

460-XXX-SP SERIES

Single-phase voltage monitor



Description

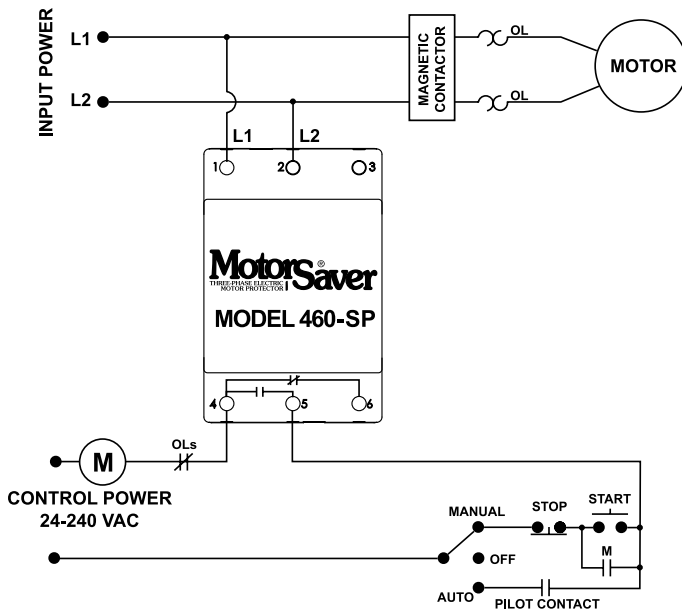
The 460-100-SP is used on 95–120 V ac, 50*/60 Hz single-phase motors and the 460-200-SP is used on 190–240 V ac, 50*/60 Hz single-phase motors to protect them from damaging high and low voltage conditions. An adjustment knob allows the user to set a 1–500 second restart delay. The variable restart delay is also a power-up delay and can be utilized to stagger-start motors on the same system.

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 and a specified amount of time has elapsed (restart delay). The trip delay prevents nuisance tripping due to rapidly fluctuating power line conditions.

Features & Benefits

FEATURES	BENEFITS
Proprietary microcontroller based circuitry	Constant monitoring of voltage to detect harmful power line conditions, even before a motor starts
Fixed trip delay 4 s	Prevents nuisance tripping due to rapidly fluctuating power line conditions
Adjustable restart delay (1–500s)	Allows staggered start up of multiple motors on the same system to prevent a low voltage condition
Advanced LED indication	Provides diagnostics which can be used for troubleshooting and to determine relay status
DIN rail or surface mountable	Allows flexibility for panel assembly

Wiring Diagram



Ordering Information

MODEL	LINE VOTAGE
460-100-SP	95–120 V ac
460-200-SP	190–240 V ac

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Specifications

Input Characteristics

Line Voltage

460-100-SP 95–120 V ac
460-200-SP 190–240 V ac

Frequency 50*/60 Hz

Functional Characteristics

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 Voltage 4 seconds fixed

Restart Delay Time

After a Fault 1–500 seconds adjustable

After a Complete Power Loss 1–500 seconds adjustable

Output Characteristics

Output Contact Rating (1 Form C)

Pilot Duty 480 VA @ 240 V ac, B300

General Purpose 10 A @ 240 V ac

General Characteristics

Ambient Temperature Range

Operating -40° to 70°C (-40° to 158°F)

Storage -40° to 80°C (-40° to 176°F)

Maximum Input Power 6 W

Class of Protection IP20, NEMA 1 (finger safe)

Relative Humidity 10–95%, non-condensing per IEC 68-2-3

Terminal Torque 4.5 in.-lbs.

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

Standards Passed

Electrostatic Discharge (ESD) IEC 61000-4-2, Level 3, 6 kV contact, 8 kV air

Radio Frequency Immunity,

Radiated 150 MHz, 10 V/m

Fast Transient Burst IEC 61000-4-4, Level 3, 3.5 kV input power and controls

Surge

IEC

IEC 61000-4-5, Level 3, 4 kV line-to-line;
Level 4, 4 kV line-to-ground

ANSI/IEEE

C62.41 Surge and Ring Wave Compliance to a
level of 6 kV line-to-line

Hi-potential Test

Meets UL 508 (2 x rated V +1000 V for 1 min)

Safety Marks

UL

UL 508 (File #E68520)

Enclosure

Polycarbonate

Dimensions

H 88.9 mm (3.5"); **W** 52.93 mm (2.084");

D 59.69 mm (2.35")

Weight

0.9 lb. (14.4 oz., 408.23 g)

Mounting Method

35 mm DIN rail or Surface Mount
(#6 or #8 screws)

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