



ECCO[®]

Installation and Operation Instructions ED5051 Series Directional LEDs

IMPORTANT! Read all instructions before installing and using. Installer: This manual must be delivered to the end user.



WARNING!

Failure to install or use this product according to manufacturer's 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.

Specifications:

| | | | |
|----------------------|--------------------------|--------------------|-----------------------------|
| Size: | 5.4" W x 0.6" H X 1.0" D | Flash Rate: | See flash pattern charts. |
| Weight: | 0.14 lbs | Temperature Range: | -30° (-22°) to 50°C (122°F) |
| Input Voltage: | 12-24 VDC | | |
| Current at 12.8 VDC: | 0.8 Amps | | |
| Power at 12.8 VDC: | 9.1 Watts | | |

Installation & Mounting:

Carefully remove the unit from its packaging. Examine the unit for transit damage. If damage is found, return the product to your local dealer for warranty replacement. Do not use damaged or broken parts. Determine a mounting location with the least amount of curvature as possible. Also, ensure there is a clear line of sight for oncoming traffic.

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

Surface Mounting:

Mark and drill two 3.4 mm holes 3.543" or 90 mm apart. Drill a hole for the wire exit as needed. Secure in place with the gasket and supplied hardware as shown in FIGURE 1.

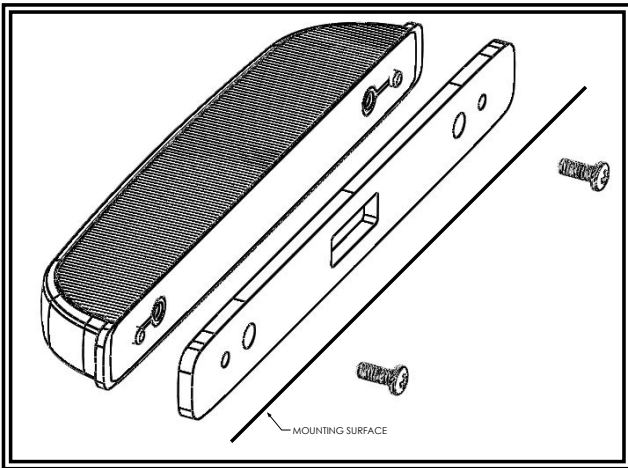


FIGURE 1

L Bracket Mounting:

Mark and drill two 2.9 mm holes 3.937" or 100 mm apart. Drill a hole for the wire exit as needed. Secure in place with the L brackets, gaskets and supplied hardware as shown in FIGURE 2.

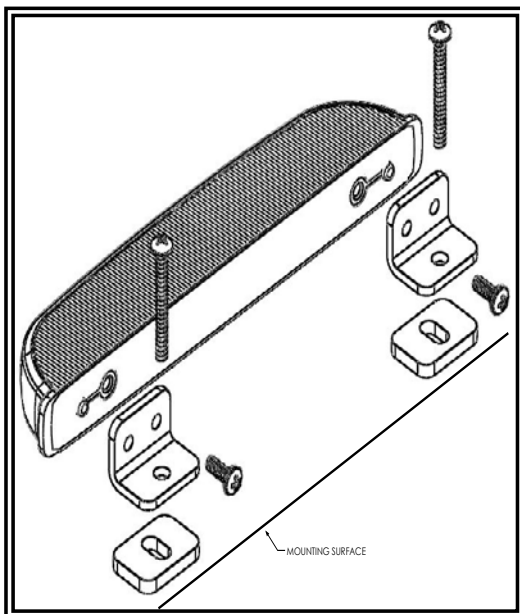


FIGURE 2

Offset Mounting:

Mark and drill two 2.9 mm holes 5.827" or 148 mm apart. Drill a hole for the wire exit as needed. Secure in place with the offset brackets, gaskets and supplied hardware as shown in FIGURE 3.

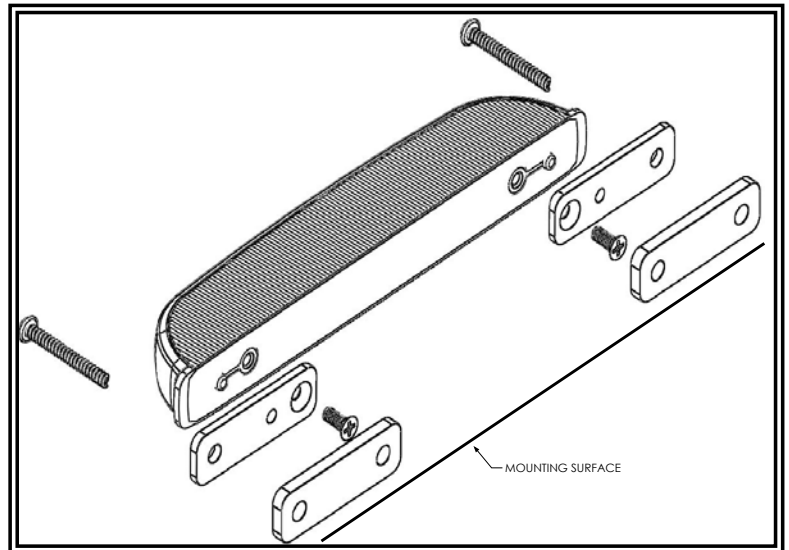


FIGURE 3

Wiring Instructions:

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.

The ED5051 Series of directional LED light heads are self flashing. All wiring should be stranded and a minimum of 22 AWG. The positive line must have an in-line 3 Amp slow-blow fuse for each directional as shown in FIGURE 4. Isolate the yellow and blue wires when not in use.

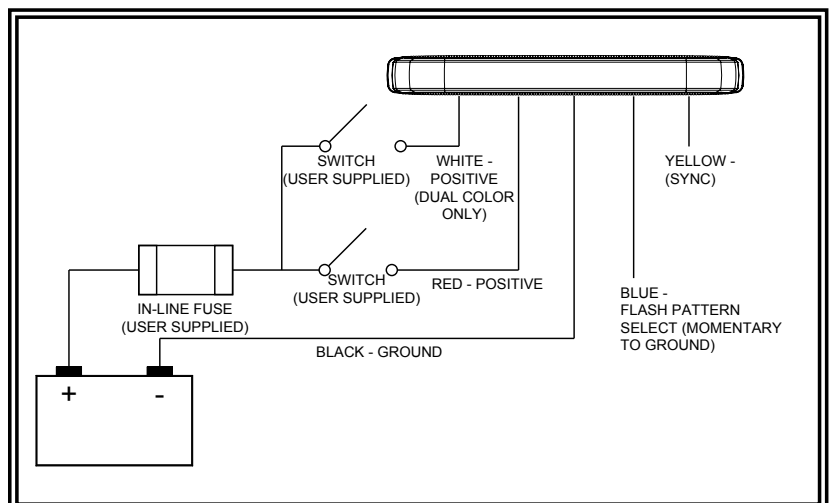


FIGURE 4

Note: On dual color units only, apply (+) power to the blue wire for dimming.

Flash Pattern Selection:

The ED5051 series directionals can be configured to flash the following patterns by momentarily applying ground to the blue wire. Holding the blue wire to the ground wire for 2-3 seconds will toggle the unit to the previous pattern. The unit must be powered through the power and ground wires to allow pattern selection. The blue wire may be wired to momentarily switch. *Applies to Amber, Red, Blue and White.
**Applies to Amber and Blue.

Synchronization:

The ED5051 series directional is capable of syncing with other compatible ECCO products by following the steps below:

1. Set the desired flash pattern on each unit individually. It is also strongly recommended that the same style of flash pattern be used on all units to produce the most effective warning pattern. NOTE: Phases A and B for each style of flash pattern in the table denote the relative timing between units connected in a synchronizing installation. To operate simultaneously, each unit must be set to the same phase (A + A or B + B); to operate alternately, units must be set to have the opposite phase (A + B or B + A).
2. Connect the yellow sync wires together and check that the units are flashing in a synchronized manner as expected. If a pattern on one unit appears incorrect, the blue pattern select wire can be used to cycle forward or backward on that individual unit until the correct pattern is selected. NOTE: This will only change the pattern in the one unit and will not affect the other units connected to the yellow sync wire.

| ED5051X SINGLE COLOR FLASH PATTERN CHART | | | | | |
|--|---------------------------|-------|-----|-----------|---------------|
| Pattern | Description | Phase | FPM | SAE J595* | CA Title 13** |
| 1 | Single Flash | A | 75 | Class 1 | Class B |
| 2 | Single Flash | B | 75 | Class 1 | Class B |
| 3 | Single Flash | A | 120 | Class 1 | |
| 4 | Single Flash | B | 120 | Class 1 | |
| 5 | Double Flash | A | 75 | Class 1 | Class B |
| 6 | Double Flash | B | 75 | Class 1 | Class B |
| 7 | Double Flash | A | 120 | Class 1 | |
| 8 | Double Flash | B | 120 | Class 1 | |
| 9-Default | Quad Flash | A | 75 | Class 1 | Class B |
| 10 | Quad Flash | B | 75 | Class 1 | Class B |
| 11 | Quad Flash | A | 150 | Class 1 | |
| 12 | Quad Flash | B | 150 | Class 1 | |
| 13 | Triple Flash | A | 75 | Class 1 | Class B |
| 14 | Triple Flash | B | 75 | Class 1 | Class B |
| 15 | Quint Flash | A | 150 | Class 1 | |
| 16 | Quint Flash | B | 150 | Class 1 | |
| 17 | Steady Burn | | | | |
| 18 | Single Flash - Modulation | | | | |

ED5051XX DUAL COLOR FLASH PATTERN CHART

| Pattern | | | Description | Phase | FPM | SAE J595* | CA T13** |
|-------------|-------------|-------------------|--|-------|-----|-----------|----------|
| Red Wire | White Wire | Red & White Wires | | | | | |
| 1 - Default | | 1 | Single Flash - Color 1 | A | 75 | Class 1 | Class B |
| 2 | | 2 | Single Flash - Color 1 | B | 75 | Class 1 | Class B |
| | | 3 | Single Flash - Alternating Color 1 & 2 | A | 150 | | |
| | | 4 | Single Flash - Alternating Color 1 & 2 | B | 150 | Class 1 | Class B |
| | 1 - Default | 5 | Single Flash - Color 2 | A | 75 | Class 1 | Class B |
| | 2 | 6 | Single Flash - Color 2 | B | 75 | | |
| 3 | 3 | 7 | Single Flash - Alternating Color 1 & 2 | A | 75 | | |
| 4 | 4 | 8 | Single Flash - Alternating Color 1 & 2 | B | 75 | | |
| 5 | 5 | 9 | Single Flash - Alternating Color 1 & 2 | A | 150 | | |
| 6 | | 10 | Single Flash - Color 1 | A | 375 | | |
| 7 | | 11 | Single Flash - Color 1 | B | 375 | | |
| | | 12 | Single Flash - Alternating Color 1 & 2 | A | 750 | | |
| | | 13 | Single Flash - Alternating Color 1 & 2 | B | 750 | | |
| | 6 | 14 | Single Flash - Color 2 | A | 375 | | |
| | 7 | 15 | Single Flash - Color 2 | B | 375 | | |
| 8 | 8 | 16 | Single Flash - Alternating Color 1 & 2 | A | 375 | | |
| 9 | 9 | 17 | Single Flash - Alternating Color 1 & 2 | B | 375 | | |
| 10 | 10 | 18 | Single Flash - Alternating Color 1 & 2 | A | 750 | | |
| 11 | | 19 | Double Flash - Color 1 | A | 75 | Class 1 | Class B |
| 12 | | 20 | Double Flash - Color 1 | B | 75 | Class 1 | Class B |
| | | 21 | Double Flash - Alternating Color 1 & 2 | A | 150 | | |
| | | 22 | Double Flash - Alternating Color 1 & 2 | B | 150 | | |
| | 11 | 23 | Double Flash - Color 2 | A | 75 | Class 1 | Class B |
| | 12 | 24 | Double Flash - Color 2 | B | 75 | Class 1 | Class B |
| 13 | 13 | 25 | Double Flash - Alternating Color 1 & 2 | A | 75 | | |
| 14 | 14 | 26 | Double Flash - Alternating Color 1 & 2 | B | 75 | | |
| 15 | 15 | 27 | Double Flash - Alternating Color 1 & 2 | A | 150 | | |
| 16 | | 28 | Double Flash - Color 1 | A | 120 | Class 1 | |
| 17 | | 29 | Double Flash - Color 1 | B | 120 | Class 1 | |
| | | 30 | Double Flash - Alternating Color 1 & 2 | A | 240 | | |
| | | 31 | Double Flash - Alternating Color 1 & 2 | B | 240 | | |
| | 16 | 32 | Double Flash - Color 2 | A | 120 | Class 1 | |
| | 17 | 33 | Double Flash - Color 2 | B | 120 | Class 1 | |
| 18 | 18 | 34 | Double Flash - Alternating Color 1 & 2 | A | 120 | | |
| 19 | 19 | 35 | Double Flash - Alternating Color 1 & 2 | B | 120 | | |
| 20 | 20 | 36 | Double Flash - Alternating Color 1 & 2 | A | 240 | | |

ED5051XX DUAL COLOR FLASH PATTERN CHART (Continued)

| Pattern | | | Description | Phase | FPM | SAE J595* | CA T13** |
|----------|------------|-------------------|---|-------|-----|-----------|----------|
| Red Wire | White Wire | Red & White Wires | | | | | |
| 21 | | 37 | Triple Flash - Color 1 | A | 75 | Class 1 | Class B |
| 22 | | 38 | Triple Flash - Color 1 | B | 75 | Class 1 | Class B |
| | | 39 | Triple Flash - Alternating Color 1 & 2 | A | 150 | | |
| | | 40 | Triple Flash - Alternating Color 1 & 2 | B | 150 | | |
| | 21 | 41 | Triple Flash - Color 2 | A | 75 | Class 1 | Class B |
| | 22 | 42 | Triple Flash - Color 2 | B | 75 | Class 1 | Class B |
| 23 | 23 | 43 | Triple Flash - Alternating Color 1 & 2 | A | 75 | | |
| 24 | 24 | 44 | Triple Flash - Alternating Color 1 & 2 | B | 75 | | |
| 25 | 25 | 45 | Triple Flash - Alternating Color 1 & 2 | A | 150 | | |
| 26 | | 46 | Quad Flash - Color 1 | A | 75 | Class 1 | Class B |
| 27 | | 47 | Quad Flash - Color 1 | B | 75 | Class 1 | Class B |
| | | 48 | Quad Flash - Alternating Color 1 & 2 | A | 150 | | |
| | | 49 | Quad Flash - Alternating Color 1 & 2 | B | 150 | | |
| | 26 | 50 | Quad Flash - Color 2 | A | 75 | Class 1 | Class B |
| | 27 | 51 | Quad Flash - Color 2 | B | 75 | Class 1 | Class B |
| 28 | 28 | 52 - Default | Quad Flash - Alternating Color 1 & 2 | A | 75 | | |
| 29 | 29 | 53 | Quad Flash - Alternating Color 1 & 2 | B | 75 | | |
| 30 | 30 | 54 | Quad Flash - Alternating Color 1 & 2 | A | 150 | | |
| 31 | | 55 | Quad Flash - Color 1 | A | 120 | Class 1 | |
| 32 | | 56 | Quad Flash - Color 1 | B | 120 | Class 1 | |
| | | 57 | Quad Flash - Alternating Color 1 & 2 | A | 150 | | |
| | | 58 | Quad Flash - Alternating Color 1 & 2 | B | 150 | | |
| | 31 | 59 | Quad Flash - Color 2 | A | 120 | Class 1 | |
| | 32 | 60 | Quad Flash - Color 2 | B | 120 | Class 1 | |
| 33 | 33 | 61 | Quad Flash - Alternating Color 1 & 2 | A | 120 | | |
| 34 | 34 | 62 | Quad Flash - Alternating Color 1 & 2 | B | 120 | | |
| 35 | 35 | 63 | Quad Flash - Alternating Color 1 & 2 | A | 240 | | |
| | | 64 | Single Flash - Modulation - Alternating Color 1 & 2 | | | | |
| | | 65 | Double & Quad Flash - Alternating Color 1 & 2 | | | | |
| | | 66 | Single & Triple Flash - Alternating Color 1 & 2 | | | | |
| | | 67 | Double, Triple & Quad Flash - Alternating Color 1 & 2 | | | | |
| 36 | | 68 | Steady Burn - Color 1 | | | | |
| | 36 | 69 | Steady Burn - Color 2 | | | | |

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