

**UltraLITE PLUS**  
**EXTERIOR LED DIRECTIONAL ARROW**  
 EL3PA12A00A  
 EL3PA12A01A



**IMPORTANT NOTICE TO INSTALLER:** Make sure to read and understand all instructions and warnings before proceeding with the installation of this product. Ensure that the manual and any warning cards are delivered to the end user of this equipment. Proper installation of the lightbar requires the installer to have a thorough knowledge of automotive electronics, systems, and procedures. Lightbars provide an essential function of an effective visual warning system. The use of the lightbar does not insure that all drivers can or will abide by or react to an emergency warning signal, especially at high rates of speeds or long distances. The operator of the vehicle must never take the right of way for granted and it is the operator's responsibility to proceed safely. The effectiveness of the lightbar is highly dependant on the correct mounting and wiring. The installer must read and follow the manufacturer's installation instructions and warnings in the manual. The vehicle operator should verify daily that the lightbar is securely fastened to the vehicle and properly functioning before operating vehicle. The lightbar is intended for use by authorized personnel only. It is the user's responsibility to ensure they understand and operate the emergency warning devices in compliance with the applicable city, state and federal laws and regulations. SoundOff Signal assumes no liability for any loss resulting from the use of this warning device.



1.800.338.7337 / [www.soundoffsignal.com](http://www.soundoffsignal.com)

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Equipping You For Safety

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**Important Information:** \_\_\_\_\_

- Warning devices are strictly regulated and governed by Federal, State and Municipal ordinances. These devices shall be used ONLY on approved vehicles. It is the sole responsibility of the user of these devices to ensure compliance.
- DO NOT install this product or route any wires in the Air Bag Deployment Zone. Refer to your vehicle Owner's Manual for the location of any air bag deployment zones.
- DO NOT connect this device to a strobe power supply. This product is self-contained and does not require an external power supply.

**⚠ WARNING**

This product contains high intensity LED devices.  
 To prevent eye damage, DO NOT stare into the  
 light beam at close range.

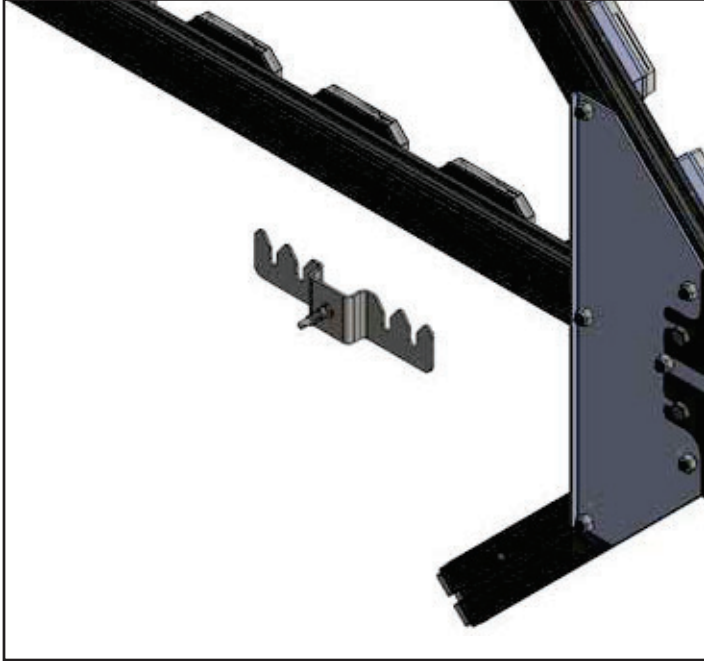
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## INSTALLATION MOUNTING INSTRUCTIONS

1. Mark 11.5" from the top point on the back rack.
2. Attach the bracket to the back rack by drilling in the (4) self-tapping screws to the designated location.

**NOTE: The brackets being screwed into the back rack cannot be more than 35" apart.**

3. Thread the nuts onto the T-bolts about 3 thread lengths; make sure there is enough thread left to slide the arrow onto the bracket.

**NOTE: Arrow should be mounted with wire on Driver Side.**

4. Align the T-bolts with the slots on the brackets attached to the back rack. Slide the T-bolts into the slotted holes.
5. While the nuts are still loose, slide the arrow back and forth until the arrow is centered on the back rack.
6. Tighten down the T-bolts using a 3/8" wrench.
7. Plug in the harness to the arrow.

### Pattern Selection

Because of the variety of configuring options, see separate sheets for detailed instructions.

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To prevent eye damage, DO NOT stare into the light beam at close range.

TECHNICAL SPECIFICATIONS	
Material:	Anodized Extruded Aluminum
Dimensions:	51.75"L x 21.5"H x 1.5" D
Operating Temperature:	-40° to +85° C

POWER SPECIFICATIONS		
Input Voltage Range:	10 -16 Vdc	
Current Draw	10 Amps Peak, 5 Amp Avg. w/50% Duty Cycle Flash Pattern.	~60 Watt Avg.
Standby Current	<0.0002 Amps	<0.0025 Watts
Reverse Polarity	Protected	
Load Dump	Protected	
Wiring	Power Cable 15ft 12 AWG Wires, (+) Red, (-) Black Control Wires: 6x 22AWG 15ft	

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## ELECTRICAL INSTALLATION

### Featured Highlights & Terminology:

#### Power Cable:

1. Route lightbar power cables as close to vehicles power source (battery) as possible.
2. Install a maximum of 15 Amp Fuse (customer supplied) to the end of the RED wire of the Lightbar Power Cable.
  - a. Remove the fuse before connecting any wires to the battery.
  - b. DO NOT USE CIRCUIT BREAKER OR FUSIBLE LINK.
3. Connect the other end of the Fuse to the POSITIVE (+) terminal of the battery or other high current source.
  - a. Do NOT use any more than 2ft of wire between the power source and the fuse and ensure the wire is protected and secured from being cut into; this is non-fused wire.
4. Connect the BLACK wire to the factory chassis ground right next to the battery or other ground location capable of handling high current.

#### Low Current Standby Mode (reduced standby current)

If there is no active input the lightbar will go into a "standby" mode. The standby mode is a very low power mode that is used to extend the life of your battery. The lightbar will awaken from the standby mode if any input is activated.

#### Over-Voltage Protection

When an over-voltage condition of  $\geq 18.0Vdc$  is detected, the module will flash an over-voltage warning pattern of 50mS ON/950mS OFF to alert of the over-voltage condition and protect the electronics from damage due to heat/voltage.

## WIRING

Input #	Wire Color	Gauge	Activated Function	
1	RED	12AWG	Full Time +12V	
2	BLACK	12AWG	Ground	
3	ORANGE	22AWG	(+) Warning Mode 1	Warning Mode 3. When ORG & BLU wire are active.
4	BLUE	22AWG	(+) Front, Warning Mode 2	
5	RED/WHITE	22AWG	(+) Left Arrow	Center Out Arrow when RED/WHITE and BROWN/WHITE wires are both activated
6	BROWN/WHITE	22AWG	(+) Right Arrow	
7	GREEN	22AWG	Low Power, Intensity Control <i>ALL lights in ALL activated Modes dim to minimize blinding effects of approaching drivers.</i>	
8	BROWN	22AWG	Pattern Select	
9	YELLOW	22AWG	Factory Use Only	

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## ELECTRICAL INSTALLATION (CONTINUED)

### Warning Flash Pattern Configuration (Warning Modes ONLY):

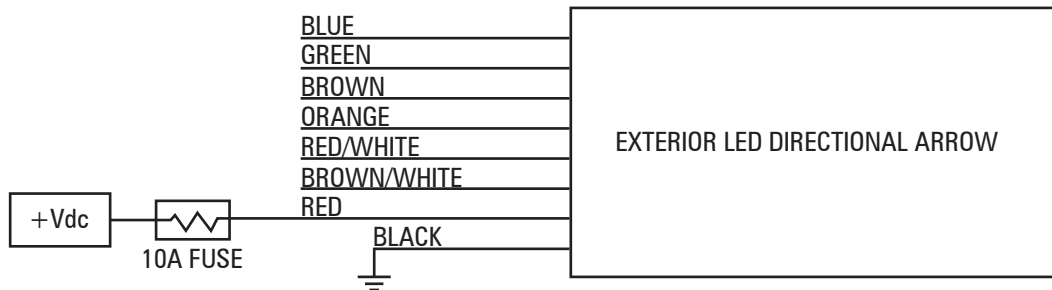
- Apply voltage to the activation wire(s) of the warning function which requires pattern to be changed (i.e. Warning Mode1, 2 or 3).
- Momentarily connect the pattern select wire to ground to change the pattern. The pattern is changed when pattern select is disconnected per the Setup Table below.

### Arrow Flash Pattern Configuration (Arrow Modes ONLY):

- Apply voltage to the activation wire(s) of the Arrow function which requires pattern to be changed (i.e. Arrow Mode Left, Right or Center Out).
- Momentarily connect to the pattern select wire to ground to change the pattern. The pattern is changed when pattern select is disconnected per the Setup Table below.

**Make sure to properly insulate or isolate the pattern select wire after configuration is complete so that patterns are not inadvertently changed when the bar is active.**

SETUP TABLE			
SECONDS	USER INTERFACE		
TIME	OUTPUT	ACTION TAKEN	COMMENTS
Debounce to $\leq 1$ sec	All modules turn to Steady High	Advance 1 Pattern	
1 to $\leq 2$ sec	All modules turn to Steady Low	Reverse 1 Pattern	
2 to $\leq 3$ sec	All modules turn OFF	Reset to Default	Resets Active Wires to Default
3 to $\infty$ sec	Normal warning pattern will resume	No action taken. No pattern change will occur.	
Note: No pattern change will occur if pattern select is active for more than 3 seconds. Normal warning pattern will resume. New patterns will start to flash immediately if the pattern select wire is released during a valid configuration time.			



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### WARNING FLASH PATTERNS

\*fpm=Flashes per Minute  
\*\*fps=Flashes per Second

#	Name	SAE Compliant Timing	CA	Sequence	fpm*	fps**
1	RandomAction 1	Yes	-	Random	-	-
2	RandomAction 2	-	-	Random	-	-
3	RandomAction 3	-	-	Random	-	-
4	RandomAction 4	-	Yes	Random	-	-
5	Quint	Yes	-	Variable	67	1.1
6	Quad2	Yes	-	Variable	67	1.1
7	Q-Switch™	Yes	-	Variable	-	-
8	Double2	Yes	-	Variable	115	1.9
9	Power Pulse	Yes	-	Variable	188	3.1
10	Road Runner	Yes	Yes	Variable	115	1.9
11	Slow Runner	Yes	Yes	Variable	70	1.2
12	Warp	-	-	Variable	333	5.6
13	Intercycle	-	-	Variable	67 & 333	1.1 & 5.6
14	Warp 1, 2, 3	-	-	Variable	115 - 333	1.9 - 5.6
15	OFF	-	-	OFF	-	-

### ARROW FLASH PATTERNS

#	Name	SAE Compliant Timing	CA	Sequence	fpm*	fps**
1	Single Fast	-	-	-	-	-
2	Single Slow	-	-	-	-	-
3	Chaser Fast	-	-	-	-	-
4	Chaser Slow	-	-	-	-	-
5	Fill Fast	-	-	-	-	-
6	Fill Slow	-	-	-	-	-
7	Grow/Shrink	-	-	-	-	-

### DEFAULT PATTERNS

Mode	Pattern # (Name)
Warning Mode 1, 2, 3	RandomAction 1
Arrow Mode L, C & R	Single Fast

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## WARRANTY & RETURN GOODS PROCEDURE

### **MOUNTING INTEGRITY:**

A review of bolt/hardware/mounting bracket integrity should be performed at the beginning and end of each shift.

### **WARNING MESSAGES - PLEASE READ:** \_\_\_\_\_

**WARNING** - DRILLING ANY HOLES INTO THE LIGHTBAR IS NOT RECOMMENDED! THE RISK OF DAMAGING INTERNAL COMPONENTS AND THE RESULTING FAILURE OF THE LIGHTBAR WILL VOID ANY WARRANTY OF THIS PRODUCT.

**WARNING** - CARE MUST BE TAKEN WHEN DRILLING THROUGH THE ROOF OF THE VEHICLE NOT TO DRILL INTO ANY EXISTING WIRING AND NOT TO DRILL THROUGH THE HEADLINER OR SUPPORT MEMBERS OF THE VEHICLE. CHECK BOTH SIDES OF THE MOUNTING SERVICE PRIOR TO DRILLING. DE-BURR ANY HOLES AND REMOVE ANY METAL SHARDS OR REMNANTS. INSTALL GROMMETS INTO ALL WIRE PASSAGE HOLES.

**WARNING** - ROUTE WIRES ONLY IN LOCATIONS THAT ARE NOT SUBJECTED TO POTENTIAL WEAR. MAKE SURE TO AVOID ROUTING WIRES IN THE DEPLOYMENT AREA OF YOUR AIR BAG. REFER TO YOUR VEHICLE OWNER'S MANUAL FOR AIR BAG DEPLOYMENT ZONES.

**WARNING** - ALL CUSTOMER SUPPLIED POWER WIRES CONNECTING TO THE POSITIVE (+) OR NEGATIVE (-) BATTERY TERMINAL OR LOCAL CHASSIS GROUND (-) MUST BE SIZED TO SUPPLY AT LEAST 125% OF THE MAXIMUM CURRENT AND PROPERLY FUSED AT THE POWER SOURCE WITH APPROPRIATELY RATED FUSE.

**IMPORTANT:** When passing cables through fire wall or other sheet metal, insert grommet to protect the cable!

### **WARRANTY RETURN PROCESS:**

Please contact your SoundOff Signal Sales Representative, Customer Services staff or our Technical Department (800.338.7337) for a RMA #, Return Merchandise Authorization Number.

The following information is required for issuance of the RMA #:

- Reason for returning the product\*
- Address where replacement product is to be shipped\*
- Telephone number where you may be reached\*
- SoundOff Signal invoice number on which product was purchased\*\*
- SoundOff Signal part number and serial number\*\*
- E-mail address where RMA # should be e-mailed\*\*
- Fax number where RMA # should be faxed\*\*

\* RMA # will not be given without this information.

\*\* If available, please provide this information.

SoundOff Signal will NOT accept returns without an RMA #. Each RMA # is good for only one (1) return and will expire (30) days after the date it was issued. Products must be shipped back to SoundOff Signal and the RMA # clearly marked on the outside of the package near the shipping label. Please use the following address on your shipping label:

SoundOff Signal  
ATTN: RMA # / Technical Services  
3900 Central Parkway  
Hudsonville, MI 49426

### **WARRANTY EXCLUSIONS:**

Shipping & Handling, labor and service fees are non-refundable. SoundOff Signal is not liable for any damage due to installation or personal injury as a result of using SoundOff Signal product.

### **WARRANTY FORFEITURE:**

Warranty will not be granted if the Warranty Return Policy & Procedure rules are not strictly followed. Physical damage resulting from customer abuse will void warranty. Warranty will also be voided if any SoundOff Signal and/or manufacturer serial tags, product stickers, seals, or the like, are removed, altered or tampered with. Returned product that is damaged by shipping via the RMA # procedure is not the responsibility of SoundOff Signal.

Document effective date on cover and below supersedes previously dated policies and statements.

There are no other warranties, expressed or implied, including, but not limited to, any implied merchantability or fitness for a particular use. SoundOff Signal reserves the right to modify this warranty statement at any time; or to discontinue, modify, or upgrade any products of its manufacture with design improvements without prior notice.

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