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

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

<table>
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<th>MODEL</th>
<th>LINE VOLTAGE</th>
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<tr>
<td>460-100-SP</td>
<td>95–120 V ac</td>
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<tr>
<td>460-200-SP</td>
<td>190–240 V ac</td>
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</table>
**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
- 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: 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
  - Meets UL 508 (2 x rated V +1000 V for 1 min)
- **Hi-potential Test**: UL 508 (File #E68520)
- **Safety Marks**: 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 %