V792N

16 Channel Multievent QDC

VME	16	12
Package	No. of Channels	Resolution (bits)

The CAEN Mod. V792N is a 1-unit-wide VME 6U, 16-channel multievent QDC with current-integrating negative inputs and 50 Ω impedance. It accepts 0 ÷ 400 pC input charge and uses two fast 12-bit ADCs with ±0.1% integral non-linearity and ±1.5% differential non-linearity. Conversion time is 2.8 µs / 16 ch, with a 600 ns fast clear and 32-event buffer memory. Each channel supports zero and overflow suppression; data transfer includes D16, D32, BLT32, MBLT64, CBLT32 and CBLT64, with A24/A32 addressing, multicast commands and live insertion.

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Overview

Product Highlights

- High channel density
- 2.8 µs / 16 ch conversion time
- Zero and overflow suppression for each channel
- ±0.1% integral non linearity
- BLT32/MBLT64/CBLT32/CBLT64 data transfer
- Live insertion
- 12bit resolution
- 600 ns fast clear time
- ±1.5% differential non linearity
- 32 event buffer memory
- Multicast commands
- Libraries, Demos (C and LabView) and Software tools for Windows and Linux

Product Description

The CAEN **Mod.V792N** is a **1-unit wide VME 6U module housing 16 Charge-to-Digital Conversion channels** with current integrating negative inputs (50 Ω impedance).
For each channel, the input charge is converted to a voltage level by a QAC (Charge to Amplitude Conversion) section. Input range is 0 ÷ 400 pC.
The Model V792N features LEMO 00 connectors for both input and control signals. The outputs of the QAC sections are multiplexed and subsequently converted by two fast 12-bit ADCs. The integral non linearity is ±0.1% of Full Scale Range (FSR) measured from 5% to 95% of FSR. The ADCs use a sliding scale technique to improve the differential non-linearity.
The Mod. V792N offers a 32 event buffer memory, A24/A32 addressing mode, D16, D32, BLT32/MBLT64 and CBLT32/CBLT64 data transfer mode. Multicast commands are also supported.
The board supports the live insertion that allows inserting or removing them into the crate without switching it off.

AT A GLANCE

Package	**VME**
No. of Channels	**16**
Resolution (bits)	**12**
Conversion Time (µs)	**2.8**
LSB (fC)	**100**
Full Scale Range (pC)	**400**

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Technical Specifications

Packaging	1-unit wide 6U VME module (version NA requires the V430 backplane)
Inputs	16 channels, 50 Ω impedance, negative polarity, DC coupling
Input range	0 ÷ 400 pC (if Sliding Scale is used FSR is reduced from 4095 to 3840 counts)
Resolution	12 bit
Gain	100 fC/count
Max. tolerated positive voltage input	15 mV
Reflections	< 5% with 2 ns fall time input signals
Input offset	±2 mV
RMS Noise	0.5 counts typical
Integral non linearity	0.1% of FSR (=3840 counts) from 5% to 95% of FSR
Interchannel gain uniformity	±4%
Interchannel Isolation	> 60 dB
Power rejection	• 0.002 count/mV (+5V); 0.01 count/mV (-5V) • 0.0046 count/mV (+12V); 0.0012 count/mV (-12V)
Fast clear time	600 ns
Gate timing	the Gate signal must precede the analog input by > 15 ns
Conversion time	2.8 µs for all channels
Zero suppression	Threshold values programmable in: • 16 ADC counts steps over the entire FSR • 2 ADC counts steps over 1/8 of FSR

Control inputs

NIM input signals:
- GATE: temporal window for current integration
- RST: resets QAC sections, MEB status and control registers
- VETO: inhibits the conversion of the QAC signals
- FCLR: FAST CLEAR of QAC sections

Control outputs	NIM output signals: • DRDY: indicates the presence of data • BUSY: board full, resetting, converting or in MEMORY TEST mode
VME interface	A24/A32 Geographical Addressing Multicast commands D16/D32,BLT32/MBLT64,CBLT32/CBLT64

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Ordering Information

ORDERING CODE	DESCRIPTION
WV792XNCAAAA	V792NC – 16 Channel Multievent Charge ADC (No JAUX, No 12V DCDC, live ins)

1. Ordering codes and descriptions are reproduced from the product record. Availability is confirmed at order entry.

Accessories

A992 — 16 Channel Impedance Adapter

Related Products

NV8020A — 7U CRATE VME/NIM 8 slot VME64 365W, 5 slot NIM 150W

V4718 — VME to USB 3.0/Ethernet/Optical Link Bridge

VME8004B — 2U 4 Slot VME64 Mini Crate

VME8008B — 4U 8 Slot VME64 Mini Crate

VME8011 — 7U 21 Slot VME64 Low Cost Crate

VME8200 — 9U 21Slot VME64X Enhanced Crate series

VX4718 — VME to USB 3.0/Ethernet/Optical Link Bridge

V3718 — VME to USB 2.0 / Optical Link Bridge

VME8001 — 1U 2 Slot VME64 Mini Crate

VME8004X — 2U 4 Slot VME64X Mini Crate

VME8008X — 4U 8 Slot VME64X Mini Crate

VME8100 — 8U 21 Slot VME64/64X Enhanced Crate Series

VX3718 — VME64 to USB 2.0/Optical Link Bridge

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