

CTM-PER

Continuous Period
ISA-Bus Counter Board

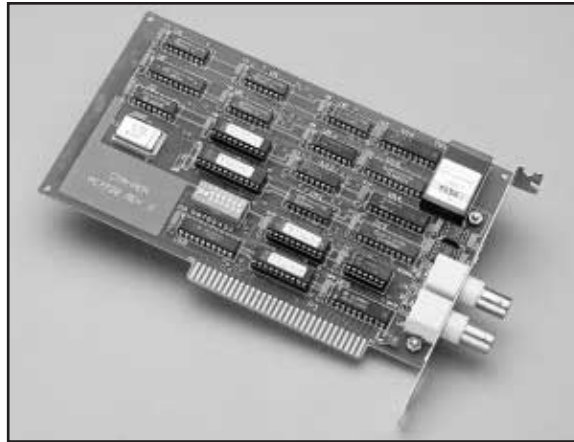
Functional Description

The CTM-PER is an ISA-bus plug-in board used to measure every period of a TTL signal for signals of frequencies of DC to 80kHz (the upper limit is computer dependent and may be as low as 20kHz).

The CTM-PER utilizes a 10MHz oscillator clock and a 28-bit up-counter. When a signal edge is detected, the value of the 28-bit counter is loaded into FIFO memory. Successive level changes cause the new counter values to be loaded. The period or interval is the difference of the two counter values. Because the clock is 10MHz, the resolution of the period is 0.1 microsecond. The longest interval that can be measured is determined by the 28-bit counter and is 2.8 seconds. CTM-PER inputs are electrically isolated by optocouplers.

Software

The software provided with the CTM-PER allows the user to set up the board, start/stop operations, and to remove the counter data from the FIFO on a continual basis. The software extracts the counter differences (or delta) from an array of data. A DOS Call Driver is provided which can be used from BASIC, QuickBASIC, PASCAL, C or FORTRAN. Commented examples and setup utility programs are also provided.



FEATURES

- 28-bit counter
- Resolution of 0.1 microsecond
- Every period measured DC to 80kHz
- Programmable gate
- LSTTL inputs (isolated)
- Signal programmable for positive, negative or both edges
- DOS Software included

APPLICATIONS

- Extraction of doppler information
- Continuous monitoring of relay closure intervals
- Replaces averaging counter/timer where each period needs to be measured
- Extraction of pulse width modulation information

SPECIFICATIONS

SIGNAL AND GATE INPUTS

- CONNECTORS: BNC (2)
 SIGNAL/GATE LOAD: 1 LSTTL unit load
 ABSOLUTE MAXIMUM INPUT: +7VDC
 INPUT PROTECTION: 100Ω in series with input and 6.8V zener
 TRANSIENT IMMUNITY: 500V/μs min (common mode)
 ISOLATION VOLTAGE: 500VDC (input to computer)

CRYSTAL CLOCK AND COUNTER

- FREQUENCY: 10.000MHz
 FREQUENCY STABILITY: ±0.01% (±100ppm)
 MEASUREMENT RESOLUTION: 0.1ms
 MEASUREMENT ROLLOVER: 26.8s
 MEASUREMENT BITS: 28

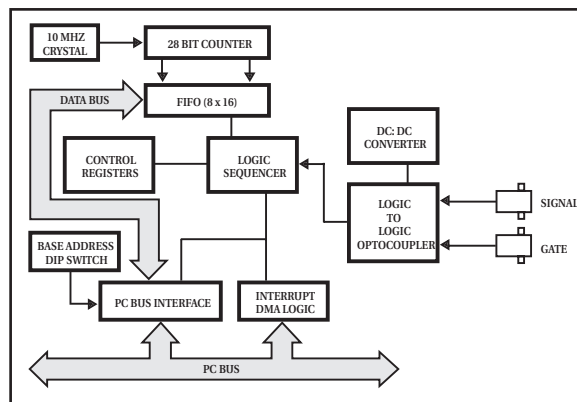
PROGRAMMED CONTROL

- GATE: Positive, negative or none
 SIGNAL EDGES: Positive, negative or both
 MAX SIGNAL FREQUENCY: 1.0MHz (burst of 4) 20 to 80kHz (continuous DMA, computer dependent)
 DATA ACQUISITION MODES: Programmed, interrupt or DMA

ENVIRONMENTAL

- OPERATING TEMPERATURE: 0–50°C
 POWER REQUIREMENTS: +5VDC @ 600mA typ
 DIMENSIONS: 7.0in L × 4.25in H × 0.75in D
 (17.8cm × 10.8cm × 1.9cm)

Block Diagram



ORDER	DESCRIPTION
CTM-PER	Continuous Period Counter Board with DOS Software
MS-CTM-PER	Additional Hardware Manual and DOS Software

OPTIONS

QUESTIONS?

1-800-552-1115 (U.S. only)

Call toll free for technical assistance, product support or ordering information, or visit our website at www.keithley.com.