



## PULSE ISOLATION RELAYS - SOLID STATE

# SPR-3 REPEATING PULSE RELAY

## DESCRIPTION

The SPR-3 repeating pulse 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 over a wide voltage range. The SPR-3 relay is functionally equivalent to the RPR-3P except that the SPR-3 features solid state (silicon) outputs. The sense voltage of +13VDC is available on the "Yin" and "Zin" inputs, and is "pulled up." "Kin" is the common return. The SPR-3 may be used with meters having mechanical output contacts (relays), or high or low voltage semiconductor outputs.



Typical applications include interfaces between utility metering devices and customer owned energy control systems, demand recorder applications, and supervisory control systems (SCADA) interfaces. The SPR-3 relay 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 is detected, the outputs will be changed according to the status of the input.

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-3'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-3'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-3 has built-in MOV transient protection for the solid state (silicon) relays contacts which eliminates the need for external protection. 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 circuit and the mounting surface.

# SPR-3

### FUNCTIONAL SUMMARY

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



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## SPECIFICATIONS

### ELECTRICAL

Pulse Input:	120, 208-277. Burden: 10 mA at 120 VAC
Signal Input:	One switch-selectable Form A or Form C input. "Kin" is common return. Input has "Yin" and "Zin" input terminals "pulled up" to +13VDC for pulse signal from meter. "Yin" terminal used for 2-Wire mode. Both used for 3-Wire.
Power Output:	Three sets of dry Form C contacts (K, Y, & Z) for energy pulses. The contacts are solid state rated at 125VAC/VDC at 100milli-amps. 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
Insulation Resistance:	50 megohms typical
Operate and Release Time:	2 to 3 milliseconds typical
Input/Output Isolation Voltage:	2500Vrms

### MECHANICAL

Mounting:	Any position
Size:	3.50" wide, 7.20" high, 1.50" deep
Weight:	17 ounces

### 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 factory for other input voltages.
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