

Product Overview



Sense



Switch



Control



Safety



Dupline

A lifetime of commitment to automation

CARLO GAVAZZI – A Global Force In

Offering the Complete Package

CARLO GAVAZZI offers a vast array of high quality products, which provide you the optimum solutions to your various automation tasks and applications. Our comprehensive range of products is shown on the adjacent page, with the respective page number for an overview on the products. For complete data sheets and pricing simply visit www.GavazziOnline.com, click on "Online Datasheets" and enter the part number prefix shown in this brochure. Information is TRULY available at your fingertips. More features of our website can be found on page 22.

SENSE



SWITCH



CONTROL



SAFETY



DUPLINE



Application and Market Knowledge

Our multitude of products are the result of years of intensive research and development. Our Engineering, Marketing and Sales Departments give assurance that all of our products are designed with the key features which the market requires for demanding applications.



Thanks to revolutionary technology from CARLO GAVAZZI, **TRIPLESIELD™** capacitive sensors are protected against disturbances caused by high levels of electrostatic discharge and surges, and also against noise from inverters, mobile phones, wire conducted noise, and contactor noise.



With the addition of our new manufacturing facility dedicated to researching, developing and manufacturing machinery safeguarding products, CARLO GAVAZZI has now expanded into providing safety solutions: Safety Light Curtains, Safety Control Modules, Safety Magnetic Switches, Safety Interlock Switches and Safety Mat Systems.



User friendly Solid State Relays with integrated heatsinks in standard and special versions for loads up to 90 amps. Low Noise types for meeting Emission Standard 50081. Integrated System Monitoring allowing permanent supervision of critical loads. Analog Full Cycle Control reducing stress of heating elements. Phase Angle Control for switching in accordance to the applied control current.



Current, Voltage and Phase Monitoring Relays for Mains Quality Inspection, Phase Sequence Monitoring, Load Guard. Current and Voltage Transformers. Smart Compact Transducers and Windows-Software-based Power and Energy Analyzers.



Industrial Automation

Inductive Proximity Sensors	4 - 6
Capacitive Proximity Sensors	6 - 7
Photoelectric Sensors	8 - 10
Magnetic Sensors	10
Ultrasonic Sensors	11
Conductive and Float Level Sensors	12
Limit Switches	13
Solid State Relays and Heatsinks	14 - 15
Motor Controllers	15
Electromechanical Relays	16 - 17
Contactors and Overloads	18 - 19
Pushbuttons, Switches and Pilot Devices	20
Cam Switches and Rotary Disconnects	21
PLCs, Operator Interfaces and Counters	23
Timers and Monitoring Controls	24 - 25
Digital Panel Meters and PID Controllers	26 - 27
Energy Management	28 - 29
Enclosures, Cabinets and Consoles	30 - 31
Safety Products	32 - 33
Dupline® Field and Installationbus	34 - 35



Inductive Proximity Sensors

Sensing Distance		Housing Diameter,					
		Ø 4 mm	M5	Ø 6.5 mm	M8	M12	M18
NAMUR	1 mm			EI0601NA	EI0801NA		
	2 mm				EI0802NA	IA12xxF02U	
	3.5 mm						
	4 mm					IA12xxN04U	
	5 mm						IA18xxF05U
	6 mm						
	8 mm						IA18xxN08U
	10 mm						
	15 mm						
	40 mm						
2 wire DC extended	4 mm					IA12DSF04Dx IA12ASF04DxM1	
	8 mm					IA12DSN08Dx IA12ASN08DxM1	IA18DSF08Dx IA18ASF08DxM1
	14 mm						IA18DSN14Dx IA18ASN14DxM1
	15 mm						
	22 mm						
3 wire DC	0.8 mm	EI0401xP					
	1 mm		IA05BSF10xx IA05BSF10xxM5	IA06BSF10xx IA06BSF10xxM5			
	1.5 mm				IA08BxF15xx IA08BxF15xxMx		
	2 mm			IA06BSN20xx IA06BSN20xxM5		EI1202xP IA12DSF02xO IA12ASF02xOM1	
	2.5 mm				IA08BxN25xx IA08BxN25xxM5		
	4 mm					EI1204xP IA12DSN04xO IA12ASN04xOM1	
	5 mm						EI1805xP IA18DSF05xO IA18ASF05xOM1
	6 mm						
	8 mm						EI1808xP IA18DSN08xO IA18ASN08xOM1
	10 mm						
	15 mm						
	40 mm						
3 wire DC extended	2 mm				IA08BSF20xx IA08BSF20xxM5		
	4 mm				IA08BSN40xx IA08BSN40xxM1	IA12DSF04xx IA12ASF04xxM1	
	8 mm					IA12DSN08xO IA12ASN08xOM1	IA18DSF08xO IA18ASF08xOM1
	15 mm						
	22 mm						

Non flush mount

Flush mount

Flush and non flush



Dimension or Type	M30	Flat Pack	Fork Type	Special	Amplifiers
			DU3.5		SD110 SD210 SD270
			DU5		
			DU6		
			DU10		
IA30xxF10U					
IA30xxN15U				EI8040	
IA30DSF15Dx IA30SASF15DxM1					
IA30DSN22Dx IA30ASN22DxM1					
		IC08ANC15xx IC08ANC15xxM5			
		ID25CNC20xx ID25CNC20xxM5			
		IC17CNC04xx			
		ID25ANC05xx			
			DU6E		
EI3010xP IA30DSF10x0 IA30ASF10x0M1				DU10E	
EI3015xP IA30DSN15x0 IA30ASN15x0M1					
				EI8040xP	

NAMUR, transistor, SCR, MOSFET and analog output types. Standard and extended sensing distances from 1 to 40mm. Housing diameters from 4 to 80mm. Choice of cylindrical, limit switch style, rectangular, slotted (U-shaped) and "pancake" style housings. Offered in stainless steel, nickel plated brass or thermoplastic construction. Available with PVC connection cable, nano or micro plug for connection to quick disconnect cables. **All versions come with a standard 10 year warranty!**

**All Inductive Sensors
come with a
10 year Warranty**



NAMUR, transistor, SCR, MOSFET and analog output types. Standard and extended sensing distances from 1 to 40mm. Housing diameters from 4 to 80mm. Choice of cylindrical, limit switch style, rectangular, slotted (U-shaped) and “pancake” style housings. Offered in stainless steel, nickel plated brass or thermoplastic construction. Available with PVC connection cable, nano or micro plug for connection to quick disconnect cables. ***All versions come with a standard 10 year warranty!***

**CONTINUED ON
NEXT PAGE**

Inductive Proximity Sensors (continued)

Sensing Distance		Housing Diameter, Dimension or Type					
		M8	M12	M18	M30	40x40 mm	Flat Pack
4 wire DC	10 mm						EI5510xP
	15 mm						EI5515xP
	25 mm					EIA4025xP	
2 wire AC	2 mm		EI1202TB				
	4 mm		EI1204TB				
	5 mm			EI1805TB			
	8 mm			EI1808TB			
	10 mm				EI3010TB		
	15 mm				EI3015TB		
AC/DC	25 mm					EIA4025UP	
Analog current output	0.1 - 1.5 mm	IA08ALC15AG					
	0.1 - 3.0 mm		IA12ALC03AG				
	0.1 - 6.0 mm						ID40CNC06AF
	0.1 - 6.0 mm			IA18ALC06AG			
	0.5 - 10.0 mm				IA30ALC10AG		
	2 - 5 mm			EI1805I020			
Analog voltage output	3 - 8 mm				EI3008I020		
	0.3 - 3.0 mm		IA12ALC03AK				
	0.3 - 5.0 mm			IA18ALC05AH			
	0.3 - 5.0 mm		IA12ASC05AK				
	3.5 - 11 mm				IA30ASC11AK		

□ Non flush mount

■ Flush mount



Capacitive Proximity Sensors



The third generation of the patented, industry leading TRIPLESIELD™ capacitive sensor series are now microprocessor based and laden with exciting new features. Programming the sensor is also easier than ever. With the new Teach Mode capabilities and push button interface, these sensors can be easily set up and installed. They will automatically detect and adjust themselves for NPN or PNP loads, and flush or non-flush mounting. Add in the ability to program for normally open or normally closed output, and it's like having six sensors in one! Various protection types are built-in right into the sensors, for: dirt, moisture, humidity, short circuit, and reverse polarity. Naturally the sensors include all of the industry leading features that make the TRIPLESIELD™ family the safest capacitive sensor available, including protection against ESD, RF, transients, and line-conducted noise. See why the TRIPLESIELD™ continues to be the most innovative capacitive sensor in the market today!



Capacitive Proximity Sensors (continued)

Sensing Distance		Housing Diameter, Dimension or Type					
		M18	Ø 30 mm	M30	Ø 32 mm	Flat Pack	Amplifiers
2 wire DC	3 mm						S194156
	8 mm		VR2A VR3A		VR1A		SV150 SV160 SV250 SV260
	15 mm		VR2B		VR1B		
	5 - 17 mm		VR2 Adjust				
3 wire DC	2 - 10 mm					VC5510	
	4 - 11 mm					ACF10xP	
4 wire DC	3 - 8 mm	CA18x08N/P					
	3 - 8 mm	CA18xLx08NA					
	3 - 12 mm	CA18x12N/P					
	15 mm			EC3015xP			
	4 - 15 mm high temperature			ECH3010xP			
	2 - 16 mm			EC3016xP			
	4 - 25 mm			EC3025xP			
AC-supply	3 - 8 mm	CA18x08T					
	3 - 12 mm	CA18x12T					
	2 - 16 mm			EC3016TB			
	4 - 25 mm			EC3025TB			
AC/DC	2 - 16 mm			CA30CLF16CA			
	4 - 25 mm			CA30CLN25CA			
	4 - 12 mm with timer and relay output				VC11RT VC12RT		
	4 - 12 mm without timer and relay output				VC12RN		
Teach Mode	0.1 - 12mm 10 - 40VDC	CA18CLC					
	0.1 - 30mm 10 - 40VDC			CA30CLC			
	1 - 10mm 10 - 40VDC					CD46	



For Harsh Environments

NAMUR, transistor, SCR and relay output types. Sensing distances from 3 to 40mm. Housing diameters from 11 to 40mm. Choice of cylindrical, rectangular and "pancake" style housings. Offered in nickel-plated brass, thermoplastic, polypropylene, PVC or Teflon construction. Available with PVC connection cable or micro plug for connection to M12 disconnect cables.

Additionally, sensors for harsh operating temperatures (-321 to 356°F), as well as versions featuring patented TRIPLESIELD™ protection for the highest immunity from electrostatic discharge, communication interference and fast transients.

- Non flush mount
- Flush mount
- Flush and non flush



Photoelectric Sensors

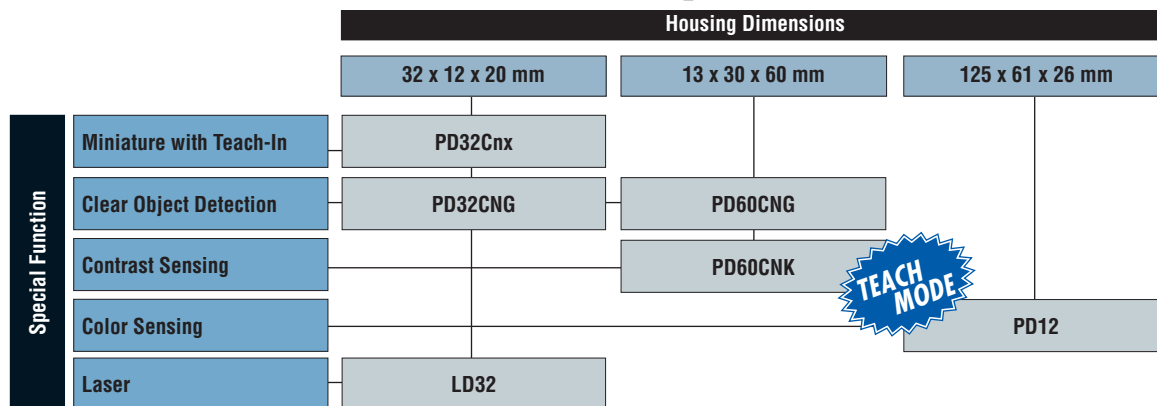
Sensing Distance		Housing Diameter						
		Ø 10 mm	M12	32x12x20mm	M14	10 x 13.5 x 40 mm 20 x 30 x 10 mm	M18	Ø 20 mm
Diffuse Reflective	100 mm						PA18CSD01xP PA18CLD01Tx	
	200 mm						PA18CSD02xP PA18CLD02Tx	MND02
	250 mm					PD40CND25		
	100-400 mm						E01804xP PA18ALD04Tx PA18CSD04xP PA18CLD04Tx	
	500 mm			PD32CND				
	150-600 mm							
	200-800 mm optional timer (T)							
Background Suppression	1000 mm							
	15-80 mm					PD40CNB08		
	50-150 mm							
	120 mm			PD32CNB				
Retro-Reflective	500 mm							
	3 m						ER1830xP, PA18xLR30Tx PA18CSR30xx PA18CLR30Tx	
Polarized Retro-Reflective	10 m							
	1.5 m					PD40CNP15		
	2 m						EP1820xP, PA18xLP20Tx PA18CSP20xx PA18CLP20Tx	
	2.5 m			PD32CNP				
	3 m							
Through-Beam	6 m							
	4 m					PD40CNT40		
	5 m		MHx05					MNx05
	5 m with separate amplifier	MOFx5/5-5/5-8	MOFx5-M12-2		MOFx20-M14-2/ 12-5/12-8			
	6 m			PD32CNT				
	10 m						PA18CST10xx	
	15 m							
	12 m adjustable							MNFx15 MMFx15
	15 m with adjustable amplifier						ET1820xP	
	20 m adjustable optional timer (T)							
Fiber Optic	20 m with separate amplifier	MOFx20/20-5/ 20-8	MOFx20-M12-2/ 12-5/12-8		MOFx20-M14-2/ 12-5/12-8			
	50 m with separate amplifier	MOFx50	MOFx50-M12-2		MOFx50-M14-2			
						PD40CNX12x	EF1801xP EF1801TB	



Dimension or Type



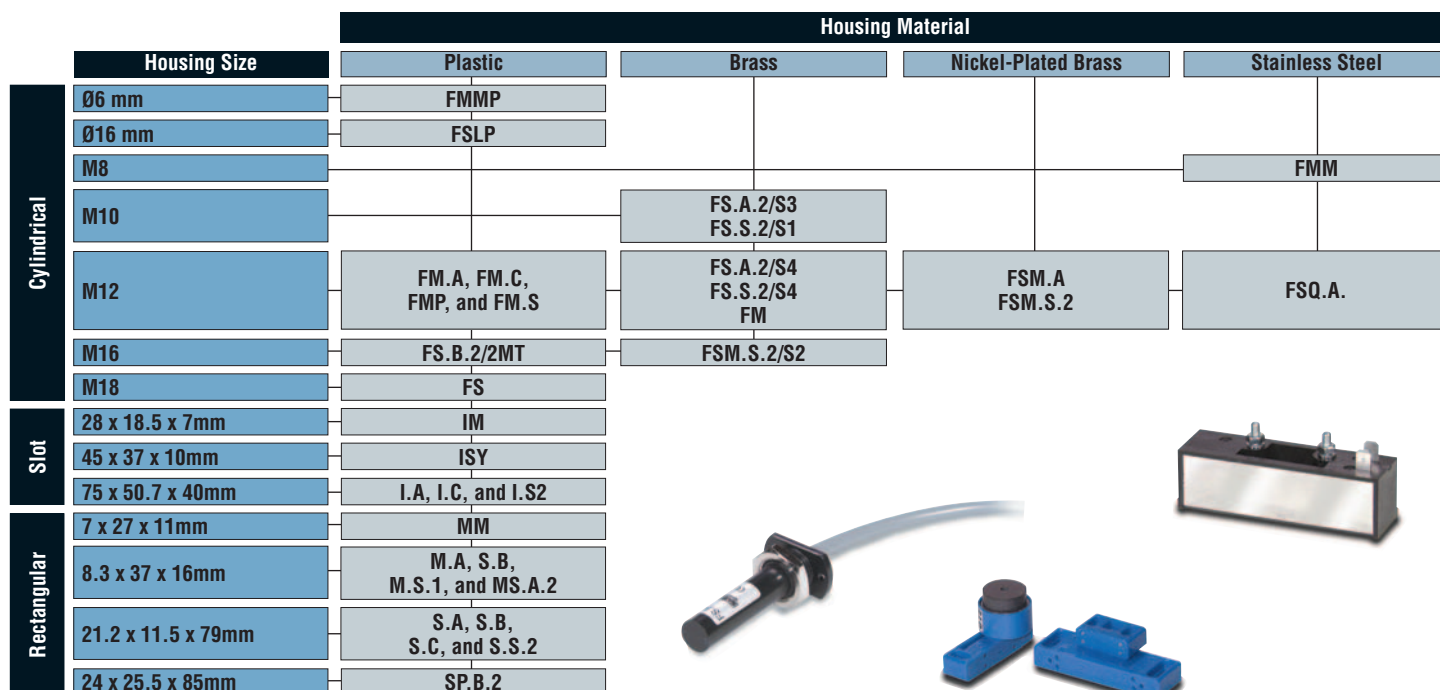
Photoelectric Sensors - Specialized



For applications that require specialized sensors, Carlo Gavazzi now offers photoelectric sensors that go beyond the capabilities of standard sensors. Whether it be detecting transparent objects and changes in contrast, to detecting specific colors and even sorting by multiple colors, Carlo Gavazzi now offers you the solution. A complete family of miniature sensors with full-size features is also available, including laser. The sensors are microprocessor based and can be programmed, or 'taught', by the user through a simple push button interface.



Magnetic Sensors



Magnetic sensors in a variety of sizes, shapes, and materials, to solve the widest variety of applications. Sensors consist of a reed switch, and a magnet (ordered separately). Sensing distances depend upon the size and strength of the magnet.



Ultrasonic Sensors

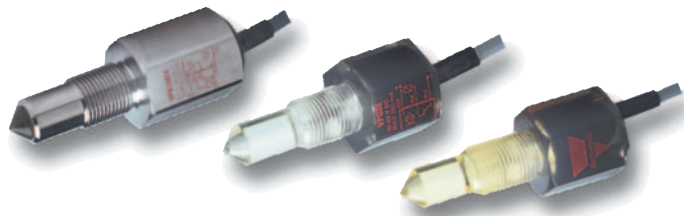
		Thru-Scan			Diffuse		
		M18	M30	Pancake	M18	M30	Pancake
Discrete	100 - 600mm	UA18CLS06POM1			UA18CLD06x0		
	200 - 1500mm	UA18CLS15POM1			UA18CLD15x0		
	200 - 2000mm					UA30CLD200M1TI ¹	
	300 - 2500mm		UA30CLS25POM1			UA30CLD25x0	
	400 - 4000mm			UC80CNS40NO			
0-10VDC	100 - 600mm	Ultrasonic sensors in popular M18 & M30 housings. Diffuse sensing mode for detecting presence or measuring levels. Thru-scan mode for detecting presence of object anywhere in a broad range. 4-20 mA and 0-10 VDC analog outputs, along with NPN/PNP discrete outputs. Push button programmable, and software programmable versions for easier setup and greater control of sensor functions. An extended range unit with external amplifier is available.			UA18CLD06AK		
	200 - 1500mm				UA18CLD15AK		
	300 - 2500mm					UA30CLD25AK	
	150 - 1500mm					UA30CLD15FKM7 ²	
	250 - 2000mm					UA30CLD20FKM7 ²	
	350 - 3500mm					UA30CLD35FKM7 ²	
	200 - 2000mm					UA30CLD20AKM1TI ¹	
	300 - 3500mm					UA30CLD35AKM1TI ¹	
4-20mA	100 - 600mm				UA18CLD06AG		
	200 - 1500mm				UA18CLD15AG		
	300 - 2500mm					UA30CLD25AG	
	150 - 1500mm					UA30CLD15GKM7 ²	
	250 - 2000mm					UA30CLD20FGM7 ²	
	350 - 3500mm					UA30CLD35FGM7 ²	
	200 - 2000mm					UA30CLD20AGM1TI ¹	
Separate Amplifier	800 - 8000mm						UC80CND80FSM1 UCEU80-1

Notes: 1 - Push button programmable
2 - Windows software programmable

Optical Level Sensors

			3/8"	Amplifiers
Optical	DC	Media contact Plastic housing	VP0xEx VP0xEPx	SV190*
		Media contact Metal housing	VPAxMxA VPBxMxA	SV190*
	AC	Media contact Plastic housing	VP0xxTB	

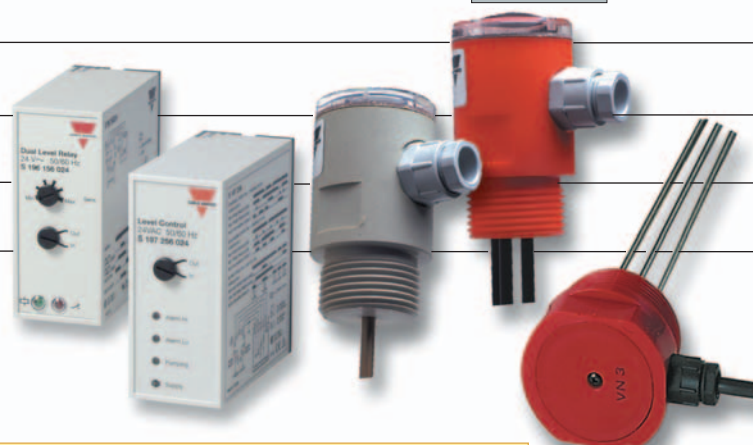
*for NPN-types only



Optical level sensors in polysulfone, stainless steel, and nickel-plated brass housings, with polysulfone, glass, or polyamide tips. Cable or quick disconnect plug versions available. Used for point level detection of non-coating liquids.

Conductive Level Sensors

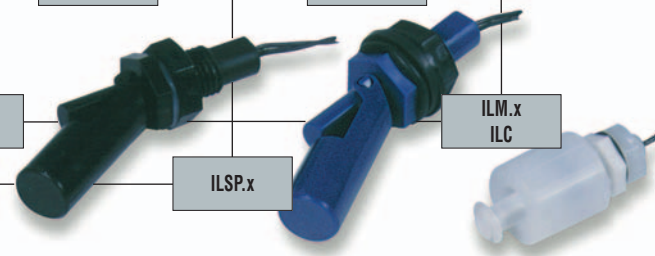
Sensing Distance		Housing Diameter, Dimension or Type						Amplifier
		1/2"	Ø 18 mm	Ø 22 mm	1"	Ø 32 mm	1 1/2"	
Supply and output through amplifier	2 Electrodes, hanging probe			A94-10				S194156 H494166
	1 Electrode, hanging probe		VH1			VH2		SV11x SV12x SV21x SV22x S195xxx S196xxx S1961xx H496166 S197256 ELACR ELCCxx ELDCxx
	2 Electrodes 0.4 m				VS2			
	1 Electrode 0.5 m	VPC105 VPP105			VPC110 VPP110			
	2 Electrodes 0.5 m	VPC205 VPP205			VPC210 VPP210			
	3 Electrodes 0.5 m				VPC310 VPP310			
	1 Electrode 1 m						VNxx1 VTx1	
	2 Electrodes 1 m						VNxx2 VTx2	
	3 Electrodes 1 m						VNxx3 VTx3	
	4 Electrodes 1 m						VNxx4 VTx4	



Conductive level sensing systems consist of a controller/relay and a probe with multiple electrodes. Used for maximum/minimum control, in filling or emptying applications. Can be used with virtually any type of conductive liquid. Various housing materials are available, including nylon, PVC, Teflon, and stainless steel, to cover many applications.

Float Level Sensors

		Float Diameter						
		17.5 mm	25 mm	28 mm	31 mm	44 mm	45 mm	50 mm
Horizontal Mount	Polypropylene	ILMPU.5 FSH-x1			ILMU.5		ILUx	
	Nylon	FSH-x4						
	Polysulfone	FSH-x5						
Vertical Mount	Stainless Steel			ILMM.5x				ILM.x ILC
	Polypropylene		ILSP.x, ILMP.x FSV-31			ILSP.x		
	Nylon		FSV-34					
	Polysulfone		FSV-35					

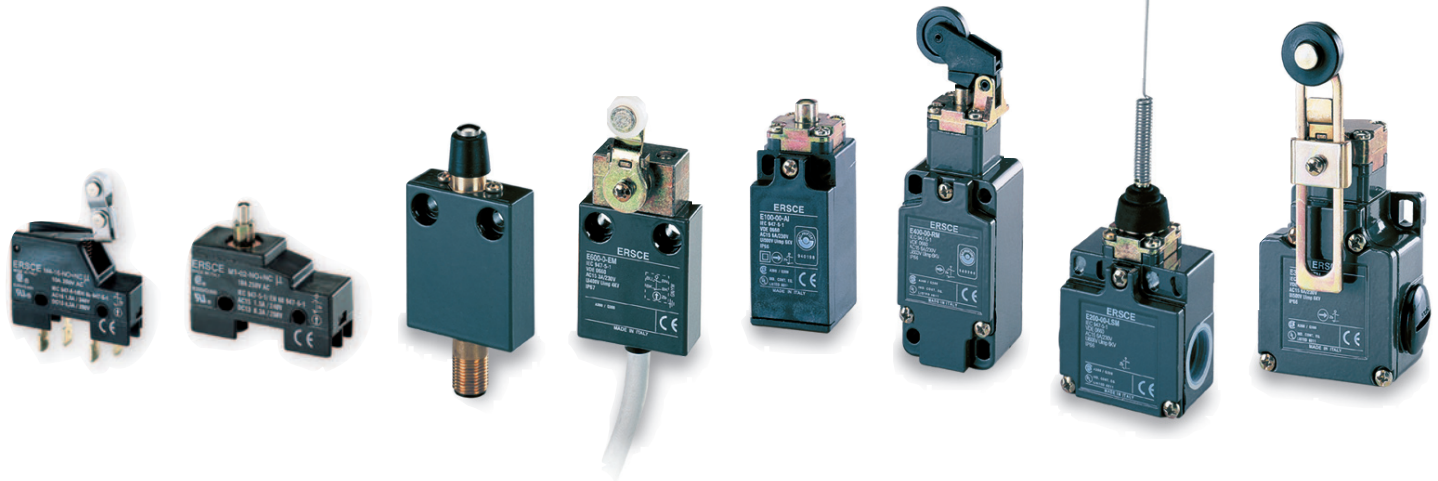


Mechanical float switches consisting of reed switch and enclosed magnet. Choice of housing materials include polypropylene, nylon, polysulfone and stainless steel, to work with almost any liquid type. Vertical or horizontal mount types, to allow access to any application. All of the float switches are pre-wired, to allow for quick and easy installation.

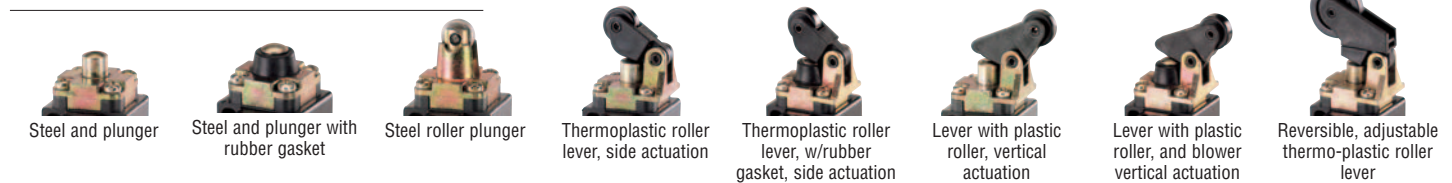


Limit Switches

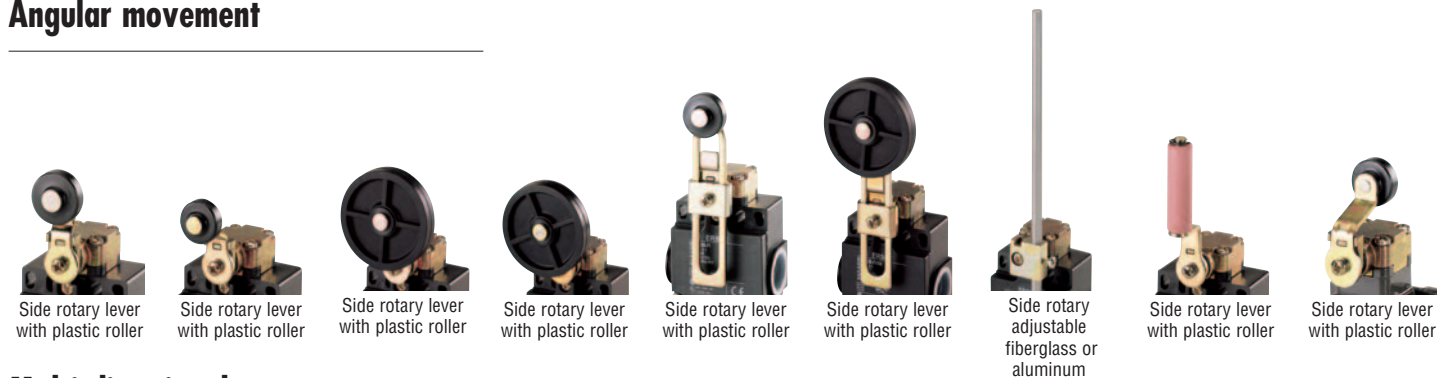
Housing Type		Housing Size H X W X D (mm)					
		48.5 x 30 x 16 mm	47.5 x 40 x 16 mm	58 x 30.5 x 33 mm	50 x 50 x 33 mm	62 x 52 x 35.5 mm	74 x 40 x 36 mm
Standard Switches	Metal			E102...M	E202...M	E302...M	E402...M
	Plastic			E102...I	E202...I		E402...I
Pre-Wired Switches	Metal	E700...M	E600...M				
	Plastic	E700...I					



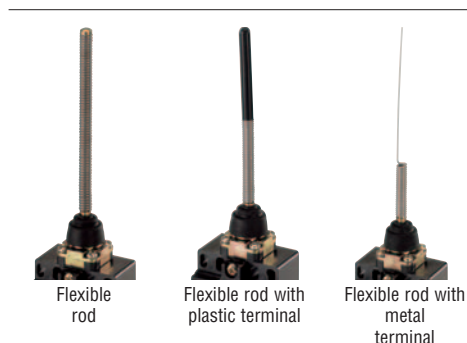
Direct movement



Angular movement



Multi-directional movement



High quality limit switches are provided in the most popular industrial sizes, shapes, contact configurations, as well as an innovative series of encapsulated limit switches, available with a connection cable or M12 plug. Their rugged metal housings and economical plastic housings offer one to three 1/2" NPT conduit entryways. Output contacts are offered in snap action, slow action, or overlapping configurations. Various types of push button/roller actuators, roller levers, and multi-directional levers are available. These switches are ideal for manufacturers of material handling, packaging, conveying, and machine tool equipment.

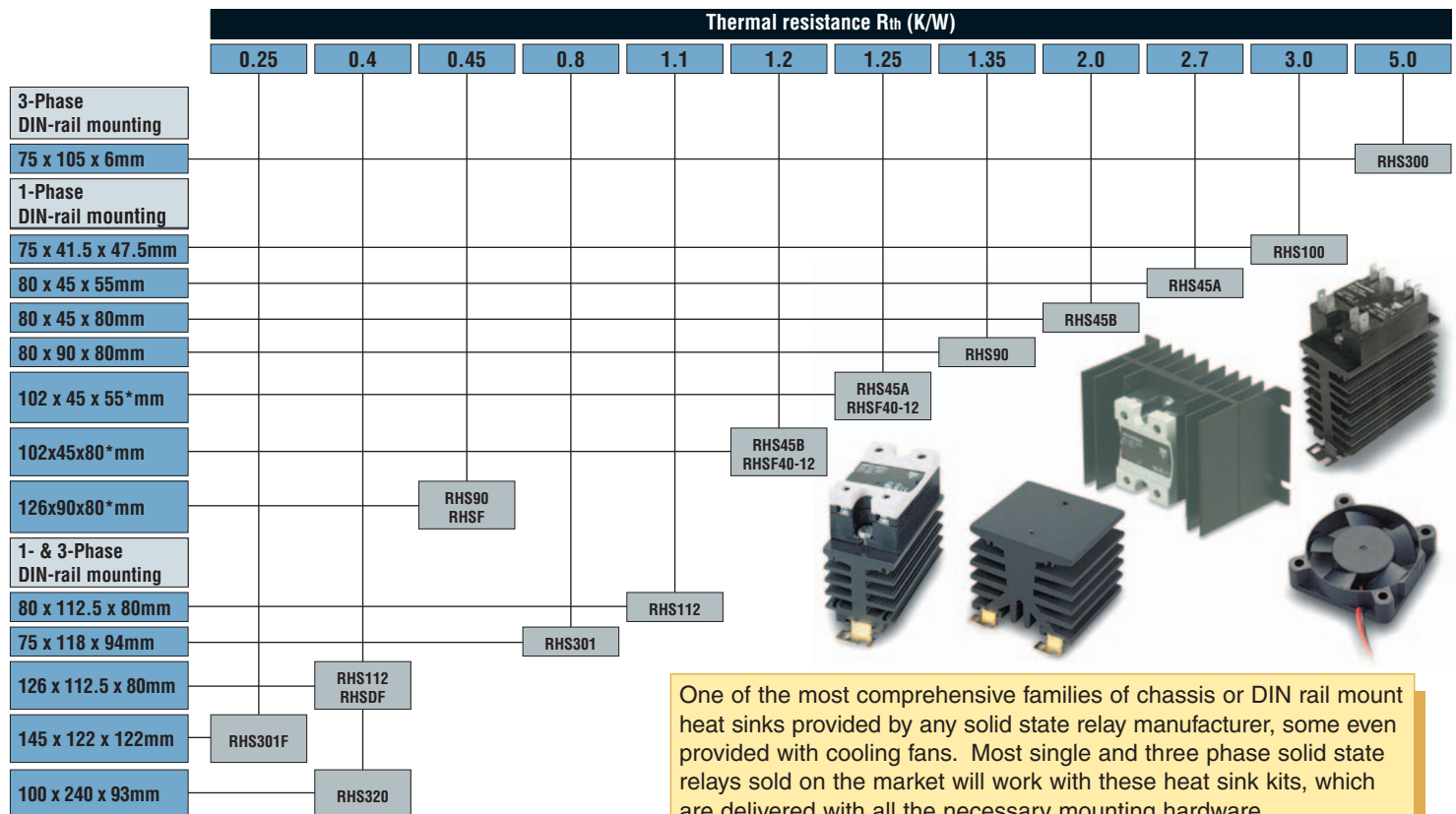
Solid State Relays

	Current Rating											
	3 A	5 A	10 A	25 A	30 A	40 A	50 A	63 A	75 A	90 A	110 A	125 A
Zero Switching												
1-phase PCB	RAP											
1-phase PCB	RP1A											
1-phase Industrial Housing			RS1A									
1-phase Industrial Housing				RM1A								
1-phase Industrial Housing VDE						RAM						
1-phase Industrial Housing					RA							
2-phase Industrial Housing			RA2A									
3-phase Industrial Housing				RZ3A								
1-phase / 1-pole DIN-rail				RJ1A	(70A without forced convection air flow)							
1-phase / 1-pole DIN-rail				RN1A								
2-phase / 2-pole DIN-rail				RN2A								
3-phase / 2-pole DIN-rail				RN3A-RJ2A								
3-phase / 3-pole DIN-rail				RJ3A	(25A without forced convection air flow)							
Instant-On Switching												
1-phase PCB	RP1B											
1-phase Industrial Housing					RM1B							
1-phase / 1-pole DIN-rail					RJ1B	(70A without forced convection air flow)						
1-phase / 1-pole DIN-rail					RN1B							
System Monitoring												
1-phase Industrial Housing					RA..S							
1-phase / 1-pole DIN-rail					RN1S							
Analog Switching												
1-phase Industrial Housing					RM1E							
1-phase / 1-pole DIN rail					RN1F							
2-phase / 2-pole DIN-rail					RN2F							
Peak Switching												
1-phase Industrial Housing					RM1C							
Low-Noise												
1-phase Industrial Housing				RA..L								
1-phase / 1-pole DIN-rail				RN1L								
DC Switching												
1-phase PCB	RP530											
1-phase Industrial Housing	RD											

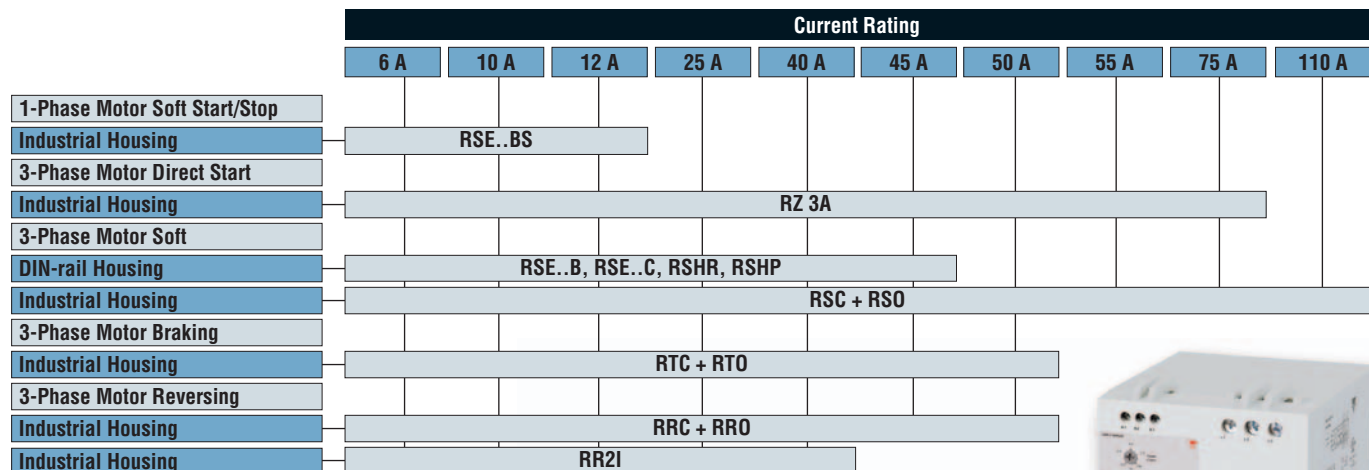
Solid State Relays AC and DC for PCB mounting. Single and three phase Solid State Relays for panel mounting. 5 switching types, up to 110 A. SOLITRON ready-to-mount Solid State Relays with integrated heatsink, one and two pole output. SOLITRON Mini – compact 22.5 mm Solid State Relays for DIN-rail mounting with integrated heatsink for applications up to 30 A.



Heatsinks for Solid State Relays



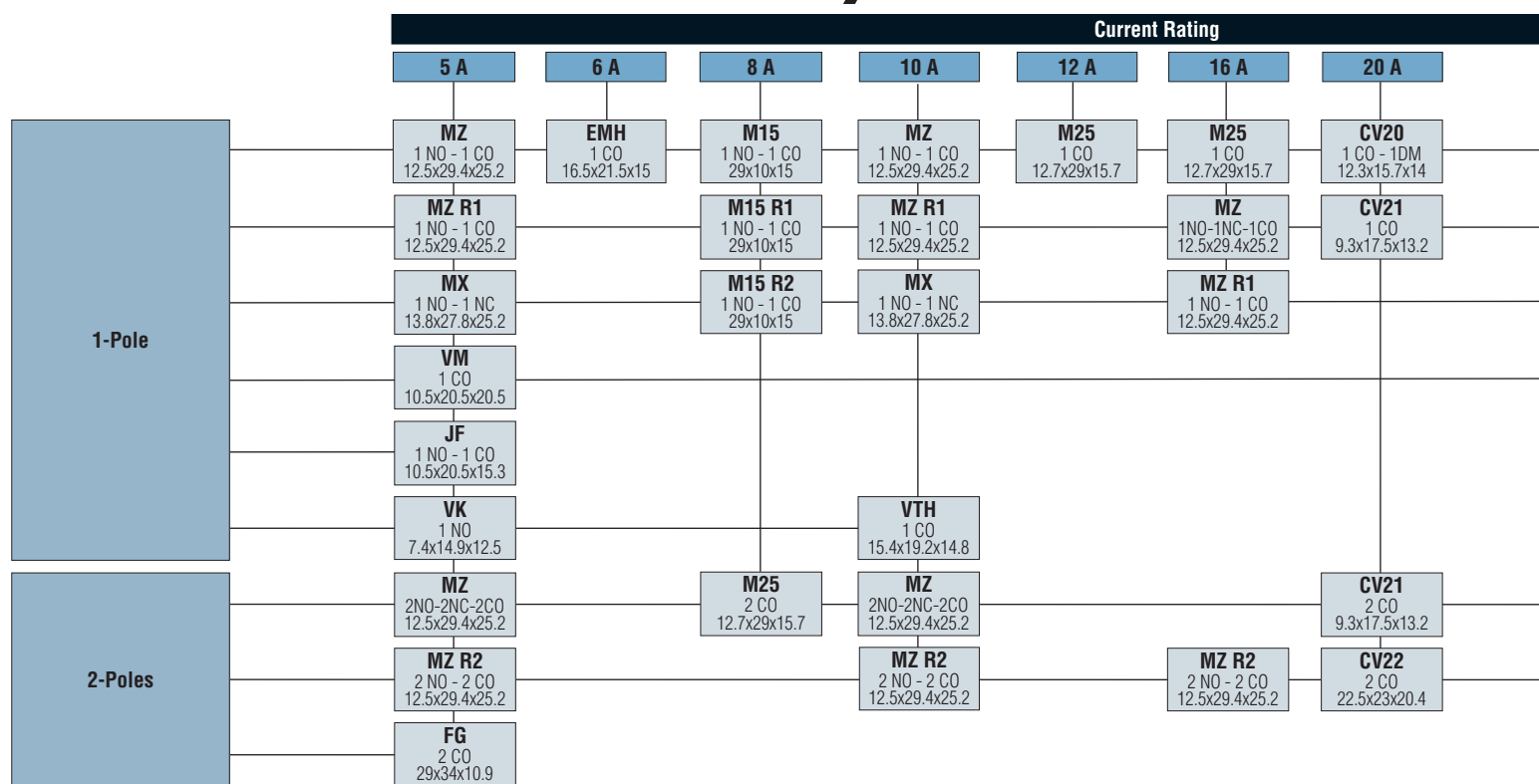
Motor Controllers



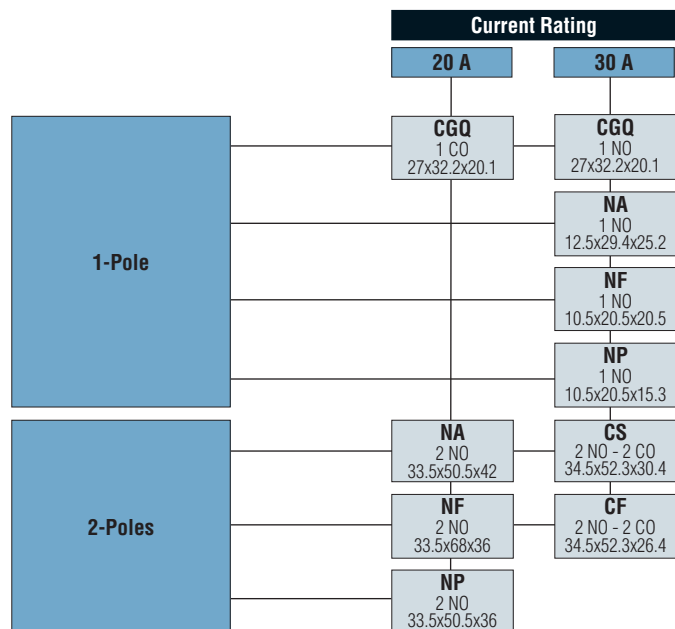
Motor controller for soft starting/stopping (up to 40Hp), adjustable starting torque and ramping times via knobs on the front face. Newer programmable soft starter that allows for customization of the ramp curve to benefit the loads of pumps, fans, conveyors with kick-start and high torque adjustments. Diagnostics onboard for phase loss, wrong sequence, overheating detection and PTC input for motor protection. Forward/reversing relays with built in interlock (up to 3Hp). Dynamic braking units (injects up to 60ADC)



Electromechanical PCB Relays

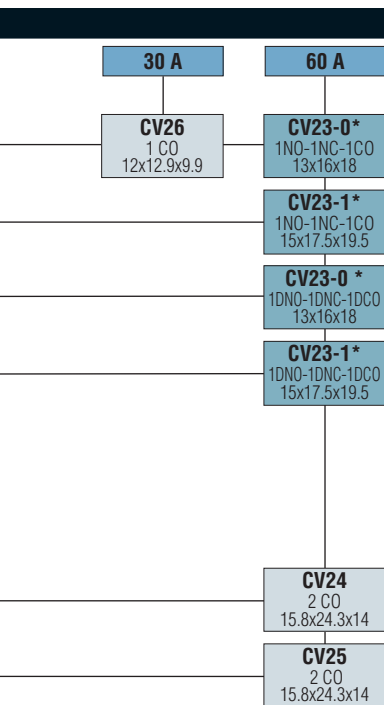


Electromechanical Power Relays



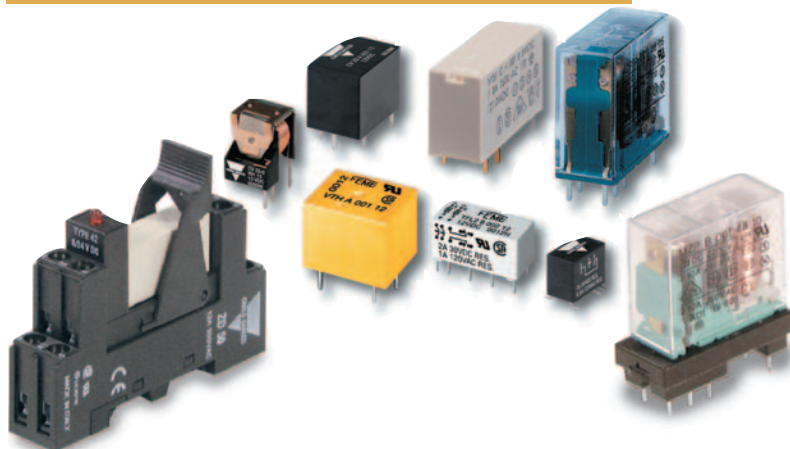
Relays with 1 or 2 poles, from 20 A up to 30 A, AC and DC coils, standard and high insulation between coil/contacts, PCB and fast-on terminals.





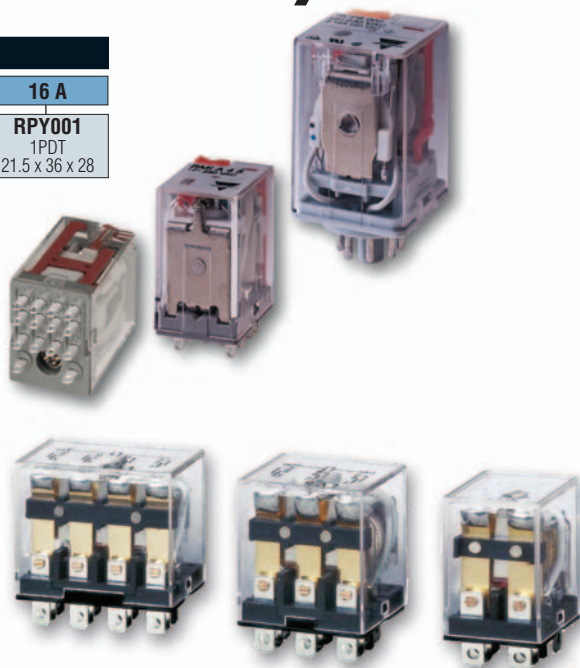
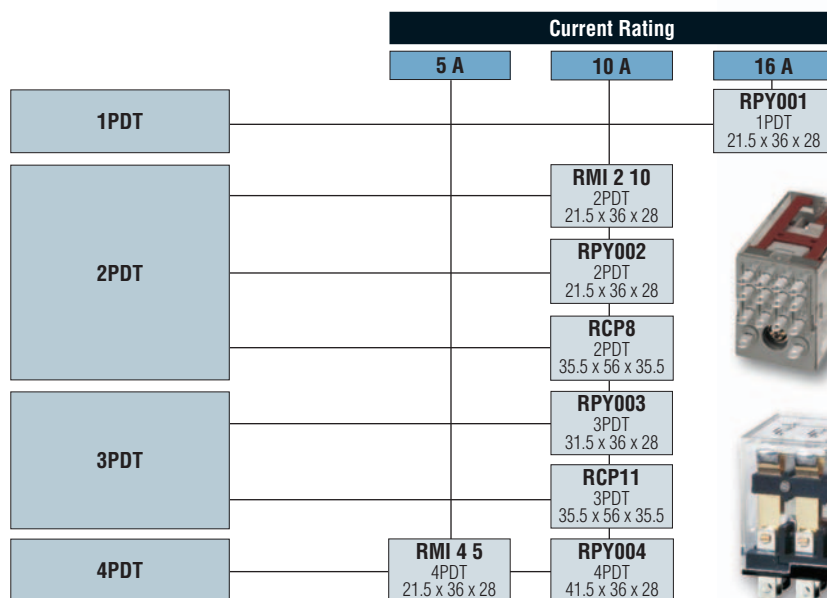
This relay family consists of three main relay groups:

- **Signal Relays** – from 1 contact up to 4 contacts, from 1 A up to 6 A, DC coils only.
- **General Purpose** – from 1 contact up to 2 contacts, from 5 A up to 16 A, AC/DC coils and bistable, 4 KV/8 mm between coils/contacts.
- **Automotive Relays** – from 1 contact up to 2 contacts, single contact from 10 A up to 60 A, double make contact from 2 x 5 A up to 2 x 40 A, DC coils only.



*The current range is from 10 A to 60 A. According to the contact type.

Industrial Electromechanical Relays



The industrial relays are available with four 5 amp changeover contacts, two, three or four 10 amp changeover contacts and one 16 amp changeover contact. They are manufactured with various external connections: soldering and PCB terminals, multi pin socketed type. Available with LEDs and push to test buttons and the most common AC or DC coil voltages.

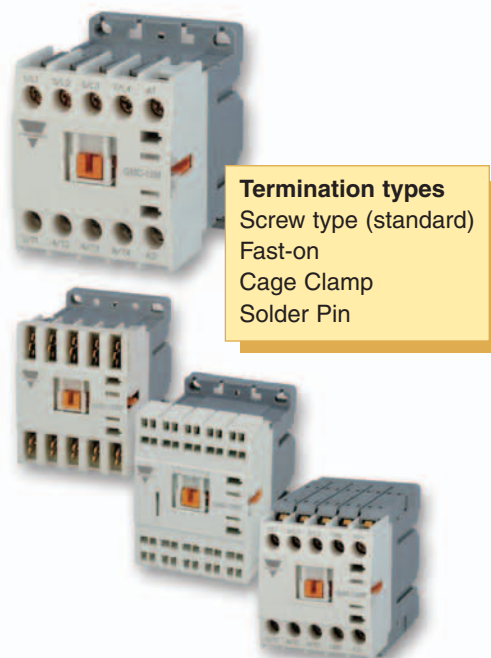
Contactors and Overloads

			Auxiliary Contacts										
			1NO & 1NC										
WIDTH SIZE	THERMAL OVERLOAD	NEMA SIZE	HP @ 480V										
			5 HP	7.5 HP	10 HP	20 HP	25 HP	30 HP	40 HP	50 HP	60 HP	75 HP	
44mm	CGT-22	00	CGC-9										
		-	CGC-12										
		0	CGC-18										
		-	CGC-22										
68mm	CGT-40	1	CGC-32										
		-	CGC-40										
92mm	CGT-85	2	CGC-50										
		-	CGC-65										
		-	CGC-75										
		3	CGC-85										
100mm	CGT-125	-	CGC-100										
		-	CGC-125										
120mm	CGT-150	4	CGC-150										
138mm	CGT-220	-	CGC-180										
		-	CGC-220										
163mm	CGT-400	5	CGC-300										
		-	CGC-400										
285mm	CGT-800	6	CGC-600										
		-	CGC-800										



Mini Contactors

WIDTH SIZE	THERMAL OVERLOAD	TERMINAL TYPE	Auxiliary Contacts		
			1NO or 1NC		
			HP @ 480V		
45mm	CGT-12M	SCREW	5 HP	7.5 HP	10 HP
			CGMS-6		
			CGMS-9		
			CGMS-12		
			CGMS-16		
		FAST-ON	CGMF-6		
			CGMF-9		
			CGMF-12		
			CGMF-16		
		CAGE CLAMP	CGMC-6		
			CGMC-96		
			CGMC-12		
			CGMC-16		
		SOLDER PIN	CGMP-6		
			CGMP-9		
			CGMP-12		
			CGMP-16		



Termination types
Screw type (standard)
Fast-on
Cage Clamp
Solder Pin



2NO & 2NC

100 HP

125 HP

150 HP

200 HP

300 HP

400 HP

600 HP

19 RATING CLASSES IN ONLY 8 DIFFERENT SIZES

Simple slide out cassette for easy

coil replacement for 100A - 800A versions

Full line of mini contactors (up to 16A) with optional terminal styles including screw, fast-on, cage clamp and solder pin. Standard contactors (up to 800A) in only 8 different frame sizes. Easy slide out cassette for coil changes (100A and higher). Thermal overloads and interlock kits available to build starters and reversing units. Enclosed starters also available with and without buttons. Unique electronic and digital motor protection relays for detecting overload conditions as well as phase loss, reversal protection, current imbalance, stalled motor and locked motor detection with alarm and trip output contacts and optional ground fault protection (100mA through 2.5A).

Interlocks Kits for Reversing Contactors

Enclosed Starters

Auxiliary Contacts in 1, 2 & 4 Poles

Digital Motor Protection Relays

Electronic Motor Protection Relays

Carlo Gavazzi GMS Series of Manual Motor Starters provide complete ranges up to 100A

NEW

Pushbuttons, Switches and Pilot Devices

	Through-hole Diameter					
	22mm Plastic Ring Rear Mount		22mm Metal Ring Rear Mount		30mm Metal Ring Front Mount	
	Non-Illuminated	Illuminated	Non-Illuminated	Illuminated	Non-Illuminated	Illuminated
Flush Push Button	IPR	IPRL	PR	PRL	30/PR	30/PRL *
Extended Push Button	IPS	IPSL	PS	PSL	30/PS	30/PSL
Push-Pull Mushroom with 35mm PB Head	IPF	IPFL	PF	PFL	30/PF	PFL
Momentary Mushroom with 35mm PB Head						
Momentary Mushroom with 60mm PB Head						
Turn to Release Mushroom with 40mm PB Head						
Turn to Release Mushroom with 35mm PB Head						
Mushroom with Key Release with 35mm PB Head						
Mushroom Turn to Release with Safety Snap Lock 35mm PB Head						
Signal		IS2 to IS6		S2 to S6		30/S2 to 30/S6
Short Handle Selector	ISN	ISL	SN	SL	30/SN1	30SL
Long Handle Selector	ISNL		SNL		30/SNL1	
Key Selector	ISNC		SC		30/SC1	

ALSO AVAILABLE

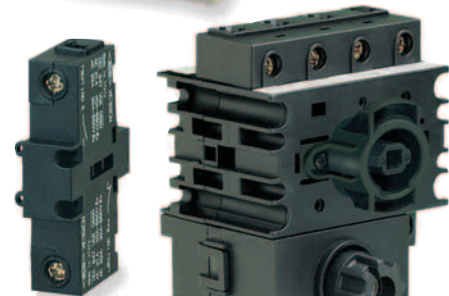
- 22 and 30mm two and four position joysticks (TM and M Series)
- 22mm double or triple headed operators (IP Series)
- Single button and multi-button complete control stations (SC Series)
- Empty boxes with holes (SD, SM, SV Series)
- Pedal switches (PS and PC Series)
- 22mm metal version with rear screw mounting *available on request* (P/V Series)
- 22mm square bezel plastic with rear ring mounting *available on request* (QP Series)

New Ersce brand Pushbuttons, Switches and Pilot Devices are available in 22 and 30mm diameter mounting sizes. A modular design comprised of operators (pushbuttons, E-stops, selectors, key locks), indicators, contact blocks & lamp sockets are all interchangeable, with the 22 and 30mm operators using the same contact blocks and lamp sockets. Up to four (or 6 on special request) independent contacts on one operator are possible with a combination of single and double, NO and NC contact blocks. Full range of extended and flush pushbuttons, 35-60mm E-stops and selectors, which are available in six colors and in illuminated versions. Other operators, enclosures and control stations are also offered.



Cam Switches and Rotary Disconnects

		Current Rating									
		12A	16A	20A	25A	32A	40A	50A	63A	80A	100A
Cam Switches	Rear Mount	CN...R..									
	Base Mount	CN...B..									
	22mm Mount	CN...G..									
Disconnect Switches	2 Pole Rear Mount	KNZ...R2									
	2 Pole Base Mount	KNZ...B2									
	2 Pole 22mm Mount	KNZ...G2									
	3 Pole Rear Mount	KNZ...G3									
	3 Pole Base Mount	KNZ...B3									
	3 Pole 22mm Mount	KNZ...G3									
	4 Pole Rear Mount	KNZ...R4									
	4 Pole Base Mount	KNZ...B4									
	4 Pole 22mm Mount	KNZ...G4									
Disconnect Switches with Auxiliary Contacts and Poles	2 Pole Rear Mount	XNA...2R									
	2 Pole Base Mount	XNA...2B									
	2 Pole 22mm Mount	XNA...2G									
	3 Pole Rear Mount	XNA...3R									
	3 Pole Base Mount	XNA...3B									
	3 Pole 22mm Mount	XNA...3G									
	4 Pole Rear Mount	XNA...4R									
	4 Pole Base Mount	XNA...4B									
	4 Pole 22mm Mount	XNA...4G									
Disconnect Switches with Auxiliary Contacts, Poles and Fuses	2 Pole Rear Mount	XNF...2R									
	2 Pole Base Mount	XNF...2B									
	2 Pole 22mm Mount	XNF...2G									
	3 Pole Rear Mount	XNF...3R									
	3 Pole Base Mount	XNF...3B									
	3 Pole 22mm Mount	XNF...3G									
	4 Pole Rear Mount	XNF...4R									
	4 Pole Base Mount	XNF...4B									
	4 Pole 22mm Mount	XNF...4G									



Cam switches for up to 32A, positive opening double break contacts. Change over, motor control, ammeter, voltage, reversing starter, or just about any kind of switch imaginable is available (or can be made).

Rotary disconnects for up to 100A with horsepower ratings. Auxiliary contacts and additional "snap-on" poles are available. They are also available with built-in fuses.

Both the cam switches and rotary disconnects are available for base mounting, rear door mounting and 22mm hole mounting. Full series of knobs and plates available in locking and non-locking styles in black-gray and red-yellow color combinations and 48x48 and 67x67 mm sizes.

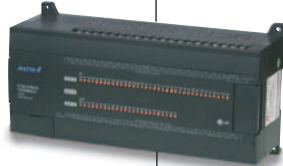
Counters, Hour Meters and Tachometers

Specifications								
Model	Counter	Hour Meter	Tachometer	Input	Output(s)	Supply	Size (in mm)	Display
A103	Yes	Yes	Yes	Contact, Transistor, Encoder, AC Voltage	1 SSR	Internal Battery or 120/220 VAC	36 x 72	8 Digit LCD
C342	Yes	Yes	Yes	NPN, PNP, Contact	1 Transistor	Internal Battery or 12-24 VDC	24 x 48	6 Digit LED or 8 Digit LCD
C346	Yes	No	No	NPN, PNP, Contact	1 Relay and 1 Transistor	120 VAC, 220 VAC, or 12-24 VDC	48 x 48	6 Digit LED or 6 Digit LCD
C628	Yes	No	Yes	NPN, PNP, or Contact	1 Relay and 1 Transistor	90-264 AC, 20-50 V AC/DC	48 x 96	5 Digit LED
EHM	No	Yes	No	Contact	None	9-85 VDC	53 mm or 24 x 36	6 Digit LCD
V4545	Yes	No	No	NPN, PNP, Contact	1 Relay and 1 Transistor	90-264 VAC	48 x 48	Dual 4 Digit LED
7990	Yes	Yes	Yes	NPN, TTL, AC Voltage, Contact	None	Internal Battery	36 x 72	8 Digit LCD

Full line of digital counters with LED or LCD displays. Inputs include dry contact, AC voltage, and NPN or PNP transistor. Outputs include relay and transistor. Versions with AC or DC external power supply or internal lithium battery. Hour meters and tachometers are also available.



PLCs

PLC Description			
	PLC (RS232 + RS485 ports)	PLC (2 x RS232 + RS485)	Expansion Module
10 I/O (6 Inputs / 4 Outputs)	K7M-DR10UE		DR10A
14 I/O (8 Inputs / 6 Outputs)	K10S1-K14P1-DRS		
20 I/O (12 Inputs / 8 Outputs)		K7M-DR20U / K7M-DRT20U	DR20A
30 I/O (18 Inputs / 12 Outputs)		K7M-DR30U / K7M-DRT30U	
40 I/O (24 Inputs / 16 Outputs)		K7M-DR40U / K7M-DRT40U	
60 I/O (36 Inputs / 24 Outputs)		K7M-DR60U / K7M-DRT60U	
3 Analogue (2 Inputs/1 Outputs)			
4 Analogue Inputs	G7F-AD2B		
4 Analogue Outputs (current)	G7F-DA2IA		
4 Analogue Outputs (voltage)	G7F-DA2V		
4 RTD Inputs	G7F-RD2A		
DeviceNet Interface			G7L-DBEA
Profibus Interface	Add the Universal Windows K-SOFTWARE, FREE with purchase of CPU, and you'll have one of the most powerful and inexpensive families of PLCs on the market!		G7L-PBEA
LG Fieldbus Interface			G7L-FUEA

Operator Interfaces

	5.7" Monochrome Touch Screen 320 x 240 Resolution	5.5" Colour Touch Screen 320 x 240 Resolution	7.5" Colour Touch Screen 640 x 480 Resolution	10.2" Colour Touch Screen 640 x 480 Resolution	12.1" Colour Touch Screen 800 x 600 Resolution
24 VDC Supply	PMU-300BT	PMU-330TT	PMU-530TTS	PMU-730TTS/DC	PMU-830TT/DC
85-264 VAC Supply				PMU-730TTS	PMU-830TT



KGL-WIN programming software can be downloaded **FREE** of charge from www.GavazziOnline.com.

Monochromatic and colour touch screen HMI's with screen sizes up to 12.1" and resolutions up to 800 x 600. Easy interfacing with many PLC types. Advanced data logging capability. Easy to use screen design software can be downloaded **FREE** of Charge from www.GavazziOnline.com.

Timers

		Functions				
		Delay on Operate	Interval	Delay on Release	Recycler (Symmetrical)	Recycler (Asymmetrical)
Housing	D-Series DIN-rail	DAA01, DMB01	DMB01	DMB01, DBB01, DBB02	DMB01	DCB01
	Mini-D-Series DIN-rail	DAA51, DMB51	DMB51	DMB51, DBB51, DBA52	DMB51	DCB51
	P-Series Plug-in	PAA01, PMB01	PMB01	PMB01, PBB01, PBB02	PMB01	PCB01
	S-Series Plug-in	S111, S1221	SC210, SC215, S112, S1221	S1221	S1321, S1331, S1341, S1342	
	Scan Timer Plug-in	A101, A108, A201, A208, A109	B101, B108, B201, B208, A109	B121, B128	C101, C208, C111, C218	
	48 x 48 Plug-in	B866, B856, B506	B866, B856, B506	B866, B856, B506	B866, B856, B506	
	E-Series DIN-rail		EBD			
	Mini-E-Series DIN-rail	EAS	EBS			

8 and 11 pin plug-in time delay relays, as well as DIN rail mount types. Each multi-voltage timer offers various timing functions and ranges, which minimizes inventory and maximizes functionality. The PC programmable type offers great flexibility for creating special functions. Digital timers with LCD or LED Display.

Monitoring Controls

		Functions				
		Current DC and 1-phase AC	Current 3-phase AC	Voltage DC and 1-phase AC	Voltage 3-phase AC	Phase Sequence/Loss
Housing	D-Series DIN-rail	DIA01, DIB01, DIB02, DIC01, DUA01	DIB02, DIC01, DUA01	DIC01, DUA01, DUB01, DUB02, DUC01	DPA01, DPA02, DPB01, DPC01	
	Mini-D-Series DIN-rail	DIA53, DIB71	DIA53, DIB71	DUA52, DPB71	DPA53, DPB71	DPA51, DPB71
	Mini-E-Series Current Transformers	EIS, E82				
	P-Series Plug-in	PIA01, PIB01, PIB02, PIC01, PUA01	PIB02, PIC01, PUA01	PIC01, PUA01, PUB01, PUB02, PUC01	PPB01, PPC01	PPA01, PPA02
	S-Series Plug-in					
Accessories	Current Transformers	A82, MI, TADK2 TAD2/3/4/6/8/12, TACO 110, TACO 200	A74, MP			
	Split Core Transformers	SCT				
	Shunts	DER				

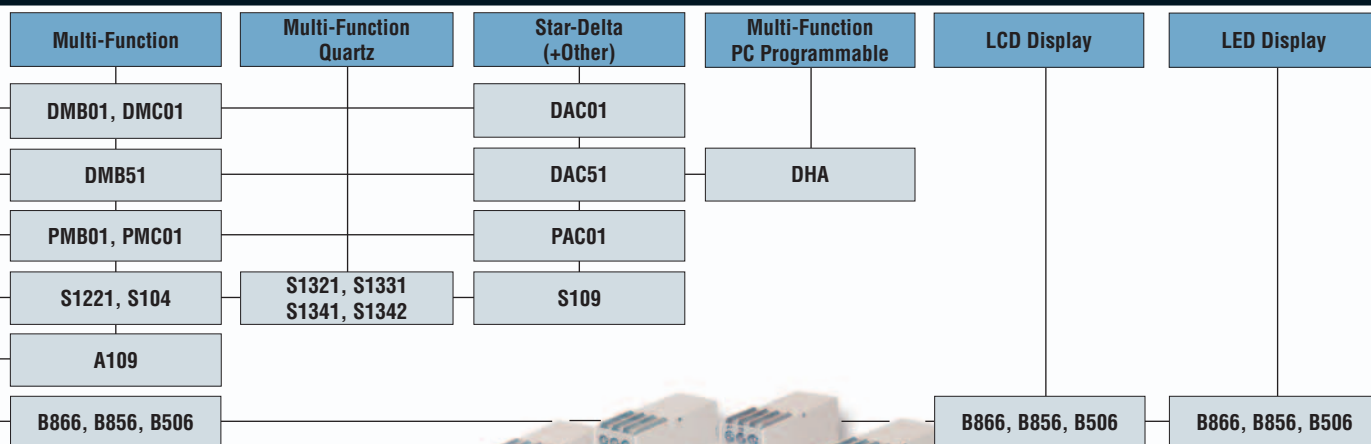
Single phase monitoring relays for AC/DC current, AC/DC voltage, AC frequency and temperature. Three phase controls for monitoring phase loss, phase sequence, phase angle and phase asymmetry. Available in both 11 pin plug-in and DIN rail mount housings. Most monitors feature adjustable set point(s), time delay(s), hysteresis and latch functions, as well as separate output for under or over set point conditions.

Current Transformers are available with analog output (up to 500AAC), adjustable set point with transistor output (up to 100AAC), as well as 5AAC secondary output (up to thousands of amps). DC shunts and transducers are also offered.



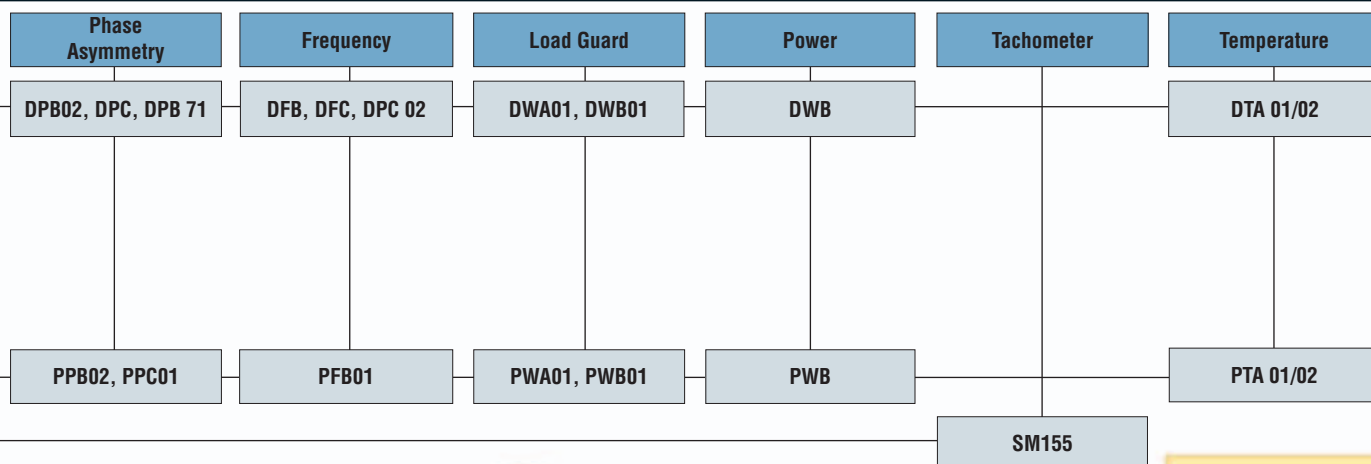
SCT Series split-core CTs from 100 to 6,000 A





DMB51 Series Universal Timer

- Up to 100 hours
- 7 Functions
- Multi-voltage



DIA53 Series self-powered transistor output current monitor, up to 100A.



DPA53 Series 3-Phase monitor for phase loss, sequence too under-voltage



Digital Panel Meters

		Measurements and Modules					
Base Unit = BU- Input card = IC-		VDC 600 VDC	VAC 600 VAC	ADC 5A Max.	AAC 5A Max.	AC/DC 10A Max.	Hz 200 - 2K Max.
Modular Housing / Display	EDM35 Modular Panel Meter 0/1/2 digital outputs Analog/Excitation Output 0/1/2 digital outputs	EDM 35 Series BU - 5100711 IC - 5100530	EDM 35 Series BU - 5100711 IC - 5100531	EDM 35 Series BU - 5100711 IC - 5100532	EDM 35 Series BU - 5100711 IC - 5100533	EDM 35 Series BU - 5100711 IC - 5100534	EDM 35 Series BU - 5100711 IC - 5100541
	UDM35 Modular Panel Meter 48 x 96 mm, 3.5-DGT Analog/RS232/485 output 0/1/2/4 digital outputs	UDM 35 Series BU - BD35 IC - BQLSX	UDM 35 Series BU - BD35 IC - BQLSX	UDM 35 Series BU - BD35 IC - BQLSX	UDM 35 Series BU - BD35 IC - BQLSX	The EDM35, UDM35 and UDM40 Digital Panel Meters and USC Universal Signal Conditioner feature a modular design in which a power supply module and an input module is "plugged" into the back of an indicator (base unit). Then optional output modules can be added: 1 or 2 relay outputs, 2 relay outputs and 2 transistor outputs, one analog output and/or excitation output.	
	UDM40 Modular Panel Meter 48 x 96 mm, 4-DGT Analog/RS232/485 output 0/1/2/4 digital outputs	UDM 40 Series BU - BD40 IC - BQLSX	UDM 40 Series BU - BD40 IC - BQLSX	UDM 40 Series BU - BD40 IC - BQLSX	UDM 40 Series BU - BD40 IC - BQLSX		
	USC Signal Conditioner DIN mounted, no display Analog/RS232/485 output 0/1/2/4 digital outputs	USC Series BU - BDXX IC - BQLSX	USC Series BU - BDXX IC - BQLSX	USC Series BU - BDXX IC - BQLSX	USC Series BU - BDXX IC - BQLSX		

		Measurements							
		1 A DC 60mV/100 V DC 500 V DC	5 A AC 500 V AC 1 A AC 100 V AC	Up to 1000 Hz Autoranging Capability	200 mV DC 20/200 V DC 2/20 mA DC	200 V DC/AC 500 V DC/AC 2/5 A DC/AC	Pt-100, Pt-1000 Ni100 TC:J, L, K, S, T, E 200 Ohm		
Housing / Display	DI3 Indicator DIN mounted, 3-DGT	DI3-DIN.AV6	DI3-DIN.AV5 DI3-DIN.AV1	DI3-DIN.F1K	LDI35.AV0 LDM35	LDI35.AV2 LDM35	LDI35.CF LDM35		
	DI3 Indicator 72 x 72 mm, 3-DGT	DI3-72.AV6	DI3-72.AV1 DI3-72.AV5	DI3-72.F1K					
	LDI3 Indicator 48 x 96 mm, 3-DGT	LDI3.AV6	LDI3.AV5 LDI3.AV1	LDI3.F1K					
	LDI35, LDM35 Panel Meter 48 x 96 mm, 3.5-DGT 0/1/2 relay outputs								
	MDI40, MDM0 Panel Meter 48 x 96 mm, 3.75-DGT Analog/RS485 outputs 2 relay outputs						MDI40.CF		

PID Controllers

		Features		
		Standard Controller	Ramp / Soak Controller	Limit Controller
Housing / Display	1/32 DIN Single Display	3200	1166	1161, 1162, 1163
	1/16 DIN Dual Display	P1160		1801
	1/8 DIN Dual Display	1800		1401
	1/4 DIN Dual Display	1400	1460, 1462, 6000	

PID controllers with programmable inputs and outputs. Available with heater break alarm, loop break alarm, ramp to setpoint, auto-tuning, self tuning, and RS485 communications. Ramp/soak controllers and high/low limit controllers.

Housing sizes:

1/32 DIN : 24 x 48 mm
1/16 DIN : 48 x 48 mm
1/8 DIN : 48 x 96 mm
1/4 DIN : 96 x 96 mm



RPM
up to 200K

Resistance
200K Ohms Max.

Temperature
TC: J, K or PT100 RTD

EDM 35 Series
BU - 5100711
IC - 5100540

EDM 35 Series
BU - 5100711
IC - 5100535

EDM 35 Series
BU - 5100711
IC - 5100537(J), 5100538 (K)
or 5100536 (PT100)



200 mV DC/AC
2/20 V DC/AC
200/500 V DC/AC

2/20 mA DC/AC
200 mA DC/AC
2/5 A DC/AC

0.001 Hz-50 kHz
1-10000 RPM's



MDI40.V

MDI40.A

MDI40.TF
MDM40

Digital indicators and controllers offered in 3, 3 1/2, 3 3/4 and 4 digits. Measurement of all relevant electrical, physical and pulse signals. RS485 communications are available on some models.



Multi-
Zone Controller
MLC9000

Energy Management

	EM1 DIN	EM2 DIN	EM2 96	EM3 DIN	EM4 DIN	WM1 DIN	WM12 DIN/96
Modular			X	X	X		
Energy Meter	X	X	X	X	X		
Power Analyzer						X	
Multi-Function Meter							X
Power Quality Analyzer							
Universal Utility Meter							
Transducer							
Power Quality Transducer							
Graphic Display							
Digital Inputs						X	
Pulse	X			X	X	X	
Analog Outputs							
Alarm Outputs		X	X		X	X	
Serial Communication		X	X		X	X	X
Internet Ethernet Comm							
GSM/SMS Management							
Energy Meter	X	X	X	X	X	X	
Gas H ₂ O Meter					X		
Instantaneous Variable						X	X
DIN Rail Mounting	X	X		X	X	X	X
Panel Mounting (96x96)			X				X

A New Concept of Modularity

Technical advantages and cost benefits:

- PLUG and PLAY modules common to all models
- Maximum in-field flexibility
- Possibility to expand the number and the kind of outputs without replacement of the instruments in-field
- Reduced inventory



Series Numbers

WM14 DIN/96	WM2 DIN	WM2 96	WM22 DIN	WM23 96	WM24 96	WM3 96	WM4 96	CPT DIN	PQT90	CVT DIN
X		X	X	X	X	X	X	X	X	
	X	X	X							
				X		X				
					X		X			
								X		X
									X	
			X	X	X	X	X	X	X	
	X	X	X		X	X	X			
			X	X		X				X
			X		X	X	X	X	X	
X			X	X	X	X	X	X	X	X
							X		X	
							X		X	
X	X	X	X		X		X	X	X	
					X		X		X	
X	X	X	X	X	X	X	X	X	X	X
X	X		X					X	X	X
X		X								

Software available
for most models



Enclosures and Junction Boxes

Enclosure Size	Panel Depth				
	6"	8"	10"	12"	16"
8" x 12"	SI, ST and STX2-315				
12" x 12"	SI, ST3-315	SI 3-320			
12" x 16"	SI, ST and STX3-415	SI, ST and STX3-420			
12" x 20"	ST3-515	SI, ST3-520			
16" x 12"	SI, ST and STX4-315	SI, ST and STP4-320			
16" x 16"		SI, ST, STP and STX4-420			
16" x 20"	SI, ST4-515	SI, ST and STX4-520	SI, ST and STP4-525		
16" x 24"		SI, ST, STP and STX4-620	SI, ST, STP and STX4-625		ST4-640
20" x 20"		ST and STX5-520			
20" x 28"		SI, ST and STP5-720	SI, ST and STP5-725		
24" x 16"		SI, ST, STP and STX6-420		ST and STP6-430	
24" x 24"		SI, ST and STP6-620		SI, ST and STP6-630	ST6-640
24" x 32"		ST and STX6-820	SI, ST, STP and STX6-825	SI, ST and STP6-830	ST6-840
24" x 40"			ST and STP6-1025	ST and STP6-1030	ST6-1040
24" x 47"				ST and STP6-1230	
32" x 24"				ST8-630	
32" x 32"				ST and STX8-830	ST8-840
32" x 40"				ST, STP and STX8-1030	ST8-1040
32" X 47"				ST, STP and STX8-1230	
40" X 32"		ST10-820		ST10-830	
40" X 40"				ST10-1030	
40" X 47"				ST10-1230	

Single Door Enclosure

Double Door Enclosure



*Also available in stainless steel

Wall mount enclosures are manufactured from a single sheet of metal, and powder coated with a RAL7032 powder coated finish. They are offered with a gasketed locking door (**SI** & **ST**), with a locking door with a window (**STP**) or in stainless steel (**STX**). The boxes have an external edge with gutter profile preventing ingress of dust, and they carry a NEMA 1,12, 4 / IP55, IP65 environmental rating.

The **SDV** (screw down cover), **SDP** (with door), **SDF** (with gland plate) and **SDVX Series** (with window door) are some of the junction boxes offered. They are offered in a wide range of sizes from 6 x 6 x 3" to 32 x 16 x 5" (H x W x D).



ARETA Modular Cabinets and Consoles



The revolutionary **ARETA** Series is a modular 'ready to assemble' cabinet enclosure. You simply order an **ATTF** cabinet 'roof and floor', then the **ATFI** 'side panels', then the **ATPO** 'door' and then the **ATRE** 'rear panel'. It's as simple as that! Then they're assembled in a matter of minutes. The **ARETA** cabinets are available with the various dimensions:

16, 20, 24 or 32" deep

16, 24, 32, 40, 48, 56 or 64" wide

56, 64, 72, 80 or 88" tall

They can also be 'ganged together' to get additional width using an **ATKU** 'joining kit'.

The ARETA cabinets carry a NEMA12 / IP55 rating and are available with many other options, such as multiple doors, front window doors and inner panels. Although the cabinets are available standard with a rugged RAL7032 textured finish, they are also offered in stainless steel, as PC cabinets with 19" standard rack, with a folding keyboard support, and also as AL Series freestanding consoles in widths of 24, 32, 48 or 64". Also offered are the **BASIC** and **ATB8 Monobloc Series**, which are fully welded and assembled cabinets.

ZBA Series Freestanding Consoles

24, 32, 40 or 48" wide x 33" high x 16" deep with one or two front door(s).

SBA Series Freestanding Consoles

24, 32, 40 or 48" wide x 33" high x 16" deep with one or two front and rear door(s).



PCCO and PCIN Series PC Stands:

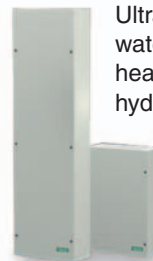
For mounting a PC, complete with CPU.



Thermal Management

A wide range of products, such as:

Ultra-thin conditioners, air-water heat exchangers, heaters, thermostats and hydrostats.



CR Double Hinged 19" Rack Enclosures

Double-hinged enclosure eases installation.

All enclosures are 24" wide x 9, 14, 20, 25, 30, 35 or 40" high x 18 or 20" deep.

Safety Light Curtains

		Detection Resolution		
		Finger	Hand	Body
Safety Category	Type 2		SB2-35/x-D15	SB2-x/x-D50
	Type 4	SB4-14/x-D6	SB4-35/x-D15	SB4-x/x-D25 SB4-x/x-D50

Carlo Gavazzi offers a full range of safety light curtains, designed to guard a perimeter area around a machine. Utilizing the through-beam principle of photoelectric sensors, safety light curtains use multiple infrared beams to protect operators from dangerous conditions. When any of the beams are broken, a stop signal is sent to the machine via the safety controller. Type 2 and type 4 rated models available, in finger, hand, and body resolutions. Additional features include muting, override, and automatic or manual reset.



Safety Modules

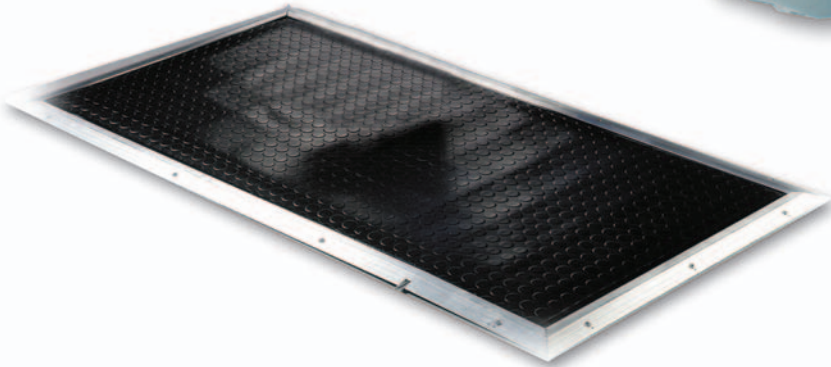
		Function				
		E-Stop & Safety Gate	2 Hand Safety	Light Curtain	Standstill Monitor	Lift Door Unlock & Cabin Level
Housing	22.5 x 99 x 114.5	NA1/x	ND1/2-D	NL1/3-D		NA1/2-D Lift
	26 x 82 x 101	M22A2/1-A				
	45 x 75 x 105	MA1-x, MA2-B-T MS1-D	MD1-D			MA1-D Lift
	45 x 84 x 100				MF1-C	

Safety modules for reliable control of various safety devices. Provides interface between safety device and machinery. Modules are tailored for the following applications: E-stop and safety gates, two hand safety devices, standstill monitors, safety light curtains, safety mats, and elevator cabin/lift level control. Extension modules are also available to expand the number of safety contacts available, without compromising the safety rating.



Safety Mats

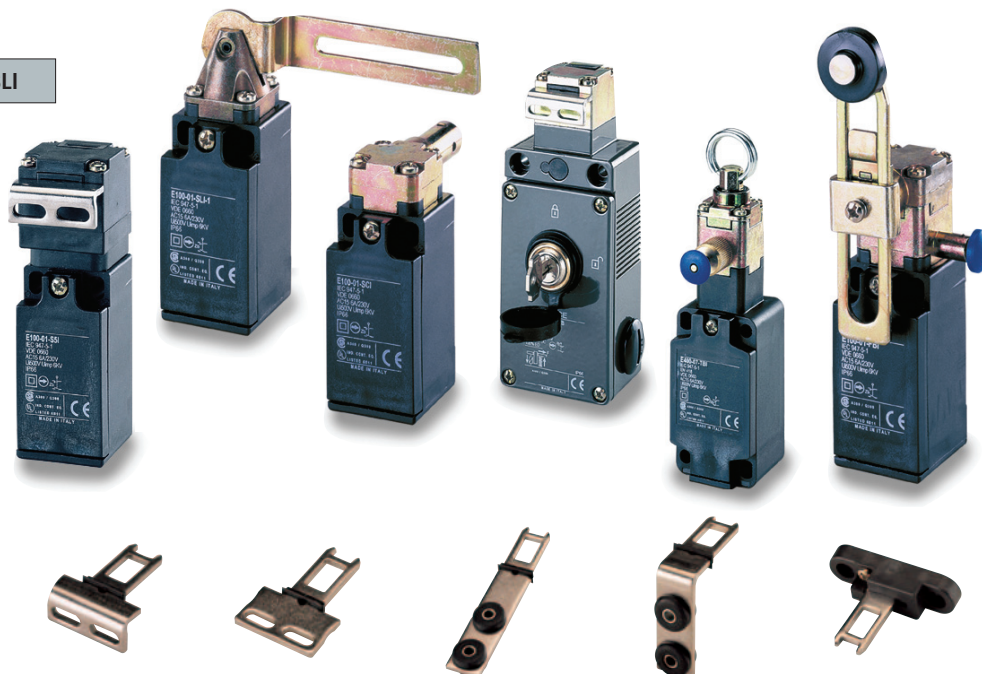
Safety mat system is used to provide operator protection in dangerous areas, without restricting operator movement. The pressure sensitive mats are custom fit to each application, to guarantee the best possible coverage. When used with the appropriate Carlo Gavazzi safety module, comprises a safety category 3 system.



Safety Switches

Housing Type		Housing Size H X W X D (mm)				
		58 x 30.5 x 33 mm	50 x 50 x 33 mm	62 x 52 x 35.5 mm	74 x 40 x 36 mm	110 x 56 x 40 mm
Key Actuated	Metal		E202...S5M	E302...S5M	E402...S5M	E802...S5M
	Plastic	E102...S5I	E202...S5I		E402...S5I	E802...S5I
Cable Pull	Metal	E102...TM	E202...TM	E302...TM	E402...TM	E802...TM
	Plastic	E102...TI	E202...TI		E402...TI	
Manual Reset	Metal	E102...BM	E202...BM			
	Plastic	E102...BI	E202...BI			
Hinge Actuated	Metal					
	Plastic	E102...SCI / SLI				

Safety switches are designed to protect both people and machinery from numerous dangerous conditions that exist not only in the industrial environment, but also in the commercial world. Some of the switches available include: manual reset switches used for elevators, cable pull switches used for mining applications, conveyors or assembly lines, key interlock switches used for safety doors and barriers, hinge-mount switches used for monitoring the position of doors or gates. The most popular sizes and shapes are offered. Their rugged metal housings and economical plastic housings provide one to three 1/2" NPT conduit entryways.



Angle key with fixing perpendicular to operations direction mounting, always supplied

Straight key for linear actuating

Long straight key for linear actuating

Long angle key with fixing perpendicular to the operating direction mounting

Hinged key with screw for key angle regulation

Safety Magnetic Sensors

Housing Type		Outputs			
		1 NO	2 NO	1 NO + 1 NC	2 NO + 1 NC
Cylindrical		SMS-A2P-10	SMS-A2P-30	SMS-A2P-02	
Rectangular			SMS-03	SMS-01 SMS-02	SMS-03/NC

SMS safety magnetic sensors are used to monitor the position status of hinged, sliding, or removable guards. Can be used in extremely harsh industrial environments where dirty and damp conditions are common, as well as applications where washdown occurs. The sensors are available in rectangular and cylindrical housings, with a variety of output options. Specially coded magnets are also available, to guarantee the safety of the system, by making the sensor impossible to trip with standard magnets. Conforms to safety category 3 or 4, depending upon type.



Dupline® Field & Installationbus

	Central unit			Input				Output	
	DIN	Socket	PCB	DIN	Socket	PCB	Other	DIN	Socket
128 I/O Signals	G34900000 D34900000	GPD1901 FPD1901							
128 I/O Signals & Logic	G38900014 G38900034 G38910020/21 G38910050 E3800								
Contact Signal				G50101106 G34205501	GFD1441 GFD1551	G21104401 G21205501	G88104401 G89102116	G38305543 G34301149 G34302249 G34304249	GAD1111 GAD1213
NPN Signal				G34205501	GFD1440 GFD1550	G21205501		G34305511	GAD1500 D12305111
PNP Signal								G34305521	GAD1501 GAD1504
6-32 VDC					GFD1441 GFD1551				
6-265 VAC/DC				G34205502			G34305545	G34305545	
Analog 0-20 mA Signal				G34296470	FFD1531			G34396470	FAD1531
Analog 4-20 mA Signal				G32101161 G34296470	FFD1532			G34396470	FAD1532
Analog 0-10 VDC Signal				G34296470	FFD1533			G34396470	FAD1533
Analog Temperature Signal				G32101111 G32101112 G32101113 D34296192					
Inductive Proximity Switch									
Magnetic Proximity Switch									
Passive Infrared Detector							G40855560 G41855530		
Text/Touch Display									
I/O Indicator									
4-Digit, 7-Segment									
PLCs and Serial Interfaces	G38900014 G38900034 G349600		G219600						
Profibus-DP Gateway	G38910020/21								
DeviceNet Gateway	G38910050								
LonWorks Gateway	G38910051								
Interbus-S Gateway	G38910052								
Modbus Gateway	G38910053								
Centronic Interface	G38900014 G38900034								
Modem Interface	G3800								
Fibre Optic Interface									
Accessories	FMK xxx RS232-9M/9F D9091SW	FMK xxx HF	RS485-CAB G34850000	D32124000	HF			D32124000	HF

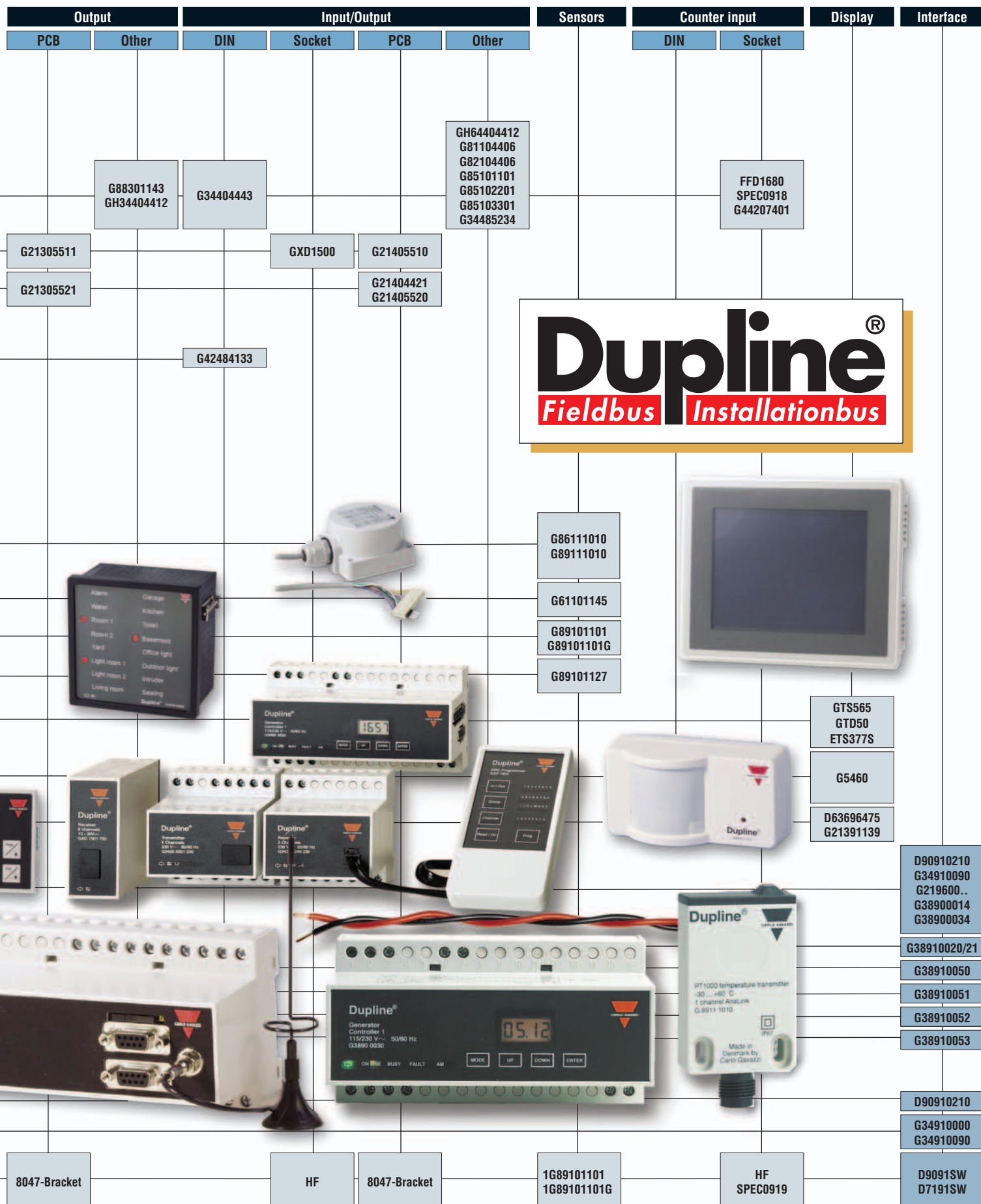
Dupline-Online allows monitoring and control of any remote facility via the Internet.

Bi-directional transmission of analog and /or digital signals over a single twisted pair of wire. Extremely immune to electrical noise, up to a six mile distance in any number of topology system designs. Longer distances possible with the implementation of signal repeaters or modems. Communication interfaces include: DeviceNet, Profibus-Dp, LonWorks, Interbus-s, Modbus gateways, and directly mapped PLC gateways (for Mitsubishi, GE Fanuc, Siemens, Omron, LG, AB, Schneider, Koyo, Matsushita, Siemens, Toshiba, IDEC) modem interfaces (dial-up, leased line, cellular, RF and microwave). Over 100,000 installations worldwide, quickly approaching one million I/O nodes.

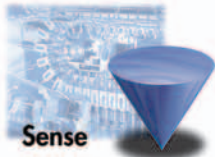
System Accessories

GAP1605 programmer, ADAPT1605 adaptor, GTU8 tester, DT01 terminator and D3892000 repeater.





The Complete Product Package



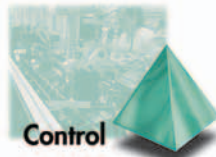
Sense

Inductive Proximity Sensors
 Tripleshield™ Capacitive Sensors
 Photoelectric Sensors
 Ultrasonic Sensors
 Level Sensors
 Limit Switches
 Magnetic Switches



Switch

Solid State Relays
 Contactors and Overloads
 Manual Motor Starters
 Motor Controllers
 Electromechanical Relays
 Pilot Devices
 Cam Switches
 Rotary Disconnects



Control

Energy Management
 Digital Panel Meters
 PID Controllers
 Time Delay Relays
 Current Monitoring Relays
 Voltage Monitoring Relays
 Three Phase Monitoring Relays
 Current Transformers
 Enclosures



Safety

Safety Switches
 Safety Control Modules
 Safety Light Curtains
 Safety Magnetic Sensors
 Safety Mats



Dupline

Dupline Field & Installation Bus
 Building Automation Systems
 Elevator Systems

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Our worldwide sales offices make us an ideal business partner, *especially for manufacturers of exported machinery*, as our products are available locally and they are CE marked.

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