

# Voltage Monitoring Relays

## 202 Series

### 3-Phase Voltage/Phase Monitor



## Description

The 202 series is a three-phase, auto-ranging, dual-range voltage monitor that protects 190–480 V ac, 50\*/60 Hz motors regardless of size. The 202-RP (and the 202-575-RP for 475–600 V ac) monitors the phase rotation of the three-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 200 V and 400 V range.

This unique microcontroller-based voltage and phase-sensing device constantly monitors the three-phase voltages to detect harmful power line conditions. When a harmful condition is detected, the MotorSaver® deactivates its output relay 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.

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

## Features & Benefits

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

## Applications

- Fan motors
- Scroll compressors
- Grinders
- Conveyor systems
- Elevators and escalators

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### Specifications

<b>Frequency</b>	50*/60 Hz
<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 adjustable
<b>After a Complete Power Loss</b>	Manual, 2–300 seconds adjustable
<b>Output Characteristics</b>	
<b>Output Contact Rating (SPDT)</b>	
<b>Pilot Duty</b>	480 VA @ 240 V ac
<b>General Purpose</b>	10 A @ 240 V ac
<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, ±4 kV
<b>Hi-potential Test</b>	Meets UL 508 (2x rated V+1000 V for 1 minute)
<b>Termination</b>	0.25" male quick connect
<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: 50 Hz will increase all delay timers by 20%. CE Pending

### Certification & Compliance

<b>UL Recognized</b>	UL 508 (File #E68520)
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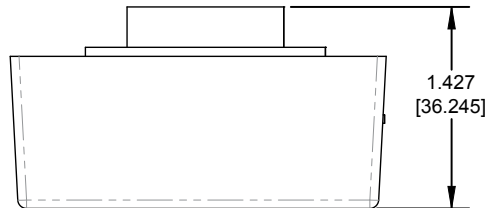
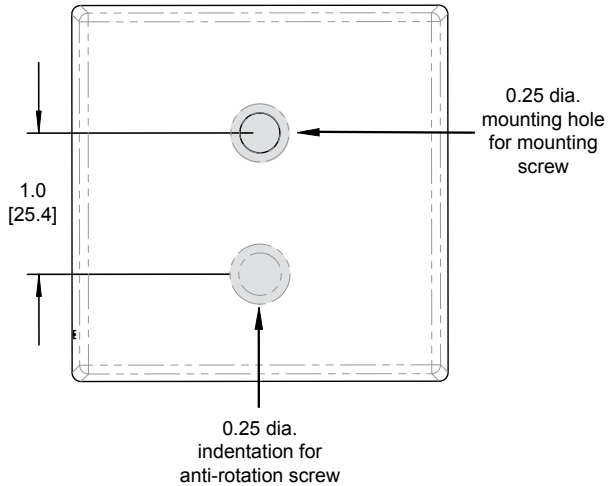
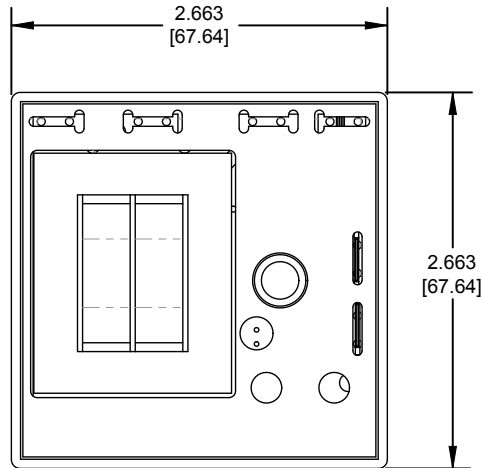
### Ordering Information

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

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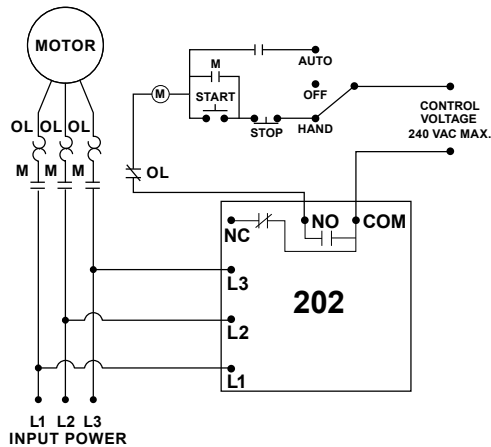
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### Dimensions Inches (mm)

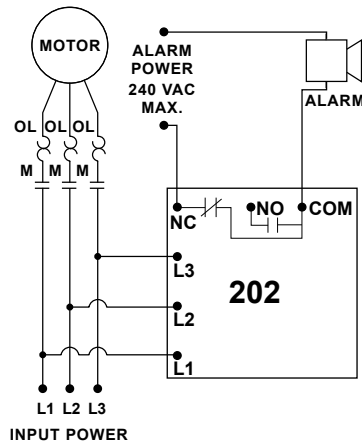


### Wiring Diagram

202 WITH MOTOR CONTROL



202 WITH ALARM CIRCUIT



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