

# 202 SERIES

## 3-Phase Voltage/Phase Monitor



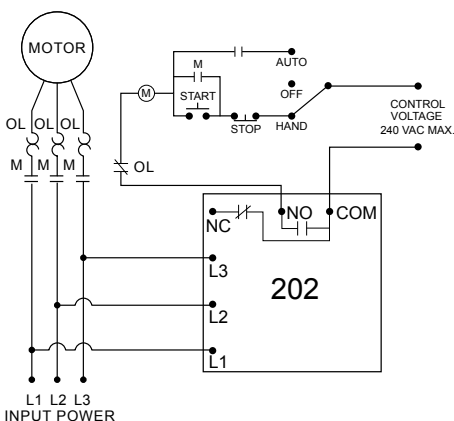
### Description

The 202 Series is a 3-phase, auto-ranging, dual-range voltage monitor that protects 190-480VAC, 50\*/60Hz motors regardless of size. The 202-RP (and the 202-575-RP for 475-600VAC) monitors the phase rotation of 3-phase systems and trips on reverse-phase only. Critical applications include fan motors, scroll compressors, grinders, conveyor systems, elevators and escalators. Both products provide a user selectable nominal voltage setpoint and automatically select between the 200V and 400V range.

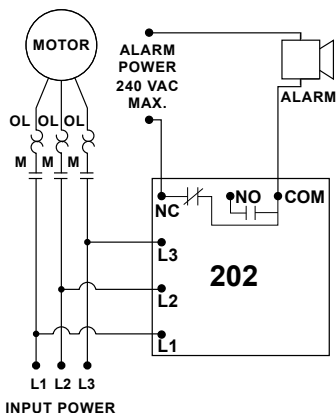
This unique microcontroller-based voltage and phase-sensing device constantly monitors the 3-phase voltages to detect harmful power line conditions. When a harmful condition is detected, the MotorSaver's output relay is deactivated after a specified trip delay. The output relay reactivates after power line conditions return to acceptable levels for a specified amount of restart delay time (or a manual reset). The 202 Series includes advanced single LED diagnostics. Five different light patterns distinguish between faults and normal conditions. The status light turns green and the relay is activated when rotation is correct.

### Wiring Diagram

202 WITH MOTOR CONTROL



202 WITH ALARM CIRCUIT



### Features & Benefits

FEATURES	BENEFITS
<b>Compact, quick mounting design</b>	1-screw mounting saves time and space. Small footprint ideal for assembly into panels.
<b>Proprietary microcontroller based circuitry</b>	Constant monitoring of single-phase, low voltage, high voltage, voltage unbalance, phase reversal, harmful power line conditions.
<b>Auto-sensing wide voltage range (202 &amp; 202-RP)</b>	Automatically senses system voltage between 90 - 480VAC. Saves setup time.
<b>Advanced LED diagnostics</b>	Quick visual indicator for cause of trip. LED indications include: normal operation, restart delay, reverse-phase trip, fault
<b>Adjustable trip delay (202)</b>	Prevent nuisance tripping due to rapidly fluctuating power line conditions.

### Ordering Information

MODEL	LINE VOLTAGE	DESCRIPTION
202	190-480VAC	Standard protection with low/high voltage trip, voltage unbalance
202-RP	190-480VAC	Trips on reverse-phase only
202-575-RP	475-600VAC	Designed for higher voltage systems and trips on reverse-phase only

For dimensional drawing see: Appendix, page 509, Figure 7.

9 AC SYSTEM MONITORS/LOAD SENSORS

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### Specifications

<b>Frequency</b>	50*/60Hz
<b>Functional Characteristics</b>	
<b>Phase Sequence</b>	ABC
<b>Low Voltage (% of setpoint)</b>	
<b>Trip</b>	90%
<b>Reset</b>	93%
<b>High Voltage (% of setpoint)</b>	
<b>Trip</b>	110%
<b>Reset</b>	107%
<b>Voltage Unbalance (NEMA)</b>	
<b>Trip</b>	6%
<b>Reset</b>	4.5%
<b>Trip Delay Time</b>	
<b>High and Low Voltage</b>	4 seconds
<b>Unbalance &amp; Phasing Faults</b>	2 seconds
<b>Restart Delay Time</b>	
<b>After a Fault</b>	Manual, 2-300 seconds adj.
<b>After a Complete Power Loss</b>	Manual, 2-300 seconds adj.

### Output Characteristics

<b>Output Contact Rating (SPDT)</b>	
<b>Pilot Duty</b>	480VA @ 240VAC
<b>General Purpose</b>	10A @ 240VAC
<b>General Characteristics</b>	
<b>Temperature Range</b>	-40° to 70°C (-40° to 158°F)
<b>Trip &amp; Reset Accuracy</b>	±1%
<b>Repeatability</b>	±0.5%
<b>Maximum Input Power</b>	5 W
<b>Relative Humidity</b>	95%, non-condensing
<b>Transient Protection</b>	IEC 61000-4-5, ±4kV
<b>Hi-potential Test</b>	Meets UL508 (2x rated V+1000V for 1 minute)
<b>Termination</b>	0.25" male quick connect
<b>Safety Marks</b>	
<b>UL Recognized</b>	UL508 (File #E68520)
<b>Dimensions</b>	<b>H</b> 63.5 mm (2.5"); <b>W</b> 63.5 mm (2.5"); <b>D</b> 35.56 mm (1.4")
<b>Weight</b>	0.5 lb. (8 oz., 226.8 g)
<b>Mounting Method</b>	1/4" socket head cap screw (customer supplied)

\*Note: 50Hz will increase all delay timers by 20%. CE Pending