

**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 manufacturers recommendations may result in property damage, serious injury, and/or death to 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 maximised and the controls are placed within convenient reach of the operator so that they can operate the system without losing eye contact with the roadway.
5. Do not install this product or route any wires in the deployment area of an air bag. Equipment mounted or located in an air bag deployment area may reduce the effectiveness of the air bag or become a projectile that could cause serious personal injury or death. Refer to the vehicle owner's manual for the air bag deployment area. It is the responsibility of the user/operator to determine a suitable mounting location ensuring the safety of all passengers inside the vehicle particularly avoiding areas of potential head impact.
6. 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.
7. 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 speed, or walking on or around traffic lanes.
8. This equipment is intended for use by authorised 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: Permanent Mount W: 148.5mm Dia. x H: 142mm

Weight: Permanent Mount 1.050kg.

Voltage: 12-24 VDC Systems

Current Draw @ Max 2.5A at 12VDC  
Max 1.3A at 24VDC

Flash Rate: See Flash Pattern Chart

Temp. Range: -22°F to 122°F  
-30°C to 50°C

Certifications: ECE R10, IP67, SAE J845 Class 1 & T13.

**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

**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

Carefully remove the beacon and place it on a flat surface. Examine the unit for transit damage, broken lenses, etc. If damage is found, contact the transit company or distributor. Do not use damaged or broken parts.

Position the beacon in the desired mounting location. Using the base flange as a template, mark the mounting hole locations. Drill three 13/64" mounting holes. Drill a hole for power wire routing as desired. The use of a grommet is recommended for wires passing through compartment walls. Secure the beacon in place using the included #10 hardware.

## Wiring

### Wiring control

Black = Ground  
 Green = Colour 1 (Green)  
 White = Colour 2 (Blue)  
 Red = Colour 3 (Red)  
 Yellow = Sync  
 Blue = Flash pattern change to Negative (-) & STEADY BURN to Positive (+)

### Wiring priority

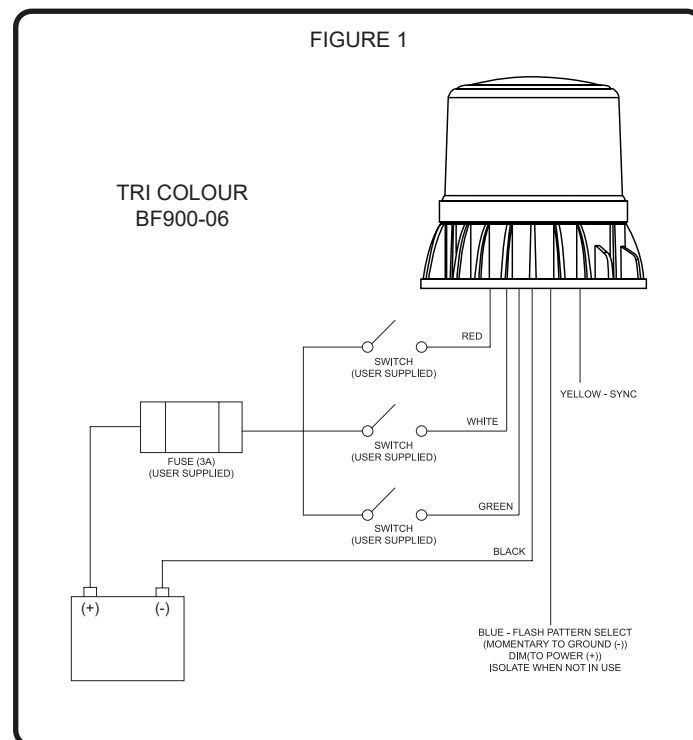
Green is priority 1  
 White is priority 2  
 Red is priority 3

### Flash pattern change (Blue wire)

- Blue to GND < 1 Sec: Flash Pattern Forward
- Blue to GND: 1-3 Sec: Flash Pattern Backward
- Blue to GND: 3-5 Sec: Default flash pattern (25th flash pattern)
- Blue to GND > 5Sec: Last pattern (Steady Burn).

## Wiring Instructions

Wiring for single and Tri colour beacons are as shown in FIGURE 1. All wiring should be a minimum of 20 AWG. The positive line must have a 3 amp fuse, as shown. A switch may be used to control the on/off function. Route the ground wire directly back to negative battery terminal. Pack dielectric grease, such as Dow Corning 4, around each electric connection exposed to moisture or the ambient environment.



## Flash Pattern Selection:

Flash patterns are selected by touching the blue wire to the black ground (-) wire for less than a second. Holding the blue and black wires for longer than a second toggles to the preceding flash pattern.

## Synchronization:

Syncing capabilities are available with all compatible ECCO products via the yellow wire with the flash patterns indicated in the charts below:

1. Determine the desired style of flash pattern for each unit and set each unit individually (without the yellow wires connected together) to avoid confusion. 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.

3. If the yellow wire is unused, leave unconnected and insulated.

Pattern N	Mode	Description	SYNC	FPM
1	1	Single Flash Phase 1	Yes	75
	2	Single Flash Phase 2	Yes	
	3	Single Flash Alternating Split	Yes	
2	4	Single Flash Phase 1	Yes	120
	5	Single Flash Phase 2	Yes	
	6	Single Flash Alternating Split	Yes	
3	7	Double Flash Phase 1	Yes	75
	8	Double Flash Phase 2	Yes	
	9	Double Flash Alternating Split	Yes	
4	10	Double Flash Phase 1	Yes	120
	11	Double Flash Phase 2	Yes	
	12	Double Flash Alternating Split	Yes	
5	13	Quad Flash Phase 1	Yes	75
	14	Quad Flash Phase 2	Yes	
	15	Quad Flash Alternating Split	Yes	
6	16	Quad Flash Phase 1	Yes	150
	17	Quad Flash Phase 2	Yes	
	18	Quad Flash Alternating Split	Yes	
7	19	Triple Flash Phase 1	Yes	75
	20	Triple Flash Phase 2	Yes	
	21	Triple Flash Alternating Split	Yes	
8	22	Quint Flash Phase 1	Yes	150
	23	Quint Flash Phase 2	Yes	
	24	Quint Flash Alternating Split	Yes	
9	25	Double Diagonal Phase 1	Yes	150
	26	Double Diagonal Phase 2	Yes	
	27	Double Diagonal Alternating Split	Yes	
10	28	Quad Diagonal Phase 1	Yes	150
	29	Quad Diagonal Phase 2	Yes	
	30	Quad Diagonal Alternating Split	Yes	
11	31	Fast Rotate	Yes	120
12	32	Rotate/Quad	Yes	150 / 75
13	33	Wave Rotate	Yes	70
14	34	Random	No	
15	35	Steady Burn	No	

# Warranty

## 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). This Limited Warranty extends for sixty (60) months from the date of purchase.

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.

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