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.

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



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

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)

Relative Humidity10-95%, non-condensing per IEC 68-2-3Terminal Torque12 in.-lbs. (for OT08-PC socket)Wire Gauge12-22 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

ImmunityIEC IEC 61000-4-5, Level 3, 4 kV line-to-line; Level 4, 4 kV line-to-groundANSI/IEEEC62.41 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 508 (File #E68520)



Accessories

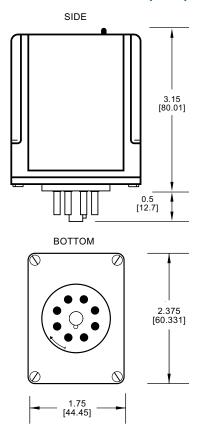
OT08PC Octal 8-pin Socket

8-pin 35 mm DIN-rail or surface mount. Rated at 10 A @ $600 \, \text{V}$ 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

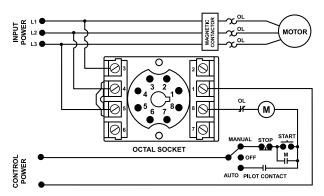
Dimensions Inches (mm)



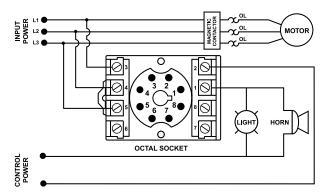
inches [millimeters]

Wiring Diagram

201A WITH MOTOR CONTROL



201A WITH ALARM CONTROL



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