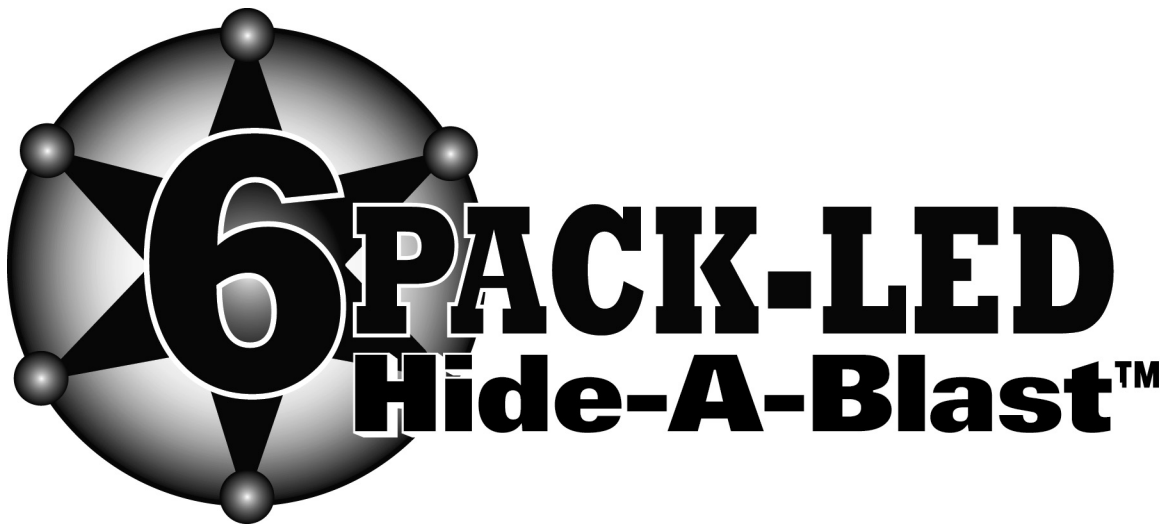


INSTALLATION & OPERATION MANUAL

HB6PAKX & HB6PAKXX
HIDE-A-BLAST



CODE 3[®]
A PUBLIC SAFETY EQUIPMENT COMPANY



6 LED
WARNING LIGHT

IMPORTANT: Read all instructions and warnings before installing and using.
INSTALLER: This manual must be delivered to the end user of this equipment.

Introduction

The HB Series LED light represents the latest in state-of-the-art LED warning technology. The latest in MOSFET technology and advanced design provide efficient operation, superior performance, reliability and long life. The use of microprocessor control allows the HB Series to offer more light pattern options and versatility than any other remote system available. The user may select Single, Double, Triple, Quad, Variable Flash, Double-Double or Triple Flash Patterns.

Standard Features

The HB Series HIDE-A-BLAST LED light is available in a single unit package complete with installation instructions. Multiple HB Series LED Lights can be connected together and operated from the same control switch. All HB Series LED Lights have the following features:

12 OR 24 VDC OPERATION

REVERSE POLARITY PROTECTED

MULTIPLE USER SELECTABLE FLASH PATTERNS

See Flash Pattern Selection, page 6.

Note: A user supplied fuse must be installed in series with the red wire. Install the fuse near the power source. The fuse should be sized to the nearest standard size fuse that is approximately 125% of the combined total current of all HB Series LED Lights installed on the circuit. As an example, two HB Series LED Lights should be fused at 3A for 12VDC operation, 1A for 24V operation.

Specifications

MODEL VARIANTS:

HB6PAKX & HB6PAKXX = 6 LEDs

X denotes the LED color, Red, Blue, Amber or White (R, B, A or W) and dual color combinations of Amber/White, Red/Blue, Red/White or Blue/White (AW, BR, RW or BW).
i.e. HB6PAKW has six white LEDs.

MECHANICAL SPECIFICATIONS:

CABLE LENGTH: 15 feet

DIMENSIONS: See figure A

BOXED WEIGHT: 0.9lb

UNBOXED WEIGHT: 0.8lb

LED COLOR: Red, Blue, Amber or White (mixing of colors in the same unit is not supported)

LENS COLOR: clear

ELECTRICAL SPECIFICATIONS:

OPERATING VOLTAGE & POLARITY: 11-30VDC, Neg or Pos ground

AVERAGE CURRENT: 0.6A @ 13.8VDC

OPERATING TEMPERATURE: -30 to 150 F

INPUT POWER: 8W

OPERATING MODES: Synchronous and Non-Synchronous

!
WARNING!

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

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

Public Safety Equipment, Inc., assumes no liability for any loss resulting from the use of this warning device.

Proper installation is vital to the performance of this warning device and the safe operation of the emergency vehicle. It is important to recognize that the operator of the emergency vehicle is under psychological and physiological stress caused by the emergency situation. The warning device should be installed in such a manner as to: A) Not reduce the output performance of the system, B) Place the controls within convenient reach of the operator so that one can operate the system without losing eye contact with the roadway.

Emergency warning devices often require high electrical voltages and/or currents. Properly protect and use caution around live electrical connections. Grounding or shorting of electrical connections can cause high current arcing, which can cause personal injury and/or severe vehicle damage, including fire. Do not touch the strobe light tubes, the strobe light head assemblies or the strobe power supply while the system is in operation. Wait 10 minutes after turning off the power from system before touching any internal componentry.

PROPER INSTALLATION COMBINED WITH OPERATOR TRAINING IN THE PROPER USE OF EMERGENCY WARNING DEVICES IS ESSENTIAL TO INSURE THE SAFETY OF EMERGENCY PERSONNEL AND THE PUBLIC.

Unpacking and Pre-installation

Remove the product from the box and examine the unit for any shipping damage. Report any damage to the carrier immediately. Inspect the contents to be certain that the following items are included:

- A. 1 HB6PAK Series LED Light with 15 ft. Cable**
- B. 1 Installation Manual**

Installation and Mounting

1. First, carefully plan the installation so that the HB Series LED Lights will not interfere with the mounting or operation of the vehicle's existing light fixtures. Using a 1 inch hole saw, cut a hole in the vehicle's light fixture in a location that will allow the HB Series LED light to be mounted in such a way that it will provide maximum light inside the reflector (see Figure B). Use a deburring tool to remove burrs and to chamfer the edge of the hole before inserting the HB6PAK. Proper installation will provide an excellent seal and prevent water from entering the light fixture.

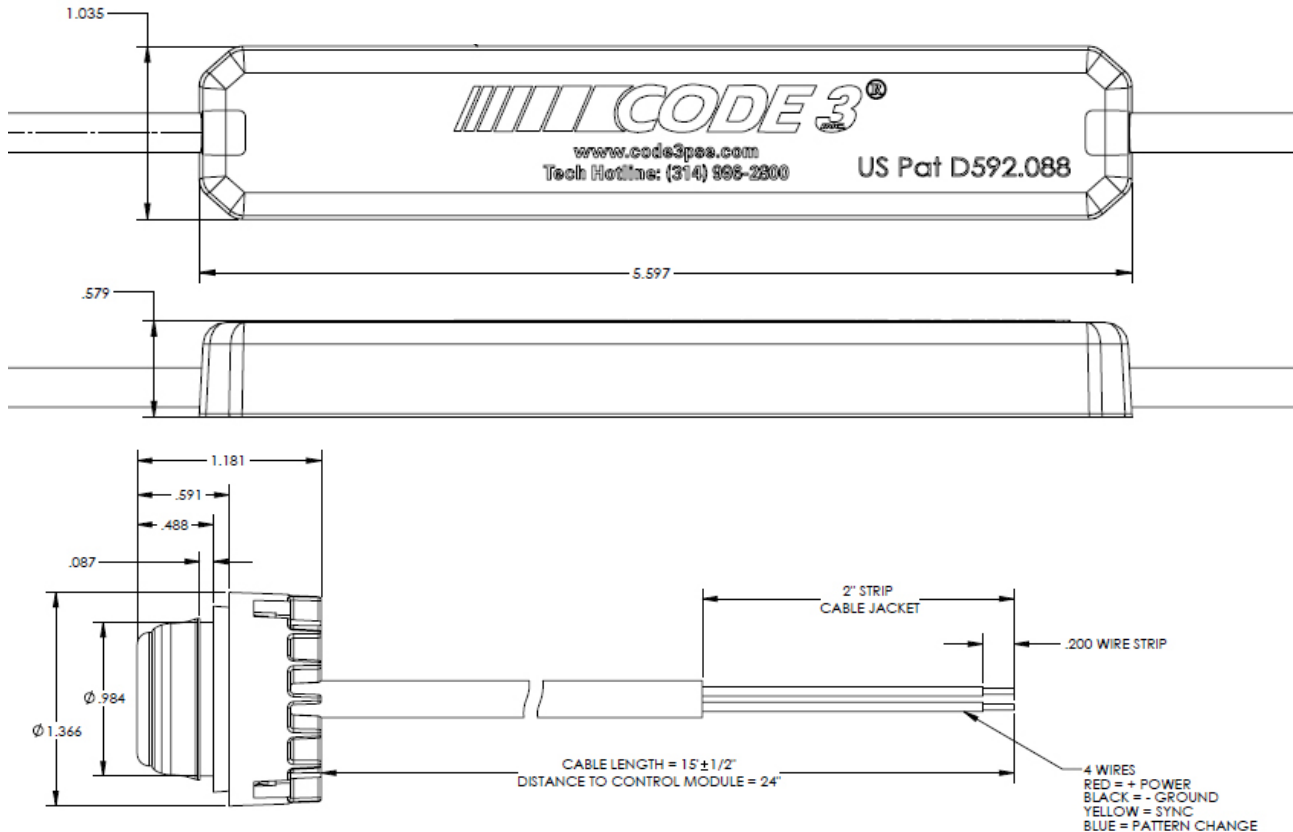


FIGURE A

Wiring

1. Install the LED light heads in the desired locations.
2. Route the cables between the light heads and the control switch panel. Make sure the cable is secure along the chosen routing inside the vehicle to prevent damage by chafing or binding. Be sure to keep the cables away from engine hot spots.
3. Secure the cables and the HB Series flasher module using plastic wire ties.



WARNING!

The HB Series LED Light components are water resistant but NOT waterproof and should be located in an area protected from the weather and water.

4. For synchronized operation of multiple HB Series lights the yellow wires from each unit's cable must be connected together. Insulate this connection using an insulated butt splice to prevent accidental contact with power or ground.

Connections:

- Red +Power (11-30VDC)
- Black Ground
- Yellow Synchronization
- Blue Pattern Selection

The HB6PAK light should be fully inserted into the hole so that the aluminum heatsink is against the light housing and the groove of the rubber seal is locked into the hole. This will provide a secure installation and a highly water resistant seal.



FIGURE B

IMPORTANT: To extend the power (+) and ground (-) wires, use the following as a guide.

1 to 10 ft. use 20AWG wire

10 to 50 ft. use 18AWG wire

Pattern Selection Timing

<u>Time</u>	<u>Function</u>
0~1 sec	NEXT PATTERN / ON
1~3 sec	PREVIOUS PATTERN
3~5 sec	P19 CYCLE FLASH
>5 sec	OFF

FLASH PATTERN SELECTION

FLASH MODE

Any one of the 20 Flash Patterns may be selected by using the blue wire to scroll through the patterns. Touch the blue wire to ground for about 1 second and then remove it. The flash pattern will switch to the next pattern. When the yellow wires (SYNC) from each light are connected, lights with Phase 1 patterns selected will flash in an alternating sequence with lights that have a Phase 2 pattern selected. The following patterns are available.

Description

1. signal alert alternating (Factory Default)
2. signal alert simultaneous phase1
3. signal alert simultaneous phase2
4. rapid flash alternating
5. rapid flash simultaneous phase1
6. rapid flash simultaneous phase2
7. single flash 75 alternating
8. single flash 75 simultaneous phase1
9. single flash 75 simultaneous phase2
10. single flash 375 alternating
11. single flash 375 simultaneous phase1
12. single flash 375 simultaneous phase2
13. action flash alternating
14. action flash simultaneous
15. modul flash alternating
16. modul flash simultaneous
17. action scan
18. STEADY
19. Cycle Flash
20. off

1. Connect the Power/Control wire harness assembly to a switch. To select one of the 30 different flash functions, turn the light on and touch the bare end of the blue wire to ground for about one second. You can also scroll backward through the flash pattern table (see the PATTERN SELECTION TIMING section for complete details). Repeat this process until you reach the desired flash pattern. After you have selected the desired flash pattern, you should cover the bare end of the blue wire with heat shrinkable tubing to prevent an ac-

cidental pattern change or short circuit. The flash pattern may also be selected remotely by the operator by connecting the blue wire to the ground through a Normally Open (NO) Momentary Push Button Switch. For synchronized simultaneous flashing, set all HB Series LED lights to a Phase 1 flash pattern. For synchronized - alternating flashing, set a Phase 1 pattern on one HB Series LED light and a Phase 2 pattern on the other unit. The factory default flash pattern may be restored by holding the blue wire to ground for 3~5 seconds.

MAINTENANCE

The HB Series LED light has been designed to provide trouble free service. In case of difficulty, refer to the Troubleshooting section. Periodic inspection of product's wiring connections for shorted or open wires will assure trouble free operation. The primary cause of short circuits has been found to be wires passing through firewalls, roofs, etc.

Troubleshooting

NOTE: DO NOT TAMPER WITH THE LED OR FLASHER MODULES. THIS PRODUCT IS SOLD AS A COMPLETE SYSTEM, AND IS NOT DESIGNED FOR FIELD REPAIR. ANY ATTEMPT TO DISASSEMBLE THE PRODUCT WILL VOID THE WARRANTY.

All HB Series LED lights are thoroughly tested before shipment. However, should you encounter a problem during installation or during the life of the product, refer to the guide below for information on troubleshooting. In most cases problems that occur will be related either to the power/control wiring.

TROUBLESHOOTING GUIDE

PROBLEM		SOLUTION
External fuse blows	<ol style="list-style-type: none"> 1. Power input wires shorted 2. Incorrect fuse size 3. Flasher Module Failed 	<ol style="list-style-type: none"> 1. Check power connections 2. Replace with correct size fuse 3. Return for Service
Light heads do not flash	<ol style="list-style-type: none"> 1. Wire connections loose at switch panel or power source 2. Cable to light heads damaged and shorting to chassis 3. Flash Pattern is set to OFF 	<ol style="list-style-type: none"> 1. Check all connections 2. Isolate damaged cable by disconnecting and reconnecting outputs one at a time. Repair the damaged cable. 3. Select valid flashing pattern
Incorrect flash pattern	<ol style="list-style-type: none"> 1. Wrong Flash Pattern is selected. 	<ol style="list-style-type: none"> 1. See FLASH PATTERN SELECTION.
Flash patterns change continuously	<ol style="list-style-type: none"> 1. Unit is in CYCLE FLASH mode. Proper operation. 	<ol style="list-style-type: none"> 1. This is normal operation for this mode. If CYCLE FLASH MODE is not desired see FLASH PATTERN SELECTION.

WARRANTY

This product was tested and found to be operational at the time of manufacture. Provided this product is installed and operated in accordance with the manufacturer's recommendations, Public Safety Equipment guarantees the HB Series LED Light for a period of 5 years from the date of purchase or delivery, whichever is later. Units demonstrated to be defective within the warranty period will be repaired or replaced at the factory service center at no cost.

Improper installation or use of inappropriate or inadequate wiring or circuit protection causes this warranty to become void. Failure or destruction of the product resulting from abuse or unusual use and/or accidents is not covered by this warranty. Use of non-PSE components and assemblies may cause damage to the system and/or personal injury, and voids all warranties on PSE systems and components.

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

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

PRODUCT RETURNS

In order to provide you with faster service, if you are going to return a product for repair or replacement*, please contact our factory to obtain a Return Goods Authorization Number (RGA number) before you ship the product to PSE. Write the RGA number clearly on the package near the mailing label. Be sure you use sufficient packing materials to avoid damage to the product being returned while in transit.

*PSE reserves the right to repair or replace product at its discretion. PSE assumes no responsibility or liability for expenses incurred for the removal and/or reinstallation of products requiring service and/or repair.



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