



## PULSE LINKS

# CLR SERIES CURRENT LOOP RELAYS

## DESCRIPTION

The CLR Series of Current Loop Receiving relays is designed to receive KYZ pulse information from the PTR-1 Pulse Transmitting Relay over a twisted pair current loop. Since the CLR Series is powered by and operated from the PTR-1's current loop output, it needs no separate power supply. The outputs of the CLR Series provide one to three isolated solid-state Form C (K, Y & Z) relay contacts depending on model.



Applications include long distance pulse transmission interfaces up to (2-4) miles between utility metering devices (KWH, KVAR, etc.) and customer-owned energy control systems, demand recorders, or supervisory control (SCADA) systems.

The CLR Series relays contain circuitry to prevent false outputs from occurring caused by voltage transients, or other induced or coupled noise sources. If an incorrect sequence of received input pulses is detected, only the first valid pulse will result in an output. High light output red and green LED indicators display the system's status at all times thus allowing a rapid check of the metering system's pulse pick-up and relay's performance without requiring any additional test equipment.

The CLR Series' input and output circuit's terminal strip is a "Euro" type connector. When the stripped wire has been correctly installed in the terminal's slot, no conductive parts are exposed on the surface of the terminal strip. Due to the inherent current-limited nature of the design, no fusing is necessary on the input. No damage will result if the current loop is shorted. The "K" lead of each of the CLR relay's outputs are fused to prevent damage to the relay under almost any conditions a user might encounter such as excessive current, incorrect wiring, etc. The CLR relays have built-in MOV transient protection for the solid-state relay contacts. Transient suppression for the current loop is provided by metal-oxide varistors (MOV's) between the current loop input terminals and ground. This eliminates the need for external or off-the-board transient suppressors. All component parts which have voltage applied to them, with the exception of the input-output terminal strip, are enclosed in a polycarbonate cover for maximum user protection. The mounting base plate is also made of polycarbonate and offers excellent electrical insulation between the circuit and the mounting surface. The CLR series relays are designed to mount inside another enclosure, suitable for the user's intended application.

### AVAILABLE MODELS

- CLR-1 - One Form C output (up to 4 miles\* from the PTR-1)
  - CLR-2 - Two Form C outputs (up to 3 miles\* from the PTR-1)
  - CLR-3 - Three Form C outputs (up to 2 miles\* from the PTR-1)
- (\* Actual distance depending on wire gauge used.)

### FUNCTIONAL SUMMARY

	IN	OUT
#	1	1, 2 or 3
TYPE	CL	3 Wire
FORM	CL	Form C

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## SPECIFICATIONS

### ELECTRICAL

Power Input:	No separate power supply required; powered by current loop. Ground connection to earth (electrical system) ground only)
Contact On-State Resistance:	5 Ohms Typical max, 3.4 ohms 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:	3.5" wide, 7.2" high, 1.5" deep
Weight:	10 ounces

### TEMPERATURE

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