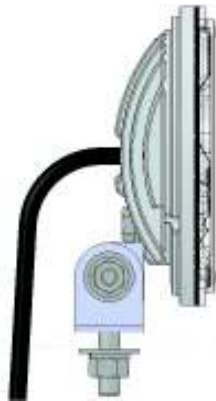

INSTALLATION AND INSTRUCTION MANUAL

LED PAR36 HEADS



LDH-361--***
(Steady Burn)



LDH-362--***
(Steady Burn)
or
LDHF362-T-*
(Flashing)



LDH-363--***
(Steady Burn)
or
LDHF363-T-*
(Flashing)

Star Headlight & Lantern Co., Inc.

455 Rochester Street Avon, NY 14414

Phone: 585-226-9787 FAX: 888-478-2797



www.starheadlight.com

PLIT469 REV. A 1/18/12

IMPORTANT: *Please read all of the following instructions before installing your new light. Failure to follow these safety precautions may result in damage to your light or vehicle and may result in serious injury or death to you and your passengers.*

These lights use state-of-the-art Light Emitting Diode (LED) technology. This warning light is comprised of ultra-high intensity LEDs that are operated by a micro-controller to efficiently produce light output with lifetimes up to 100,000 hours.

NOTICE

Due to continuous product improvements, we must reserve the right to change any specifications and information, contained in this manual at any time without notice. Star Headlight & Lantern Co., Inc. makes no warranty of any kind with regard to this manual, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Star Headlight & Lantern Co., Inc. shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this manual.

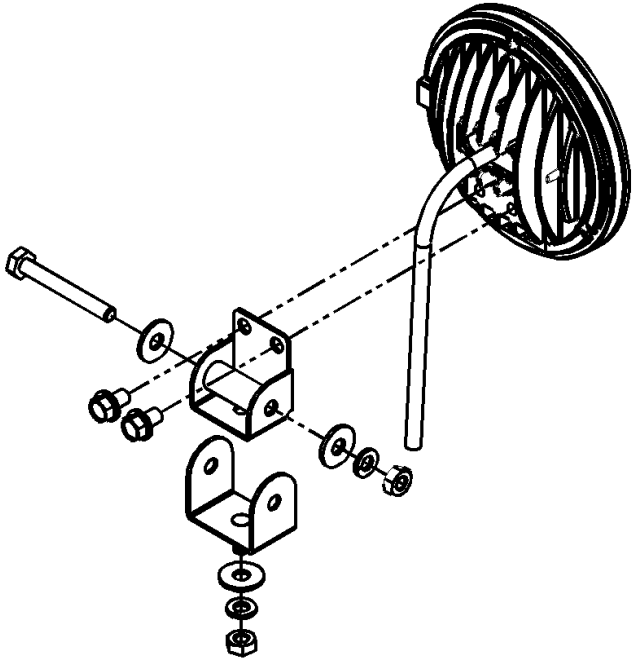
Important: This product is used to warn traffic. Improper use may result in vehicular collision, personal injury and/or death. Star Headlight & Lantern Co., Inc., and its subsidiaries shall not be held responsible for damages directly or indirectly caused by improper use of this product.



This light utilizes high-intensity LED Lamps. DO NOT stare directly into the light while it is on, as momentary blindness and/or permanent eye damage may occur.

Please Note: These instructions are provided as a general guideline only. **Some vehicles may require special mounting, wiring, and/or weather-sealing. This is the sole responsibility of the installer.** Star Headlight & Lantern Co., Inc. assumes no responsibility for the integrity of the installation for this or any of its products.

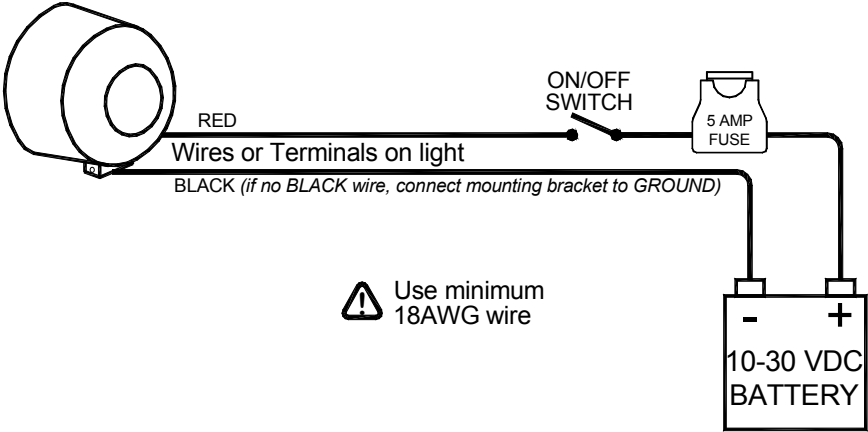
362 Series Assembly



Wiring Instructions for LDH Series

For the steady burn or worklight versions, connect the wires, terminals, or lugs as follows:

- Black:** (Ground) – Connect the black wire to the negative side of your battery.
- Red:** (Power) – Connect the red wire or terminal to your switch supplying +10-30VDC.



Wiring Instructions for LDHF Series



When wiring your lights, it is recommended that you take the following precautions to reduce any Electromagnetic Interference (EMI).

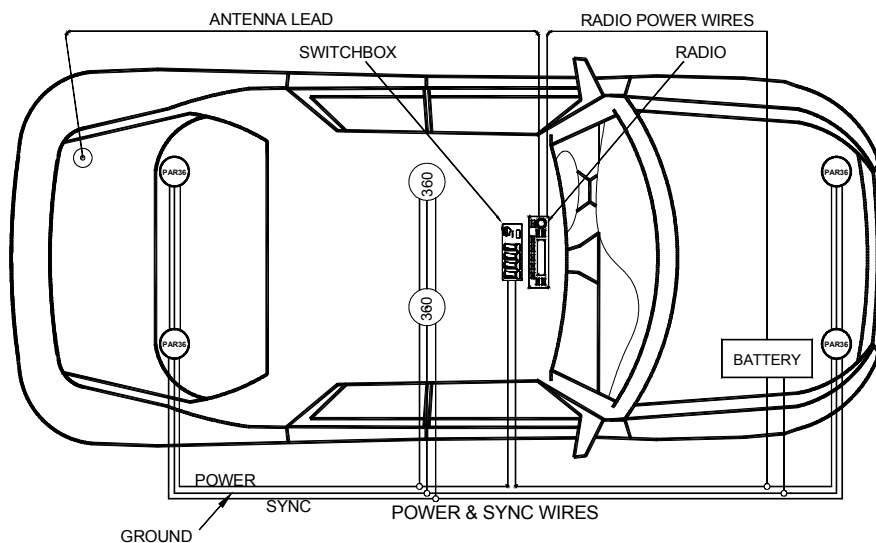
- The LED modules and the radio (or other sources of EMI) should be kept as far away from each other as possible.
- Separate the radio wires and the LED wires:
 - ▲ *The radio antenna wire should make a right angle from the back of the radio and run down one side of the vehicle.*
 - ▲ *The LED wires should make a right angle out of the back of the switchbox and exit in the opposite direction of the antenna wire and/or radio power wires.*
- Any excess wires should be cut short.
- The Ground wire, Power wire, and Synchronization wire should be bound tightly together as they run from light to light, through your switchbox, and finally to the battery.
- Do not ground each unit independently to the chassis. Run the ground for each unit as shown below in a “bus” like structure, to the negative terminal on the battery.



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.

Note: The total wire length between the two farthest units should be no more than 40 feet.

BEFORE installing your lights and running your wires, please review the diagram below showing an example of how the wires should be run.



(LDHF Series Wiring cont'd)

There are four wires in the harness:

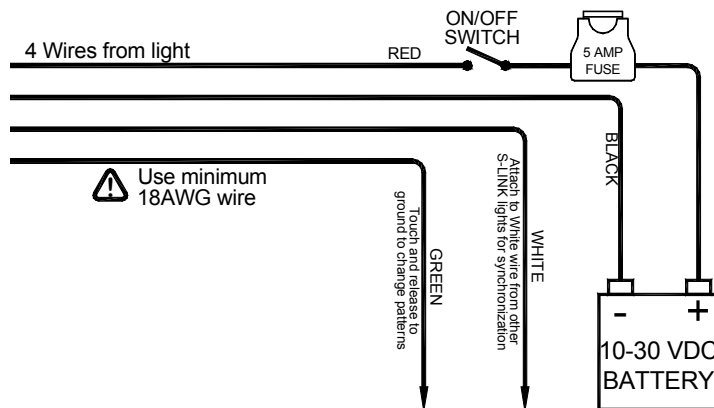
Black: (Ground) – Connect the black wire to the negative side of your battery.

Red: (Power) – Connect the red wire to your switch supplying +10-30VDC.

Green: (Programming) – Use the green wire to program the flash pattern (explained on the following page).

White: (Synchro) – The white wire can be used to synchronize a total of six **S-LINK SYSTEM** lights together.

If you are only installing one unit, cut the White wire short and tape the end. If you will be synchronizing two of these units together, or synchronizing the light with other **S-LINK SYSTEM** lights, leave the white wire disconnected for now. Connect the white wires from both units together **ONLY AFTER PROGRAMMING** them for the same pattern (see Pattern Programming).



Pattern Programming (LDHF Series only)

1. If you are NOT synchronizing your light with any other **S-LINK SYSTEM** compatible lights, tape the white wire off so that it does not come into contact with anything.
2. The **green wire** is used to program the desired flash pattern. After the Black and Red wires are connected, you may set the flash pattern.

Each light has 16 different Pattern Types you can cycle through in two different Phases, and an additional "Steady Burn Mode" (see next page).

These lights are shipped programmed for Pattern 3 (Pattern Type M - Tripleflash). If you wish to select a different Pattern Type, proceed below:

- Touch and hold the green wire to ground until the light blinks once (approximately 3 seconds), then release it. This will reset the light to Pattern 1 (Pattern Type K/Phase 1).
- Touch the green wire to ground for approximately 1 second and release it to cycle through Patterns 1-32 shown on the following page. After Pattern 32, the light will cycle back to Pattern 1.

PLEASE NOTE: The pattern cycle **does NOT** include the Steady Burn mode. To access the Steady Burn pattern, review the **Programming Shortcuts** on the following page.

(LDHF Series Pattern Programming cont'd)

Flash Pattern #	Pattern Type	Phase	S-LINK SYSTEM Pattern Description	CPS	Pattern Defaults
1	K	1	Flicker †	1.0	3Sec
2	L		Fast Doubleflash	3.3	
3	M		Tripleflash	2.5	
4	N		PSU Flicker	0.7	
5	O		PSU Random	0.6	
6	F		Quadflash †	1.0	6Sec
7	G		Quadflash w/Post-Pop †	1.0	
8	H		Singleflash †	1.0	
9	I		Doubleflash †	1.0	
10	J		Variable AKA Delta-Omega	0.3	
11	C		Fast Quadflash w/Post-Pop	1.4	
12	E		Random	0.4	
13	A9		Pre-Pop Quintflash	1.4	
14	A10		Quadflash Inverted Long On	0.31	
15	A11		Quadflash Inverted	1.4	
16	N/A	Non-Sync	Random 57K Type A	N/A	
17	K	2	Flicker †	1.0	9Sec
18	L		Fast Doubleflash	3.3	
19	M		Tripleflash	2.5	
20	N		PSU Flicker	0.7	
21	O		PSU Random	0.6	
22	F		Quadflash †	1.0	12Sec
23	G		Quadflash w/Post-Pop †	1.0	
24	H		Singleflash †	1.0	
25	I		Doubleflash †	1.0	
26	J		Variable AKA Delta-Omega	0.3	
27	C		Fast Quadflash w/Post-Pop	1.4	
28	E		Random	0.4	
29	A9		Pre-Pop Quintflash	1.4	
30	A10		Quadflash Inverted Long On	0.31	
31	A11		Quadflash Inverted	1.4	
32	N/A	Non-Sync	Random 57K Type A	N/A	
NA	N/A	N/A	Steady	NA	18Sec

† - Approved patterns for SAE J845 and California Title 13

To set the light to one of the **Pattern Defaults**, hold green wire to GND for the appropriate time as shown above. Patterns 1, 6, 17, 22 and Steady are defaults.

Note: Pattern Type letters are common to all **S-LINK SYSTEM** products. Any lights programmed for the same Pattern Type letter can be synchronized together.

Programming Shortcuts

Touch the Green

Wire to Ground For:

3 seconds
6 seconds
9 seconds
12 seconds
15 seconds
18 seconds

Unit Blinks

1 time
2 times
3 times
4 times
5 times
6 times


Jumps To

Pattern 1
Pattern 6
Pattern 17
Pattern 22
Steady Burn Pattern
Steady Burn Pattern (same as 15 sec.)

- Once you have found the desired pattern, tape off or place a wirenut over the end of the green wire to prevent it from coming into contact with ground again. The light will "remember" the pattern.

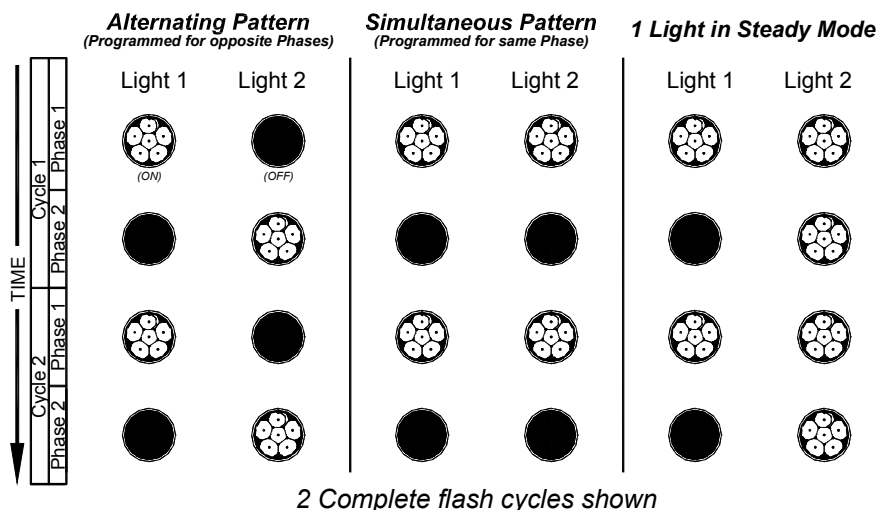
If you ARE NOT synchronizing two or more units, you are finished programming.

Synchronization of Multiple LDHF 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).

You can synchronize up to six lights with  compatibility.

1. If you are synchronizing two or more units, you must decide how you would like the lights to flash in conjunction with one another. Review the diagrams below that show various flashing configurations.
2. After programming the pattern on the first light, program the second light based upon the desired output (shown below). Keep in mind the following:
 - **ALL SYNCHRONIZED LIGHTS MUST HAVE THE SAME PATTERN TYPE !!!**
 - Lights that are programmed for the STEADY BURN pattern will NOT be synchronized with any other lights.
 - Patterns 1-15 are in Phase 1 and Patterns 17-31 are in Phase 2.
 - Lights set for the SAME phase flash together (simultaneous), lights with DIFFERENT phases flash opposite one another (alternate).
 - Use the Pattern Shortcuts listed on the previous page to simplify programming.
3. Once you have found the desired pattern on the second light, tape off or place a wirenut over the end of the green wire to prevent it from coming into contact with ground again.
4. Repeat Steps 1-3 above for each additional head you wish to synchronize.
5. **After** you have the correct patterns programmed in 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.



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



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