

### 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 can expose you to chemicals including Methylene Chloride which is known to the State of California to cause cancer, and Bisphenol A, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://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!**

## Mounting:

- Using the mounting diagram shown, mark the locations for the mounting holes and the wire passage hole. Drill 4 mounting holes with a .250" drill bit. Create and de-burr a 1-inch diameter wire passage hole.
- Insert the screw grommet flange into the mounting holes as shown.
- Route the wires through the flange and gasket, Extend the wires through the wire passage hole, make the appropriate connections and confirm proper operation of the light.
- Apply a soap and water solution to the face of the silicone wire exit seal.
- Place the flange (if present) and the gasket onto the lighthead as shown. Refer to the illustration for proper orientation of both the gasket and the lighthead.
- While holding all these components together, place the lighthead assembly onto the mounting surface. **IMPORTANT!** When placing the assembly onto the mounting surface, it must NOT be moved or slid into its proper position it must be placed directly into its proper position on the mounting surface.
- Hold the lighthead against the mounting surface and install the mounting screws to secure the assembly firmly to the vehicle.

**IMPORTANT!** Before returning the vehicle to active service, visually confirm the proper operation of this product, as well as all vehicle components/equipment.

## Wiring:

### Hi/Low Power:

Allows user to step the unit down to low power for nighttime use.

**LATCH MODE:** By applying +VBAT to the VIO wire for less than 1 second, the lighthead is "latched" into low power operation. Applying +VBAT for longer than one second and releasing when in latch mode will return the lighthead into "high power" operation.

**LEVEL MODE:** Applying +VBAT to the VIO wire will hold lighthead in low power mode until +VBAT is removed from the VIO wire, provided +VBAT had been held on the VIO wire for longer than 1 second.

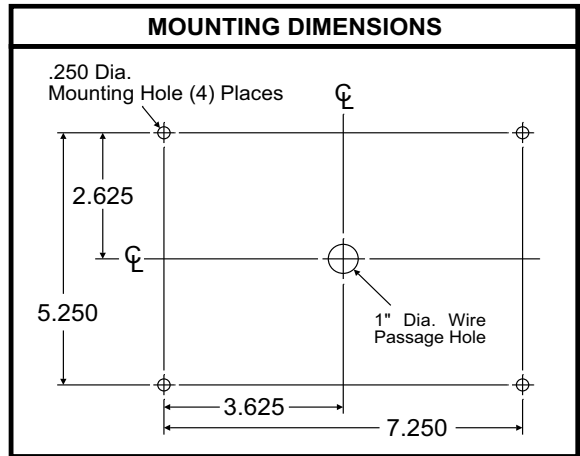
### Scan-Lock™:

**TO CHANGE RAMP ON SETTING:** To cycle forward to the next ramp on setting apply +VBAT to the WHT/VIO wire (or switch) for less than 1 second and release. To cycle back to the previous ramp on setting, apply +VBAT to WHT/VIO wire for over 1 second and release. When cycling through options, the unit will demonstrate the ramp on speed and then save it. A quick flash indicates ramp on is turned OFF and the unit is set to power on at full brightness instantly.

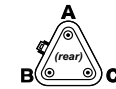
**TO RESTORE THE FACTORY DEFAULT RAMP ON SETTING:** With the unit turned off, apply power to the WHT/VIO wire, then turn on the unit. The unit will turn on with its current setting and then reset to default (SLOW 800ms) for subsequent power on. Allow the unit to run for 3 seconds before removing power from the WHT/VIO wire.

**TO CHANGE LOW POWER INTENSITY:** Apply +VBAT to the VIO wire to hold in low power mode. Cycle forward to the next intensity by applying +VBAT to the WHT/VIO wire (or switch) for less than 1 second and releasing. To cycle back to the previous intensity, apply +VBAT to WHT/VIO wire for over 1 second and release. The intensity will be saved 1 second after the switch.

**TO RESTORE THE FACTORY DEFAULT LOW POWER INTENSITY:** With the unit turned off, apply power to the WHT/VIO wire and the VIO wire, then turn on the unit. The unit will turn on with low power active with its current intensity and then reset to default (25%) for subsequent low power operation. Allow the unit to run for 3 seconds before removing power from the WHT/VIO wire.



**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!**



Wiring Diagram  
3-pos. Socket Conn.

Pos.A - WHITE  
Pos.B - VIOLET  
Pos.C - BLACK  
or  
BLACK/WHITE (24V)  
WHITE W/ VIOLET LOOSE



Wiring Diagram  
3-pos. Pin Housing

Pos.1 - WHITE  
Pos.2 - VIOLET  
Pos.3 - BLACK  
or  
BLACK/WHITE (24V)  
WHITE W/ VIOLET LOOSE



Wiring Diagram  
4-pos. Pin Deutsch Conn.

Pos.1 - WHITE  
Pos.2 - VIOLET  
Pos.3 - BLK OR BLK/WHT (24V)  
Pos.4 - WHITE W/ VIOLET

### DVI / Low Power Scan-Lock Table

Num	DVI Ramp Up Speed	Num	Low Power
1	Slow Ramp 800ms	1	25%
2	Medium Ramp 400ms	2	50%
3	Fast Ramp 200ms	3	75%
4	Instant On	4	NA

### IMPORTANT WARNING!

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

