

VX1190A-2ESST

**128 Channel
Multihit TDC
(100/200/800 ps)**



Features

- 3 programmable ranges: 100 ps LSB (19 bit resolution), 200 ps LSB (19 bit) and 800 ps LSB (17 bit)
- ECL/LVDS inputs automatically detected
- 5 ns Double Hit Resolution
- Leading and Trailing Edge detection
- Trigger Matching and Continuous Storage acquisition modes
- 32 k x 32 bit output buffer
- MBLT, CBLT and 2eSST data transfer
- Multicast commands
- Geographical address supported
- Live insertion
- Libraries, Demos (C and **LabView**) and Software tools for Windows and Linux

Description

The CAEN **Mod. VX1190A-2eSST** is a

128 channel Multihit TDC

, housed in a

1-unit wide VME64X 6U

module. The unit features

High Performance Time to Digital Converter

chips developed by CERN. LSB can be set at

100 ps

(19 bit resolution, 52 μ s FSR),

200 ps

(19 bit, 104 μ s FSR) or

800 ps

(17 bit, 104 μ s FSR).

The channels can be enabled for the detection of hits rising/falling edges or for their width measurement (both the edges' timing, and the hit width can be measured with the selected resolution). For each channel there is a digital adjustment for the zero-ing of any offsets. The data acquisition can be programmed in "Events" ("Trigger Matching Mode", with a programmable time window) or in "Continuous Storage Mode". Both ECL and LVDS input signals are supported. The module programming is performed via a microcontroller that implements a high-level user friendly interface. The VME interface allows the module to work in A24 and A32 addressing modes.

The board houses a 32 k x 32 bit deep Output Buffer that can be readout via VME in a completely independent way from the acquisition itself.

The device supports

MBLT, CBLT

and

2eSST

readout modes. Live insertion is also supported.

Technical Specifications

Packaging

6U-high, 1-unit wide, VME_x64X unit

Inputs

128 ECL/LVDS inputs, 110 Ω impedance

Acquisition modes

Trigger Matching Mode, Continuous Storage Mode

Double hit resolution

5 ns

Built-in memory

32 kwords deep Output Buffer

LSB

VME programmable: 100 / 200 / 800 ps

Dynamic Range

104 μs (200 ps and 800 ps LSB); 52 μs (100 ps LSB)

RMS resolution (with compensation enabled)

- <320 ps @ 800 ps res.
- <140 ps @ 200 ps res.
- <80 ps @ 100 ps res.

Integral non linearity (with compensation enabled)

- <0.3 LSB @ 800 ps res.
- <1 LSB @ 200 ps res.
- <1 LSB @ 100 ps res.

Max. differential non linearity (with compensation disabled)

- <0.2 LSB @ 800 ps res.
- <0.3 LSB @ 200 ps res.
- <0.5 LSB @ 100 ps res.

Interchannel Isolation

≤0.7 LSB

Offset spread

<2 ns

EXT TRIGGER input

Two LEMO 00 bridged connectors, NIM signal, 50 Ohm

Double Trigger resolution

75 ns

Clock source

Internal (40 MHz) or External (on Control connector), dip switch selectable

Control inputs

Active-high, differential ECL input signals:

- RST: resets Output Buffer, Status and Control registers.
 - CLR: performs the Hardware CLEAR (min. width: 25 ns) rising-edge active
- rising-edge active, differential ECL input signals:
- CRST: performs the Bunch RESET (min. width: 25 ns)
 - CLK: external clock (max. freq.: 40 MHz)
 - TRG: trigger for the TDC latching (min. width: 25 ns)
 - L2_A; L2_REJ

Control outputs

differential ECL output signal:

OUT_PROG: control output signal, programmable via the out prog control register

Displays

- DTACK: green LED; lights up at each VME access.
- PWR: green/red LED; green: power ON, red: failure status.
- TERM: green LED; control bus termination ON.
- FULL: red LED; memory full.
- ERROR: red LED; TDC global error.
- DRDY: yellow LED; at least one datum/event in the Output Buffer

VME

- Addressing modes: A24, A32, MCST
- Data modes: D16, D32, MBLT32, BLT64, CBLT32, CBLT64, 2eVME, 2eSST8
- Readout rate: up to 120 Mbyte/s with 2eSST

Ordering Options

Code	Description
WVX1190AEXAE	VX1190A - 2ESST 128 Ch. Multievent Multihit TDC 100-200-800 psec ECL/LVDS (no JAUX)

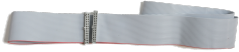
Accessories

A954



Cable assembly 2.54mm 34 pin female to two 2.54mm 16 pin female - 50 cm

A952



Cable assembly 2.54mm 34 pin female to 2.54mm 34 pin female - 50 cm

Related Software

CAEN Toolbox



Multi-Functional Software Suite for the Upgrade of Front-end Boards, Bridges and Power Supplies

Related Products

VME8200



9U 21Slot VME64X Enhanced Crate series

VX3718



VME64 to USB 2.0/Optical Link Bridge

VME8008X



4U 8 Slot VME64X Mini Crate

VX4718



VME to USB 3.0/Ethernet/Optical Link Bridge

VME8100



8U 21 Slot VME64/64X Enhanced Crate Series

VME8004X



2U 4 Slot VME64X Mini Crate

VME8008XB

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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

