

50R SERIES

Single-phase voltage monitor

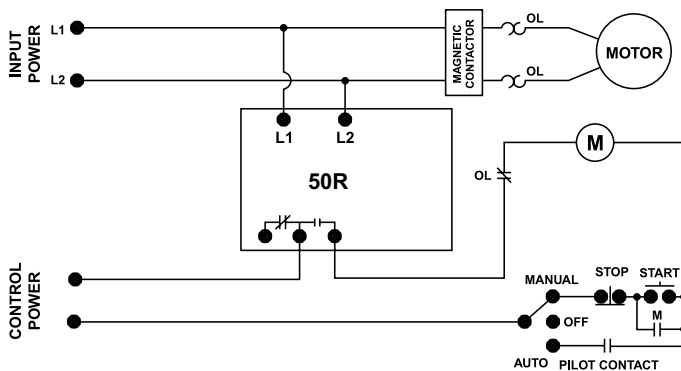


Description

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 %.
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

Ordering Information

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

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Specifications

Input Characteristics

Line Voltage

50R-100	95–120 V ac
50R200	190–240 V ac
50R400	380–480 V ac
Frequency	50*/60 Hz

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	480 VA @ 240 V ac
General Purpose	10 A @ 240 V ac
50R400	
Pilot Duty	470 VA @ 600 V ac

General Characteristics

Ambient Temperature Range

Operating	-20°C to 70 °C (-4 °F to 158 °F)
Storage	-40 °C to 80 °C (-40 °F 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, 6 kV contact, 8 kV air
Fast Transient Burst	IEC 61000-4-4, Level 3, 3.5 kV input power and controls

Transient Protection (Internal)

IEC 61000-4-5; 1995 ±6 kV

Safety Marks

UL	UL 508 (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: 50 Hz will increase all delay timers by 20 %