

# CIR-13S

## SOLID STATE ISOLATION RELAY

The CIR-13S repeating pulse isolation relay is designed to provide three isolated dry-contact, solid-state Form C (K, Y, & Z) outputs from a field-selectable Form A or C inputs. The primary application for the CIR-13S is where up to three isolated relay pulse outputs are desired, for example, one pulse output for a SCADA system's RTU and another for a customer-owned energy management system.

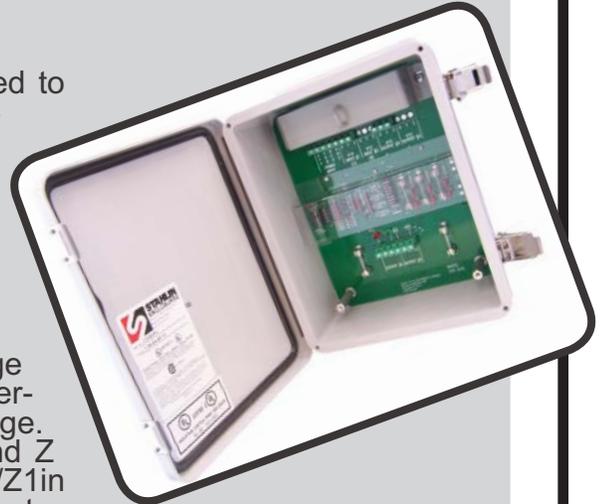
The CIR-13S operates over the standard SSI wide voltage range. The CIR-13S has a built-in low voltage transformer-isolated power supply generating a +13VDC sense voltage. The sense voltage is sent to the electric meter's Y and Z pulse initiator output terminals from the CIR-13S' Y1in/Z1in input terminals. It returns to the K1in, the common return terminal for both meters.

The CIR-13S may be used with electric meters having electro-mechanical or semiconductor output contacts, either high or low voltage. Typical applications include interfaces between utility metering devices and customer-owned energy control systems, demand recorder applications, and supervisory control systems (SCADA) interfaces. The CIR-13S relay is designed for high-speed pulses and can switch up to 72,000 pulses/hour in 3-Wire mode and 36,000 pulses/hour in 2-Wire mode. The outputs are non-latching. The input may be configured for either a "long" or "short" output pulse. In the "long" output mode, the output pulse width exactly follows (or mirrors) the input pulse width. In the "short" output mode, the output pulse is fixed at 100 milliseconds (mS). The "short" mode is normally used for end-of-interval pulses or where a short, fixed pulse width is needed.

Bright red and green LED lamps, one on each input, indicates the relay's status at all times thus allowing a rapid check of the system's performance without requiring any additional test equipment. The CIR-13S's input and output circuit's terminal strip is a "EURO" type connector strip. When the stripped wire has been correctly installed in the terminals "slot," no conductive parts are exposed on the surface of the terminal strip, allowing the user maximum protection from accidental electrical shock. Each "K" lead of the CIR-13S' three outputs is fused to prevent damage to the relays under almost any conditions a user might cause such as excessive current, incorrect wiring, etc. Redundant coordinate fuses are used on the customer compartment outputs.

The CIR-13S has built-in MOV transient protection for the solid-state relay contacts that eliminates the need for external or off-the-board transient suppressors. All component parts that have power applied to them, are located behind the utility compartment cover with the exception of the dry contact/output terminal strip in the customer compartment.

The CIR-13S is housed in a NEMA 4X rain-tight and dustproof fiberglass enclosure.



### SOLID STATE INSTRUMENTS

a division of Brayden Automation Corp.

6230 Aviation Circle, Loveland, Colorado 80538

Phone: (970) 461-9600 Fax: (970) 461-9605 E-mail: [sales@solidstateinstruments.com](mailto:sales@solidstateinstruments.com)

# CIR-13S SPECIFICATIONS

## ELECTRICAL

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

Signal Input: One switch selectable Form A or Form C input. "Y-in" and "Z-in" terminals wetted with a "pulled-up" +13VDC. "K-in" terminal is the common return. The input has "K-in," "Y-in" and "Z-in" terminals for connection to the meter. Use "Y-in" input terminal for 2-Wire mode. Use "Y-in" and "Z-in" input terminals for 3-Wire mode.

Output: Three sets of "dry" Form "C" contacts (K, Y, & Z) for energy pulses. The contacts are solid state rated at 250VAC/VDC at 100milliamps. The maximum rating of the contacts is 800mW. Each output is factory fused at 1/10 amp. (3AG) Contact Resistance: 25 ohms maximum, 18 typical

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Turn on Time: 2 mS typical; 3 mS MAX

Turn off Time: 1 mS typical; 2 mS MAX

Input/Output Isolation Voltage: 2500V

## MECHANICAL

Mounting: Any position

Size: 8.0 inches wide, 10.0 inches high, 4.50 inches deep

Weight: 9 pounds

## TEMPERATURE

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

Humidity: 0 to 98% non-condensing

## OPTIONS

Input Voltages: 125 VDC input using the DSC-1 Power Supply. Contact the factory for other input voltages.



Solid State Instruments  
6230 Aviation Circle  
Loveland, CO 80538

(970) 461-9600 • (888) 272-9336  
FAX (970) 461-9605  
email: [info@solidstateinstruments.com](mailto:info@solidstateinstruments.com)  
[www.solidstateinstruments.com](http://www.solidstateinstruments.com)

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Brayden Automation Corp.

Local Representative

