

Voltage Monitoring Relays

355 Series

3-Phase Voltage/Phase Monitor



Description

The 355 series is a three-phase voltage monitor with adjustable trip and restart delay, adjustable voltage unbalance, and multiple diagnostic lights. It is ideal for heavy-duty applications that need both protection and simple user-friendly diagnostics. Suitable applications include pump panels, commercial HVAC, oil rigs, and many more. The 355 series uses microcontroller technology to monitor incoming voltage and de-energize its output relay if power problems exist. It can protect motors from damage caused by single-phasing, high- and low-voltage, phase reversal, and voltage unbalance. These relays have four diagnostic LEDs that clearly show overvoltage, undervoltage, voltage unbalance, reverse-phase, and normal conditions. The adjustable trip and restart settings prevent nuisance tripping due to rapidly fluctuating power line conditions and allow staggered start-up of multiple motors after a fault to prevent a low-voltage condition.

Series 355 models include the 355-200, which is equipped with a heavy-duty 10 A general purpose SPDT relay. The 355-400 and 355-600 models are equipped with a 470 VA @ 600 V ac pilot duty SPDT relay. A high-voltage (600 V) DPDT relay output option is available with the 400 V model.

Features & Benefits

| FEATURES | BENEFITS |
|--|--|
| Proprietary microcontroller-based circuitry | Constantly monitors three-phase voltage to protect against harmful line conditions even before the motor is started |
| Advanced LED indication | Provides diagnostics that can be used for troubleshooting and to determine relay status |
| Adjustable trip and restart delay settings | Prevents nuisance tripping and allows staggered start-up of multiple motors after a fault to prevent a low-voltage condition |
| 600 V rated relay contacts available on some models | Eliminates the need for a control transformer to step voltage down to 120–240 V for a control circuit |

Applications

- Pump panels
- Commercial HVAC
- Oil rigs
- Heavy-duty applications that need both protection and simple user-friendly diagnostics

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Specifications

Input Characteristics

Line Voltage (Specify voltage range)

| | |
|--------|--------------|
| 355200 | 190–240 V ac |
| 355400 | 380–480 V ac |
| 355600 | 475–600 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% |

Voltage Unbalance (NEMA)

| | |
|-------|-----------------------|
| Trip | 2–8% adjustable |
| Reset | Trip setting minus 1% |

Trip Delay Time

Low & High Voltage and Unbalance 2–30 seconds adjustable

Single-phasing Faults (>25% UB)

2 seconds

Restart Delay Time

After a Fault or Power Loss Manual, 2–300 seconds adjustable

Output Characteristics

Output Contact Rating

SPDT (355200)

| | |
|-----------------|--------------------|
| Pilot Duty | 480 VA at 240 V ac |
| General Purpose | 10 A |

SPDT (355400, 355600)

| | |
|------------|-------------------|
| Pilot Duty | 470 VA @ 600 V ac |
|------------|-------------------|

DPDT (-5 Option)

| | |
|------------|-------------------|
| Pilot Duty | 470 VA @ 600 V ac |
|------------|-------------------|

General Characteristics

Temperature Range

| | |
|-----------|--------------------------------|
| Operating | -40° to 70 °C (-40° to 158 °F) |
| Storage | -40° to 80 °C (-40° to 176 °F) |

Repeat Accuracy

| | |
|---------------------|-------|
| Fixed Conditions | ±0.1% |
| Maximum Input Power | 6 W |

Terminal Torque

7 in.-lbs.

Wire Size

12–18 AWG

Transient Protection (Internal)

2500 V for 10 ms

Dimensions

H 74.42 mm (2.93"); **W** 133.86 mm (5.27"); **D** 74.93 mm (2.95")

Weight

0.94 lb. (15.04 oz., 426.38 g)

Mounting Method

#8 screws

Special Options

Option 5 - DPDT Relay

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

Certification & Compliance

UL

UL 508 (File #E68520)

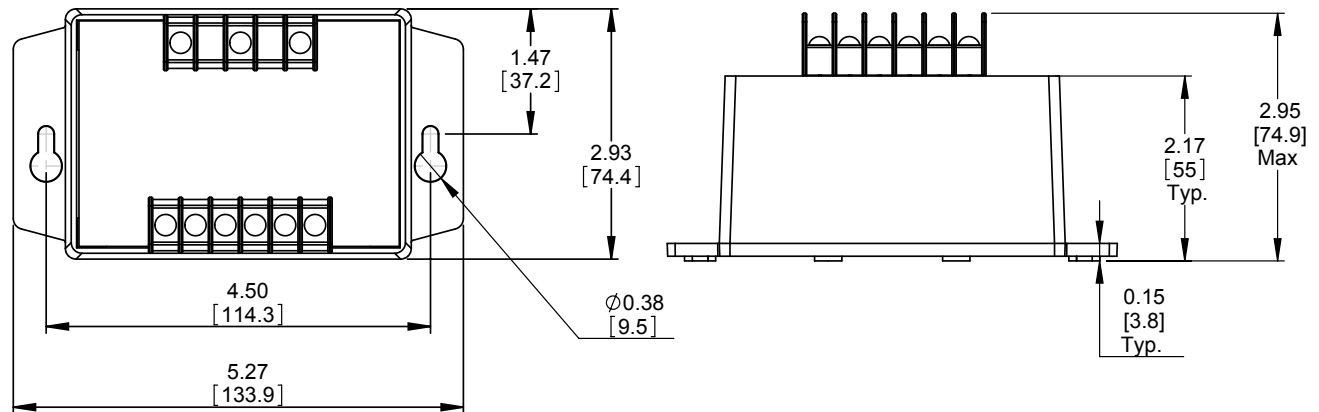
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Ordering Information

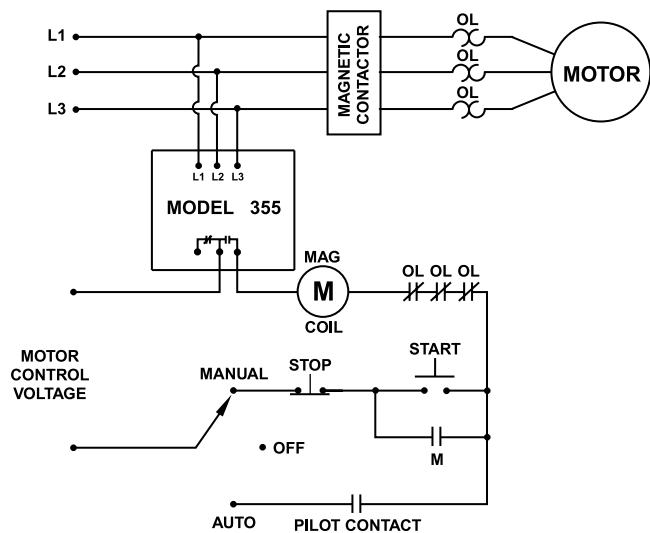
| MODEL | LINE VOLTAGE | DESCRIPTION |
|---------|--------------|-------------|
| 355200 | 190–240 V ac | SPDT |
| 355400 | 380–480 V ac | SPDT |
| 3554005 | 380–480 V ac | DPDT |
| 355600 | 475–600 V ac | SPDT |

Dimensions Inches (mm)

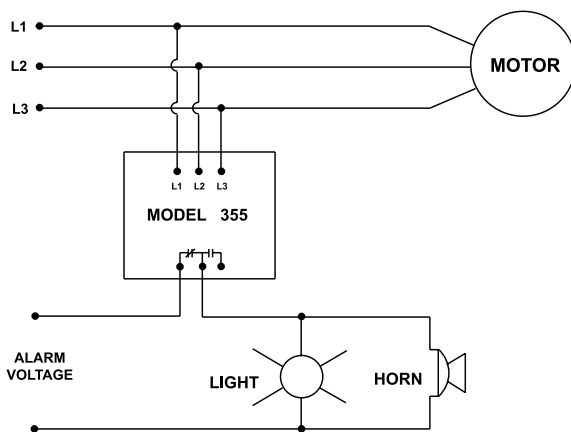


Wiring Diagram

TYPICAL WIRING DIAGRAM FOR MODEL 355 WITH MOTOR CONTROL



TYPICAL WIRING DIAGRAM FOR MODEL 355 WITH ALARM CONTROL



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