



PULSE ISOLATION RELAYS - SOLID STATE

SPR-44 REPEATING PULSE RELAY

DESCRIPTION

The SPR-44 quad repeating pulse isolation relay is designed to provide four isolated dry contact, solid state Form C (K, Y, & Z) outputs from four Form A or C inputs. The primary application for the SPR-44 is where four independent isolation relay channels are desired in one package. A variety of pulse splitting relaying schemes can be accomplished by paralleling two or more inputs.

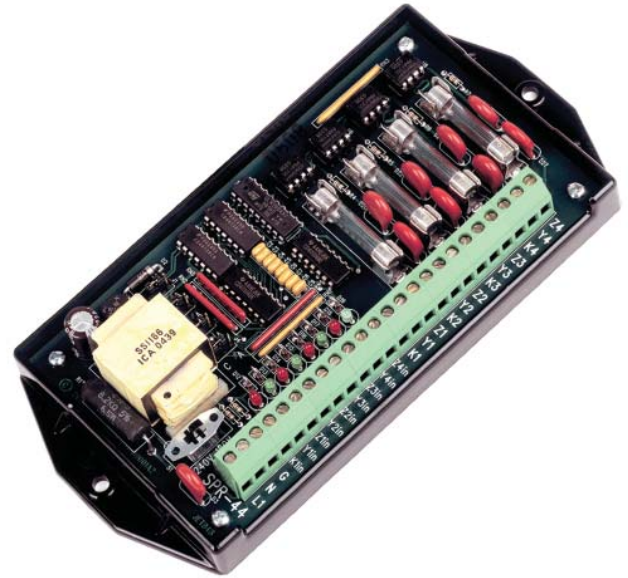
The SPR-44 operates over the standard SSI wide voltage range. The SPR-44 has a built-in low voltage transformer-isolated power supply generating a +13VDC sense voltage. The sense voltage is sent to each meter's Y and Z terminals from the SPR-44's "Yin" and "Zin" input terminals, returning to the "Kin" terminal, the common return for all meters. Since all meters supplying pulses to the SPR-44 have a common reference, a number of flexible input configurations can be wired. For example, two inputs can be wired in parallel giving a "splitting" configuration where one input and two outputs is desired.

The SPR-44 may be used with electric meters having electro-mechanical or semiconductor output contacts, either high or low voltage. The SPR-44's inputs are configured to accept open-collector transistor or open-drain FET solid state pulse initiator switches. 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-44 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 SPR-44 outputs' pulse timing follows the inputs' timing such that output pulses have the exact same pulse width as the input.

Bright red and green LED indicators, one of each on every input, indicates 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-44'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-44's four 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-44 has built-in MOV transient protection for the solid state relay contacts which eliminates the need for external or off-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.



FUNCTIONAL SUMMARY

	IN	OUT
#	4	4
TYPE	2 Wire or 3 Wire	3 Wire
FORM	A or C	C

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SPECIFICATIONS

ELECTRICAL

Power Input:	120 to 277 VAC. Burden: 10 mA at 120 VAC
Pulse Input:	Four independent field-selectable, Form A or Form C inputs. Each input has "Yin" and "Zin" terminals wetted "pulled up" with +13VDC. "Kin" terminal is the common return. The Form A input uses the "Yin" terminal, the Form C input uses the "Yin", and "Zin" terminals for the input from the meter.
Pulse Output:	Four sets of dry Form C contacts (K, Y, & Z) for energy pulses. The relay contacts are solid state with "no bounce" circuitry. Outputs are rated at 125VAC/VDC 1/10th Amp(100 milliamps). Factory fused at 1/10 amp @ 250VAC. (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:	3750Vrms

MECHANICAL

Mounting:	Any position
Size:	3.50" wide, 7.20" high, 1.50" deep
Weight:	12 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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