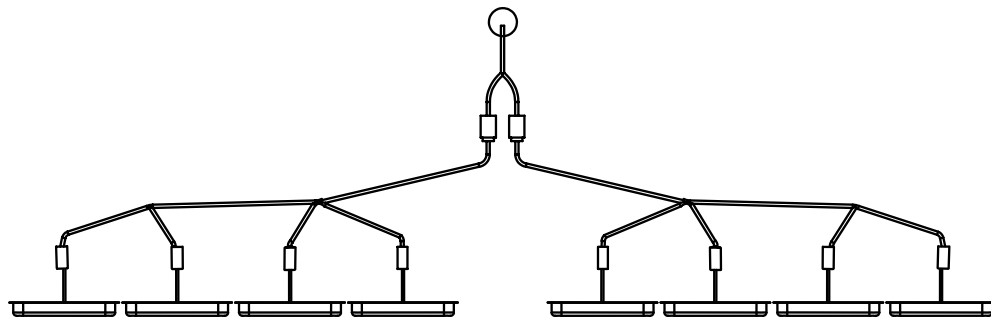




# INSTALLATION INSTRUCTIONS

## mpower<sup>®</sup> ARROW KIT

EMPAKKT0(X)\*  
EMPAKXXXXX



**SoundOff**  
**Signal**//////<sup>®</sup>

\*mpower modules sold separately

mpower<sup>®</sup> Arrow Kit no bracket English  
00KPJL 0425 REV C



**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 Arrow Kit requires the installer to have a thorough knowledge of automotive electronics, systems, and procedures.
- Arrow Kits provide an essential function of an effective visual warning system. The use of the Arrow Kit 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 Arrow Kit is highly dependent 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 Arrow Kit is securely fastened to the vehicle and properly functioning before operating vehicle.
- The Arrow Kit 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.

 **WARNING**

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

**IMPORTANT INFORMATION:**

- To view the full Software Revision History click the  in the lower left hand corner of the SoundOff Central Lightbar application.
- 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**

- Route wires only in locations that are not subject to potential wear. Make sure to avoid routing wires in the deployment area of your airbag. Refer to your vehicle's owner's manual for airbag deployment zone.
- 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.

**NOTICE:**

- Installers and users must comply with all applicable federal, state and local laws regarding use and installation of warning devices.
- Improper use or installation may void warranty coverage.
- To review our Limited Warranty Statement & Return Policy for this or any SoundOff Signal product, visit our website at [www.soundoffsignal.com/tech-services/returns/](http://www.soundoffsignal.com/tech-services/returns/).
- If you have questions regarding this product, contact Technical Services, Monday - Friday, 8 a.m. to 5 p.m. ET at 1.800.338.7337 (press #4).
- Questions or comments that do not require immediate attention may be emailed to [techgroup@soundoffsignal.com](mailto:techgroup@soundoffsignal.com).

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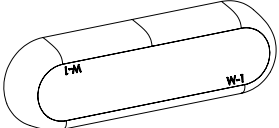
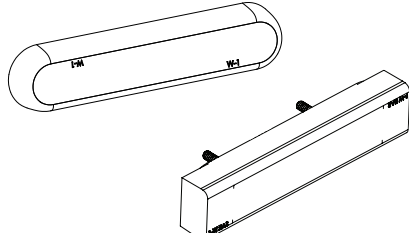
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|----------|---------------------------------------------------------|
| QTY      | COMPONENT                                               |
| 1        | mpower Arrow Kit<br>built to configured specifications* |
| 1        | 15' Y-Harness with weatherproof connectors              |

| OPTIONAL CONTROL EQUIPMENT |                                        |                                    |
|----------------------------|----------------------------------------|------------------------------------|
| COMPONENTS                 | Breakout Box<br>LIN (Standard)<br>Qty. | Breakout Box<br>CAN System<br>Qty. |
| Universal BOB (LIN)        | 1                                      | 0                                  |
| Universal BOB (CAN)        | 0                                      | 1                                  |
| 24 Pin Harness             | 1                                      | 1                                  |
| 4 Pin Harness              | 1                                      | 1                                  |
| 5 Pin Harness              | 0                                      | 1                                  |

\*Will vary based on configured product.

| TECHNICAL SPECIFICATIONS                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INPUT VOLTAGE RANGE                                                                 | 10-32Vdc                                                                                                                                                                                                                                                                                                                                                                                                                               |
| OPERATING TEMPERATURE                                                               | -40°C to +65°C (-40°F to +149°F)                                                                                                                                                                                                                                                                                                                                                                                                       |
| ELECTRICAL PROTECTION                                                               | Reverse Polarity, Transient Voltage<br>Over-Voltage, High-Temperature Thermal Fold-back                                                                                                                                                                                                                                                                                                                                                |
| MATERIAL                                                                            | Brackets: Powder coated steel<br>LED Modules: Dow Corning Silicone Lens                                                                                                                                                                                                                                                                                                                                                                |
| WIRING                                                                              | Power Cable: 15ft, 16AWG Wires, (+) RED, (-) BLACK<br>Data Line: 20AWG GREEN                                                                                                                                                                                                                                                                                                                                                           |
| STANDBY CURRENT(Per Module)                                                         | IGNITION ON: 0.20 Amps<br>IGNITION OFF: <8.5 mA                                                                                                                                                                                                                                                                                                                                                                                        |
| STANDBY POWER(Per Module)                                                           | IGNITION ON: 2.560 Watts<br>IGNITION OFF: 0.108 Watts                                                                                                                                                                                                                                                                                                                                                                                  |
|  | <b>3": 4 LED Single Color, 8 LED Single Color, 8 LED Dual Color, 12 LED Tri Color</b><br>INPUT VOLTAGE RANGE: 10-32Vdc<br>CURRENT DRAW: 0.26A mps @ 12.8 Vdc (Flashing Red)<br>0.62 Amps @ 12.8 Vdc (Peak Red)<br>0.38Amps @ 12.8 Vdc (Flashing Amber, Blue, Green, White)<br>0.90 Amps @ 12.8 Vdc (Peak Amber, Blue, Green, White)<br>WATTAGE: 3.3W @ 12.8 Vdc (Flashing Red)<br>4.9W @ 12.8 Vdc (Flashing Amber, Blue, Green, White) |
|  | <b>4": 6 &amp; 8 LED Single Color, 12 LED Dual &amp; 18 LED Tri Color Module</b><br>INPUT VOLTAGE RANGE: 10-32Vdc<br>CURRENT DRAW: 0.36 Amps @ 12.8 Vdc (Flashing Red)<br>0.62 Amps @ 12.8 Vdc (Peak Red)<br>0.60 Amps @ 12.8 Vdc (Flashing Amber, Blue, Green, White)<br>0.90 Amps @ 12.8 Vdc (Peak Amber, Blue, Green, White)<br>WATTAGE: 4.6W (Red)<br>7.7W (Amber, Blue, Green, White)                                             |

| CERTIFICATION           | APPLICABLE COLORS              |
|-------------------------|--------------------------------|
| SAEJ595                 | Red, Amber, Blue, White, Green |
| CALIFORNIA TITLE 13     | Red, Amber, Blue               |
| NFPA 1901-2009          | Red, Amber, Blue, White        |
| KKK-A-1822F (JULY 2021) | Red, Amber, Blue, White, Green |

#### Tools Required for Installation

- 7/16" Socket with ratchet
- Phillips Head Screwdriver
- Drill bit #30
- 5/32 Hex Drive or Allen Wrench

FLASHING = AVERAGE  
STEADY ON (100%) = PEAK

#### Unpack Arrow Kit

1. Remove Arrow Kit from box and packaging.
2. Save packaging for later shipping.
3. Check components/contents.
4. Please reference these instructions for proper wiring and installation.

FLASHING = AVERAGE  
STEADY ON (100%) = PEAK

## MPOWER 3-WIRE LIGHTS - 3" & 4" INSTALLATION:

### Stud Mount (Figure 1)

1. Pre-Drill per stud mount pattern indicated on page 4, 5 per the supplied mounting template.
2. Clean the surface as required.
3. Deburr hole as required.
4. Feed wire through the drilled wire hole and make mating plug connection.
5. Install light, inserting 2 studs into the 2 drilled holes.
6. Install 2 lock nuts onto studs behind mount surface. Hand tighten only until mount surface and light are flush.

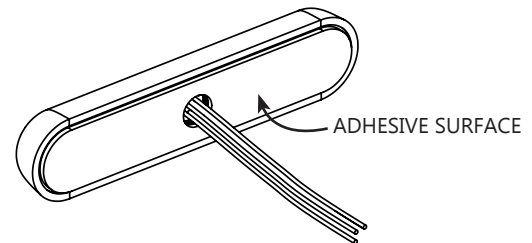
### Quick Mount (Figure 2)

1. Pre-Drill per quick mount pattern indicated on page 4, 5 (wire hole only.)
2. Deburr hole as required.
3. Clean surface with supplied alcohol wipe.
4. Feed wire through the drilled wire hole and make mating plug connection.
5. Remove adhesive backer and align light into desired position. Apply to surface and hold firmly for 30 seconds. **CAUTION! APPLY UNIFORM PRESSURE ACROSS FULL FACE OF LIGHT.**

### Screw Mount (Figure 3)

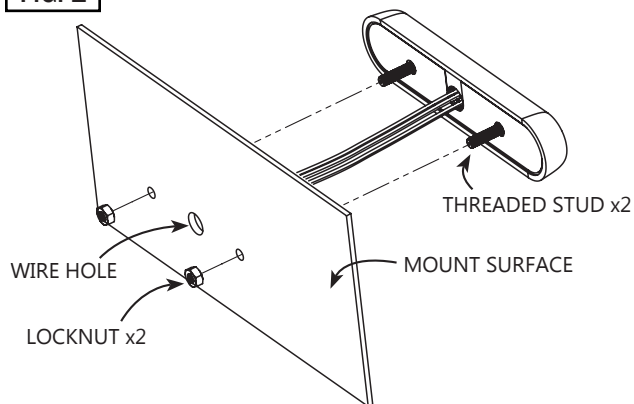
1. Pre-Drill per screw mount pattern indicated on page 4, 5.
2. Deburr and clean the surface as required.
3. Feed wire through the drilled wire hole and make mating plug connection.
4. Install light with 2x Torx drive screws and hand tighten only until mount surface and light are flush.

FIG. 2



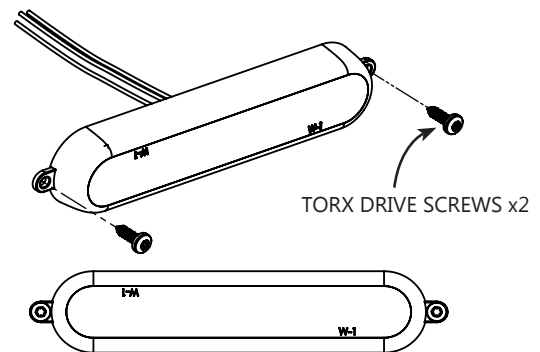
QUICK MOUNT

FIG. 1



STUD MOUNT - THREADED (SHOWN)

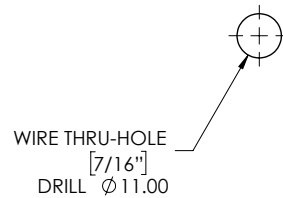
FIG. 3



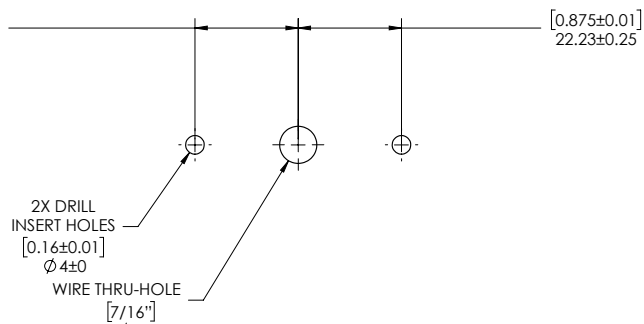
SCREW MOUNT

## MPOWER 3-WIRE LIGHTS 3" TEMPLATE

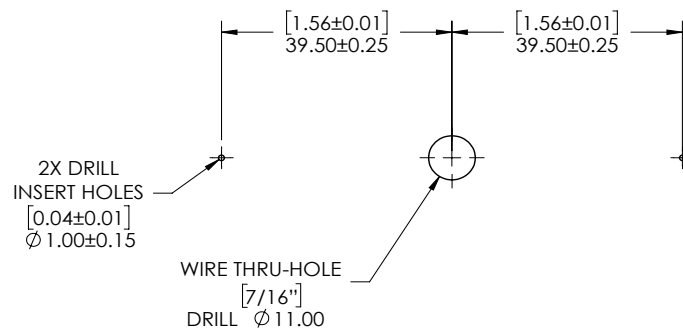
### 3" QUICK MOUNT



### 3" STUD MOUNT



### 3" SCREW MOUNT

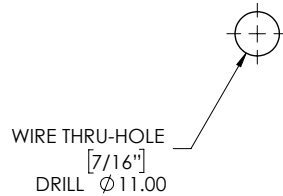


#### IMPORTANT NOTE:

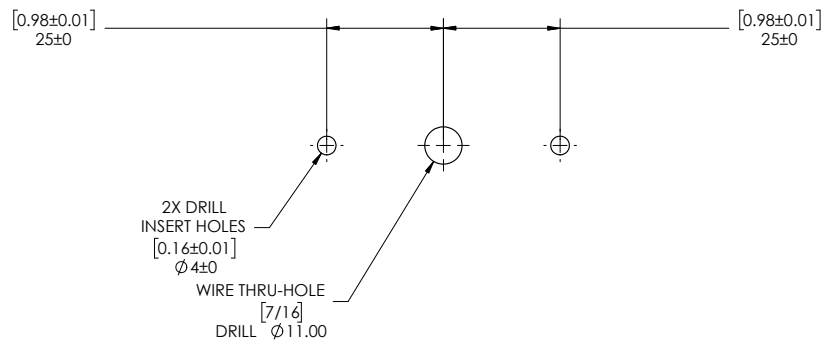
Due to variations in the printing process and environmental factors, the sizes shown may not be accurate. If this document is used as a cutting template, it is the installers responsibility to confirm the accuracy of the dimensions shown and adjust accordingly.

## MPOWER 3-WIRE LIGHTS 4" TEMPLATE

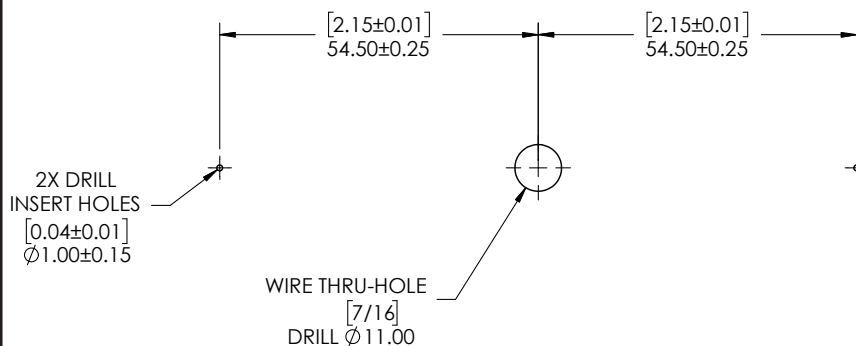
### 4" QUICK MOUNT



### 4" STUD MOUNT



### 4" SCREW MOUNT



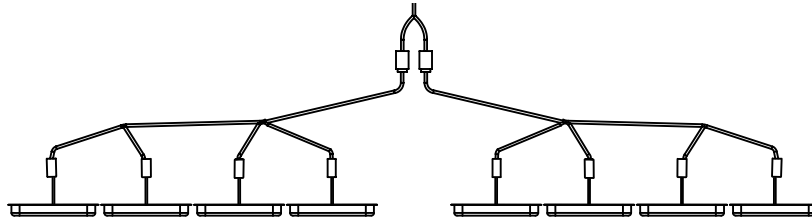
#### IMPORTANT NOTE:

Due to variations in the printing process and environmental factors, the sizes shown may not be accurate. If this document is used as a cutting template, it is the installers responsibility to confirm the accuracy of the dimensions shown and adjust accordingly.

## ELECTRICAL INSTALLATION

### Arrow Kit

1. Find a good location to drill a hole to pass the 15" Y-harness into the vehicle. If the vehicle manufacturer has specific instructions please follow them for proper installation.
2. Secure wires from the mpower® 3-Wire Lights and the Y-harness. The wires are shipped without constraints of zip-ties or wire ties, you may tuck and fasten the wires as desired to secure them in your installation. Cut off the unused connector(s) and tape the exposed wires, or seal the unused connectors to prevent electrical shorting.
3. Connect the ends of the distribution harness to the Y-Harness, as shown on the left. The harness plugs are not specific. You may use either weatherproof connector.
4. Connect the RED, BLACK, and GREEN wires as outlined in the electrical section of the installation instructions.



### ⚠ 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.

### Arrow Kit Power Cable:

1. Route arrow kit power cable as close to vehicles power source (battery) as possible.
2. Install a maximum of 10 Amp Fuse (customer supplied) to the end of the RED wire of the Arrow Kit Power Cable.
  - a. Remove the fuse before connecting any wires to the POSITIVE (+) terminal of the battery.
  - b. DO NOT USE CIRCUIT BREAKER OR FUSIBLE LINK.
  - c. 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.
3. Connect the BLACK wire to the factory chassis ground right next to the battery or other ground location capable of handling high current.

### Arrow Kit Control (Data) Cable:

1. Connect the Green wire from the Arrow Kit to the Solid Green (PIN 3) on the 4 PIN Harness.

### Breakout Box Power Wiring:

1. Connect the Pink/White wire (Pin 12 of the 24 pin wire harness) to a switched 12-32V power source. Breakout Box needs constant power 12-32V to the Red wire (PIN 4 on 4 pin harness) & Ground to Black, PIN 1 on 4 pin harness) in order to operate.
2. Insert Fuse(s) into Fuse Holder(s).
3. Observe the GREEN Data Link indicator LED on the Breakout Box; the LED will turn ON.
4. The Red indicator LED on the breakout box will be steady ON whenever any of the input wires are active.

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

If there is no input to the breakout box the arrow kit will go into a "standby" mode. The standby mode is a low power mode that is used to extend the life of your battery. The Arrow Kit will awaken from the standby mode when the ignition input is activated on the breakout box.

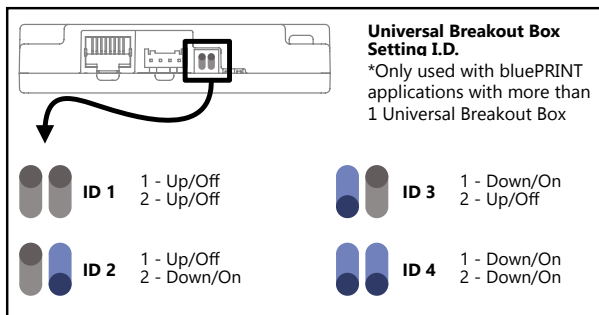
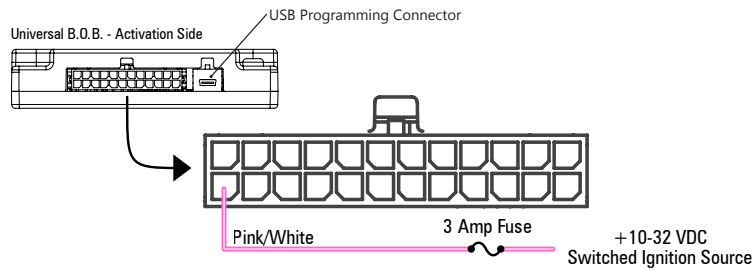
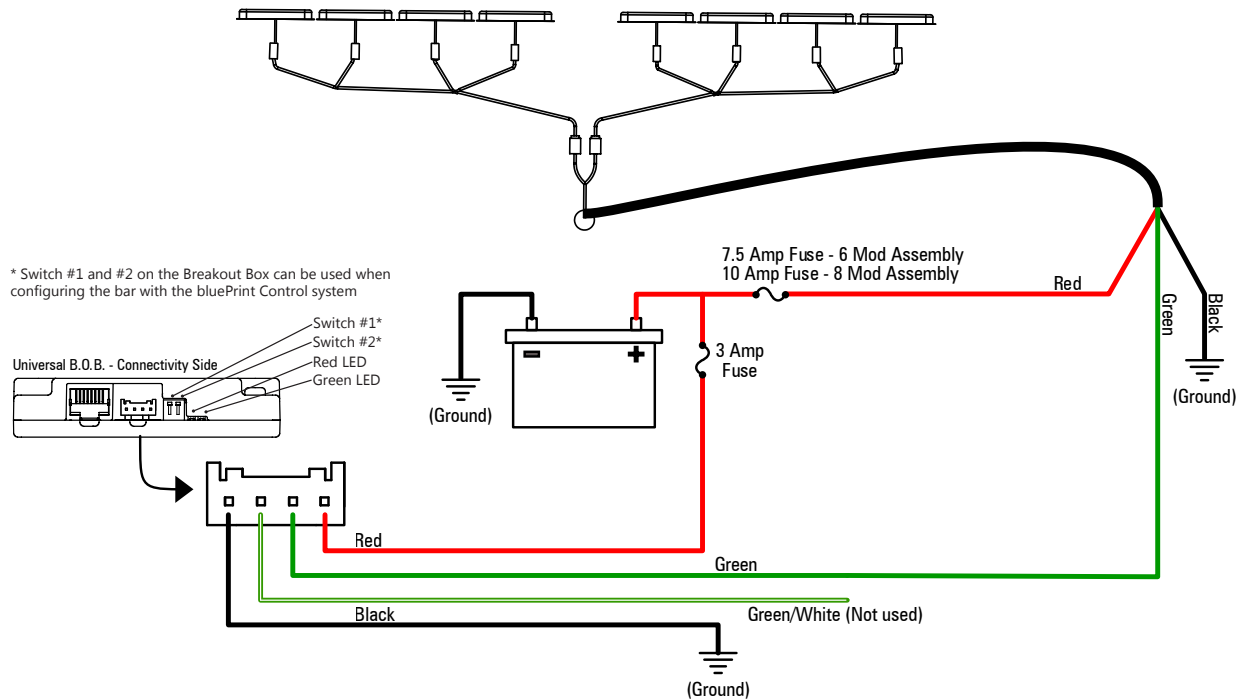
### IMPORTANT

WHEN PASSING CABLES THROUGH FIREWALL OR OTHER SHEETMETAL, INSERT GROMMET TO PROTECT THE CABLE!

### ⚠ WARNING

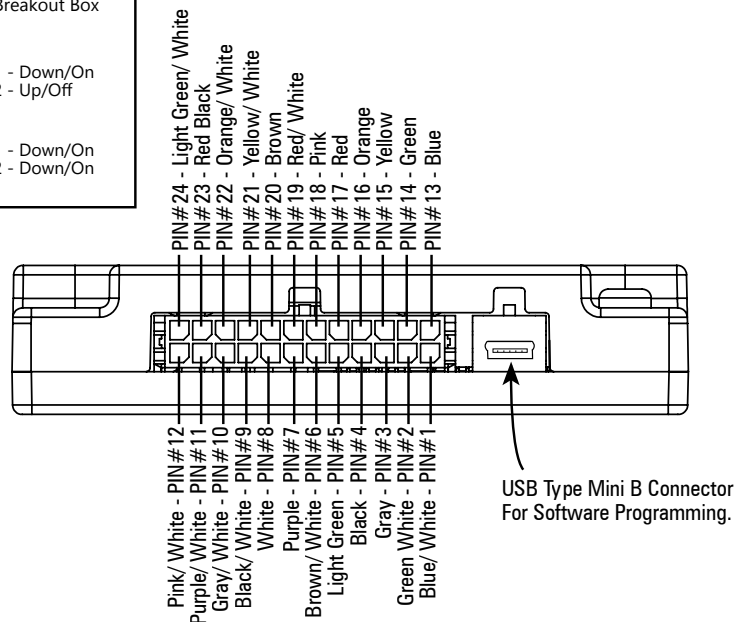
Route wires only in locations that are not subjected to potential wear. Make sure to avoid routing wires in the deployment area of your air bag. Refer to your vehicle's owner's manual for airbag deployment zone.

## ELECTRICAL INSTALLATION



### Functional Inputs

Functional Inputs connect to your control head or switching unit. Applying +10-32Vdc to any functional Input will activate it's function (default-active high).



# WIRE FUNCTION DEFAULTS

Table 1

| Wire Pin# | Wire Color | Wire Function                | Mods Affected            | Color ( → : If the color is not populated, it would be the next color listed) | Flash  | Cert Chosen SAE / None Pattern |
|-----------|------------|------------------------------|--------------------------|-------------------------------------------------------------------------------|--------|--------------------------------|
| 1         | BLUE/WHT   | Cruise 1                     | Entire Bar               | Color 1, not White                                                            | -      | -                              |
| 2         | GRN/WHT    | Warning                      | Entire Bar               | Color 1                                                                       | Mode 2 | Slow Runner                    |
| 3         | GRY        | Selected at Bar Creation     | Selected at Bar Creation | Selected at Bar Creation                                                      | -      | -                              |
| 4         | BLK        | Selected at Bar Creation     | Selected at Bar Creation | Selected at Bar Creation                                                      | -      | -                              |
| 5         | LTGRN      | Selected at Bar Creation     | Selected at Bar Creation | Red → nothing                                                                 | -      | -                              |
| 6         | BRN/WHT    | Unassigned                   | Unassigned               | -                                                                             | -      | -                              |
| 7         | PUR        | Unassigned                   | Unassigned               | -                                                                             | -      | -                              |
| 8         | WHT        | Unassigned                   | -                        | -                                                                             | -      | -                              |
| 9         | BLK/WHT    | Low Power 1                  | Entire Bar               | -                                                                             | -      | -                              |
| 10        | GRY/WHT    | Left Arrow                   | Entire Bar               | Amber → Color 1                                                               | -      | -                              |
| 11        | PUR/WHT    | Right Arrow                  | Entire Bar               | Amber → Color 1                                                               | -      | -                              |
| 12        | PNK/WHT    | IGNITION                     | -                        | -                                                                             | -      | -                              |
| 13        | BLU        | Warning                      | Entire Bar               | Color 1                                                                       | Mode 1 | Flicker Cruise                 |
| 14        | GRN        | Warning                      | Entire Bar               | Color 1                                                                       | Mode 2 | Slow Runner                    |
| 15        | YEL        | Warning                      | Entire Bar               | Color 1                                                                       | Mode 3 | Quint                          |
| 16        | ORG        | Warning                      | Entire Bar               | Color 1                                                                       | Mode 4 | Intercycle                     |
| 17        | RED        | Warning                      | Entire Bar               | Color 1                                                                       | Mode 5 | Warp                           |
| 18        | PNK        | Warning with Cruise 1 behind | Entire Bar               | Color 1                                                                       | Mode 6 | Super Slow Runner              |
| 19        | RED/WHT    | Flashing                     | Work Light               | White → nothing                                                               | -      |                                |
| 20        | BRN        | Unassigned                   | Unassigned               | White → nothing                                                               | -      |                                |
| 21        | YEL/WHT    | Unassigned                   | Unassigned               | White → nothing                                                               | -      |                                |
| 22        | ORG/WHT    | Work Light                   | Selected at Bar Creation | White                                                                         | -      |                                |
| 23        | RED/BLK    | Scene 1                      | Selected at Bar Creation | White                                                                         | -      | -                              |
| 24        | LTGRN/WHT  | VSS Input for Speed 1 and 2  | -                        | -                                                                             | -      | -                              |

## BREAKOUT BOX INSTRUCTIONS: (LIN COMMUNICATION)

- Securely snap in the 4-pin and 24-pin connectors
- Connect the Pink/White wire (Pin 12 of the 24 pin wire harness) to a switched 12-32V power source. Breakout Box needs constant power 12-32V to the Red wire (PIN 4 on 4 pin harness) & Ground to Black, PIN 1 on 4 pin harness) in order to operate. (Table 2)
- Refer to Table 1 for the input wire's default function
- Follow the label for the wire color to connect to a +10-32Vdc source, which turns on that given light or lights
- Make sure your wire connections are secured and isolated from any other wire

### 4-PIN CONNECTOR HARNESS



Table 2

| Wire Pin | Color       | Function                             |
|----------|-------------|--------------------------------------|
| 1        | Black       | Ground                               |
| 2        | Green/White | LIN 2 - not used with this Arrow Kit |
| 3        | Green       | LIN 1 - mpower Arrow Kit Operation   |
| 4        | Red         | Power                                |



TO CHANGE WIRE FUNCTIONS FOR CUSTOM APPLICATIONS PLEASE SCAN QR CODE FOR LINK FOR SOUNDOFF CENTRAL LIGHTBAR SOFTWARE GUIDES.

## CAN BREAKOUT BOX INSTRUCTIONS: (CAN COMMUNICATION)

- Securely snap in the 4-pin, 5-pin and 24-pin connectors
- Refer to Table 1 for the input wire default functions and to Table 3 for the CAN wire functions
- Connect the Pink/White wire (Pin 12 of the 24 pin wire harness) to a switched 12-32V power source. Breakout Box needs constant power 12-32V to the Red wire (PIN 4 on 4 pin harness) & Ground to Black, PIN 1 on 4 pin harness) in order to operate. (Table 2)
- Follow the label for the wire color to connect to a 10-32 Vdc source, which turns on that given light or lights
- Make sure your wire connections are secured and isolated from any other wire
- If extending the 5-pin connector harness, a shielding wire running the length of the entire harness may be necessary

### CONNECTOR PRESENT WITH CAN BOB

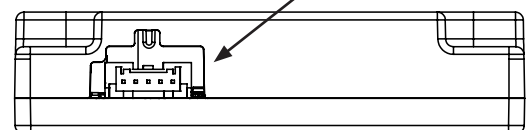
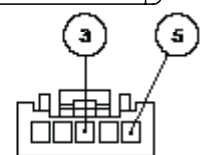


Table 3

| Wire Pin | Color  | Function |
|----------|--------|----------|
| 3        | Green  | CAN Low  |
| 5        | Yellow | CAN High |



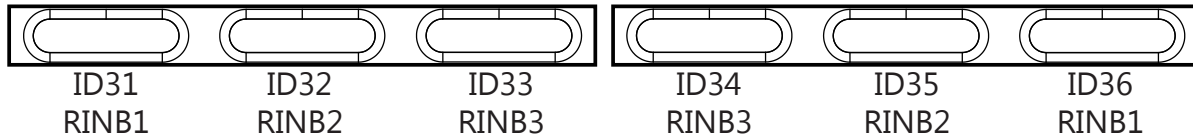
CAN CONNECTOR

## LIGHT MODULE LOCATION

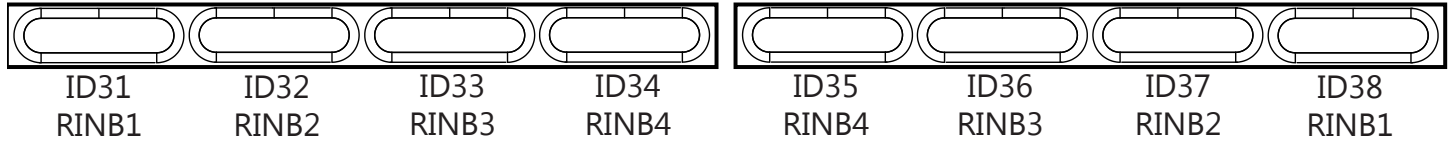
### REAR DRIVER'S SIDE

### REAR PASSENGER'S SIDE

#### 6 MOD



#### 8 MOD



#### Modules Replacement:

1. Disconnect main power.
2. Locate module and remove mounting nuts.
3. Disconnect module power cable from harness.
4. Route wire from new light through hole and connect to harness.
5. Replace module and secure with previous mounting method.
6. Restore power to bar and test new module to ensure functionality.
7. Configure the ID of the replacement module through the PC app.\*



**FOR MORE HELP WITH SOFTWARE PROGRAMMING, MODULE ID SETTING AND REPLACEMENT PLEASE SCAN QR CODE FOR SOUNDOFF CENTRAL LIGHTBAR GUIDES.**

## FUNCTION DEFINITIONS

**Mode Select:** The mpower Arrow Kit is equipped with 8 selectable pattern configuration modes. The default input wire configuration allows for 6 modes and an additional 2 modes may be configured with the PC Application using any available input wires. Default is Mode 1 where the Mode select input is floating. Mode 2 is in use when the input is activated. This feature allows up to 8 completely different sets of patterns to be programmed into the Light-bar's non-volatile memory. Once programming configuration is complete, the Mode can be changed "on-the-fly" by an activation switch which applies voltage to the Mode input wire(s).

**Cruise Mode:** Allows the user to program any light group(s) to "Glow" when this feature is activated. The LED intensity is selectable between 1 and 10% duty cycle. For dual / tri color bars, the color for each light group is selectable.

**Takedown Mode:** Allows the user to program any Light Head Group(s) to turn on steady when this feature is activated to provide steady ON takedown lighting.

**Directional Arrow Built-in:** The directional controller is built-in with 11 arrow patterns for each of the 3 modes (left arrow, right arrow, and center out arrow) and the color is selectable for dual / tri color bars

**Steady On Mode:** Accessible with PC App only and allows the user to program any light module to turn on steady at 100% duty cycle.

**Stop / Tail / Turn Mode:** Allows the user to program any Light Head Group(s) to operate in 2 levels of intensity for tail and stop/turn functions.

**Low Power Mode:** Operates lighting at reduced intensity. Selectable between 20 and 90% duty cycle.

**Scene Lighting Mode:** Allows the user to program any Light Head Group(s) to turn on steady when this feature is activated to provide additional scene lighting. The activation of this input also activates the Takedown function

**Speed Sense Input:** The breakout box has a speed sense input that is capable of sensing vehicle speed when connected to the Vehicle Speed Sense (VSS) trigger wire which is supplied in the police upfitter wire harness for some vehicles. This feature is configured using the PC configuration software utility.

**Matrix Input:** Matrix inputs are virtual inputs which can be triggered based on combinations of up to four physical wires or siren input signals. This feature also allows the installer to invert the state of inputs, latch momentary inputs and adjust trigger timing through on and off delay timer settings. This feature is configured using the PC configuration software utility.

## FLASH PATTERNS

\*fpm=Flashes per Minute

\*\*fps=Flashes per Second

| #    | Name                           | SAE<br>Compliant<br>Timing | ECE<br>Compliant<br>Timing | California Title<br>13 Compliant<br>Timing | Color | Sequence     | fpm | fps |
|------|--------------------------------|----------------------------|----------------------------|--------------------------------------------|-------|--------------|-----|-----|
| SC1  | Random 1                       | Yes                        | No                         | No                                         | #1    | Variable     | -   | -   |
| SN2  | Random 2                       | No                         | No                         | No                                         | #1    | Variable     | -   | -   |
| SC3  | Quint                          | Yes                        | No                         | No                                         | #1    | Alternating  | 70  | 1.2 |
| SC4  | Quad 2                         | Yes                        | No                         | No                                         | #1    | Variable     | -   | -   |
| SC5  | Q-Switch                       | Yes                        | No                         | No                                         | #1    | Variable     | -   | -   |
| SC6  | Double                         | Yes                        | No                         | No                                         | #1    | Alternating  | 115 | 1.9 |
| SC7  | Power Pulse                    | Yes                        | No                         | No                                         | #1    | Alternating  | 180 | 3   |
| SC8  | Road Runner                    | Yes                        | No                         | Yes                                        | #1    | Alternating  | 115 | 1.9 |
| SC9  | Slow Runner                    | Yes                        | No                         | Yes                                        | #1    | Alternating  | 70  | 1.2 |
| SN10 | Warp                           | No                         | No                         | No                                         | #1    | Alternating  | 350 | 5.8 |
| SN11 | Inter-Cycle                    | No                         | No                         | No                                         | #1    | Alternating  | -   | -   |
| SN12 | Warp 1-2-3                     | No                         | No                         | No                                         | #1    | Alternating  | -   | -   |
| SC13 | E-Single                       | Yes                        | Yes                        | No                                         | #1    | Alternating  | 125 | 2.1 |
| SC14 | E-Double                       | Yes                        | Yes                        | No                                         | #1    | Alternating  | 125 | 2.1 |
| SC15 | E-Triple                       | Yes                        | Yes                        | No                                         | #1    | Alternating  | 125 | 2.1 |
| SC16 | E-Single Sim                   | Yes                        | Yes                        | No                                         | #1    | Simultaneous | 125 | 2.1 |
| SC17 | E-Double Sim                   | Yes                        | Yes                        | No                                         | #1    | Simultaneous | 125 | 2.1 |
| SN18 | Super Slow Runner              | No                         | No                         | No                                         | #1    | Alternating  | 55  | 0.9 |
| SC19 | Quint Simultaneous             | Yes                        | No                         | No                                         | #1    | Simultaneous | 70  | 1.2 |
| SC20 | Road Runner Simultaneous       | Yes                        | No                         | No                                         | #1    | Simultaneous | 114 | 1.9 |
| SC21 | Quint Pass/Steady Driver       | Yes                        | No                         | No                                         | #1    | -            | 70  | 1.2 |
| SC22 | Road Runner Pass/Steady Driver | Yes                        | No                         | No                                         | #1    | -            | 114 | 1.9 |
| SC23 | Quint 2                        | Yes                        | No                         | No                                         | #1    | -            | 70  | 1.2 |
| SN24 | Warp 2                         | No                         | No                         | No                                         | #1    | -            | 350 | 5.8 |
| SN25 | Inter-Cycle 2                  | No                         | No                         | No                                         | #1    | -            | -   | -   |
| SN26 | Flicker Brake                  | No                         | No                         | No                                         | #1    | -            | -   | -   |
| SN27 | Flicker Cruise                 | No                         | No                         | No                                         | #1    | -            | -   | -   |
| SN28 | Steady                         | No                         | No                         | No                                         | #1    | -            | -   | -   |
| SN29 | Manifesto                      | No                         | No                         | No                                         | #1    | -            | -   | -   |
| SN30 | Power Evert                    | No                         | No                         | No                                         | #1    | -            | -   | -   |
| SN31 | Dazzle                         | No                         | No                         | No                                         | #1    | -            | -   | -   |
| SN32 | Quiver                         | No                         | No                         | No                                         | #1    | -            | -   | -   |

**NOTE: Takedown light patterns are limited to pattern #1 – 25**

## FLASH PATTERNS CONT.

\*fpm=Flashes per Minute

\*\*fps=Flashes per Second

| #    | Name                    | SAE<br>Compliant<br>Timing | ECE<br>Compliant<br>Timing | California Title 13<br>Compliant<br>Timing | Color | Sequence     | fpm | fps |
|------|-------------------------|----------------------------|----------------------------|--------------------------------------------|-------|--------------|-----|-----|
| SN33 | Power Sway              | No                         | No                         | No                                         | #1    | -            | -   | -   |
| SN34 | Evert                   | No                         | No                         | No                                         | #1    | -            | -   | -   |
| SN35 | Alternating Rapid Flash | No                         | No                         | No                                         | #1    | -            | -   | -   |
| SN36 | Swift Impact            | No                         | No                         | No                                         | #1    | -            | -   | -   |
| SN37 | Tango                   | No                         | No                         | No                                         | #1    | -            | -   | -   |
| SN38 | Tremble                 | No                         | No                         | No                                         | #1    | -            | -   | -   |
| SN39 | Shake                   | No                         | No                         | No                                         | #1    | -            | -   | -   |
| SN40 | Evolver                 | No                         | No                         | No                                         | #1    | Simultaneous | -   | -   |
| SN41 | Corner Sweep            | No                         | No                         | No                                         | #1    | -            | -   | -   |
| SN42 | Corner Sweep Slow       | No                         | No                         | No                                         | #1    | -            | -   | -   |
| SN43 | Full/Sweep              | No                         | No                         | No                                         | #1    | -            | -   | -   |
| SN44 | Full/Sweep Slow         | No                         | No                         | No                                         | #1    | -            | -   | -   |
| SN45 | Center Sweep            | No                         | No                         | No                                         | #1    | -            | -   | -   |
| SN46 | Center Sweep Slow       | No                         | No                         | No                                         | #1    | -            | -   | -   |
| SN47 | Orbit                   | No                         | No                         | No                                         | #1    | -            | -   | -   |
| SN48 | Orbit Slow              | No                         | No                         | No                                         | #1    | -            | -   | -   |
| SN49 | Double Orbit            | No                         | No                         | No                                         | #1    | -            | -   | -   |
| SN50 | Slow Double Orbit       | No                         | No                         | No                                         | #1    | -            | -   | -   |
| SN51 | Retrograde Orbit        | No                         | No                         | No                                         | #1    | -            | -   | -   |
| SN52 | Slow Retrograde Orbit   | No                         | No                         | No                                         | #1    | -            | -   | -   |
| SN53 | Progressive Alternate   | No                         | No                         | No                                         | #1    | -            | -   | -   |
| SN54 | Recurrent               | No                         | No                         | No                                         | #1    | Simultaneous | -   | -   |
| SN55 | E-Scroll                | No                         | Yes                        | No                                         | #1    | Alternating  | -   | -   |
| SN56 | ECE-Single - Aura       | No                         | No                         | No                                         | #1    | Alternating  | -   | -   |
| SN57 | ECE-Single - Aura II    | No                         | No                         | No                                         | #1    | Alternating  | -   | -   |
| DC1  | Random Dual #1          | Yes                        | No                         | No                                         | #1/2  | Variable     | -   | -   |
| DN2  | Random Dual #2          | No                         | No                         | No                                         | #1/2  | Variable     | -   | -   |
| DC3  | Quint Dual              | Yes                        | No                         | No                                         | #1/2  | Alternating  | 70  | 1.2 |
| DC4  | Quad 2 Dual             | Yes                        | No                         | No                                         | #1/2  | Variable     | -   | -   |
| DC5  | Q-Switch Dual           | Yes                        | No                         | No                                         | #1/2  | Variable     | -   | -   |
| DC6  | Double Dual             | Yes                        | No                         | No                                         | #1/2  | Alternating  | 115 | 1.9 |
| DC7  | Power Pulse Dual        | Yes                        | No                         | No                                         | #1/2  | Alternating  | 180 | 3   |
| DC8  | Road Runner Dual        | Yes                        | No                         | Yes                                        | #1/2  | Alternating  | 115 | 1.9 |
| DC9  | Slow Runner Dual        | Yes                        | No                         | Yes                                        | #1/2  | Alternating  | 70  | 1.2 |
| DN10 | Warp Dual               | No                         | No                         | No                                         | #1/2  | Alternating  | 350 | 5.8 |
| DN11 | Inter-Cycle Dual        | No                         | No                         | No                                         | #1/2  | Alternating  | -   | -   |
| DN12 | Warp 1-2-3 Dual         | No                         | No                         | No                                         | #1/2  | Alternating  | -   | -   |
| DN13 | Pattern #1 Dual         | No                         | No                         | No                                         | #1/2  | Variable     | -   | -   |
| DN14 | Pattern #2 Dual         | No                         | No                         | No                                         | #1/2  | Variable     | -   | -   |

## FLASH PATTERNS CONT.

\*fpm=Flashes per Minute

\*\*fps=Flashes per Second

| #    | Name                         | SAE<br>Compliant<br>Timing | ECE<br>Compliant<br>Timing | California Title<br>13 Compliant<br>Timing | Color | Sequence     | fpm | fps |
|------|------------------------------|----------------------------|----------------------------|--------------------------------------------|-------|--------------|-----|-----|
| DN15 | Impact Dual                  | No                         | No                         | No                                         | #1/2  | Variable     | -   | -   |
| DN16 | Explosion Dual               | No                         | No                         | No                                         | #1/2  | Variable     | -   | -   |
| DC17 | Quint Simultaneous Dual      | Yes                        | No                         | No                                         | #1/2  | Simultaneous | 70  | 1.2 |
| DC18 | Road Runner Sim. Dual        | Yes                        | No                         | No                                         | #1/2  | Simultaneous | 114 | 1.9 |
| DC19 | Quint 2 Dual                 | Yes                        | No                         | No                                         | #1/2  | -            | 70  | 1.2 |
| DN20 | Warp 2 Dual                  | No                         | No                         | No                                         | #1/2  | -            | 350 | 5.8 |
| DN21 | Inter-Cycle 2 Dual           | No                         | No                         | No                                         | #1/2  | -            | -   | -   |
| DN22 | Super Slow Runner Dual       | No                         | No                         | No                                         | #1/2  | -            | -   | -   |
| DN23 | Flicker Cruise Dual          | No                         | No                         | No                                         | #1/2  | -            | -   | -   |
| DN24 | Manifesto Dual               | No                         | No                         | No                                         | #1/2  | -            | -   | -   |
| DN25 | Power Evert Dual             | No                         | No                         | No                                         | #1/2  | -            | -   | -   |
| DN26 | Dazzle Dual                  | No                         | No                         | No                                         | #1/2  | -            | -   | -   |
| DN27 | Quiver Dual                  | No                         | No                         | No                                         | #1/2  | -            | -   | -   |
| DN28 | Power Sway Dual              | No                         | No                         | No                                         | #1/2  | -            | -   | -   |
| DN29 | Evert Dual                   | No                         | No                         | No                                         | #1/2  | -            | -   | -   |
| DN30 | Alternating Rapid Flash Dual | No                         | No                         | No                                         | #1/2  | -            | -   | -   |
| DN31 | Swift Impact Dual            | No                         | No                         | No                                         | #1/2  | -            | -   | -   |
| DN32 | Tango Dual                   | No                         | No                         | No                                         | #1/2  | -            | -   | -   |
| DN33 | Tremble Dual                 | No                         | No                         | No                                         | #1/2  | -            | -   | -   |
| DN34 | Shake Dual                   | No                         | No                         | No                                         | #1/2  | -            | -   | -   |
| DN35 | Evolver Dual                 | No                         | No                         | No                                         | #1/2  | Simultaneous | -   | -   |
| DN36 | Corner Sweep Dual            | No                         | No                         | No                                         | #1/2  | -            | -   | -   |
| DN37 | Corner Sweep Slow Dual       | No                         | No                         | No                                         | #1/2  | -            | -   | -   |
| DN38 | Full/Sweep Dual              | No                         | No                         | No                                         | #1/2  | -            | -   | -   |
| DN39 | Full/Sweep Slow Dual         | No                         | No                         | No                                         | #1/2  | -            | -   | -   |
| DN40 | Center Sweep Dual            | No                         | No                         | No                                         | #1/2  | -            | -   | -   |
| DN41 | Center Sweep Slow Dual       | No                         | No                         | No                                         | #1/2  | -            | -   | -   |
| DN42 | Orbit Dual                   | No                         | No                         | No                                         | #1/2  | -            | -   | -   |
| DN43 | Orbit Slow Dual              | No                         | No                         | No                                         | #1/2  | -            | -   | -   |
| DN44 | Double Orbit Dual            | No                         | No                         | No                                         | #1/2  | -            | -   | -   |
| DN45 | Slow Double Orbit Dual       | No                         | No                         | No                                         | #1/2  | -            | -   | -   |
| DN46 | Retrograde Orbit Dual        | No                         | No                         | No                                         | #1/2  | -            | -   | -   |
| DN47 | Slow Retrograde Orbit Dual   | No                         | No                         | No                                         | #1/2  | -            | -   | -   |
| DN48 | Progressive Alternate Dual   | No                         | No                         | No                                         | #1/2  | -            | -   | -   |
| DN49 | Recurrent Dual               |                            | No                         | No                                         | #1/2  | Simultaneous | -   | -   |
| DN50 | E-Scroll Dual                | No                         | Yes                        | No                                         | #1/2  | Alternating  | -   | -   |
| DN51 | Road Runner Dual - Aura      | No                         | No                         | No                                         | #1/2  | Alternating  | -   | -   |
| DN52 | Road Runner Dual - Aura II   | No                         | No                         | No                                         | #1/2  | Alternating  | -   | -   |
| DN53 | Slow Runner Dual - Aura      | No                         | No                         | No                                         | #1/2  | Alternating  | -   | -   |

## FLASH PATTERNS CONT.

\*fpm=Flashes per Minute

\*\*fps=Flashes per Second

| #    | Name                                 | SAE<br>Compliant<br>Timing | ECE<br>Compliant<br>Timing | California Title 13<br>Compliant<br>Timing | Color  | Sequence     | fpm | fps |
|------|--------------------------------------|----------------------------|----------------------------|--------------------------------------------|--------|--------------|-----|-----|
| DN54 | Slow Runner Dual - Aura II           | No                         | No                         | No                                         | #1/2   | Alternating  | -   | -   |
| DN55 | Super Slow Runner Dual - Aura        | No                         | No                         | No                                         | #1/2   | Alternating  | -   | -   |
| DN56 | Super Slow Runner Dual - Aura II     | No                         | No                         | No                                         | #1/2   | Alternating  | -   | -   |
| DN57 | Corner Sweep Slow Dual - Aura        | No                         | No                         | No                                         | #1/2   | -            | -   | -   |
| DN58 | Full Sweep Slow Dual - Aura          | No                         | No                         | No                                         | #1/2   | -            | -   | -   |
| DN59 | Center Sweep Slow Dual - Aura        | No                         | No                         | No                                         | #1/2   | -            | -   | -   |
| DN60 | Orbit Slow Dual - Aura               | No                         | No                         | No                                         | #1/2   | -            | -   | -   |
| DN61 | Double Orbit Slow Dual - Aura        | No                         | No                         | No                                         | #1/2   | -            | -   | -   |
| DN62 | Retrograde Orbit Slow Dual - Aura    | No                         | No                         | No                                         | #1/2   | -            | -   | -   |
| DN63 | Flicker Cruise alternate Dual - Aura | No                         | No                         | No                                         | #1/2   | -            | -   | -   |
| TN1  | Pattern 1 Tri                        | No                         | No                         | No                                         | #1/2/3 | Alternating  | -   | -   |
| TN2  | Random Tri                           | No                         | No                         | No                                         | #1/2/3 | Alternating  | -   | -   |
| TC3  | Quint Tri                            | Yes                        | No                         | No                                         | #1/2/3 | Alternating  | 70  | 1.2 |
| TC4  | Quad 2 Tri                           | Yes                        | No                         | No                                         | #1/2/3 | Alternating  | -   | -   |
| TN5  | Pattern 2 Tri                        | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TC6  | Double Tri                           | Yes                        | No                         | No                                         | #1/2/3 | Alternating  | 115 | 1.9 |
| TC7  | Power Pulse Tri                      | Yes                        | No                         | No                                         | #1/2/3 | Alternating  | 180 | 3   |
| TC8  | Road Runner Tri                      | Yes                        | No                         | Yes                                        | #1/2/3 | Alternating  | 115 | 1.9 |
| TC9  | Slow Runner Tri                      | Yes                        | No                         | Yes                                        | #1/2/3 | Alternating  | 70  | 1.2 |
| TN10 | Warp Tri                             | No                         | No                         | No                                         | #1/2/3 | Alternating  | 350 | 5.8 |
| TN11 | Inter-Cycle Tri                      | No                         | No                         | No                                         | #1/2/3 | Alternating  | -   | -   |
| TN12 | Warp 1-2-3 Tri                       | No                         | No                         | No                                         | #1/2/3 | Alternating  | -   | -   |
| TN13 | Super Slow Runner Tri                | No                         | No                         | No                                         | #1/2/3 | Alternating  | 55  | 0.9 |
| TC14 | Quint Simultaneous Tri               | Yes                        | No                         | No                                         | #1/2/3 | Simultaneous | 70  | 1.2 |
| TC15 | Road Runner Sim. Tri                 | Yes                        | No                         | No                                         | #1/2/3 | Simultaneous | 114 | 1.9 |
| TC16 | Quint 2 Tri                          | Yes                        | No                         | No                                         | #1/2/3 | Alternating  | 70  | 1.2 |
| TN17 | Warp 2 Tri                           | No                         | No                         | No                                         | #1/2/3 | Alternating  | 350 | 5.8 |
| TN18 | Inter-Cycle 2 Tri                    | No                         | No                         | No                                         | #1/2/3 | Alternating  | -   | -   |
| TN19 | Pattern 3 Tri                        | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN20 | Flicker Cruise Tri                   | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN21 | Manifesto Tri                        | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN22 | Power Evert Tri                      | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN23 | Dazzle Tri                           | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN24 | Quiver Tri                           | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN25 | Power Sway Tri                       | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN26 | Evert Tri                            | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN27 | Alternating Rapid Flash Tri          | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN28 | Swift Impact Tri                     | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN29 | Tango Tri                            | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |

## FLASH PATTERNS CONT.

\*fpm=Flashes per Minute

\*\*fps=Flashes per Second

| #    | Name                             | SAE<br>Compliant<br>Timing | ECE<br>Compliant<br>Timing | California Title 13<br>Compliant<br>Timing | Color  | Sequence     | fpm | fps |
|------|----------------------------------|----------------------------|----------------------------|--------------------------------------------|--------|--------------|-----|-----|
| TN30 | Tremble Tri                      | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN31 | Shake Tri                        | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN32 | Evolver Tri                      | No                         | No                         | No                                         | #1/2/3 | Simultaneous | -   | -   |
| TN33 | Corner Sweep Tri                 | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN34 | Corner Sweep Slow Tri            | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN35 | Full/Sweep Tri                   | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN36 | Full/Sweep Slow Tri              | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN37 | Center Sweep Tri                 | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN38 | Center Sweep Slow Tri            | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN39 | Orbit Tri                        | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN40 | Orbit Slow Tri                   | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN41 | Double Orbit Tri                 | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN42 | Double Orbit Slow Tri            | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN43 | Retrograde Orbit Tri             | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN44 | Retrograde Orbit Slow Tri        | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN45 | Progressive Alternate Tri        | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN46 | Recurrent Tri                    | No                         | No                         | No                                         | #1/2/3 | Simultaneous | -   | -   |
| TN47 | E-Scroll Tri                     | No                         | Yes                        | No                                         | #1/2/3 | Alternating  | -   | -   |
| TN48 | Road Runner Tri - Aura           | No                         | No                         | No                                         | #1/2/3 | Alternating  | -   | -   |
| TN49 | Road Runner Tri - Aura II        | No                         | No                         | No                                         | #1/2/3 | Alternating  | -   | -   |
| TN50 | Slow Runner Tri - Aura           | No                         | No                         | No                                         | #1/2/3 | Alternating  | -   | -   |
| TN51 | Slow Runner Tri - Aura II        | No                         | No                         | No                                         | #1/2/3 | Alternating  | -   | -   |
| TN52 | Super Slow Runner Tri - Aura     | No                         | No                         | No                                         | #1/2/3 | Alternating  | -   | -   |
| TN53 | Super Slow Runner Tri - Aura II  | No                         | No                         | No                                         | #1/2/3 | Alternating  | -   | -   |
| TN54 | Corner Sweep Slow Tri - Aura     | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN55 | Full Sweep Slow Tri - Aura       | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN56 | Center Sweep Slow Tri - Aura     | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN57 | Orbit Slow Tri - Aura            | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN58 | Double Orbit Slow Tri - Aura     | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |
| TN59 | Retrograde Orbit Slow Tri - Aura | No                         | No                         | No                                         | #1/2/3 | -            | -   | -   |

## FLASH PATTERNS CONT.

### ARROW PATTERNS

| #  | Name                   | SAE<br>Compliant<br>Timing | ECE<br>Compliant<br>Timing | California Title 13<br>Compliant Timing | Color | Sequence | fpm | fps |
|----|------------------------|----------------------------|----------------------------|-----------------------------------------|-------|----------|-----|-----|
| 1  | Single Fast            | No                         | No                         | No                                      | #1    | -        | -   | -   |
| 2  | Single Slow            | No                         | No                         | No                                      | #1    | -        | -   | -   |
| 3  | Chaser Fast            | No                         | No                         | No                                      | #1    | -        | -   | -   |
| 4  | Chaser Slow            | No                         | No                         | No                                      | #1    | -        | -   | -   |
| 5  | Fill Fast              | No                         | No                         | No                                      | #1    | -        | -   | -   |
| 6  | Fill Slow              | No                         | No                         | No                                      | #1    | -        | -   | -   |
| 7  | Grow/Shrink            | No                         | No                         | No                                      | #1    | -        | -   | -   |
| 8  | Warning w/Arrow        | No                         | No                         | No                                      | #1    | -        | -   | -   |
| 9  | Warning w/Arrow Fill   | No                         | No                         | No                                      | #1    | -        | -   | -   |
| 10 | Arrow Random 1         | No                         | No                         | No                                      | #1    | -        | -   | -   |
| 11 | Arrow Random 2         | No                         | No                         | No                                      | #1    | -        | -   | -   |
| 12 | Grow/Shrink 2          | No                         | No                         | No                                      | #1    | -        | -   | -   |
| 13 | Single Slow - Aura III | No                         | No                         | No                                      | #1    | -        | -   | -   |
| 14 | Fill Slow - Aura III   | No                         | No                         | No                                      | #1    | -        | -   | -   |

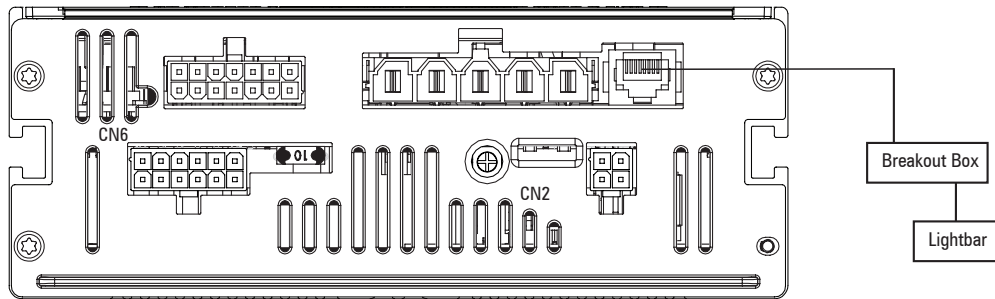
### SIREN FUNCTIONS

| #   | Button              | Function    | Mods affected            | Color<br>(→ : if the color is not<br>populated, it would be<br>the next color listed) | Flash  | CERT chosen |
|-----|---------------------|-------------|--------------------------|---------------------------------------------------------------------------------------|--------|-------------|
|     |                     |             |                          |                                                                                       |        | SAE/NONE    |
|     |                     |             |                          |                                                                                       |        | Pattern     |
| S1  | Pushbutton 1        | Left Arrow  | Entire Bar               | Amber → Color 1                                                                       | -      | -           |
| S2  | Pushbutton 2        | -           | -                        | -                                                                                     | -      | -           |
| S3  | Pushbutton 3        | -           | -                        | -                                                                                     | -      | -           |
| S4  | Pushbutton 4        | Takedown    | Selected at Bar Creation | White                                                                                 | -      | -           |
| S5  | Pushbutton 5        | Cruise 1    | Entire Bar               | Color 1                                                                               | -      | -           |
| S6  | Pushbutton 6        | Low Power 1 | Entire Bar               | -                                                                                     | -      | -           |
| S7  | Pushbutton 7        | Scene 1     | Selected at Bar Creation | White                                                                                 | -      | -           |
| S8  | Pushbutton 8        | -           |                          | No                                                                                    | -      | -           |
| S9  | Single Button Arrow | Right Arrow | Entire Bar               | Amber→ Color 1                                                                        | -      | -           |
| S10 | Slide Switch 1      | Warning     | Entire Bar               | Color 1                                                                               | Mode 2 | Slow Runner |
| S11 | Slide Switch 2      | Warning     | Entire Bar               | Color 1                                                                               | Mode 3 | Quint       |
| S12 | Slide Switch 3      | Warning     | Entire Bar               | Color 1                                                                               | Mode 4 | Intercycle  |

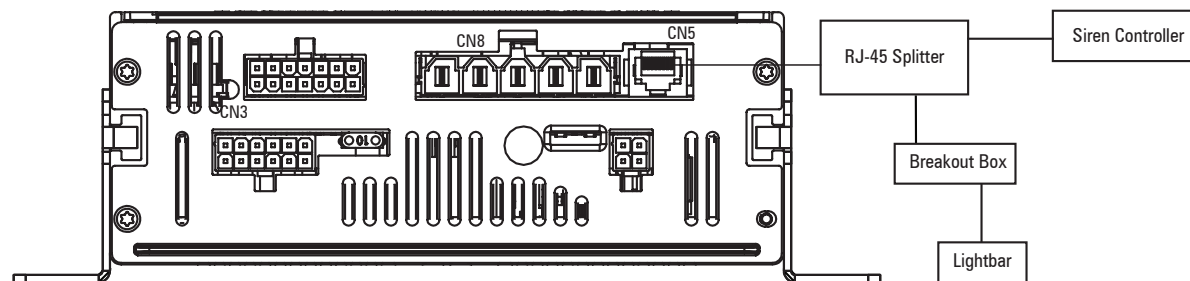
## CONNECTION OF LIGHTBAR BREAKOUT BOX TO SOUNDOFF SIGNAL SIREN:

Note: Requires PC configuration app to map siren control switches to lightbar functions. Plug 1 end of RJ-45 cable to available jack on siren amplifier.

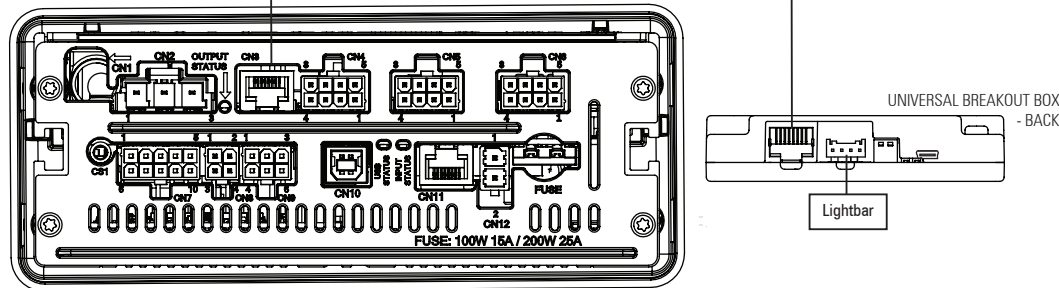
### ETSA481CSR or ETSA482CSR



### ETSA481RSP, ETSA482RSP, ETSA461HPP, ETSA462HPP

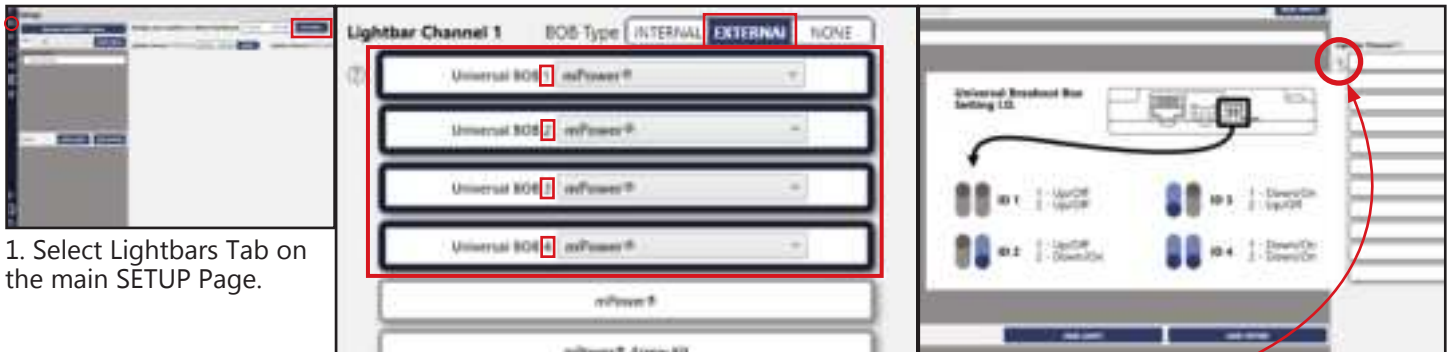


### ETSA5100/5200



### SoundOff Central® Software Universal Breakout Box ID Settings

When using more than one lightbar universal breakout box (UBOB) with SoundOff Central Software, set the ID number for each UBOB using the dip switches and then configure the light bars accordingly in the Software.



1. Select Lightbars Tab on the main SETUP Page.

2. Under Lightbars tab, select the EXTERNAL tab to see UBOB list. The number after the UBOB is the ID needed.

3. Hover cursor over the ? to open up Universal Breakout Box ID Information.

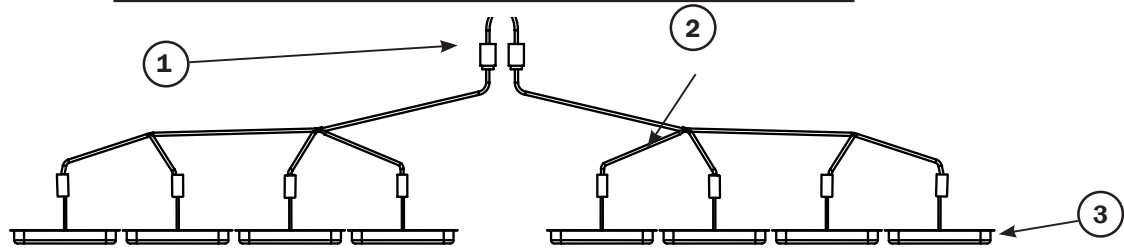
**Normal Operation**

Under Normal operation with ignition input powered, the breakout box will have the Green LED ON and the Red LED light will be ON.

| <b>GENERAL TROUBLESHOOTING</b>                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Before further troubleshooting steps, start here:      | <ul style="list-style-type: none"> <li>• Check power source to the Arrow Kit and breakout box (10AWG red and 22AWG red wires).</li> <li>• Check the ground source to the Arrow Kit and breakout box (10AWG black and 22AWG black wires).</li> <li>• Check ignition source to the Arrow Kit and breakout box (pink/white wire).</li> <li>• Check any splice and butt connections for proper crimp integrity.</li> <li>• Check connectors for positive engagement.</li> </ul> |
| <b>NO OPERATION</b>                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| The green LED is not illuminated                       | <ul style="list-style-type: none"> <li>• Check Power (Pin #4) and Ground (Pin #1) on the 4-pin connector.</li> <li>• If not connected to a 400 Series Siren or bluePRINT Controller, check Ignition (pin #12) on the 24-pin connector.</li> </ul>                                                                                                                                                                                                                           |
| The red LED is not illuminated while inputs are active | <ul style="list-style-type: none"> <li>• Verify there is proper voltage on the input wire. Many inputs are positive or negative selectable (through SoundOff Central Lightbar).</li> <li>• Check Arrow Kit program configuration using SoundOff Central Lightbar. Verify any active inputs are mapped to activate Arrow Kit functions.</li> </ul>                                                                                                                           |
| Green and red LEDs are illuminated properly            | <ul style="list-style-type: none"> <li>• Verify the Arrow Kit data wires on the 4-pin connector (pin #3) is correctly connected to the Arrow Kit data wire.</li> <li>• Verify the data wire circuit (from the breakout box into the Arrow Kit) is not damaged or shorted to power or ground.</li> </ul>                                                                                                                                                                     |
| <b>NO LIGHT OPERATION IN ONE ARROW KIT QUADRANT</b>    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Breakout box LED's operating correctly;                | Remove top cover and follow the non-working modules wires to fuse location. If fuse is blown, check for shorts in cabling and LED module. Replace any damaged cables or modules and replace fuse. If fuse blows again, replace defective power distribution assembly.                                                                                                                                                                                                       |
| No Steady Red LED on breakout box;                     | Check 24-pin connector at breakout box (ensure it is snapped in correctly), check appropriate input to breakout box for output lights which should be on.                                                                                                                                                                                                                                                                                                                   |
| <b>NO TAKEDOWNS LIGHTS</b>                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Breakout box LED's operating correctly;                | Verify configuration and make sure light modules are configured for takedown function.                                                                                                                                                                                                                                                                                                                                                                                      |
| No steady Red LED on breakout box;                     | Check 24-pin connector at breakout box (insure it is snapped in correctly), check appropriate input to breakout box for output lights which should be on.                                                                                                                                                                                                                                                                                                                   |
| <b>NO OR INCORRECT WARNING LIGHTS</b>                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                                                        | <ul style="list-style-type: none"> <li>• Verify the configuration for proper Arrow Kit operation.</li> <li>• Verify the Arrow Kit data wires on the 4-pin connector (pin #3) is correctly connected to the Arrow Kit data wire.</li> <li>• Verify light module ID/positions.</li> </ul>                                                                                                                                                                                     |
| <b>INCORRECT OR NO ARROW OPERATION</b>                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Breakout box LED's operating correctly;                | • Verify configuration and make sure light modules are configured for arrow function.                                                                                                                                                                                                                                                                                                                                                                                       |
| No steady Red LED on breakout box;                     | • Check 24-pin connector at breakout box ( <b>ensure it is snapped into position correctly</b> ), check appropriate input to breakout box for output lights which should be on.                                                                                                                                                                                                                                                                                             |



## REPLACEMENT PARTS & ACCESSORIES



## REPLACEMENT PARTS & ACCESSORIES

| ITEM # | PART #              | STEALTH PART #     | DESCRIPTION                                                 |
|--------|---------------------|--------------------|-------------------------------------------------------------|
| 1      | PMPAKHNPW1          |                    | VEHICLE POWER HARNESS                                       |
| 2      | PMPAKHND51          |                    | DISTRIBUTION HARNESS                                        |
|        | PUVBBJ00            |                    | UNIVERSAL BREAKOUT BOX (LIN)                                |
|        | PUVBBJC1            |                    | UNIVERSAL BREAKOUT BOX (CAN)                                |
|        | PEPL9BBHNS          |                    | 12" BREAKOUT BOX HARNESS                                    |
|        | PEPL9BBHNL          |                    | 36" BREAKOUT BOX HARNESS                                    |
|        | PEPL9BBHNL          |                    | 120" BREAKOUT BOX HARNESS                                   |
| 3      | PMPAKLMTS204(x)C    |                    | MPOWER 3" 3-WIRE LIGHT w/ STUD MOUNT 4 LED SINGLE COLOR     |
| 3      | PMPAKLMTS208(x)C    |                    | MPOWER 3" 3-WIRE LIGHT w/ STUD MOUNT 8 LED SINGLE COLOR     |
| 3      | PMPAKLMTD208(x)C    |                    | MPOWER 3" 3-WIRE LIGHT w/ STUD MOUNT 8 LED DUAL COLOR       |
| 3      | PMPAKLMTT212(xxx)C  |                    | MPOWER 3" 3-WIRE LIGHT w/ STUD MOUNT 12 LED TRI COLOR       |
| 3      | PMPAKLMMS204(x)C    |                    | MPOWER 3" 3-WIRE LIGHT w/ SCREW MOUNT 4 LED SINGLE COLOR    |
| 3      | PMPAKLMMS208(x)C    |                    | MPOWER 3" 3-WIRE LIGHT w/ SCREW MOUNT 8 LED SINGLE COLOR    |
| 3      | PMPAKLMMD208(x)C    |                    | MPOWER 3" 3-WIRE LIGHT w/ SCREW MOUNT 8 LED DUAL COLOR      |
| 3      | PMPAKLMMT212(xxx)C  |                    | MPOWER 3" 3-WIRE LIGHT w/ SCREW MOUNT 12 LED TRI COLOR      |
| 3      | PMPAKLMQS204(x)C    |                    | MPOWER 3" 3-WIRE LIGHT w/ QUICK MOUNT 4 LED SINGLE COLOR    |
| 3      | PMPAKLMQS208(x)C    |                    | MPOWER 3" 3-WIRE LIGHT w/ QUICK MOUNT 8 LED SINGLE COLOR    |
| 3      | PMPAKLMQD208(x)C    |                    | MPOWER 3" 3-WIRE LIGHT w/ QUICK MOUNT 8 LED DUAL COLOR      |
| 3      | PMPAKLMQT212(xxx)C  |                    | MPOWER 3" 3-WIRE LIGHT w/ QUICK MOUNT 12 LED TRI COLOR      |
| 3      | PMPAKLSTS206(x)C    | PMPAKLSTS206(x)S   | MPOWER 4" 3-WIRE LIGHT w/ STUD MOUNT 6 LED SINGLE COLOR     |
| 3      | PMPAKLSTS208(x)C    | PMPAKLSTS208(x)S   | MPOWER 4" 3-WIRE LIGHT w/ STUD MOUNT 8 LED SINGLE COLOR     |
| 3      | PMPAKLSTD212(x)C    | PMPAKLSTD212(x)S   | MPOWER 4" 3-WIRE LIGHT w/ STUD MOUNT 12 LED DUAL COLOR      |
| 3      | PMPAKLSTT218(xxx)WC | PMPAKLSTT218(xxx)S | MPOWER 4" 3-WIRE LIGHT w/ STUD MOUNT 18 LED TRI COLOR       |
| 3      | PMPAKLSMS206(x)C    | PMPAKLSMS206(x)S   | MPOWER 4" 3-WIRE LIGHT w/ SCREW MOUNT 6 LED SINGLE COLOR    |
| 3      | PMPAKLSMS208(x)C    | PMPAKLSMS208(x)S   | MPOWER 4" 3-WIRE LIGHT w/ SCREW MOUNT 8 LED SINGLE COLOR    |
| 3      | PMPAKLSMD212(x)C    | PMPAKLSMD212(x)S   | MPOWER 4" 3-WIRE LIGHT w/ SCREW MOUNT 12 LED DUAL COLOR     |
| 3      | PMPAKLSMT218(xxx)C  | PMPAKLSMT218(xxx)S | MPOWER 4" 3-WIRE LIGHT w/ SCREW MOUNT 18 LED TRI COLOR      |
| 3      | PMPAKLSQS206(x)C    | PMPAKLSQS206(x)S   | MPOWER 4" 3-WIRE LIGHT w/ QUICK MOUNT 6 LED SINGLE COLOR    |
| 3      | PMPAKLSQS208(x)C    | PMPAKLSQS208(x)S   | MPOWER 4" 3-WIRE LIGHT w/ QUICK MOUNT 8 LED SINGLE COLOR    |
| 3      | PMPAKLSQD212(x)C    | PMPAKLSQD212(x)S   | MPOWER 4" 3-WIRE LIGHT w/ QUICK MOUNT 12 LED DUAL COLOR     |
| 3      | PMPAKLSQT218(xxx)C  | PMPAKLSQT218(xxx)S | MPOWER 4" 3-WIRE LIGHT w/ QUICK MOUNT 18 LED TRI COLOR      |
| 3      | PMPAKLHTS206(x)C    |                    | MPOWER 4" HD 3-WIRE LIGHT w/ STUD MOUNT 6 LED SINGLE COLOR  |
| 3      | PMPAKLHTS208(x)C    |                    | MPOWER 4" HD 3-WIRE LIGHT w/ STUD MOUNT 8 LED SINGLE COLOR  |
| 3      | PMPAKLHTD212(x)C    |                    | MPOWER 4" HD 3-WIRE LIGHT w/ STUD MOUNT 12 LED DUAL COLOR   |
| 3      | PMPAKLHTT218(xxx)WC |                    | MPOWER 4" HD 3-WIRE LIGHT w/ STUD MOUNT 18 LED TRI COLOR    |
| 3      | PMPAKLHMS206(x)C    |                    | MPOWER 4" HD 3-WIRE LIGHT w/ SCREW MOUNT 6 LED SINGLE COLOR |
| 3      | PMPAKLHMS208(x)C    |                    | MPOWER 4" HD 3-WIRE LIGHT w/ SCREW MOUNT 8 LED SINGLE COLOR |
| 3      | PMPAKLHMD212(x)C    |                    | MPOWER 4" HD 3-WIRE LIGHT w/ SCREW MOUNT 12 LED DUAL COLOR  |
| 3      | PMPAKLHMT218(xxx)C  |                    | MPOWER 4" HD 3-WIRE LIGHT w/ SCREW MOUNT 18 LED TRI COLOR   |
| 3      | PMPAKLHQS206(x)C    |                    | MPOWER 4" HD 3-WIRE LIGHT w/ QUICK MOUNT 6 LED SINGLE COLOR |
| 3      | PMPAKLHQS208(x)C    |                    | MPOWER 4" HD 3-WIRE LIGHT w/ QUICK MOUNT 8 LED SINGLE COLOR |
| 3      | PMPAKLHQD212(x)C    |                    | MPOWER 4" HD 3-WIRE LIGHT w/ QUICK MOUNT 12 LED DUAL COLOR  |
| 3      | PMPAKLHQT218(xxx)C  |                    | MPOWER 4" HD 3-WIRE LIGHT w/ QUICK MOUNT 18 LED TRI COLOR   |

## 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** - CARE MUST BE TAKEN WHEN DRILLING THROUGH THE VEHICLE NOT TO DAMAGE ANY EXISTING WIRING. 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.

### WARRANTY RETURN PROCESS:

Please scan QR code or visit  
<https://soundoffsignal.com/support-page/returns/>



Alternatively 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.