



Installation and Operation Instructions

3700 Series Surface Mount LED Heads

ECCO 3700 series LED heads are compact and versatile high intensity directional LED warning lights suitable for mounting anywhere on a vehicle. Colorless until illuminated, these discrete LED heads feature epoxy encapsulated electronics offering a high degree of environmental and vibration protection.

Additional benefits of ECCO LED lights include low current draw, a long and maintenance free service life with reliable solid-state operation and extremely low electromagnetic emissions. LED heads can be controlled by conventional switches or relays and can also be synchronized to flash with other compatible ECCO synchronizing LED products.



WARNING!

Failure to install or use this product according to manufacturers recommendations may result in property damage, serious bodily/personal injury, and/or death to you and those you are seeking to protect!



Do not install and/or operate this safety product unless you have read and understand the safety information contained in this manual.

1. Proper installation combined with operator training in the use, care, and maintenance of emergency warning devices are essential to ensure the safety of you and those you are seeking to protect.
2. Exercise caution when working with live electrical connections.
3. This product must be properly grounded. Inadequate grounding and/or shorting of electrical connections can cause high current arcing, which can cause personal injury and/or severe vehicle damage, including fire.
4. Proper placement and installation are vital to the performance of this warning device. Install this product so that output performance of the system is maximized and the controls are placed within convenient reach of the operator so that s/he can operate the system without losing eye contact with the roadway.
5. It is the responsibility of the vehicle operator to ensure during use that all features of this product work correctly. In use, the vehicle operator should ensure the projection of the warning signal is not blocked by vehicle components (i.e., open trunks or compartment doors), people, vehicles, or other obstructions.
6. The use of this or any other warning device does not ensure all drivers can or will observe or react to a 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.
7. This equipment is intended for use by authorized personnel only. The user is responsible for understanding and obeying all laws regarding warning signal devices. Therefore, the user should check all applicable city, state, and federal laws and regulations. The manufacturer assumes no liability for any loss resulting from the use of this warning device.

Contents:

- 1 x 3700 Series Surface Mount LED Head
- 1 x Installation and Operating Instructions
- 1 x Mounting gasket
- 2 x Front mounting screws (# 8 x 1" Taptite)
- 4 x Rear mounting screws (# 8 x 1/2" Taptite)

Specifications:

- Size: 5.1"[129mm] length, 1.51"[38.5mm] width, 1.34"[34mm] height
- Input Voltage: Model 3710/3715: 12 VDC
Model 3720/3725: 24 VDC
- Peak Current Draw (@12.8V): Model 3710/3715: 750 mA Peak
Model 3720/3725: 370 mA Peak
- Operating temperature range: -30 to +50°C

Installation & Mounting:

Before installation, examine the LED heads for transit damage. Do not use damaged or broken parts.

Important! This unit is a safety device, and it must be connected to its own separate, fused power point to assure its continued operation should any other electrical accessory fail.

Mounting:

The 3700 LED heads can be mounted to the surface by either screwing through the two front-mounting bosses or screwing into two or more of the four rear-mounting bosses. The LED heads can be stacked vertically or horizontally to provide higher intensity where required.

1. The 3700 series LED heads should be mounted to a flat surface or one with the least amount of curvature. The mounting location should allow the maximum visibility of the warning device to other road users, while allowing for sufficient wire access.

Caution: When drilling into any vehicle surface, make sure the area is free from any electrical wires, fuel lines, vehicle upholstery, etc. that could be damaged

2. Using the supplied mounting gasket as a template, mark the drill hole locations on the mounting surface for either front or rear mounting. Details of the hole locations are also given in Figure 1.

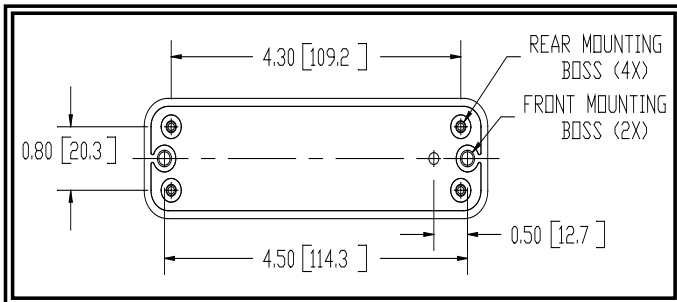
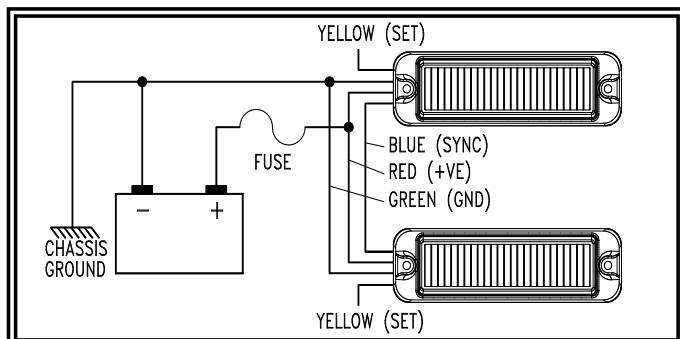


Figure 1 - Rear of LED head. Dimensions are in inches [mm].

3. If mounting using the front bosses, drill mounting holes using a #26[3.7mm] drill bit. When mounting with the rear bosses drill the mounting holes using a #8[5mm] drill bit.
4. Drill a 25/64"[10mm] hole for the wires protruding from the rear of the unit at the location in Figure 1. Remove any sharp edges from this hole.
5. Mount the LED Head along with the mounting gasket, routing the wires through the 10mm hole and use additional grommets for any sharp edges. Secure the LED head to the surface using the #8 self-tapping screws as supplied.

The 3700 LED heads are self-flashing units. A 3A fuse must be used for each set of up to and including 4 LED heads



Wire functions are as follows:

- Green Wire:** Ground. Connect to either the battery negative terminal or a suitable chassis point.
- Red Wire:** Power. Switch to +12V to operate the flasher. Must be powered through the fuse, located as close to the battery terminal as possible.
- Yellow Wire:** Flash pattern set. Apply +12V momentarily (< 1 sec) to cycle through the available flash patterns (see table below). Holding power on this wire for > 1 sec will select the previous pattern.
- Blue Wire:** Sync wire. Connect to other blue sync wires of other 3700 LED heads to allow synchronizing of flash patterns (see notes). Connecting the sync wires together does not alter the flash patterns in any of the LED heads – it only controls the relative timing of the flash patterns (see notes on page 3). This wire may also be connected to other compatible ECCO synchronizing products. If unused, leave unconnected and insulated.

Flash Patterns

The 3700 series LED heads can be configured to flash the following patterns (in the order below) by momentarily applying power to the yellow wire as described in the wiring section. The LED head must be powered through the green and red wires to allow pattern selection.

R65 Flash Patterns

The R65 double-flash patterns feature a higher flash rate designed to comply with European regulation ECE R65. These flash patterns are also for use in conjunction with European style lightbars that comply with ECE R65. Angles (in degrees) have been used on these flash patterns to denote the flash pattern phases in relation to the rotation of a rotating warning light when synchronizing with a European style lightbar

| Flash pattern | | | | |
|---------------|--|-------|--|---|
| No. | Style | Phase | Flash rate | SAE J595 |
| 1. | Steady burn | N/A | N/A | N/A |
| 2. | Double-flash | A | 1.25Hz, 75cpm, 800mSec period | C1: CLEAR, RED C2: OTHER COLORS |
| 3. | Double-flash | B | | |
| 4. | Quad-flash | A | | |
| 5. | Quad-flash | B | | |
| 6. | Quint-flash (hold) | A | | |
| 7. | Quint-flash (hold) | B | | |
| 8. | R65 double-flash | 0° | | |
| 9. | R65 double-flash | 90° | | |
| 10. | R65 double-flash | 180° | | |
| 11. | R65 double-flash | 270° | | |
| 12. | Double Flash-Interspersed (3715X only) | | 1.25Hz, 75cpm | N/A |
| 13. | Quad Flash-Interspersed (3715X only) | | | |
| 14. | Quint Flash-Interspersed (3715X only) | | | |
| 15. | R65 Double Flash-Interspersed (3715X only) | | | |

Wiring Instructions:

Notes on Synchronizing and Phase:

Phases A and B for each style of flash pattern in the table denote the relative timing between LED heads connected in a synchronizing installation. To operate simultaneously, each LED must be set to the same phase (A + A or B + B); to operate alternately, LED heads must be set to have the opposite phase (A + B or B + A).

To simplify the set-up of a synchronized installation, the following process is recommended:

1. Determine the desired style of flash pattern for each LED head and set each unit individually (without the BLUE wires connected together) to avoid confusion. It is also strongly recommended that the same style of flash pattern be used on all heads to produce the most effective warning pattern.
2. Connect the BLUE (SYNC) wires together and check that the LED heads are flashing in a synchronized manner as expected. If a pattern on one module appears to be wrong, the YELLOW (PATTERN SET) wire can be used to cycle forward or backward on that individual LED head until the correct pattern is selected. Note: This will only change the pattern in the one LED head and will not affect the other units connected to the BLUE (SYNC) wire.

Synchronizing Example

As an example, an installation is required where there are two LED heads on the front driver side of the vehicle and two LED heads on the front passenger side of the vehicle. The LED heads are to flash alternate sides of the vehicle with a synchronized quad-flash style of flash pattern. First, configure the two LED heads for the driver side of the vehicle to pattern 4 (quad-flash style, phase A). Now configure the other two LED heads for the passenger side with pattern 5 (quad-flash style, phase B). Connect the blue wires from the four LED heads together. When power is switched to the LED heads, they should flash as expected (passenger side LED heads will alternate with driver side LED heads). If necessary, corrections can be made to the flash patterns on each LED head individually with the wiring complete.

Manufacturer Limited Warranty and Limitation of Liability:

Manufacturer warrants that on the date of purchase this product will conform to Manufacturer's specifications for this product (which are available from the Manufacturer upon request), and Manufacturer further warrants that this product is free from defects in materials and workmanship. This Limited Warranty extends for five (5) years from the date of purchase. Other warranties may apply, call Manufacturer for details. Manufacturer will, at its discretion, repair or replace any product found by the Manufacturer to be defective and subject to this Limited Warranty.

DAMAGE TO PARTS OR PRODUCTS RESULTING FROM TAMPERING, ACCIDENT, ABUSE, MISUSE, NEGLIGENCE, UNAPPROVED MODIFICATIONS, FIRE OR OTHER HAZARD; IMPROPER INSTALLATION OR OPERATION; OR NOT BEING MAINTAINED IN ACCORDANCE WITH THE MAINTENANCE PROCEDURES SET FORTH IN MANUFACTURER'S INSTALLATION AND OPERATING INSTRUCTIONS VOIDS THIS LIMITED WARRANTY.

ORAL STATEMENTS OR REPRESENTATIONS ABOUT THE PRODUCT WHICH MAY HAVE BEEN MADE BY SALESPEOPLE, DEALERS, AGENTS OR OTHER MANUFACTURER'S REPRESENTATIVES DO NOT CONSTITUTE WARRANTIES. THIS LIMITED WARRANTY MAY NOT BE AMENDED, MODIFIED, OR ENLARGED EXCEPT BY A WRITTEN AGREEMENT SIGNED BY AN AUTHORIZED OFFICIAL OF MANUFACTURER WHICH EXPRESSLY REFERS TO THIS LIMITED WARRANTY.

Exclusion of Other Warranties: MANUFACTURER MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED. THE IMPLIED WARRANTIES FOR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY EXCLUDED AND SHALL NOT APPLY TO THE PRODUCT. BUYER'S SOLE AND EXCLUSIVE REMEDY IN CONTRACT, TORT, OR UNDER ANY OTHER THEORY AGAINST MANUFACTURER REGARDING THE PRODUCT AND ITS USE SHALL BE THE REPLACEMENT OR REPAIR OF THE PRODUCT AS DESCRIBED ABOVE.

Limitation of Liability: IN THE EVENT OF LIABILITY FOR DAMAGES ARISING OUT OF THIS LIMITED WARRANTY OR ANY OTHER CLAIM RELATED TO THE MANUFACTURER'S PRODUCTS, MANUFACTURER'S LIABILITY FOR DAMAGES SHALL BE LIMITED TO THE AMOUNT PAID FOR THE PRODUCT AT THE TIME OF THE ORIGINAL PURCHASE. IN NO EVENT SHALL MANUFACTURER BE LIABLE FOR LOST PROFITS, THE COST OF SUBSTITUTE EQUIPMENT OR LABOR, PROPERTY DAMAGE, OR OTHER SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES BASED UPON ANY CLAIM FOR BREACH OF CONTRACT, IMPROPER INSTALLATION, NEGLIGENCE, OR OTHER CLAIM, EVEN IF MANUFACTURER OR A MANUFACTURER'S REPRESENTATIVE HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. MANUFACTURER SHALL HAVE NO FURTHER OBLIGATION OR LIABILITY WITH RESPECT TO THE PRODUCT OR ITS SALE, OPERATION AND USE, AND MANUFACTURER NEITHER ASSUMES NOR AUTHORIZES THE ASSUMPTION OF ANY OTHER OBLIGATION OR LIABILITY IN CONNECTION WITH SUCH PRODUCT.

This Limited Warranty defines specific legal rights. You may have other legal rights, which vary from state to state. Some states do not allow the exclusion or limitation of incidental or consequential damages.



833 West Diamond St
Boise, Idaho 83705
Customer Service
USA 800-635-5900
UK +44 (0)113 237 5340
AUS +61 (0)3 63322444
www.eccogroup.com