

MCN-8

8-Channel, 8-Bit Counter/Timer Board For the METRABUS

FEATURES

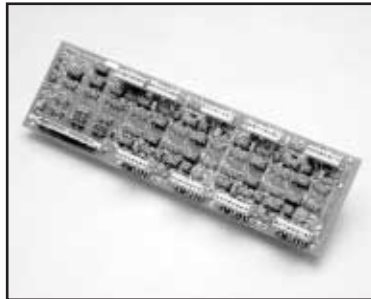
- 8, 8-bit counters
- TTL, comparator, isolated and debounced inputs
- 7 crystal-controlled pulse outputs
- Counter cascadable for higher counts
- 25 MHz maximum input frequency (TTL Input)
- Simple to program
- Detachable screw terminals greatly reduce field wiring and replacement time

APPLICATIONS

- Frequency measurements
- Frequency generation
- Pulse and event counting
- General purpose timing

Functional Description

Keithley's MCN-8 is an 8-bit, eight-channel counter/timer board for the METRABUS system. The board accepts inputs from TTL, comparator and isolated sources and has a special debounced input for counting external contact closures. The counters can easily be cascaded to form 16-bit, 24-bit or larger counters when required by the application.



The MCN-8 uses 8 consecutive addresses on the METRABUS thus allowing up to 8 MCN-8s to be connected to a single METRABUS driver board. Reading each of the addresses will return the current count of that channel. Writing to a counter causes the counter to be cleared.

Seven different crystal-controlled output frequencies (between .125 and 8 Hz) are brought out to the screw terminals. These can be used as gating signals in frequency and event counting applications or be used to generate a constant low-frequency output signal.

SPECIFICATIONS

METRABUS ADDRESS SPACE

8 consecutive addresses

INPUTS

NUMBER OF CHANNELS: 8, 4 types of inputs/channel

TTL INPUTS

MAXIMUM FREQUENCY: 25MHz
 TRIGGER EDGE: Falling
 THRESHOLD VOLTAGES:
 POSITIVE GOING: 1.5V min
 NEGATIVE GOING: 1.1V max
 HYSTERESIS: 0.4V min
 INPUT HIGH CURRENT: 0.25mA max
 INPUT LOW CURRENT: 0.5mA

COMPARATOR INPUTS

MAXIMUM FREQUENCY: 500kHz
 TRIGGER EDGE: Falling
 SWITCHING THRESHOLD: Adjustable 0 to +10V
 HYSTERESIS: 50mV

OPTOISOLATED INPUTS

ISOLATION: 1000VDC
 MAXIMUM FREQUENCY: 5MHz (7.5mA drive current)
 TRIGGER EDGE: Rising input current
 SWITCHING THRESHOLDS: TTL compatible
 INPUT LOW: 1.5V (250µA) max
 INPUT HIGH: 2.5V (2mA) min
 MAX INPUT VOLTAGE: 8V max

CONTACT CLOSURE INPUTS

CONTACT CONNECTIONS: Contacts connected to "CONT IN" and +5V
 SWITCHING STATE: Counts on contact closure
 DEBOUNCE PERIOD: 10ms
 MAXIMUM RATE: 100Hz

OUTPUTS

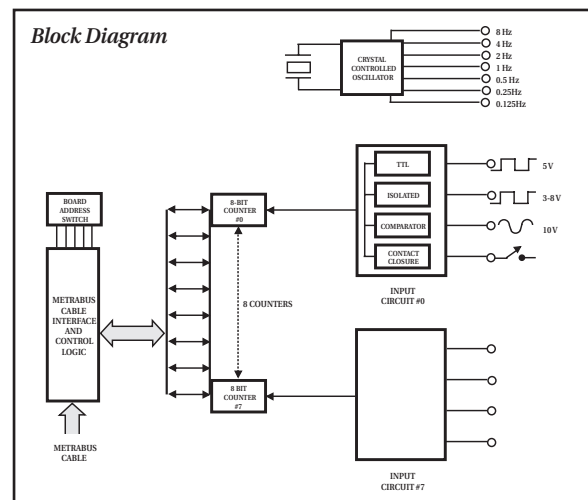
NUMBER OF CHANNELS: 7, one of each frequency
 OUTPUT FREQUENCY: 8, 4, 2, 1, 0.5, 0.25, and 0.125Hz
 PULSE WIDTH: ½ of frequency (50% duty cycle)
 OUTPUT LOW LEVEL: 0.5V max at 4mA max
 OUTPUT HIGH LEVEL: 3V min at 2mA max

POWER REQUIREMENTS

+5V: 300mA typ, 500mA max
 +15V: 10mA typ, 15mA max
 -15V: 2mA typ, 4mA max

PHYSICAL

OPERATING TEMPERATURE: 0 to 70°C
 STORAGE TEMPERATURE: -55 to +125°C
 HUMIDITY: 0 to 90% non-condensing
 DIMENSIONS: 16in × 4.75in (40.63cm × 12.06cm)
 WEIGHT: 13.5oz (378g)



| ORDER | DESCRIPTION |
|-------|---|
| MCN-8 | METRABUS 8-Channel, 8-Bit Counter/Timer Board |