MPT-4SB METERING PULSE TOTALIZER

MPT-4SB

FUNCTIONAL SUMMARY

	IN	OUT
#	4	1
TYPE	3 Wire	3 Wire
FORM	C	C
SPECIAL FEATURES	Additive or Subtractive	

DESCRIPTIONS

The MPT-4SB metering pulse totalizer relay is designed to provide the totalized pulse values from up to four 3-Wire (Form C) input pulse sources. A single 3-Wire Form C (K, Y, & Z) solid state isolated dry contact output is provided. Inputs may be either additive or subtractive. Typical applications include power generation metering where station power must be subtracted from generated power and interfaces with utility metering devices and SCADA systems. The MPT-4SB pulse totalizer's pulse inputs are configured as four sets of Y & Z input terminals with a common "K" input terminal.
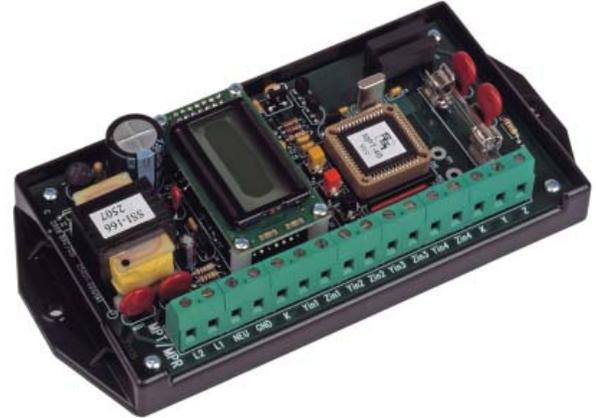
The MPT-4SB provides a sense voltage of +13 VDC to the four KYZ pulse sending source contacts, normally a group of meters. Each of the four inputs is allowed to have a different four-digit multiplier that can range in value from 0000 to 9999. The output multiplier is a six-digit number ranging from 000001 to 999999. Both the input and output multipliers are field-set without the use of any external devices. In addition, the minimal time between output pulses may be set in 10 millisecond increments between 20 milliseconds and 1000 milliseconds.

An LCD display contained within the unit displays the status of each input and the output as a "Y" or "Z" in normal operation. During installation and setup, the display is used to set all system parameters including pulse weight values for each input as well as the output pulse value. Also available through the LCD display are diagnostic modes that include pulse counters for each input as well as the output. Non-volatile EEPROM memory "remembers" all register values in the event of power loss. Upon power-up all register values are restored, so there is no loss of pulse counts or 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-4SB's 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 MPT-4SB has built-in transient protection for the solid state relay contacts which eliminates the need for external or off-the-board transient suppressors. All component parts of the MPT-4SB, 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.

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SPECIFICATIONS

ELECTRICAL

Power Input:	120, 208-277 VAC. Burden: 4 mA at 120 VAC
Pulse Input:	Four 3-wire Form C inputs. The "K" input terminal is the common return for all meters. The "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 (i.e. mechanical, electro-mechanical or solid state).
Pulse Output:	One dry Form C contact (K, Y, & Z) for energy pulses. Factory fused at 1/4 Amp with 3AG fuses. Solid state contacts have a maximum output rating of 250VAC/VDC at 1/2 Amp. The maximum power rating of the contacts is 100 VA, without exceeding the maximum voltage and current ratings of the solid state switch.
Contact On-State Resistance:	2.3 ohms maximum, 1.7 ohms typical
Operate and Release Time:	Turn-on time - 8 milliseconds typical, 20mS max Turn-off time - 1 millisecond typical, 5mS max
Input/Output Isolation Voltage:	2500Vrms

MECHANICAL

Mounting:	Any position
Size:	3.5" wide, 7.2" high, 1.5" deep
Weight:	1 pound

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.