

# Global Series Multi-Signal Fixtures, Accessories, and Service Kits

For Use in Hazardous Conditions 25500259 Rev B2 0722



Limited Warranty: This product's limited warranty can be found at www.fedsig.com/SSG-Warranty

**SAFETY MESSAGES TO INSTALLERS AND USERS** 1: It is important to follow all instructions shipped with this Global Series multi-signal configuration or kit. This multi-signal configuration or kit 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 multi-signal configuration and any optional Global Series kits or accessories should be considered a part of the warning system and not the entire warning system.

The selection of the mounting location for the Global Series warning device, 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 any Global Series multisignal configuration or optional kits and before operating any Global Series device.
- Never alter any Global Series device or multi-signal configuration in any manner without an approved Federal Signal Global Series kit. Safety in hazardous locations may be endangered if additional openings or other alterations are made in units or kits which were specifically designed for use in these locations.
- Do not connect any Global Series device or multi-signal configuration to the system when power is on.
- Do not assemble any kit to an existing working device or system when power to the system is on.
- All effective warning speakers produce loud sounds, which may cause, in certain situations, permanent hearing loss. Take appropriate precautions such as hearing protection. The device should be installed far enough away from potential listeners to limit their exposure while still maintaining its effectiveness.
- After installation, ensure that all threaded joints are properly tightened.
- After installation, test the configured system to ensure that it is operating properly.
- · Keep the unit tightly closed when in operation.
- After testing is complete, provide a copy of this manual 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.
- Establish a procedure to routinely check the configured system for proper activation and operation.

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

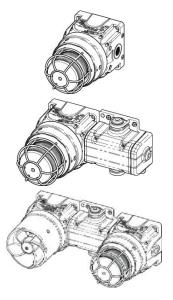
# **Approved and Certified Global Series Kits and Accessories**

Global Series kits in this manual are only approved with the corresponding Global Series Strobe, LED, Sounder, Loudspeaker, and Amplified Speaker devices. The agency certifications are on the nameplate on the side of all Global Series signaling devices. For details of the agency listing, refer to the Installation and Maintenance Instructions for the device.

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

# **Field Installation Applications and Options**

Three standard surface-mount configurations are available for the Global Series per configured device. The kits and accessory compatibility options are as follows.



Discrete Base Module (Ex d) Devices (Audible, LED, or Strobe)

- Colored indicator ring + placard (G-KIT-RP-\*)
- Single Trunnion mount (G-KIT-ST)

Base Modules with increased safety enclosure (Ex de) eBox

- Colored indicator ring + placard (G-KIT-RP-\*)
- eBox Coupling (G-KIT-EC90, G-KIT-EC180, G-KIT-ECSM)
- eBox Extension Box (G-KIT-EXTB)

Dual Device Units (Audible, LED, or Strobe)

- Colored indicator ring + placard (G-KIT-RP-\*)
- eBox Coupling (G-KIT-EC90, G-KIT-ECSM)
- eBox Extension Box (G-KIT-EXTB)
- Dual Trunnion mount (G-KIT-DT)

# **Surface-Mounting a Multi-Signal Configuration**

# **▲** WARNING

SECURELY ATTACH THE DEVICE: 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.

Mount multi-signal configurations to a flat surface capable of supporting the combined weight of the entire fixture using the available 8.5 mm diameter mounting holes. Use installer-supplied fasteners suitable for the mounting surface.

**NOTE:** Any multi-signal configurations built in the field using proprietary coupling kits (G-KIT-EC90, G-KIT-EC180, G-KIT-ECSM, G-KIT-EXTB) should be assembled prior to mounting any portion of the fixture to a substrate. For reference, relative mounting hole spacing for the available configurations are shown in the following three figures:

Figure 1 eBox to ebox side-mount coupling kit (G-KIT-ECSM)

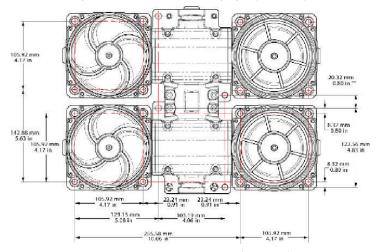


Figure 2 eBox to ebox 90° coupling kit (G-KIT-EC90)

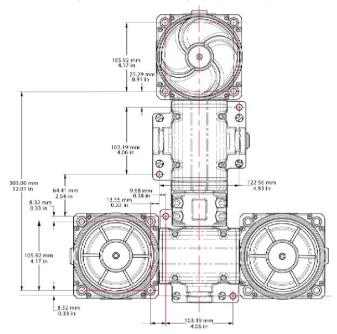
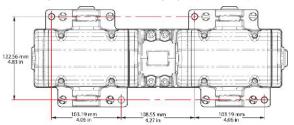


Figure 3 eBox to ebox 180° coupling kit (G-KIT-EC180)



# **Installing a Trunnion-Mount Configuration**

Mount the trunnion bracket to a flat surface capable of supporting the weight of the fixture using the two 7.0 mm diameter mounting holes on the single trunnion bracket or four 7.0 mm diameter holes on the dual trunnion bracket. Use installer-supplied fasteners suitable for the surface to which the device will be mounted.

To adjust the vertical angle of the Global Series signal(s), loosen the fasteners on the mounting bracket to disengage the ratchet. Vertically aim the signal(s) and then tighten the fasteners.

171.70 mm 2.77 in

148.35 mm

221.52 mm 8.72 in

31.75 mm

1.25 in

Figure 4 Single device trunnion mount

Figure 5 Dual-device trunnion mount (side view)

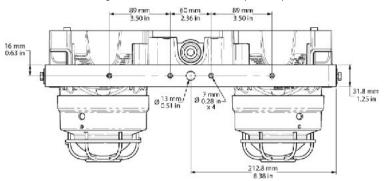
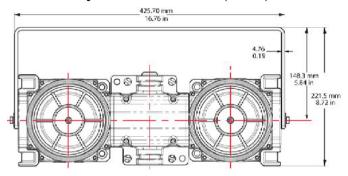


Figure 6 Dual-device trunnion mount (front view)



# **Fixturing Multi-Signal Configurations in the Field**

Four kits are available for coupling Global Series increased safety Ex de signals and factory assembled dual-signal units into multi-signal configurations in the field: G-KIT-EC90, G-KIT-EC180, G-KIT-ECSM, and G-KIT-EXTB.

#### Tools required:

- Ball-end hex key, M5
- Hex key, M3
- Hex key, M10 (for M20 plug removal if present on eBox)

## G-KIT-EC90 eBox to eBox 90° Coupling Mounting Kit

A vertically aligned eBox can be adjoined to a horizontally aligned eBox using kit G-KIT-EC90.

## The kit contains:

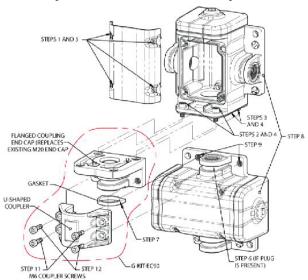
- 1 U-shaped coupler
- 4 M6 stainless steel socket-head cap screws
- 1 coupling gasket
- 1 flanged coupling end cap (replaces the existing M20 end cap on one of the eBoxes)

# Joining Vertically and Horizontally Aligned eBoxes

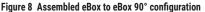
To join vertically and horizontally orientated e-Boxes:

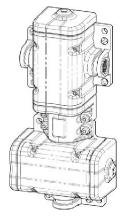
- 1. Remove the four M4 socket head cap screws securing the cover of one eBox.
- 2. Remove the two M6 socket head cap screws inside the eBox near the M20 end cap.
- Remove the two remaining M6 socket head cap screws securing the M20 end cap on the underside of the eBox, and remove the end cap.
- Replace the M20 end cap with the flanged coupler end cap. Replace and tighten all four M6 socket-head cap screws.
- 5. Replace and tighten the four M4 screws that retain the ebox cover.
- 6. If the M20 black hylon plug is present at the coupling location, remove it.
- 7. Peel off the paper liner on one side of the coupler gasket and adhere the gasket to the entryway of the flanged coupling end cap. Remove the paper liner on the other side of the gasket.

Figure 7 Procedure for eBox-to-eBox 90° configuration



- **8.** Place both eBoxes on a flat surface. Align the axes of the cable entries and join both eBoxes together at 90 degrees, ensuring that the gasket is aligned to both eBoxes.
- To expose the brass inserts for the M6 coupler screws, remove and discard the two rubber plugs from the eBox flange.
- 10. Place the U-shaped coupler onto the flanged coupling areas where the two eBoxes adjoin and press down on it.





# NOTICE

DO NOT OVERTIGHTEN SCREWS: To avoid fracturing the coupler or eBox flange, do not overtighten the M6 socket head screws.

- 11. Insert one M6 socket head screw on one side of the coupler and thread it into the brass insert of the eBox flange. Insert another screw into the brass insert on the opposite side diagonally opposed from the first screw. Tighten both screws.
- Insert and tighten the two remaining M6 socket head cap screws into the U-shaped coupler. Do not overtighten the screws.

## G-KIT-EC180 eBox to eBox 180° In-line Coupling Mounting Kit

Two eBoxes can be joined horizontally with the G-KIT-ECSM kit.

#### The kit contains:

- · 1 U-shaped coupler
- 4 M6 stainless steel socket-head cap screws
- 1 coupling gasket
- 2 flanged coupling end caps (replaces the existing M20 end caps on both eBoxes)

## Joining Horizontally Aligned eBoxes

To join two horizontally orientated e-Boxes:

- 1. Remove four M4 socket head cap screws on each eBox and remove the covers.
- 2. Remove the two M6 socket head cap screws inside the eBoxes near the M20 end cap.
- 3. Remove the two M6 socket head cap screws from the bottom of the eBoxes securing the M20 threaded end caps.
- 4. Remove the M20 end caps from eBoxes.
- 5. Replace the M20 end caps with the two flanged coupler end caps.

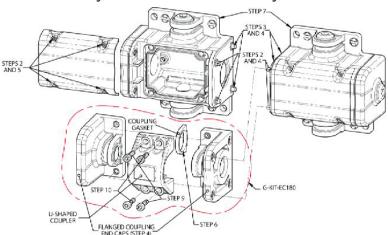


Figure 9 Procedure for eBox to eBox 180° configuration

**6.** Insert and tighten all four M6 socket head cap screws on each flanged coupling end cap.

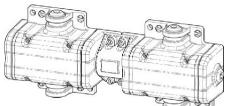


Figure 10 eBox to eBox 180° configuration

- 7. Insert and tighten the four M4 screws that retain each eBox cover.
- 8. Peel off the paper liner on one side of the coupler gasket and adhere the gasket to the entryway of one of the flanged coupling end caps. Remove the paper liner on the other side of the gasket.

- 9. Place both eBoxes on a flat surface, align the axes of cable entries, and adjoin both eBoxes in line, ensuring that the gasket is aligned to both eBoxes.
- 10. Place the U-shaped coupler on the flanged coupling area where the two eBoxes adjoin and press down on it.
- 11. Insert an M6 socket head screw on one side of the coupler and thread it into the brass insert of the eBox flange. Insert a screw on the opposite side diagonally opposed from the first screw. Tighten both screws.

## **NOTICE**

DO NOT OVERTIGHTEN SCREWS: To avoid fracturing the coupler or eBox flange, do not overtighten the M6 socket head screws.

 Insert and tighten the two remaining M6 socket head cap screws into the U-shaped coupler. Do not overtighten the screws.

## G-KIT-ECSM eBox to eBox Side Mount Coupling Mounting Kit

Two eBoxes can be joined vertically with the G-KIT-ECSM kit.

Kit contents:

- 1 U-shaped coupler
- 4 M6 stainless steel socket-head cap screws
- 1 coupling gasket

To join vertically orientated e-Boxes:

- 1. If present at the coupling location, remove the M20 black nylon plugs.
- Peel off the paper liner on one side of the coupler gasket and adhere the gasket to the cable entry of one of the eBoxes. Remove the paper liner on the other side of the gasket.
- Place both eBoxes on a flat surface, align the axes of cable entries, and adjoin both eBoxes together in line, ensuring that the gasket is aligned to both cable entries on the eBoxes.
- **4.** Remove and discard the four rubber plugs from the eBox flanges, revealing the brass inserts.

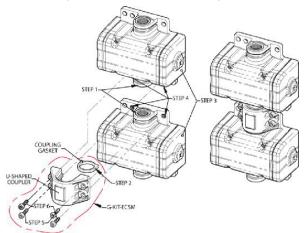


Figure 11 eBox to eBox side-mount configuration

- 5. Place the U-shaped coupler onto the cable-entry coupling area where the two eBoxes adjoin, and press down on it.
- 6. Thread an M6 socket-head screw into the brass insert on one side of the eBox. Thread another screw on the opposite side diagonally opposed from the first screw. Tighten both screws.

## **NOTICE**

DO NOT OVERTIGHTEN THE SCREWS: To avoid fracturing the coupler or eBox flange, do not overtighten the M6 socket head screws.

7. Insert the two remaining M6 socket head cap screws into the U-shaped coupler and tighten them.

# **G-KIT-EXTB eBox Extension Box Mounting Kit**

The eBox extension box can be used with coupling kits G-KIT-EC90, G-KIT-EC180, or G-KIT-ECSM as a spacer between two Global Series increased-safety Ex de units, two factory assembled dual-signal units, or between one Ex de unit and one factory-assembled, dual-signal unit. Because the extension box has the same cover and M20 end cap construction as an eBox on a standard Ex de unit, follow the attachment instructions in the G-KIT-EC90, G-KIT-EC180, or G-KIT-ECSM sections of this manual to form a multitude of signal configurations.

NOTE: Standalone Ex d units cannot be converted to Ex de units in the field with this kit.

#### Kit contents:

- 1 eBox base unit
- 1 eBox cover with captive M4 socket-head cap screws (mounted on base unit)
- 8 M6 stainless steel socket-head cap screws (mounted in place)
- 2 M20 threaded boss end caps (mounted in place)
- 3 M20 nylon plugs (mounted in place)

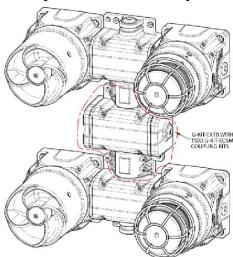


Figure 12 eBox extension box mounting kit

# Accessory Kits G-KIT-ST and G-KIT-DT

G-KIT-ST (single trunnion) is compatible with any Global Series explosion-proof Ex d device. G-KIT-DT (double trunnion) is compatible with any factory-assembled Global Series standard dual-signal unit. Both accessory kits use the same trunnion side mounts and mounting hardware. The only difference is in the length of the trunnion bracket.

#### Kit contents:

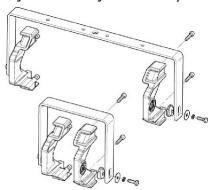
- 2 trunnion side-mounts
- 4 M6 stainless steel socket-head cap screws

- 2 ratchets, side mount
- · 2 washers, stainless steel
- · 2 lock washers, stainless steel
- · 2 M6 stainless steel hex-head bolts
- 1 mounting bracket (for single device or dual device)

## Tools required:

- M5 hex key
- · Socket driver for M6 hex head

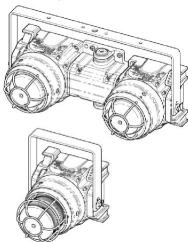
Figure 13 Dual and single trunnion mount systems



To assemble the trunnion mount and secure the device:

 From the back of the device housing, attach the two side-mount components to the opposite sides of the device using the four M6 socket-head cap screws. See Figure 14.

Figure 14 Dual and double signal devices secured to trunnion-mount brackets



**NOTE:** The two side mounts should be positioned on two opposing sides without the nameplate label so the label is not obscured by these mounts.

Carefully hold in place the two ratchets in the inside of the mounting bracket so that the oval boss of the ratchets resides in the bracket cutout.

- 3. While holding both ratchets in place on the inside of the bracket, align the bracket over the device. Apply an outward force on the U-shaped bracket so it extends outward for the ratchet to mate up with the corresponding ratchet geometry on the side mounts previously attached to the device.
- 4. While holding the bracketed assembly in place, attach the side-mount hardware consisting of a flat washer, lock washer, and hex head bolt on both sides while adjusting the ratchet to the desired position of the device when mounted.
- 5. Ensure that the side mount M6 hex head screws are tightened so that the device is securely mounted. For mounting dimensions, refer to the diagrams starting on page 3.

# G-KIT-RP-x Indicator Ring with Placard Mounting Kit

Colored indicator rings are available along with a placard mounting as an additional alerting visual indication for Global Series signals.

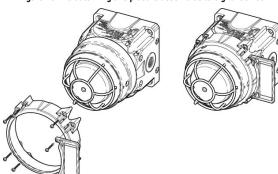


Figure 15 Indicator ring and placard assembled to signal device

Table 1 Available colors

G-KIT-RP-B	Blue indicator ring + black placard
G-KIT-RP-BK	Black indicator ring + black placard
G-KIT-RP-G	Green indicator ring + black placard
G-KIT-RP-M	Magenta indicator ring + black placard
G-KIT-RP-R	Red indicator ring + black placard
G-KIT-RP-Y	Yellow indicator ring + black placard

The indicator rings can be mounted without the placard. The placard requires an indicator ring for mounting to the device. Recommended blank labels (not included) for the placard are:

- ULINE Weather Resistant Polyester Laser Labels, 2-5/8 in x 1 in, #S-16643 (for use with laser printers and copiers)
- BRADY LABELS ToughWash B-855 Labels, 1.0 in width (for use with Brady label printer)
- White: #BM71C-1000-855-WT
- Yellow: #BM71C-1000-855-YL

#### The kit includes:

- 1 indicator ring
- 1 placard
- 8 #6 pan-head x 1-1/4 in, 6-lobe, Type 25 stainless steel thread-cutting screw

## Tools required:

T15 Torx screwdriver

To attach the indicator ring and placard:

- 6. Slide the indicator ring over the top of the device and align the perimeter holes with the holes on the housing.
- 7. If you are installing the placard, center the holes in the placard with those in the perimeter ring.
- 8. Secure the placard and indicator ring to the housing with two #6 pan head screws.
- **9.** Use the remaining six #6 screws to attach the indicator.

#### Multi-Field Replacement of Internal Subassemblies

Three distinct internal subassemblies are available for field replacement of visual LED, visual strobe, and audible sounder, speaker, and loudspeaker devices. For field wiring layouts, see the Federal Signal Global Series Wiring Guide #850000454.



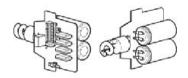
#### **EXPLOSION/SHOCK HAZARD:**

- The device is to be serviced only by a trained electrician who is familiar with the Global Series line of products and is fully aware of local codes and jurisdictions covering the installation and use of this hazardous location device.
- The device is not to be serviced in a hazardous environment where explosive gas or dust is present in the atmosphere.
- The device could present a potential electrostatic discharge. Before servicing the device, wipe it with a damp cloth to dissipate any residual electrostatic charge.
- The device is not to be opened while it is energized. To dissipate any residual internal charge, turn the device off and wait at least 15 minutes before opening it.

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

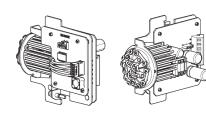
The replacement internal subassembly includes:

- · 1 device subassembly with:
- Side-mounted M3 captive screw
- Attached strobe tube (for strobe device)



#### Strobe replacement parts numbers

Strobe Tube, 21J, PCBA 24VDC Kit	K859501402-024
Strobe Tube, 21J, PCBA 120VAC Kit	K859501402-120
Strobe Tube, 21J, PCBA 240VDC Kit	K859501402-230
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
Strobe Tube Only	K8107177A



## DC LED (24VDC) Internal Sub-Assembly Kits

(Includes PCBA, bracket, LED lighthead and mounting screw)		
LED/PCB DC Sub-Assembly, Amber	K859501400-A	
LED/PCB DC Sub-Assembly, Blue	K859501400-B	
LED/PCB DC Sub-Assembly, White	K859501400-W	
LED/PCB DC Sub-Assembly, Green	K859501400-G	
LED/PCB DC Sub-Assembly, Magenta	K859501400-W	
LED/PCB DC Sub-Assembly, Red	K859501400-R	
LED/PCB DC Sub-Assembly, Yellow	K859501400-W	

# AC LED (120-240VAC) Internal Sub-Assembly Kit

Replacement Part Numbers

Driver/PCB Assembly, Sounder

Driver/PCB Assembly, Speaker, 70 V

Driver/PCB Assembly, Speaker, 100 V

Driver/PCB Assembly, Amplified Speaker

(Includes PCBAs, bracket, LED lighthead and mounting screw)

(moldade i obito, bracket, LLD lighthead and mounting objets)		
LED/PCB AC Sub-Assembly, Amber	K859501401-A	
LED/PCB AC Sub-Assembly, Blue	K859501401-B	
LED/PCB AC Sub-Assembly, White	K859501401-W	
LED/PCB AC Sub-Assembly, Green	K859501401-G	
LED/PCB AC Sub-Assembly, Magenta	K859501401-W	
LED/PCB AC Sub-Assembly, Red	K859501401-R	
LED/PCB AC Sub-Assembly, Yellow	K859501401-W	

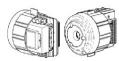
K859501403

K859501404

K859501405-070

K859501405-100

Attached cast driver (for sounder, speaker, and loudspeaker devices)



## Tools required:

- M 1.5 hex key, (for housing cap removal)
- screwdriver, #1 Phillips (for device subassembly removal from housing)
- T15 Torx screwdriver (for indicator ring removal if option is present)
- spanner wrench for 3/8 in (9.5 mm) diameter access holes

## To replace the subassembly:

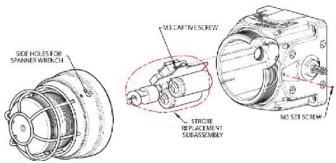
- If present, detach the indicator ring or indicator ring/placard attached to the housing by removing the eight screws securing it.
- 2. Locate and remove the side M3 captive screw securing the threaded cap assembly.

## NOTICE

DO NOT APPLY EXCESSIVE FORCE ON THE CAP: When removing the cap on the LED and strobe devices, do not apply more force than necessary on the wire guard and lens. Failure to heed this precaution will damage the lens.

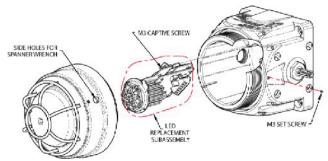
3. Using a spanner wrench, locate the three 120-degree spaced 3/8 in (9.5 mm) diameter side holes on the housing cap. Apply a counter-clockwise force on the cap to loosen the threaded joint.

Figure 16 Subassembly removed from strobe signal device



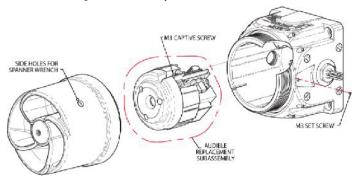
4. Remove the cap assembly and the M3 Phillips® captive screw securing the internal circuit assembly to the base housing.

Figure 17 Subassembly removed from LED signal device



- 5. Unscrew the M3 screw and carefully pull upward on the internal subassembly as far as the wiring permits.
- **6.** Note the wiring connections and carefully disconnect them.
- Rewire the connections to the new internal subassembly and slide it back in place along grooves within the base housing.
- Screw the cap assembly securely onto the base housing. Lock the subassembly to the base housing using the M3 captive screw.
- **9.** Reattach the cap to the base housing using the spanner wrench. Ensure that the cap fully is fully seated on the base housing. A silicone-based, non-hardening, chemically compatible grease can be applied if required.
- 10. Insert and tighten the M3 set screw to lock the base module to the cap assembly.
- 11. Test the device to ensure it is fully functional.

Figure 18 Subassembly removed from audible device



# Lens Replacement for Strobe and LED Devices

The colored polycarbonate lens on the strobe or LED device can be changed in the field without opening the device for the LED or strobe devices.

## **G-LED Replacement Lens**

Description	Part Number
Lens Guard	K859500821-02
Lens, Amber	K859500815
Lens, Blue	K859500815-01
Lens, Clear	K859500815-02
Lens, Green	K859500815-03
Lens, Red	K859500815-04
Lens, Magenta	K859500815-05
Lens, Yellow	K859500815-06

# **G-STR Replacement Lens**

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

# Replacement lens includes:

- 1 strobe or LED lens
- 1 0-ring seal
- 3 M4 x 12 mm stainless-steel, knurled point set-screws

## Tools required:

Hex key, M3 (for set-screw removal x 3)

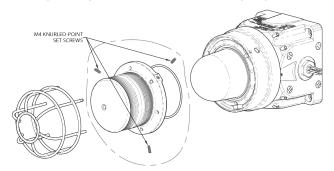


Figure 19 Replacement of lens for strobe and LED signaling devices

## To replace the lens:

- 1. Remove the three M4 knurled-point set screws on the flange of the cap.
- 2. Carefully pull up on the stainless steel wire guard to separate it from the assembly.
- 3. Remove the lens and O-ring, noting the location of the O-ring, which provides a condensation seal between the glass dome and inside of the lens.
- Re-seat the new 0-ring and lens on the device and align the three brass inserts to the three M3 screw holes on the cap.
- 5. Reattach the wire guard, noting that the three longer legs of the guard are to be inserted in the holes on the lens that have the adjacent brass inserts.

## NOTICE

DO NOT APPLY EXCESSIVE FORCE ON THE CAP: When removing the cap on the LED and strobe devices, do not apply more force than necessary on the wire guard and lens. Failure to heed this precaution will damage the lens.

- **6.** While applying a moderate downward force to the lens top to compress the 0-ring, reattach the set screws one at a time, partially threading them into the lens brass insert to ensure that the lens is held in place.
- 7. Complete tightening of the three set screws and ensure that the wire guard is securely held in place.

# G-KIT-15WINSERT 15 W Audible Unit Acoustic Increase Insert

An acoustically designed thermoplastic insert is available to replace the existing cap insert found on the 15 W Audible devices: Sounder, Amplified Speakers, and Loudspeakers. Note that the increased sound level amount is variable, being dependent upon the tone utilized and across specific frequencies.

The kit consists of:

- 15 W Acoustic Insert (#859500801)
- Screw, 1-1/4", thread cutting #6, Type 25 Stainless Steel (#70000389-20)Maintenance and Service

Tools required:

T15 Torx Screwdriver

To install the insert:

- 1. The insert is easily installed by removing the existing screw with cap.
- 2. Replace it with the provided acoustic insert and the longer screw provided in the kit.
- 3. Ensure that the insert is fully engaged downwards across all four vanes of the audible assembly.

REMOVE EXISTING
SCREW WITH CAP
FROM 15 W AUDIBLE
DEVICE

REPLACE WITH 15 W
ACQUINSTIC INSERT
WITH LONGER SCREW

Figure 20 Acoustic increase insert

Technical Assistance: Contact our Technical Support Team at +1 708-587-3587 or 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.



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