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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.
- Whelen Engineering requires the use of waterproof butt splices and/or connectors if that connector could be exposed to moisture.
- 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 any holes and remove any metal shards or remnants. Install grommets into all wire passage holes.
- 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.
- Do not attempt to activate or control this device in a hazardous driving situation.
- If this product uses a remote device to activate or control this product, make sure that this control is located in an area that allows both the vehicle and the control to be operated safely in any driving condition.
- 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.
- 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!**
- FAILURE TO FOLLOW THESE PRECAUTIONS AND INSTRUCTIONS COULD RESULT IN DAMAGE TO THE PRODUCT OR VEHICLE AND/OR SERIOUS INJURY TO YOU AND YOUR PASSENGERS!**

Installation

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!

WARNING! The LED models designated "Steady" must be connected to an electronic flasher. Allowing the LED to steady burn will damage the lighthead and void the warranty. This product draws significantly less current than a standard incandescent automotive bulb. If your flasher does not operate properly, it may be necessary to replace your existing flasher module with a Whelen 3TERM flasher module. Contact your sales representative for specific vehicle application.

- Using the dimensions shown, mark off and drill the four, 1/4" diameter mounting holes and the 1" wire hole into the mounting surface. Check measurements before drilling.
- Install the screw grommet flange into the mounting holes then install a rubber grommet (customer supplied) into the wire hole.
- Using appropriately sized wires (minimum 18 AWG wire), extend the lighthead wires to their appropriate connections. Fuse the positive connections at 3 amps and test operation of lighthead before securing it to vehicle.
- Position the lighthead onto the mounting surface and secure to the vehicle using the four, #6 x 1-1/2" sheet metal screws.

WIRING

The 600 Series lighthead offers the user various features depending on the model. These features and their usage are as follows:

Scan-Lock™ (White/Violet):

Note that the lighthead must be on to use the ScanLock feature except where noted.

To advance to the next flash pattern - Apply +12VDC to the WHT/VIO wire for less than 1 second and release.

To cycle backwards through the flash patterns - Apply +12VDC to the WHT/VIO wire for more than 1 second and release.

To reset to the factory default flash pattern - Turn off power to the lighthead. While applying +12VDC to the WHT/VIO wire, turn power to the lighthead on. Continue to apply voltage to the WHT/VIO wire for 5 seconds. The default pattern will now be active.

NOTE: A normally open momentary switch is suggested to activate the Scan-Lock wire.

The table below provides wiring information for the 600 Series lighthead. Refer to the appropriate Flash Pattern list as determined by the lighthead style:

600-series Lighthead Wiring

Style	Wiring	Pattern Table
Steady (12V)	- LED Color (Power) - BLK (Ground)	N/A (see "WARNING" above)
Steady (24V)	- LED Color (Power) - BLK/WHT (Ground)	N/A (see "WARNING" above)
Split	- LED-1 Color (Power) - LED-2 Color (Power) - BLK (Ground) - WHT/VIO (Scan-Lock)	Split Pattern Table
Hi/Low (12V)	- LED Color (Power) - BLK (Ground) - VIO (Hi/Low Power) - WHT/VIO (Scan-Lock)	Standard Pattern Table
Hi/Low (24V)	- LED Color (Power) - BLK/WHT (Ground) - VIO (Hi/Low Power) - WHT/VIO (Scan-Lock)	Standard Pattern Table

Standard Pattern Table

- SignalAlert 75
- SignalAlert 150
- SingleFlash 375
- SingleFlash 150
- SingleFlash 75
- DoubleFlash 150
- DoubleFlash 75
- CometFlash 75
- ActionFlash
- ModuFlash
- ComAlert
- ActionScan™
- SignalAlert
- Steady

Split Pattern Table

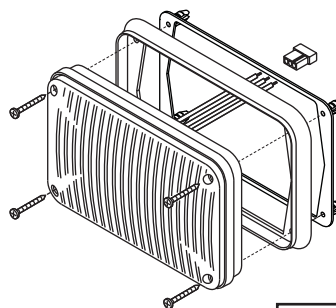
- SignalAlert™ 75 - ALT
- SignalAlert 75 - SIM
- CometFlash® 75 - ALT
- CometFlash 75 - SIM
- DoubleFlash 75 - ALT*
- DoubleFlash 75 - SIM*
- SingleFlash 75 - ALT*
- SingleFlash 75 - SIM*
- ComAlert™ 75 - ALT
- ComAlert 75 - SIM
- LongBurst™ 75 - ALT
- LongBurst 75 - SIM
- PingPong™ 75 - ALT*
- PingPong 75 - SIM*
- SSNF 75 - SIM
- SingleFlash 60 - ALT*
- SingleFlash 60 - SIM*
- SingleFlash 90 - ALT*
- SingleFlash 90 - SIM*
- SingleFlash 120 - ALT*
- SingleFlash 120 - SIM*

- SingleFlash 300 - ALT
- SingleFlash 300 - SIM
- DoubleFlash 150 - ALT
- DoubleFlash 150 - SIM
- Com-Alert 150 - ALT
- Com-Alert 150 - SIM
- ActionFlash™50 - ALT
- ActionFlash 50 - SIM
- ActionFlash 150 - ALT
- ActionFlash 150 - SIM
- ModuFlash™ - ALT
- ModuFlash - SIM
- DoubleFlash 120 - ALT*
- DoubleFlash 120 - SIM*
- PingPong 120 - ALT*
- PingPong 120 - SIM*
- TripleFlash™ 75 - ALT*

- TripleFlash 75 - SIM*
- TripleFlash 120 - ALT*
- TripleFlash 120 - SIM*
- CA SignalAlert - ALT*
- CA SignalAlert - SIM*
- Action SF 1 - ALT*
- Action SF 1 - SIM*
- Action SF 2 - ALT*
- Action SF 2 - SIM*
- CalScan™ - ALT+SIM*
- ActionScan - ALT+SIM
- Steady Flash 60*
- Steady Flash 75*
- Steady Flash 90*
- Steady Flash 120*
- Steady & Steady*

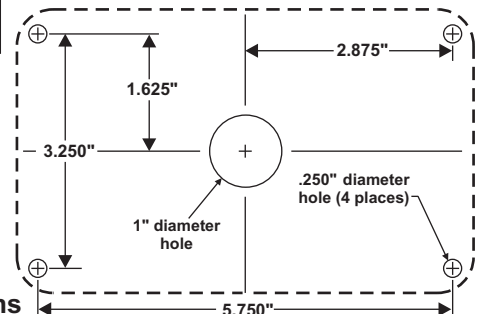
* = CA Title XIII Compliant

Waterproof butt splices and/or connectors are required if that connection could be exposed to moisture. Any unused wires must be sealed (waterproofed) to prevent moisture infiltration.



Note: Connector shown for reference only and is shipped loose.

Mounting Dimensions



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 he can operate the system without taking his 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.