



**FEDERAL SIGNAL**  
Safety and Security Systems / **Industrial**

## **MODEL FSEX**

**INSTALLATION AND SERVICE INSTRUCTIONS FOR MODEL FSEX  
FOR USE IN HAZARDOUS LOCATIONS**

FEDERAL SIGNAL CORPORATION  
Industrial Products Division  
2645 Federal Signal Drive  
University Park, IL 60484-3167  
Phone: +1 877 289 3246 • +1 708-534-4756  
Fax: +1 708 534 4887  
[www.federal-signal-indust.com](http://www.federal-signal-indust.com)



## INSTALLATION AND SERVICE INSTRUCTIONS FOR FEDERAL MODEL FSEX FOR USE IN HAZARDOUS LOCATIONS

### SAFETY MESSAGE TO INSTALLERS, USERS AND MAINTENANCE PERSONNEL

It is important to follow all instructions shipped with this product. This device is to be installed by a trained electrician who is thoroughly familiar with the National Electrical Code and/or Canadian Electrical Code and will follow the NEC and/or CEC Guidelines as well as local codes.

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

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

- Read and understand all instructions before installing or operating this equipment.
- 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 light to the system when power is on.
- After installation, ensure that all threaded joints are properly tightened.
- Keep unit tightly closed when in operation.
- After installation, test the light system to ensure that it is operating properly.
- After testing is complete, provide a copy of these instructions to all personnel.
- Establish a procedure to routinely check the light system for proper activation and operation.

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

### I. GENERAL

This equipment is suitable for use in Class I, Div. I, Groups C and D; Class I, Div. 2, Groups A, B, C and D; Class II, Div. 1, Groups E, F, and G; Class III, or non-hazardous locations only.

The Model FSEX strobe light is a visual signaling device for hazardous locations and provides about 75 high-intensity flashes per minute. The effective candlepower (ECP) of the light is 850 candelas (clear dome). The unit is UL listed for indoor and outdoor use and has been found to comply with Type 4X (watertight and corrosion resistant) enclosure requirements and Marine Visual Signal Device, Outside Type (salt-water).

**▲WARNING**

**EXPLOSION HAZARD—This light fixture is not backward compatible with older products. Do not use this light fixture with the Series A versions of model CMXC, CMXC-R, PMXC, PMXC-R, WMXC, or WMXC-R mounting accessories. Failure to follow this warning may result in personal injury or death.**

**II. UNPACKING**

**▲WARNING**

**EXPLOSION HAZARD — Damaged glass domes can lead to explosions, which could result in serious injury or death. Replace damaged domes.**

After unpacking the unit, examine it for damage that may have occurred in transit. If the equipment has been damaged, do not attempt to install or operate the unit. File a claim immediately with the carrier, stating the extent of damage. Carefully check all envelopes, shipping labels and tags before removing or destroying them.

**III. INSTALLATION**

**NOTE**

The glass dome is part of the explosion-proof housing. In applications where the glass dome requires added protection, a separately purchased metal guard (Part No. DGXC-SB) can be readily attached.

The recommended mounting position of this light is in a vertical orientation with the dome facing down. The pendant mount has provisions for mounting to 3/4" pipe.

The instructions below are for lights using the pendant mount option (PMXC-SB). Refer to instruction manual 25500050 for the ceiling mount (CMXC-SB) or wall mount option (WMXC-SB).

Wiring must comply with the National Electrical Code or Canadian Electrical Code and the local authority having jurisdiction

For marine applications all wiring (including supply wire) must be stranded wire and meet the USCG (CFR46) Section (110-113).

The Model FSEX strobe should be installed per the NEC or CEC, STATE and LOCAL CODES. Alternate installation locations and/or orientations should only be performed with the approval of the authority having jurisdiction. In addition, they can be mounted using an optional pendant mount or an optional wall mount.

To install the light on 3/4" N.P.T threaded pipe:

A. Ensure that the mating threads are clean. Thread the pendant mount onto the 3/4" pipe and secure with the set screw (see Figure 1).

**▲WARNING**

**SHOCK HAZARD — To avoid electrical shock hazards, do not connect wires when power is applied.**

B. Connect the supply wires as follows (see Figures 2 and 3):

**CAUTION**

**REVERSE POLARITY/ MISWIRING** — The DC units are polarity sensitive, and **MAY BE DAMAGED** by incorrect electrical hookup. When connecting the DC strobe unit to the voltage supply lines, **POLARITY MUST BE OBSERVED**. In addition, damage will result if the voltage rating of the model is exceeded.

FSEX units are provided with incoming and outgoing power-connection terminals to allow electrical supervision (see Figures 2 and 3).

1. Connect the incoming (+) positive side of the power source to the terminal marked “L+” and the outgoing (+) positive power source to the terminal marked “B.”
2. Connect the incoming (–) negative side of the power source to the terminal marked “N–” and the outgoing (–) negative side of the power source to the terminal marked “A.”
3. If required by local building codes, connect the earth ground wire to the green screw in the pendant mount.

C. To prevent galling and ease future maintenance, ensure that the pendant mount threads are clean and lubricated. Thread the fixture clockwise into the pendant mount and tighten it securely.

#### **IV. MAINTENANCE**

**⚠ WARNING**

**RISK OF ELECTRIC SHOCK** — High voltages are present inside the light assembly after disconnecting power. To prevent receiving an electrical shock, disconnect the fixture from the supply circuit and wait at least 5 minutes before opening.

**⚠ WARNING**

**EXPLOSION HAZARD** — Do not disconnect the equipment while the circuit is live or unless the area is known to be free of ignitable concentrations.

**⚠ WARNING**

**EXPLOSION HAZARD** — Substitution of any component may impair suitability for Class I, Division 2.

**⚠ SAFETY MESSAGE TO MAINTENANCE PERSONNEL**

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

- Read and understand all instructions before operating this system.
- Any maintenance to the light system must be done with the power turned off.

- Any maintenance to the light system must be performed by a trained electrician in accordance with all applicable national and local codes in the country of use.
- Never alter the unit in any manner. The safety of the unit may be compromised if additional openings or other alterations are made.
- The nameplate should not be obscured, it contains cautionary and/or other information of importance to maintenance personnel. Ensure the nameplate remains readable if the housing's exterior is painted.
- If the glass dome is damaged in any way, it **MUST** be replaced.
- After performing any maintenance, test the light 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.

#### A. *Flash Tube Replacement*

As strobe lights are used, the flash tubes begin to darken, causing the light output to decrease. This darkening is characteristic of flash tubes. The darkening will begin near the base of the tube and progress upward. In addition, as flash tubes age, they may have a tendency to misfire (not fire periodically).

After extended operation, occasionally check for flash tube degradation. Should the flash tube misfire, have a noticeable decrease in light output, glow continuously or darken to a point beyond that shown in Figure 4, it should be replaced.



**SHOCK HAZARD — Strobe and HID light systems generate high voltages. Disconnect power and wait 5 minutes before opening the unit. Failure to follow this warning could result in serious injury or death.**



**HANDLE STROBE LAMPS CAREFULLY — Strobe lamps get hot enough to burn you. Always allow these lamps to cool before handling them. Strobe lamps are also pressurized and, if broken, can result in flying glass. Failure to follow this warning may result in personal injury.**



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

To change the flash tube:

1. Disconnect power.
2. Remove the glass dome assembly from the main casting by rotating the

dome ring assembly counterclockwise.

**▲WARNING**

**EXPLOSION HAZARD — The effectiveness of the explosion-proof enclosure must be maintained. Do not damage the glass dome or threads while disassembling or reassembling unit. Lubricated joints exposed for long periods of time may attract small particles of dirt or other foreign materials. Body and cover joints should be reassembled immediately.**

3. Loosen the lens clip screw (1–3 turns) and rotate the clip 90°. Remove the lens to expose the flash tube.
4. With the lens removed, use a rocking motion and gently remove the tube. Replace the flash tube with the appropriate replacement part listed in the replacement parts list in paragraph IV. E. Replacement Parts.
5. Place the lens in position under the two hold-down tabs. Rotate the clip into place on lip of the lens and tighten the screw.

*B. Cleaning the Enclosure*

**NOTE**

**Maintenance procedures sometime require fixtures to be hosed down for good housekeeping. The circuit must be turned OFF and the glass dome MUST be allowed to cool to ambient room temperature before cleaning.**

The fixture should be cleaned periodically to maintain maximum light output. Only mild, non-abrasive cleaning agents should be used. The glass dome should be regularly inspected for scratches and chips, and if damaged, must be replaced.

*C. Lubrication*

The threaded joint on the pendant mount should be kept well lubricated with a corrosion-inhibiting grease such as petrolatum or soap-thickened mineral oils. If corrosive products have accumulated on explosion-proof joints and cannot readily be removed with solvents, the parts should be discarded and replaced.

**▲WARNING**

**EXPLOSION HAZARD — Never use an abrasive material or file to remove corrosive products from threaded surfaces. In extremely corrosive locations, equipment should be periodically inspected to guard against unusual deterioration and possible porosity, since this may weaken the enclosure structurally.**

*D. Service*

Federal Signal will service your equipment and provide technical assistance with any problems that cannot be handled locally by Federal Signal's Distributor or Manufacturer Representative.

If any unit returned to Federal Signal for service, inspection, or repair must

be accompanied by a Return Material Authorization number with a brief explanation of the service being requested and/or the nature of the malfunction. This R.M.A. can be obtained from the local Federal Signal Distributor or Manufacturer's Representative.

Address all communications and shipments to:

Federal Signal Corporation  
Industrial Products  
Service Department  
2645 Federal Signal Drive  
University Park, IL 60484-3167  
Phone: +1 877 289 3246 • +1 708-534-4756 • Fax: +1 708 534 4887  
www.federal-signal-indust.com

E. Replacement Parts

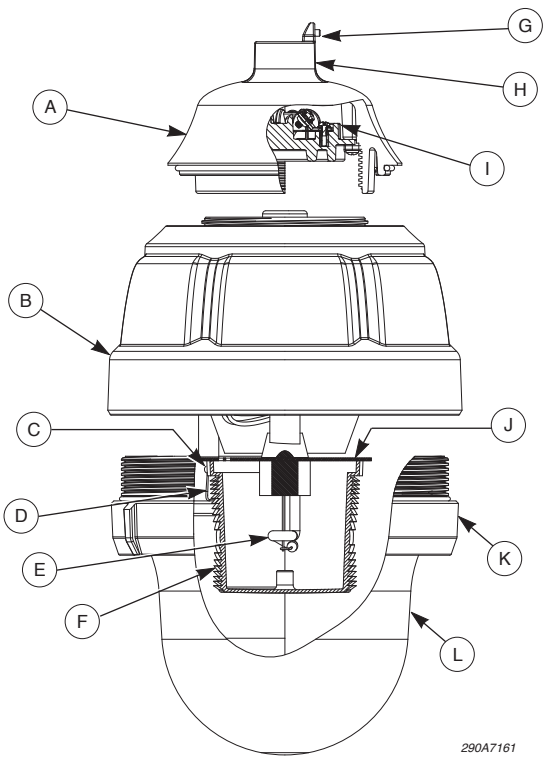
<b>Description</b>	<b>Part Number</b>
Fresnel Lens, Clear	K8550C095
Fresnel Lens, Amber	K8550C095-02
Fresnel Lens, Red	K8550C095-03
Flash Tube	K8107159
Mechanism, 24 Vdc	K8436107-03
Glass Dome Assy., Red	K8436147-01
PCBA, Low In-Rush Board	K2001918-01

F. Accessories

<b>Description</b>	<b>Model</b>
Dome Guard	DGXC-SB
Ceiling Mount, Red	CMXC-R-SB
Wall Mount, Red	WMXC-R-SB
Pendant Mount, Red	PMXC-R-SB



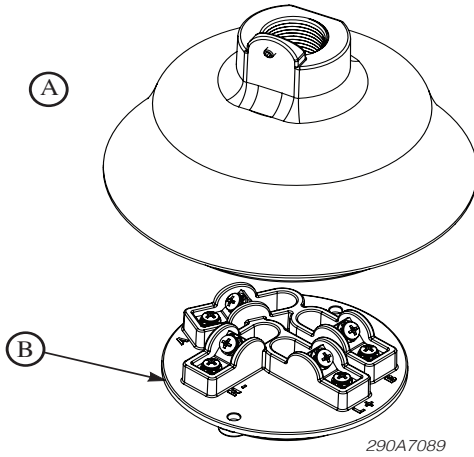
I



- A. Pendant mount
- B. Main housing
- C. Lens clip screw
- D. Lens clip
- E. Strobe flash tube
- F. Lens
- G. Set screw
- H. 3/4" N.P.T. conduit
- I. Terminal block
- J. Mechanism assembly
- K. Glass dome assembly
- L. Glass dome

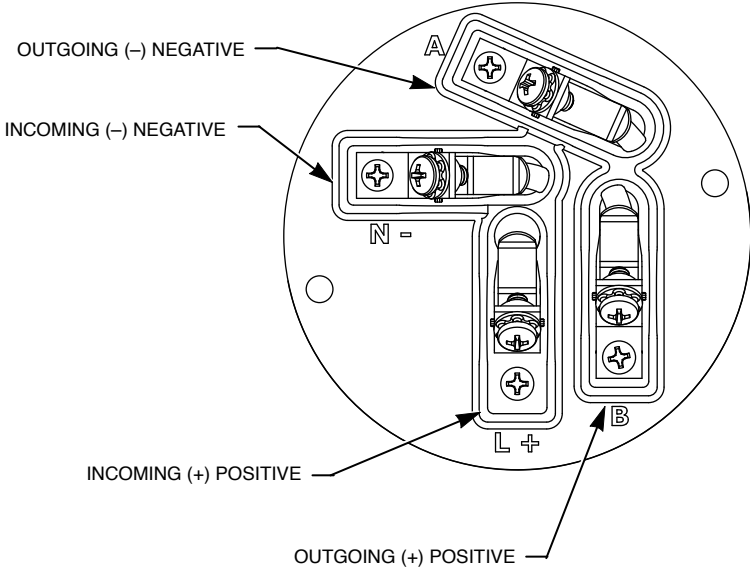
290A7161

2



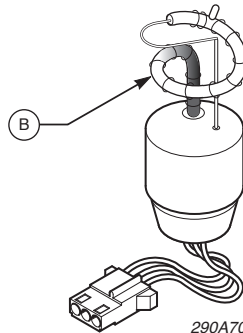
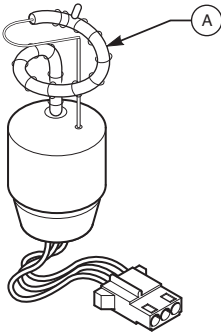
- A. Not suitable for use with through-branch circuit conductors.
- B. Terminal block

3



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4



290A7090

A. New flash tube

B. Used flash tube tends to discolor in areas shown and should be replaced.



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