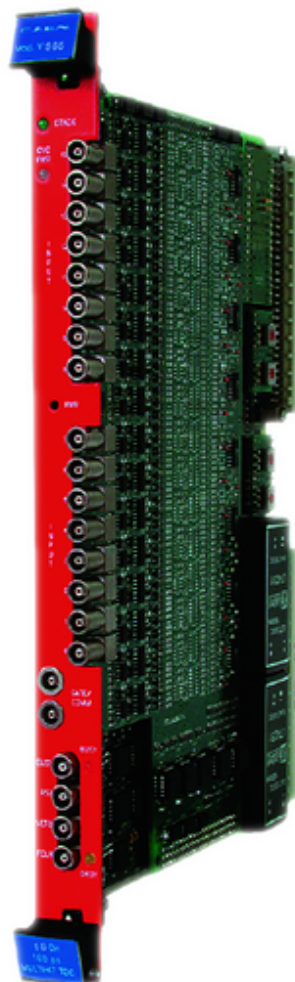
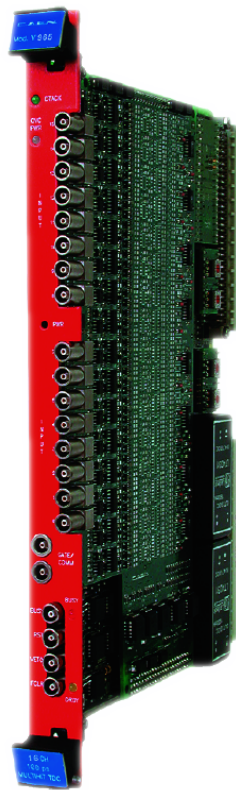


V965A

8 Channel Dual Range Multievent QDC



Features



- Two simultaneous ranges: $0 \div 900 \text{ pC}$ / $0 \div 100 \text{ pC}$
- 12 bit resolution with 15 bit dynamics
- 25 fC LSB on low range, 200 fC LSB on high range
- 2.8 μs / 8 ch conversion time
- 600 ns fast clear time
- Zero and overflow suppression for each channel
- $\pm 0.1 \%$ Integral non linearity
- $\pm 1.5 \%$ Differential non linearity
- 32 event buffer memory
- BLT32/MBLT64/CBLT32/CBLT64 data transfer
- Multicast commands
- Live insertion
- Libraries, Demos (C and LabView) and Software tools for Windows and Linux

Description

The **Mod. V965A** is a 1-unit wide VME 6U module housing 8 Charge-to-Digital Conversion channels with current integrating negative inputs (50Ω impedance). For each channel, the input charge is converted to a voltage level by a QAC (Charge to Amplitude Conversion) section. Each QAC output is then converted by two ADCs in parallel; one ADC is preceded by a x1 gain stage, the other by a x8 gain stage: a dual input range is then featured: $0 \div 900 \text{ pC}$ (200 fC LSB) and $0 \div 100 \text{ pC}$ (25 fC LSB); this allows to avoid saturation with big charge pulses while increasing resolution with small ones.

The outputs of the QAC sections are multiplexed and subsequently converted by two fast 12-bit ADCs. The ADCs use a sliding scale technique to improve the differential non-linearity. Programmable zero suppression, multi-event buffer memory, trigger counter and test features complete the flexibility of the unit.

The module works in A24/A32 addressing mode; the data transfer occurs in D16/D32/BLT32/MBLT64. The module also supports the chained block transfer (CBLT32/CBLT64) and the multicast commands.

The board supports the live insertion that allows inserting or removing it into the crate without switching it off.

Technical Specifications

Packaging

1-unit wide 6U VME module

Inputs

8 channels, 50 Ohm impedance, negative polarity, DC coupling

Input range

Dual range: 0 ÷ 900 pC / 0 ÷ 100 pC

Resolution

12 bit (15 bit dynamics)

Gain

High range: 200 fC/count; Low range: 25 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

5.7 μ s 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

Ordering Options

| Code | Description | |
|-------------|---|------|
| WV965AXBAAA | V965A - 8 Channel Dual Range Multievent Charge ADC (No JAUX, No 12V DCDC, live ins) | RoHS |

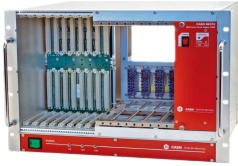
Related Products

VME8004B



2U 4 Slot VME64 Mini Crate

NV8020A



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

VME8010



7U 21 Slot VME64 Low Cost Crate

VME8008X



4U 8 Slot VME64X Mini Crate

VX4718



VME to USB 3.0/Ethernet/Optical Link Bridge

VME8200



9U 21Slot VME64X Enhanced Crate series

VME8002



5U 9 Slot VME64 Mini Crate

VME8011



7U 21 Slot VME64 Low Cost Crate

VME8004X



2U 4 Slot VME64X Mini Crate

VME8100



8U 21 Slot VME64/64X Enhanced Crate Series

VME8001



1U 2 Slot VME64 Mini Crate

V3718



VME to USB 2.0 / Optical Link Bridge

VX3718



VME64 to USB 2.0/Optical Link Bridge

V4718

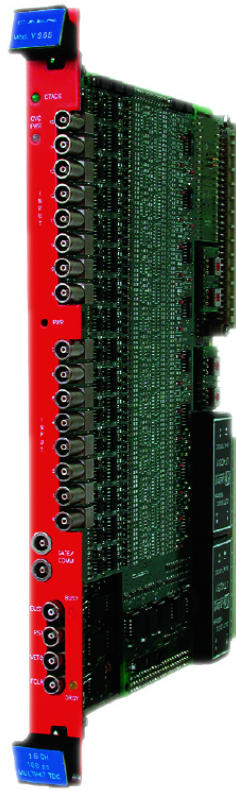


VME to USB 3.0/Ethernet/Optical Link Bridge

VME8008B



4U 8 Slot VME64 Mini Crate



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CAEN S.p.A.

Via Vetraia 11
55049 - Viareggio
Italy

Phone +39.0584.388.398

Fax +39.0584.388.959

info@caen.it

www.caen.it

CAEN GmbH

Brunnenweg 9
64331 Weiterstadt, Germany

Phone +49 (0)212.254.4077

Mobile +49 (0)151.16.548.484

info@caen-de.com

www.caen-de.com

CAEN Technologies, Inc.

1 Edgewater Street - Suite 101
Staten Island, NY 10305
USA

Phone +1.718.981.0401

Fax +1.718.556.9185

info@caentechnologies.com

www.caentechnologies.com

CAENspa India Private Limited

B205, BLDG42, B Wing,
Azad Nagar Sangam CHS,
Mhada Layout, Azad Nagar, Andheri West
Mumbai, Maharashtra 400053, India

info@caen-india.in

www.caen-india.in

