



# CIR-3A

## CUSTOMER INTERFACE RELAY

The CIR-3A customer interface relay is designed to provide two isolated sets of "dry" KWH mercury wetted contacts from a single Form "C" input, and a single end of DEMAND INTERVAL contact. One the KWH contact sets may be configured as either a Form "A" (K & Y) output or a Form "C" (K, Y, & Z) output. The second set of KWH contacts is a fixed 3-wire output typically used for a pulse recorder. The end of DEMAND INTERVAL output is a "dry" Form "A" contact. The typical application is the utility's interface between the KWH meter & recorder, and a customer's energy control system.



The CIR-3A provides in one compact ready-to-mount case everything necessary to provide a customer with energy control pulses in one box. The CIR-3A is internally divided into two compartments. The upper compartment is normally locked with a utility company's lock and is only accessible to the utility's metering personnel. It contains all of the electronics along with fusing which is coordinated with the fuse contained within the customer's compartment. The lower compartment, the customer's compartment, contains a terminal strip, fusing, status indication LEDs, and two switches which allows the customer to choose either a 2-wire or 3-wire output, and either a short (100 milliseconds duration) or actual duration end of DEMAND INTERVAL timing contact closure. With the switch in the two-wire mode of operation a relay contact closure of approximately 100 milliseconds will occur for each change of the 3-wire input status at the K & Y terminals on the terminal strip. The red LED will only light each time there is a contact closure. With the switch in the 3-wire mode, the terminal strip contacts K & Y, and K & Z will follow the input 3-wire status. In the 3-wire mode both the red and green LEDs are lit sequentially depending upon input status. A yellow LED in the customer's compartment shown the status of the end-of-demand interval circuit.

The use of the LEDs in the customer's compartment allowing a rapid visual check of the system's performance by inexperienced personnel without requiring any additional test equipment. Because of the use of LEDs and the redundant, coordinated fusing in both the utility's and customer's compartments on all output circuits, service call-out for the utility are greatly reduced. Usually the meter shop service coordinator can determine the nature of the service problem as to either utility responsibility or customer responsibility by the simple question "are the LEDs flashing". If the LEDs are correctly flashing the problem is usually located past the contacts. The double "K" lead coordinated fusing of the CIR-3A's output will prevent damage to the relay under almost any conditions a user might cause such as excessive current, incorrect wiring, etc.

The CIR-3A has built-in transient protection for customer's side of the interface and can safely be corrected by their personnel. The only voltages present in the customer's compartment are those supplied by the customer for his sensing of the mercury wetted relay's contacts position.

### SOLID STATE INSTRUMENTS

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# CIR-3A SPECIFICATIONS

## ELECTRICAL

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

Output: One set of “dry” Form “A” or Form “C” contacts (K & Y or K, Y, & Z) for selected by a user changeable switch located in the customer’s compartment and one fixed set of Form “C” contacts located in the utility’s compartment, both for energy pulses. A set of Form “A” contacts located in the user’s compartment for end of demand interval timing. 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)

Sense Voltage: +13VDC

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: 9.00 inches wide, 11.00 inches high, 4.50 inches deep

Type/Material: NEMA 4X weather resistant fiberglass case

Weight: 10 pounds

## 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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