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

Ordering Information

<table>
<thead>
<tr>
<th>MODEL</th>
<th>LINE VOLTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>460-100-SP</td>
<td>95–120 V ac</td>
</tr>
<tr>
<td>460-200-SP</td>
<td>190–240 V ac</td>
</tr>
</tbody>
</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**: 480 VA @ 240 V ac, B300
- **Pilot Duty**: 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 66-2-3
- **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**: IEC 61000-4-4, Level 3, 3.5 kV input power and controls
- **Fast Transient Burst**: IEC 61000-4-4, 1.2/50 μs, 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) Polycarbonate
- **Enclosure**: 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 %