

WHELEN[®]

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Installation Guide:
VXE[®] Hideaway
Grommet /Standard Mount
SmartLED[®] /Steady

Warnings to Installers

Whelen's emergency vehicle warning devices must be properly mounted and wired in order to be effective and safe. Read and follow all of Whelen's written instructions when installing or using this device. Emergency vehicles are often operated under high speed stressful conditions which must be accounted for when installing all emergency warning devices. Controls should be placed within convenient reach of the operator so that they can operate the system without taking their eyes off the roadway. Emergency warning devices can require high electrical voltages and/or currents. Properly protect and use caution around live electrical connections. Grounding or shorting of electrical connections can cause high current arcing, which can cause personal injury and/or vehicle damage, including fire. Many electronic devices used in emergency vehicles can create or be affected by electromagnetic interference. Therefore, after installation of any electronic device it is necessary to test all electronic equipment simultaneously to insure that they operate free of interference from other components within the vehicle. Never power emergency warning equipment from the same circuit or share the same grounding circuit with radio communication equipment. All devices should be mounted in accordance with the manufacturer's instructions and securely fastened to vehicle elements of sufficient strength to withstand the forces applied to the device. Driver and/or passenger air bags (SRS) will affect the way equipment should be mounted. This device should be mounted by permanent installation and within the zones specified by the vehicle manufacturer, if any. Any device mounted in the deployment area of an air bag will damage or reduce the effectiveness of the air bag and may damage or dislodge the device. Installer must be sure that this device, its mounting hardware and electrical supply wiring does not interfere with the air bag or the SRS wiring or sensors. Mounting the unit inside the vehicle by a method other than permanent installation is not recommended as unit may become dislodged during swerving; sudden braking or collision. Failure to follow instructions can result in personal injury. Whelen assumes no liability for any loss resulting from the use of this warning device. PROPER INSTALLATION COMBINED WITH OPERATOR TRAINING IN THE PROPER USE OF EMERGENCY WARNING DEVICES IS ESSENTIAL TO INSURE THE SAFETY OF EMERGENCY PERSONNEL AND THE PUBLIC.

Warnings to Users

Whelen's emergency vehicle warning devices are intended to alert other operators and pedestrians to the presence and operation of emergency vehicles and personnel. However, the use of this or any other Whelen emergency warning device does not guarantee that you will have the right-of-way or that other drivers and pedestrians will properly heed an emergency warning signal. Never assume you have the right-of-way. It is your responsibility to proceed safely before entering an intersection, driving against traffic, responding at a high rate of speed, or walking on or around traffic lanes. Emergency vehicle warning devices should be tested on a daily basis to ensure that they operate properly. When in actual use, the operator must ensure that both visual and audible warnings are not blocked by vehicle components (i.e.: open trunks or compartment doors), people, vehicles, or other obstructions. It is the user's responsibility to understand and obey all laws regarding emergency warning devices. The user should be familiar with all applicable laws and regulations prior to the use of any emergency vehicle warning device. Whelen's audible warning devices are designed to project sound in a forward direction away from the vehicle occupants. However, because sustained periodic exposure to loud sounds can cause hearing loss, all audible warning devices should be installed and operated in accordance with the standards established by the National Fire Protection Association.

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.

⚠ WARNING: This product contains Methylene Chloride and Bisphenol A, which are known by the State of California to cause cancer and reproductive harm. For more information go to www.P65Warnings.ca.gov.

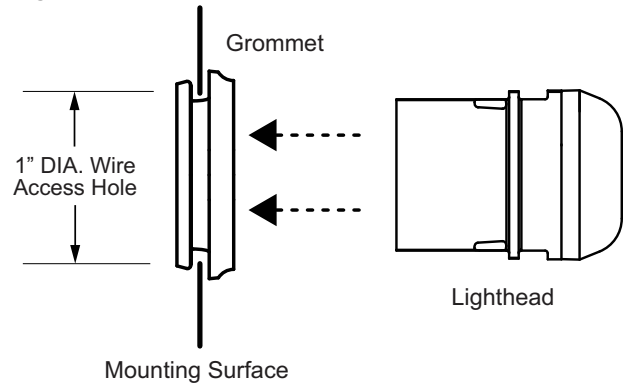
- **Proper installation of this product requires the installer to have a good understanding of automotive electronics, systems and procedures.**
- **Whelen Engineering requires the use of waterproof butt splices and/or connectors if that connector could be exposed to moisture.**
- **Any holes, either created or utilized by this product, should be made both air- and watertight using a sealant recommended by your vehicle manufacturer.**
- **Failure to use specified installation parts and/or hardware will void the product warranty.**
- **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[®], 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!**
- **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!**

Mounting Instructions- Grommet

Grommet Mount:

- ① Using a hole saw, cut a 1" hole (**Fig.1**) into the vehicle, and de-burr the hole.
IMPORTANT: Make sure the lighthouse will not interfere with existing equipment and be aware of any items on the opposite side of the mounting surface.
- ② Fit the grommet into the mounting surface.
- ③ *Route wires:* For correct destinations, Refer to pg. 3 for Steady only versions, and pg. 4 for Smart versions. Leaving a 3-4" wire loop for strain relief is recommended.
- ④ Secure the light head into the vehicle by snapping it into the grommet, aligning the lens clasps on both sides with the two larger divots in the grommet (**Fig. 2**).
Note: If difficult, apply a small mixture of soap and water to where the grommet contacts the mounting surface.

Fig. 1



Dimensions:

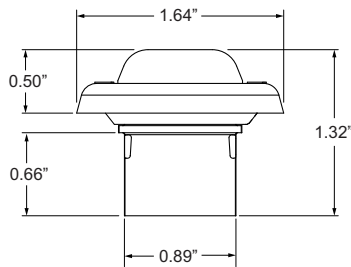
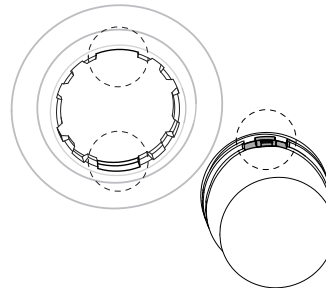


Fig. 2

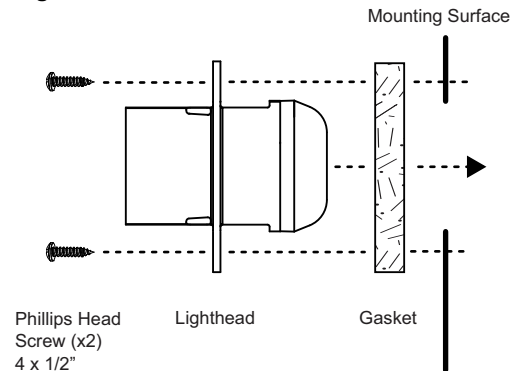


Mounting Instructions- Standard

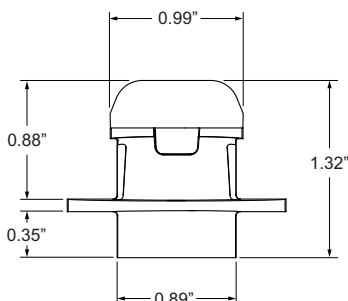
Standard Mount:

- ① If mounting to a vehicle light, follow manufacturer's instructions to remove the headlight (or taillight) reflector assembly from the vehicle. See *Headlight Mounting Notes* for additional considerations.
- ② Using a hole saw, cut a 1" hole (**Fig.1**) into the vehicle, and de-burr the hole.
- ③ Drill two mounting holes with the two supplied #4 sheet metal screws with the gasket positioned between the surface and light (**Fig. 3**).
- ④ *Route wires:* For correct destinations, Refer to pg. 3 for Steady only versions, and pg. 4 for Smart versions. Leaving a 3-4" wire loop for strain relief is recommended.

Fig. 3



Dimensions:

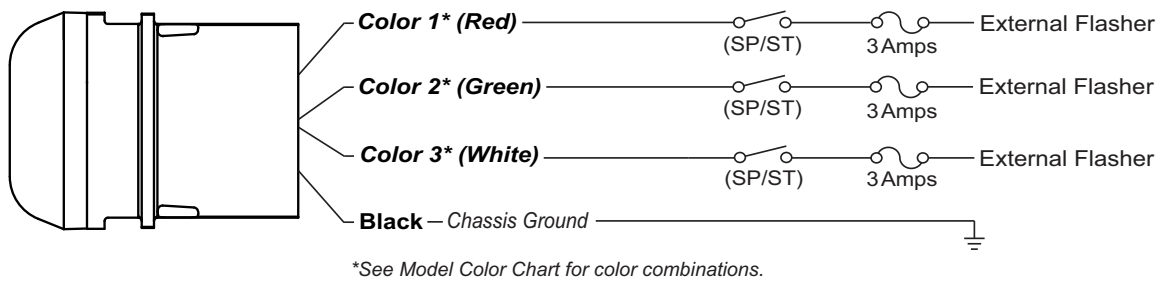


Headlight (or taillight) Mounting Notes:

The Hideaway:

- Is inserted from the back or bottom of the headlight or rear taillight housing, as close to the focal point as possible.
- Must not be installed above the horizontal centerline of the reflector.
- Must not be installed above any OEM-supplied lights.

Wiring and Operations for Steady Only VXE®



Ground (BLK) - Extend BLK wire to Chassis Ground.

Color 1 (RED) - Extend this wire to external flasher (+10-30VDC). Fuse at 3 AMPS

Color 2 (GREEN) - Extend this wire to external flasher (+10-30VDC). Fuse at 3 AMPS.

Color 3 (WHITE) - Extend this wire to external flasher (+10-30VDC). Fuse at 3 AMPS.

Note: Wires are 22 AWG. Switches, fuses, and external flasher are customer-supplied. Protective wire coverings, especially where wires meet the base of the light, are recommended.

Model Color Chart:

Model	Color 1	Color 2	Color 3
Blu/Amb/Wht	Blue	Amber	White
Red/Grn/Wht	Red	Green	White
Red/Blu/Amb	Red	Blue	Amber
Red/Blu/Wht	Red	Blue	White
Blu/Amb/Grn	Blue	Amber	Green
Red/Amb/Grn	Red	Amber	Green
Red/Amb/Wht	Red	Amber	White
Grn/Amb/Wht	Green	Amber	White
Blu/Grn/Wht	Blue	Green	White
Red/Blu/Grn	Red	Blue	Green
Blu/Wht	Blue	White	N/A
Red/Wht	Red	White	N/A
Red/Grn	Red	Green	N/A
Red/Blu	Red	Blue	N/A
Grn/Amb	Green	Amber	N/A
Blu/Amb	Blue	Amber	N/A
Red/Amb	Red	Amber	N/A
Amb/Wht	Amber	White	N/A
Blu/Grn	Blue	Green	N/A

Override Operation With One/Two/Three Colors Active

Color 1	Color 2	Color 3	Active Color
Active	Not Active	Not Active	Color 1
X	Active	Not Active	Color 2
X	X	Active	Color 3

Wiring and Operations for VXE® SmartLED®



*See Model Color Chart for color combinations.

Ground (BLK) - Extend BLK wire to Chassis Ground.

Color 1 (RED) - Extend this wire to +10-30VDC and fuse at 3 Amps.

Color 2 (GREEN) - Extend this wire to +10-30VDC and fuse at 3 Amps.

Scan-Lock (WHT / VIO) - Extend this wire to +10-30VDC and fuse at 3 AMPS.

Note: Wires are 22 AWG. Switches, fuses, and external flasher are customer-supplied. Protective wire coverings, especially where wires meet the base of the light, are recommended.

Scan-Lock™ Operation:

Note: In order to change flash patterns, the lighthouse must be on.

To Advance to the Next Pattern: Apply 10-30 VDC to the WHT/VIO wire for *less than 1 second* and release.

To Cycle back to the Previous Pattern: Apply 10-30 VDC to the WHT/VIO for *more than 1 second* and release.

To Change the Default Pattern: When the desired pattern is displayed, allow it to run for more than 5 seconds. The lighthouse will now display this pattern upon following activation.

To Restore the Factory Default Pattern: With the light turned off, apply power to the WHT/VIO wire. With power applied to the WHT/VIO wire, turn the light on. Allow the unit to run for 3 seconds before removing power from the WHT/VIO wire. This will reset active input back to its default settings.

Steady-Lock™: When connected to a Core® control system, a lighthouse doesn't require manually scanlocking to the Steady pattern.

All populated outputs can be sent a Steady-Lock signal from Whelen Command®, automatically setting their pattern to Steady. A minimum Whelen Command version of 2.2.9 is required for the Steady-Lock feature.

Flash Pattern Table:

Pattern#	Name	Cert.	Pattern#	Name	Cert.
1.	SignalAlert™ 75	1,2,3,4	15.	ComAlert™ 150	1, ,3,4
2.	Comet Flash® 75	1,2,3,4	16.	PingPong™ 120	1,2,3,4
3.	ComAlert™ 75	1,2,3,4	17.	ActionFlash™ 60	1,2, 4
4.	LongBurst™ 75	1,2,3,4	18.	ActionFlash™ 120	1,2,3,4
5.	PingPong™ 75	1,2,3,4	19.	Action SF 60/120	1,2, 4
6.	SingleFlash 75	1,2,3,4	20.	Action SF120/TF75	1,2,3,4
7.	DoubleFlash 75	1,2,3,4	21.	ModuFlash™	
8.	TripleFlash™ 75	1,2,3,4	22.	DoubleFlash 125	1, ,3,4,5
9.	SingleFlash 60	1,2, 4	23.	SingleFlash 125	1, ,3,4,5
10.	SingleFlash 90	1,2,3,4	24.	CalScan™	1,2,3,4
11.	SingleFlash 120	1,2,3,4	25.	ActionScan™	1, ,3,4
12.	SingleFlash 240	1, 3,4	26.	SignalAlert™ Steady*	
13.	DoubleFlash 120	1,2,3,4	27.	STEADY*	
14.	Tripleflash™ 120	1,2,3,4			

Compliance Legend

Each pattern is certified compliant in up to 4 classifications, shown in the "Cert" column:

1. SAE
2. CA Title XIII
3. NFPA
4. KKK
5. UNECE

*Patterns 26, 27 not available in 2 color mode

Wiring and Operations for VXE[®] SmartLED[®], Cont.

Model Color Chart:

Model	Color 1	Color 2
Blu/Wht	Blue	White
Red/Wht	Red	White
Red/Grn	Red	Green
Red/Blu	Red	Blue
Grn/Amb	Green	Amber
Blu/Amb	Blue	Amber
Red/Amb	Red	Amber
Amb/Wht	Amber	White
Blu/Grn	Blue	Green
Amb/Wht	Amber	White
Blu/Grn	Blue	Green
Red	Red	N/A
Blue	Blue	N/A
Green	Green	N/A
White	White	N/A

Override Operation With One/Two Colors Active:

Color 1	Color 2	Active Color
Active	Not Active	Color 1
X	Active	Color 2