



Installation and Operation Instructions 7900 Series LED Beacons

ECCO'S 7900 Series - Pulse® LED Beacon provide dependable, cost effective LED warning solutions that meet SAE Class I requirements. Pulse® Beacons feature 12-24V multiple flash patterns and hi/lo intensity control. Each model offers a long, maintenance free service life, extremely low amp draw and a robust, vibration resistant design.



WARNING!

Failure to install or use this product according to manufacturer's recommendations may result in property damage, serious injury, and/or death to those you are seeking to protect!

Do not install and/or operate this safety product unless you have read and understand the safety information contained

1. Proper installation combined with operator training in the use, care, and maintenance of emergency warning devices are essential to ensure the safety of you and those you are seeking to protect.
2. Exercise caution when working with live electrical connections.
3. This product must be properly grounded. Inadequate grounding and/or shorting of electrical connections can cause high current arcing, which can cause personal injury and/or severe vehicle damage, including fire.
4. Proper placement and installation are vital to the performance of this warning device. Install this product so that output performance of the system is maximized and the controls are placed within convenient reach of the operator so that s/he can operate the system without losing eye contact with the roadway.
5. Do not install this product or route any wires in the deployment area of an air bag. Equipment mounted or located in an air bag deployment area may reduce the effectiveness of the air bag or become a projectile that could cause serious personal injury or death. Refer to the vehicle owner's manual for the air bag deployment area. It is the responsibility of the user/operator to determine a suitable mounting location ensuring the safety of all passengers inside the vehicle particularly avoiding areas of potential head impact.
6. It is the responsibility of the vehicle operator to ensure during use that all features of this product work correctly. In use, the vehicle operator should ensure the projection of the warning signal is not blocked by vehicle components (i.e., open trunks or compartment doors), people, vehicles or other obstructions.
7. The use of this or any other warning device does not ensure all drivers can or will observe or react to a warning signal. Never take the right-of-way for granted. It is your responsibility to be sure you can proceed safely before entering an intersection, driving against traffic, responding at a high rate of speed, or walking on or around traffic lanes.
8. This equipment is intended for use by authorized personnel only. The user is responsible for understanding and obeying all laws regarding warning signal devices. Therefore, the user should check all applicable city, state, and federal laws and regulations. The manufacturer assumes no liability for any loss resulting from the use of this warning device.

Specifications:

| | | | | |
|----------------|----------------------|-----------------------|----------------|-------------------------------------|
| Size: | 7960 | 6.5" dia. x 5.6" high | Input Current: | 3.73 Amps Maximum |
| | 7960-VM | 6.5" dia. x 6.4" high | | Maximum power consumption: 39 watts |
| Weight: | 7960 | approx. 3.3 lbs. | Flash Rate: | See Chart |
| | 7960-VM | approx. 4.4 lbs. | | |
| Input Voltage: | 12 to 24 VDC systems | | | Temp. Range: -30°C to +50°C |

Installation & Mounting:

Important! This unit is a safety device and it must be connected to its own separate, fused power point to assure its continued operation should any other electrical accessory fail.

Carefully remove the beacon and place it on a flat surface. Examine the unit for transit damage, and locate all parts. If damage is found, or parts are missing, contact the transit company or ECCO. Do not use damaged or broken parts.

Caution: When drilling into any vehicle surface, make sure the area is free from any electrical wires, fuel lines, vehicle upholstery, etc. that could be damaged

Important! This light and associated power wiring should be located at least 3 feet away from any radio transmitting antenna. **NOTE: The required separation distance can vary for some high power transmitters/antennas. The maximum rated field strength is 60V/m.**

Temporary Mounting, Vacuum-Magnet Mount:

The Vacuum-Magnet Mount feature includes a suction cup on the bottom of the beacon, with a magnet inside of the suction cup, for a secure, temporary mount. The beacon should be placed in the center of the roof where the least amount of curvature occurs. Before installing, make sure the mounting surface is clean and there is no debris on the bottom of the beacon or on the roof of the vehicle, which could reduce the holding power of the suction cup and magnet. Place and remove the beacon without sliding to avoid scratching the paint on the vehicle. After placement, the beacon should adhere firmly to the surface. If the unit slides or moves easily, a proper installation has not been obtained. To release the vacuum, lift the tab to release the airlock (see Figure 2). To protect the Vacuum-Magnet Mount assembly, return beacon to the box when not in use. **Do not attempt to attach the beacon to an ice-covered surface.**

WARNING!

Maximum recommended vehicle speed for safe operation using the Vacuum Mount model is 65 mph (104 km/h), when fitted to the center of a vehicle roof of steel construction. Higher speeds could cause the mount to fail, resulting in the beacon flying off of the vehicle, which could cause damage to other vehicles, and injury or death to the passengers. The vacuum-magnet mount is not intended as a permanent mounting for the beacon. The vacuum-magnet mount unit must be mounted on a flat smooth magnetic surface (i.e. no fiberglass, ribbed style roofs, etc.).

Insure that the magnet is kept clean.

Pipe Mounting:

The 7900 series base comes with 1" NPT threads for pipe mounting.

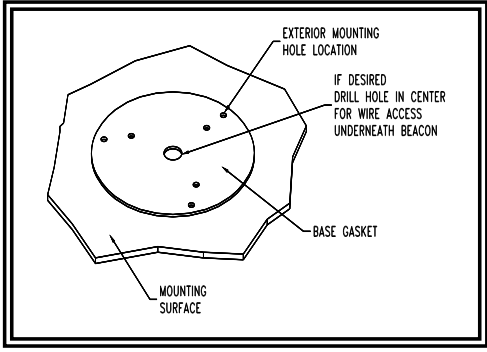


Figure 1

Permanent Mounting:

1. Select the desired location on a flat surface for the beacon to be mounted. The visibility of the flash and ease of wiring access should be taken into consideration in the selection of the mounting location.
2. Using the base gasket as a template, mark the three mounting hole locations (see Figure 1).
3. Drill the holes using a 7/32" drill size.
4. A fourth hole may be drilled for wire access as shown in Figure 1, or the wires may be routed through the slot in the base for external access.
5. Connect the power wires as shown in the wiring section (see Figure 3).
6. Mount the beacon with #10 hardware.

FLASH PATTERN CHART

| Sequence | Description | FPM | SAE J845 Class 1 |
|----------|-------------|-----|------------------|
| 1 | Single | 60 | Yes |
| 2 | Single | 120 | Yes |
| 3 | Double | 80 | Yes |
| 4 | Double | 120 | Yes |
| 5 | Triple | 75 | Yes |
| 6 | Quad | 75 | Yes |
| 7 | Quad | 120 | Yes |
| 8 | Quint/Hold | 75 | Yes |
| 9 | Burst 8 | 75 | Yes |
| 10 | Random | N/A | No |
| 11 | Steady On | N/A | No |

Important! Disable power before wiring up the beacon.

Light Output & Flash Mode Selection:

All beacons are shipped from the factory set for high intensity and double flash. To change these settings, momentarily apply power to yellow wire while unit is running to advance the flash pattern. To dim the unit for night mode, apply power to the orange day/night wire.

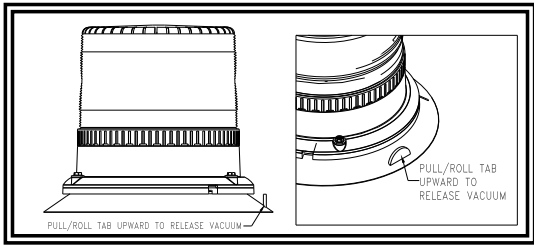


Figure 2

WARNING!

Failure to follow these instructions can result in fire or injury from excessive heat build up.

Operator is responsible for ensuring cigarette adapter fits correctly into cigarette/auxiliary outlet used. For proper operation, verify cigarette/auxiliary outlet circuit is rated to supply a minimum of 10 amps. (See specifications section for rated current in amperes). Do not exceed the current rating for the cigarette lighter power outlet recommended by vehicle manufacturer. Keep cigarette lighter adapter and outlet clean and free of debris. Do not use the cigarette lighter adapter when wet. Insert cigarette lighter adapter fully into the outlet for proper connection. Grasp cigarette lighter adapter, NOT cord, to remove from outlet. Remove cigarette lighter adapter completely from outlet when light is not in use.

Wiring:

The wiring for this configuration is as shown in Figure 3 below. All wiring should be a minimum of 18AWG. The positive line must have a 5 amp fuse, as shown. A switch may be used to control the on/off function.

Note: Operating the Beacon without the lens installed on this product will result in damage that will not be covered under warranty.

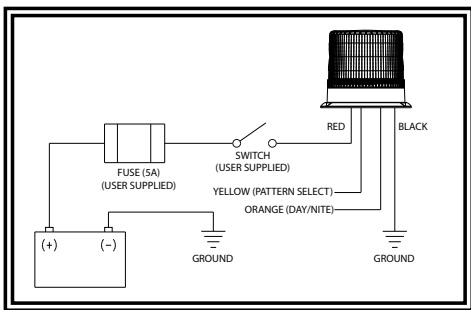


Figure 3