

Voltage Monitoring Relays

201A Series

3-Phase Voltage/Phase Monitor



Description

The 201A series is a three-phase, auto-ranging, dual-range voltage monitor that protects 190–480 V ac, 50*/60 Hz motors regardless of their size. This monitor provides a user-selectable nominal voltage setpoint and will automatically select between the 200 V and 400 V range. It includes advanced, single LED diagnostics where color and light patterns distinguish between faults and normal conditions. This unique microcontroller-based voltage and phase-sensing unit constantly monitors the three-phase voltages to detect harmful power line conditions. When a harmful condition is detected, the output relay is deactivated after a specified trip delay. The output relay reactivates after power line conditions return to acceptable levels for a specified restart delay time.

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

Features & Benefits

FEATURES	BENEFITS
Proprietary microcontroller-based circuitry	Constant monitoring of single-phase, low-voltage, voltage unbalance, phase reversal, power line conditions – high-voltage monitoring is optional
Auto-sensing wide voltage range	Automatically senses system voltage between 190–480 V ac. Saves setup time
Advanced LED diagnostics	LED indications include: normal operation, power-up restart delay, reverse-phase trip, unbalance/single-phase trip, high/low voltage trip
Compact design for 8-pin; DIN-rail or surface mount	Allows flexibility in panel installation

Applications

- Fan motors
- Air conditioners
- Compressors
- Heat, well, and sump pumps
- Small conveyer motors

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Specifications

Frequency	50/60 Hz
Functional Characteristics	
Low Voltage (% of setpoint)	
Trip	90% $\pm$ 1%
Reset	93% $\pm$ 1%
Voltage Unbalance (NEMA)	
Trip	6%
Reset	4.5%
Optional High Voltage (% of setpoint)	
Trip	110% $\pm$ 1%
Reset	107% $\pm$ 1%
Trip Delay Time	
High/Low Voltage Fault	4 seconds
Unbalance & Phasing Faults	2 seconds
Restart Delay Time	
After a Fault	2 seconds
After a Complete Power Loss	2 seconds
Output Characteristics	
Output Contact Rating (SPDT)	
Pilot Duty	480 VA @ 240 V ac
General Purpose	10 A @ 240 V ac
General Characteristics	
Temperature Range	-20° to 70 °C (-4° to 158 °F)
Trip & Reset Accuracy	$\pm$ 1%
Maximum Input Power	5 W
Relative Humidity	10–95%, non-condensing per IEC 68-2-3
Terminal Torque	12 in.-lbs. (for OT08-PC socket)
Wire Gauge	12–22 AWG solid or stranded
Transient Protection (Internal)	2500 V for 10 ms
Standards Passed	
Electrostatic Discharge (ESD)	IEC 61000-4-2, Level 3, 6 kV contact, 8 kV air
Radio Frequency Immunity (RFI), Radiated	150 MHz, 10 V/m
Fast Transient Burst	IEC 61000-4-4, Level 3, 3.5 kV input power & controls
Surge	
Immunity	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 UL508 (2 x rated V + 1000V for 1 min.)
Dimensions	H 44.45 mm (1.75"); W 60.33 mm (2.38"); D (with socket) 104.78 mm (4.13")
Weight	0.7 lbs. (11.2 oz., 317.51 g)
Mounting	Method DIN-rail or surface mount (plug in to OT08PC socket)
Socket Available	Model OT08PC (UL Rating 600 V)

The 600 V socket can be surface mounted or installed on DIN Rail.

Note: Manufacturer's recommended screw terminal torque for the OT Series Octal Sockets is 12 in.-lbs.

Must use Model OT08PC socket for UL Rating!

Certification & Compliance

UL

UL 508 (File #E68520)

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Accessories

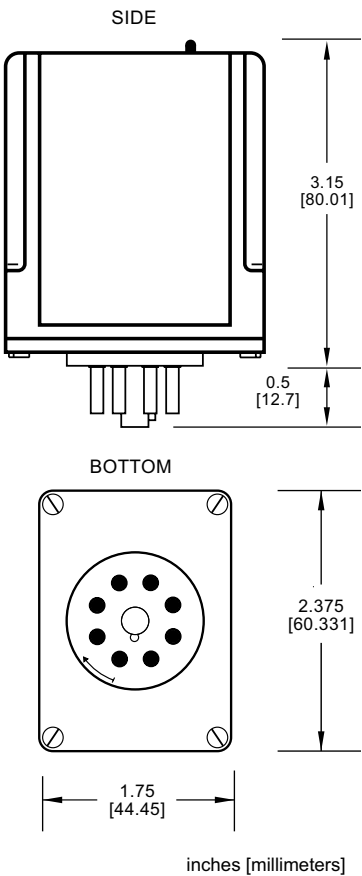
OT08PC Octal 8-pin Socket

8-pin 35 mm DIN-rail or surface mount. Rated at 10 A @ 600 V ac. Surface mounted with two #6 screws or snaps onto a 35 mm DIN-rail.

Ordering Information

MODEL	LINE VOLTAGE	DESCRIPTION
201A	190–480 V ac	DIN-rail or surface mountable
201A-9	190–480 V ac	Includes high voltage detection. DIN-rail or surface mountable

Dimensions Inches (mm)

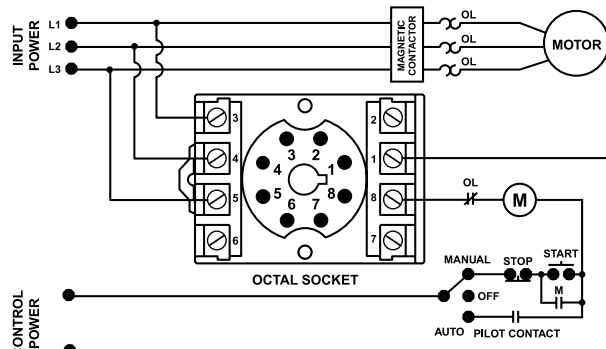


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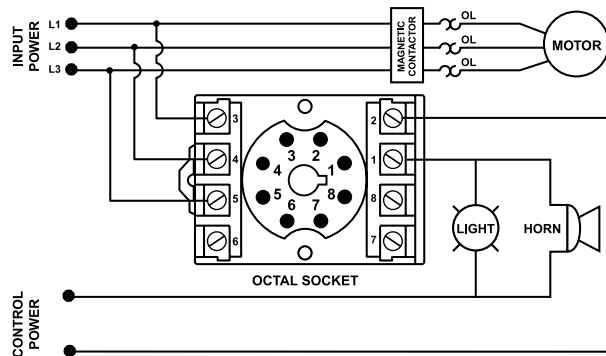
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Wiring Diagram

201A WITH MOTOR CONTROL



201A WITH ALARM CONTROL



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