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)

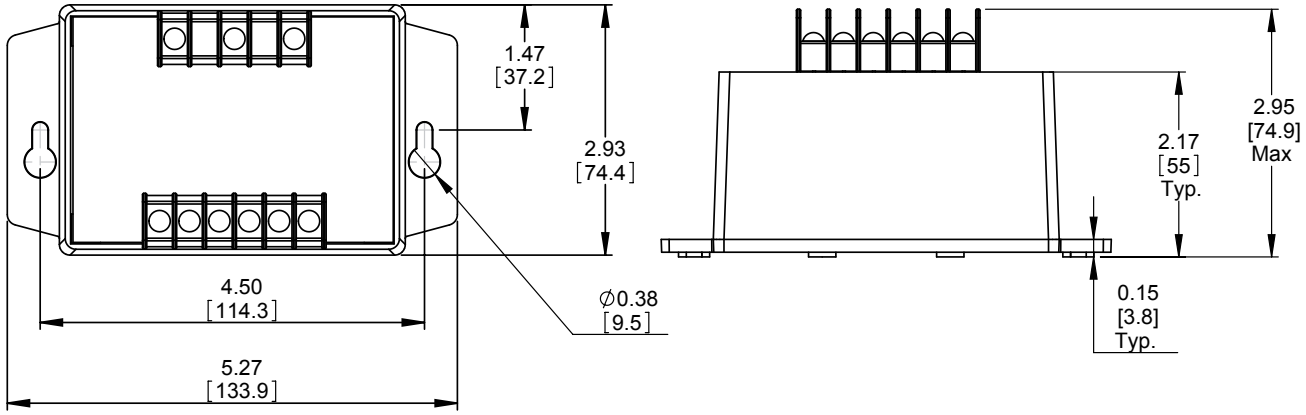
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Ordering Information

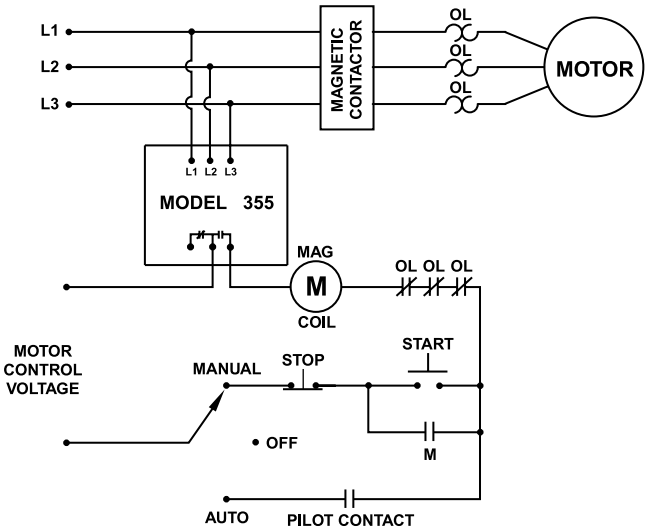
MODEL	LINE VOLTAGE	DESCRIPTION
355200	190–240 V ac	SPDT
355400	380–480 V ac	SPDT
3554005	380–480 V ac	DPDT
355600	475–600 V ac	SPDT

Dimensions Inches (mm)

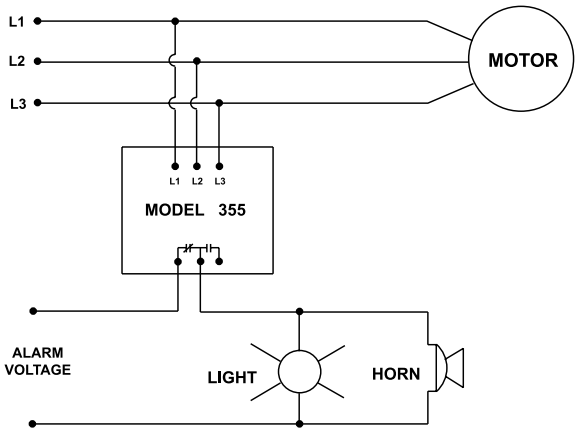


Wiring Diagram

TYPICAL WIRING DIAGRAM FOR MODEL 355 WITH MOTOR CONTROL



TYPICAL WIRING DIAGRAM FOR MODEL 355 WITH ALARM CONTROL



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