

Features

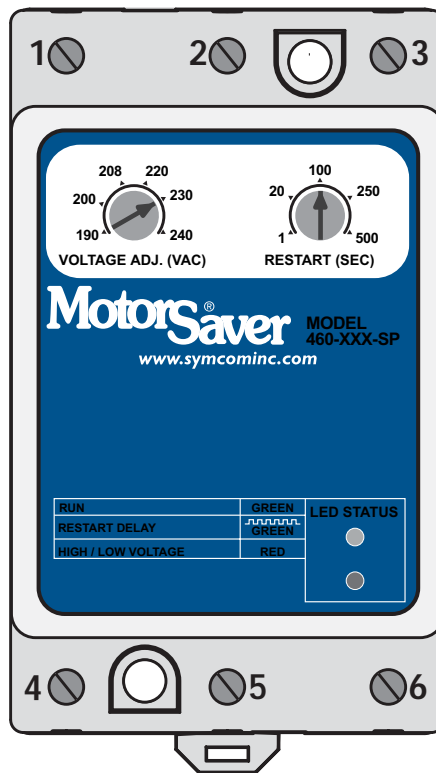
Universal range from 95-120 or 190-240VAC, 50/60 Hz provides the versatility needed to handle global applications.

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)
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Class of Protection.....IP20, NEMA 1 (finger safe)

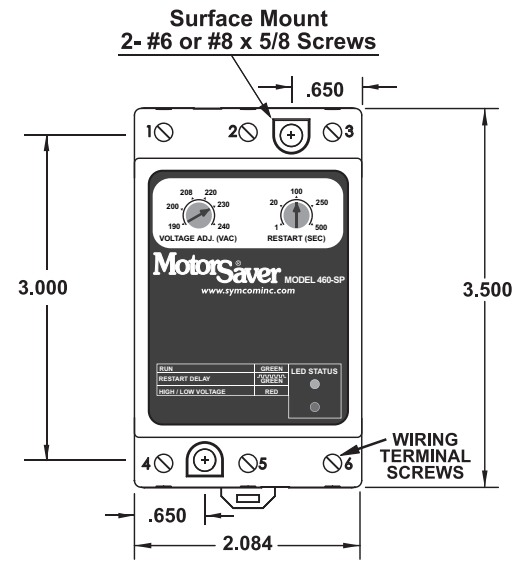
Relative Humidity10-95%, non-condensing per IEC 68-2-3

Special Options

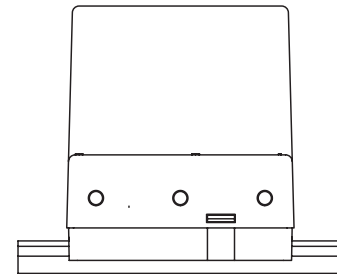
Manual Reset.....External momentary pushbutton required.

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

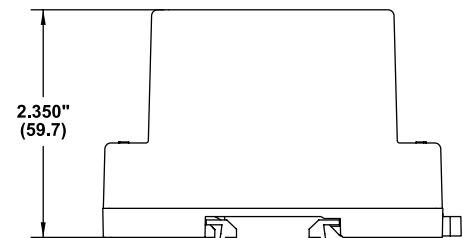
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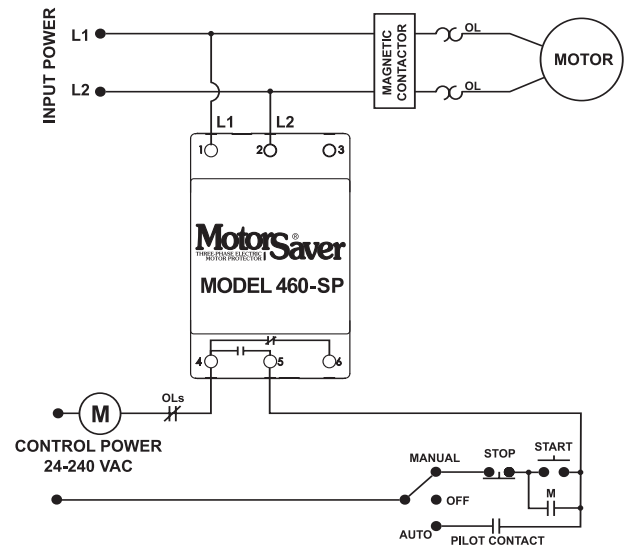
FRONT VIEW



BOTTOM VIEW



SIDE VIEW



TYPICAL WIRING DIAGRAM