



#### FUNCTIONAL SUMMARY

#	IN	OUT
TYPE	10	2
FORM	2 Wire	2 Wire
	A	A

# MPT-10C

## SSI TOTALIZERS

# MPT-10C METERING PULSE TOTALIZER

## DESCRIPTION

The MPT-10C Metering Pulse Totalizer is designed to provide the totaled pulse output from ten 2-wire (Form A) pulse input sources. Two 2-wire Form A (KY) isolated dry-contact solid state relay outputs are provided. Inputs are signed + or – to provide additive and subtractive capability.



The MPT-10C provides a “pulled up” sense voltage for each Yin input terminal of +12VDC to the ten sending source contacts, normally electric meters. The MPT-10C’s inputs have a unique four digit signed value which can be set between the value of 0000 to 9999. The Pulse output value settings are a six-digit numbers between 000000 to 999999. Both the input and output values may be field set without the use of any external devices.

The MPT-10C has two independent Form A (KY) outputs, each capable of having a unique output value. The two outputs are electrically isolated from each other, eliminating the need for a “splitting” or pulse isolation relay. In addition, the minimum time between output pulses may be set in 10 millisecond increments between 20 milliseconds and 1000 milliseconds, ensuring that output pulses are not too fast for the equipment or telemetry receiving pulses from the MPT-10C. The MPT-10C’s outputs may be operated in the Toggle mode or the Momentary mode. In Toggle mode, the output changes state upon each pulse being outputted, thereby emulating one side (KY) of a standard 3-wire Form C KYZ output. In Momentary mode, the output contact closes for a specified number of milliseconds from 20 to 1000 mS.

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-10C 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-10C is by five sets of “Y” leads with a common “K” lead.

An LCD display contained within the unit displays the status of each of the inputs and the output as a Y or Z. In addition, all programming of system values is done using the LCD display and pushbutton switches. With a software debouncing technique, 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-10C’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-10C has built-in MOV 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-10C, 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:	120-277VAC Autoranging. Burden: ~10 mA at 120 VAC
Pulse Input:	Ten 2-wire Form A inputs. "K" terminal are common return from meter; "Y" terminals are pulled-up to a sense voltage of +12VDC. Compatible with dry-contact mechanical, electro-mechanical or semiconductor outputs (i.e. open connector transistor or MOSFET transistor).
Pulse Output:	Two sets of Form A (K & Y) dry contacts for energy pulses rated at 100mA at 120VAC/VDC. Factory fused at 1/10 Amp with 3AG fuses. 800mW maximum contact power.
Contact Resistance:	25 ohms maximum, 18 typical
Insulation Resistance:	50 megohms typical
Operate and Release Time:	1 to 2 milliseconds typical
Input/Output Isolation Voltage:	2500Vrms

#### MECHANICAL

Mounting:	Any position
Size:	3.50" wide, 7.20" high, 1.50" deep
Weight:	13 ounces

#### TEMPERATURE

Temperature Range:	-38° C to +70° C, -38.4° F to +158° F
Humidity:	0 to 98% non-condensing

#### AVAILABLE OPTIONS

Input Voltages:	12VDC;  125VDC with DCS-1;  15-48VDC with DCS-2; contact factory for other voltages
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