



## Installation and Operation Instructions M180L/M180LMC WARNING LIGHT

M180SL& M180LMC directional LEDs are bright and versatile 180 degree warning light and work light that are suited to a wide variety of applications. Their triple stack design offers approximately 3 times the light output of the popular M180S series. Their low profile design coupled with multiple mounting options (surface, edge, self-adhesive and permanent) and 30 degrees of adjustable pivoting, provide superior flexibility when positioning the lights for optimum warning capability. Both models offer multiple flash patterns and multiple units can be synchronized to operate either simultaneously or alternately with each other.

Available in solid colors: M180L-X (A,B,R,W)

dual colors: M180LMC-XX (BA, RA, AW, BW, RW, RB)



### **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 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.

**CONTENTS:**

1	Light Head
1	Multi-Mount Base: Includes: 2- M4x25 Sheet metal screws
1	1-EVA foam gasket
1	1-BEZEL

**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
- 7 seconds: set to last flash pattern

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

M180L Series Flash Pattern Chart:

Pattern	MODE	PATTERNS	SYNC.	SAE J595					CA T13			SAE J845					ECE R65		
				RED	AMBER	BLUE	WHITE	RED	AMBER	BLUE	RED	AMBER	BLUE	WHITE	RED	AMBER	BLUE	RED	AMBER
1	1	Single Flash 75FPM sim. Phase1	yes	Class 1	Class 1	Class 1	Class 1	Class B	Class B	Class B	160	140	140	140	N/C	N/C	N/C	N/C	N/C
	2	Single Flash 75FPM sim. Phase2	yes	Class 1	Class 1	Class 1	Class 1	Class B	Class B	Class B	160	140	140	140	N/C	N/C	N/C	N/C	N/C
	3	Single Flash 75FPM Alt.	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
2	4	Single Flash 120FPM sim. Phase1	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	160	140	140	140	N/C	N/C	N/C	N/C	N/C
	5	Single Flash 120FPM sim. phase2	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	160	140	140	140	N/C	N/C	N/C	N/C	N/C
	6	Single Flash 120FPM Alt.	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
3	7	Double Flash 75FPM sim. Phase1	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	160	140	140	140	N/C	N/C	N/C	N/C	N/C
	8	Double Flash 75FPM sim. phase2	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	160	140	140	140	N/C	N/C	N/C	N/C	N/C
	9	Double Flash 75FPM Alt.	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
4	10	Double Flash 120FPM sim. Phase1	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	140	140	120	120	Class 2	Class 2	Class 2	Class 2	Class 2
	11	Double Flash 120FPM sim. phase2	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	140	140	120	120	Class 2	Class 2	Class 2	Class 2	Class 2
	12	Double Flash 120FPM Alt.	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
5	13-Default	Quad Flash 75FPM sim. Phase1	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	140	120	100	80	N/C	N/C	N/C	N/C	N/C
	14	Quad Flash 75FPM sim. Phase2	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	140	120	100	80	N/C	N/C	N/C	N/C	N/C
	15	Quad Flash 75FPM Alt.	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
6	16	Quad Flash 150FPM sim. Phase1	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	120	100	100	60	N/C	N/C	N/C	N/C	N/C
	17	Quad Flash 150FPM sim. Phase2	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	120	100	100	60	N/C	N/C	N/C	N/C	N/C
	18	Quad Flash 150FPM Alt.	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
7	19	Triple 75FPM sim. Phase1	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	140	140	140	140	N/C	N/C	N/C	N/C	N/C
	20	Triple 75FPM sim. Phase2	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	140	140	140	140	N/C	N/C	N/C	N/C	N/C
	21	Triple/Alter 75FPM Alt.	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	140	140	140	140	N/C	N/C	N/C	N/C	N/C
8	22	Quint Flash 150FPM sim. Phase1	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	120	100	100	60	N/C	N/C	N/C	N/C	N/C
	23	Quint Flash 150FPM sim. Phase2	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	120	100	100	60	N/C	N/C	N/C	N/C	N/C
	24	Quint Flash 150FPM Alt.	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
9	25	Steady - Single	NO	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
	26	Steady Burn	NO	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
11	27	Modulation	NO	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
	28	2 Double Flash, 2 Triple Alt.	NO	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
13	29	4 Single Flash, 2 Quad Flash Alt.	NO	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C

M180LMC Series 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.	SAE J595				CA 113				SAE J845 Class 1S				ECE R65			
						RED	AMBER	BLUE	WHITE	RED	AMBER	BLUE	WHITE	RED	AMBER	BLUE	WHITE	RED	AMBER	BLUE	
1	1-Default			SAE/T13 SAE/T13 Single 75FPM Ph1 Color 1 Synchronous Color 3	yes	Class 1	Class 1	Class 1	Class 1	Class B	Class B	Class B	Class B	Class B	Class B	Class B	Class B	Class B	Class B		
	2			SAE/T13 SAE/T13 Single 75FPM Ph2 Color 1 Synchronous Color 3	yes	Class 1	Class 1	Class 1	Class 1	Class B	Class B	Class B	Class B	Class B	Class B	Class B	Class B	Class B	Class B		
				SAE/T13 Single 75FPM Ph1 Color 1 Alternately Color 4	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
				SAE/T13 Single 75FPM Ph2 Color 1 Alternately Color 4	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
				SAE/T13 Single 75FPM Ph1 Color 2 Synchronous Color 4	yes	Class 1	Class 1	Class 1	Class 1	Class B	Class B	Class B	Class B	Class B	Class B	Class B	Class B	Class B	Class B	Class B	
				SAE/T13 Single 75FPM Ph2 Color 2 Synchronous Color 4	yes	Class 1	Class 1	Class 1	Class 1	Class B	Class B	Class B	Class B	Class B	Class B	Class B	Class B	Class B	Class B	Class B	
				SAE/T13 Single 75FPM Ph1 Color 1 Alternately Color 3	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
				SAE/T13 Single 75FPM Ph2 Color 1 Alternately Color 3	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
				SAE/T13 Single 75FPM Ph1 Color 2 Alternately Color 3	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
				SAE/T13 Single 75FPM Ph2 Color 2 Alternately Color 3	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
2				Single 375FPM/FPM Ph1 Color 1 Synchronous Color 4	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
				Single 375FPM/FPM Ph2 Color 1 Synchronous Color 4	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
				Single 375FPM/FPM Ph1 Color 2 Synchronous Color 4	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
				Single 375FPM/FPM Ph2 Color 2 Synchronous Color 4	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
				Single 375FPM/FPM Ph1 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
				Single 375FPM/FPM Ph2 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
				Single 375FPM/FPM Ph1 Color 1 Alternately Color 3	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
				Single 375FPM/FPM Ph2 Color 1 Alternately Color 3	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
				Single 375FPM/FPM Ph1 Color 2 Alternately Color 3	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
				Single 375FPM/FPM Ph2 Color 2 Alternately Color 3	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
3				SAE/T13 Double 75FPM Ph1 Color 1 Synchronous Color 3	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C		
				SAE/T13 Double 75FPM Ph2 Color 1 Synchronous Color 3	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C		
				SAE/T13 Double 75FPM Ph1 Color 1 Alternately Color 4	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
				SAE/T13 Double 75FPM Ph2 Color 1 Alternately Color 4	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
				SAE/T13 Double 75FPM Ph1 Color 2 Synchronous Color 4	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
				SAE/T13 Double 75FPM Ph2 Color 2 Synchronous Color 4	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
				SAE/T13 Double 75FPM Ph1 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
				SAE/T13 Double 75FPM Ph2 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
				SAE/T13 Double 75FPM Ph1 Color 1 Alternately Color 3 Alternately Color 4	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
				SAE/T13 Double 75FPM Ph2 Color 1 Alternately Color 3 Alternately Color 4	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	

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.	SAE J595				CA T13				SAE J845				ECE R85 Class 1		
						RED	AMBER	BLUE	WHITE	RED	AMBER	BLUE	WHITE	RED	AMBER	BLUE	WHITE	RED	AMBER	BLUE
4	16		28	ECER65/SAE Double 120/FPM PH1 Color 1 Synchronous Color 3	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	N/C	140	140	120	120	Class 2	Class 2	
	17		29	ECER65/SAE Double 120/FPM PH2 Color 1 Synchronous Color 3	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	N/C	140	140	120	120	Class 2	Class 2	
	18		30	ECER65/SAE Double 120/FPM PH1 Color 1 Alternately Color 4	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
	19		31	ECER65/SAE Double 120/FPM PH2 Color 1 Alternately Color 4	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
	20		32	ECER65/SAE Double 120/FPM PH1 Color 2 Synchronous Color 4	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	N/C	140	140	120	120	Class 2	Class 2	
	21		33	ECER65/SAE Double 120/FPM PH2 Color 2 Synchronous Color 4	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	N/C	140	140	120	120	Class 2	Class 2	
	22		34	ECER65/SAE Double 120/FPM PH1 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	N/C	140	140	120	120	Class 2	Class 2	
	23		35	ECER65/SAE Double 120/FPM PH2 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
	24		36	ECER65/SAE Double 120/FPM (Color 1 Alternately Color 2) Alternately (Color 3 Alternately Color 4)	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
	25		37	SAE/T13 Triple 75FPM PH1 Color 1 Synchronous Color 3	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	N/C	180	140	140	140	N/C	N/C	
5	26		38	SAE/T13 Triple 75FPM PH2 Color 1 Synchronous Color 3	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	N/C	180	140	140	140	N/C	N/C	
	27		39	SAE/T13 Triple 75FPM PH1 Color 1 Alternately Color 4	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
	28		40	SAE/T13 Triple 75FPM PH2 Color 1 Alternately Color 4	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
	29		41	SAE/T13 Triple 75FPM PH1 Color 2 Synchronous Color 4	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	N/C	180	140	140	140	N/C	N/C	
	30		42	SAE/T13 Triple 75FPM PH2 Color 2 Synchronous Color 4	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	N/C	180	140	140	140	N/C	N/C	
	31		43	SAE/T13 Triple 75FPM PH1 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
	32		44	SAE/T13 Triple 75FPM PH2 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
	33		45	SAE/T13 Triple 75FPM (Color 1 Alternately Color 2) Alternately (Color 3 Alternately Color 4)	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
	34		46	SAE/T13 Quad 75FPM PH1 Color 1 Synchronous Color 3	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	N/C	140	140	120	120	N/C	N/C	
	35		47	SAE/T13 Quad 75FPM PH2 Color 1 Synchronous Color 3	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	N/C	140	140	120	120	N/C	N/C	
6	36		48	SAE/T13 Quad 75FPM PH1 Color 1 Alternately Color 4	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	140	140	120	120	N/C	N/C	
	37		49	SAE/T13 Quad 75FPM PH2 Color 1 Alternately Color 4	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	140	140	120	120	N/C	N/C	
	38		50	SAE/T13 Quad 75FPM PH1 Color 2 Synchronous Color 4	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	N/C	140	140	120	120	N/C	N/C	
	39		51	SAE/T13 Quad 75FPM PH2 Color 2 Synchronous Color 4	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	N/C	140	140	120	120	N/C	N/C	
	40		52 - Default	SAE/T13 Quad 75FPM PH1 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
	41		29	SAE/T13 Quad 75FPM PH2 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
	42		30	SAE/T13 Quad 75FPM (Color 1 Alternately Color 2) Alternately (Color 3 Alternately Color 4)	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
	43		28	SAE/T13 Quad 75FPM PH1 Color 1 Synchronous Color 4	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	N/C	140	140	120	120	N/C	N/C	
	44		29	SAE/T13 Quad 75FPM PH2 Color 1 Synchronous Color 4	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	N/C	N/C	140	140	120	120	N/C	N/C	
	45		30	SAE/T13 Quad 75FPM (Color 1 Alternately Color 2) Alternately (Color 3 Alternately Color 4)	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C

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	SAE J595				CA T13				SAE J845 Class 1S				ECE R65 Class 1	
						RED	AMBER	BLUE	WHITE	RED	AMBER	BLUE	WHITE	RED	AMBER	BLUE	WHITE	RED	AMBER
7	31			ECER65/SAE Quad 120°PPM Ph1 Color 1 Synchronous Color 3	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	140	140	140	120	N/C	N/C		
	32			ECER65/SAE Quad 120°PPM Ph2 Color 1 Synchronous Color 3	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	140	140	140	120	N/C	N/C		
				ECER65/SAE Quad 120°PPM Ph1 Color 1 Alternately Color 4	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C		
				ECER65/SAE Quad 120°PPM Ph2 Color 1 Alternately Color 4	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C		
	31			ECER65/SAE Quad 120°PPM Ph1 Color 2 Synchronous Color 4	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	140	140	140	120	N/C	N/C		
	32			ECER65/SAE Quad 120°PPM Ph2 Color 2 Synchronous Color 4	yes	Class 1	Class 1	Class 1	Class 1	N/C	N/C	140	140	140	120	N/C	N/C		
	33			ECER65/SAE Quad 120°PPM Ph1 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C		
	34			ECER65/SAE Quad 120°PPM Ph2 (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C		
	35			ECER65/SAE Quad 120°PPM (Color 1 Alternately Color 2) Alternately (Color 3 Alternately Color 4)	yes	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C		
	8			64	Modulation (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	no	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C		
	9				65	2 Double 2 Quad (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	no	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C		
	10				66	4 Single 2 Triple (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	no	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C		
11				67	1 Double 1 Triple 1 Quad (Color 1 Synchronous Color 3) Alternately (Color 2 Synchronous Color 4)	no	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C			
12	36			68	Steady burn-Color 1 & 3	no	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C			
	36			69	Steady burn-Color 2 & 4	no	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C			

## **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.**

### **Exclusion of Other Warranties:**

MANUFACTURER MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED. THE IMPLIED WARRANTIES FOR MERCHANTABILITY, QUALITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, USAGE OR TRADE PRACTICE ARE HEREBY EXCLUDED AND SHALL NOT APPLY TO THE PRODUCT AND ARE HEREBY DISCLAIMED, EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW. ORAL STATEMENTS OR REPRESENTATIONS ABOUT THE PRODUCT DO NOT CONSTITUTE WARRANTIES.

### **Remedies and Limitation of Liability:**

MANUFACTURER'S SOLE LIABILITY AND BUYER'S EXCLUSIVE REMEDY IN CONTRACT, TORT (INCLUDING NEGLIGENCE), OR UNDER ANY OTHER THEORY AGAINST MANUFACTURER REGARDING THE PRODUCT AND ITS USE SHALL BE, AT MANUFACTURER'S DISCRETION, THE REPLACEMENT OR REPAIR OF THE PRODUCT, OR THE REFUND OF THE PURCHASE PRICE PAID BY BUYER FOR NON-CONFORMING PRODUCT. IN NO EVENT SHALL MANUFACTURER'S LIABILITY ARISING OUT OF THIS LIMITED WARRANTY OR ANY OTHER CLAIM RELATED TO THE MANUFACTURER'S PRODUCTS EXCEED THE AMOUNT PAID FOR THE PRODUCT BY BUYER AT THE TIME OF THE ORIGINAL PURCHASE. IN NO EVENT SHALL MANUFACTURER BE LIABLE FOR LOST PROFITS, THE COST OF SUBSTITUTE EQUIPMENT OR LABOR, PROPERTY DAMAGE, OR OTHER SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES BASED UPON ANY CLAIM FOR BREACH OF CONTRACT, IMPROPER INSTALLATION, NEGLIGENCE, OR OTHER CLAIM, EVEN IF MANUFACTURER OR A MANUFACTURER'S REPRESENTATIVE HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. MANUFACTURER SHALL HAVE NO FURTHER OBLIGATION OR LIABILITY WITH RESPECT TO THE PRODUCT OR ITS SALE, OPERATION AND USE, AND MANUFACTURER NEITHER ASSUMES NOR AUTHORIZES THE ASSUMPTION OF ANY OTHER OBLIGATION OR LIABILITY IN CONNECTION WITH SUCH PRODUCT.

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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