



MPT-4B

METERING PULSE TOTALIZER

The MPT-4B metering pulse totalizer relay is designed to provide the totalized pulse values from up to four three wire (form "C") input pulse sources. A single three wire form "C" (K, Y, & Z) output from isolated "dry", mercury-wetted relay contacts is provided. All inputs are additive. Typical applications include interfaces between utility metering devices and customer-owned energy control systems, demand recorder applications, and supervisory control systems (SCADA) interfaces. The MPT-4B pulse totalizer may also be used as a pulse value translator if it is desirable to translate odd pulse values such as 0.1234 KWH/pulse to an even value, 0.5000 KWH/pulse. The pulse signal inputs to the MPT-4B is by four sets of "Y" & "Z" leads with a common "K" lead.



The MPT-4B provides a sense voltage of 13 VDC to the four sending source contacts, normally a group of meters. Each of the MPT-4B's four inputs is allowed to have a different four digit multiplier which can be between the value of 0000 to 9999. The output multiplier is a six digit number between 000000 to 999999. Both the input and output multipliers may be field set without the use of any external devices. In addition the minimal time between output pulses may be set in 10 milliseconds increments between 20 milliseconds and 1000 milliseconds.

An LCD display contained within the unit displays the status of each of the inputs and the output as a Y or Z when not being used in the setting of the pulse multiplier values. Within the software all inputs are first checked for the correct sequence and then a minimal time of contact closure duration to assure a maximum noise rejection. The "K" lead of the MPT-4B's output is fused to prevent damage to the relay under almost any conditions a user might cause such as excessive current, incorrect wiring, etc.

The MPT-4B has built-in transient protection for the mercury wetted relay contacts which eliminates the need for external or off-the-board transient suppressors. All component parts of the MPT-4B, 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.

SOLID STATE INSTRUMENTS

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MPT-4B SPECIFICATIONS

ELECTRICAL

Power Input: 120 to 277 VAC, burden 10 Ma

Input Signal: Four 3-wire Form "C" inputs. "K" lead is common return for all meters; "Y" and "Z" terminals are "pulled-up" to +13 VDC making them compatible with open collector transistors, open drain FETs or virtually any kind of KYZ switch - mechanical, electro-mechanical or solid state.

Output: One "dry" Form "C" contact (K, Y, & Z) for energy pulses. Factory fused at 1/2 Amp with 3AG fuses. Mercury-wetted contacts have a maximum output rating of 500 VDC or 350 VAC, 2 Amps break, 5 amps carry. The maximum power rating of the contacts is 100 VA.

Contact Resistance: 50 milliohms maximum, 12 to 14 typical

Insulation Resistance: 50 megohms typical

Operate and Release Time: 2.5 milliseconds typical operate; 3.0 milliseconds typical release

MECHANICAL

Mounting: Within 30 degrees of vertical

Size: 3.50 inches wide, 7.20 inches high, 1.50 inches deep

TEMPERATURE

Temperature Range: -38° C to +70° C, -36.4° F to +158° F

Humidity: 0 to 98% non-condensing

OPTIONS

Input Voltages: Contact Factory



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