

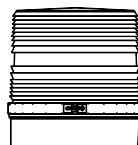
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# INSTALLATION AND INSTRUCTION MANUAL

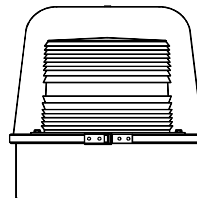
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## 360° LED Lights 200, 240, 250, 255, 257, and 258 Series

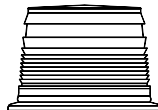
featuring the



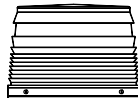
200SHL/200SH8L  
SERIES



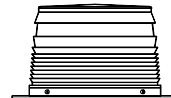
200BHL/200BH8L  
SERIES



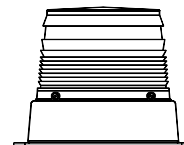
255/257/258  
"S" Series



240HSL / 240H8SL  
Series



240HSFL / 240H8SFL  
Series



250HSL / 250H8SL Series



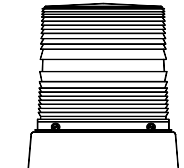
255/257/258  
"C" Series



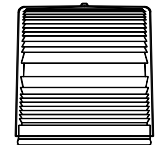
240HCL / 240H8CL  
Series



240HCFL / 240H8CFL  
Series



250HCL / 250H8CL Series



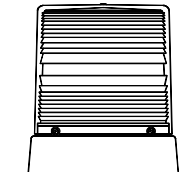
255/257/258  
"A" Series



240HAL / 240H8AL  
Series



240HAFL / 240H8AFL  
Series



250H8AL Series

All 4-LED lights are non-rotating with the exception of the 258 series (which is entirely rotating).

All 8-LED lights are rotating with the exception of the 255 series (which is entirely non-rotating).



**Star Headlight & Lantern Co., Inc.**

455 Rochester Street Avon, NY 14414 Phone: 585-226-9787 FAX: 888-478-2797



[www.starheadlight.com](http://www.starheadlight.com)

PLIT437 REV. E 3/16/12

## Magnet Mounting

*If you are mounting the light on the roof of your vehicle, take extreme care to ensure that the magnet is firmly seated on your roof, and that the pull of the magnet is sufficient to secure the light in place. As the composition of the metal in the roofs of different vehicles may vary, as well as the contour, texture and/or condition, Star cannot guarantee the ability of the light to remain in place upon a moving vehicle. It is the sole responsibility of the owner to ensure the warning light is secure.*

**WARNING!!!** Care should be taken when positioning any warning light on the roof, dash, or instrument panel of the vehicle, so that the light and/or cord does not interfere with the proper operation of any airbags! Failure to heed this warning may result in serious or fatal injury.

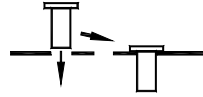
- **CAUTION:** Please be sure to check that your cigarette plug outlet is properly fused. **Testing the light before this fuse is properly installed will void the warranty on the light.**
- Once the light is secured, route your cord such that it does not interfere with the vision of the driver or the operation of any controls, including, but not limited to, the steering wheel, gear shifter, and/or airbag.
- This light has been factory tested and approved. If the light fails to work when the plug is inserted into the cigarette plug socket, twist the plug a few times to remove any ash or other deposits which might be preventing a good contact from being made. If the problem persists, check for a fuse inside of the plug itself. If present, remove the fuse from the circuit, check to see if it has blown, and clean the lighter socket and contact surfaces. Reconnect the fuse and test the light again.

## Permanent Mounting

1. **CAUTION:** All of our DC powered warning lights are polarity sensitive. These lights are polarity protected *only if the appropriate fuse* is used. All wires connected to the positive terminal of the battery should be fused at the battery for their rated load. **Testing the light before this fuse is properly installed will void the warranty on the light.**
2. Your new warning light comes complete with a foam mounting gasket, mounting screws, lock washers, and well nuts.
3. If you will be utilizing a **flange mount base**, please skip to Step 6.
4. Many of these warning lights come equipped with a combination base, allowing the light to be either mounted on threaded conduit pipe or permanently mounted. For NPT pipe, mount the light using the threaded entrance hole in the base of the light, then skip to the **Wiring Instructions**. For the permanent mount, proceed to Step 5.
5. Carefully remove either the clamp ring or the three or four screws near the base of the lens and lift off the lens (simply unscrew the dome for the 255 series). Examine the inside of the base and use a punch or drill to remove the knock-outs present.
6. Next, you will need to drill the holes in your mounting surface. Place the gasket in the exact position the light is to be mounted, and mark the holes on the mounting surface. (NOTE: You might have to stretch the gasket slightly to find the location of the holes in the gasket.) Take care to ensure that the gasket does not move while you are marking each of the holes. Be sure to mark the center hole if you will be running your wires through the mounting surface.
7. Remove the gasket and drill your holes using an appropriate 3/8" drill bit. **CAUTION:** *If you are mounting the light on a vehicle, and plan to wire it through the roof of the vehicle, remove the headliner from the inside of the vehicle. If you do not remove the headliner, take care so that you do not drill through it.*

(Perm Mount Cont'd)

- After the holes have been drilled, push the enclosed rubber well nuts through the outer holes until the bottom side of the wider lip rests on the surface of the vehicle.
- Place the light on the surface of the vehicle, routing the wires through the center hole, if applicable, align the holes with the well nuts, install the screws through the base, into the well nuts, and tighten until snug.



## Wiring Instructions

**CAUTION:** All of our DC powered warning lights are polarity sensitive. These lights are polarity protected *only if the appropriate fuse is used*. All wires connected to the positive terminal of the battery should be fused at the battery for their rated load. **Testing the light before this fuse is properly installed will void the warranty on the light.**

**Black :** Ground lead - Connect to a good chassis ground.


**Red :** Power - Connect to the positive side of your power source (+12-24VDC) through a switch and a 5 Amp fuse. *Check your light for proper voltage.*

**Purple :** Found only on the single color lights - Used for High/Low power selection.

- Leave disconnected for constant high power.
- Connect it to Ground for constant low power.
- Connect it to Ground through a switch for High/Low select.

**Orange :** Found only on dual color lights - Power for secondary color - Connect to the positive side of your power source (+12-24VDC) through a second switch and a 5 Amp fuse. *Check your light for proper voltage.*

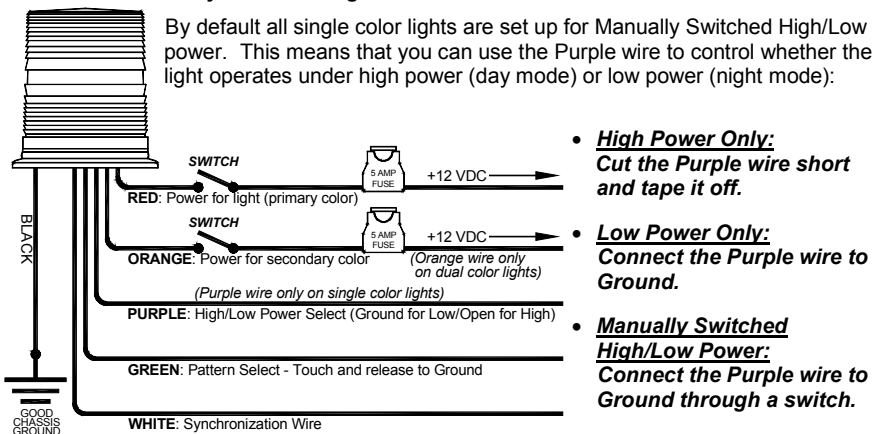
**Green :** Pattern Select - Touch and release to ground to cycle through patterns.

**White :** Synchronization - Cut short and cap off if not synchronizing this light with additional  lights. If synchronizing, set flash patterns BEFORE connecting white wires together.

### High/Low Power Settings (single color lights only)

There are 3 modes these lights can be set to work in:

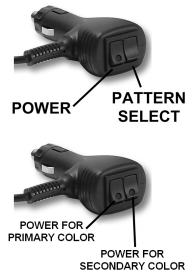
- Constant High Power**
- Constant Low Power**
- Manually Switched High/Low Power**



## Pattern Programming

1. Set the flash pattern using any of the following:
  - Green wire (*permanent mount versions only*)
  - Pattern Select switch on the cig plug (single color mag mount versions)
  - Internal jumper (dual color mag mount versions).

2. Power up the light by connecting the red and black wires or by plugging the cig plug into a powered outlet and activating the Power switch. For dual color lights, the cig plug will have two Power switches. Each color can be programmed separately, or you can activate both switches to program both colors to the same pattern.

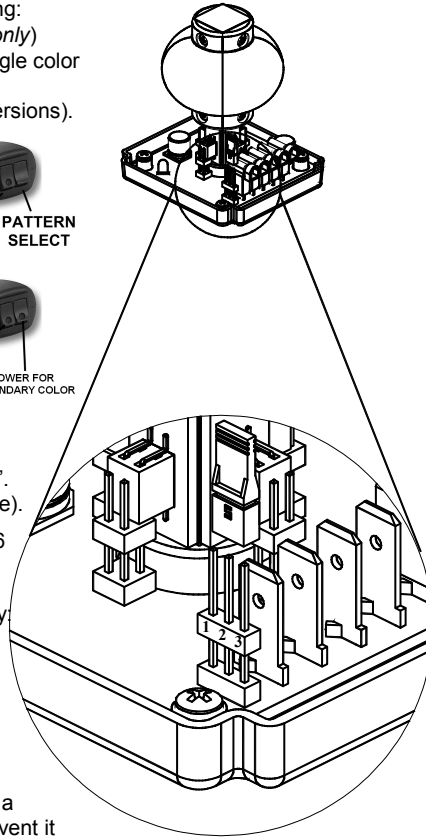


3. You can program your light for any of the 12 different patterns in either of two "phases". (Refer to the pattern list on the following page).

4. The lights are preset at the factory for Pattern #6 (*single-color non-rotating versions and all dual-color versions*) or Pattern #4 (*single-color rotating versions*). Cycle through the patterns by:
  - Touching and releasing the green wire to ground.
  - Pressing and releasing the Pattern Select button.
  - Removing the jumper from pins 2&3 and touching and releasing it to pins 1&2.

5. After the pattern has been set, tape or place a wirenut over the end of the green wire to prevent it from coming into contact with ground again or replace the jumper on pins 2&3.

6. **SHORTCUTS:** There are a number of "shortcuts" available to make the programming of your light easier: Review the chart below for a list of how long you need to touch the green wire to ground (or hold the jumper on pins 1 and 2) to go to the desired pattern.



<u>Length of Hold</u>	<u>Unit Blinks</u>	<u>Single-Color Non-Rotating And All Dual-Color Models Jump To</u>	<u>Single-Color Rotating Models Jump To</u>
1 second	Does Not	Next Pattern	Next Pattern
3 seconds	1 time	Pattern 1	Pattern 4
6 seconds	2 times	Pattern 6	Pattern 6
9 seconds	3 times	Pattern 13	Pattern 16
12 seconds	4 times	Pattern 18	Pattern 18
18 seconds	5 times	Steady Burn	Steady Burn

## Pattern List

Flash Pattern #	Pattern Type	Phase	Pattern Description	CPS	Pattern Defaults
1	K	1	Flicker †	1	<b>3Sec</b> <i>(Non-Rotating Only)</i>
2	L		Fast Doubleflash	3.3	
3	M		Tripleflash †	2.5	
4	N		PSU Flicker <i>(Non-Rotating Models)</i>	0.7	<b>3Sec</b> <i>(Rotating Only)</i>
	A5		CCW Rotation 1 <i>(Rotating Models)</i> †	1.3	
5	O		PSU Random <i>(Non-Rotating Models)</i>	0.6	
	A6		CCW Rotation 2 <i>(Rotating Models)</i>	2.7	
6	F		Quadflash †‡	1	<b>6Sec</b>
7	G		Quadflash w/Post-Pop †‡	1	
8	H		Singleflash †‡	1	
9	I		Doubleflash †‡	1	
10	J		Variable AKA Delta-Omega	0.3	
11	C	Post pop 1.4CPS †	1.4		
12	E	Random 0.4CPS	0.4		
13	K	2	Flicker †	1	<b>9Sec</b> <i>(Non-Rotating Only)</i>
14	L		Fast Doubleflash	3.3	
15	M		Tripleflash †	2.5	
16	N		PSU Flicker <i>(Non-Rotating Models)</i>	0.7	<b>9Sec</b> <i>(Rotating Only)</i>
	A5		CW Rotation 1 <i>(Rotating Models)</i> †	1.3	
17	O		PSU Random <i>(Non-Rotating Models)</i>	0.6	
	A6		CW Rotation 2 <i>(Rotating Models)</i>	2.7	
18	F		Quadflash †‡	1	<b>12Sec</b>
19	G		Quadflash w/Post-Pop †‡	1	
20	H		Singleflash †‡	1	
21	I		Double flash †‡	1	
22	J		Variable AKA Delta-Omega	0.3	
23	C	Post pop 1.4CPS †	1.4		
24	E	Random 0.4CPS	0.4		
NA		N/A	Steady	NA	<b>18Sec</b>

† - **Approved patterns for SAE J845**

‡ - **California Title 13**

To set the light to one of the **Pattern Defaults**, hold green wire to GROUND for the appropriate time as stated in pattern list.

To increment through pattern list, momentarily connect Green wire to GROUND and release.

# Synchronization of Multiple Lights

(Permanent Mount Versions Only)

You can synchronize up to six total **S-LINK SYSTEM** approved lights.

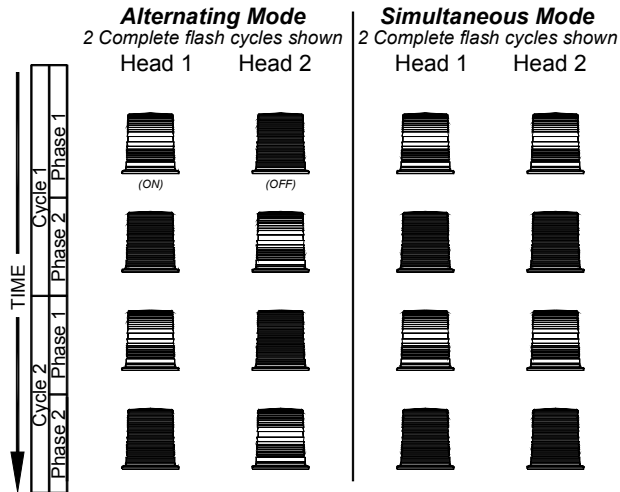


If you will be synchronizing two or more units together, leave the white wires disconnected until programming for each has been completed. Connect the white wires from the units together **ONLY AFTER PROGRAMMING** them all for the same **Pattern Type** (Phase MAY differ).

If you will be synchronizing your light with any of our **S-LINK SYSTEM** products, please note the following:

- All units that are to be synchronized **MUST** have the same **Pattern Type**.
  - To check pattern compatibility with other "S-Link" products, review the **Pattern List** for each product, noting the **Pattern Type**. Certain patterns are compatible with some lights, but not compatible with others.
  - Although the programmable **Flash Patterns** can vary between our different lights, Pattern Types F, G, H, I, & J are fully compatible patterns with ALL of our other "S-Link" products.
1. Determine whether you want the two lights to flash alternately or simultaneously (*Review the diagram below for examples of Alternating and Simultaneous flashing*).
  2. Review the **Pattern List** for each synchronized product, noting the **Pattern Type** for each product.
  3. Select a **Pattern Type** that is compatible with all of the lights/flashers you will be synchronizing.
  4. Program each light according to the instructions enclosed with each. **For lights that have patterns with a Phase:** All lights programmed for the same Phase will flash ON and OFF at the same time (flash simultaneously). Lights that are programmed for different phases will flash opposite one another (alternate).
  5. **After** you have the correct patterns programmed for ALL of the lights you wish to synchronize, **turn all of the lights off** and connect the white wires from all units together.

6. Power all of the lights up **at the exact same time** to verify they are flashing in the desired pattern. **Power MUST be applied to all synchronized lights simultaneously. Excessive switch bounce or attempting to power the units up independently will result in erratic operation.**



## **Photocell (255TCL-TX only)**

### **255HTCL-TX-\* Models Only**

The 255HTCL-TX versions have a built in photocell that can detect the ambient light and automatically switch the light between high power (day mode) and low power (night mode).

**Please note: By default the 255HTCL-TX-\* light is set to auto-switch between Day and Night mode. To change this, proceed below.**

#### **To Deactivate Day/Night Auto-Switching:**

1. Activate the light.
2. Apply +12V to the White wire.
3. Hold Green wire to Ground for 3 sec. (Unit will respond by flashing once).
4. Disconnect White wire from +12V.

The light will now be configured with Day/Night auto-switching deactivated.

#### **To Activate Day/Night Auto-Switching:**

1. Activate the light.
2. Apply +12V to the White wire.
3. Hold Green wire to Ground for 6 sec. (Unit will respond by flashing two times).
4. Disconnect White wire from +12V.

The light will now be configured with Day/Night auto-switching activated.

**Please note: Although the light is set to auto-switch, Grounding the Purple wire will still force the light into night mode (low power)**

## **Low Voltage Detection (Rotating Models Only)**

All of the beacons that have the rotational patterns also have low input voltage detection. With this feature the beacon senses the input voltage and flashes a fast pattern (approximately 16 cycles per second) to indicate to the user that the battery voltage is low (less than 10V). Once the input voltage returns to normal (greater than 12V) the unit will return to the normal flashing.

## Service

These lights use state-of-the-art Light Emitting Diode (LED) technology. These warning lights are comprised of ultra-high intensity LEDs that are controlled by a solid state flasher unit to efficiently produce light output with lifetimes up to 100,000 hours. Under normal circumstances, you will not need to replace any LEDs in this light. If any of the LED's in your light do fail, please contact your distributor for arrangements to have them repaired. The flasher unit and heads CANNOT be serviced in the field and any attempt to do so will void the warranty.

### LED FIVE YEAR LIMITED WARRANTY

The manufacturer warrants this LED light against factory defects in material and workmanship for five years after the date of purchase. The owner will be responsible for returning to the Service Center any defective item(s) with the transportation costs prepaid. The manufacturer will, without charge, repair or replace *at its option*, products, or part(s), which its inspection determines to be defective. Repaired or replacement item(s) will be returned to the purchaser with transportation costs prepaid from the service point. A copy of the purchaser's receipt must be returned with the defective item(s) in order to qualify for the warranty coverage. Exclusions from this warranty include, but are not limited to, domes, and/or the finish. This warranty shall not apply to any light, which has been altered, such that in the manufacturer's judgment, the performance or reliability has been affected, or if any damage has resulted from abnormal use or service.

There are no warranties expressed or implied (including any warranty of merchantability or fitness), which extend this warranty period. **The loss of use of the product, loss of time, inconvenience, commercial loss or consequential damages, including costs of any labor, are not covered.** The manufacturer reserves the right to change the design of the product without assuming any obligation to modify any product previously manufactured.

This warranty gives you specific legal rights. You might also have additional rights that may vary from state to state. Some states do not allow limitations on how long an implied warranty lasts. Some states do not allow the exclusion or limitation of incidental or consequential damages. Therefore, the above limitation(s) or exclusion(s) may not apply to you.

If you have any questions concerning this or any other product, please contact our **Customer Service Department** at (585) 226-9787.

If a product must be returned for any reason, please contact our Customer Service Department to obtain a Returned Materials Authorization number (RMA #) before you ship the product back. Please write the RMA # clearly on the package near the mailing label.



PROUDLY MADE IN THE USA  
An ISO 9001:2008 Certified Company



**Star Headlight & Lantern Co., Inc.**

455 Rochester Street

Avon, NY 14414

Phone: 585-226-9787

FAX: 888-478-2797

**STAR**  
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