

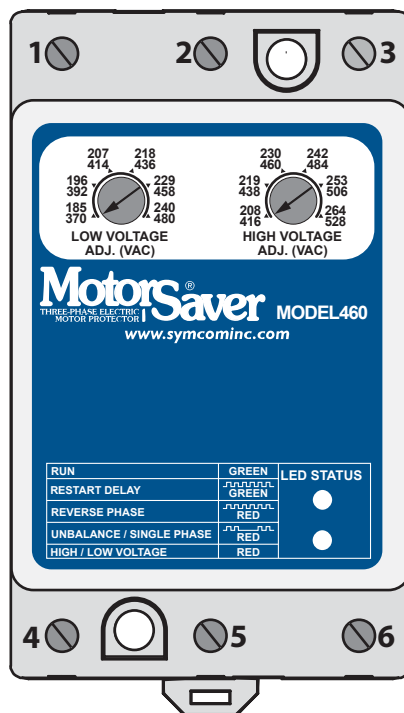
Features

Universal range from 190-480VAC 50 or 60Hz provides the versatility needed to handle global applications.

Diagnostic LEDs indicate trip status and provide simple troubleshooting.

Microcontroller-based circuitry provides better accuracy and higher reliability than analog designs.

Transient protection meets IEEE and IEC standards and permits operation under tough conditions.



Motorsaver
THREE-PHASE ELECTRIC
MOTOR PROTECTOR

**Model
460-VBM-L**
**Three-Phase
Voltage Monitor**
•
**Engineered
Protection**
•
**Microcontroller
Based**

Protects 3-Phase

Motors from:

- Low voltage
- High voltage
- Rapid cycling

Additional Features:

- Compact design
- UL and cUL listed
- CE compliant
- Finger-safe terminals
- 5-year warranty
- Made in USA
- Surface or DIN rail mountable
- One 10 amp general purpose form C relay

The **Model 460-VBM-L** is designed to protect 3-phase loads from damaging power conditions. The 460-VBM-L's wide operating range combined with UL and CE compliance enables quick access to domestic and global markets.

A unique microcontroller-based voltage and phase-sensing circuit constantly monitors the 3-phase voltages to detect harmful power line conditions. When a harmful condition is detected, the MotorSaver's output relay is deactivated after a specified trip delay. The output relay reactivates after power line conditions return to an acceptable level for a specified amount of time (restart delay). The trip and restart delays prevent nuisance tripping due to rapidly fluctuating power line conditions.

The Model 460-VBM-L automatically senses whether it is connected to a 190-240V 60Hz system, a 440-480V 60Hz system, or a 380-416V 50Hz system. Adjustments are provided to set the low voltage and high voltage trip points.



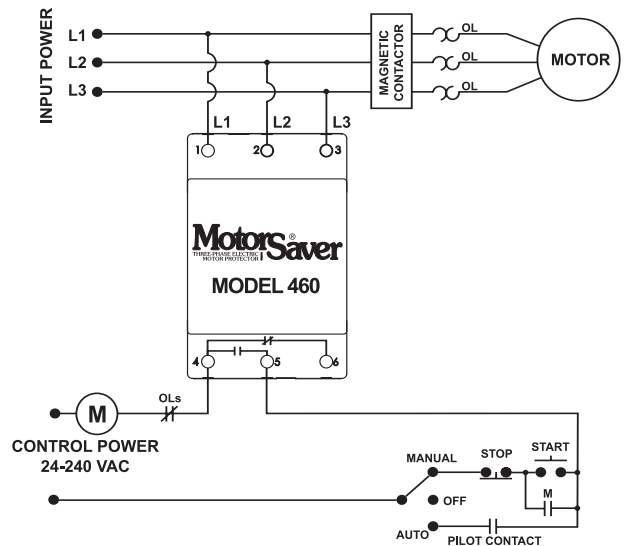
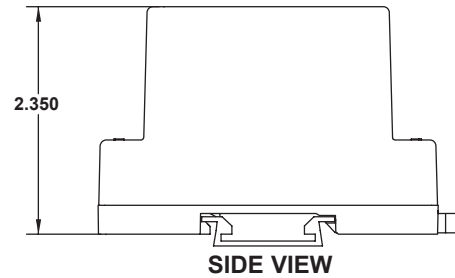
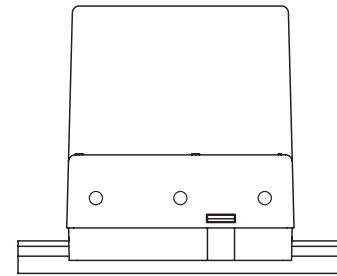
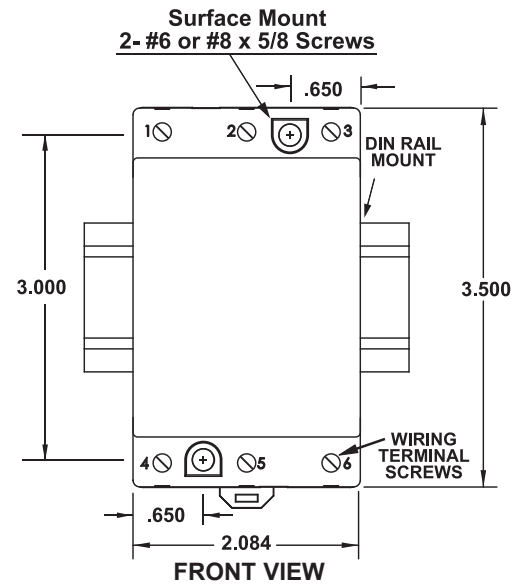
Model 460-VBM-L Three-Phase Voltage Monitor

SPECIFICATIONS

3-Phase Line Voltage	190-48 VAC
Frequency	50* or 60Hz
Low Voltage	
Trip.....	185-480VAC
Reset.....	Trip Setting plus 3%
High Voltage	
Trip.....	208-528VAC
Reset.....	Trip Setting minus 3%
Trip Delay Time	
Low and High Voltage.....	4 Seconds
Restart Delay Time	
After a fault or complete power loss.....	2 Seconds
Output Contact Rating - SPDT	
Pilot Duty.....	480 VA @ 240VAC
General Purpose.....	10A @ 240VAC
Power Consumption	6 Watts (maximum)
Weight	14 oz.
Enclosure	Polycarbonate
Terminal	
Torque.....	6 In.-lbs. Max.
Wire AWG.....	12-20 AWG
Safety Marks	
UL.....	UL508 (File # E68520)
CE.....	IEC 60947-6-2
Standards Passed	
Electrostatic Discharge (ESD).....	IEC 1000-4-2, Level 3, 6kV contact, 8kV air
Radio Frequency Immunity, Radiated.....	159 MHz, 10 V/m
Fast Transient Burst.....	IEC 1000-4-4, Level 3, 3.5kV input power and controls
Surge	
IEC.....	IEC 1000-4-5, Level 3, 4kV line-to-line; Level 4, 4kV line-to-ground
ANSI / IEEE.....	C62.41 Surge and Ring Wave Compliance to a level of 6kV line-to-line
Hi-potential Test.....	Meets UL508 (2 x rated V +1000V for 1 minute)
Environmental	
Temperature Range.....	Ambient Operating: -20° to 70°C (-4° to 158°F) Ambient Storage: -40° to 80°C (-40° to 176°F)
Class of Protection.....	IP20, NEMA 1 (finger safe)
Relative Humidity.....	10-95%, non-condensing per IEC 68-2-3

*NOTE: 50Hz will increase all delay timers by 20%

SymCom warrants its microcontroller based products against defects in material or workmanship for a period of five (5) years from the date of manufacture. All other products manufactured by SymCom shall be warranted against defects in material and workmanship for a period of two (2) years from the date of manufacture. For complete information on warranty, liability, terms, returns, and cancellations, please refer to the SymCom Terms and Conditions of Sale document.



TYPICAL WIRING DIAGRAM