⚠ **WARNING!**

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

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. 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 rate of speed, or walking on or around traffic lanes.
8. 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
EB7185:   6.5" L x 6.5" W x 3.3" H

Weight
EB7185:   1.5 lbs.

Input Voltage: 12-24 VDC

Current Draw at 12.8 VDC:
EB7185:   8.6A

Installation & Mounting:

Before installation, examine the LED beacon 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.

> **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

Permanent Mounting:

1. The beacon 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.
2. Using the supplied mounting gasket as a template, mark the four (4) drill hole locations on the mounting surface per FIGURE 1.
3. Drill mounting holes using a #29 (0.136" [3.45mm] dia.) drill bit.
4. Drill a 5/16" [8mm] hole for the wires as needed. Remove any sharp edges from this hole.
5. Mount the LED beacon along with the mounting gasket using additional grommets or cable protection as necessary to protect the wiring from any sharp edges. Secure the LED beacon to the surface using the included M4x16mm self-tapping screws.
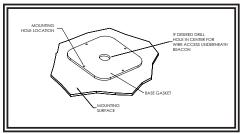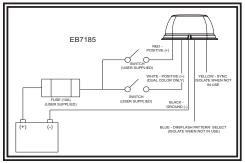
Temporary Mounting, Vacuum-Magnet Mount:

The Vacuum-Magnet Mount feature includes a suction cup on the bottom of the beacon, with a magnet inside of the suction cup, for a secure, temporary mount. The beacon should be placed in the center of the roof where the least amount of curvature occurs. Before installing, make sure the mounting surface is clean and there is no debris on the bottom of the beacon or on the roof of the vehicle, which could reduce the holding power of the suction cup and magnet. Place and remove the beacon without sliding to avoid scratching the paint on the vehicle. After placement, the beacon should adhere firmly to the surface. If the unit slides or moves easily, a proper installation has not been obtained. To release the vacuum, lift the tab to release the airlock (see FIGURE 2). To protect the Vacuum-Magnet Mount assembly, return beacon to the box when not in use. Do not attempt to attach the beacon to an ice-covered surface.

> ⚠️ **WARNING!**
> Maximum recommended vehicle speed for safe operation using the Vacuum Mount model is 65 mph (104 km/h), when fitted to the center of a vehicle roof of steel construction. Higher speeds could cause the mount to fail, resulting in the beacon flying off of the vehicle, which could cause damage to other vehicles, and injury or death to the passengers. The vacuum-magnet mount is not intended as a permanent mounting for the beacon. The vacuum-magnet mount unit must be mounted on a flat smooth magnetic surface (i.e. no fiber glass, ribbed style roofs, etc.). Ensure that the magnet is kept clean.
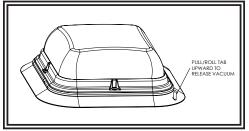

MOUNTING HOLE LOCATION
IF DESIRED DRILL HOLE IN CENTER FOR WIRE ACCESS UNDERNEATH BEACON
BASE GASKET
MOUNTING SURFACE

FIGURE 1

PULL/ROLL TAB UPWARD TO RELEASE VACUUM

FIGURE 2

EB7185
RED - POSITIVE (+)
SWITCH (USER SUPPLIED)
WHITE - POSITIVE (+) (DUAL COLOR ONLY)
YELLOW - SYNC ISOLATE WHEN NOT IN USE
FUSE (10A) (USER SUPPLIED)
SWITCH (USER SUPPLIED)
BLACK - GROUND (-)
(+)   (-)
BLUE - DIM/FLASH PATTERN SELECT (ISOLATE WHEN NOT IN USE)

FIGURE 3

Blue Wire Function Table	
Push Time	**Function**
0-1 Sec.	Next Pattern
1-3 Sec	Previous Pattern
3-5 Sec.	Set to last pattern (steady burn)

Flash Pattern Selection:

Flash patterns are selected by touching the blue wire to the black ground (-) wire for less than a second, and longer than 3 seconds goes to "last" pattern. Holding the blue and black wires for longer than a second and less than 3 seconds, 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 by the yellow sync wire.
3. If the yellow wire is unused, leave disconnected and isolated.

SINGLE COLOR EB7185 T13 SERIES FLASH PATTERN CHART					
No.	Description	Sync	FPM	SAE J845*	CA Title 13
1-Default	CALTRANS CUSTOM (Single-Single-Quad-Quad)	No		Class 1	Class B
2	Single Flash	Yes	75	Class 1	Class B
3	Double Flash	Yes	75	Class 1	Class B
4	Quad Flash	Yes	75	Class 1	Class B
5	OFF				

* Applies to A, B, C & R

DUAL COLOR EB7185 SERIES FLASH PATTERN CHART

Red Wire.	White Wire	Red & White Wires	Description	Phase	Sync	FPM	SAE J845*	CA Title 13**
1-Default		1 - Default	Single Flash - Color 1	A	Yes	75	Class I	Class B
2		2	Single Flash - Color 1	B	Yes	75	Class I	Class B
		3	Single Flash - Split - Color 1 & 2	A	Yes	75	N/A	N/A
		4	Single Flash - Split - Color 1 & 2	B	Yes	75	N/A	N/A
	1 - Default	5	Single Flash - Color 2	A	Yes	75	Class I	Class B
3	2	6	Single Flash - Color 2	B	Yes	75	Class I	Class B
	3	7	Single Flash - Color 1 Then 2	A	Yes	75	N/A	N/A
4	4	8	Single Flash - Color 1 Then 2	B	Yes	75	N/A	N/A
5	5	9	Single Flash - Split - Alternating Color 1 Then 2		Yes	75	N/A	N/A
6		10	Single Flash - Color 1	A	Yes	120	Class I	N/A
7		11	Single Flash - Color 1	B	Yes	120	Class I	N/A
		12	Single Flash - Split - Color 1 & 2	A	Yes	120	N/A	N/A
	6	13	Single Flash - Split - Color 1 & 2	B	Yes	120	N/A	N/A
	7	14	Single Flash - Color 2	A	Yes	120	Class I	N/A
8	8	15	Single Flash - Color 2	B	Yes	120	Class I	N/A
9	9	16	Single Flash - Color 1 Then 2	A	Yes	120	N/A	N/A
10	10	17	Single Flash - Color 1 Then 2	B	Yes	120	N/A	N/A
		18	Single Flash - Split - Alternating Color 1 Then 2		Yes	120	N/A	N/A
11		19	Double Flash - Color 1	A	Yes	75	Class I	Class B
12		20	Double Flash - Color 1	B	Yes	75	Class I	Class B
		21	Double Flash - Split - Color 1 & 2	A	Yes	75	N/A	N/A
		22	Double Flash - Split - Color 1 & 2	B	Yes	75	N/A	N/A
	11	23	Double Flash - Color 2	A	Yes	75	Class I	Class B
	12	24	Double Flash - Color 2	B	Yes	75	Class I	Class B
13	13	25	Double Flash - Color 1 & 2	A	Yes	75	N/A	N/A
14	14	26	Double Flash - Color 1 & 2	B	Yes	75	N/A	N/A
15	15	27	Double Flash - Split - Alternating - Color 1 & 2		Yes	75	N/A	N/A
16		28	Double Flash - Color 1	A	Yes	120	Class I	N/A
17		29	Double Flash - Color 1	B	Yes	120	Class I	N/A
		30	Double Flash - Split - Color 1 & 2	A	Yes	120	N/A	N/A
		31	Double Flash - Split - Color 1 & 2	B	Yes	120	N/A	N/A
	16	32	Double Flash - Color 2	A	Yes	120	Class I	N/A
	17	33	Double Flash - Color 2	B	Yes	120	Class I	N/A

* Applies to A, B, C & R
** Applies to A, B & R

DUAL COLOR EB7185 SERIES FLASH PATTERN CHART(CONTINUED)

Red Wire.	White Wire	Red & White Wires	Description	Phase	Sync	FPM	SAE J845*	CA Title 13**
18	18	34	Double Flash - Color 1 Then 2	A	Yes	120	N/A	N/A
19	19	35	Double Flash - Color 1 Then 2	B	Yes	120	N/A	N/A
20	20	36	Double Flash - Split - Alternating - Color 1 Then 2		Yes	120	N/A	N/A
21		37	Triple Flash - Color 1	A	Yes	75	Class I	Class B
22		38	Triple Flash - Color 1	B	Yes	75	Class I	Class B
		39	Triple Flash - Color 1 Then 2	A	Yes	75	N/A	N/A
		40	Triple Flash - Color 1 Then 2	B	Yes	75	N/A	N/A
	21	41	Triple Flash - Color 2	A	Yes	75	Class I	Class B
	22	42	Triple Flash - Color 2	B	Yes	75	Class I	Class B
23	23	43	Triple Flash - Color 1 Then 2	A	Yes	75	N/A	N/A
		44	Triple Flash - Color 1 Then 2	B	Yes	75	N/A	N/A
24	24	45	Triple Flash - Split - Alternating - Color 1 Then 2		Yes	75	N/A	N/A
25		46	Quad Flash - Color 1	A	Yes	75	Class I	Class B
26		47	Quad Flash - Color 1	B	Yes	75	Class I	Class B
		48	Quad Flash - Split - Color 1 & 2	A	Yes	75	N/A	N/A
		49	Quad Flash - Split - Color 1 & 2	B	Yes	75	N/A	N/A
	25	50	Quad Flash - Color 2	A	Yes	75	Class I	Class B
	26	51	Quad Flash - Color 2	B	Yes	75	Class I	Class B
27	27	52	Quad Flash - Color 1 Then 2	A	Yes	75	N/A	N/A
28	28	53	Quad Flash - Color 1 Then 2	B	Yes	75	N/A	N/A
29	29	54	Quad Flash - Split - Alternating - Color 1 Then 2		Yes	75	N/A	N/A
30		55	Quad Flash - Color 1	A	Yes	120	Class I	N/A
31		56	Quad Flash - Color 1	B	Yes	120	Class I	N/A
		57	Quad Flash - Split - Color 1 & 2	A	Yes	120	N/A	N/A
		58	Quad Flash - Split - Color 1 & 2	B	Yes	120	N/A	N/A
	30	59	Quad Flash - Color 2	A	Yes	120	Class I	N/A
	31	60	Quad Flash - Color 2	B	Yes	120	Class I	N/A
32	32	61	Quad Flash - Color 1 Then 2	A	Yes	120	N/A	N/A
33	33	62	Quad Flash - Color 1 Then 2	B	Yes	120	N/A	N/A
34	34	63	Quad Flash - Split - Alternating - Color 1 Then 2		Yes	120	N/A	N/A
35		64	Double Flash - Diagonal - Color 1	A	Yes	150	N/A	N/A

* Applies to A, B, C & R
** Applies to A, B, & R

Red Wire	White Wire	Red & White Wires	Description	Phase	Sync	FPM	SAE J845*	CA Title 13**
DUAL COLOR EB7185 SERIES FLASH PATTERN CHART (CONTINUED)								
36		65	Double Flash - Diagonal - Color 1	B	Yes	150	N/A	N/A
		66	Double Flash - Diagonal - Color 1 & 2	A	Yes	150	N/A	N/A
		67	Double Flash - Diagonal - Color 1 & 2	B	Yes	150	N/A	N/A
	35	68	Double Flash - Diagonal - Color 2	A	Yes	150	N/A	N/A
	36	69	Double Flash - Color 2	B	Yes	150	N/A	N/A
37	37	70	Double Flash - Alternating - Wig Wag - Color 1 Then 2	A	Yes	150	N/A	N/A
38	38	71	Double Flash - Alternating - Wig Wag - Color 1 Then 2	B	Yes	150	N/A	N/A
39		72	Quad Flash - Diagonal - Color 1	A	Yes	150	N/A	N/A
40		73	Quad Flash - Diagonal - Color 1	B	Yes	150	N/A	N/A
		74	Quad Flash - Diagonal - Color 1 & 2	A	Yes	150	N/A	N/A
		75	Quad Flash - Diagonal - Color 1 & 2	B	Yes	150	N/A	N/A
	39	76	Quad Flash - Diagonal - Color 2	A	Yes	150	N/A	N/A
		77	Quad Flash - Diagonal - Color 2	B	Yes	150	N/A	N/A
41	41	78	Quad Flash - Alternating - Wig Wag - Color 1 Then 2	A	Yes	150	N/A	N/A
42	42	79	Quad Flash - Alternating - Wig Wag - Color 1 Then 2	B	Yes	150	N/A	N/A
43		80	Rotate - Color 1		Yes	120	N/A	N/A
	43	81	Rotate - Color 2		Yes	120	N/A	N/A
		82	Rotate - Color 1 Then 2		Yes	120	N/A	N/A
44		83	Rotate / Quad Flash - Color 1		Yes	150 / 75	N/A	N/A
	44	84	Rotate / Quad Flash - Color 2		Yes	150 / 75	N/A	N/A
		85	Rotate / Quad Flash - Color 1 Then 2		Yes	150 / 75	N/A	N/A
45		86	Wave Rotate - Color 1		Yes	70	N/A	N/A
	45	87	Wave Rotate - Color 2		Yes	70	N/A	N/A
		88	Wave Rotate - Color 1 Then 2		Yes	70	N/A	N/A
		89	Random - Color 1 Then 2		No	N/A	N/A	N/A
46		90	Steady Burn - Color 1		No	N/A	N/A	N/A
	46	91	Steady Burn - Color 2		No	N/A	N/A	N/A

* Applies to A, B, C & R
** Applies to A, B, & R