

Features

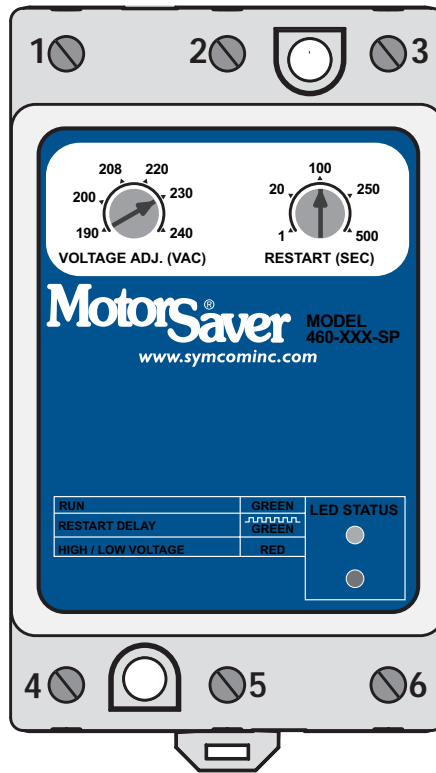
Universal range from 95-120 or 190-240VAC, 50/60 Hz provides the versatility needed to handle global applications.

Two adjustment pots provide versatility for all kinds of 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 to allow operation under tough conditions.



Motorsaver
THREE-PHASE ELECTRIC
MOTOR PROTECTOR

**Model
460-XXX-SP**

**Single-Phase
Voltage Monitor**

**Engineered
Protection**

**Microcontroller
Based**

Protects Single-Phase Motors From:

- Low voltage
- High voltage
- Rapid cycling

Additional Features:

- Compact design
- Standard 1-500 sec. variable restart delay
- Standard surface or DIN rail mountable
- Finger-safe terminals
- One 10 Amp general purpose Form C relay
- Optional manual reset
- UL and cUL listed
- CE compliant
- 5-year warranty
- Made in USA

The **Model 460-XXX-SP** protects single-phase motors from damage caused by low and high voltage and rapid cycling. Controls are provided to set the nominal voltage (190-240VAC) and the desired restart delay time (1-500 sec.).

A unique microcontroller-based, voltage-sensing circuit constantly monitors the voltage 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 restart delay is also a power-up delay and can be utilized to stagger-start motors on the same system. The trip delay prevents nuisance tripping due to rapidly fluctuating power line conditions.

Model 460-XXX-SP Single-Phase Voltage Monitor

Specifications

Single-Phase Line Voltage

460-100-SP	95-120VAC
460-200-SP	190-240VAC

Frequency50*/60 Hz

Low Voltage (% of setpoint)

•Trip	90% ±1%
•Reset.....	93% ±1%

High Voltage (% of setpoint)

•Trip	110% ±1%
•Reset.....	107% ±1%

Trip Delay Time

•Low or High Voltage4 seconds

Restart Delay Time

•After a Fault	1-500 seconds adjustable
•After a Complete Power Loss	1-500 seconds adjustable

Output Contact Rating

•1-Form C.....	10 A General Purpose @ 240VAC Pilot Duty 480VA @ 240VAC, B300
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Power Consumption6 Watts (max.)

Weight14 oz.

EnclosurePolycarbonate

Terminal Torque6 in.-lbs.

Wire Type.....Stranded or solid 12-20 AWG, one per terminal

Safety Marks

•UL	UL508
•CE	IEC 60947-6-2

Standards Passed

•Electrostatic Discharge (ESD)	IEC 1000-4-2, Level 3, 6kV contact, 8kV air
•Radio Frequency Immunity, Radiated.....	150 MHz, 10V/m
•Fast Transient Burst	IEC 1000-4-4, Level 3, 3.5 kV input power & 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

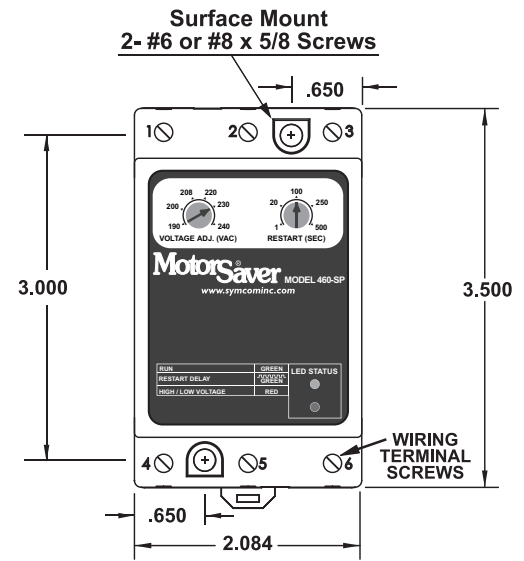
Temperature Range	Ambient Operating: -20° to 70° C (-4° to 158°F) Ambient Storage: -40° to 80° C (-40° to 176°F)
Class of Protection	IP20, NEMA 1 (finger safe)
Relative Humidity	10-95%, non-condensing per IEC 68-2-3

Special Options

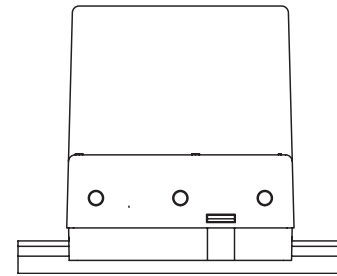
Manual Reset.....External momentary pushbutton required.

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

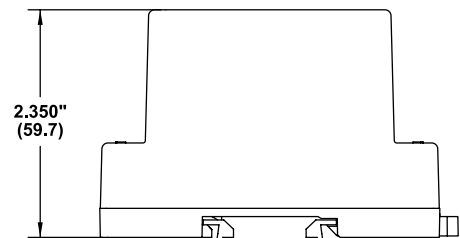
SymCom warrants its microcontroller based products against defects in material or workmanship for a period of five (5) years from the date of manufacture. All other products manufactured by SymCom shall be warranted against defects in material and workmanship for a period of two (2) years from the date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



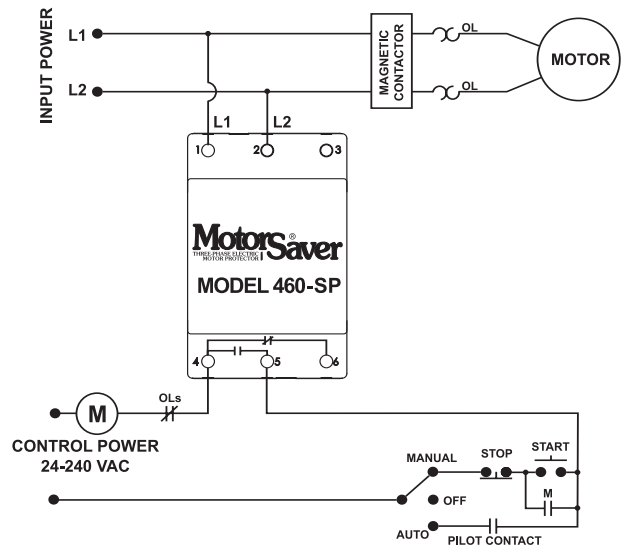
FRONT VIEW



BOTTOM VIEW



SIDE VIEW



TYPICAL WIRING DIAGRAM