Lens, non-transparent

colour	blue		T22RRGBL
	yellow		T22RRGGB
	green		T22RRGGN
	black		T22RRGSW
	red		T22RRGRT
	white		T22RRGWS



Blank Nameplate

BSRRU



Nameplate with standard imprint

BSRR...

Please specify index number (see nameplates on pages 404)



Nameplate with special imprint

BSRRB

according to customer's specification

IP67



Sealing Cap

TK285

made of silicone rubber, down to -50°C

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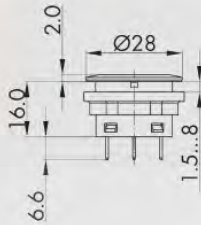
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Pushbutton Heads

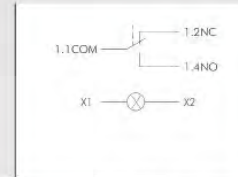
Illustration

Dimensions



Tactile Pushbutton with ring illumination

incl. white LED, with gold-plated contacts
Faston terminals 2.8x0.8 mm



front bezel	illuminated ring	I inverter
silver-coloured	white	SCTLRWF
	red	SCTLRRF
	green	SCTLRGF
	yellow	SCTLRYF
	blue	SCTLRBF
black	white	SSWCTLRWF
	red	SSWCTLRRF
	green	SSWCTLRGF
	yellow	SSWCTLRYF
	blue	SSWCTLRBF
stainless steel, polished	white	SVACTLRWF
	red	SVACTLRRF
	green	SVACTLRGF
	yellow	SVACTLRYF
	blue	SVACTLRBF

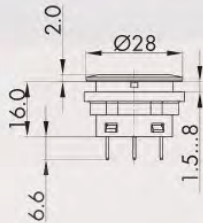
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Pushbutton Heads

Illustration

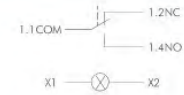
Dimensions

IP65
IP67



Tactile Pushbutton with ring illumination and laser printing

incl. lens and white LED,
standard imprints see nameplates on page 404
(please specify index no.),
special inscription on request
Faston terminals 2.8x0.8 mm



front bezel	illuminated ring	1 inverter
silver-coloured	white	SCTLRWF...
	red	SCTLRRF...
	green	SCTLRGF...
	yellow	SCTLRYF...
	blue	SCTLRBF...
stainless steel, polished	white	SVACTLRWF...
	red	SVACTLRRF...
	green	SVACTLRGF...
	yellow	SVACTLRYF...
	blue	SVACTLRBF...

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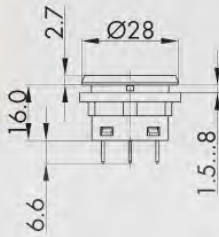
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Ø 22.3 mm

Membrane Pushbuttons

Illustration

Dimensions

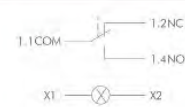


Illuminated Tactile Membrane Pushbutton made of stainless steel V4A

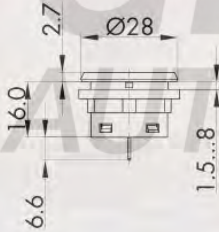
combining the advantages of a membrane keypad with the flexibility of conventional actuators, with blank nameplate. Standard inscription (see page 404) or special imprints on request

incl. white LED
with gold-plated contacts

Faston terminals 2.8x0.8 mm



front bezel	1 inverter
stainless steel, polished	SVACFTLF
black	SSWCFTLF



Tactile Membrane Pushbutton made of stainless steel V4A

combining the advantages of a membrane keypad with the flexibility of conventional actuators, with blank nameplate. Standard inscription (see page 404) or special imprints on request

with gold-plated contacts

Faston terminals 2.8x0.8 mm



front bezel	1 inverter
stainless steel, polished	SVACFTF
black	SSWCFTF

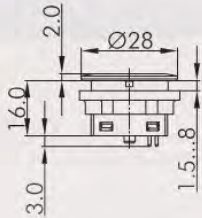
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Capacitive Pushbutton

Illustration

Dimensions

IP66
IP67
IP69K



Capacitive Pushbutton

Operation display with four LEDs (Y, permanently lit)
four LEDs light additionally on actuation

Technical Data

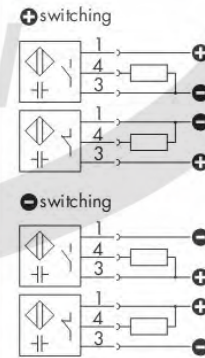
Max. Storage temperature: -40°C ... +85°C
Max. Operating temperature: -10°C ... +60°C
Max. Switching frequency (at U_e): 10Hz
Standby delay time: max. 50ms

Electrical Data

Utilisation category: DC13
Operating voltage U_e: nom. 24V DC (12...30VDC)
Max. static voltage drop: 1.5V
Residual ripple: 10% (of U_e)
Rated insulation voltage U_i: 75V DC
Rated operating current I_e: 100mA
No-load current, not actuated: max. 10mA (GB / GN)
Short-circuit protection: yes
Reverse polarity protection: no

Additional Data

Tightening torque (mounting nut): 1.5...1.9Nm
Mounting position: user-defined
Standards: IEC 60947-5-2



front bezel	illuminated ring	1NO
silver-coloured	yellow/green	SK_GN_GB

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Ø 22.3 mm

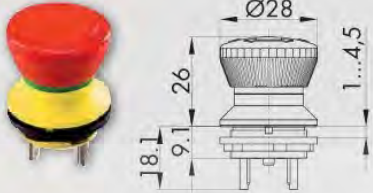
Emergency Stops

Type addition for gold-plated version _AU (e.g. FRVKOO_AU)

Illustration

Dimensions

IP66
IP67



Emergency Stop

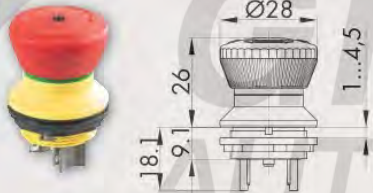
Faston terminals 2.8x0.8 mm

foolproof	Yes
switching position indicator	Yes
anti-lock collar	No
release	twist right or left
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



front bezel		2NC	2NC + 1NO
yellow		FRVKOO	FRVKOOI

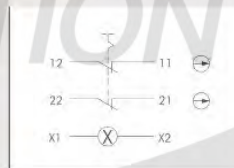
IP66
IP67



Illuminated Emergency Stop

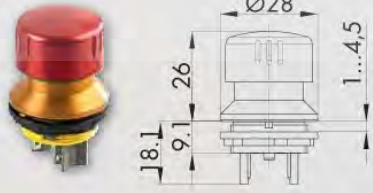
Faston terminals 2.8x0.8 mm

foolproof	Yes
switching position indicator	Yes
anti-lock collar	No
release	twist right or left
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



front bezel		2NC
yellow		FRVKLOO

IP66
IP67



Emergency Stop, made of aluminium for robust applications

Faston terminals 2.8x0.8 mm

foolproof	Yes
switching position indicator	Yes
anti-lock collar	No
release	twist right or left
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



front bezel		2NC	2NC + 1NO
yellow		FRVKALOO	FRVKALOOI

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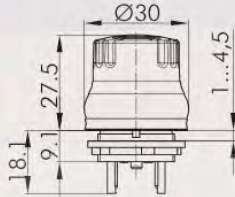
Emergency Stops

Type addition for gold-plated version _AU (e.g. FRVKPOO_AU)

Illustration

Dimensions

IP66
IP69K

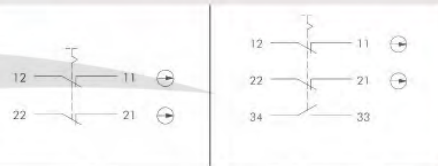


Emergency Stop for hygienic applications

Hygiene-tested acc. to DIN EN 1672-2 / DIN EN ISO 14159 and GS-NV 3, GS-NV 6

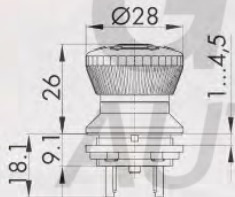
Faston terminals 2.8x0.8 mm

foolproof	Yes
switching position indicator	No
anti-lock collar	No
release	twist right or left
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



front bezel		2NC	2NC + 1NO
yellow		FRVKPOO	FRVKPOOI

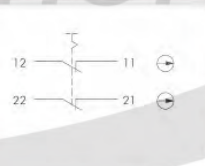
IP66
IP67



Emergency Stop with pull and twist release

Faston terminals 2.8x0.8 mm

foolproof	Yes
switching position indicator	Yes
anti-lock collar	No
release	pull/twist
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



front bezel		2NC
yellow		FRZVKOO

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Ø 22.3 mm

Selector Switches (momentary/maintained)

Type addition for gold-plated version _AU (e.g. SWAOI_AU)

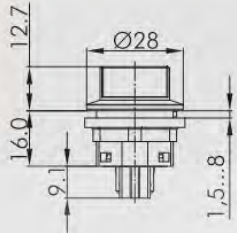
⊥ = Switching position

> = Spring return

Illustration

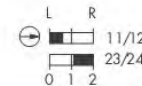
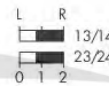
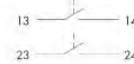
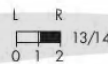
Dimensions

IP65



Selector Switch, maintained

Faston terminals 2.8x0.8 mm



front bezel		1NO	2NO	1NC + 1NO
silver-coloured		SWAI	SWAII	SWAOI
black		SSWWAI	SSWWAII	SSWWAOI
stainless steel, polished		SVAWAI	SVAWAI	SVAWAOI



front bezel		2NO	1NC + 1NO
silver-coloured		SWBII	SWBOI
black		SSWWBII	SSWWBOI
stainless steel, polished		SVAWBII	SVAWBOI



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Selector Switches (momentary/maintained)

Type addition for gold-plated version _AU (e.g. SWAOI_AU)

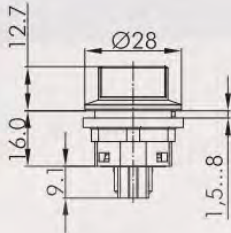
⊥ = Switching position

> = Spring return

Illustration

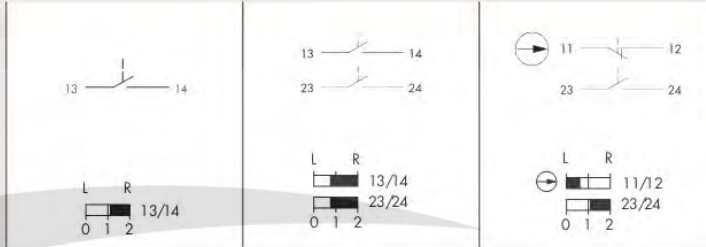
Dimensions

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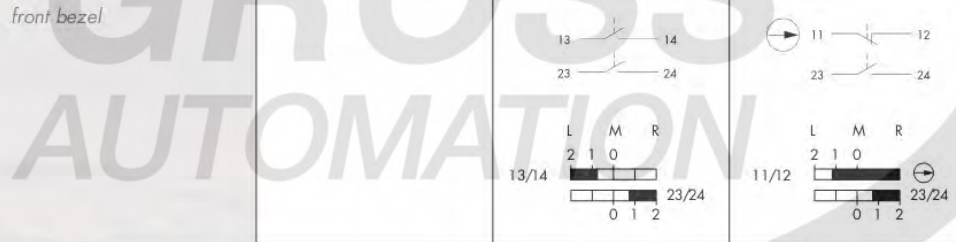


Selector Switch, momentary

Faston terminals 2.8x0.8 mm



front bezel		1NO	2NO	1NC + 1NO
silver-coloured		SSTAI	SSTAI	SSTAOI
black		SSWSTAI	SSWSTAI	SSWSTAOI
stainless steel, polished		SVASTAI	SVASTAI	SVASTAOI



front bezel			2NO	1NC + 1NO
silver-coloured			SSTBII	SSTBOI
black			SSWSTBII	SSWSTBOI
stainless steel, polished			SVASTBII	SVASTBOI



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Ø 22.3 mm

Selector Switches (momentary/maintained)

Type addition for gold-plated version _AU (e.g. SWCOI_AU)

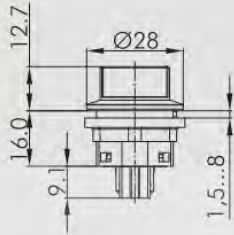
I = Switching position

> = Spring return

Illustration

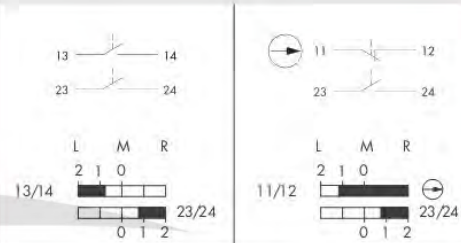
Dimensions

IP65



Selector Switch, left maintained, right momentary

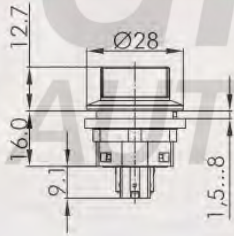
Faston terminals 2.8x0.8 mm



front bezel		2NO	1NC + 1NO
silver-coloured		SWCII	SWCOI
black		SSWWCII	SSWWCOI
stainless steel, polished		SVAWCII	SVAWCOI

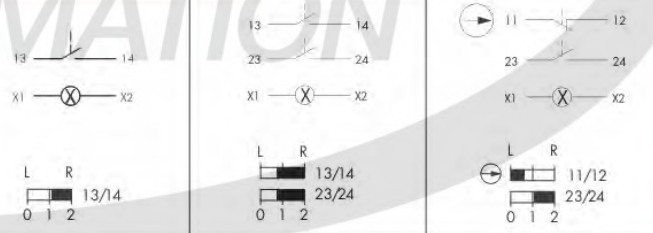


IP65



Illuminated Selector Switch, maintained

Faston terminals 2.8x0.8 mm



front bezel		1NO	2NO	1NC + 1NO
silver-coloured		SWALI	SWALII	SWALOI
black		SSWWALI	SSWWALII	SSWWALOI
stainless steel, polished		SVAWALI	SVAWALII	SVAWALOI



front bezel		2NO	1NC + 1NO
silver-coloured		SWBLII	SWBLOI
black		SSWWBLII	SSWWBLOI
stainless steel, polished		SVAWBLII	SVAWBLOI

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Selector Switches (momentary/maintained)

Type addition for gold-plated version _AU (e. g. SSSA14OIZ_AU)

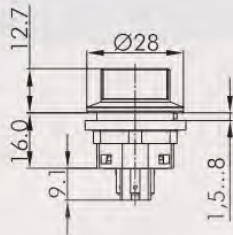
⊡ = Switching position

> = Spring return

Illustration

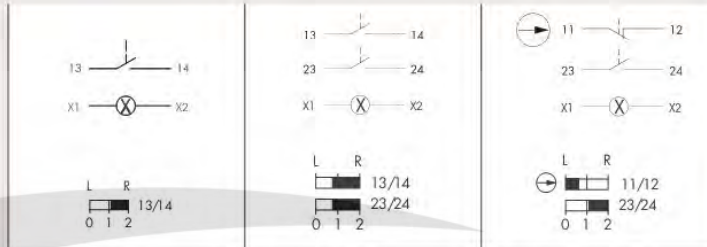
Dimensions

IP65

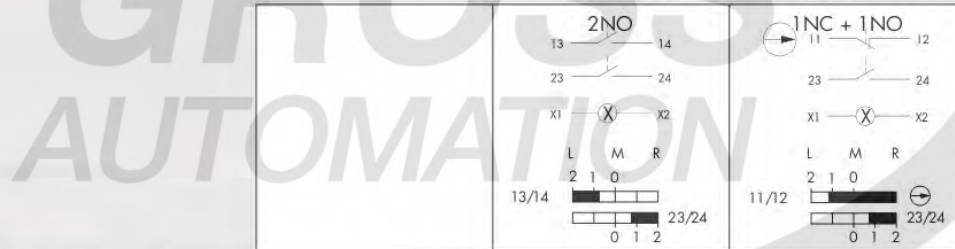


Illuminated Selector Switch, momentary

Faston terminals 2.8x0.8 mm

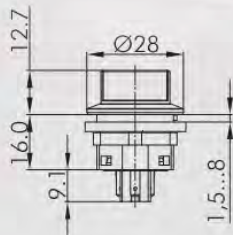


front bezel		1NO	2NO	1NC + 1NO
silver-coloured		SSTALI	SSTALII	SSTALOI
black		SSWSTALI	SSWSTALII	SSWSTALOI
stainless steel, polished		SVASTALI	SVASTALII	SVASTALOI



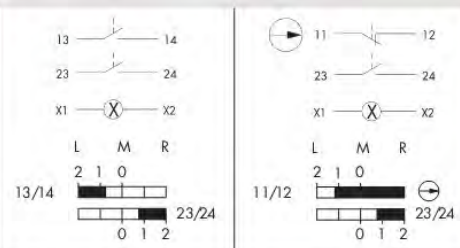
front bezel		2NO	1NC + 1NO
silver-coloured		SSTBLII	SSTBLOI
black		SSWSTBLII	SSWSTBLOI
stainless steel, polished		SVASTBLII	SVASTBLOI

IP65



Illuminated Selector Switch, left maintained, right momentary

Faston terminals 2.8x0.8 mm



front bezel		2NO	1NC + 1NO
silver-coloured		SWCLII	SWCLOI
black		SSWWCLII	SSWWCLOI
stainless steel, polished		SVAWCLII	SVAWCLOI



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Ø 22.3 mm

Key Switches (momentary/maintained)

Type addition for gold-plated version _AU (e. g. SSSA12OI_AU)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration

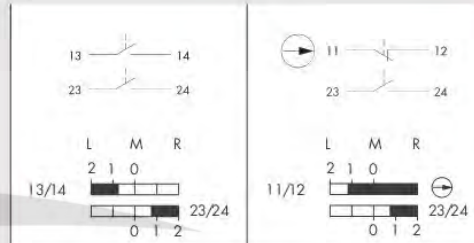
Dimensions

IP65



Key-operated Switch, maintained

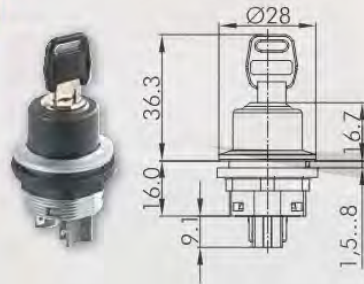
incl. two keys,
other lock types on request
Faston terminals 2.8x0.8 mm



front bezel		2NO	1NC + 1NO
silver-coloured		SSSA12II	SSSA12OI
black		SSWSSA12II	SSWSSA12OI
stainless steel, polished		SVASSA12II	SVASSA12OI
front bezel		2NO	1NC + 1NO
silver-coloured		SSSA13II	SSSA13OI
black		SSWSSA13II	SSWSSA13OI
stainless steel, polished		SVASSA13II	SVASSA13OI

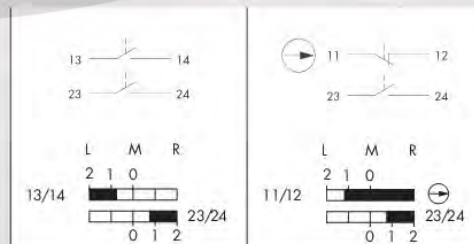


IP65



Key-operated Switch, maintained (individually keyed)

incl. three keys
1st key: two-way operation
2nd key: operation only to the left
3rd key: operation only to the right
Faston terminals 2.8x0.8 mm



front bezel		2NO	1NC + 1NO
silver-coloured		SSSA31II	SSSA31OI
black		SSWSSA31II	SSWSSA31OI
stainless steel, polished		SVASSA31II	SVASSA31OI



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Key Switches (momentary/maintained)

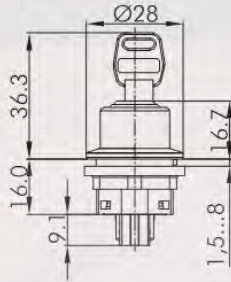
Type addition for gold-plated version _AU (e.g. SSSA14OLAU)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration

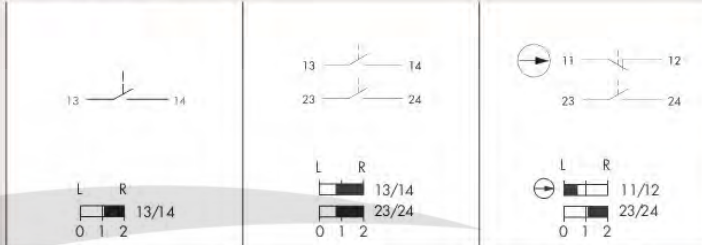
Dimensions

IP65



Key-operated Switch, maintained

incl. two keys,
other lock types on request
Faston terminals 2.8x0.8 mm



front bezel		1NO	2NO	1NC + 1NO
silver-coloured		SSSA 14I	SSSA 14II	SSSA 14OI
black		SSWSSA 14I	SSWSSA 14II	SSWSSA 14OI
stainless steel, polished		SVASSA 14I	SVASSA 14II	SVASSA 14OI
front bezel		1NO	2NO	1NC + 1NO
silver-coloured		SSSA 15I	SSSA 15II	SSSA 15OI
black		SSWSSA 15I	SSWSSA 15II	SSWSSA 15OI
stainless steel, polished		SVASSA 15I	SVASSA 15II	SVASSA 15OI
front bezel		1NO	2NO	1NC + 1NO
silver-coloured		SSSA 16I	SSSA 16II	SSSA 16OI
black		SSWSSA 16I	SSWSSA 16II	SSWSSA 16OI
stainless steel, polished		SVASSA 16I	SVASSA 16II	SVASSA 16OI
front bezel		1NO	2NO	1NC + 1NO
silver-coloured		SSSA 17I	SSSA 17II	SSSA 17OI
black		SSWSSA 17I	SSWSSA 17II	SSWSSA 17OI
stainless steel, polished		SVASSA 17I	SVASSA 17II	SVASSA 17OI
front bezel		1NO	2NO	1NC + 1NO
silver-coloured		SSSA 18I	SSSA 18II	SSSA 18OI
black		SSWSSA 18I	SSWSSA 18II	SSWSSA 18OI
stainless steel, polished		SVASSA 18I	SVASSA 18II	SVASSA 18OI



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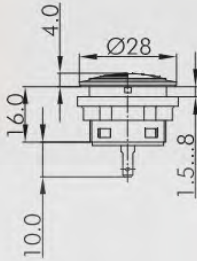
Ø 22.3 mm

Buzzers

Illustration

Dimensions

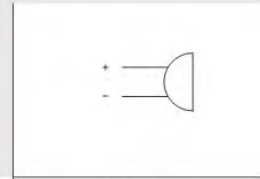
IP65



Buzzer

operating voltage: 24V DC
 operating current: 10mA
 signal frequency: 4.1 +/- 0.5 kHz
 volume: max. 83 db (10cm)
 operating temperature: -20°C ... 70°C

Faston terminals 2.8x0.8 mm



front bezel		1 inverter
silver-coloured		SNSG+SG-24V
black		SSWNSG+SG-24V
stainless steel, polish		SVANSG+SG-24V

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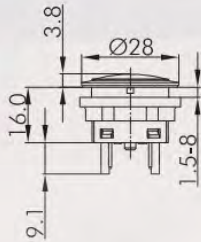
Pilot Lights

Lenses and nameplates to be ordered separately.

Illustration

Dimensions

IP65
IP67



Pilot Light

incl. white LED
Faston terminals 2.8 mm



front bezel		1 inverter
silver-coloured		SNL
black		SSWNL
stainless steel, polish		SVANL

Lens

colour

blue



K22RRBL

yellow



K22RRGB

green



K22RRGN

clear



K22RRKL

red



K22RRRT

opalwhite



K22RRWS

Blank Nameplate

BSRRU

Nameplate with standard imprint

BSRR...

Please specify index number (see nameplates on pages 404)

Nameplate with special imprint

BSRRB

according to customer's specification

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Accessories for Control Units

Illustration

Dimensions



Faston Clamp 2.8 x 0.8 mm with snap-in pin

FH2,8

Cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8



Insulating Case

IH2,8

for Faston clamp FH2,8, slip on from the front

IP40



Lead-sealable Protective Lid

from -30 °C to +70°C

colour transparent



KDP22RR

IP65
IP67



Lead-sealable, robust Protective Lid

Lifetime: >100,000 cycles

colour transparent
black



KDPR22RR

KDPR22RR_SW

IP67



Protective Lid made of TPE

from -50 °C to +100°C

colour black



AK22RRSW

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Front dimensions: \varnothing 28 mm
Panel cut-out: \varnothing 22.3 mm
Front bezel height: 2 mm
Travel: 2.3 mm/1.8 mm




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Produktkonfigurator

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 Product configurator



Overview - SHORTRON series for base-plate mounting



01	Pushbutton Heads	page 161
02	Emergency-stop Buttons	page 164
03	Selector Heads	page 166
04	Key Actuators	page 168
05	Pilot Lights	page 171

Contact blocks / Lampholders

page 502

Housing Colours (silver-coloured, black, polished stainless steel)



degree of protection



operating travel

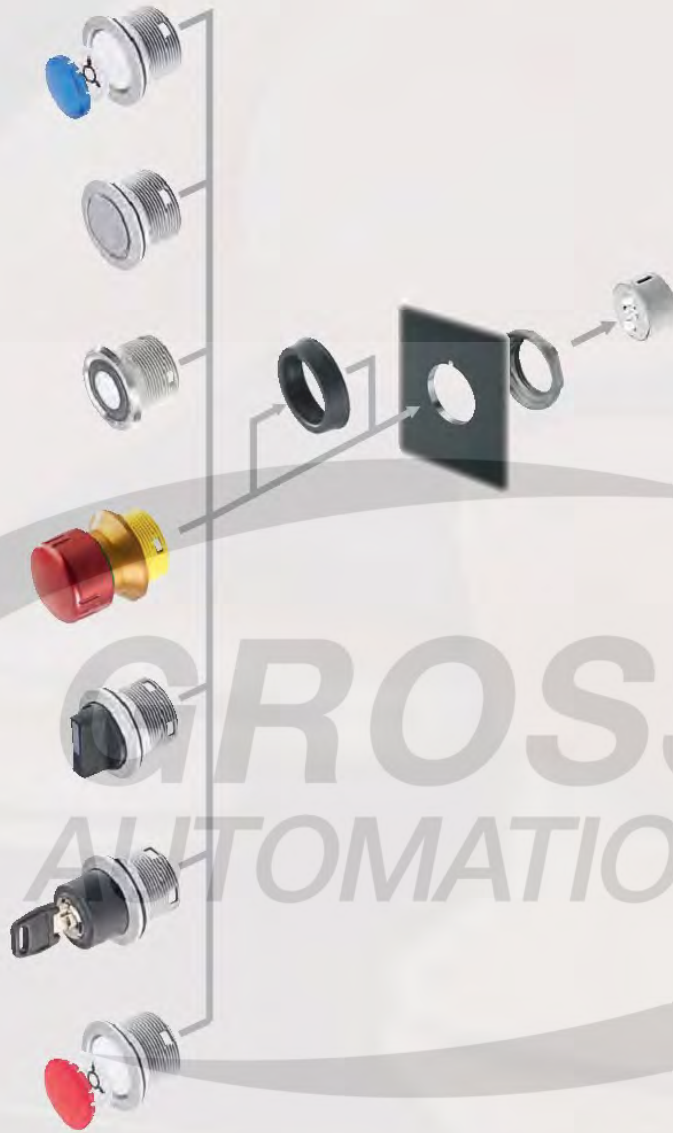


illuminating option



labelling option

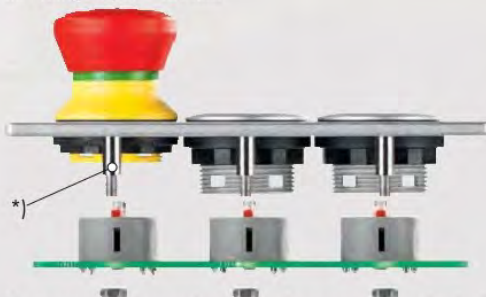
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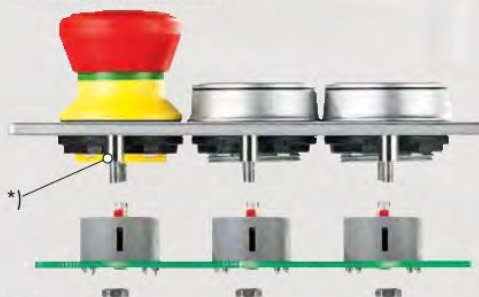
P
P...
Contact Blocks
PCB-mount terminals
page 502

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base-plate mounting
mounting depth 16.2 mm



base-plate mounting using a spacer ring SDR/SDRSW
mounting depth 9.2 mm



*) spacer sleeves required (length see mounting depth dimensions)

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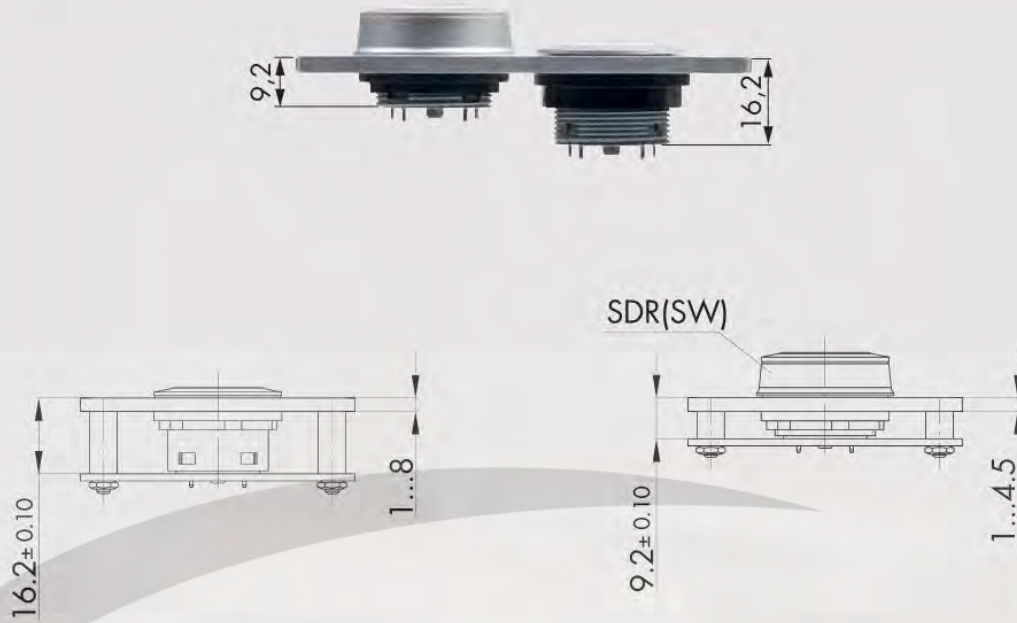
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Shortron base-plate mounting

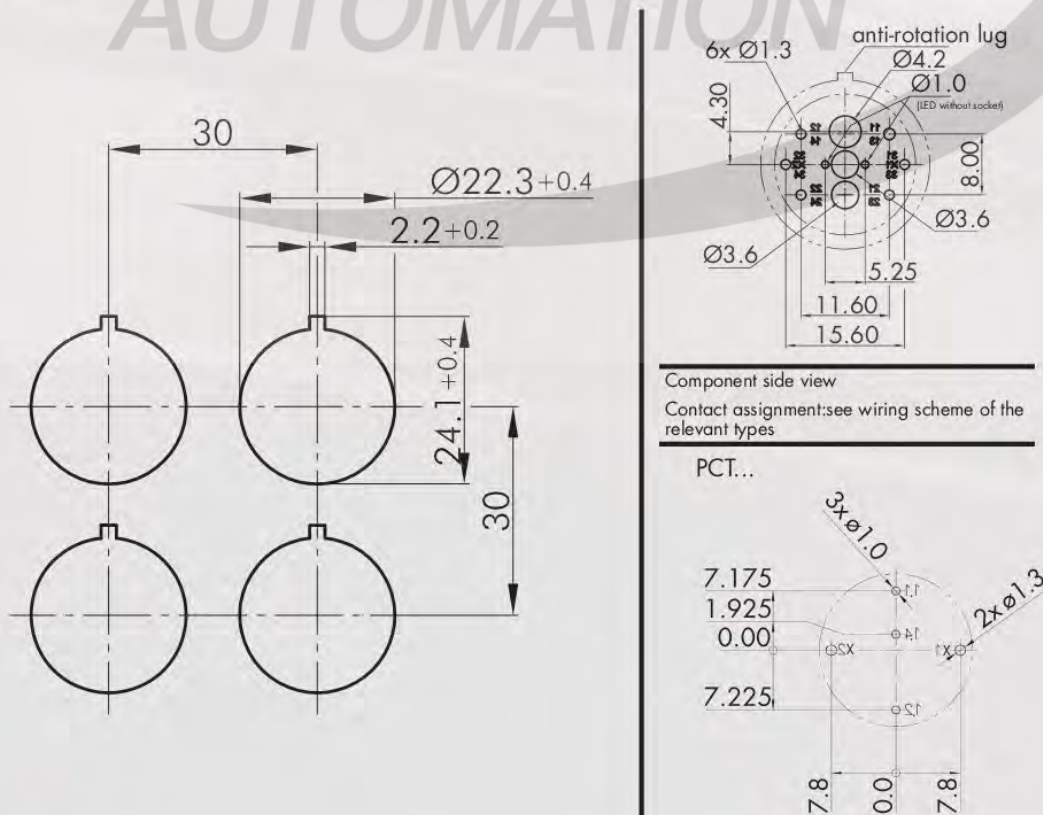
made in germany



Mounting Depth Dimensions



Cutout Dimensions



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Pushbutton Heads

Illustration	Dimensions	Description	Type
		Pushbutton silver-coloured suitable contact blocks front bezel silver-coloured	ST
		Pushbutton black suitable contact blocks front bezel black	SSWT
		Pushbutton, stainless steel suitable contact blocks front bezel stainless steel, polished	SVAT
		Flat Lens, transparent colour	
		blue	T22RRBL
		yellow	T22RRGB
		green	T22RRGN
		clear	T22RRKL
		red	T22RRRT
		opalwhite	T22RRWS
		High Lens, transparent colour	
		blue	T22HRRBL
		yellow	T22HRRGB
		green	T22HRRGN
		clear	T22HRRKL
		red	T22HRRRT
		opalwhite	T22HRRWS
		Flat Lens, non-transparent colour	
		blue	T22RRGBL
		yellow	T22RRGGB
		green	T22RRGGN
		black	T22RRGSW
		red	T22RRGRT
		white	T22RRGWS

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RONTRON-R-JUWEL

made in germany



Ø 22.3 mm

Pushbutton Heads

Illustration

Dimensions

Description

Type



Blank Nameplate

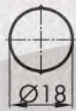
BSRRU



Nameplate with standard imprint

BSRR...

Please specify index number (see nameplates on pages 404)



Nameplate with special imprint

BSRRB

according to customer's specification



Pushbutton Head with ring illumination, silver-coloured

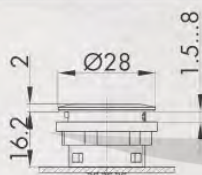
incl. lens

suitable contact blocks

P

illuminated ring	white	
front bezel	silver-coloured	
illuminated ring	red	
illuminated ring	green	
illuminated ring	yellow	
illuminated ring	blue	

STLRW
STLRR
STLRG
STLRY
STLRB



Pushbutton Head with ring illumination, black

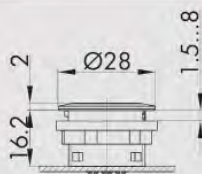
incl. lens

suitable contact blocks

P

illuminated ring	white	
front bezel	black	
illuminated ring	red	
illuminated ring	green	
illuminated ring	yellow	
illuminated ring	blue	

SSWTLRW
SSWTLRR
SSWTLRG
SSWTLRY
SSWTLRB



Pushbutton Head with ring illumination, stainless steel

incl. lens

suitable contact blocks

P

illuminated ring	white	
front bezel	stainless steel, polished	
illuminated ring	red	
illuminated ring	green	
illuminated ring	yellow	
illuminated ring	blue	

SVATLRW
SVATLRR
SVATLRG
SVATLRY
SVATLRB

IP67




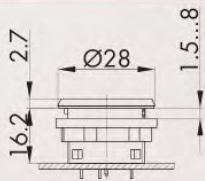

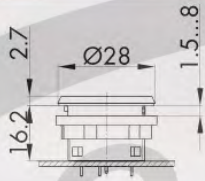
Sealing Cap

made of silicone rubber, down to -50°C

TK285

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Membrane Pushbuttons

Illustration	Dimensions	Description	Type
		<p>Individual Membrane Pushbutton, stainless steel combining the advantages of a membrane keypad with the flexibility of conventional actuators, with blank nameplate. Standard inscription (see page 404) or special imprints on request.</p> <p>only to be combined with PCT... contact blocks!</p> <p>suitable contact blocks P</p> <p>front ring black front bezel stainless steel, polished</p>	<p>SVACFT</p>
		<p>Individual Pushbutton Head Key, black combining the advantages of a membrane keypad with the flexibility of conventional actuators, with blank nameplate. Standard inscription (see page 404) or special imprints on request.</p> <p>only to be combined with PCT... contact blocks!</p> <p>suitable contact blocks P</p> <p>front ring black front bezel black</p>	<p>SSWCFT</p>

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Shortron base-plate mounting

Ø 22.3 mm

made in germany



Emergency Stops

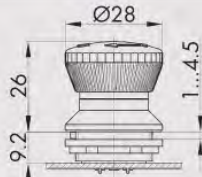
Illustration

Dimensions

Description

Type

IP65



Emergency Stop for 9.2 mm mounting depth

foolproof Yes
 switching position indicator Yes
 anti-lock collar No
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks

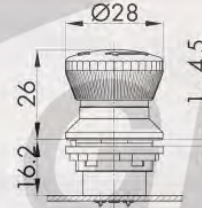


mushroom head red
 front bezel yellow



FRVK

IP65



Emergency Stop for 16.2 mm mounting depth

ATTENTION: only suitable for illuminated contact units!
 foolproof Yes
 switching position indicator Yes
 anti-lock collar No
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850

suitable contact blocks

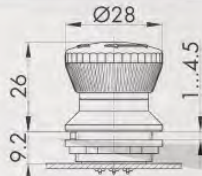


mushroom head red
 front bezel yellow



FRVKZ

IP65



Illuminated Emergency Stop for 9.2mm mounting depth
 foolproof Yes
 switching position indicator Yes
 anti-lock collar No
 Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks

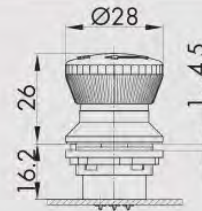


mushroom head red
 front bezel yellow



FRVKL

IP65



Illuminated Emergency Stop for 16.2 mm mounting depth
 ATTENTION: only suitable for illuminated contact units!
 foolproof Yes
 switching position indicator Yes
 anti-lock collar No
 Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850

suitable contact blocks



mushroom head red
 front bezel yellow



FRVKZL

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Emergency Stops

Illustration	Dimensions	Description	Type
		<p>Emergency Stop made of aluminium for robust applications for 9.2 mm mounting depth</p> <p>foolproof Yes switching position indicator Yes anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p></p> <p>suitable contact blocks</p> <p>mushroom head red  front bezel yellow</p>	FRVKAL
		<p>Emergency Stop, aluminium for robust applications for 16.2 mm mounting depth</p> <p>foolproof Yes switching position indicator Yes anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p>suitable contact blocks</p> <p>mushroom head red  front bezel yellow</p>	FRVKZAL
		<p>Emergency Stop for hygienic applications for 9.2 mm mounting depth</p> <p>Hygienic test acc. to DIN EN 1672-2 / DIN EN ISO 14159 and GS-NV 3, GS-NV 6</p> <p>foolproof Yes switching position indicator No anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p>suitable contact blocks</p> <p>mushroom head red  front bezel yellow</p>	FRVKP
		<p>Emergency Stop for hygienic applications for 16.2 mm mounting depth</p> <p>Hygienic test acc. to DIN EN 1672-2 / DIN EN ISO 14159 and GS-NV 3, GS-NV 6</p> <p>foolproof Yes switching position indicator No anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p>suitable contact blocks</p> <p>mushroom head red  front bezel yellow</p>	FRVKZP

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Shortron base-plate mounting

Ø 22.3 mm

made in germany



Selector Switches (momentary/maintained)

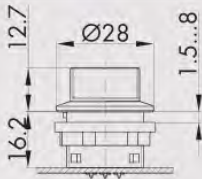
- I = Switching position
- > = Spring return

Illustration

Dimensions

Description

Type

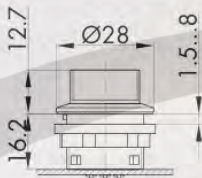


Illuminated Selector Head, maintained, silver-coloured

suitable contact blocks		
front bezel	silver-coloured	
suitable contact blocks		
front bezel	silver-coloured	



SWA
SWB



Illuminated Selector Switch, momentary, silver-coloured

suitable contact blocks		
front bezel	silver-coloured	
suitable contact blocks		
front bezel	silver-coloured	

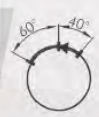


SSTA
SSTB

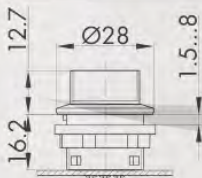


Illuminated Selector Head, left maintained, right momentary, silver-coloured

suitable contact blocks		
front bezel	silver-coloured	



SWC

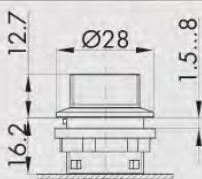


Illuminated Selector Head, maintained, black

suitable contact blocks		
front bezel	black	
suitable contact blocks		
front bezel	black	



SSWWA
SSWWB



Illuminated Selector Head, momentary, black

suitable contact blocks		
front bezel	black	
suitable contact blocks		
front bezel	black	




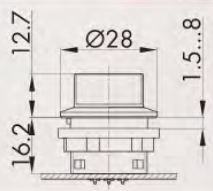
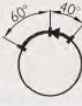

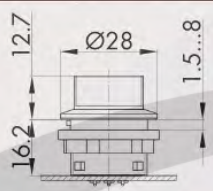



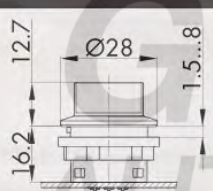



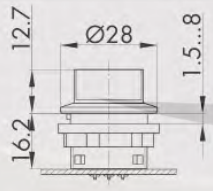

SSWSTA
SSWSTB

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- Terminal Blocks
- Pedal Switches
- Limit Switches
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Selector Switches (momentary/maintained)

- I = Switching position
- > = Spring return

Illustration	Dimensions	Description	Type
		<p>Illuminated Selector Head, left maintained, right momentary black</p> <p>suitable contact blocks</p> <p>P</p> <p>front bezel black</p> 	SSWWC
		<p>Illuminated Selector Head, maintained, stainless steel</p> <p>suitable contact blocks</p> <p>P</p> <p>front bezel stainless steel, polished</p> <p>suitable contact blocks</p> <p>P</p> <p>front bezel stainless steel, polished</p>  	SVAWA SVAWB
		<p>Illuminated Selector Head, momentary, stainless steel</p> <p>suitable contact blocks</p> <p>P</p> <p>front bezel stainless steel, polished</p> <p>suitable contact blocks</p> <p>P</p> <p>front bezel stainless steel, polished</p>  	SVASTA SVASTB
		<p>Illuminated Selector Head, left maintained, right momentary stainless steel</p> <p>suitable contact blocks</p> <p>P</p> <p>front bezel stainless steel, polished</p> 	SVAWC

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Shortron base-plate mounting

Ø 22.3 mm

made in germany



Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

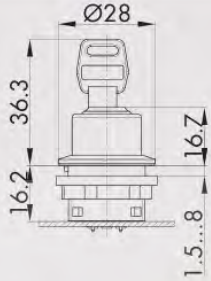
Illustration

Dimensions

Description

Type

IP65

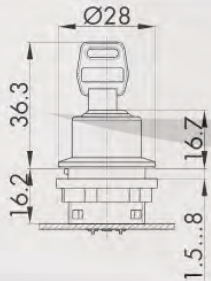


Key Actuator, maintained, silver-coloured

including two keys
other lock types on request
suitable contact blocks

P	front bezel	silver-coloured		SSSA12
P	front bezel	silver-coloured		SSSA13
P	front bezel	silver-coloured		SSSA14
P	front bezel	silver-coloured		SSSA15
P	front bezel	silver-coloured		SSSA16
P	front bezel	silver-coloured		SSSA17
P	front bezel	silver-coloured		SSSA18

IP65



Key Actuator, maintained (individually keyed), silver-coloured


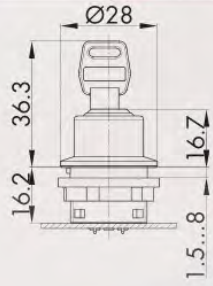














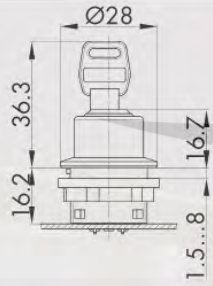

including three keys
1st key: two-way operation
2nd key: operation only to the left
3rd key: operation only to the right
suitable contact blocks

P	front bezel	silver-coloured		SSSA31
----------	-------------	-----------------	--	---------------

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Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type	
	 <p>Ø28 36.3 16.2 16.7 1.5...8</p>	Key Actuator, maintained, black including two keys other lock types on request suitable contact blocks		
		front bezel black		SSWSSA12
		suitable contact blocks		
		front bezel black		SSWSSA13
		suitable contact blocks		
		front bezel black		SSWSSA14
		suitable contact blocks		
		front bezel black		SSWSSA15
		suitable contact blocks		
		front bezel black		SSWSSA16
suitable contact blocks				
front bezel black		SSWSSA17		
suitable contact blocks				
front bezel black		SSWSSA18		
	 <p>Ø28 36.3 16.2 16.7 1.5...8</p>	Key Actuator, maintained (individually keyed) black incl. three keys 1st key: two-way operation 2nd key: operation only to the left 3rd key: operation only to the right suitable contact blocks		
		front bezel black		SSWSSA31

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Shortron base-plate mounting

Ø 22.3 mm

made in germany



Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

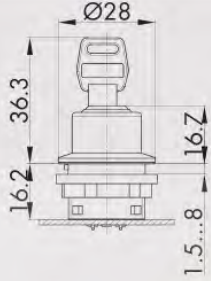
Illustration

Dimensions

Description

Type

IP65

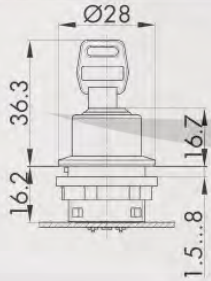


Key Actuator, maintained, stainless steel

including two keys
other lock types on request
suitable contact blocks

P	front bezel	stainless steel, polished		SVASSA12
P	front bezel	stainless steel, polished		SVASSA13
P	front bezel	stainless steel, polished		SVASSA14
P	front bezel	stainless steel, polished		SVASSA15
P	front bezel	stainless steel, polished		SVASSA16
P	front bezel	stainless steel, polished		SVASSA17
P	front bezel	stainless steel, polished		SVASSA18

IP65



Key Actuator, maintained individually keyed)

stainless steel
incl. three keys
1st key: two-way operation
2nd key: operation only to the left
3rd key: operation only to the right

P	front bezel	stainless steel, polished		SVASSA31
----------	-------------	---------------------------	--	-----------------



Standard Spare Keys

standard spare key, specify key number for special locks

ESMIC482

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Pilot Lights

Illustration	Dimensions	Description	Type	
		Pilot-Light Head, silver-coloured suitable lamp elements P front bezel silver-coloured	SN	
		Pilot Light Head, black suitable lamp elements P front bezel black	SSWN	
		Pilot Light Head, stainless steel suitable lamp elements P front bezel stainless steel, polished	SVAN	
		Lens colour		
		blue yellow green clear red opalwhite		K22RRBL K22RRGB K22RRGN K22RRKL K22RRRT K22RRWS
		Blank Nameplate	BSRRU	
		Nameplate with standard imprint Please specify index number (see nameplates on pages 404)	BSRR...	
		Nameplate with special imprint according to customer's specification	BSRRB	

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Shortron base-plate mounting

made in germany



Ø 22.3 mm

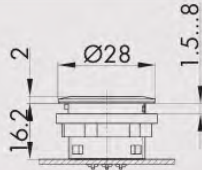
Pilot Lights

Illustration

Dimensions

Description

Type

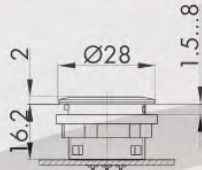


Pilot-Light Head with ring illumination, silver-coloured

suitable lamp elements

P		
illuminated ring	white	
front bezel	silver-coloured	

SNLR



Pilot Light Head with ring illumination, black

suitable lamp elements

P		
illuminated ring	white	
front bezel	black	

SSWNLR



Pilot Light Head with ring illumination, stainless steel

suitable lamp elements

P		
illuminated ring	white	
front bezel	stainless steel, polished	

SVANLR

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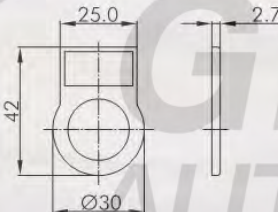





Terminal Blocks

Pedal Switches

Limit Switches

Type Index

Accessories for Control Units

Illustration	Dimensions	Description	Type
		Spacer Ring suitable for the Shortron series for panel thickness from 0.5 to 2.5 mm colour silver-coloured black	SDR SDRSW
		Mounting Tool with torque limitation for the series QUARTEX-R(-JUWEL), KOMBITAST-RJUWEL, RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of the RONTRON-R/-QJUWEL series	S22
		Mounting Tool Adapter with 1/4" connections for mounting tools S16 and S22	SRA
		External Nameplate Holder for outside marking of the actuators of the RONTRON-RJUWEL and SHORTRON series, accepts self-adhesive nameplates, mountable from the front colour transparent	RRJABT
		Self-adhesive Nameplate laser-printed Inscription according to customer's specification Dimensions: 22 x 11 mm	BZ16L
		Self-adhesive Nameplate blank Dimensions: 22 x 11 mm	BZ16U
		Self-adhesive Nameplate with standard imprint Please specify index no. (see nameplates on page 404) Dimensions: 22 x 11 mm	BZ16B...
		Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 75 mm for mounting dia. 22 mm colour yellow	NAS_22
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting dia. 22 mm colour yellow	NAS_22_548
		Universal Lens Remover	USK

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Front dimensions: \varnothing 28 mm
Panel cut-out: \varnothing 22.3 mm
Front bezel height: 2 mm
Travel: 2.3 mm


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21M-NOR1R0H1S



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 Product configurator



Ø 22.3 mm

General Data

Type Reference: S(T)(WA)(WB)(L)(SSA...)(I)(O)(OI)_M(01)(02)(03)(04)(05)(06)
 Description: assembled short-stroke pushbutton with M12 connector
 Approvals: CE
 Nature of contact: 1 inverter / 1 NO+LED / 1NC+LED
 Degree of protection: IP65 / IP67 (in front and on the rear)
 Operation travel: 2.3 mm
 Connection type: M12 4poles with PUR cable; length 25cm/150cm; strands 4x0.34mm² (AWG22)
 Max. storage temperature: -40°C ... 80°C
 Max. operating temperature: -25°C ... 70°C
 Mechanical life: 1 m switching cycles (T, TL)
 30.000 (WA, WAL, WB, WBL, SSA)
 Electrical life (rated load): 1 m operations (T, TL), DC13: max. 100.000
 30.000 (WA, WAL, WB, WBL, SSA)
 Contact resistance NO: < 100/300 mOhm (25/150cm cable, AgNi contact block, new state)
 Contact resistance NC: < 100/300 mOhm (25/150cm cable, AgNi contact block, new state)
 Bouncing time NO: < 10 ms
 Bouncing time NC: < 10 ms
 Positive opening contact: acc. to EN60947-5-1, appendix. K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15	DC13
Rated insulation voltage Ui:	250V	250V
Rated operating voltage Ue:	35 V	35 V
Rated operating current Ie:	4 A	2 A
Continuous thermal current:	4 A	

Technical Data - Lamp

Lamp socket: with integrated white 3 mm LED
 Max. lamp voltage: 30 V AC/DC
 Max. lamp output: 14mA (at 24 V DC)
 Definition: X1...anode, X2...cathode

Additional Data

Mounting aperture: 22.3mm
 Tightening torque (mounting nut): 1.5 ... 1.9 Nm
 Mounting position: any
 Standards: EN 60947-5-1, EN 61058
 Material group: I
 Overvoltage category: II
 Pollution degree: 2

Note

NC = normal close contact; NO = normal open contact
 T(L)...pushbutton (illuminated)
 SSA12...key-operated switch, 3 positions
 SSA15...key-operated switch, 2 positions
 WA(L)...maintained selector switch, 2 positions (illuminated)
 WB(L)...maintained selector switch, 3 positions (illuminated)

Actuators

- from the Shortron series
- front bezel silver-coloured
- sealed on the rear

Connecting cable

- PUR cable with M12 connector, straight, black
- length 25±3cm / 150±5cm
- integrated stain relief

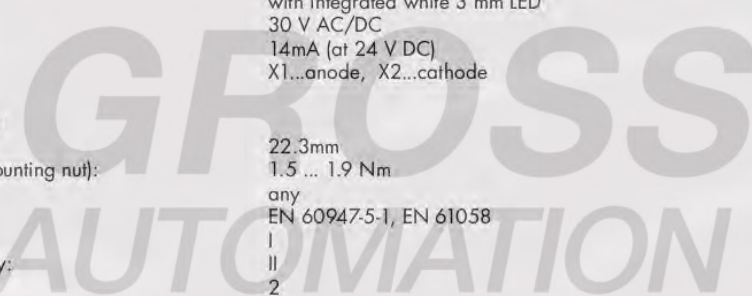
Attention:

Load for the common inverter (COM-Pin1) must be a max. of 4A

Additional data acc. to IEC/EN 60947-5-1, valid for the types: S(T)(WA)(WB)(SSA...)(I)(O)(OI)_M(01)(02)

AC15 B300: 240V 1.5A / 120V 3A
 DC13 Q300: 250V 0.27A / 125 0.55A

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Type	Description	Cable length	Pin assignment
STOI_M01	Pushbutton 1 inverter	25cm	Pin1: COM, Pin2: NC, Pin3: n.c. Pin4: S
STOI_M02	Pushbutton 1 inverter	150cm	Pin1: COM, Pin2: NC, Pin3: n.c. Pin4: S
STLI_M03	Illuminated pushbutton	25cm	Pin1-2: NO, Pin3: X2(LED-), Pin4:
X1(LED+24V)			
STLI_M04	Illuminated pushbutton	150cm	Pin1-2: NO, Pin3: X2(LED-), Pin4:
X1(LED+24V)			
STLO_M05	Illuminated pushbutton	25cm	Pin1-2: NC, Pin3: X2(LED-), Pin4:
X1(LED+24V)			
STLO_M06	Illuminated pushbutton	150cm	Pin1-2: NC, Pin3: X2(LED-), Pin4:
X1(LED+24V)			
SWAOI_M01	Selector switch 2 pos. 1 inverter	25cm	Pin1: COM, Pin2: NC, Pin3: n.c. Pin4: S
SWAOI_M02	Selector switch 2 pos. 1 inverter	150cm	Pin1: COM, Pin2: NC, Pin3: n.c. Pin4: S
SWBOI_M01	Selector switch 3 pos. 1 inverter	25cm	Pin1: COM, Pin2: NC, Pin3: n.c. Pin4: S
SWBOI_M02	Selector switch 3 pos. 1 inverter	150cm	Pin1: COM, Pin2: NC, Pin3: n.c. Pin4: S
SWALI_M03	Illuminated selector switch	25cm	Pin1-2: NO, Pin3: X2(LED-), Pin4:
X1(LED+24V)			
SWALI_M04	Illuminated selector switch	150cm	Pin1-2: NO, Pin3: X2(LED-), Pin4:
X1(LED+24V)			
SWALO_M05	Illuminated selector switch	25cm	Pin1-2: NC, Pin3: X2(LED-), Pin4:
X1(LED+24V)			
SWALO_M06	Illuminated selector switch	150cm	Pin1-2: NC, Pin3: X2(LED-), Pin4:
X1(LED+24V)			
SSSA15OI_M01	Key switch 2 pos. 1 inverter	25cm	Pin1: COM, Pin2: NC, Pin3: n.c. Pin4: S
SSSA15OI_M02	Key switch 2 pos. 1 inverter	150cm	Pin1: COM, Pin2: NC, Pin3: n.c. Pin4: S
SSSA12OI_M01	Key switch 3 pos. 1 inverter	25cm	Pin1: COM, Pin2: NC, Pin3: n.c. Pin4: S
SSSA12OI_M02	Key switch 3 pos. 1 inverter	150cm	Pin1: COM, Pin2: NC, Pin3: n.c. Pin4: S

Data acc. to UL508

Ratings: max. 30V AC/DC

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SHORTRON-M12

Ø 22.3 mm

made in germany



Pushbutton Heads

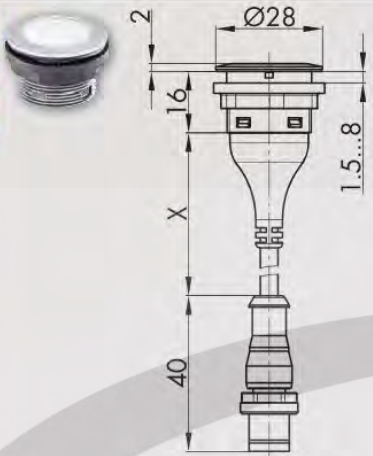
Lenses and nameplates to be ordered separately

Illustration

Dimensions

Description

Type



Illuminated Pushbutton

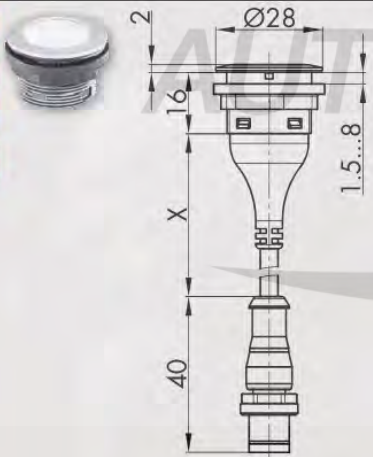
0 1 2
 PIN 1/PIN 2
 PIN 1/PIN 4
 PIN 3 n.C.



front bezel silver-coloured
 cable length (X) 250±30 mm
 cable length (X) 1500 ±50 mm



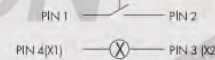
STOI_M01
STOI_M02



Illuminated Pushbutton

incl. white LED

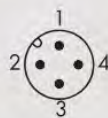
0 1 2
 PIN 1/PIN 2



front bezel silver-coloured
 cable length (X) 250±30 mm
 cable length (X) 1500 ±50 mm



STLI_M03
STLI_M04



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Pushbutton Heads

Lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type
		<p>Illuminated Pushbutton</p> <p>PIN 1/PIN 2 </p> <p>front bezel silver-coloured </p> <p>cable length (X) 250±30 mm</p> <p>cable length (X) 1500 ±50 mm</p>	<p>STLO_M05</p> <p>STLO_M06</p>
		<p>Flat Lens, transparent</p> <p>colour</p> <ul style="list-style-type: none"> blue yellow green clear red opalwhite 	<p>T22RRBL</p> <p>T22RRGB</p> <p>T22RRGN</p> <p>T22RRKL</p> <p>T22RRRT</p> <p>T22RRWS</p>
		<p>High Lens, transparent</p> <p>colour</p> <ul style="list-style-type: none"> blue yellow green clear red opalwhite 	<p>T22HRRBL</p> <p>T22HRRGB</p> <p>T22HRRGN</p> <p>T22HRRKL</p> <p>T22HRRRT</p> <p>T22HRRWS</p>
		<p>Flat Lens, non-transparent</p> <p>colour</p> <ul style="list-style-type: none"> blue yellow green black red white 	<p>T22RRGBL</p> <p>T22RRGGB</p> <p>T22RRGGN</p> <p>T22RRGSW</p> <p>T22RRGRT</p> <p>T22RRGWS</p>

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Limit Switches

Type Index

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SHORTRON-M12

Ø 22.3 mm

made in germany



Accessories for Actuators Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

Illustration

Dimensions

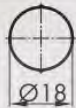
Description

Type



Blank Nameplate

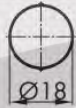
BSRRU



Nameplate with standard imprint

Please specify index number (see nameplates on pages 404)

BSRR...

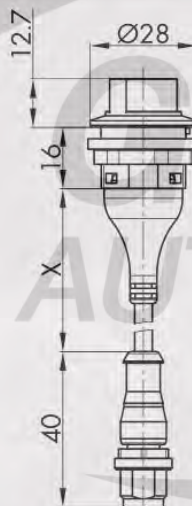


Nameplate with special imprint

according to customer's specification

BSRRB

IP65

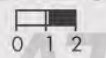


Selector Switch, maintained

PIN 1 / PIN 2



PIN 1 / PIN 4



PIN 3 n.c.



front bezel

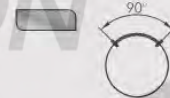
silver-coloured

cable length (X)

250±30 mm

cable length (X)

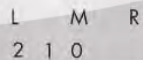
1500 ±50 mm



SWAOI_M01

SWAOI_M02

PIN 1 / PIN 2



PIN 3 n.c.



front bezel

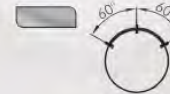
silver-coloured

cable length (X)

250±30 mm

cable length (X)

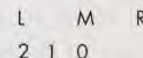
1500 ±50 mm



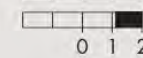
SWBOI_M01

SWBOI_M02

PIN 1 / PIN 2



PIN 1 / PIN 4



PIN 3 n.c.



front bezel

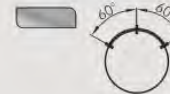
silver-coloured

cable length (X)

250±30 mm

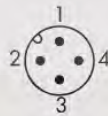
cable length (X)

1500 ±50 mm



SWBII_M07

SWBII_M08



Selector Switches (momentary/maintained)

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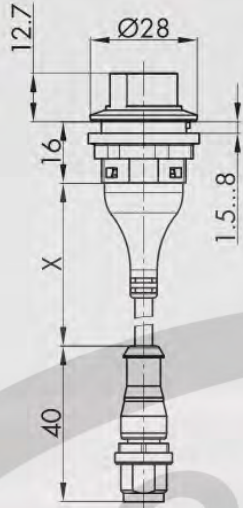
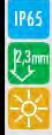
Type Index

Illustration

Dimensions

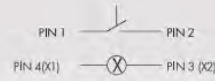
Description

Type

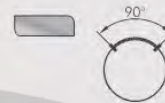


Selector Switch, maintained
incl. white LED

PIN 1 / PIN 2

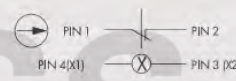


front bezel silver-coloured
cable length (X) 250±30 mm
cable length (X) 1500 ±50 mm

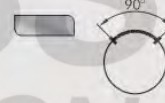


SWALI_M03
SWALI_M04

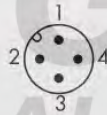
PIN 1 / PIN 2



front bezel silver-coloured
cable length (X) 250±30 mm
cable length (X) 1500 ±50 mm



SWALO_M05
SWALO_M06



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SHORTRON-M12

Ø 22.3 mm

made in germany



Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

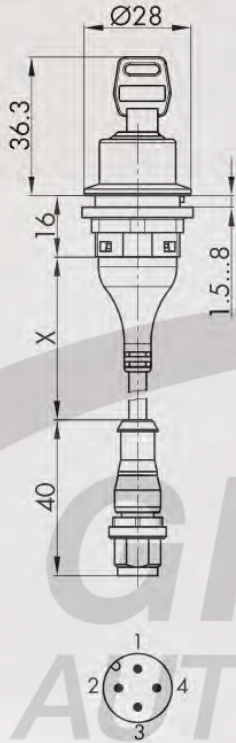
Illustration

Dimensions

Description

Type

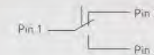
IP65



Key-operated Switch, maintained

including two keys
other lock types on request

PIN 1/PIN 2
PIN 1/PIN 4



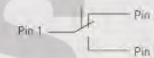
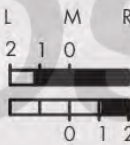
PIN 3 n.c.

front bezel silver-coloured
cable length (X) 250±30 mm
cable length (X) 1500 ±50 mm



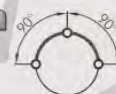
SSSA150L_M01
SSSA150L_M02

PIN 1/PIN 2



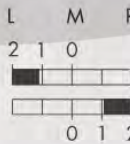
PIN 3 n.c.

front bezel silver-coloured
cable length (X) 250±30 mm
cable length (X) 1500 ±50 mm



SSSA120L_M01
SSSA120L_M02

PIN 1/PIN 2



PIN 1/PIN 4

PIN 3 n.c.



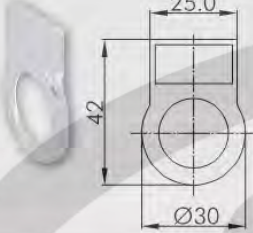







front bezel silver-coloured
cable length (X) 250±30 mm



SSSA12II_M07
SSSA12II_M08

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Accessories for Actuators

Illustration	Dimensions	Description	Type
		Mounting Tool with torque limitation for the series QUARTEX-R(-JUWEL), KOMBITAST-R-JUWEL, RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of the RONTRON-R/-Q-JUWEL series	S22
		Mounting Tool Adapter with 1/4" connections for mounting tools S16 and S22	SRA
	25.0 42 Ø30 2.7	External Nameplate Holder for outside marking of the actuators of the RONTRON-R-JUWEL and SHORTRON series, accepts self-adhesive nameplates, mountable from the front colour transparent	RRJABT
		Self-adhesive Nameplate laser-printed Inscription according to customer's specification Dimensions: 22 x 11 mm	BZ16L
		Self-adhesive Nameplate blank Dimensions: 22 x 11 mm	BZ16U
		Self-adhesive Nameplate with standard imprint Please specify index no. (see nameplates on page 404) Dimensions: 22 x 11 mm	BZ16B...
		Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 75 mm for mounting dia. 22 mm colour yellow	NAS_22
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting dia. 22 mm colour yellow	NAS_22_548
		Universal Lens Remover	USK
		Sealing Cap made of silicone rubber, down to -50°C	TK285

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Front dimensions: \varnothing 28 mm
Panel cut-out: \varnothing 22.3 mm
Front bezel height: 2.6 mm
Travel: 3 mm

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GROSS AUTOMATION

RAMR-X2

 Product configurator



Overview RX-Juwel series



01 Pushbutton Heads	page 190	07 Pilot Lights	page 195
02 Emergency Stop Buttons	page 191	Contact Blocks / Lampholders page 408	
03 Knob Set for Potentiometers	page 192		
04 Selector Heads	page 192		
05 Key Actuators	page 193		
06 Acoustic Buzzers	page 193		

Housing Colour



degree of protection

operating travel

illuminating option

labelling option

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A
AZ
AT.../AF.../AZ...
Contact Blocks
Faston terminals
page 410

CT
CT...
Contact Blocks
Faston terminals
page 490

CTP
CTP...
Contact Blocks
PCB-mount terminals
page 468

CTF
CTF...
Contact Blocks
Faston terminals
page 474

PTP
PTP...
Contact Blocks
PCB-mount terminals
page 496

PTF
PTF...
Contact Blocks
Faston terminals
page 500

ASI
ASI...
Contact Blocks
for AS-Interface
Safety @ Work
page 540

DFA
DFA...
Battery-free Wireless
Transmitter Modules
page 546

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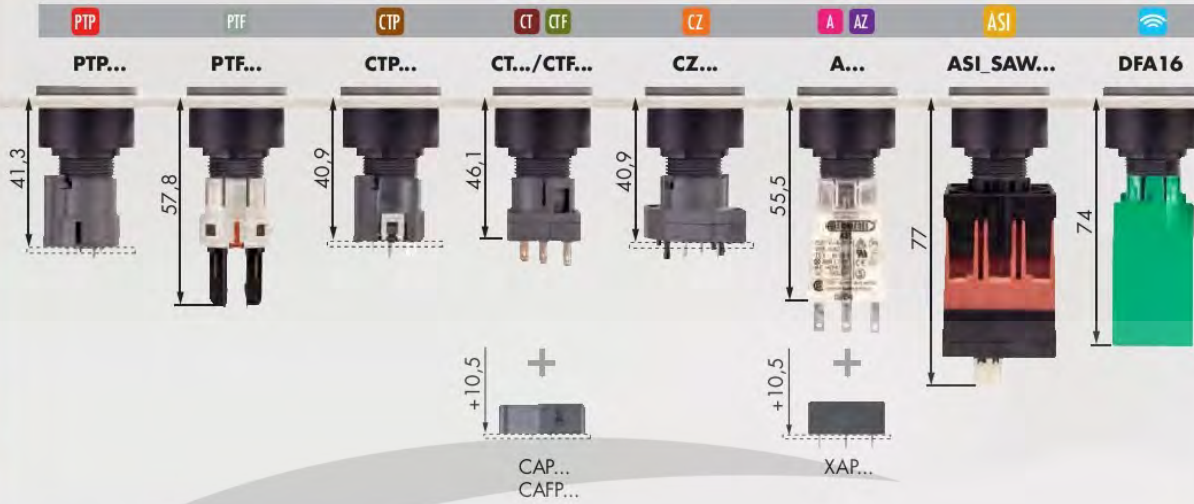
Pedal Switches

Limit Switches

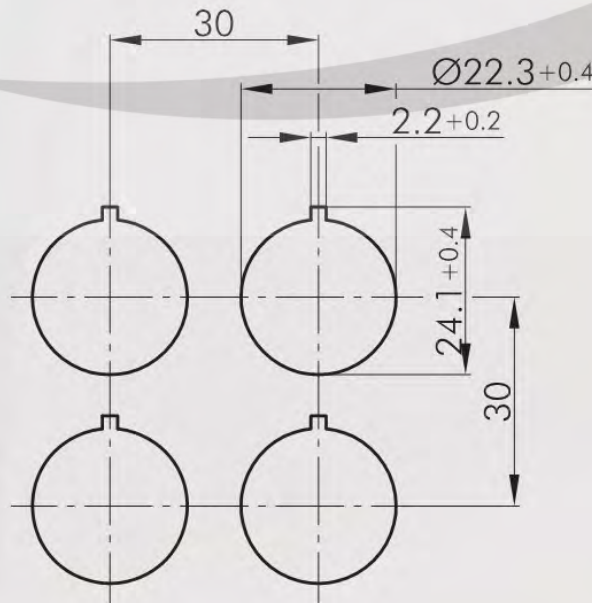
Type Index

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Mounting Depth Dimensions

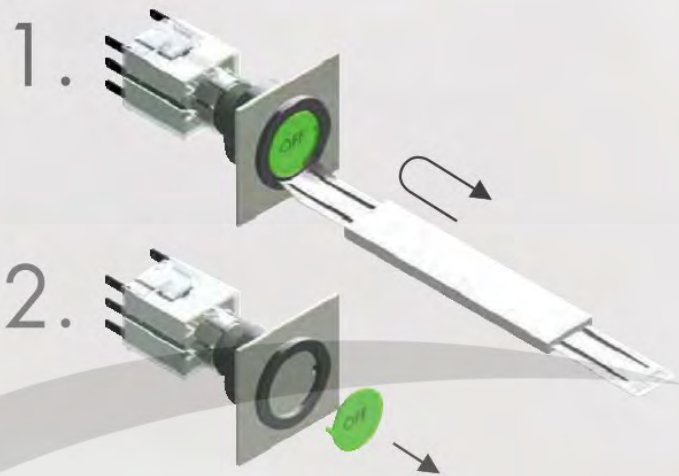


Cutout Dimensions



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Mounting and Service Instructions



GROSS AUTOMATION

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Pushbutton Heads

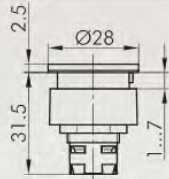
Lenses and nameplates to be ordered separately

Illustration

Dimensions

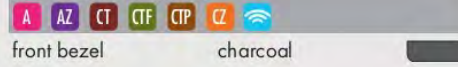
Description

Type



Pushbutton Head

suitable contact blocks



front bezel charcoal

RXJT



Transparent Lens

colour



T20DBL
T20DGB
T20DGN
T20DKL
T20DRT
T20DWS



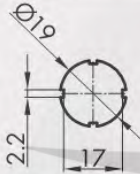
Concave Lens, non-transparent

used in pushbuttons without inscription and illumination

colour



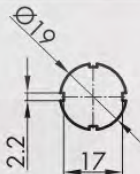
T20DGBL
T20DGGB
T20DGGN
T20DGSW
T20DGRT
T20DGWS



Nameplate with standard imprint

Please specify index number (see nameplates on pages 404)

BSRX...



Nameplate with special imprint

according to customer's specification

BSRXB




Blank Nameplate

BSRXU


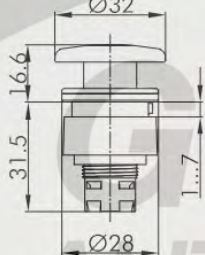


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**Emergency Stops
Mushroom Heads**

Illustration	Dimensions	Description	Type
		Sealing Cap made of silicone rubber, down to -50°C	TK285



For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 366
The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

 <p>IP65 6 mm</p>		<p>Mushroom Head, momentary switching position indicator No anti-lock collar No suitable contact blocks BUS A AZ CT CTF CTP CZ  front bezel charcoal </p>	RXJS
---	--	--	-------------

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**Knob Set for potentiometers
Selector Switches (momentary/maintained)**

I = Switching position
> = Spring return

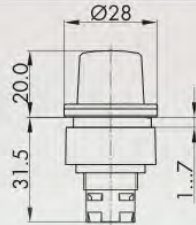
Illustration

Dimensions

Description

Type

IP65



Knob Set for potentiometers

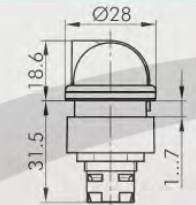
for potentiometers of 6 mm shaft dia. and thread M10 x 0.75.
Delivery without potentiometer.
Shaft length: approx. 50 mm ± 4 mm

knob colour black
front bezel charcoal



RXJR

IP65



Selector Head, maintained

suitable contact blocks

A AZ CT CTF CTP CZ

front bezel charcoal



RXJWA

suitable contact blocks

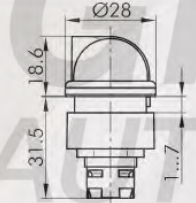
A AZ

front bezel charcoal



RXJWB

IP65



Selector Head, left maintained, right momentary

suitable contact blocks

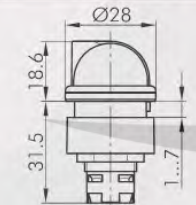
A AZ

front bezel charcoal



RXJWC

IP65



Selector Head, momentary

suitable contact blocks

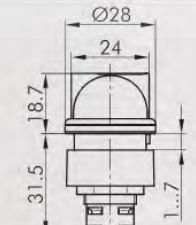
A AZ

front bezel charcoal



RXJSTB

IP65



**Illuminated Selector Head, maintained
(two-piece plunger)**

suitable contact blocks

AZ CT CZ

front bezel charcoal



RXJZWBL_KL

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**Key Switches (momentary/maintained)
B buzzers**

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type	
		Key Actuator, maintained including two keys other lock types on request suitable contact blocks A AZ		
		front bezel charcoal		RXJSSA 12E
		suitable contact blocks A AZ		RXJSSA 13E
		front bezel charcoal		
		suitable contact blocks A AZ CT CTF CTP CZ		RXJSSA 14E
		front bezel charcoal		
		suitable contact blocks A AZ CT CTF CTP CZ		RXJSSA 15E
front bezel charcoal				
suitable contact blocks A AZ CT CTF CTP CZ	RXJSSA 17E			
suitable contact blocks A AZ CT CTF CTP CZ	RXJSSA 18E			
		Key Actuator, maintained (two-piece plunger) including two keys other lock types on request suitable contact blocks AZ CT CZ		
		front bezel charcoal		RXJZSSA 12E
		suitable contact blocks AZ CT CZ		RXJZSSA 13E
		Spare Key (standard) standard spare key, specify key number for special locks	ESE845	
		Buzzer operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 87 db (10cm, 24V) max. 85 db (10cm, 12V)		
		operating temperature: -20°C ... 60°C front bezel charcoal		RXJNSG+SG-24V

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Buzzers

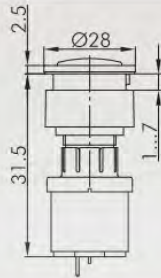
Illustration

Dimensions

Description

Type

IP65

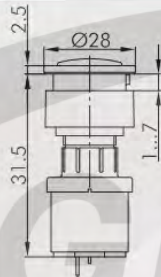


Interval Buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: max. 30mA
 signal frequency: 3.5 +/- 0.5 Hz
 volume: max. 87 db (10cm, 24V)
 max. 85 db (10cm, 12V)
 interval: 1 s
 operating temperature: -20°C ... 60°C
 front bezel: charcoal

RXJNSG+SGL-24V

IP65

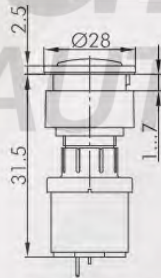


Illuminated Buzzer

Operating voltage: 12 ... 24V AC/DC
 Operating current: approx. 30mA
 Signal frequency: 3.5 +/- 0.5 kHz
 Volume: max. 87 db (10cm, 24V)
 max. 85 db (10cm, 12V)
 Operating temperature: -20°C ... 60°C
 front bezel: charcoal

RXJNSGL+SGLR-24V

IP65



Illuminated Interval Buzzer

Operating voltage: 12 ... 24V AC/DC
 Operating current: approx. 30mA
 Signal frequency: 3.5 +/- 0.5 kHz
 Volume: max. 87 db (10cm, 24V)
 max. 85 db (10cm, 12V)
 Interval: 1s
 Operating temperature: -20°C ... 60°C
 front bezel: charcoal

RXJNSGL+SGILR-24V



Faston Clamp 2.8 x 0.8 mm with snap-in pin

FH2,8

Cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8



Insulating Case

IH2,8

for Faston clamp FH2,8, slip on from the front



Double Faston

FD2,8


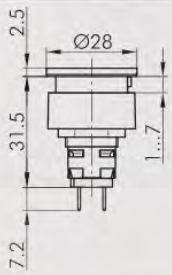

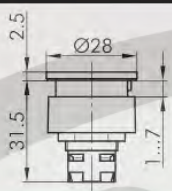


















for the connection of 2 Faston clamps FH2.8

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Pilot Lights

Lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type
 <p>IP65 Sun icon Lightbulb icon</p>	 <p>2.5 Ø28 31.5 1...7 7.2</p>	<p>Pilot Light with Faston terminals 2.8x0.8 mm T5.5K socket front bezel charcoal</p>	RXJL5
 <p>IP65 Sun icon Lightbulb icon</p>	 <p>2.5 Ø28 31.5 1...7</p>	<p>Pilot Light Head suitable lampholders A CT CF CP CZ front bezel charcoal</p>	RXJN
		<p>Convex Lens colour</p> <ul style="list-style-type: none"> blue  yellow  green  clear  red  white  	<p>KF20BL KF20GB KF20GN KF20KL KF20RT KF20WS</p>
		<p>Hemispherical Lens colour</p> <ul style="list-style-type: none"> blue  yellow  green  clear  red  opalwhite  	<p>KH20BL KH20GB KH20GN KH20KL KH20RT KH20WS</p>
	 <p>Ø19 2.2 17</p>	<p>Nameplate with standard imprint Please specify index number (see nameplates on pages 404)</p>	BSRX...
	 <p>Ø19 2.2 17</p>	<p>Nameplate with special imprint according to customer's specification</p>	BSRXB

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Illustration	Dimensions	Description	Type
		Blank Nameplate	BSRXU
		Hexagonal Mounting Tool with torque limitation, for the series OKTRON, OKTRON-JUWEL, OKTRON-R, RONTRON-R-JUWEL, RONTRON-Q-JUWEL, QUARTRON, QUARTRON-JUWEL, RX-JUWEL	S16
		Mounting Tool Adapter with 1/4" connections for mounting tools S16 and S22	SRA
		External Nameplate Holder for outside marking of the actuators of the RX-JUWEL series, accepts self-adhesive nameplates colour charcoal	RXJABT
		Self-adhesive Nameplate laser-printed Inscription according to customer's specification Dimensions: 22 x 11 mm	BZ16L
		Self-adhesive Nameplate blank Dimensions: 22 x 11 mm	BZ16U
		Self-adhesive Nameplate with standard imprint Please specify index no. (see nameplates on page 404) Dimensions: 22 x 11 mm	BZ16B...
		Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 75 mm for mounting dia. 22 mm colour yellow	NAS_22
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting dia. 22 mm colour yellow	NAS_22_548

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Accessories for Actuators

Illustration	Dimensions	Description	Type
		Universal Lens Remover	USK
		Round Dummy to close unused mounting apertures colour charcoal	BVRXJ

IP65

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Front dimensions: Ø 28 mm
Panel cut-out: Ø 22.3 mm
Front bezel height: 12 mm
Travel: 6 mm

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X3DND03

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 Product configurator



Overview RONDEX series



01 Pushbutton Heads	page 204	07 Key Actuators	page 209
02 Emergency Stop Buttons	page 206	08 Acoustic Buzzers	page 210
03 Mushroom Heads	page 206	09 Pilot Lights	page 211
04 Knob Set for Rotary Switch / Potentiometer	page 207		
05 Selector Heads	page 207		
06 Toggle Heads	page 208		
		Contact Blocks / Lampholders	page 408

Housing Colour



degree of protection

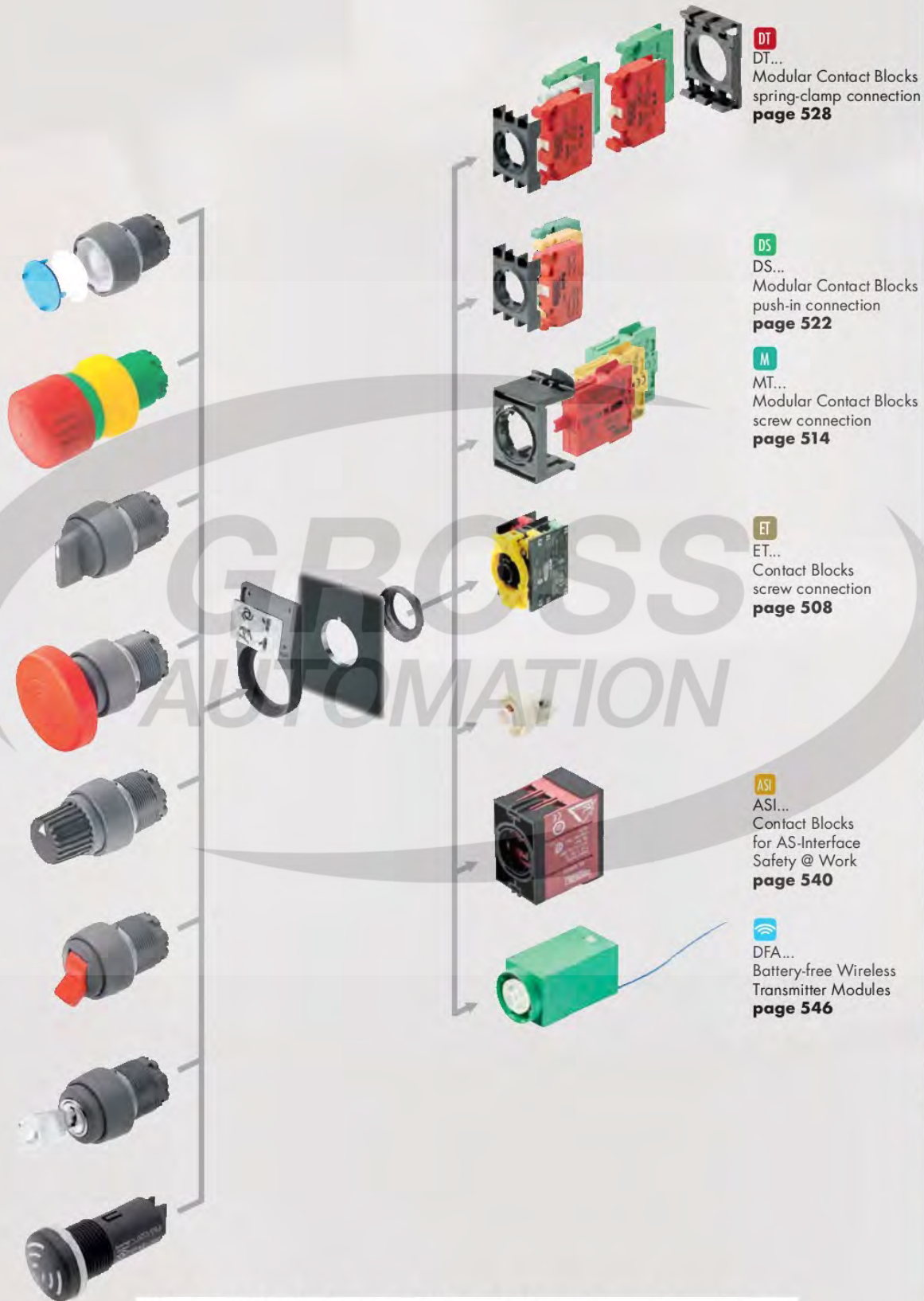
operating travel

illuminating option

labelling option

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DT
DT...
Modular Contact Blocks
spring-clamp connection
page 528

DS
DS...
Modular Contact Blocks
push-in connection
page 522

M
MT...
Modular Contact Blocks
screw connection
page 514

ET
ET...
Contact Blocks
screw connection
page 508

ASI
ASI...
Contact Blocks
for AS-Interface
Safety @ Work
page 540

DFA
DFA...
Battery-free Wireless
Transmitter Modules
page 546

When combining the DT... contact blocks with key, selector and toggle heads, please add ..._497 to the actuator type reference!

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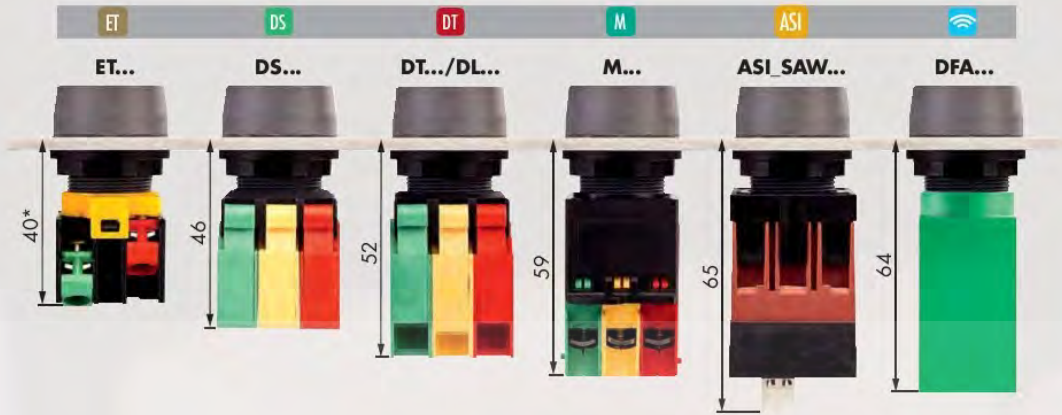
Pedal Switches

Limit Switches

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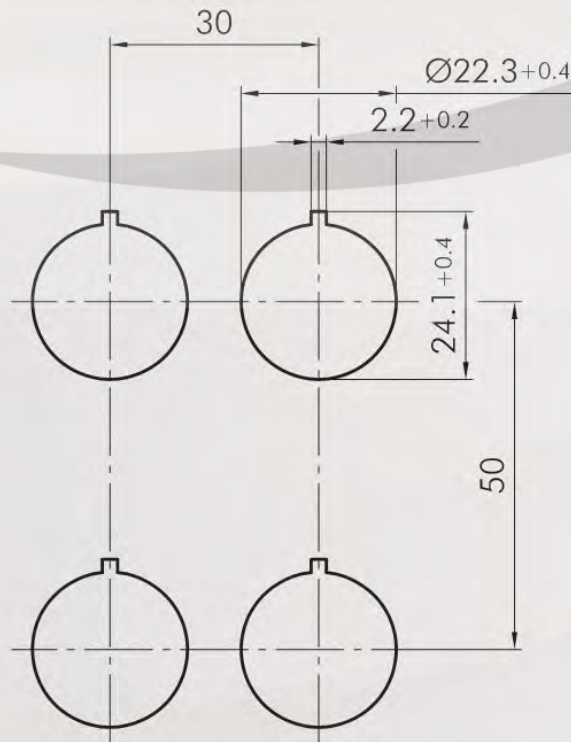
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Mounting Depth Dimensions



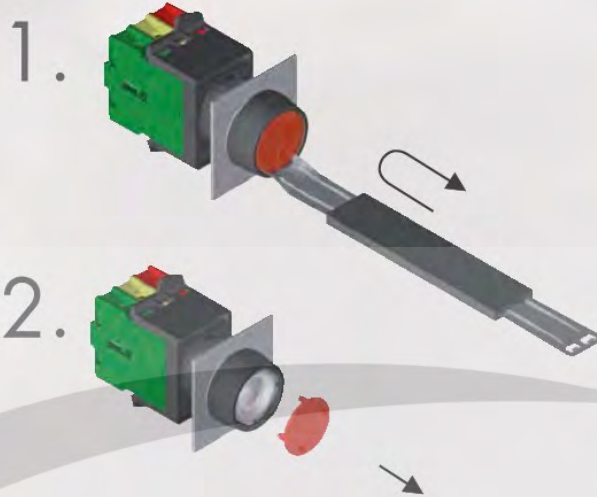
* ETR2 61mm, ETLR 50mm, ETLR2 70mm, EL9R 36mm

Cutout Dimensions



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Mounting and Service Instructions



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Pushbutton Heads

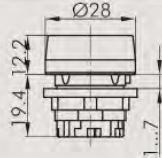
Lenses and nameplates to be ordered separately

Illustration

Dimensions

Description

Type



Pushbutton Head

suitable contact blocks

DS DT ET M

front bezel

charcoal

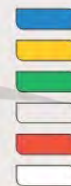
RT



Flat Lens, transparent

colour

blue
yellow
green
clear
red
opalwhite



TG22BL
TG22GB
TG22GN
TG22KL
TG22RT
TG22WS



Flat Lens, non-transparent

used in pushbuttons without inscription and illumination

colour

blue
yellow
green
black
red
white



TG22GBL
TG22GGB
TG22GGN
TG22GSW
TG22GRT
TG22GWS



High Lens, transparent

colour

blue
yellow
green
clear
red
opalwhite



KH23BL
KH23GB
KH23GN
KH23KL
KH23RT
KH23WS



High Lens, non-transparent

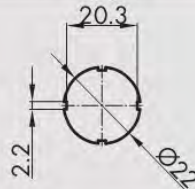
used in pushbuttons without inscription and illumination

colour

blue
yellow
green
black
red
white



TG22GHBL
TG22GHGB
TG22GHGN
TG22GHSW
TG22GHRT
TG22GHWS



Nameplate with standard imprint

please specify index number (see nameplates on pages 404)

BSK...

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Pushbutton Heads

Illustration	Dimensions	Description	Type
		Nameplate with special imprint according to customer's specification	BSKB
		Blank Nameplate	BSKU
		Membrane Pushbutton Head with tightly closed, transparent silicone cap, down to -50° C suitable contact blocks DS DT ET M front bezel charcoal	RTM
		Flat Lens, transparent colour	
		blue	T20FBL
		yellow	T20FGB
		green	T20FGN
		clear	T20FKL
		red	T20FRT
		opalwhite	T20FWS
		Nameplate with standard imprint Please specify index number (see nameplates on pages 404)	BSRX...
		Nameplate with special imprint according to customer's specification	BSRXB
		Blank Nameplate	BSRXU

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Pushbutton Heads
Emergency Stops
Mushroom Heads

Illustration

Dimensions

Description

Type

IP67



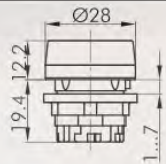
Sealing Cap

made of silicone rubber, down to -50°C

TK29S

IP65

6 mm



Economy Pushbutton Head

no inscription, no illumination

suitable contact blocks

DS DT ET M

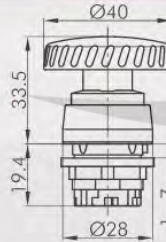
push-cap	green		
front bezel	charcoal		RTG
push-cap	red		RTR
push-cap	black		RTS
push-cap	white		RTW
push-cap	yellow		RTY
push-cap	blue		RTB



For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 366

The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

IP65



Mushroom Head, latch-type

other mushroom colours on request, must be mounted onto yellow background!

foolproof	No
switching position indicator	No
anti-lock collar	No
release	twist
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



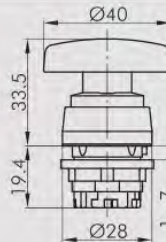
suitable contact blocks

DS DT ET M

mushroom head	red		
front bezel	charcoal		RV

IP65

6 mm



Mushroom Head, momentary

other mushroom colours on request

switching position indicator	No
anti-lock collar	No

suitable contact blocks

DS DT ET M

mushroom head	red		
front bezel	charcoal		RS


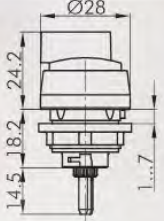

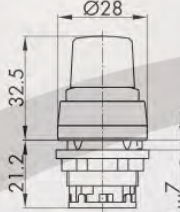

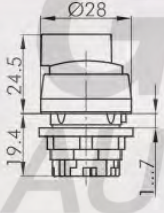



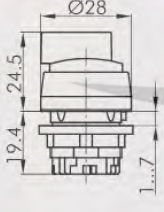



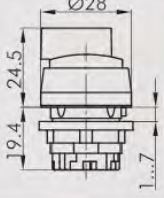

suitable contact blocks

DS DT ET M

mushroom head	black		RS_SW.PILZ
---------------	-------	--	-------------------

Knob Set for rotary switches
Knob Set for potentiometers
Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

Illustration	Dimensions	Description	Type
		<p>Knob Set for rotary switches, without inscription for Kraus & Naimer types CG4 and CA4</p> <p>other versions on request front bezel charcoal</p>	RDA
		<p>Knob Set for potentiometers for potentiometers of 6 mm shaft dia. and thread M10 x 0.75. Delivery without potentiometer. Shaft length: approx. 50 mm ± 2 mm incl. fastening thread front bezel charcoal</p>	RR
		<p>Selector Head, maintained</p> <p>suitable contact blocks DS DT ET M front bezel charcoal</p> <p>suitable contact blocks DT ET M front bezel charcoal</p>	<p>RWA </p> <p>RWB </p>
		<p>Selector Head, momentary</p> <p>suitable contact blocks DS DT ET M front bezel charcoal</p> <p>suitable contact blocks DT ET M front bezel charcoal</p>	<p>RSTA </p> <p>RSTB </p>
		<p>Selector Head, left maintained, right momentary</p> <p>suitable contact blocks DT ET M front bezel charcoal</p>	<p>RWC </p>

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**Selector Switches (momentary/maintained)
Toggle Heads**

I = Switching position
> = Spring return

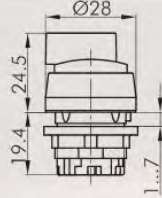
Illustration

Dimensions

Description

Type

IP65



Illuminated Selector Head, maintained

inclusive four small, transparent colour plates in red, yellow, green and blue

suitable contact blocks

DS DT ET M

front bezel charcoal



RWAL

suitable contact blocks

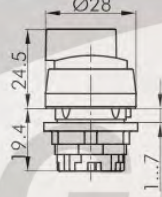
DS DT ET M

front bezel charcoal



RWBL

IP65



**Illuminated Selector Head, left maintained,
right momentary**

inclusive four small, transparent colour plates in red, yellow, green and blue

suitable contact blocks

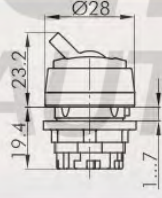
DS DT ET M

front bezel charcoal



RWCL

IP65



Toggle Head

red toggle (other colours on request)

suitable contact blocks

DS DT ET M

knob colour red


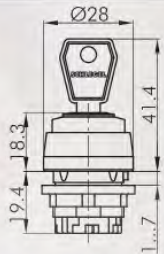
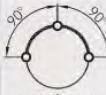
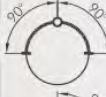

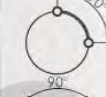

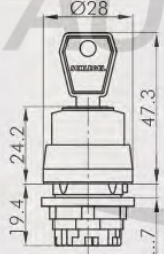



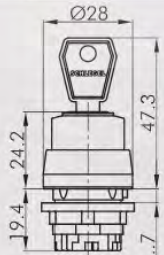


front bezel charcoal

RK

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Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type	
		Key Actuator, maintained including two keys other lock types on request suitable contact blocks DT ET M		
		front bezel charcoal		RSSA12E
		suitable contact blocks DT ET M		
		front bezel charcoal		RSSA13E
		suitable contact blocks DS DT ET M		
		front bezel charcoal		RSSA14E
		suitable contact blocks DS DT ET M		
		front bezel charcoal		RSSA15E
		Key Actuator, momentary suitable contact blocks DT ET M		
		front bezel charcoal		RSSA23E
		suitable contact blocks DS DT ET M		
		front bezel charcoal		RSSA27E
		Key Actuator, left maintained, right momentary suitable contact blocks DT ET M		
		front bezel charcoal		RSSA24E
		Spare Key (standard) standard spare key, specify key number for special locks	ESE845	

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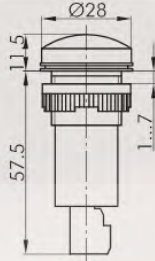
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Buzzers

Illustration



Dimensions

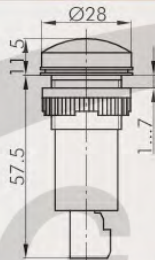


Description

Buzzer 230V
 Operating voltage: 230V~
 Volume: 80 dB at 10 cm distance
 Mounting depth: 60 mm
 max. ambient temperature: -20°C up to 50°C
 Service life: > 5000 h
 front bezel black

Type

R5G-230V



Buzzer 24V
 Operating voltage: 18 - 30V AC/DC
 Volume: 80 dB at 10 cm distance
 Mounting depth: 60 mm
 max. ambient temperature: -20°C up to 50°C
 Service life: > 5000 h
 front bezel black

R5G-24V

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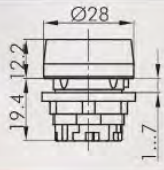








































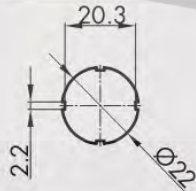

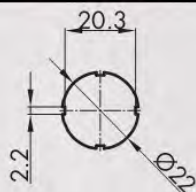
Pedal Switches

Limit Switches

Type Index

Pilot Lights

Lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type												
 		Pilot Light Head suitable lampholders DS DT ET M front bezel charcoal	RN												
		Convex Lens colour <table border="0"> <tr><td>blue</td><td></td></tr> <tr><td>yellow</td><td></td></tr> <tr><td>green</td><td></td></tr> <tr><td>clear</td><td></td></tr> <tr><td>red</td><td></td></tr> <tr><td>opalwhite</td><td></td></tr> </table>	blue		yellow		green		clear		red		opalwhite		KF23BL KF23GB KF23GN KF23KL KF23RT KF23WS
blue															
yellow															
green															
clear															
red															
opalwhite															
		High Lens, transparent colour <table border="0"> <tr><td>blue</td><td></td></tr> <tr><td>yellow</td><td></td></tr> <tr><td>green</td><td></td></tr> <tr><td>clear</td><td></td></tr> <tr><td>red</td><td></td></tr> <tr><td>opalwhite</td><td></td></tr> </table>	blue		yellow		green		clear		red		opalwhite		KH23BL KH23GB KH23GN KH23KL KH23RT KH23WS
blue															
yellow															
green															
clear															
red															
opalwhite															
		Nameplate with standard imprint please specify index number (see nameplates on pages 404)	BSK...												
		Nameplate with special imprint according to customer's specification	BSKB												
		Blank Nameplate	BSKU												

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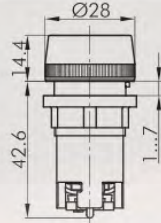
Pilot Lights

Illustration

Dimensions

Description

Type



Pilot Light with screw connections
BA9s socket

RL9G



Panoramic Lens

colour

blue



KG22BL

yellow



KG22GB

green



KG22GN

clear



KG22KL

red



KG22RT

white



KG22WS



Mega-bright LED, BA9s

with integrated bridge rectifier for 24V .. 28V AC/DC, 15.5mA
(typ. 24V)

colour

white



LD9-24MW

GROSS
AUTOMATION

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










Pedal Switches

Limit Switches

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Accessories for Actuators

Illustration	Dimensions	Description	Type
		Mounting Tool with torque limitation for the series QUARTEX-R(-JUWEL), KOMBITAST-R-JUWEL, RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of the RONTRON-R/-QJUWEL series	S22
		Mounting Tool Adapter with 1/4\" connections for mounting tools S16 and S22	SRA
		External Nameplate Holder for outside marking of the actuators of the RONDEX series, accepts self-adhesive nameplates colour charcoal 	RABT
		Self-adhesive Nameplate, laser-printed Inscription according to customer's specification Dimensions: 19 x 27 mm	BZ23G
		Self-adhesive Nameplate blank Dimensions: 19 x 27 mm	BZ23U
		Self-adhesive Nameplate with standard imprint Please specify index no. (see nameplates on page 404) Dimensions: 19 x 27 mm	BZ23B...
		Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 75 mm for mounting dia. 22 mm colour yellow 	NAS_22
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting dia. 22 mm colour yellow 	NAS_22_548
		Universal Lens Remover	USK
		Dummy to close unused mounting apertures colour charcoal 	BVR22

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Front dimensions: \varnothing 28 mm
Panel cut-out: \varnothing 22.3 mm
Front bezel height: 12 mm
Travel: 6 mm

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W-X-30N002

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AUTOMATION

 Product configurator



RONDEX-M

Ø 22.3 mm

made in germany



Overview RONDEX-M series



01 Pushbutton Heads	page 220	07 Key Actuators	page 225
02 Emergency Stop Heads	page 222	08 Acoustic Buzzers	page 226
03 Mushroom Heads	page 222	09 Pilot Lights	page 227
04 Knob Set for Rotary Switches/Potentiometers	page 223		
05 Selector Heads	page 223		
06 Toggle Heads	page 224		
		Contact Blocks / Lampholders	page 408

Housing Colour



IP65 degree of protection

6 mm operating travel

illuminating option

labelling option

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DT
DT...
Modular Contact Blocks
spring-clamp connection
page 528

DS
DS...
Modular Contact Blocks
push-in connection
page 522

M
MT...
Modular Contact Blocks
screw connection
page 514

ET
ET...
Contact Blocks
screw connection
page 508

ASI
ASI...
Contact Blocks
for AS-Interface
Safety @ Work
page 540

DFA
DFA...
Battery-free Wireless
Transmitter Modules
page 546

When combining the DT... contact blocks with key, selector and toggle heads, please add ..._497 to the actuator type reference!

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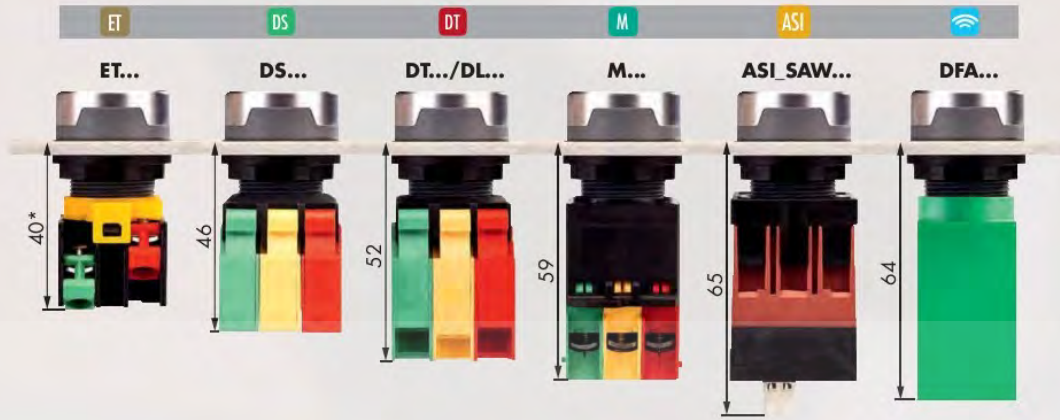
RONDEX-M

Ø 22.3 mm

made in germany

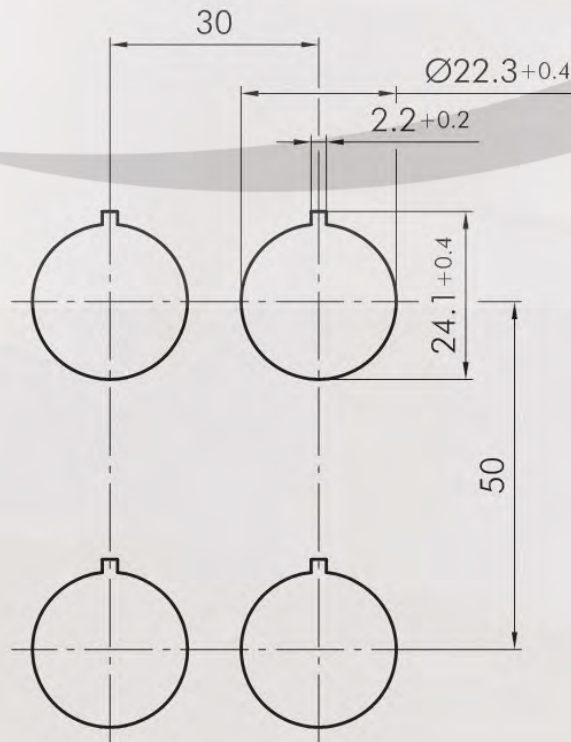


Mounting Depth Dimensions



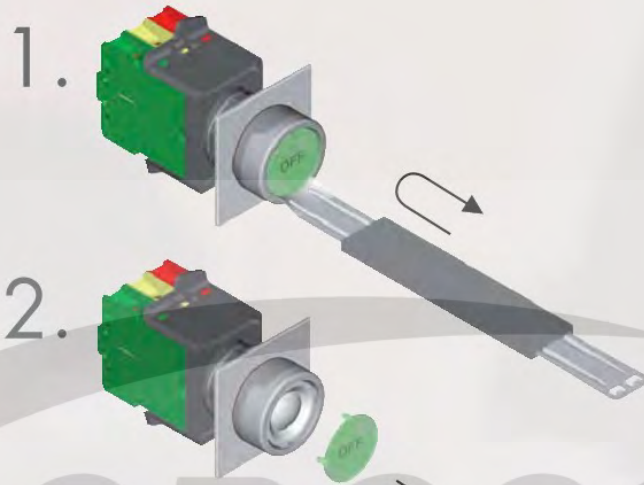
* ETR2 61mm, ETLR 50mm, ETLR2 70mm, EL9R 36mm

Cutout Dimensions



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Mounting and Service Instructions



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RONDEX-M

Ø 22.3 mm

made in germany



Pushbutton Heads

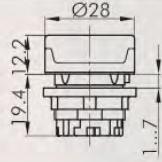
Lenses and nameplates to be ordered separately

Illustration

Dimensions

Description

Type



Pushbutton Head

suitable contact blocks

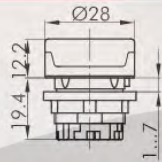
DS DT ET M

front bezel

metallic/charcoal



RMCT



Pushbutton Head with ring illumination

incl. lens, inscription on request

suitable contact blocks

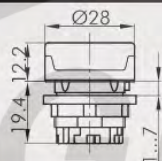
DS DT ET M

front bezel

metallic/charcoal



RMCTLR



Pushbutton Head, maintained

suitable contact blocks

DS DT ET M

front bezel

metallic/charcoal



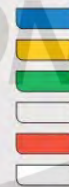
RMCF



Flat Lens, transparent

colour

blue
yellow
green
clear
red
opalwhite



TG22BL
TG22GB
TG22GN
TG22KL
TG22RT
TG22WS

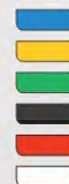


Flat Lens, non-transparent

used in pushbuttons without inscription and illumination

colour

blue
yellow
green
black
red
white



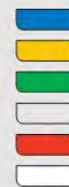
TG22GBL
TG22GGB
TG22GGN
TG22GSW
TG22GRT
TG22GWS



High Lens, transparent

colour

blue
yellow
green
clear
red
opalwhite



KH23BL
KH23GB
KH23GN
KH23KL
KH23RT
KH23WS

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














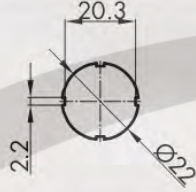


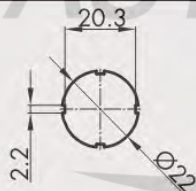





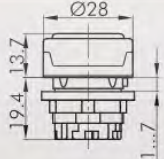


























Terminal Blocks

Pedal Switches

Limit Switches

Type Index

Pushbutton Heads

Illustration	Dimensions	Description	Type																		
		High Lens, non-transparent used in pushbuttons without inscription and illumination colour <table border="0"> <tr><td>blue</td><td></td><td>TG22GHBL</td></tr> <tr><td>yellow</td><td></td><td>TG22GHGB</td></tr> <tr><td>green</td><td></td><td>TG22GHGN</td></tr> <tr><td>black</td><td></td><td>TG22GH5W</td></tr> <tr><td>red</td><td></td><td>TG22GHRT</td></tr> <tr><td>white</td><td></td><td>TG22GHWS</td></tr> </table>	blue		TG22GHBL	yellow		TG22GHGB	green		TG22GHGN	black		TG22GH5W	red		TG22GHRT	white		TG22GHWS	
blue		TG22GHBL																			
yellow		TG22GHGB																			
green		TG22GHGN																			
black		TG22GH5W																			
red		TG22GHRT																			
white		TG22GHWS																			
		Nameplate with standard imprint please specify index number (see nameplates on pages 404)	BSK...																		
		Nameplate with special imprint according to customer's specification	BSKB																		
		Blank Nameplate	BSKU																		
    		Membrane Pushbutton Head with tightly closed, transparent silicone cap, down to -50 C suitable contact blocks     front bezel <table border="0"> <tr> <td>metallic/charcoal</td> <td></td> </tr> </table>	metallic/charcoal		RMCTM																
metallic/charcoal																					
		Flat Lens, transparent colour <table border="0"> <tr><td>blue</td><td></td><td>T20FBL</td></tr> <tr><td>yellow</td><td></td><td>T20FGB</td></tr> <tr><td>green</td><td></td><td>T20FGN</td></tr> <tr><td>clear</td><td></td><td>T20FKL</td></tr> <tr><td>red</td><td></td><td>T20FRT</td></tr> <tr><td>opalwhite</td><td></td><td>T20FWS</td></tr> </table>	blue		T20FBL	yellow		T20FGB	green		T20FGN	clear		T20FKL	red		T20FRT	opalwhite		T20FWS	
blue		T20FBL																			
yellow		T20FGB																			
green		T20FGN																			
clear		T20FKL																			
red		T20FRT																			
opalwhite		T20FWS																			

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RONDEX-M

Ø 22.3 mm

made in germany



Emergency Stops Mushroom Heads

Illustration

Dimensions

Description

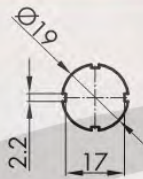
Type



Nameplate with standard imprint

Please specify index number (see nameplates on pages 404)

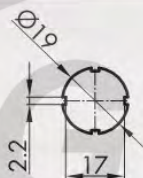
BSRX...



Nameplate with special imprint

according to customer's specification

BSRXB



Blank Nameplate

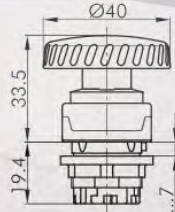
BSRXU



For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 366

The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

IP65



Mushroom Head, latch-type

other mushroom colours on request, must be mounted onto yellow background!

foolproof	No
switching position indicator	No
anti-lock collar	No
release	twist
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850

suitable contact blocks

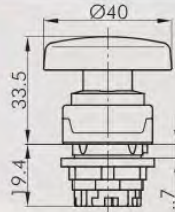
DS DT ET M

mushroom head red
front bezel metallic/charcoal

RMCV

IP65

6 mm



Mushroom Head, momentary

other mushroom colours on request

switching position indicator	No
anti-lock collar	No
suitable contact blocks	DS DT ET M


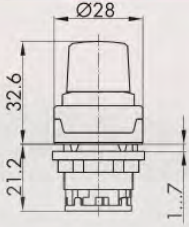

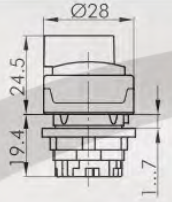

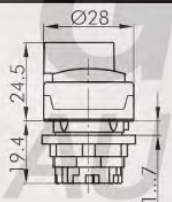

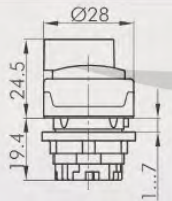
mushroom head red
front bezel metallic/charcoal

RMCS

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**Knob Set for potentiometers
Selector Switches (momentary/maintained)**

I = Switching position
> = Spring return

Illustration	Dimensions	Description	Type
		<p>Knob Set for potentiometers for potentiometers of 6 mm shaft dia. and thread M10x0.75. Delivery without potentiometer. Shaft length: approx. 50 mm ± 2 incl. fastening thread</p> <p>front bezel metallic/charcoal</p>	<p>RMCR</p>
		<p>Selector Head, maintained</p> <p>suitable contact blocks DS DT ET M</p> <p>front bezel metallic/charcoal</p> <p>suitable contact blocks DT ET M</p> <p>front bezel metallic/charcoal</p>	<p>90°</p> <p>45° 45°</p> <p>RMCWA</p> <p>RMCWB</p>
		<p>Selector Head, momentary</p> <p>suitable contact blocks DS DT ET M</p> <p>front bezel metallic/charcoal</p> <p>suitable contact blocks DT ET M</p> <p>front bezel metallic/charcoal</p>	<p>90°</p> <p>45° 45°</p> <p>RMCSTA</p> <p>RMCSTB</p>
		<p>Selector Head, left maintained, right momentary</p> <p>suitable contact blocks DT ET M</p> <p>front bezel metallic/charcoal</p>	<p>45° 45°</p> <p>RMCWC</p>

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RONDEX-M

Ø 22.3 mm

made in germany



Selector Switches (momentary/maintained) Toggle Heads

I = Switching position
> = Spring return

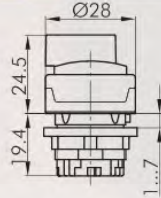
Illustration

Dimensions

Description

Type

IP65



Selector Head, maintained

inclusive four small transparent colour plates in red, yellow, green and blue

suitable contact blocks

DS DT ET M

front bezel metallic/charcoal



RM CWAL

suitable contact blocks

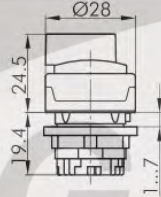
DT ET M

front bezel metallic/charcoal



RM CWBL

IP65



Illuminated Selector Head, left maintained, right momentary

inclusive four small transparent colour plates in red, yellow, green and blue

suitable contact blocks

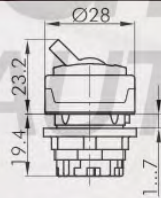
DS DT ET M

front bezel metallic/charcoal



RM CWCL

IP65



Toggle Head

with red toggle (other colours on request)

suitable contact blocks

DS DT ET M

knob colour red

front bezel metallic/charcoal

RM CK

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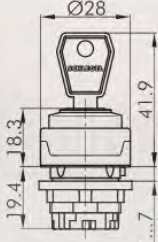

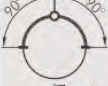

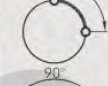
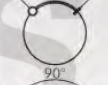
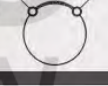

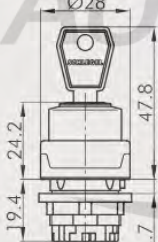



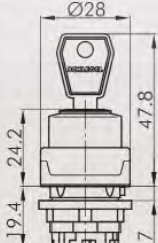


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Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type	
		Key Actuator, maintained including two keys, other lock types on request suitable contact blocks DT ET M		
		front bezel metallic/charcoal		RMCSA12E
		suitable contact blocks DT ET M		
		front bezel metallic/charcoal		RMCSA13E
		suitable contact blocks DS DT ET M		
		front bezel metallic/charcoal		RMCSA14E
		suitable contact blocks DS DT ET M		
		front bezel metallic/charcoal		RMCSA15E
suitable contact blocks DS DT ET M				
front bezel metallic/charcoal		RMCSA17E		
suitable contact blocks DS DT ET M				
front bezel metallic/charcoal		RMCSA18E		
		Key Actuator, momentary suitable contact blocks DT ET M		
		front bezel metallic/charcoal		RMCSA23E
		suitable contact blocks DS DT ET M		
front bezel metallic/charcoal		RMCSA27E		
		Key Actuator, left maintained, right momentary suitable contact blocks DT ET M		
		front bezel metallic/charcoal		RMCSA24E
		Spare Key (standard) standard spare key, specify key number for special locks	ESE845	

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RONDEX-M

Ø 22.3 mm

made in germany



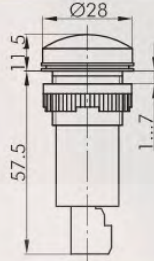
Buzzers

Illustration

Dimensions

Description

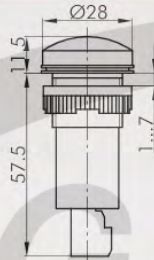
Type



Buzzer 230V

Operating voltage: 230V~
 Volume: 80 dB at 10 cm distance
 Mounting depth: 60 mm
 max. ambient temperature: -20°C up to 50°C
 Service life: > 5000 h
 front bezel: black

RSG-230V



Buzzer 24V

Operating voltage: 18 - 30V AC/DC
 Volume: 80 dB at 10 cm distance
 Mounting depth: 60 mm
 max. ambient temperature: -20°C up to 50°C
 Service life: > 5000 h
 front bezel: black

RSG-24V

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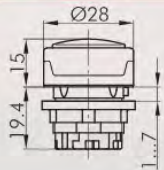







































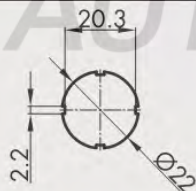
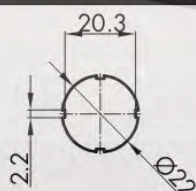

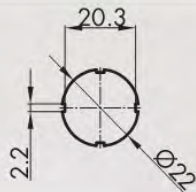
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Pilot Lights

Lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type																		
		Pilot Light Head suitable lampholders DS DT ET M front bezel metallic/charcoal	RMCN																		
		Convex Lens colour	<table border="0"> <tr><td>blue</td><td></td><td>KF23BL</td></tr> <tr><td>yellow</td><td></td><td>KF23GB</td></tr> <tr><td>green</td><td></td><td>KF23GN</td></tr> <tr><td>clear</td><td></td><td>KF23KL</td></tr> <tr><td>red</td><td></td><td>KF23RT</td></tr> <tr><td>opalwhite</td><td></td><td>KF23WS</td></tr> </table>	blue		KF23BL	yellow		KF23GB	green		KF23GN	clear		KF23KL	red		KF23RT	opalwhite		KF23WS
blue		KF23BL																			
yellow		KF23GB																			
green		KF23GN																			
clear		KF23KL																			
red		KF23RT																			
opalwhite		KF23WS																			
		High Lens, transparent colour	<table border="0"> <tr><td>blue</td><td></td><td>KH23BL</td></tr> <tr><td>yellow</td><td></td><td>KH23GB</td></tr> <tr><td>green</td><td></td><td>KH23GN</td></tr> <tr><td>clear</td><td></td><td>KH23KL</td></tr> <tr><td>red</td><td></td><td>KH23RT</td></tr> <tr><td>opalwhite</td><td></td><td>KH23WS</td></tr> </table>	blue		KH23BL	yellow		KH23GB	green		KH23GN	clear		KH23KL	red		KH23RT	opalwhite		KH23WS
blue		KH23BL																			
yellow		KH23GB																			
green		KH23GN																			
clear		KH23KL																			
red		KH23RT																			
opalwhite		KH23WS																			
		Nameplate with standard imprint please specify index number (see nameplates on pages 404)	BSK...																		
		Nameplate with special imprint according to customer's specification	BSKB																		
		Blank Nameplate	BSKU																		

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RONDEX-M

Ø 22.3 mm

made in germany





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Illustration	Dimensions	Description	Type
		Mounting Tool with torque limitation for the series QUARTEX-R(-JUWEL), KOMBITAST-RJUWEL, RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of the RONTRON-R/-QJUWEL series	S22
		Mounting Tool Adapter with 1/4" connections for mounting tools S16 and S22	SRA
	30 35	External Nameplate Holder for outside marking of the actuators of the RONDEX series, accepts self-adhesive nameplates colour charcoal	RABT
		Self-adhesive Nameplate, laser-printed Inscription according to customer's specification Dimensions: 19 x 27 mm	BZ23G
		Self-adhesive Nameplate blank Dimensions: 19 x 27 mm	BZ23U
		Self-adhesive Nameplate with standard imprint Please specify index no. (see nameplates on page 404) Dimensions: 19 x 27 mm	BZ23B...
		Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 75 mm for mounting dia. 22 mm colour yellow	NAS_22
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting dia. 22 mm colour yellow	NAS_22_548
		Universal Lens Remover	USK

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Accessories for Actuators

Illustration	Dimensions	Description	Type
 <p>IP65</p>		<p>Dummy to close unused mounting apertures colour charcoal</p>	BVR22
 <p>IP67</p>		<p>Sealing Cap made of silicone rubber, down to -50°C</p>	TK295

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Front dimensions: Ø 30 mm
Panel cut-out: Ø 22.3 mm
Front bezel height: 12 mm
Travel: 6 mm

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gisepB-X110

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AUTOMATIC

 Product configurator



Overview DUX-Basic series



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02 Emergency Stop Buttons	page 237	Contact Blocks / Lampholders page 408	
03 Mushroom Heads	page 238		
04 Selector Heads	page 240		
05 Toggle Heads	page 244		
06 Key Actuators	page 245		

Housing colour



IP65 degree of protection

6 mm operating travel

illuminating option

labelling option

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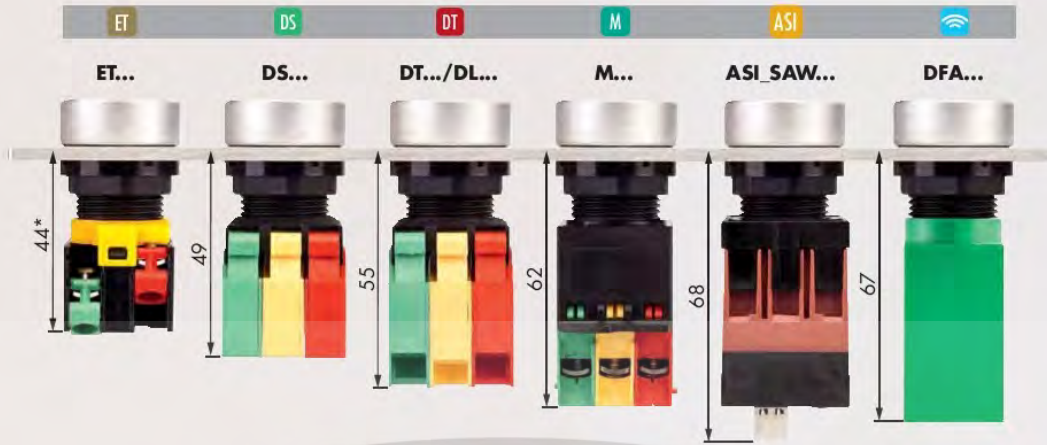
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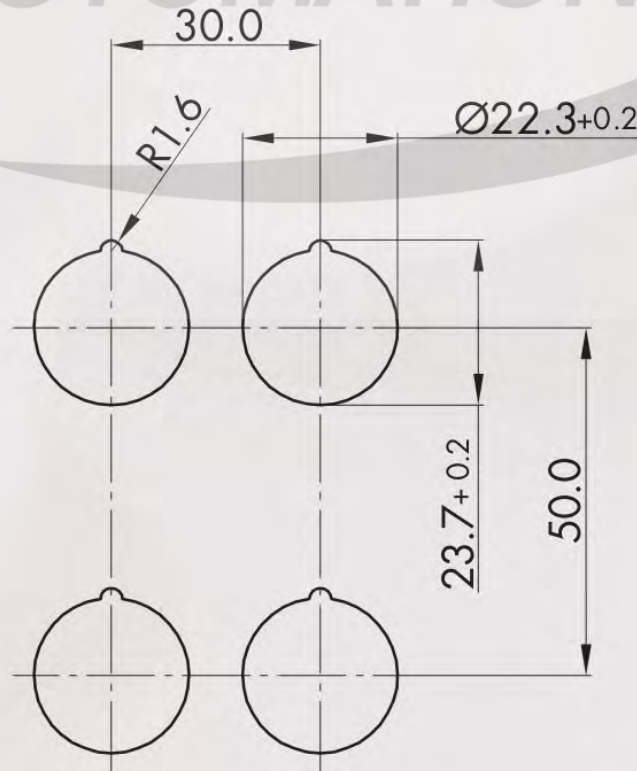
Distributed by: Gross Automation
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Mounting Depth Dimensions



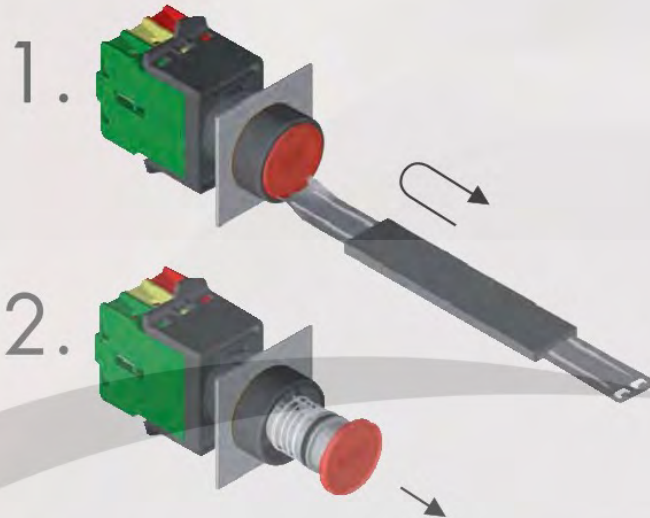
* ETR2 64mm, ETLR 53mm, ETLR2 73mm, EL9R 39mm

Cutout Dimension



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Mounting and Service Instructions



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DUX-Basic

Ø 22.3 mm

made in germany



Pushbutton Heads

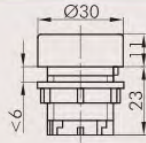
Illustration

Dimensions

Description

Type

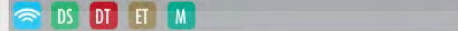
IP65
6 mm



Pushbutton Head with flat non-transparent lens

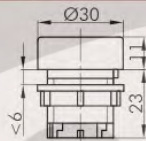
available in white=WS, red=RT, green=GN, yellow=GB, black=SW, blue=BL, add code letter to type number, e.g. DXRTCRT no inscription, no illumination

suitable contact blocks



front bezel	mat		DXRTC...
	grey		DXRTG...
	polished		DXRTM...
	black		DXRTS...

IP65
6 mm



Pushbutton Head with flat transparent lens and blank nameplate

available in red=RT, green=GN, yellow=GB, clear=KL, blue=BL, add code letter to type number, e.g. DXRTLCRT

suitable contact blocks



front bezel	mat		DXRTLC...
	grey		DXRTLG...
	polished		DXRTLM...
	black		DXRTLS...

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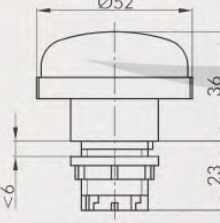
Terminal Blocks

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Limit Switches

Type Index

Emergency Stops

Illustration	Dimensions	Description	Type
		<p>Emergency-stop Head with inscription</p> <p>switching position indicator Yes anti-lock collar No release pull Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850, EN 81-2 Abschnitt 15</p> <p></p> <p>suitable contact blocks DS DT ET M</p> <p>mushroom head red front bezel black green</p>	<p>DXRV540SS DXRVG40SS</p>
		<p>Emergency-stop Head with arrow</p> <p>must be mounted onto yellow background!</p> <p>switching position indicator Yes anti-lock collar No release twist Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850, EN 81-2 Abschnitt 15</p> <p></p> <p>suitable contact blocks DS DT ET M</p> <p>mushroom head red front bezel grey</p>	<p>DXRV39PF</p>
		<p>Emergency-stop Head</p> <p>switching position indicator No anti-lock collar No release twist Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p></p> <p>suitable contact blocks DS DT ET M</p> <p>mushroom head red front bezel polished grey black</p>	<p>DXRV52MRT DXRV52GRT DXRV52SRT</p>

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Emergency Stops Mushroom Heads

Illustration

Dimensions

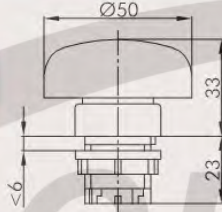
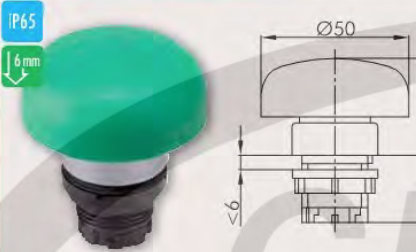
Description

Type



For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 366

The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.



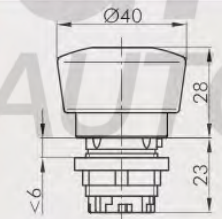
Mushroom Head, momentary

mushroom available in red=RT, green=GN, black=SW, add code letters to type number, e.g. DXRS50CRT

suitable contact blocks



front bezel	mat		DXRS50C...
	grey		DXRS50G...
	polished		DXRS50M...
	black		DXRS50S...



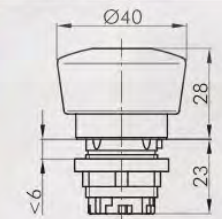
Mushroom Head, momentary, with illumination and labelling option

incl. blank nameplate, inscription on request, mushroom available in red=RT, green=GN, black=SW. Add code letters to type number, e.g. DXRSL40CRT.

suitable contact blocks



front bezel	mat		DXRSL40C...
	grey		DXRSL40G...
	polished		DXRSL40M...
	black		DXRSL40S...



Mushroom Head, momentary

mushroom available in red=RT, green=GN, black=SW, add code letters to type number, e.g. DXRS40CRT.

suitable contact blocks



front bezel	mat		DXRS40C...
	grey		DXRS40G...
	polished		DXRS40M...
	black		DXRS40S...

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Mushroom Heads

Illustration	Dimensions	Description	Type												
		<p>Mushroom Head, momentary, with illumination and labelling option incl. blank nameplate, inscription on request, mushroom available in red=RT, green=GN, black=SW, add code letters to type number, e.g. DXRSL28CRT</p> <p>suitable contact blocks DS DT ET M</p> <p>front bezel</p> <table border="0"> <tr> <td>mat</td> <td></td> <td>DXRSL28C...</td> </tr> <tr> <td>grey</td> <td></td> <td>DXRSL28G...</td> </tr> <tr> <td>polished</td> <td></td> <td>DXRSL28M...</td> </tr> <tr> <td>black</td> <td></td> <td>DXRSL28S...</td> </tr> </table>	mat		DXRSL28C...	grey		DXRSL28G...	polished		DXRSL28M...	black		DXRSL28S...	
mat		DXRSL28C...													
grey		DXRSL28G...													
polished		DXRSL28M...													
black		DXRSL28S...													
		<p>Mushroom Head, momentary mushroom available in red=RT, green=GN, black=SW, add code letters to type number, e.g. DXRS28CRT</p> <p>suitable contact blocks DS DT ET M</p> <p>front bezel</p> <table border="0"> <tr> <td>mat</td> <td></td> <td>DXRS28C...</td> </tr> <tr> <td>grey</td> <td></td> <td>DXRS28G...</td> </tr> <tr> <td>polished</td> <td></td> <td>DXRS28M...</td> </tr> <tr> <td>black</td> <td></td> <td>DXRS28S...</td> </tr> </table>	mat		DXRS28C...	grey		DXRS28G...	polished		DXRS28M...	black		DXRS28S...	
mat		DXRS28C...													
grey		DXRS28G...													
polished		DXRS28M...													
black		DXRS28S...													

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DUX-Basic

Ø 22.3 mm

made in germany



Selector Switches (momentary/maintained)
other colour combinations on request

I = Switching position
> = Spring return

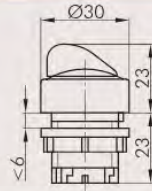
Illustration

Dimensions

Description

Type

IP65



Selector Head, maintained

available colour combinations:
black ring / black knob ...SWSW
black ring / grey knob ...SWDG
grey ring / black knob ...DGSW
grey ring / grey knob ...DGDG

Add code letters to type number, e.g. DXRWACSWDG

suitable contact blocks

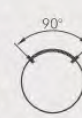
DS DT ET M

front bezel mat

grey

polished

black



DXRWAHC...

DXRWAHG...

DXRWAHM...

DXRWAHS...

suitable contact blocks

DS DT M

front bezel mat

grey

polished

black



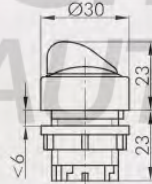
DXRWBHC...

DXRWBHG...

DXRWBHM...

DXRWBHS...

IP65



Selector Head, momentary

available colour combinations:
black ring / black knob ...SWSW
black ring / grey knob ...SWDG
grey ring / black knob ...DGSW
grey ring / grey knob ...DGDG

Add code letters to type number, e.g. DXRSTACSWDG

suitable contact blocks

DS DT ET M

front bezel mat

grey

polished

black



DXRSTAHC...

DXRSTAHG...

DXRSTAHM...

DXRSTAHS...

suitable contact blocks

DS DT M

front bezel mat

grey

polished

black



DXRSTBHC...

DXRSTBHG...

DXRSTBHM...

DXRSTBHS...

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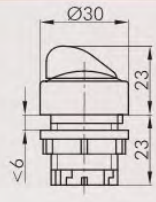
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Selector Switches (momentary/maintained)
other colour combinations on request

I = Switching position
> = Spring return

Illustration	Dimensions	Description	Type
--------------	------------	-------------	------





IP65





Selector Head, left maintained, right momentary
available colour combinations:
black ring / black knob ...SWSW
black ring / grey knob ...SWDG
grey ring / black knob ...DGSW
grey ring / grey knob ...DGDG


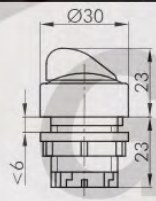
Add code letters to type number, e.g. DXRWCCSWDG

suitable contact blocks
DS DT M

front bezel	mat		DXRWCHC...
	grey		DXRWCHG...
	polished		DXRWCHM...
	black		DXRWCHS...







IP65





Selector Head, left momentary, right maintained
available colour combinations:
black ring / black knob ...SWSW
black ring / grey knob ...SWDG
grey ring / black knob ...DGSW
grey ring / grey knob ...DGDG

Add code letters to type number, e.g. DXRWDCSWDG

suitable contact blocks
DS DT M

front bezel	mat		DXRWDHC...
	grey		DXRWDHG...
	polished		DXRWDHM...
	black		DXRWDHS...



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Ø 22.3 mm

Selector Switches (momentary/maintained)
other colour combinations on request

I = Switching position
> = Spring return

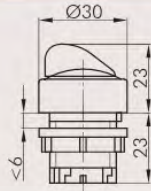
Illustration

Dimensions

Description

Type

IP65



Selector Head with ring illumination, maintained

available colour combinations:

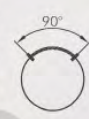
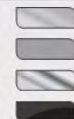
- red ring / black knob ...RTSW
- red ring / grey knob ...RTDG
- green ring / black knob ...GNSW
- green ring / grey knob ...GNDG
- clear ring / black knob ...KLSW
- clear ring / grey knob ...KLDG

Add code letters to type number, e.g. DXRWALCRTSW

suitable contact blocks

DS DT

- front bezel
- mat
 - grey
 - polished
 - black

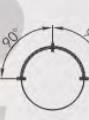


DXRWALHC...
DXRWALHG...
DXRWALHM...
DXRWALHS...

suitable contact blocks

DS DT

- front bezel
- mat
 - grey
 - polished
 - black



DXRWBLHC...
DXRWBLHG...
DXRWBLHM...
DXRWBLHS...

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Selector Switches (momentary/maintained)
other colour combinations on request

I = Switching position
> = Spring return

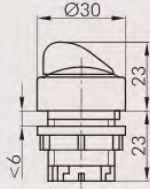
Illustration

Dimensions

Description

Type

IP65



Selector Head, momentary, with ring illumination

available colour combinations:

- red ring / black knob ...RTSW
- red ring / grey knob ...RTDG
- green ring / black knob ...GNSW
- green ring / grey knob ...GNDG
- clear ring / black knob ...KLSW
- clear ring / grey knob ...KLDG

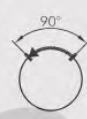
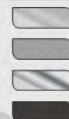
Add code letters to type number, e.g. DXRSTALCRTSW

suitable contact blocks

DS DT

front bezel

- mat
- grey
- polished
- black



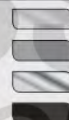
DXRSTALHC...
DXRSTALHG...
DXRSTALHM...
DXRSTALHS...

suitable contact blocks

DS DT

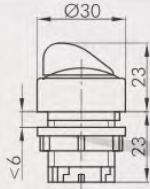
front bezel

- mat
- grey
- polished
- black



DXRSTBLHC...
DXRSTBLHG...
DXRSTBLHM...
DXRSTBLHS...

IP65



Selector Head with ring illumination, left maintained, right momentary

available colour combinations:

- red ring / black knob ...RTSW
- red ring / grey knob ...RTDG
- green ring / black knob ...GNSW
- green ring / grey knob ...GNDG
- clear ring / black knob ...KLSW
- clear ring / grey knob ...KLDG

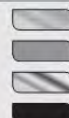
Add code letters to type number, e.g. DXRWCLCRTSW

suitable contact blocks

DS DT

front bezel

- mat
- grey
- polished
- black



DXRWCLHC...
DXRWCLHG...
DXRWCLHM...
DXRWCLHS...

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Selector Switches (momentary/maintained)

other colour combinations on request

Toggle Heads

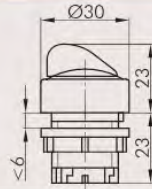
Illustration

Dimensions

Description

Type

IP65



Selector Head with ring illumination, left momentary, right maintained

available colour combinations

red ring / black knob	...RTSW
red ring / grey knob	...RTDG
green ring / black knob	...GNSW
green ring / grey knob	...GNDG
clear ring / black knob	...KLSW
clear ring / grey knob	...KLDG

Add code letters to type number, e.g. DXRWDLCRTSW

suitable contact blocks



front bezel	mat			DXRWDLHC...
	grey			DXRWDLHG...
	polished			DXRWDLHM...
	black			DXRWDLHS...

IP65



Toggle Head, maintained

available colour combinations:

black ring / black toggle	...SWSW
black ring / red toggle	...SWRT
black ring / white toggle	...SWWS
grey ring / black toggle	...DGSW
grey ring / red toggle	...DGRT
grey ring / white toggle	...DGWS

Add code letters to type number, e.g. DXRKCSWSW

suitable contact blocks


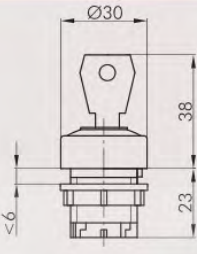






front bezel	mat			DXRKC...
	grey			DXRKG...
	polished			DXRKM...
	black			DXRKS...

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Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type	
		Key Actuator, momentary including two keys, available colour combinations: black ring ...SW... grey ring ...DG... Add code letters to type number, e.g. DXRSSACDG12, other lock types on request		
		suitable contact blocks DS DT M		
		front bezel mat grey polished black		DXRSSAC...12 DXRSSAG...12 DXRSSAM...12 DXRSSAS...12
		suitable contact blocks DS DT M		
		front bezel mat grey polished black		DXRSSAC...13 DXRSSAG...13 DXRSSAM...13 DXRSSAS...13
		suitable contact blocks DS DT ET M		
		front bezel mat grey polished black		DXRSSAC...17 DXRSSAG...17 DXRSSAM...17 DXRSSAS...17
		suitable contact blocks DS DT ET M		
		front bezel mat grey polished black		DXRSSAC...18 DXRSSAG...18 DXRSSAM...18 DXRSSAS...18
		suitable contact blocks DS DT ET M		

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DUX-Basic

Ø 22.3 mm

made in germany



Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

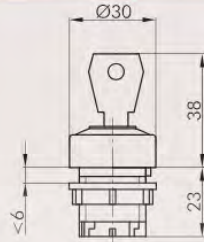
Illustration

Dimensions

Description

Type

IP65



Key Actuator, momentary

including two keys,
available colour combinations:
black ring ...SW...
grey ring ...DG...

Add code letters to type number, e.g. DXRSSACDG23,
other lock types on request

suitable contact blocks

DS DT M

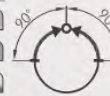
front bezel

mat

grey

polished

black



DXRSSAC...23

DXRSSAG...23

DXRSSAM...23

DXRSSAS...23

suitable contact blocks

DS DT M

front bezel

mat

grey

polished

black



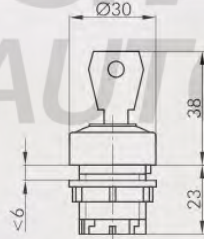
DXRSSAC...27

DXRSSAG...27

DXRSSAM...27

DXRSSAS...27

IP65



Key Actuator maintained/left, momentary/right

including two keys
available colour combinations:
black ring...SW...
grey ring ...DG...

Add code letters to type number,
e.g. DXRSSACDG24
other lock types on request

suitable contact blocks

DS DT M

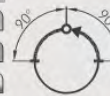
front bezel

mat

grey

polished

black



DXRSSAC...24

DXRSSAG...24

DXRSSAM...24

DXRSSAS...24

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Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

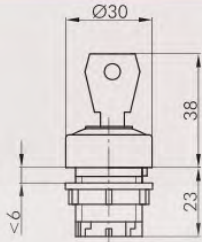
Illustration

Dimensions

Description

Type

IP65



Key Actuator with ring illumination, latching

including two keys,
available colour combinations:
red ring ...RT...
green ring ...GN...
clear ring ...KL...

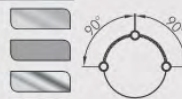
Add code letters to type number, e.g. DXRSSALCRT12,
other lock types on request
Accepts only LEDs !

suitable contact blocks

DS DT

front bezel

- mat
- grey
- polished
- black



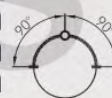
DXRSSALC...12
DXRSSALG...12
DXRSSALM...12
DXRSSALS...12

suitable contact blocks

DS DT

front bezel

- mat
- grey
- polished
- black



DXRSSALC...13
DXRSSALG...13
DXRSSALM...13
DXRSSALS...13

suitable contact blocks

DS DT

front bezel

- mat
- grey
- polished
- black



DXRSSALC...17
DXRSSALG...17
DXRSSALM...17
DXRSSALS...17

suitable contact blocks

DS DT

front bezel

- mat
- grey
- polished
- black



DXRSSALC...18
DXRSSALG...18
DXRSSALM...18
DXRSSALS...18

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Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

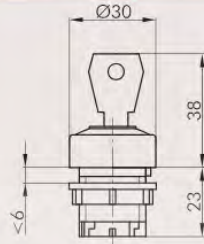
Illustration

Dimensions

Description

Type

IP65



Key Actuator with ring illumination, momentary

including two keys,
available colour combinations:
red ring ...RT...
green ring ...GN...
clear ring ...KL...

Add code letters to type number, e.g. DXRSSALCRT23,
other lock types on request
Accepts only LEDs !

suitable contact blocks

DS DT

front bezel mat
grey
polished
black



DXRSSALC...23
DXRSSALG...23
DXRSSALM...23
DXRSSALS...23

suitable contact blocks

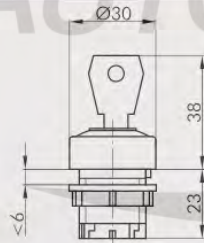
DS DT

front bezel mat
grey
polished
black



DXRSSALC...27
DXRSSALG...27
DXRSSALM...27
DXRSSALS...27

IP65



Key Actuator with ring illumination maintained/left, momentary/right

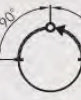
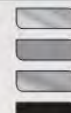
including two keys,
available colour combinations:
red ring ...RT...
green ring ...GN...
clear ring ...KL...

Add code letters to type number,
e.g. DXRSSALCRT24
other lock types on request
Accepts only LEDs !

suitable contact blocks

DS DT

front bezel mat
grey
silver-coloured
black


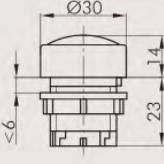













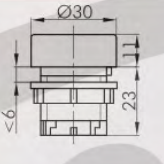














DXRSSALC...24
DXRSSALG...24
DXRSSALM...24
DXRSSALS...24

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Pilot Lights

Please order the nameplates together with the pilot light heads.

Illustration	Dimensions	Description	Type												
 <p>IP65 Sun icon Wrench icon</p>	 <p>Ø30 14 23 ≤6</p>	<p>Pilot Light Head with transparent convex lens available in red=RT, green=GN, yellow=GB, clear=KL, blue=BL, add code letters to type number, e.g. DXRNKCRT suitable lampholders</p> <p>DS DT ET M</p>	<p>front bezel</p> <table border="0"> <tr> <td>mat</td> <td></td> <td>DXRNKC...</td> </tr> <tr> <td>grey</td> <td></td> <td>DXRNKG...</td> </tr> <tr> <td>polished</td> <td></td> <td>DXRNKM...</td> </tr> <tr> <td>black</td> <td></td> <td>DXRNKS...</td> </tr> </table>	mat		DXRNKC...	grey		DXRNKG...	polished		DXRNKM...	black		DXRNKS...
mat		DXRNKC...													
grey		DXRNKG...													
polished		DXRNKM...													
black		DXRNKS...													
 <p>IP65 Sun icon Wrench icon</p>	 <p>Ø30 11 23 ≤6</p>	<p>Pilot Light Head with transparent flat lens available in red=RT, green=GN, yellow=GB, clear=KL, blue=BL, add code letters to type number, e.g. DXRNFCRT suitable lampholders</p> <p>DS DT ET M</p>	<p>front bezel</p> <table border="0"> <tr> <td>mat</td> <td></td> <td>DXRNFC...</td> </tr> <tr> <td>grey</td> <td></td> <td>DXRNFG...</td> </tr> <tr> <td>polished</td> <td></td> <td>DXRNFM...</td> </tr> <tr> <td>black</td> <td></td> <td>DXRNFS...</td> </tr> </table>	mat		DXRNFC...	grey		DXRNFG...	polished		DXRNFM...	black		DXRNFS...
mat		DXRNFC...													
grey		DXRNFG...													
polished		DXRNFM...													
black		DXRNFS...													

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Illustration	Dimensions	Description	Type
		Mounting Tool with torque limitation for the series QUARTEX-R(-JUWEL), KOMBITAST-RJUWEL, RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of the RONTRON-R/-QJUWEL series	S22
		Mounting Tool Adapter with 1/4" connections for mounting tools S16 and S22	SRA
		External Nameplate Holder colour black	DRABT
		Self-adhesive Nameplate, laser-printed Inscription according to customer's specification Dimensions: 19 x 27 mm	BZ23G
		Self-adhesive Nameplate blank Dimensions: 19 x 27 mm	BZ23U
		Self-adhesive Nameplate with standard imprint Please specify index no. (see nameplates on page 404) Dimensions: 19 x 27 mm	BZ23B...
		Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 75 mm for mounting dia. 22 mm colour yellow	NAS_22
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting dia. 22 mm colour yellow	NAS_22_548
		Universal Lens Remover	USK

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GROSS AUTOMATION




Front dimensions: 30 x 30 mm
Panel cut-out: Ø 22.3 mm
Front bezel height: 12 mm
Travel: 6 mm

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R-X312AV10

CROSS
AUTOMATION

 Product configurator



QUARTEX-R

Ø 22.3 mm

made in germany

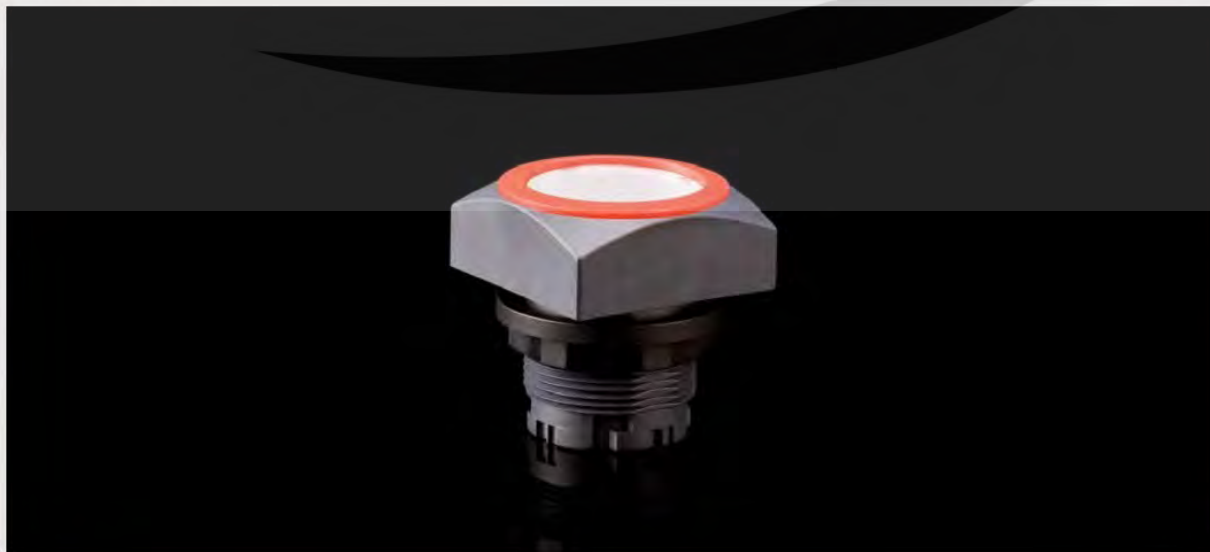


Overview QUARTEX-R series



01 Pushbutton Heads	page 258	07 Key Actuators	page 264
02 Emergency Stop Buttons	page 261	08 Pilot Lights	page 265
03 Mushroom Heads	page 261		
04 Knob Set for Rotary Switch / Potentiometer	page 262		
05 Selector Heads	page 262		
06 Toggle Heads	page 263		
		Contact Blocks / Lampholders	page 408

Housing Colour



IP65 degree of protection

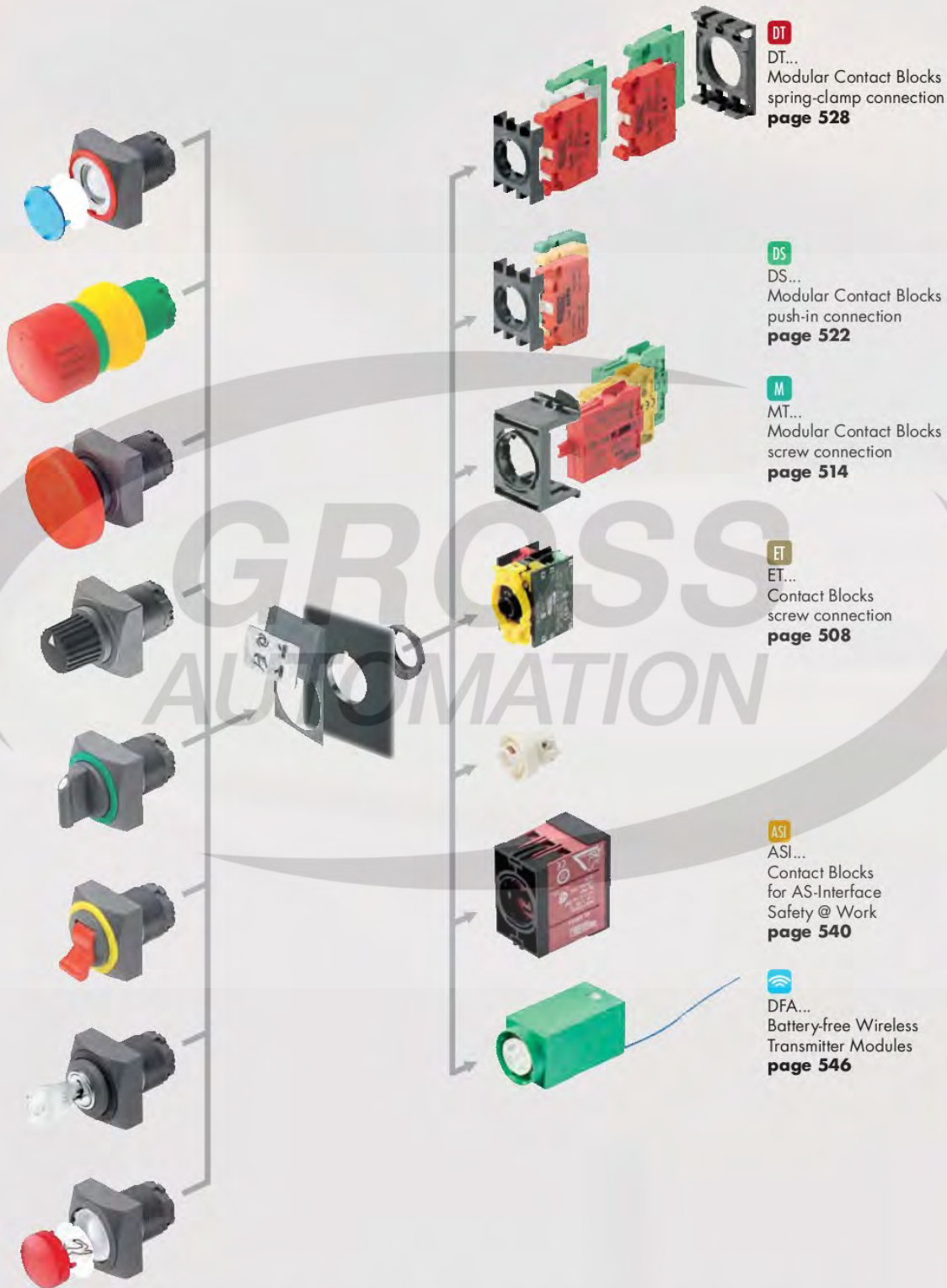
6 mm operating travel

illuminating option

labelling option

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DT
DT...
Modular Contact Blocks
spring-clamp connection
page 528

DS
DS...
Modular Contact Blocks
push-in connection
page 522

M
MT...
Modular Contact Blocks
screw connection
page 514

ET
ET...
Contact Blocks
screw connection
page 508

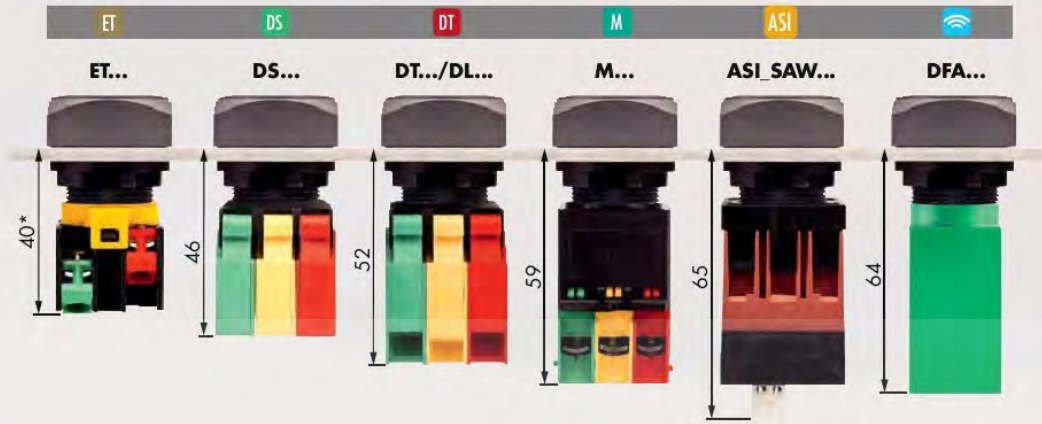
ASI
ASI...
Contact Blocks
for AS-Interface
Safety @ Work
page 540

DFA
DFA...
Battery-free Wireless
Transmitter Modules
page 546

When combining the DT... contact blocks with key, selector and toggle heads, please add ..._497 to the actuator type reference!

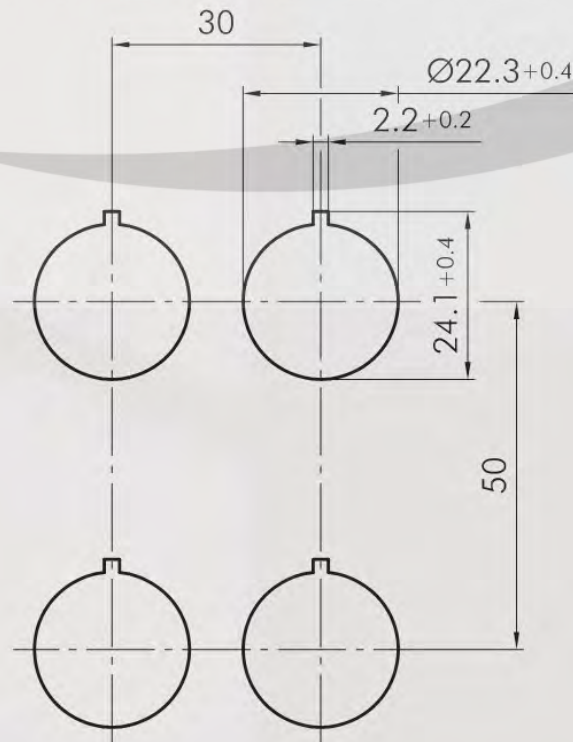
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Mounting Depth Dimensions



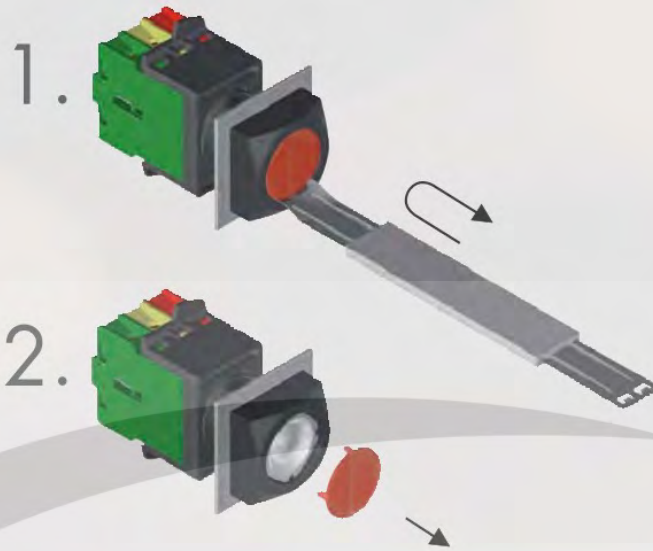
* ETR2 61mm, ETLR 50mm, ETLR2 70mm, EL9R 36mm

Cutout Dimensions



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Mounting and Service Instructions



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QUARTEX-R

Ø 22.3 mm

made in germany



Pushbutton Heads

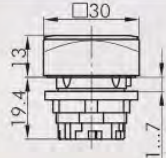
Front rings are supplied in dark-grey as a standard (QRT), also available in blue-BL, yellow-GB, green-GN, red-RT, white-WS and black-SW.
Add code letter to type number (e.g. QRT_RRT)
Lenses and nameplates to be ordered separately

Illustration

Dimensions

Description

Type



Pushbutton Head

suitable contact blocks

DS DT ET M

front bezel charcoal

QRT...



Concave Lens, transparent

colour

blue	
yellow	
green	
clear	
red	
opalwhite	

T26DBL
T26DGB
T26DGN
T26DKL
T26DRT
T26DWS



Concave Lens, non-transparent

used in pushbuttons without inscription and illumination

colour

blue	
yellow	
green	
black	
red	
white	

T26DGBL
T26DGGB
T26DGGN
T26DGSW
T26DGRT
T26DGWS



High Lens, transparent

colour

blue	
yellow	
green	
clear	
red	
opalwhite	

KH23BL
KH23GB
KH23GN
KH23KL
KH23RT
KH23WS



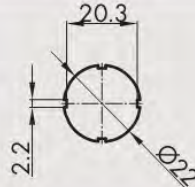
High Lens, non-transparent

used in pushbuttons without inscription and illumination

colour

blue	
yellow	
green	
black	
red	
white	

TG22GHBL
TG22GHGB
TG22GHGN
TG22GHSW
TG22GHRT
TG22GHWS



Nameplate with standard imprint

please specify index number (see nameplates on pages 404)

BSK...

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Pushbutton Heads

Front rings are supplied in dark-grey as a standard (QRTM), also available in blue-BL, yellow-GB, green-GN, red-RT, white-WS and black-SW.
Add code letter to type number (e.g. QRTM_RRT)

Illustration	Dimensions	Description	Type
	20.3 2.2	Nameplate with special imprint according to customer's specification	BSKB
	20.3 2.2	Blank Nameplate	BSKU
	30 19.4 13.7 1.7	Membrane Pushbutton Head with tightly closed, transparent silicone cap, down to -50° C suitable contact blocks DS DT ET M front bezel charcoal	QRTM...
		Flat Lens, transparent colour	
		blue	T20FBL
		yellow	T20FGB
		green	T20FGN
		clear	T20FKL
		red	T20FRT
		opalwhite	T20FWS
	Ø19 2.2 17	Nameplate with standard imprint Please specify index number (see nameplates on pages 404)	BSRX...
	Ø19 2.2 17	Nameplate with special imprint according to customer's specification	BSRXB
	Ø19 2.2 17	Blank Nameplate	BSRXU

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QUARTEX-R

Ø 22.3 mm

made in germany



Pushbutton Heads

Illustration

Dimensions

Description

Type

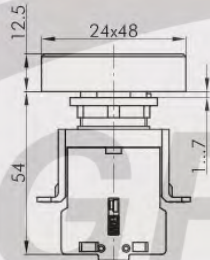


Double Pushbutton

fully assembled with modular contact blocks
ON-pushbutton green, 1NO
OFF-pushbutton red, 1NC
front bezel charcoal



LDT

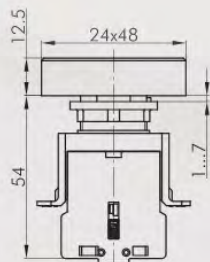


Illuminated Double Pushbutton

with central signal light
without lamp
fully assembled with modular contact blocks
ON-pushbutton green, 1NO
OFF-pushbutton red, 1NC
front bezel charcoal



LDTL



IP67



Sealing Cap

made of silicone rubber, down to -50°C

TK50S

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Emergency Stops Mushroom Heads

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Illustration

Dimensions

Description

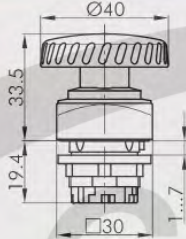
Type



For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 366

The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

IP65



Mushroom Head, latch-type

other mushroom colours on request must be mounted onto yellow background!

foolproof	No
switching position indicator	No
anti-lock collar	No
release	twist
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks

ASI DS DT ET M

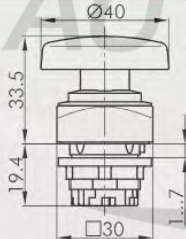
mushroom head red
front bezel charcoal



QRV

IP65

6 mm



Mushroom Head, momentary

other mushroom colours on request

switching position indicator	No
anti-lock collar	No

suitable contact blocks

DS DT ET M

mushroom head red
front bezel charcoal



QRS

suitable contact blocks

DS DT ET M

mushroom head black



QRS_SW.PILZ

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QUARTEX-R

Ø 22.3 mm

made in germany



Knob Set for rotary switches

Front rings are supplied in dark-grey as a standard (QRDAU), also available in blue-BL, yellow-GB, green-GN, red-RT, white-WS and black-SW.

Add code letter to type number (e.g. QRDAURT)

Knob Set for potentiometers

Selector Switches (momentary/maintained)

I = Switching position

> = Spring return

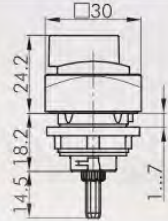
Illustration

Dimensions

Description

Type

IP65



Knob Set for rotary switches, without inscription

for Kraus & Naimer types CG4 and CA4

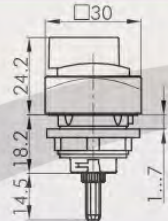
other versions on request

front bezel charcoal



QRDAU...

IP65



Knob Set for rotary switches, with inscription

for Kraus & Naimer types CG4 and CA4

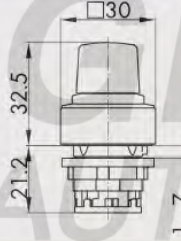
other versions on request

front bezel charcoal



QRDAB...

IP65



Knob Set for potentiometers

for potentiometers of 6 mm shaft dia. and thread M10 x 0.75. Delivery without potentiometer.

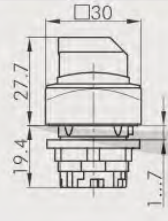
Shaft length: approx. 50 mm ± 2 mm, incl. fastening thread

front bezel charcoal



QRR...

IP65



Selector Head, maintained

suitable contact blocks

DS DT ET M

front bezel charcoal



QRWA...

suitable contact blocks

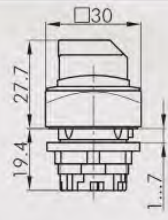
DT ET M

front bezel charcoal



QRWB...

IP65



Selector Head, momentary

suitable contact blocks

DS DT ET M

front bezel charcoal



QRSTA...

suitable contact blocks

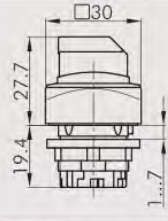
DT ET M

front bezel charcoal



QRSTB...

IP65



Selector Head, left maintained, right momentary

suitable contact blocks

DT ET M

front bezel charcoal



QRWC...

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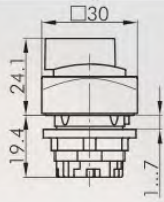

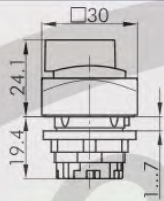

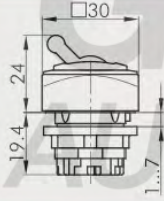
Selector Switches (momentary/maintained)

inclusive four small, transparent colour plates in red, yellow, green and blue

Toggle Heads

I = Switching position

> = Spring return

Illustration	Dimensions	Description	Type
	 <p>30 24.1 19.4 1...7</p>	<p>Illuminated Selector Head, maintained inclusive four small, transparent colour plates in red, yellow, green and blue</p> <p>suitable contact blocks DS DT ET M</p> <p>front bezel charcoal</p> <p>suitable contact blocks DS DT ET M</p> <p>front bezel charcoal</p>	<p>90°</p> <p>45° 45°</p> <p>QRWAL</p> <p>QRWBL</p>
	 <p>30 24.1 19.4 1...7</p>	<p>Illuminated Selector Head, left maintained, right momentary</p> <p>suitable contact blocks DS DT ET M</p> <p>front bezel charcoal</p>	<p>45° 45°</p> <p>QRWCL</p>
	 <p>30 24 19.4 1...7</p>	<p>Toggle Head red toggle (other colours on request)</p> <p>suitable contact blocks DS DT ET M</p> <p>knob colour red</p> <p>front bezel charcoal</p>	<p>QRK...</p>

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QUARTEX-R

Ø 22.3 mm

made in germany



Key Switches (momentary/maintained)

Front rings are supplied in dark-grey as a standard QRSSA12E), also available in blue-BL, yellow-GB, green-GN, red-RT, white-WS and black-SW.
Add code letter to type number (e.g. QRSSAA12E_RRT)

- I = Switching position
- > = Spring return
- = Key removable position

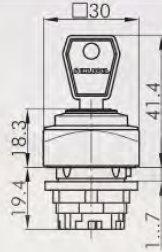
Illustration

Dimensions

Description

Type

IP65



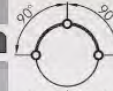
Key Actuator, maintained

including two keys
other lock types on request

suitable contact blocks

DT ET M

front bezel charcoal

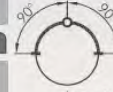


QRSSA12E...

suitable contact blocks

DT ET M

front bezel charcoal



QRSSA13E...

suitable contact blocks

DS DT ET M

front bezel charcoal

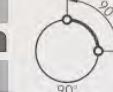


QRSSA14E...

suitable contact blocks

DS DT ET M

front bezel charcoal



QRSSA15E...

suitable contact blocks

DS DT ET M

front bezel charcoal



QRSSA17E...

suitable contact blocks

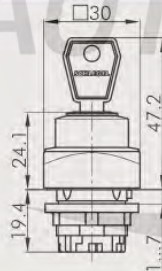
DS DT ET M

front bezel charcoal



QRSSA18E...

IP65



Key Actuator, momentary

suitable contact blocks

DT ET M

front bezel charcoal

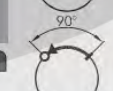


QRSSA23E...

suitable contact blocks

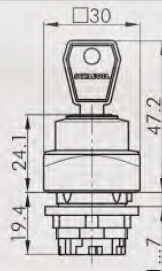
DS DT ET M

front bezel charcoal



QRSSA27E...

IP65

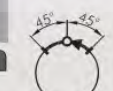


Key Actuator, left maintained, right momentary

suitable contact blocks

DT ET M

front bezel charcoal



QRSSA24E...



Spare Key (standard)

standard spare key, specify key number for special locks

ESE845

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Pilot Lights

Front rings are supplied in dark-grey as a standard (QRN), also available in blue-BL, yellow-GB, green-GN, red-RT, white-WS and black-SW.
Add code letter to type number (e.g. QRN_RRT).
Lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type																		
		Pilot Light Head suitable lampholders DS DT ET M front bezel charcoal	QRN...																		
		Convex Lens colour <table border="0"> <tr><td>blue</td><td></td><td>KF23BL</td></tr> <tr><td>yellow</td><td></td><td>KF23GB</td></tr> <tr><td>green</td><td></td><td>KF23GN</td></tr> <tr><td>clear</td><td></td><td>KF23KL</td></tr> <tr><td>red</td><td></td><td>KF23RT</td></tr> <tr><td>opalwhite</td><td></td><td>KF23WS</td></tr> </table>	blue		KF23BL	yellow		KF23GB	green		KF23GN	clear		KF23KL	red		KF23RT	opalwhite		KF23WS	
blue		KF23BL																			
yellow		KF23GB																			
green		KF23GN																			
clear		KF23KL																			
red		KF23RT																			
opalwhite		KF23WS																			
		High Lens, transparent colour <table border="0"> <tr><td>blue</td><td></td><td>KH23BL</td></tr> <tr><td>yellow</td><td></td><td>KH23GB</td></tr> <tr><td>green</td><td></td><td>KH23GN</td></tr> <tr><td>clear</td><td></td><td>KH23KL</td></tr> <tr><td>red</td><td></td><td>KH23RT</td></tr> <tr><td>opalwhite</td><td></td><td>KH23WS</td></tr> </table>	blue		KH23BL	yellow		KH23GB	green		KH23GN	clear		KH23KL	red		KH23RT	opalwhite		KH23WS	
blue		KH23BL																			
yellow		KH23GB																			
green		KH23GN																			
clear		KH23KL																			
red		KH23RT																			
opalwhite		KH23WS																			
		Concave Lens, transparent colour <table border="0"> <tr><td>blue</td><td></td><td>T26DBL</td></tr> <tr><td>yellow</td><td></td><td>T26DGB</td></tr> <tr><td>green</td><td></td><td>T26DGN</td></tr> <tr><td>clear</td><td></td><td>T26DKL</td></tr> <tr><td>red</td><td></td><td>T26DRT</td></tr> <tr><td>opalwhite</td><td></td><td>T26DWS</td></tr> </table>	blue		T26DBL	yellow		T26DGB	green		T26DGN	clear		T26DKL	red		T26DRT	opalwhite		T26DWS	
blue		T26DBL																			
yellow		T26DGB																			
green		T26DGN																			
clear		T26DKL																			
red		T26DRT																			
opalwhite		T26DWS																			
		Nameplate with standard imprint please specify index number (see nameplates on pages 404)	BSK...																		
		Nameplate with special imprint according to customer's specification	BSKB																		

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QUARTEX-R

Ø 22.3 mm

made in germany



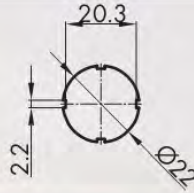
Accessories for Actuators

Illustration

Dimensions

Description

Type



Blank Nameplate

BSKU



Mounting Tool

S22

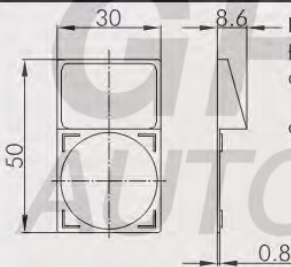
with torque limitation
for the series QUARTEX-R(-JUWEL), KOMBITAST-R-JUWEL,
RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of
the RONTRON-R/-Q-JUWEL series



Mounting Tool Adapter with 1/4" connections

SRA

for mounting tools S16 and S22



External Nameplate Holder

for outside marking of the actuators of the QUARTEX-R series,
accepts self-adhesive nameplates

colour

charcoal



QRABT



Self-adhesive Nameplate, laser-printed

BZ23G

Inscription according to customer's specification
Dimensions: 19 x 27 mm



Self-adhesive Nameplate blank

BZ23U

Dimensions: 19 x 27 mm



Self-adhesive Nameplate with standard imprint

BZ23B...

Please specify index no.
(see nameplates on page 404)
Dimensions: 19 x 27 mm



Yellow Nameplate

self-adhesive PVC foil
printing on request
outer dia. 75 mm
for mounting dia. 22 mm

colour




yellow



NAS_22

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Accessories for Actuators

Illustration	Dimensions	Description	Type
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting dia. 22 mm colour yellow	NAS_22_548
		Universal Lens Remover	USK
		Dummy to close unused mounting apertures colour charcoal	BVQR

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Design
Award
Winner
2000



reddot




excellent!
Design Center Stuttgart

Front dimensions: \varnothing 28 mm
Panel cut-out: \varnothing 22.3 mm
Front bezel height: 12 mm
Travel: 6 mm

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AUTOMATION

 Product configurator



RVA

Overview RVA series



- | | | |
|----|-------------------|----------|
| 01 | Pushbutton Heads | page 274 |
| 02 | Selector Heads | page 275 |
| 03 | Key Actuators | page 276 |
| 04 | Pilot Light Heads | page 276 |

Contact Blocks / Lampholders page 408

Housing Colour



IP65 degree of protection

6 mm operating travel

illuminating option

labelling option

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DT
DT...
Modular Contact Blocks
spring-clamp connection
page 528

DS
DS...
Modular Contact Blocks
push-in connection
page 522

M
MT...
Modular Contact Blocks
screw connection
page 514

ET
ET...
Contact Blocks
screw connection
page 508

ASI
ASI...
Contact Blocks
for AS-Interface
Safety @ Work
page 540

DFA
DFA...
Battery-free Wireless
Transmitter Modules
page 546

When combining the DT... contact blocks with key, selector and toggle heads, please add ..._497 to the actuator type reference!

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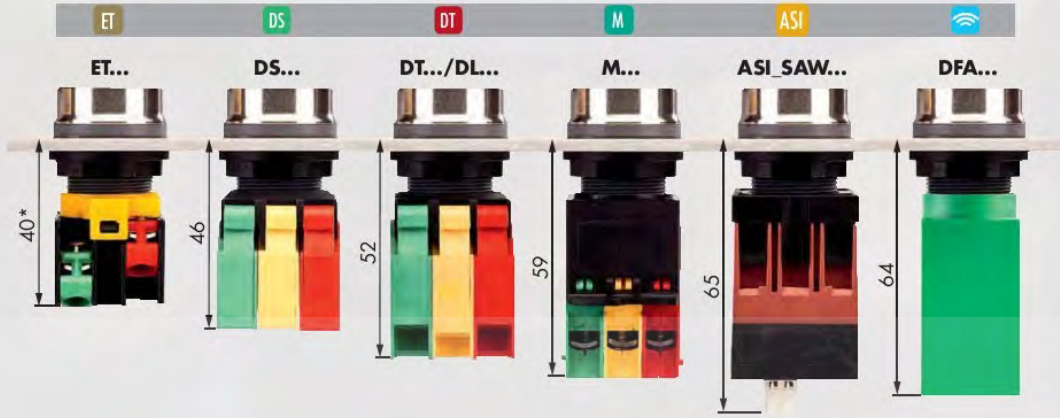
Pedal Switches

Limit Switches

Type Index

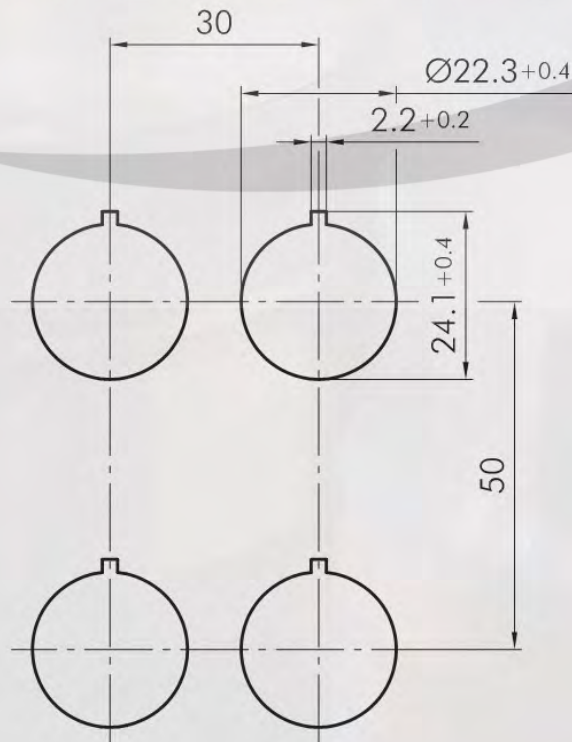
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Mounting Depth Dimensions



* ETR2 61mm, ETLR 50mm, ETLR2 70mm, EL9R 36mm

Cutout Dimensions



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Pushbutton Heads

made of stainless steel V4A (1.4404)

The housing/visible edging is supplied in green-GN, red-RT, blue-BL, yellow-GB, black-SW, white-WS or charcoal-DG. Add code letter to type number, e.g. RVAT_RT.

Illustration	Dimensions	Description	Type
		<p>Pushbutton Head laser printing on request suitable contact blocks DS DT ET M front bezel stainless steel, polished</p>	RVAT_...
		<p>Pushbutton Head with ring illumination suitable contact blocks DS DT ET M front bezel stainless steel, polished</p>	RVATLR_...
		<p>Pushbutton Head with ring illumination and laser printing incl. lens standard imprints see nameplates on pages #sbez# (please specify index number), special imprints on request DS DT ET M front bezel stainless steel, polished</p>	RVATLRL_...
		<p>Sealing Cap made of silicone rubber, down to -50°C</p>	TK295

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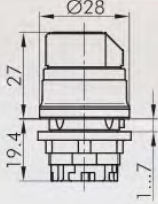


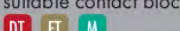

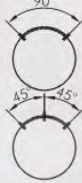

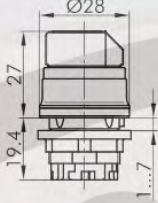




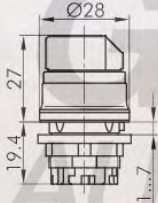



Selector Switches (momentary/maintained)

made of stainless steel V4A (1.4404)

The housing (visible edging) is supplied in green-GN, red-RT, blue-BL, yellow-GB, black-SW, white-WS or charcoal-DG. Add code letter to type number, e.g. RVAWA_RT.

I = Switching position

> = Spring return

Illustration	Dimensions	Description	Type
		<p>Selector Head, maintained</p> <p>suitable contact blocks </p> <p>front bezel stainless steel, polished </p> <p>suitable contact blocks </p> <p>front bezel stainless steel, polished </p>	 <p>RVAWA_...</p> <p>RVAWB_...</p>
		<p>Selector Head, momentary</p> <p>suitable contact blocks </p> <p>front bezel stainless steel, polished </p>	 <p>RVASTB_...</p>
		<p>Selector Head, left maintained, right momentary</p> <p>suitable contact blocks </p> <p>front bezel stainless steel, polished </p>	 <p>RVAWC_...</p>

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Key Switches (momentary/maintained)

made of stainless steel V4A (1.4)

The housing/visible edging and the luminous spot are supplied in green-GN, red-RT, blue-BL, yellow-GB, black-SW, white-WS or charcoal-DG. Add code letter to type number, e.g. RVASSA12E_RT.

Pilot Lights

- I = Switching position
- > = Spring return
- = Key removable position

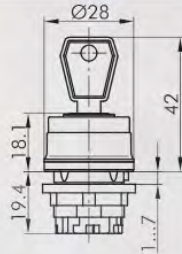
Illustration

Dimensions

Description

Type

IP65



Key Actuator, maintained

including two keys
other lock types on request

suitable contact blocks

DT ET M

front bezel stainless steel, polished

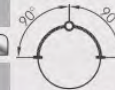


RVASSA12E_...

suitable contact blocks

DT ET M

front bezel stainless steel, polished



RVASSA13E_...

suitable contact blocks

DS DT ET M

front bezel stainless steel, polished



RVASSA14E_...

suitable contact blocks

DS DS DT ET M

front bezel stainless steel, polished

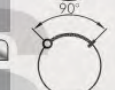


RVASSA15E_...

suitable contact blocks

DS DS DT ET M

front bezel stainless steel, polished

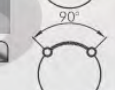


RVASSA17E_...

suitable contact blocks

DS DS DT ET M

front bezel stainless steel, polished



RVASSA18E_...

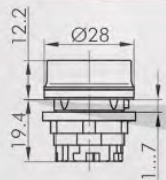


Spare Key (standard)

standard spare key, specify key number for special locks

ESE845

IP69K



Pilot Light Head

suitable lampholders

DS DT ET M

front bezel stainless steel, polished

RVAN_...

Accessories for Actuators

Illustration	Dimensions	Description	Type
		Mounting Tool with torque limitation for the series QUARTEX-R(-JUWEL), KOMBITAST-R-JUWEL, RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of the RONTRON-R/-Q-JUWEL series	S22
		Mounting Tool Adapter with 1/4" connections for mounting tools S16 and S22	SRA
		Universal Lens Remover	USK

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tested down to
-40°C | -40°F

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Front dimensions: Ø 36 mm
Panel cut-out: Ø 30.5 mm
Front bezel height: 2.7 mm
Travel: 6 mm

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KONINKDOM-ALSTALIBANOR

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AUTOMATION

 Product configurator



KOMBITAST-R-JUWEL

Ø 30.5 mm

made in germany



Overview - KOMBITAST-R-JUWEL series



01 Pushbutton Heads	page 284	07 Flush-mounted jacks	page 303
02 Emergency Stop Buttons	page 287	08 Pilot Lights	page 304
03 Knob Set for Rotary Switches/Potentiometers	page 290		
04 Selector Heads	page 292	Contact blocks/Lampholders	page 408
05 Toggle Heads	page 297		
06 Key Actuators	page 297		

Housing Colours (silver-coloured, stainless steel, charcoal)



IP65 degree of protection

6 mm operating travel

illuminating option

labelling option

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DT
DT...
Modular Contact Blocks
spring-clamp connection
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DS
DS...
Modular Contact Blocks
push-in connection
page 522

M
MT...
Modular Contact Blocks
screw connection
page 514

ET
ET...
Contact Blocks
screw connection
page 508

ASI
ASI...
Contact Blocks
for AS-Interface
Safety @ Work
page 540

DFA
DFA...
Battery-free
Transmitter Module
page 546

When combining the DT... contact blocks with key, selector and toggle heads, please add ..._497 to the actuator type reference!

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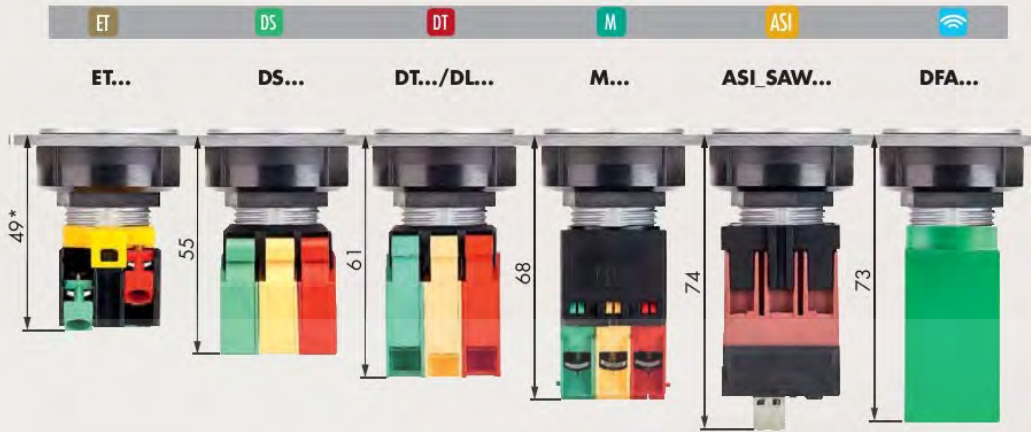
KOMBITAST-R-JUWEL

Ø 30.5 mm

made in germany

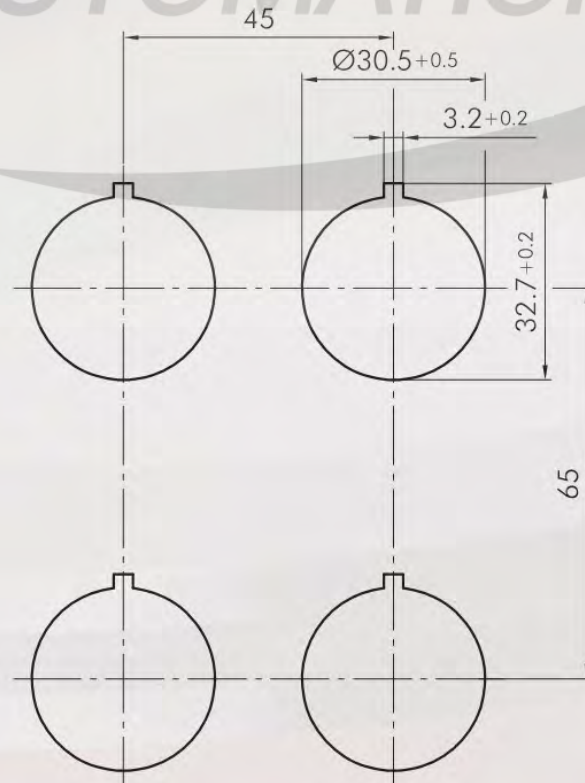


Mounting Depth Dimensions



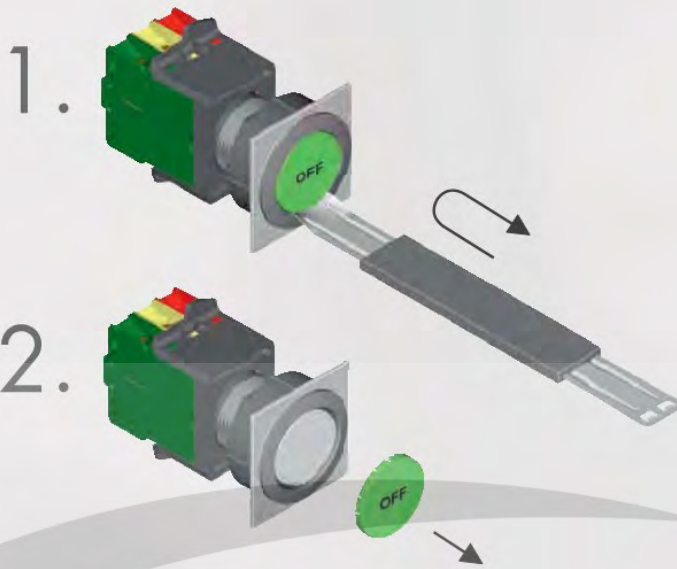
* ETR2 69mm, ETLR 58mm, ETLR2 78mm, EL9R 44mm

Cutout Dimensions



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Mounting and Service Instructions



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made in germany




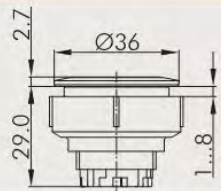

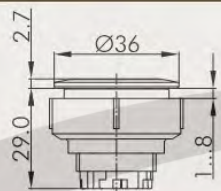

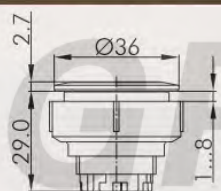






















































Ø 30.5 mm

Pushbutton Heads

Lenses and nameplates to be ordered separately

tested down to -40°F / -40°C









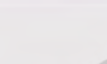






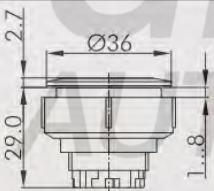








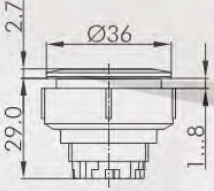








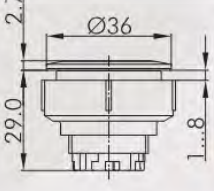








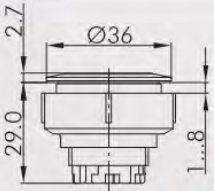





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- Limit Switches
- Type Index

Illustration	Dimensions	Description	Type																								
 <p>IP69K 6 mm</p>	 <p>2.7 Ø36 29.0 1.8</p>	<p>Pushbutton Head, silver-coloured</p> <p>suitable contact blocks DS DT ET M</p> <p>front bezel silver-coloured</p>	KRJMT																								
 <p>IP69K 6 mm</p>	 <p>2.7 Ø36 29.0 1.8</p>	<p>Pushbutton Head, charcoal</p> <p>suitable contact blocks DS DT ET M</p> <p>front bezel charcoal</p>	KRJT																								
 <p>IP69K 6 mm</p>	 <p>2.7 Ø36 29.0 1.8</p>	<p>Pushbutton Head, stainless steel</p> <p>suitable contact blocks DS DT ET M</p> <p>front bezel stainless steel, polished</p>	KRJVAT																								
		<p>Flat Lens, transparent</p> <table border="0"> <tr> <td>colour</td> <td>blue</td> <td></td> <td>T30FBL</td> </tr> <tr> <td></td> <td>yellow</td> <td></td> <td>T30FGB</td> </tr> <tr> <td></td> <td>green</td> <td></td> <td>T30FGN</td> </tr> <tr> <td></td> <td>clear</td> <td></td> <td>T30FKL</td> </tr> <tr> <td></td> <td>red</td> <td></td> <td>T30FRT</td> </tr> <tr> <td></td> <td>opalwhite</td> <td></td> <td>T30FWS</td> </tr> </table>	colour	blue		T30FBL		yellow		T30FGB		green		T30FGN		clear		T30FKL		red		T30FRT		opalwhite		T30FWS	
colour	blue		T30FBL																								
	yellow		T30FGB																								
	green		T30FGN																								
	clear		T30FKL																								
	red		T30FRT																								
	opalwhite		T30FWS																								
		<p>Flat lens, non-transparent</p> <table border="0"> <tr> <td>colour</td> <td>blue</td> <td></td> <td>T30FGBL</td> </tr> <tr> <td></td> <td>yellow</td> <td></td> <td>T30FGGB</td> </tr> <tr> <td></td> <td>green</td> <td></td> <td>T30FGGN</td> </tr> <tr> <td></td> <td>white</td> <td></td> <td>T30FGWS</td> </tr> <tr> <td></td> <td>black</td> <td></td> <td>T30FGSW</td> </tr> <tr> <td></td> <td>red</td> <td></td> <td>T30FGRT</td> </tr> </table>	colour	blue		T30FGBL		yellow		T30FGGB		green		T30FGGN		white		T30FGWS		black		T30FGSW		red		T30FGRT	
colour	blue		T30FGBL																								
	yellow		T30FGGB																								
	green		T30FGGN																								
	white		T30FGWS																								
	black		T30FGSW																								
	red		T30FGRT																								
		<p>Convex Lens, transparent</p> <table border="0"> <tr> <td>colour</td> <td>blue</td> <td></td> <td>T30DBL</td> </tr> <tr> <td></td> <td>yellow</td> <td></td> <td>T30DGB</td> </tr> <tr> <td></td> <td>green</td> <td></td> <td>T30DGN</td> </tr> <tr> <td></td> <td>clear</td> <td></td> <td>T30DKL</td> </tr> <tr> <td></td> <td>red</td> <td></td> <td>T30DRT</td> </tr> </table>	colour	blue		T30DBL		yellow		T30DGB		green		T30DGN		clear		T30DKL		red		T30DRT					
colour	blue		T30DBL																								
	yellow		T30DGB																								
	green		T30DGN																								
	clear		T30DKL																								
	red		T30DRT																								

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Pushbutton Heads

tested down to -40°F / -40°C

Illustration	Dimensions	Description	Type
		High Lens, transparent colour blue  yellow  green  clear  red 	T30HBL T30HGB T30HGN T30HKL T30HRT
		Nameplate with standard imprint please specify index number(see nameplates on pages 404)	BSKJ...
		Nameplate with special imprint according to customer's specification	BSKJB
		Blank Nameplate	BSKJU
 IP69K 6 mm  		Pushbutton Head with ring illumination silver-coloured incl. lens, inscription on request suitable contact blocks     front bezel silver-coloured 	KRJMTLR
 IP69K 6 mm  		Pushbutton Head with ring illumination, stainless steel incl. lens, inscription on request suitable contact blocks     front bezel stainless steel, polished 	KRJVATLR
 IP69K 6 mm  		Pushbutton Head with ring illumination and laser printing, silver-coloured with push-cap, with laser printing, standard symbols see nameplates on pages 404 (please specify index number), special inscription on request suitable contact blocks     front bezel silver-coloured 	KRJMTLRL...
 IP69K 6 mm  		Pushbutton Head with ring illumination and laser printing, stainless steel with push-cap, with laser printing, standard symbols see nameplates on pages 404 (please specify index number), special inscription on request suitable contact blocks     front bezel stainless steel, polished 	KRJVATLRL...

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KOMBITAST-R-JUWEL

made in germany



Ø 30.5 mm

Pushbutton Heads

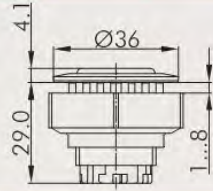
tested down to -40°F / -40°C

Illustration

Dimensions

Description

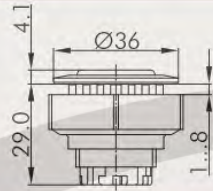
Type



Membrane Pushbutton Head, silver-coloured
with fully closed, transparent silicone cap, down to -50° C

suitable contact blocks
DS DT ET M
front bezel silver-coloured

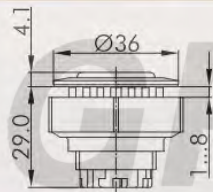
KRJMTM



Membrane Pushbutton Head
with fully closed, transparent silicone cap, down to -50° C

suitable contact blocks
DS DT ET M
front bezel charcoal

KRJTM



Membrane Pushbutton Head, stainless steel
with fully closed, transparent silicone cap, down to -50° C

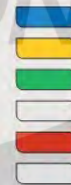
suitable contact blocks
DS DT ET M
front bezel stainless steel, polished

KRJVATM

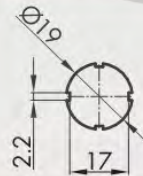


Flat Lens, transparent

colour
blue
yellow
green
clear
red
opalwhite



T20FBL
T20FGB
T20FGN
T20FKL
T20FRT
T20FWS



Nameplate with standard imprint

Please specify index number (see nameplates on pages 404)

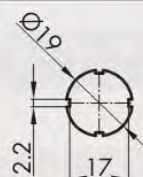
BSRX...



Nameplate with special imprint

according to customer's specification

BSRXB



Blank Nameplate

BSRXU

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Emergency Stops

tested down to -40°F / -40°C

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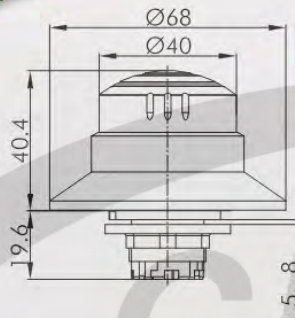

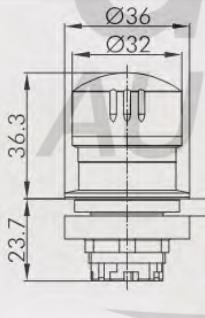

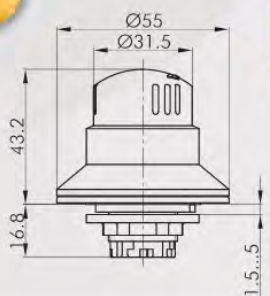
Terminal Blocks

Pedal Switches

Limit Switches

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Illustration	Dimensions	Description	Type
		<p>Emergency-stop Head foolproof Yes switching position indicator Yes anti-lock collar Yes release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p>RA TUV</p> <p>suitable contact blocks ASI DS DT ET M</p> <p>mushroom head red front bezel yellow</p>	KRBUV70
		<p>Emergency-stop Head foolproof Yes switching position indicator Yes anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p>RA TUV</p> <p>suitable contact blocks ASI DS DT ET M</p> <p>mushroom head red front bezel yellow</p>	KRJUV
		<p>Emergency-stop Head consisting of QRBUV and adapter foolproof Yes switching position indicator Yes anti-lock collar Yes release twist right or left</p> <p>suitable contact blocks ASI DS DT ET M</p> <p>mushroom head red front bezel yellow</p>	KRBUV

KOMBITAST-R-JUWEL

made in germany



Ø 30.5 mm

Emergency Stops
tested down to -40°F / -40°C

Illustration

Dimensions

Description

Type

IP65



Emergency-stop Head

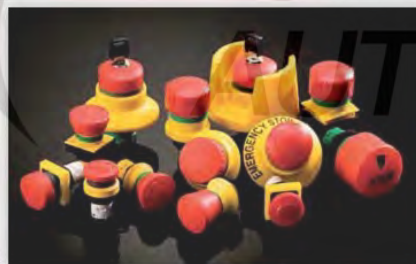
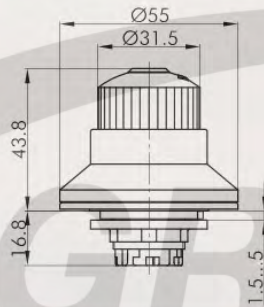
consisting of QRBUVSE and adapter
foolproof Yes
switching position indicator Yes
anti-lock collar Yes
release key release

suitable contact blocks

ASI DS DT ET M

mushroom head red
front bezel yellow

KRBUVSE


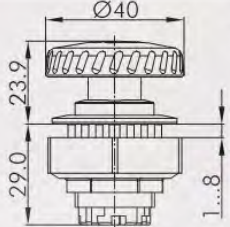

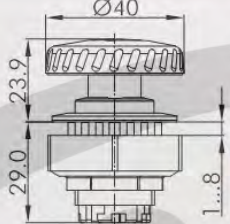

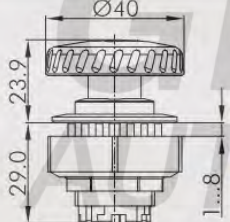

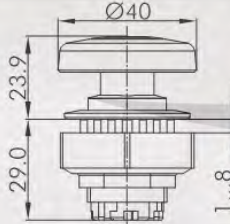

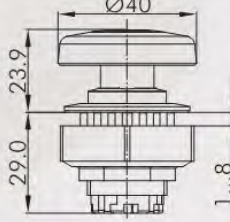

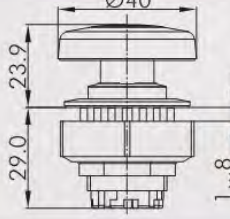


For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 366
The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

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Mushroom Heads

tested down to -40°F / -40°C

Illustration	Dimensions	Description	Type
		<p>Latching Mushroom Head, silver-coloured</p> <p>foolproof No switching position indicator No anti-lock collar No release twist</p> <p>suitable contact blocks ASI DS DT ET M</p> <p>mushroom head red front bezel silver-coloured</p>	KRJMV
		<p>Latching Mushroom Head, charcoal</p> <p>foolproof No switching position indicator No anti-lock collar No release twist</p> <p>suitable contact blocks ASI DS DT ET M</p> <p>mushroom head red front bezel charcoal</p>	KRJV
		<p>Latching Mushroom Head, stainless steel</p> <p>foolproof No switching position indicator No anti-lock collar No release twist</p> <p>suitable contact blocks ASI DS DT ET M</p> <p>mushroom head red front bezel stainless steel, polished</p>	KRJVAV
		<p>Mushroom Head, momentary, silver-coloured</p> <p>Other mushroom colours on request switching position indicator No anti-lock collar No</p> <p>suitable contact blocks DS DT ET M</p> <p>mushroom head red front bezel silver-coloured</p>	KRJMS
		<p>Mushroom Head, momentary, charcoal</p> <p>Other mushroom colours on request switching position indicator No anti-lock collar No</p> <p>suitable contact blocks DS DT ET M</p> <p>mushroom head red front bezel charcoal</p>	KRJS
		<p>Mushroom Head, momentary, stainless steel</p> <p>Other mushroom colours on request switching position indicator No anti-lock collar No</p> <p>suitable contact blocks DS DT ET M</p> <p>mushroom head red front bezel stainless steel, polished</p>	KRJVAS

KOMBITAST-R-JUWEL


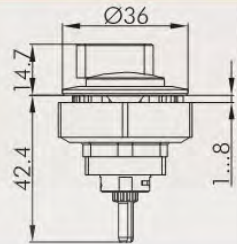

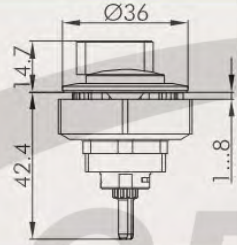

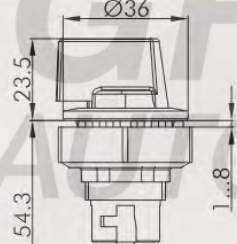

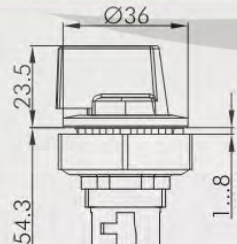
made in germany



Ø 30.5 mm


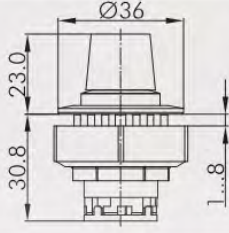

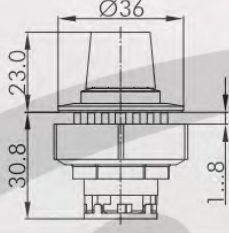

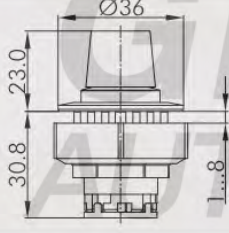
Knob Set for rotary switches
tested down to -40°F/-40°C

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Illustration	Dimensions	Description	Type
		Knob Set for rotary switches Kraus & Naimer, silver-coloured for Kraus & Naimer types CG4 and CA4 front bezel silver-coloured	KRJMDAU
		Knob Set for rotary switches Kraus & Naimer, charcoal for Kraus & Naimer types CG4 and CA4 front bezel charcoal	KRJDAU
		Knob Set for rotary switches ELEKTRA Tailfingen, silver-coloured front bezel silver-coloured	KRJMDAU_ET
		Knob Set for rotary switches ELEKTRA Tailfingen, charcoal front bezel charcoal	KRJDAU_ET

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Knob Set for potentiometers
tested down to -40°F / -40°C

Illustration	Dimensions	Description	Type
		<p>Knob Set for potentiometers, silver-coloured for potentiometers of 6 mm shaft dia. and thread M10 x 0.75 Delivery without potentiometer Shaft length: approx. 50 mm ± 2 mm incl. fastening thread front bezel silver-coloured</p>	KRJMR
		<p>Knob Set for potentiometers, charcoal for potentiometers of 6 mm shaft dia. and thread M10 x 0.75 Delivery without potentiometer Shaft length: approx. 50 mm ± 2 mm incl. fastening thread front bezel charcoal</p>	KRJR
		<p>Knob Set for potentiometers, stainless steel for potentiometers of 6 mm shaft dia. and thread M10 x 0.75 Delivery without potentiometer Shaft length: approx. 50 mm ± 2 mm incl. fastening thread front bezel stainless steel, polished</p>	KRJVAR

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KOMBITAST-R-JUWEL

made in germany



Ø 30.5 mm

Selector Switches (momentary/maintained)
tested down to -40°F / -40°C

I = Switching position
> = Spring return

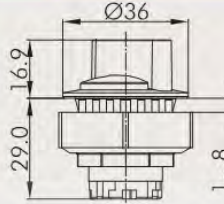
Illustration

Dimensions

Description

Type

IP65



Selector Head, maintained, silver-coloured

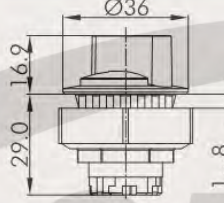
suitable contact blocks
DS DT ET M
front bezel silver-coloured
suitable contact blocks
DT ET M
front bezel silver-coloured



KRJMW A

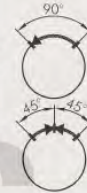
KRJMW B

IP65



Selector Head, momentary, silver-coloured

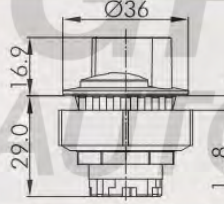
suitable contact blocks
DS DT ET M
front bezel silver-coloured
suitable contact blocks
DT ET M
front bezel silver-coloured



KRJMSTA

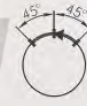
KRJMSTB

IP65



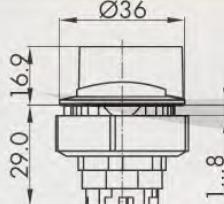
Selector Head, left maintained, right momentary silver-coloured

suitable contact blocks
DT ET M
front bezel silver-coloured



KRJMW C

IP65



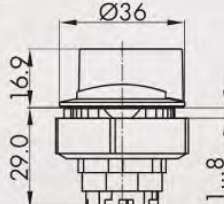
Selector Head, maintained, silver-coloured (two-piece plunger)

suitable contact blocks
DS DT M
front bezel silver-coloured



KRJMZWB

IP65



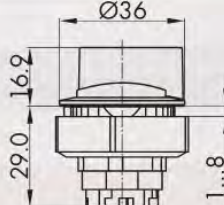
Selector Head, momentary, silver-coloured (two-piece plunger)

suitable contact blocks
DS DT M
front bezel silver-coloured



KRJMZSTB

IP65



Selector Head, left maintained, right momentary silver-coloured (two-piece plunger)

suitable contact blocks
DS DT M
front bezel silver-coloured



KRJMZWC

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Selector Switches (momentary/maintained)

- I = Switching position
- > = Spring return

Illustration	Dimensions	Description	Type
		<p>Selector Head, left momentary, right maintained silver-coloured (two-piece plunger)</p> <p>suitable contact blocks DS DT M</p> <p>front bezel silver-coloured</p>	KRJMWZD
		<p>Illuminated Selector Head, maintained, silver-coloured</p> <p>inclusive four small transparent colour plates in red, yellow, green and blue</p> <p>suitable contact blocks DS DT ET M</p> <p>front bezel silver-coloured</p>	KRJMWAL
		<p>suitable contact blocks DS DT ET M</p> <p>front bezel silver-coloured</p>	KRJMWBL
		<p>Illuminated Selector Head, left maintained, right momentary, silver-coloured</p> <p>suitable contact blocks DS DT ET M</p> <p>front bezel silver-coloured</p>	KRJMWCL

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KOMBITAST-R-JUWEL

Ø 30.5 mm

made in germany



Selector Switches (momentary/maintained)
tested down to -40°F / -40°C

I = Switching position
> = Spring return

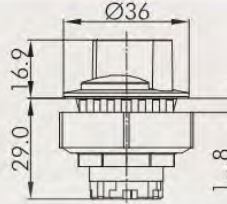
Illustration

Dimensions

Description

Type

IP65



Selector Head, maintained, charcoal

suitable contact blocks

DS DT ET M

front bezel charcoal

suitable contact blocks

DT ET M

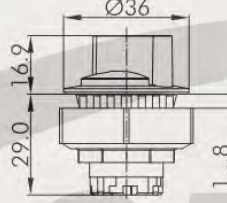
front bezel charcoal



KRJWA

KRJWB

IP65



Selector Head, momentary, charcoal

suitable contact blocks

DS DT ET M

front bezel charcoal

suitable contact blocks

DT ET M

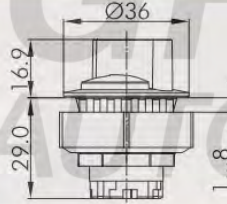
front bezel charcoal



KRJSTA

KRJSTB

IP65

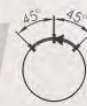


Selector Head, left maintained, right momentary, charcoal

suitable contact blocks

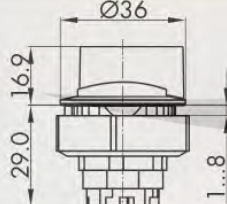
DT ET M

front bezel charcoal



KRJWC

IP65



Selector Head, maintained, charcoal (two-piece plunger)

suitable contact blocks

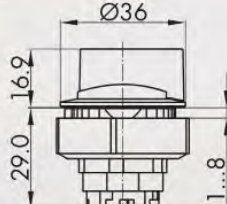
DS DT M

front bezel charcoal



KRJZWB

IP65



Selector Head, momentary, charcoal (two-piece plunger)

suitable contact blocks

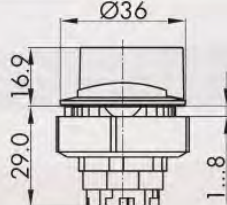
DS DT M

front bezel charcoal



KRJZSB

IP65



Selector Head, left maintained, right momentary charcoal (two-piece plunger)

suitable contact blocks

DS DT M

front bezel charcoal



KRJZWC

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Selector Switches (momentary/maintained)

- I = Switching position
- > = Spring return

Illustration	Dimensions	Description	Type
		<p>Selector Head, left momentary, right maintained charcoal (two-piece plunger)</p> <p>suitable contact blocks: DS DT M</p> <p>front bezel: silver-coloured</p>	KRJZWD
		<p>Illuminated Selector Head, maintained, charcoal</p> <p>suitable contact blocks: DS DT ET M</p> <p>front bezel: charcoal</p> <p>suitable contact blocks: DS DT ET M</p> <p>front bezel: charcoal</p>	KRJWAL KRJWBL
		<p>Selector Head, left maintained, right momentary, charcoal</p> <p>suitable contact blocks: DS DT ET M</p> <p>front bezel: charcoal</p>	KRJWCL

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KOMBITAST-R-JUWEL

made in germany



Ø 30.5 mm

Selector Switches (momentary/maintained)

made of stainless steel V4A (1.4404)

tested down to -40°F / -40°C

I = Switching position

> = Spring return

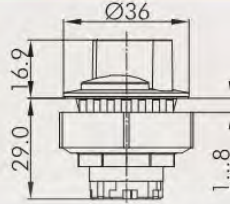
Illustration

Dimensions

Description

Type

IP65

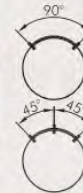


Selector Head, maintained, stainless steel

suitable contact blocks

 front bezel stainless steel, polished
 suitable contact blocks

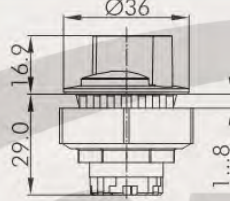
 front bezel stainless steel, polished



KRJVAWA

KRJVAWB

IP65

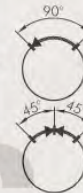


Selector Head, momentary, stainless steel

suitable contact blocks

 front bezel stainless steel, polished
 suitable contact blocks

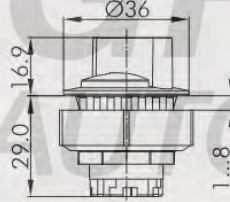
 front bezel stainless steel, polished



KRJVASTA

KRJVASTB

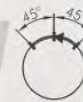
IP65



Selector Head, left maintained, right momentary stainless steel

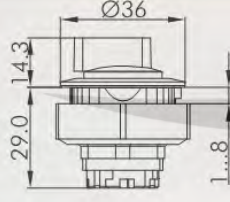
suitable contact blocks

 front bezel stainless steel, polished



KRJVAWC

IP65



Illuminated Selector Head, maintained stainless steel

suitable contact blocks

 front bezel stainless steel, polished
 suitable contact blocks

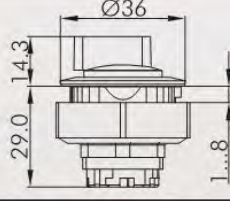
 front bezel stainless steel, polished



KRJVAWAL

KRJVAWBL

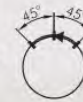
IP65



Selector Head, left maintained, right momentary stainless steel

suitable contact blocks

 front bezel stainless steel, polished



KRJVAWCL

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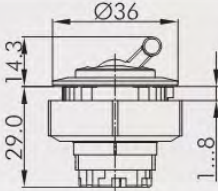

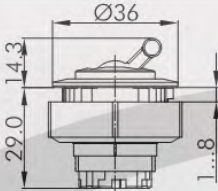

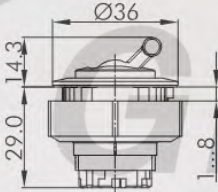
Pedal Switches

Limit Switches

Type Index

Toggle Heads

tested down to -40°F / -40°C

Illustration	Dimensions	Description	Type
		<p>Toggle Head, silver-coloured red toggle (other colours on request) suitable contact blocks DS DT ET M front bezel silver-coloured</p>	KRJMK
		<p>Toggle head, charcoal red toggle (other colours on request) suitable contact blocks DS DT ET M front bezel charcoal</p>	KRJK
		<p>Toggle Head, stainless steel red toggle (other colours on request) suitable contact blocks DS DT ET M front bezel stainless steel, polished</p>	KRJVAK

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KOMBITAST-R-JUWEL

made in germany



Ø 30.5 mm

Key Switches (momentary/maintained)

tested down to -40°F / -40°C

- I = Switching position
- > = Spring return
- = Key removable position

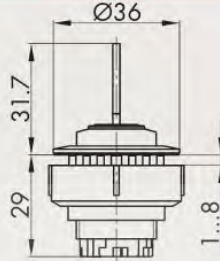
Illustration

Dimensions

Description

Type

IP65



Key actuator, maintained, silver-coloured

including two keys
other lock types on request

suitable contact blocks

DT ET M

front bezel silver-coloured



KRJMSSA 12E

suitable contact blocks

DT ET M

front bezel silver-coloured



KRJMSSA 13E

suitable contact blocks

DS DT ET M

front bezel silver-coloured



KRJMSSA 14E

suitable contact blocks

DS DT ET M

front bezel silver-coloured

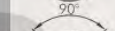


KRJMSSA 15E

suitable contact blocks

DS DT ET M

front bezel silver-coloured

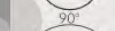


KRJMSSA 17E

suitable contact blocks

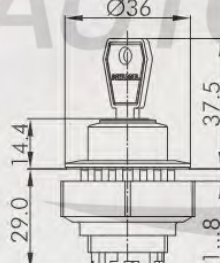
DS DT ET M

front bezel silver-coloured



KRJMSSA 18E

IP65



Key actuator, momentary, silver-coloured

including two keys
other lock types on request

suitable contact blocks

DT ET M

front bezel silver-coloured

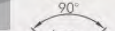


KRJMSSA 23E

suitable contact blocks

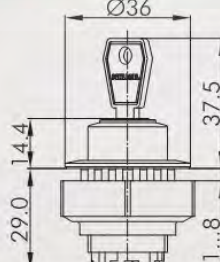
DS DT ET M

front bezel silver-coloured



KRJMSSA 27E

IP65



Key actuator, left maintained, right momentary silver-coloured

including two keys
other lock types on request

suitable contact blocks

DT ET M

front bezel silver-coloured




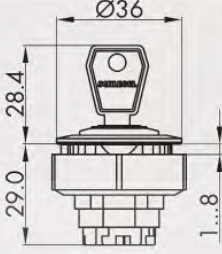
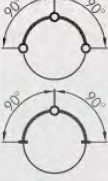

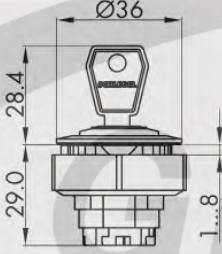


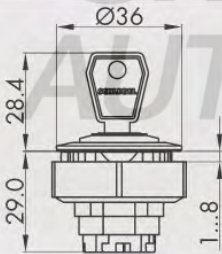

KRJMSSA 24E

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Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type
		Key Actuator, maintained, charcoal (two-piece plunger) including two keys other lock types on request suitable contact blocks DS DT M	
		front bezel silver-coloured suitable contact blocks DS DT M front bezel silver-coloured	
		Key Actuator, maintained, silver-coloured (two-piece plunger) including two keys other lock types on request suitable contact blocks DS DT M	
		Key Actuator, left maintained, right momentary silver-coloured (two-piece plunger) including two keys other lock types on request suitable contact blocks DS DT M	

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KOMBITAST-R-JUWEL

Ø 30.5 mm

made in germany



Key Switches (momentary/maintained)
tested down to -40°F / -40°C

- I = Switching position
- > = Spring return
- = Key removable position

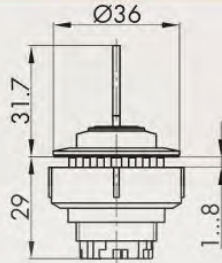
Illustration

Dimensions

Description

Type

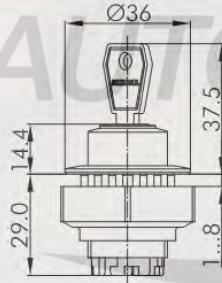
IP65



Key Actuator, maintained, charcoal

suitable contact blocks	DT ET M		90°	
front bezel	charcoal			KRJSSA 12E
suitable contact blocks	DT ET M		90°	
front bezel	charcoal			KRJSSA 13E
suitable contact blocks	DS DT ET M		90°	
front bezel	charcoal			KRJSSA 14E
suitable contact blocks	DS DT ET M		90°	
front bezel	charcoal			KRJSSA 15E
suitable contact blocks	DS DT ET M		90°	
front bezel	charcoal			KRJSSA 17E
suitable contact blocks	DS DT ET M		90°	
front bezel	charcoal			KRJSSA 18E

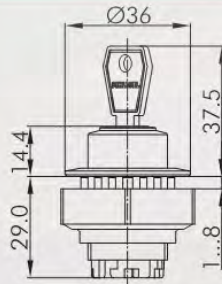
IP65



Key Actuator, maintained, charcoal

suitable contact blocks	DT ET M		45°	
front bezel	charcoal			KRJSSA 23E
suitable contact blocks	DS DT ET M		90°	
front bezel	charcoal			KRJSSA 27E

IP65



Key Actuator, left maintained, right momentary charcoal

suitable contact blocks	DT ET M		45°	
front bezel	charcoal			KRJSSA 24E

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Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type
		Key Actuator, maintained, charcoal (two-piece plunger) suitable contact blocks DS DT M	
		front bezel charcoal	
		Key Actuator, momentary, charcoal (two-piece plunger) suitable contact blocks DS DT M	
		front bezel charcoal	
		Key Actuator, left maintained, right momentary charcoal (two-piece plunger) suitable contact blocks DS DT M	
		front bezel charcoal	

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KOMBITAST-R-JUWEL

made in germany



Ø 30.5 mm

Key Switches (momentary/maintained)

made of stainless steel V4A (1.4404)

tested down to -40°F / -40°C

- I = Switching position
- > = Spring return
- = Key removable position

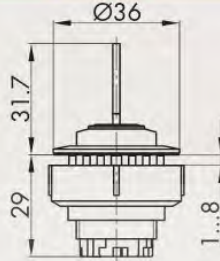
Illustration

Dimensions

Description

Type

IP65



Key Actuator, maintained, stainless steel

including two keys
other lock types on request

suitable contact blocks

DT ET M

front bezel stainless steel, polished

suitable contact blocks

DT ET M

front bezel stainless steel, polished

suitable contact blocks

DS DT ET M

front bezel stainless steel, polished

suitable contact blocks

DS DT ET M

front bezel stainless steel, polished

suitable contact blocks

DS DT ET M

front bezel stainless steel, polished

suitable contact blocks

DS DT ET M

front bezel stainless steel, polished



KRJVASSA 12E

KRJVASSA 13E

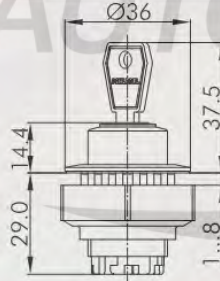
KRJVASSA 14E

KRJVASSA 15E

KRJVASSA 17E

KRJVASSA 18E

IP65



Key Actuator, momentary, stainless steel

suitable contact blocks

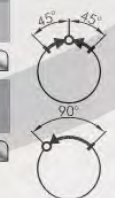
DT ET M

front bezel stainless steel, polished

suitable contact blocks

DS DT ET M

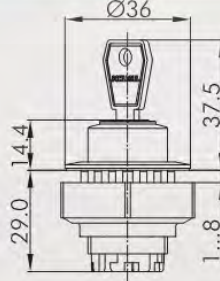
front bezel stainless steel, polished



KRJVASSA 23E

KRJVASSA 27E

IP65

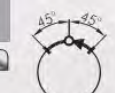


Key Actuator, left maintained, right momentary stainless steel

suitable contact blocks

DT ET M

front bezel stainless steel, polished



KRJVASSA 24E



Spare Key (standard)

standard spare key, specify key number for special locks

ESE845

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Panel Mount Jacks

Illustration	Dimensions	Description	Type
 <p>KRJ(X)22R</p>	 <p>Ø30.5</p>	<p>Adapter for flush-mounted jacks allows true-to-size mounting of all flush-mounted jacks of the Rontron-RJuwel series into cut-outs of 30.5 mm dia. The jack is not included in delivery. suitable jacks</p> <p>colour silver-coloured</p>	<p>KRJM22R</p>
	<p>For panel mount jacks, please refer to page 552</p>		

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KOMBITAST-R-JUWEL

made in germany




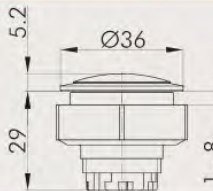

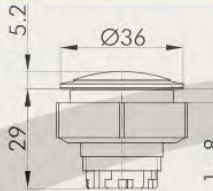

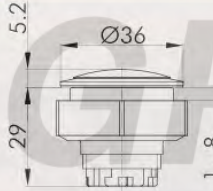









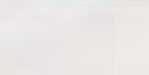



Ø 30.5 mm

Pilot Lights

Lenses and nameplates to be ordered separately



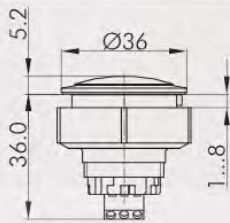



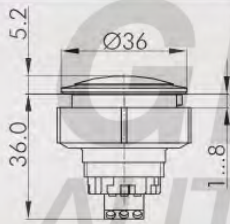



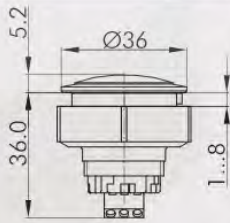

tested down to -40°F / -40°C

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Illustration	Dimensions	Description	Type	
		Pilot Light Head, silver-coloured suitable lampholders DS DT ET M front bezel silver-coloured	KRJMN	
		Pilot Light Head, charcoal suitable lampholders DS DT ET M front bezel charcoal	KRJN	
		Pilot Light Head, stainless steel suitable contact blocks DS DT ET M front bezel stainless steel, polished	KRJVN	
		Convex Lens colour	blue  yellow  green  clear  red  opalwhite 	K30DBL K30DGB K30DGN K30DKL K30DRT K30DWS
		Nameplate with standard imprint please specify index number(see nameplates on pages 404)	BSKJ...	
		Nameplate with special imprint according to customer's specification	BSKJB	
		Blank Nameplate	BSKJU	

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Pilot Lights

Illustration	Dimensions	Description	Type
 		<p>Two-colour LED Pilot Light 24V silver-coloured</p> <p>Operating temperature: -25°C ... 60°C Rated voltage: 24V DC Rated current: max. 10mA per LED Insulation voltage: 0.5kV Insulation resistance: ≥ 2MΩ Connection: screw terminals 3x1mm²</p> <p><u>Pin assignment</u> Pin 1: red Pin 2: GND Pin 3: green</p> <p>other colours on request</p> <p>incl. lens and nameplate LED colour red/green front bezel silver-coloured</p>	<p>KRJML_24R_G</p> 
 		<p>Two-colour LED Pilot Light 24V charcoal</p> <p>Operating temperature: -25°C ... 60°C Rated voltage: 24V DC Rated current: max. 10mA per LED Insulation voltage: 0.5kV Insulation resistance: ≥ 2MΩ Connection: screw terminals 3x1mm²</p> <p><u>Pin assignment</u> Pin 1: red Pin 2: GND Pin 3: green</p> <p>other colours on request</p> <p>incl. lens and nameplate LED colour red/green front bezel charcoal</p>	<p>KRJL_24R_G</p> 
 		<p>Two-colour LED Pilot Light 24V stainless steel</p> <p>Operating temperature: -25°C ... 60°C Rated voltage : 24V DC Rated current: max. 10mA per LED Insulation voltage: 0.5kV Insulation resistance: ≥ 2MΩ Connection: screw connection 3x1mm²</p> <p><u>Pin Assignment</u> Pin 1: red Pin 2: GND Pin 3: green</p> <p>other colours on request</p> <p>incl. lens and nameplate LED colour red/green front bezel stainless steel, polished</p>	<p>KRJVAL_24R_G</p> 

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KOMBITAST-R-JUWEL

Ø 30.5 mm

made in germany



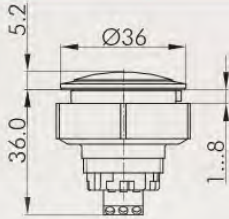
Pilot Lights

Illustration

Dimensions

Description

Type



Two-colour LED Pilot Light 230V

silver-coloured

Operating temperature: -25°C ... 55°C
 Rated voltage: 230V AC / 50 ... 60Hz
 Rated current: max. 4mA per LED
 Insulation voltage: 2.5kV
 Insulation resistance: ≥ 2MΩ
 Connection: screw terminals 3x1mm²

Pin assignment

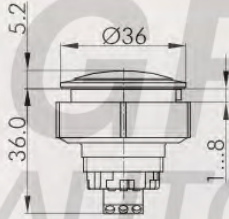
Pin 1: red
 Pin 2: GND
 Pin 3: green

other colours on request

incl. lens and nameplate
 LED colour red/green
 front bezel silver-coloured



KRJML_230R_G



Two-colour LED Pilot Light 230V

charcoal

Operating temperature: -25°C ... 55°C
 Rated voltage: 230V AC / 50 ... 60Hz
 Rated current: max. 4mA per LED
 Insulation voltage: 2.5kV
 Insulation resistance: ≥ 2MΩ
 Connection: screw terminals 3x1mm²

Pin assignment

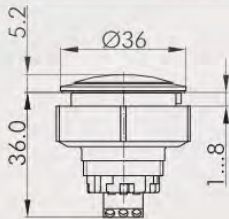
Pin 1: red
 Pin 2: GND
 Pin 3: green

other colours on request

incl. lens and nameplate
 LED colour red/green
 front bezel charcoal



KRJL_230R_G



Two-colour LED Pilot Light 230V

stainless steel

Operating temperature: -25°C ... 55°C
 Rated voltage : 230V AC / 50 ... 60Hz
 Rated current: max. 4mA per LED
 Insulation voltage: 2.5kV
 Insulation resistance: ≥ 2MΩ
 Connection: screw connection 3x1mm²

Pin Assignment

Pin 1: red
 Pin 2: GND
 Pin 3: green

other colours on request

incl. lens and nameplate
 LED colour red/green
 front bezel stainless steel, polished



KRJVAL_230R_G

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Accessories for Actuators

Illustration	Dimensions	Description	Type
		Mounting Tool with torque limitation for the series QUARTEX-R(-JUWEL), KOMBITAST-R-JUWEL, RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of the RONTRON-R/-QJUWEL series	S22
		Mounting Tool Adapter with 1/4" connections for mounting tools S16 and S22	SRA
		External Nameplate Holder for outside marking of the actuators of the KOMBITAST-R-JUWEL series, accepts self-adhesive nameplates colour silver-coloured	KRJMABT
		External Nameplate Holder for outside marking of the actuators of the KOMBITAST-R-JUWEL series, accepts self-adhesive nameplates colour charcoal	KRJABT
		Self-adhesive Nameplate, laser-printed Inscription according to customer's specification Dimensions: 19 x 27 mm	BZ23G
		Self-adhesive Nameplate blank Dimensions: 19 x 27 mm	BZ23U
		Self-adhesive Nameplate with standard imprint Please specify index no. (see nameplates on page 404) Dimensions: 19 x 27 mm	BZ23B...
		Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 75 mm for mounting dia. 30,5 mm colour yellow	NAS_30

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KOMBITAST-R-JUWEL

Ø 30.5 mm

made in germany



Accessories for Actuators

Illustration

Dimensions

Description

Type



Yellow Nameplate with quadrilingual imprint

self-adhesive PVC foil
outer dia. 75 mm
for mounting dia. 30,5 mm
colour yellow



NAS_30_548



Lead-sealable Protective Lid for pushbutton KRJMT(LR)/KRJT/KRJVAT(LR)

colour transparent



KDKRT



Lead-sealable Protective Lid for selector switches KRJMWA/KRJWA/KRJVAWA

colour transparent



KDKRWA



Lead-sealable Protective Lid for selector switches KRJMWB/KRJWB/KRJVAWB

colour transparent



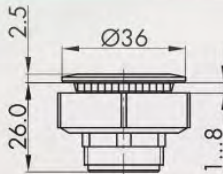
KDKRWB



Universal Lens Remover

USK

IP65



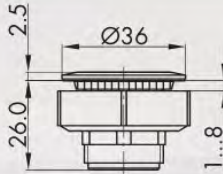
Dummy, silver-coloured

to close unused mounting apertures
colour silver-coloured



BVKRJM

IP65



Dummy, charcoal

to close unused mounting apertures
colour charcoal



BVKRJ

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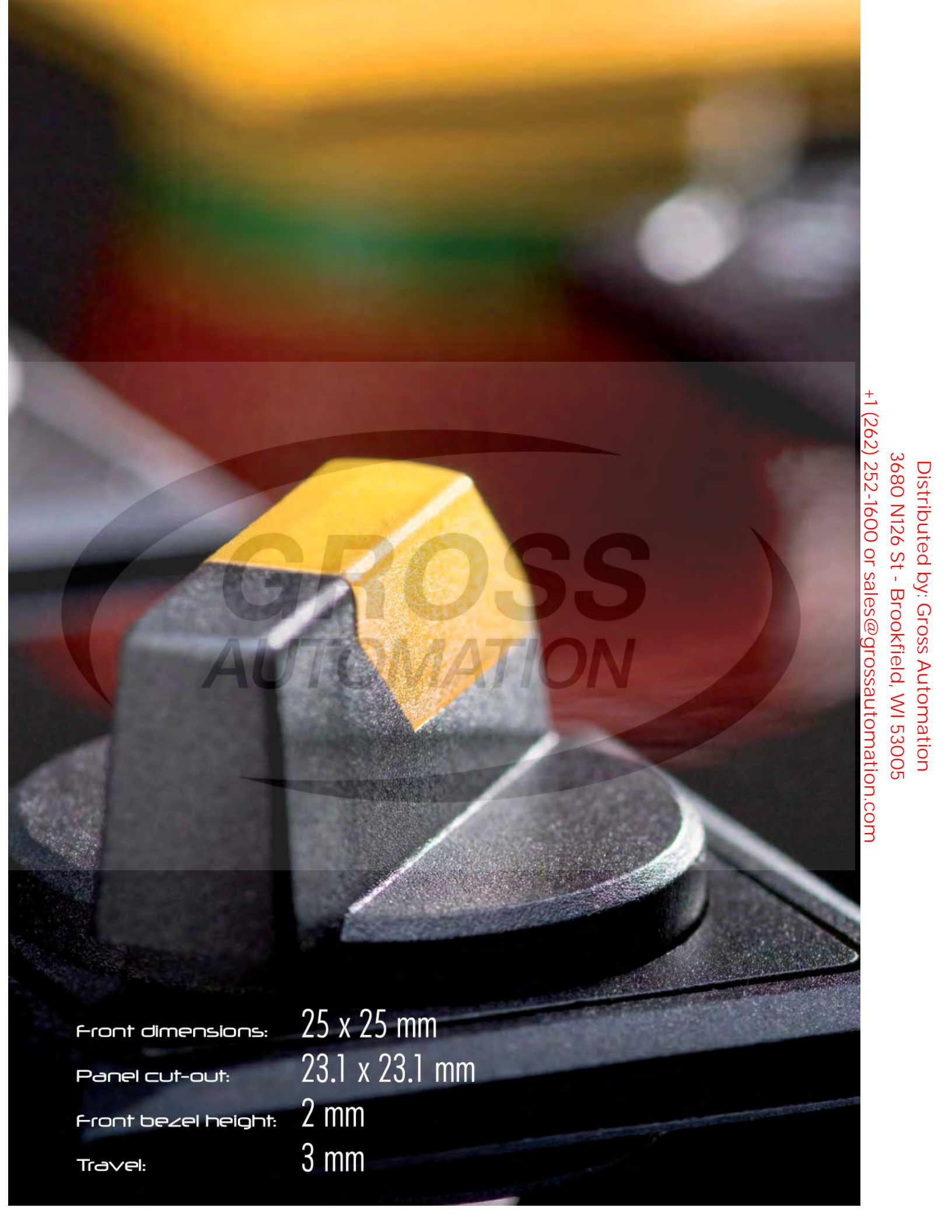
Pedal Switches

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Front dimensions: 25 x 25 mm
Panel cut-out: 23.1 x 23.1 mm
Front bezel height: 2 mm
Travel: 3 mm

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73MW1R-N10R1L1K0

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AUTOMATION

 Product configurator

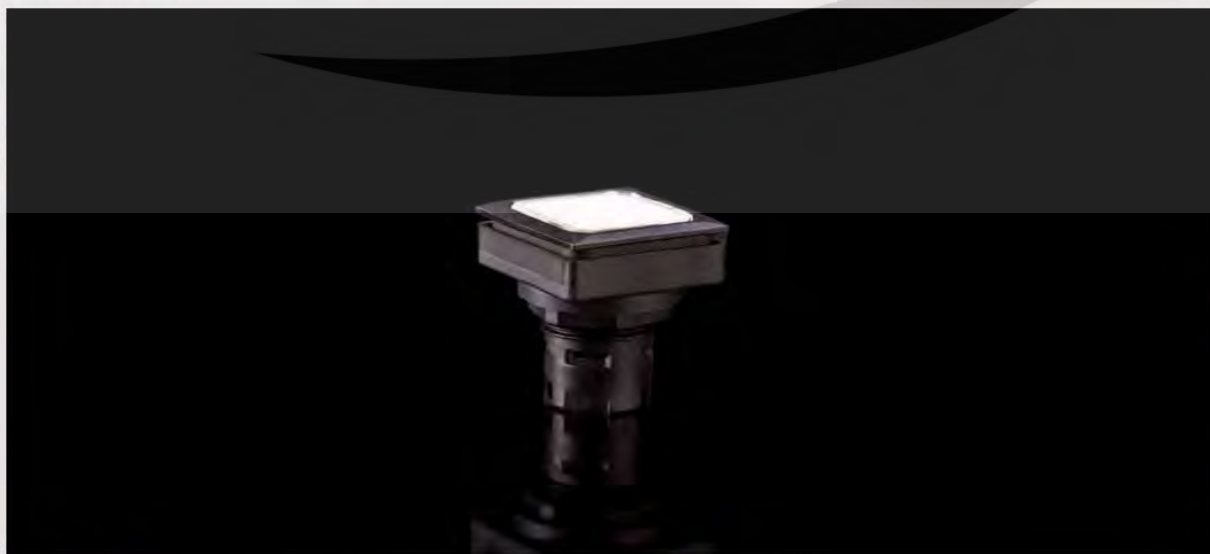


Overview OKTRON-JUWEL series



01 Pushbutton Heads	page 316	07 Flush-mounted jacks	page 324
02 Emergency Stop Buttons	page 317	08 Pilot Lights	page 325
03 Knob Set for Potentiometers	page 318		
04 Selector Heads	page 318	Contact Blocks / Lampholders	page 408
05 Key Actuators	page 320		
06 Acoustic Buzzers	page 322		

Housing Colour



degree of protection

operating travel

illuminating option

labelling option

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Faston terminals
page 490
- 

CZ
CZ...
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PCB-mount terminals
page 482
- 

CTP
CTP...
Contact Blocks
PCB-mount terminals
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CTF
CTF...
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Faston terminals
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PTP
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PCB-mount terminals
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PTF
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ASI
ASI...
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page 540

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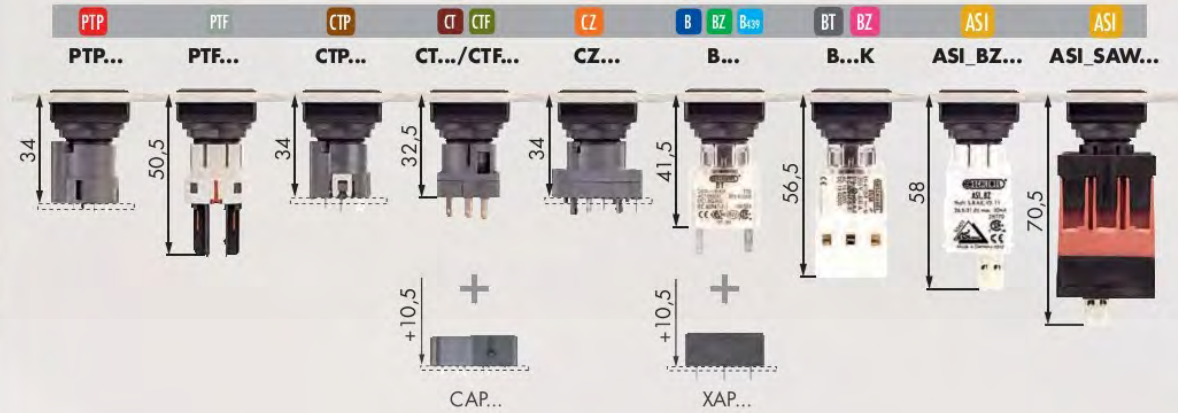
Pedal Switches

Limit Switches

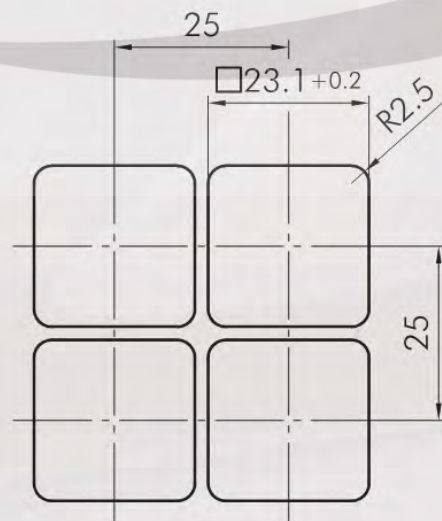
Type Index

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Mounting Depth Dimensions

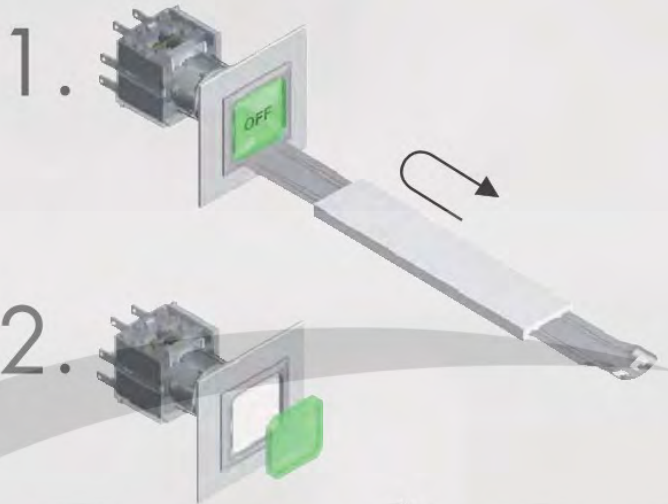


Cutout Dimensions



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Mounting and Service Instructions



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Pushbutton Heads

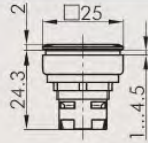
Lenses and nameplates to be ordered separately

Illustration

Dimensions

Description

Type



Pushbutton Head

suitable contact blocks

BUS ASI AZ B BF BZ BZ B49 CT CTF CTP CZ

front bezel

black



OKJT



Flat Lens, transparent

colour

blue



TOKJFBL

yellow



TOKJFGB

green



TOKJFGN

clear



TOKJFKL

red



TOKJFRT

white



TOKJFWS

Flat Lens, non-transparent

used in pushbuttons without inscription and illumination

colour

blue



TOKJFGBL

yellow



TOKJFGGB

green



TOKJFGGN

black



TOKJFGSW

red

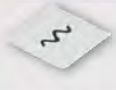


TOKJFGRT

white



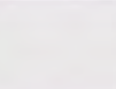
TOKJFGWS



Nameplate with standard imprint

Please specify index number (see nameplates on pages 404)

BSOKJ...



Nameplate with special imprint

according to customer's specification

BSOKJB



Blank Nameplate

BSOKJU

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Emergency Stops

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Illustration	Dimensions	Description	Type
<p>IP65</p>		<p>Emergency-stop Head foolproof Yes switching position indicator Yes anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p> suitable contact blocks ASI AZ BZ BZ PTP PTF</p> <p>mushroom head red front bezel yellow </p>	OKJUJ
<p>IP65</p>		<p>Emergency-stop Head foolproof Yes switching position indicator Yes anti-lock collar Yes release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p> suitable contact blocks ASI AZ BZ BZ PTP PTF</p> <p>knob colour red front bezel yellow </p>	OKJBUV
		<p>For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 366 The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.</p>	

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23 x 23 mm

**Knob Set for potentiometers
Selector Switches (momentary/maintained)**

I = Switching position
> = Spring return


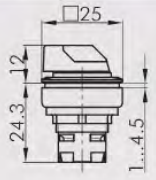





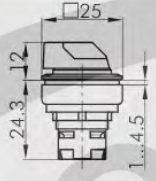






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Illustration	Dimensions	Description	Type
		Knob Set for potentiometers for potentiometers of 6 mm shaft dia. and thread M10x0.75. Delivery without potentiometer. Shaft length: approx. 32 mm front bezel black	OKJR
		Selector Head, maintained suitable contact blocks BUS ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel black suitable contact blocks ASI AZ BZ BZ B439 CT CZ front bezel black	OKJWA OKJWB
		Selector Head, momentary suitable contact blocks BUS ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel black suitable contact blocks ASI AZ BZ BZ B439 CT CZ front bezel black	OKJSTA OKJSTB
		Selector Head, left maintained, right momentary suitable contact blocks ASI AZ BZ BZ B439 CT CZ front bezel black	OKJWC
		Illuminated Selector Head, maintained Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. OKJWAL_GN) suitable contact blocks BUS ASI AZ B BF BZ BZ B439 CT CTF CTP CZ front bezel black suitable contact blocks ASI AZ BZ BZ B439 CT CZ front bezel black	OKJWAL... OKJWBL...

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Selector Switches (momentary/maintained)

- I = Switching position
- > = Spring return

Illustration	Dimensions	Description	Type
		<p>Illuminated Selector Head, momentary Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. OKJSTAL_GN)</p> <p>suitable contact blocks BUS ASI AZ B BF BZ BZ B439 CT CTF CTP CZ</p> <p>front bezel black </p> <p>suitable contact blocks ASI AZ BZ BZ B439 CT CZ</p> <p>front bezel black </p>	<p>OKJSTAL...</p>  <p>OKJSTBL...</p> 
		<p>Illuminated Selector Head, left maintained, right momentary Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. OKJWCL_GN)</p> <p>suitable contact blocks ASI AZ BZ BZ B439 CT CZ</p> <p>front bezel black </p>	<p>OKJWCL...</p> 
		<p>Selector Head for desert application, maintained tested with coarse Arizona dust</p> <p>suitable contact blocks ASI AZ BZ BZ CT CZ</p> <p>knob colour black </p> <p>front bezel black </p>	<p>OKJWB_514</p> 

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Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

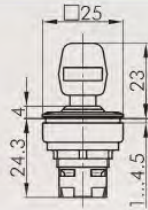
Illustration

Dimensions

Description

Type

IP65



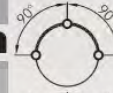
Key Actuator, maintained

including two keys
other lock types on request

suitable contact blocks

ASI AZ BZ BZ B439 CT CZ

front bezel black

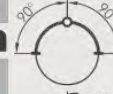


OKJSSA12

suitable contact blocks

ASI AZ BZ BZ B439 CT CZ

front bezel black

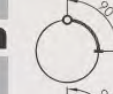


OKJSSA13

suitable contact blocks

ASI AZ B BF BZ BZ B439 CT CTF CTP CZ

front bezel black



OKJSSA14

suitable contact blocks

ASI AZ B BF BZ BZ B439 CT CTF CTP CZ

front bezel black

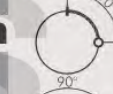


OKJSSA15

suitable contact blocks

ASI AZ B BF BZ BZ B439 CT CTF CTP CZ

front bezel black

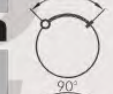


OKJSSA16

suitable contact blocks

ASI AZ B BF BZ BZ B439 CT CTF CTP CZ

front bezel black

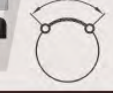


OKJSSA17

suitable contact blocks

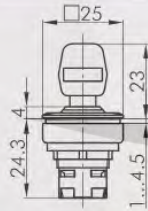
ASI AZ B BF BZ BZ B439 CT CTF CTP CZ

front bezel black



OKJSSA18

IP65



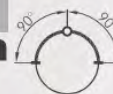
Key Actuator, maintained

including 3 keys:
1st key: two-way operation
2nd key: operation to the left only
3rd key: operation to the right only

suitable contact blocks

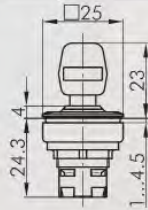
ASI AZ BZ BZ B439 CT CZ

front bezel black



OKJSSA31

IP65



Key Actuator, momentary

including two keys,
other lock types on request

suitable contact blocks

ASI AZ BZ BZ B439 CT CZ

front bezel black



OKJSSA23

suitable contact blocks

ASI B BF BZ BZ B439 CT CTF CTP CZ

front bezel black


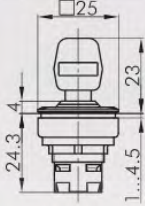
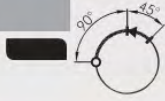



OKJSSA28

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Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type
		<p>Key Actuator, left maintained, right momentary including two keys other lock types on request suitable contact blocks</p> <p>ASI AZ BZ BZ B439 CI CZ</p> <p>front bezel black</p> 	OKJSSA25
		<p>Standard Spare Keys standard spare key, specify key number for special locks</p>	ESMIC482

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Buzzers

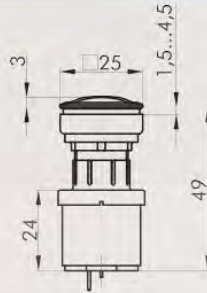
Illustration

Dimensions

Description

Type

IP65

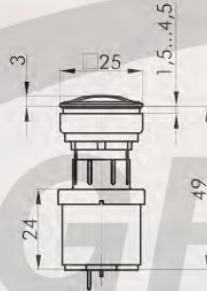


Buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: max. 30mA
 signal frequency: 3.5 +/- 0.5 kHz
 volume: max. 85 db (10cm, 24V)
 max. 75 db (10cm, 12V)
 operating temperature: -20°C ... 60°C
 front bezel: black

**OKJNSG+
SG-24V**

IP65

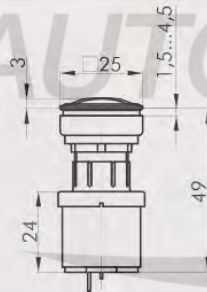


Interval Buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: max. 30mA
 signal frequency: 3.5 +/- 0.5 kHz
 volume: max. 85 db (10cm, 24V)
 max. 75 db (10cm, 12V)
 interval: 1 s
 operating temperature: -20°C ... 60°C
 front bezel: black

**OKJNSG+
SGI-24V**

IP65

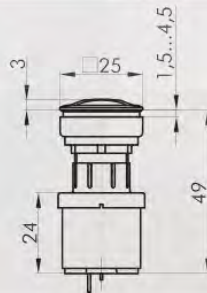


Illuminated Buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: approx. 30mA
 signal frequency: 3.5 +/- 0.5 Hz
 volume: max. 85 db (10cm, 24V)
 max. 75 db (10cm, 12V)
 operating temperature: -20°C ... 60°C
 front bezel: black

**OKJNSGL+
SGLR-24V**

IP65



Illuminated Interval Buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: approx. 30mA
 signal frequency: 3.5 +/- 0.5 Hz
 volume: max. 85 db (10cm, 24V)
 max. 75 db (10cm, 12V)
 interval: 1 s
 operating temperature: -20°C ... 60°C
 front bezel: black

**OKJNSGL+
SGILR-24V**



Faston Clamp 2.8 x 0.8 mm with snap-in pin

Cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8

FH2,8

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Illustration	Dimensions	Description	Type
		Insulating Case for Faston clamp FH2,8, slip on from the front	IH2,8
		Double Faston for the connection of 2 Faston clamps FH2.8	FD2,8

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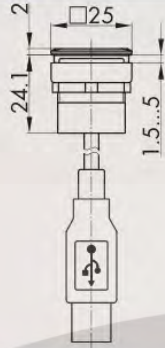
Panel Mount Jacks

Illustration

Dimensions

Description

Type



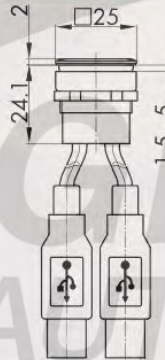
USB Jack

front:
USB jack type A

rear:
USB2.0 cable (length 60 cm) with plug type A

other lengths on request
front bezel black

OKJ_USB



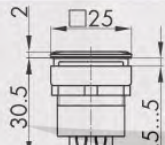
Double USB Jack

front:
2x USB: type A

rear:
2x USB2.0 cable (length 60 cm) with plug type A

other lengths on request
front bezel black

OKJ_2USB



USB Jack

front:
USB jack type A

rear:
USB jack type A

front bezel black

OKJ_USB_AA


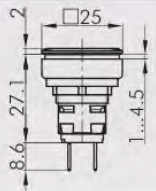

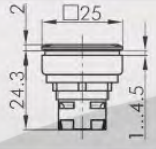






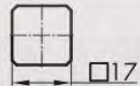
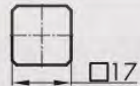

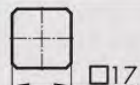
**For panel mount jacks,
please refer to page 552**



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Pilot Lights

Lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type
 <p>IP65 Sun icon Wrench icon</p>	 <p>2 25 27.1 8.6 1...4.5</p>	Pilot Light with Faston terminals 2.8x0.8 mm W2x4.6d socket front bezel black	OKJL4
 <p>IP65 Sun icon Wrench icon</p>	 <p>2 25 24.3 1...4.5</p>	Pilot Light Head suitable lampholders ASI B BF CT CTF CTZ front bezel black	OKJN
		Convex Lens, transparent colour blue yellow green clear red white	 KOKJFBL KOKJFGB KOKJFGN KOKJFKL KOKJFRT KOKJFWS
		Flat Lens, transparent colour blue yellow green clear red white	 TOKJFBL TOKJFGB TOKJFGN TOKJFKL TOKJFRT TOKJFWS
	 <p>17</p>	Nameplate with standard imprint Please specify index number (see nameplates on pages 404)	BSOKJ...
	 <p>17</p>	Nameplate with special imprint according to customer's specification	BSOKJB
	 <p>17</p>	Blank Nameplate	BSOKJU

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Illustration	Dimensions	Description	Type
		Hexagonal Mounting Tool with torque limitation, for the series OKTRON, OKTRON-JUWEL, OKTRON-R, RONTRON-R-JUWEL, RONTRON-Q-JUWEL, QUARTRON, QUARTRON-JUWEL, RXJUWEL	S16
		Mounting Tool Adapter with 1/4" connections for mounting tools S16 and S22	SRA
		Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 60 mm for mounting aperture 23 x 23 mm colour yellow	NAS_23
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 60 mm for mounting aperture 23 x 23 mm colour yellow	NAS_23_548
		Protective Lid for pushbuttons and jacks of the OKTRON-JUWEL series colour transparent	KDOKJ
		Universal Lens Remover	USK
		Dummy to close unused mounting apertures colour black	BVOKJ

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The logo for GROSS AUTOMATION is centered in the upper half of the page. It consists of the word "GROSS" in a large, bold, sans-serif font, with "AUTOMATION" in a smaller, all-caps, sans-serif font directly below it. The text is white and is set against a dark, semi-transparent oval background. The background of the entire page is a blurred, high-contrast image of a mechanical part, possibly a metal component with a red-painted section, being worked on by a tool.

GROSS AUTOMATION


Front dimensions: 27 x 27 mm
Panel cut-out: 24 x 24 mm
Front bezel height: 2.5 mm
Travel: 6 mm

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73WNR-NORL2RANQ

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 Product configurator



QUARTRON-JUWEL

24 x 24 mm

made in germany



Overview QUARTRON-JUWEL series



01 Pushbutton Heads	page 334	07 Key Actuators	page 339
02 Emergency Stop Buttons	page 337	08 Acoustic Buzzers	page 341
03 Mushroom Heads	page 337	09 Pilot Lights	page 344
04 Knob Set for Potentiometers	page 338		
05 Selector Heads	page 338		
06 Toggle Heads	page 338	Contact Blocks / Lampholders	page 408

Housing Colours



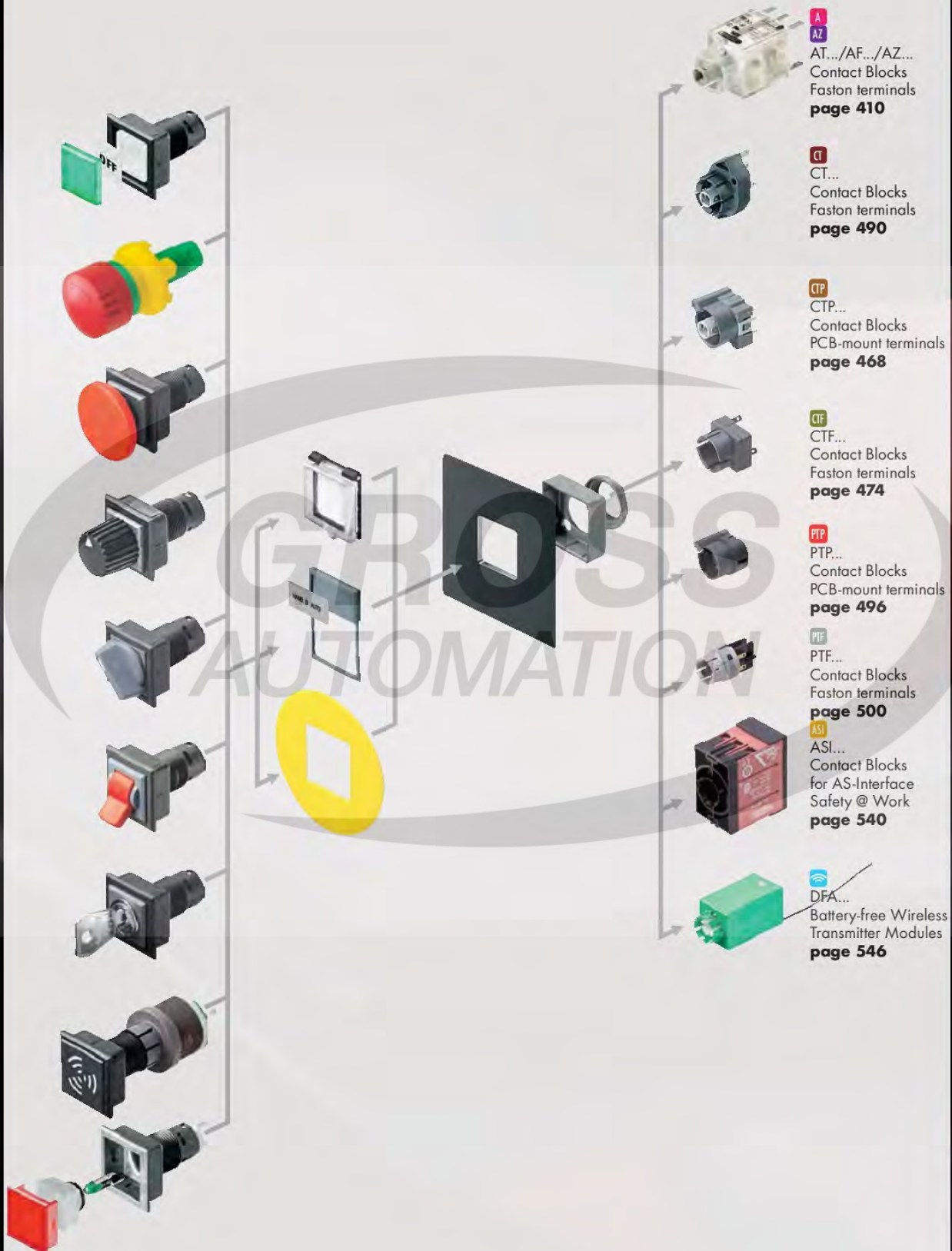
IP65 degree of protection

6 mm operating travel

illuminating option

labelling option

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- A**
AZ
AT.../AF.../AZ...
Contact Blocks
Faston terminals
page 410
- CT**
CT...
Contact Blocks
Faston terminals
page 490
- CTP**
CTP...
Contact Blocks
PCB-mount terminals
page 468
- CTF**
CTF...
Contact Blocks
Faston terminals
page 474
- PTP**
PTP...
Contact Blocks
PCB-mount terminals
page 496
- PTF**
PTF...
Contact Blocks
Faston terminals
page 500
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for AS-Interface
Safety @ Work
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- DFA**
DFA...
Battery-free Wireless
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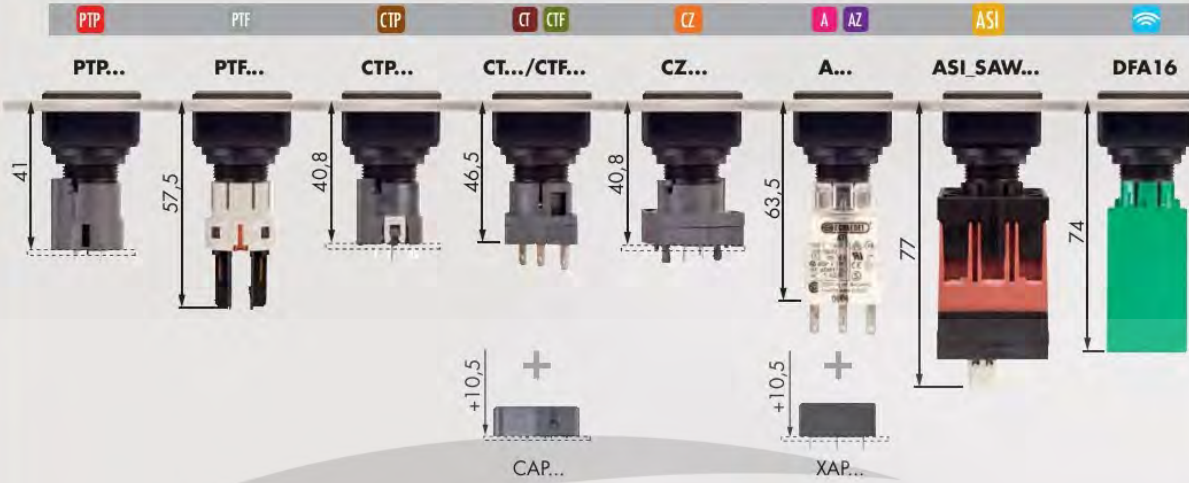
QUARTRON-JUWEL

24 x 24 mm

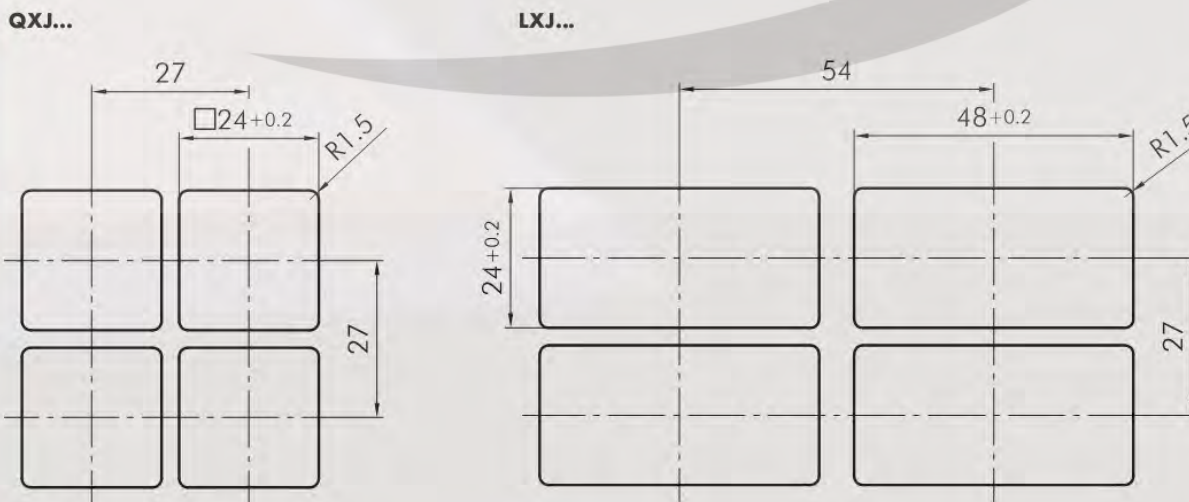
made in germany



Mounting Depth Dimensions

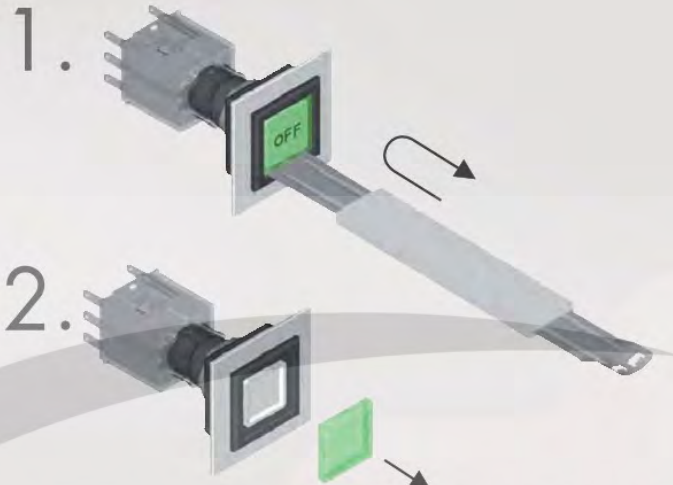


Cutout Dimensions



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Mounting and Service Instructions



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QUARTRON-JUWEL

made in germany



24 x 24 mm

Pushbutton Heads
















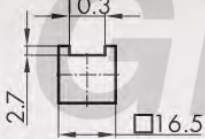
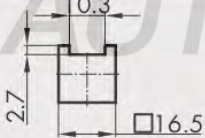

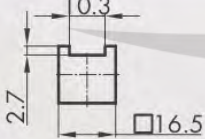


Lenses and nameplates to be ordered separately

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Illustration	Dimensions	Description	Type
		Pushbutton Head suitable contact blocks front bezel	black charcoal QXJT QXJTDG
		Pushbutton Head Two prisms reflect the light from the center to a „window“ at the edge of the lens. suitable contact blocks front bezel	black charcoal QXJTL QXJTLDG
		Short-stroke Pushbutton Head suitable contact blocks front bezel	black charcoal QXJD QXJDDG
		Nameplate with standard imprint Please specify index number (see nameplates on pages 404)	BSQX...
		Nameplate with special imprint according to customer's specification	BSQXB
		Blank Nameplate	BSQXU
		Concave Lens, transparent colour	blue yellow green clear red opalwhite T25DBL T25DGB T25DGN T25DKL T25DRT T25DWS
		Flat Lens, transparent colour	blue yellow green clear red opalwhite T25FBL T25FGB T25FGN T25FKL T25FRT T25FWS

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Accessories for Actuators

Illustration	Dimensions	Description	Type
		Flat Lens, non-transparent colour blue  colour yellow  colour green  colour black  colour red  colour white 	T25FGBL T25FGGB T25FGGN T25FGSW T25FGRT T25FGWS
		High Lens, transparent colour blue  colour yellow  colour green  colour clear  colour red  colour opalwhite 	T25HBL T25HGB T25HGN T25HKL T25HRT T25HWS
		Nameplate with standard imprint Please specify index number (see nameplates on pages 404)	BSQXLL...
		Nameplate with special imprint according to customer's specification	BSQXLLB
		Blank Nameplate	BSQXLLU
 IP67		Dichtungskappe aus PVC, von -5°C bis +60°C	TK27P
 IP67		Sealing Cap made of silicone rubber, -50°C to +60°C	TK27S

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QUARTRON-JUWEL

24 x 24 mm

made in germany



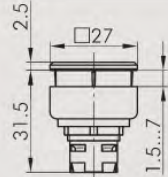
Pushbutton Heads

Illustration

Dimensions

Description

Type



Short-stroke Membrane Pushbutton Head

- with transparent silicone protection cap, down to -50° C
- with transparent, flat lens, add code letter to type number, e.g. QXJDMRT (red-RT, green-GN, yellow-GB, blue-BL, clear-KL)
- with illuminating option, blank nameplate included.
- Standard or special imprints on request.

suitable contact blocks



front bezel	black	
front bezel	charcoal	

QXJDM...
QXJMDG...

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Emergency Stops Mushroom Heads

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Illustration	Dimensions	Description	Type
		<p>Emergency-stop Head</p> <p>foolproof Yes switching position indicator Yes anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p> suitable contact blocks ASI A AZ PTP PTF</p> <p>mushroom head red front bezel yellow</p>	QXJUV
		<p>Emergency-stop Head</p> <p>foolproof Yes switching position indicator Yes anti-lock collar Yes release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p> suitable contact blocks ASI A AZ PTP PTF</p> <p>mushroom head red front bezel yellow</p>	QXJBUV
		<p>For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 366</p> <p>The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.</p>	
		<p>Mushroom Head, momentary</p> <p>other mushroom colours on request switching position indicator No anti-lock collar No</p> <p>suitable contact blocks A AZ CT CTF CTP CZ</p> <p>mushroom head red front bezel black charcoal</p>	QXJS QXJSDG

QUARTRON-JUWEL

made in germany



24 x 24 mm

Knob Set for potentiometers
Selector Switches (momentary/maintained)
Toggle Heads

I = Switching position
 > = Spring return


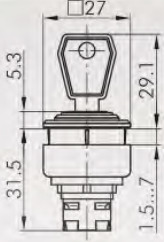


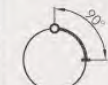




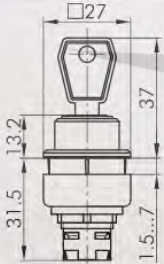



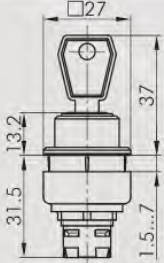


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Illustration	Dimensions	Description	Type
		Knob Set for potentiometers for potentiometers of 6 mm shaft dia. and thread M10x0.75. Delivery without potentiometer. Shaft length: approx. 50 mm ± 4 mm knob colour black front bezel black charcoal	 QXJR QXJRDG
		Selector Head, maintained suitable contact blocks A AZ CT CTF CTP CZ front bezel black suitable contact blocks A AZ front bezel black	 QXJWA QXJWB
		Selector Head, momentary suitable contact blocks A AZ CT CTF CTP CZ front bezel black suitable contact blocks A AZ front bezel black	 QXJSTA QXJSTB
		Selector head, left maintained, right momentary suitable contact blocks A AZ front bezel black	 QXJWC
		Toggle Head red toggle (other colours on request) suitable contact blocks A AZ CT CTF CTP CZ knob colour red front bezel black charcoal	 QXJK QXJKDG

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Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type	
		Key Actuator, maintained including two keys other lock types on request suitable contact blocks		
		suitable contact blocks A AZ		QXJSSA12E QXJSSDGA12E
		front bezel black charcoal		QXJSSA13E QXJSSDGA13E
		suitable contact blocks A AZ CT CTF CTP CZ		QXJSSA14E QXJSSDGA14E
		front bezel black charcoal		QXJSSA15E QXJSSDGA15E
		suitable contact blocks A AZ CT CTF CTP CZ		QXJSSA17E QXJSSDGA17E
suitable contact blocks A AZ CT CTF CTP CZ		QXJSSA18E QXJSSDGA18E		
		Key Actuator, momentary suitable contact blocks A AZ		QXJSSA23E QXJSSDGA23E
		suitable contact blocks A AZ CT CTF CTP CZ		QXJSSA27E QXJSSDGA27E
		front bezel black charcoal		
		Key Actuator, left maintained, right momentary suitable contact blocks A AZ		QXJSSA24E QXJSSDGA24E
		suitable contact blocks A AZ		QXJSSA25E QXJSSDGA25E
		front bezel black charcoal		

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Accessories for Actuators

- I = Switching position
- > = Spring return
- = Key removable position

Illustration

Dimensions

Description

Type

IP65



Key Actuator with protection cap, maintained

suitable contact blocks	A AZ		90°	
front bezel	black			QXJSSKA 12E
suitable contact blocks	A AZ		90°	
front bezel	black			QXJSSKA 13E
suitable contact blocks	A AZ CT CTF CTP CZ		90°	
front bezel	black			QXJSSKA 14E
suitable contact blocks	A AZ CT CTF CTP CZ		90°	
front bezel	black			QXJSSKA 15E
suitable contact blocks	A AZ CT CTF CTP CZ		90°	
front bezel	black			QXJSSKA 17E
suitable contact blocks	A AZ CT CTF CTP CZ		90°	
front bezel	black			QXJSSKA 18E

IP65



Key Actuator with protection cap, momentary

suitable contact blocks	A AZ		45°	
front bezel	black			QXJSSKA 23E
suitable contact blocks	A AZ CT CTF CTP CZ		90°	
front bezel	black			QXJSSKA 27E

IP65



Key Actuator with protection cap, left maintain, right momentary

suitable contact blocks	A AZ		45°	
front bezel	black			QXJSSKA 24E
suitable contact blocks	A AZ		90°	
front bezel	black			QXJSSKA 25E




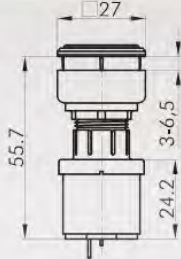
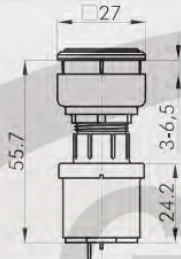

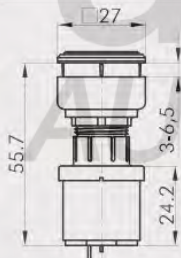
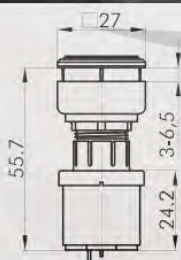


Spare Key (standard)

standard spare key, specify key number for special locks

ESE845

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Buzzers

Illustration	Dimensions	Description	Type
		<p>Buzzer</p> <p>operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 90 db (10cm, 24V) max. 80 db (10cm, 12V)</p> <p>operating temperature: -20°C ... 60°C front bezel: black</p>	QXJNSG+SG-24V
		<p>Interval Buzzer</p> <p>operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 90 db (10cm, 24V) max. 80 db (10cm, 12V)</p> <p>interval: 1 s operating temperature: -20°C ... 60°C front bezel: black</p>	QXJNSG+SGI-24V
		<p>Illuminated Buzzer</p> <p>operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 90 db (10cm, 24V) max. 80 db (10cm, 12V)</p> <p>operating temperature: -20°C ... 60°C front bezel: black</p>	QXJNSGL+SGLR-24V
		<p>Illuminated Interval Buzzer</p> <p>operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 90 db (10cm, 24V) max. 80 db (10cm, 12V)</p> <p>interval: 1 s operating temperature: -20°C ... 60°C front bezel: black</p>	QXJNSGL+SGILR-24V
		<p>Faston Clamp 2.8 x 0.8 mm with snap-in pin</p> <p>Cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8</p>	FH2,8
		<p>Insulating Case</p> <p>for Faston clamp FH2,8, slip on from the front</p>	IH2,8
		<p>Double Faston</p> <p>for the connection of 2 Faston clamps FH2.8</p>	FD2,8

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QUARTRON-JUWEL

24 x 48 mm

made in germany



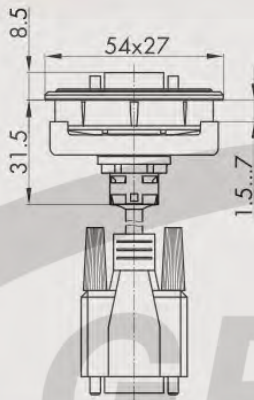
Panel Mount Jacks

Illustration

Dimensions

Description

Type



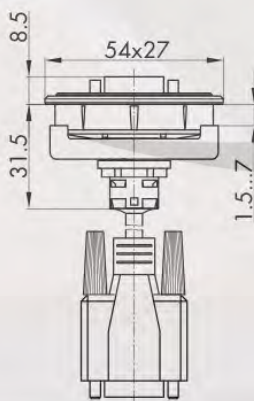
VGA Jack

front:
VGA jack

rear:
VGA cable (length 100 cm) with plug

other lengths on request
front bezel black

LXJ_
VGA_100CM



RS232 Jack

front:
RS232 jack

rear:
RS232 cable (length 100 cm) with plug

other lengths on request
front bezel black

LXJ_
RS232_100CM

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Panel Mount Jacks

Illustration

Dimensions

Description

Type



**For panel mount jacks,
please refer to page 552**

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Pilot Lights

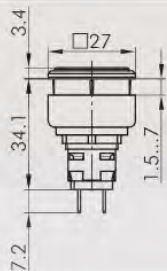
Lenses and nameplates to be ordered separately

Illustration

Dimensions

Description

Type



Pilot Light with Faston Terminals 2.8x0.8 mm

T5.5K socket

front bezel

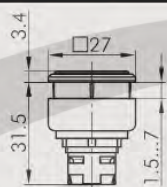
black

charcoal



QXJL5

QXJL5DG



Pilot Light Head

suitable lampholders

A CT CTF CTP CZ

front bezel

black

charcoal



QXJN

QXJNDG



Flat Lens, depolished

colour

blue

yellow

green

red

opalwhite



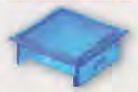
KF25BL

KF25GB

KF25GN

KF25RT

KF25WS



Flat Lens, transparent

colour

blue

yellow

green

clear

red



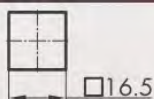
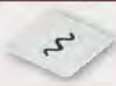
KF25KSBL

KF25KSGB

KF25KSGN

KF25KSKL

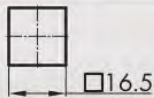
KF25KSRT



Nameplate with standard imprint

Please specify index number (see nameplates on pages 404)

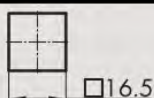
BSQX...



Nameplate with special imprint

according to customer's specification

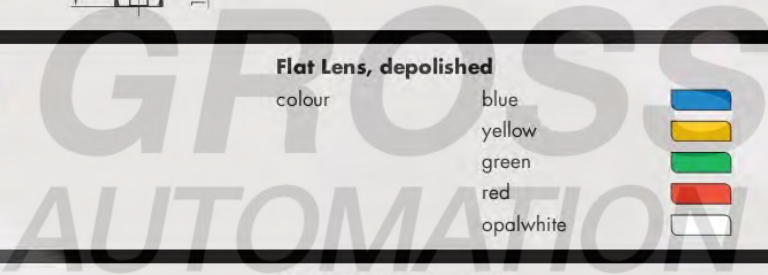
BSQXB



Blank Nameplate

BSQXU

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Seven-segment Displays

Illustration	Dimensions	Description	Type
		<p>4-Digit 7-Segment Display with serial interface</p> <p>Operating temperature : -30 bis +70°C Operating voltage: 24V DC (18-28V) Current consumption: 70mA at 24V Inputs (Enable, Clock, Data): 24V PLC level Clock pulse rate: 0...10kHz Data telegram: 20 bit, serial Available character set: 0..9, A, I, II, U, -, blank Connection: via integrated 6-pole diode plug acc. to DIN 45322</p> <p>Option: parallel control (8 bit) via additional module</p>	LXJLASCE-SPS
		<p>DIN Female Connector</p> <p>serves to connect the 7-segment displays in compliance with DIN 45322</p>	MAK6

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QUARTRON-JUWEL

24 x 24 mm

made in germany





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Illustration	Dimensions	Description	Type
		Hexagonal Mounting Tool with torque limitation, for the series OKTRON, OKTRON-JUWEL, OKTRON-R, RONTRON-R-JUWEL, RONTRON-Q-JUWEL, QUARTRON, QUARTRON-JUWEL, RX-JUWEL	S16
		Mounting Tool Adapter with 1/4" connections for mounting tools S16 and S22	SRA
		External Nameplate Holder for outside marking of the actuators of the QUARTRON-JUWEL series, accepts self-adhesive nameplates colour charcoal	QXJABT
		Self-adhesive Nameplate laser-printed Inscription according to customer's specification Dimensions: 22 x 11 mm	BZ16L
		Self-adhesive Nameplate blank Dimensions: 22 x 11 mm	BZ16U
		Self-adhesive Nameplate with standard imprint Please specify index no. (see nameplates on page 404) Dimensions: 22 x 11 mm	BZ16B...
		Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 60 mm for mounting aperture 24 x 24 mm colour yellow	NAS_24
		Yellow Nameplate with quadrilingal imprint self-adhesive PVC foil outer dia. 60 mm for mounting aperture 24 x 24 mm colour yellow	NAS_24_548
		Lead-sealable Protective Lid fits on the pushbuttons of the QUARTRON-JUWEL series Attention: mounting grid 30 x 30mm	KDP24

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Accessories for Actuators

Illustration	Dimensions	Description	Type
		Lead-sealable Protective Lid fits onto the pushbuttons of the QUARTRON-JUWEL series	KDQ24
		Universal Lens Remover	USK
 IP65		Dummy to close unused mounting apertures colour black	QX24

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Front dimensions: 30 x 30 mm
Panel cut-out: 26 x 26 mm
Front bezel height: 6 mm
Travel: 6 mm

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13M1126-21-X312AV100

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 Product configurator



QUARTEX-R-JUWEL

26 x 26 mm

made in germany



Overview QUARTEX-R-JUWEL series



01 Pushbutton Heads	page 354	07 Pilot Lights	page 360
02 Emergency Stop Buttons	page 356	Contact Blocks / Lampholders page 408	
03 Knob Set for Rotary Switch / Potentiometer	page 357		
04 Selector Heads	page 357		
05 Toggle Heads	page 358		
06 Key Actuators	page 359		

Housing Colour



IP65 degree of protection

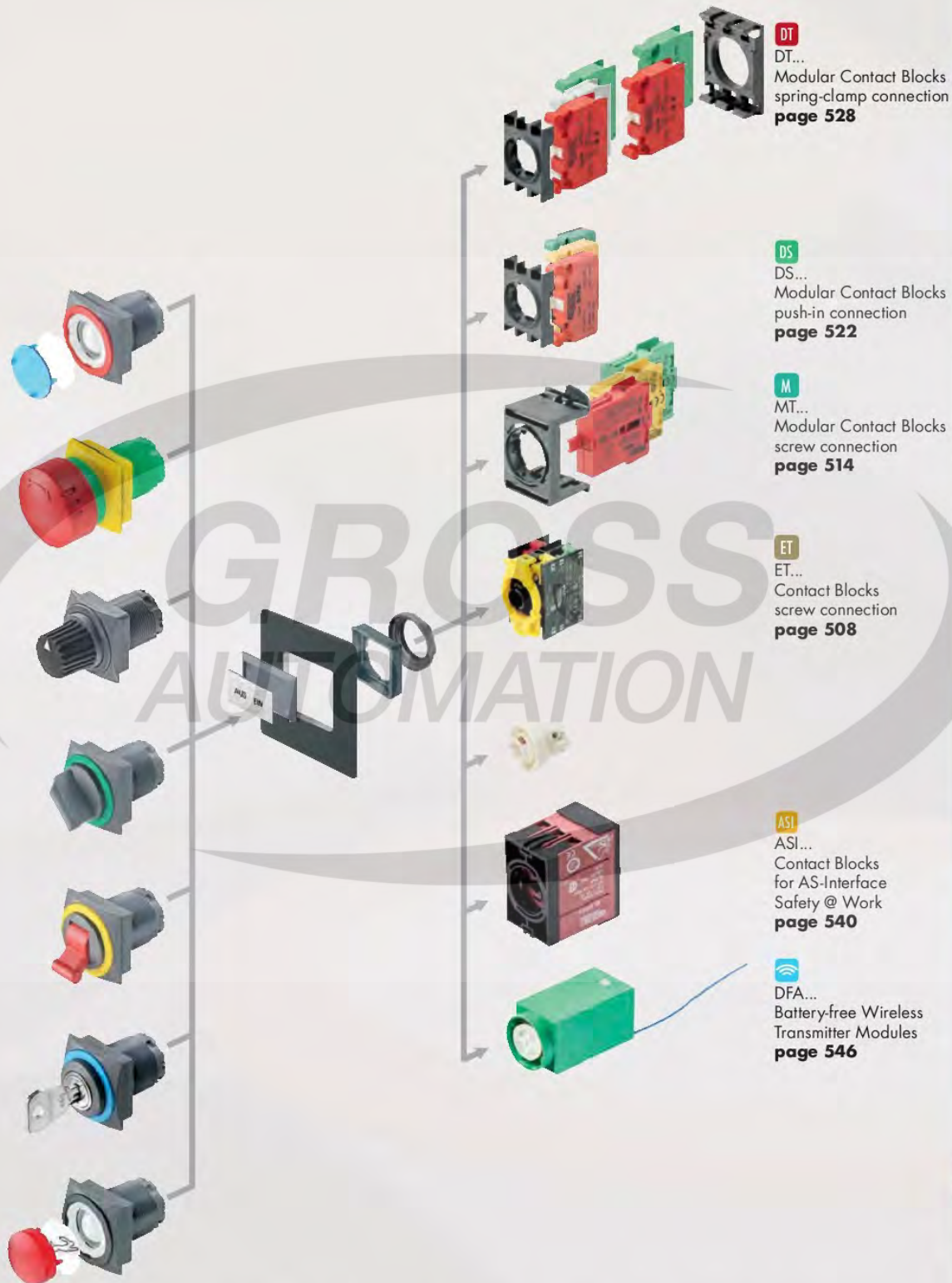
6 mm operating travel

illuminating option

labelling option

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When combining the DT... contact blocks with key, selector and toggle heads, please add ..._497 to the actuator type reference!

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QUARTEX-R-JUWEL

26 x 26 mm

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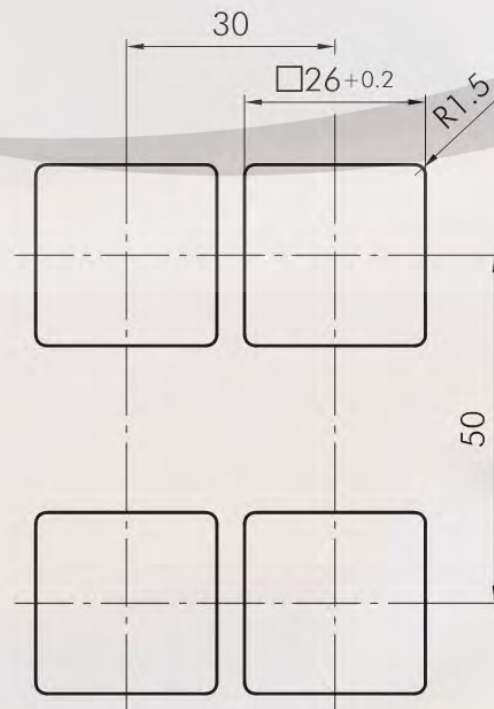


Mounting Depth Dimensions



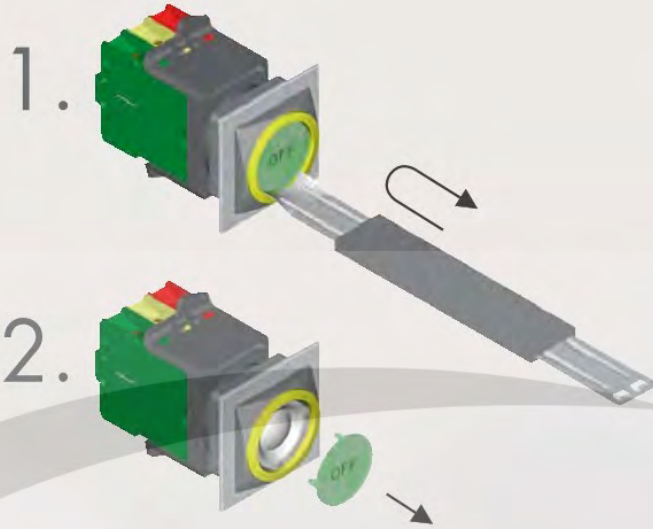
* ETR2 68mm, ETLR 57mm, ETLR2 77mm, EL9R 43mm

Cutout Dimensions



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Mounting and Service Instructions



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QUARTEX-R-JUWEL

made in germany



26 x 26 mm

Pushbutton Heads

Front rings are supplied in dark-grey as a standard (QRJT), also available in blue-BL, yellow-GB, green-GN, red-RT, white-WS and black-SW.
Add code letter to type number (e.g. QRJTRT)
Lenses and nameplates to be ordered separately



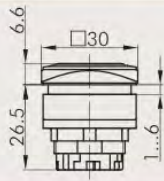























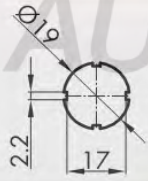

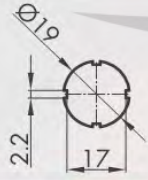
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Illustration	Dimensions	Description	Type
		Pushbutton Head suitable contact blocks front bezel charcoal	QRJT...
		Concave Lens, transparent colour	blue T26DBL yellow T26DGB green T26DGN clear T26DKL red T26DRT opalwhite T26DWS
		Concave Lens, non-transparent used in pushbuttons without inscription and illumination colour	blue T26DGBL yellow T26DGGB green T26DGGN black T26DGSW red T26DGRT white T26DGWS
		Nameplate with standard imprint please specify index number (see nameplates on pages 404)	BSK...
		Nameplate with special imprint according to customer's specification	BSKB
		Blank Nameplate	BSKU

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Pushbutton Heads

Front rings are supplied in dark-grey as a standard (QRJTM), also available in blue-BL, yellow-GB, green-GN, red-RT, white-WS and black-SW.
Add code letter to type numbe (e.g. QRJTMRT)

Illustration	Dimensions	Description	Type																		
 		Membrane Pushbutton Head with tightly closed, transparent silicone cap, down to -50° C suitable contact blocks  front bezel charcoal 	QRJTM...																		
		Flat Lens, transparent colour <table border="0"> <tr> <td>blue</td> <td></td> <td>T20FBL</td> </tr> <tr> <td>yellow</td> <td></td> <td>T20FGB</td> </tr> <tr> <td>green</td> <td></td> <td>T20FGN</td> </tr> <tr> <td>clear</td> <td></td> <td>T20FKL</td> </tr> <tr> <td>red</td> <td></td> <td>T20FRT</td> </tr> <tr> <td>opalwhite</td> <td></td> <td>T20FWS</td> </tr> </table>	blue		T20FBL	yellow		T20FGB	green		T20FGN	clear		T20FKL	red		T20FRT	opalwhite		T20FWS	
blue		T20FBL																			
yellow		T20FGB																			
green		T20FGN																			
clear		T20FKL																			
red		T20FRT																			
opalwhite		T20FWS																			
		Nameplate with standard imprint Please specify index number (see nameplates on pages 404)	BSRX...																		
		Nameplate with special imprint according to customer's specification	BSRXB																		
		Blank Nameplate	BSRXU																		

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Emergency Stops

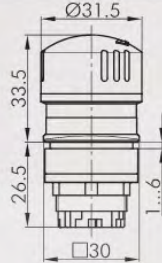
Illustration

Dimensions

Description

Type

IP65



Emergency-stop Head

foolproof	Yes
switching position indicator	Yes
anti-lock collar	No
release	twist right or left
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks

ASI DS DT ET M

mushroom head red
front bezel yellow

QRJUV



For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 366

The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

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Knob Set for rotary switches

Front rings are supplied in dark-grey as a standard (QRJDAU), also available in blue-BL, yellow-GB, green-GN, red-RT, white-WS and black-SW.


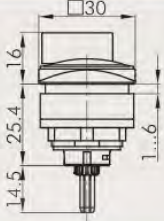




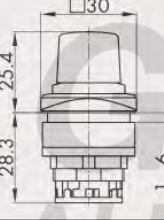


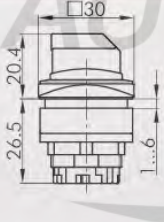



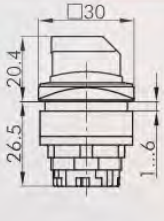



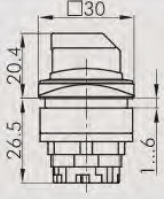

Add code letter to type number, e.g. QRJDAURT

Knob Set for potentiometers

Selector Switches (momentary/maintained)

I = Switching position

> = Spring return

Illustration	Dimensions	Description	Type
		Knob Set for rotary switches, without inscription for Kraus & Naimer types CG4 and CA4 other versions on request front bezel charcoal	 QRJDAU...
		Knob Set for rotary switches, with inscription for Kraus & Naimer types CG4 and CA4 other versions on request front bezel charcoal	 QRJDAB...
		Knob Set for potentiometers for potentiometers of 6 mm shaft dia. and thread M10x0.75. Delivery without potentiometer. Shaft length: approx. 50 mm ± 2 mm incl. fastening thread front bezel charcoal	 QRJR...
		Selector Head, maintained suitable contact blocks DS DT ET M front bezel charcoal suitable contact blocks DT ET M front bezel charcoal	 QRJWA...  QRJWB...
		Selector Head, momentary suitable contact blocks DS DT ET M front bezel charcoal suitable contact blocks DT ET M front bezel charcoal	 QRJSTA...  QRJSTB...
		Selector Head, left maintained, right momentary suitable contact blocks DT ET M front bezel charcoal	 QRJWC...

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Toggle Heads

Front rings are supplied in dark-grey as a standard (QRJK), also available in blue-BL, yellow-GB, green-GN, red-RT, white-WS and black-SW.
Add code letter to type number, e.g. QRJKRT.

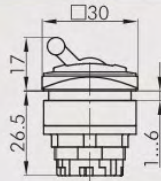
Illustration

Dimensions

Description

Type

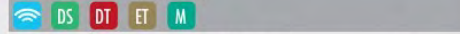
IP65



Toggle Head

red toggle (other colours on request)

suitable contact blocks



front bezel

charcoal



QRJK...


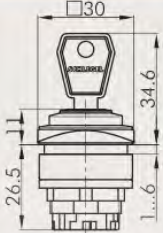


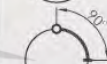
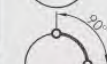
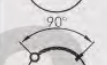
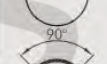

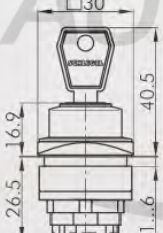



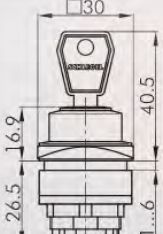


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Key Switches (momentary/maintained)

Front rings are supplied in dark-grey as a standard (QRJSSA12E), also available in blue-BL, yellow-GB, green-GN, red-RT, white-WS and black-SW.
Add code letter to type number (e.g. QRJSSA12ERT)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type	
		Key Actuator, maintained including two keys other lock types on request suitable contact blocks		
		DT ET M		QRJSSA 12E...
		front bezel charcoal		
		suitable contact blocks DT ET M		QRJSSA 13E...
		front bezel charcoal		
		suitable contact blocks DS DT ET M		QRJSSA 14E...
		front bezel charcoal		
suitable contact blocks DS DT ET M		QRJSSA 15E...		
front bezel charcoal				
suitable contact blocks DS DT ET M		QRJSSA 17E...		
front bezel charcoal				
suitable contact blocks DS DT ET M		QRJSSA 18E...		
		Key Actuator, momentary suitable contact blocks		
		DT ET M		QRJSSA 23E...
		front bezel charcoal		
suitable contact blocks DS DT ET M		QRJSSA 27E...		
front bezel charcoal				
		Key Actuator, left maintained, right momentary suitable contact blocks		
		DT ET M		QRJSSA 24E...
front bezel charcoal				
		Spare Key (standard) standard spare key, specify key number for special locks	ESE845	

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Pilot Lights

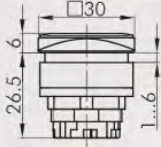
Front rings are supplied in dark-grey as a standard (QRJN), also available in blue-BL, yellow-GB, green-GN, red-RT, white-WS and black-SW.
Add code letter to type number, e.g. QRJNRT.
Lenses and nameplates to be ordered separately.

Illustration

Dimensions

Description

Type



Pilot Light Head

suitable lampholders

DS DT ET M

front bezel

charcoal

QRJN...



Convex Lens

colour

blue



KF23BL

yellow



KF23GB

green



KF23GN

clear



KF23KL

red



KF23RT

opalwhite



KF23WS



High Lens, transparent

colour

blue



KH23BL

yellow



KH23GB

green



KH23GN

clear



KH23KL

red

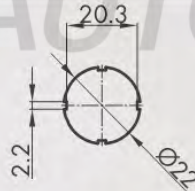


KH23RT

opalwhite



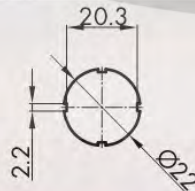
KH23WS



Nameplate with standard imprint

please specify index number (see nameplates on pages 404)

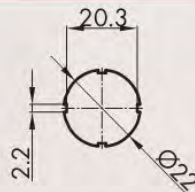
BSK...



Nameplate with special imprint

according to customer's specification

BSKB



Blank Nameplate

BSKU

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Accessories for Actuators

Illustration	Dimensions	Description	Type
		Mounting Tool with torque limitation for the series QUARTEX-R(-JUWEL), KOMBITAST-R-JUWEL, RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of the RONTRON-R/-Q-JUWEL series	S22
		Mounting Tool Adapter with 1/4" connections for mounting tools S16 and S22	SRA
		External Nameplate Holder for outside marking of the actuators of the QUARTEX-R-JUWEL series, accepts self-adhesive nameplates	QRJABT
		colour charcoal 	
		Self-adhesive Nameplate - laser-printed Inscription according to customer's specifications Dimensions: 17 x 24 mm	BZ26G
		Self-adhesive Nameplate blank Dimensions: 17 x 24 mm	BZ26U
		Self-adhesive Nameplate with standard imprint Please specify index no. (see nameplates on pages 404) Dimensions 17 x 24 mm	BZ26B...
		Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 75 mm for mounting aperture 26 x 26 mm	NAS_26
		colour yellow 	
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting aperture 26 x 26 mm	NAS_26_548
		colour yellow 	
		Universal Lens Remover	USK
		Dummy to close unused mounting apertures	BVQRJ
		colour charcoal 	

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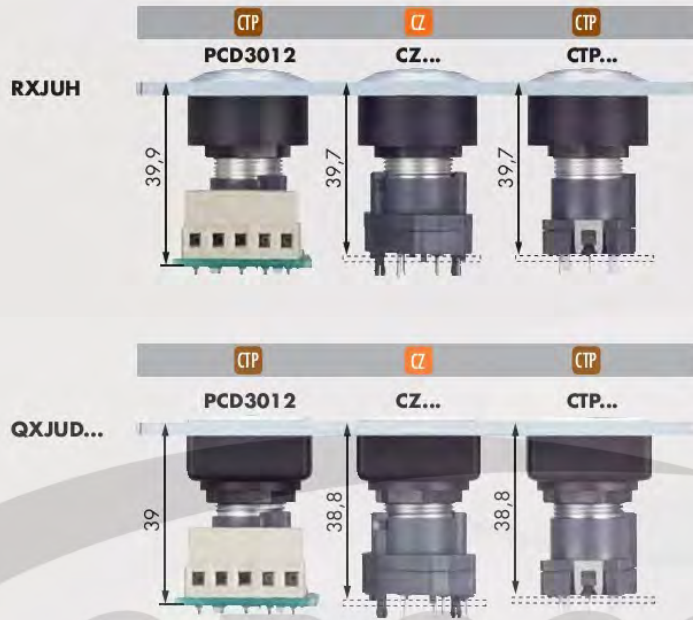
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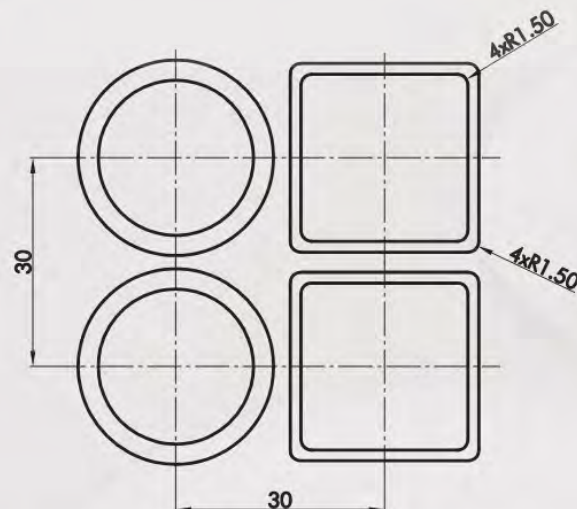
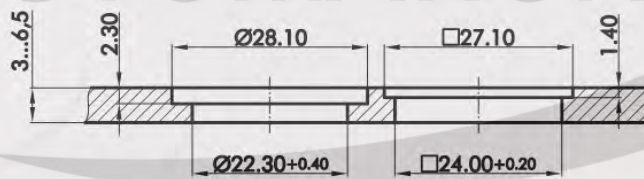
joorjd-wsilepueA

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Mounting Depth Dimensions



Cutout Dimensions



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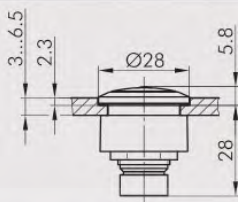

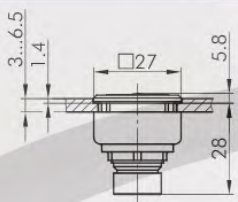
Terminal Blocks

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Pushbutton Heads

Illustration	Dimensions	Description	Type
 <p>IP65 2.3mm Sun icon</p>		<p>Short-stroke Pushbutton Head, momentary all-metal (anodised aluminium) suitable contact blocks CTF CTP CZ front bezel silver-coloured</p>	RXJUH
 <p>IP65 2.3mm Sun icon</p>		<p>Short-stroke Pushbutton Head, momentary all-metal (zinc-die casting, mat chromium plated) suitable contact blocks CTF CTP CZ front bezel silver-coloured</p>	QXJUDIP65_CR

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50045 12020Jaw3



Safe and Optically Appealing Emergency-stop Buttons

The user can choose from a wide range of TÜV certified emergency-stop buttons by Schlegel and DUX for panel cut-outs of different shapes and dimensions (16mm, 22mm, 30mm...) which can be combined with both, the standard and ASi contact units. The actuators are well known for their modern and attractive design combining mechanical robustness and outstanding functionality, featuring e.g. a clearly visible switching position indicator, a twist release (in either direction) or pull release and tightness from IP65 to IP69K, depending on the model.

Safety Contact Blocks for Emergency-stop Buttons

Even redundant, secure emergency-stop chains are ineffective unless the contact block is accurately connected with the emergency-stop button. The safety contact blocks by Schlegel Elektrokontakt are the response to this danger that may occur e.g. as a result of a negligent assembly or a mechanical damage. In such a situation they ensure that the emergency function is activated and the installation is switched off immediately. It can only be restarted after successful trouble-shooting. The contact blocks are available with screw connections or Faston terminals and do have positive opening contacts acc.to IEC60947-5-1. They can be supplied with one or two channels and also, when combined with the appropriate E-stop button, in a foolproof version acc. to EN60947-5-5 and EN13850. The high-quality contact elements allow reliable switching even of low currents (5mA at 24V or less). They are available as conventional contact blocks as well as for AS-Interface application (Safety@Work).

Safety@Work

Safety@Work is an extension of the existing ASi system by safety-related components, such as e.g. emergency stop switches. The great advantage is that standard and safety-related ASi slaves can be used in one and the same system. That means an existing ASi network consisting of ASi master, power supply and slaves, is simply extended by a safety monitor and safe ASi slaves. Safety@Work is based on the standard ASi protocol reaching the safety integrity level 3. As base serves the transmission of dynamic code sequences which are stored in each safe ASi slave.



Automatic switch off on separation of the contact block from the emergency-stop button

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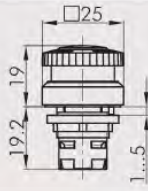

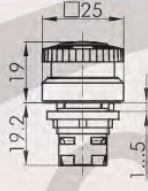
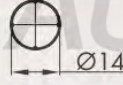
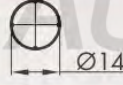

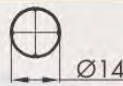

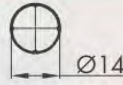

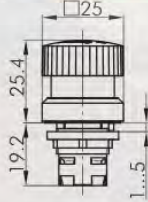
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Limit Switches

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Emergency Stops

Illustration	Dimensions	Description	Type
		<p>Emergency-stop Head Other mushroom colours on request</p> <p>Series OKTRON</p> <p>Panel cut-out Ø 16.2 mm</p> <p>foolproof No</p> <p>switching position indicator No</p> <p>anti-lock collar No</p> <p>release twist right or left</p> <p>suitable contact blocks AZ BZ BZ PTP PTF</p> <p>mushroom head red</p> <p>front bezel yellow</p>	OKVGB
		<p>Emergency-stop Head with illuminating and labelling option including blank nameplate (inscription on request)</p> <p>Series OKTRON</p> <p>Panel cut-out Ø 16.2 mm</p> <p>foolproof No</p> <p>switching position indicator No</p> <p>anti-lock collar No</p> <p>release twist right or left</p> <p>suitable contact blocks AZ BZ BZ</p> <p>mushroom head red</p> <p>front bezel yellow</p>	OKVLBGB
		<p>Nameplate with special imprint as per customer's specification</p>	BSRJB
		<p>Nameplate with standard imprint Please specify index number (see nameplates on pages 404)</p>	BSRJ...
		<p>Blank Nameplate</p>	BSRJU
		<p>Emergency-stop Head</p> <p>Series OKTRON</p> <p>Panel cut-out Ø 16.2 mm</p> <p>foolproof Yes</p> <p>switching position indicator No</p> <p>anti-lock collar No</p> <p>release twist right or left</p> <p>Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p>TUV 9000</p> <p>suitable contact blocks AZ BZ BZ PTP PTF</p> <p>mushroom head red</p> <p>front bezel yellow</p>	OKUVGB

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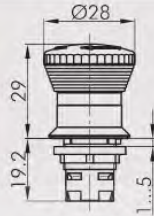
Illustration

Dimensions

Description

Type

IP65



Emergency-stop Head

with snap-action mechanism

Series OKTRON-R
 Panel cut-out Ø 16.2 mm
 foolproof Yes
 switching position indicator Yes
 anti-lock collar No
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5,
 EN ISO 13850



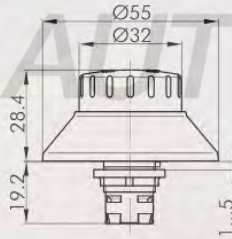
suitable contact blocks

ASI AZ BZ BZ PTP PTF

mushroom head red
 front bezel yellow

RKUV28

IP65



Emergency-stop Head

Series OKTRON-R
 Panel cut-out Ø 16.2 mm
 foolproof Yes
 switching position indicator Yes
 anti-lock collar Yes
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5,
 EN ISO 13850



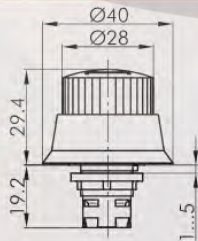
suitable contact blocks

ASI AZ BZ BZ

mushroom head red
 front bezel yellow

RKUV32

IP65



Emergency-stop Head

Series OKTRON-R
 Panel cut-out Ø 16.2 mm
 foolproof Yes
 switching position indicator No
 anti-lock collar Yes
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5,
 EN ISO 13850



suitable contact blocks


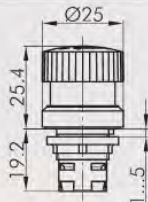

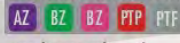

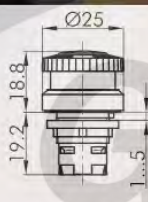

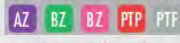

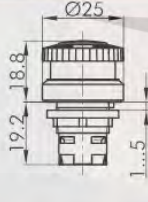
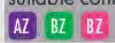

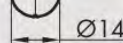

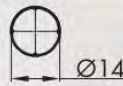

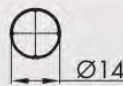
AZ BZ BZ PTP PTF

mushroom head red
 front bezel yellow

RKUV40

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Emergency Stops Accessories for Actuators

Illustration	Dimensions	Description	Type
		<p>Emergency-stop Head</p> <p>Series OKTRON-R Panel cut-out Ø 16.2 mm foolproof Yes switching position indicator No anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p></p> <p>suitable contact blocks </p> <p>mushroom head red front bezel yellow</p>	RKUVGB
		<p>Emergency-stop Head</p> <p>Other mushroom colours on request</p> <p>Series OKTRON-R Panel cut-out Ø 16.2 mm foolproof No switching position indicator No anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p></p> <p>suitable contact blocks </p> <p>mushroom head red front bezel yellow</p>	RKVGB
		<p>Emergency-stop Head</p> <p>incl. blank nameplate (inscription on request)</p> <p>Series OKTRON-R Panel cut-out Ø 16.2 mm foolproof No switching position indicator No anti-lock collar No release twist right or left</p> <p>suitable contact blocks </p> <p>mushroom head red front bezel yellow</p>	RKVLGB
		<p>Nameplate with special imprint as per customer's specification</p>	BSRJB
		<p>Nameplate with standard imprint Please specify index number (see nameplates on pages 404)</p>	BSRJ...
		<p>Blank Nameplate</p>	BSRJU

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Emergency Stops

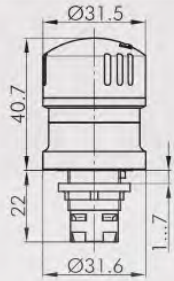
Illustration

Dimensions

Description

Type

IP65



Emergency-stop Head

Series QUARTRON
 Panel cut-out Ø 16.2 mm
 foolproof Yes
 switching position indicator Yes
 anti-lock collar No
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850



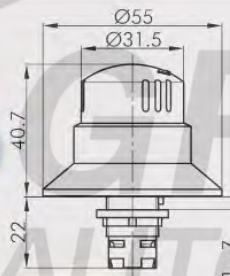
suitable contact blocks

ASI A AZ PTP PTF

mushroom head red
 front bezel yellow

RXUV

IP65



Emergency-stop Head

Series QUARTRON
 Panel cut-out Ø 16.2 mm
 foolproof Yes
 switching position indicator Yes
 anti-lock collar Yes
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850



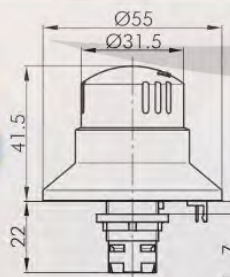
suitable contact blocks

ASI A AZ PTP PTF

mushroom head red
 front bezel yellow

RXBUV

IP65



Illuminated Emergency-stop Head

24V / 15mA AC/DC
 Connection of the LED ring illumination possible via VK_BKL034 or VK_JST025BKL
 Series QUARTRON
 Panel cut-out Ø 16.2 mm
 foolproof Yes
 switching position indicator Yes
 anti-lock collar Yes
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks

ASI A AZ PTP PTF

mushroom head red
 front bezel yellow

RXBLUV

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Not-Halt/Not-Aus-Taste

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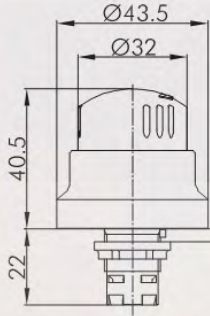
Illustration

Dimensions

Description

Type

IP65



Emergency-stop Head

Series QUARTRON
 Panel cut-out Ø 16.2 mm
 foolproof Yes
 switching position indicator Yes
 anti-lock collar Yes
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5,
 EN ISO 13850

suitable contact blocks

ASI A AZ PTP PTF

mushroom head red
 front bezel yellow


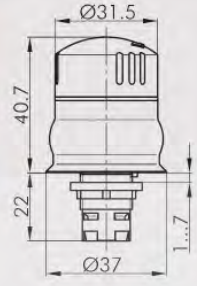





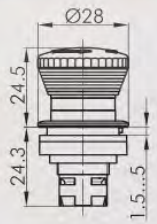


RXBUV43

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Illustration	Dimensions	Description	Type
 <p>IP66 IP69K</p>	 <p>Ø31.5 40.7 22 Ø37 1...7</p>	<p>Emergency-stop Head for hygienic applications Cannot be used with threaded adapter R16x1! Conforms to BG (= Employer's Liability Insurance Association) in accordance with DIN EN 1672-2 and GS-FW 01/01 Series QUARTRON Panel cut-out Ø 16.2 mm foolproof Yes switching position indicator No anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p> </p> <p>suitable contact blocks ASI A AZ PTP PTF</p> <p>mushroom head red front bezel yellow</p>	RXUVP
		<p>Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 60 mm for mounting dia. 16 mm Series QUARTRON Panel cut-out Ø 16.2 mm colour yellow</p>	NAS_16
		<p>Yellow Nameplate with quadrilingal imprint self-adhesive PVC foil outer dia. 60 mm for mounting dia. 16 mm Series QUARTRON Panel cut-out Ø 16.2 mm colour yellow</p>	NAS_16_548
 <p>IP66 IP67 IP69X</p>	 <p>Ø28 24.5 24.3 1.5...5</p>	<p>Emergency-stop Head Series RONTRON-RJUWEL Panel cut-out Ø 22.3 mm foolproof Yes switching position indicator Yes anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p> </p> <p>suitable contact blocks ASI AZ BZ BZ PTP PTF</p> <p>mushroom head red front bezel yellow</p>	RRJUV

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General Data

Type Reference:	FRVKD(O)(OO)(OI)(P)(L)AU
Description:	Emergency Stop, active/inactive (without diagnostic device)
Approvals:	CE, TÜV_Süd
Nature of contact:	1NC/1NO/1NC+1NO
Degree of protection:	IP65 / IP67
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Contact material:	AgNi / AgNi, gold-plated 5µm
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	50,000
Electrical life (rated load):	50,000 at rated load
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 50 mOhm (new state)
Positive opening contact:	acc. to EN60947-5-1, appendix. K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15	DC13
Rated insulation voltage Ui:	250 V	250 V
Rated operating voltage Ue:	35 V	35 V
Rated operating current Ie:	5A	2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	5A	2.5A

Technical Data - Lamp

Lamp socket:	none, with integrated 3 mm LED
Definition:	X1...anode, X2...cathode

Additional Data

Mounting aperture:	22.3mm
Tightening torque (mounting nut):	1.3 ... 1.9 Nm
Release:	twist release, left or right
Mounting position:	any
Standards:	ISO 13850:2015(E), EN ISO 13850:2015(D), DIN EN ISO 13850:2016-05
Ld:	20% (NC)
B10d:	250.000
Overvoltage category:	II
Pollution degree :	2
Material group:	I

Note

- with switching position indicator
- a diagnostic unit is not included

Electrical Features - 5µm gold-plating (type addition ...AU)	
Switching voltage	20mV ... 35V AC/DC
Switching current	1mA ... 250mA

For the version with Faston terminals, use partially or fully insulated Faston clamps.

Illuminated version, status indication active/inactive:	acc. to ISO 13850:2015(E), EN ISO 13850:2015(D), DIN EN ISO 13850:2016-05
Mushroom "grey":	"inactive", no emergency stop
Mushroom "red":	"active" emergency stop

Technical Data of LED:

Type:	Opto Devices
Typical data at IF=20mA:	
Luminous intensity:	min. 10000 mcd, typical 13000 mcd
Beam angle:	typical 15°
Dominant wavelength:	618...624 nm, typical 621 nm
Rated voltage:	24 V DC ± 10%
Rated current:	178 mA (15,6...19,95mA)
Typical luminous intensity at IF=1.8mA:	min. 9000 mcd, typical 11700 mcd
LED cut-off voltage:	max. 70V
Average life:	approx. 80,000...100,000h

Safety Instructions:

- The emergency stop must only be used when lighting conditions ensure clear and distinct visibility of the red illuminated (active) mushroom.
- Before using the emergency stop, a systematic safety review of the overall system is required.
- Depending on the designer's risk assessment, the illumination of the emergency stop must be monitored by means of a "diagnostic unit", and in case of error one has to react in accordance with the risk evaluation.

Standard compliant applications:

- pluggable stations
- wireless operator stations
- pluggable system components (fixed system components which are only temporarily in operation)

Micro IIS

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General Data

Type Reference:	FRVK(P)(L)(O)(OO)(OOO)(OI)(OOI)(OII)(Z)(LZ)(P)(L)AU
Description:	Emergency Stop, foolproof
Approvals:	CCC, CE, TÜV_Süd, positive opening contact, UR
Nature of contact:	1NC / 2NC / 3 NC / 1 NC+1NO / 2NC+1NO / 1NC+2NO
Degree of protection:	IP65 / IP67
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Contact material:	AgNi / AgNi, gold-plated 5µm
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	50,000
Electrical life (rated load):	50,000 at rated load
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 50 mOhm (new state)
Bouncing time NO:	< 10 ms
Bouncing time NC:	< 10 ms
Positive opening contact:	acc. to EN60947-5-1, appendix, K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 B300	DC13 Q300
Rated insulation voltage Ui:	250 V	250 V
Rated operating voltage Ue:	240V / 120V	250V / 125V / 60V / 24V
Rated operating current Ie:	1.5A / 3A	0.27 A / 0.55 A / 1 A / 2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	5A	

Technical Data - Lamp

Lamp socket:	none, with integrated 3 mm LED
Max. lamp voltage:	30 V AC/DC
Max. lamp output:	4 mA at 24 V DC)
Definition:	X1...anode, X2...cathode

Additional Data

Mounting aperture:	22.3mm
Tightening torque (mounting nut):	1.3 ... 1.9 Nm
Release:	twist release, left or right
Mounting position:	any
Standards:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850
Ld:	20% (NC)
B10d:	250.000
Pollution degree :	3

Note

with switching position indicator

Electrical Features - 5µm gold-plating (type addition ...AU)	
Switching voltage	20mV ... 42V AC/DC
Switching current	1mA ... 250mA

For the version with Faston terminals use partially or fully insulated Faston clamps.
 Illuminated version (24V-LED): overvoltage category II (2.5kV), pollution degree 2
 Version with 3 contacts: overvoltage category II (2.5 kV), pollution degree 2

FRVKP...	emergency stop for hygienic areas
Approvals:	CE, DGUV-Test
Mechanical life:	20,000 (20°C)
	>6050 (-25°C)
	>6050 (+70°C)
B10d/Ld:	150,000/20% (20°C)
FRVK...(Z)	...emergency stop for base-plate mounting
FRVK...(LZ)	...emergency stop for base-plate mounting with height compensation to use the Shortron series
Approvals:	CE
Snap-fit the corresponding contact block (PTS...) to the actuator neck.	
Spacer sleeves ensure the correct distance between PCB and mounting plate. Screws must be secured against loosening.	

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General Data

Type Reference:	FRVKAL(O)(OO)(OOO)(OI)(OOI)(OII)(P)(_AU)
Description:	Emergency Stop, aluminium version, foolproof
Approvals:	CE, TÜV_Süd, positive opening contact, UR
Nature of contact:	1NC / 2NC / 3 NC / 1 NC+1NO / 2NC+1NO / 1NC+2NO
Degree of protection:	IP65 / IP67
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Contact material:	AgNi / AgNi, gold-plated 5µm
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	50,000
Electrical life (rated load):	50,000 at rated load
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 50 mOhm (new state)
Bouncing time NO:	< 10 ms
Bouncing time NC:	< 10 ms
Positive opening contact:	acc. to EN60947-5-1, appendix. K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 B300	DC13 Q300
Rated insulation voltage Ui:	250 V	250 V
Rated operating voltage Ue:	240V / 120V	250V / 125V / 60V / 24V
Rated operating current Ie:	1.5A / 3A	0.27 A / 0.55 A / 1 A / 2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	5A	

Additional Data

Mounting aperture:	22.3mm
Tightening torque (mounting nut):	1.3 ... 1.9 Nm
Release:	twist release, left or right
Mounting position:	any
Standards:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850
Pollution degree :	3

Reliability Data

Ld:	20% (NC)
B10d:	250.000

Note

with switching position indicator

Electrical Features - 5µm gold-plating (type addition ...AU)	
Switching voltage	20mV ... 42V AC/DC
Switching current	1mA ... 250mA

For the version with Faston terminals use partially or fully insulated Faston clamps.
Version with 3 contacts: overvoltage category II (2.5 kV), pollution degree 2

Data acc. to UL508

Ratings:	silver: B300, 24Vdc/3A gold: 24Vdc/100mA
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Emergency Stops

made in germany



Emergency Stops

Type addition for gold-plated version _AU (e.g. FRVKOO_AU)

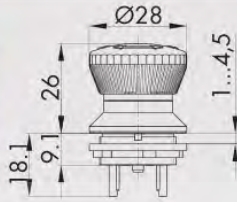
Illustration

Dimensions

Description

Type

IP66
IP67



Emergency Stop

Series SHORTRON
 Panel cut-out Ø 22.3 mm
 Connection type Faston terminals 2.8x0.8 mm
 Contact equipment 2NC
 foolproof Yes
 switching position indicator Yes
 anti-lock collar No
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850



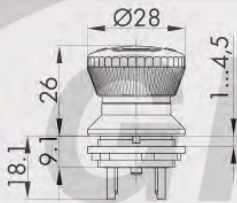
mushroom head
front bezel

red
yellow



FRVKOO

IP66
IP67



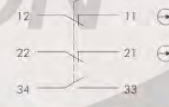
Emergency Stop

Series SHORTRON
 Panel cut-out Ø 22.3 mm
 Connection type Faston terminals 2.8x0.8 mm
 Contact equipment 2NC + 1NO
 foolproof Yes
 switching position indicator Yes
 anti-lock collar No
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850



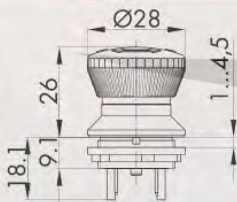
mushroom head
front bezel

red
yellow



FRVKOOI

IP66
IP67



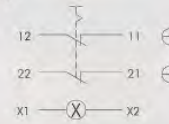
Illuminated Emergency Stop

Series SHORTRON
 Panel cut-out Ø 22.3 mm
 Connection type Faston terminals 2.8x0.8 mm
 Contact equipment 2NC
 foolproof Yes
 switching position indicator Yes
 anti-lock collar No
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850



mushroom head
front bezel

red
yellow



FRVKLOO

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Emergency Stops

Type addition for gold-plated version _AU (e.g. _FRVKALOO_AU)

Illustration	Dimensions	Description	Type
		<p>Emergency Stop, made of aluminium for robust applications</p> <p>Series SHORTRON Panel cut-out Ø 22.3 mm Connection type Faston terminals 2.8x0.8 mm Contact equipment 2NC foolproof Yes switching position indicator Yes anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p>	<p>FRVKALOO</p>
		<p>Emergency Stop made of aluminium for robust applications</p> <p>Series SHORTRON Panel cut-out Ø 22.3 mm Connection type Faston terminals 2.8x0.8 mm Contact equipment 2NC + 1NO foolproof Yes switching position indicator Yes anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p>	<p>FRVKALOOI</p>
		<p>Emergency Stop for hygienic applications</p> <p>Hygiene-tested acc. to DIN EN 1672-2 / DIN EN ISO 14159 and GS-NV 3, GS-NV 6</p> <p>Series SHORTRON Panel cut-out Ø 22.3 mm Connection type Faston terminals 2.8x0.8 mm Contact equipment 2NC foolproof Yes switching position indicator No anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p>	<p>FRVKPOO</p>

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Emergency Stops

Type addition for gold-plated version _AU (e.g. FRVKOO_AU)

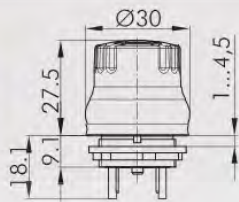
Illustration

Dimensions

Description

Type

IP66



Emergency Stop for hygienic applications

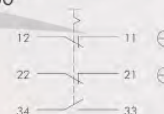
Hygienic test acc. to DIN EN 1672-2 / DIN EN ISO 14159 and GS-NV 3, GS-NV 6

Series SHORTRON
 Panel cut-out Ø 22.3 mm
 Connection type Faston terminals 2.8x0.8 mm
 Contact equipment 2NC + 1NO
 foolproof Yes
 switching position indicator No
 anti-lock collar No
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850



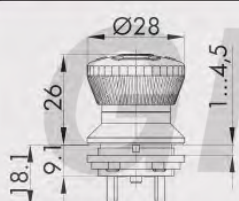
mushroom head
 front bezel

red
 yellow



FRVKPOOI

IP66
 IP67

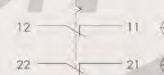


Emergency Stop with pull and twist release

Series SHORTRON
 Panel cut-out Ø 22.3 mm
 Connection type Faston terminals 2.8x0.8 mm
 Contact equipment 2NC
 foolproof Yes
 switching position indicator Yes
 anti-lock collar No
 release pull/twist
 Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850

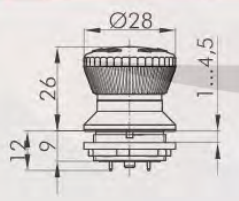
mushroom head
 front bezel

red
 yellow



FRZVKOO

IP66
 IP67

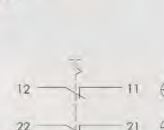


Emergency Stop

Series SHORTRON
 Panel cut-out Ø 22.3 mm
 Connection type PCB-mount terminals
 Contact equipment 2NC
 foolproof Yes
 switching position indicator Yes
 anti-lock collar No
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850

mushroom head
 front bezel

red
 yellow



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Emergency Stops

Type addition for gold-plated version _AU (e.g. _FRVKALOO_AU)

Illustration	Dimensions	Description	Type
		<p>Emergency Stop</p> <p>Series SHORTRON</p> <p>Panel cut-out Ø 22.3 mm</p> <p>Connection type PCB-mount terminals</p> <p>Contact equipment 2NC + 1NO</p> <p>foolproof Yes</p> <p>switching position indicator Yes</p> <p>anti-lock collar No</p> <p>release twist right or left</p> <p>Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p>	<p>FRVKOOIP</p> 
		<p>Illuminated Emergency Stop</p> <p>Series SHORTRON</p> <p>Panel cut-out Ø 22.3 mm</p> <p>Connection type PCB-mount terminals</p> <p>Contact equipment 2NC</p> <p>foolproof Yes</p> <p>switching position indicator Yes</p> <p>anti-lock collar No</p> <p>release twist right or left</p> <p>Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p>	<p>FRVKLOOP</p> 
		<p>Yellow Nameplate</p> <p>self-adhesive PVC foil</p> <p>printing on request</p> <p>outer dia. 75 mm</p> <p>for mounting dia. 22 mm</p> <p>Series SHORTRON</p> <p>Panel cut-out Ø 22.3 mm</p> <p>colour yellow</p>	<p>NAS_22</p>
		<p>Yellow Nameplate with quadrilingual imprint</p> <p>self-adhesive PVC foil</p> <p>outer dia. 75 mm</p> <p>for mounting dia. 22 mm</p> <p>Series SHORTRON</p> <p>Panel cut-out Ø 22.3 mm</p> <p>colour yellow</p>	<p>NAS_22_548</p>

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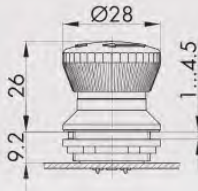
Illustration

Dimensions

Description

Type

IP65



Emergency Stop for 9.2 mm mounting depth

Series	Shorttron for base-plate mounting
Panel cut-out	Ø 22.3 mm
foolproof	Yes
switching position indicator	Yes
anti-lock collar release	No
Standard	twist right or left EN 60947-5-1, EN 60947-5-5, EN ISO 13850



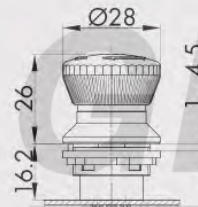
suitable contact blocks

P

mushroom head	red
front bezel	yellow

FRVK

IP65



Emergency Stop for 16.2 mm mounting depth

ATTENTION: only suitable for illuminated contact units!

Series	Shorttron for base-plate mounting
Panel cut-out	Ø 22.3 mm
foolproof	Yes
switching position indicator	Yes
anti-lock collar release	No
Standard	twist right or left EN 60947-5-1, EN 60947-5-5, EN ISO 13850

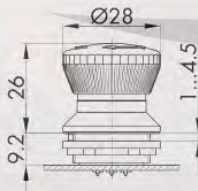
suitable contact blocks

P

mushroom head	red
front bezel	yellow

FRVKZ

IP65



Illuminated Emergency Stop for 9.2mm mounting depth

Series	Shorttron for base-plate mounting
Panel cut-out	Ø 22.3 mm
foolproof	Yes
switching position indicator	Yes
anti-lock collar release	No
Standard	twist right or left EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks


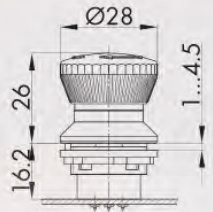

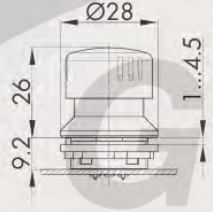


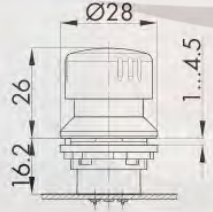
P

mushroom head	red
front bezel	yellow

FRVKL

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Emergency Stops

Illustration	Dimensions	Description	Type
		<p>Illuminated Emergency Stop for 16.2 mm mounting depth ATTENTION: only suitable for illuminated contact units!</p> <p>Series Shorttron for base-plate mounting Panel cut-out Ø 22.3 mm foolproof Yes switching position indicator Yes anti-lock collar No Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p>suitable contact blocks</p> <p>P</p> <p>mushroom head red front bezel yellow</p>	FRVKZL
		<p>Emergency Stop made of aluminium for robust applications for 9.2 mm mounting depth</p> <p>Series Shorttron for base-plate mounting Panel cut-out Ø 22.3 mm foolproof Yes switching position indicator Yes anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p></p> <p>suitable contact blocks</p> <p>P</p> <p>mushroom head red front bezel yellow</p>	FRVKAL
		<p>Emergency Stop, aluminium for robust applications for 16.2 mm mounting depth</p> <p>Series Shorttron for base-plate mounting Panel cut-out Ø 22.3 mm foolproof Yes switching position indicator Yes anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p>suitable contact blocks</p> <p>P</p> <p>mushroom head red front bezel yellow</p>	FRVKZAL

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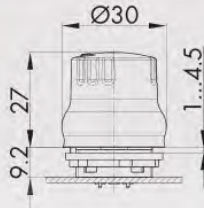
Illustration

Dimensions

Description

Type

IP66



Emergency Stop for hygienic applications for 9.2 mm mounting depth

Hygienic test acc. to DIN EN 1672-2 / DIN EN ISO 14159 and GS-NV 3, GS-NV 6

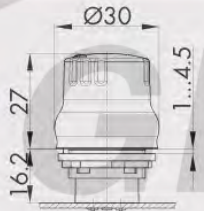
Series	Shortron for base-plate mounting
Panel cut-out	Ø 22.3 mm
foolproof	Yes
switching position indicator	No
anti-lock collar	No
release	twist right or left
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850

suitable contact blocks

P	
mushroom head	red
front bezel	yellow

FRVKP

IP66



Emergency Stop for hygienic applications for 16.2 mm mounting depth

Hygienic test acc. to DIN EN 1672-2 / DIN EN ISO 14159 and GS-NV 3, GS-NV 6

Series	Shortron for base-plate mounting
Panel cut-out	Ø 22.3 mm
foolproof	Yes
switching position indicator	No
anti-lock collar	No
release	twist right or left
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850

suitable contact blocks

P	
mushroom head	red
front bezel	yellow

FRVKZP

Yellow Nameplate

self-adhesive PVC foil
printing on request
outer dia. 75 mm
for mounting dia. 22 mm

Series	SHORTRON
Panel cut-out	Ø 22.3 mm
colour	yellow

NAS_22

Yellow Nameplate with quadrilingual imprint

self-adhesive PVC foil
outer dia. 75 mm
for mounting dia. 22 mm

Series	SHORTRON
Panel cut-out	Ø 22.3 mm
colour	yellow

NAS_22_548

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Emergency Stops

Illustration	Dimensions	Description	Type
		<p>Active Illuminated Safety Emergency Stop with position indication active/inactive Delivery without diagnostic unit for LED monitoring LED: 24V DC/18mA</p> <p>Series: SHORTRON</p> <p>Panel cut-out: Ø 22.3 mm</p> <p>Connection type: Faston terminals 2.8x0.8 mm</p> <p>Contact equipment: 2NC</p> <p>foolproof: Yes</p> <p>switching position indicator: Yes</p> <p>anti-lock collar release: No</p> <p>release: twist right or left</p> <p>Standard: ISO 13850:2015(E), EN ISO 13850:2015(D), DIN EN ISO 13850:2016-05</p> <p>mushroom head: red</p> <p>front bezel: yellow</p>	<p>FRVKDOO</p>

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General Data

Type Reference:	YV(O)(OO)(OOI)(LOO)(LO)(_AU)
Description:	Emergency Stop, foolproof
Approvals:	CE, TÜV_Süd
Nature of contact:	2NC / 2NC+1NO / 1NC
Degree of protection:	IP65 / IP67
Connection type:	Faston terminals 2.8 mm x 0.5 mm
Contact material:	AgNi / AgNi, gold-plated 5µm
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	30,000
Electrical life (rated load):	30,000 at rated load
Contact resistance NO:	< 20 mOhm/< 50 mOhm (Au)
Contact resistance NC:	< 20 mOhm/< 50 mOhm (Au)
Bouncing time NO:	< 10 ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1,appendix. K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15	DC13
Rated insulation voltage Ui:	250 V	250V
Rated operating voltage Ue:	35 V	35 V
Rated operating current Ie:	5A	2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	5A	

Technical Data - Lamp

Lamp socket:	none, with integrated LED
Max. lamp voltage:	30 V AC/DC
Max. lamp output:	8mA/4.5mA (bei 24 V DC/AC)
Definition:	X1...anode, X2...cathode

Additional Data

Mounting aperture:	16.2 mm
Tightening torque (mounting nut):	0.8 ... 1.5 Nm
Release:	twist release, left or right
Mounting position:	any
Standards:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850
Material group:	I
Overvoltage category:	II
Pollution degree :	2

Electrical Features

Operational voltage:	20 mV...35 V AC/DC
Operational current AC/DC:	max. 100 mA
:	max. 100 mA
I _d :	20% (NC)
B10d:	250.000

Note

- with switching position indicator

- Use partially insulated Faston clamps
Recommend Schlegel type "FHTI2,8x0,5_01"

0.5-1.5mm² (AWG 20-16)
-30°C - 75°C


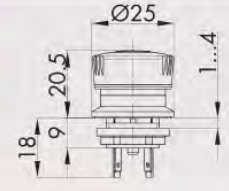


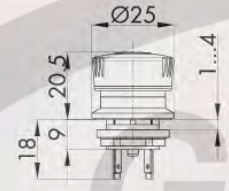


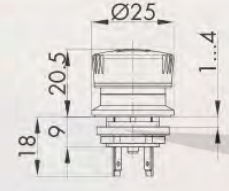
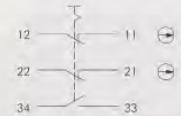

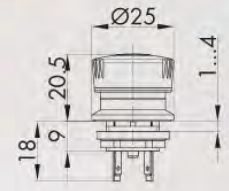
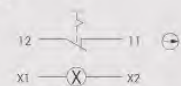
Supplementary data for versions without 3rd contact assignment/illumination (type YV00):

acc. to IEC/EN 60947-5-1 (VDE 0660 sect. 200)	
AC15 B300:	240V 1.5A
DC13 Q300:	250V 0.27A

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Emergency Stops

Illustration	Dimensions	Description	Type
		<p>Emergency Stop</p> <p>Series: mYnitron Panel cut-out: Ø 16.2 mm Connection type: Faston terminals 2.8 mm x 0.5 mm Contact equipment: 1NC foolproof: Yes switching position indicator: Yes anti-lock collar: No release: twist right or left Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p>	<p>mushroom head: red front bezel: yellow</p>  <p>YVO</p>
		<p>Emergency Stop</p> <p>Series: mYnitron Panel cut-out: Ø 16.2 mm Connection type: Faston terminals 2.8 mm x 0.5 mm Contact equipment: 2NC foolproof: Yes switching position indicator: Yes anti-lock collar: No release: twist right or left Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p>	<p>mushroom head: red front bezel: yellow</p>  <p>YVOO</p>
		<p>Emergency Stop</p> <p>Series: mYnitron Panel cut-out: Ø 16.2 mm Connection type: Faston terminals 2.8 mm x 0.5 mm Contact equipment: 2NC + 1NO foolproof: Yes switching position indicator: Yes anti-lock collar: No release: twist right or left Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p>	<p>mushroom head: red front bezel: yellow</p>  <p>YVOOI</p>
		<p>Illuminated Emergency Stop</p> <p>Series: mYnitron Panel cut-out: Ø 16.2 mm Connection type: Faston terminals 2.8 mm x 0.5 mm Contact equipment: 1NC foolproof: Yes switching position indicator: Yes anti-lock collar: No release: twist right or left Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p>	<p>mushroom head: red front bezel: yellow</p>  <p>YVLO</p>

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Emergency Stops

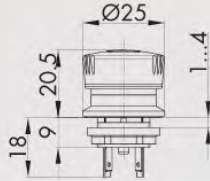
Type addition for gold-plated version _AU (e. g. YVLOO_AU)

Illustration

Dimensions

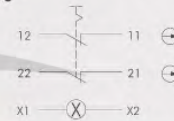
Description

Type



Illuminated Emergency Stop

Series	mYnitron
Panel cut-out	Ø 16.2 mm
Connection type	Faston terminals 2.8 mm x 0.5 mm
Contact equipment	2NC
foolproof	Yes
switching position indicator	Yes
anti-lock collar	No
release	twist right or left
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850
mushroom head	red
front bezel	yellow



YVLOO



Faston Clamp 2.8 x 0.5, partially insulated, with snap-in pin, for connection to YV... types

Cross section:	0.5-1.5mm ²
AWG:	20-16
Material:	brass, partially insulated, with snap-in pin
Max. current:	10A
Max. voltage:	300V
Temperature:	-30°C - 70°C
UL Listed	E70188

FHT12,8x0,5_01

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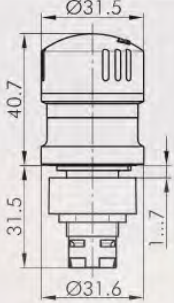


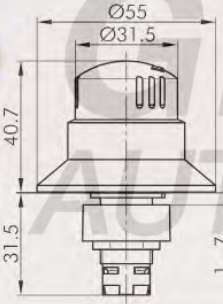


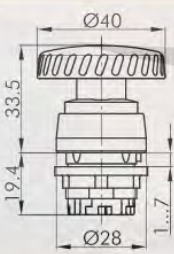

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Emergency Stops Mushroom Heads

Illustration	Dimensions	Description	Type
		<p>Emergency-stop Head</p> <p>Series RXJUWEL Panel cut-out Ø 22.3 mm foolproof Yes switching position indicator Yes anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p> suitable contact blocks ASI A AZ PTP PTF</p> <p>mushroom head red front bezel yellow</p>	RXJUW
		<p>Emergency-stop Head</p> <p>Series RXJUWEL Panel cut-out Ø 22.3 mm foolproof Yes switching position indicator Yes anti-lock collar Yes release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p> suitable contact blocks ASI A AZ PTP PTF</p> <p>mushroom head red front bezel yellow</p>	RXJBUV
		<p>Mushroom Head, latch-type</p> <p>other mushroom colours on request must be mounted onto yellow background!</p> <p>Series RONDEX Panel cut-out Ø 22.3 mm foolproof No switching position indicator No anti-lock collar No release twist Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p> suitable contact blocks DS DT ET M</p> <p>mushroom head red front bezel charcoal</p>	RV

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Mushroom Heads Emergency Stops

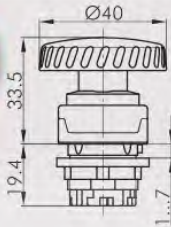
Illustration

Dimensions

Description

Type

IP65



Mushroom Head, latch-type

other mushroom colours on request
must be mounted onto yellow background!

Series	RONDEX-M
Panel cut-out	Ø 22.3 mm
foolproof	No
switching position indicator	No
anti-lock collar	No
release	twist
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850

suitable contact blocks

DS DT ET M

mushroom head	red
front bezel	metallic/charcoal

RMCV

IP65



Emergency-stop Head with inscription

other mushroom colours on request, must be mounted onto yellow background!

Series	DUX-Basic
Panel cut-out	Ø 22.3 mm
switching position indicator	Yes
anti-lock collar	No
release	pull
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850, EN 81-2 Abschnitt 15

suitable contact blocks

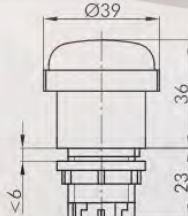
DS DT ET M

mushroom head	red
front bezel	black green

DXRVS40SS

DXRVG40SS

IP65



Emergency-stop Head with arrow

must be mounted onto yellow background!

Series	DUX-Basic
switching position indicator	Yes
anti-lock collar	No
release	twist
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850, EN 81-2 Abschnitt 15

suitable contact blocks

DS DT ET M

mushroom head	red
front bezel	grey

DXRV39PF

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Emergency Stops

Illustration	Dimensions	Description	Type
		<p>Emergency-stop Head</p> <p>Series DUX-Basic</p> <p>other mushroom colours on request, must be mounted onto yellow background!</p> <p>Panel cut-out Ø 22.3 mm</p> <p>switching position indicator No</p> <p>anti-lock collar No</p> <p>release twist</p> <p>Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p></p> <p>suitable contact blocks DS DT ET M</p> <p>mushroom head red</p> <p>front bezel polished</p> <p>grey</p> <p>black</p>	<p>DXRV52MRT</p> <p>DXRV52GRT</p> <p>DXRV52SRT</p>
		<p>Emergency-stop Head</p> <p>Series QUARTEX-R</p> <p>Panel cut-out Ø 22.3 mm</p> <p>foolproof Yes</p> <p>switching position indicator Yes</p> <p>anti-lock collar No</p> <p>release twist right or left</p> <p>Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p> </p> <p>suitable contact blocks ASI DS DT ET M</p> <p>mushroom head red</p> <p>front bezel yellow</p>	<p>QRUV</p>

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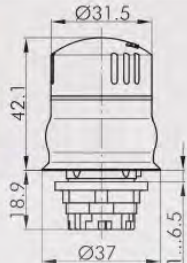
Illustration

Dimensions

Description

Type

IP66
IP69K



Emergency-stop Head for hygienic applications

conforms to BG (= Employer's Liability Insurance Association) in accordance with DIN EN 1672-2 and GS-FW 01/01

Series QUARTEX-R
 Panel cut-out Ø 22.3 mm
 foolproof Yes
 switching position indicator No
 anti-lock collar No
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850



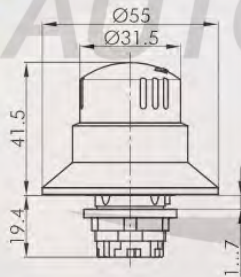
suitable contact blocks



mushroom head red
 front bezel yellow

QRUVP

IP65
IP69K



Emergency-stop Head

Series QUARTEX-R
 Panel cut-out Ø 22.3 mm
 foolproof Yes
 switching position indicator Yes
 anti-lock collar Yes
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850



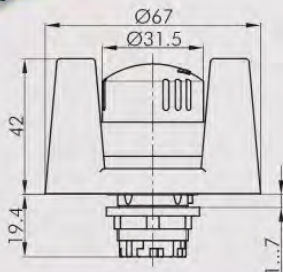
suitable contact blocks



mushroom head red
 front bezel yellow

QRBUV

IP65
IP69K



Emergency-stop Head with protective shroud

NOTE: The user must ensure the emergency stop with protective shroud to be easy accessible!

Series QUARTEX-R
 Panel cut-out Ø 22.3 mm
 foolproof Yes
 switching position indicator Yes
 anti-lock collar Yes
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks


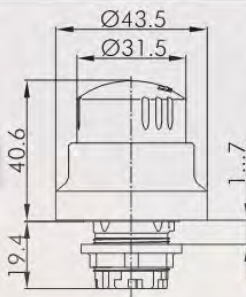

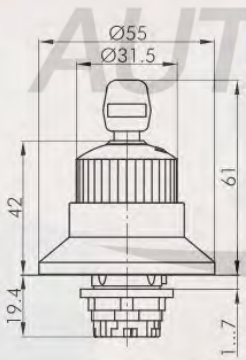


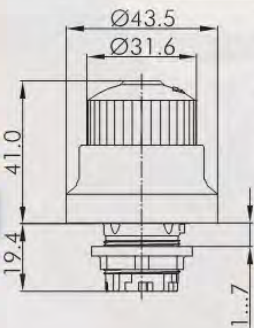


mushroom head red
 front bezel yellow

QRSKUV

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Emergency Stops

Illustration	Dimensions	Description	Type
		<p>Emergency-stop Head</p> <p>Series QUARTEX-R Panel cut-out Ø 22.3 mm foolproof Yes switching position indicator Yes anti-lock collar Yes release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p>suitable contact blocks AS1 DS DT ET M</p> <p>mushroom head red front bezel yellow</p>	QRBUV43
		<p>Emergency-stop Head</p> <p>Series QUARTEX-R Panel cut-out Ø 22.3 mm foolproof Yes switching position indicator Yes anti-lock collar Yes release key release Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p></p> <p>suitable contact blocks AS1 DS DT ET M</p> <p>mushroom head red front bezel yellow</p>	QRBUVSE
		<p>Emergency-stop Head</p> <p>Series QUARTEX-R Panel cut-out Ø 22.3 mm foolproof Yes switching position indicator Yes anti-lock collar Yes release key release Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p>suitable contact blocks AS1 DS DT ET M</p> <p>mushroom head red front bezel yellow</p>	QRBUVSE43

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Emergency Stops

Illustration

Dimensions

Description

Type

IP66



Emergency-stop Head with protective shroud

NOTE: The user must ensure the emergency stop with protective shroud to be easy accessible!

Series	QUARTEX-R
Panel cut-out	Ø 22.3 mm
foolproof	Yes
switching position indicator	Yes
anti-lock collar	Yes
release	key release
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850

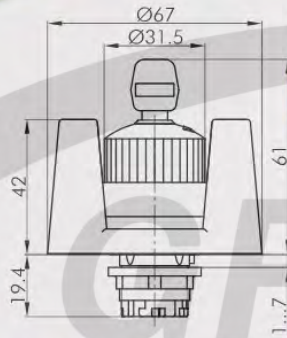


suitable contact blocks

ASI DS DT ET M

mushroom head red
front bezel yellow

QRKUVSE



IP65



Emergency-stop Head

In its active state, the emergency-stop head can be latched with a U-lock.
The U-lock is not included with the delivery scope.

Note: The user must ensure easy accessibility of the E-stop with protective collar!

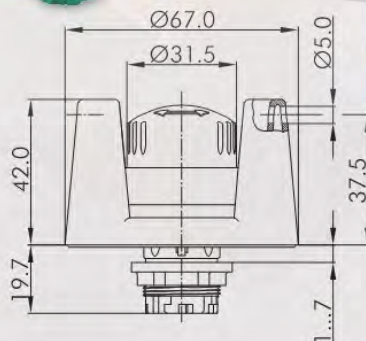
Series	QUARTEX-R
Panel cut-out	Ø 22.3 mm
foolproof	Yes
switching position indicator	Yes
anti-lock collar	Yes
release	twist right or left

suitable contact blocks

ASI DS DT ET M

mushroom head red
front bezel yellow

QRKUV_556



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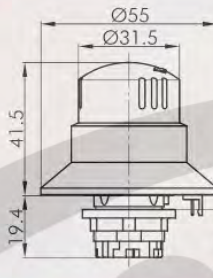
Illustration

Dimensions

Description

Type

IP65



Illuminated Emergency-stop Head

with illuminated anti-lock collar, 24V / 15mA AC/DC, connection of LED ring illumination possible via VK_BKL034, VK_JST025BKL or MAL

Series	QUARTEX-R
Panel cut-out	Ø 22.3 mm
foolproof	Yes
switching position indicator	Yes
anti-lock collar	Yes
release	twist right or left
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



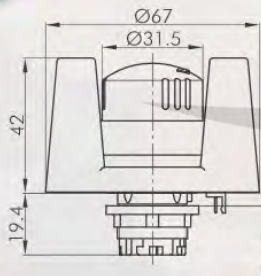
suitable contact blocks

AS1 DS DT ET M

mushroom head red
front bezel yellow

QRBLUV

IP65



Emergency-stop Head with illuminated protective shroud

24V / 15mA AC/DC, connection of LED ring illumination possible via VK_BKL034, VK_JST025BKL or MAL

NOTE: The user must ensure the emergency stop with protective shroud to be easy accessible!

Series	QUARTEX-R
Panel cut-out	Ø 22.3 mm
foolproof	Yes
switching position indicator	Yes
anti-lock collar	Yes
release	twist right or left
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks

DS DT ET M

mushroom head red
front bezel yellow

QRSKLUV

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Emergency Stops

Illustration

Dimensions

Description

Type

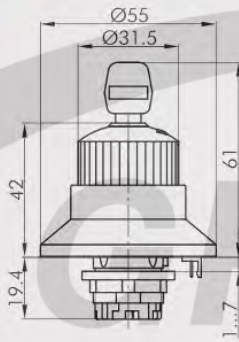
IP65



Illuminated Emergency-stop Head

with illuminated anti-lock collar, 24V / 15mA AC/DC, connection of LED ring illumination possible via VK_BKL043, VK_JST025BKL or MAL

Series	QUARTEX-R
Panel cut-out	Ø 22.3 mm
foolproof	Yes
switching position indicator	Yes
anti-lock collar	Yes
release	key release
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks

ASI DS DT ET M

mushroom head	red
front bezel	yellow

QRBLUVSE

IP65

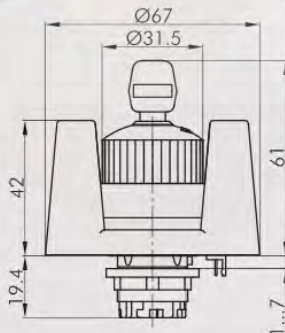


Emergency-stop Head with illuminated protective shroud

24V / 15mA AC/DC, connection of LED ring illumination possible via VK_BKL034, VK_JST025BKL or MAL

NOTE: The user must ensure the emergency stop with protective shroud to be easy accessible!

Series	QUARTEX-R
Panel cut-out	Ø 22.3 mm
foolproof	Yes
switching position indicator	Yes
anti-lock collar	Yes
release	key release
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks

DS DT ET M






mushroom head	red
front bezel	yellow

QRSKLUVSE

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Accessories for Actuators

Illustration	Dimensions	Description	Type
 <p>IP00</p>		<p>Connection Module serves to connect the illuminated emergency stops via a screw terminal. The connection module is snapped into the module holders MHR_3 or MHR_5 12-30V, AC/DC, max. 44mA Series QUARTEX-R Connection type screw connection 2x2.5mm²</p> <p> </p> <p>colour white</p>	MAL
		<p>Connection Cable serves to connect an illuminated emergency-stop pushbutton to a AS-Interface slave (Safety at Work), 2-core strand, red/black, 0.25 mm², with male connector crimped on both sides, length: approx. 10 cm</p>	VK_JST025BKL
		<p>Connection Cable with open end, serves to connect the illuminated emergency stops to a voltage source. Length: approx. 30 cm, cross section 0.34 mm² (AWG22)</p>	VK_BKL034

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Emergency Stops Mushroom Heads

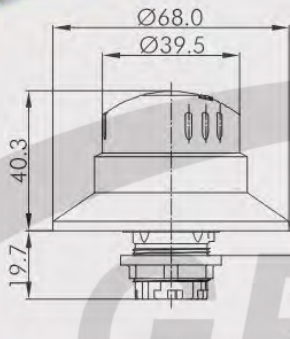
Illustration

Dimensions

Description

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IP65



Emergency-stop Head

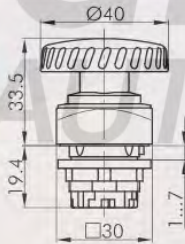
Series QUARTEX-R
 Panel cut-out Ø 22.3 mm
 foolproof Yes
 switching position indicator Yes
 anti-lock collar Yes
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5,
 EN ISO 13850

suitable contact blocks

ASI DS DT ET M
 mushroom head red
 front bezel yellow

QRBUV70

IP65



Mushroom Head, latch-type

other mushroom colours on request
 must be mounted onto yellow background!
 Series QUARTEX-R
 Panel cut-out Ø 22.3 mm
 foolproof No
 switching position indicator No
 anti-lock collar No
 release twist
 Standard EN 60947-5-1, EN 60947-5-5,
 EN ISO 13850

suitable contact blocks

ASI DS DT ET M
 mushroom head red
 front bezel charcoal

QRV



Yellow Nameplate

self-adhesive PVC foil
 printing on request
 outer dia. 75 mm
 for mounting dia. 22 mm
 Series SHORTRON
 Panel cut-out Ø 22.3 mm
 colour yellow

NAS_22



Yellow Nameplate with quadrilingual imprint

self-adhesive PVC foil
 outer dia. 75 mm
 for mounting dia. 22 mm
 Series SHORTRON
 Panel cut-out Ø 22.3 mm
 colour yellow

NAS_22_548

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Mushroom Heads Emergency Stops

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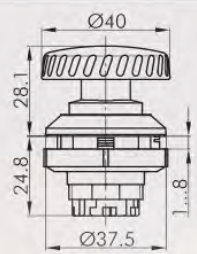


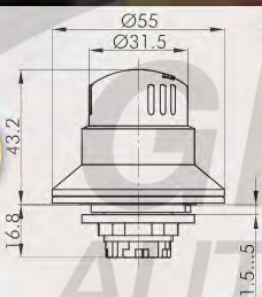
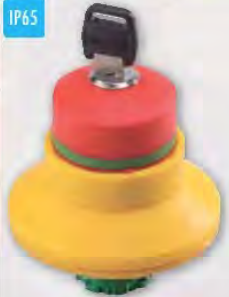
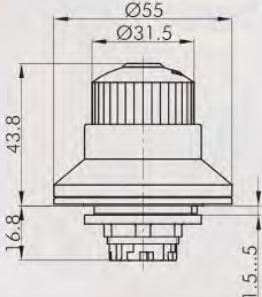
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Illustration	Dimensions	Description	Type
<p>IP65</p> 		<p>Mushroom Head, latch-type must be mounted onto yellow background!</p> <p>Series KOMBITAST-R Panel cut-out Ø 30.5 mm foolproof No switching position indicator No anti-lock collar No release twist Standard EN 60947-5-1, EN 60947-5-5, EN 60068, EN ISO 13850</p> <p></p> <p>suitable contact blocks AS S D T E T M</p> <p>front bezel charcoal</p>	KRV
<p>IP65</p> 		<p>Emergency-stop Head consisting of QRBUV and adapter</p> <p>Series KOMBITAST-RJUWEL Panel cut-out Ø 30.5 mm foolproof Yes switching position indicator Yes anti-lock collar Yes release twist right or left</p> <p>suitable contact blocks AS S D T E T M</p> <p>mushroom head red front bezel yellow</p>	KRBUV
<p>IP65</p> 		<p>Emergency-stop Head consisting of QRBUVSE and adapter</p> <p>Series KOMBITAST-RJUWEL Panel cut-out Ø 30.5 mm foolproof Yes switching position indicator Yes anti-lock collar Yes release key release</p> <p>suitable contact blocks AS S D T E T M</p> <p>mushroom head red front bezel yellow</p>	KRBUVSE

Emergency Stops

Illustration

Dimensions

Description

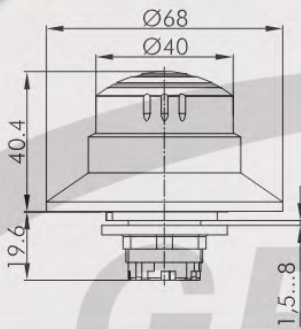
Type

IP65



Emergency-stop Head

Series	KOMBITAST-R-JUWEL
Panel cut-out	Ø 30.5 mm
foolproof	Yes
switching position indicator	Yes
anti-lock collar	Yes
release	twist right or left
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks

ASI DS DT ET M

mushroom head
front bezel

red
yellow

KRBUV70

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Illustration	Dimensions	Description	Type
		<p>Emergency-stop Head</p> <p>Series OKTRON-JUWEL</p> <p>Panel cut-out 23 x 23 mm</p> <p>foolproof Yes</p> <p>switching position indicator Yes</p> <p>anti-lock collar No</p> <p>release twist right or left</p> <p>Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p> suitable contact blocks ASI AZ BZ BZ PTP PTF</p> <p>mushroom head red front bezel yellow</p>	OKJUV
		<p>Emergency-stop Head</p> <p>Series OKTRON-JUWEL</p> <p>Panel cut-out 23 x 23 mm</p> <p>foolproof Yes</p> <p>switching position indicator Yes</p> <p>anti-lock collar Yes</p> <p>release twist right or left</p> <p>Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p> suitable contact blocks ASI AZ BZ BZ PTP PTF</p> <p>knob colour red front bezel yellow</p>	OKJBUV
		<p>Yellow Nameplate</p> <p>self-adhesive PVC foil</p> <p>printing on request</p> <p>outer dia. 60 mm</p> <p>for mounting aperture 23 x 23 mm</p> <p>Series OKTRON-JUWEL</p> <p>Panel cut-out 23 x 23 mm</p> <p>colour yellow</p>	NAS_23
		<p>Yellow Nameplate with quadrilingual imprint</p> <p>self-adhesive PVC foil</p> <p>outer dia. 60 mm</p> <p>for mounting aperture 23 x 23 mm</p> <p>Series OKTRON-JUWEL</p> <p>Panel cut-out 23 x 23 mm</p> <p>colour yellow</p>	NAS_23_548

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Emergency Stops

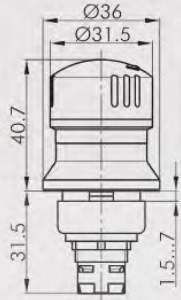
Illustration

Dimensions

Description

Type

IP65



Emergency-stop Head

Series QUARTRON-JUWEL
 Panel cut-out 24 x 24 mm
 foolproof Yes
 switching position indicator Yes
 anti-lock collar No
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5,
 EN ISO 13850



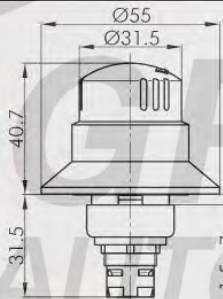
suitable contact blocks

ASI A AZ PTP PTF

mushroom head red
 front bezel yellow

QXJUV

IP65



Emergency-stop Head

Series QUARTRON-JUWEL
 Panel cut-out 24 x 24 mm
 foolproof Yes
 switching position indicator Yes
 anti-lock collar Yes
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5,
 EN ISO 13850



suitable contact blocks

ASI A AZ PTP PTF

mushroom head red
 front bezel yellow

QXJBUV



Yellow Nameplate

self-adhesive PVC foil
 printing on request
 outer dia. 60 mm
 for mounting aperture 24 x 24 mm
 Series QUARTRON-JUWEL
 Panel cut-out 24 x 24 mm
 colour yellow

NAS_24




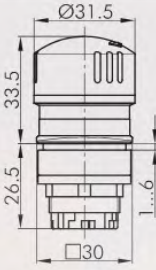

Yellow Nameplate with quadrilingual imprint

self-adhesive PVC foil
 outer dia. 60 mm
 for mounting aperture 24 x 24 mm
 Series QUARTRON-JUWEL
 Panel cut-out 24 x 24 mm
 colour yellow

NAS_24_548

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Emergency Stops

Illustration	Dimensions	Description	Type
		<p>Emergency-stop Head</p> <p>Series QUARTEX-R-JUWEL</p> <p>Panel cut-out 26 x 26 mm</p> <p>foolproof Yes</p> <p>switching position indicator Yes</p> <p>anti-lock collar No</p> <p>release twist right or left</p> <p>Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p> suitable contact blocks</p> <p>ASI DS DT ET M</p> <p>mushroom head red</p> <p>front bezel yellow</p>	<p>QRJUV</p>

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Nameplates

The round nameplates as well as the index numbers shown hereafter are representative for all the other shapes of nameplates we offer. Specify nameplate reference followed by index number, e.g. BSRX5. Subject to alterations with regard to graphical layout and typeface of the nameplates.



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...1142	...1143	...1144	...1145	...1146	...1147	...1148	...1149	...1150	...1151	...1152	...1153	...1154
...1155	...1156	...1156A	...1157	...1158	...1159	...1160	...1161	...1162	...1163	...1164	...1165	...1166
...1167	...1168	...1169	...1170	...1171	...1172	...1173	...101	...102	...103	...104	...105	...106
...107	...108	...109	...110	...111	...112	...113	...114	...115	...116	...117	...118	...119
KÜHLEN	A	B	C	X	Y	Z	SUPPLY ON	TEST	FAULT	EIN	EIN	AUS
...120	...121	...122	...123	...124	...125	...126	...127	...128	...129	...131	...131A	...132
AUF	ZU	AB	HALT	RECHTS	LINKS	VOR	ZURÜCK	VORSCHUB EIN	VORSCHUB HALT	VORSCHUB LANGSAM	VORSCHUB SCHNELL	VER-RIEGLN
...133	...134	...135	...136	...137	...138	...139	...140	...141	...142	...143	...144	...145
ENT-SPERREN	VOR-BEREITEN	REGU-LIERUNG	VOR LANGSAM	VOR SCHNELL	ZURÜCK LANGSAM	ZURÜCK SCHNELL	HEBEN	SENKEN	FEIN-HEBEN	FEIN-SENKEN	AUF LANGSAM	AUF SCHNELL
...146	...147	...148	...149	...150	...151	...152	...153	...154	...155	...156	...157	...158
AB LANGSAM	AB SCHNELL	KRAN EIN	KRAN AUS	KRAN VOR	KRAN ZURÜCK	KATZE VOR	KATZE ZURÜCK	VOR-RÜCKEN	RÜCK-LAUF	AUTO-MATIK EIN	AUTO-MATIK AUS	AUFZUG
...159	...160	...161	...162	...163	...164	...165	...166	...167	...168	...169	...170	...171
NOT AUS	SIGNAL	SENDEN	HOLEN	RUFEN	BESETZT	HELL	DUNKEL	GLOCKE	ALARM	WIER	NOTRUF	KOMMT
...172	...173	...174	...175	...176	...177	...178	...179	...180	...181	...182	...183	...184
ÖFFNEN	SCHLIES-SEN	LANGSAM	SCHNELL	BREMSEN	LÜFTEN					ÜBERLAST	START	START
...185	...186	...187	...188	...189	...190	...191	...192	...193	...194	...195	...201	...201A
STOP	ON	OFF	UP	DOWN	UP SLOW	UP FAST	DOWN SLOW	DOWN FAST	FORWARD	REVERSE	BACK	RIGHT
...202	...203	...204	...205	...206	...207	...208	...209	...210	...211	...212	...213	...214
LEFT	SLOW	FAST	OPEN	CLOSE	MEDIUM	GROUND	LIFT COMING	LIFT HERE	HIGH	INCH	RESET	CALL ACCEPTED
...215	...216	...217	...218	...219	...220	...221	...222	...223	...224	...225	...226	...227
AUTO ON	AUTO OFF	G	OVER-LOAD	LIFT	MARCHE	MARCHE	ARRET	BAS	AVANT	RETOUR	HAUT	AUTO
...228	...229	...230	...231	...232	...301	...301A	...302	...303	...304	...305	...306	...307
MONTEE	DES-CENTE	DROITE	GAUCHE	MAIN	EN-SERVICE	OUVRIR	FERMER	ARRIERE	MARCIA	MARCIA	ARRESTO	APRE
...308	...309	...310	...311	...312	...313	...314	...315	...316	...351	...351A	...352	...353

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- | | | | | | | | | | | | |
|--------|---------|------------|--------|----------|--------|--------|----------|----------|----------|--------|--------|
| CHIUDE | AUMENTA | DIMINUISCE | AVANTI | INDIETRO | LENTO | VELOCE | PRESENTE | OCCUPATO | INARRIVO | ALT | T |
| ...354 | ...355 | ...356 | ...361 | ...362 | ...365 | ...366 | ...367 | ...368 | ...369 | ...370 | ...371 |

Self-adhesive Nameplates for External Nameplate Holders

Subject to alterations with regard to graphical layout and typeface of the nameplates.

- | | | | | | | | | | | | |
|---------|-----------|-------------|------------|-----------|---------|---------|---------|---------|---------|---------|---|
| AUS EIN | HAND AUTO | HAND O AUTO | ○ | ○ | | AUS EIN | ⌚ | ⌚ | ⌚ | ○ | ⌚ |
| ...6001 | ...6002 | ...6003 | ...6004 | ...6005 | ...6006 | ...6007 | ...6008 | ...6009 | ...6010 | ...6011 | |
| EIN AUS | AUTO HAND | ↑
○ ↓ | ⌚ ↑
⌚ ↓ | HAND AUTO | ⌚ | | ⌚ | ⌚ | | ⌚ | |
| ...7001 | ...7002 | ...7003 | ...7004 | ...7005 | ...7006 | ...7007 | ...7008 | ...7009 | | | |

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➔ Electric Contact Blocks with PCB-mounted Terminals

Type	Page	Contact Configuration	Data acc. to VDE 0630		Data acc. to IEC 60947-5-1		Max. Switching Capacity
			Ue	Ie	Ue ~	Ie	
CTP...	468	1 inverter					48V AC/DC 100mA
CZ...	482	1...2 inverters					48V AC/DC 100mA
PT...	496	NC / NO			240V / 120V	1.5A / 3A	120V~ / 3A 240V~ / 1.5A
P...	502	NC / NO			240V / 120V	1.5A / 3A	120V~ / 3A 240V~ / 1.5A

➔ Electric Contact Blocks with Faston Terminals

Type	Page	Contact Configuration	Data acc. to VDE 0630		Data acc. to IEC 60947-5-1		Max. Switching Capacity
			Ue	Ie	Ue ~	Ie	
AT... AF...	410	NC/NO	250V~	6(3)A	250V	3A	250V~ / 6(3)A
AZ...	420	NC/NCIb/NO/ NOem/CC	250V~	6(4)A	250V	3A	250V~ / 6(4)A
BF...	428	NC/NO	250V~	6(4)A	250V	1.5A	250V~ / 6(4)A
B... 439 442		2NC/2NO			60V	3A (inductive)	60V~ / 3A and 60V DC / 1A
BZ...	450	NC/NO	250V~	6(4)A	250V	1.5A	250V~ / 6(4)A
CTF...	474	1 inverter					48V AC/DC 100mA
CT...	490	1...2 inverters					48V AC/DC 100mA
PT...	500	NC / NO			240V / 120V	1.5A / 3A	120V~ / 3A 240V~ / 1.5A

➔ Electric Contact Blocks with Screw Connections

Type	Page	Contact Configuration	Data acc. to VDE 0630		Data acc. to IEC 60947-5-1		Max. Switching Capacity
			Ue	Ie	Ue ~	Ie	
BF...K	436	NC/NO	250V~	6(4)A	250V	1.5A	250V~ / 6(4)A
BZ...K	460	NC/NO	250V~	6(4)A	250V	1.5A	250V~ / 6(4)A
ET...	508	NC/NO	250V~ / 440V~	10(6)A / 6(3)A	250V / 400V	5A / 3A	250V~ / 10(6)A 440V~ / 6(3)A
MT...	514	NC/NCIb/NO/ NOem/NO- NOem/NOem- NCIb/NC-NOem	250V~ / 440V~	16(10)A / 10(6)A	250V / 440V	3A / 1.6A	250V~ / 16(10)A 440V~ / 10(6)A

➔ Electric Contact Blocks with Spring-cage resp. Push-In Connection

Type	Page	Contact Configuration	Data acc. to VDE 0630		Data acc. to IEC 60947-5-1		Max. Switching Capacity
			Ue	Ie	Ue ~	Ie	
DS...	522	1NC/1NO	250V~ / 400V~	16(10)A / 10(5)A	240V / 380V	3A / 1.9A	250V~ / 16(10)A 400V~ / 10(5)A
DT...	528	NC/NCIb/NO/ NOem	250V~ / 400V~	16(10)A / 10(5)A	240V / 380V	3A / 1.9A	250V~ / 16(10)A 400V~ / 10(5)A

➔ Battery-free Transmitter Modules for Wireless Pushbuttons (page 546)

The transmitter modules enable the implementation of battery-free radio transmission of a pushbutton signal, particularly in the building and industrial automation, automotive industry and others. The required energy is provided by an electrodynamic power generator using the energy of the key travel (energy harvesting).

➔ Contact Blocks (Slaves) for AS-Interface (page 534)

Instead of up to 10 cable lines per control unit, ASI requires only two wires which are connected by insulation piercing (IDC technology) and looped through to all the assigned slaves. Up to 62 control units can be connected to one 2-conductor cable. This saves work, cuts installation times, reduces the number of potential errors and the system can be easily changed or expanded as required. Due to the flexible AS-Interface network structure, the Schlegel slaves can be connected to any position. Each control and signalling unit means a separate node in the AS-Interface system with individual address.

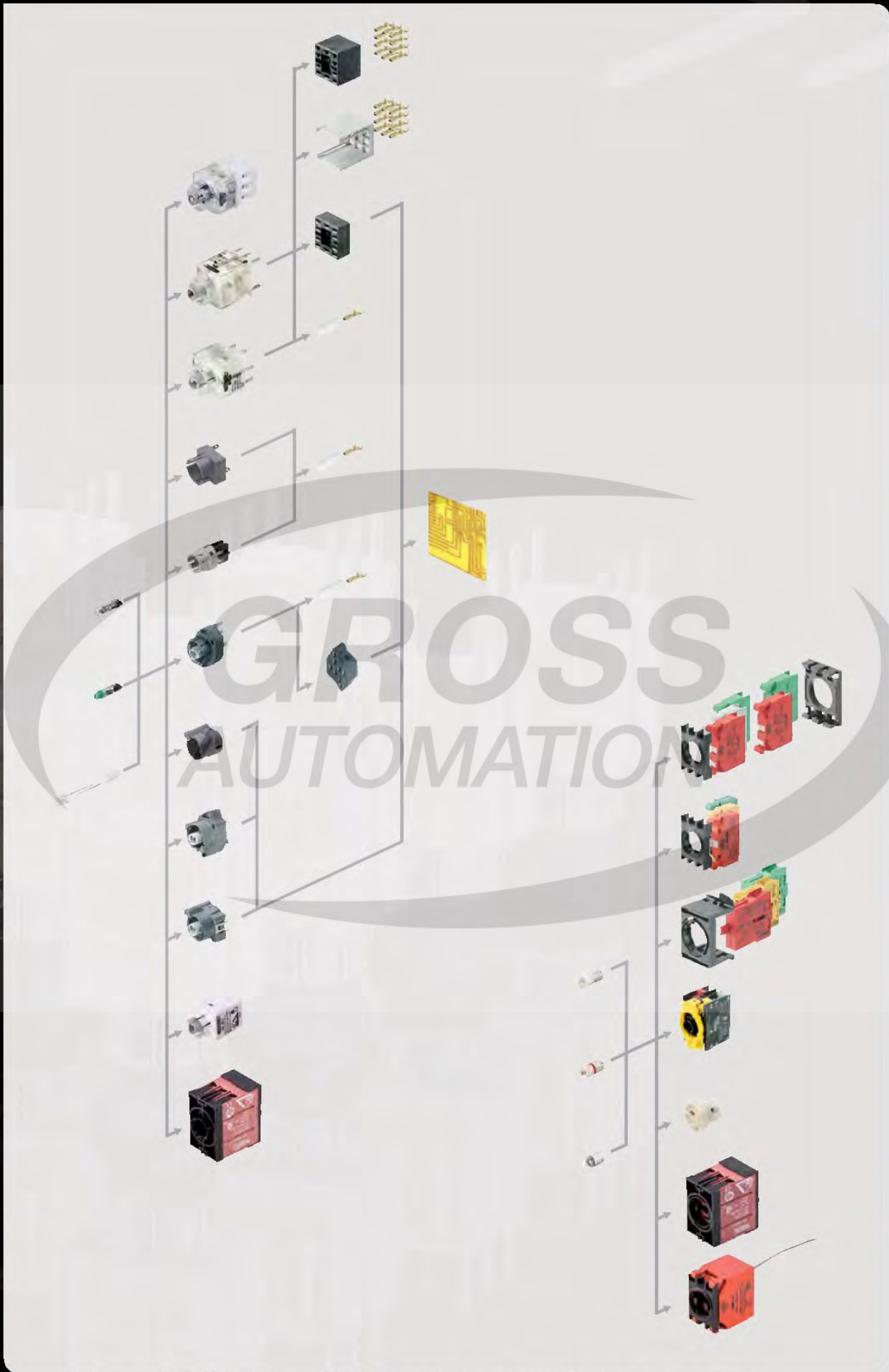
The current ratings in brackets refer to the inductive load acc. to EN61058-1.

➔ Modular Bus Operating Concept (page 572)

CANopen, Profibus, EtherCAT, Profinet I/O, Ethernet IP, AS-Interface

*) Ib= late break contact em= early make contact CC= central contact

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General Data

Type Reference:	AT..., AF...
Description:	Contact Block, positive opening contact
Approvals:	CCC, CSA, ENEC10, VDE, CE, NV, UR
Protection class:	II (protective insulation)
Operation travel:	6 mm
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Contact material:	AgNi
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LEDs
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1 m operations
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 20ms
Positive opening contact:	acc. to EN60947-5-1, appendix. K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

Utilisation category:	alternate current AC15 A300	direct current DC13 Q300
Rated insulation voltage U_i :	250 V	300 V
Rated operating voltage U_e :	250 V	250V / 125V / 60V / 24V
Rated operating current I_e :	3A	0.2A / 0.4A / 1A / 2A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	6 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage U_e :	250 V~
Rated current I_e :	6(3) A

Technical Data - Lamp

Lamp socket:	T5,5K
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

Electrical Features - 5µm gold-plating, type addition AU

Switching voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm

Note

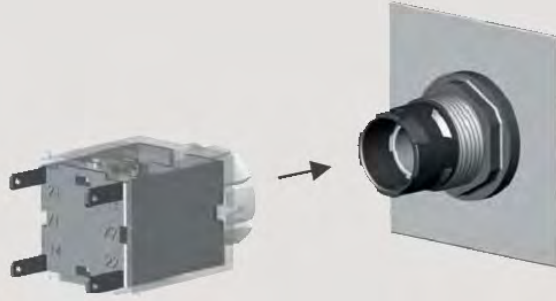
Notice for emergency-stop contact blocks:
For inverters of the Za type (as defined in EN 60947-5-1), only the NC contact must be used for remotely controlled safety circuits.

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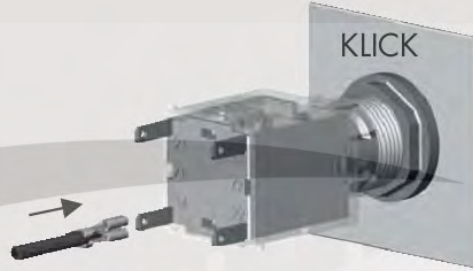
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Mounting Instructions

1.



2.



3.



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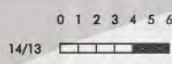
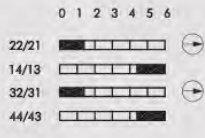
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Illustration	Description	Type
  	<p>Contact Block, momentary 1NC + 1NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP4</p> <p>suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>AT AT_AU</p>
  	<p>Illuminated Contact Block, momentary 1NC + 1NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP6 lamp socket T5,5K</p> <p>suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>ATL ATL_AU</p>
  	<p>Contact Block, momentary 1NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP4</p> <p>suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>ATI ATI_AU</p>
  	<p>Contact Block, momentary 1NC Faston terminals 2.8x0.8 mm suitable plug-in socket XAP4</p> <p>suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>ATO ATO_AU</p>
  	<p>Contact Block, momentary 2NC+2NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP8</p> <p>suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>AT2 AT2_AU</p>
  	<p>Illuminated Contact Block, momentary 2NC+2NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP10 lamp socket T5,5K</p> <p>suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>ATL2 ATL2_AU</p>

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Contact Blocks

Faston terminals 2.8x0.8 mm

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Illustration

Description

Type

6 mm

0 1 2 3 4 5 6

22/21 14/13

Contact Block, maintained
1NC + 1NO
 Faston terminals 2.8x0.8 mm
 suitable plug-in socket XAP4
 suitable actuators
 contact material AgNi **AF**
 contact material AgNi, gold-plated **AF_AU**

6 mm

0 1 2 3 4 5 6

22/21 14/13

Illuminated Contact Block, maintained
1NC + 1NO
 Faston terminals 2.8x0.8 mm
 suitable plug-in socket XAP6
 lamp socket T5,5K
 suitable actuators
 contact material AgNi **AFL**
 contact material AgNi, gold-plated **AFL_AU**

6 mm

0 1 2 3 4 5 6

22/21 14/13 32/31 44/43

Contact Block, maintained
2NC+2NO
 Faston terminals 2.8x0.8 mm
 suitable plug-in socket XAP8
 suitable actuators
 contact material AgNi **AF2**
 contact material AgNi, gold-plated **AF2_AU**

6 mm

0 1 2 3 4 5 6

22/21 14/13 32/31 44/43

Illuminated Contact Block, maintained
2NC+2NO
 Faston terminals 2.8x0.8 mm
 suitable plug-in socket XAP10
 lamp socket T5,5K
 suitable actuators
 contact material AgNi **AFL2**
 contact material AgNi, gold-plated **AFL2_AU**

6 mm

X1 X2

Lampholder **AL5**
 Faston terminals 2.8x0.8 mm
 suitable plug-in socket XAP2
 lamp socket T5,5K
 suitable pilot light heads

6 mm

X1 X2

Lampholder **L5**
 Faston terminals 2.8x0.8 mm
 lamp socket T5,5K
 suitable pilot light heads

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Illustration	Description	Type
	Plug-in Socket PCB-mount terminals with 10 pins	XAP10
	Plug-in Socket PCB-mount terminals with 8 pins	XAP8
	Plug-in Socket PCB-mount terminals with 6 pins	XAP6

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Contact Blocks

Faston terminals 2.8x0.8 mm





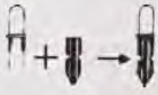

made in germany



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Illustration	Description	Type
	Plug-in Socket PCB-mount terminals with 4 pins	XAP4
	Plug-in Socket PCB-mount terminals with 2 pins fits the lampholders	XAP2
	Insulating Case for Faston clamp FH2,8, slip on from the front	IH2,8
	Faston Clamp 2.8 x 0.8 mm with snap-in pin Cross section 0.75 - 1.50 mm ² , tinned brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8	FH2,8
	Double Faston for the connection of 2 Faston clamps FH2.8	FD2,8

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Illustration	Description	Type															
	<p>Ultra-bright LED, T5,5K socket, 12V with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1 /- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p>																
	colour white	L5,5K12UW															
	<p>Ultra-bright LED, T5,5K socket, 24V with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1 /- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p>																
	colour white	L5,5K24UW															
	<p>Two-colour LED, T5,5K socket - 24V with integrated series resistor colour dependent on polarity Storage temperature: -25°C ... +80°C Ambient temperature: -20°C ... +60°C Voltage tolerance: + 10 %</p> <table border="0"> <tr> <td>Colour:</td> <td>red</td> <td></td> </tr> <tr> <td>green</td> <td></td> <td></td> </tr> <tr> <td>Rated current [mA]:</td> <td>14</td> <td>13</td> </tr> <tr> <td>Brightness [mcd]:</td> <td>2300</td> <td>650</td> </tr> <tr> <td>Dominant wavelength: [nm]</td> <td>625</td> <td>525</td> </tr> </table>	Colour:	red		green			Rated current [mA]:	14	13	Brightness [mcd]:	2300	650	Dominant wavelength: [nm]	625	525	
Colour:	red																
green																	
Rated current [mA]:	14	13															
Brightness [mcd]:	2300	650															
Dominant wavelength: [nm]	625	525															
	colour red/green	L5,5K24RG															
 	<p>LED Adapter for LEDs of 3 and 5 mm Ø to be used in T5.5K sockets, an external resistor must be provided.</p>	LA5,5															
	lamp socket T5,5K																
	<p>Voltage Reducer (for LEDs) Faston terminals 2.8x0.8 mm to operate a LED at 230V AC</p>	VE_LED230															

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Contact Blocks

Faston terminals 2.8x0.8 mm

made in germany



Illustration

Description

Type



Cable Set with Faston connections VE_VK2,8

suitable for VE_LED230



Cable Set with wire end ferrules VE_VKAE

suitable for VE_LED230

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General Data

Type Reference:	AZ...
Description:	Twin Contact Block, separate plungers, positive opening contact
Approvals:	CCC, cCSAus, ENEC05, KEMA, CE, NV, TÜV_Süd
Protection class:	II (protective insulation)
Operation travel:	6 mm
Connection type:	Faston terminals 2.8x0.8 mm
Contact material:	AgNi
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1 m operations at rated load
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 20ms
Positive opening contact:	acc. to EN60947-5-1, appendix. K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 A300	DC13 Q300
Rated insulation voltage U_i :	250 V	300 V
Rated operating voltage U_e :	250 V	250V / 125V / 60V / 24V
Rated operating current I_e :	3A	0.2A / 0.4A / 1A / 2A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	6 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage U_e :	250 V~
Rated current I_e :	6(4) A

Electrical Features - 5µm gold-plating, type addition ...AU

Switching voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm

Note

Notice for emergency-stop contact blocks:
For inverters of the Za type (as defined in EN 60947-5-1), only the NC contact must be used for remotely controlled safety circuits.

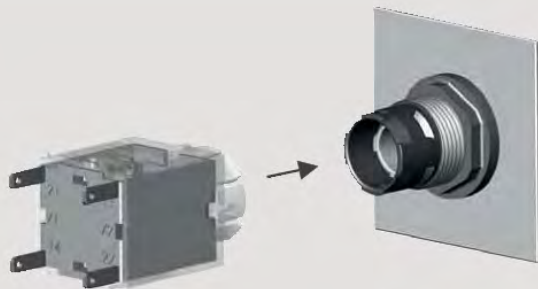
The electrical data acc. to UL/CSA may deviate.

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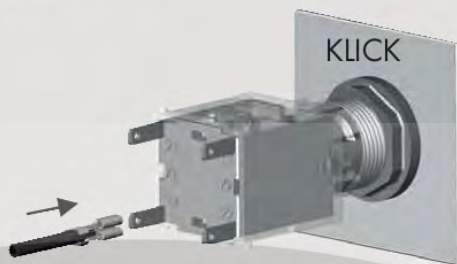
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Mounting Instructions

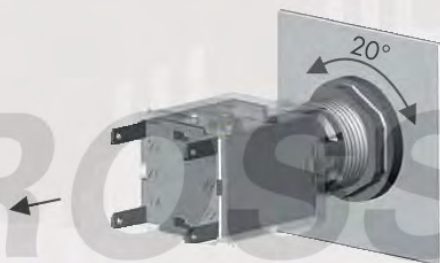
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Illustration	Description	Type
<p>6 mm</p> <p>32/31 44/43 14/13</p> <p>0 1 2 3 4 5 6</p> <p>32 31 44 43 14 13</p>	<p>Contact Block, momentary 1NC + 1NO + 1NO early make Faston terminals 2.8x0.8 mm suitable plug-in socket XAP8</p> <p>suitable actuators</p> <p>contact material AgNi</p> <p>contact material AgNi, gold-plated</p>	<p>AZ011 AZ011_AU</p>
<p>6 mm</p> <p>32/31 44/43 14/13</p> <p>0 1 2 3 4 5 6</p> <p>Druckpunkt</p> <p>32 31 44 43 14 13</p>	<p>Two-step Contact Block, momentary 1NC + 1NO + 1NO early make Faston terminals 2.8x0.8 mm suitable plug-in socket XAP10</p> <p>suitable actuators</p> <p>contact material AgNi</p>	<p>AZ011_97</p>
<p>6 mm</p> <p>22/21 32/31</p> <p>0 1 2 3 4 5 6</p> <p>22 21 32 31</p>	<p>Contact Block, momentary 2NC Faston terminals 2.8x0.8 mm suitable plug-in socket XAP4</p> <p>suitable actuators</p> <p>contact material AgNi</p> <p>contact material AgNi, gold-plated</p>	<p>AZ00 AZ00_AU</p>
<p>13/6 mm</p> <p>22/21 11/12 41/42 31/32</p> <p>0 1 2 3</p> <p>22 21 11 12 41 42 31 32</p>	<p>Contact Block, momentary 4NC Faston terminals 2.8x0.8 mm suitable plug-in socket XAP8</p> <p>suitable actuators</p> <p>contact material AgNi</p>	<p>AZ40</p>
<p>13/6 mm</p> <p>22/21 11/12 41/42 31/32</p> <p>0 1 2 3</p> <p>22 21 11 12 41 42 31 32 X1 X2</p>	<p>Illuminated Contact Block, momentary 4NC Faston terminals 2.8x0.8 mm suitable plug-in socket XAP10 lamp socket T5,5K</p> <p>suitable actuators</p> <p>contact material AgNi</p>	<p>AZL40</p>
<p>6 mm</p> <p>22/21 14/13 44/32</p> <p>0 1 2 3 4 5 6</p> <p>1.85 3.00</p> <p>22 21 14 13 44 32</p>	<p>Contact Block, momentary 1NC + 1NO + 1centre contact Faston terminals 2.8x0.8 mm suitable plug-in socket XAP8</p> <p>suitable actuators</p> <p>contact material AgNi</p> <p>contact material AgNi, gold-plated</p>	<p>AZ111 AZ111_AU</p>
<p>13/6 mm</p> <p>23/24 13/14 43/44 33/34</p> <p>0 1 2 3</p> <p>23 24 13 14 43 44 33 34</p>	<p>Contact Block, momentary 4NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP8</p> <p>suitable actuators</p> <p>contact material AgNi</p>	<p>AZ4I</p>

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Contact Blocks

Faston terminals 2.8x0.8 mm

made in germany



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Illustration	Description	Type
 <p>13/6 mm</p> <p>23/24 13/14 43/44 33/34</p> <p>0 1 2 3</p> <p>23 24 14 13 43 44 33 34 X1 X2</p>	<p>Illuminated Contact Block, momentary 4NO</p> <p>Faston terminals 2.8x0.8 mm suitable plug-in socket XAP10 lamp socket T5,5K</p> <p>suitable actuators</p> <p>contact material AgNi</p>	AZL4I
 <p>6 mm</p> <p>22/21 14/13 32/31 44/43</p> <p>0 1 2 3 4 5 6</p> <p>22 21 14 13 32 31 44 43</p>	<p>Contact Block, momentary 2NC+2NO</p> <p>Faston terminals 2.8x0.8 mm suitable plug-in socket XAP8</p> <p>suitable actuators</p> <p>contact material AgNi</p>	AZ2
 <p>13/6 mm</p> <p>22/21 14/13 32/31 44/43</p> <p>0 1 2 3 4 5 6</p> <p>22 21 14 13 32 31 44 43</p>	<p>Contact Block, momentary 2NC+2NO</p> <p>Faston terminals 2.8x0.8 mm suitable plug-in socket XAP8</p> <p>suitable actuators</p> <p>contact material AgNi</p>	AZ2N
 <p>6 mm</p> <p>14/13 32/31</p> <p>0 1 2 3 4 5 6</p> <p>14 13 32 31</p>	<p>Contact Block, momentary 1 NO early make + 1 NC late break</p> <p>Faston terminals 2.8x0.8 mm suitable plug-in socket XAP8</p> <p>suitable actuators</p> <p>contact material AgNi, gold-plated</p>	AZVN AZVN_AU
 <p>13/6 mm</p> <p>14/13 22/21 44/32</p> <p>-2 -1 0 1 2 3 4 5 6</p> <p>14 13 22 21 44 43 32 31</p> <p>Position: Betätiger aufgerastet</p>	<p>Momentary Contact Block for Emergency Stops, with failure switch-off *) 2NC + 1NO</p> <p>Faston terminals 2.8x0.8 mm *) 1 NC, 1 NO and 1 safety circuit, consisting of 1 NC for emergency stop connected in series with 1 NO, which is always closed during operation but opens automatically once the actuator and contact block are separated from each other.</p> <p>suitable plug-in socket XAP8 suitable actuators</p> <p>contact material AgNi, gold-plated</p>	AZOSOI AZOSOI_AU

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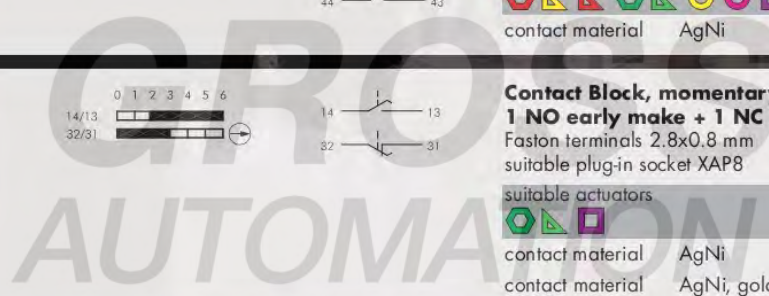


Illustration	Description	Type
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	<p>Momentary Contact Block for Emergency Stops with failure switch-off *) 2NC</p> <p>Faston terminals 2.8x0.8 mm *) 2 safety circuits, consisting of 1 NC for emergency stop connected in series with 1 NO, which is always closed during operation but opens automatically once the actuator and contact block are separated from each other.</p>	
<p>suitable plug-in socket XAP8 suitable actuators</p>		
<p>contact material AgNi contact material AgNi, gold-plated</p>		
		<p>AZSOSO AZSOSO_AU</p>

	<p>Plug-in Socket XAP4 PCB-mount terminals with 4 pins</p>	
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	<p>Plug-in Socket XAP8 PCB-mount terminals with 8 pins</p>	
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Contact Blocks

Faston terminals 2.8x0.8 mm

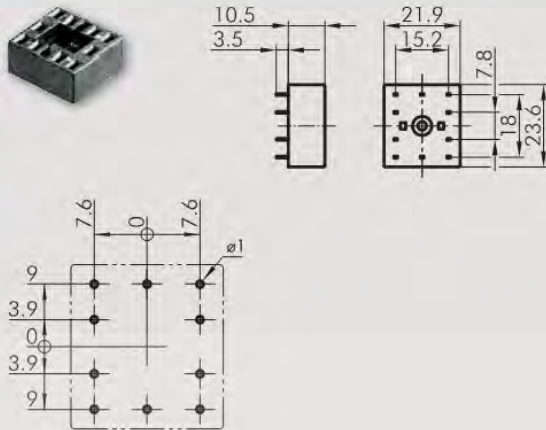
made in germany



Illustration

Description

Type



Plug-in Socket
PCB-mount terminals
with 10 pins

XAP10



Insulating Case
for Faston clamp FH2,8, slip on from the
front

IH2,8



**Faston Clamp 2.8 x 0.8 mm with
snap-in pin**
Cross section 0.75 - 1.50 mm², tin-
plated brass, with pin to snapfit into the
sockets XA, XAL and the insulating case
IH2.8

FH2,8



Double Faston
for the connection of 2 Faston clamps
FH2.8

FD2,8



Ultra-bright LED, T5,5K socket, 12V
with integrated series resistor
and half-wave rectifier, for 12 V AC/DC
(7/14 mA)
When connecting to DC, the correct
polarity must be observed:
+ ... X1/- ... X2
storage temperature:
-25°C ... +80°C
ambient temperature:
-20°C ... +60°C
voltage tolerance:
+ 10 %

colour white

L5,5K12UW



Ultra-bright LED, T5,5K socket, 24V
with integrated series resistor
and half-wave rectifier, for 24 V AC/DC
(7/14 mA)
When connecting to DC, the correct
polarity must be observed:
+ ... X1/- ... X2
storage temperature:
-25°C ... +80°C
ambient temperature:
-20°C ... +60°C
voltage tolerance:
+ 10 %

colour white

L5,5K24UW

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	<p>Two-colour LED, T5,5K socket - 24V with integrated series resistor colour dependent on polarity Storage temperature: -25°C ... +80°C Ambient temperature: -20°C ... +60°C Voltage tolerance: + 10 %</p> <table border="0"> <tr> <td>Colour:</td> <td>red</td> <td>green</td> </tr> <tr> <td>Rated current [mA]:</td> <td>14</td> <td>13</td> </tr> <tr> <td>Brightness [mcd]:</td> <td>2300</td> <td>650</td> </tr> <tr> <td>Dominant wavelength: [nm]</td> <td>625</td> <td>525</td> </tr> </table>	Colour:	red	green	Rated current [mA]:	14	13	Brightness [mcd]:	2300	650	Dominant wavelength: [nm]	625	525	
Colour:	red	green												
Rated current [mA]:	14	13												
Brightness [mcd]:	2300	650												
Dominant wavelength: [nm]	625	525												
	colour	red/green												
		L5,5K24RG												
	<p>LED Adapter for LEDs of 3 and 5 mm Ø to be used in T5.5K sockets, an external resistor must be provided.</p>	LA5,5												
	lamp socket	T5,5K												
	<p>Voltage Reducer (for LEDs) Faston terminals 2.8x0.8 mm to operate a LED at 230V AC</p>	VE_LED230												
	<p>Cable Set with Faston connections suitable for VE_LED230</p>	VE_VK2,8												
	<p>Cable Set with wire end ferrules suitable for VE_LED230</p>	VE_VKAE												

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General Data

Type Reference:	BF... (without screw connection)
Description:	Contact Block
Approvals:	CCC, cCSAus, ENEC10, VDE, CE, NV, UR
Protection class:	II (protective insulation)
Operation travel:	3 mm
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Contact material:	AgNi
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LED's
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1 m operations at rated load
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 B300	DC13 Q300
Rated insulation voltage U_i :	250 V	300 V
Rated operating voltage U_e :	250 V	250V / 125V / 60V / 24V
Rated operating current I_e :	1.5A	0.2A / 0.4A / 1A / 2A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	6 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage U_e :	250 V~
Rated current I_e :	6(4) A

Technical Data - Lamp

Lamp socket:	T5,5K / W2x4,6d
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

Electrical Features

Operational voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm

Additional Electrical Data

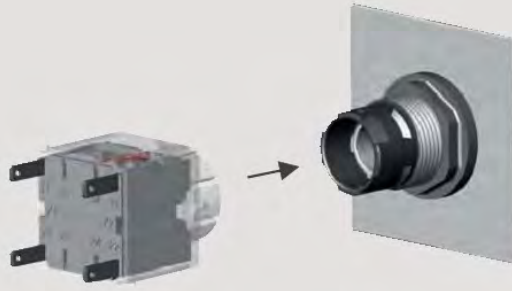
Overvoltage category:	II
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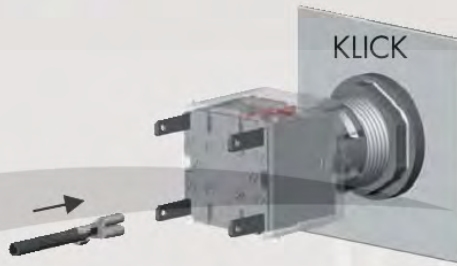
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saijras adfnd

Mounting Instructions

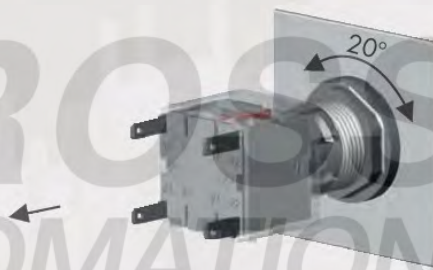
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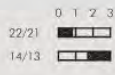
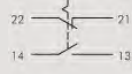
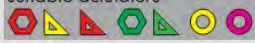

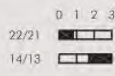
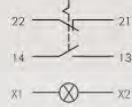


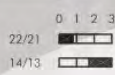
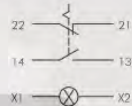



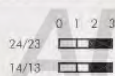
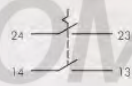
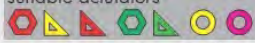


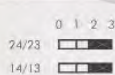
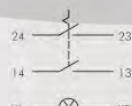
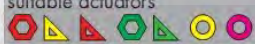

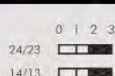
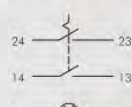

Enclosures

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   	<p>Contact Block, maintained 1NC + 1NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP601</p> <p>suitable actuators </p> <p>contact material AgNi BF contact material AgNi, gold-plated BF_AU</p>	
    	<p>Illuminated Contact Block, maintained 1NC + 1NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP601 lamp socket W2x4,6d</p> <p>suitable actuators </p> <p>contact material AgNi BFL contact material AgNi, gold-plated BFL_AU</p>	
    	<p>Illuminated Contact Block, maintained 1NC + 1NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP601 lamp socket T5,5K</p> <p>suitable actuators </p> <p>contact material AgNi BFL5 contact material AgNi, gold-plated BFL5_AU</p>	
   	<p>Contact Block, maintained 2NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP611</p> <p>suitable actuators </p> <p>contact material AgNi BFI contact material AgNi, gold-plated BFI_AU</p>	
    	<p>Illuminated Contact Block, maintained 2NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP611 lamp socket W2x4,6d</p> <p>suitable actuators </p> <p>contact material AgNi BFLI contact material AgNi, gold-plated BFLI_AU</p>	
    	<p>Illuminated Contact Block, maintained 2NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP611 lamp socket T5,5K</p> <p>suitable actuators </p> <p>contact material AgNi BFLI5 contact material AgNi, gold-plated BFLI5_AU</p>	

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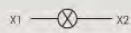


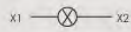
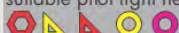

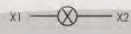
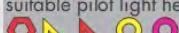

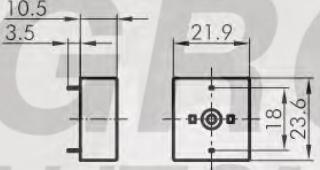
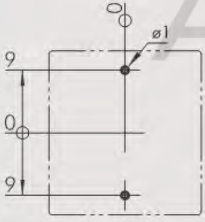

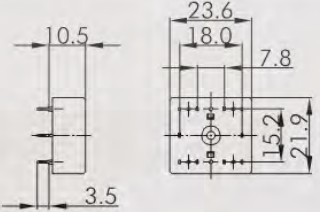
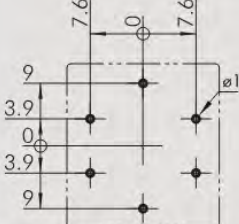
Contact Blocks

Faston terminals 2.8x0.8 mm

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Illustration	Description	Type
 	<p>Lampholder Faston terminals 2.8x0.8 mm suitable plug-in socket XAP2 lamp socket W2x4,6d suitable pilot light heads</p> 	BL4
 	<p>Lampholder Faston terminals 2.8x0.8 mm suitable plug-in socket XAP2 lamp socket T5,5K suitable pilot light heads</p> 	BL5
 	<p>Lampholder Faston terminals 2.8x0.8 mm suitable protection plug XAL lamp socket W2x4,6d suitable pilot light heads</p> 	L4
  	<p>Plug-in Socket PCB-mount terminals with 2 pins fits the lampholders</p>	XAP2
  	<p>Plug-in Socket PCB-mount terminals with 6 pins</p>	XAP611

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Illustration	Description	Type
	Plug-in Socket PCB-mount terminals with 6 pins	XAP601
	Insulating Case for Faston clamp FH2,8, slip on from the front	IH2,8
	Faston Clamp 2.8 x 0.8 mm with snap-in pin Cross section 0.75 - 1.50 mm ² , tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8	FH2,8
	Double Faston for the connection of 2 Faston clamps FH2.8	FD2,8
	Ultra-bright LED, W2x4,6d socket, 12V with half-wave rectifier, for 12 V AC/DC (6/12 mA) When connecting to DC, the correct polarity must be observed: + ... X1 /- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 % colour white	L2X4,6-12UW
	Ultra-bright LED, W2x4,6d socket, 24V with half-wave rectifier, for 24 V AC/DC (2/4 mA) When connecting to DC, the correct polarity must be observed: + ... X1 /- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 % colour white	L2X4,6-24UW

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Faston terminals 2.8x0.8 mm

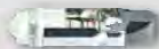
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Illustration

Description

Type



Ultra-bright LED, T5,5K socket, 12V

with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA)
When connecting to DC, the correct polarity must be observed:
+ ... X1/- ... X2
storage temperature: -25°C ... +80°C
ambient temperature: -20°C ... +60°C
voltage tolerance: + 10 %

colour white **L5,5K12UW**



Ultra-bright LED, T5,5K socket, 24V

with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA)
When connecting to DC, the correct polarity must be observed:
+ ... X1/- ... X2
storage temperature: -25°C ... +80°C
ambient temperature: -20°C ... +60°C
voltage tolerance: + 10 %

colour white **L5,5K24UW**



Two-colour LED, T5,5K socket - 24V

with integrated series resistor
colour dependent on polarity
Storage temperature: -25°C ... +80°C
Ambient temperature: -20°C ... +60°C
Voltage tolerance: + 10 %

Colour:	red	
green		
Rated current [mA]:	14	13
Brightness [mcd]:	2300	650
Dominant wavelength: [nm]	625	525

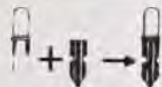
colour red/green **L5,5K24RG**



Ultra-bright LED

solder pins, grid 2.54 mm
ready-made for CTP_485
3680 mcd white

LED3UW



LED Adapter

for LEDs of 3 and 5 mm Ø to be used in T5.5K sockets,
an external resistor must be provided.

LA5,5

lamp socket T5,5K

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Illustration	Description	Type
	Voltage Reducer (for LEDs) Faston terminals 2.8x0.8 mm to operate a LED at 230V AC	VE_LED230
	Cable Set with Faston connections suitable for VE_LED230	VE_VK2,8
	Cable Set with wire end ferrules suitable for VE_LED230	VE_VKAE

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General Data

Type Reference:	BF...K
Description:	Contact Block
Approvals:	CCC, cCSAus, ENEC10, VDE, CE, NV, UR
Protection class:	II (protective insulation)
Operation travel:	3 mm
Connection type:	screw connection
Contact material:	AgNi
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LED's
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1 m operations at rated load
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

Utilisation category:	alternate current	direct current
Rated insulation voltage Ui:	AC15 B300	DC13 Q300
Rated operating voltage Ue:	250 V	300 V
Rated operating current Ie:	250 V	250V / 125V / 60V / 24V
Breaking capacity:	1.5A	0.2A / 0.4A / 1A / 2A
Continuous thermal current:	10Ie	1,1Ie
	6 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage Ue:	250 V~
Rated current Ie:	6(4) A

Technical Data - Lamp

Lamp socket:	T5,5K / W2x4,6d
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

Electrical Features

Operational voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm
Tightening torque (screw terminal):	0.4 Nm

Additional Electrical Data

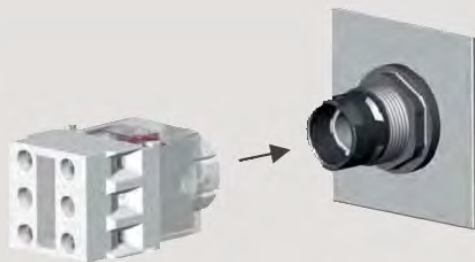
Overvoltage category:	II
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KROSS Automation

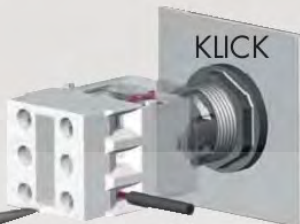
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Mounting Instructions

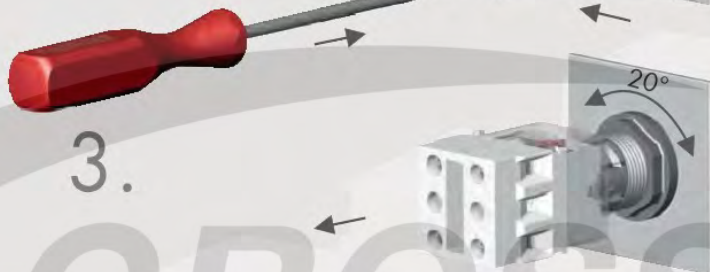
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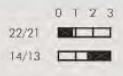



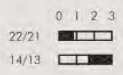

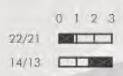
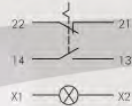
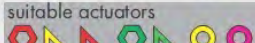


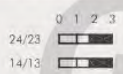


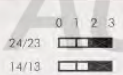
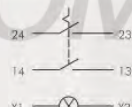

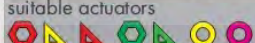
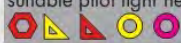

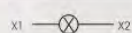
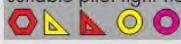
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Illustration	Description	Type
   	Contact Block, maintained 1NC + 1NO screw connection 2.5 mm ² suitable actuators  contact material AgNi	BFK
   	Illuminated Contact Block, maintained 1NC + 1NO screw connection 2.5 mm ² lamp socket W2x4,6d suitable actuators  contact material AgNi	BFLK
   	Illuminated Contact Block, maintained 1NC + 1NO screw connection 2.5 mm ² lamp socket T5,5K suitable actuators  contact material AgNi	BFL5K
   	Contact Block, maintained 2NO screw connection 2.5 mm ² suitable actuators  contact material AgNi	BFIK
   	Illuminated Contact Block, maintained 2NO screw connection 2.5 mm ² lamp socket W2x4,6d suitable actuators  contact material AgNi	BFLIK
   	Illuminated Contact Block, maintained 2NO screw connection 2.5 mm ² lamp socket T5,5K suitable actuators  contact material AgNi	BFLI5K
  	Lampholder screw connection 2.5 mm ² lamp socket W2x4,6d suitable pilot light heads 	BL4K
  	Lampholder screw connection 2.5 mm ² T5,5K socket lamp socket T5,5K suitable pilot light heads 	BL5K

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Contact Blocks

screw connection 2.5 mm²

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Illustration

Description

Type



Ultra-bright LED, W2x4,6d socket, 12V

with half-wave rectifier, for 12 V AC/DC (6/12 mA)
When connecting to DC, the correct polarity must be observed:
+ ... X1/- ... X2
storage temperature: -25°C ... +80°C
ambient temperature: -20°C ... +60°C
voltage tolerance: + 10 %
colour white

L2X4,6-12UW



Ultra-bright LED, W2x4,6d socket, 24V

with half-wave rectifier, for 24 V AC/DC (2/4 mA)
When connecting to DC, the correct polarity must be observed:
+ ... X1/- ... X2
storage temperature: -25°C ... +80°C
ambient temperature: -20°C ... +60°C
voltage tolerance: + 10 %
colour white

L2X4,6-24UW



Ultra-bright LED, T5,5K socket, 12V

with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA)
When connecting to DC, the correct polarity must be observed:
+ ... X1/- ... X2
storage temperature: -25°C ... +80°C
ambient temperature: -20°C ... +60°C
voltage tolerance: + 10 %
colour white

L5,5K12UW








Ultra-bright LED, T5,5K socket, 24V

with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA)
When connecting to DC, the correct polarity must be observed:
+ ... X1/- ... X2
storage temperature: -25°C ... +80°C
ambient temperature: -20°C ... +60°C
voltage tolerance: + 10 %
colour white

L5,5K24UW

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Illustration	Description	Type
	<p>Two-colour LED, T5,5K socket - 24V with integrated series resistor colour dependent on polarity Storage temperature: -25°C ... +80°C Ambient temperature: -20°C ... +60°C Voltage tolerance: + 10 %</p> <p>Colour: red green Rated current [mA]: 14 13 Brightness [mcd]: 2300 650 Dominant wavelength: [nm] 625 525</p>	L5,5K24RG
	<p>Ultra-bright LED solder pins, grid 2.54 mm ready-made for CTP_485</p> <p>3680 mcd white</p>	LED3UW
	<p>LED Adapter for LEDs of 3 and 5 mm Ø to be used in T5.5K sockets, an external resistor must be provided.</p> <p>lamp socket T5,5K</p>	LA5,5
	<p>Voltage Reducer (for LEDs) Faston terminals 2.8x0.8 mm to operate a LED at 230V AC</p>	VE_LED230
	<p>Cable Set with wire end ferrules suitable for VE_LED230</p>	VE_VKAE

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General Data

Type Reference:	B...439
Description:	Contact Block
Approvals:	CCC, CE
Protection class:	II (protective insulation)
Operation travel:	3 mm
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Contact material:	AgNi
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LEDs
Mechanical life:	1 m switching cycles
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 20ms

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Rated insulation voltage Ui:	60V	60V
Rated operating voltage Ue:	60V~	60V(ind.) / 60V (R) / 50V(R) / 40V(R)
Rated operating current Ie:	3A (inductive)	1A / 3A / 4A / 5A
Continuous thermal current:	6 A	

Technical Data - Lamp

Lamp socket:	T5,5K / W2x4,6d
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

Electrical Features

Rated voltage:	20mV ... 42V AC/DC
Rated current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm

Additional Electrical Data

Overvoltage category:	II
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Note

BZ...439 with two-piece plunger

Electrical lifetime data:		
AC15	60V/3A	1000.000
DC13	24V/5A	50.000
DC13	60V/1A	100.000
DC	40V/5A	100.000 (ohmic load)
DC	50V/4A	100.000 (ohmic load)
DC	60V/3A	100.000 (ohmic load)

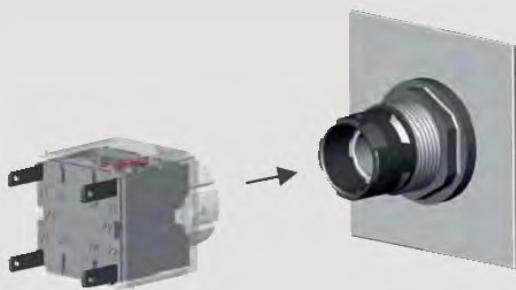
Using a flyback diode, the DC lifetime can be considerably increased at inductive load. The contacts of the "BZ...439" are, as defined in EN 60947-5-1 app. K, not designed as positive opening contacts. Hence, they are not suitable for emergency-stop applications.

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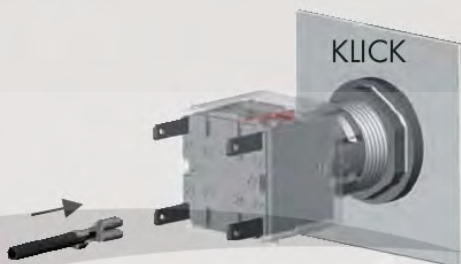
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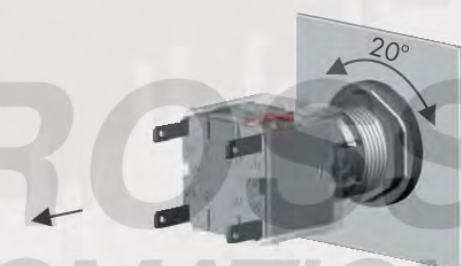
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Illustration	Description	Type
 <p>3 mm</p> <p>0 1 2 3</p> <p>12/11 14/13 22/21 24/23</p> <p>12 11 14 13 22 21 24 23</p>	<p>Contact Block, maintained 2NC+2NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP8</p> <p>suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>BF_439 BF_439_AU</p>
 <p>3 mm</p> <p>0 1 2 3</p> <p>12/11 14/13 22/21 24/23</p> <p>12 11 14 13 22 21 24 23 X1 X2</p>	<p>Illuminated Contact Block, maintained 2NC+2NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP10 lamp socket W2x4,6d</p> <p>suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>BFL_439 BFL_439_AU</p>
 <p>3 mm</p> <p>0 1 2 3</p> <p>12/11 14/13 22/21 24/23</p> <p>12 11 14 13 22 21 24 23 X1 X2</p>	<p>Illuminated Contact Block, maintained 2NC+2NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP10 lamp socket T5,5K</p> <p>suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>BFL5_439 BFL5_439_AU</p>
 <p>3 mm</p> <p>0 1 2 3</p> <p>12/11 14/13 22/21 24/23</p> <p>12 11 14 13 22 21 24 23</p>	<p>Contact Block, momentary 2NC+2NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP8</p> <p>suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>BZ_439 BZ_439_AU</p>
 <p>3 mm</p> <p>0 1 2 3</p> <p>12/11 14/13 22/21 24/23</p> <p>12 11 14 13 22 21 24 23 X1 X2</p>	<p>Illuminated Contact Block, momentary 2NC+2NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP10 lamp socket W2x4,6d</p> <p>suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>BZL_439 BZL_439_AU</p>

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Contact Blocks

Faston terminals 2.8x0.8 mm

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Illustration	Description	Type
	Plug-in Socket PCB-mount terminals with 10 pins	XAP10
	Plug-in Socket PCB-mount terminals with 8 pins	XAP8
	Insulating Case for Faston clamp FH2,8, slip on from the front	IH2,8
	Faston Clamp 2.8 x 0.8 mm with snap-in pin Cross section 0.75 - 1.50 mm ² , tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8	FH2,8
	Double Faston for the connection of 2 Faston clamps FH2.8	FD2,8
	Ultra-bright LED, W2x4,6d socket, 12V with half-wave rectifier, for 12 V AC/DC (6/12 mA) When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 % colour white	L2X4,6-12UW

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Illustration	Description	Type												
	<p>Ultra-bright LED, W2x4,6d socket, 24V with half-wave rectifier, for 24 V AC/DC (2/4 mA) When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p>													
	colour white	L2X4,6-24UW												
	<p>Ultra-bright LED, T5,5K socket, 12V with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p>													
	colour white	L5,5K12UW												
	<p>Ultra-bright LED, T5,5K socket, 24V with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p>													
	colour white	L5,5K24UW												
	<p>Two-colour LED, T5,5K socket - 24V with integrated series resistor colour dependent on polarity Storage temperature: -25°C ... +80°C Ambient temperature: -20°C ... +60°C Voltage tolerance: + 10 %</p> <table border="0"> <tr> <td>Colour:</td> <td>red</td> <td>green</td> </tr> <tr> <td>Rated current [mA]:</td> <td>14</td> <td>13</td> </tr> <tr> <td>Brightness [mcd]:</td> <td>2300</td> <td>650</td> </tr> <tr> <td>Dominant wavelength: [nm]</td> <td>625</td> <td>525</td> </tr> </table>	Colour:	red	green	Rated current [mA]:	14	13	Brightness [mcd]:	2300	650	Dominant wavelength: [nm]	625	525	
Colour:	red	green												
Rated current [mA]:	14	13												
Brightness [mcd]:	2300	650												
Dominant wavelength: [nm]	625	525												
	colour red/green	L5,5K24RG												

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Contact Blocks

Faston terminals 2.8x0.8 mm

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Illustration

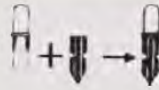
Description

Type



Ultra-bright LED
solder pins, grid 2.54 mm
ready-made for CTP_485
3680 mcd white

LED3UW



LED Adapter
for LEDs of 3 and 5 mm Ø to be used in
T5.5K sockets,
an external resistor must be provided.

LA5,5

lamp socket T5,5K



Voltage Reducer (for LEDs)
Faston terminals 2.8x0.8 mm
to operate a LED at 230V AC

VE_LED230



Cable Set with Faston connections **VE_VK2,8**
suitable for VE_LED230



Cable Set with wire end ferrules **VE_VKAE**
suitable for VE_LED230

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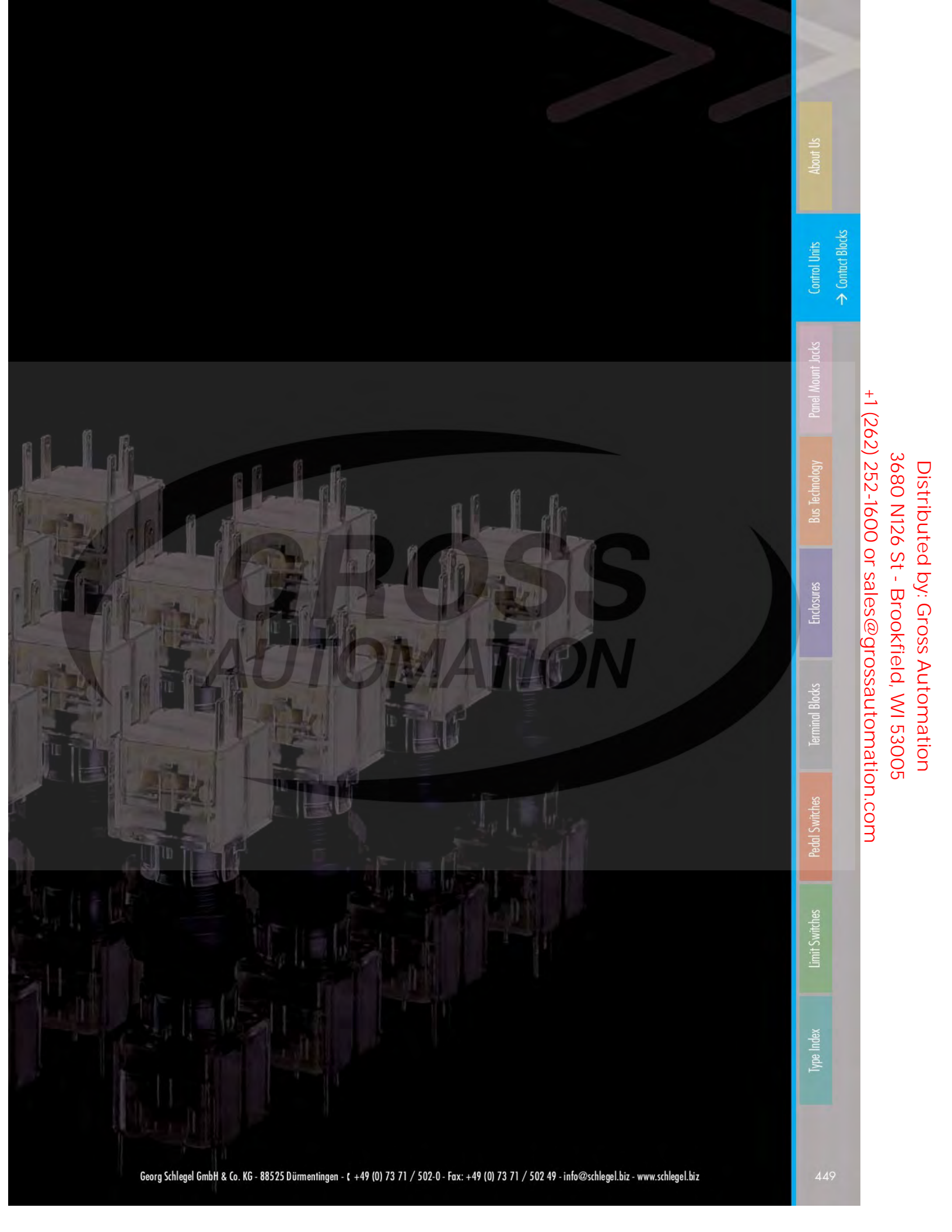
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General Data

Type Reference:	BZ... (without screw connection)
Description:	Twin Contact Block, separate plungers, positive opening contact
Approvals:	CCC, cCSAus, ENEC10, VDE, CE, NV, TÜV_Süd, positive opening contact, UR
Protection class:	II (protective insulation)
Operation travel:	3 mm
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Contact material:	AgNi
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LED's
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1 m operations at rated load
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix. K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

Utilisation category:	alternate current AC15 B300	direct current DC13 Q600
Rated insulation voltage U_i :	250 V	300 V
Rated operating voltage U_e :	250 V	250 V / 125 V / 60 V / 24 V
Rated operating current I_e :	1.5 A	0.2 A / 0.4 A / 1 A / 2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	6 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage U_e :	250 V~
Rated current I_e :	6(4) A

Technical Data - Lamp

Lamp socket:	T5,5K / W2x4,6d
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

Electrical Features

Operational voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm

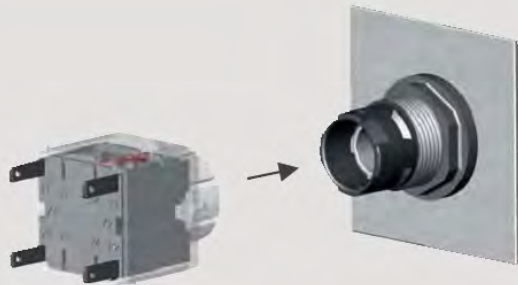
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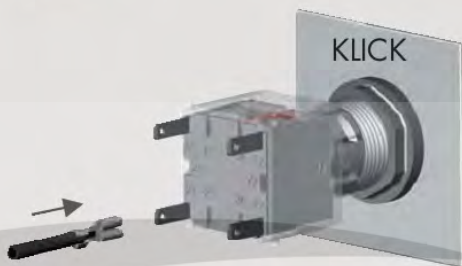
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Mounting Instructions

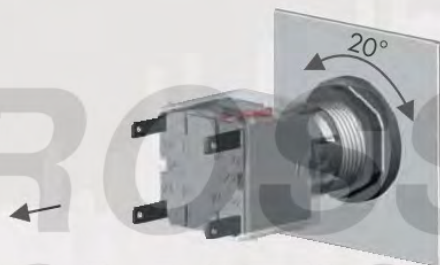
1.



2.



3.



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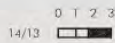
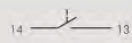




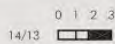
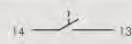
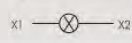
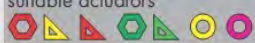



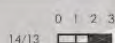
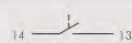
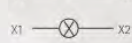



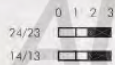

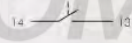
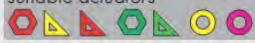



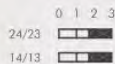
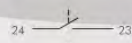
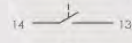
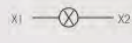
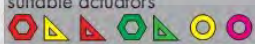



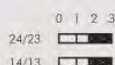
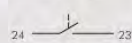
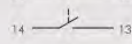
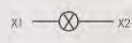

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Illustration	Description	Type
   	<p>Contact Block, momentary 1NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP41 1</p> <p>suitable actuators</p>  <p>contact material AgNi BZI contact material AgNi, gold-plated BZI_AU</p>	
     	<p>Illuminated Contact Block, momentary 1NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP61 1 lamp socket W2x4,6d</p> <p>suitable actuators</p>  <p>contact material AgNi BZLI contact material AgNi, gold-plated BZLI_AU</p>	
     	<p>Illuminated Contact Block, momentary 1NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP61 1 lamp socket T5,5K</p> <p>suitable actuators</p>  <p>contact material AgNi BZLI5 contact material AgNi, gold-plated BZLI5_AU</p>	
    	<p>Contact Block, momentary 2NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP41 1</p> <p>suitable actuators</p>  <p>contact material AgNi BZII contact material AgNi, gold-plated BZII_AU</p>	
      	<p>Illuminated Contact Block, momentary 2NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP61 1 lamp socket W2x4,6d</p> <p>suitable actuators</p>  <p>contact material AgNi BZLII contact material AgNi, gold-plated BZLII_AU</p>	
      	<p>Illuminated Contact Block, momentary 2NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP61 1 lamp socket T5,5K</p> <p>suitable actuators</p>  <p>contact material AgNi BZLIIS contact material AgNi, gold-plated BZLIIS_AU</p>	

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Contact Blocks

Faston terminals 2.8x0.8 mm

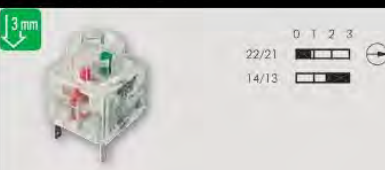

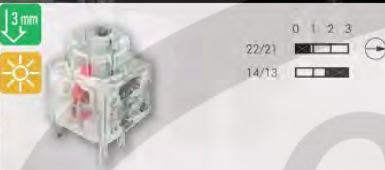
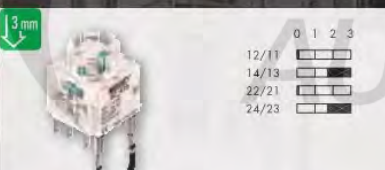
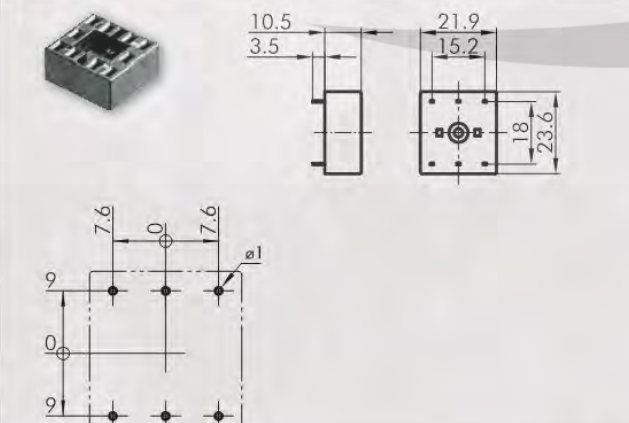
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Illustration	Description	Type
	<p>Contact Block, momentary 1NC</p> <p>Faston terminals 2.8x0.8 mm suitable plug-in socket XAP4</p> <p>suitable actuators</p> <p>contact material AgNi BZO contact material AgNi, gold-plated BZO_AU</p>	
	<p>Illuminated Contact Block, momentary 1NC</p> <p>Faston terminals 2.8x0.8 mm suitable plug-in socket XAP6 lamp socket W2x4,6d</p> <p>suitable actuators</p> <p>contact material AgNi BZLO contact material AgNi, gold-plated BZLO_AU</p>	
	<p>Illuminated Contact Block, momentary 1NC</p> <p>Faston terminals 2.8x0.8 mm suitable plug-in socket XAP6 lamp socket T5,5K</p> <p>suitable actuators</p> <p>contact material AgNi BZLO5 contact material AgNi, gold-plated BZLO5_AU</p>	
	<p>Contact Block, momentary 2NC</p> <p>Faston terminals 2.8x0.8 mm suitable plug-in socket XAP4</p> <p>suitable actuators</p> <p>contact material AgNi BZOO contact material AgNi, gold-plated BZOO_AU</p>	
	<p>Illuminated Contact Block, momentary 2NC</p> <p>Faston terminals 2.8x0.8 mm suitable plug-in socket XAP6 lamp socket W2x4,6d</p> <p>suitable actuators</p> <p>contact material AgNi BZLOO contact material AgNi, gold-plated BZLOO_AU</p>	
	<p>Illuminated Contact Block, momentary 2NC</p> <p>Faston terminals 2.8x0.8 mm suitable plug-in socket XAP6 lamp socket T5,5K</p> <p>suitable actuators</p> <p>contact material AgNi BZLOO5 contact material AgNi, gold-plated BZLOO5_AU</p>	

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Illustration	Description	Type
	<p>Contact Block, momentary 1NC + 1NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP601</p> <p>suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>BZOI BZOI_AU</p>
	<p>Illuminated Contact Block, momentary 1NC + 1NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP601 lamp socket W2x4,6d</p> <p>suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>BZLOI BZLOI_AU</p>
	<p>Illuminated Contact Block, momentary 1NC + 1NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP601 lamp socket T5,5K</p> <p>suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>BZLOI5 BZLOI5_AU</p>
	<p>Contact Block, momentary 2NC + 2NO Faston terminals 2.8x0.8 mm</p> <p>suitable actuators</p> <p>contact material AgNi</p>	<p>BZ_494</p>
	<p>Plug-in Socket PCB-mount terminals with 6 pins</p>	<p>XAP6</p>

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Contact Blocks

Faston terminals 2.8x0.8 mm

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Illustration	Description	Type
	<p>Plug-in Socket PCB-mount terminals with 4 pins</p>	<p>XAP4</p>
	<p>Plug-in Socket PCB-mount terminals with 6 pins</p>	<p>XAP611</p>
	<p>Plug-in Socket PCB-mount terminals with 6 pins</p>	<p>XAP601</p>



Illustration	Description	Type
	Plug-in Socket with 4 pins	XAP411
	Insulating Case for Faston clamp FH2,8, slip on from the front	IH2,8
	Faston Clamp 2.8 x 0.8 mm with snap-in pin Cross section 0.75 - 1.50 mm ² , tinned brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8	FH2,8
	Double Faston for the connection of 2 Faston clamps FH2.8	FD2,8
	Ultra-bright LED, W2x4,6d socket, 12V with half-wave rectifier, for 12 V AC/DC (6/12 mA) When connecting to DC, the correct polarity must be observed: + ... X1 /- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %	colour white L2X4,6-12UW
	Ultra-bright LED, W2x4,6d socket, 24V with half-wave rectifier, for 24 V AC/DC (2/4 mA) When connecting to DC, the correct polarity must be observed: + ... X1 /- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %	colour white L2X4,6-24UW

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Contact Blocks

Faston terminals 2.8x0.8 mm

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Illustration	Description	Type												
	<p>Ultra-bright LED, T5,5K socket, 12V with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p>	<p>colour white L5,5K12UW</p>												
	<p>Ultra-bright LED, T5,5K socket, 24V with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p>	<p>colour white L5,5K24UW</p>												
	<p>Two-colour LED, T5,5K socket - 24V with integrated series resistor colour dependent on polarity Storage temperature: -25°C ... +80°C Ambient temperature: -20°C ... +60°C Voltage tolerance: + 10 %</p> <table border="0"> <tr> <td>Colour:</td> <td>red</td> <td>green</td> </tr> <tr> <td>Rated current [mA]:</td> <td>14</td> <td>13</td> </tr> <tr> <td>Brightness [mcd]:</td> <td>2300</td> <td>650</td> </tr> <tr> <td>Dominant wavelength: [nm]</td> <td>625</td> <td>525</td> </tr> </table>	Colour:	red	green	Rated current [mA]:	14	13	Brightness [mcd]:	2300	650	Dominant wavelength: [nm]	625	525	<p>colour red/green L5,5K24RG</p>
Colour:	red	green												
Rated current [mA]:	14	13												
Brightness [mcd]:	2300	650												
Dominant wavelength: [nm]	625	525												
	<p>Ultra-bright LED solder pins, grid 2.54 mm ready-made for CTP_485 3680 mcd white</p>	<p>LED3UW</p>												
	<p>LED Adapter for LEDs of 3 and 5 mm Ø to be used in T5.5K sockets, an external resistor must be provided.</p>	<p>LA5,5</p>												
	<p>lamp socket T5,5K</p>													

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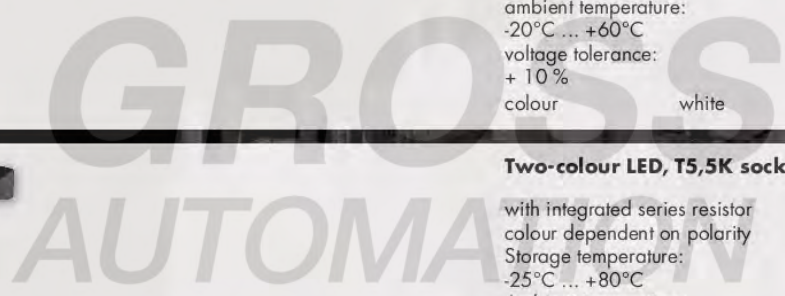





Illustration	Description	Type
	Voltage Reducer (for LEDs) Faston terminals 2.8x0.8 mm to operate a LED at 230V AC	VE_LED230
	Cable Set with Faston connections suitable for VE_LED230	VE_VK2,8
	Cable Set with wire end ferrules suitable for VE_LED230	VE_VKAE

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General Data

Type Reference:	BZ...K
Description:	Twin Contact Block, separate plungers, positive opening contact
Approvals:	CCC, cCSAus, ENEC10, VDE, CE, NV, TÜV_Süd, positive opening contact, UR
Protection class:	II (protective insulation)
Operation travel:	3 mm
Connection type:	screw connection
Contact material:	AgNi
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LED's
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1 m operations at rated load
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix. K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

Utilisation category:	alternate current AC15 B300	direct current DC13 Q600
Rated insulation voltage U_i :	250 V	300 V
Rated operating voltage U_e :	250 V	250V / 125V / 60V / 24V
Rated operating current I_e :	1.5A	0.2A / 0.4A / 1A / 2A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	6 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage U_e :	250 V~
Rated current I_e :	6(4) A

Technical Data - Lamp

Lamp socket:	T5,5K / W2x4,6d
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

Electrical Features

Operational voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm

Additional Data

Tightening torque (screw terminal):	0.4 Nm
-------------------------------------	--------

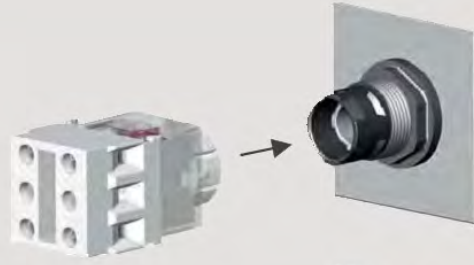
GROSS
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K...7B saijras adfn4

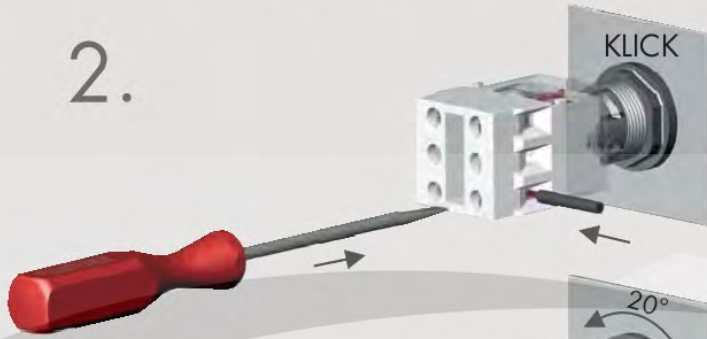
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Mounting Instructions

1.



2.



3.



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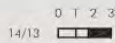
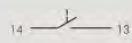


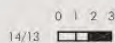
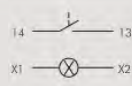



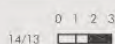



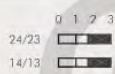
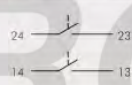



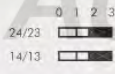
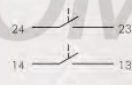



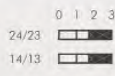
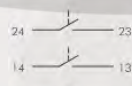


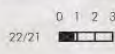



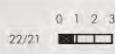
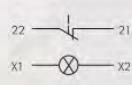
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Illustration	Description	Type
   	<p>Contact Block, momentary 1NO screw connection 2.5 mm² suitable actuators contact material AgNi</p>	BZIK
    	<p>Illuminated Contact Block, momentary 1NO screw connection 2.5 mm² lamp socket W2x4,6d suitable actuators contact material AgNi</p>	BZLIK
    	<p>Illuminated Contact Block, momentary 1NO screw connection 2.5 mm² lamp socket T5,5K suitable actuators contact material AgNi</p>	BZLI5K
   	<p>Contact Block, momentary 2NO screw connection 2.5 mm² suitable actuators contact material AgNi</p>	BZIIK
    	<p>Illuminated Contact Block, momentary 2NO screw connection 2.5 mm² lamp socket W2x4,6d suitable actuators contact material AgNi</p>	BZLIK
    	<p>Illuminated Contact Block, momentary 2NO screw connection 2.5 mm² lamp socket T5,5K suitable actuators contact material AgNi</p>	BZLI5K
   	<p>Contact Block, momentary 1NC screw connection 2.5 mm² suitable actuators contact material AgNi</p>	BZOK
    	<p>Illuminated Contact Block, momentary 1NC screw connection 2.5 mm² lamp socket W2x4,6d suitable actuators contact material AgNi</p>	BZLOK

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Contact Blocks

screw connection 2.5 mm²

made in germany






Illustration

Description

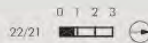
Type

3 mm

0 1 2 3

22/21



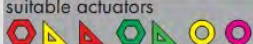
22 — 21

X1 — X2

Illuminated Contact Block, momentary 1NC

screw connection 2.5 mm²
lamp socket T5,5K




suitable actuators



contact material AgNi

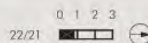
BZLO5K

3 mm

0 1 2 3

22/21



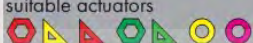
22 — 21

12 — 11

Contact Block, momentary 2NC

screw connection 2.5 mm²




suitable actuators



contact material AgNi

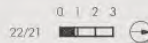
BZOOK

3 mm

0 1 2 3

22/21



22 — 21

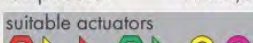
12 — 11

X1 — X2

Illuminated Contact Block, momentary 2NC

screw connection 2.5 mm²
lamp socket W2x4,6d




suitable actuators



contact material AgNi

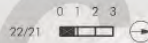
BZLOOK

3 mm

0 1 2 3

22/21



22 — 21

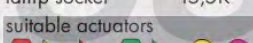
12 — 11

X1 — X2

Illuminated Contact Block, momentary 2NC

screw connection 2.5 mm²
lamp socket T5,5K




suitable actuators



contact material AgNi

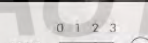
BZLOO5K

3 mm

0 1 2 3

22/21



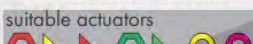
22 — 21

14 — 13

Contact Block, momentary 1NC + 1NO

screw connection 2.5 mm²




suitable actuators



contact material AgNi

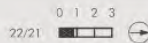
BZIOK

3 mm

0 1 2 3

22/21



22 — 21

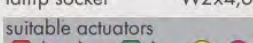
14 — 13

X1 — X2

Illuminated Contact Block, momentary 1NC + 1NO

screw connection 2.5 mm²
lamp socket W2x4,6d




suitable actuators



contact material AgNi

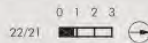
BZLOIK

3 mm

0 1 2 3

22/21



22 — 21

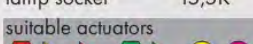
14 — 13

X1 — X2

Illuminated Contact Block, momentary 1NC + 1NO

screw connection 2.5 mm²
lamp socket T5,5K

suitable actuators



contact material AgNi

BZLOI5K

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Illustration	Description	Type
	<p>Ultra-bright LED, W2x4,6d socket, 12V</p> <p>with half-wave rectifier, for 12 V AC/DC (6/12 mA) When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 % colour white</p>	L2X4,6-12UW
	<p>Ultra-bright LED, W2x4,6d socket, 24V</p> <p>with half-wave rectifier, for 24 V AC/DC (2/4 mA) When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 % colour white</p>	L2X4,6-24UW
	<p>Ultra-bright LED, T5,5K socket, 12V</p> <p>with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 % colour white</p>	L5,5K12UW
	<p>Ultra-bright LED, T5,5K socket, 24V</p> <p>with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 % colour white</p>	L5,5K24UW

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Contact Blocks

screw connection 2.5 mm²

made in germany



Illustration

Description

Type



Two-colour LED, T5,5K socket - 24V

with integrated series resistor
 colour dependent on polarity
 Storage temperature:
 -25°C ... +80°C
 Ambient temperature:
 -20°C ... +60°C
 Voltage tolerance: + 10 %

Colour:	red	green
Rated current [mA]:	14	13
Brightness [mcd]:	2300	650
Dominant wavelength: [nm]	625	525

colour red/green **L5,5K24RG**



Ultra-bright LED

solder pins, grid 2.54 mm
 ready-made for CTP_485
 3680 mcd white

LED3UW



LED Adapter

for LEDs of 3 and 5 mm Ø to be used in T5.5K sockets,
 an external resistor must be provided.

lamp socket T5,5K

LA5,5



Voltage Reducer (for LEDs)

Faston terminals 2.8x0.8 mm
 to operate a LED at 230V AC

VE_LED230



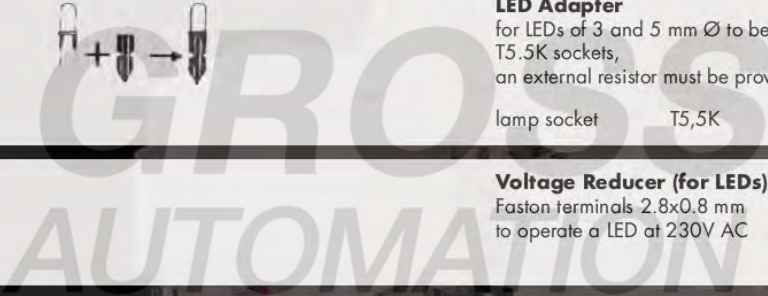
Cable Set with wire end ferrules

suitable for VE_LED230

VE_VKAE

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General Data

Type Reference:	CTP...
Description:	Electronic Contact block, PCB-mount terminals, with snap action
Approvals:	CCC, cCSAus, NV, CE
Protection class:	II (protective insulation)
Operation travel:	3 mm
Connection type:	PCB-mount terminals
Contact material:	gold-plated 1.5µm
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LEDs
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1 m operations at rated load
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 100 mOhm (new state)
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms

Technical Data - Lamp

Lamp socket:	T5,5K
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

Electrical Features

Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC12	DC12
Rated insulation voltage U_i :	60V	60V
Rated operating voltage U_e :	48V	48V
Rated operating current I_e :	0.1A	0.1A
Continuous thermal current:	100mA	100mA

Remark

GB14048.5-2008 (IEC60947-5-1)

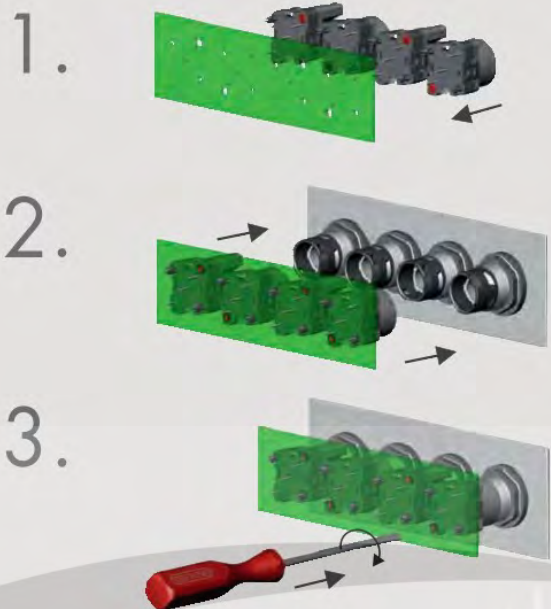
Elektrische Daten nach C22.2 No. 14-10

Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

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Illustration	Description	Type
	<p>Contact Unit, momentary 1 inverter PCB-mount terminals 2 holes allow direct soldering of an LED into the PCB</p> <p>suitable actuators contact material gold-plated 1.5µm</p> <p>CTP_485</p>	
	<p>Illuminated Contact Unit, momentary 1 inverter PCB-mount terminals lamp socket T5,5K</p> <p>suitable actuators contact material gold-plated 1.5µm</p> <p>CTLP_485</p>	
	<p>Lampholder PCB-mount terminals lamp socket T5,5K</p> <p>suitable pilot light heads</p> <p>CLP_485</p>	

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Contact Blocks

made in germany

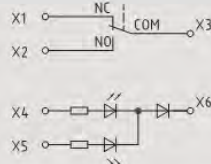


screw connection

Illustration

Description

Type



Contact Unit, momentary, with 2-colour LED red/green 1 inverter

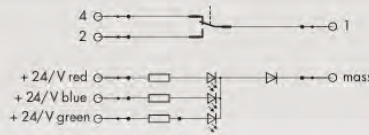
screw connection

suitable actuators



contact material gold-plated 1.5µm

CTFS_24R_G



Contact Unit, momentary, incl. RGB LED 1 inverter

screw connection

suitable actuators



CTFS_24RGB



Assembled PCB Strips

PCD3012

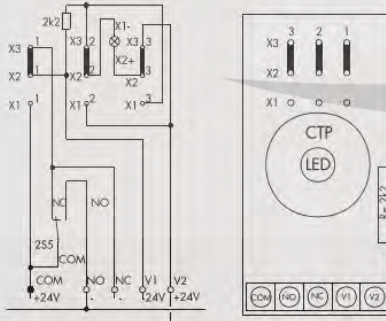
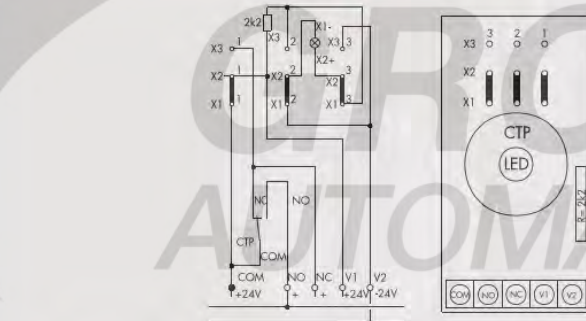
screw connection

specially designed for the elevator industry, with 12 illuminated electronic contact units (snap action type). Plug-in bridge connectors allow easy change-over from positive to negative logic. The strips can easily be separated as required. The power supply lines are guided through the predetermined breaking points.

Each pushbutton is assigned a full set of terminals.

For technical data of the contact unit, refer to type CTLP

suitable actuators



Ultra-bright LED, T5,5K socket, 12V

with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA)

When connecting to DC, the correct polarity must be observed:

+ ... X1/- ... X2

storage temperature:

-25°C ... +80°C

ambient temperature:

-20°C ... +60°C

voltage tolerance:

+ 10%

colour white

L5,5K12UW

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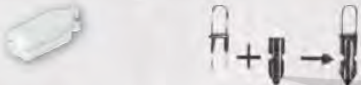
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Illustration	Description	Type												
	<p>Ultra-bright LED, T5,5K socket, 24V with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1 /- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 % colour white</p>	L5,5K24UW												
	<p>Two-colour LED, T5,5K socket - 24V with integrated series resistor colour dependent on polarity Storage temperature: -25°C ... +80°C Ambient temperature: -20°C ... +60°C Voltage tolerance: + 10 %</p> <table border="0"> <tr> <td>Colour:</td> <td>red</td> <td>green</td> </tr> <tr> <td>Rated current [mA]:</td> <td>14</td> <td>13</td> </tr> <tr> <td>Brightness [mcd]:</td> <td>2300</td> <td>650</td> </tr> <tr> <td>Dominant wavelength: [nm]</td> <td>625</td> <td>525</td> </tr> </table> <p>colour red/green</p>	Colour:	red	green	Rated current [mA]:	14	13	Brightness [mcd]:	2300	650	Dominant wavelength: [nm]	625	525	L5,5K24RG
Colour:	red	green												
Rated current [mA]:	14	13												
Brightness [mcd]:	2300	650												
Dominant wavelength: [nm]	625	525												
	<p>Ultra-bright LED solder pins, grid 2.54 mm ready-made for CTP_485 3680 mcd white</p>	LED3UW												
	<p>LED Adapter for LEDs of 3 and 5 mm Ø to be used in T5.5K sockets, an external resistor must be provided. lamp socket T5,5K</p>	LA5,5												

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General Data

Type Reference:	CTLF, CTF, CTF_250, CTF_250
Description:	Illuminated Electronic Contact Block with snap action
Approvals:	cCSAus, CE
Protection class:	II (protective insulation)
Operation travel:	3 mm
Connection type:	Faston terminals 2.8x0.8 mm
Contact material:	gold-plated 1.5µm
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LEDs
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1 m operations at rated load
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 100 mOhm (new state)
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms

Technical Data - Lamp

Lamp socket:	T5,5K
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

Electrical Features

Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

Electrical Data acc. to EN 61058-1 "micro disconnection", µ

Rated voltage:	250V~
Rated current:	max. 100 mA
Contact opening distance:	< 3 mm (µ)
Creepage resistance:	II / PTI 400V
Insulation resistance:	> 100 MOhm/500 V
Test voltage:	500V (61058-1 Tab.12)
Pollution degree :	2
Electrical life (additional test):	50000

Note

types CTF_250, CTF_250

The applicability of the "micro disconnection" (µ) acc. to EN 61058-1 is regulated in the relative product standards which have to be observed by the customer (product designer).

Faston terminals 2.8x0.8mm are not suitable for manual soldering.

Elektrische Daten nach C22.2 No. 14-10

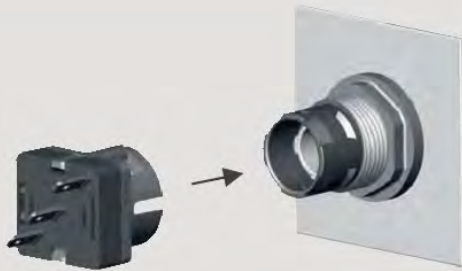
Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

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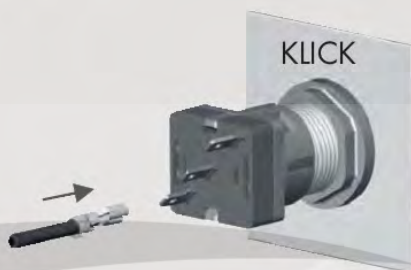
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Mounting Instructions

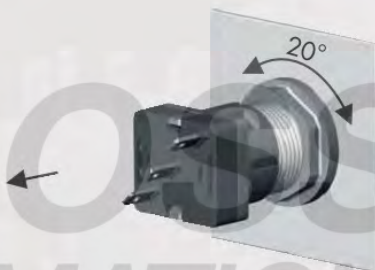
1.



2.



3.



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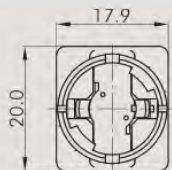
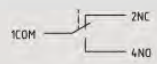



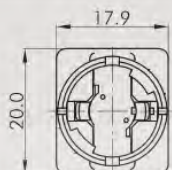
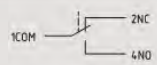



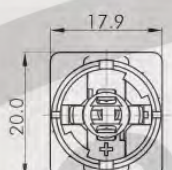
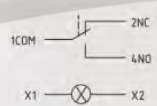



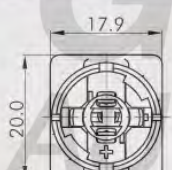
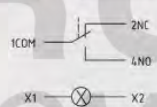
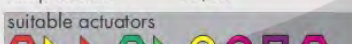


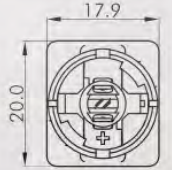
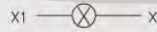
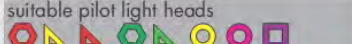


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Illustration	Description	Type
   	<p>Contact Unit, momentary 1 inverter Faston terminals 2.8x0.8 mm</p> <p>suitable actuators</p>  <p>contact material gold-plated 1.5µm</p>	CTF
   	<p>Contact Unit, momentary, for 250V~ 1 inverter Faston terminals 2.8x0.8 mm EN 61058-1 µ 250V~/100mA, µ micro-disconnection (µ)</p> <p>suitable actuators</p>  <p>contact material gold-plated 1.5µm</p>	CTF_250
   	<p>Illuminated Contact Unit, momentary 1 inverter Faston terminals 2.8x0.8 mm lamp socket T5,5K</p> <p>suitable actuators</p>  <p>contact material gold-plated 1.5µm</p>	CTLF
   	<p>Illuminated Contact Unit, momentary, for 250V~ 1 inverter Faston terminals 2.8x0.8 mm EN 61058-1 µ 250V~/100mA, µ micro-disconnection (µ) LED max. 60V</p> <p>lamp socket T5,5K</p> <p>suitable actuators</p>  <p>contact material gold-plated 1.5µm</p>	CTLF_250
   	<p>Lampholder Faston terminals 2.8x0.8 mm lamp socket T5,5K</p> <p>suitable pilot light heads</p> 	CLF
	<p>Insulating Case for Faston clamp FH2,8, slip on from the front</p>	IH2,8
	<p>Faston Clamp 2.8 x 0.8 mm with snap-in pin Cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8</p>	FH2,8

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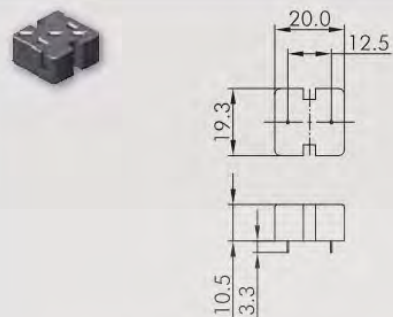
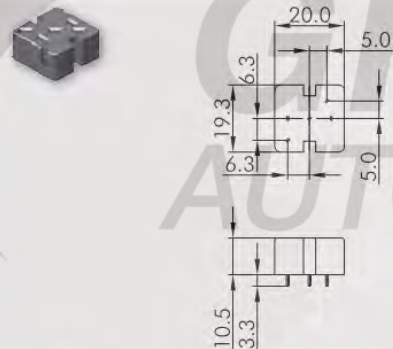
Contact Blocks

Faston terminals 2.8x0.8 mm

made in germany



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Illustration	Description	Type
	<p>Double Faston for the connection of 2 Faston clamps FH2.8</p>	<p>FD2,8</p>
	<p>Plug-in Socket PCB-mount terminals with 2 contact pins to fit CLF lampholder</p>	<p>CAFP2</p>
	<p>Plug-in Socket PCB-mount terminals with 3 contact pins to fit CTF contact unit</p>	<p>CAFP3</p>

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Illustration	Description	Type
	<p>Plug-in Socket PCB-mount terminals with 5 contact pins to fit CTLF contact unit</p>	<p>CAFP5</p>
	<p>Ultra-bright LED, T5,5K socket, 12V with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1 /- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p>	<p>colour white L5,5K12UW</p>
	<p>Ultra-bright LED, T5,5K socket, 24V with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1 /- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p>	<p>colour white L5,5K24UW</p>

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Contact Blocks

Faston terminals 2.8x0.8 mm

made in germany



Illustration

Description

Type



Two-colour LED, T5,5K socket - 24V

with integrated series resistor
 colour dependent on polarity
 Storage temperature:
 -25°C ... +80°C
 Ambient temperature:
 -20°C ... +60°C
 Voltage tolerance: + 10 %

Colour:	red	green
Rated current [mA]:	14	13
Brightness [mcd]:	2300	650
Dominant wavelength: [nm]	625	525

colour red/green **L5,5K24RG**



Ultra-bright LED
 solder pins, grid 2.54 mm
 ready-made for CTP_485
 3680 mcd white

LED3UW



LED Adapter
 for LEDs of 3 and 5 mm Ø to be used in
 T5.5K sockets, an external resistor must
 be provided.

LA5,5

lamp socket T5,5K

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General Data

Type Reference:	CZ...
Description:	Electronic Contact Block with snap action
Approvals:	CCC, cCSAus, NV, CE
Protection class:	II (protective insulation)
Operation travel:	3 mm
Connection type:	PCB-mount terminals
Contact material:	gold-plated 1.5µm
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LEDs
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1 m operations at rated load
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 100 mOhm (new state)
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms

Technical Data - Lamp

Lamp socket:	T5,5K
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

Electrical Features

Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC12	DC12
Rated insulation voltage Ui:	60V	60V
Rated operating voltage Ue:	48V	48V
Rated operating current Ie:	0.1A	0.1A
Continuous thermal current:	100mA	100mA

Remark

GB14048.5-2008 (IEC60947-5-1)

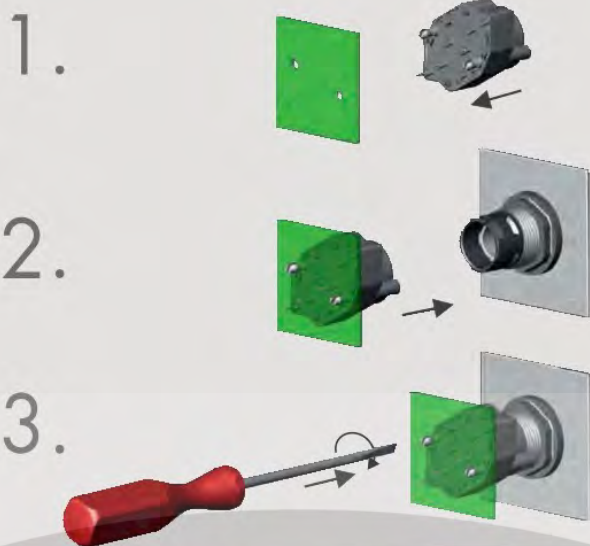
Elektrische Daten nach C22.2 No. 14-10

Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

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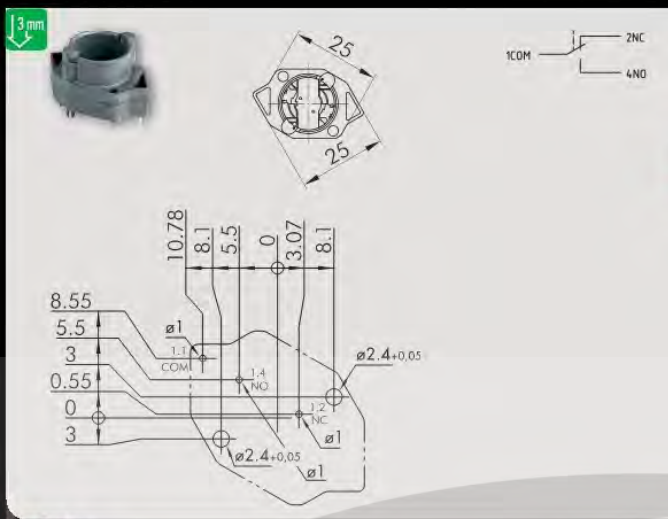
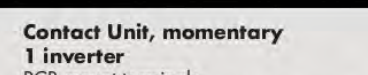

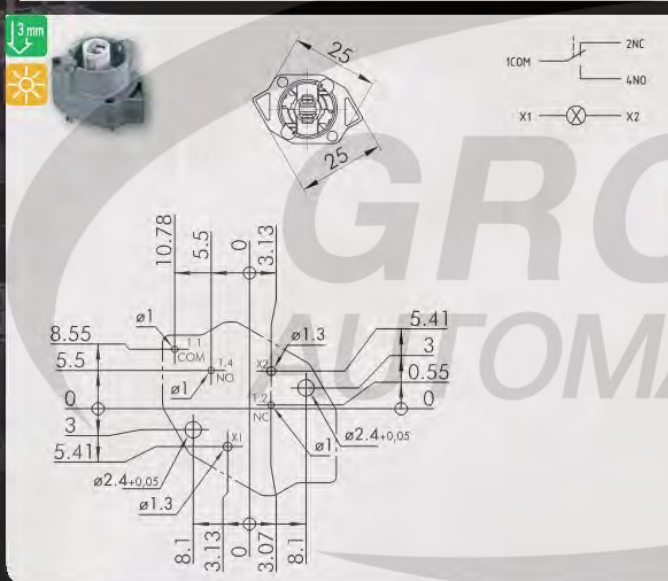
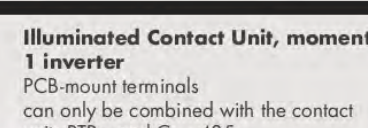

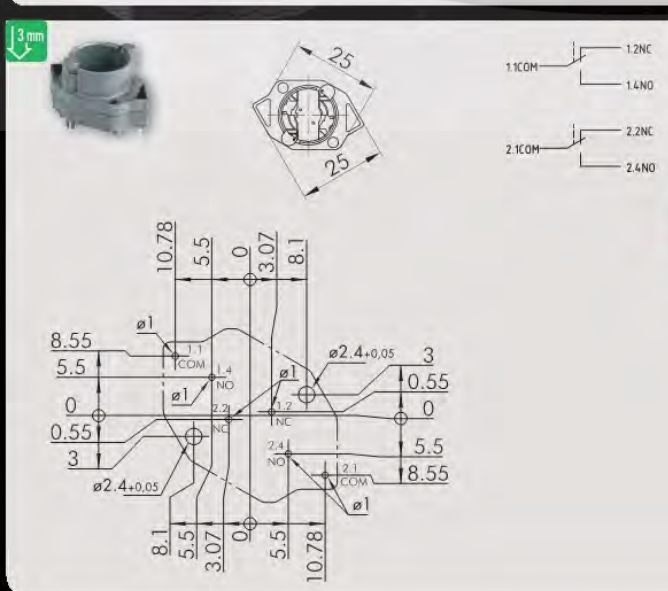
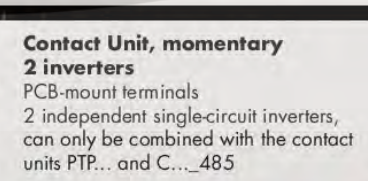
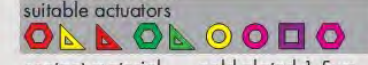
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Pedal Switches

Limit Switches

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Illustration	Description	Type
	 <p>Contact Unit, momentary 1 inverter PCB-mount terminals can only be combined with the contact units PTP... and C..._485</p> <p>suitable actuators</p>  <p>contact material gold-plated 1.5µm</p> <p>CZTP</p>	
	 <p>Illuminated Contact Unit, momentary 1 inverter PCB-mount terminals can only be combined with the contact units PTP... and C..._485 lamp socket T5,5K</p> <p>suitable actuators</p>  <p>contact material gold-plated 1.5µm</p> <p>CZTLP</p>	
	 <p>Contact Unit, momentary 2 inverters PCB-mount terminals 2 independent single-circuit inverters, can only be combined with the contact units PTP... and C..._485</p> <p>suitable actuators</p>  <p>contact material gold-plated 1.5µm</p> <p>CZTP2</p>	

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Contact Blocks

PCB-mount terminals

made in germany



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Illustration	Description	Type												
	<p>Ultra-bright LED, T5,5K socket, 24V with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 % colour white</p>	L5,5K24UW												
	<p>Two-colour LED, T5,5K socket - 24V with integrated series resistor colour dependent on polarity Storage temperature: -25°C ... +80°C Ambient temperature: -20°C ... +60°C Voltage tolerance: + 10 %</p> <table border="1"> <tr> <td>Colour:</td> <td>red</td> <td>green</td> </tr> <tr> <td>Rated current [mA]:</td> <td>14</td> <td>13</td> </tr> <tr> <td>Brightness [mcd]:</td> <td>2300</td> <td>650</td> </tr> <tr> <td>Dominant wavelength: [nm]</td> <td>625</td> <td>525</td> </tr> </table> <p>colour red/green</p>	Colour:	red	green	Rated current [mA]:	14	13	Brightness [mcd]:	2300	650	Dominant wavelength: [nm]	625	525	L5,5K24RG
Colour:	red	green												
Rated current [mA]:	14	13												
Brightness [mcd]:	2300	650												
Dominant wavelength: [nm]	625	525												
	<p>Ultra-bright LED solder pins, grid 2.54 mm ready-made for CTP_485 3680 mcd white</p>	LED3UW												
	<p>LED Adapter for LEDs of 3 and 5 mm Ø to be used in T5.5K sockets, an external resistor must be provided.</p> <p>lamp socket T5,5K</p>	LA5,5												

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General Data

Type Reference:	CT...
Description:	Electronic Contact Block with snap action
Approvals:	CCC, cCSAus, NV, CE
Protection class:	II (protective insulation)
Operation travel:	3 mm
Connection type:	Faston terminals 2.8x0.8 mm
Contact material:	gold-plated 1.5µm
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LEDs
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1 m operations at rated load
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 100 mOhm (new state)
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms

Technical Data - Lamp

Lamp socket:	T5,5K
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

Electrical Features

Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

Note

Faston terminals 2.8x0.8mm are not suitable for manual soldering.

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC12	DC12
Rated insulation voltage U_i :	60V	60V
Rated operating voltage U_e :	48V	48V
Rated operating current I_e :	0.1A	0.1A
Continuous thermal current:	100mA	100mA

Remark

GB14048.5-2008 (IEC60947-5-1)

Elektrische Daten nach C22.2 No. 14-10

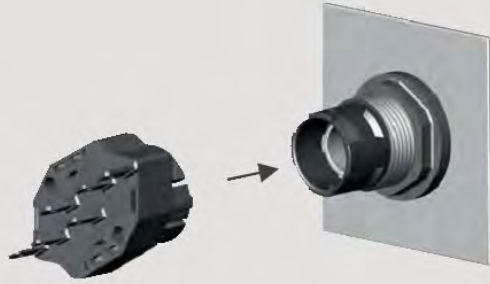
Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

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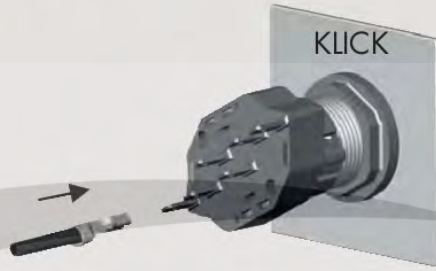
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Mounting Instructions

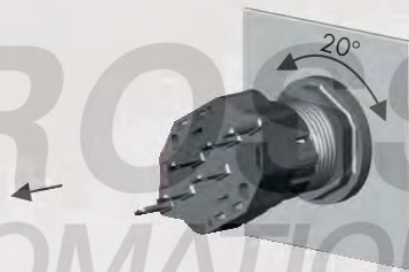
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Illustration	Description	Type
	<p>Contact Unit, momentary 2 inverters Faston terminals 2.8x0.8 mm 2 independent single-circuit inverters suitable plug-in socket CAP6</p> <p>suitable actuators </p> <p>contact material gold-plated 1.5µm CT2</p>	
	<p>Illuminated Contact Unit, momentary 2 inverters Faston terminals 2.8x0.8 mm 2 independent single-circuit inverters suitable plug-in socket CAP8</p> <p>lamp socket T5,5K</p> <p>suitable actuators </p> <p>contact material gold-plated 1.5µm CTL2</p>	
	<p>Contact Unit with two-piece plunger, momentary 2 inverters Faston terminals 2.8x0.8 mm 2 independent single-circuit inverters suitable plug-in socket CAP6</p> <p>suitable actuators </p> <p>contact material gold-plated 1.5µm CT2_549</p>	
	<p>Illuminated Contact Block with separate plungers, momentary 2 inverters Faston terminals 2.8x0.8 mm 2 independent single-circuit inverters suitable plug-in socket CAP8</p> <p>lamp socket T5,5K</p> <p>suitable actuators </p> <p>contact material gold-plated 1.5µm CTL2_549</p>	

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Contact Blocks

Faston terminals 2.8x0.8 mm

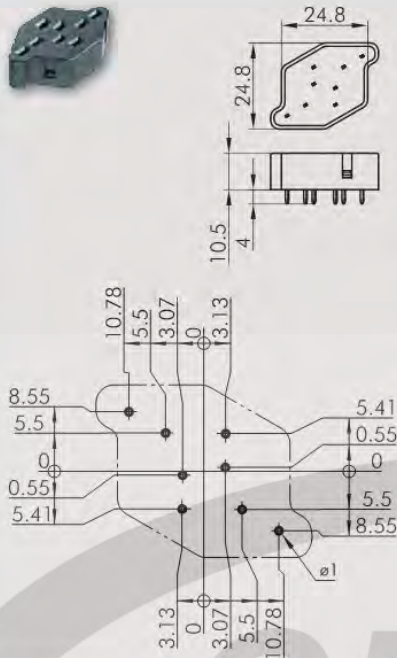
made in germany



Illustration

Description

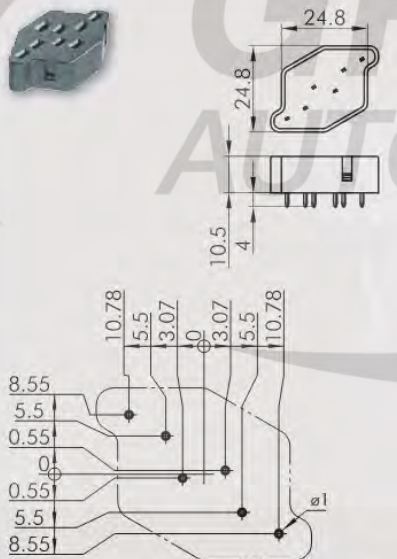
Type



Plug-in Socket

PCB-mount terminals with 8 contact pins to fit CTL2 contact unit

CAP8



Plug-in Socket

PCB-mount terminals with 6 contact pins to fit CT2 contact unit

CAP6



Insulating Case

for Faston clamp FH2,8, slip on from the front

IH2,8



Faston Clamp 2.8 x 0.8 mm with snap-in pin

Cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8

FH2,8

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Illustration	Description	Type
	Double Faston for the connection of 2 Faston clamps FH2.8	FD2,8
	Ultra-bright LED, T5,5K socket, 12V with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %	L5,5K12UW
	Ultra-bright LED, T5,5K socket, 24V with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %	L5,5K24UW
	Two-colour LED, T5,5K socket - 24V with integrated series resistor colour dependent on polarity Storage temperature: -25°C ... +80°C Ambient temperature: -20°C ... +60°C Voltage tolerance: + 10 % Colour: red green Rated current [mA]: 14 13 Brightness [mcd]: 2300 650 Dominant wavelength: [nm] 625 525	L5,5K24RG
	Ultra-bright LED solder pins, grid 2.54 mm ready-made for CTP_485 3680 mcd white	LED3UW
 	LED Adapter for LEDs of 3 and 5 mm Ø to be used in T5.5K sockets, an external resistor must be provided.	LA5,5
	lamp socket T5,5K	

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General Data

Type Reference:	PTF..., PTP...
Description:	Contact Block, positive opening contact
Approvals:	CE, TÜV_Süd, positive opening contact
Protection class:	II (protective insulation)
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Contact material:	AgNi
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1m operations at rated load AC
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 100 mOhm (new state)
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix. K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 B300	DC
Rated insulation voltage U_i :	250 V	250V
Rated operating voltage U_e :	240V / 120V	240V / 120V
Rated operating current I_e :	1.5A / 3A	0.27A / 0.55A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	5A	

Electrical Features

Operational current AC/DC:	100 mA
Operational voltage AC/DC:	42V
Rated insulation voltage:	50V AC/DC
Electrical life (24DC / 10mA):	1m

Environmental Tests

Shock resistance, IEC 600-68-2-27:	50g at 11 ms amplitude, semi-sinusoidal
Vibration resistance, IEC 600-68-2-6:	5g at 10...500Hz
Constant climatic resistance:	IEC 600-68-2-3 and 2-30
Resistance to alternating atmosphere:	IEC 600-68-2-14 and 2-33
Salt spray:	IEC 600-68-2-11
Resistance to soldering heat:	IEC 600-68-2-20
Soldering method:	wave and manual soldering

Note

DC13 Life-time: 100,000 at max. load, 10 operations/min

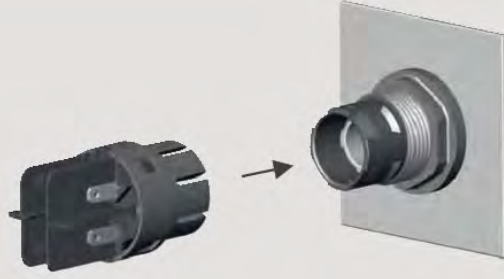
Soldering connection: CuZn37H95, tinned all-round

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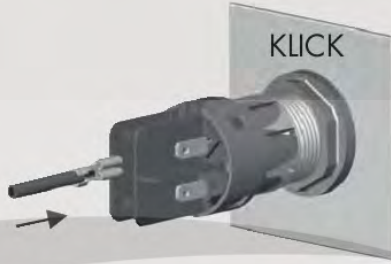
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Mounting Instructions

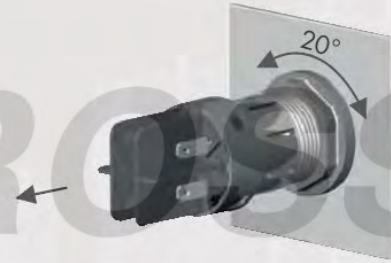
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Illustration	Description	Type
<p>3 mm</p> <p>22/21 12/11</p> <p>0 1 2 3</p> <p>22 21 12 11</p> <p>ø19</p> <p>7.3 3.9 3.9 0 3.9 7.3 6.5 5.4 5.4 6.5</p> <p>ø3.5 4xø1.5 ø1.8</p>	<p>Contact Unit for emergency stops, momentary 2NC PCB-mount terminals</p> <p>suitable actuators</p> <p>contact material AgNi</p> <p>contact material AgNi, gold-plated</p>	<p>PTPOO PTPOO_AU</p>
<p>3 mm</p> <p>22/21 14/13</p> <p>0 1 2 3</p> <p>22 21 14 13</p> <p>ø19</p> <p>7.3 3.9 3.9 0 3.9 7.3 6.5 5.4 5.4 6.5</p> <p>ø3.5 4xø1.5 ø1.8</p>	<p>Contact Unit for emergency stops, momentary 1NC + 1NO PCB-mount terminals</p> <p>suitable actuators</p> <p>contact material AgNi</p> <p>contact material AgNi, gold-plated</p>	<p>PTPOI PTPOI_AU</p>
<p>3 mm</p> <p>22/21 12/11</p> <p>0 1 2 3</p> <p>22 21 12 11</p> <p>ø19</p> <p>7.3 3.9 3.9 0 3.9 7.3 6.5 5.4 5.4 6.5</p> <p>ø3.5 4xø1.5 ø1.8</p> <p>A B</p>	<p>Contact Unit for Emergency Stops, momentary 2NC PCB-mount terminals</p> <p>2 positive opening NC contacts (no snap-action)</p> <p>suitable actuators</p> <p>contact material AgNi</p> <p>contact material AgNi, gold-plated</p>	<p>PTFPOO PTFPOO_AU</p>

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Illustration	Description	Type
	<p>Contact Unit for Emergency Stops, momentary 1NC + 1NO PCB-mount terminals 1 positive opening NC + 1 NO (no snap-action)</p> <p>suitable actuators: </p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>PTFPOI PTFPOI_AU</p>
	<p>Contact Unit for Emergency Stops, momentary 2NC Faston terminals 2.8x0.8 mm</p> <p>suitable actuators: </p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>PTFOO PTFOO_AU</p>
	<p>Contact Unit for Emergency Stops, momentary 1NC + 1NO Faston terminals 2.8x0.8 mm</p> <p>suitable actuators: </p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>PTFOI PTFOI_AU</p>
	<p>Insulating Case for Faston clamp FH2,8, slip on from the front</p>	<p>IH2,8</p>
	<p>Faston Clamp 2.8 x 0.8 mm with snap-in pin Cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8</p>	<p>FH2,8</p>
	<p>Double Faston for the connection of 2 Faston clamps FH2.8</p>	<p>FD2,8</p>

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General Data

Type Reference:	PTS(L)(OO)(II)(OI)(OIT)(OOI)(OOIT)(OOO)(OII)(OIT)(III)(IIIT)(L_AU)(L_RO)
Description:	Contact Block for base-plate mounting, with positive opening contact
Approvals:	CE, TÜV_Süd
Nature of contact:	2NC / 1NC+1NO / 2NO / 2NC+1NO / 1NC+2NO / 3NO / 3NC
Operation travel:	2.3 mm
Connection type:	PCB-mount terminals
Contact material:	AgNi / AgNi, gold-plated 5µm
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1 m operations
Contact resistance NO:	< 20 mOhm / < 50 mOhm (Au)
Contact resistance NC:	< 20 mOhm / < 50 mOhm (Au)
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix. K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 B300	DC13 Q300
Rated insulation voltage Ui:	250 V	250V
Rated operating voltage Ue:	240V / 120V	250V / 125V / 60V / 24V
Rated operating current Ie:	1.5A / 3A	0.27 A / 0.55 A / 1 A / 2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	5A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage Ue:	250 V~
Rated current Ie:	6(4) A

Technical Data - Lamp

Lamp socket:	none, with integrated LED
Max. lamp voltage:	30 V AC/DC (*1)
Definition:	X1...anode, X2...cathode

Electrical Features

Switching voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA

Note

RO=LED without series resistor

Contact elements for pushbutton actuator (OIT)(OOIT)(OIT)(IIIT) with bridged plunger ("T")

The contact unit is snapped into the actuator neck.

Spacer sleeves ensure the correct distance between PCB and mounting plate.

DC13 life-time: 100,000 at max. load, 10 operations/min

Illuminated versions (LED):	Overvoltage category II (2.5kV), pollution degree 2
Versions with third contact:	Overvoltage category II (2.5kV), pollution degree 2

(*1) does not apply to the types "...RO"

General Data

Type Reference:	PCTS(I)(_R0)
Description:	Contact Block for base-plate mounting
Approvals:	CE
Nature of contact:	1 inverter
Operation travel:	2.3 mm
Connection type:	PCB-mount terminals
Contact material:	gold-plated 1.5µm
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1m operations at rated load
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 100 mOhm (new state)
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms

Technical Data - Lamp

Lamp socket:	none, with integrated 3 mm LED
Max. lamp voltage:	30 V AC/DC (*1)
Definition:	X1...anode, X2...cathode

Electrical Features

Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

Note

RO= LED without series resistor

The contact unit is snapped into the actuator neck.
Spacer sleeves ensure the correct distance between PCB and mounting plate.

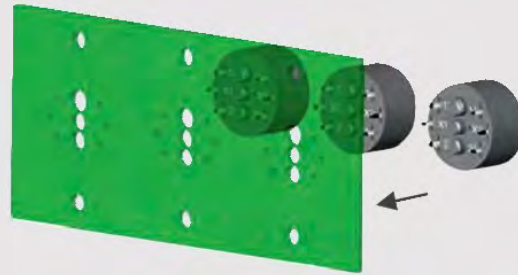
(*1) does not apply to the types "..._R0"

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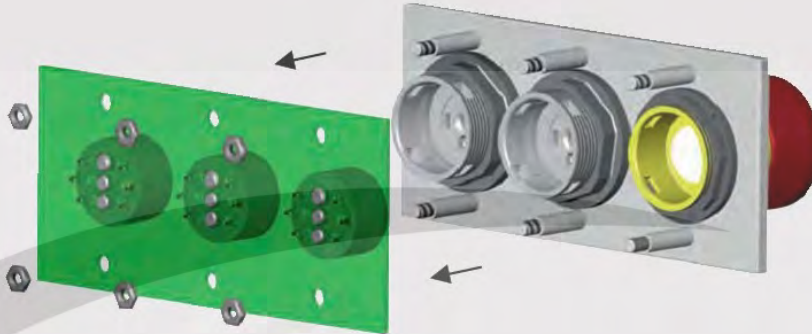
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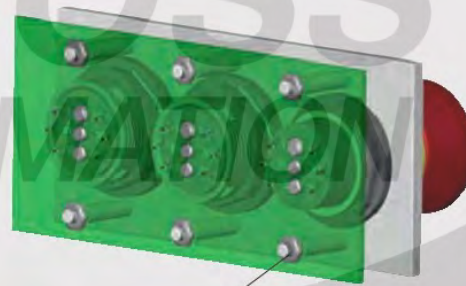
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Illustration	Description	Type
<p>2.3mm 11/12 0 1 2</p>	<p>Contact Unit, momentary 1NC PCB-mount terminals suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>1NC PTSO PTSO_AU</p>
<p>2.3mm 11/12 0 1 2</p>	<p>Illuminated Contact Unit, momentary 1NC PCB-mount terminals incl. white LED suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>1NC PTSLO PTSLO_AU</p>
<p>2.3mm 13/14 0 1 2</p>	<p>Contact Unit, momentary 1NO PCB-mount terminals suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>1NO PTSI PTSI_AU</p>
<p>2.3mm 13/14 0 1 2</p>	<p>Illuminated Contact Unit, momentary 1NO PCB-mount terminals incl. white LED suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>1NO PTSLI PTSLI_AU</p>
<p>2.3mm 11/12 0 1 2 21/22</p>	<p>Contact Unit, momentary 2NC PCB-mount terminals suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>2NC PTSOO PTSOO_AU</p>
<p>2.3mm 11/12 0 1 2 21/22</p>	<p>Illuminated Contact Unit, momentary 2NC PCB-mount terminals incl. white LED suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>2NC PTSLOO PTSLOO_AU</p>
<p>2.3mm 11/12 0 1 2 23/24</p>	<p>Contact Unit, momentary 1NC + 1NO PCB-mount terminals suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>1NC + 1NO PTSOI PTSOI_AU</p>
<p>2.3mm 11/12 0 1 2 23/24</p>	<p>Illuminated Contact Unit, momentary 1NC + 1NO PCB-mount terminals incl. white LED suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>1NC + 1NO PTSLOI PTSLOI_AU</p>

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Illustration	Description	Type
 <p>12.3mm</p> <p>0 1 2</p> <p>11/12 </p> <p>23/24 </p> <p>11 12</p> <p>23 24</p>	<p>Contact Unit, momentary 1NC + 1NO PCB-mount terminals only suitable for pushbutton heads</p> <p>suitable actuators</p> <p>contact material AgNi</p> <p>contact material AgNi, gold-plated</p>	<p>PTSOIT</p> <p>PTSOIT_AU</p>
 <p>12.3mm</p> <p>0 1 2</p> <p>11/12 </p> <p>23/24 </p> <p>11 12</p> <p>23 24</p> <p>X1 X2</p>	<p>Illuminated Contact Unit, momentary 1NC + 1NO PCB-mount terminals incl. white LED only suitable for pushbutton heads</p> <p>suitable actuators</p> <p>contact material AgNi</p> <p>contact material AgNi, gold-plated</p>	<p>PTSLOIT</p> <p>PTSLOIT_AU</p>
 <p>12.3mm</p> <p>0 1 2</p> <p>13/14 </p> <p>23/24 </p> <p>13 14</p> <p>23 24</p>	<p>Contact Unit, momentary 2NO PCB-mount terminals</p> <p>suitable actuators</p> <p>contact material AgNi</p> <p>contact material AgNi, gold-plated</p>	<p>PTSII</p> <p>PTSII_AU</p>
 <p>12.3mm</p> <p>0 1 2</p> <p>13/14 </p> <p>23/24 </p> <p>13 14</p> <p>23 24</p> <p>X1 X2</p>	<p>Illuminated Contact Unit, momentary 2NO PCB-mount terminals</p> <p>suitable actuators</p> <p>contact material AgNi</p> <p>contact material AgNi, gold-plated</p>	<p>PTSLII</p> <p>PTSLII_AU</p>
 <p>12.3mm</p> <p>0 1 2</p> <p>11/12 </p> <p>33/34 </p> <p>21/22 </p> <p>11 12</p> <p>33 34</p> <p>21 22</p>	<p>Contact Unit, momentary 2NC + 1NO PCB-mount terminals</p> <p>suitable actuators</p> <p>contact material AgNi</p> <p>contact material AgNi, gold-plated</p>	<p>PTSOOI</p> <p>PTSOOI_AU</p>
 <p>12.3mm</p> <p>X1- X2+</p> <p>a b</p>	<p>Lampholder incl. LED PCB-mount terminals</p> <p>suitable actuators</p>	<p>PTSL</p>
 <p>8mm</p> <p>1.1 COM</p> <p>1.2 NC</p> <p>1.4 NO</p>	<p>Tactile Contact Unit, momentary not suitable for emergency stops</p> <p>suitable actuators</p>	<p>PCTS</p>
 <p>8mm</p> <p>1.1 COM</p> <p>1.2 NC</p> <p>1.4 NO</p> <p>X1 X2</p>	<p>Illuminated Tactile Contact Unit, momentary not suitable for emergency stops</p> <p>suitable actuators</p>	<p>PCTSL</p>

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General Data

Type Reference:	ET...
Description:	Contact Block, positive opening contact
Approvals:	CE, CSA, UL
Protection class:	II (protective insulation)
Operation travel:	6 mm
Connection type:	screw connection, finger-protected acc. to VBG4
Contact material:	AgNi
Max. storage temperature:	-50°C ... 70°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LEDs
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1 m at 250 V/10(6) A 250,000 at 250 V/16(10) A 500,000 at 250 V/5 A (AC15)
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix. K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15	DC13
Rated insulation voltage U_i :	400V	400V
Rated operating voltage U_e :	250V / 400V	400V / 250V / 125V / 60V / 24V
Rated operating current I_e :	5A / 3A	0.12A / 0.2A / 0.4A / 1A / 2A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	10A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage U_e :	250 V~ / 440 V~
Rated current I_e :	10(6) A / 6(3) A

Technical Data - Lamp

Lamp socket:	BA9s
Max. lamp voltage:	250 V / (CSA max. 150V)
Max. lamp output:	2 W
Definition:	X1...anode, X2...cathode

Electrical Features

Operational voltage:	20mV ... 42V AC/DC
Operational current:	1 mA ... 250 mA
Contact resistance (new state):	< 50 mOhm

Note

Note for emergency-stop contact blocks:

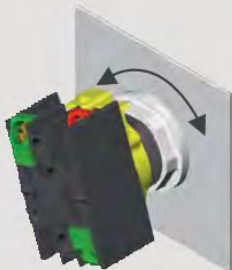
In case of inverters of the Za form (in terms of EN 60947-5-1), only the NC contact must be used for the remotely controlled safety circuit.

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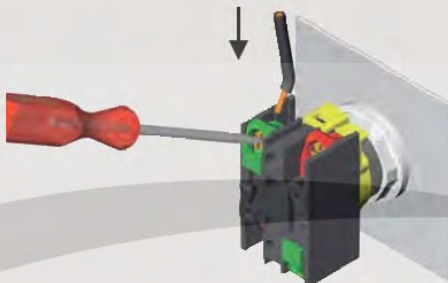
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Illustration	Description	Type
 <p>6 mm</p> <p>0 1 2 3 4 5 6</p> <p>12/11 24/23</p> <p>12 11 24 23</p>	<p>Contact Block, momentary 1NC + 1NO screw connection, finger-protected acc. to VBG4 suitable actuators contact material AgNi</p>	ETR
 <p>6 mm</p> <p>0 1 2 3 4 5 6</p> <p>12/11 24/23 32/31 44/43</p> <p>12 11 24 23 32 31 44 43</p>	<p>Contact Block, momentary 2NC+2NO screw connection, finger-protected acc. to VBG4 suitable actuators contact material AgNi</p>	ETR2
 <p>6 mm</p> <p>0 1 2 3 4 5 6</p> <p>12/11 24/23</p> <p>12 11 24 23 X1 X2</p>	<p>Illuminated Contact Block, momentary 1NC + 1NO screw connection, finger-protected acc. to VBG4 lamp socket BA9s suitable actuators contact material AgNi</p>	ETLR
 <p>6 mm</p> <p>0 1 2 3 4 5 6</p> <p>12/11 24/23 32/31 44/43</p> <p>12 11 24 23 32 31 44 43 X1 X2</p>	<p>Illuminated Contact Block, momentary 2NC+2NO screw connection, finger-protected acc. to VBG4 lamp socket BA9s suitable actuators contact material AgNi</p>	ETLR2
 <p>X1 X2</p>	<p>Lampholder BA9s screw connection lamp socket BA9s suitable pilot light heads colour black</p>	EL9R
 <p>X1 X2</p>	<p>Lampholder screw connection max. 250V 2W lamp socket BA9s suitable pilot light head colour white</p>	L9R
	<p>Ultra-bright LED, BA9s socket with integrated bridge rectifier for 24V AC/DC, 15mA colour white</p>	LD9-24UW

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Contact Blocks

made in germany



screw connection, finger-protected acc. to VBG4

Illustration

Description

Type



Mega-bright LED, BA9s

with integrated bridge rectifier for 24V ..
28V AC/DC, 15.5mA (typ. 24V)
colour white

LD9-24MW

Ultra-bright LED, BA9s

with integrated single-wave rectifier for
230V AC, 3mA
colour white

LD9-230UW



Flashing LED, BA9s

for 24V

colour green
red
yellow

LB9-24G

LB9-24R

LB9-24Y

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General Data

Type Reference:	MT...
Description:	Modular Contact Block
Approvals:	CCC, CSA, ENEC05, KEMA, CE, TÜV_Süd, UL
Protection class:	II (protective insulation)
Operation travel:	6 mm
Connection type:	screw connection 2x2.5mm ²
Contact material:	AgNi
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 85°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LEDs
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1 m operations at rated load
Contact resistance NO:	< 20 mOhm
Contact resistance NC:	< 20 mOhm
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix. K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

Utilisation category:	alternate current AC15 A600	direct current DC13 Q600
Rated insulation voltage U _i :	600 V	600 V
Rated operating voltage U _e :	240V / 440V	440V / 250V / 125V / 60V / 24V
Rated operating current I _e :	3A / 1.6A	0.12A / 0.2A / 0.4A / 1A / 2A
Breaking capacity:	10I _e	1,1I _e
Continuous thermal current:	16 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage U _e :	250 V~ / 440 V~
Rated current I _e :	16(10) A / 10(6) A

Technical Data - Lamp

Lamp socket:	BA9s
Max. lamp voltage:	250 V / (CSA max. 150V)
Max. lamp output:	2 W
Definition:	X1...anode, X2...cathode

Electrical Features - 5µm gold-plating, type addition ...AU

Switching voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm

General Data

Tightening torque (screw terminal):	0.8...1.0 Nm
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Note

Min. operating temperature when assembled with KRJ...actuators: -40°C ...;
Data Sheet does not apply to the following type: MTOSFE

Electrical Data acc. to UL 508

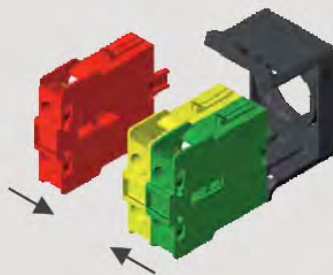
Ratings:	A600, 600 V AC
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W saijras adfnt

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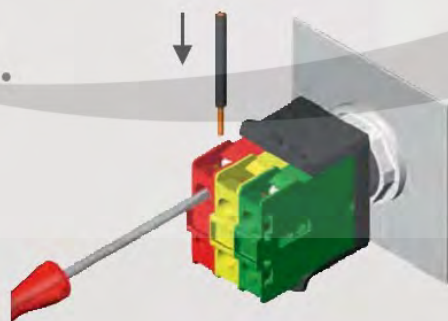
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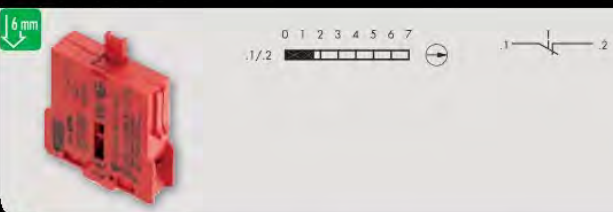
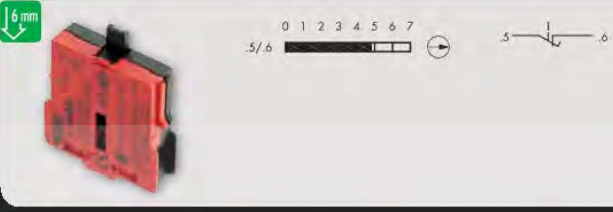
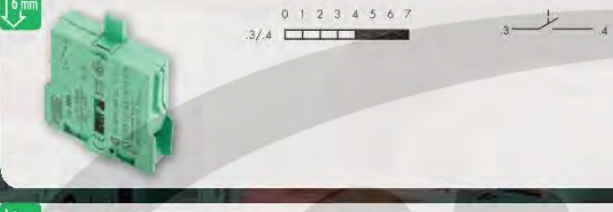

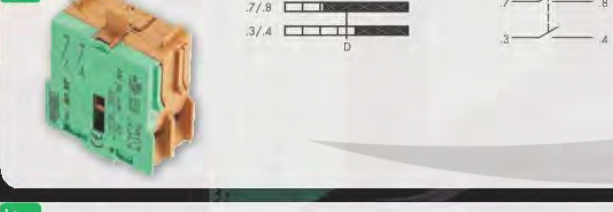

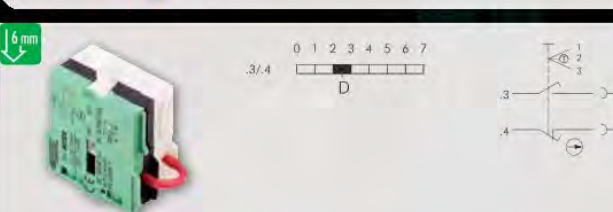
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Illustration	Description	Type
 <p>6 mm</p> <p>0 1 2 3 4 5 6 7 1/2</p> <p>1 2</p>	<p>Modular Contact, momentary 1NC screw connection 2x2.5mm²</p> <p>suitable actuators</p> <p>contact material AgNi</p>	MTO
 <p>6 mm</p> <p>0 1 2 3 4 5 6 7 .5/6</p> <p>5 6</p>	<p>Modular Contact, momentary 1NC late break screw connection 2x2.5mm²</p> <p>suitable actuators</p> <p>contact material AgNi</p>	MTON
 <p>6 mm</p> <p>0 1 2 3 4 5 6 7 .3/4</p> <p>3 4</p>	<p>Modular Contact, momentary 1NO screw connection 2x2.5mm²</p> <p>suitable actuators</p> <p>contact material AgNi</p>	MTI
 <p>6 mm</p> <p>0 1 2 3 4 5 6 7 .7/8</p> <p>7 8</p>	<p>Modular Contact, momentary 1NO early make screw connection 2x2.5mm²</p> <p>suitable actuators</p> <p>contact material AgNi</p>	MTIV
 <p>6 mm</p> <p>0 1 2 3 4 5 6 7 .7/8 .3/4 D</p> <p>7 8 3 4</p>	<p>Modular Contact, momentary 1NO + 1NO early make screw connection 2x2.5mm² with action point after the early make contact closes</p> <p>suitable actuators</p> <p>contact material AgNi</p>	MT97
 <p>6 mm</p> <p>0 1 2 3 4 5 6 7 1/2 6/8 0 1 2 3 4 5 6 7 .4/3</p> <p>1 2 6 8 4 3</p>	<p>Modular Contact 1NC + 1NO + 1centre contact screw connection 2x2.5mm²</p> <ul style="list-style-type: none"> - to be used with 3-position actuators with 1 plunger - one contact is closed in each position - no contact overlapping <p>contact material AgNi</p>	MHW3I
 <p>6 mm</p> <p>0 1 2 3 4 5 6 7 .3/4 D</p> <p>1 2 3 4</p>	<p>Modular Contact, momentary, with real enabling function 1 permissive contact (1NC + 1NO) screw connection 2x2.5mm² 3-position enabling contact block acc. to EN 60947-5-8</p> <p>suitable actuators</p> <p>contact material AgNi</p>	MTZU

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Contact Blocks

screw connection 2x2.5mm²

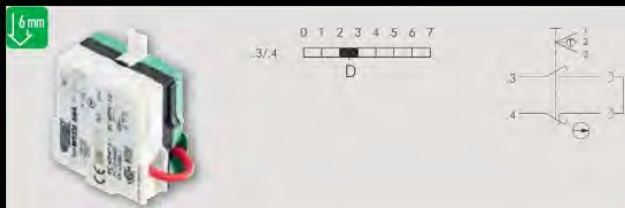
made in germany



Illustration

Description

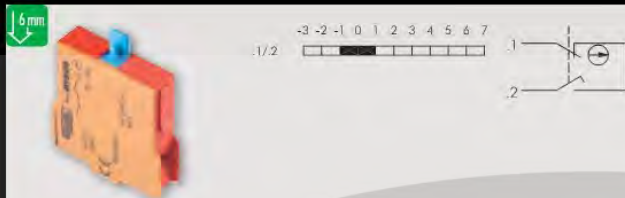
Type



Modular Contact with real enabling function (usable with module holder MHR5 for 2 channels)
1 permissive contact (1NC + 1NO)
 screw connection 2x2.5mm²
 3-position enabling contact block acc. to EN 60947-5-8

two MTZU_564 and one MHR5 are required for 2 channels
 contact material AgNi

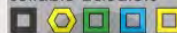
MTZU_564



Self-monitoring Emergency Contact Block, requires only one place in the module holder 1NC (+ 1NO)

screw connection 2x2.5mm²
 The safety contact permanently monitors the proper connection between the emergency-stop button and the contact element. If, due to a negligent assembly or mechanical damage, the emergency-stop button is separated from the contact element, the safety contact disconnects immediately and the machine is stopped.

suitable actuators



contact material AgNi

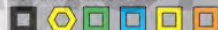
MTOSFE



Latch-type Module

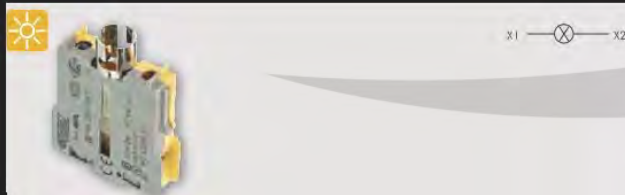
screw connection 2x2.5mm²
 when used as center element in the module holder it provides a maintained unit with the adjacent momentary-type modules

suitable actuators



colour grey

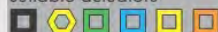
MF



Latch-type Lamp Module

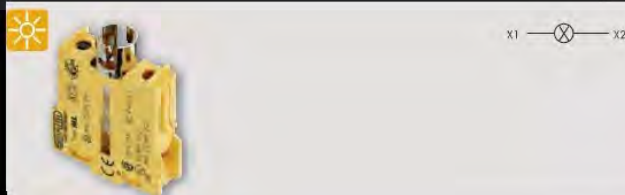
screw connection 2x2.5mm²
 max. 250V 2W
 lamp socket BA9s

suitable actuators



colour yellow/grey

MFL



Lamp Module

screw connection 2x2.5mm²
 max. 250V 2W
 lamp socket BA9s

suitable actuators/pilot light heads



colour yellow

ML



Connection Module

screw connection 2x2.5mm²
 serves to connect the illuminated emergency stops via a screw terminal.
 The connection module is snapped into the module holders MHR_3 or MHR_5
 12-30V, AC/DC, max. 44mA

suitable actuators



colour white

MAL

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	<p>120V Lamp Module screw connection 2x2.5mm² with ultra-bright LED, finger-protected screw connections and integrated bridge rectifier. - operating temperature: -25...70 °C - protection degree acc. to IEC/EN 60529: IP20</p> <p>for 12-120V AC/DC, 8-12mA suitable actuators/pilot light heads</p> <p>LED colour white</p>	MLED12-120W
	<p>24V Lamp Module screw connection 2x2.5mm² with ultra-bright LED, finger-protected screw connections and integrated bridge rectifier. - operating temperature: -25...70 °C - protection degree acc. to IEC/EN 60529: IP20 - approvals: cCSAus, CE, GOST-R</p> <p>for 18-30V AC/DC, 8-14mA suitable actuators/pilot light heads</p> <p>LED colour white</p>	MLED24W
	<p>24V Latch-type Lamp Module screw connection 2x2.5mm² similar to MLED24... but with latching function suitable actuators/pilot light heads</p> <p>LED colour white</p>	MFLED24W
	<p>230V Lamp Module screw connection 2x2.5mm² with ultra-bright LED, finger-protected screw connections and integrated bridge rectifier. - operating temperature: -25...70 °C - protection degree acc. to IEC/EN 60529: IP20 - approvals: cCSAus, CE, GOST-R</p> <p>for 230V AC, 16mA (50Hz) suitable actuators/pilot light heads</p> <p>LED colour white</p>	MLED230W
	<p>230V Latch-type Lamp Module screw connection 2x2.5mm² similar to MLED230...but with latching function suitable actuators/pilot light heads</p> <p>LED colour white</p>	MFLED230W

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Contact Blocks

screw connection 2x2.5mm²

made in germany



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Illustration	Description	Type
	Module Holder for 3 elements with bayonet mount, to combine the modular contacts with the actuators	MHR_3
	Module Holder for 5 elements with bayonet mount, to combine the modular contacts with the actuators	MHR_5
	Ultra-bright LED, BA9s socket with integrated bridge rectifier for 24V AC/DC, 15mA colour white	LD9-24UW
	Mega-bright LED, BA9s with integrated bridge rectifier for 24V .. 28V AC/DC, 15.5mA (typ. 24V) colour white	LD9-24MW
	Ultra-bright LED, BA9s with integrated single-wave rectifier for 230V AC, 3mA colour white	LD9-230UW
	Flashing LED, BA9s for 24V colour green red yellow	LB9-24G LB9-24R LB9-24Y

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General Data

Type Reference:	DSTI, DSTO
Description:	Modular Contact Block (positive opening contact), PUSH-IN connection
Approvals:	CCC, cCSAus, CE, KEMA KEUR, TÜV_Süd
Protection class:	II (protective insulation)
Operation travel:	5 mm
Connection type:	push-in connection/0.75 ... 2.5 mm ²
Contact material:	AgNi
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-25°C ... 55°C, with/without illumination
Mechanical life:	200,000
Electrical life (rated load):	100,000 at rated load
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	5 mA (under laboratory conditions)
Min. voltage:	24 V
Bouncing time NO:	< 10 ms
Bouncing time NC:	< 10 ms
Positive opening contact:	acc. to EN60947-5-1, appendix. K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 A600	DC13 Q300
Rated insulation voltage Ui:	600 V	400V
Rated operating voltage Ue:	240V / 380V	250V / 125V / 60V / 24V
Rated operating current Ie:	3A / 1.9A	0.27 A / 0.55 A / 1 A / 2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	16 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage Ue:	250 V~ / 400 V~
Rated current Ie:	16(10) A / 10(5) A

Technical Data - Lamp

Lamp socket:	BA9s
Max. lamp voltage:	250V
Max. lamp output:	2 W
Definition:	X1...anode, X2...cathode

Electrical Features

Switching voltage:	20mV ... 42V AC/DC
Switching current:	1 mA ... 250mA
Contact resistance (new state):	< 50 mOhm

Note

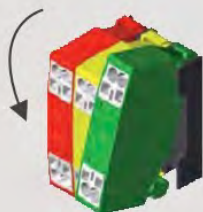
Min. operating temperature when assembled with KRJ...actuators: -40°C...

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SD saijras adfnt

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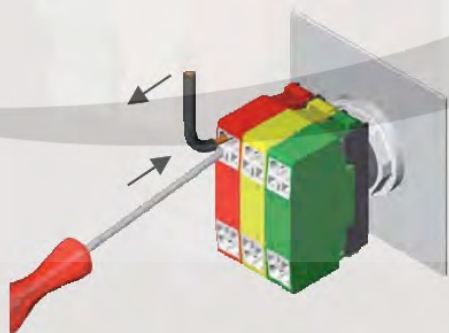
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Illustration	Description	Type
 <p>5 mm 3/4 0 1 2 3 4 5 3 1 4</p>	<p>Modular Contact Block , momentary 1NO push-in connection/0.75 ... 2.5 mm² suitable actuators contact material AgNi</p>	DSTI
 <p>5 mm 1/2 0 1 2 3 4 5 1 2</p>	<p>Modular Contact Block , momentary 1NC push-in connection/0.75 ... 2.5 mm² suitable actuators contact material AgNi</p>	DSTO
 <p>X1 X2</p>	<p>Lamp Module push-in connection/0.75 ... 2.5 mm² max. 250V 2W lamp socket BA9s suitable actuators/pilot light heads colour yellow</p>	DSL9
 <p>5 mm -1/2 -3 -2 -1 0 1 2 3 4 5 6 7 1 2</p>	<p>Self-monitoring Emergency Contact Block, requires only one place in the module holder 1NC (+ 1NO) push-in connection/0.75 ... 2.5 mm² The safety contact permanently monitors the proper connection between the emergency-stop button and the contact element. If, due to a negligent assembly or mechanical damage, the emergency-stop button is separated from the contact element, the safety contact disconnects immediately and the machine is stopped. contact material AgNi</p>	DSTOSDE
	<p>Connection Module push-in connection/0.75 ... 2.5 mm² serves to connect the illuminated emergency-stop actuators via push-in connection. The DSAL module is snapped into the module holder DMR. 12-30V, AC/DC, max. 44mA colour white</p>	DSAL
	<p>Module Holder for 3 modules with bayonet, to combine the modular contact blocks with the actuators</p>	DMR
	<p>Ultra-bright LED, BA9s socket with integrated bridge rectifier for 24V AC/DC, 1.5mA colour white</p>	LD9-24UW

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Contact Blocks

made in germany



push-in connection/0.75 ... 2.5 mm²

Illustration

Description

Type



Mega-bright LED, BA9s

with integrated bridge rectifier for 24V ..
28V AC/DC, 15.5mA (typ. 24V)
colour white

LD9-24MW



Ultra-bright LED, BA9s

with integrated single-wave rectifier for
230V AC, 3mA
colour white

LD9-230UW



Flashing LED, BA9s

for 24V

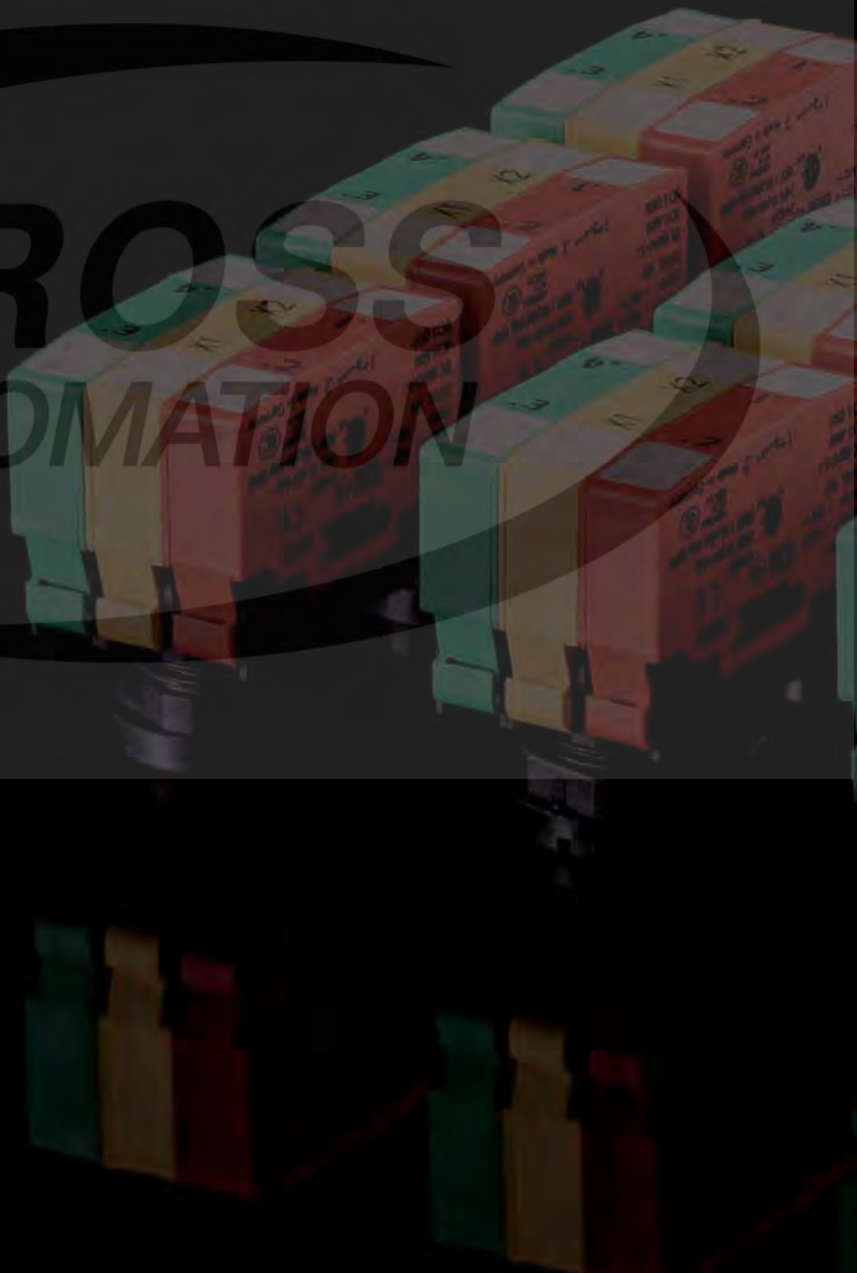
colour green
red
yellow

LB9-24G

LB9-24R

LB9-24Y

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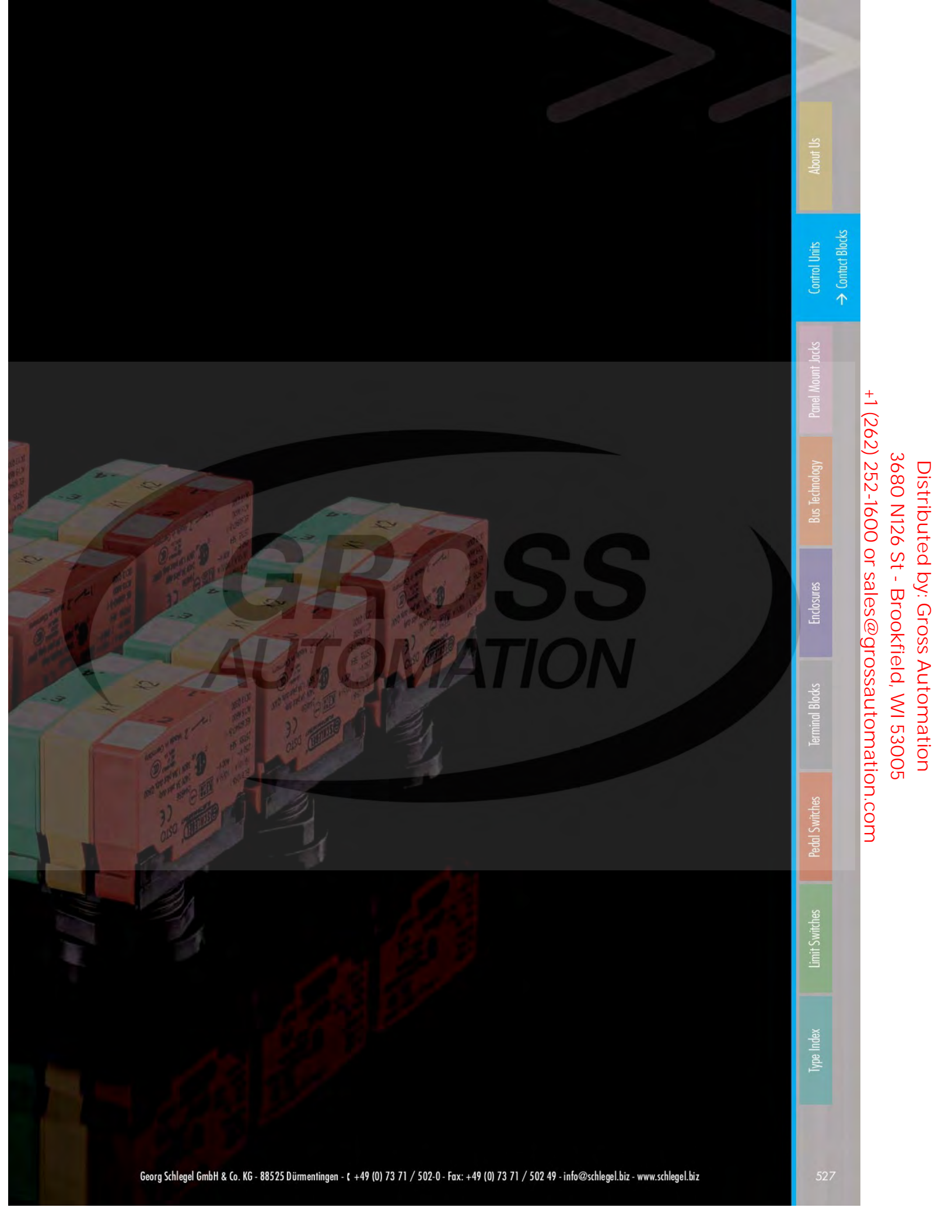
Enclosures

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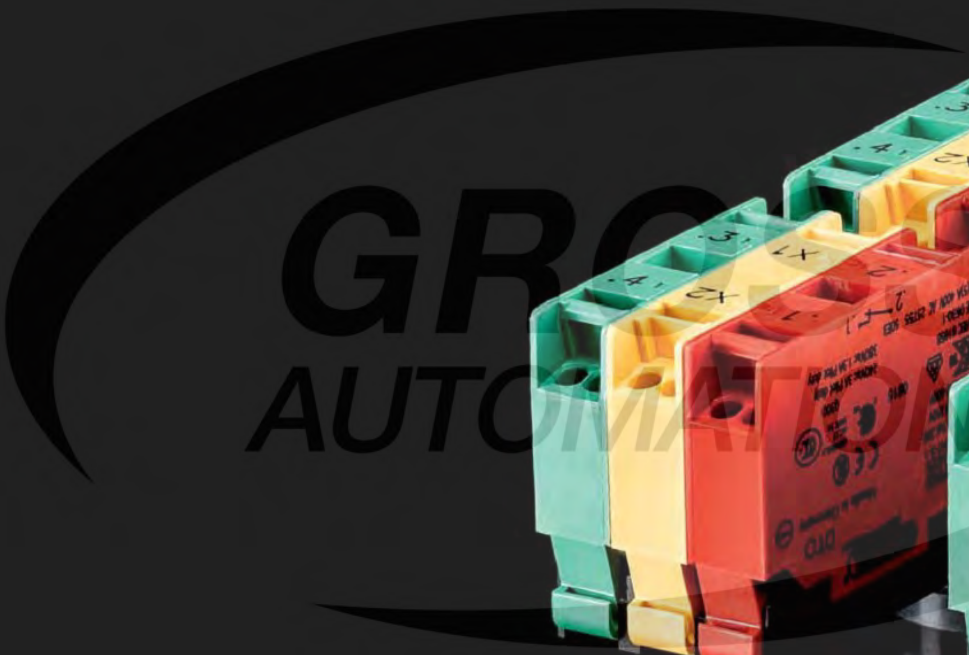
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General Data

Type Reference:	DT...
Description:	Modular Contact Block, with Cage-Clamp technology
Approvals:	CCC, cCSAus, ENEC10, VDE, CE, GL, KEMA KEUR, TÜV_Süd
Protection class:	II (protective insulation)
Operation travel:	6 mm
Connection type:	Cage-Clamp 0.08-2.5 mm ²
Contact material:	AgNi
Max. storage temperature:	-40°C ... 70°C
Max. operating temperature:	-25°C ... 55°C, with/without illumination
Mechanical life:	1 m switching cycles
Electrical life (rated load):	50,000
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix. K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 A600	DC13 Q300
Rated insulation voltage Ui:	600 V	400V
Rated operating voltage Ue:	240V / 380V	250V / 125V / 60V / 24V
Rated operating current Ie:	3A / 1.9A	0.27 A / 0.55 A / 1 A / 2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	16 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage Ue:	250 V~ / 400 V~
Rated current Ie:	16(10) A / 10(5) A

Technical Data - Lamp

Lamp socket:	BA9s
Max. lamp voltage:	250V
Max. lamp output:	2 W
Definition:	X1...anode, X2...cathode

Electrical Features

Switching voltage:	20mV ... 42V AC/DC
Switching current:	1 mA ... 250mA
Contact resistance (new state):	< 50 mOhm

Environmental / Climatic Tests

Vibration resistance:	50m/s ² at 5-150Hz according to DIN IEC 68 2-6
Shock resistance:	30m/s ² at 50ms acc. to DIN IEC 68 2-27
Constant climatic resistance:	IEC 600-68-2-3 and 2-30

Note

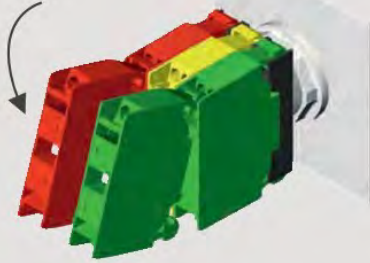
- When combining the DT... contact blocks with key actuators, selector and toggle heads, add the type code ..._497 to the actuator type reference!
- Min. operating temperature when assembled with KRJ...actuators: -40°C ...
- The use of wire end ferrules is basically possible but not necessary.

Mounting Instructions

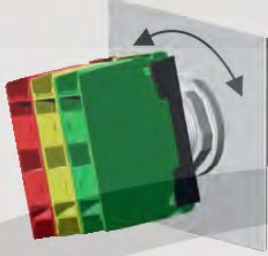
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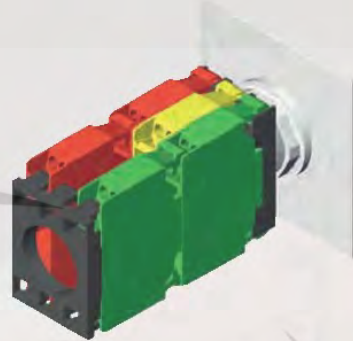
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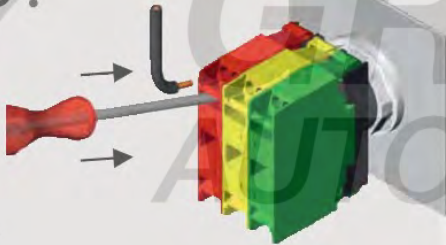
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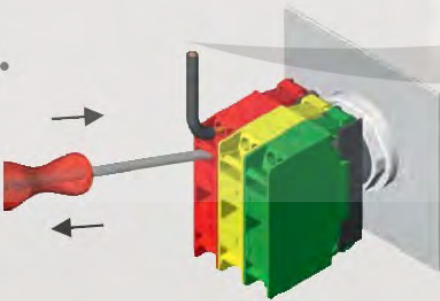
6.



3.



4.



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Illustration	Description	Type
 <p>6 mm</p> <p>0 1 2 3 4 5 6 7</p> <p>1/2</p> <p>1 2</p>	<p>Modular Contact Block, momentary 1NC Cage-Clamp 0.08-2.5 mm²</p> <p>suitable actuators</p> <p>contact material AgNi</p>	DTO
 <p>6 mm</p> <p>0 1 2 3 4 5 6 7</p> <p>5/6</p> <p>5 6</p>	<p>Modular Contact Block, momentary 1NC late break Cage-Clamp 0.08-2.5 mm²</p> <p>suitable actuators</p> <p>contact material AgNi</p>	DTON
 <p>6 mm</p> <p>0 1 2 3 4 5 6 7</p> <p>3/4</p> <p>3 4</p>	<p>Modular Contact Block, momentary 1NO Cage-Clamp 0.08-2.5 mm²</p> <p>suitable actuators</p> <p>contact material AgNi</p>	DTI
 <p>6 mm</p> <p>0 1 2 3 4 5 6 7</p> <p>7/8</p> <p>7 8</p>	<p>Modular Contact Block, momentary 1NO early make Cage-Clamp 0.08-2.5 mm²</p> <p>suitable actuators</p> <p>contact material AgNi</p>	DTIV
 <p>X1 X2</p>	<p>Lamp Module Lampholder Cage-Clamp 0.08-2.5 mm² max. 250V 2W lamp socket BA9s</p> <p>suitable actuators/pilot light heads</p> <p>colour yellow</p>	DL
 <p>6 mm</p> <p>0 1 2 3 4 5 6 7</p> <p>1/2</p> <p>Belüger aufgerastet, in Ruhestellung</p> <p>1 2</p>	<p>Self-monitoring Emergency Contact Block, momentary* 1NC (+ 1NO) Cage-Clamp 0.08-2.5 mm² *) 1 NC, 1NO and 1 safety contact consisting of 1 emergency NC connected in series to 1 NO which is always closed during operation and disconnects automatically on separation of the actuator from the modular contact.</p> <p>suitable actuators</p> <p>contact material AgNi</p>	DMTOSFA
	<p>Dummy Module used in case of several levels to fill the positions not occupied</p> <p>colour grey</p>	DB

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Contact Blocks

Cage-Clamp 0.08-2.5 mm²

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Illustration	Description	Type
	Module Holder for 3 modules with bayonet, to combine the modular contact blocks with the actuators	DMR
	Module Holder for modules from second level on	DMA
	Ultra-bright LED, BA9s socket with integrated bridge rectifier for 24V AC/DC, 15mA colour white	LD9-24UW
	Mega-bright LED, BA9s with integrated bridge rectifier for 24V .. 28V AC/DC, 15.5mA (typ. 24V) colour white	LD9-24MW
	Ultra-bright LED, BA9s with integrated single-wave rectifier for 230V AC, 3mA colour white	LD9-230UW
	Flashing LED, BA9s for 24V colour green red yellow	LB9-24G LB9-24R LB9-24Y

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General Data

Type Reference: ASI_BZ, ASI_BZL5
Description: AS-Interface-Slave
Approvals: ASI, cCSAus

Note

Communication
- AS-Interface Specification: V2.11
- Slave profile: S.B.A.E
- Connection: via 2-pole IDC connector (3.96mm),
type ref. "ASI_SB2AWG18"
double-core flexible wire, AWG18, e.g. "ASI_SL2AWG18"
- Connection cable: double-core flexible wire, AWG18, e.g. "ASI_SL2AWG18"
- Max. network length: 100m (without repeater)
- Max. cycle time: < 10ms (62 A/B slaves)

Ambient Conditions

- Operating temperature: -25°C ... +70°C
- Storage temperature: -40°C ... +80°C
- Humidity: up to 95%, non-condensing

Mechanical Data

- Operating travel: ≤ 3mm
- Operating cycles: ≥ 1 million

Electrical Data

- Power supply: 26.5...31.6 V, through the AS-Interface line
- Total power consumption: ≤ 30 mA
- Signalling unit - output *1): supply through AS-Interface line,
continuously short-circuit proof, overload protection
20 mA
Max. load current of LED: via D0/D1 individually controllable/dimmable in 4 steps
Luminous intensity: 24 V DC (+10%)
Rated voltage: 24 V DC (+10%)
Socket: T5,5k
LED, Schlegel ref.: L5,5k24U...

Norms and Standards:

CE, IEC 62026-2, cCSAus

The Schlegel ASI slaves comply with the specification
AS-Interface POWER24 and can also be operated at 24 V.

*) only ASI_BZL5

ASI-SL2AWG18

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Contact Blocks

2-pole connector (3.96 mm spacing)

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Illustration

Description

Type

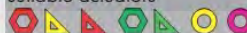


ASI-Interface Slave bus-compatible (2 I/2O)

ASI_BZ

- 2-pole connector (3.96 mm spacing)
- unlighted
- small mounting depth due to built-in IDC connector
- with 2 integrated inputs D2/D3
- profile: S-B.A.E
- applicable standard: V2.11
- reversely compatible to type ASI_BZII5 (female connector not included)

suitable actuators



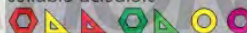
ASI-Interface Slave with T5,5K socket bus-compatible (2 I/2O)

ASI_BZL5

- 2-pole connector (3.96 mm spacing)
- illuminated, LED socket T5,5K
- small mounting depth due to built-in IDC connector
- with 2 integrated inputs D2/D3
- with 1 integrated LED output, individually controllable/dimmable (4 steps) via D0/D1
- profile: S-B.A.E
- applicable standard: V2.11
- reversely compatible to type ASI_BZII5 (socket not included)

lamp socket T5,5K

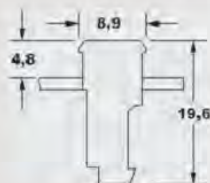
suitable actuators



Ultra-bright LED, T5,5K socket, 24V

- with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA)
- When connecting to DC, the correct polarity must be observed:
- + ... X1/- ... X2
- storage temperature: -25°C ... +80°C
- ambient temperature: -20°C ... +60°C
- voltage tolerance: + 10 %
- colour white

L5,5K24UW



IDC Connector

ASI_SB2AWG18

- 2 poles, for AWG18, to connect the ASI-Interface slaves by insulation piercing (IDC technology);
- with lock mechanism and strain relief

Technical data:

- connector spacing 3.96 mm
- wire size: AWG18 (0.8...1.0 mm²)
- outside dia.: 1.0...2.28 mm

Recommendation: optimal strain relief when used with „ASI_K2“

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Illustration	Description	Type
	Cover with integrated strain relief for 2-pole IDC connector	ASI_K2
	Hand Tool serves to press the single conductors into the IDC connector, connector spacing 3.96 mm	ASI_MRT
	AS-Interface Addressing Cable serves to address the slaves ASI_BZ, ASI_BZL5 with a commercial AS-Interface hand addressing device. Technical data: · PVC cable 500 mm, 2 x 0.75 mm ² · M12 straight-line plug	ASI_PK500M12
	Flexible Equipment Wire suitable for insulation piercing (IDC technology), serves to connect the AS-Interface slaves, twisted 2-core cable, brown/blue; 50 m per unit Technical data: · AWG18 · 19 wires · conductor resistance 21 Ohm/km · style no. 1007 / TR4 · operating temperature max. 80/90 °C (UL/CSA) · storage temperature down to -55 °C · acid/alkali-proof and oil-resistant · flame-resistant · keeps its elasticity under heat and cold	ASI_SL2AWG18
 	Flat Cable Branch with M12 socket without mounting straps, allows connection of a cable with M12 connector to the yellow profile line; Technical data: · 2 A max. · IP20	ASI_AZM12
 	Flat Cable Branch with M12 socket and mounting straps, allows the connection of a cable with M12 connector to the yellow profile line; Technical data: · 2 A max. · IP20	ASI_AZM12L

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Contact Blocks

2-pole connector (3.96 mm spacing)

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Illustration	Description	Type
	<p>M12 Straight-line Plug with plastic nut, self-assembly via screw connections, serves to connect the AS-Interface flexible equipment wire to a M12 connector</p> <p>Technical data: · 4 A max. · 4 poles · PG7</p>	<p>ASI_M12</p>
	<p>M12 Right-angle Plug with plastic nut, self-assembly via screw connections, serves to connect the AS-Interface flexible equipment wire to a M12 connector.</p> <p>Technical data: · 4 A max. · 4 poles · PG7</p>	<p>ASI_M12W</p>
 	<p>Flat Cable Branch self-assembly via screw connections, with mounting straps, serves to connect the AS-Interface flexible equipment wire to the yellow profile line.</p> <p>Technical data: · 2 poles · 4 A max.</p>	<p>ASI_AZL</p>
 	<p>Flat Cable Branch self-assembly via screw connections, without mounting straps, serves to connect the AS-Interface flexible equipment wire to the yellow profile line.</p> <p>Technical data: · 2 poles · 4 A max.</p>	<p>ASI_AZ</p>

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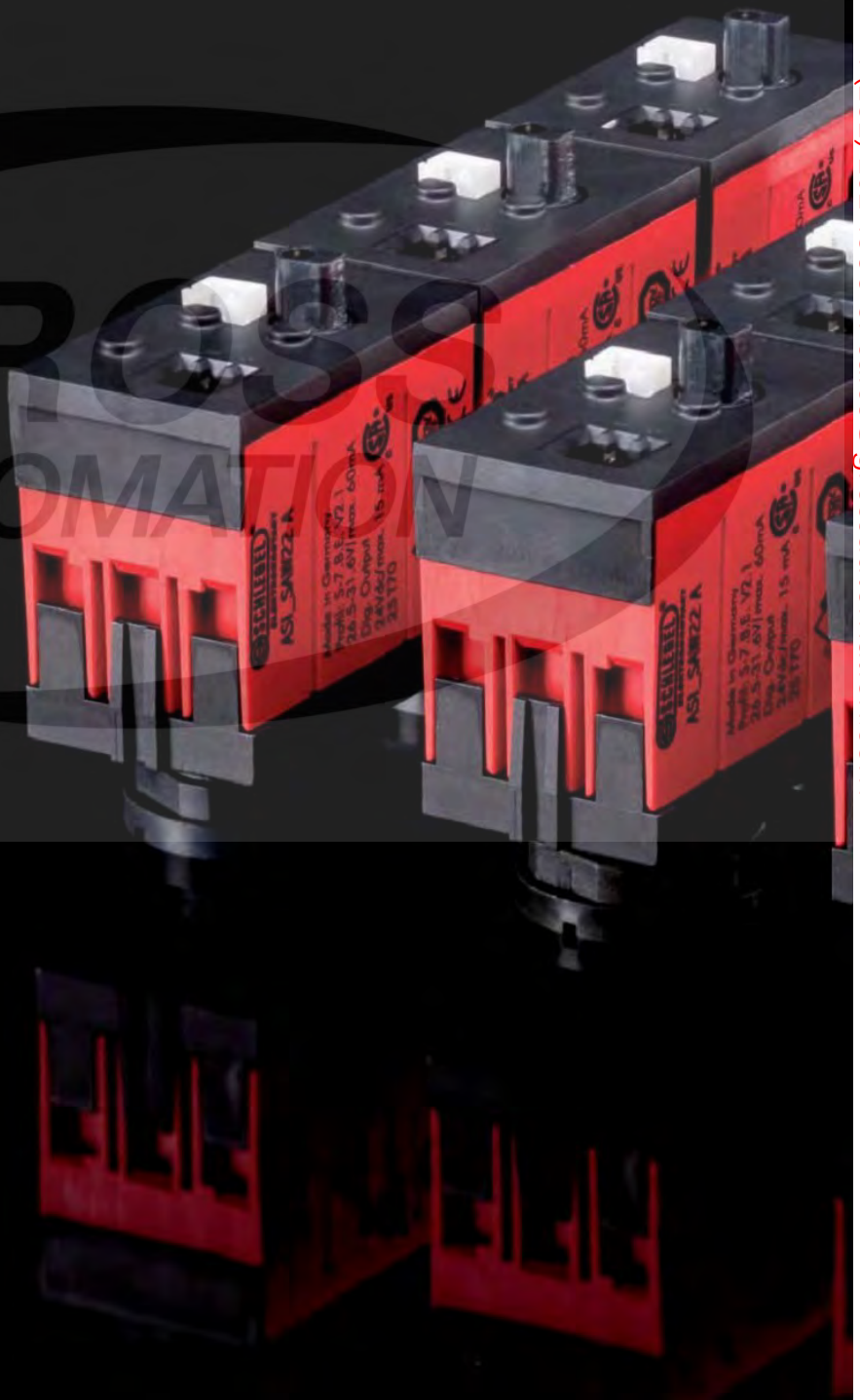
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General Data

Type Reference: ASI_SAW16A, ASI_SAW16E, ASI_SAW22A, ASI_SAW22E,
Description: AS-Interface Slave (Safety at Work)
Approvals: ASI, cCSAus, TÜV_Süd, TÜV_SÜD, CE

Note

Communication

- AS-Interface specification: V 2.1
- Slave profile: ASI_SAWxxA S-7.B.E
ASI_SAWxxE S-0.B.E
- Standby delay time: < 1s
- Input delay: < 5ms
- Connection: via 2-pole IDC connector(3.96mm) with lock mechanism and strain relief
type ref.: "ASI_SL2AWG18"
- Addressing: via integrated connector or separate addressing connector *)

Ambient Conditions

- Operating temperature: -25 °C ...+70 °C
- Humidity: up to 95%, non-condensing
- Degree of protection /slave:IP20
- Pollution degree: 2 (acc. to IEC 60947-1)

Electrical Data

- Operating voltage: 26.5...3.,6 V, through the AS-Interface line
- Total power consumption: ASI_SAWxxA: <= 60 mA
ASI_SAWxxE: <= 50 mA
- Reverse polarity protection: available
- Contacts: two positive opening contacts acc. to IEC60947-5-5
- Safety integrity level: SIL 3
- Output (not safe): for the control of a LED *)
- Rated voltage: 24 V DC (+10%)
- Max. power consumption: approx. 15mA
- Short circuit/overload: LED output
- Connection cable: type ref.: "VK_JST025BKL", "VK_JST034"

Norms and Standards

- Complete AS-Interface Specification, Version 2.11 Rev.1, V3.0 Rev. 0
- IEC 62026-2, IEC 60204-1, IEC 61508, EN 13850, IEC 60947-5-5
- TÜV Type Approval, UL/CSA Approval
- AS-Interface Certificate 62801
- The Schlegel ASi slaves comply with the specification
AS-Interface POWER24 and can also be operated at 24 V.

*) refers only to types ASI_SAW16A, ASI_SAW22A (with additional addressing connector)

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ASI-SAW

Illustration	Description	Type
	<p>AS-Interface Slave (Safety at Work) 16 mm for safety-related control units of 16 mm mounting diameter, e.g. emergency-stop actuators</p> <ul style="list-style-type: none"> - with short-circuit proof, individually controllable, digital output - permanent monitoring and safety shutdown if contact block and actuator are separated - profile: S-7.B.E - applicable standard: V 2.1 - safety integrity level: SIL 3 	<p>ASI_SAW16A</p> <p>suitable actuators</p>
	<p>AS-Interface Slave (Safety at Work) 16 mm for safety-related control units of 16 mm mounting diameter, e.g. emergency-stop actuators</p> <ul style="list-style-type: none"> - profile: S-0.B.E, - applicable standard: V 2.1 - safety integrity level: SIL 3 	<p>ASI_SAW16E</p> <p>suitable actuators</p>
	<p>AS-Interface Slave (Safety at Work) 22 mm for safety-related control units of 22 mm mounting diameter, e.g. emergency-stop actuators</p> <ul style="list-style-type: none"> - with short-circuit proof, individually controllable, digital output - permanent monitoring and safety shutdown if contact block and actuator are separated - profile: S-7.B.E, - applicable standard: V 2.1 - safety integrity level: SIL 3 	<p>ASI_SAW22A</p> <p>suitable actuators</p>
	<p>AS-Interface Slave (Safety at Work) 22 mm for safety-related control units of 22 mm mounting diameter, e.g. emergency-stop actuators</p> <ul style="list-style-type: none"> - profile: S-0.B.E, - applicable standard: V 2.1 - safety integrity level: SIL 3 	<p>ASI_SAW22E</p> <p>suitable actuators</p>
	<p>Connection Cable serves to connect an illuminated emergency-stop pushbutton to a AS-Interface slave (Safety at Work), 2-core strand, red/black, 0.25 mm², with male connector crimped on both sides, length: approx. 10 cm</p>	<p>VK_JST025BKL</p>
	<p>Connection Cable with open end, to connect e.g. an external LED signal lamp to an AS-Interface slave (Safety at Work), 2-core strand, red/black, 0.34 mm², with male connector crimped on one side, length: approx. 10 cm</p>	<p>VK_JST034</p>

Illustration	Description	Type
	Please refer to the E-stop enclosures for AS-Interface systems starting on page 596	
	IDC Connector 2 poles, for AWG18, to connect the AS-Interface slaves by insulation piercing (IDC technology); with lock mechanism and strain relief Technical data: · connector spacing 3.96 mm · wire size: AWG18 (0.8...1.0 mm ²) · outside dia.: 1.0...2.28 mm Recommendation: optimal strain relief when used with „ASI_K2“	ASI_SB2AWG18
	Cover with integrated strain relief for 2-pole IDC connector	ASI_K2
	Hand Tool serves to press the single conductors into the IDC connector, connector spacing 3.96 mm	ASI_MRT
	AS-Interface Addressing Cable serves to address the slaves ASI_BZ, ASI_BZL5 with a commercial AS-Interface hand addressing device. Technical data: · PVC cable 500 mm, 2 x 0.75 mm ² · M12 straight-line plug	ASI_PK500M12
	Flexible Equipment Wire suitable for insulation piercing (IDC technology), serves to connect the AS-Interface slaves, twisted 2-core cable, brown/blue; 50 m per unit Technical data: · AWG18 · 19 wires · conductor resistance 21 Ohm/km · style no. 1007 / TR4 · operating temperature max. 80/90 °C (UL/CSA) · storage temperature down to -55 °C · acid/alkali-proof and oil-resistant · flame-resistant · keeps its elasticity under heat and cold	ASI_SL2AWG18

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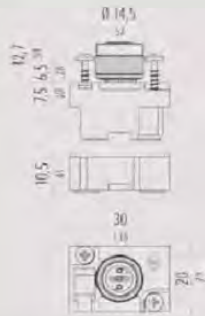
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Illustration

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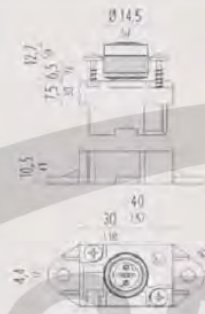
Flat Cable Branch with M12 socket

ASI_AZM12

without mounting straps, allows connection of a cable with M12 connector to the yellow profile line;

Technical data:

- 2 A max.
- IP20



Flat Cable Branch with M12 socket

ASI_AZM12L

and mounting straps, allows the connection of a cable with M12 connector to the yellow profile line;

Technical data:

- 2 A max.
- IP20



M12 Straight-line Plug

ASI_M12

with plastic nut, self-assembly via screw connections, serves to connect the AS-Interface flexible equipment wire to a M12 connector

Technical data:

- 4 A max.
- 4 poles
- PG7



M12 Right-angle Plug

ASI_M12W

with plastic nut, self-assembly via screw connections, serves to connect the AS-Interface flexible equipment wire to a M12 connector.

Technical data:

- 4 A max.
- 4 poles
- PG7

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	<p>Flat Cable Branch ASI_AZL</p> <p>self-assembly via screw connections, with mounting straps, serves to connect the AS-Interface flexible equipment wire to the yellow profile line.</p> <p>Technical data:</p> <ul style="list-style-type: none"> · 2 poles · 4 A max.
--	--

	<p>Flat Cable Branch ASI_AZ</p> <p>self-assembly via screw connections, without mounting straps, serves to connect the AS-Interface flexible equipment wire to the yellow profile line.</p> <p>Technical data:</p> <ul style="list-style-type: none"> · 2 poles · 4 A max.
--	--

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Battery-free Wireless Pushbuttons

The DUX transmitter modules enable the implementation of battery-free radio transmission of a pushbutton signal, particularly in the building and industrial automation, automotive industry and others. The required energy is provided by an electrodynamic power generator using the energy of the key travel (energy harvesting).

The module complies with the R & TTE-EU Directive on wireless transmission equipment.

The transmitter module is licensed under



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Illustration

Description

Type



Battery-free Radio Contact Block (868.3 MHz) for actuators with 16mm bayonet

- no extra power supply necessary
- no additional wiring and cable routing
- based on EnOcean protocol
- easy programming of receiver
- combinable with pushbutton and 2-position selector heads and key actuators
- operating temperature: -25°C ... 65°C

colour green

DFA16



Battery-free Radio Contact Block (868.3 MHz) for actuators with 22mm bayonet

- no extra power supply necessary
- no additional wiring and cable routing
- based on EnOcean protocol
- easy programming of receiver
- combinable with pushbutton and 2-position selector heads and key actuators
- operating temperature: -25°C ... 65°C

colour green

DFA22



Battery-free Radio Limit Switch 868.3 MHz
deliverable with different actuators

- no extra power supply necessary
- no additional wiring and cable routing
- based on EnOcean protocol
- easy programming of receiver
- operating temperature: -25°C ... 65°C

colour green

EK-FA-KRHV



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Illustration	Description	Type
	<p>1-Channel Wireless Receiver 8V - 24V for flush mounting</p> <ul style="list-style-type: none"> - Operating voltage: 8V-24V DC - No. of channels (relay outputs): 1 (potential-free) - No. of transmitters: 35 - max. switching current 12V/24V DC: 8 A - Load specifications acc. to EN 60669-2-1: max. 2000 W, at filament lamp load - Rated switching capacity per contact: 16A/250V AC - Standby loss: 0.3W - 0.9W - Ambient temperature at mounting location: -20°C...+50°C - Relative humidity: annual average value <75% - Operating cycles: 1000/h - Life at rated load, cos phi = 1: 100.000 switching cycles - or filament lamp 500W at 100/h - IP protection: enclosure/connections: IP30/IP20 - Switching functions: momentary or latching; optionally with release delay - Connectivity technology: screw-type 4mm² - Mounting: flush mounting - Dimensions: 45mm long, 45mm wide, 33mm deep - Repeater function can be activated as required 	S_FSR61_8-24VUC
	<p>1-Channel Wireless Receiver 230V for flush mounting</p> <ul style="list-style-type: none"> - Operating voltage: 230V AC 50 Hz - No. of channels (relay outputs): 1 (potential-free) - No. of transmitters: 35 - max. switching current 12V/24V DC: 8 A - Load specifications acc. to EN 60669-2-1: max. 2000 W, at filament lamp load - Rated switching capacity per contact: 16A/250V AC - Standby loss: 0.3W - 0.9W - Ambient temperature at mounting location: -20°C...+50°C - Relative humidity: annual average value <75% - Operating cycles: 1000/h - Life at rated load, cos phi = 1: 100.000 switching cycles - or filament lamp 500W at 100/h - IP protection: enclosure/connections: IP30/IP20 - Switching functions: momentary or latching; optionally with release delay - Connectivity technology: screw-type 4mm² - Mounting: flush mounting - Dimensions: 45mm long, 45mm wide, 33mm deep - Repeater function can be activated as required 	S_FSR61_230V
	<p>Wireless Antenna Module - expandable radio receiver</p> <ul style="list-style-type: none"> - Antenna included - Power supply: 230V AC 50HZ - Operating voltage: 12V DC 1A (integrated switching power supply) - Number of channels (relay outputs): max. 128 - Protocol: EnOcean 868.3 MHz - Mounting: DIN rail EN 60715 TH35 - Dimensions: 36mm wide, 58mm deep - IP Protection: enclosure/connections: IP50/IP 20 - Ambient temperature at mounting location: -20°C...+50°C - Storage temperature: -25°C up to +70°C - Relative humidity: annual average value <75% <p>The S_FAM14 is a receiver with integrated switching power supply. The RS485 bus actuators (S_FSR14-2x) are not included in delivery. At a load exceeding 50% of the rated capacity of 12 W, a ventilation clearance of half of module must be maintained on the left side by using the spacer S_DS14.</p>	S_FAM14

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Illustration

Description

Type



RS485 Bus Actuator

S_FSR14-2x

- up to 118 wireless transmitters per channel
- Rotary switch for teaching-in the transmitters
- Simultaneous latching and momentary function possible with different transmitters
- LED signalling to assist teaching-in procedure
- No. of channels (relay outputs): 2 (potential-free)
- No. of receive channels: 120
- Max. switching current: 12V/24V DC (per channel): 8 A
- Load specifications acc. to EN 60669-2-1: max. 2000 W, at filament lamp load
- Rated switching capacity per contact: 16A/250V AC
- Standby loss: 0.05W-0.5W
- Ambient temperature at mounting location: -20°C...+50°C
- Relative humidity: annual average value <75%
- Life at rated load, cos phi = 1: 100.000 switching cycles
- Filament lamp 500W at 100/h
- IP protection: enclosure/connections: IP50/IP20
- Switching functions: momentary/latching - optionally with release delay
- Connectivity technology: screw-type 6mm²
- Mounting: DIN rail EN 60715 TH35
- Dimensions: 18mm wide, 58mm deep

Suitable RS485 bus actuator for S_FAM14, jumpers for connection are included



Wireless Repeater Level 1/2

S_FRP14

increases the radio transmission range considerably

- Connection via jumper to the RS485 bus or directly with 12V power supply
- Power supply: 12V DC
- Standby loss: 0.6W
- Repeater functions: level 1 / level 2
- Protocol: EnOcean 868.3 MHz
- Mounting: DIN rail EN 60715 TH35
- Dimensions: 18mm wide, 58mm deep
- Ambient temperature at mounting location: -20°C...+50°C
- Relative humidity: annual average value <75%

Suitable accessory: 12V switching power supply S_FSNT12V



12V Switching Power Supply Unit for DIN rail mounting

S_FSNT12V

- Input voltage: 230V (-20% bis +10%)
- Output voltage: 12V DC
- Residual ripple: +1% (100mV)
- Rated capacity: 12W
- Efficiency: 83%
- Standby loss: 0.2W
- Protection class: II
- Inrush current: 18A/230V
- Overvoltage protection: 140-170%
- Temporary overload protection: 160-200%
- IP protection: IP20
- Mounting: DIN rail EN 60715 TH35
- Dimensions: 18mm wide, 58mm deep
- Operating temperature: -10/+50°C
- Switchable in parallel, number: 2

Ideal for power supply of S_FRP14. At a load exceeding 50 % of the rated capacity, and always if there are adjacent switching power supply units from 12W rated capacity and if there are dimmers, a ventilation clearance of half module must be maintained on both sides by using the spacers S_DS14.

wireless

no batteries

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Illustration	Description	Type
	External Antenna with magnet base 2.5 m feed line with SMA connector	S_758-910
	Spacer 1/2 modular spacing = 9mm in order to produce and maintain a ventilation clearance in case of very warm modular devices, as e.g. switching power supplies	S_DS14

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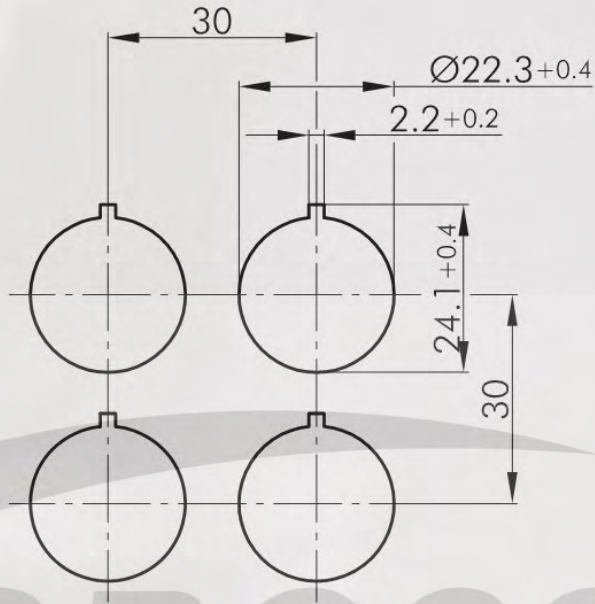
SKDEP JUMOW IJUeP

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>> Rontron-Q-Juwel series	
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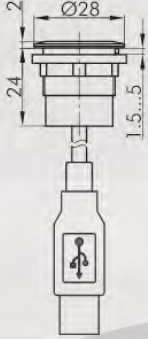


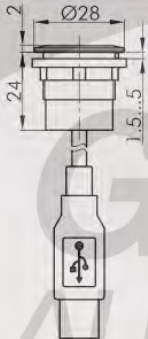


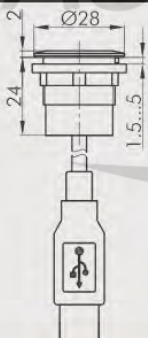


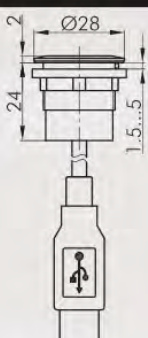

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Illustration	Dimensions	Description	Type
		<p>USB Jack, silver-coloured front: USB jack type A</p> <p>rear: USB2.0 cable (length 60 cm) with plug type A</p> <p>other lengths on request</p> <p>Attention: Mounting position of USB jack does not conform to the USB2.0 specification.</p>	front bezel silver-coloured  RRJ_USB
		<p>USB Jack, stainless steel front: USB jack type A</p> <p>rear: USB2.0 cable (length 60 cm) with plug type A</p> <p>other lengths on request</p> <p>Attention: Mounting position of USB jack does not conform to the USB2.0 specification.</p>	front bezel stainless steel, polished  RRJVA_USB
		<p>USB3.0 Jack, silver-coloured front: USB jack type A</p> <p>rear: USB3.0 cable (length 60 cm) with plug type A</p> <p>other lengths on request</p>	front bezel silver-coloured  RRJ_USB3
		<p>USB3.0 Jack, stainless steel front: USB jack type A</p> <p>rear: USB3.0 cable (length 60 cm) with plug type A</p> <p>other lengths on request</p>	front bezel stainless steel, polished  RRJVA_USB3

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Ø 22.3 mm

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Illustration	Dimensions	Description	Type
		<p>USB Jack, silver-coloured front: USB jack type A</p> <p>rear: USB2.0 cable (length 100 cm) with jack housing, 5 poles (spacing 2.54 mm) for direct connection to a motherboard</p> <p>other lengths on request front bezel silver-coloured </p>	RRJ_USB-100CM_673
		<p>Double USB Jack, silver-coloured front: 2x USB jack type A</p> <p>rear: 2x USB2.0 cable (length 60 cm) with plug type A</p> <p>other lengths on request front bezel silver-coloured </p>	RRJ_2USB
		<p>Double USB Jack, stainless steel front: 2x USB jack type A</p> <p>rear: 2x USB2.0 cable (length 60 cm) with plug type A</p> <p>other lengths on request front bezel stainless steel, polished </p>	RRJVA_2USB
		<p>USB Jack, silver-coloured front: USB jack type A</p> <p>rear: USB jack type A</p> <p>front bezel silver-coloured </p>	RRJ_USB_AA
		<p>USB Jack, stainless steel front: USB jack type A</p> <p>rear: USB jack type A</p> <p>front bezel stainless steel, polished </p>	RRJVA_USB_AA

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Illustration	Dimensions	Description	Type
		USB3.0 Jack, silver-coloured pinout 1:1 front: USB jack type A rear: USB jack type A front bezel silver-coloured	 RRJ_USB3_AA
		USB3.0 Jack, stainless steel pinout 1:1 front: USB jack type A rear: USB jack type A front bezel stainless steel, polished	 RRJVA_USB3_AA
		USB3.0 Jack, silver-coloured Pinout: twisted data line front: USB jack type A rear: USB jack type A front bezel silver-coloured	 RRJ_USB3_AA_633
		USB3.0 Jack, stainless steel Pinout: twisted data line front: USB jack type A rear: USB jack type A front bezel stainless steel, polished	 RRJVA_USB3_AA633
		USB Jack, silver-coloured front: USB jack type A rear: USB jack type B front bezel silver-coloured	 RRJ_USB_AB
		USB Jack, stainless steel front: USB jack type A rear: USB jack type B front bezel stainless steel, polished	 RRJVA_USB_AB

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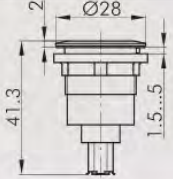


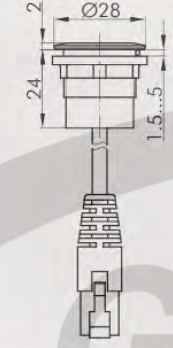


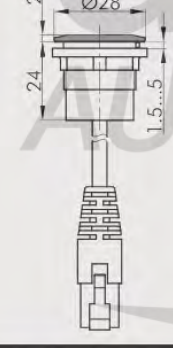


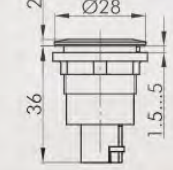


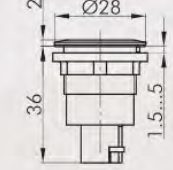

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Illustration	Dimensions	Description	Type
		USB Jack, silver-coloured front: USB jack type B rear: USB jack type A front bezel silver-coloured	RRJ_USB_BA
		USB Jack, stainless steel front: USB jack type B rear: USB jack type A front bezel stainless steel, polished	RRJVA_USB_BA
		USB Jack, silver-coloured front: USB jack type B rear: USB jack type B front bezel silver-coloured	RRJ_USB_BB
		USB Jack, stainless steel front: USB jack type B rear: USB jack type B front bezel stainless steel, polished	RRJVA_USB_BB
		USB Jack, silver-coloured front: USB jack type B rear: USB2.0 cable (length 50 cm) with plug type B front bezel silver-coloured	RRJ_USB_BB_50CM
		FireWire Jack, silver-coloured front: FireWire jack rear: FireWire jack front bezel silver-coloured	RRJ_FW6_STB

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Illustration	Dimensions	Description	Type
		FireWire Jack, stainless steel front: FireWire jack rear: FireWire jack front bezel stainless steel, polished 	RRJVA_FW6_STB
		RJ45 Jack, silver-coloured front: RJ45 jack with screen rear: 60 cm cable screened with RJ45 connector front bezel silver-coloured 	RRJ_RJ45
		RJ45 Jack, stainless steel front: RJ45 jack with screen rear: 60cm cable with screened RJ45 connector front bezel stainless steel, polished 	RRJVA_RJ45
		RJ45 Jack, silver-coloured front: RJ45 jack with screen rear: RJ45 jack with screen front bezel silver-coloured 	RRJ_RJ45_STB
		RJ45 Jack, stainless steel front: RJ45 jack with screen rear: RJ45 jack with screen front bezel stainless steel, polished 	RRJVA_RJ45_STB

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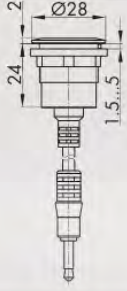


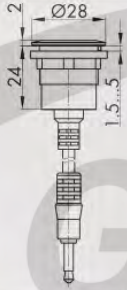


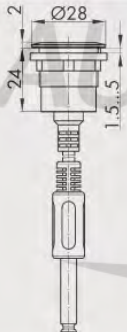


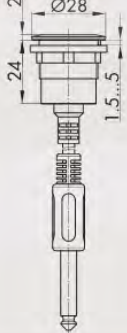

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Illustration	Dimensions	Description	Type
		<p>PS2 Jack, silver-coloured front: PS2 jack</p> <p>rear: PS2 cable (length 200 cm) with PS2 plug</p> <p>other lengths on request front bezel silver-coloured</p>	RRJ_PS2_200CM
		<p>SVHS Jack, silver-coloured front: SVHS jack</p> <p>rear: SVHS cable (length 200 cm) with SVHS plug</p> <p>other lengths on request front bezel silver-coloured</p>	RRJ_SVHS_200CM
		<p>HDMI Jack, silver-coloured front: HDMI jack</p> <p>rear: HDMI jack</p> <p>front bezel silver-coloured</p>	RRJ_HDMI_STB
		<p>2.5 mm Jack Plug, silver-coloured front: 2.5 mm jack socket (TRS)</p> <p>rear: cable (length 200 cm) with 2.5 mm jack plug</p> <p>other lengths on request front bezel silver-coloured</p>	RRJ_KL2,5_200CM
		<p>2.5 mm Jack Plug, stainless steel front: 2.5 mm jack socket (TRS)</p> <p>rear: cable length 200 cm) with 2.5 mm jack plug</p> <p>other lengths on request front bezel stainless steel, polished</p>	RRJVA_KL2,5_200

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Panel Mount Jacks

Illustration	Dimensions	Description	Type
		<p>3.5 mm Jack Plug, silver-coloured</p> <p>front: 3.5 mm jack socket (TRS)</p> <p>rear: cable (length 200 cm) with 3.5 mm jack plug</p> <p>other lengths on request</p> <p>front bezel silver-coloured </p>	RRJ_KL3,5_200CM
		<p>3.5 mm Jack Plug, stainless steel</p> <p>front: 3.5 mm jack socket (TRS)</p> <p>rear: cable length 200 cm) with 3.5 mm jack plug</p> <p>other lengths on request</p> <p>front bezel stainless steel, polished </p>	RRJVA_KL3,5_200
		<p>6.3 mm Jack Plug, silver-coloured</p> <p>front: 6.3 mm jack socket (TRS)</p> <p>rear: cable (length 200 cm) with 6.3 mm jack plug</p> <p>other lengths on request</p> <p>front bezel silver-coloured </p>	RRJ_KL6,3_200CM
		<p>6.3 mm Jack Plug, stainless steel</p> <p>front: 6.3 mm jack socket (TRS)</p> <p>rear: cable (length 200 cm) with 6.3 mm jack plug</p> <p>other lengths on request</p> <p>front bezel stainless steel, polished </p>	RRJVA_KL6,3_200

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Accessories RONTRON-R-JUWEI

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Ø 22.3 mm

Accessories for Actuators

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Illustration	Dimensions	Description	Type
		Robust Aluminium Protection Cap - captive lid, threadable - suitable for all jacks of the Rontron-R-Juwel series colour silver-coloured	SDAL22RR
		Lead-sealable Protective Lid from -30 °C to +70 °C colour transparent	KDP22RR
		Lead-sealable, robust Protective Lid Lifetime: >100,000 cycles colour transparent, black	KDPR22RR KDPR22RR_SW
		Protective Lid made of TPE from -50 °C to +100 °C colour black	AK22RRSW
	 <p>Ø 30,5</p>	LED Light Ring for status indication or additional illumination - for an additional light signal - rated voltage: 24V AC/DC - rated current: 25 ... 35 mA (DC) - 30.5 mm mounting aperture - Connection: for JST plug ZHR-3 delivery without actuator LED colour	 LR22K_24B_619 LR22K_24Y_619 LR22K_24W_619 LR22K_24R_619 LR22K_24G_619
		Connection Cable for LED light ring with open end, to connect the LED light rings to a voltage supply source, length approx. 80 cm, cross section 0.14 mm ²	VK_JST3_014

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Zubehör Betätiger

Illustration	Dimensions	Description	Type
 		<p>RGB LED Light Ring for status indication or illumination</p> <ul style="list-style-type: none"> - as an additional light signal - one-piece ring (360°) - rated voltage 24V AC (half-wave rectifier)/DC - up to 16.7 m colours are possible (colour mixing via PWM signal) 	
		<p>LED colour reed/green/blue</p>	LR22K_24RGB_619
		<p>Connection Cable for RGB-LED Light Ring</p> <p>with open end, to connect the RGB-LED light rings to a voltage supply source, length approx. 80 cm, cross section 0.14 mm²</p>	VK_LRR22_RGB
		<p>Mounting Tool</p> <p>with torque limitation for the series QUARTEX-R(-JUWEL), KOMBITAST-R-JUWEL, RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of the RONTRON-R/-Q-JUWEL series</p>	S22

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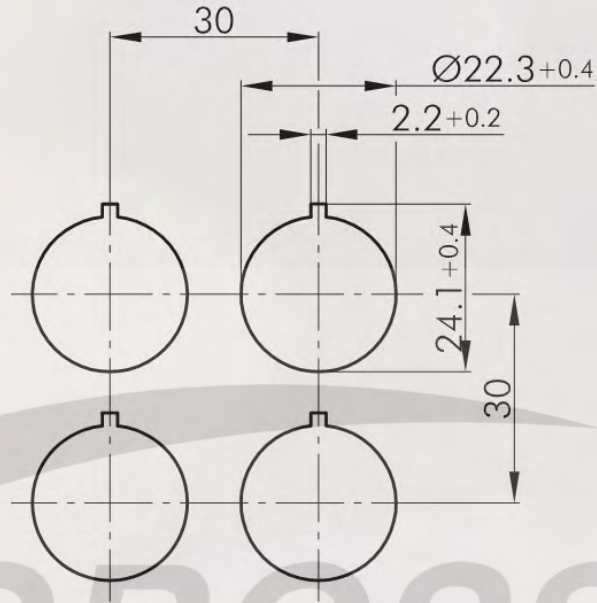
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Cutout Dimensions



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Illustration	Dimensions	Description	Type
		<p>USB Jack front: USB jack type A</p> <p>rear: USB2.0 cable (length 60 cm) with plug type A</p> <p>other lengths on request</p> <p>Attention: Mounting position of USB jack does not conform to the USB2.0 specification.</p>	front bezel silver-coloured RQJ_USB
		<p>USB Jack front: USB jack type A</p> <p>rear: USB jack type A</p>	front bezel silver-coloured RQJ_USB_AA
		<p>USB3.0 Jack front: USB jack type A</p> <p>rear: USB jack type A</p>	front bezel silver-coloured RQJ_USB3_AA
		<p>USB Jack front: USB jack type A</p> <p>rear: USB jack type B</p>	front bezel silver-coloured RQJ_USB_AB
		<p>USB Jack front: USB jack type B</p> <p>rear: USB jack type A</p>	front bezel silver-coloured RQJ_USB_BA
		<p>USB Jack front: USB jack type B</p> <p>rear: USB jack type B</p>	front bezel silver-coloured RQJ_USB_BB

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RONTRON-Q-JUWEL

Ø 22.3 mm

made in germany



Panel Mount Jacks

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Illustration	Dimensions	Description	Type
		<p>Fire Wire Jack front: Fire Wire jack</p> <p>rear: Fire Wire jack front bezel</p>	silver-coloured RQJ_FW6_STB
		<p>RJ45 Jack front: RJ45 jack with screen</p> <p>rear: 60cm cable screened with RJ45 connector front bezel</p>	silver-coloured RQJ_RJ45
		<p>RJ45 Jack front: RJ45 jack with screen</p> <p>rear: RJ45 jack with screen front bezel</p>	silver-coloured RQJ_RJ45_STB

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Accessories for Actuators

Illustration	Dimensions	Description	Type
		Lead-sealable Protective Lid from -30 °C to +70°C colour transparent	KDP22RR
		Lead-sealable, robust Protective Lid colour transparent	KDPR22RR
		Mounting Tool with torque limitation for the series QUARTEX-R(-JUWEL), KOMBITAST-R-JUWEL, RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of the RONTRON-R/-Q-JUWEL series	S22

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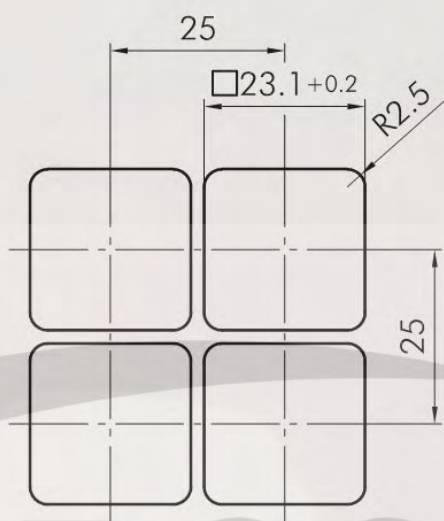
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Cutout Dimensions



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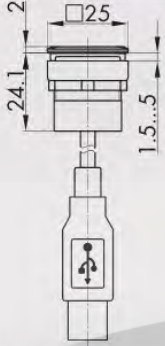

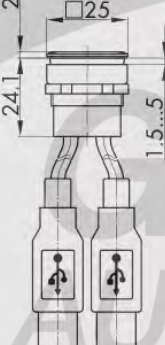

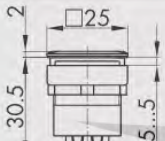


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Panel Mount Jacks
Accessories for Actuators

Illustration	Dimensions	Description	Type
		<p>USB Jack front: USB jack type A rear: USB2.0 cable (length 60 cm) with plug type A other lengths on request front bezel black</p>	OKJ_USB
		<p>Double USB Jack front: 2x USB: type A rear: 2x USB2.0 cable (length 60 cm) with plug type A other lengths on request front bezel black</p>	OKJ_2USB
		<p>USB Jack front: USB jack type A rear: USB jack type A front bezel black</p>	OKJ_USB_AA
		<p>Protective Lid for pushbuttons and jacks of the OKTRON-JUWEL series colour transparent</p>	KDOKJ
		<p>Mounting Tool with torque limitation for the series QUARTEX-R(JUWEL), KOMBITAST-RJUWEL, RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of the RONTRON-R/-QJUWEL series</p>	S22

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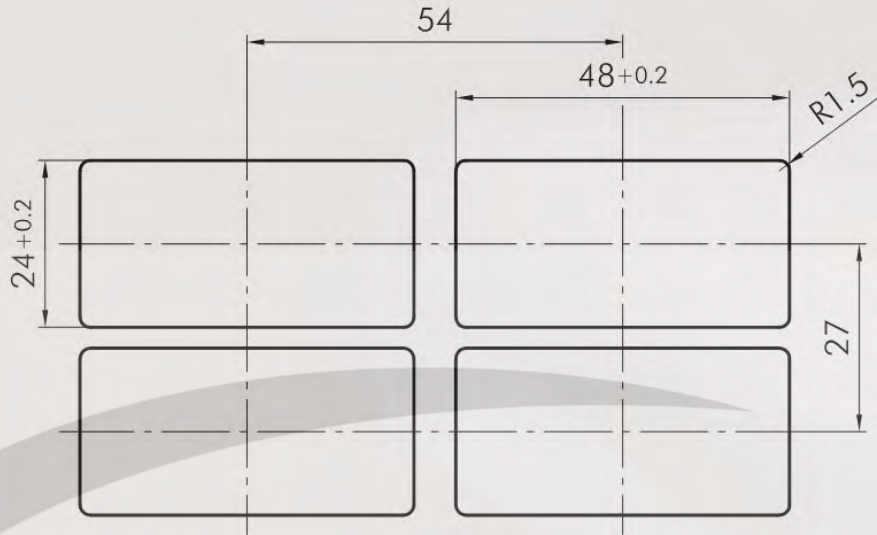
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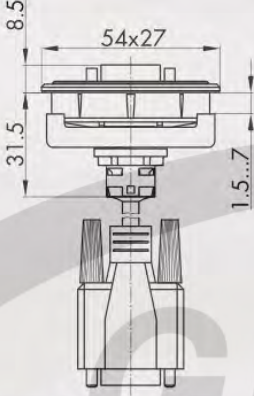

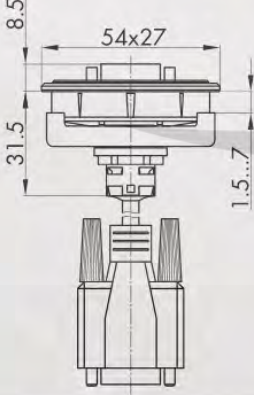

Terminal Blocks

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Panel Mount Jacks
Accessories for Actuators

Illustration	Dimensions	Description	Type
		<p>VGA Jack front: VGA jack</p> <p>rear: VGA cable (length 100 cm) with plug</p> <p>other lengths on request front bezel black</p>	LXJ_VGA_100CM
		<p>RS232 Jack front: RS232 jack</p> <p>rear: RS232 cable (length 100 cm) with plug</p> <p>other lengths on request front bezel black</p>	LXJ_RS232_100CM
		<p>Hexagonal Mounting Tool with torque limitation, for the series OKTRON, OKTRON-JUWEL, OKTRON-R, RONTRON-R-JUWEL, RONTRON-Q-JUWEL, QUARTRON, QUARTRON-JUWEL, RX-JUWEL</p>	S16

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A close-up photograph of industrial machinery, likely a robotic arm or assembly line component. The image shows various metal parts, including a cylindrical component with a textured surface and a green printed circuit board (PCB) with several electronic components. The lighting is dramatic, with strong highlights and deep shadows, creating a sense of precision and complexity. A large, semi-transparent watermark for "GROSS AUTOMATION" is overlaid in the center of the image.

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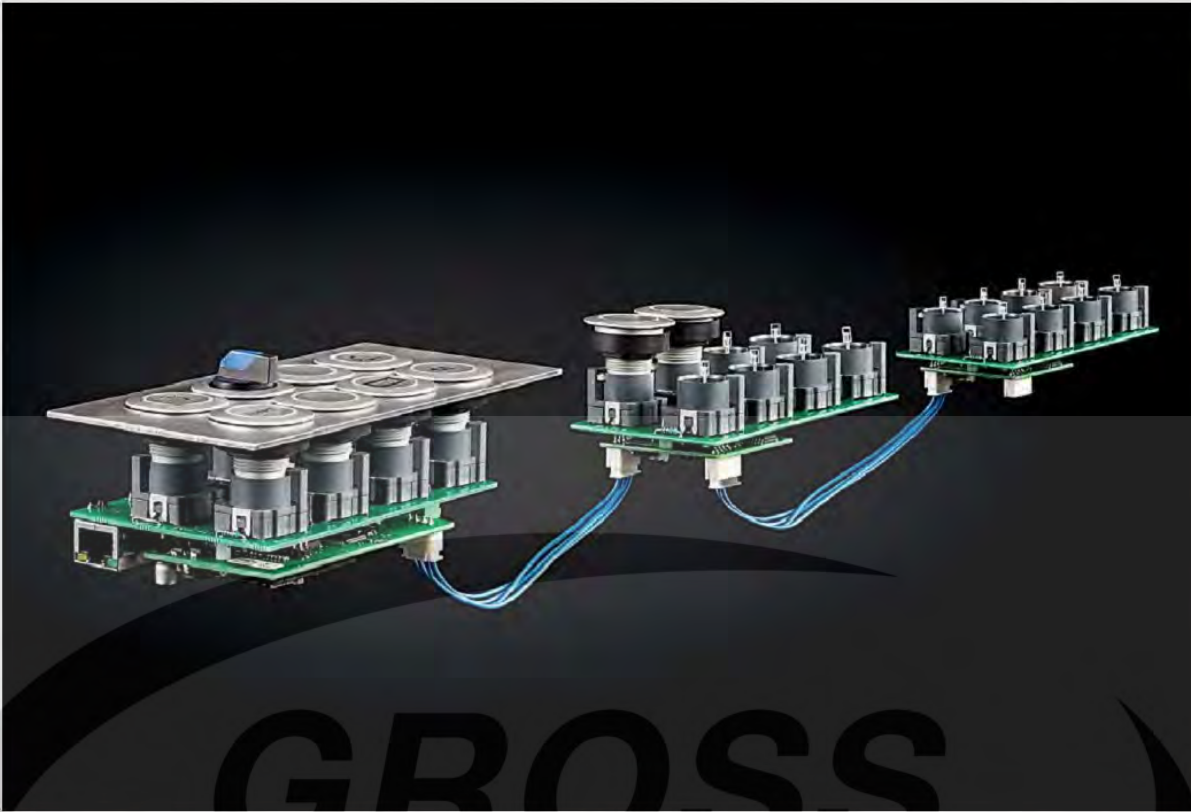
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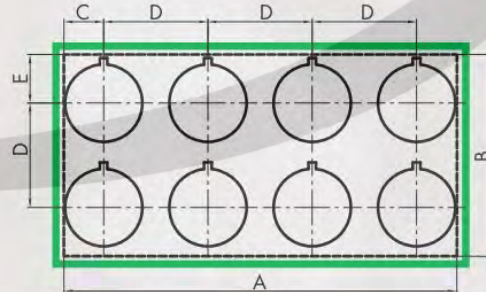
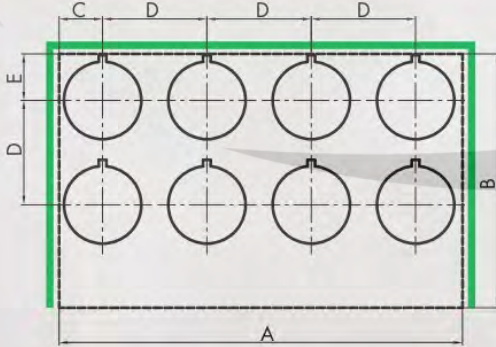
PROFIBUS DP-1 S7-300

modular bus operating concept

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Dimensions / Spacings



Basic module

spacing	25x25	27x27	30x30
A	98.0 mm	105.0 mm	116.0 mm
B	65.0 mm	70.0 mm	73.0 mm
C	11.5 mm	10.8 mm	12.5 mm
D	25.0 mm	27.0 mm	30.0 mm
E	11.5 mm	13.4 mm	13.4 mm

Expansion module

spacing	25x25	27x27	30x30
A	97.0 mm	104.0 mm	113.0 mm
B	47.0 mm	53.0 mm	58.0 mm
C	11.5 mm	10.8 mm	11.0 mm
D	25.0 mm	27.0 mm	30.0 mm
E	11.5 mm	13.3 mm	14.0 mm

Further expansion modules can be arranged in the same spacing at three outer edges of the basic module.

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Modular Bus Operating Concept

The basic idea was to develop an operating concept that makes us flexible enough to provide low-cost up to high-end solutions. The result is a future-proof and dynamic system to integrate contemporary design and state-of-the-art technology in modern machine concepts and panel layouts. The modular operating concept provides for project planning either standardised modules in a fixed grid spacing or the possibility to respond individually to customer-specific designs. The modular operating concept consists of two basic modules, the bus-specific basic module and the bus-independent expansion module. The basic module includes the typical bus connection as well as the bus node for communication with the corresponding bus system. The expansion module serves as a bus-independent I/O expansion in conjunction with the basic module, which enables us to integrate up to 128 command positions with 128 indicator lamps. The system power supply of the expansion modules is effected via the basic module, thus, reducing handling to a minimum. Each module is construed with 8 inputs for contact blocks and 8 outputs for the LED indicator lamps. We distinguish in this modular operating concept two basic applications, control panel construction in which all command points are summarised on one area, and plant engineering & construction with several command points, which are distributed in the system.

Customised - fast - cost-effective

If your design plans cannot be implemented with the standardised modules, we can respond to your special design requirements anyway. For customised designs we resort to sub-modules of the modular operating concept while adapting the carrier card with the command points (PCB with individual contact blocks) according to your design proposal, consequently, the cost-optimised concept also taking effect here.

Technical Description - Control Panel Construction / Plant Engineering & Construction

Control Panel Construction

For the control panel construction, we consider the arrangement of the command points on one control unit, on which we can set up max. 64 command points with 64 indicator lamps. The 8 modules are then connected through with a ribbon cable. The individual modules can be arranged in a max. distance of 250mm to each other.

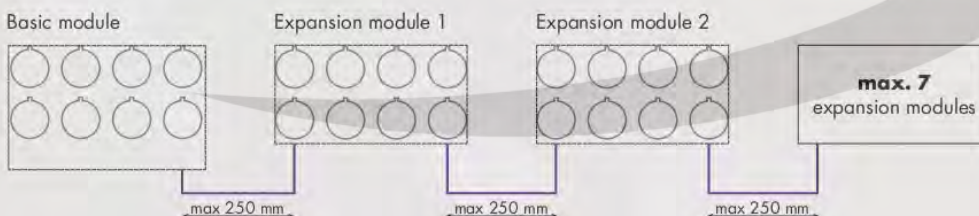
Plant Engineering & Construction

In the plant engineering & construction we consider the complete plant, which usually has a main control panel and several secondary control panels. In this case, the main control panel is equipped with the basic module and according to your operating concept, with additional expansion modules. The bus node with the typical bus connection is also arranged in the main control panel. It is then possible to equip more secondary control panels with expansion modules and to operate them via the main control panel using the bus data. In this application you can operate max. 128 command positions with 128 pilot lamps, and this at a cable length of 5m between the command positions and a total length of 30m within the plant.

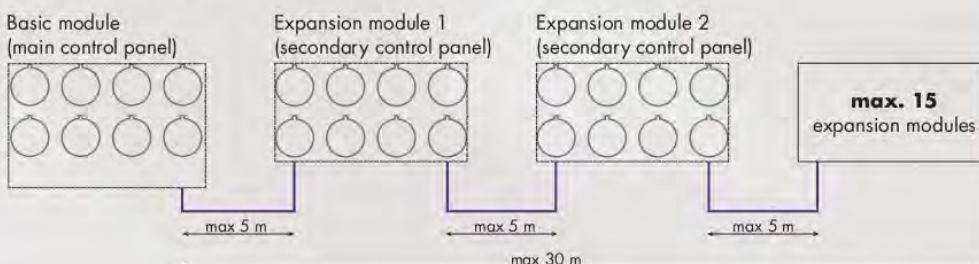
Mounting of Standard Modules

We offer the standardised modules in fixed grid spacings of 25 x 25mm, 27 x 27 mm or 30 x 30mm. The modules are plugged on the actuators in the front panel and secured to the contact blocks by means of a locking bolt. Therefore, no additional spacers are needed in the front panel to mount the modules. The basic module is supplied with a supply voltage of +24V/DC and the bus signal. The expansion modules are connected to each other by means of a connecting cable, thus, there is no need for an additional wiring by what the wiring outlay reduces enormously. The individual modules can be attached in the same spacing.

Control Panel Construction



Plant Engineering & Construction



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CANopen Basic Module



CANopen Bus System ISO11898
 CiA Standard DS401 version 2.0
 Addressing: DIP switch
 Baud rate: 10kbit up to 1Mbit are automatically detected by the bus
 I/Os: 8 I/Os, 8 inputs and 8 outputs, expandable to max. 64 I/Os for control panel construction and 128 I/Os for plant engineering and construction
 Bus connection: 3-pole screw terminal
 Bus termination: can be activated via sliding switch

Please download the EDS file and data sheet with pin configuration from www.schlegel.biz

Application Area	Control Panel Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	CO_BTK25_01	CO_BTK27_01	CO_BTK30_01
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	CO_BTK25_02	CO_BTK27_02	CO_BTK30_02

Application Area	Plant Engineering and Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	CO_BTK25_03	CO_BTK27_03	CO_BTK30_03
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	CO_BTK25_04	CO_BTK27_04	CO_BTK30_04



Expansion Module








I/Os: 8 I/Os (8 inputs and 8 outputs)
 Control panel construction: up to max. 64 I/Os using 7 additional modules and a cable length of 250 mm between the modules
 Plant engineering and construction: up to max. 128 I/Os using 15 additional modules and a cable length of 5 m between the modules, total length 30 m
 System connection: via the connecting cables VK_BTK_... (please order separately, see next page)

Application Area	Control Panel Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	E_BTK25_01	E_BTK27_01	E_BTK30_01
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	E_BTK25_02	E_BTK27_02	E_BTK30_02

Application Area	Plant Engineering and Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	E_BTK25_03	E_BTK27_03	E_BTK30_03
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	E_BTK25_04	E_BTK27_04	E_BTK30_04

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Illustration	Description	
	<p>Expansion Module - Plant Engineering And Construction 8 external I/Os are led onto the bus via a terminal</p> <p>Connection: spring-type terminal I/Os: 8 I/Os, 8 inputs and 8 outputs up to max. 128 I/Os with additional 15 modules System Connection: via connecting cable VK_BTK_002... max. cable length 5m between the modules; total length 30m</p> <p>The data sheet with pin assignments can be downloaded at www.schlegel.biz</p>	E_BTK8IO_0304
	<p>Expansion Module - Control Panel Construction 8 external I/Os are led onto the bus via a terminal</p> <p>Connection: spring-type terminal from 0.25 mm² to 1.5 mm² I/Os: 8 I/Os, 8 inputs on switching contacts (low active) and 8 outputs on pilot lights 10mA (low active) System Connection: via connecting cable VK_BTK_001... max. cable length 250 mm between the modules</p> <p>The data sheet with pin assignments can be downloaded at www.schlegel.biz</p>	E_BTK8IO_0102
	<p>Ultra-bright LED, T5,5K socket, 24V with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 % colour white</p>	L5,5K24UW
	<p>Connecting Cable for control panel construction</p> <p>Length: 50 mm Length: 100 mm Length: 220 mm</p>	VK_BTK_001_50 VK_BTK_001_100 VK_BTK_001_220
	<p>Connecting Cable for plant engineering & construction</p> <p>Length: 90 mm Length: 140 mm Length: 300 mm</p>	VK_BTK_002_90 VK_BTK_002_140 VK_BTK_002_300

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Profibus Basic Module



Profibus specification: DPVO
 Data length: 96 byte I/O
 Module name: 8 byte input 8 byte output
 Addressing: DIP switch
 I/Os: 8 I/Os, 8 inputs and 8 outputs, expandable to max. 64 I/Os for control panel construction and 128 I/Os for plant engineering and construction
 Bus connection: 3-pole screw terminal
 Bus termination: can be activated via sliding switch

Please download the GSD file and data sheet with pin configuration from www.schlegel.biz

Application Area	Control Panel Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	DP_BTK25_01	DP_BTK27_01	DP_BTK30_01
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	DP_BTK25_02	DP_BTK27_02	DP_BTK30_02

Application Area	Plant Engineering and Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	DP_BTK25_03	DP_BTK27_03	DP_BTK30_03
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	DP_BTK25_04	DP_BTK27_04	DP_BTK30_04

suitable actuators



Expansion Module



I/Os: 8 I/Os (8 inputs and 8 outputs)
 Control panel construction: up to max. 64 I/Os using 7 additional modules and a cable length of 250 mm between the modules
 Plant engineering and construction: up to max. 128 I/Os using 15 additional modules and a cable length of 5 m between the modules, total length 30 m
 System connection: via the connecting cables VK_BTK_... (please order separately, see next page)

Application Area	Control Panel Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	E_BTK25_01	E_BTK27_01	E_BTK30_01
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	E_BTK25_02	E_BTK27_02	E_BTK30_02

Application Area	Plant Engineering and Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	E_BTK25_03	E_BTK27_03	E_BTK30_03
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	E_BTK25_04	E_BTK27_04	E_BTK30_04

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Illustration

Description



Expansion Module - Plant Engineering And Construction

8 external I/Os are led onto the bus via a terminal

Connection: spring-type terminal
 I/Os: 8 I/Os, 8 inputs and 8 outputs up to max. 128 I/Os with additional 15 modules
 System Connection: via connecting cable VK_BTK_002... max. cable length 5m between the modules; total length 30m

The data sheet with pin assignments can be downloaded at www.schlegel.biz

E_BTK8IO_0304



Expansion Module - Control Panel Construction

8 external I/Os are led onto the bus via a terminal

Connection: spring-type terminal from 0.25 mm² to 1.5 mm²
 I/Os: 8 I/Os, 8 inputs on switching contacts (low active) and 8 outputs on pilot lights 10mA (low active)
 System Connection: via connecting cable VK_BTK_001... max. cable length 250 mm between the modules

The data sheet with pin assignments can be downloaded at www.schlegel.biz

E_BTK8IO_0102



Ultra-bright LED, T5,5K socket, 24V

with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA)

When connecting to DC, the correct polarity must be observed:

+ ... X1/- ... X2

storage temperature:

-25°C ... +80°C

ambient temperature:

-20°C ... +60°C

voltage tolerance:

+ 10 %

colour white

L5,5K24UW



Connecting Cable for control panel construction

Length: 50 mm
 Length: 100 mm
 Length: 220 mm

VK_BTK_001_50
VK_BTK_001_100
VK_BTK_001_220



Connecting Cable for plant engineering & construction

Length: 90 mm
 Length: 140 mm
 Length: 300 mm

VK_BTK_002_90
VK_BTK_002_140
VK_BTK_002_300

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EtherCAT Basic Module



Transmission: 100 Mbit/s
 I/O data length: 8 byte input 8 byte output
 I/Os: 8 byte input 8 byte output
 Addressing: DIP switch
 I/Os: 8 I/Os, 8 inputs and 8 outputs, expandable to max. 64 I/Os for control panel construction and 128 I/Os for plant engineering and construction
 Bus connection: 2 x RJ45 plug connectors 8P4C

Please download the XML file and data sheet with pin configuration from www.schlegel.biz

Application Area	Control Panel Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	EC_BTK25_01	EC_BTK27_01	EC_BTK30_01
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	EC_BTK25_02	EC_BTK27_02	EC_BTK30_02

Application Area	Plant Engineering and Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	EC_BTK25_03	EC_BTK27_03	EC_BTK30_03
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	EC_BTK25_04	EC_BTK27_04	EC_BTK30_04



Expansion Module








I/Os: 8 I/Os (8 inputs and 8 outputs)
 Control panel construction: up to max. 64 I/Os using 7 additional modules and a cable length of 250 mm between the modules
 Plant engineering and construction: up to max. 128 I/Os using 15 additional modules and a cable length of 5 m between the modules, total length 30 m
 System connection: via the connecting cables VK_BTK_... (please order separately, see next page)

Application Area	Control Panel Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	E_BTK25_01	E_BTK27_01	E_BTK30_01
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	E_BTK25_02	E_BTK27_02	E_BTK30_02

Application Area	Plant Engineering and Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	E_BTK25_03	E_BTK27_03	E_BTK30_03
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	E_BTK25_04	E_BTK27_04	E_BTK30_04

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Illustration	Description	
	<p>Expansion Module - Plant Engineering And Construction 8 external I/Os are led onto the bus via a terminal</p> <p>Connection: spring-type terminal I/Os: 8 I/Os, 8 inputs and 8 outputs up to max. 128 I/Os with additional 15 modules System Connection: via connecting cable VK_BTK_002... max. cable length 5m between the modules; total length 30m</p> <p>The data sheet with pin assignments can be downloaded at www.schlegel.biz</p>	E_BTK8IO_0304
	<p>Expansion Module - Control Panel Construction 8 external I/Os are led onto the bus via a terminal</p> <p>Connection: spring-type terminal from 0.25 mm² to 1.5 mm² I/Os: 8 I/Os, 8 inputs on switching contacts (low active) and 8 outputs on pilot lights 10mA (low active) System Connection: via connecting cable VK_BTK_001... max. cable length 250 mm between the modules</p> <p>The data sheet with pin assignments can be downloaded at www.schlegel.biz</p>	E_BTK8IO_0102
	<p>Ultra-bright LED, T5,5K socket, 24V with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 % colour white</p>	L5,5K24UW
	<p>Connecting Cable for control panel construction</p> <p>Length: 50 mm Length: 100 mm Length: 220 mm</p>	VK_BTK_001_50 VK_BTK_001_100 VK_BTK_001_220
	<p>Connecting Cable for plant engineering & construction</p> <p>Length: 90 mm Length: 140 mm Length: 300 mm</p>	VK_BTK_002_90 VK_BTK_002_140 VK_BTK_002_300

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Profinet I/O Basic Module



ProfiNET I/O specification: 2 ports with transformer
 Fieldbus Baud rates: up to 100 MBaud
 IP address: assignment via bus
 Fieldbus functions: TCP/IP
 I/Os: 8 I/Os, 8 inputs and 8 outputs, expandable to max. 64 I/Os for control panel construction and 128 I/Os for plant engineering and construction.
 Bus connection: 2 x RJ45 plug connectors 8P4C

Please download the GSDML file and the data sheet with pin configuration from www.schlegel.biz.

Application Area	Control Panel Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	PN_BTK25_01	PN_BTK27_01	PN_BTK30_01
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	PN_BTK25_02	PN_BTK27_02	PN_BTK30_02

Application Area	Plant Engineering and Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	PN_BTK25_03	PN_BTK27_03	PN_BTK30_03
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	PN_BTK25_04	PN_BTK27_04	PN_BTK30_04

suitable actuators



Expansion Module








I/Os: 8 I/Os (8 inputs and 8 outputs)
 Control panel construction: up to max. 64 I/Os using 7 additional modules and a cable length of 250 mm between the modules
 Plant engineering and construction: up to max. 128 I/Os using 15 additional modules and a cable length of 5 m between the modules, total length 30 m
 System connection: via the connecting cables VK_BTK.... (please order separately, see next page)

Application Area	Control Panel Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	E_BTK25_01	E_BTK27_01	E_BTK30_01
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	E_BTK25_02	E_BTK27_02	E_BTK30_02

Application Area	Plant Engineering and Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	E_BTK25_03	E_BTK27_03	E_BTK30_03
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	E_BTK25_04	E_BTK27_04	E_BTK30_04

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Illustration	Description
	<p>Expansion Module - Plant Engineering And Construction 8 external I/Os are led onto the bus via a terminal</p> <p>Connection: spring-type terminal I/Os: 8 I/Os, 8 inputs and 8 outputs up to max. 128 I/Os with additional 15 modules System Connection: via connecting cable VK_BTK_002... max. cable length 5m between the modules; total length 30m</p> <p>The data sheet with pin assignments can be downloaded at www.schlegel.biz</p> <p style="text-align: right;">E_BTK8IO_0304</p>
	<p>Expansion Module - Control Panel Construction 8 external I/Os are led onto the bus via a terminal</p> <p>Connection: spring-type terminal from 0.25 mm² to 1.5 mm² I/Os: 8 I/Os, 8 inputs on switching contacts (low active) and 8 outputs on pilot lights 10mA (low active) System Connection: via connecting cable VK_BTK_001... max. cable length 250 mm between the modules</p> <p>The data sheet with pin assignments can be downloaded at www.schlegel.biz</p> <p style="text-align: right;">E_BTK8IO_0102</p>
	<p>Ultra-bright LED, T5,5K socket, 24V with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 % colour white</p> <p style="text-align: right;">L5,5K24UW</p>
	<p>Connecting Cable for control panel construction</p> <p>Length: 50 mm VK_BTK_001_50 Length: 100 mm VK_BTK_001_100 Length: 220 mm VK_BTK_001_220</p>
	<p>Connecting Cable for plant engineering & construction</p> <p>Length: 90 mm VK_BTK_002_90 Length: 140 mm VK_BTK_002_140 Length: 300 mm VK_BTK_002_300</p>

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EtherNet IP Basic Module



Transmission: 100 Mbit/s
 I/O data length: 8 byte input 8 byte output
 I/Os: 8 I/Os, 8 inputs and 8 outputs, expandable to max. 64 I/Os for control panel construction and 128 I/Os for plant engineering and construction
 Bus connection: 2 x RJ45 plug connectors 8P4C

Application Area	Control Panel Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 incorporated white LEDs	EN_BTK25_01	EN_BTK27_01	EN_BTK30_01
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	EN_BTK25_02	EN_BTK27_02	EN_BTK30_02

Application Area	Plant Engineering and Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	EN_BTK25_03	EN_BTK27_03	EN_BTK30_03
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	EN_BTK25_04	EN_BTK27_04	EN_BTK30_04



Expansion Module



I/Os: 8 I/Os (8 inputs and 8 outputs)
 Control panel construction: up to max. 64 I/Os using 7 additional modules and a cable length of 250 mm between the modules
 Plant engineering and construction: up to max. 128 I/Os using 15 additional modules and a cable length of 5 m between the modules, total length 30 m
 System connection: via the connecting cables VK_BTK_... (please order separately, see next page)

Application Area	Control Panel Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	E_BTK25_01	E_BTK27_01	E_BTK30_01
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	E_BTK25_02	E_BTK27_02	E_BTK30_02

Application Area	Plant Engineering and Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	E_BTK25_03	E_BTK27_03	E_BTK30_03
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	E_BTK25_04	E_BTK27_04	E_BTK30_04

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Illustration

Description



Expansion Module - Plant Engineering And Construction

8 external I/Os are led onto the bus via a terminal

Connection: spring-type terminal
 I/Os: 8 I/Os, 8 inputs and 8 outputs up to max. 128 I/Os with additional 15 modules
 System Connection: via connecting cable VK_BTK_002... max. cable length 5m between the modules; total length 30m

The data sheet with pin assignments can be downloaded at www.schlegel.biz

E_BTK8IO_0304



Expansion Module - Control Panel Construction

8 external I/Os are led onto the bus via a terminal

Connection: spring-type terminal from 0.25 mm² to 1.5 mm²
 I/Os: 8 I/Os, 8 inputs on switching contacts (low active) and 8 outputs on pilot lights 10mA (low active)
 System Connection: via connecting cable VK_BTK_001... max. cable length 250 mm between the modules

The data sheet with pin assignments can be downloaded at www.schlegel.biz

E_BTK8IO_0102



Ultra-bright LED, T5,5K socket, 24V

with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA)

When connecting to DC, the correct polarity must be observed:

+ ... X1/- ... X2

storage temperature:

-25°C ... +80°C

ambient temperature:

-20°C ... +60°C

voltage tolerance:

+ 10 %

colour white

L5,5K24UW



Connecting Cable for control panel construction

Length: 50 mm
 Length: 100 mm
 Length: 220 mm

VK_BTK_001_50
VK_BTK_001_100
VK_BTK_001_220



Connecting Cable for plant engineering & construction

Length: 90 mm
 Length: 140 mm
 Length: 300 mm

VK_BTK_002_90
VK_BTK_002_140
VK_BTK_002_300

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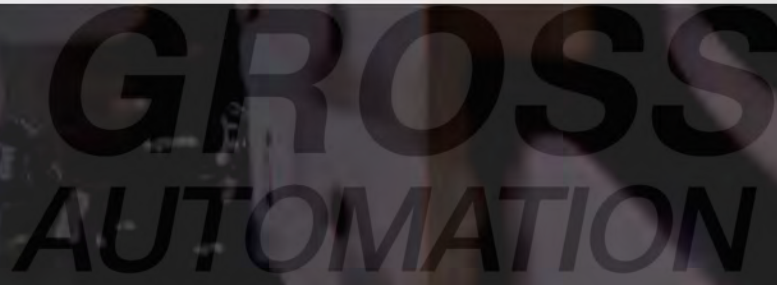
AS-Interface Module



I/Os: 8 I/Os, 8 inputs and 8 Ausgänge
 AS-Interface specification: V3.0
 AS-Interface profile: S-7.A.7.A
 Communication protocol: CTT3 for Master M4
 Diagnostics: Data communication error signalling unit S5
 Protocol or peripheral error signalling unit S6
 Bus connection: 2pole screw clamp
 Connecting cable: max. network length: 100m (without repeater)
 max. cycle time: ≤40ms

LED voltage supply via the bus

Application Area	Control Panel Construction / Plant Engineering and Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
8 contact blocks with snap action function (CTP) and 8 integrated white LEDs		ASI_BTK25_01	ASI_BTK27_01	ASI_BTK30_01
8 contact blocks with snap-action function (CTLP) to accept 8 pluggable LEDs L5,5K <i>Please order the LEDs separately</i>		ASI_BTK25_02	ASI_BTK27_02	ASI_BTK30_02
suitable actuators				



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Illustration

Description



Ultra-bright LED, T5,5K socket, 24V

with integrated series resistor
and half-wave rectifier, for 24 V AC/DC
(7/14 mA)

When connecting to DC, the correct polarity must be observed:

+ ... X1/- ... X2

storage temperature:

-25°C ... +80°C

ambient temperature:

-20°C ... +60°C

voltage tolerance:

+ 10 %

colour

white

L5,5K24UW

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- >> Equipped Insulated Plastic Enclosures (IRF...) page 614

Equipped Stainless Steel Enclosure

made in germany



SVA

Equipped Stainless Steel Enclosure

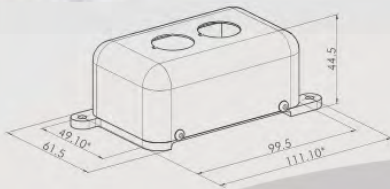
Illustration

Dimensions

Description

Type

IP69K




Stainless Steel Enclosure with 2 illuminated pushbuttons also suitable for hygienic applications

Mounting hole diameter: \varnothing 4.3mm
 Actuators: 2 pushbutton heads ref.RRJVAF
 Contacts: 1 ea. inverter
 Operating temperature: $-30^{\circ}\text{C} \dots +65^{\circ}\text{C}$
 Storage temperature: $-50^{\circ}\text{C} \dots +85^{\circ}\text{C}$
 Connection: 8-pole M12 female connector
 Rated voltage: 1 V ... 30/36 V /AC/DC
 Rated current: 0.01 mA ... 100 mA

LED rated voltage: 24 V / AC/DC
 LED rated current: 7 / 15 mA

other versions on request

mounting holes 2
 equipped Yes
 Panel cut-out \varnothing 22.3 mm
 colour stainless steel, brushed finish

 SVAB22/2_01

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General Data

Type Reference:	S41_01; S42_02; S43_03
Description:	Equipped Stainless Steel Enclosure
Approvals:	CE
Nature of contact:	emerg.stop, pos.1: 2NC pushbuttons, pos.2/3: 1NO each
Degree of protection:	IP54
Connection type:	M12 8 poles (m)emerg.stop:pin 1-2 NC1; pin 3-4: NC2 pushbutton 1:pin 5-6:NO
pushbutton 2:pin 7-8:NO	
Contact material:	AgNi, gold-plated
Max. storage temperature:	-25°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	emerg.stop:50,000 pushbutton:1m
Electrical life (rated load):	emerg.stop:50,000 pushbutton:1m
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix. K (emerg.stop)

General Data

Rated impulse voltage:	800 V (M12 connector)
Positive opening travel:	> 3 mm
Release:	twist release, left or right (E-stop)
Standards:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850

Electrical Features

Operational voltage:	1 V ... 24 V (UL: 30 VDC, 50 mW max)
Operational current:	1 mA ... 250 mA

Note

S41_01:	emerg.stop in stainless steel enclosure
S42_02:	emerg.stop and 1 pushbutton in stainless steel enclosure
S43_03:	emerg.stop and 2 pushbuttons in stainless steel enclosure
Mounting:	fastening clip on top/at at the bottom (incl. T-shaped sliding block)
Emerg. stop:	FRVKOO_AU (2 NC)
Pushbuttons:	SSWTI (1 NO) incl. set of lenses (all colours), without nameplate
Approvals:	emerg.stop: TÜV, UR Pushbuttons: CCC, VDE, ENEC 10

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Equipped Stainless Steel Enclosure

made in germany



S4

General Data

Type Reference: S44_04; S45_05; S46_06
Illuminated pushbuttons: S42_08; S43_07; S44_09, S45_10, S46
Description: Equipped Stainless Steel Enclosure
Approvals: CE
Nature of contact: emerg.stop, pos.1: 2NC pushbuttons, pos.2...6: 1NO each (optional: with illumination)
Degree of protection: IP54
Connection type: Faston terminals 2.8x0.8 mm
Contact material: AgNi
Max. storage temperature: -25°C ... 80°C
Max. operating temperature: -25°C ... 70°C
Mechanical life: emerg.stop:50,000 pushbutton:1m
Electrical life (rated load): emerg.stop:50,000 pushbutton:1m
Bouncing time NO: < 10ms
Bouncing time NC: < 10ms
Positive opening contact: acc. to EN60947-5-1, appendix. K (emerg.stop)

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

Utilisation category:	AC15	DC13
Rated operating voltage U _e :	24V	24V
Rated operating current I _e :	3A	2 A
Breaking capacity:	10I _e	1, 1I _e
Continuous thermal current:	5A	

Technical Data - Lamp

Lamp socket: integrated 3 mm LED (applies only to illuminated types)
Max. lamp voltage: 30 V AC/DC
Max. lamp output: 14mA (at 24 V DC)
Definition: X1...anode, X2...cathode

General Data

Positive opening travel: > 3 mm
Release: twist release, left or right (E-stop)
Standards: EN 60947-5-1, EN 60947-5-5, EN ISO 13850

Note

S44_04: emerg.stop and 3 pushbuttons in stainless steel enclosure, glanded
S45_05: emerg.stop and 4 pushbuttons in stainless steel enclosure, glanded
S46_06: emerg.stop and 5 pushbuttons in stainless steel enclosure, glanded
S43_07: emerg.stop and 2 illuminated pushbuttons in stainless steel enclosure, glanded
S42_08: emerg. stop and 1 illuminated pushbutton in stainless steel enclosure, glanded
S44_09: emerg. stop and 3 illuminated pushbuttons in stainless steel enclosure, glanded

Mounting: fastening clip on top/at at the bottom (incl. T-shaped sliding block)
Cable gland: M16x1.5
Emerg. stop: FRVKOO (2 NC)
Pushbuttons: SSWTI (1 NO) incl. set of lenses (all colours), without nameplate or
SSWTU (1 NO, illuminated) incl. set of lenses (all colours), without nameplate

Approvals: emerg.stop: TÜV, UR
Pushbuttons: CCC, VDE, ENEC 10

Use partially or fully insulated Faston clamps

The user has to make sure that the contact blocks mounted in the enclosure are properly connected in order to comply with the requirements regarding clearance and creepage distances in normal use.

Data Sheet art.no.: 615403902

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Equipped Stainless Steel Enclosure

Illustration	Dimensions	Description	Type
		<p>Equipped Stainless Steel Enclosure with M12 cable entry (8 poles) for profile rail mounting</p> <p>1 emergency stop FRVKOO</p> <p>mounting holes 1</p> <p>equipped Yes</p> <p>colour stainless steel, brushed finish</p>	S41_01
		<p>Equipped Stainless Steel Enclosure with M12 cable entry (8 poles) for profile rail mounting</p> <p>1 emergency stop FRVKOO</p> <p>1 pushbutton SSWTI</p> <p>incl. lenses (clear, red, green, yellow, blue)</p> <p>mounting holes 2</p> <p>equipped Yes</p> <p>colour stainless steel, brushed finish</p>	S42_02
		<p>Equipped Stainless Steel Enclosure with M12 cable entry (8 poles) for profile rail mounting</p> <p>1 emergency stop FRVKOO</p> <p>2 pushbuttons SSWTI</p> <p>incl. lenses (clear, red, green, yellow, blue)</p> <p>mounting holes 3</p> <p>equipped Yes</p> <p>colour stainless steel, brushed finish</p>	S43_03

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Equipped Stainless Steel Enclosure

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Illustration

Dimensions

Description

Type

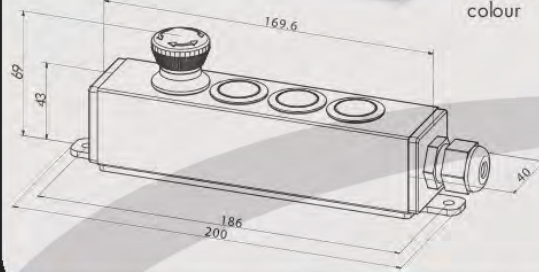


Equipped Stainless Steel Enclosure, glanded for profile rail mounting

1 emergency stop FRVKOO
3 pushbuttons SSWTI

incl. lenses (clear, red, green, yellow, blue)
mounting holes 4
equipped Yes
colour stainless steel, brushed finish

S44_04

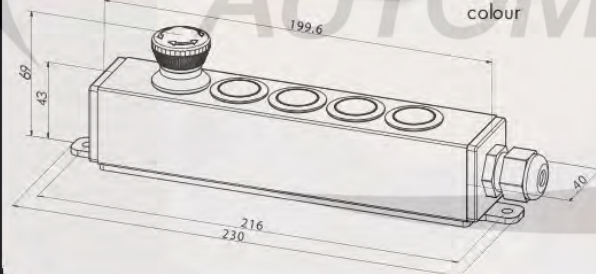


Equipped Stainless Steel Enclosure, glanded for profile rail mounting

1 emergency stop FRVKOO
4 pushbuttons SSWTI

incl. lenses (clear, red, green, yellow, blue)
mounting holes 5
equipped Yes
colour stainless steel, brushed finish

S45_05

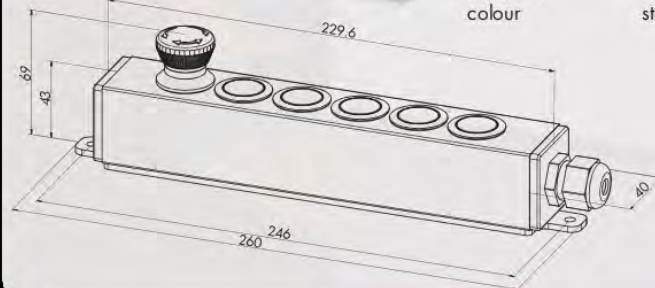


Equipped Stainless Steel Enclosure, glanded for profile rail mounting

1 emergency stop FRVKOO
4 pushbuttons SSWTI

incl. lenses (clear, red, green, yellow, blue)
mounting holes 6
equipped Yes
colour stainless steel, brushed finish


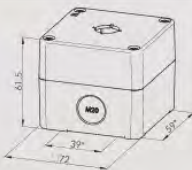

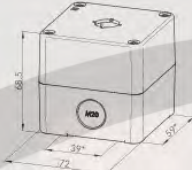

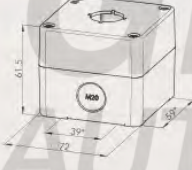

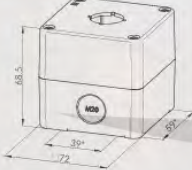
S46_06



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Insulated Plastic Enclosures

SIL... enclosures with M12 connection and special assemblies on request.

Illustration	Dimensions	Description	Type
		Insulated Plastic Enclosure with 1 mounting hole cULus mounting holes 1 equipped No weight 96 g cable entry break-through wall M20 mounting depth 59 mm Panel cut-out Ø 16.2 mm colour black bottom part/yellow cover	SIL16/1
		High Insulated Plastic Enclosure with 1 mounting hole cULus mounting holes 1 equipped No weight 104 g cable entry break-through wall M20 mounting depth 66 mm Panel cut-out Ø 16.2 mm colour black bottom part/yellow cover	SILH16/1
		Insulated Plastic Enclosure with 1 mounting hole mounting holes 1 equipped No weight 96 g cable entry break-through wall M20 mounting depth 59 mm Panel cut-out Ø 22.3 mm colour black bottom part/yellow cover	SIL22/1
		High Insulated Plastic Enclosure with 1 mounting hole cULus mounting holes 1 equipped No weight 104 g cable entry break-through wall M20 mounting depth 66 mm Panel cut-out Ø 22.3 mm colour black bottom part/yellow cover	SILH22/1

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General Data

Type Reference:	MT...
Description:	Modular Contact Block
Approvals:	CCC, CSA, ENEC05, KEMA, CE, TÜV_Süd, UL
Protection class:	II (protective insulation)
Operation travel:	6 mm
Connection type:	screw connection 2x2.5mm ²
Contact material:	AgNi
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 85°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LED's
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1m operations at rated load
Contact resistance NO:	< 20 mOhm
Contact resistance NC:	< 20 mOhm
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix. K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

Utilisation category:	alternate current	direct current
Rated insulation voltage Ui:	AC15 A600	DC13 Q600
Rated operating voltage Ue:	600 V	600 V
Rated operating current Ie:	240V / 440V	440V / 250V / 125V / 60V / 24V
Breaking capacity:	3A / 1.6A	0.12A / 0.2A / 0.4A / 1A / 2A
Continuous thermal current:	10Ie	1, 1Ie
	16 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage Ue:	250 V~ / 440 V~
Rated current Ie:	16(10) A / 10(6) A

Technical Data - Lamp

Lamp socket:	BA9s
Max. lamp voltage:	250 V / (CSA max. 150V)
Max. lamp output:	2 W
Definition:	X1...anode, X2...cathode

Electrical Features - 5µm gold-plating, type addition ...AU

Switching voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm

General Data

Tightening torque (screw terminal):	0.8...1.0 Nm
-------------------------------------	--------------

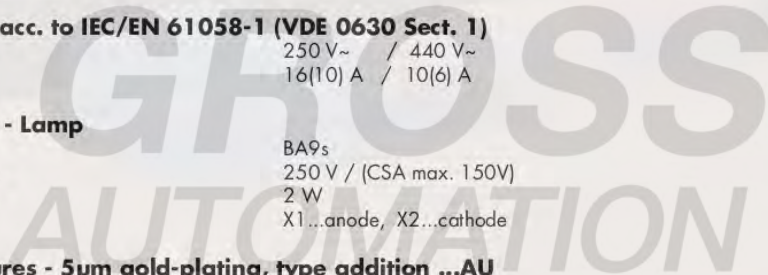
Note

Min. operating temperature when assembled with KRJ...actuators: -40°C ...;
Data Sheet does not apply to the following type: MTOSFE

Electrical Data acc. to UL 508

Ratings:	A600, 600 V AC
----------	----------------

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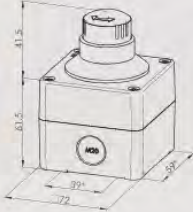

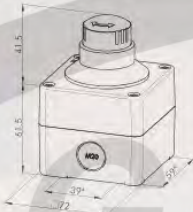

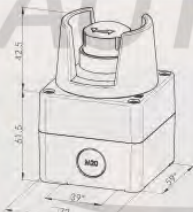

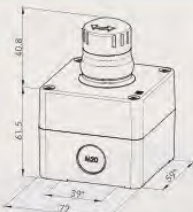
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Equipped Insulated Plastic Enclosures

SIL...enclosures with M12 connection and special assemblies on request

Illustration	Dimensions	Description	Type
		<p>Emergency-stop Control Station with switching position indicator and yellow anti-lock collar, twist release, acc. to EN ISO 13850, VDE 0660, sect.200, IEC/EN 60947-5-1 and IEC/EN 60947-5-5 For technical data on the appropriate contact blocks refer to previous page. Mounting hole dia. 4.2 mm equipped Yes cable entry break-through wall M20 Contact equipment 2NC colour black bottom part/yellow cover</p>	SIL_QRBV00
		<p>Emergency-stop Control Station, illuminated with switching position indicator and yellow illuminated anti-lock collar, twist release, acc. to EN ISO 13850, VDE 0660, sect.200, IEC/EN 60947-5-1 and IEC/EN 60947-5-5 For technical data on the appropriate contact blocks refer to previous page. Mounting hole dia. 4.2 mm equipped Yes cable entry break-through wall M20 Contact equipment 2NC colour black bottom part/yellow cover</p>	SIL_QRBLU00
		<p>Emergency-stop Control station with switching position indicator and yellow protective shroud, twist release, acc. to EN ISO 13850, VDE 0660, sect.200, IEC/EN 60947-5-1 and IEC/EN 60947-5-5 For technical data on the appropriate contact blocks refer to previous page. Mounting hole dia. 4.2 mm NOTE: The user must ensure the emergency stop with protective shroud to be easy accessible! equipped Yes cable entry break-through wall M20 Contact equipment 2NC colour black bottom part/yellow cover</p>	SIL_QRSKU00
		<p>Emergency-stop Control Station for hygienic application twist release E-stop, compliant to BG acc. to DIN EN 1672-2 and GS-FW 01/01 For technical data on the appropriate contact blocks refer to previous page. Mounting hole dia. 4.2 mm equipped Yes cable entry break-through wall M20 Contact equipment 2NC colour black bottom part/yellow cover</p>	SIL_QRUV00

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Equipped Insulated Plastic Enclosures

made in germany



SIL

General Data

Type Reference: ASI_SAW16A, ASI_SAW16E, ASI_SAW22A, ASI_SAW22E,
Description: AS-Interface Slave (Safety at Work)
Approvals: ASI, cCSAus, TÜV_Süd, TÜV_SÜD, CE

Note

Communication

- AS-Interface specification: V 2.1
- Slave profile: ASI_SAWxxA S-7.B.E
ASI_SAWxxE S-0.B.E
- Standby delay time: < 1s
- Input delay: < 5ms
- Connection: via 2-pole IDC connector(3.96mm) with lock mechanism and strain relief
type ref.: "ASI_SL2AWG18"
via integrated connector or separate addressing connector *)
- Addressing:

Ambient Conditions

- Operating temperature: -25 °C ...+70 °C
- Humidity: up to 95%, non-condensing
- Degree of protection / slave: IP20
- Pollution degree: 2 (acc. to IEC 60947-1)

Electrical Data

- Operating voltage: 26.5...3...6 V, through the AS-Interface line
- Total power consumption: ASI_SAWxxA: <= 60 mA
ASI_SAWxxE: <= 50 mA
- Reverse polarity protection: available
- Contacts: two positive opening contacts acc. to IEC60947-5-5
- Safety integrity level: SIL 3
- Output (not safe): for the control of a LED *)
- Rated voltage: 24 V DC (+10%)
- Max. power consumption: approx. 15mA
- Short circuit/overload: LED output
- Connection cable: type ref.: "VK_JST025BKL", "VK_JST034"

Norms and Standards

- Complete AS-Interface Specification, Version 2.11 Rev.1, V3.0 Rev. 0
- IEC 62026-2, IEC 60204-1, IEC 61508, EN 13850, IEC 60947-5-5
- TÜV Type Approval, UL/CSA Approval
- AS-Interface Certificate 62801
- The Schlegel ASi slaves comply with the specification
AS-Interface POWER24 and can also be operated at 24 V.

*) refers only to types ASI_SAW16A, ASI_SAW22A (with additional addressing connector)

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Illustration	Dimensions	Description	Type
<p>IP65</p>		<p>AS-Interface Emergency-stop Control Station - Safety at Work -</p> <p> ASI slave: ASI_SAW22E actuator: QRBUV, foolproof acc. to EN ISO 13850 Connection: M12 (4 poles)</p> <p>equipped Yes Contact equipment bus-compatible colour black bottom part/yellow cover</p>	SILH_ASIE_QRBUV
<p>IP65</p>		<p>AS-Interface Emergency-stop Control Station, illuminated - Safety at Work -</p> <p> ASI slave: ASI_SAW22A actuator: QRBLUV, foolproof acc. to EN ISO 13850 connection: M12 (4 poles)</p> <p>equipped Yes Contact equipment bus-compatible colour black bottom part/yellow cover</p>	SILH_ASI_QRBLUV
<p>IP69K</p>		<p>AS-Interface Emergency-stop Control Station - Safety at Work -</p> <p> ASI slave: ASI_SAW22E actuator: QRUVP for hygienic application, (compliant with BG acc. to DIN EN 1672-2 and GS-FW 01/01) foolproof acc. to EN ISO 13850 Connection: M12 (4 poles)</p> <p>equipped Yes Contact equipment bus-compatible colour black bottom part/yellow cover</p>	SILH_ASIE_QRUVP
<p>IP65</p>		<p>AS-Interface Emergency-stop Control Station - Safety at Work -</p> <p> ASI slave: ASI_SAW22E actuator: QRSKUV, foolproof acc. to EN ISO 13850 Connection: M12 (4 poles)</p> <p>equipped Yes Contact equipment bus-compatible colour black bottom part/yellow cover</p>	SILH_ASIE_QRSKUV

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Equipped Insulated Plastic Enclosures

minibox

made in germany



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Minibox with Cable Entry M16/M20 for profile rail or wall mounting

General Data - Contact Module

- > Operating temperature: -25°C ... 70°C
- > Storage temperature: -40°C ... 85°C
- > Vibration / shock resistance: acc. to EN 60068-2-6/-27
- > Environmental conditions: acc. to EN 60068-2

Technical Data - Switch Element

- > Ratings (gold-plated contacts): 20mV...42V AC/DC
1mA...250mA
- > Ratings (silver contacts) acc. to EN 60947-5-1: non-illuminated AC 15 B300 250V/1.5A, lth 5A DC 13 Q300, 250V/0.27A
- > Electrical life (rated load): illuminated SELV
50,000
- > Positive opening contact: EN 60947-5-1, app. K

Technical Data - LED

- > Operating voltage: 24V DC
- > Power consumption: max. 15 mA (at 24 V DC)

Using the fastening clip, the minibox can be mounted both on a profile rail or on a wall.

Assembly sequence using the example of profile rail mounting with lateral cable entry (not M12 version)



- > screw down mounting clip

- > attach lower box part
- > insert cable
- > contact wire ends
- > snap in PC board



- > snap on upper box part

- > ready

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Equipped Insulated Plastic Enclosures

Illustration	Dimensions	Description	Type
<p>IP65</p>		<p>minibox with lateral cable entry M16 illuminated emergency-stop pushbutton</p> <p>equipped Yes Contact equipment 2NC colour dark-grey bottom part/yellow cover</p>	MBP_FRVKLOO
<p>IP65</p>		<p>minibox with lateral cable entry M16</p> <p>equipped Yes Contact equipment 2NC colour dark-grey bottom part/yellow cover</p>	MBP_FRVKOO
<p>IP65</p>		<p>minibox with bottom-side cable entry M20 illuminated emergency-stop pushbutton</p> <p>equipped Yes Contact equipment 2NC colour dark-grey bottom part/yellow cover</p>	MBW_FRVKLOO
<p>IP65</p>		<p>minibox with bottom-side cable entry M20</p> <p>equipped Yes Contact equipment 2NC colour dark-grey bottom part/yellow cover</p>	MBW_FRVKOO

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Equipped Insulated Plastic Enclosures

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minibox

Equipped Insulated Plastic Enclosures

ready-to-connect, M12 connection

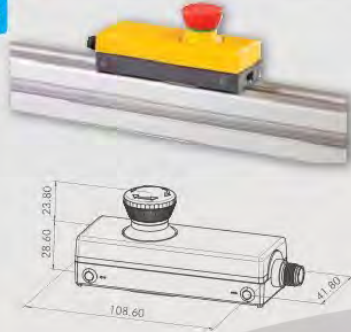
Illustration

Dimensions

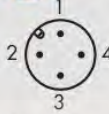
Description

Type

IP65



minibox with M12 cable entry (4 poles)



Operating temperature: -25 °C...+70 °C
 Storage temperature: -25°C...+85 °C
 Connection: M12, 4 poles (m)
 Pin 1,2: NC 1; Pin 3,4: NC 2
 Contact material: AgNi
 Electrical life: 50.000 at rated load
 Positive opening: acc. to EN 60947-5-1, appendix K
 Test voltage M12 plug: 2.0 kV

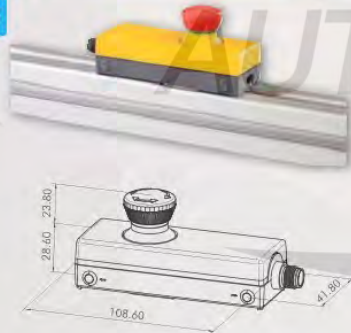
Electrical Data acc. to IEC/EN 60947-5-1 (VDE 0660 sect. 200)

	alternating current	direct current
Utilisation category :	AC15	DC13
Rated operating voltage Ue:	240V	250V
Rated operating current Ie:	1.5A	0.27A

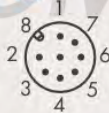
equipped Yes
 colour dark-grey bottom part/yellow cover

MBM124_
FRVKOO

IP65



minibox with M12 cable entry (8 poles)



Operating temperature: -25 °C...+70 °C
 Storage temperature: -25°C...+85 °C
 Connection: M12, 8 poles (m)
 pin 1,2: NC 1; pin 3,4: NC 2
 pin 5,6: NO ; pin 7,8: NC.
 Contact material: AgNi, gold-plating 5µm
 Electrical life: 50.000 at rated load
 Positive opening: acc. to EN 60947-5-1, appendix K
 Test voltage M12 plug: 1.5 kV

Electrical Data

Operating voltage: 1V... 36V
 Operating current: 1mA ... 250mA

equipped Yes
 Contact equipment 1 NO + 2 NC (positive opening contacts)
 colour dark-grey bottom part/yellow cover

MBM128_
FRVKOOI

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Equipped Insulated Plastic Enclosures
ready-to-connect, M12 connection

Illustration	Dimensions	Description	Type
  		<p>minibox with M12 cable entry (8 poles) illuminated emergency-stop pushbutton</p>   <p>Operating temperature: -25 °C...+70 °C Storage temperature: -25°C...+85 °C Connection: M12, 8 poles (m) Pin 1,2: NC 1; Pin 3,4: NC 2 Pin 5 (X1/+), Pin6 (X2/-): LED; Pin 7,8: n.c. Contact material: AgNi, gold-plated 5µm Electrical life: 50.000 at rated load Positive opening: acc. to EN 60947-5-1, appendix K Test voltage M12 plug: 1.5 kV</p> <p><u>Electrical Data</u> Operating voltage: 1V... 36V Operating current: 1mA ... 250mA LED lighting: max. 30 V AC/DC, type 4 mA (at 24 V DC)</p> <p>equipped: Yes Contact equipment: 2NC, positive opening contact colour: dark-grey bottom part/yellow cover</p> <p>MBM128 FRVKLOO</p>	

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Equipped Insulated Plastic Enclosures

made in germany



minibox

Equipped Insulated Plastic Enclosures

ready-to-connect, M12 connection

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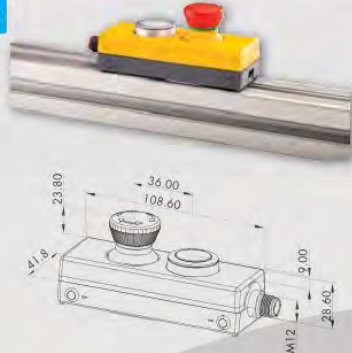
Illustration

Dimensions

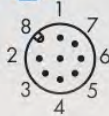
Description

Type

IP65



minibox with M12 cable entry (8 poles) incl. E-stop and pushbutton



Lenses and nameplates to be ordered separately.

Operating temperature: -25 °C...+70 °C

Storage temperature: -25 °C...+85 °C

Switch type: emergency stop:
2 NC (positive opening), 1 NO
Pushbutton: 1 NO

Fixation: with fastening clip on the rear

Connection: M12 8 poles (m)
Pos.1 (emergency stop)
NC 1, pin 1-2; NC 2, pin 3-4;
NO, pin 5-6
Pos.2: (pushbutton)
NO, Pin 7-8

Contact material: AgNi, gold-plated 5µm

Electr./mech. life: emergency stop: 50.000 at rated load (ambient temp. = 20°C)

pushbutton: 1 million (ambient temp. = 20°C)

Positive opening: opening contact acc. to EN 60947-5-1, appendix K

Test voltage M12 plug: 1.5kV

Electrical Data

Operating voltage: 1V... 36V

Operating current: 1mA ... 250mA





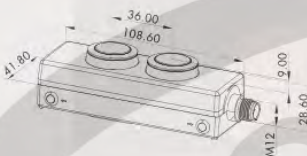
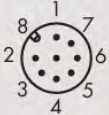
equipped Yes

colour dark-grey bottom part/yellow cover

MBM128_NOOIT1

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Equipped Insulated Plastic Enclosures
ready-to-connect, M12 connection

Illustration	Dimensions	Description	Type
    		<p>minibox with 2 pushbuttons and M12 cable entry (8 poles)</p>  <p>Lenses and nameplates to be ordered separately.</p> <p>Operating temperature: -25 °C...+70 °C Storage temperature: -25°C...+85 °C Pushbutton type: 1 NO and 1 NC (positive opening) Fixation: with fastening clip on the rear Connection: M12 8 poles (m) Pos.1 (pushbutton) NO, pin 1-2; lamp, pin 3-4; Pos.2 (pushbutton); NC, pin 5-6; lamp, pin 7-8</p> <p>Contact material: AgNi, gold-plated 5µm Electrical life: 1 million at rated load (ambient temp. = 20°C) Mechanical life: 1 million operations (ambient temp. = 20°C) Positive opening: NC contact acc. to EN 60947-5-1, appendix K Test voltage M12 plug: 1.5 kV</p> <p><u>Electrical Data</u> Operating voltage: 1V... 36V Operating current: 1mA ... 250mA LED illumination: max. 30 V AC/DC, typ. 4 mA (at 24 V DC)</p> <p>equipped: Yes colour: dark-grey bottom part/yellow cover dark-grey bottom part/light-grey cover</p>	
			<p>MBM128_TLITLO MBM128_GR_TLITLO</p>

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minibox

Equipped Insulated Plastic Enclosures

ready-to-connect, M12 connection

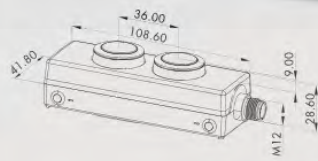
Illustration

Dimensions

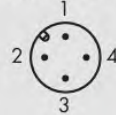
Description

Type

IP65



minibox with 2 pushbuttons and M12 cable entry (4 poles)



Lenses and nameplates to be ordered separately.

Operating temperature: -25 °C...+70 °C
 Storage temperature: -25°C...+85 °C
 Pushbutton type: 1 NO and 1 NC (positive opening)
 Fixation: with rear mounting clip
 Connection: M12 4 poles (m)
 Pos.1 (pushbutton 1) NO, pin 1-2
 Pos. 2 (pushbutton 2) NC, pin 3-4
 Contact material: AgNi
 Mechanical life: 1 million (ambient temp. = 20°C)
 Positive opening: NC contact, acc. to EN 60947-5-1, appendix K
 Test voltage M12 plug: 2.0kV

Electrical Data acc. to IEC/EN 60947-5-1 (VDE 0660 sect. 200)

	alternating current	direct current
Utilisation category:	AC15	DC13
Rated operating voltage Ue:	240V	250V
Rated operating current Ie:	1.5A	0.27A
equipped	Yes	
colour	dark-grey bottom part/yellow cover	

MBM124_TITO

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ready-to-connect, M12 connection

Illustration	Dimensions	Description	Type																		
   		<p>minibox with pushbutton and M12 cable entry (4 poles)</p>  <p>Lenses and nameplates to be ordered separately.</p> <p>Operating temperature: -25 °C...+70 °C Storage temperature: -25°C...+85 °C Pushbutton type: 1 NO Degree of protection: IP65 Fixation: with rear mounting clip Connection: M12 4 poles (m) NO, Pin 1-2 lamp, Pin 3 (X1 +) - Pin 4 (X2 -)</p> <p>Contact material: AgNi Mechanical life: 1 m (ambient temp. 20°C) Bouncing time: < 10ms Test voltage M12 plug: 2.0 kV</p> <p>Electrical Data - Contact Element acc. to IEC/EN 60947-5-1 (VDE 0660 sect. 200)</p> <table border="1"> <thead> <tr> <th></th> <th>alternating current</th> <th>direct current</th> </tr> </thead> <tbody> <tr> <td>Utilisation category:</td> <td>AC15</td> <td>DC13</td> </tr> <tr> <td>Rated operating voltage Ue:</td> <td>240V / 120V</td> <td>250V / 125V / 60V / 24V</td> </tr> <tr> <td>Rated operating current Ie:</td> <td>1.5A / 3A 0.27A</td> <td>0.55A / 1A / 2A</td> </tr> <tr> <td>Breaking capacity:</td> <td>10Ie</td> <td>1.1Ie</td> </tr> <tr> <td>Continuous thermal current:</td> <td>4A (40°C)</td> <td>2.5A</td> </tr> </tbody> </table> <p>Electrical Data - diode LED: max. 30 V AC/DC, typ. 14 mA (at 24 V DC)</p> <p>equipped Yes colour dark-grey bottom part/light-grey cover</p>		alternating current	direct current	Utilisation category:	AC15	DC13	Rated operating voltage Ue:	240V / 120V	250V / 125V / 60V / 24V	Rated operating current Ie:	1.5A / 3A 0.27A	0.55A / 1A / 2A	Breaking capacity:	10Ie	1.1Ie	Continuous thermal current:	4A (40°C)	2.5A	
	alternating current	direct current																			
Utilisation category:	AC15	DC13																			
Rated operating voltage Ue:	240V / 120V	250V / 125V / 60V / 24V																			
Rated operating current Ie:	1.5A / 3A 0.27A	0.55A / 1A / 2A																			
Breaking capacity:	10Ie	1.1Ie																			
Continuous thermal current:	4A (40°C)	2.5A																			

MBM124_GR_TLI

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Insulated Plastic Enclosures

The degree of protection depends on the type of control units that are mounted.
other enclosure colours on request

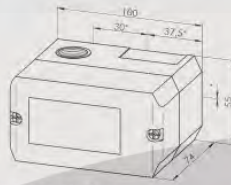
Illustration

Dimensions

Description

Type

IP65



*Dimensions for fastening holes

Insulated Plastic Enclosure, 1 mounting hole

made of polyamide 6, empty or equipped, with front plate (engraving, printing or laser marking on request)

mounting holes 0
equipped No
weight 165 g
material polyamide 6
cable entry M20x1.5
mounting depth 69 mm
Panel cut-out without mounting hole
colour dark-grey bottom part/light-grey cover
colour dark-grey bottom part/yellow cover

DIRL1V
DIRL1VGB

mounting holes 1
Panel cut-out Ø 16.2 mm
colour dark-grey bottom part/light-grey cover
colour dark-grey bottom part/yellow cover

DIRL1V-R16
DIRL1VGB-R16

mounting holes 1
Panel cut-out Ø 22.3 mm
colour dark-grey bottom part/light-grey cover
colour dark-grey bottom part/yellow cover

DIRL1V-R22
DIRL1VGB-R22

mounting holes 1
Panel cut-out Ø 30.5 mm
colour dark-grey bottom part/light-grey cover
colour dark-grey bottom part/yellow cover

DIRL1VDGHHG-R30
DIRL1VDGGB-R30

mounting holes 1
Panel cut-out 23 x 23 mm
colour dark-grey bottom part/light-grey cover
colour dark-grey bottom part/yellow cover

DIRL1V-Q23
DIRL1VGB-Q23

mounting holes 1
Panel cut-out 24 x 24 mm
colour dark-grey bottom part/light-grey cover
colour dark-grey bottom part/yellow cover

DIRL1V-Q24
DIRL1VGB-Q24

mounting holes 1
Panel cut-out 26 x 26 mm
colour dark-grey bottom part/light-grey cover
colour dark-grey bottom part/yellow cover

DIRL1V-Q26
DIRL1VGB-Q26

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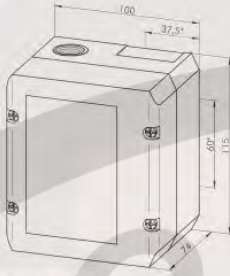
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Insulated Plastic Enclosures

The degree of protection depends on the type of control units that are mounted.
other enclosure colours on request

Illustration	Dimensions	Description	Type
  <p>*Dimensions for fastening holes</p>		<p>Insulated Plastic Enclosure, 2 mounting holes made of polyamide 6, empty or equipped, with front plate (engraving, printing or laser marking on request)</p> <p>equipped No weight 270 g material polyamide 6 cable entry M20x1.5 mounting depth 69 mm Panel cut-out without mounting hole colour dark-grey bottom part/light-grey cover</p>	DIRL2-3V
		<p>mounting holes 2 Panel cut-out Ø 16.2 mm colour dark-grey bottom part/light-grey cover</p>	DIRL2V-R16
		<p>mounting holes 2 Panel cut-out Ø 22.3 mm colour dark-grey bottom part/light-grey cover</p>	DIRL2V-R22
		<p>mounting holes 2 Panel cut-out Ø 30.5 mm colour dark-grey bottom part/light-grey cover</p>	DIRL3VDGHC-2R30
		<p>mounting holes 2 Panel cut-out 23 x 23 mm colour dark-grey bottom part/light-grey cover</p>	DIRL2V-Q23
		<p>mounting holes 2 Panel cut-out 24 x 24 mm colour dark-grey bottom part/light-grey cover</p>	DIRL2V-Q24
		<p>mounting holes 2 Panel cut-out 26 x 26 mm colour dark-grey bottom part/light-grey cover</p>	DIRL2V-Q26

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Insulated Plastic Enclosures

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Illustration

Dimensions

Description

Type

IP65

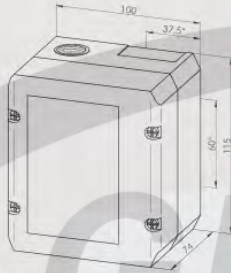


Insulated Plastic Enclosure, 3 mounting holes

made of polyamide 6, empty or equipped, with front plate (engraving, printing or laser marking on request)

mounting holes 3
 equipped No
 weight 270 g
 material PA6
 cable entry M20x1.5
 mounting depth 69 mm
 Panel cut-out \varnothing 16.2 mm
 colour dark-grey bottom part/light-grey cover

DIRL3V-R16



mounting holes 3
 Panel cut-out \varnothing 22.3 mm
 colour dark-grey bottom part/light-grey cover

DIRL3V-R22

mounting holes 3
 Panel cut-out 23 x 23 mm
 colour dark-grey bottom part/light-grey cover

DIRL3V-Q23

*Dimensions for fastening holes

mounting holes 3
 Panel cut-out 24 x 24 mm
 colour dark-grey bottom part/light-grey cover

DIRL3V-Q24


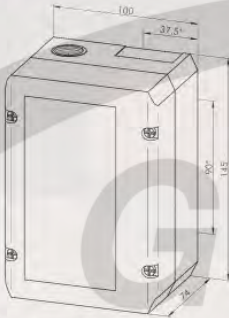
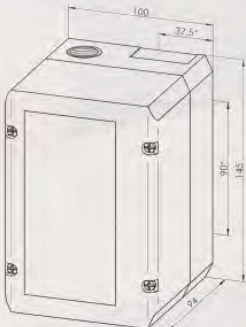
mounting holes 3
 Panel cut-out 26 x 26 mm
 colour dark-grey bottom part/light-grey cover

DIRL3V-Q26

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Insulated Plastic Enclosures

The degree of protection depends on the type of control units that are mounted.
other enclosure colours on request

Illustration	Dimensions	Description	Type
  <p>*Dimensions for fastening holes</p>		<p>Insulated Plastic Enclosure, 3 resp. 4 mounting holes made of polyamide 6, empty or equipped, with front plate (engraving, printing or laser marking on request)</p> <p>equipped No weight 310 g material polyamide 6 cable entry M25x1.5 mounting depth 69 mm Panel cut-out without mounting hole colour dark-grey bottom part/light-grey cover</p>	DIRL4V
		<p>mounting holes 4 Panel cut-out Ø 16.2 mm colour dark-grey bottom part/light-grey cover</p>	DIRL4V-R16
		<p>mounting holes 4 Panel cut-out Ø 22.3 mm colour dark-grey bottom part/light-grey cover</p>	DIRL4V-R22
		<p>mounting holes 3 Panel cut-out Ø 30.5 mm colour dark-grey bottom part/light-grey cover</p>	DIRL4VDGHG-3R30
		<p>mounting holes 4 Panel cut-out 23 x 23 mm colour dark-grey bottom part/light-grey cover</p>	DIRL4V-Q23
		<p>mounting holes 4 Panel cut-out 24 x 24 mm colour dark-grey bottom part/light-grey cover</p>	DIRL4V-Q24
		<p>mounting holes 4 Panel cut-out 26 x 26 mm colour dark-grey bottom part/light-grey cover</p>	DIRL4V-Q26
		<p>High Insulated Plastic Enclosure, 4 mounting holes same as DIRL4V-R22 but with high lid, accepting 4 control units, each with two contact levels</p> <p>mounting holes 4 material polyamide 6 cable entry M25x1.5 mounting depth 89 mm Panel cut-out Ø 22.3 mm colour dark-grey bottom part/light-grey cover</p>	DIRL4V-R22-H

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Equipped Insulated Plastic Enclosures

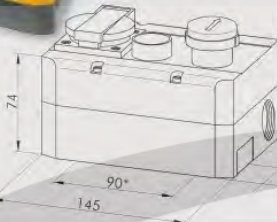
Illustration

Dimensions

Description

Type

IP54



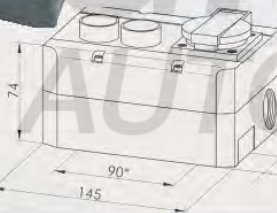
Elevator Safety Control Station

Insulated plastic enclosure made of polyamide 6, printed „STOP“, including 1 emergency-stop pushbutton with yellow arrow marking which clearly defines the switching position, 1 illuminated pushbutton for the hoistway lighting and a Schuko socket

equipped cable entry colour Yes M25x1.5 dark-grey bottom part/yellow cover

DIR/GRU-I

IP54



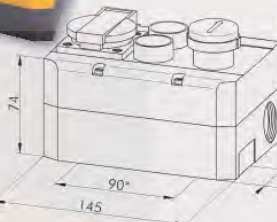
Elevator Safety Control Station

Insulated plastic enclosure made of polyamide 6, including 1 illuminated pushbutton for the hoistway lighting, 1 alarm pushbutton and a Schuko socket

equipped cable entry colour Yes M25x1.5 dark-grey bottom part/light-grey cover

DIR/GRU-II

IP54



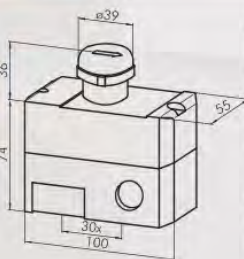
Elevator Safety Control Station

Insulated plastic enclosure made of polyamide 6, printed „STOP“, including 1 emergency-stop pushbutton with yellow arrow marking which clearly defines the switching position, 1 illuminated pushbutton for the hoistway lighting, 1 alarm pushbutton and a Schuko socket

equipped cable entry colour Yes M25x1.5 dark-grey bottom part/yellow cover

DIR/GRU-III

IP65



Emergency-stop Station for the elevator cage roof


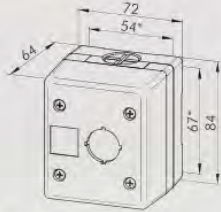

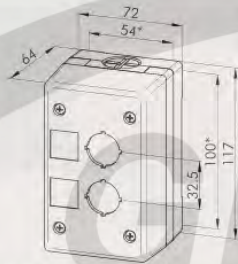

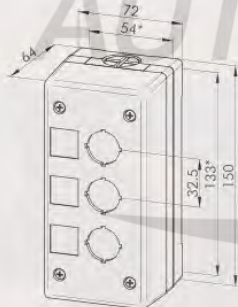

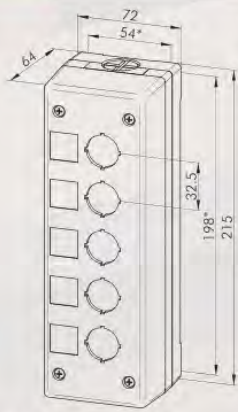
Insulated plastic enclosure marked STOP. The yellow arrow on the E-stop clearly defines the switching position. The standard version includes 1 NC (screw connection).

Acc. to the EN81 regulations new lifts have to be equipped with an emergency-stop switch with switching position indicator.

equipped cable entry Panel cut-out colour Yes M20x1.5 Ø 22.3 mm dark-grey bottom part/yellow cover

DIRB1GB_OS

Insulated Plastic Enclosures

Illustration	Dimensions	Description	Type
		<p>Insulated Plastic Enclosure Fastening holes: Ø 5.2mm</p> <p>mounting holes equipped 1 No weight 165 g material ABS cable entry with PVC cable entry on the top: 22.6 mm dia. break-through wall at the bottom: 22.6 mm dia.</p> <p>mounting depth 52 mm Panel cut-out Ø 22.3 mm colour light-grey colour yellow</p>	<p>IRL1M IRL1M_GELB</p>
		<p>Insulated Plastic Enclosure Fastening holes: Ø 5.2mm</p> <p>mounting holes equipped 2 No weight 195 g material ABS cable entry with PVC cable entry on the top: 22.6 mm dia. break-through wall at the bottom: 22.6 mm dia.</p> <p>mounting depth 52 mm Panel cut-out Ø 22.3 mm colour light-grey</p>	<p>IRL2M</p>
		<p>Insulated Plastic Enclosure Fastening holes: Ø 5.2mm</p> <p>mounting holes equipped 3 No weight 230 g material ABS cable entry with PVC cable entry on the top: 22.6 mm dia. break-through wall at the bottom: 22.6 mm dia.</p> <p>mounting depth 52 mm Panel cut-out Ø 22.3 mm colour light-grey</p>	<p>IRL3M</p>
		<p>Insulated Plastic Enclosure Fastening holes: Ø 5.2mm</p> <p>mounting holes equipped 5 No weight 300 g material ABS cable entry with PVC cable entry on the top: 22.6 mm dia. break-through wall at the bottom: 22.6 mm dia.</p> <p>mounting depth 52 mm Panel cut-out Ø 22.3 mm colour light-grey</p>	<p>IRL5M</p>

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General Data

Type Reference:	FT...
Description:	Contact Block for base-plate mounting, with positive opening contact
Approvals:	CE
Protection class:	II (protective insulation)
Operation travel:	6 mm
Connection type:	screw connection 2x2.5mm ²
Contact material:	AgNi
Max. storage temperature:	-50°C ... 80°C
Max. operating temperature:	-30°C ... 70°C
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1 m at 250 V/10(6) A 250,000 at 250 V/16(10) A 500,000 at 250 V/5 A (AC15)
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix. K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15	DC13
Rated insulation voltage Ui:	400V	400V
Rated operating voltage Ue:	250V / 400V	400V / 250V / 125V / 60V / 24V
Rated operating current Ie:	5A / 3A	0.12A / 0.2A / 0.4A / 1A / 2A
Breaking capacity:	10Ie	1, 1Ie
Continuous thermal current:	10A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage Ue:	250 V~ / 400 V~
Rated current Ie:	10(6) A / 6(3) A

Note

Note for emergency-stop contact blocks:


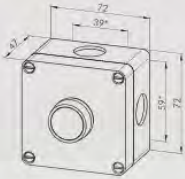
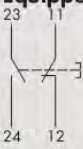

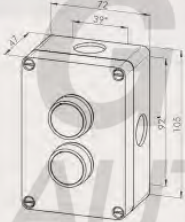
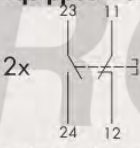

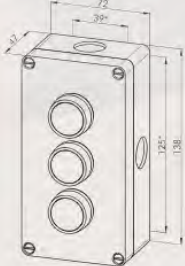
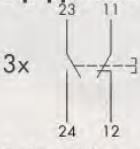
In case of inverters of the Za form (in terms of EN 60947-5-1), only the NC contact must be used for the remotely controlled safety circuit.

Only for IRF enclosures

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Equipped Insulated Plastic Enclosures

Illustration	Dimensions	Description	Type
		<p>Equipped Insulated Plastic Enclosure</p>  <p>Technical data of the appropriate contact blocks see previous page Fastening holes: Ø 4.2mm mounting holes 1 equipped Yes weight 115 g material ABS cable entry on the top/bottom: 21 mm dia. on the side/back: 21 mm dia./19 mm dia.</p> <p>Contact equipment 1NC + 1NO Switching function momentary action colour light-grey</p>	IRF1
		<p>Equipped Insulated Plastic Enclosure</p>  <p>Technical data of the appropriate contact blocks see previous page Fastening holes: Ø 4.2mm mounting holes 2 equipped Yes weight 171 g material ABS cable entry on the top/bottom: 21 mm dia. on the side/back: 21 mm dia./19 mm dia.</p> <p>Contact equipment 1NC + 1NO (per switching point) Switching function momentary action colour light-grey</p>	IRF2
		<p>Equipped Insulated Plastic Enclosure</p>  <p>Technical data of the appropriate contact blocks see previous page Fastening holes: Ø 4.2mm mounting holes 3 equipped Yes weight 217 g material PA6 cable entry on the top/bottom: 21 mm dia. on the side/back: 21 mm dia./19 mm dia.</p> <p>Contact equipment 1NC + 1NO (per switching point) Switching function momentary action colour light-grey</p>	IRF3

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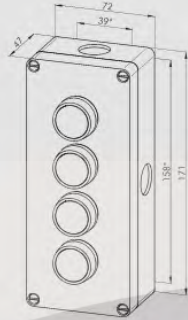
Illustration

Dimensions

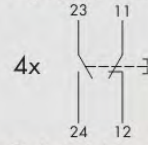
Description

Type

IP65



Equipped Insulated Plastic Enclosure



Technical data of the appropriate contact blocks see previous page

Fastening holes: \varnothing 4.2mm

mounting holes 4

equipped Yes

weight 269 g

material PA6

cable entry on the top/bottom: 21 mm dia.
on the side/back: 21 mm dia./19 mm dia.

Contact equipment 1NC + 1NO (per switching point)

Switching function momentary action

colour light-grey

IRF4

* Fastening hole dimensions

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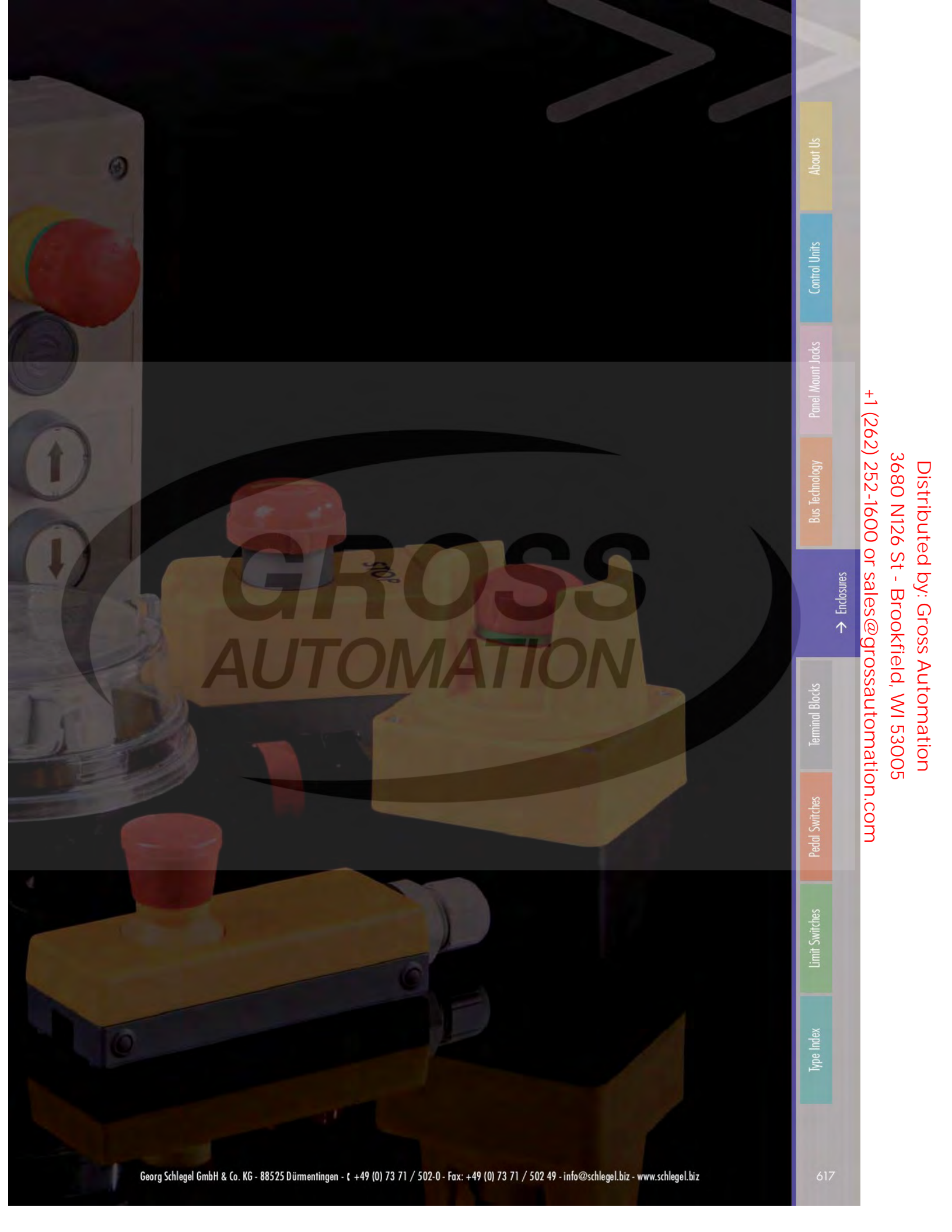
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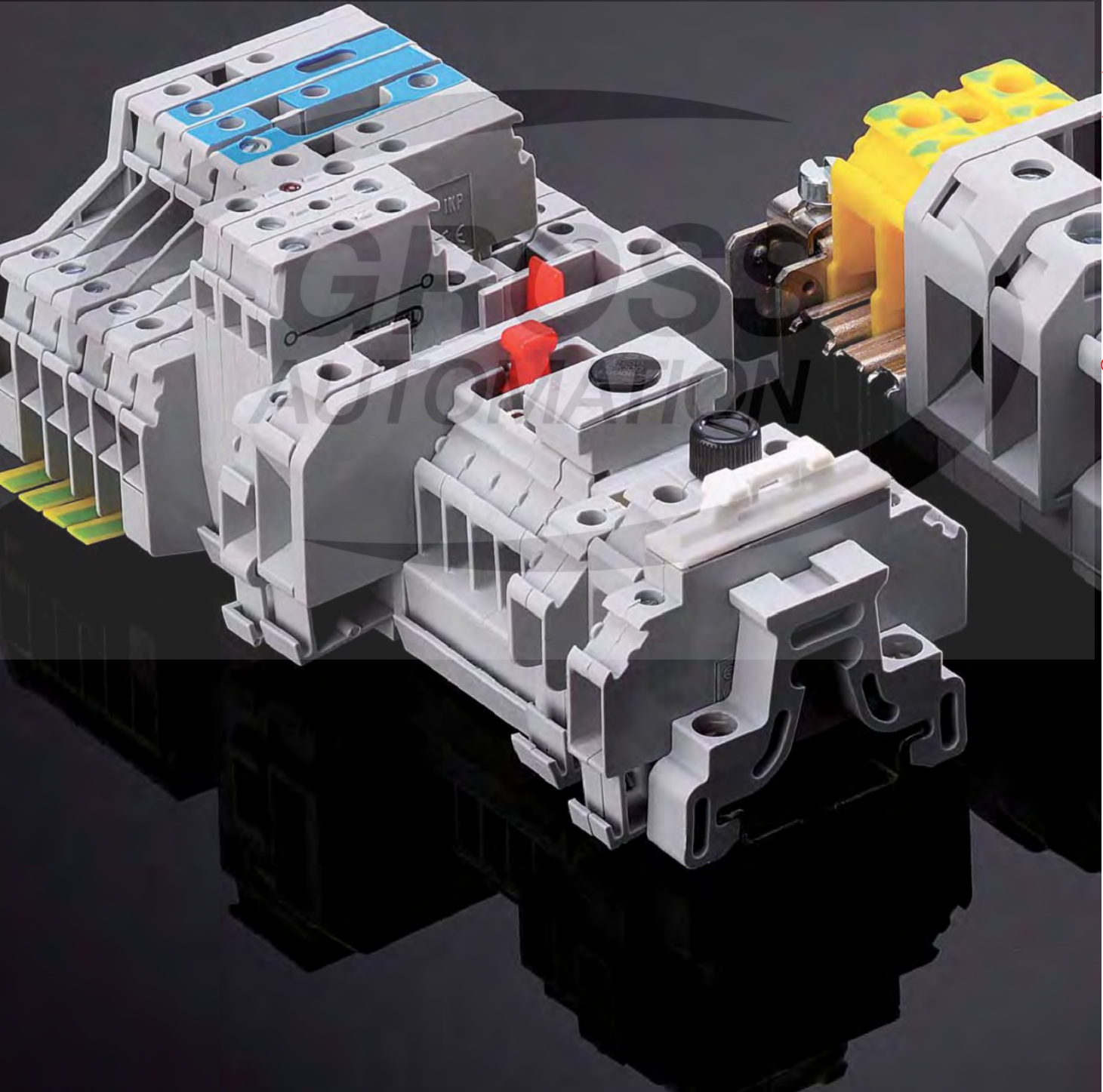
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SKD01B 1P11WJAL

Terminal Blocks

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>>> Combi-terminals	page 632
>>> Initiator terminals	page 633
>>> Distribution terminals	page 633
>>> Fuse terminals	page 635
>>> Earth connection terminals	page 637
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>>> Feed-through terminals	page 650
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>> with IDC Fast Connection System	
>>> Feed-through terminals	page 662
>>> Earth connection terminals	page 664
>>> Accessories	page 666

Terminal Blocks with Screw Connections

Briefing

Schlegel terminal blocks are standard terminals for industrial application, particularly suitable for electric machine control systems, switchgear and controlgear, distribution and measuring systems, as well as for the lift and equipment construction. The terminals are suitable for high and low voltage for DC and AC. They are featuring short assembly times and small dimensions. With a complete documentation of the production process acc. to

ISO 9001-2008 Schlegel ensures the highest quality standards. Precise mould construction is the prerequisite for the production of high-quality terminals. Therefore, the necessary production tools have been manufactured in-house for many years in order to retain control on one of the most important quality criterias.

Conductivity

To ensure a tight contact between conductor and metal (clamping) body with the lowest possible contact resistance, several factors are playing an important role. That includes the use of solid, drawn or bent metal (clamping) bodies and corrosion-proof materials, such as e.g. nickel-plated copper alloys, and soft surface coatings as e.g. tin in which the conductors can "embed". Even the wire protection bracket, preventing the wire from screw damage, provides a high contact pressure. The relatively large conductor cross-sections of the terminals reduce voltage drop to a minimum.

Schlegel also uses zinc-plated steel for the foot of the earth terminal where a safe contact to the support rail (= earthing) is extremely important.

On screw-type terminals the quality of the screws dictates the quality

of the terminal connection. Even when applying high tightening torques, the screws must not break nor melt with the female thread. For this reason, Schlegel terminal blocks are using rolled steel screws with a good galvanic surface coating with passivated zinc. The structure of rolled screws is compressed and strengthened, contrary to turned screws which have damaged fibres. The combination of steel screws and female threads made of copper alloy or steel successfully avoids melting, as can happen with brass-brass combinations.

Insulation

Insulating casings (insulating bodies) ensure the insulation from the surrounding area and the adjacent terminals. They must comply with the national and international specifications with regard to the creepage distance (transmission along the surface) and clearance distance (transmission through the air). This is achieved both by using high-quality polyamide 6.6 and by the specific construction of Schlegel terminal blocks (cavities in the casings extending the creepage distance).

The variety of approvals which Schlegel terminal blocks have obtained worldwide are assured by utilising top-quality raw materials. The exclusive use of such materials is monitored by regular follow-up inspections carried through by the approval authorities.

The higher the quality of the insulating material, the smaller can be the creepage distance. As a matter of fact, using high-quality plastics exerts direct influence on the external dimensions of a terminal block: The better the material, the smaller the terminal!

Installation

Considering the respective connection diameter, Schlegel screw-type terminals are the smallest terminals in the market with regard to their height, length (across the support rail) and width (in line with the

rail). At the same time they have a relatively large clamping space compared to competitors' products.

Wire Insertion

For screw-type terminals the conductor must be stripped before wiring. The optimal insulation stripping length must be observed as defined in the description of the relative terminals.

Basically, the Schlegel terminal blocks securely accept all wire types (solid, multiple and fine-stranded) even without wire end ferrules.

Soldering of fine-stranded conductors is prohibited, because the tin-solder tends to creep.

The grading system of the available rated cross-sections is standardised (1.5/2.5/4/6/... mm²) and defined in a way to enable the trouble-free connection of conductors with ferrules or solid conductors to the cross-section next in size without having to use the next larger terminal size (this does not apply to multiple or

fine-stranded conductors!).

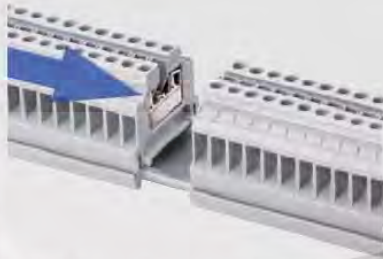
The Schlegel product portfolio offers terminals for the most popular rated cross-sections. With the 4mm² screw-type terminal Schlegel offers the cheapest terminal in this most frequently demanded range. Also, it should be pointed out that Schlegel terminals for 4mm² rated cross-section accept conductors down to 0.2mm in diameter.

In case of screw-type terminals with very large rated cross-sections (IK120 and IK240) the conductors are connected using cable lugs. It should be taken care to use wide partition walls between two such terminals sizes in order to insulate the blank cable lugs against each other.

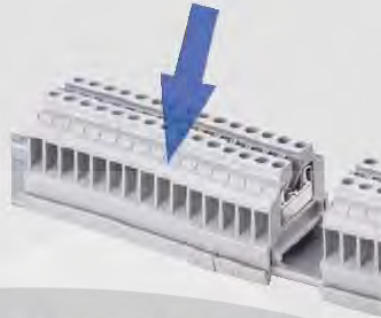
Assembly

The screws of Schlegel terminals are tightened or loosened by means of a slotted-screw driver or a customary hexagonal screwdriver (for the large-sized terminals). The interlocking insulating bodies of the Schlegel terminals facilitate the assembly work. Due to this interlocking feature it is also possible to snap on the terminals as pre-assembled blocks. Another advantage of this interlocking system is the straight alignment of all terminals, even in case of different tractive forces of the wires or a slightly bent support

rail. Moreover, once snapped onto the rail, the terminal feet are relieved from stress which prevents material fatigue. However, if individual terminals have to be exchanged, the end clamp bracket must be loosened and the adjacent terminals must be shifted slightly. But this disadvantage takes only effect on the small number of exchanged terminals whereas the specified advantages become effective in general.



1. Slide-fitting of pre-assembled terminal blocks



2. Snap fitting of pre-assembled terminal blocks
Important: Once the terminals are mounted onto the rail, the snap-fit terminal feet are relieved from stress preventing the plastics from material fatigue.



3. Snap or slide fitting of individual terminals



4. Replacement of individual terminals: Once the terminal to be replaced has been set free by slightly shifting the adjacent terminals aside (each by approx. 3mm), it can be easily levered out by applying a screwdriver to the terminal foot.

Mounting on Support Rail N35

Schlegel terminal blocks have feet that simply snap onto the terminal rail from both sides and can be easily levered out with a screwdriver. Also, the terminals can be easily slid on the mounting rail from the side.

Rail-less Mounting

The terminals FK5 (for a rated cross-section of 4mm²) and FK16 (for a rated cross-section of 16mm²) are directly mounted e.g. on a switch cabinet. Since the terminals interlock securely into one another, only every 10th terminal has to be tightened by a screw. Attention should be paid to the fact that the FK5 and FK16 have different interlocking pins. Therefore, they cannot be mixed up when mounted.

PCB-Mounted

The 1.5mm² terminals with screw connection (type ref.: GKL3) are directly soldered into a PCB. Two soldering pins keep the terminals in place even when tightening the screw strongly (protection of the solder connections). Moreover, the wire inserts of the terminals face upwards inclining by 30° from the horizontal in order to facilitate wire insertion. The galvanic tin-plating on a nickel diffusion barrier ensures excellent solderability.

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“OSK - Original Schlegel Clamping System”

On the screw-type terminals with wire protection bracket the conductors are pressed onto the basis of the conductive clamping body by the lower foot of the wire protection bracket which is fastened by a screw. This system is called the “OSK” system

(Original Schlegel Clamping System), because it is unique in the terminal market. This construction ensures the so-called “Six Securities” :



Secure Wire Insertion due to:

1. insulating walls next to wire insertion opening of the metal body,
2. reliable opening of the clamp when loosening the screws (because wire protection bracket snap-fits below screw head) and
3. limitation of clamping space by the lower arm of the wire protection bracket, thus no slipping of single wires or strands.

Security against screw loosening under vibration by the resilient wire protection bracket that presses against the screw head (this makes the screws captive).



Direct clamping pressure transmission onto the wire at full bearing of the screw and protection of the wire (no damaging or piercing by the screw)

High tightening torque
The Schlegel terminals have rolled screws which, contrary to turned screws, feature a high-compressed structure with unbroken fibres in the thread area. The very high mechanical strength properties are achieved by thread rolling and assure high tightening torques



Security against tilting of the clamp (the solid metal clamping body prevents the connection „cages“ from tilting when using thin wires)

Security against wire loosening thanks to resilient wire protection brackets and elastic deformation properties of the clamping body

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Miniature Terminals

The miniature screw-type terminals for 2.5mm² (type ref. HK3) are normal feed-through terminals (same as IK3), which does not fit the

top-hat rail N35 but snaps on its smaller variant N15. Accordingly, they are smaller in dimension, apart from their width.

Terminal Blocks with Flat-Plug Connections

Briefing

Particularly for the automotive industry, Schlegel also offer 4mm²-terminals with 2 x 2 flat plug connections for 6.3mm insulating sleeves (type ref. IZZ4).

This connection system features very quick and easy connection of the conductors, keeping them well in place.

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Terminal Blocks with Spring-Cage Connection

For spring-cage terminals the conductor must be stripped before wiring. The optimal insulation stripping length must be observed as defined in the description of the relative terminals.

The maximum connection space of the IFK spring-cage terminals enables quick wiring of solid and multiple conductors, even with wire end ferrules.

The spring-cage terminal is opened by inserting a screwdriver

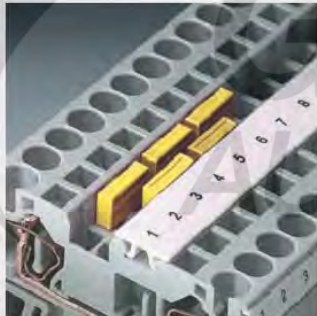
in the appropriate square opening of the clamping body. Then the conductor is inserted in the adjacent round opening. When removing the screwdriver the spring-cage closes and the conductor is clamped. Only one conductor can be wired in the round opening. For that reason, some terminal types are available with two openings per side.



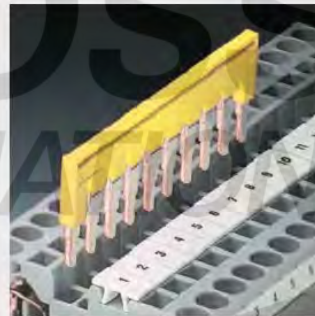
The maximum connection space of the IFK spring-cage terminal blocks enables quick wiring of flexible and rigid conductors, even for nominal conductor sizes with customised wire end ferrules.



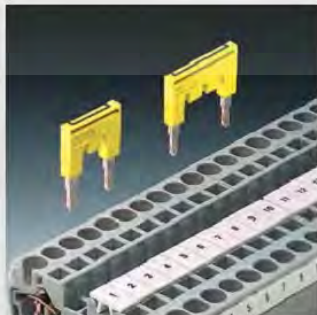
The clear and easy-to-read marking in the terminal centre enables time-saving installation. In addition to the large-sized centre marking a side marking is also possible for each terminal.



Chain bridges allow to connect any number of terminal blocks. A staggered insertion of the two-pole bridges enables flexible chain bridging up to the required number of poles.



2- and 10-pole plug-in bridges reduce wiring times considerably, because up to 10 terminals can be bridged at the same time.



Bridging of non-adjacent terminal blocks is possible by breaking off individual teeth from the standard bridge. Thus allowing two potentials in parallel. The bridges offer marking options on their up side.

Terminal Blocks with IDC Fast Connection System (Insulation Displacement)

Briefing

For screw-type and spring-cage terminals the conductor must be stripped before wiring. This is not necessary for terminals with IDC fast connection system, as its name implies. On this system the conductive contact is established by insulation piercing or displacement inside the terminals. Therefore, wire end ferrules or special tools are not necessary to connect the conductors.

For all kinds of IDC technology applies to always use the next larger sized terminal referred to the conductor cross-section because of the insulation (e.g. use 2.5 mm² terminal for 1.5mm² conductor).

IDC Shift-Clip Connection

On the ISK series the conductor connection of 0.25 to 2.5 mm² is made by the patented insulation displacement contact (IDC cutting technology). The conductor is inserted in a shift-clip connection. After closing the shift-clip closure with a screwdriver, two convergent metal edges of the clamping body cut through the conductor insulation to establish a conductive contact. For disconnection and removal of the conductor the shift-clip closure must be opened. When installing these terminals, it should be noted that they are not equipped with interlocking pins. They also differ from the Schlegel screw-type terminal blocks with regard to their dimensions.

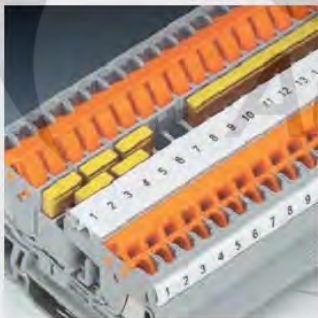


Cut - Connect - Ready!
Time savings of 60 % and more compared to other connection systems.

Stripping and splicing is no longer necessary thanks to the insulation displacement connection system (IDC technology). All that is needed is to cut the conductors of the correct length and they can then be contacted within seconds.



Powerful IDC contact
0.25 to 2.5 mm² conductors are connected using the patented insulation displacement contact (IDC). High-grade special alloys and snap-fittings of the switching statuses always ensure a secure electrical connection. Large-surface, spring-loaded contact points guarantee a current carrying capacity of 24 A.



A standardised bridging system enables efficient and user-friendly connection of several terminal blocks to one bridge. Two- and ten-pole bridges are available which help to reduce wiring times considerably.



2- and 10-pole plug-in bridges reduce wiring expenditure considerably, because up to 10 terminal blocks can be bridged at the same time.



A clear and easy-to-read marking in the terminal centre is a prerequisite for time-saving installation. Additionally to the large-sized centre marking, a side marking is also possible for each terminal.

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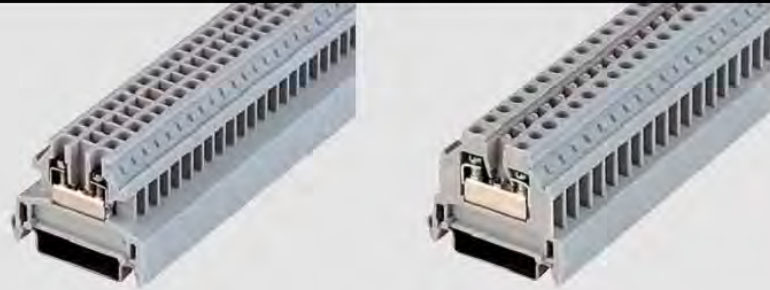
Terminal Blocks
→ Screw Connection

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Quick-assembly Terminal Blocks

rated cross section	2.5 mm²
solid	0.5 ... 4 mm ²
multiple wire	0.5 ... 2.5 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	5.1 mm
Connection type	screw connection, slotted screw
tightening torque	0.5 Nm
rated voltage	750 V
rated current	25 A
operating temperature	-30°C ... 40°C
data acc. to IEC 60947-1	
flammability rating acc. to UL94	V2
pollution degree	3
overvoltage category	III
material group	II
rated impulse voltage	
stripping length	8 mm
data acc. to UL1059	
tightening torque	5 lb In
connection range (solid wire)	22-12 AWG
rated voltage	600 V
rated current	20 A
data acc. to CSA C22.2 No 158-1987, ECN 5488	
tightening torque	
connection range (solid wire)	18-12 AWG
rated voltage	600 V
rated current	25 A
identification labels	HSKM50...
end sections	IW2, IW4
jumpers	VB2-12, VB2-2
type	light-grey IK3 blue IK3BL



Quick-assembly Terminal Blocks

rated cross section	4 mm²
solid	0.5 ... 6 mm ²
multiple wire	0.5 ... 4 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	6 mm
Connection type	screw connection, slotted screw
tightening torque	0.8 Nm
rated voltage	750 V
rated current	32 A
operating temperature	-30°C ... 40°C
data acc. to IEC 60947-1	
flammability rating acc. to UL94	V2
pollution degree	3
overvoltage category	III
material group	I
rated impulse voltage	
stripping length	9 mm
data acc. to UL1059	
tightening torque	9...13 lb In
connection range (solid wire)	10-22 AWG
rated voltage	600 V
rated current	30 A
data acc. to CSA C22.2 No 158-1987, ECN 5488	
tightening torque	
connection range (solid wire)	20-10 AWG
rated voltage	600 V
rated current	40 A
identification labels	HSKM60...
end sections	IW16, IW4
jumpers	VB4-12, VB4-2
type	light-grey IK5 blue IK5BL

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Quick-assembly Terminal Blocks

10 mm²

0.5 ... 10 mm²

0.5 ... 10 mm²

Top hat rail N35, EN60715 TH35

8 mm

screw connection, slotted screw

0.8 Nm

830V/1000V (-> Note!)

57 A

-30°C ... 40°C at 57A)

V2

3

III

I

11 mm

13.3 Lb In

8-22 AWG

600 V

50 A

24-8 AWG

600 V

50 A

HSKM80...

IW16, IW50

VB6-12, VB6-2

light-grey

IK10

blue

IK10BL

1000 V max. when using a partition wall IW16 between the terminals



Quick-assembly Terminal Blocks

16 mm²

0.5 ... 16 mm²

0.5 ... 16 mm²

Top hat rail N35, EN60715 TH35

10 mm

screw connection, slotted screw

1.2 Nm

1000 V

76 A

-30°C ... 40°C

V2

3

III

I

11 mm

18 Lb In

6-22 AWG

600 V

65 A

2 Nm

20-6 AWG

600 V

68 A

HSKM100...

IW16, IW50

VB16-12, VB16-2

light-grey

IK16

blue

IK16BL



Quick-assembly Terminal Blocks

25 mm²

10 ... 25 mm²

10 ... 25 mm²

Top hat rail N35, EN60715 TH35

12 mm

screw connection, slotted screw

2.5 Nm

1000 V

101 A

-30°C ... 40°C

V2

3

III

I

16 mm

27 Lb In

4-8 AWG Str

600 V

85 A

10-4 AWG

600 V

70 A

HSKM60...

IW50, IW70

VB25, VBU35

light-grey

IK25

blue

IK25BL

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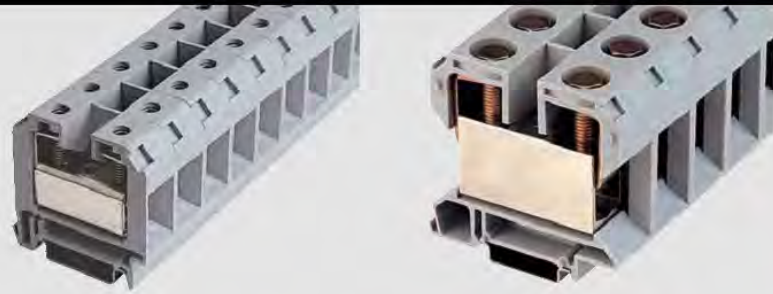
→ Screw Connection

Pedal Switches

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Quick-assembly Terminal Blocks

rated cross section	50 mm²
solid	2x16/1x16 50 mm ²
multiple wire	2x16/1x16 50 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	16 mm
Connection type	screw connection, hexagon socket/slotted screw
tightening torque	5.6 Nm / 4 Nm
rated voltage	1000 V
rated current	150 A
operating temperature	-30°C ... 40°C

data acc. to IEC 60947-1

flammability rating acc. to UL94	V2
pollution degree	3
overvoltage category	III
material group	I
rated impulse voltage	
stripping length	16 mm

data acc. to UL1059

tightening torque	5,6 Nm
connection range (solid wire)	1/0-6 AWG
rated voltage	600 V
rated current	150 A

data acc. to CSA C22.2 No 158-1987, ECN 5488

tightening torque	
connection range (solid wire)	
rated voltage	
rated current	

identification labels	HSKM60...
end sections	IW51, IW70
jumpers	VB35, VBU35

type	light-grey	IK51
	blue	IK51BL



Quick-assembly Terminal Blocks

rated cross section	70 mm²
solid	25 ... 70 mm ²
multiple wire	25 ... 70 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	23 mm
Connection type	screw connection, hexagon nut
tightening torque	10 Nm
rated voltage	1000 V
rated current	192 A
operating temperature	-30°C ... 40°C

flammability rating acc. to UL94	V2
pollution degree	3
overvoltage category	III
material group	I
rated impulse voltage	
stripping length	26 mm

tightening torque	123 Lb In
connection range (solid wire)	4/0-2 AWG
rated voltage	600 V
rated current	250 A

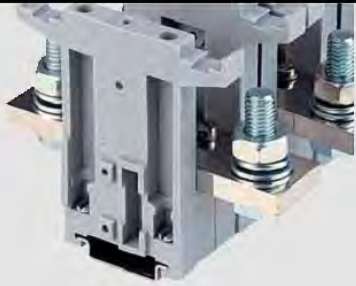
tightening torque	20 Nm
connection range (solid wire)	2-0000 AWG
rated voltage	600 V
rated current	200 A

identification labels	HSKM60...
end sections	IW70
jumpers	VB70, VBU35

type	light-grey	IK70
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Quick-assembly Terminal Blocks

120 mm²
120 mm ²
120mm ²
Top hat rail N35, EN60715 TH35
48 mm
screw connection, hexagon nut for bars or cable lugs
10 Nm
750 V
269 A
-30°C ... 40°C

V2
3
III
II

360 Lb In
3/0 AWG
600 V
200 A

0-0000 AWG
600 V
280 A

HSKM100...
IW120

light-grey **IK120**



Quick-assembly Terminal Blocks

240 mm²
240 mm ²
240mm ²
Top hat rail N35, EN60715 TH35
58 mm
screw connection, hexagon nut for bars or cable lugs
14 Nm
750 V
415 A
-30°C ... 40°C

V2
3
III
II

480 Lb In
300 MCM
600 V
285 A

000 AWG-350 MCM
600 V
380 A

HSKM100...

light-grey **IK240**

Quick-assembly Terminal Blocks

4 mm²
4 mm ²
4mm ²
Top hat rail N35, EN60715 TH35
6.1 mm
flag plug connections 0.8x6.3 mm
750 V
32 A
-30°C ... 40°C

V2
3
III
II

360 Lb In
3/0 AWG
600 V
200 A

0-0000 AWG
600 V
280 A

HSKM60...

VB4-12, VB4-2

light-grey **IZZ4**

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Separator Terminals

rated cross section	4 mm²
solid	0.5 ... 4 mm ²
multiple wire	0.5 ... 4 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	6 mm
Connection type	screw connection, slotted screw
tightening torque	0.8 Nm
rated voltage	500 V
rated current	16 A
operating temperature	-30°C ... 40°C
data acc. to IEC 60947-7-1	
flammability rating acc. to UL94	V2
pollution degree	3
overvoltage category	III
material group	II
rated impulse voltage	
stripping length	7 mm
data acc. to UL1059	
tightening torque	
connection range (solid wire)	
rated voltage	
rated current	
data acc. to CSA C22.2 No 158-1987, ECN 5488	
tightening torque	
connection range (solid wire)	22-12 AWG
rated voltage	300 V
rated current	20 A
identification labels	HSKM60...
end sections	IW16, IW4
jumpers	
type	light-grey IKT4
	red IKT4RT
	blue IKT4BL
	Separator terminal without disconnecting plug

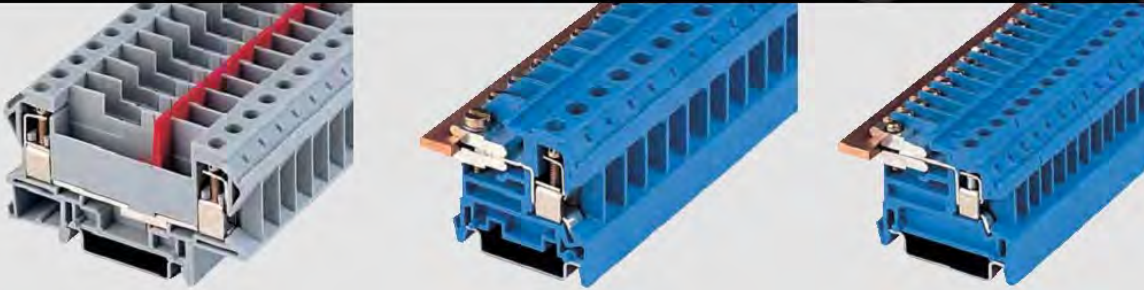


Separator Terminals

rated cross section	4 mm²
solid	0.5 ... 4 mm ²
multiple wire	0.5 ... 4 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	6 mm
Connection type	screw connection, slotted screw
tightening torque	0.8 Nm
rated voltage	500 V
rated current	16 A
operating temperature	-30°C ... 40°C
data acc. to IEC 60947-7-1	
flammability rating acc. to UL94	V2
pollution degree	3
overvoltage category	III
material group	II
rated impulse voltage	
stripping length	7 mm
data acc. to UL1059	
tightening torque	
connection range (solid wire)	
rated voltage	
rated current	
data acc. to CSA C22.2 No 158-1987, ECN 5488	
tightening torque	
connection range (solid wire)	22-12 AWG
rated voltage	300 V
rated current	20 A
identification labels	HSKM60...
end sections	IW16, IW4
jumpers	
type	light-grey IKT54
	Separator terminal + disconnecting plug (captive)

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Separator Terminals with disconnect slider

10 mm²

0.5 ... 10 mm ²
0.5 ... 10 mm ²
Top hat rail N35, EN60715 TH35
8 mm
screw connection, slotted screw
0.8 Nm
500 V
57 A
-30°C ... 40°C

V2
3
III
II
6 kV
9 mm

HSKM80...
IWT10, IWTT10
VBL10, VBT10-4

light-grey **IKT10**

Neutral Wire Separator Terminals

4 mm²

0.5 ... 6 mm ²
0.5 ... 4 mm ²
Top hat rail N35, EN60715 TH35
6 mm
screw connection, slotted screw
0.5 Nm
500 V
32 A
-30°C ... 40°C

V2
3
III
II
8 mm

HSKM60...
IWTR4

blue **IKTR4**

Neutral Wire Separator Terminals

10 mm²

0.5 ... 10 mm ²
0.5 ... 10 mm ²
Top hat rail N35, EN60715 TH35
8 mm
screw connection, slotted screw
0.8 Nm
500 V
57 A
-30°C ... 40°C

V2
3
III
II
10 mm

HSKM80...
IWTR4

blue **IKTR10**

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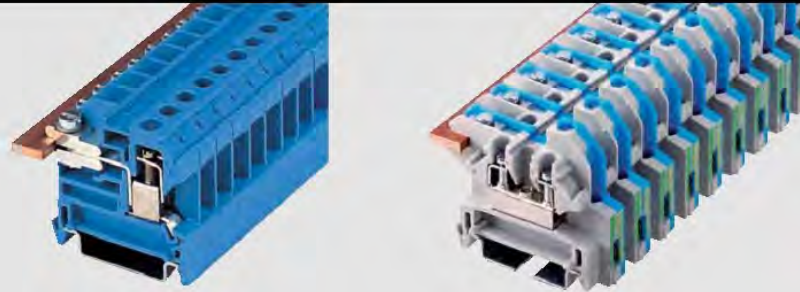
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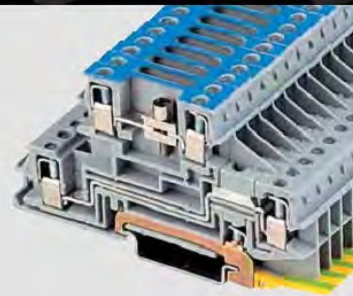
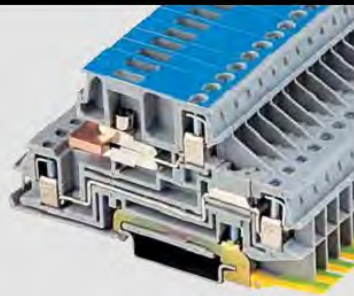
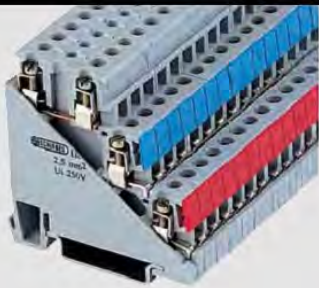


	Neutral Wire Separator Terminals	PE/N - Combined Three-wire Terminals
rated cross section	16 mm²	4 mm²
solid	0.5 ... 16 mm ²	0.5 ... 6 mm ²
multiple wire	0.5 ... 16 mm ²	0.5 ... 4 mm ²
mounting method	Top hat rail N35, EN60715 TH35	Top hat rail N35, EN60715 TH35
terminal width	10 mm	12 mm
Connection type	screw connection, slotted screw	screw connection, slotted screw
tightening torque	1.2 Nm	0.5 Nm
rated voltage	500 V	500 V
rated current	76 A	32 A
operating temperature	-30°C ... 40°C	-30°C ... 40°C
data acc. to IEC 60947-7-1		
flammability rating acc. to UL94	V2	V2
pollution degree	3	3
overvoltage category	III	III
material group	II	II
rated impulse voltage		
stripping length	10 mm	Earth connection terminal 10mm, separator terminal 7mm, feed-through terminal 9mm
data acc. to UL1059		
tightening torque		
connection range (solid wire)		
rated voltage		
rated current		
data acc. to CSA C22.2 No 158-1987, ECN 5488		
tightening torque		
connection range (solid wire)		
rated voltage		
rated current		
identification labels	HSKM100...	HSKM50...
end sections	IWTR4	IW2
jumpers		
type	blue IKTR16	blue/light-grey IKTRED

Combined three-wire terminal for the neutral, for the phase and for the PE conductor (with green/yellow marking)

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Initiator Terminals

2.5 mm²
0.5 ... 2.5 mm ²
0.5 ... 2.5 mm ²
Top hat rail N35, EN60715 TH35
6 mm
screw connection, slotted screw
0.5 Nm
24 A
-30°C ... 40°C

V2
3
III
II

Feed-through terminal 7 mm,
connecting bar connections 8 mm

HSKM60...

light-grey **IKI4**

Distribution Terminals

4 mm²
0.5 ... 6 mm ²
0.5 ... 4 mm ²
Top hat rail N35, EN60715 TH35
6 mm
screw connection, slotted screw
0.8 Nm
380 V
32 A
-30°C ... 40°C

V2
3
III
II

7 mm / earth connection terminal 10 mm

HSKM60...

IWEPTR
VB4-12, VB4-2

light-grey **IKEPTR**

PE conductor on support rail,
neutral wire isolation on busbar

Distribution Terminals

4 mm²
0.5 ... 6 mm ²
0.5 ... 4 mm ²
Top hat rail N35, EN60715 TH35
6 mm
screw connection, slotted screw
0.8 Nm
380 V
32 A
-30°C ... 40°C

V2
3
III
II

7 mm / earth connection terminal 10 mm

HSKM60...

IWEPTR
VB4-12, VB4-2

light-grey **IKEPT**

PE conductor on support rail,
neutral wire isolation

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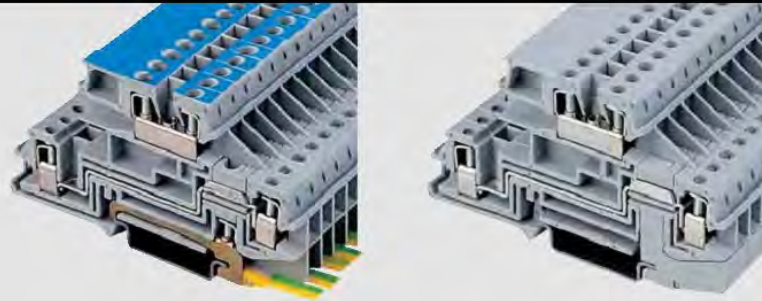
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→ Screw Connection

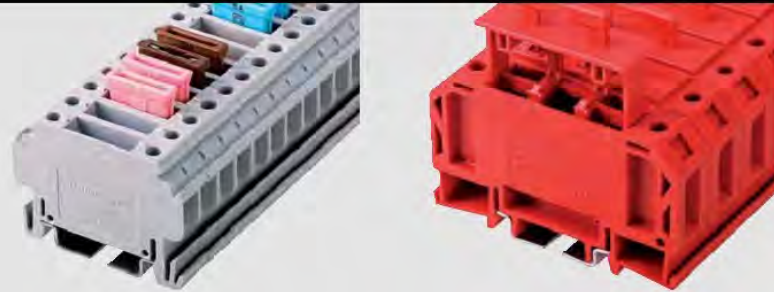
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	Distribution Terminals	Distribution Terminals
rated cross section	4 mm²	4 mm²
solid	0.5 ... 6 mm ²	0.5 ... 6 mm ²
multiple wire	0.5 ... 4 mm ²	0.5 ... 4 mm ²
mounting method	Top hat rail N35, EN60715 TH35	Top hat rail N35, EN60715 TH35
terminal width	6 mm	6 mm
Connection type	screw connection, slotted screw	screw connection, slotted screw
tightening torque	0.8 Nm	0.8 Nm
rated voltage	380 V	380 V
rated current	32 A	32 A
operating temperature	-30°C ... 40°C	-30°C ... 40°C
data acc. to IEC 60947-7-1		
flammability rating acc. to UL94	V2	V2
pollution degree	3	3
overvoltage category	III	III
material group	II	II
rated impulse voltage		
stripping length	Earth connection terminal 10 mm, neutral wire 9 mm, feed-through terminal 7 mm	9 / 7 mm
data acc. to UL1059		
tightening torque		
connection range (solid wire)		
rated voltage		
rated current		
data acc. to CSA C22.2 No 158-1987, ECN 5488		
tightening torque		
connection range (solid wire)		
rated voltage		
rated current		
identification labels	HSKM60...	HSKM60...
end sections	IWEPTR	IWEPTR
jumpers	VB4-12, VB4-2	VB4-12, VB4-2
type	light-grey IKEPN	light-grey IKPP
	PE conductor on support rail, continuous neutral wire	2-pole feed-through terminal

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	Fuse Terminals		Fuse Terminals	
	4 mm ²		6 mm ²	
rated cross section	4 mm ²		6 mm ²	
solid	0.5 ... 6 mm ²		0.5 ... 6 mm ²	
multiple wire	0.5 ... 4 mm ²		0.5 ... 6 mm ²	
mounting method	Top hat rail N35, EN60715 TH35		Top hat rail N35, EN60715 TH35	
terminal width	8.1 mm		16 mm	
Connection type	screw connection, slotted screw		screw connection, slotted screw	
tightening torque	0.8 Nm		0.8 Nm	
rated voltage			850 V	
rated current	20 A max.		13.5 A/20 A max. (compound/separate arrangement)	
operating temperature	-30°C ... 40°C		-30°C ... 55°C	
data acc. to IEC 60947-7-1				
flammability rating acc. to UL94	V2		V0	
pollution degree	3		3	
overvoltage category	III		III	
material group	II		I	
rated impulse voltage				
stripping length	7 mm		9 mm	
data acc. to UL1059				
tightening torque				
connection range (solid wire)			8-22 AWG	
rated voltage			600 V	
rated current			20 A	
data acc. to CSA C22.2 No 158-1987, ECN 5488				
tightening torque				
connection range (solid wire)				
rated voltage				
rated current				
identification labels	HSKM80...			
end sections				
jumpers			KVS10-8	
type	light-grey	IKFSI5	light-grey	IKSI10
			red	IKSI10RT

for 10,3x38 mm fuses
incl. fuseholder but without cartridge fuses
(please order separately)

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Earth Connection Terminals

4 mm²

0.5 ... 4 mm²

0.5 ... 4 mm²

Top hat rail N35, EN60715 TH35

7.5 mm

screw connection, slotted screw

0.5 Nm

-30°C ... 40°C

V2

3

III

9 mm

8 Lb In

10-22 AWG

HSKM80...

yellow/green

IKE4

Please follow the instructions about the electrical short-term withstand current of top hat rails.



Earth Connection Terminals

10 mm²

4 ... 10 mm²

4 ... 10 mm²

Top hat rail N35, EN60715 TH35

8.5 mm

screw connection, slotted screw

0.8 Nm

-30°C ... 40°C

V2

3

III

10 mm

13.3 Lb In

8 AWG, Str

HSKM80...

yellow/green

IKE10

Please follow the instructions about the electrical short-term withstand current of top hat rails.



Earth Connection Terminals

16 mm²

0.5 ... 16 mm²

0.5 ... 16 mm²

Top hat rail N35, EN60715 TH35

10.5 mm

screw connection, slotted screw

1.2 Nm

-30°C ... 40°C

V2

3

III

11 mm

18 Lb In

6 AWG, Str

HSKM100...

yellow/green

IKE16

Please follow the instructions about the electrical short-term withstand current of top hat rails.

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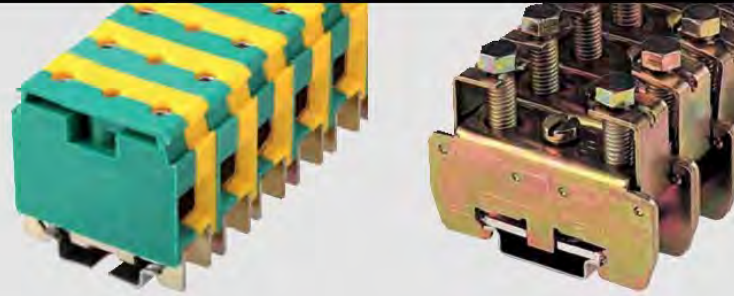
Screw Connection →

Pedal Switches

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	Earth Connection Terminals	Earth Connection Terminals
rated cross section	35 mm²	70 mm²
solid	2x16/1x16 35 mm ²	16 70 mm ²
multiple wire	2x16/1x16 35 mm ²	16 70 mm ²
mounting method	Top hat rail N35, EN60715 TH35	Top hat rail N35, EN60715 TH35
terminal width	19 mm	20 mm
Connection type	screw connection, hexagon socket	screw connection, hexagon nut
tightening torque	5.6 Nm	6 Nm
rated voltage		
rated current		
operating temperature	-30°C ... 40°C	-30°C ... 40°C
data acc. to IEC 60947-1		
flammability rating acc. to UL94	V2	
pollution degree	3	3
overvoltage category	III	III
material group	II	
rated impulse voltage		
stripping length	13 mm	22 mm
data acc. to UL1059		
tightening torque		
connection range (solid wire)		
rated voltage		
rated current		
data acc. to CSA C22.2 No 158-1987, ECN 5488		
tightening torque		
connection range (solid wire)		
rated voltage		
rated current		
identification labels	HSKM100...	
end sections		
jumpers		
type	IKE51	IKE70

Please follow the instructions about the electrical short-term withstand current of top hat rails.

Please follow the instructions about the electrical short-term withstand current of top hat rails.ils.

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Pickaback Terminals

4 mm²
0.5 ... 6 mm ²
0.5 ... 4 mm ²
Top hat rail N35, EN60715 TH35
6 mm
screw connection, slotted screw
0.5 Nm
750 V
32 A
-30°C ... 40°C

V2
3
III
II

7 mm

9...13 Lb In
10-22 AWG
600 V
30 A

20-10 AWG
600 V
40 A

HSKM60...
IWH4
VB4-12, VB4-2

light-grey	IKH4
blue	IKH4BL

Terminal types that fit on the second level:
IK3 up to IK16, IKS14, IKT4, IKTR4, IKTR16

Double-level terminal

4 mm²
0.5 ... 6 mm ²
0.5 ... 4 mm ²
Top hat rail N35, EN60715 TH35
6 mm
screw connection, slotted screw
0,5...0,8 Nm
750 V
32 A
-30°C ... 40°C

V2
3
III
I

top 9 mm, bottom 7 mm

9...13 Lb In
10-22 AWG
600 V
30 A

HSKM60...
HSKM60_1-100, IWD5
VB4-12, VB4-2

light-grey	IKD5
------------	-------------



Miniature Terminals

2.5 mm²
0.5 ... 4 mm ²
0.5 ... 2.5 mm ²
Top hat rail N15
5.1 mm
screw connection, slotted screw
0.5 Nm
500 V
25 A
-30°C ... 40°C

V2
3
III
II

8 mm

5 Lb In
22-12 AWG
300 V
20 A

18-12 AWG
300 V
25 A

HSKM50...
EH2
VB2-12, VB2-2

light-grey	HK3
------------	------------

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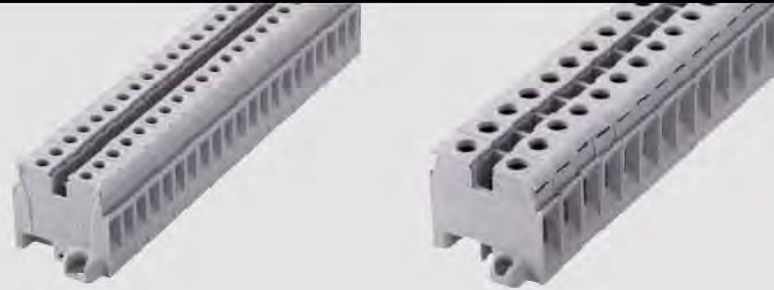
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	Rail-less Terminal Blocks	Rail-less Terminal Blocks
rated cross section	4 mm²	16 mm²
solid	0.5 ... 6 mm ²	0.5 ... 16 mm ²
multiple wire	0.5 ... 4 mm ²	0.5 ... 16 mm ²
mounting method	screw fastening	screw fastening
terminal width	6.9 mm	10 mm
Connection type	screw connection, slotted screw	screw connection, slotted screw
tightening torque	0.8 Nm	1.2 Nm
rated voltage	750 V	750 V
rated current	32 A	76 A
operating temperature	-30°C ... 40°C	-30°C ... 40°C
data acc. to IEC 60947-7-1		
flammability rating acc. to UL94	V2	V2
pollution degree	3	3
overvoltage category	III	III
material group		II
rated impulse voltage		
stripping length	7 mm	11 mm
data acc. to UL1059		
tightening torque		18 Lb In
connection range (solid wire)		6-22 AWG
rated voltage		600 V
rated current		65 A
data acc. to CSA C22.2 No 158-1987, ECN 5488		
tightening torque		
connection range (solid wire)		6 AWG
rated voltage		600 V
rated current		80 A
identification labels	HSKM60...	HSKM100...
end sections		
jumpers	VBS4-2, VBS4-3	VB16-2
type	light-grey FK5	light-grey FK16

Easy and simple mounting. Screw every tenth terminal to secure the interlocking of the terminal row.

Easy and simple mounting. Screw every tenth terminal to secure the interlocking of the terminal row.

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Rail-less Terminal Blocks

1.5 mm²

0.15 ... 1.5 mm²

0.15 ... 1.5 mm²

PCB-mount terminals

5mm

screw connection, slotted screw

0.5 Nm

250 V

-30°C ... 40°C

V2

7 mm

HSKM50...

GWL3

light-grey

GKL3

Fixation on PCB: 2 soldering pins for PCB's with 1.3 mm holes
Wire insertion: at an angle of 30° upward from the horizontal line

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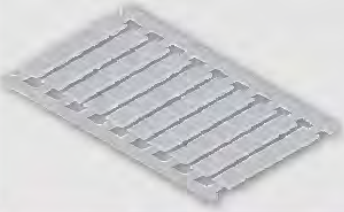



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Illustration	Dimensions	Description	Type
		Identification Labels, blank 100-piece sheet suitable for GKL3, HK3, IK3, IKTRED, IK3BL	HSKM50U
		Identification Labels, printed 100-piece sheet printed from 1 ... 100 other imprints on request suitable for GKL3, HK3, IK3, IKTRED, IK3BL	HSKM50_1-100
		Identification Labels, blank 100-piece sheet suitable for FK5, IK25, IK5, IK51, IK70, IKEPN, IKEPP, IKEPT, IKEPTR, IKH4, IKI4, IKPP, IKT4, IKTR4, IKTS4, IZZ4, IK5BL, IK25BL, IK51BL, IKT4RT, IKT4BL, IKH4BL, IKD5	HSKM60U
		Identification Labels, printed 100-piece sheet printed from 1 ... 100 other imprints on request suitable for FK5, IK25, IK5, IK51, IK70, IKEPN, IKEPP, IKEPT, IKEPTR, IKH4, IKI4, IKPP, IKT4, IKTR4, IKTS4, IZZ4, IK5BL, IK25BL, IK51BL, IKT4RT, IKT4BL, IKH4BL, IKD5	HSKM60_1-100
		Identification Labels, blank 50-piece sheet suitable for IK10, IKE10, IKE4, IKFSI5, IKS15, IKT10, IKTR10, IK10BL	HSKM80U
		Identification Labels, printed 50-piece sheet printed from 1 ... 50 other imprints on request suitable for IK10, IKE10, IKE4, IKFSI5, IKS15, IKT10, IKTR10, IK10BL	HSKM80_1-50
		Identification Labels, printed 50-piece sheet printed from 51 ... 100 other imprints on request suitable for IK10, IKE10, IKE4, IKFSI5, IKS15, IKT10, IKTR10, IK10BL	HSKM80_51-100

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Illustration	Dimensions	Description	Type
		Identification Labels, blank 50-piece sheet suitable for FK16, IK120, IK16, IK240, IKE16, IKE51, IKSI4, IKTR16, IK16BL . . .	HSKM100U
		Identification Labels, printed 50-piece sheet printed from 1 ... 50 other imprints on request suitable for FK16, IK120, IK16, IK240, IKE16, IKE51, IKSI4, IKTR16, IK16BL . . .	HSKM100_1-50
		Identification Labels, printed 50-piece sheet printed from 51 ... 100 other imprints on request suitable for FK16, IK120, IK16, IK240, IKE16, IKE51, IKSI4, IKTR16, IK16BL . . .	HSKM100_51-100
		Top Hat Rail N35-7.5 mm The rails are made of rolled sheet steel, galvanised and passivated. Short-time current resistance: 1.92kA 2 m long	N35-2
		Top Hat Rail N35-7.5 mm, punched The rails are made of rolled sheet steel, galvanised and passivated. Short-time current resistance: 1.92kA 2 m long	N35L-2
		Top Hat Rail N35-15 mm, punched The rails are made of rolled sheet steel, galvanised and passivated. Short-time current resistance: 6kA 2 m long	N35L-2_15MM

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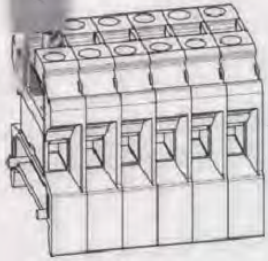
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Illustration	Dimensions	Description	Type
		Top Hat Rail N15-5,5 The rails are made of rolled sheet steel, galvanised and passivated. Short-time current resistance: 1.2kA 2 m long	N15-2
		End clamp bracket used as a fixing bracket at the end of a row of terminal blocks fits on N35-2, N35L-2, N35L-2_15MM rails	SK35
		End clamp bracket, reinforced version used as a fixing bracket at the end of a row of terminal blocks. For terminal blocks from 50 mm ² up the reinforced version is recommended. Fits on N35-2, N35L-2, N35-2_15MM rails.	SKS35
		End Clamp Bracket used as a fixing bracket at the end of a row of terminal blocks fits on N15-2 rails	SK15
		End Clamp Bracket serves as a fixing bracket at the end of a row of terminal blocks, fits on N15-2	ESK15
		Insulated End Section The end section of each terminal size is designed in a way that it can be used as partition for the next smallest terminal size.	
		IK3, IKTRED, IK3BL	IW2
		IK3, IK5, IKT4, IKTS4, IK3BL, IK5BL, IKT4RT, IKT4BL	IW4
		IKD5	IWD5
		IK5, IK10, IK16, IK5BL, IK10BL, IK16BL, IKT4, IKT4RT, IKT4BL, IKTS4	IW16
		IK10, IK16, IK25, IK10BL, IK16BL, IK25BL	IW50
		IK51, IK51BL	IW51
		IK25, IK51, IK70, IK25BL, IK51BL	IW70
		IKEPTR, IKEPT, IKEPN, IKPP, IKEPP	IWEPTR
		IKH4, IKH4BL	IWH4
		IKT10	IWT10
		IKTR4, IKTR10, IKTR16	IWTR4
		IZZ4	IWZZ4
		HK3	EH2
		GKL3	GWL3

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Illustration	Dimensions	Description	Type
		Insulating partition, large size fits on IK3, IK5, IK3BL, IK5BL	ITW4
		Insulating Partition fits on IKT10 IK120, IK240	IWT10 TW240
		Safety cover insulating cover with marking acc. to VBG125 over 4 terminals, version for more than 4 terminals on request suitable for IK3, HK3, IK3BL IK5, FK5, IK5BL IK10, IK10BL IK16, FK16, IK16BL IK25, IK25BL IK51 IK70 IK120 IK240	KAW2 KAW4 KAW10 KAW16 KAW25 KAW35 KAW70 KAW120 KAW240
		Connecting Plug for bridging two terminals suitable for IKT10	VST10
		Comb-type jumper suitable for IKFS15 IK14 IKS10RT, IKS110	KVFI4-12 KVI4-12 KVS10-8

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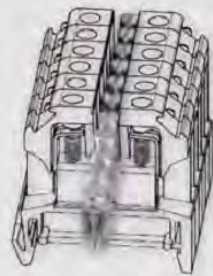
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Illustration	Dimensions	Description	Type
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Jumper, 2 poles

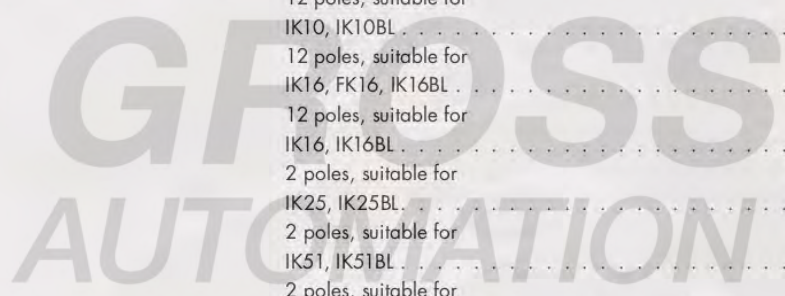
to connect adjacent terminals

max. current load:

The permissible total current running through the jumper must not exceed the rated current of the respective terminal blocks.

2 poles, suitable for

IK3, HK3, IK3BL	VB2-2
12 poles, suitable for	
IK3, HK3, IK3BL	VB2-12
2 poles, suitable for	
IK5, IZZ4, IKH4, IKEPTR, IKEPT, IKEPN, IKPP, IKEPP, IK5BL, IKH4BL, IKD5	VB4-2
12 poles, suitable for	
IK5, IZZ4, IKEPTR, IKEPT, IKEPN, IKPP, IKEPP, IKH4, IK5BL, IKH4BL, IKD5	VB4-12
2 poles, suitable for	
FK5	VB54-2
3 poles, suitable for	
FK5	VB54-3
2 poles, suitable for	
IK10, IK10BL	VB6-2
12 poles, suitable for	
IK10, IK10BL	VB6-12
12 poles, suitable for	
IK16, FK16, IK16BL	VB16-2
12 poles, suitable for	
IK16, IK16BL	VB16-12
2 poles, suitable for	
IK25, IK25BL	VB25
2 poles, suitable for	
IK51, IK51BL	VB35
2 poles, suitable for	
IK70	VB70



Connecting Strap

to connect adjacent jumpers

2 poles, suitable for

IK3, HK3, IK3BL	VL2-2
2 poles, suitable for	
IK5, IKH4, FK5, IKEPN, IKPP, IKEPP, IK5BL, IKH4BL	VL4-2
2 poles, suitable for	
IK10, IK10BL	VL6-2
2 poles, suitable for	
IK16, FK16, IK16BL	VL16-2
2 poles, suitable for	
IK25, IK25BL	VL25
3 poles, suitable for	
IK25, IK25BL	VL25-3
3 poles, suitable for	
IK51, IK51BL	VL35-3
2 poles, suitable for	
IK70	VL70
3 poles, suitable for	
IK70	VL70-3

Illustration	Dimensions	Description	Type
		Disconnecting Plug suitable for IKT4, IKT4RT, IKT4BL	TS4
		Resistor Plug with finely adjustable Cermet variable resistor 20 Ohm suitable for IKT4, IKT4RT, IKT4BL	WS20
		Bridge Rectifier with Si-rectifier B 250 C 1000, suitable for IKT4, IKT4RT, IKT4BL	BGS
		Quenching Diode Plug with diode up to 400V / 1A, the diode plugs have reverse polarity protection, suitable for IKT4, IKT4RT, IKT4BL	DSL
		Diode Plug, blue with diode up to 400V / 1A, the diode plugs have reverse polarity protection, suitable for IKT4, IKT4RT, IKT4BL	DS_BL

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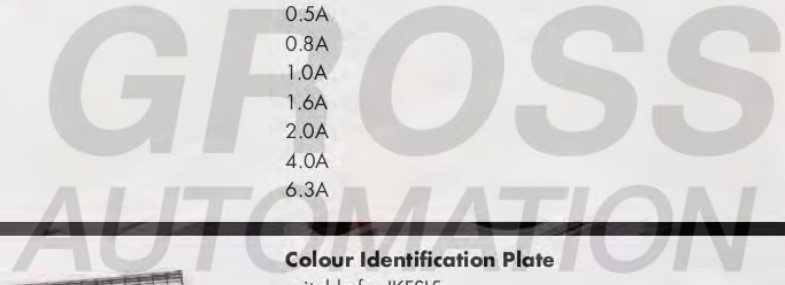
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Illustration	Dimensions	Description	Type
		Diode plug, red with diode up to 400V / 1A, the diode plugs have reverse polarity protection, suitable for IKT4, IKT4RT, IKT4BL	DS_RT
		Fuseholder suitable for IKS14	SH20
		Cartridge Fuse DIN 41571 0.125A, suitable for IKS14, IKS15 0.2A 0.5A 0.8A 1.0A 1.6A 2.0A 4.0A 6.3A	SP20-0,125 SP20-0,2 SP20-0,5 SP20-0,8 SP20-1,0 SP20-1,6 SP20-2,0 SP20-4,0 SP20-6,3
		Colour Identification Plate suitable for IKFS15 colour: violet colour: pink colour: light brown colour: brown colour: red colour: light blue colour: yellow colour: white (ecru) colour: light green	EP3 EP4 EP5 EP7,5 EP10 EP15 EP20 EP25 EP30
		Test Plug test plug for plug socket STB2 2 mm suitable for IK5, IKH4, FK5, IK5BL, IKH4BL test plug for plug socket STB4L, STB16, STB35 4 mm suitable for IK16, IK25, IK51, IK70, IKT10, FK16, IK16BL, IK25BL, IK51BL	PST2 PST4

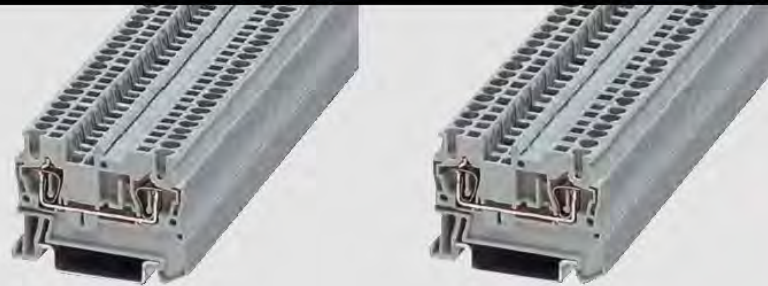
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IFK spring-cage terminals

spring-cage connection

made in germany



Feed-through Terminals

rated cross section	1.5 mm²
solid	0.14 ... 1.5 mm ²
multiple wire	0.14 ... 1.5 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	4.2 mm
Connection type	spring-cage connection
tightening torque	
rated voltage	500 V
rated current	17.5 A
operating temperature	-40°C ... 80°C
data acc. to IEC 60947-1	
flammability rating acc. to UL94	V0
pollution degree	3
overvoltage category	III
material group	I
rated impulse voltage	6 kV
stripping length	10 mm
data acc. to UL1059	
tightening torque	
connection range (solid wire)	26-14 AWG
rated voltage	300 V
rated current	15 A
data acc. to CSA C22.2 No 158-1987, ECN 5488	
tightening torque	
connection range (solid wire)	
rated voltage	
rated current	
identification labels	HPK4.../HPKF4...
end sections	IWFK2,5
jumpers	SB1,5-10, SB1,5-2
type	light-grey IFK1,5
	blue IFK1,5BL



Feed-through Terminals

rated cross section	2.5 mm²
solid	0.2 ... 4 mm ²
multiple wire	0.2 ... 2.5 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	5.2 mm
Connection type	spring-cage connection
tightening torque	
rated voltage	800 V
rated current	31 A
operating temperature	-40°C ... 80°C
data acc. to IEC 60947-1	
flammability rating acc. to UL94	V0
pollution degree	3
overvoltage category	III
material group	I
rated impulse voltage	8 kV
stripping length	10 mm
data acc. to UL1059	
tightening torque	
connection range (solid wire)	26-12 AWG
rated voltage	600 V
rated current	20 A
data acc. to CSA C22.2 No 158-1987, ECN 5488	
tightening torque	
connection range (solid wire)	
rated voltage	
rated current	
identification labels	HPK5.../HPKF5...
end sections	IWFK2,5
jumpers	SB2,5-10, SB2,5-2
type	light-grey IFK2,5
	blue IFK2,5BL

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Feed-through Terminals	
4 mm²	
0.2 ... 6 mm ²	
0.2 ... 4 mm ²	
Top hat rail N35, EN60715 TH35	
6.2 mm	
spring-cage connection	
800 V	
40 A	
-40°C ... 80°C	
V0	
3	
III	
I	
8 kV	
10 mm	
20-10 AWG	
600 V	
30 A	
HPK6.../HPKF6...	
IWFK4	
SB4-10, SB4-2	
light-grey	IFK4
blue	IFK4BL

Feed-through Terminals	
6 mm²	
0.5 ... 10 mm ²	
0.5 ... 6 mm ²	
Top hat rail N35, EN60715 TH35	
8.2 mm	
spring-cage connection	
800 V	
52 A	
-40°C ... 80°C	
V0	
3	
III	
I	
8 kV	
12 mm	
20-8 AWG	
600 V	
50 A	
HPK8.../HPKF8...	
IWFK6	
SB6-10, SB6-2	
light-grey	IFK6
blue	IFK6BL

Feed-through Terminals	
10 mm²	
1.5 ... 16 mm ²	
1.5 ... 10 mm ²	
Top hat rail N35, EN60715 TH35	
10 mm	
spring-cage connection	
800 V	
65 A	
-40°C ... 80°C	
V0	
3	
III	
I	
8 kV	
18 mm	
16-6 AWG	
600 V	
65 A	
HPK10.../HPKF8...	
IWFK10	
SB10-2	
light-grey	IFK10
blue	IFK10BL

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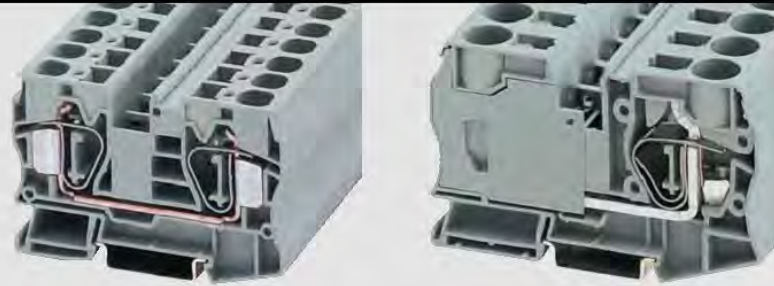
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IFK spring-cage terminals

spring-cage connection

made in germany



IFK16

Feed-through Terminals

rated cross section	16 mm²
solid	1.5 ... 25 mm ²
multiple wire	1.5 ... 16 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	12 mm
Connection type	spring-cage connection
tightening torque	
rated voltage	800 V
rated current	90 A
operating temperature	-40°C ... 80°C
data acc. to IEC 60947-7-1	
flammability rating acc. to UL94	V0
pollution degree	3
overvoltage category	III
material group	I
rated impulse voltage	8 kV
stripping length	18 mm
data acc. to UL1059	
tightening torque	
connection range (solid wire)	16-4 AWG
rated voltage	600 V
rated current	85 A
data acc. to CSA C22.2 No 158-1987, ECN 5488	
tightening torque	
connection range (solid wire)	
rated voltage	
rated current	
identification labels	HPK10.../HPKF8...
end sections	IWFK16
jumpers	SB16-2
type	light-grey IFK16
	blue IFK16BL

IFK35

Feed-through Terminals

rated cross section	35 mm²
solid	2.5 ... 35 mm ²
multiple wire	2.5 ... 35 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	16 mm
Connection type	spring-cage connection
tightening torque	
rated voltage	800 V
rated current	125 A
operating temperature	-40°C ... 80°C
data acc. to IEC 60947-7-1	
flammability rating acc. to UL94	V0
pollution degree	3
overvoltage category	III
material group	I
rated impulse voltage	8 kV
stripping length	25 mm
data acc. to UL1059	
tightening torque	
connection range (solid wire)	14-2 AWG
rated voltage	600 V
rated current	115 A
data acc. to CSA C22.2 No 158-1987, ECN 5488	
tightening torque	
connection range (solid wire)	
rated voltage	
rated current	
identification labels	HPK10.../HPKF8...
end sections	
jumpers	SB35-2
type	light-grey IFK35
	blue IFK35BL

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UL

Feed-through Terminals

1.5 mm²

0.14 ... 1.5 mm²
0.14 ... 1.5 mm²
Top hat rail N35, EN60715 TH35
4.2 mm

spring-cage connection

500 V
17.5 A
-40°C ... 80°C

V0
3
III
I
6 kV
10 mm

26-14 AWG
300 V
15 A

HPK4.../HPKF4...
IWFK2,5-1+2
SB1,5-10, SB1,5-2

light-grey **IFK1,5-1+2**
blue **IFK1,5BL-1+2**

* The max. load current must not be exceeded by the total current of all connected conductors.

UL

Feed-through Terminals

2.5 mm²

0.2 ... 4 mm²
0.2 ... 2.5 mm²
Top hat rail N35, EN60715 TH35
5.2 mm

spring-cage connection

800 V
28 A
-40°C ... 80°C

V0
3
III
I
8 kV
10 mm

26-12 AWG
600 V
20 A

HPK5.../HPKF5...
IWFK2,5-1+2
SB2,5-10, SB2,5-2

light-grey **IFK2,5-1+2**
blue **IFK2,5BL-1+2**

* The max. load current must not be exceeded by the total current of all connected conductors.

UL

Feed-through Terminals

4 mm²

0.2 ... 6 mm²
0.2 ... 4 mm²
Top hat rail N35, EN60715 TH35
6.2 mm

spring-cage connection

800 V
40 A
-40°C ... 80°C

V0
3
III
I
8 kV
10 mm

20-10 AWG
600 V
30 A

HPK6.../HPKF6...
IWFK4-1+2
SB4-10, SB4-2

light-grey **IFK4-1+2**
blue **IFK4BL-1+2**

* The max. load current must not be exceeded by the total current of all connected conductors.

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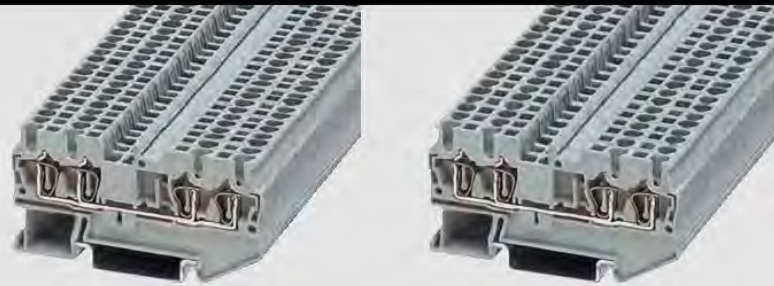
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IFK spring-cage terminals

spring-cage connection

made in germany



	IFK1	IFK2
	Feed-through Terminals	
rated cross section	1.5 mm²	2.5 mm²
solid	0.14 ... 1.5 mm ²	0.2 ... 4 mm ²
multiple wire	0.14 ... 1.5 mm ²	0.2 ... 2.5 mm ²
mounting method	Top hat rail N35, EN60715 TH35	Top hat rail N35, EN60715 TH35
terminal width	4.2 mm	5.2 mm
Connection type	spring-cage connection	spring-cage connection
tightening torque		
rated voltage	500 V	800 V
rated current	17.5 A	28 A
operating temperature	-40°C ... 80°C	-40°C ... 80°C
data acc. to IEC 60947-1		
flammability rating acc. to UL94	V0	V0
pollution degree	3	3
overvoltage category	III	III
material group	I	I
rated impulse voltage	6 kV	8 kV
stripping length	10 mm	10 mm
data acc. to UL1059		
tightening torque		
connection range (solid wire)	26-14 AWG	26-12 AWG
rated voltage	300 V	600 V
rated current	15 A	20 A
data acc. to CSA C22.2 No 158-1987, ECN 5488		
tightening torque		
connection range (solid wire)		
rated voltage		
rated current		
identification labels	HPK4.../HPKF4...	HPK5.../HPKF5...
end sections	IWFK2,5-2+2	IWFK2,5-2+2
jumpers	SB1,5-10, SB1,5-2	SB2,5-10, SB2,5-2
type	light-grey IFK1,5-2+2	light-grey IFK2,5-2+2
	blue IFK1,5BL-2+2	blue IFK2,5BL-2+2
	* The max. load current must not be exceeded by the total current of all connected conductors.	* The max. load current must not be exceeded by the total current of all connected conductors.

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Feed-through Terminals	
4 mm²	
0.2 ... 6 mm ²	
0.2 ... 4 mm ²	
Top hat rail N35, EN60715 TH35	
6.2 mm	
spring-cage connection	
800 V	
40 A	
-40°C ... 80°C	
V0	
3	
III	
I	
8 kV	
10 mm	
20-10 AWG	
600 V	
30 A	
HPK6.../HPKF6...	
IWFK4-2+2	
SB4-10, SB4-2	
light-grey	IFK4-2+2
blue	IFK4BL-2+2

Feed-through Terminals	
1.5 mm²	
0.14 ... 1.5 mm ²	
0.14 ... 1.5 mm ²	
Top hat rail N35, EN60715 TH35	
4.2 mm	
spring-cage connection	
500 V	
17.5 A	
-40°C ... 80°C	
V0	
3	
III	
I	
6 kV	
10 mm	
26-14 AWG	
300 V	
15 A	
HPK4.../HPKF4...	
IWFKK2,5	
SB1,5-10, SB1,5-2	
light-grey	IFKK1,5
blue	IFKK1,5BL

Feed-through Terminals	
2.5 mm²	
0.2 ... 4 mm ²	
0.2 ... 2.5 mm ²	
Top hat rail N35, EN60715 TH35	
5.2 mm	
spring-cage connection	
500 V	
26 A	
-40°C ... 80°C	
V0	
3	
III	
I	
6 kV	
10 mm	
26-12 AWG	
300 V	
20 A	
HPK5.../HPKF5...	
IWFKK2,5	
SB2,5-10, SB2,5-2	
light-grey	IFKK2,5
blue	IFKK2,5BL

* The max. load current must not be exceeded by the total current of all connected conductors.

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IFK spring-cage terminals

spring-cage connection

made in germany



Feed-through Terminals



Earth Connection Terminals

rated cross section	4 mm²	1.5 mm²
solid	0.2 ... 6 mm ²	0.14 ... 1.5 mm ²
multiple wire	0.2 ... 4 mm ²	0.14 ... 1.5 mm ²
mounting method	Top hat rail N35, EN60715 TH35	Top hat rail N35, EN60715 TH35
terminal width	6.2 mm	4.2 mm
Connection type	spring-cage connection	spring-cage connection
tightening torque		
rated voltage	500 V	
rated current	32 A	
operating temperature	-40°C ... 80°C	-40°C ... 80°C
data acc. to IEC 60947-1		
flammability rating acc. to UL94	V0	V0
pollution degree	3	3
overvoltage category	III	III
material group	I	I
rated impulse voltage	6 kV	6 kV
stripping length	10 mm	10 mm
data acc. to UL1059		
tightening torque		
connection range (solid wire)	20-10 AWG	26-14 AWG
rated voltage	300 V	
rated current	30 A	
data acc. to CSA C22.2 No 158-1987, ECN 5488		
tightening torque		
connection range (solid wire)		
rated voltage		
rated current		
identification labels	HPK6.../HPKF6...	HPK4.../HPKF4...
end sections	IWFKK4	IWFK2,5
jumpers	SB4-10, SB4-2	
type	light-grey IFKK4 blue IFKK4BL	yellow/green IFK1,5E

Please follow the instructions about the electrical short-term current strength of top hat rails.

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UL US

Earth Connection Terminals

2.5 mm²

0.2 ... 4 mm²

0.2 ... 2.5 mm²

Top hat rail N35, EN60715 TH35

5.2 mm

spring-cage connection

-40°C ... 80°C

V0

3

III

I

8 kV

10 mm

26-12 AWG

HPK5.../HPKF5...

IWFK2,5

yellow/green

IFK2,5E

Please follow the instructions about the electrical short-term current strength of top hat rails.

UL US

Earth Connection Terminals

4 mm²

0.2 ... 6 mm²

0.2 ... 4 mm²

Top hat rail N35, EN60715 TH35

6.2 mm

spring-cage connection

-40°C ... 80°C

V0

3

III

I

8 kV

10 mm

20-10 AWG

HPK6.../HPKF6...

IWFK4

yellow/green

IFK4E

Please follow the instructions about the electrical short-term current strength of top hat rails.

UL US

Earth Connection Terminals

10 mm²

1.5 ... 16 mm²

1.5 ... 10 mm²

Top hat rail N35, EN60715 TH35

10 mm

spring-cage connection

-40°C ... 80°C

V0

3

III

I

8 kV

18 mm

16-6 AWG

HPK10.../HPKF8...

IWFK10

SB10-2

yellow/green

IFK10E

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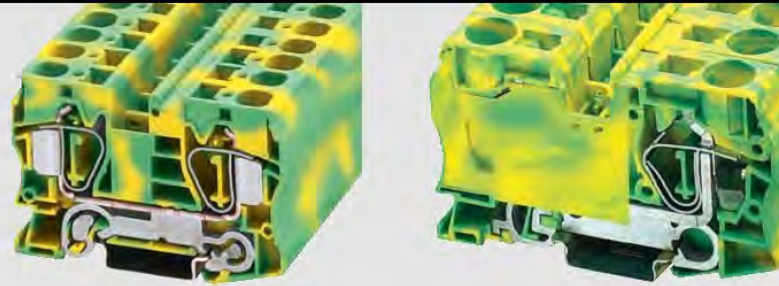
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IFK spring-cage terminals

spring-cage connection

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	Earth Connection Terminals	Earth Connection Terminals
rated cross section	16 mm²	35 mm²
solid	1.5 ... 25 mm ²	2.5 ... 35 mm ²
multiple wire	1.5 ... 16 mm ²	2.5 ... 35 mm ²
mounting method	Top hat rail N35, EN60715 TH35	Top hat rail N35, EN60715 TH35
terminal width	12 mm	16 mm
Connection type	spring-cage connection	spring-cage connection
tightening torque		
rated voltage		
rated current		
operating temperature	-40°C ... 80°C	-40°C ... 80°C
data acc. to IEC 60947-7-1		
flammability rating acc. to UL94	V0	V0
pollution degree	3	3
overvoltage category	III	III
material group	I	I
rated impulse voltage	8 kV	8 kV
stripping length	18 mm	25 mm
data acc. to UL1059		
tightening torque		
connection range (solid wire)	16-4 AWG	14-2 AWG
rated voltage		
rated current		
data acc. to CSA C22.2 No 158-1987, ECN 5488		
tightening torque		
connection range (solid wire)		
rated voltage		
rated current		
identification labels	HPK10.../HPKF8...	HPK10.../HPKF8...
end sections	IWFK16	
jumpers	SB16-2	SB35-2
type	yellow/green IFK16E	yellow/green IFK35E

Please follow the instructions about the electrical short-term current strength of top hat rails.

Please follow the instructions about the electrical short-term current strength of top hat rails.

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UL

Earth Connection Terminals

1.5 mm²

0.14 ... 1.5 mm²

0.14 ... 1.5 mm²

Top hat rail N35, EN60715 TH35

4.2 mm

spring-cage connection

-40°C ... 80°C

V0

3

III

I

6 kV

10 mm

26-14 AWG

HPK4.../HPKF4...

IWFK2,5-1+2

yellow/green

IFK1,5E-1+2

Please follow the instructions about the electrical short-term current strength of top hat rails.

UL

Earth Connection Terminals

2.5 mm²

0.2 ... 4 mm²

0.2 ... 2.5 mm²

Top hat rail N35, EN60715 TH35

5.2 mm

spring-cage connection

-40°C ... 80°C

V0

3

III

I

8 kV

10 mm

26-12 AWG

HPK5.../HPKF5...

IWFK2,5-1+2

yellow/green

IFK2,5E-1+2

Please follow the instructions about the electrical short-term current strength of top hat rails.

UL

Earth Connection Terminals

4 mm²

0.2 ... 6 mm²

0.2 ... 4 mm²

Top hat rail N35, EN60715 TH35

6.2 mm

spring-cage connection

-40°C ... 80°C

V0

3

III

I

8 kV

10 mm

20-10 AWG

HPK6.../HPKF6...

IWFK4-1+2

yellow/green

IFK4E-1+2

Please follow the instructions about the electrical short-term current strength of top hat rails.

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IFK spring-cage terminals

spring-cage connection

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	IFK1,5E-2+2	IFK2,5E-2+2
	Earth Connection Terminals	
rated cross section	1.5 mm²	2.5 mm²
solid	0.14 ... 1.5 mm ²	0.2 ... 4 mm ²
multiple wire	0.14 ... 1.5 mm ²	0.2 ... 2.5 mm ²
mounting method	Top hat rail N35, EN60715 TH35	Top hat rail N35, EN60715 TH35
terminal width	4.2 mm	5.2 mm
Connection type	spring-cage connection	spring-cage connection
tightening torque		
rated voltage		
rated current		
operating temperature	-40°C ... 80°C	-40°C ... 80°C
data acc. to IEC 60947-1		
flammability rating acc. to UL94	V0	V0
pollution degree	3	3
overvoltage category	III	III
material group	I	I
rated impulse voltage	6 kV	8 kV
stripping length	10 mm	10 mm
data acc. to UL1059		
tightening torque		
connection range (solid wire)	26-14 AWG	26-12 AWG
rated voltage		
rated current		
data acc. to CSA C22.2 No 158-1987, ECN 5488		
tightening torque		
connection range (solid wire)		
rated voltage		
rated current		
identification labels	HPK4.../HPKF4...	HPK5.../HPKF5...
end sections	IWFK2,5-2+2	IWFK2,5-2+2
jumpers		
type	yellow/green IFK1,5E-2+2	yellow/green IFK2,5E-2+2

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Please follow the instructions about the electrical short-term current strength of top hat rails.

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UL

Earth Connection Terminals

4 mm²
0.2 ... 6 mm ²
0.2 ... 4 mm ²
Top hat rail N35, EN60715 TH35
6.2 mm
spring-cage connection
-40°C ... 80°C
V0
3
III
I
8 kV
10 mm

20-10 AWG

HPK6.../HPKF6...
IWFK4-2+2

yellow/green **IFK4E-2+2**

Please follow the instructions about the electrical short-term current strength of top hat rails.

UL

Earth Connection Terminals

1.5 mm²
0.14 ... 1.5 mm ²
0.14 ... 1.5 mm ²
Top hat rail N35, EN60715 TH35
4.2 mm
spring-cage connection
-40°C ... 80°C
V0
3
III
I
6 kV
10 mm

26-14 AWG

HPK4.../HPKF4...
IWFKK2,5

yellow/green **IFKK1,5E**

Please follow the instructions about the electrical short-term current strength of top hat rails.

UL

Earth Connection Terminals

2.5 mm²
0.2 ... 4 mm ²
0.2 ... 2.5 mm ²
Top hat rail N35, EN60715 TH35
5.2 mm
spring-cage connection
-40°C ... 80°C
V0
3
III
I
6 kV
10 mm

26-12 AWG

HPK5.../HPKF5...
IWFKK2,5

yellow/green **IFKK2,5E**

Please follow the instructions about the electrical short-term current strength of top hat rails.

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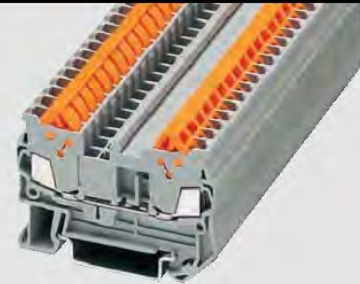
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IFK spring-cage terminals

spring-cage connection

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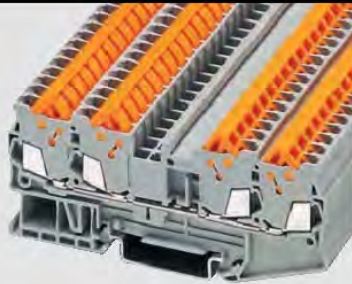


	IFK4E	IFK4E
	Earth Connection Terminals	Feed-through Terminals
rated cross section	4 mm²	1.5 mm²
solid	0.2 ... 6 mm ²	0.25 ... 1.5 mm ²
multiple wire	0.2 ... 4 mm ²	0.25 ... 1.5 mm ²
mounting method	Top hat rail N35, EN60715 TH35	Top hat rail N35, EN60715 TH35
terminal width	6.2 mm	5.2 mm
Connection type	spring-cage connection	Insulation displacement fast connection
tightening torque		
rated voltage		800 V
rated current		17.5 A
operating temperature	-40°C ... 80°C	-40°C ... 80°C
data acc. to IEC 60947-1		
flammability rating acc. to UL94	V0	V0
pollution degree	3	3
overvoltage category	III	III
material group	I	I
rated impulse voltage	6 kV	8 kV
stripping length	10 mm	PVC, PE
data acc. to UL1059		
tightening torque		
connection range (solid wire)	20-10 AWG	24-16 AWG
rated voltage		600 V
rated current		10 A
data acc. to CSA C22.2 No 158-1987, ECN 5488		
tightening torque		
connection range (solid wire)		
rated voltage		
rated current		
identification labels	HPK6.../HPKF6...	HPK5.../HPKF5...
end sections	IWFKK4	IWSK1,5
jumpers		SB2,5-10, SB2,5-2
type	yellow/green IFK4E	light-grey ISK1,5 blue ISK1,5BL

Please follow the instructions about the electrical short-term current strength of top hat rails.

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UL

Feed-through Terminals

1.5 mm²

0.25 ... 1.5 mm²

0.25 ... 1.5 mm²

Top hat rail N35, EN60715 TH35

5.2 mm

Insulation displacement fast connection

800 V

17.5 A

-40°C ... 80°C

VO

3

III

I

8 kV

PVC, PE

24-16 AWG

600 V

10 A

HPK5.../HPKF5...

IWSK1,5-1+2

SB2,5-10, SB2,5-2

light-grey

ISK1,5-1+2

blue

ISK1,5BL-1+2

* The max. load current must not be exceeded by the total current of the connected conductors.

UL

Feed-through Terminals

1.5 mm²

0.25 ... 1.5 mm²

0.25 ... 1.5 mm²

Top hat rail N35, EN60715 TH35

5.2 mm

Insulation displacement fast connection

800 V

17.5 A

-40°C ... 80°C

VO

3

III

I

8 kV

PVC, PE

24-16 AWG

600 V

10 A

HPK5.../HPKF5...

IWSK1,5-2+2

SB2,5-10, SB2,5-2

light-grey

ISK1,5-2+2

blue

ISK1,5BL-2+2

* The max. load current must not be exceeded by the total current of the connected conductors.

UL

Feed-through Terminals

1.5 mm²

0.25 ... 1.5 mm²

0.25 ... 1.5 mm²

Top hat rail N35, EN60715 TH35

5.2 mm

Insulation displacement fast connection

500 V

17.5 A

-40°C ... 80°C

VO

3

III

I

6 kV

PVC, PE

24-16 AWG

600 V

10 A

HSK5.../HSKF5...

IWSKK1,5

SB2,5-10, SB2,5-2

light-grey

ISKK1,5

blue

ISKK1,5BL

* The max. load current must not be exceeded by the total current of the connected conductors.

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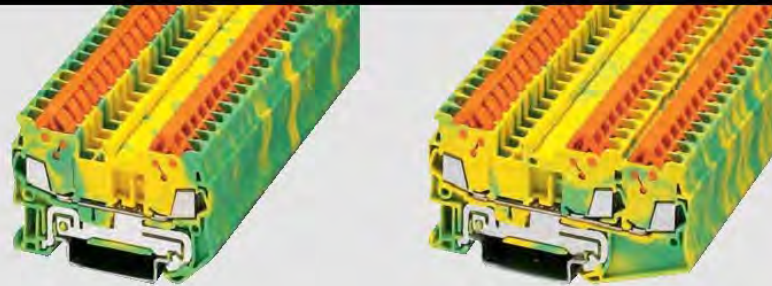
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QUICKON fast connection terminals

Insulation displacement fast connection

made in germany



9A₀₅

Earth Connection Terminals

rated cross section	1.5 mm²
solid	0.25 ... 1.5 mm ²
multiple wire	0.25 ... 1.5 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	5.2 mm
Connection type	Insulation displacement fast connection
tightening torque	
rated voltage	
rated current	
operating temperature	-40°C ... 80°C
data acc. to IEC 60947-7-1	
flammability rating acc. to UL94	V0
pollution degree	3
overvoltage category	III
material group	I
rated impulse voltage	8 kV
stripping length	PVC, PE
data acc. to UL1059	
tightening torque	
connection range (solid wire)	24-16 AWG
rated voltage	
rated current	
data acc. to CSA C22.2 No 158-1987, ECN 5488	
tightening torque	
connection range (solid wire)	
rated voltage	
rated current	
identification labels	HPK5.../HPKF5...
end sections	IWSK1,5
jumpers	SB2,5-10, SB2,5-2
type	yellow/green ISK1,5E

Please follow the instructions about the electrical short-term current strength of top hat rails.

9A₀₅

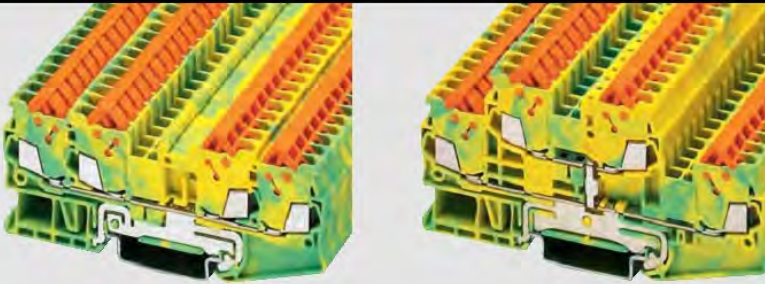
Earth Connection Terminals

rated cross section	1.5 mm²
solid	0.25 ... 1.5 mm ²
multiple wire	0.25 ... 1.5 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	5.2 mm
Connection type	Insulation displacement fast connection
tightening torque	
rated voltage	
rated current	
operating temperature	-40°C ... 80°C
data acc. to IEC 60947-7-1	
flammability rating acc. to UL94	V0
pollution degree	3
overvoltage category	III
material group	I
rated impulse voltage	8 kV
stripping length	PVC, PE
data acc. to UL1059	
tightening torque	
connection range (solid wire)	24-16 AWG
rated voltage	
rated current	
data acc. to CSA C22.2 No 158-1987, ECN 5488	
tightening torque	
connection range (solid wire)	
rated voltage	
rated current	
identification labels	HPK5.../HPKF5...
end sections	IWSK1,5-1+2
jumpers	SB2,5-10, SB2,5-2
type	yellow/green ISK1,5E-1+2

Please follow the instructions about the electrical short-term current strength of top hat rails.

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UL

Earth Connection Terminals

1.5 mm²
0.25 ... 1.5 mm ²
0.25 ... 1.5 mm ²
Top hat rail N35, EN60715 TH35
5.2 mm
Insulation displacement fast connection
-40°C ... 80°C
VO
3
III
I
8 kV
PVC, PE

24-16 AWG

HPK5.../HPKF5...
IWSK1,5-2+2
SB2,5-10, SB2,5-2

yellow/green **ISK1,5E-2+2**

Please follow the instructions about the electrical short-term current strength of top hat rails.

UL

Earth Connection Terminals

1.5 mm²
0.25 ... 1.5 mm ²
0.25 ... 1.5 mm ²
Top hat rail N35, EN60715 TH35
5.2 mm
Insulation displacement fast connection
-40°C ... 80°C
VO
3
III
I
6 kV

26-14 AWG

HPK5.../HPKF5...
IWSK1,5
SB2,5-10, SB2,5-2

yellow/green **ISKK1,5E**

Please follow the instructions about the electrical short-term current strength of top hat rails.

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Illustration	Dimensions	Description	Type
		Top Hat Rail N35-7.5 mm The rails are made of rolled sheet steel, galvanised and passivated. Short-time current resistance: 1.92kA 2 m long	N35-2
		Top Hat Rail N35-7.5 mm, punched The rails are made of rolled sheet steel, galvanised and passivated. Short-time current resistance: 1.92kA 2 m long	N35L-2
		Top Hat Rail N35-15 mm, punched The rails are made of rolled sheet steel, galvanised and passivated. Short-time current resistance: 6kA 2 m long	N35L-2_15MM
		End Clamp Bracket used as a fixing bracket at the end of a row of terminal blocks	SSK35
		Identification Labels, blank (for terminal centre) to fit on IFKK1,5.../IFK1,5... to fit on IFK2,5... / IFKK2,5... to fit on IFK4... / IFKK2,5... to fit on IFK10... / IFK35... / IFK6... to fit on IFK10.../IFK35...	HPK4U HPK5U HPK6U HPK8U HPK10U
		Identification Labels (for terminal centre) horizontal printing strip of ten, consecutive numbering 1-10 to fit on IFKK1,5.../IFK1,5... to fit on IFK2,5.../IFKK2,5... to fit on IFK4... / IFKK2,5... to fit on IFK10... / IFK35... / IFK6... to fit on IFK10.../IFK35...	HPK4B1-10 HPK5B1-10 HPK6B1-10 HPK8B1-10 HPK10B1-10

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Illustration	Dimensions	Description	Type
		Identification Labels (for terminal centre) horizontal printing strip of ten, consecutive numbering 11-20 to fit on IFKK1,5.../IFK1,5... to fit on IFK2,5.../IFKK2,5... to fit on IFK4... / IFKK2,5... to fit on IFK10... / IFK35... / IFK6... to fit on IFK10.../IFK35...	HPK4B11-20 HPK5B11-20 HPK6B11-20 HPK8B11-20 HPK10B11-20
		Identification Labels (for terminal centre) vertical printing strip of ten, consecutive numbering 1-10 to fit on IFKK1,5.../IFK1,5... to fit on IFK2,5.../IFKK2,5... to fit on IFK4... / IFKK2,5... to fit on IFK10... / IFK35... / IFK6... to fit on IFK10.../IFK35...	HPK4B1-10S HPK5B1-10S HPK6B1-10S HPK8B1-10S HPK10B1-10S
		Identification Labels (for terminal centre) vertical printing strip of ten, consecutive numbering 11-20 to fit on IFKK1,5.../IFK1,5... to fit on IFK2,5.../IFKK2,5... to fit on IFK4... / IFKK2,5... to fit on IFK10... / IFK35... / IFK6... to fit on IFK10.../IFK35...	HPK4B11-20S HPK5B11-20S HPK6B11-20S HPK8B11-20S HPK10B11-20S
		Identification Labels (for the outer marking grooves) to fit on IFK1,5.../IFKK1,5 to fit on IFK2,5.../IFKK2,5... to fit on IFK4.../IFKK4... to fit on IFK10... / IFK35... / IFK6... to fit on IFK10...IFK35	HPKF4U HPKF5U HPKF6U HPKF8U HPKF10U
		Identification Labels (for the outer marking grooves) flat, horizontal printing strip of ten, consecutive numbering 1-10 to fit on IFK1,5.../IFKK1,5 to fit on IFK2,5.../IFKK2,5 to fit on IFK4.../IFKK4... to fit on IFK10.../ IFK35.../IFK6... to fit on IFK10.../IFK35...	HPKF4B1-10 HPKF5B1-10 HPKF6B1-10 HPKF8B1-10 HPKF10B1-10
		Identification Labels (for the outer marking grooves) flat, horizontal printing strip of ten, consecutive numbering 11-20 to fit on IFK1,5.../IFKK1,5 to fit on IFK2,5.../IFKK2,5... to fit on IFK4.../IFKK4... to fit on IFK10.../ IFK35.../IFK6... to fit on IFK10.../IFK35...	HPKF4B11-20 HPKF5B11-20 HPKF6B11-20 HPKF8B11-20 HPKF10B11-20

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Illustration Dimensions Description Type

Identification Labels (for the outer marking grooves)

flat, vertical printing
strip of ten, consecutive numbering 1-10

to fit on IFK1,5.../IFKK1,5	HPKF4B1-10S
to fit on IFK2,5.../IFKK2,5	HPKF5B1-10S
to fit on IFK4.../IFKK4...	HPKF6B1-10S
to fit on IFK10.../ IFK35.../IFK6...	HPKF8B1-10S
to fit on IFK10.../IFK35...	HPKF10B1-10S

Identification Labels (for the outer marking grooves)

vertical printing,
strip of ten, consecutive numbering 1-10

to fit on IFK1,5.../IFKK1,5...	HPKF4B11-20S
to fit on IFK2,5.../IFKK2,5...	HPKF5B11-20S
to fit on IFK4.../IFKK4...	HPKF6B11-20S
to fit on IFK10.../ IFK35.../IFK6...	HPKF8B11-20S
to fit on IFK10.../IFK35...	HPKF10B11-20S

Insulated End Section

fits on

ISKK1,5, ISKK1,5E, ISKK1,5BL	IWSKK1,5
ISK1,5-1+2, ISK1,5E-1+2, ISK1,5BL-1+2	IWSK1,5-1+2
ISK1,5-2+2, ISK1,5E-2+2, ISK1,5BL-2+2	IWSK1,5-2+2
IFK1,5, IFK1,5E, IFK2,5E, IFK2,5, IFK1,5BL, IFK2,5BL	IWFK2,5
IFK1,5-1+2, IFK2,5-1+2, IFK1,5E-1+2, IFK2,5E-1+2, IFK1,5BL-1+2, IFK2,5BL-1+2	IWFK2,5-1+2
IFK1,5-2+2, IFK2,5-2+2, IFK1,5E-2+2, IFK2,5E-2+2, IFK1,5BL-2+2, IFK2,5BL-2+2	IWFK2,5-2+2
IFKK1,5, IFKK2,5, IFKK1,5E, IFKK2,5E, IFKK1,5BL, IFKK2,5BL	IWFKK2,5
IFK4, IFK4E, IFK4BL	IWFK4
IFK4-1+2, IFK4E-1+2, IFK4BL-1+2	IWFK4-1+2
IFK4-2+2, IFK4E-2+2, IFK4BL-2+2	IWFK4-2+2
IFKK4, IFKK4E, IFKK4BL	IWFKK4
IFK6, IFK6E, IFK6BL	IWFK6
IFK10, IFK10E, IFK10BL	IWFK10
IFK16, IFK16E, IFK16BL	IWFK16

Plug-in Bridges

for cross-connections in the terminal centre,
suitable for

IFK1,5, IFK1,5-1+2, IFK1,5-2+2, IFKK1,5, IFK1,5BL, IFK1,5BL-1+2, IFK1,5BL-2+2, IFKK1,5BL	SB1,5-2
IFK1,5, IFK1,5-1+2, IFK1,5-2+2, IFKK1,5, IFK1,5BL, IFK1,5BL-1+2, IFK1,5BL-2+2, IFKK1,5BL	SB1,5-10
IFK2,5-1+2, IFK2,5-2+2, IFKK2,5, ISK1,5, ISK1,5-1+2, ISK1,5-2+2, ISK1,5E, ISK1,5E-1+2, ISK1,5E-2+2, ISKK1,5, ISKK1,5E, IFK2,5, IFK2,5BL, IFK2,5BL-1+2, IFK2,5BL-2+2, IFKK2,5BL, ISK1,5BL, ISK1,5BL-1+2, ISK1,5BL-2+2, ISKK1,5BL	SB2,5-2
IFK2,5, IFK2,5-1+2, IFK2,5-2+2, IFKK2,5, ISK1,5, ISK1,5-1+2, ISK1,5-2+2, ISK1,5E, ISK1,5E-1+2, ISK1,5E-2+2, ISKK1,5, ISKK1,5E, IFK2,5BL, IFK2,5BL-1+2, IFK2,5BL-2+2, IFKK2,5BL, ISK1,5BL, ISK1,5BL-1+2, ISK1,5BL-2+2, ISKK1,5BL	SB2,5-10
IFK4, IFK4-1+2, IFK4-2+2, IFKK4, IFK4BL, IFK4BL-1+2, IFK4BL-2+2, IFKK4BL	SB4-2
IFK4, IFK4-1+2, IFK4-2+2, IFKK4, IFK4BL, IFK4BL-1+2, IFK4BL-2+2, IFKK4BL	SB4-10
IFK6, IFK6BL	SB6-2
IFK6, IFK6BL	SB6-10
IFK10, IFK10E, IFK10BL	SB10-2
IFK16, IFK16E, IFK16BL	SB16-2
IFK35, IFK35E, IFK35BL	SB35-2

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General Data

Type Reference:	ET_KEF
Description:	Contact Block for base-plate mounting, with positive opening contact CE
Approvals:	CE
Nature of contact:	1NC + 1NO
Protection class:	II (protective insulation)
Connection type:	screw connection
Contact material:	AgNi
Max. storage temperature:	-50°C ... 70°C
Max. operating temperature:	-30°C ... 70°C
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1 m at 250 V/10(6) A 250,000 at 250 V/16(10) A 500,000 at 250 V/5 A (AC15)
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix. K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15	DC13
Rated insulation voltage U_i :	400V	400V
Rated operating voltage U_e :	250V / 400V	400V / 250V / 125V / 60V / 24V
Rated operating current I_e :	5A / 3A	0,12A / 0,2A / 0,4A / 1A / 2A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	10A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage U_e :	250 V~ / 440 V~
Rated current I_e :	10(6) A / 6(3) A

Note

Note for emergency-stop contact blocks:

In case of inverters of the Za form (in terms of EN 60947-5-1), only the NC contact must be used for the remotely controlled safety circuit.

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Pedal Switches

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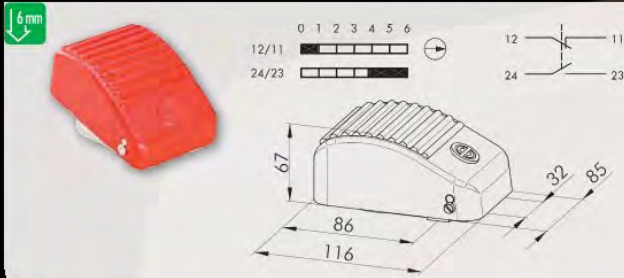


screw connection 2x2.5mm², finger-protected acc. to BGVA3

Illustration

Description

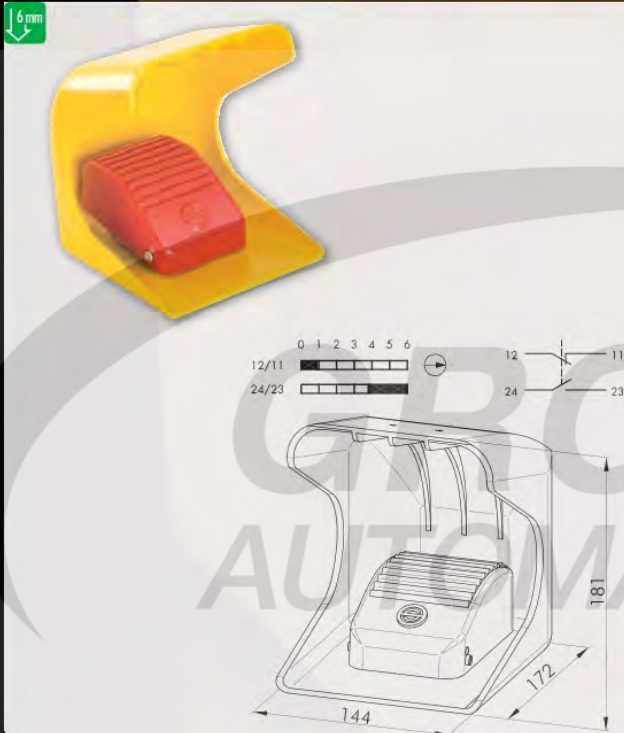
Type



Pedal Switch 1NC + 1NO

screw connection 2x2.5mm², finger-protected acc. to BGVA3 with red pedal (powder-coated) other colours on request cable entry: 1xM16x1.5 contact material AgNi

KEFM



Pedal Switch with protection cover 1NC + 1NO

screw connection 2x2.5mm², finger-protected acc. to BGVA3 with red pedal and yellow protective cover made of aluminium casting (powder-coated) other colours on request cable entry: 1x M16x1.5 contact material AgNi

KEFAM

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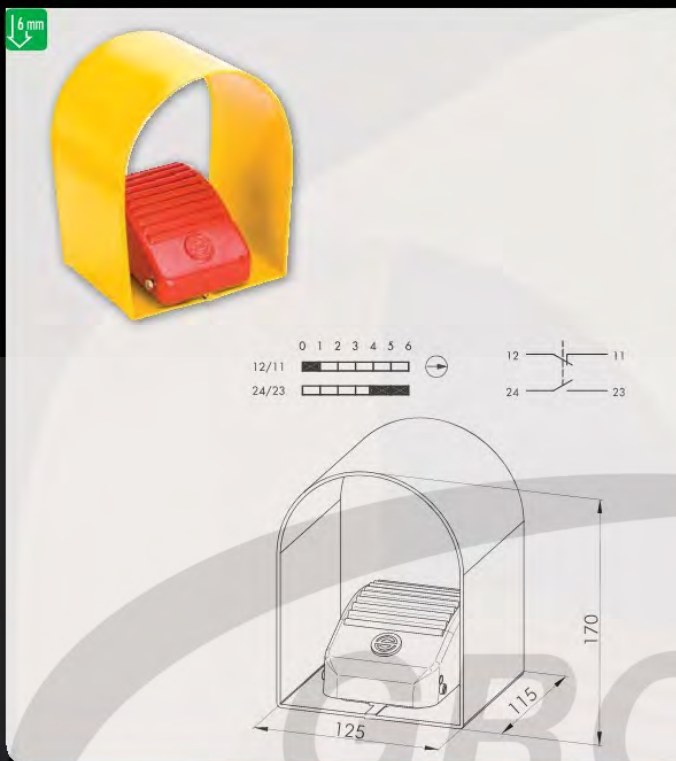
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Illustration	Description	Type
	<p>Pedal Switch with protection cover 1NC + 1NO</p> <p>screw connection 2x2.5mm², finger-protected acc. to VBG4 with red pedal and yellow protective cover made of steel sheet (powder-coated) other colours on request cable entry: 1x M16x1.5 contact material AgNi</p>	<p>KEFBM</p>

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- >> K...series
- >> GW...series
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Description

Definition

Limit switches are also dealt under position switches or limit switches. However, behind all these terms hides a switchgear which is primarily used to protect man and machine.

Characteristics of DUX Limit Switches

These limit switches offer quite a number of actuators to be selected depending on the required mode of operation. They are used in auxiliary and pilot circuits and are excellently suitable for the control and movement limitation, e.g. in machine tools and processing machines, lifts, conveyor systems, vehicles, cranes, technical building equipments, crane systems as well as trigger switches in safety and alarm systems, and many more. The limit switches are available in various designs and materials and can such be used in different fields of application and environmental conditions. In order to meet the diverse equipment controlling requirements, a multitude of contact configurations can be implemented to provide optimal solutions for nearly all mechanical switching requirements. The variety of actuators, which are rotatable by 90°, enable high flexibility for each particular case of application.

Set-up and Operation of Limit Switches

Limit switch and plunger drive should only be used when the switching point is subject to a tight tolerance range. The actuation movement should preferably be in the same direction as the plunger movement. The limit switches are constructed in a way that they may in no case be used as a mechanical limit stop. The reset force for other movable actuating appliances (such as flaps, doors, etc.) must not be taken from the limit switch actuator, because it was only designed for the plunger reset of the limit switch. In order to guarantee an optimal switching action the max. operating angles of the different actuators must be observed. The cam of the respective machine must actuate the plunger only in the permissible level. The over-travel of the actuator

may only be used as shown in the relative switch travel diagram. It is not permitted to shorten the working travel by operating the actuator in advance. The reset movement of the actuator must be guided by the return movement of the machine's cam, i.e. the actuator must not spring back freely to its original position. The length of the actuating cam must be selected so that an actuating time with double safety is achieved. If e.g. the response time of the operated auxiliary contactor to its latching position is 15 ms, the min. actuating time of the limit switch should be 30 ms.

Limit Switch Mounting

Limit switches have to be mounted to be easy accessible and shock-resistant, following the a.m. instructions. To guarantee the specified degree of protection, the lid screws must be tightened evenly and the cable entry must be fixed appropriately according to the cable diameter.

The limit switches must be used under strict observance of the relative parameters and rules of application. Depending on the number of switching actuations and operating conditions, the operational reliability of the switches has to be checked regularly.

Limit Switches - EKU Series

Operating and ambient conditions compliant to	DIN IEC 721-3-1..3 and DIN IEC 721-3-6
Degree of protection acc. to DIN 40050 IEC 144	IP 65
Fastening dimensions acc. to DIN EN 50047	2x M4
Contact base material	PA6
Transport, storage and operating temperature	-25°C up to +55°C
Screw clamp connection	M 3.5
Terminal cross-section	2x 0.75 ... 2.5 mm ² solid, flexible multicore with ferrule 2x 0.75..1.5 mm ²
Cable gland	M16x1.5
Operating speed on plunger	max. 0.25 m/s min. 1mm/s AC; min. 20mm/s DC
Mechanical life	1x10.000.000 switching cycles
Operating force on plunger	10N
Insulation group acc. to DIN VDE 110	C
Admissible on-load switching cycles	1200/h
Min. switching current using silver contacts	0.1A
with slow-action contact	0.012A
with snap-action contact	0.012A
Min. switching voltage using silver contacts	24V
Electrical life	5x 100.000 switching cycles AC 380V/1A DC 220V/0,2A
Max. rated current/AC	6A
Rated frequency	50...60Hz
Max. rated voltage	AC 380V DC 220V

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Limit Switches

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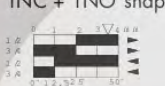
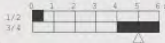
Enclosures



Terminal Blocks


Pedal Switches

→ Limit Switches

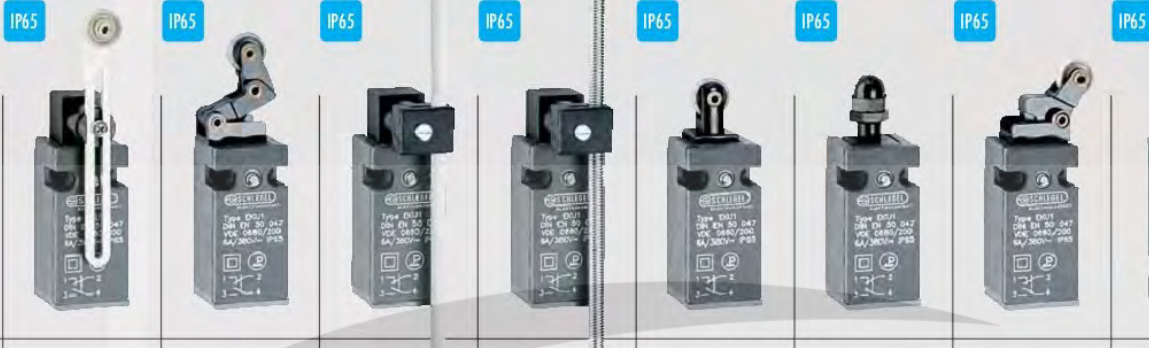
Type Index

	IP65	IP65	IP65	IP65	IP65	IP65
						
1NC + 1NO 	EKU1-KST	EKU1-KD		EKU1-KG	EKU1-KH	EKU1-K
1NC + 1NO snap action contact 	EKU1-SPR-KST	EKU1-SPR-KD	EKU1-SPR-KFS	EKU1-SPR-KG	EKU1-SPR-KH	EKU1-S KRH
1NC + 1NO slow action contact 	EKU1-FD-KST	EKU1-FD-KD		EKU1-FD-KG	EKU1-FD-KH	

-  recommended operating travel
-  positive opening

 The EKU series are also available for AS-Interface applications.

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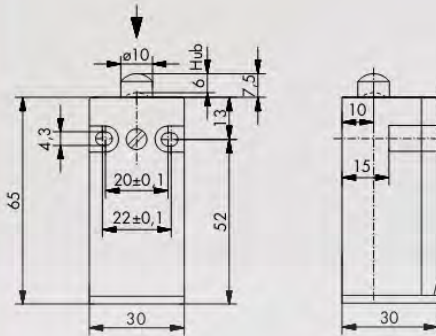


RH	EKU1-KRHV	EKU1-KK	EKU1-KDH	EKU1-KDF	EKU1-KR	EKU1-KV	EKU1-KW	EKU1-KZ
PR-	EKU1-SPR-KRHV	EKU1-SPR-KK	EKU1-SPR-KDH	EKU1-SPR-KDF	EKU1-SPR-KR	EKU1-SPR-KV	EKU1-SPR-KW	
		EKU1-FD-KK			EKU1-FD-KR	EKU1-FD-KV	EKU1-FD-KW	

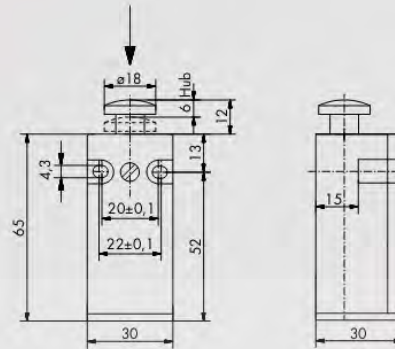
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EKU

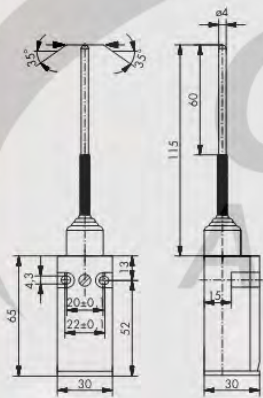
EKU1-KST
EKU1-FD-KST
EKU1-SPR-KST



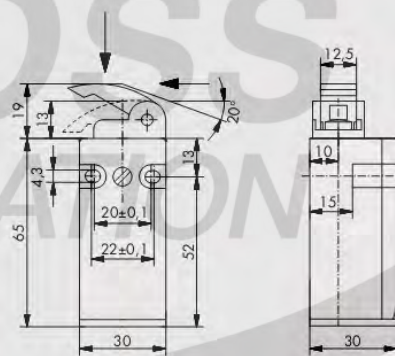
EKU1-KD
EKU1-SPR-KD
EKU1-FD-KD



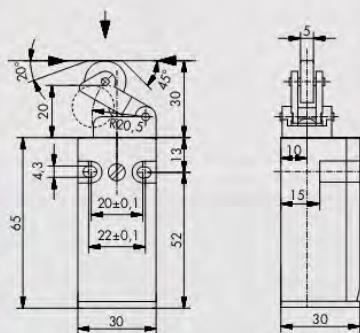
EKU1-SPR-KFS



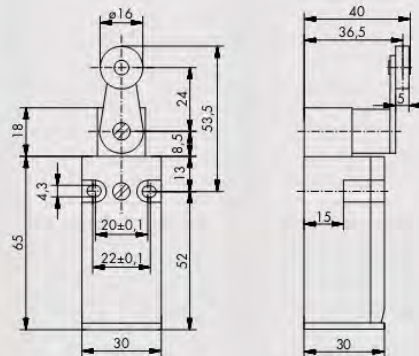
EKU1-KG
EKU1-SPR-KG
EKU1-FD-KG



EKU1-KH
EKU1-SPR-KH
EKU1-FD-KH



EKU1-KRH
EKU1-SPR-KRH



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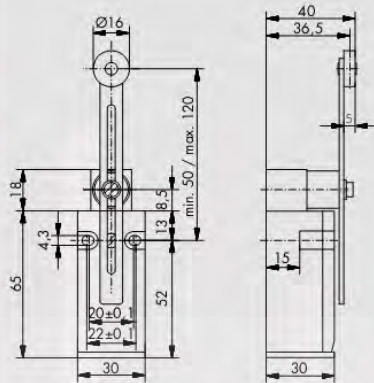
Terminal Blocks

Pedal Switches

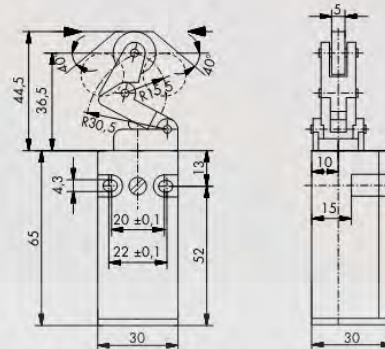
← Limit Switches

Type Index

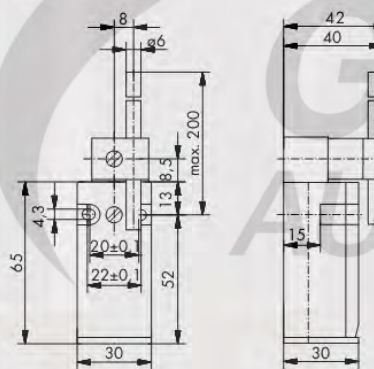
EKU1-KRHV
EKU1-SPR-KRHV



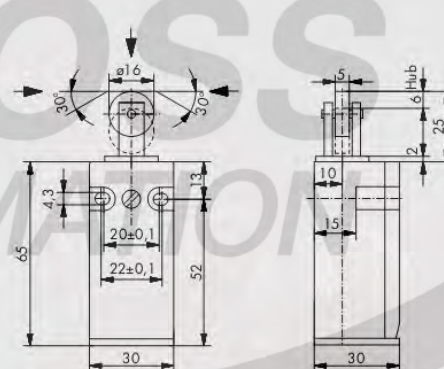
EKU1-KK
EKU1-SPR-KK
EKU1-FD-KK



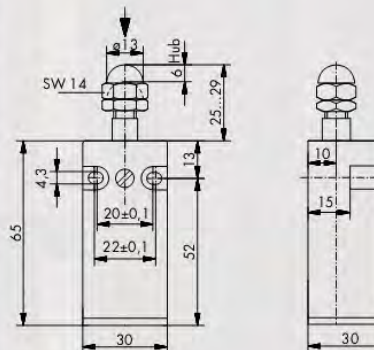
EKU1-KDH
EKU1-SPR-KDH
EKU1-KDF
EKU1-SPR-KDF



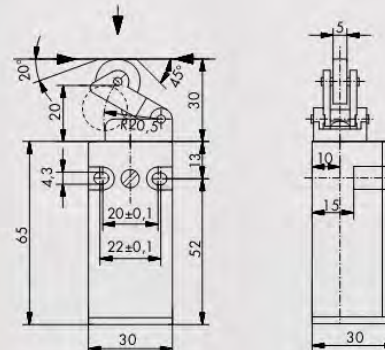
EKU1-KR
EKU1-SPR-KR
EKU1-FD-KR



EKU1-KV
EKU1-SPR-KV
EKU1-FD-KV



EKU1-KW
EKU1-SPR-KW
EKU1-FD-KW



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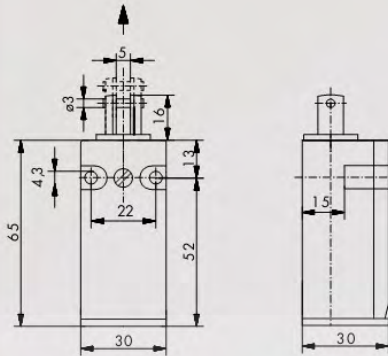
Limit Switches

EKU

made in germany



EKU1-KZ



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Technical Data of Limit Switches for AS-Interface Application

Communication

- AS-Interface specification: V2.11, Rev. 1
- Slave profile: S-B.A.E
- Connection: 4-pole sensor connector M12x1, contact 1 is assigned to ASI+ and contact 3 to ASI-
- Max. network length: 100m (without repeater)
- Max. cycle time: 10ms (62 A/B slaves)

Ambient Conditions

- Transport, storage- and Operating temperature: -25°C ... +55°C

Mechanical Data

- Operating travel: 6mm

Electrical Data

- Voltage supply: 26.5...31.6 V, through the AS-Interface line
- Total power consumption: <= 30 mA
- Reverse polarity protection: available

Admissible on-load switching cycles: 1200/h
 Mechanical life: 10 mill. switching cycles
 Operating force on plunger: 10 N
 Actuators: exchangeable and rotatable by 90°
 Degree of protection acc. to DIN 40050: IP65
 Construction: compliant to VDE 0660/200
 Ambient conditions: stationary use at weatherproof locations
 acc. to DIN IEC 721-3-3: 3D6/3Z2/3Z10/3B2/3C2/3S3/3M6

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Limit Switches

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IP65

IP65

IP65

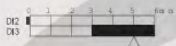
IP65

IP65

IP65



1NC + 1NO



ASI_EKU1-KST

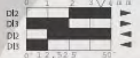
ASI_EKU1-KD

ASI_EKU1-KG

ASI_EKU1-KH

ASI_EKU1-KRH

1NC + 1NO snap action contact



ASI_EKU1-SPR-KST

ASI_EKU1-SPR-KD

ASI_EKU1-SPR-KFS

ASI_EKU1-SPR-KG

ASI_EKU1-SPR-KH

ASI_EKU1-SPR-KRH

△ recommended operating travel

▲ positive opening

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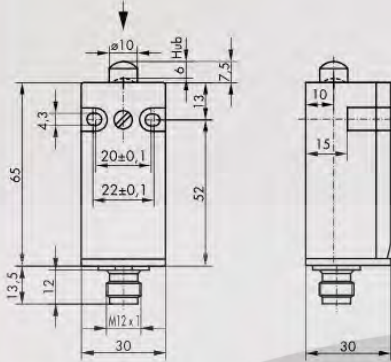
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-KRH	ASI_EKU1-KRHV	ASI_EKU1-KK	ASI_EKU1-KDH	ASI_EKU1-KDF	ASI_EKU1-KR	ASI_EKU1-KV	ASI_EKU1-KW	ASI_EKU1-KZ
-SPR	ASI_EKU1-SPR-KRHV	ASI_EKU1-SPR-KK	ASI_EKU1-SPR-KDH	ASI_EKU1-SPR-KDF	ASI_EKU1-SPR-KR	ASI_EKU1-SPR-KV	ASI_EKU1-SPR-KW	

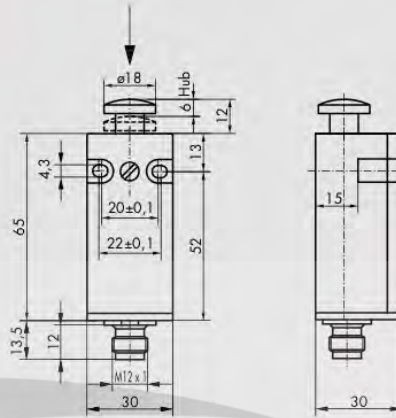
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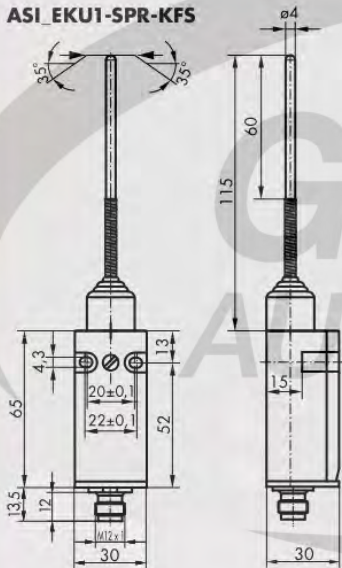
ASI_EKU1-KST
ASI_EKU1-SPR-KST



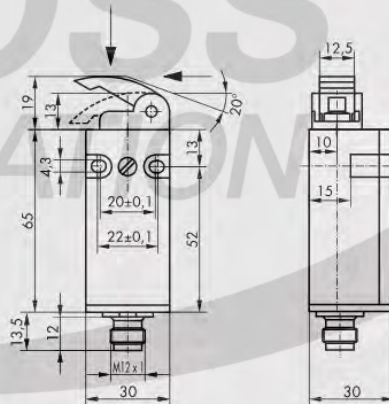
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ASI_EKU1-SPR-KD



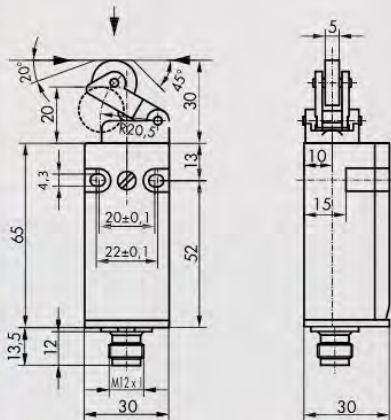
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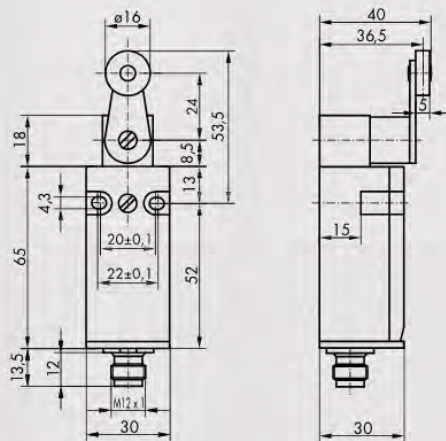
ASI_EKU1-KG
ASI_EKU1-SPR-KG



ASI_EKU1-KH
ASI_EKU1-SPR-KH



ASI_EKU1-KRH
ASI_EKU1-SPR-KRH



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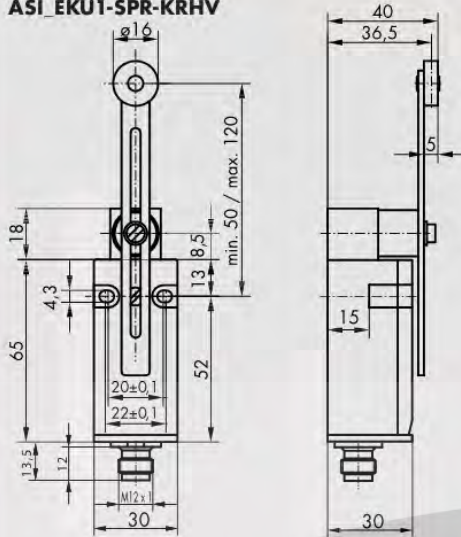
Terminal Blocks

Pedal Switches

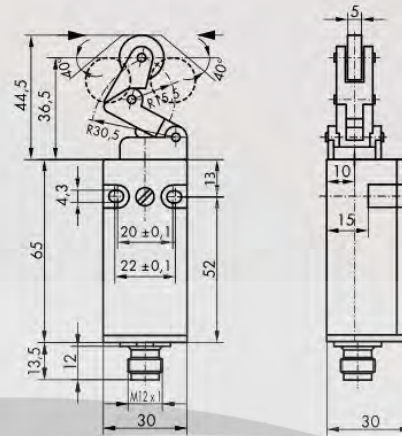
← Limit Switches

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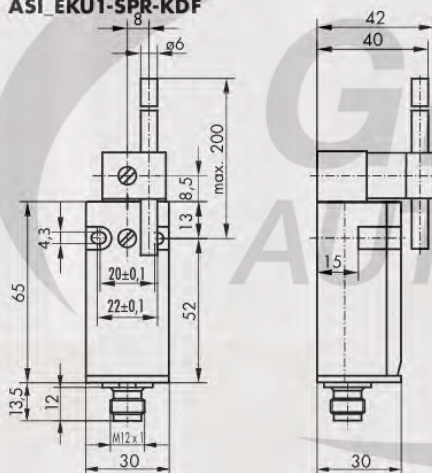
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ASI_EKU1-SPR-KRHV



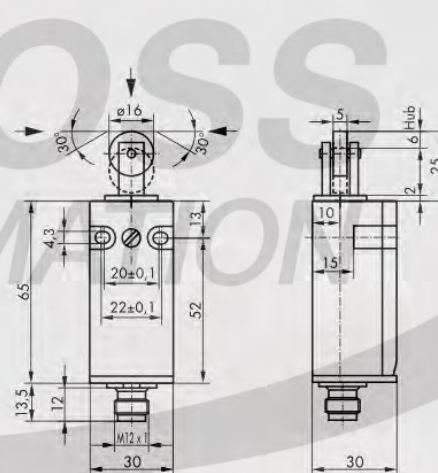
ASI_EKU1-KK
ASI_EKU1-SPR-KK



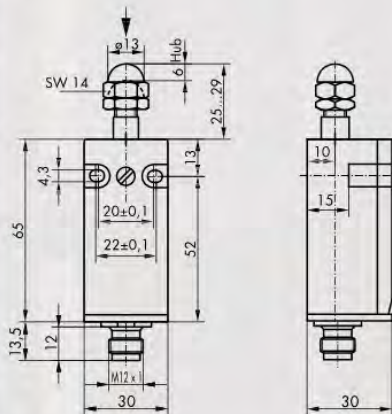
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ASI_EKU1-SPR-KDH
ASI_EKU1-KDF
ASI_EKU1-SPR-KDF



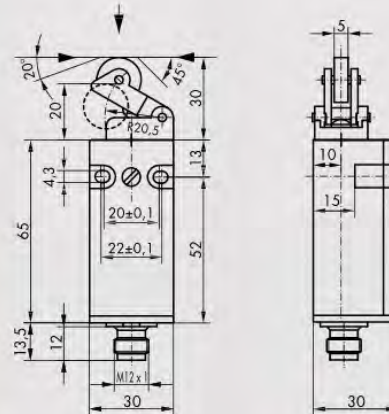
ASI_EKU1-KR
ASI_EKU1-SPR-KR



ASI_EKU1-KV
ASI_EKU1-SPR-KV



ASI_EKU1-KW
ASI_EKU1-SPR-KW



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Limit Switches - K... Series

Type approval	GL
Operating and ambient conditions compliant to	DIN IEC 721-3-1..3 and DIN IEC 721-3-6
Degree of protection acc. to DIN 40050 IEC 144	IP 65
Contact base material	PA6
Transport, storage and operating temperature	-25°C up to +55°C
Screw clamp connection	M 3.5
Terminal cross-section	2x 0.75 ... 2.5 mm ² solid, flexible multicore with ferrule 2x 0.75..1.5 mm ²
Operating speed on plunger	max. 0.25 m/s min. 1mm/s AC; min. 20mm/s DC
Mechanical life	1x10.000.000 switching cycles
Operating force on plunger	10N
Insulation group acc. to DIN VDE 110	C
Admissible on-load switching cycles	1200/h
Min. switching current using silver contacts	0.1A
with slow-action contact	0.012A
with snap-action contact	0.012A
Min. switching voltage using silver contacts	24V
Electrical life	5x 100.000 switching cycles AC 380V/1A DC 220V/0,2A
Max. rated current/ AC	6A
Rated frequency	50...60Hz
Max. rated voltage	AC 380V DC 220V

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Limit Switches

K

made in germany



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1NC 	KA1	KA1-D		KA1-G
1NC + 1NO 	KU1	KU1-D		KU1-G
1NC + 1NO (overlapping) 	KÜ1	KÜ1-D		KÜ1-G
1NC + 1NO slow action contact 	KU1-FD	KU1-FD-D		KU1-FD-G
1NC + 1NO snap action contact 	KU1-SP	KU1-SP-D	KU1-SP-FS	KU1-SP-G
2NC 	KA2	KA2-D		KA2-G
2NC + 1NO 	KA2-E1	KA2-E1-D		KA2-E1-G
2NO 	KE2	KE2-D		KE2-G
1NC + 2NO 	KE2-A1	KE2-A1-D		KE2-A1-G
1NC + 1NO slow action contact 	KA1-E1-FD	KA1-E1-FD-D		KA1-E1-FD-G

- △ recommended operating travel
- ▲ positive opening

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KA1-H	KA1-K	KA1-R	KA1-V	KA1-W	
KU1-H	KU1-K	KU1-R	KU1-V	KU1-W	KU1-Z
KÜ1-H	KÜ1-K	KÜ1-R	KÜ1-V	KÜ1-W	
KU1-FD-H	KU1-FD-K	KU1-FD-R	KU1-FD-V	KU1-FD-W	
KU1-SP-H	KU1-SP-K	KU1-SP-R	KU1-SP-V	KU1-SP-W	
KA2-H	KA2-K	KA2-R	KA2-V	KA2-W	
KA2-E1-H	KA2-E1-K	KA2-E1-R	KA2-E1-V	KA2-E1-W	
KE2-H	KE2-K	KE2-R	KE2-V	KE2-W	
KE2-A1-H	KE2-A1-K	KE2-A1-R	KE2-A1-V	KE2-A1-W	
KA1-E1-FD-H	KA1-E1-FD-K	KA1-E1-FD-R	KA1-E1-FD-V	KA1-E1-FD-W	

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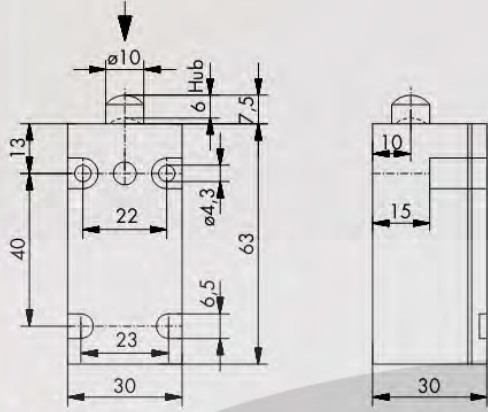
Type Index

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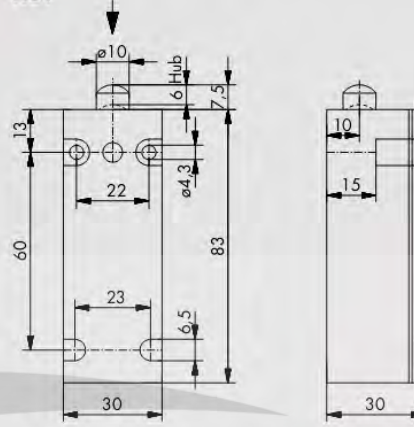
If you want to have the limit switches with "GL approval", just add "T" in front of type number (e.g. T-KA1).

K

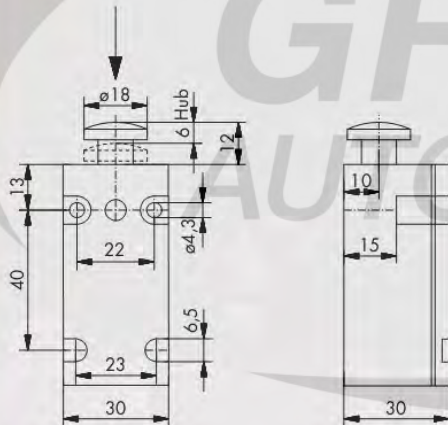
KA1
KU1
KU1-FD
KU1-SP



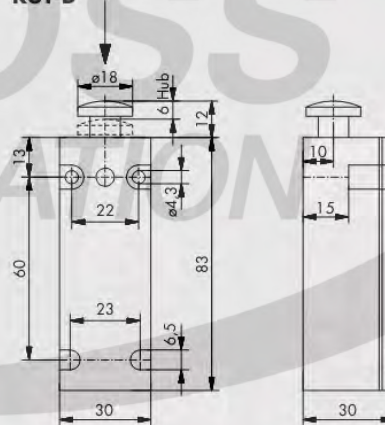
KA2
KA2-E1
KE2
KE2-A1
KA1-E1-FD
KÜ1



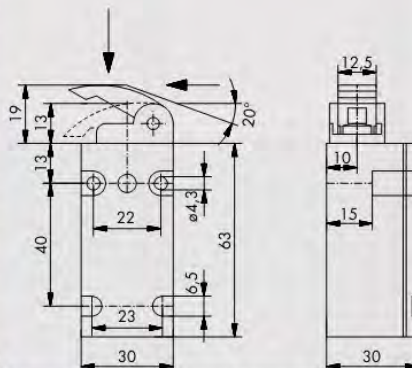
KA1-D
KU1-D
KU1-FD-D
KU1-SP-D



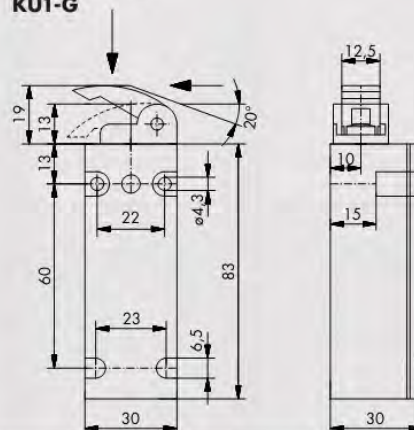
KA2-D
KA2-E1-D
KE2-D
KE2-A1-D
KA1-E1-FD-D
KÜ1-D



KA1-G
KU1-G
KU1-FD-G
KU1-SP-G



KA2-G
KA2-E1-G
KE2-G
KE2-A1-G
KA1-E1-FD-G
KÜ1-G



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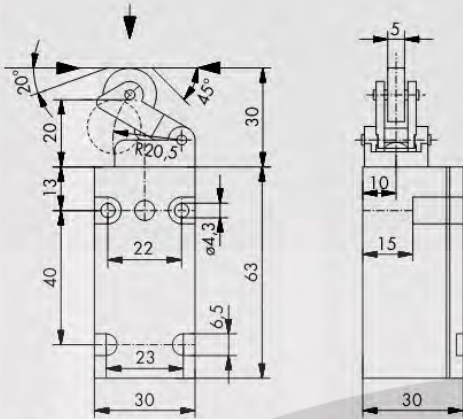
Terminal Blocks

Pedal Switches

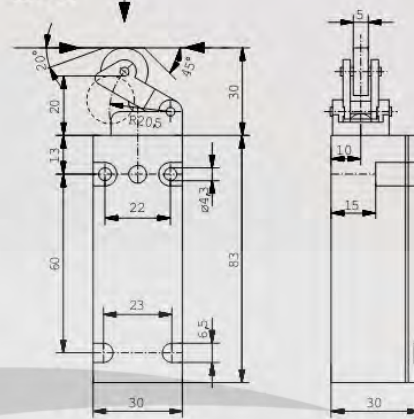
← Limit Switches

Type Index

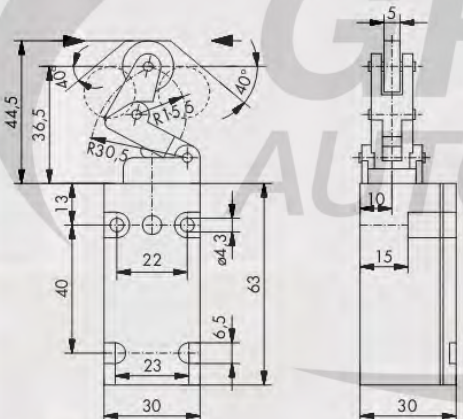
**KA1-H
KU1-H
KU1-FD-H
KU1-SP-H**



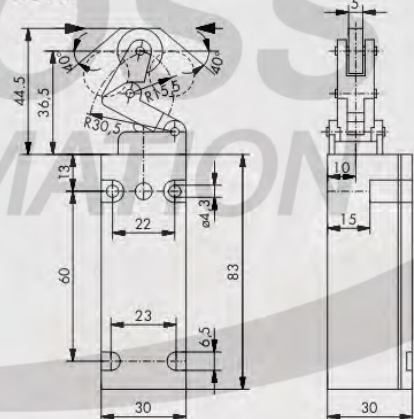
**KA2-H
KA2-E1-H
KE2-H
KE2-A1-H
KA1-E1-FD-H
KÜ1-H**



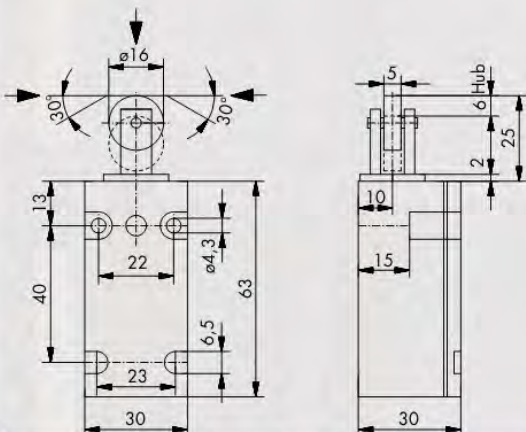
**KA1-K
KU1-K
KU1-FD-K
KU1-SP-K**



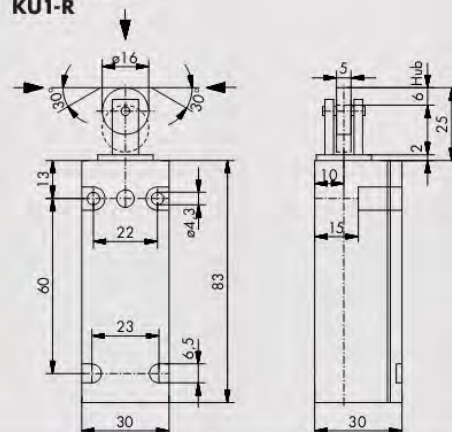
**KA2-K
KA2-E1-K
KE2-K
KE2-A1-K
KA1-E1-FD-K
KÜ1-K**



**KA1-R
KU1-R
KU1-FD-R
KU1-SP-R**



**KA2-R
KA2-E1-R
KE2-R
KE2-A1-R
KA1-E1-FD-R
KÜ1-R**



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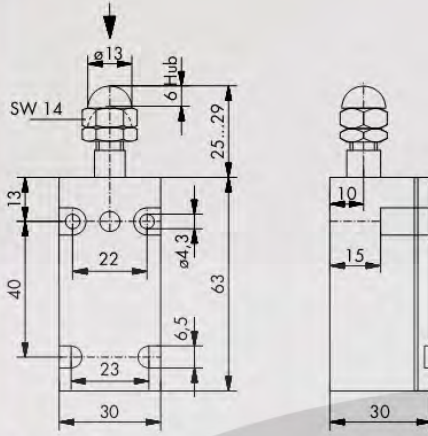
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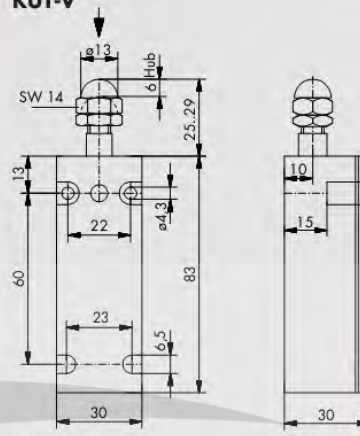
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K

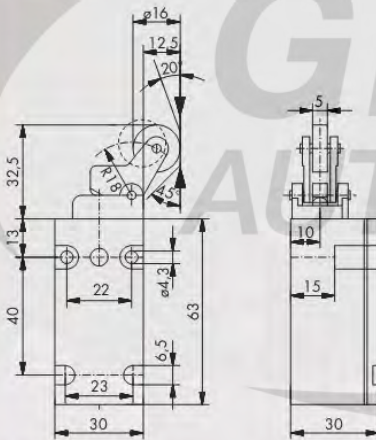
KA1-V
KU1-V
KU1-FD-V
KU1-SP-V



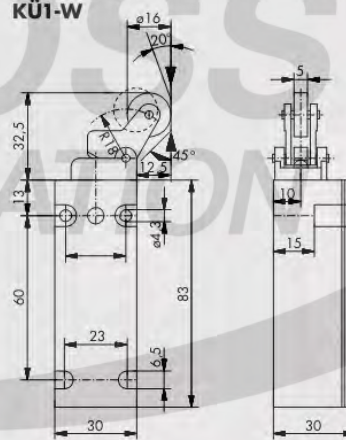
KA2-V
KA2-E1-V
KE2-V
KE2-A1-V
KA1-E1-FD-V
KÜ1-V



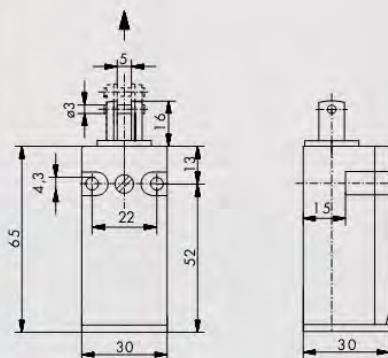
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KU1-W
KU1-FD-W
KU1-SP-W



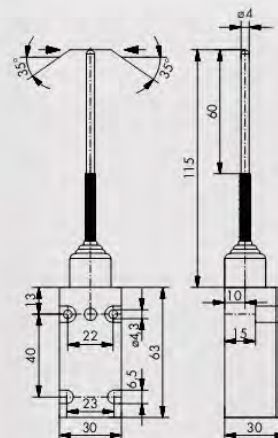
KA2-W
KA2-E1-W
KE2-W
KE2-A1-W
KA1-E1-FD-W
KÜ1-W



KU1-Z



KU1-SP-FS



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Limit Switches - GW...1 Standard Series

Type Approval	GL
Operating and ambient conditions compliant to	DIN IEC 721-3-1..3 and DIN IEC 721-3-6
Degree of protection acc. to DIN 40050 IEC 144	IP 65
Housing material	aluminium die casting
Transport, storage and operating temperature	-25°C up to +55°C
Screw clamp connection	M 4
Terminal cross-section	2x 0.75 ... 2.5 mm ² solid, flexible multicore with ferrule 2x 0.75..1.5 mm ²
Operating speed on plunger	max. 0.25 m/s min. 1mm/s AC; min. 20mm/s DC
Mechanical life	1x10.000.000 switching cycles
Operating force on plunger	18N
Insulation group acc. to DIN VDE 110	C
Admissible on-load switching cycles	1200/h
Min. switching current using silver contacts	0.1A
Min. switching voltage using silver contacts	24V
Electrical life	5x 100.000 switching cycles AC 380V/1A DC 220V/0,2A
Max. rated current/ AC	6A
Rated frequency	50...60Hz
Max. rated voltage	AC 380V DC 220V

Limit Switches - GW...2 Modular Series

Module type approval	-
Operating and ambient conditions compliant to	DIN IEC 721-3-1..3 and DIN IEC 721-3-6
Degree of protection acc. to DIN 40050 IEC 144	IP 65
Housing material	aluminium die casting
Contact base material	PA6.6
Transport, storage and operating temperature	-25°C up to +55°C
Screw clamp connection	Schlegel Modular Contact System
Screwless connection technology	CAGE CLAMP Modular Contact System
Operating speed on plunger	max. 0.25 m/s min 1mm/s AC min 20mm/s DC
Mechanical life	-
Operating force on plunger	18N
Admissible on-load switching cycles	1200/h

The possible combinations of the modular contact elements create a modular assembly system that offers a variant diversity which is unique. For instance, for connection workings the modular contact block can be freely removed from the housing, which makes wiring very easy.

Limit Switches - PW... Series

Operating and ambient conditions compliant to	DIN IEC 721-3-1..3
Degree of protection acc. to DIN 40050 IEC 144	IP 65
Housing material	PA6
Transport, storage and operating temperature	-25°C up to +55°C
Screw clamp connection	M 4
Terminal cross-section	2x 0.75 ... 2.5 mm ² solid, flexible multicore with ferrule 2x 0.75..1.5 mm ²
Operating speed on plunger	max. 0,25 m/s min. 1 mm/s AC; min. 20mm/s DC
Mechanical life	1x10.000.000 switching cycles
Operating force on plunger	18N
Insulation group acc. to DIN VDE 110	C
Admissible on-load switching cycles	1200/h
Min. switching current using silver contacts	0.1A
Min. switching voltage using silver contacts	24V
Electrical life	5x 100.000 switching cycles AC 380V/1A DC 220V/0,2A
Max. rated current/ AC	6A
Rated frequency	50...60Hz
Max. rated voltage	AC 380V DC 220V

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	IP65	IP65	IP65
1NC 	GWA1 PWA1		GWA1-H PWA1-H
1NC + 1NO 	GWU1 PWU1	GWU1-D	GWU1-H PWU1-H
1 Ö + 1 S (überschneidend) 	GWÜ1	GWÜ1-D	GWÜ1-H
NC + 1NO (overlapping) + 1NC 	GWÜA1		GWÜA1-H
1NC + 1NO (overlapping) + 1NO 	GWÜE1		GWÜE1-H
2NC 	GWA2	GWA2-D	GWA2-H
2NC + 1NO 	GWA2-E1	GWA2-E1-D	GWA2-E1-H
2NC, positive opening contact 	GWA2-Zw		GWA2-H-Zw
2NC + 2NO 	GWU2	GWU2-D	GWU2-H
2NO 	GWE2	GWE2-D	GWE2-H
3NC 	GWA3	GWA3-D	GWA3-H
3NO 	GWE3	GWE3-D	GWE3-H

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If you require a cable gland, just add "mKV" to type number (e.g. GWA1mKV).
If you want to have the limit switches with "GL approval", just add "T" in front of type number (e.g. T-GWA1).

IP65



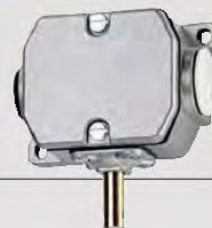
IP65



IP65



IP65



GWA1-R

PWA1-R

GWU1-R

PWU1-R

GWÜ1-R

GWÜA1-R

GWÜE1-R

GWA2-R

GWA2-R-Zw

GWU2-R

GWE2-R

GWA3-R

GWE3-R

GWA1-V

GWU1-V

GWÜ1-V

GWA2-V

GWA2-E1-V

GWA2-V-Zw

GWU2-V

GWE2-V

GWA3-V

GWE3-V

GWU1-F

GWÜ1-F

GWA2-F

GWA2-E1-F

GWU2-F

GWE2-F

GWA3-F

GWE3-F

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△ recommended operating travel

▲ positive opening

Limit Switches

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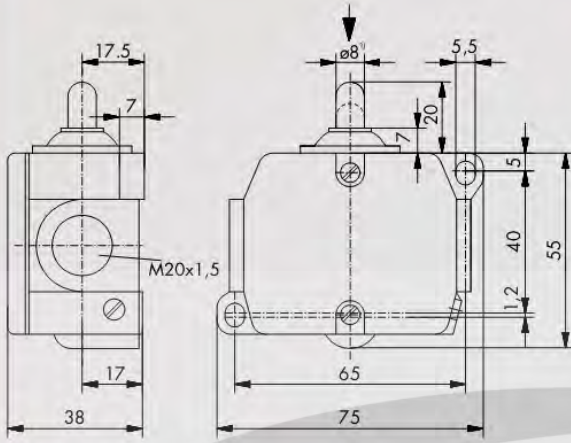
Terminal Blocks

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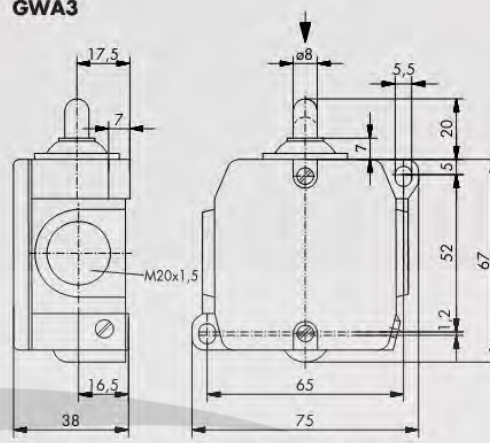
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GWA1
GWU1
PWA1
PWU1

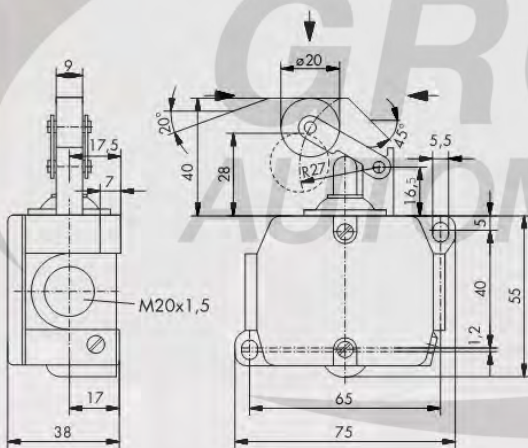


GWA2
GWA2-E1
GWA2-Zw
GWU2
GWE2
GWA3

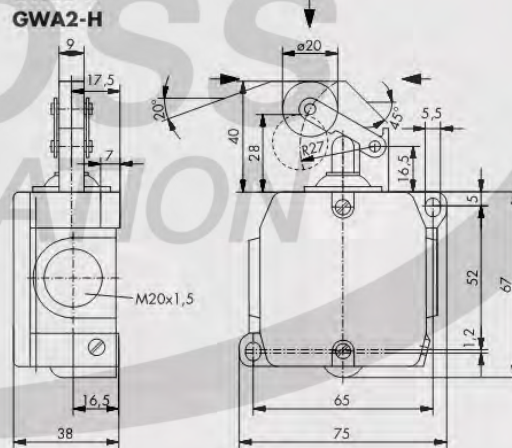


GWE3
GWÜ1
GWÜA1
GWÜE1

GWA1-H
GWU1-H
PWA1-H
PWU1-H

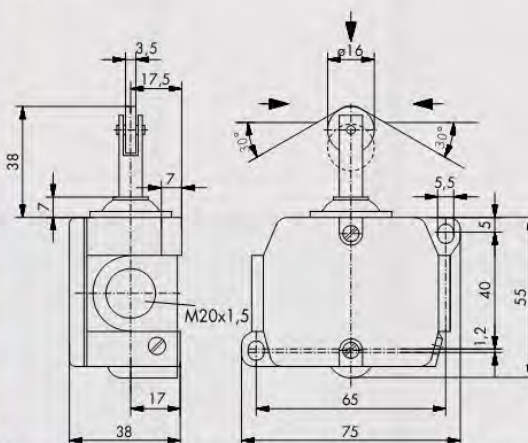


GWA2-H-Zw
GWU2-H
GWE2-H
GWA3-H
GWE3-H
GWA2-H

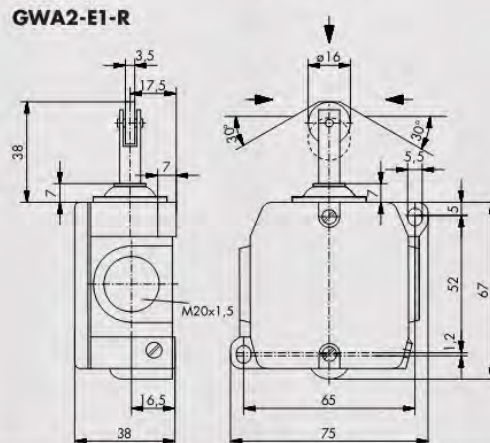


GWA2-E1-H
GWÜ1-H
GWÜA1-H
GWÜE1-H

GWA1-R
GWU1-R
PWA1-R
PWU1-R



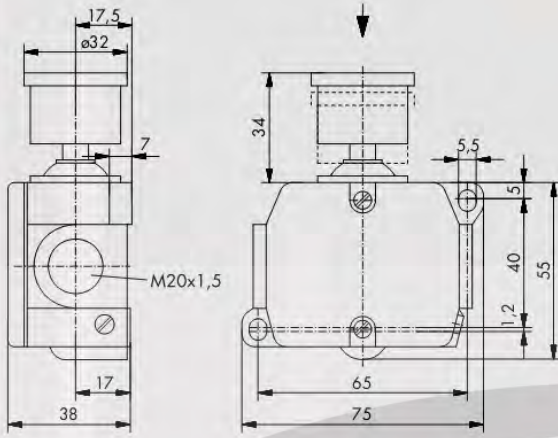
GWA2-R
GWU2-R
GWE2-R
GWA3-R
GWE3-R
GWA2-E1-R



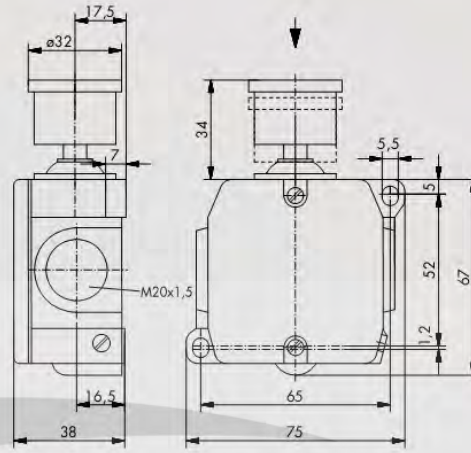
GWÜ1-R
GWÜA1-R
GWÜE1-R
GWA2-R-Zw

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GWU1-D

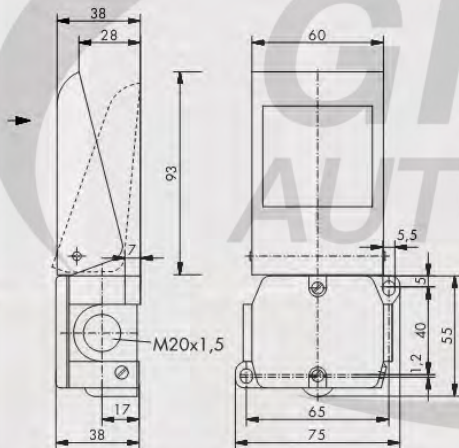


**GWA2-D
GWU2-D
GWE2-D
GWE3-D**

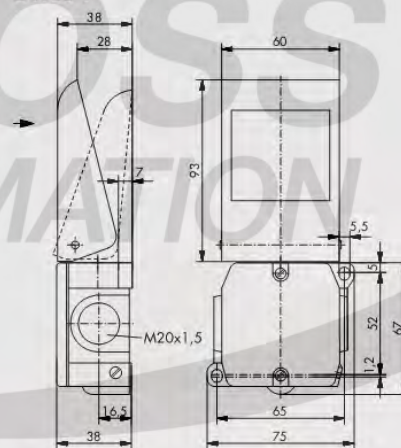


**GWÜ1-D
GWA3-D
GWA2-E1-D**

GWU1-F

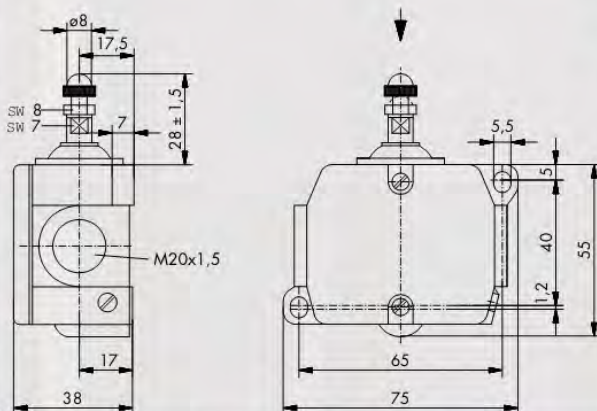


**GWA2-F
GWU2-F
GWE2-F
GWA3-F
GWE3-F**

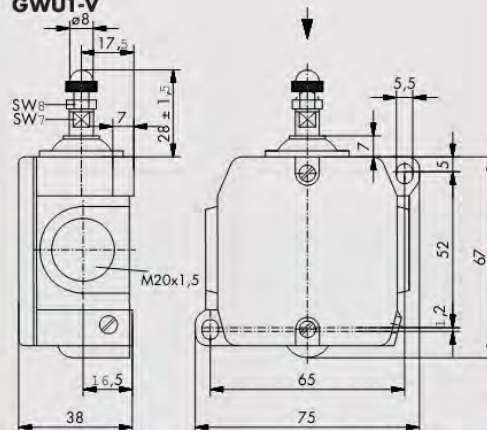


**GWÜ1-F
GWA2-E1-F**

**GWU1-V
GWA1-V**



**GWA2-V
GWA2-V-Zw
GWU2-V
GWE2-V
GWE3-V
GWÜ1-V**



**GWA2-E1-V
GWA3-V**

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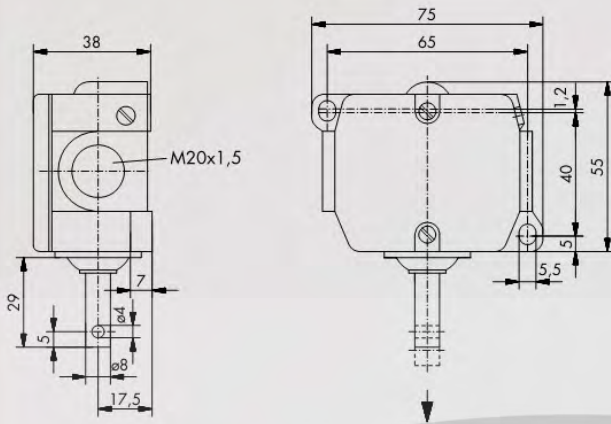
Limit Switches

GW/PW

made in germany



GWU1-ZB
PWU1-ZB



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Illustration	Description	Type
	Screwed cable gland with insulation displacement connection (IDC) for the EKU... series	SNT
	Cable Gland M16x1,5 M20x1,5 M25x1,5	KV-M16x1,5 KV-M20x1,5 KV-M25x1,5
	Screw plug M16x1,5 M20x1,5 M25x1,5	VS-M16x1,5 VS-M20x1,5 VS-M25x1,5

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Panel Mount Units

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