

50R SERIES

Single-Phase Voltage Monitor



Description

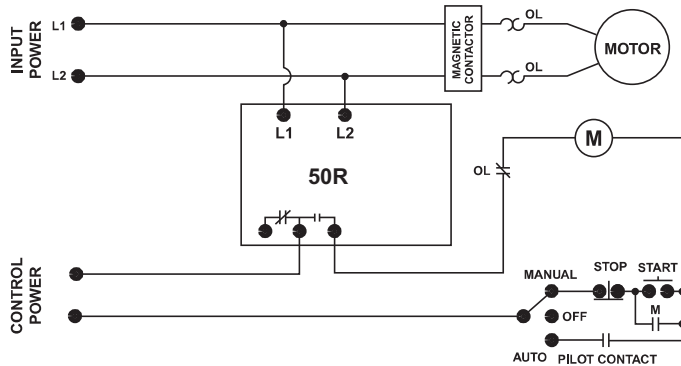
The 50R Series single-phase voltage monitor has a voltage-sensing circuit which constantly monitors the single-phase power for a low voltage condition. Single-phase motors on fans, compressors, air conditioners, heat pumps, well pumps, sump pumps and small conveyor motors are all applicable to the 50R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

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

Wiring Diagram



For dimensional drawing see: Appendix page 509, Figure 6.

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

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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%