

12 OUTPUT LED FLASHER MULTI-PATTERN

PSELEDF12

ELECTRICAL SPECIFICATION

Input Voltage Range	+10 Vdc to +16 Vdc
Output Drive Current	3 Amps per Output
Operating Temperature	-40 C to +85 C
Flash Patterns	Quint, Quad, Triple, Double, 180 fpm Alternating Single, 120 fpm Alternating Single, 120 fpm Simultaneous Single, 90 fpm Alternating Single, 90 fpm Simultaneous Single, 75 fpm Alternating Single, 75 fpm Simultaneous Single, Cycle Flash Sweep (Lightbar version only) Fast Random
Output Drive Method	Low-side switched
Pattern Control Method	1 Serial Programming input, 3 Progressive Operation mode inputs, Front & Rear Cutoff inputs
Standby Current	<10mA @ 12.8 Vdc
Reverse Polarity Protection	Yes
Short Circuit Protection	Yes
Thermal Protection	Yes

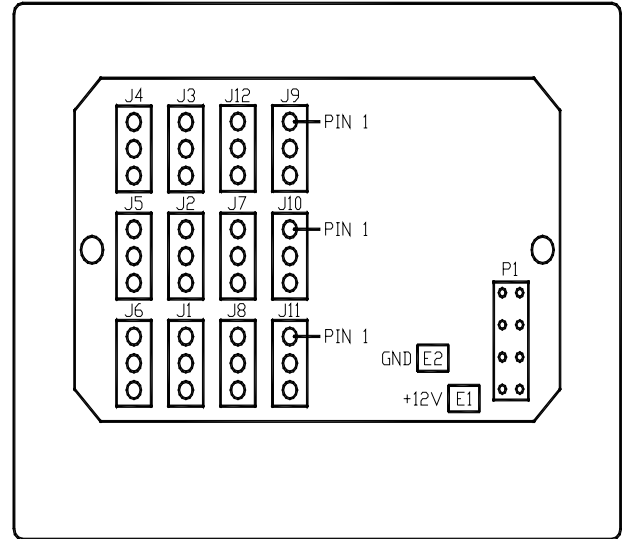


Figure1

MECHANICAL SPECIFICATIONS

Weather resistance	Potted to protect circuitry, but not waterproof
Dimensions	6.0" x 3.6" x .75"

WARNING

This Flasher is NOT waterproof!! This unit must be installed in a location protected from the environment.

The device is designed to flash Code 3, Inc. 12 volt LED-EX Lights up to 3 amps load per output. DO NOT connect more than a 3 amp load (two single LED-EX equivalent) to the output. Doing so will shut the unit down to prevent damage to the Flasher.

WARNING

This device is intended for use with LED Lights ONLY!! Use of this product on an Incandescent, Halogen or any light source other than LED's may damage the unit and void the warranty.

The use of this or any warning device does not insure that all drivers can or will observe or react to an emergency warning signal. Never take the right-of-way for granted. It is your responsibility to be sure you can proceed safely before entering an intersection, driving against traffic, responding at a high rate of speed, or walking on or around traffic lanes.

The effectiveness of this warning device is highly dependent upon correct mounting and wiring. Read and follow the manufacturer's instructions before installing or using this device. The vehicle operator should insure daily that all features of the device operate correctly. In use, the vehicle operator should insure the projection of the warning signal is not blocked by vehicle components (i.e., open trunks or compartment doors), people, vehicles, or other obstructions. This equipment is intended for use by authorized personnel only. It is the user's responsibility to understand and obey all laws regarding emergency warning devices. The user should check all applicable city, state and federal laws and regulations.

Code 3, Inc., assumes no liability for any loss resulting from the use of this warning device. Proper installation is vital to the performance of this warning device and the safe operation of the emergency vehicle. It is important to recognize that the operator of the emergency vehicle is under psychological and physiological stress caused by the emergent situation. The warning device should be installed in such a manner as to A) Not reduce the output performance of the system, B) Place the controls within convenient reach of the operator so that he can operate the system without losing eye contact with the roadway. Emergency warning devices often 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 severe vehicle damage, including fire.

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.

Available Versions:

This product is available in two different versions:

1. Lightbar Flasher version p/n T08111:

This version can be requested using model no. (XXXXXX). This version has AMP Mate & Lock and DUAC/PL connectors attached to the end of 5" and 3" wire harnesses respectively. This version is designed to fit comfortably inside the Code3® LEDX 2100 lightbar, as well as Excalibur, CODE 360 and Javelin lightbars.

Output Designation:

J4,J5	: PS Front	J6	: PS Rear Corner
J2,J3	: DS Front	J1	: DS Rear Corner
J7,J12	: PS Rear	J8	: PS Front Corner
J9,J10	: DS Rear	J11	: DS Front Corner

Lightbar Configurations:

When using this product as a lightbar Flasher, the Flasher outputs should be connected as follows (refer to Fig.2):

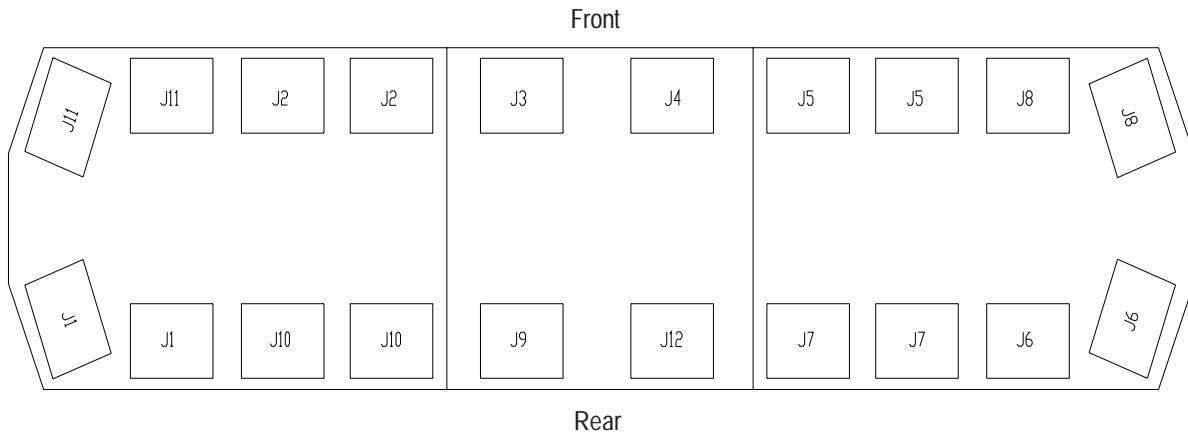


Figure2

Lightbar Installation:

(Refer to Figure 3 and 4)

- 1.) Plug the Control Harness into the Flasher.
- 2.) Connect the +12V and ground wires to quickslide terminals E1 & E2 respectively. Use 14Ga. wire for the main +12V and ground connections.

Note: GND, terminal E2 can be grounded to the lightbar frame. Ensure that the power wire is fused with a 15 Amp AUTO style fuse.

- 3.) Connect the white(Mode1), red/blk(Mode2), and red(Mode3) wires to three 18Ga. wires on the lightbar cable harness. Ensure that wire colors are marked on the lightbar wire-tag sheet.
- 4.) Connect the yellow(Flash Pattern PGM) wire to an 18 Ga. wire on the lightbar cable harness. Ensure that the chosen wire color is marked on the lightbar wire-tag sheet. The PGM wire can then be connected to a momentary +12V switch and used to program the desired flash pattern for any of the lightbar's three operating modes.
- 5.) Connect the green(Front Cutoff) and blue(Rear Cutoff) wires to two 18Ga. wires on the lightbar cable harness. Ensure that the chosen wire colors are marked on the lightbar wire-tag sheet.

CONTROL HARNESS WIRE DESIGNATION:

- 2. Blue: 10-16V Rear Cutoff
- 3. Yellow: 10-16V Flash Pattern PGM
- 4. White: 10-16V Mode1
- 5. Brown: Not Used
- 8. Green: 10-16V Front Cutoff
- 10.Red/Blk: 10-16V Mode2
- 11.Red: 10-16V Mode3
- 12.Black: Not Used

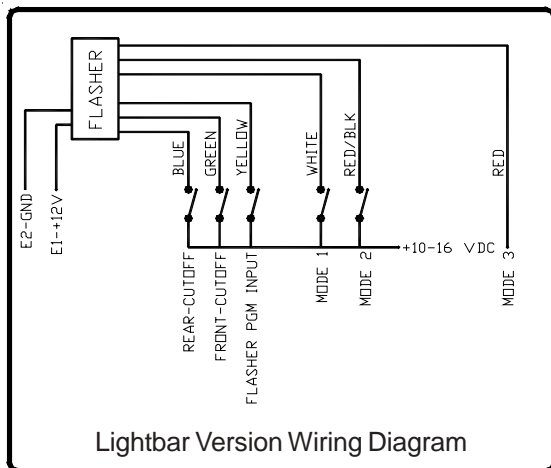


Figure3

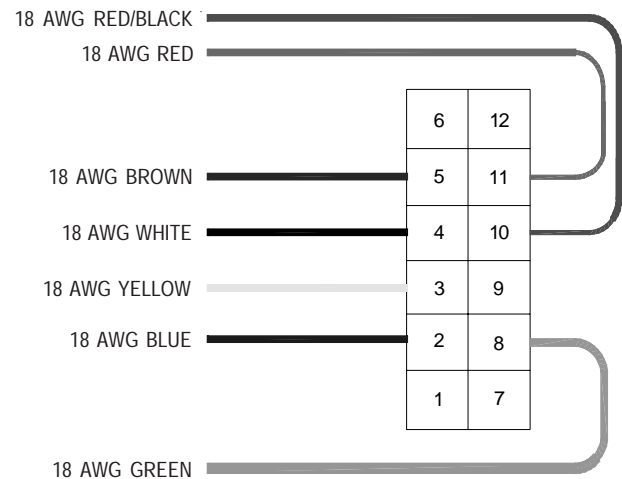


Figure4

2. Remote LED Flasher version p/n T08097:

This version has the same connector interface as the Low Profile version, except that this version utilizes direct circuit board headers rather than wire harnesses. This Flasher can be used as a remote LED flasher to drive Code 3 LED-EX and LED Perimeter lights. It can also be used as a motorcycle LED flasher.

INSTALLATION & WIRING

1. First, install the Flasher in a protected location using the flasher itself as a template. Make sure all connectors are easily accessible. (Refer to Figure 5 and 6 for the following steps).
2. Plug in the Control Harness provided with the Flasher p/n T08115.
3. Connect the +12V and ground wires to quickslide terminals E1 & E2 respectively. Ensure that the +12V power wire is fused with a 15 Amp Auto style fuse. **Note: Use 14 Ga. wire for the main +12V and ground connections.**
4. Optional: Connect the yellow wire (flash pattern) program wire to +12V through a momentary switch. This switch can be used to program a different flash pattern for regular and InterClear® operation. This wire can also be taped away or permanently grounded after the flasher has been programmed with the desired patterns.
5. Optional: Connect the white (InterClear® Enable) wire to the active high interclear output on the siren if applicable.
6. Connect the green (Group B & C Enable) wire and the blue (Group A Enable) wire to +12V through two use supplied SPST switches. These switches could be used to activate groups A, B and C respectively.
7. Connect the brown (Photocell Input) and the black (Photocell Ground) wires to the red and black wires of the photocell cable p/n T08086 if photocell activated Group C output dropout operation is desired. Otherwise, tie these two wires together to disable this option.

WIRE DESIGNATION:

- 2. Blue: 10-16V Group A Enable
- 3. Yellow: 10-16V Flash Pattern PGM (Momentary)
- 4. White: 10-16V Interclear® Enable
- 5. Brown: Photocell Input
- 7. Black: Photocell Ground
- 8. Green: 10-16V Group B & C Enable
- 10.Red/Blk: Not Used
- 11.Red: Not Used

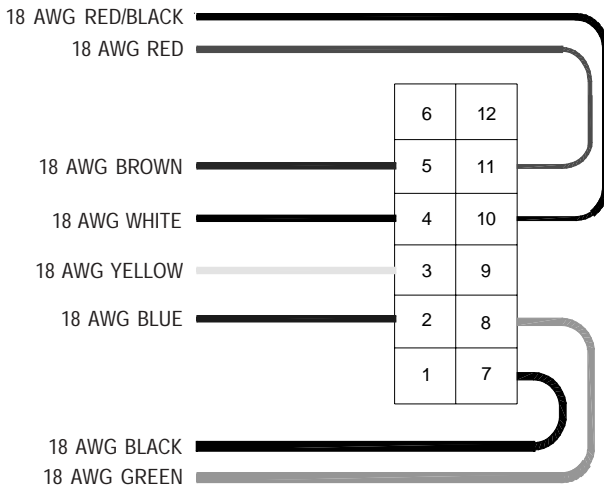


Figure5

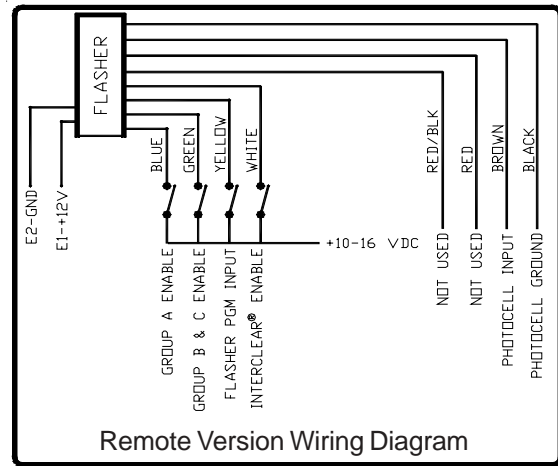


Figure6

Flash - Pattern Programming

A. Lightbar Version:

The desired flash pattern for any of the progressive operation modes 1, 2, & 3 can be programmed as follows:

1. Power one Mode-control wire at a time. Example: If the Mode1 flash pattern is to be programmed, connect +12V to only the Mode1 control wire.
2. Connect the yellow (PGM) wire momentarily to +12V and release it to select the next available pattern. Repeat until the desired pattern is selected. (refer to page 1 for available flash patterns)
3. Repeat steps 1 & 2 above for all three Mode-control wires one at a time. **Note: Mode 3 overrides Mode 2 and Mode 2 overrides Mode 1.**

B. Remote Version:

1. Enable the blue and/or green wires first to select regular operation pattern.
2. Apply 10-16 VDC momentarily to the yellow wire, repeat until desired pattern is selected.
3. Repeat steps 1 & 2 enabling the white wire in addition to the blue and/or the green wire to select the desired Interclear® mode flash pattern.
4. Tape or ground the yellow wire when programming is complete. **Note: Interclear® Mode overrides regular operation mode.**

CODE 3 LED-EX Lighthouse Termination Instructions:

- a) Strip coating back from wire 1/8".
- b) Crimp wire into terminal at position 'A' and crimp wire coating at position 'B' of AMP socket P/N 61117-4.
- c) Pull on wire to ensure a quality crimp (soldering is recommended to ensure good connection).
- d) Insert pins into AMP connector # 1-480303-0 as shown in figure 8.



IMPORTANT

For continued reliability, RTV or waterproofing grease must be used on all terminals to prevent corrosion and premature failure of the connections.

Install the LED light heads in the preferred locations.

String the 3 conductor cable between each individual light and the Flasher. Make sure the cable is secure along the chosen routing inside the vehicle to prevent it from damage by chafing or binding. Be sure to keep the cable away from engine hot spots.

Insert the AMP Mate & Lock pin contacts P/N 61118-4 on each end of the extension cables into the AMP connectors P/N 1-480305-0. Each end of these cables has a factory crimped terminal on each of the three wires, see Figure 7.

Note: It is important to follow the correct color code when inserting the pins into the AMP connectors.

1. Plug the extension cables to the LED light heads.
2. Plug the other end of the cable into the light head output socket on the flasher, see Figure 1.

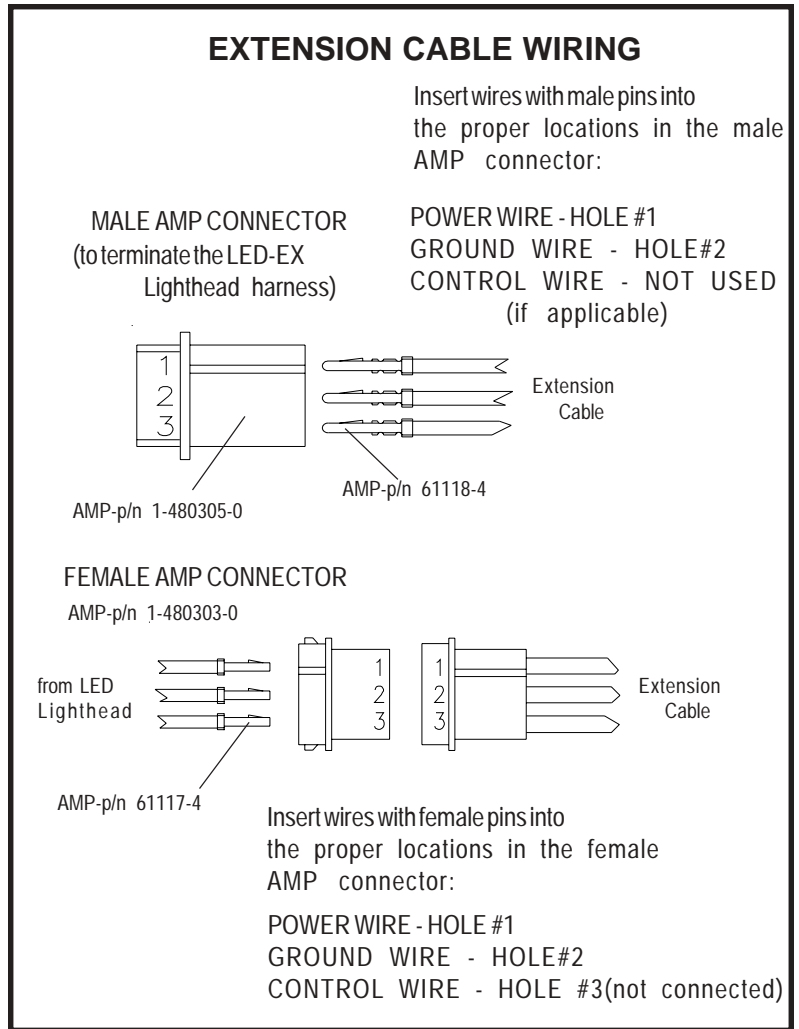


Figure7

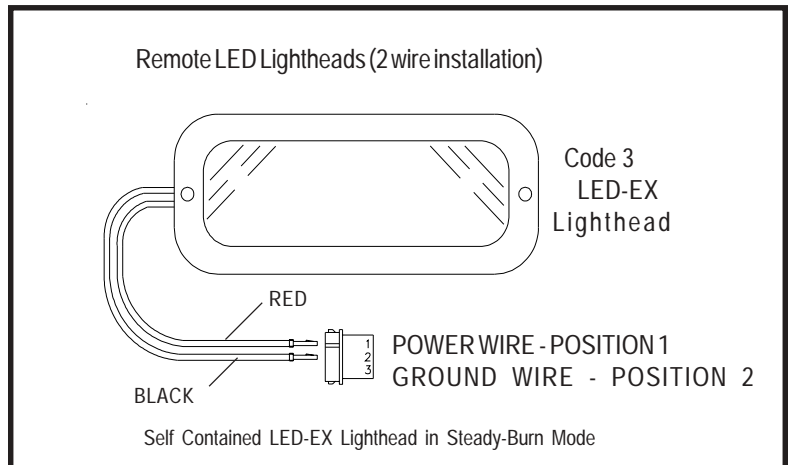


Figure8

NOTES:

NOTES:

WARRANTY

This product was tested and found to be operational at the time of manufacture. Provided this product is installed and operated in accordance with the manufacturer's recommendations, Code 3, Inc. guarantees all parts and components except the LED lamps for a period of 3 years from the date of purchase or delivery, whichever is later. Units demonstrated to be defective within the warranty period will be repaired or replaced at the factory service center at no cost.

Use of a load of a wattage higher than installed or recommended by the factory, or use of inappropriate or inadequate wiring or circuit protection causes this warranty to become void. Failure or destruction of the product resulting from abuse or unusual use and/or accidents is not covered by this warranty.

Code 3, Inc. shall in no way be liable for other damages including consequential, indirect or special damages whether loss is due to negligence or breach of warranty.

CODE 3, INC. MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY INCLUDING, WITHOUT LIMITATION, WARRANTIES OF FITNESS OR MERCHANTABILITY, WITH RESPECT TO THIS PRODUCT.

PRODUCT RETURNS

If a product must be returned for repair or replacement*, please contact our factory to obtain a Return Goods Authorization Number (RGA number) before you ship the product to Code 3, Inc. Write the RGA number clearly on the package near the mailing label. Be sure you use sufficient packing materials to avoid damage to the product being returned while in transit.

*Code 3, Inc. reserves the right to repair or replace at its discretion. Code 3, Inc. assumes no responsibility or liability for expenses incurred for the removal and /or reinstallation of products requiring service and/or repair.; nor for the packaging, handling, and shipping; nor for the handling of products return to sender after the service has been rendered.

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