



FUNCTIONAL SUMMARY

| IN | OUT |
|--------|----------|
| 1 | 3 |
| 3 Wire | 3 Wire |
| AC | 1 or 2 C |

TYPE
FORM

LMR-111/-121PS

SELF-CONTAINED RELAYS (OUTDOOR)

LMR-111/ -121PS LOAD MANAGEMENT RELAYS

DESCRIPTION

The LMR-111PS and LMR-121PS Load Management Relays are designed to make implementing load management applications easy, and provide one or two, respectively, isolated solid-state dry contact outputs from a single Form C input. Output contacts are configured as Form C (K, Y, & Z) contacts. The first set of contacts is available for the customer's use. The remaining set (on the LMR-121PS only) is designed for utility use and is located in the lockable utility compartment. In addition, an auxiliary power output is available in the customer compartment for powering additional related telemetry or equipment. The typical application of the LMR-111PS and the LMR-121PS is the utilities' interface



between the KWH meter and data or load profile recorder and a customer-owned energy control system. The LMR-111PS/-121PS includes everything necessary to provide a customer with energy pulses and control signals in one compact ready-to-use weather-resistant enclosure.

The LMR-111/121PS is internally divided into two compartments. Once installed, the upper compartment is normally locked and only accessible to utility metering personnel. It contains all of the electronics along with fusing that is coordinated with the fuse contained within the customer compartment. The lower compartment (customer compartment) contains a terminal strip, fusing, and output status LEDs for the pulse output and the auxiliary power supply. A on/off switch for the power supply allows additional powered equipment to be easily turned on and off for operation and maintenance. The red and green LEDs light alternately upon changes of the KYZ input status.

The use of LEDs in the customer's compartment allows a rapid visual check of the system's performance by inexperienced personnel without requiring any additional test equipment. Because of the redundant, coordinated fusing in both the utility's and customer's compartments, the meter shop service coordinator can usually determine the location of the service problem as to either utility or customer responsibility by the simple question "are the LEDs flashing?" The double "K" lead coordinated fusing of the customer's pulse output will prevent damage to the relay under almost any condition a user might cause such as that caused by excessive current, incorrect wiring, etc. The robust solid state switching device is rated at 800V and 750mA giving maximum protection from lightning or transient voltage damage. The LMR-111/ -121PS have built-in transient protection for the solid state switching devices that eliminates the need for external or off-the-board transient suppressors.



LMR-111/-121PS

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SPECIFICATIONS

ELECTRICAL

| | |
|---------------------------------|--|
| Power Input: | 120, 208-277 VAC. Burden: 10 mA at 120 VAC |
| Pulse Input: | One Form C (3-wire) input with +13VDC wetting voltage on the K terminal; (Can also be used as two Form A inputs) |
| Pulse Output: | One or two Form C dry contact solid-state outputs, one in the customer's compartment and one in the utility compartment on the LMR-121PS. The contacts are solid-state "no bounce" relays rated at 250VACVDC at 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; 20 mS MAX Turn Off Time - 1 mS typical; 5 mS MAX |
| Input/Output Isolation Voltage: | 2500Vrms |

MECHANICAL

| | |
|----------------|-----------------------------------|
| Mounting: | Any position |
| Size: | 9.0" wide, 11.0" high, 4.50" deep |
| Weight: | 9 pounds |
| Type/Material: | NEMA 4X Fiberglass Case |

TEMPERATURE

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

OPTIONS

| | |
|------------------|--|
| Input Voltages: | 125VDC; 15-48VDC |
| Output Voltages: | Optional 12VDC Power output available at .800 Amp available through an RJ-45 phone/Ethernet jack |