SSI STANDARD

SPR-22 PULSE ISOLATION RELAY

SPR-22

FUNCTIONAL SUMMARY

	IN	OUT
#	2	2
TYPE	2 or 3 Wire	3 Wire
FORM	A or C	C

DESCRIPTION

The SPR-22 pulse isolation relay provides two channels each with an isolated dry-contact, solid state Form C (K, Y, & Z) output from a Form A or C inputs. The SPR-22 has the functionality of the RPR-22PS but utilizes the standard solid state relays packaged in the small SSI footprint enclosure. The primary application for the SPR-22 is “Watts and Vars” or anywhere where two independent isolation relay channels are desired in one package.

The SPR-22 operates over the standard SSI wide voltage range. The SPR-22 has a built-in low voltage transformer-isolated power supply generating a +13VDC sense voltage. The sense voltage is sent to each electric meter’s Y and Z pulse initiator output terminals from the SPR-22’s “Y1in”/”Z1in” and “Y2in”/”Z2in” input terminals, returning to the “K1in” and “K2in” terminals, the common return for both meters.

The SPR-22 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 recorders, and supervisory control systems (SCADA) interfaces. The SPR-22 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. Each 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 fixed pulse width is needed.

Bright red and green LED indicators, one on each input, display each channel’s relay status at all times thus allowing a rapid check of the system’s performance without requiring any additional test equipment. The SPR-22’s input and output terminal strip is a “EURO” type connector. When the stripped wire has been correctly installed in the terminals “slot” no conductive parts are exposed on the surface of the terminal strip, thus allowing the user maximum protection from accidental electrical shock. Each “K” lead of the SPR-22’s outputs is fused to prevent damage to the relays under almost any condition a user might cause such as excessive current, incorrect wiring, etc.

The SPR-22 has built-in MOV transient protection for the solid-state relay 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 protection.

The mounting base plate is also made of polycarbonate and offers excellent electrical insulation between the circuits and the mounting surface.

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SPECIFICATIONS

ELECTRICAL

Power Input:	90 to 300 VAC. Burden: 10 mA at 120 VAC
Pulse Input:	Two switch-selectable Form A or Form C inputs. “Kin” is common return. Each input has “Yin” and “Zin” input terminals for pulse signal from meter. “Yin” terminal used for 2-Wire mode. Both used for 3-Wire.
Pulse Output:	Two sets of dry Form C contacts (K, Y, & Z) for energy pulses. The contacts are rated at 125VAC/VDC at 100milliamps. The maximum rating of the contacts is 800mW. Each output is factory fused at 1/10 amp. (3AG)
Contact On-State Resistance:	25 ohms maximum, 18 typical
Operate and Release Time:	Turn On Time - .5 mS typical; 3 mS MAX Turn Off Time - .1 mS typical; 1 mS MAX
Input/Output Isolation Voltage:	2500Vrms

MECHANICAL

Mounting:	Any position
Size:	3.27” wide, 5.70” high, 1.50” deep
Weight:	6 ounces

TEMPERATURE

Temperature Range:	-38° C to +70° C, -36.4° F to +158° F
Humidity:	0 to 98% non-condensing

AVAILABLE OPTIONS

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

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