

50R SERIES

Single-phase voltage monitor

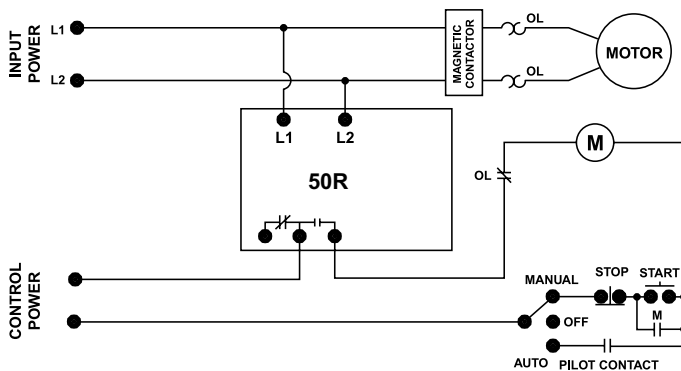


Description

The 50R Series single-phase voltage monitor has a voltage-sensing circuit which constantly monitors the single-phase power for a low voltage condition. Single-phase motors on fans, compressors, air conditioners, heat pumps, well pumps, sump pumps and small conveyor motors are all applicable to the 50R Series.

When a harmful condition is detected, the MotorSaver's output relay is deactivated after a specified trip delay. The output relay reactivates after power line conditions return to an acceptable level and a specified amount of time has elapsed (restart delay). The trip delay prevents nuisance tripping due to rapidly fluctuating power line conditions.

Wiring Diagram



Features & Benefits

| FEATURES | BENEFITS |
|---|--|
| Proprietary voltage sensing circuitry | Constant monitoring of single-phase power for a low voltage condition |
| Adjustable trip delay (-3 models) and restart delay (-2 models) settings | Prevent nuisance tripping due to rapidly fluctuating power line conditions and allows staggered start up of multiple motors, after a fault, to prevent a low voltage condition |
| High voltage detection (-9 models) | Trips and resets at a fixed percentage of the setpoint: trip 110%, reset 107%. |
| 600V rated relay contacts available on some models | Eliminates the need for a control transformer to step voltage down to 120 - 240V for a control circuit |

Ordering Information

| MODEL | LINE VOLTAGE | DESCRIPTION |
|-----------|--------------|--|
| 50R-100 | 95-120VAC | Fixed trip and restart delay |
| 50R-100-2 | 95-120VAC | Fixed trip and variable restart delay (manual, 2-300s) |
| 50R200 | 190-240VAC | Fixed trip and restart delay |
| 50R2002 | 190-240VAC | Fixed trip and variable restart delay (manual, 2-300s) |
| 50R2003 | 190-240VAC | Fixed restart and variable trip delay (2-30s) |
| 50R20029 | 190-240VAC | Fixed trip and variable restart delay (manual, 2-300s) plus high voltage detection |
| 50R400 | 380-480VAC | Fixed trip and restart delay |
| 50R4002 | 380-480VAC | Fixed trip and variable restart delay (manual, 2-300s) |
| 50R4003 | 380-480VAC | Fixed restart and variable trip delay (2-30s) |
| 50R40029 | 380-480VAC | Fixed trip and variable restart delay (manual, 2-300s) plus high voltage detection |

50R SERIES

Specifications

Input Characteristics

Line Voltage

| | |
|------------------|------------|
| 50R-100 | 95-120VAC |
| 50R200 | 190-240VAC |
| 50R400 | 380-480VAC |
| Frequency | 50*/60Hz |

Functional Characteristics

Low Voltage:

| | |
|--------------------------------------|-----------|
| Trip (% of setpoint) | 90% |
| Reset (% of setpoint) | 93% |
| Delay Time (Nominal) | |
| Trip | 4 seconds |
| Restart (low voltage) | 2 seconds |
| Restart (complete power loss) | 2 seconds |

Output Characteristics

Output Contact Rating (SPDT - 1 Form C)

50R-100, 50R200

| | |
|------------------------|----------------|
| Pilot Duty | 480VA @ 240VAC |
| General Purpose | 10A @ 240VAC |

50R400

| | |
|-------------------|----------------|
| Pilot Duty | 470VA @ 600VAC |
|-------------------|----------------|

General Characteristics

Ambient Temperature Range

| | |
|----------------------------|---------------------------------------|
| Operating | -20° to 70°C (-4° to 158°F) |
| Storage | -40° to 80°C (-40° to 176°F) |
| Maximum Input Power | 5 W |
| Relative Humidity | 10-95%, non-condensing per IEC 68-2-3 |

Terminal

| | |
|--------------------------------------|--|
| Torque | 7 in.-lbs. |
| Wire Size | 12-18AWG |
| Electrostatic Discharge (ESD) | IEC 61000-4-2, Level 3, 6kV contact, 8kV air |
| Fast Transient Burst | IEC 61000-4-4, Level 3, 3.5kV input power and controls |

Transient Protection (Internal)

IEC 61000-4-5; 1995 ±6kV

Safety Marks

| | |
|-----------|----------------------|
| UL | UL508 (File #E68520) |
| CE | IEC 60947-6-2 |

Dimensions

H 74.4 mm (2.93"); **W** 133.9 mm (5.27");
D 74.9 mm (2.95")

Weight 0.98 lb. (15.68 oz., 444.52 g)

Mounting Method #8 screws

Special Options

| | |
|--|-----------------------|
| Opt. 2: Variable Restart Delay | Manual, 2-300 seconds |
| Opt. 3: Variable Trip Delay | 2-30 seconds |
| Opt. 9: High Voltage Detection Operating Points | |
| Trip (% of Setpoint) | 110% |
| Reset (% of Setpoint) | 107% |

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