

# **MPE PMR2 Pump Monitor Relay Specification**

The PMR2 Pump Monitor Relay shall provide Motor Over Temperature and Seal Leakage alarms in one unit for Xylem Flygt Submersible Pumps equipped with FLS or CLS sensors. The PMR2 shall be capable of being powered by either 120VAC, 24VAC, or 24VDC, and shall provide relay contacts rated for 8 Amps at 120VAC.

The PMR2 shall be able to be mounted on the deadfront door of the control panel so that the deadfront door need not be opened to see the status of either the Seal Leakage condition or the Pump Over-Temperature status.

The front of the PMR2 shall contain an LED indicator for power, an LED indicator for a Seal Leakage condition, and an LED indicator for an Over-Temperature condition.

The front of the PMR2 shall also contain a selector switch to choose between "Auto Reset" and "Manual Reset". There shall be an Over-Temperature Reset pushbutton to reset the Pump Monitor relay once the Over-Temperature condition has cleared.

The PMR2 shall apply 12 VDC to the sensor and measures the current flow through the sensor. The sensor shall control the current in the circuit. If the sensor current is in the normal range, the Temperature Alarm Relay is energized and shall allow normal pump operation. If the sensor circuit becomes shorted, the 12 VDC shall be turned off and all LEDs shall flash.

Upon a High Motor Temperature condition, the sensor shall open so that the sensor circuit current drops to zero. With the sensor current below the Trip Point ( $\leq 3.0 \text{ mA} \pm 5\%$ ), the Overtemp Indication shall be turned on, and the Temperature Alarm Relay shall be de-energized, preventing pump operation.

When the High Motor Temperature condition has cleared, the PMR2 shall reset based upon the position of Alarm Reset Mode Select Switch (Auto or Manual). With the switch in the Auto position, the Overtemp Alarm shall reset automatically. With the switch in the Manual position, the Overtemp Reset Push-button must be pushed to clear the alarm.

Upon a Seal Leakage condition, the sensor current shall increase above the Trip Point ( $\geq 22 \text{ mA} \pm 5\%$ ), the Leakage Indication shall be turned on, and the Leakage Alarm Relay shall be energized.

The Pump Monitor Relay, part number PMR2, shall be manufactured by M. P. Electronics, Apopka, Florida, 407-299-3825.