



SSI ELITE

SPR-3E SELF-CONTAINED PULSE ISOLATION RELAY

DESCRIPTION

The SPR-3E self-contained pulse isolation relay is designed to provide three sets of isolated dry, solid state Form C (K, Y, & Z) contacts from a single field-selectable Form A or C input in a NEMA 4X enclosure for complete weather proof operation. The SPR-3E utilizes solid state (silicon) outputs and is functionally equivalent to the SPR-3, but designed for outdoor operation. The wetting or “sense” voltage of +13VDC is available on the “Yin” and “Zin” inputs, and is “pulled up.” The “Kin” terminal is the common return. The SPR-3E is compatible with most meters having mechanical or high or low voltage semiconductor pulse outputs and operates over a wide voltage range for maximum flexibility.



Typical applications include interfaces between utility metering devices and customer-owned energy control systems, demand response applications, pulse recorders and supervisory control system (SCADA) interfaces. The SPR-3E’s input has a switch-selectable Form A or Form C input and input filtering circuitry to prevent noise from triggering the output. Any pulses less than 18mS are considered to be noise and will not be detected as a valid pulse. Once an input pulse greater than 18mS in length is detected, the outputs will be changed according to the status of the input, thus eliminating any false pulses.

Bright red and green LED indicators display the system status at all times, thus allowing a rapid check of the system’s performance without requiring any additional test equipment. The SPR-3E’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-3E’s outputs is fused to prevent damage to the relays under almost any condition users might cause such as excessive current, incorrect wiring, etc.

The SPR-3E has built-in MOV transient protection for the solid state (silicon) relays contacts which eliminates the need for external protection. The SPR-3E’s tough polycarbonate enclosure offers excellent electrical insulation and measures approximately 9” x 8” x 3”, allowing ample wiring room for field terminations. All component parts which have power applied to them, with the exception of the input/output terminal strip are enclosed with an acrylic cover for maximum protection.

FUNCTIONAL SUMMARY

	IN	OUT
#	1	3
TYPE	2 or 3 Wire	3-wire
FORM	A or C	C

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SPECIFICATIONS

ELECTRICAL

Power Input:	120, 208-277 VAC. Burden: 10mA at 120 VAC
Pulse Input:	One switch-selectable Form A or Form C input. "Kin" is common return. 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:	Three 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:	2 to 3 milliseconds typical
Input/Output Isolation Voltage:	2500Vrms

MECHANICAL

Mounting:	Any position.
Interior:	8.00" wide, 9.00" high, 2.00" deep
Exterior:	10.00" wide, 11.00 high, 3.51" deep
Weight:	2.5 pounds

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 DSC-1 Power Supply. Contact factory for other input voltages.
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