

**INSTALLATION AND SERVICE  
INSTRUCTIONS  
FOR  
2000 SERIES FLAMEPROOF BEACONS**

Address all communications and shipments to:



**FEDERAL SIGNAL CORPORATION**



**INSTALLATION AND SERVICE INSTRUCTIONS  
FOR  
2000 SERIES FLAMEPROOF BEACONS**

** 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 trained personnel who is thoroughly familiar with the country electric codes and will follow these guidelines as well as local codes.

The selection of mounting location for the device, its controls and the routing of the wiring is 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.
- Disconnect device from the power supply before any installation or maintenance is performed.
- Do not open enclosure when hazardous atmosphere is present.
- After installation, test the unit to ensure that it is operating properly.
- After testing is complete, provide a copy of this instruction sheet to all operating personnel.
- Establish a procedure to routinely check the installation for integrity and proper operation.
- The product nameplate, which may contain cautionary or other information of importance to maintenance personnel, should not be obscured in any way.

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

**I. INSTALLATION.**

**A. *Unpacking.***

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 it. File a claim immediately with the carrier stating the extent of the damage. Carefully check all envelopes, shipping labels, and tags before removing or destroying them.

**B. *General.***

The equipment comprises of a base enclosure and a cover, common to all models, and a variety of interior assemblies providing continuous light output from fluorescent lamps or flashing light output from xenon lamps. On EEx de models, a cast termination enclosure with lid is fastened to the base enclosure and electrically connected via certified line bushings.

### C. *Mounting and Wiring.*

The 2000 Series Beacons are designed for mounting on a flat horizontal or vertical surface.

#### 1. Surface Mounting and Wiring Instruction for EEx d Models

- a. Unit is to be mounted using user provided M10 stainless steel bolts through the two fixing lugs located on the base enclosure.
- b. Mounting structure must be capable of supporting more than 6kg.
- c. Two to four M20 threaded entries are provided in the side of the enclosure for the installation of certified EEx d cable glands.
- d. The wellglass cover must be removed to access the PCB mounted field wiring terminals. Remove the four M8 fixing screws to remove the cover. It may be necessary to pry the cover around the cover fixing lugs to remove. Take care not to mar any of the flame path surfaces.
- e. A four-pole screw terminal block is provided for field wiring. See figure 1 for wiring diagram. These terminals are rated for the following wire ranges: 22-12 AWG (0.5 - 4 mm<sup>2</sup>). Terminal tightening torque is 0.5 Nm.
- f. While the cover is removed, either install the fresnel lens (xenon models) or insert the fluorescent lamps (fluorescent models) into the unit.
- g. Upon completion of field wiring, re-fit the cover. Carefully align the cover spigot with the bore in the base and push the cover on to engage. Once the two parts are mated, tightening the M8 fixing screws evenly a few turns at a time will close the gap. Tighten the fixing screws to 5Nm.

#### 2. *Surface Mounting and Wiring Instruction for EEx de Models.*

- a. Unit is to be mounted using user provided M10 stainless steel bolts through the two fixing lugs located on the base enclosure.
- b. Mounting structure must be capable of supporting more than 7kg.
- c. Four M20 threaded entries are provided in the side of the enclosure for the installation of certified EEx e cable glands.
- d. The terminal box cover must be removed to access the field wiring terminal block. Remove the three M6 fixing screws to remove the cover. The screws are provided with retainers to keep them captivated to the cover.
- e. A twelve-pole screw terminal block is provided for field wiring. See figure 2 for wiring diagram. These terminals are rated for the following wire ranges: 22-12 AWG (0.5 - 4 mm<sup>2</sup>). Terminal tightening torque is 0.5 - 0.7 Nm.
- f. Two internal and two external lugs are provided for the earth connection.
- g. Upon completion of field wiring, re-fit the terminal box cover. Make sure that the gasket is properly seated. Tighten the fixing screws to 5Nm.

h. The wellglass assembly must be removed to fit either the fresnel lens (xenon models) or the fluorescent lamps (fluorescent models). It may be necessary to pry the cover around the cover fixing lugs to remove. Take care not to mar any of the flame path surfaces. Once removed, install the fresnel lens (xenon models) or insert the fluorescent lamps (fluorescent models) into the unit.

i. Upon completion, carefully align the cover spigot with the bore in the base and push the cover on to engage. Once the two parts are mated, tightening the M8 fixing screws evenly a few turns at a time will close the gap. Tighten the fixing screws to 5Nm.

## II. MAINTENANCE.



### 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 unit.
- Any maintenance to the unit must be performed by properly trained personnel.
- Any maintenance to the unit must be done with the power turned off.
- After disconnecting power, allow ten minutes for internal components to cool and to allow all capacitors to discharge.
- Do not open enclosure when hazardous atmosphere is present.
- Never alter the unit in any manner. Safety may be endangered if additional openings or other alterations are made to units.
- Only factory provided service parts are to be used. Only these components have been verified and certified for use in hazardous areas.
- No repairs or modifications are to be made to the base, cover, or termination chamber as this will invalidate the certification.
- The nameplate, which contains cautionary or other information of importance to maintenance personnel, should not be obscured.
- After performing any maintenance, test the unit to ensure that it is operating properly.

#### A. *Routine Checks.*

Ensure that the unit is maintained in line with the regulations in force and at regular intervals, at least once per year.

1. Check for external damage and corrosion and repair/replace as necessary.
2. Check for water or dust ingress and replace o-rings or gaskets if necessary.

3. Check all earth connections and verify continuity.
4. Check flameproof paths and fittings for damage and corrosion.
5. Lubricate all threads, o-rings, and flameproof paths with suitable lubricant. Dow Corning 4 silicone lubricant is recommended.

**B. Replacement Parts.**

Contact the factory for spare parts availability and part numbers. Typical spares available are the interior assemblies, fresnel lens, guard, fixing screws, fluorescent/xenon tubes, and o-rings/gaskets.



**III. CERTIFICATION.**

Certified to EN 50014:1997 +A1 +A2, EN 50018:2000, AND EN 50019:2000.

EEx d IIB T4 (Tamb -40°C to +50°C) or EEx d IIB T3 (Tamb -40°C to +70°C)  
 EEx de IIB T4 (Tamb -20°C to +40°C)

The ATEX certificate (BAS 03 ATEX 0191) and the product label carry the ATEX group and category marking:



Where: -  indicates compliance with directive 94/9/EC  
 hexagon symbol, the specific marking of explosion protection  
 II indicates suitability for use in surface industries  
 2 indicates suitability for use in a Zone 1 area  
 G indicates suitability for use in the presence of gases

**IV. SERVICE.**

The Federal Signal factory will service your equipment or provide technical assistance with any problems that cannot be handled locally.

Any units returned to Federal Signal for service, inspection, or repair must be accompanied by a Return Material Authorization. This R.M.A. can be obtained from a customer service representative at Federal Signal.

At this time a brief explanation of the service requested, or the nature of the malfunction, should be provided.

Address all communications and shipments to:

FEDERAL SIGNAL CORPORATION  
 Electrical Products Division  
 Service Department  
 2645 Federal Signal Drive  
 University Park, IL 60466-3195

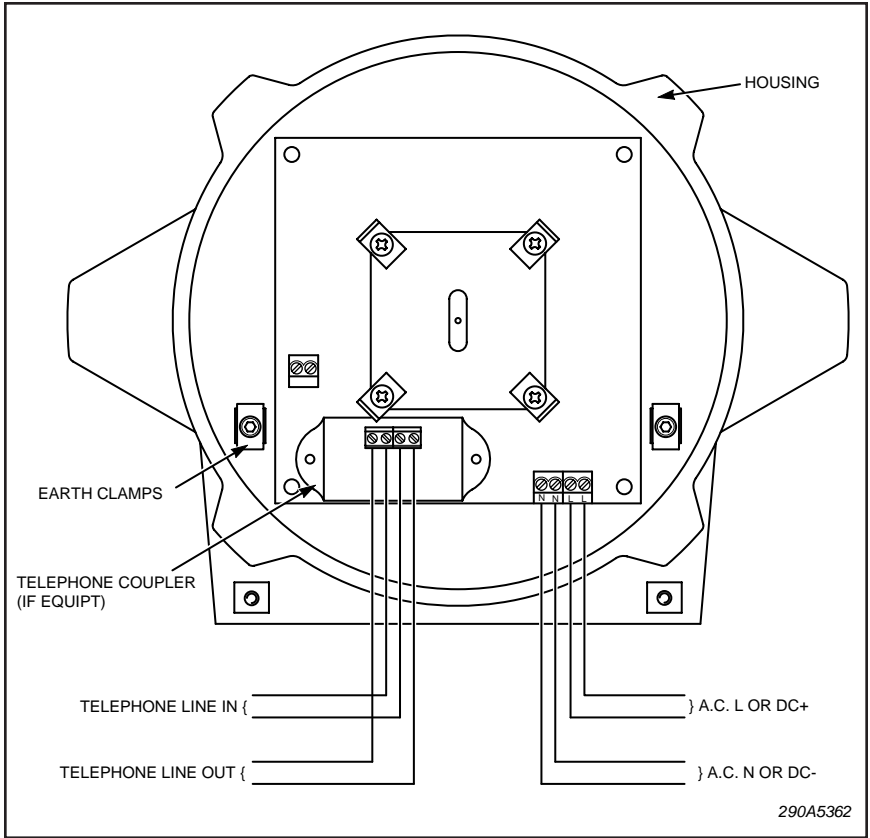


Figure 1.

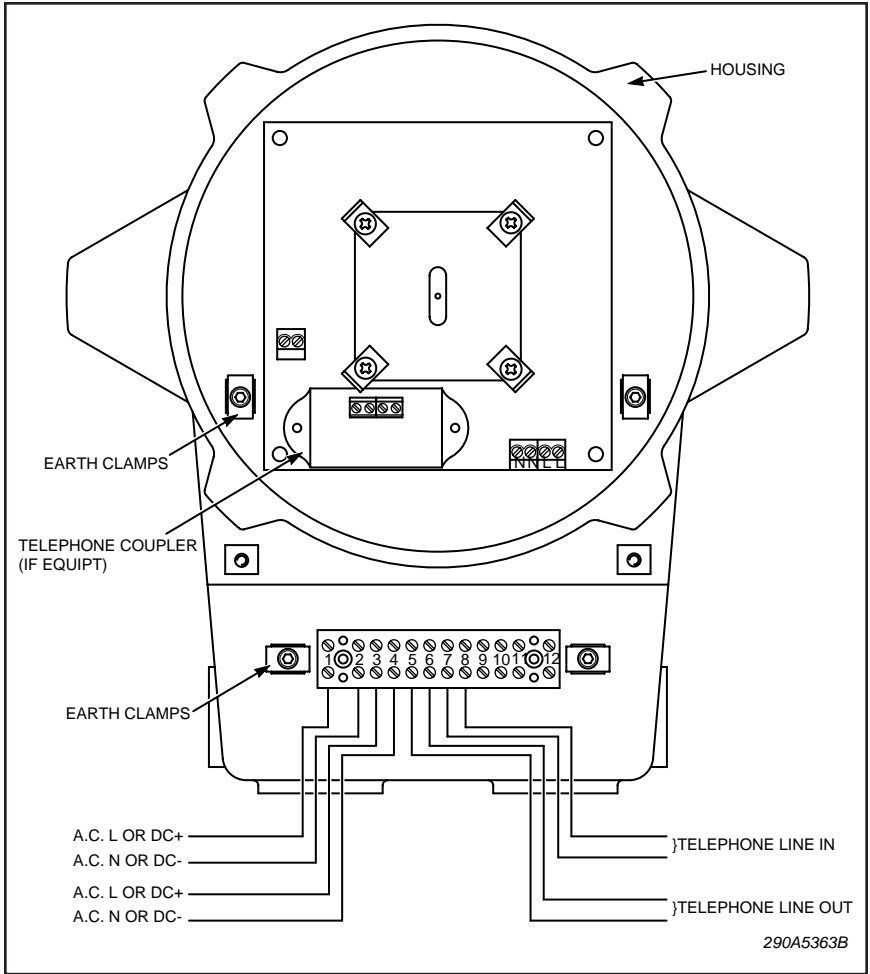
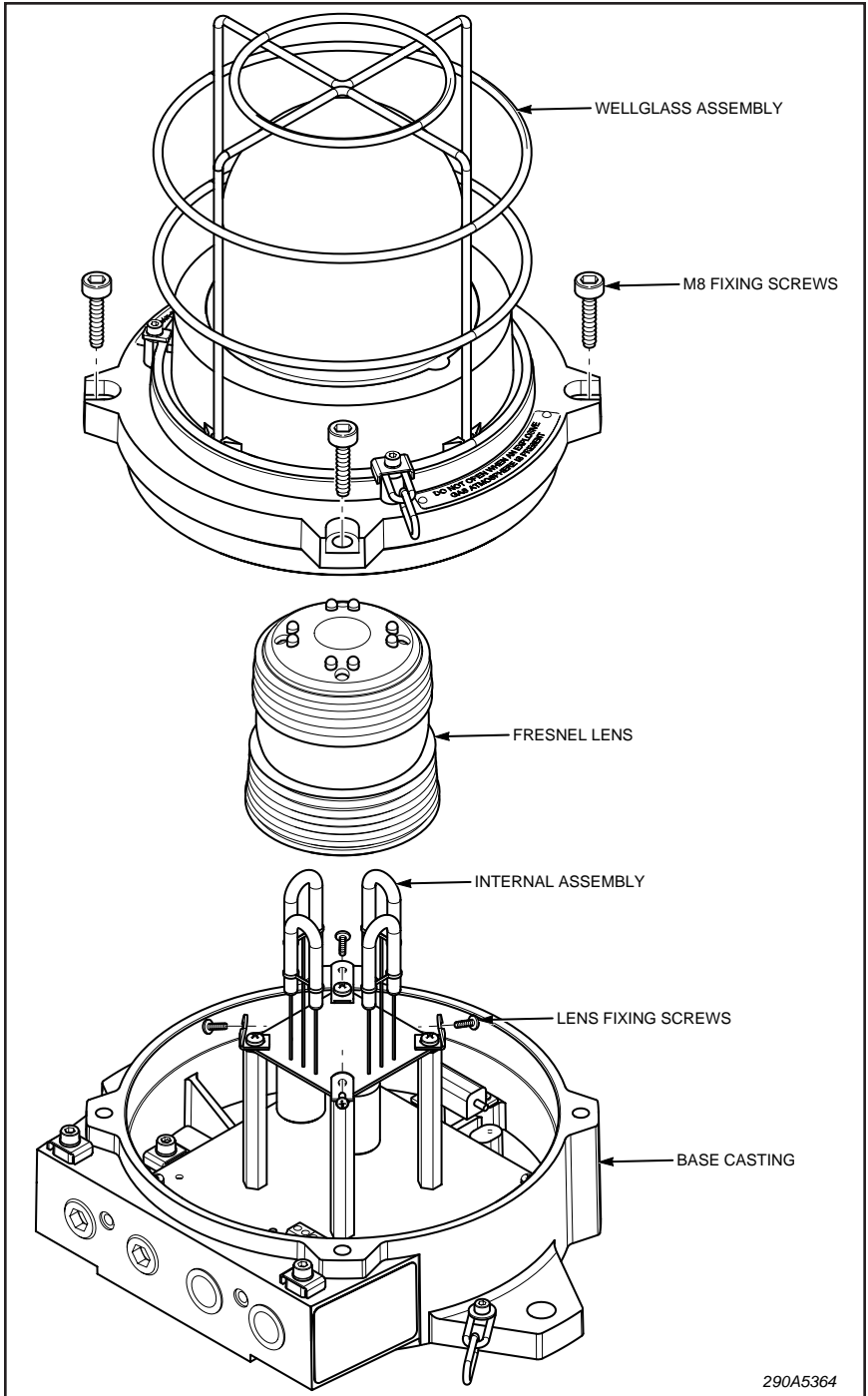


Figure 2.



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Figure 3.





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