



# Pump Monitor Relay **PMR1** ←

**MADE IN THE U.S.A.**



UL FILE #E101681



## OPERATION

The Pump Monitor Relay provides Motor Over Temperature and Seal Leakage alarms for Submersible Pumps.

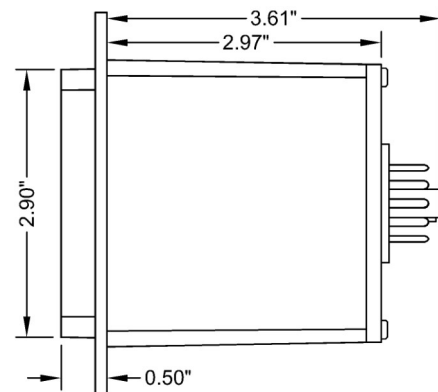
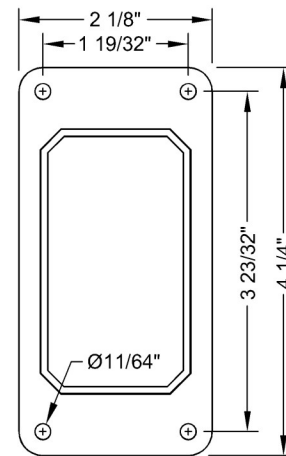
**Motor Over Temperature Alarm** - The Pump Monitor Relay applies a low voltage DC signal to the Motor Thermal Sensor to check its status. If the Pump Monitor Relay detects that the Motor Thermal Sensor contacts are closed (normal condition), the Overtemp indicator remains off, and the Overtemp Relay is energized, closing the contacts between terminals 2 and 11.

When the Motor Thermal Sensor contacts open (Over Temperature condition), the Overtemp Indicator is turned on and the Overtemp Alarm Relay is de-energized, opening the contacts between terminals 2 and 11, and closing the contacts between terminals 2 and 1.

When the Over Temperature condition has cleared, the Pump Monitor Relay will reset based upon the position of Alarm Reset Mode Select Switch (Auto or Manual). When in the Auto position, the Overtemp Alarm resets automatically. When the switch is in the Manual position, the Overtemp Reset Push-button must be pushed for approximately 1.5 seconds to clear the alarm.

**Seal Leakage Alarm** - The Pump Monitor Relay detects moisture inside a pump motor by using a low voltage AC signal to measure the resistance across Leakage Probes #1 and #2, or between the Leakage Probe(s) and the grounded motor housing. A Seal Leakage condition is considered present when the amount of moisture in the motor causes the resistance between terminals 6 and 5 to drop below the setting of the potentiometer. When this occurs, the Pump Monitor Relay turns on the Leakage Indicator and energizes the Leakage Alarm Relay, closing the contacts between terminals 9 and 10.

The alarm trip point may be set by the following procedure: Isolate the Leakage Probe from terminal 6. Connect a resistor with the desired trip value across terminals 5 and 6. Slowly adjust the potentiometer to the point where the alarm turns on. Remove the resistor and reconnect the Leakage Probe(s) to terminal 6.



## **SPECIFICATIONS**

Input Power:	120 VAC ±10%, 7.0 VA max
Output Rating:	8A Resistive @ 120VAC
Operating Temp:	-20°C to +65°C
Storage Temp:	-45°C to +85°C
Temp Sensor Voltage:	6.6 VDC ±10%
Leak Sensor Voltage:	4.7 VAC ±10%
Enclosure:	White Lexan
Base:	Phenolic
Leakage Adjustment:	4.7kΩ to 100kΩ

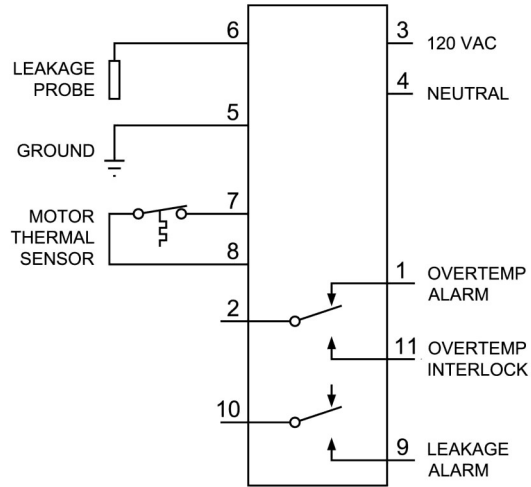
## **ORDERING INFORMATION**

**Part Number:** PMR1

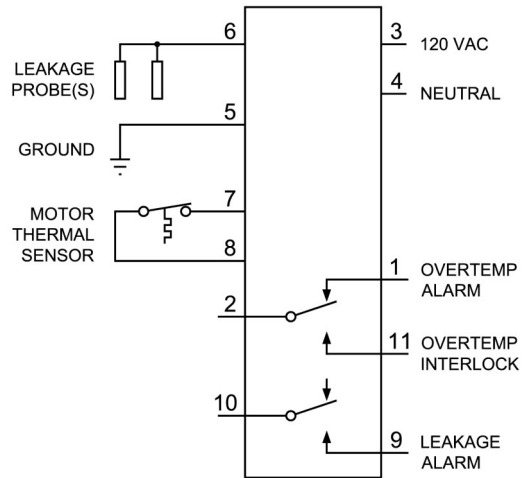
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## CONNECTION DIAGRAMS

### CHECKS RESISTANCE BETWEEN ONE PROBE AND MOTOR HOUSING



### CHECKS RESISTANCE BETWEEN TWO PROBES AND MOTOR HOUSING



### CHECKS RESISTANCE BETWEEN TWO PROBES

