

DLTRMC and DLTUMC Series

Multi-Color Thinline Stop/Tail/Turn/Warning LED Light



These lights are FMVSS compliant only when installed in compliance with FMVSS/CMVSS 108 specifications. All lights must be installed unobstructed, with the face perpendicular or parallel to the centerline of the vehicle unless it has been photometrically certified for an alternate angle.

Please refer to <https://www.nhtsa.gov> for complete details on vehicular lighting requirements.

Please Note: This light is only compatible with an **LED** turn signal flasher. Use with a non-LED blinker module can result in an incorrect pattern or no flash at all.



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.



Star Headlight & Lantern Co., Inc.

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STAR
WARNING
SYSTEMS

STAR
SIGNAL
VEHICLE PRODUCTS

BRADFORD
Vehicle Solutions

www.starheadlight.com

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.

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 Material Authorization number (RMA #) before you ship the product back. Please write the RMA # clearly on the package near the mailing label.

Installation Notes

Please Note: These instructions are provided as a general guideline only. Specific mounting, wiring, and/or weather-sealing may be necessary and are 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.

- Installer must have firm knowledge of vehicle electrical systems & emergency equipment. **It is the sole responsibility of the installer to ensure the warning light is secure. The manufacturer assumes no responsibility for the secure mounting of this light.**
- If you need to drill any holes when installing this light, please take care to check that BOTH SIDES of your drilling surface are clear from obstructions.
- Choose a mounting location away from any air bag deployment areas.
- Controls should be placed within convenient reach of the driver.
- Use only soap and water when cleaning product. Use of other chemicals may discolor lens and/or housing, diminishing light output. Replace discolored lights immediately!

Mounting Instructions

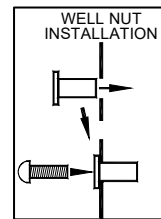
DLTTHR-1 and 1C (4" Round) and DLTTHU-1 (Oval)

1. Review the mounting diagram under the **Quick-Install Section**.



- Use the #6 x 3/4" self tapping screws for applications where the mounting surface is a minimum of .060" (1/16") thick and is composed of a material that will provide sufficient "bite" for the self tapping screw.
- Use the #6-32 x 1/2" machine screws and well nuts if your surface is less than .060" thick and/or composed of a material insufficient for securing a self tapping screws.

2. Use the gasket as a template to mark the mounting and wire holes and drill them with the appropriate sized bit.
 - #36 (0.1065") Drill Bit for Self -Tapping Screw Holes
 - Drill 5/16" Holes if Using Rubber Well Nuts
 - Drill a 3/8" hole for the wires.



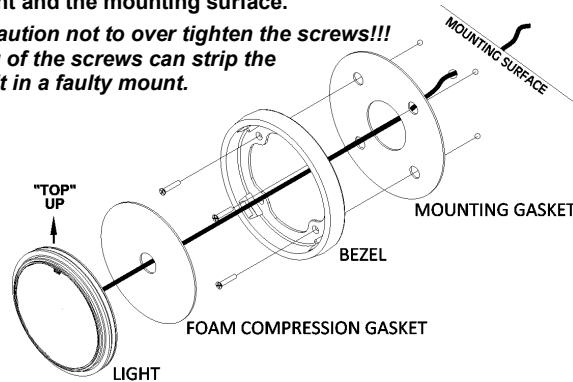
3. Route the wires as shown below.
4. Seal the wire hole with silicone to prevent your wires from becoming damaged.
5. *If you are using the well nuts*, push the enclosed rubber well nuts through the holes until the bottom side of the wider lip rests on the surface of the vehicle.

6. Review the mounting diagram and use the appropriate screws to mount the bezel.



- **Check the gasket to ensure it is resting flat and that there are no gaps between the light and the mounting surface.**
- **Take extreme caution not to over tighten the screws!!! Over tightening of the screws can strip the holes and result in a faulty mount.**

7. Once the bezel is firmly attached to the mounting surface, seat the foam compression gasket inside of it. Carefully feed any loose wire into the wire hole and press the LED head into the bezel taking care to ensure the text "TOP" is located at the top.



DLTTRMC-4 and DLXTUMC-4



These models are designed to fit into the standard 4 1/2" round or oval mounting holes that are common to most commercial vehicles.

1. Insert the rubber grommet into the mounting hole.
2. Snap the light into the grommet taking care to ensure the text "TOP" is located at the top (round only).

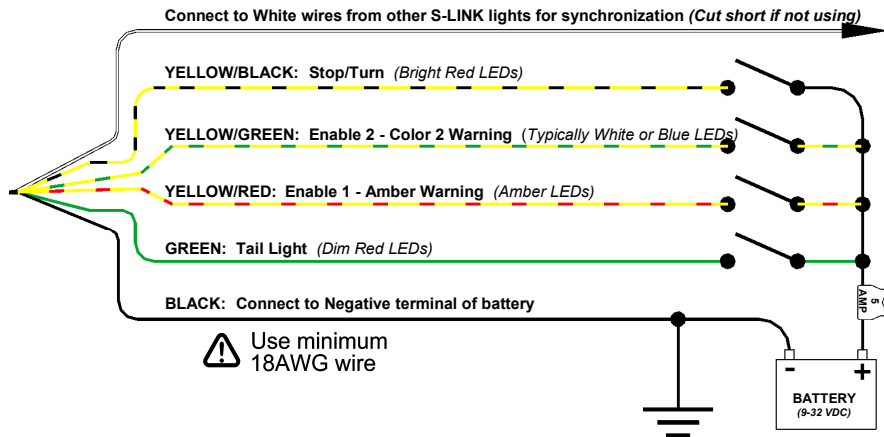
Electrical Connections



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

- Keep LED modules and any radios as far away from each other as possible.
- Separate the radio wires and the LED wires.
- Any excess wires should be cut short.
- All wires should be bound tightly together as they run from light to light, through your switchbox, and to the battery.
- **Do not ground each unit independently to the chassis.** Run the ground for each unit in a "bus" like structure, to the negative terminal on the battery.

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



Please note the following:

- **STOP/TURN > WARNING PATTERNS > TAIL**
 - ▲ The Stop/Turn function has the highest priority and will override all other functions.
 - ▲ The Taillights have the lowest priority and will be overridden by all other functions.
 - When both Warning Colors (Enables 1 & 2) are activated at the same time, the following rules will apply:
 - For Patterns 1–10: Progressive Mode** - Colors activated by both Enable 1 and 2 will flash in the pattern of Enable 2.
 - Patterns 11–18 : Non-Progressive Mode** - Enable 2 will override Enable 1 function.
- (Optional: See the Additional Function Programming section to change Patterns 1-10 to non-progressive/override the mode).*
- The STOP/TURN function has a 0.6 second delay before either warning function will resume, allowing for the turn signal to have an off time as required by the FMVSS specifications.

Programming

For ease of programming, we recommend using the smartphone app (see page 7 for details). If you do not have access to a smartphone or similar device, or prefer to program the light manually, proceed below.

This section applies to the default functionality of this light. There are also several other advanced features that can be programmed. Most applications will not require reprogramming of the light, but you can find these options described in detail under the **Advanced Programming** section.

WARNING PATTERN SELECTION

The Amber LEDs (YELLOW w/RED wire) and the Color 2 LEDs (YELLOW w/GREEN wire) can each be programmed for their own flash pattern.

1. Connect the **BLACK** wire to **GROUND**
2. Connect the **YELLOW w/RED** wire or **YELLOW w/ GREEN** wire to **POWER**.
3. Touch and release the **WHITE** wire to **POWER** to scroll through the patterns.
4. Disconnect **POWER** after selecting a pattern

Flash Pattern #	SA LINK Pattern Type	Pattern Description
1	K	Flicker † <i>(Shortcut 1)</i>
2	L	Fast Doubleflash
3	M	Tripleflash †
4	N	Pseudo Flicker
5	O	Pseudo Random
6	F	Quadflash †
7	G	Quadflash w/Post-Pop †
8	H	Singleflash †
9	I	Doubleflash †
10	J	Variable AKA Delta-Omega
11	A21	Double Shuffle <i>(Shortcut 2)</i>
12	A22	Quad/Single
13	A23	Single Cycle
14	A24	Quad Post Pop Shuffle ‡
15	A25	Quint Shuffle
16	A26	Combo 1 5 3 ‡
17	A27	Delta Omega Nu
18	A28	Cliff
19		Double Tri-color (Phase 1)
20		Double Tri-color (Phase 2)

† - SAE approved patterns when properly configured

‡ - SAE approved patterns when programmed for single color only

Shortcut 1 - Hold WHITE wire to POWER for 3 seconds (light flashes once)

Shortcut 2 - Hold WHITE wire to POWER for 6 seconds (light flashes twice)

SYNCHRONIZATION

You can synchronize up to ten lights with compatibility.

DO NOT CONNECT WHITE WIRES UNTIL PROGRAMMING HAS BEEN COMPLETED FOR ALL LIGHTS!!

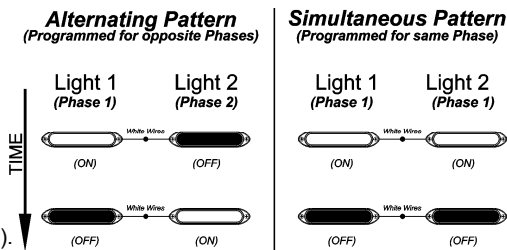
1. Power up the first unit and select a pattern.

2. Program the second light for the same **Pattern**.

3. If applicable, program the **Phase** of the second light (see next page).

Lights set for the **SAME** phase flash together (simultaneous).

Lights set for **DIFFERENT** phases flash opposite one another (alternate).



4. After completing the programming for all lights, connect the white wires together.

5. Test lights by applying power to all of them at the same time.

(Programming CONT'D)

ADDITIONAL FUNCTION PROGRAMMING (applies to Enable 1 and 2 only)

There are several additional programming options for each Enable wire that can be accessed through the “shortcuts” that are listed in the chart below. To set any of them, proceed as follows:

1. Connect the **BLACK** wire to **GROUND**.
2. Connect the ONE Enable wire you wish to program to **POWER**.
3. Hold the **WHITE** wire to **POWER** for the time indicated.
4. Repeat for the other Enable wire, if desired.

Phase 1 / Phase 2 (Patterns 1-10 only)

By default, each Enable is set for Phase 1. If you are synchronizing this light with another and want the two lights to alternate, use the shortcut shown in the chart to the right to set the second light for Phase 2.

(See Synchronization section for details)

Steady Burn

Changes the function of that Enable wire to Steady Burn.

Cruise

Changes the function of that Enable wire to Cruise (Low intensity version of Steady Burn).

Auto-Dim

If this feature is enabled the color/function tied to that particular Enable wire will automatically dim in low light environments (ex. at night).

Progressive Option (YELLOW w/GREEN Enable wire and Patterns 1-10 only)

Toggling this option changes the functionality of the Warning Enable Wires so that activating both will only activate Enable 2 and will NOT add the color(s) of Enable 1 to the pattern cycle.

ADDITIONAL FUNCTION PROGRAMMING SHORTCUTS		
Hold White to Power (sec)	# Flashes	Effect On That Enable Wire
0-2	N/A	Advances to next pattern
3	1	Advances to Pattern 1
6	2	Advances to Pattern 11
9	3	Set Enable to Phase 1
12	4	Set Enable to Phase 2
15	5	Toggles Cruise On/Off
18	6	Toggles Steady Burn On/Off
21	7	Toggle Auto-Dim On/Off
24	8	Toggles Progressive Option

RESET TO DEFAULT SETTINGS

To reset all settings to the factory defaults, proceed as follows:

- Connect the BLACK wire to Ground
- Connect the GREEN wire and any ONE of the Enable wires to Power
- Hold the WHITE wire to POWER for 9 seconds and release it when the light flashes 3 times.
- Disconnect the GREEN wire from Power 1 second later



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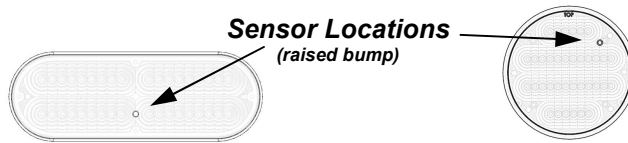
WIRELESS SMARTPHONE PROGRAMMING (OPTIONAL)

Programming this light can also be done using most smartphones or tablets that have a flash. See the app store for a list of approved devices.

1. Download the **Star Signal Tricolor DLITMC Flasher Programmer** from the Play Store.
2. Select the desired options in the app.
3. Power up the light using two or more Enable lines and attach the WHITE wire to Power.
4. Hold the device's flash as close as possible to the sensor in the light (location shown on the following page).
5. Press send and the device's flash will flash for approximately 6 seconds.
6. If the programming was successful, the light will blink for about 1.5 seconds.

If it does not blink, there is an error:

- Ensure the flash of the phone is as close as possible to the location shown.
- Try blocking bright sunlight from the light.
- Try closing open apps on your device and or resetting it.



Advanced Programming



*This section is **OPTIONAL**. Most applications will not require any **Advanced Programming**. You should only need to reference this section if you require **specialized programming**.*

CHANGING COLOR ASSIGNMENTS FOR EACH ENABLE

(applies only to YELLOW w/GREEN and YELLOW w/RED wires, Patterns 1-10)

When shipped, Enable 1 and Enable 2 each has one color assigned to it. The table to the right shows the default factory settings.

To reprogram the color assigned to each Enable, or to assign multiple colors to one Enable, proceed as follows:

FACTORY DEFAULT ENABLE WIRES

YELLOW w/GREEN - Enable 2 ▶

YELLOW w/RED - Enable 1 ▶

Enable Wire Color Assignment			
Setting #	RED	COLOR 2	AMBER
1	ON	OFF	OFF
2	OFF	ON	OFF
3	ON	ON	OFF
4	OFF	OFF	ON
5	ON	OFF	ON
6	OFF	ON	ON
7	ON	ON	ON

- Connect the BLACK wire to GROUND.
- Connect the GREEN wire and **only** the Enable wire that you wish to reprogram to POWER.
- Briefly touch and release the WHITE wire to POWER to scroll through the color combinations listed in the table below.
- Disconnect the GREEN wire from Power after 1 second.

(Advanced Programming CONTD)

CHANGING COLOR ORDER FOR EACH ENABLE

(applies only to YELLOW w/GREEN and YELLOW w/RED wires, Patterns 11-18 / 3-Phase Patterns)

When programmed for Patterns 11-18, each Enable wire has a default “Color Order” assigned to it (the order the colors are rotated through). By default, each Enable Wire has only one color assigned to it.

Using this programming option you can change the order and/or replace individual colors from the 3-Phase pattern. This can be useful if you want to utilize only one or two colors for a particular Enable, or if you have two synchronized lights and you would like a different color flashing on different lights.

To reprogram the Color Order assigned to each Enable, proceed as follows:

- Connect the BLACK wire to Ground.
- Connect the GREEN wire and the Enable wire that you wish to reprogram to POWER.
- Hold the WHITE wire to POWER for 3 seconds until the light flashes once then release it. The Color Order will scroll to the next combination listed in the table to the right.
- Repeat the process with the WHITE wire until you advance to the combination you desire.
- Disconnect the GREEN wire from Power after 1 second.

Color Order For 3-Phase Patterns				DEFAULT ENABLE WIRE
Setting #	Phase 1	Phase 2	Phase 3	COLOR ORDERS FOR 3-PHASE PATTERNS
1	C1	C1	C1	◀ YELLOW w/RED (Enable 1)
2	C2	C1	C1	
3	C3	C1	C1	
4	C1	C2	C1	
5	C2	C2	C1	
6	C3	C2	C1	
7	C1	C3	C1	
8	C2	C3	C1	
9	C3	C3	C1	
10	C1	C1	C2	
11	C2	C1	C2	
12	C3	C1	C2	
13	C1	C2	C2	
14	C2	C2	C2	◀ YELLOW w/GREEN (Enable 2)
15	C3	C2	C2	
16	C1	C3	C2	
17	C2	C3	C2	
18	C3	C3	C2	
19	C1	C1	C3	
20	C2	C1	C3	
21	C3	C1	C3	
22	C1	C2	C3	
23	C2	C2	C3	
24	C3	C2	C3	
25	C1	C3	C3	
26	C2	C3	C3	
27	C3	C3	C3	

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.