

RMR-2

PULSE ISOLATION RELAY FOR BADGER "READ-O-MATIC" WATER METERS

The RMR-2 pulse isolation relay is designed for use with Badger "Read-O-Matic" water meters. The RMR-2 provides one set of isolated "dry", mercury-wetted "Form A" (K & Y) contacts and one "Form A" non-isolated mercury-wetted output with a +13VDC (sourced) voltage. The RMR-2's has a voltage sensing input which is activated when a pulse of +8VDC to +13VDC for 5 milliseconds or greater in length is received.

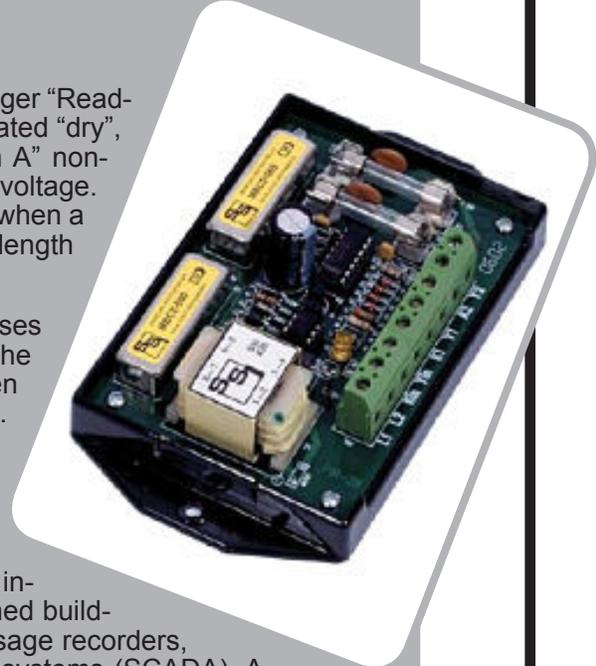
Normally, Badger's Read-O-Matic water meter provides pulses of 8 to 75mS to Badger's Read-O-Matic Display panel. The RMR-2 relay is inserted in the two conductor cable between the Read-O-Matic meter and the Read-O-Matic display panel. The RMR-2 provides a replicated signal to the display panel, and a separate isolated Form A contact closure for use with customer-owned monitoring equipment.

Typical applications involve pulse counting, monitoring and recording of water usage. Other applications include interfaces between utility metering devices and customer-owned building automation systems, control and monitoring systems, usage recorders, automated meter reading systems and supervisory control systems (SCADA). A bright yellow LED lamp indicates the system's status at all times thus allowing a rapid check of the system's performance without requiring any additional test equipment.

The RMR-2 has an integrated circuit that checks each incoming pulse for its duration. If the incoming pulse is less than 5 milliseconds in length the RMR-2 assumes the incoming pulse to be noise and it is disregarded. Thus any valid pulse rate of 100 pulses per second (50 on-50 off form factor) or less is accepted while static and induced high frequency noise is rejected. If used in a very noisy environment this "pulse acceptance window" may be lengthened or shortened as needed to reject noise by the change of a resistor and/or a capacitor value. The RMR-2's Form A output pulse dry contact closure is set for a nominal 100 millisecond closure, regardless of the input pulse's duration. The 100 millisecond factory set duration may be changed by changing either a resistor and/or a capacitor for longer or shorter durations. The RMR-2's voltage output supplies a +13VDC pulse of approximately 100mS to the Read-O-Matic display panel to allow the revenue water meter display to operate normally.

The RMR-2's input and output circuit's terminal strip is color coded for error free field wiring. The "K" lead of the RMR-2's output is fused to prevent damage to the relay under almost any conditions a user might cause such as excessive current, incorrect wiring, etc. The RMR-2 has built-in transient protection for the mercury-wetted relay's contacts which eliminates the need for external or off-the-board transient suppressors.

All component parts which have power applied to them, with the exception of the input/output terminal strip are enclosed in a polycarbonate cover for maximum user protection. The mounting base plate is made of polycarbonate and offers excellent electrical insulation between the circuit and the mounting surface.



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RMR-2 SPECIFICATIONS

ELECTRICAL

Power Input: 90 to 325 VAC. Burden: 10 MA. at 120 VAC

Output: Two - One set of "dry" Form A (K & Y) contacts. One Form A sourced voltage (+13VDC) output. Both outputs are activated for a nominal 100mS following a valid input pulse. The contacts are mercury-wetted "no bounce" relays rated at 500 VDC or 350 VAC 2 Amps. break, 5 amps carry. The maximum rating of the contacts is 100 VA. Factory fused at 1/2 amp. (3AG)

Contact Resistance: 50 milliohms maximum, 12 to 14 typical

Insulation Resistance: 50 megohms typical

Operate and Release Time: 1 to 2 milliseconds typical

MECHANICAL

Mounting: Within 30 degrees of vertical

Size: 3.27 inches wide, 5.65 inches high, 1.50 inches deep

Weight: 13 ounces

TEMPERATURE

Temperature Range: -38° C to +70° C, -36.4° F to +158° F

Humidity: 0 to 98% non-condensing

OPTIONS

Input Voltages: 24 VAC



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