

## MODLED™ LED WARNING LIGHTS



*ModLED™ LED warning lights are available in various colors and sizes.*

### LIGHT EMITTING DIODES (LEDs)

LED technology has joined halogen and strobe as a predominant light source in the emergency warning industry. Federal Signal Corporation's MODLED™ LED emergency warning lights are the latest innovation in this emerging trend.

The two most dramatic benefits of LEDs when compared to halogen or strobe lights are long life and low current draw. MODLEDs are designed to provide these substantial benefits in a warning light that meets industry standards for emergency vehicle optical warning.

MODLED packages can be specified to meet:

- NFPA 1901 requirements for fire apparatus
- SAE J2498 requirements for emergency vehicles (fire, ambulance, and law enforcement)
- FMVSS 108 requirements for Brake/Tail/Turn/Back-up lighting
- GSA-KKK requirements for ambulances

### A "MODULAR" APPROACH TO LEDS

These new products incorporate a modular concept in LED lighting. The lighthoods are comprised of either single, double, or triple LED modules. Each of these LED modules contains (21) LEDs that generate the light needed to meet industry standards.

Federal's modular approach allows for simple replacement should a module suffer from accidental damage or premature failure. Each module is ultrasonically welded to keep out the elements. If damage or premature failure does occur, simply remove the affected module and replace it with a new one. The same modules are used in various bezels allowing for the reduction of spare part inventories.



## QUICK REFERENCE

### FEATURES

- Surface mount or recess mount versions available.
- LEDs available in amber, blue, green, red, and white.
- Superior off-axis light output.
- LEDs rated for 100,000 hours of use.
- Low current draw – less than 0.55 amps per warning light module.
- Five year warranty.
- Watertight, environmentally sealed connectors.
- Lenses made of durable, impact-modified acrylic.

### APPLICATIONS

- Fire apparatus
- Ambulances
- Command vehicles
- Brake/Tail/Turn lighting
- Motorcycles
- Utility vehicles

### APPROVALS

- NFPA 1901
- SAE J2498
- GSA-KKK
- Brake/Tail/Turn/Back-up models meet FMVSS 108 requirements

### RELATED PRODUCTS

- JetStream™ LED Lightbar  
Bulletin #4302
- Delta Ray LED Visor Light  
Bulletin #4160
- 4-Channel LED/Halogen Flasher  
Bulletin #3305
- Cuda TriOptic™ LED Lighting  
Bulletin #4170
- Traffic Clearing Lights  
Bulletin #4114

### LONG LIFE AND LOW CURRENT DRAW

LEDs are rated for 100,000 hours of operation. To put that into perspective, the unit would have to operate 24 hours a day for almost 11.5 years before reaching 100,000 hours. The long life offered by LED products creates substantial benefits in terms of maintenance time and expense. Routine lamp replacement and its associated labor costs are eliminated with the use of LED warning lights.

As overall vehicle electrical loads continue to increase, the use of LED warning lights provide additional flexibility in the electrical design of a fire truck or ambulance.

LED lighting products consume significantly less power than comparable halogen or strobe products. Each red LED warning light module draws only 0.32 amps while most halogen lamps draw ten times that amount.

MODLED warning lights feature durable, optical lenses made from impact-modified acrylic. Compared to traditional polycarbonate lenses, this impact-modified acrylic provides superior resistance to scratching and hazing. MODLED lenses meet the weathering requirements of SAE J576C without the addition of an ultra-violet clear-coat.

Federal Signal MODLED warning lights can be purchased without flanges, as stand-alone light sources. This flexibility allows builders to incorporate LED lighting in new and creative approaches to vehicle styling and aerodynamics.

### F-SERIES SURFACE MOUNT LIGHT HEADS

The MODLED F-Series light heads are available in single, double, or triple module configurations and are completely surface mount. Each F-Series light head is housed in a chrome plated bezel made of a highly durable, impact resistant plastic. This surface mount design helps to reduce costly body panel cutouts and allows for a faster and easier installation.

### X-SERIES RECESS MOUNT LIGHT HEADS

The MODLED X-Series light heads are available in single or double module configurations and recess into the vehicle body to provide a sleek and attractive appearance. Each X-Series light head recesses into the body and protrudes less than 0.9". This recessed configuration also provides additional protection for the light head by housing its components within the vehicle's body.

### B/T/T SERIES OF LIGHT HEADS

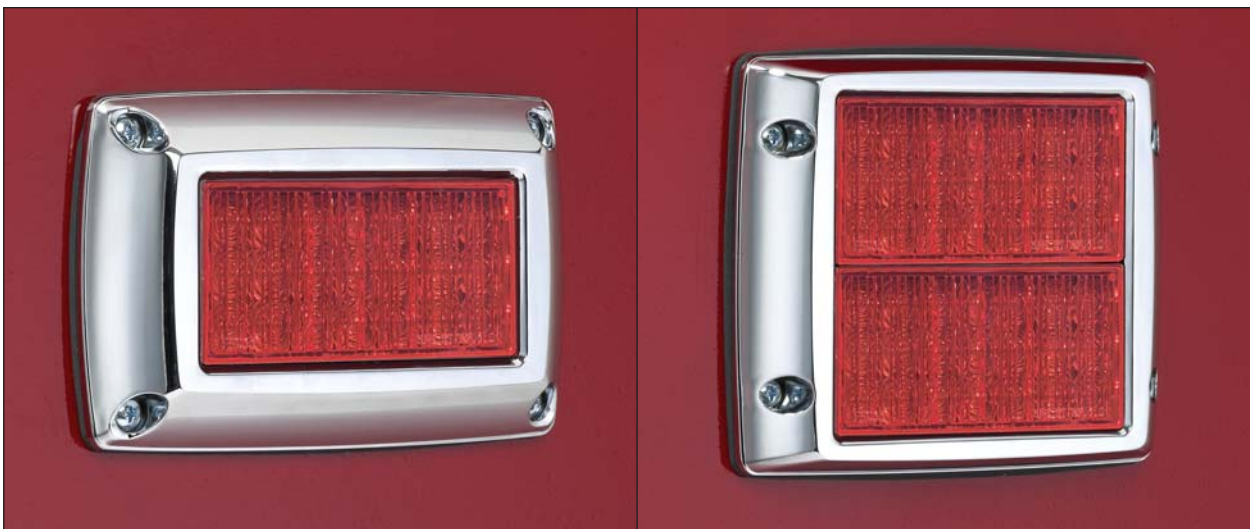
Various MODLED brake, tail, turn, and back-up lights are available to fit a wide variety of applications. Model **MOD2F-BTT** is a red brake/tail light that can also be wired to serve as a turn signal, model **MOD2F-TURN** is an amber turn signal, and model **MOD2F-C** is a white back-up light. All of these models are housed in the F-Series surface mount, dual module bezel. Also available is **MOD6F**, which is a red brake/tail light, amber turn signal, and white back-up light all housed in one, surface mount, cast aluminum bezel.



Certain specialty models are available including the **MOD3F-TW**, which is a combination of (1) MOD2F-TURN and (1) red MODLED warning light in one triple bezel housing. **MOD1F-CHMSL** is available for use as a center-high mount stop lamp for vehicles over 80" wide and can be used for regular brake/tail/turn applications for vehicles under 80" wide.

### REMEMBER FEDERAL FOR YOUR EMERGENCY WARNING NEEDS!!!

If you want the benefits of state-of-the-art LED lighting from the proven leader in quality, service, and reliability, specify Federal Signal on your next emergency vehicle purchase.



*The MODLED X-Series features single and dual module recess mount lights.*

## MULTI-COLOR ModLED DIAGRAMS



**MOD2F-RA  
MOD2X-RA**



**MOD2F-RB  
MOD2X-RB**



**MOD2F-RC  
MOD2X-RC**



**MOD2F-RG  
MOD2X-RG**



**MOD3F-RAR**



**MOD3F-RBR**



**MOD3F-RCR**



**MOD3F-RGR**

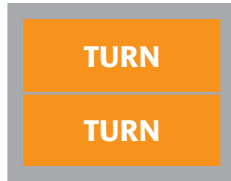


**MOD3F-RCB**

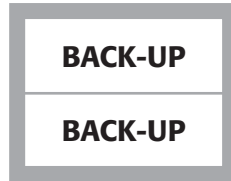
## ModLED B/T/T DIAGRAMS



**MOD2F-BTT**



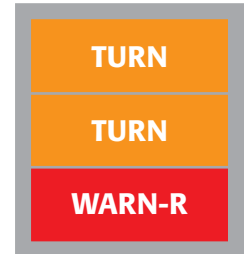
**MOD2F-TURN**



**MOD2F-C**



**MOD1F-CHMSL**



**MOD3F-TW**

LEGEND	
WARN-"color"	Warning light module
B/T/T	Brake/Tail/Turn module, red LEDs
TURN	Turn module, amber LEDs
BACK-UP	Back-up light module, white LEDs

DIMENSIONS									
Model	Height		Width		Depth		Shipping Weight		
	in.	cm.	in.	cm.	in.	cm.	lbs.	kg.	
MOD1	2.1	5.4	4.5	11.3	1.8	4.4	0.8	0.4	
MOD1F	3.9	9.9	6.6	16.9	2.0	5.1	0.8	0.4	
MOD2F	6.2	15.8	6.6	16.9	2.0	5.1	1.5	0.7	
MOD3F	8.2	20.9	6.6	16.9	2.0	5.1	2.3	1.1	
MOD1X	4.3	10.9	6.9	17.5	2.1	5.3	0.8	0.4	
MOD2X	5.6	14.2	6.8	17.3	2.1	5.3	1.5	0.7	

## HOW TO ORDER

### 1. Specify a model.

MOD1	Single module unit, no flange
MOD1F	Single module unit, surface mount flange
MOD1X	Single module unit, recess mount flange
MOD2F	Double module unit, surface mount flange
MOD2X	Double module unit, recess mount flange
MOD3F	Triple module unit, surface mount flange
MOD1F-CHMSL	LED center high mount stop lamp, red
MOD2F-BTT	LED brake/tail/turn light, red
MOD2F-TURN	LED turn light, amber
MOD2F-C	LED back-up light, white
MOD3F-TW	LED amber turn light with single red warning light
MOD6F	LED brake/tail, turn, and back-up lights in cast aluminum bezel

### 2. Specify color of modules where necessary: amber, blue, green, red, or white.

### 3. Specify flasher for warning lights.

650201	Two channel flasher, (2) 6-amp channels, (8) flash patterns
650204	Four channel flasher, (4) 10-amp channels, (18) flash patterns
FA3-SC	90 FPM, (2) 10-amp loads with ground leg
FA5	156 FPM, solid-state, (2) 10-amp loads

### 4. Specify accessories (if necessary).

979801	Headlight mount kit for MOD1X; fits into KD Lamp and Advanced Technology headlight bezels
979802	Headlight mount kit for MOD2X; fits into KD Lamp and Advanced Technology headlight bezels

BRAKE/TAIL/TURN LIGHT SPECIFICATIONS				
Model	Current Draw @ 12.8 VDC	Current Draw @ 12.8 VDC (Tail light mode)	Input Voltage	Operating Temperature
MOD1F-CHMSL	0.33 amps	N/A	11-15 VDC	-30°C to 65°C
MOD2F-BTT	0.66 amps	0.12 amps	11-15 VDC	-30°C to 65°C
MOD2F-TURN	0.62 amps	N/A	11-15 VDC	-30°C to 65°C
MOD2F-C	1.1 amps	N/A	11-15 VDC	-30°C to 65°C
MOD6F	2.4 amps	0.12 amps	11-15 VDC	-30°C to 65°C

WARNING LIGHT SPECIFICATIONS			
Single Module	Current Draw @12.8 VDC	Input Voltage	Operating Temperature
Amber	0.32 amps	11-15 VDC	-30°C to 65°C
Red	0.32 amps	11-15 VDC	-30°C to 65°C
Blue	0.44 amps	11-15 VDC	-30°C to 65°C
Green	0.44 amps	11-15 VDC	-30°C to 65°C
White	0.55 amps	11-15 VDC	-30°C to 65°C