



FEDERAL SIGNAL
Safety and Security Systems

SLR LED Rotator Beacon



Installation and Maintenance Manual

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Limited Warranty

This product is subject to and covered by a limited warranty, a copy of which can be found at www.fedsig.com/SSG-Warranty. A copy of this limited warranty can also be obtained by written request to Federal Signal Corporation, 2645 Federal Signal Drive, University Park, IL 60484, email to info@fedsig.com or call +1 708-534-3400.

This limited warranty is in lieu of all other warranties, express or implied, contractual or statutory, including, but not limited to the warranty of merchantability, warranty of fitness for a particular purpose and any warranty against failure of its essential purpose.



FEDERAL SIGNAL Safety and Security Systems

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Safety Messages

Safety Messages for Installers and Service Personnel of Warning Light Equipment

WARNING

People's lives depend on your proper installation and servicing of Federal Signal products. It is important to read and follow all instructions shipped with this product. Listed below are some other important safety instructions and precautions you should follow:

Before Installation or Service

Qualifications

- To properly install or service this equipment, you must have a good understanding of automotive mechanical and electrical procedures and systems, along with proficiency in the installation and service of safety warning equipment. Always refer to the vehicle's service manuals when performing equipment installations on a vehicle.

Light Hazards

- To be an effective warning device, this product produces bright light that can be hazardous to your eyesight when viewed at a close range. Do not stare directly into this lighting product at a close range, or permanent damage to your eyesight may occur.
- Do not install the light system in an area that would block, impair, or blind the driver's vision. Ensure that the light system is mounted in a position that is outside the driver's field of vision, so the driver can safely operate the vehicle.
- Federal Signal power supplies and light heads are designed to work together as a system. Combining light heads and a power supply from different manufacturers may reduce the warning effectiveness of the lighting system and may damage the components. Verify or test your combination to ensure that the system works together and meets federal, state, and local standards or guidelines.

Electrical Hazards

- Strobe systems present a shock hazard because they use high voltage to operate. Do not handle strobe cables, the power supply, or bulbs or remove the lens while the equipment is connected. Strobe systems can also hold their charge even after they have been turned off. After disconnecting power to the unit, wait 5 minutes before handling any parts of the strobe system.
- A light system is a high current system. For the system to function properly, a separate negative (–) connection and positive (+) connection must be made. All negative connections should be connected to the negative battery terminal, and a suitable fuse should be installed on the positive battery terminal connection as close to the battery as possible. Ensure that all wires and fuses are rated correctly to handle the device and system amperage requirements.
- Never attempt to install aftermarket equipment that connects to the vehicle wiring without reviewing a vehicle wiring diagram available from the vehicle manufacturer. Ensure that your installation will not affect vehicle operation or mandated safety functions or circuits. Always check the vehicle for proper operation after installation.
- The lighting system components, especially light bulbs, strobe tubes, LEDs, and the outer housing, get hot during operation. Be sure to disconnect power to the system and allow the system to cool down before handling any components of the system.
- Do not mount a radio antenna within 18 inches (45.7 cm) of the lighting system. Placing the antenna too close to the lighting system could cause the lighting system to malfunction or be damaged by strong radio fields. Mounting the antenna too close to the lighting system may also cause the radio noise emitted from the lighting system to interfere with the reception of the radio transmitter and reduce radio reception.
- Do not attempt to wash any unsealed electrical device while it is connected to its power source.

Safety Messages

During Installation and Service

- DO NOT get metal shavings inside the product. Metal shavings in the product can cause the system to fail. If drilling must be done near the unit, place an ESD-approved cover over the unit. Inspect the unit after mounting to be sure there are no shavings present in or near the unit.
- DO NOT connect this system to the vehicle battery until ALL other electrical connections are made, mounting of all components is complete, and you have verified that no shorts exist. If the wiring is shorted to the vehicle body or frame, high current conductors can cause hazardous sparks resulting in electrical fires or flying molten metal.
- DO NOT install equipment or route wiring (or the plug-in cord) in the deployment path of an airbag.
- If a vehicle seat is temporarily removed, verify with the vehicle manufacturer if the seat needs to be recalibrated for proper airbag deployment.
- Before mounting any components, check the manual to ensure that the component you are installing is suitable for use in that area of the vehicle. Many components are not suitable for use in the engine compartment or other extreme environmental exposure areas.
- Before drilling into a vehicle structure, ensure that both sides of the surface are clear of anything that could be damaged. Remove all burrs from drilled holes. To prevent electrical shorts, grommet all drilled holes through which wiring passes. Ensure that the mounting screws do not cause electrical or mechanical damage to the vehicle.
- Refer to the manual packed with the lighting system for proper electrical connections, additional precautions, and information.
- Because vehicle roof construction and driving conditions vary, do not drive a vehicle with a magnetically mounted warning light installed. The light could fly off the vehicle, causing injury

or damage. Repair of damage incurred because of ignoring this warning shall be the sole responsibility of the user.

- Locate the light system controls so the VEHICLE and CONTROLS can be operated safely under all driving conditions.

After Installation or Service

- After installation, test the light system to ensure that it is operating properly.
- Test all vehicle functions, including horn operation, vehicle safety functions and vehicle light systems, to ensure proper operation. Ensure that the installation has not affected the vehicle operation or changed any vehicle safety function or circuit.
- Scratched or dull reflectors, mirrors, or lenses will reduce the effectiveness of the lighting system. Avoid heavy pressure and the use of caustic or petroleum based products when cleaning the lighting system. Replace any optical components that may have been scratched or crazed during system installation.
- Do not attempt to activate or deactivate the light system controls while driving in a hazardous situation.
- Frequently inspect the light system to ensure that it is operating properly and that it is securely attached to the vehicle.
- After installation and testing are complete, provide a copy of these instructions to instructional staff and all operating personnel.
- File these instructions in a safe place and refer to them when maintaining and/or re-installing the product.

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

Retain and refer to these messages.

Overview

The SLR LED Rotator Beacon provides a reliable signal with three selectable RPM speeds. Models are available with flush or pipe mounting. The available colors are red and amber. The light can operate on a 12- or 24-volt power source.

Unpacking the Product

After unpacking the product, inspect it for damage that may have occurred in transit. If it has been damaged, 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.

Preparing for the Installation

To prepare for the beacon installation, assemble these installer-supplied materials:

- 18 AWG (1 mm²) red and black wire for lengths up to 15 feet (5 m) or minimum 16 AWG (1.5 mm²) wire for lengths greater than 15 feet (5 m). For extending wires from the installer-supplied switch, 20 AWG can be used if required.
- Fuseholder with 5 A fuse
- Two to three insulated butt connectors for the pipe mounting option and a switch with a current capacity of at least 5 A.
- For the option of permanently mounting the beacon, three #10 pan head thread-forming screws and a #18 drill. For extreme vibration conditions, use three #10-32 machine screws with #10 hex nuts and lockwashers for clearance holes.
- For the option of pipe mounting the beacon, a 1-inch, threaded NPT pipe.
- An installer-supplied bushing for the wiring is optional.

Selecting a rotation speed is optional and should be done during the installation. For more information, see “Selecting a Rotation Speed” on page 13.

Table 1 Product Specifications

Input Voltage	11 Vdc to 28 Vdc
Nominal	12.8 Vdc or 25.6 Vdc
Input Current, Amber (nominal)	2 A at 12.8 Vdc pulsed, 0.8 avg. 1 A at 25.6 Vdc pulsed, 0.4 avg.
Flash Rate	90 RPM is the default pattern. 75 RPM and 120 RPM patterns are available.
Dimensions (H x D)	5.73 x 7.1 in (14.55 x 18 cm)
Weight (permanent mount/ pipe mount)	3.35 lb (1.52 kg)
Approvals	SAE J1318, J845 Class 1, J845 Class 2

Permanently Mounting the Beacon

⚠ WARNING

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

To permanently mount the beacon:

1. Place the supplied template (Figure 5 on page 19) on the mounting surface and scribe the locations of the three mounting holes in the base.
2. Scribe a hole for the wires at the center of the mounting location and three holes for the installer-supplied fasteners.
3. Remove the template.

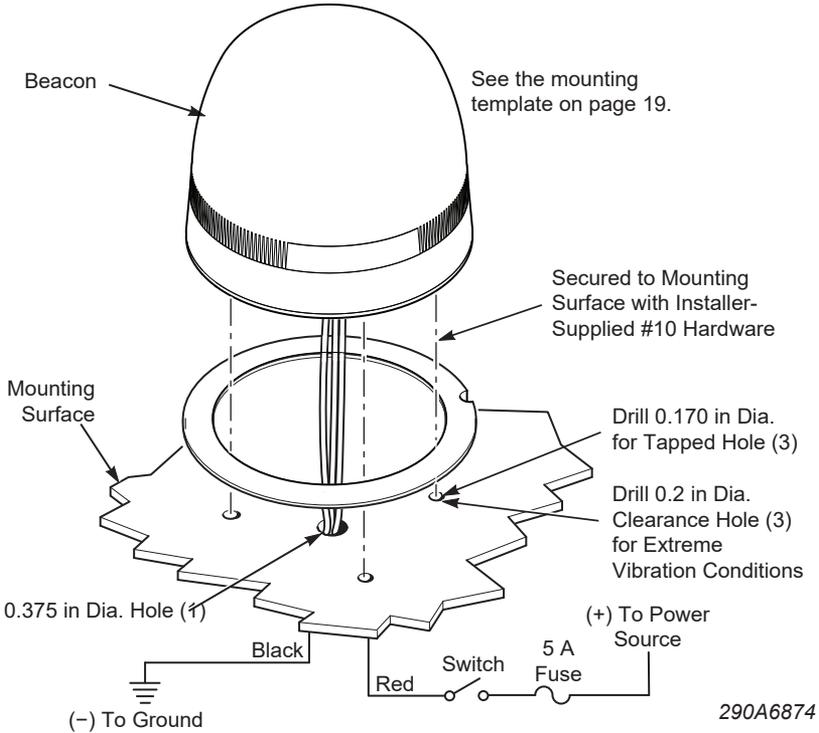
NOTICE

DRILLING PRECAUTIONS: When drilling holes, check the area you are drilling into to ensure that you do not damage vehicle components while drilling. All drilled holes should be de-burred, and all sharp edges should be smoothed. All wire routings going through drilled holes should be protected by a grommet or convolute/split loom tubing.

Permanently Mounting the Beacon

4. Drill a 0.375 in (9.53 mm) hole at the scribed position of the wire-routing hole. Seal the hole with RTV. See Figure 1.

Figure 1 Permanent-mounted beacon with wiring



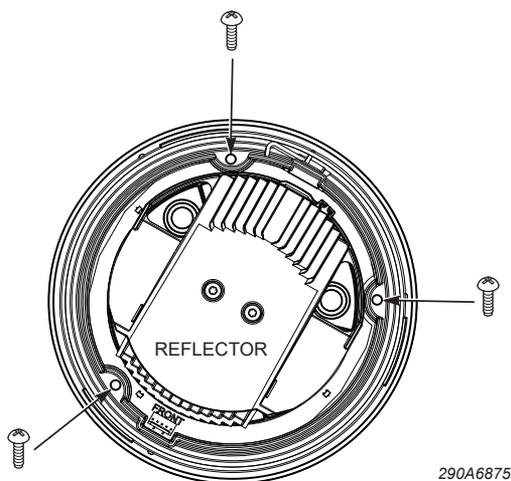
5. For the three mounting holes, select one of these options:

- For tapped holes use a #18 drill bit to drill a 0.17-inch (4.32 mm) hole at the scribed mounting hole positions. Use installer-supplied #10 pan-head thread-forming screws.
- For extreme vibration conditions, drill a 0.2-inch clearance hole. Use installer-supplied #10-32 machine screws with #10 hex nuts and lockwashers.

6. Align the gasket over the drilled holes. Route the wires through the gasket and wire routing hole in the base and gasket.

- Twist off the beacon dome from the base.
- Secure the base to the mounting surface with the #10 Phillips pan-head thread-forming screws.

Figure 2 Overhead view of mounting holes in the base



- Position the dome onto the base and twist it until it locks.

Wiring the Permanently Mounted Beacon

NOTICE

ENSURE CORRECT INPUT VOLTAGE: To avoid damage to the light, ensure that the input voltage is the same as the voltage rating of the light. Ensure that correct polarity is observed. Also ensure that unit is properly fused.

To wire the beacon:

- Connect one terminal of a installer-supplied switch, with a current capacity of at least 5 A, to the red (+) wire of the beacon. Additional 20 AWG (0.8 mm²) or larger wire may be added, if required. See Figure 1 on the previous page.
- Use 18 AWG (0.8 mm²) or larger wire to connect the remaining switch terminal to one end of the installer-supplied fuseholder and 5 A fuse.

Pipe-Mounting and Wiring the Beacon

3. Connect the other end of the fuseholder to the positive (+) terminal of the voltage source.
4. Connect the black (–) wire from the beacon to a known good vehicle ground as close to the beacon as practical.

Pipe-Mounting and Wiring the Beacon

⚠ WARNING

LIGHT HAZARD: This product contains a high-intensity LED device. To prevent permanent eye damage, DO NOT stare into the light beam at close range.

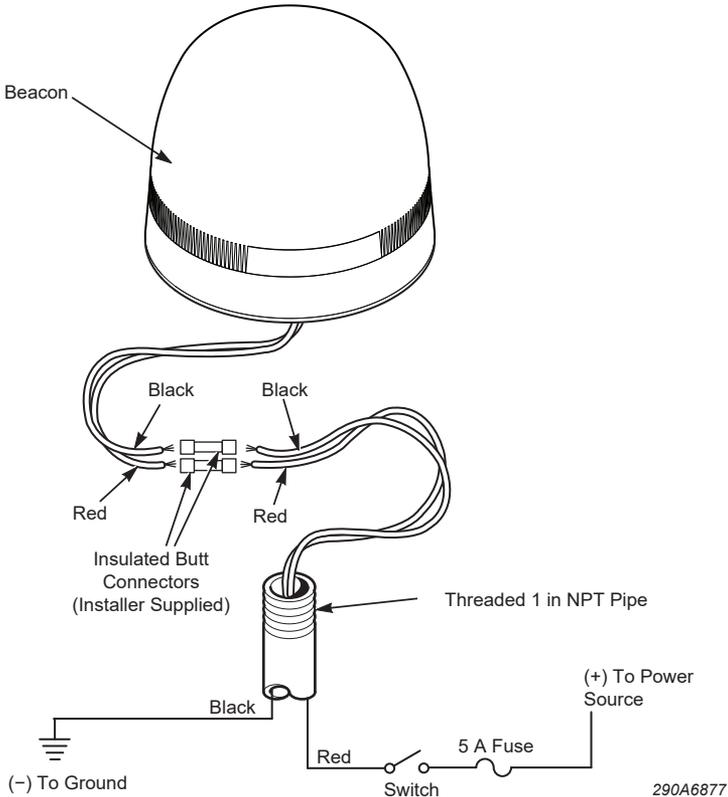
The base was designed for the optional installation onto the end of a threaded 1-inch (25.4 mm) NPT pipe (Figure 3 on page 13).

To pipe mount and wire the beacon:

1. Determine the length of wires needed for the installation. For lengths up to 15 feet (5 m), use minimum 18 AWG (1 mm²) wire. For lengths over 15 feet, use minimum 16 AWG (1.5 mm²) wire.
2. Strip 1/4 inch (5 mm) of insulation from the ends of the red and black installer-supplied wires.
3. Use insulated butt connectors to connect the red and black wires to the red and black wires from the beacon. Ensure that the connectors are securely crimped and properly insulated.
4. Route the red and black wires through the pipe to the location of the installer-supplied switch with a current capacity of at least 5 A.
5. Screw the beacon onto the pipe. Ensure that the wires are not pinched inside the pipe.
6. Connect one terminal of the installer-supplied switch to the red (+) wire of the beacon.
7. Use minimum 18 AWG (1 mm²) wire to connect the remaining switch terminal to one end of the supplied fuseholder and 5 A fuse.

8. Connect the other end of the installer-supplied fuseholder to the positive (+) terminal of the voltage source.
9. Connect the black (-) wire from the beacon to a known good vehicle ground as close to the beacon as practical.

Figure 3 Pipe-mounted beacon with wiring



Selecting a Rotation Speed

Selecting a rotation speed is optional and should be done during installation. The jumper pins for selecting a speed are accessible by removing the dome and reflector.

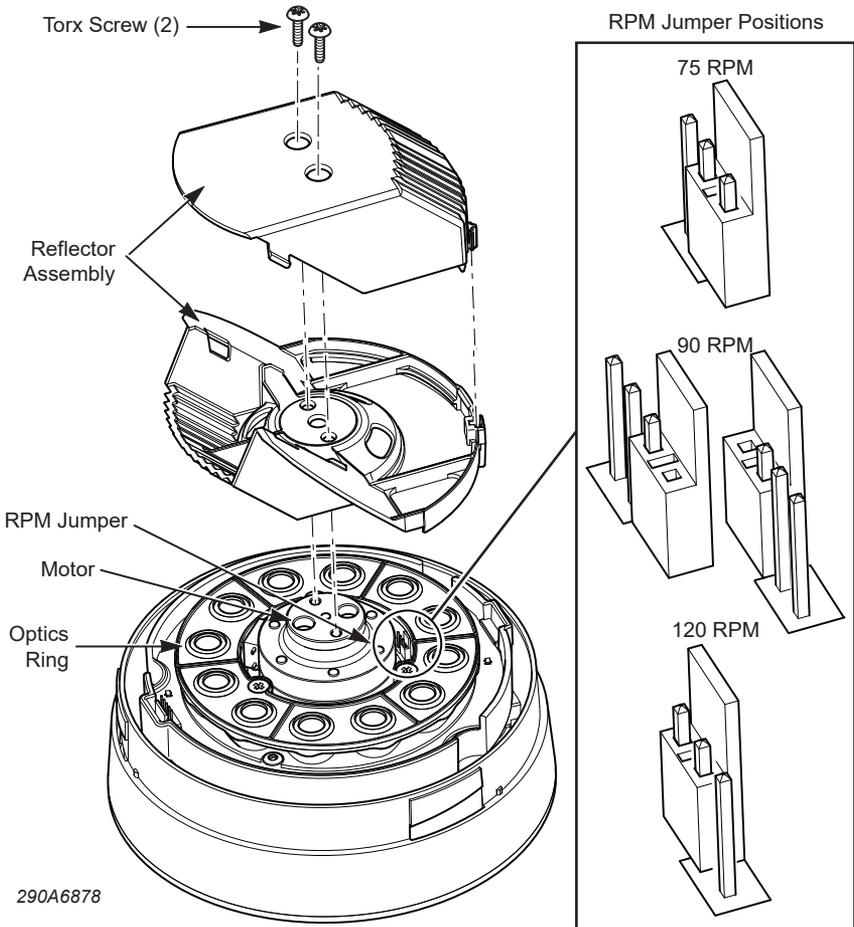
To change the RPM:

1. Disconnect power to the beacon.

Selecting a Rotation Speed

2. Twist off the beacon dome from the base.
3. Locate the two screw-access holes on top of the reflector. Remove both reflector screws with a T-20 Torx® screwdriver. See Figure 4.

Figure 4 Location of RPM jumper and pins



4. Lift the reflector from the beacon assembly and set it aside. The jumper pins are located between the optics ring and the motor on the connection side of the wire harness.

- 5.** The default jumper setting of 90 RPM is a single-pin position, either the right or left pin. The settings for 75 RPM and 120 RPM are both two-pin positions.
 - To change the rotation speed to 75 RPM, pull the jumper straight up from the pin and place it on the right two pins.
 - To change the rotation speed to 120 RPM, pull the jumper straight up from the pin and place it on the left two pins.
- 6.** After selecting the rotation speed, position the reflector onto the beacon assembly.
- 7.** Secure the reflector with the two Torx® screws through the screw access holes on the top of the reflector.
- 8.** Position the dome onto the base and twist it until it locks.

Maintaining the Beacon

⚠ WARNING

CLEANING POLYCARBONATE DOMES AND LENSES: Crazing (fine cracks) of lenses causes reduced effectiveness of the light. Do not use cleaning agents (which causes crazing) such as strong detergents, solvents, or petroleum products. If crazing of lenses does occur, reliability of light for emergency signaling purposes may be reduced until lenses are replaced.

NOTICE

CLEANING POLYCARBONATE DOMES AND LENSES: To extend the life of this device, periodic cleaning is necessary. Clean the lens/dome with a mild, non-abrasive, neutral-pH cleaning agent and a soft, clean cloth. Rinse the device thoroughly to ensure that no cleaning agent residue remains. To avoid water spots, dry the device with a soft clean cloth.

Failure to follow this precaution can cause crazing or cracking of the lens/dome and voids the warranty claims for the light.

Frequently inspect the beacon to ensure that it is securing attached to the vehicle and operates properly. Clean the beacon with a mild soap and a soft rag.

Getting Technical Support

For technical support, please contact:

Federal Signal Corporation

Phone: 1-800-443-9132

Fax: 1-800-343-9706

Email: empserviceinfo@fedsig.com

Getting Repair Service

The Federal Signal factory provides technical assistance with any problems that cannot be handled locally.

Any units returned to returned to Federal Signal for service, inspection, or repair must be accompanied by a Return Material Authorization (RMA). Obtain an RMA from a Local Distributor or Manufacturer's Representative. Provided a brief explanation of the service requested or the nature of the malfunction.

Address all communications to the following address.

Federal Signal Corporation

Service Department

2645 Federal Signal Drive

University Park IL 60484-3167

Ordering Replacement Parts

Ordering Replacement Parts

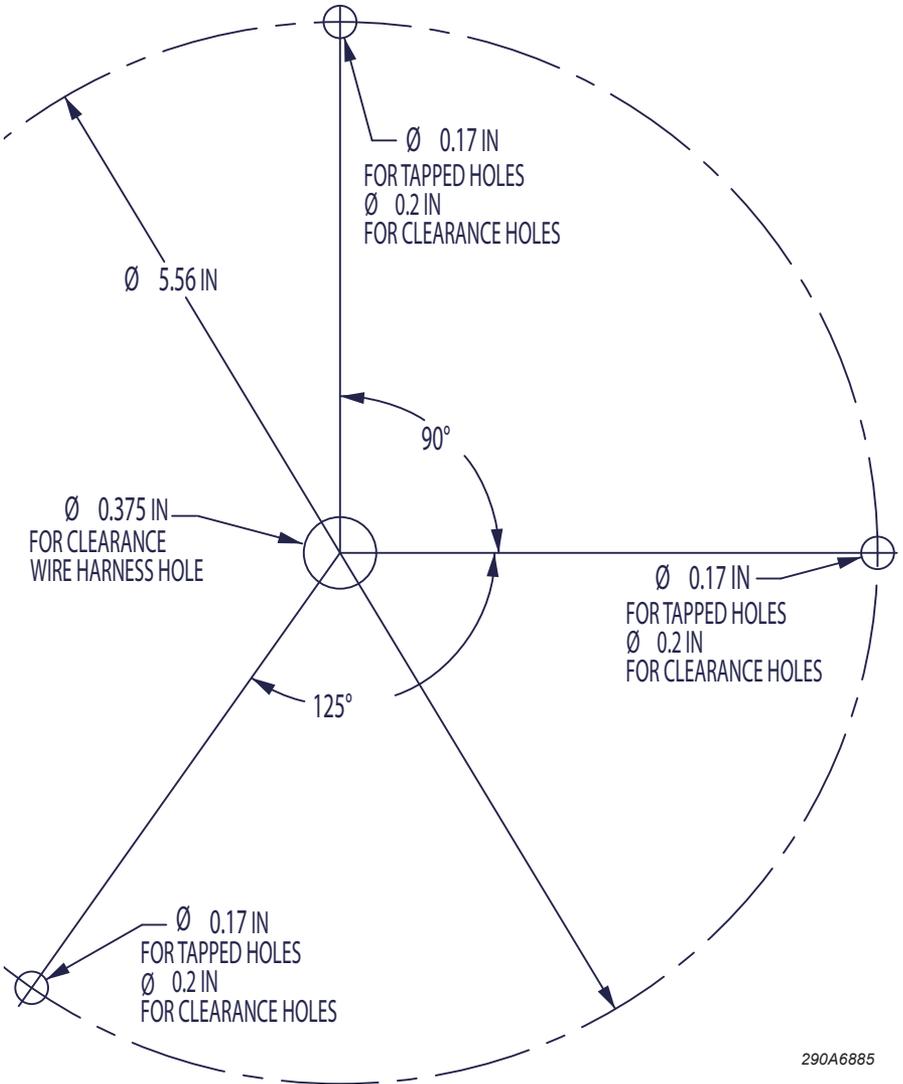
To order replacement parts, call Customer Support at 1-800-264-3578, 7 a.m. to 5 p.m., Monday through Friday (CT) or contact your nearest distributor.

Table 2 Replacement parts

Description	Part Number
Dome, Red	8627205-04
Dome, Amber	8627205-02
Gasket, Mounting	8627319

Figure 5 Template for permanent mounting (Not to scale)

IMPORTANT: Verify dimensions of mounting template.





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