

## Model G-STR Strobe Beacon

For Use in Hazardous Locations

25500185 Rev B9 0525

**Limited Warranty:** This product's limited warranty can be found at [www.fedsig.com/SSG-Warranty](http://www.fedsig.com/SSG-Warranty).

### SAFETY MESSAGES TO INSTALLERS AND USERS

It is important to follow all instructions shipped with this product. This beacon is to be installed by a trained electrician who is thoroughly familiar with and will follow all applicable national and local codes in the country of use.

This beacon should be considered a part of the warning system and not the entire warning system.

The selection of the mounting location for the beacon, its controls, and the routing of the wiring are to be accomplished under the direction of the facilities engineer and the safety engineer. Listed below are some other important safety instructions and precautions you should follow:

- Read and understand all instructions before installing or operating this equipment.
- To avoid electrical shock hazards, do not connect wires when power is applied. Failure to observe this warning may lead to serious injury or death.
- Never alter the unit in any manner. Safety in hazardous locations may be endangered if additional openings or other alterations are made in units specifically designed for use in these locations.
- Do not connect this beacon to the system when power is on.
- After installation, ensure that all threaded joints are properly tightened.
- Keep the unit tightly closed when in operation.
- After installation, test the beacon system to ensure that it is operating properly.
- After testing is complete, provide a copy of this instruction sheet to all personnel.
- Brass inserts have the potential to store charge when they are not plugged. Consideration should be taken to prevent these from becoming a sparking hazard.
- The lens guard has the potential to store charge. Consideration should be taken to prevent this from becoming a sparking hazard.
- Establish a procedure to routinely check the beacon system for proper activation and operation.
- Maximum flash frequency is 90 FPM.



- This equipment is suitable for use in Class I, Division 2, Groups A, B, C, D; Class II, Division 2, Groups F and G; Class III or non-hazardous locations only.
- The purchaser should make the manufacturer aware of any external effects or aggressive substances to which the equipment may be exposed.
- **WARNING: EXPLOSION HAZARD** – Do not disconnect the equipment unless power has been switched off unless the area is known to be non-hazardous.
- **WARNING: EXPLOSION HAZARD** – Do not remove or replace the fuse when energized.

Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death to you or others.

With respect to the potential electrostatic charging hazard as mentioned in the certificate "Specific Conditions of Use," under normal conditions of use, these devices are for fixed installations and not generally in contact with people. The risk of ignition is low. In addition, maintenance, cleaning, and extreme environmental factors (e.g., high velocity dust-laden atmospheres or high-pressure steam) should be taken into account by the end user using local Explosive Atmosphere (Ex) Electrical installation design, selection, inspection, and maintenance Codes and Standards. Cleaning of the devices should be done only with a damp cloth.

**Table 1 Certifications**

|                       |                                                                                                                                                                                                                             |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Certificate Nos.      | ATEX Cert No.: Baseefa15ATEX0154X<br>IECEx Cert No.: IECEx BAS 15.0103X<br>UKEX Cert No.: SGS23UKEX0085X<br>ATEX Coding:  II 2 G D       |
| Protection (21 joule) | Ex db IIC T3 Gb<br>Ex db e IIC T3 Gb<br>Ex tb IIIC T200°C Db IP66<br>(Tamb= -55°C to +70°C)                                                                                                                                 |
| Protection (15 joule) | Ex db IIC T4 Gb<br>Ex db e IIC T4 Gb<br>Ex tb IIIC T135°C Db IP66<br>(Tamb= -55°C to +70°C)                                                                                                                                 |
| Standards             | EN60079-0:2018, EN60079-1:2014, EN IEC 60079-7:2015+A1:2018, EN60079-28:2015, EN60079-31:2014; IEC60079-0:2017 7th Ed, IEC60079-1:2014-06 7th Ed, IEC60079-7:2017 5.1 Ed, IEC60079-28:2015 2nd Ed, IEC60079-31:2013 2nd Ed. |

### Specific Conditions of Use

1. The Modular Visual Strobe has external non-metallic surfaces which may provide a potential electrostatic charging hazard. See the manufacturer's instructions for further information.
2. The Modular Visual Strobe has metallic components in the non-metallic walls of the enclosure which can store electrical charge and therefore may provide a potential electrostatic charging hazard. The metallic brass inserts have a capacitance of 14 pF. The metallic guard has a capacitance of 18 pF. See the manufacturer's instructions for further information.
3. When multiple Ex e terminal housings are installed, they must be fully supported by the base fixings provided.

### cULus Zone Certifications

This equipment is certified for use in Class I, Zone 1 and Zone 21 hazardous (classified) locations. It has been investigated with reference to risks to life and property and for conformity to the installation and use in provisions of Articles 505 and 506 of NFPA 70 (NEC).

These models use protections:

- Class I, Zone 1, AEx db IIC T3 Gb or AEx db eb IIC T3 Gb
- Zone 21, AEx tb IIIC T200°C Db IP66 (Tamb= -55°C to +70°C)
- Ex db IIC T3 Gb or Ex db eb IIC T3 Gb
- Ex tb IIIC T200°C Db IP66 (Tamb= -55°C to +70°C)
- Model numbers with suffix -15J (15 joule) are same as above except:
  - Zone 21, AEx tb IIIC T165°C Db IP66
  - Ex tb IIIC 165°C Db IP66 (Tamb= -55°C to +70°C)

### UL Fire Alarm Certifications

The 24 Vdc Visual Strobe models with a clear lens are Listed by Underwriters Laboratories (UL) for use in fire alarm applications including hearing-impaired signaling. These models have the following nomenclature:

- G-STR-024-D-C
- G-STR-024-T-C
- G-STR-024-E-C

These models have a flash rate of 60 FPM and an electrical rating of 1.75 A maximum at 24 Vdc. Regulated voltage (16 Vdc-33 Vdc).

**NOTE:** UL only evaluated this product to the stated operational voltage range. It was not evaluated to 80% to 110% of the voltage range.

The visual strobe models have an on-axis visual strength rating of 200 candela. For the light dispersion pattern, refer to Tables 5 and 6.

The units can be mounted on a wall or ceiling and have no mounting orientation restriction. For specific installation and wiring requirements, refer to local codes such as the National Code (NFPA70) and the National Fire Alarm and Signaling Code (NFPA72).

### ⚠ CAUTION

**Do not paint this device after installation and do not change the factory-applied finish.**

**Unpacking the Device** – After unpacking the device, examine it for damage and verify the parts. If a part is missing or damaged, do not attempt to install the device. Contact Federal Signal Customer Support.

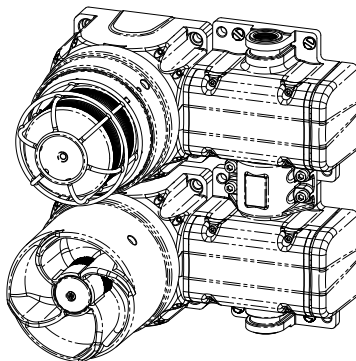
### ⚠ WARNING

**EXPLOSION HAZARD: A damaged lens can lead to explosions, causing serious injury or death. If a lens is damaged, it must be replaced.**

## Creating Combination Fixtures in the Field

The Federal Signal Global Series Ex de products can be connected together in the field using interchangeable E-box end caps and a proprietary coupling system. The proprietary coupling system allows for simple, cost-effective wiring from product to product, often eliminating the need for expensive Ex wiring practices and Ex rated glands. The E-box is available only when factory installed on an Ex d unit or when used as a E-box spacer adjoining an existing E-box. For available options, refer to the accessories listed on page 20.

**Figure 1 Beacon and sounder combination fixture**



When creating certain fixture combinations, it is necessary to replace the E-box end caps before mounting the product. If you are creating combination fixtures, refer to instruction manual 25500259 for specific instructions and details.

A note about combination fixtures: If the product is Ex db marked, it is for use in gas atmospheres. If the product is Ex db e marked, it uses increased-safety terminal enclosures and is for use in gas atmospheres. The product is Ex tb marked for use in dust atmospheres.

## Mounting the G-STR Beacon

### **⚠ WARNING**

**ATTACH THE BEACON SECURELY:** To prevent injury, this apparatus must be securely attached to the mounting surface in accordance with the installation instructions. Use installer-supplied fasteners suitable for the mounting surface.

The mounting method and the installer-supplied mounting hardware depend on which of the two G-STR models you are installing.

## Mounting the Surface-Mount Ex d Beacon

Mount the beacon to a flat surface using the four 8.5 mm mounting holes. Use installer-supplied fasteners suitable for the surface to which the device will be mounted.

Figure 2 Front view of Ex d beacon

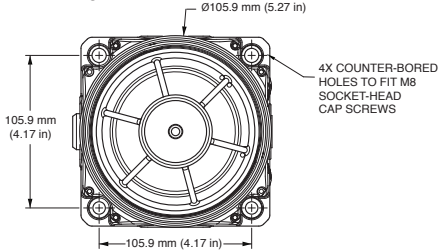


Figure 3 Side view of Ex d beacon

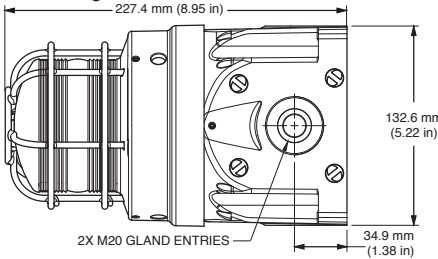
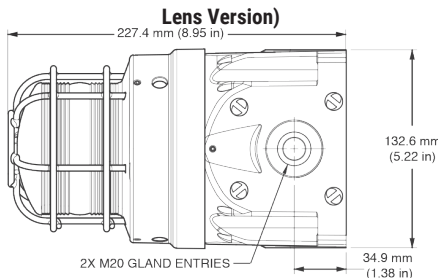


Figure 4 Side view of Ex d beacon (High Profile



## Mounting the Ex de Surface-Mount Beacon

Mount the beacon to a flat surface using the six 8.5 mm mounting holes. Use installer-supplied fasteners suitable for the surface to which the device will be mounted.

Figure 5 Front view of Ex de surface mount

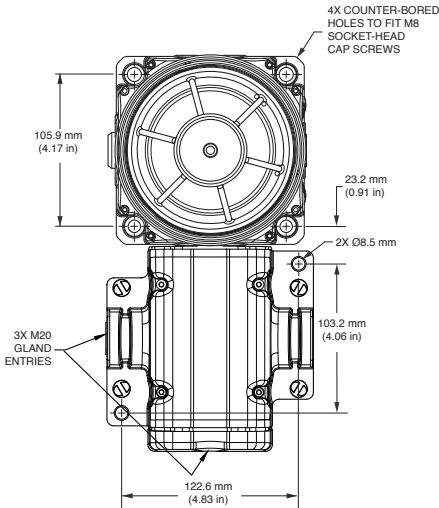
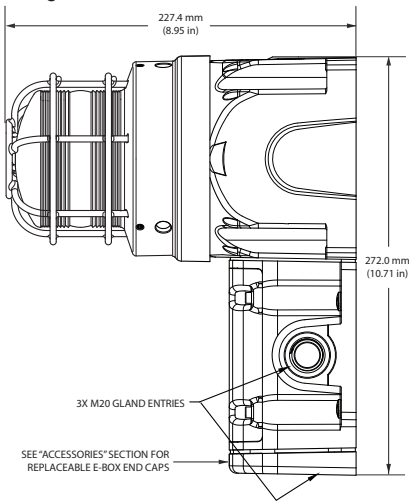


Figure 6 Side view of Ex de surface mount



# Wiring the Device

## SAFETY MESSAGES FOR WIRING ⚠️:

When installing and operating flame-proof electrical equipment, the relevant national regulations for installation and operation (e.g., EN60079-14, IEC Wiring Regulations and NEC/CEC) must be observed.

- To avoid electrical shock hazards, do not connect wires when power is applied. Failure to observe this warning may lead to serious injury or death.
- To maintain the flame-proof integrity of the enclosure, DO NOT damage the strobe lens cover or threads while disassembling or reassembling unit.
- Painting and surface finishes, other than those applied by Federal Signal Corporation, are not permitted.
- Cable termination should be in accordance with specifications applying to the application. Federal Signal recommends that all cables and cores should be fully identified.
- Ensure that only the correct equipment-certified glands are used and that the assembly is shrouded and correctly earthed. Gland entries are M20-1.5 6H with an option for the M25 entry on the end of the increased safety box models. See Table 3 on page 26 for choosing the correct cable entry devices for Equipment in Potentially Explosive Atmospheres.
- Because of space limitations, ensure the cable cores within the unit are not too slack.
- In all countries, the wiring must comply with all national and local codes and standards.
- Ensure that all nuts, bolts, and fixings are secure.

## Preparing to Wire the Ex d Flameproof Models

### ⚠️ WARNING

**SHOCK HAZARD:** To avoid electrical shock hazards, do not connect wires when power is applied. Failure to observe this warning may lead to serious injury or death.

### NOTICE

**CIRCUIT BOARD DAMAGE:** The DC beacons are polarity sensitive, and MAY BE DAMAGED by incorrect electrical hookup. When connecting the DC beacon to the voltage supply lines, **POLARITY MUST BE OBSERVED**. In addition, damage will result if the voltage rating of the particular model is exceeded by more than 10 percent.

This section has wiring instructions for the two flameproof models:

- G-STR 24 Vdc
- G-STR 120 Vac
- G-STR 220-240 Vac

Ex d units are supplied with a six-position, PCB mounted, screw-terminal block.

The maximum wire gauge is 4.0 mm (12 AWG). The wire must be rated 97°C or higher. Use only stranded cable to terminate the beacon. The cross-sectional area of the primary earth (ground) must equal the cross-sectional area of the phase conductor.

Cable termination for these models should be in accordance with specifications applying to the application. It is recommended that all cables and cores should be fully identified. Use the appropriate cable gland for the application. Gland entry threads are M20-1.5 x 6H.

Tools needed:

- 1.5 mm A/F hexagon key
- 2 mm flat-tip screwdriver
- No. 1 Phillips® screwdriver
- Wire stripper

## Wiring the Ex d Models

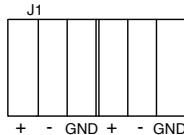
To wire the Ex flameproof beacon:

1. Unscrew the M3 hex set screw on the side of the housing one full turn.
2. Remove the lens cover from the housing by turning the cover counterclockwise. Three 120-degree spaced reliefs are provided for a 3/8 in spanner wrench if needed. If the cover will not unscrew, back out the set screw a few additional turns.
3. Loosen the captive Phillips screw retaining the printed circuit board (PCB).
4. Slide out the PCB until the terminals clear the housing. Strip the wire insulation 8 mm (0.31 in). Maximum screw-tightening torque is 0.6 N·m (5 in-lb).

### 24 Vdc Models

- a. Connect the positive (+) power source wire to the terminal-block screw marked +. See Figure 8.

Figure 7 IN/OUT PCB connections for Ex d 24 Vdc

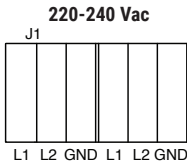


- b. Connect the negative (-) power source wire to the terminal block screw marked -.
- c. Connect the earth ground wire to the terminal block pole marked -GND.

### 120 Vac and 220-240 Vac Models

- a. Connect the line (hot) power source wire to the terminal-block screw marked L1. See Figure 9.

Figure 8 IN/OUT PCB connections for Ex d 120 Vac and



- b. Connect the neutral (common) power source wire to the terminal block screw marked L2.
  - c. Connect the ground wire to the terminal block pole marked GND.
5. Insert the PCB into the enclosure and fully tighten
- Insert the PCB into the enclosure and fully tighten the PCB captive screw.
6. Place the cover on the housing and tighten it by turning it clockwise.
7. To ensure O-ring compression, the cover must be fully seated against the housing when the threads are tightened. Turn the M3 set screw on the side of the housing until the screw contacts the housing.
8. Ensure that the unused wire entry is sealed with the provided brass M20-1.5 x 6 g stopping plug (equipment-certified).
9. Test the beacon for proper operation

Preparing to Wire the Ex de Increased Safety Models

**⚠ WARNING**

**SHOCK HAZARD:** To avoid electrical shock hazards, do not connect wires when power is applied. Failure to observe this warning may lead to serious injury or death.

This section has wiring instructions for the two increased safety models:

- G-STR 24 Vdc
- G-STR 120 Vac
- G-STR 220-240 Vac

Ex de units are supplied with a six-pole, spring tension-clamp style terminal block. The maximum wire gauge is 4.0 mm (12 AWG). The wire must be rated 97°C or higher. Use only stranded cable to terminate the beacon. The cross-sectional area of the primary earth (ground) must equal the cross-sectional area of the phase conductor.

Cable termination should be in accordance with specifications applying to the application. It is recommended that all cables and cores should be fully identified. Use the appropriate cable gland for the application. Gland entry threads are M20-1.5 6H.

Conductive metalwork, including cable glands, must be a minimum of 5 mm away from the terminals.

Leads connected to the terminals shall be insulated for the appropriate voltage and this insulation shall extend to within 1 mm of the metal of the terminal throat.

The G-STR terminal block is supplied with two conductors per pole. The terminal block allows for easy supply-in and loop-out wiring to connect beacons in series.

Tools needed:

- 3.0 mm hexagon key
- No. 1 Phillips® screwdriver
- Wire stripper

Wiring the Ex de Models

**NOTICE**

**CIRCUIT BOARD DAMAGE:** The DC beacons are polarity sensitive, and MAY BE DAMAGED by incorrect electrical hookup. When connecting the DC beacon to the voltage supply lines, POLARITY MUST BE OBSERVED. In addition, damage will result if the voltage rating of the particular model is exceeded by more than 10 percent.

To wire the Ex de beacon:

1. Unscrew the four M4 socket-head cap screws and remove the terminal box cover.
2. Strip the wire insulation 8 mm to 9 mm (0.33 in)

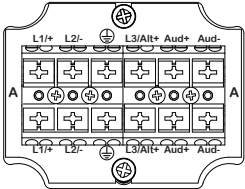
**NOTE:** When using more than one single or multiple strand lead, the connection on either side of any terminal must be joined in a suitable manner, e.g. two conductors into a single insulated crimped bootlace ferrule

3. To connect wires, press the button on the terminal block with a Phillips screwdriver and insert the wire into the round opening. Release the button to make connection.

24 Vdc Models

- a. Connect the positive (+) power source wire to the terminal block pole marked L1/+. See Figure 10.

Figure 9 Connections for DC or AC Ex de beacons



- b. Connect the negative (-) power source wire to the terminal block pole marked L2/-.
- c. Connect the earth ground wire to the terminal block pole marked ⊕.

## 120 Vac or 220-240 Vac Ex de Models

- a. Connect the line (hot) power source wire to the terminal block screw marked L1/+. See Figure 10.
  - b. Connect the neutral (common) power source wire to the terminal block pole marked L2/-.
  - c. Connect the earth ground wire to the terminal block pole marked .
4. Secure the cover on the terminal box with the four M4 screws. Ensure that the gasket is properly seated to maintain the IP rating. Do not overtighten the screws.
  5. Test the beacon for proper operation.

## Maintaining the Beacon

### SAFETY MESSAGES FOR MAINTENANCE PERSONNEL

 Listed below are some important safety instructions and precautions you should follow:

- Read and understand all instructions before operating this system.
- If you acquired a significant quantity of units, then it is recommended that spares also be made available.
- Any maintenance to the beacon system must be done with power turned off.
- Any maintenance to the beacon system must be performed by a trained electrician who is thoroughly familiar with all applicable national and local codes in the country of use.
- To avoid electrical shock hazards, do not connect wires when power is applied. Failure to observe this warning may lead to serious injury or death.
- Never alter the unit in any manner. Safety of the unit may be affected if additional openings or other alterations are made to the internal components or housing.
- Repair of flamepaths is not intended.
- The nameplate, which may contain cautionary or other information of importance to maintenance personnel, should NOT be obscured in any way. Ensure that the nameplate remains readable.
- After performing any maintenance, test the beacon system to ensure that it is operating properly.

Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death.

### WARNING

**EXPLOSION HAZARD:** To prevent ignition of hazardous atmosphere, disconnect the beacon from the supply circuit before opening it. Do not open the beacon in the presence of explosive gases in the atmosphere. Failure to follow this warning may result in serious injury or death.

During the working life of the beacon, it should require little or no maintenance. The non-metallic housing will resist attack by most acids, alkalis, and chemicals and is as resistant to concentrated acids and alkalis as most metal products. However, if abnormal or unusual environment conditions occur due to plant damage or accident, etc., visual inspection of the beacon is recommended.

## Cleaning the Enclosure

The enclosure should be cleaned periodically with a damp cloth to maintain maximum light output. The polycarbonate colored strobe lens should be regularly inspected for cracks. If it is damaged, it must be replaced. Refer to the "Certification" section for any applicable Specific Conditions of Use.

## Replacing the Strobe Tube

### WARNING

**EXPLOSION HAZARD:** To maintain the flameproof integrity of the enclosure, DO NOT damage the lens cover or threads while disassembling or reassembling the beacon.

### WARNING

**LIGHT HAZARD:** To be an effective warning device, the beacon produces bright light that can be hazardous to your eyesight when viewed at close range. Do not stare directly into the beacon at close range, or permanent damage to your eyesight may occur.

### CAUTION

**BURN HAZARD:** The strobe tube gets hot enough to burn you. Always allow the array to cool before handling it.

### CAUTION

**DO NOT TOUCH STROBE TUBES WITH BARE HANDS:** Oil deposits on the glass portion of the tube can cause the glass to fracture during use. If you are unsure whether the glass portion has been handled without gloves, clean the glass using a soft cloth and isopropyl alcohol before installing the lamp.

## NOTICE

**STATIC SENSITIVE DEVICE:** The circuitry of the beacon can be damaged by an electrostatic discharge (ESD). Always follow anti-static procedures while servicing the beacon.

Tools and replacement part needed:

- 1.5 mm A/F hexagon key
- Federal Signal strobe tube part No. K8107177

To replace the strobe tube:

1. Disconnect the power to the beacon.
2. Use the hexagon key to unscrew the set screw on the housing one full turn.
3. Remove the cover from the housing by turning the cover counterclockwise. If the strobe lens will not unscrew, back out the set screw a few additional turns.
4. Remove the strobe tube from the socket by pulling it up on the base using a gentle rocking motion.
5. Insert the new strobe tube into the socket. Ensure that the tube is fully seated.
6. Place the cover on the housing and tighten it by turning it clockwise.
7. To ensure O-ring compression, the cover must be fully seated against the housing when the threads are tightened. Turn the M3 set screw on the side of the housing until the screw contacts the housing.
8. Reconnect power to the beacon.
9. Apply power and verify that the beacon operates properly.

### Lubricating the Threaded Joints

A silicone based, non-hardening, chemically compatible grease can be applied if required.

## Maintenance and Service

**Technical Assistance:** Contact our Technical Support Team at +1 708-587-3587 or [signalsupport@fedsig.com](mailto:signalsupport@fedsig.com).

**Repair Service:** A return authorization is required. Contact your Authorized Distributor or Federal Signal Customer Support. Defective products under warranty will be repaired or replaced at Federal Signal's discretion.

**Product Returns:** Returns require authorization from Federal Signal. Contact your Authorized Distributor for more information on our return policy or to request a return.

## Ordering Replacement Parts

Consult the product datasheet online for an updated list of replacement parts. If the product requires a part that is not available for purchase, your unit must be repaired or replaced. The product's dome should be regularly inspected for scratches or chips and, if damaged, it must be replaced. A strap wrench (6" capacity) may be used to aid in the dome removal.

**Table 2 Replacement parts**

| Description                                                                                                          | Part Number        |
|----------------------------------------------------------------------------------------------------------------------|--------------------|
| Lens Guard                                                                                                           | K859500821-01      |
| Lens, Amber                                                                                                          | K859500814         |
| Lens, Blue                                                                                                           | K859500814-01      |
| Lens, Clear                                                                                                          | K859500814-02      |
| Lens, Green                                                                                                          | K859500814-03      |
| Lens, Red                                                                                                            | K859500814-04      |
| Lens, Magenta                                                                                                        | K859500814-05      |
| Lens, Yellow                                                                                                         | K859500814-06      |
| Strobe Tube Only                                                                                                     | K8107177A          |
| <b>21J Strobe (G-STR) Internal Sub-Assembly Kit (Includes Strobe Tube, PCBA, Brackets &amp; Mounting Screws)</b>     |                    |
| Description                                                                                                          | Part Number        |
| Strobe Tube, 21J, PCBA 24VDC Kit                                                                                     | K859501402-024     |
| Strobe Tube, 21J, PCBA 120VAC Kit                                                                                    | K859501402-120     |
| Strobe Tube, 21J, PCBA 240VDC Kit                                                                                    | K859501402-230     |
| <b>15J Strobe (G-STR-15J) Internal Sub-Assembly Kit (Includes Strobe Tube, PCBA, Brackets &amp; Mounting Screws)</b> |                    |
| Description                                                                                                          | Part Number        |
| Strobe Tube, 15J, PCBA 24VDC Kit                                                                                     | K859501402-024-15J |
| Strobe Tube, 15J, PCBA 120VAC Kit                                                                                    | K859501402-120-15J |
| Strobe Tube, 15J, PCBA 240VDC Kit                                                                                    | K859501402-230-15J |

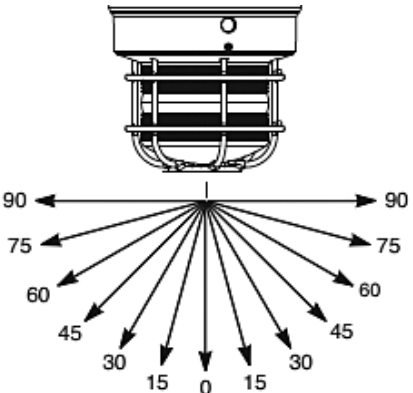
**Table 3 Accessories**

| Description                                                                             | Part Number   |
|-----------------------------------------------------------------------------------------|---------------|
| Indicator Ring/Legend Kit, Black                                                        | G-KIT-RP-BK   |
| Indicator Ring/Legend Kit, Blue                                                         | G-KIT-RP-B    |
| Indicator Ring/Legend Kit, Green                                                        | G-KIT-RP-G    |
| Indicator Ring/Legend Kit, Magenta                                                      | G-KIT-RP-M    |
| Indicator Ring/Legend Kit, Red                                                          | G-KIT-RP-R    |
| Indicator Ring/Legend Kit, Yellow                                                       | G-KIT-RP-Y    |
| E-Box Endcap with M20 Opening                                                           | K859500805-02 |
| E-Box Endcap with M25 Opening                                                           | K859500805-01 |
| E-Box Cover Assembly (Includes two terminal blocks, mounting plate, retention hardware) | K859501414    |
| In-Line E-Box Coupler Kit                                                               | G-KIT-EC180   |
| 90-Degree E-Box Coupler Kit                                                             | G-KIT-EC90    |
| Extension Box Spacer Kit                                                                | G-KIT-EXTB    |
| Single Trunnion Kit                                                                     | G-KIT-ST      |
| Dual Trunnion Kit                                                                       | G-KIT-DT      |
| Adapter, M20 Male to 1/2" Female NPT                                                    | K231246A      |
| Adapter, M20 Male to 3/4" Female NPT                                                    | K231247       |

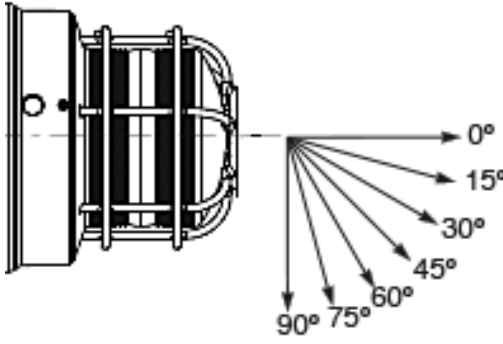
**Table 4 Choosing cable-entry devices for Equipment in Potentially Explosive Atmospheres**

| Models                                                                             | Ex Atmospheres | Cable Entry Devices (cable glands, stopping plugs, etc.)                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| G-STR-XXX-D-X<br>(Ex db surface mount)                                             | Gas            | Cable entry devices shall be equipment certified as flameproof. To maintain the ingress protection of the flameproof beacon enclosure, we recommend the cable entry device be IP66 certified                                                                                                                                                                                                                   |
| G-STR-XXX-E-X<br>(Ex db surface mount)                                             | Gas            | For the flameproof beacon enclosure, cable entry devices shall be equipment certified as flameproof. To maintain the ingress protection of the flameproof beacon enclosure we recommend the cable entry device be IP66 certified. For the increased safety terminal enclosures (terminal boxes), cable entry devices shall be equipment certified as increased safety and shall maintain an IP rating of IP54. |
| G-STR-XXX-D-X<br>(Ex db surface mount)<br>G-STR-XXX-E-X<br>(Ex db e surface mount) | Dust           | Cable entry devices for the Beacon and terminal enclosures shall be equipment certified as dust protected. To maintain the ingress protection of the beacon and terminal enclosures the cable entry devices shall be IP6X certified.                                                                                                                                                                           |

**Table 5 Vertical light dispersion pattern**

|  |  | Degrees (°) | Minimum Output cd |
|-----------------------------------------------------------------------------------|--|-------------|-------------------|
|                                                                                   |  | 0           | 200               |
|                                                                                   |  | 5-25        | 180               |
|                                                                                   |  | 30-35       | 150               |
|                                                                                   |  | 50          | 110               |
|                                                                                   |  | 55          | 90                |
|                                                                                   |  | 60          | 80                |
|                                                                                   |  | 65          | 70                |
|                                                                                   |  | 70          | 70                |
|                                                                                   |  | 75          | 60                |
|                                                                                   |  | 80          | 60                |
|                                                                                   |  | 85          | 50                |
|                                                                                   |  | 90          | 50                |

**Table 6 Horizontal light dispersion pattern**

|  |  | Degrees (°) | Minimum Output cd |
|------------------------------------------------------------------------------------|--|-------------|-------------------|
|                                                                                    |  | 0           | 200               |
|                                                                                    |  | 5-25        | 180               |
|                                                                                    |  | 30-35       | 150               |
|                                                                                    |  | 50          | 110               |
|                                                                                    |  | 55          | 90                |
|                                                                                    |  | 60          | 80                |
|                                                                                    |  | 65          | 70                |
|                                                                                    |  | 70          | 70                |
|                                                                                    |  | 75          | 60                |
|                                                                                    |  | 80          | 60                |
|                                                                                    |  | 85          | 50                |
|                                                                                    |  | 90          | 50                |