



ECCO®

Installation and Operation Instructions 3800 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: 3811: 5.8" x 1.9" x 1.2"
3861: 6.5" x 2.1" x 1.2"

Weight: 3811: 0.3 lbs.
3861: 0.4 lbs.

Input Voltage: 12-24 VDC

*Where X indicates single color and XX indicates dual color.
A=Amber, B=Blue, C=Clear, G=Green, R=Red,
AC=Amber/Clear

Current Draw: 3811X, 3861X:	0.26 Amps at 12.8 VDC
	0.15 Amps at 25.6 VDC
3811XX, 3861XX:	0.40 Amps at 12.8 VDC
	0.23 Amps at 25.6 VDC

Flash Rate: See flash pattern charts.

Temperature Range: -40°F to 158°F
-40°C to 70°C

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.

Mounting:

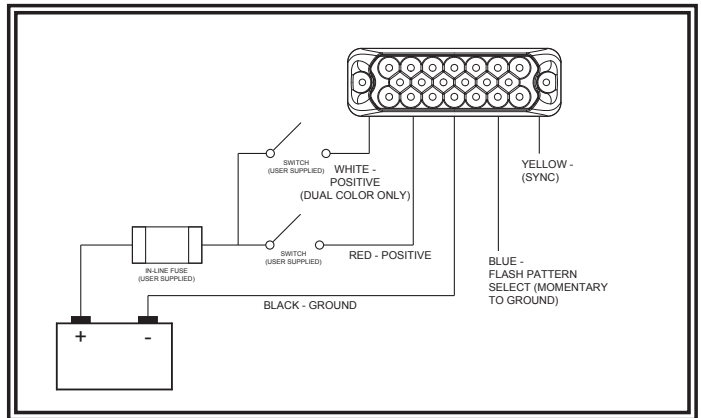
Caution: When drilling into any vehicle surface, make sure the area is free from any electrical wires, fuel lines, vehicle upholstery, etc. that could be damaged

1. The 3811 series directionals 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. Mark drill hole locations on the mounting surface using the directional as a template.
3. Drill mounting holes using a #31[0.120"] drill bit.
4. Drill a 25/64"[10mm] hole for the wires protruding from the rear of the unit at the location. Remove any sharp edges from this hole.
5. Mount the directional along with the mounting gasket, routing the wires through the 10mm hole and use additional grommets or cable protection as necessary to protect the wiring from any sharp edges. Secure the directional to the surface using the #6 self-tapping screws.

Wiring Instructions:

The 3800 Series of directional LED light heads are self flashing. All wiring should be a minimum of 22 AWG. The positive line must have an in-line 125V 1 Amp slow-blow fuse for each directional as shown. Set each unit to the same flash pattern before syncing. Synced units will flash simultaneously when set to the same phase or alternating when set to A and B. Note: Only flash patterns with an A or B phase identified are capable of being synced. Isolate the yellow and blue wires when not in use.

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.



Flash Patterns:

The 3800 series directionals can be configured to flash the following patterns (in the order below) by momentarily applying ground to the blue wire. The directional must be powered through the ground and power wires to allow pattern selection.

Push Time	Blue Wire Functions
0-1 Sec.	Next Pattern
1-3 Sec	Previous Pattern
3-5 Sec.	Set to First Pattern
5+ Sec.	Set to Last Pattern

FLASH PATTERN TABLE

Sequence	Description	FPM	Phase	SAE J845				CAT13		
				A	B	C	R	A	B	R
1	Single	75	A	C1	C1	C1	C1	CE	CE	CE
1	Single	75	B	C1	C1	C1	C1	CE	CE	CE
2	Double	75	A	C1	C1	C1	C1	-	-	-
2	Double	75	B	C1	C1	C1	C1	-	-	-
3	Quad	75	A	C1	C1	C1	C1	-	-	-
3	Quad	75	B	C1	C1	C1	C1	-	-	-
4	NFPA Quad	75	A	C1	C1	C1	C1	CE	CE	CE
4	NFPA Quad	75	B	C1	C1	C1	C1	CE	CE	CE
5	Single	120	A	C1	C1	C1	C1	-	-	-
5	Single	120	B	C1	C1	C1	C1	-	-	-
5	Double	120	A	C1	C1	C1	C1	-	-	-
5	Double	120	B	C1	C1	C1	C1	-	-	-
6	Quad	120	A	C1	C1	C1	C1	-	-	-
6	Quad	120	B	C1	C1	C1	C1	-	-	-
6	Off	N/A	-	-	-	-	-	-	-	-

3811AC, 3861AC LED Directional Flash Patterns

White Wire	Red Wire	Red & White Wires	Description	Flash Rate	Phase	SAE J595		CA T13
						Amber	White	Amber
1		1	Single White	75	A	Class 1	Class 1	Class B
2		2	Single White	75	B	Class 1	Class 1	Class B
3		3	Single Alternating White & Amber	75	A	Class 1	Class 1	-
4		4	Single Alternating White & Amber	75	B	Class 1	Class 1	-
	1	5	Single Amber	75	A	Class 1	Class 1	Class B
	2	6	Single Amber	75	B	Class 1	Class 1	Class B
	3	7	Single Alternating White & Amber	75	A	Class 1	Class 1	-
	4	8	Single Alternating White & Amber	75	B	Class 1	Class 1	-
5	5	9	Single Fast Alternating White & Amber	150	-	-	-	-
6		10	Single White	375	A	-	-	-
7		11	Single White	375	B	-	-	-
8		12	Single Alternating White & Amber	375	A	-	-	-
9		13	Single Alternating White & Amber	375	B	-	-	-
	6	14	Single Amber	375	A	-	-	-
	7	15	Single Amber	375	B	-	-	-
	8	16	Single Alternating White & Amber	375	A	-	-	-
	9	17	Single Alternating White & Amber	375	B	-	-	-
10	10	18	Single Fast Alternating White & Amber	750	-	-	-	-
11		19	Double White	75	A	Class 1	Class 1	Class B
12		20	Double White	75	B	Class 1	Class 1	Class B
13		21	Double Alternating White & Amber	75	A	Class 1	Class 1	-
14		22	Double Alternating White & Amber	75	B	Class 1	Class 1	-
	11	23	Double Amber	75	A	Class 1	Class 1	Class B
	12	24	Double Amber	75	B	Class 1	Class 1	Class B
	13	25	Double Alternating White & Amber	75	A	Class 1	Class 1	-
	14	26	Double Alternating White & Amber	75	B	Class 1	Class 1	-
15	15	27	Double Fast Alternating White & Amber	150	-	-	-	-
16		28	Double White	120	A	Class 1	Class 1	-
17		29	Double White	120	B	Class 1	Class 1	-
18		30	Double Alternating White & Amber	120	A	Class 1	Class 1	-
19		31	Double Alternating White & Amber	120	B	Class 1	Class 1	-
	16	32	Double Amber	120	A	Class 1	Class 1	-
	17	33	Double Amber	120	B	Class 1	Class 1	-
	18	34	Double Alternating White & Amber	120	A	Class 1	Class 1	-
	19	35	Double Alternating White & Amber	120	B	Class 1	Class 1	-
20	20	36	Double Fast Alternating White & Amber	250	-	-	-	-
21		37	Triple White	75	A	Class 1	Class 1	Class B
22		38	Triple White	75	B	Class 1	Class 1	Class B
23		39	Triple Alternating White & Amber	75	A	Class 1	Class 1	-
24		40	Triple Alternating White & Amber	75	B	Class 1	Class 1	-

3811AC, 3861AC LED Directional Flash Patterns (Continued)								
White Wire	Red Wire	Red & White Wires	Description	Flash Rate	Phase	SAE J595		CA T13
						Amber	White	Amber
	21	41	Triple Amber	75	A	Class 1	Class 1	Class B
	22	42	Triple Amber	75	B	Class 1	Class 1	Class B
	23	43	Triple Alternating White & Amber	75	A	Class 1	Class 1	-
	24	44	Triple Alternating White & Amber	75	B	Class 1	Class 1	-
25	25	45	Triple Fast Alternating White & Amber	150	-	-	-	-
26		46	Quad White	75	A	Class 1	Class 1	Class B
27		47	Quad White	75	B	Class 1	Class 1	Class B
28		48	Quad Alternating White & Amber	75	A	Class 1	Class 1	-
29		49	Quad Alternating White & Amber	75	B	Class 1	Class 1	-
	26	50	Quad Amber	75	A	Class 1	Class 1	Class B
	27	51	Quad Amber	75	B	Class 1	Class 1	Class B
	28	52	Quad Alternating White & Amber	75	A	Class 1	Class 1	-
	29	53	Quad Alternating White & Amber	75	B	Class 1	Class 1	-
30	30	54	Quad Fast Alternating White & Amber	150	-	-	-	-
31		55	Quad White	120	A	Class 1	Class 1	-
32		56	Quad White	120	B	Class 1	Class 1	-
33		57	Quad Alternating White & Amber	120	A	Class 1	Class 1	-
34		58	Quad Alternating White & Amber	120	B	Class 1	Class 1	-
	31	59	Quad Amber	120	A	Class 1	Class 1	-
	32	60	Quad Amber	120	B	Class 1	Class 1	-
	33	61	Quad Alternating White & Amber	120	A	Class 1	Class 1	-
	34	62	Quad Alternating White & Amber	120	B	Class 1	Class 1	-
35	35	63	Quad Fast Alternating White & Amber	240	-	-	-	-
		64	Modulation White & Amber	-	-	-	-	-
		65	Double Slow, Quad Fast Alternating White & Amber	-	-	-	-	-
		66	Fast Single, Triple Alternating White & Amber	-	-	-	-	-
		67	Double, Triple, Quad, Alternating White & Amber	-	-	-	-	-
36		68	Steady Burn White	-	-	-	-	-
	36	69	Steady Burn Amber	-	-	-	-	-

Accessory and Replacement Parts:

Description	Part No.
3861 Series Oval Grommet	R2160GO
3861 Series Oval Grommet Mounting Box	A9895
3861 Series Grommet Adapter Replacement	A3860ADPT