



## PULSE ISOLATION RELAYS - SOLID STATE

# PIR-1PS PULSE ISOLATION RELAY

## DESCRIPTION

The PIR-1PS repeating pulse relay is designed to provide one isolated solid state Form A (K & Y) contact from a single Form A input. The PIR-1PS supplies its own isolated +13VDC wetting voltage to the pulse sending unit, usually an electric meter's pulse initiator. Typical applications include interfaces between utility metering devices and customer-owned energy control systems, demand recorder applications, and supervisory control systems (SCADA) interfaces.



### FUNCTIONAL SUMMARY

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TYPE

FORM

IN	OUT
1	1
2 Wire	2 Wire
A	A

# PIR-1PS

The PIR-1PS' dual-dielectric barrier design uses two optical isolation barriers insuring maximum protection from electric disruptions between the input and output. The PIR-1PS is designed to filter noise and transients at its input to prevent any false pulses at its output. If the incoming pulse is less than 20 milliseconds in length, the PIR-1PS assumes that the incoming pulse is noise and it is disregarding. Thus, any valid pulse rate of 25 pulses per second (50-on/50-off form factor) or less is accepted while static and induced noise is rejected. If used in a very noisy environment, the pulse acceptance window can be lengthened or shortened as needed by special factory order.

The PIR-1PS' output pulse contact closure may be set for a nominal 100mS closure, regardless of the inputs pulse's closure length, or to exactly follow the input pulse's closure timing length. The 100 mS factory-set closure time may be changed by special order.

Bright red and green LED indicators display the system's status at all times thus allowing a rapid visual check of the system's performance without requiring any additional test equipment.

The PIR-1PS' input and output circuit's terminal strip connector is a "Euro" type providing excellent electrical insulation. The "K" lead of the PIR-1PS' output is fused to prevent damage to the relay under almost any condition a user might cause such as excessive current, incorrect wiring, etc. The PIR-1PS' robust solid state switching device is rated at 800V and 750mA giving maximum protection from lightning or transient voltage damage. Its built-in transient protection for the solid state switch contacts eliminates the need for external or off-board transient suppression devices. All component parts that 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.



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FORMERLY THE PIR-1

## SPECIFICATIONS

### ELECTRICAL

Power Input:	120, 208-277 VAC. Burden: 10 mA at 120 VAC
Pulse Output:	One Form A dry contacts (K & Y) for energy pulses. The solid state "no bounce" relay contacts are rated at 250 VAC/VDC @ 1/2 Amp. The maximum rating of the contacts is 100 VA. Factory fused at 1/2 amp. (3AG)
Contact On-State Resistance:	2.3 ohms maximum, 1.7 ohms typical
Insulation Resistance:	50 megohms typical
Operate and Release Time:	Turn-on time - 8 mS typical, 20mS MAX Turn-off time - 1 mS typical, 5mS MAX
Input/Output Isolation Voltage:	2500Vrms

### MECHANICAL

Mounting:	Any position
Size:	3.27" wide, 5.65" high, 1.50" deep
Weight:	12 ounces

### TEMPERATURE

Temperature Range:	-38° C to +85° C, -36.4° F to +158° F
Humidity:	0 to 98% non-condensing

### OPTIONS

Input Voltages:	24 VAC/24VDC, 125VDC
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