



Installation and Operation Instructions

M180L/M180LMC

WARNING LIGHT

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 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 understood 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 emergency personnel and the public.
2. Emergency warning devices often require high electrical voltages and/or currents. 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 is 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 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 daily 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 an emergency warning signal. Never take the right-of-way for granted. It is the vehicle operator's responsibility to be sure they can proceed safely before entering an intersection, drive against traffic, respond at a high rate of speed, or walk 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 emergency warning 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:

Input Voltage	12-24VDC
Work Current	M180L = 1.7A Max @ DC12V M180LMC = 1.7A Max @ DC12V

Important! This unit is a safety device and it must be connected to its own separate, fused power source 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

Wire: M180LS

RED: Positive(need to add 2A Fuse)

BLACK: Negative

BLUE: Pattern Select to Negative and Dimming to Positive

YELLOW: Synchronized Function

(Up to 8 units can be Synchronized)

ORANGE: Takedown Light Operation

Operation Environment:

Ambient Temperature: -30 to 50°C

Wire: M180LMC

RED: Positive, Colors 1 & 3 (need to add 5A Fuse)

WHITE: Positive, Colors 2 & 4 (need to add 5A Fuse)

BLACK: Negative

BLUE: Pattern Select to Negative and Dimming to Positive

YELLOW: Synchronized Function

(Up to 8 units can be Synchronized)

ORANGE: Takedown Light Operation

	RED	WHITE
PRODUCT	1 & 3 COLORS	2 & 4 COLORS
M180LMC-AW	AMBER	WHITE
M180LMC-BW	BLUE	WHITE
M180LMC-RB	RED	BLUE
M180LMC-RW	RED	WHITE
M180LMC-BA	AMBER	BLUE
M180LMC-RA	AMBER	RED

Pattern Select Operation:

The light flash pattern may be changed by holding the blue wire to ground for the following intervals:

1 second: increment flash pattern

3 seconds: decrement flash pattern

5 seconds: reset to default

Note: The blue wire must be disconnected from any voltage when operating except when changing flash patterns or activating dim.

Single Color Flash Pattern Chart				
Pattern	Flash	sim. Phase 1	sim. Phase 2	Alt.
1	Single Flash 75FPM	S1,C,J1*	S1,C,J1*	N/A
2	Single Flash 120FPM	R/B/A for S1, W for S2, J1*,E2	R/B/A for S1, W for S2, J1*,E2	N/A
3	Double Flash 75FPM	S1,J1*	S1,J1*	N/A
4	Double Flash 120FPM	R/B/A for S1, W for S2, J1*,E2	R/B/A for S1, W for S2, J1*,E2	N/A
5	Quad Flash 75FPM	R/A for S1, B/W for S2, R/B/A for J1*, W for J2*	R/A for S1, B/W for S2, R/B/A for J1*, W for J2*	N/A
6	Quad Flash 150FPM	R for S1, B/A/W for S2, R for J1*, B/A/W for J2*	R for S1, B/A/W for S2, R for J1*, B/A/W for J2*	N/A
7	Triple 75FPM	R/B/A for S1, W for S2, R/B/A/W for J1*	R/B/A for S1, W for S2, R/B/A/W for J1*	N/A
8	Quint Flash 150FPM	R for S1, B/A/W for S2, R for J1*, B/A/W for J2*	R for S1, B/A/W for S2, R for J1*, B/A/W for J2*	N/A
9	Steady - Single	N/A		
10	Steady Burn	N/A		
11	Modulation	N/A		
12	2 Double Flash,2 Triple Alt.	N/A		
13	4 Single Flash ,2 Quad Flash Alt.	N/A		

Default Pattern: Steady Burn

REMARK: S1: SAE J595 Class 1 S2: SAE J595 Class 2 C: CA T13 Class B
 J1: SAE J845 Class 1 J2: SAE J845 Class 2
 E1: ECE R65 Class 1 E2: ECE R65 Class 2

*The directional angle compliance for J845 is indicated as 140 degrees for red, blue and amber, and 100 degrees for white.

Dual Color Flash Pattern Chart

PATTERN	MODE 1 Color 1 & Color 3 (Red line)	MODE 2 Color 2 & Color 4 (White line)	MODE 1 Color 1 & Color 3 MODE 2 Color 2 & Color 4 (Red line & White line)	Pattern	SYNC.	COMPLIES WITH
1	1		1	SAE/T13 SAE/T13 Single 75FPM Ph1 Color 1 Synchronous Color 3	yes	SI J1 *C
	2		2	SAE/T13 SAE/T13 Single 75FPM Ph2 Color 1 Synchronous Color 3	yes	SI J1 *C
			3	SAE/T13 SAE/T13 Single 75FPM Ph1 Color 1 Synchronous Color 4	yes	
			4	SAE/T13 Single 75FPM Ph2 Color 1 Alternately Color 4	yes	SI J1 *C
		1	5	SAE/T13 Single 75FPM Ph1 Color 2 Synchronous Color 4	yes	SI J1 *C
		2	6	SAE/T13 Single 75FPM Ph2 Color 2 Synchronous Color 4	yes	
	3		7	SAE/T13 Single 38FPM Ph1 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	yes	
	4		8	SAE/T13 Single 38FPM Ph2 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	yes	
	5		9	SAE/T13 Single 38FPM (Color 1 Alternately Color 2) Alternately (Color 3 Alternately Color 4)	yes	
	6		10	Single 375FPM/4FPM Ph1 Color 1 Synchronous Color 3	yes	
2	7		11	Single 375FPM/4FPM Ph2 Color 1 Synchronous Color 3	yes	
			12	Single 375FPM/4FPM Ph1 Color 1 Alternately Color 4	yes	
			13	Single 375FPM/4FPM Ph2 Color 1 Alternately Color 4	yes	
	6		14	Single 375FPM/4FPM Ph1 Color 2 Synchronous Color 4	yes	
	7		15	Single 375FPM/4FPM Ph2 Color 2 Synchronous Color 4	yes	
	8		16	Single 187FPM/4FPM Ph1 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	yes	
	9		17	Single 187FPM/4FPM Ph2 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	yes	
	10		18	Single 187FPM/4FPM (Color 1 Alternately Color 2) Alternately (Color 3 Alternately Color 4)	yes	
	11		19	SAE/T13 Double 75FPM Ph1 (Color 1 Synchronous Color 3)	yes	SI J1 *
	12		20	SAE/T13 Double 75FPM Ph2 (Color 1 Synchronous Color 3)	yes	SI J1 *
3			21	SAE/T13 Double 75FPM Ph1 Color 1 Alternately Color 4	yes	
			22	SAE/T13 Double 75FPM Ph2 Color 1 Alternately Color 4	yes	
	11		23	SAE/T13 Double 75FPM Ph1 Color 2 Synchronous Color 4	yes	SI J1 *
	12		24	SAE/T13 Double 75FPM Ph2 Color 2 Synchronous Color 4	yes	SI J1 *
	13		25	SAE/T13 Double 38FPM Ph1 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	yes	
	14		26	SAE/T13 Double 38FPM Ph2 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	yes	
	15		27	SAE/T13 Double 38FPM (Color 1 Alternately Color 2) Alternately (Color 3 Alternately Color 4)	yes	
	16		28	ECR66/SAE Double 120FPM Ph1 Color 1 Synchronous Color 3	yes	SI J1 *I2
	17		29	ECR66/SAE Double 120FPM Ph2 Color 1 Synchronous Color 3	yes	SI J1 *I2
			30	ECR66/SAE Double 120FPM Ph1 Color 1 Alternately Color 4	yes	
4			31	ECR66/SAE Double 120FPM Ph2 Color 1 Alternately Color 4	yes	
		16	32	ECR66/SAE Double 120FPM Ph1 Color 2 Synchronous Color 4	yes	SI J1 *I2
		17	33	ECR66/SAE Double 120FPM Ph2 Color 2 Synchronous Color 4	yes	SI J1 *I2
	18		34	ECR66/SAE Double 60FPM Ph1 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	yes	
	19		35	ECR66/SAE Double 60FPM Ph2 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	yes	
	20		36	ECR66/SAE Double 60FPM (Color 1 Alternately Color 2) Alternately (Color 3 Alternately Color 4)	yes	
			37	SAE/T13 Triple 75FPM Ph1 Color 1 Synchronous Color 3	yes	R/B/A for SI, W for S2, R/B/A for I1 * W for I2 *
	21		38	SAE/T13 Triple 75FPM Ph2 Color 1 Synchronous Color 3	yes	R/B/A for SI, W for S2, R/B/A for I1 * W for I2 *
	22		39	SAE/T13 Triple 75FPM Ph1 Color 1 Alternately Color 4	yes	R/B/A for SI, W for S2, R/B/A for I1 * W for I2 *
			40	SAE/T13 Triple 75FPM Ph2 Color 1 Alternately Color 4	yes	
5			41	SAE/T13 Triple 75FPM Ph1 Color 2 Synchronous Color 4	yes	
		21	42	SAE/T13 Triple 75FPM Ph2 Color 2 Synchronous Color 4	yes	R/B/A for SI, W for S2, R/B/A for I1 * W for I2 *
	23		43	SAE/T13 Triple 38FPM Ph1 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	yes	R/B/A for SI, W for S2, R/B/A for I1 * W for I2 *
	24		44	SAE/T13 Triple 38FPM Ph2 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	yes	
	25		45	SAE/T13 Triple 38FPM (Color 1 Alternately Color 2) Alternately (Color 3 Alternately Color 4)	yes	
	26		46	SAE/T13 Quad 75FPM Ph1 Color 1 Synchronous Color 3	yes	R/B/A for SI, W for S2, I2 *
	27		47	SAE/T13 Quad 75FPM Ph2 Color 1 Synchronous Color 3	yes	R/B/A for SI, W for S2, I2 *
			48	SAE/T13 Quad 75FPM Ph1 Color 1 Alternately Color 4	yes	
			49	SAE/T13 Quad 75FPM Ph2 Color 1 Alternately Color 4	yes	
	26		50	SAE/T13 Quad 75FPM Ph1 Color 2 Synchronous Color 4	yes	R/B/A for SI, W for S2, I2 *
6			51	SAE/T13 Quad 75FPM Ph2 Color 2 Synchronous Color 4	yes	R/B/A for SI, W for S2, I2 *
	28		52	SAE/T13 Quad 38FPM Ph1 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	yes	
	29		53	SAE/T13 Quad 38FPM Ph2 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	yes	
	30		54	SAE/T13 Quad 38FPM (Color 1 Alternately Color 2) Alternately (Color 3 Alternately Color 4)	yes	
	31		55	ECR66/SAE Quad 120FPM Ph1 Color 1 Synchronous Color 3	yes	R/B/A for SI, W for S2, I2 *
	32		56	ECR66/SAE Quad 120FPM Ph2 Color 1 Synchronous Color 3	yes	R/B/A for SI, W for S2, I2 *
			57	ECR66/SAE Quad 120FPM Ph1 Color 1 Alternately Color 4	yes	
			58	ECR66/SAE Quad 120FPM Ph2 Color 1 Alternately Color 4	yes	
		31	59	ECR66/SAE Quad 120FPM Ph1 Color 2 Synchronous Color 4	yes	R/B/A for SI, W for S2, I2 *
		32	60	ECR66/SAE Quad 120FPM Ph2 Color 2 Synchronous Color 4	yes	R/B/A for SI, W for S2, I2 *
7	33		61	ECR66/SAE Quad 60FPM Ph1 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	yes	
	34		62	ECR66/SAE Quad 60FPM Ph2 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	yes	
	35		63	ECR66/SAE Quad 60FPM (Color 1 Alternately Color 2) Alternately (Color 3 Alternately Color 4)	yes	
			64	Modulation (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	no	
			65	2 Double 2 Quad (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	no	
			66	4 Single 2 Triple (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	no	
			67	1 Double 1 Triple 1 Quad (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	no	
				Steady burn Color 1 & 3	no	
				Steady burn Color 2 & 4	no	
			69		no	
12	36-Default	36-Default	69		no	

REMARK: SI: SAE J595 Class 1 S2: SAE J595 Class 2 C: CA T13 Class B

I1: SAE J845 Class 1 I2: SAE J845 Class 2

E1: ECE R65 Class 1 E2: ECE R65 Class 2

*The directional angle compliance for J845 is indicated as 120 degrees for red, 100 degrees for blue, 110 degrees for amber and 90 degrees for white.

TROUBLESHOOTING

M180L and M180LMC series have been factory tested and approved. If the device fails, please check the following:

1. Check the wiring to the device has not short circuited.
2. Make sure the Red and or white, and black wires are securely connected to power and ground separately.

Manufacturer Limited Warranty Policy:

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

Product Returns:

If a product must be returned for repair or replacement*, please contact our factory to obtain a Return Goods Authorization Number (RGA number) before you ship the product to Code 3®, Inc. Write the RGA number clearly on the package near the mailing label. Be sure you use sufficient packing materials to avoid damage to the product being returned while in transit.

*Code 3®, Inc. reserves the right to repair or replace at its discretion. Code 3®, Inc. assumes no responsibility or liability for expenses incurred for the removal and /or reinstallation of products requiring service and/or repair.; nor for the packaging, handling, and shipping; nor for the handling of products returned to sender after the service has been rendered.



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