Binary Marker CT

Specifications

GEN SERIES BINARY MARKER CT

Introduction

The Binary Marker CT board CT is a dedicated binary input option for GEN DAQ products. It enables to record up to 64 binary input channels (marker channels) with up to 1 MS/s per channel. In addition 9 binary input channels can be assigned under software control to provide 3 channels of counter/timer functionality. Each channel can have its own function.

The counter/timer functionality includes:
- General purpose up/down counter
- Frequency/RPM counter
- Quadrature/ position measurements

The counter/timer functionality uses up to 3 event bits per channel. These event bits also keep their original functionality. E.g. you can use a quadrature encoder and at the same time look at the quadrature signals separately.

The HBM *Perception* software provides integrated display and control of the event and counter/timer channels, that are recorded in parallel with the analog channels. A full range of features is available for each channel seperately to make the best use of the event channels. Settings include name, units, invert and storage on/off.

In addition each event channel can be used as a trigger condition, a qualifier or an alarm. Each of these conditions can be set to either positive/negative or high/low active.

This combination of features gives you the capability to create complete "bit patterns" to be used as trigger or qualifier.

Note: The Counter/timer channels cannot be used for triggering or alarm.

General

# of channels	64 non-isolated marker (event) inputs
Counter/timer	3 channels, providing: • up/down counter • Frequency/RPM count • Quadrature measurement
Sample rate	1 MS/s
Memory	512 MByte total;

The memory splits between marker inputs and counter/timers channels.

Usable memory is:
   Markers enabled only (1-64)
        -> 64 MSamples
   Markers plus 1 counter chn enabled
        -> 32 MSamples
   Markers plus 2 counter chn enabled
        -> 20 MSamples
   Markers plus 3 counter Chn enabled
        -> 16 MSamples

Inputs

Input type	TTL, active low with pull-up resistor to enable activation by relais or short-circuit to ground
Pull-up	25.5 kΩ @ 5 Volt
Output power	0.3 A maximum
Input range	TTL compatible, 30 V maximum
Treshold	- 28 V to + 0.7 V = '0' + 2 V to +28 V = '1'
Hysterese	1.3 V
Protection	± 30 V continuous
Connectors	four 26-pin SubD type connectors with 16 events per connector
Type	KF66-A26P-N

Conditional functionality (markers only)

Modes	trigger, qualifier, alarm
Trigger	**modes:** off, rising edge active, falling edge active **combination:** each event trigger is OR-ed with all other trigger sources
Qualifier	**modes:** off, active high/low **combination:** each event qualifier is AND-ed with all other qualifier sources
Alarm	**modes:** off, active high, active low

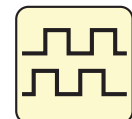The Binary Marker CT board is cost effective and provides a variety of functionality.

64 MARKERS

64-bit COUNTER

FREQ./RPM

QUADRATURE

Binary Marker CT

Specifications

Counter/timer functionality

Timer/Counter

# of channels	3
# of pins/channel	3 (Eventbits 53 to 64)
Function	• Clock
	• Direction
	• Reset
Sample size	64 Bits (8 Bytes)
Operation modes	• Counter
	• Quadrature counter
	• RPM
	• Frequency

Counter mode

Count size	64 bits
Max frequency	10 MHz
Direction	Up/Down by external pin
Reset to "0"	• Manual by user
	• At start of Recording
	• By reset pin once after start of recording
	• By reset pin always

Quadrature Counter mode

Count size	64 bits
Max frequency	10 MHz
Quadrature	Up/Down by phase of signals
Reset to "0"	• Manual by user
	• At start of Recording
	• By reset pin once after start of recording
	• By reset pin always

RPM measurement

Sample size	64 bits
Max frequency	10 MHz
Direction	Positive/Negative rotation
Gate time	User selectable 1 us to 10 sec in 1, 2, 5 steps
Inaccuracy	10 nsec/gate time
Measurement	Counts and period
Pulse per rotation	User selectable
RPM	Counts/(period * pulse per rotation)

Frequency measurement

Sample size	64 bits
Max frequency	10 MHz
Direction	Positive/Negative rotation
Gate time	User selectable 1 us to 10 sec In 1, 2, 5 steps
Inaccuracy	10 nsec/gate time
Measurement	Counts and period
Frequency	Counts/period

www.hbm.com/highspeed

HBM Genesis HighSpeed products were previously sold under the Nicolet brand. The **Nicolet** brand is owned by Thermo Fisher Scientific Inc. Corporation.

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