

# WHELEN<sup>®</sup>

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## Installation Guide: L31 Series Dual Level Super-LED<sup>®</sup> Beacon

### Safety First

This document provides all the necessary information to allow your Whelen product to be properly and safely installed. Before beginning the installation and/or operation of your new product, the installation technician and operator must read this manual completely. Important information is contained herein that could prevent serious injury or damage.

- Proper installation of this product requires the installer to have a good understanding of automotive electronics, systems and procedures.
- If mounting this product requires drilling holes, the installer **MUST** be sure that no vehicle components or other vital parts could be damaged by the drilling process. Check both sides of the mounting surface before drilling begins. Also de-burr the holes and remove any metal shards or remnants. Install grommets into all wire passage holes.
- If this manual states that this product may be mounted with suction cups, magnets, tape or Velcro<sup>®</sup>, clean the mounting surface with a 50/50 mix of isopropyl alcohol and water and dry thoroughly.
- Do not install this product or route any wires in the deployment area of your air bag. Equipment mounted or located in the air bag deployment area will damage or reduce the effectiveness of the air bag, or become a projectile that could cause serious personal injury or death. Refer to your vehicle owner's manual for the air bag deployment area. The User/Installer assumes full responsibility to determine proper mounting location, based on providing ultimate safety to all passengers inside the vehicle.
- For this product to operate at optimum efficiency, a good electrical connection to chassis ground must be made. The recommended procedure requires the product ground wire to be connected directly to the **NEGATIVE (-)** battery post (this does not include products that use cigar power cords).
- If this product uses a remote device for activation or control, make sure that this device is located in an area that allows both the vehicle and the device to be operated safely in any driving condition.
- Do not attempt to activate or control this device in a hazardous driving situation.
- This product contains either strobe light(s), halogen light(s), high-intensity LEDs or a combination of these lights. Do not stare directly into these lights. Momentary blindness and/or eye damage could result.
- Use only soap and water to clean the outer lens. Use of other chemicals could result in premature lens cracking (crazing) and discoloration. Lenses in this condition have significantly reduced effectiveness and should be replaced immediately. Inspect and operate this product regularly to confirm its proper operation and mounting condition. Do not use a pressure washer to clean this product.
- It is recommended that these instructions be stored in a safe place and referred to when performing maintenance and/or reinstallation of this product.
- **FAILURE TO FOLLOW THESE SAFETY PRECAUTIONS AND INSTRUCTIONS COULD RESULT IN DAMAGE TO THE PRODUCT OR VEHICLE AND/OR SERIOUS INJURY TO YOU AND YOUR PASSENGERS!**

**For warranty information regarding this product, visit [www.whelen.com/warranty](http://www.whelen.com/warranty)**

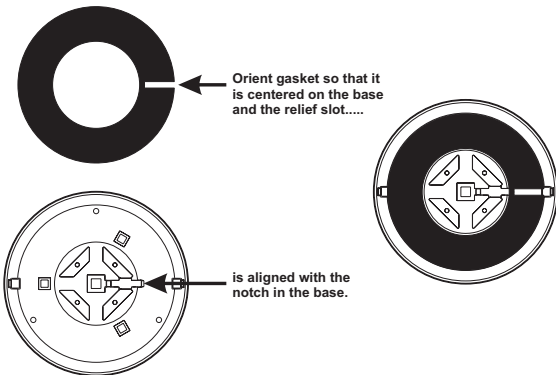
**Permanent surface mount:**

**CAUTION:** Permanent mounting of this product will require drilling. It is absolutely necessary to make sure that no other vehicle components could be damaged by this process. Check both sides of the mounting surface before starting. If damage is likely, select a different mounting location.

**IMPORTANT WARNING!**  
**CAUTION! DO NOT LOOK DIRECTLY AT THESE LEDS WHILE THEY ARE ON. MOMENTARY BLINDNESS AND/OR EYE DAMAGE COULD RESULT!**

*Beacon is designed to be mounted in a normal dome-up position.*

1. Remove the screws securing the dome to the base and remove the dome. Position the beacon in its proposed mounting location. *(Refer to safety warnings on page 1)*
2. Locate the 3, round mounting holes on the inside bottom of the base. Using the base as a template, mark the location of the these holes onto the mounting surface. Remove the beacon and make a mark in the center of the beacons mounted position for a wire passage hole.
3. Using a #16 drill bit drill the three mounting holes marked in step 2. The wire access hole should be drilled using a 3/8" drill bit. Deburr all holes. Install a rubber grommet (customer supplied) to protect wires.
4. Turn beacon upside-down so bottom of the base is facing up.



5. Remove protective backing from the base gasket and apply to the beacon base as shown. **It is critical that the gasket be properly oriented to the base as shown above.** Make sure the gasket is flat against the base.
6. Feed the wires through the wire access hole in the mounting surface.
7. Align the base with the mounting holes and secure with three #10 sheet metal screws. Return the dome to its mounted position.

The beacon wires function as outlined below:

Color	Function	Connect to:	Fuse @
RED	BOTTOM LEDs	+VBAT	5 Amp
BLK	Ground	Chassis Ground	N/A
WHT/VIO	Scan-Lock™	+VBAT	1 Amp
WHT/ORN	TOP LEDs	+VBAT	5 Amp

**WARNING!** All customer supplied wires that connect to the positive terminal of the battery must be sized to supply at least 125% of the maximum operating current and FUSED at the battery to carry that load. DO NOT USE CIRCUIT BREAKERS WITH THIS PRODUCT!

Refer to the "Operation" section for wire function information. Customer supplied switches should be used for Scan-Lock™ and LED control.

**Temporary Mount (Magnetic, Suction Cup, etc.)**

**WARNING:** The use of any magnetically mounted warning device on the outside of a vehicle in motion is not recommended and is at the sole risk and responsibility of the user.

**Magnetic/suction:** Thoroughly clean the mounting surface prior to mounting. For suction cup mounting, wipe the suction cup clean, place the beacon onto its mounting surface and apply gentle pressure to ensure a good seal has been achieved. The Magnetic/Suction Cups mount the same as standard suction cups but are best suited to a flat, steel surface.

**Magnetic:** Place the beacon onto the mounting surface and plug it into the vehicle cigar lighter.

**NOTE:** The magnetic mount model does not offer Scan-Lock™.

**1" N.P.T. Pipe Mount (optional):**

1. Turn the beacon upside-down so the bottom of the base is facing up. Remove the base gasket from the base and discard. Install the grommets (included with the kit) into the three, square mounting holes in the bottom of the base.
2. Feed the beacon wires through the pipe mount base plate. Secure the base plate onto the beacon base using the provided hardware.
3. Feed the beacon wires through the pipe and connect the beacon wires as outlined in the Permanent Mount section.
4. Install the plugs (included with kit) into the unused permanent mounting holes.
5. Screw the beacon onto the pipe, being careful not to pinch or strain the wires. *Hand tighten* the unit onto pipe.

**Operation:**

**Activation** - Applying +12VDC to the RED wire will turn the BOTTOM BANK of LEDs on. Applying +12VDC to the WHT/ORN wire will turn the UPPER BANK of LEDs on.

Scan-Lock™	Flash Pattern	Mode	Level
- First activate the desired LEDs. Apply +12VDC to the WHT/VIO wire for less than 1 second and release to cycle forward through flash patterns. Apply +12VDC the WHT/VIO wire for more than 1 second to cycle backward through the patterns. When the desired pattern is displayed, allow it to run for more than 5 seconds. The lighthouse will now display this pattern when active. To reset to the factory default pattern, turn off power, apply +12VDC to the WHT/VIO wire, then turn power to the desired LEDs back on.	SignalAlert™ 75	Alternating	1 & 2
	SignalAlert™ 75	Simultaneous	1 & 2
	CometFlash® 75	Alternating	1 & 2
	CometFlash® 75	Simultaneous	1 & 2
	DoubleFlash 75	Alternating	1 & 2
	DoubleFlash 75	Simultaneous	1 & 2
	SingleFlash 75	Alternating	1 & 2
	SingleFlash 75	Simultaneous	1 & 2
	ComAlert™ 75	Alternating	1 & 2
	ComAlert™ 75	Simultaneous	1 & 2
	LongBurst™ 75	Alternating	1 & 2
	LongBurst™ 75	Simultaneous	1 & 2
	PingPong™ 75	Alternating	1 & 2
	PingPong™ 75	Simultaneous	1 & 2
	SingleFlash 60	Alternating	1 & 2
	SingleFlash 60	Simultaneous	1 & 2
	SingleFlash 90	Alternating	1 & 2
	SingleFlash 90	Simultaneous	1 & 2
	SingleFlash 120	Alternating	1 & 2
	SingleFlash 120	Simultaneous	1 & 2
	SingleFlash 300	Alternating	1 & 2
	SingleFlash 300	Simultaneous	1 & 2
	DoubleFlash 150	Alternating	1 & 2
	DoubleFlash 150	Simultaneous	1 & 2
	ComAlert™ 150	Alternating	1 & 2
	ComAlert™ 150	Simultaneous	1 & 2
	ActionFlash™ 50	Alternating	1 & 2
	ActionFlash™ 50	Simultaneous	1 & 2
	ActionFlash™ 150	Alternating	1 & 2
	ActionFlash™ 150	Simultaneous	1 & 2
	ModuFlash™	Alternating	1 & 2
	ModuFlash™	Simultaneous	1 & 2
	ActionScan™	Alternating	1 & 2
	Steady - Low Intensity		1
	Steady - Medium Intensity		1
	Steady - Mid Intensity		1
	Steady - High Intensity		1

**IMPORTANT!** It is the responsibility of the installation technician to make sure that the installation and operation of this product will not interfere with or compromise the operation or efficiency of any vehicle equipment. Before returning the vehicle to active service, visually confirm the proper operation of this product, as well as all vehicle components/equipment.