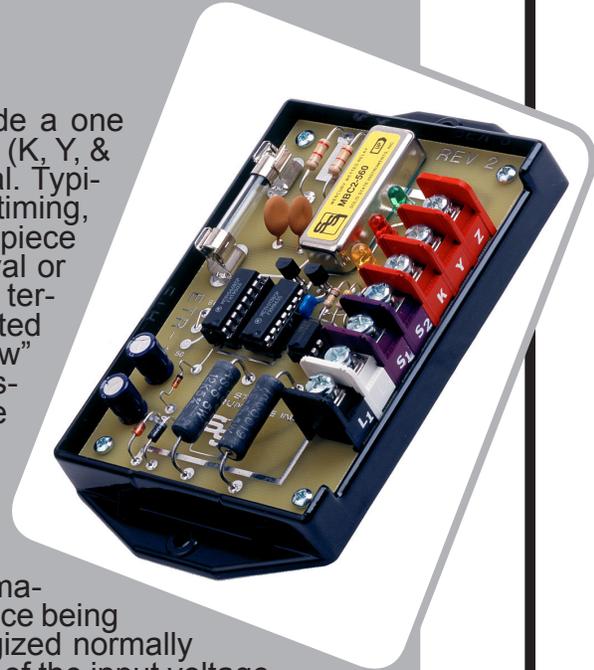




ETR-1

EVENT TIMING RELAY

The ETR-1 event timing relay is designed to provide a one pulse per second output by an isolated "dry" form "C" (K, Y, & Z) mercury-wetted relay from a 117 VAC input signal. Typical applications include load survey research, usage timing, etc. where it is desirable to determine the total time a piece of equipment is in service during any demand interval or over the entire operating/billing month. The output of terminals (K, Y, & Z) of the ETR-1 are normally connected to a magnetic tape or electronic recorder. The "raw" pulse count, as read by the translation equipment (using a pulse multiplier of 1), per demand interval is the time usage in seconds for that demand interval.



The ETR-1 may also be connected to local pulse demand interval counters to provide immediate information. A single set of "dry" form "A" contacts, on the device being measured which close when the equipment is energized normally provide the input for the ETR-1. With correct phasing of the input voltage it is possible to derive the input voltage signal from the power source supplying the equipment being monitored thus eliminating the need for additional switches. The input and output circuits' terminal strip is color coded for error free wiring in the field. The "K" lead of the ETR-1 output is fused to prevent damage to the relay under almost any condition a user might cause such as excessive current and incorrect wiring.

Short outages of the input power source (less than 15 seconds) will usually result in the status of the ETR-1 timing sum being unchanged due to the outage. Longer outage may result in the timing sum being reset to zero upon power restoration. This can cause an error of up to 59/60 of 1 second for each outage. The ETR-1 has built-in transient protection for the mercury wetted relays contacts which eliminates the need for external or off-the-board transient suppressors.

All component parts of the ETR-1, which have power applied to them with the exception of the input/output terminal strip and the divider switches, are enclosed in a polycarbonate cover for maximum protection. The mounting base plate is also made of polycarbonate and offers excellent electrical insulation.

SOLID STATE INSTRUMENTS

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ETR-1 SPECIFICATIONS

ELECTRICAL

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

Output: One set of "dry" form "C" contacts (K, Y, & Z) for time or energy pulses. 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: 2.5 milliseconds typical operate; 3.0 milliseconds typical release

MECHANICAL

Mounting: Within 30 degrees of vertical

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

Weight: 12 ounces

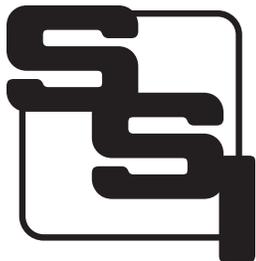
TEMPERATURE

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

Humidity: 0 to 98% non-condensing

OPTIONS

Input Voltages: Contact Factory



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