

# WHELEN<sup>®</sup>

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## Installation Guide: 16 Output Halogen/LED Ambulance Flasher Model AFM1660

### 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 any 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.**
- **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.**
- **Do not attempt to activate or control this device in a hazardous driving situation.**
- **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)**

### Selecting a mounting location...

The following guidelines will help determine an acceptable mounting location:

- The unit should be mounted on a metal surface to aid heat dissipation. Be sure that this surface is not one that either generates or is exposed to excessive heat during normal operation of the vehicle.
- Do not select a location where the unit will be exposed to potential damage from any unsecured or loose equipment in the vehicle.
- Be sure the area selected will not allow the unit to be exposed to water!
- When routing wires, it is important to choose a path that will keep these wires away from excessive heat and from any vehicle equipment that could compromise the integrity of the wires.
- When the best mounting location has been determined, securely fasten the unit to it's mounting surface using the supplied hardware.

1. Position the unit in its proposed mounting location to ensure that it fits properly. With the unit in place, insert an awl or other suitable tool into the mounting screw area of the power supply and scribe the areas that are to be drilled.
2. Remove the unit from its mounting area and, using a drill bit sized for a #10 sheet metal screw, drill a hole in each of the areas scribed in the previous step.
3. Return the unit to its mounting location. Using the supplied #10 sheet metal screws, secure it onto its mounting surface.

### Wiring...

**Input** - Extend appropriately sized wire from the flasher Input Terminals towards the vehicle battery. Connect the Positive (+) wire to a 50 Amp fuse (or circuit breaker) and then to the POS (+) battery terminal. **Do not install the fuse (or close the Circuit Breaker) until all the wiring is complete!** Connect the Negative (-) wire to the NEG (-) battery terminal.

**Control** - The control wires function as follows:

**GREEN** - Applying the Green wire to ground will place the flasher in Primary Mode operation. In this mode, Outputs A & B will alternate with Outputs C, D & E. **NOTE: Low Power Operation is NOT available in Primary Mode.**

**BLUE** - Applying the Blue wire to ground will place the flasher in Secondary Mode operation. In this mode, Outputs A & B will alternate with Output D.

**VIOLET** - Applying the Violet wire to ground will place the flasher in Low Power Mode. In this mode, the intensity of all active lighthoods is significantly reduced. A Single Pole/Single Throw switch should be used to control this function. Removing this wire from ground will restore normal high power operation. **NOTE: Low Power Operation is NOT available in Primary Mode.**

The AFM1660 flasher offers 2 Low Power intensities. Low Power #1 is best for use with Halogen lighthoods and is the default Low Power intensity. Low Power #2 is best for use with LED lighthoods.

To change intensities, put the flasher into Low Power operation as previously outlined. Now use the Scan-Lock™ wire as described below to cycle between the two intensities. When the desired intensity is displayed, allow it to run for more than 5 seconds. The lighting system will now use this intensity when low power operation is active.

**YELLOW** - Applying the Yellow wire to ground will disable Output D (Amber). **NOTE: Amber disable is NOT available in Primary Mode.**

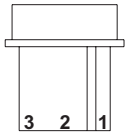
**WHITE/VIOLET** - The White/Violet wire is used for Scan-Lock pattern control. A Momentary switch (normally open) should be used to control this function. Scan-Lock operation is as follows:

**TO CYCLE THROUGH ALL PATTERNS:** Apply the White/Violet wire to ground for less than 1 second and release to cycle forward. Apply the White/Violet wire to ground for more than 1 second and release to cycle backward.

**TO SET A PATTERN AS DEFAULT:** When the desired pattern is displayed, allow it to run for more than 5 seconds. The lighting system will now display this pattern when active.

**TO RESET TO THE FACTORY DEFAULT PATTERN:** With the flasher off, apply the White/Violet wire to ground and turn power back on. When the default pattern is displayed, remove the White/Violet wire from ground and allow the pattern to run for at least 5 seconds.

**Output** - As shown in the illustrations below, every lighthood installed belongs to 1 of 5 possible light groups, depending on its mounted location. These are identified as groups A thru E. Using the appropriate AMP Crimping tool, install pin terminals on the ends of each lighthoods wires. The POS (+) lighthood wire should be installed in position 1 of the AMP Pin Housing. The NEG (-) wire should be installed in position 3 of the same Pin Housing. Repeat for all lighthoods. The information below illustrates how to determine the correct output connector for each lighthood, based on that lighthoods location.



<b>SPECIFICATIONS</b>	
<b>INPUT VOLTAGE</b>	12.8VDC ±20%
<b>OUTPUT VOLTAGE</b>	Input Voltage -0.5VDC
<b>OUTPUT CURRENT</b>	5 Amps per Output
<b>INPUT CONTROL</b>	< 0.5VDC @ 20ma
<b>FLASH PATTERNS</b>	SingleFlash (Default) SignalAlert™ Freedom CometFlash® DoubleFlash
<b>FLASH RATE</b>	75 FPM (all patterns)

