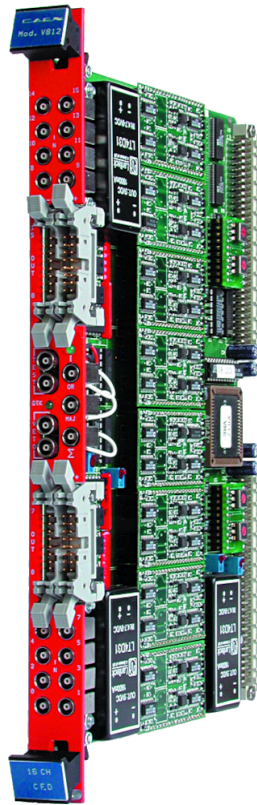


V812

16 Channel Constant Fraction Discriminator



Features



- Thresholds individually programmable via VME
- Constant fraction for precise discrimination timing
- ECL outputs with fan-out of two
- Programmable output width
- Global VETO and TEST inputs
- Mask register for individual channel enable/disable
- OR, CURRENT SUM and MAJORITY outputs
- Libraries (C and LabView) and Software tools for Windows and Linux

Description

The CAEN **Mod. V812** is a **1-unit wide VME module housing a 16 channel constant fraction discriminator**. The module accepts 16 negative inputs and generates precise ECL pulses when the input signals exceeds a given threshold: constant fraction technique allows to precisely determine the timing of the discrimination. The pulse forming stage of the discriminator produces an output pulse whose width is adjustable in a range from 12 ns to 206 ns (typical values) via VME.

Moreover, in order to protect against multiple pulsing, it is possible to program via VME a dead time, from 118 ns to 1625 μ s (typical values) , during which the discriminator is inhibited from retriggering. The discriminator thresholds are individually settable via VME in a range from -1 mV to -255 mV (1 mV step) through an 8-bit DAC. Each channel can be turned on or off via VME by using a mask register. A Current Sum output generates a current proportional to the input multiplicity, i. e. to the number of channels over threshold, at a rate of -1.0 mA per hit (-50 mV per hit into a 50 Ω load). The module can operate also with small (below 10 mV) input signals. A MAJORITY output provides a NIM signal if the number of input channels over threshold exceeds the MAJORITY programmed value. Several V812 boards can be connected in a daisy chain via the Current Sum output: in this case, by switching the majority logic to External, it is possible to obtain a Majority signal when the number of active channels in the chained modules exceeds a global Majority level. The logic OR of discriminator outputs is available on a front panel NIM signal.

Technical Specifications

Packaging

6U-high, 1U-wide VME unit

Inputs

16 inputs (negative polarity, 50 Ω impedance)

Max input voltage

-5 V

Min detectable signal

-5 mV

Threshold range

-1 mV to -255 mV (1 mV step)

Constant fraction

20%

Delay

20ns full scale with 4 ns steps (8 ÷ 20 ns operating range) Optional:

- 5ns full scale with 1ns steps (4 ÷ 5 ns operating range)
- 50ns full scale with 10ns steps (10 ÷ 50 ns operating range)
- 100ns full scale with 20ns steps (20 ÷ 100 ns operating range)

Outputs

16 ECL outputs with a fan-out of two

Input/output delay

Set delay + 4.5 ns \pm 2 ns

Output width

Programmable from 12 ns to 206 ns (typical value)

Dead Time

Programmable from 118 ns to 1625 ns (typical value)

Max outputs time walk

\pm 400 ps for input signals in the range from -50 mV to -5 V with 25 ns rise time

Autowalk

Automatic adjustment of input offset and low frequency input noise of \pm 40 mV

Control inputs

NIM logic signals, high impedance: VETO: allows to veto all channels simultaneously TEST: triggers all the enabled channels at once

Control outputs

- VETO IN: NIM signal, high impedance, allows vetoing of all channels simultaneously
- TEST IN: triggers all the enabled channels at once
- OR OUT: standard NIM signal, 50 Ohm impedance, logic OR of outputs;
- SUM OUT: current proportional to input multiplicity ($-1 \text{ mA} \pm 20\%$ per hit), high impedance

Ordering Options

Code	Description	
WPERS0081201	V812 Customization - Delay 100ns	RoHS
WPERS0081202	V812 Customization - MSU Delay 5ns	RoHS
WPERS0081203	V812 Customization - Delay 50ns	RoHS
WV812XBAAAAA	V812B - 16 Channel Constant Frac. Discriminator (No JAUX)	RoHS

Accessories

A954



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

A385



Adapter 2.54mm 34-pin female to 16x LEMO 00 female (or MCX male) - 50 cm / 1 m

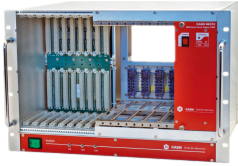
Related Products

VME8004B



2U 4 Slot VME64 Mini Crate

NV8020A



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

VME8008X



4U 8 Slot VME64X Mini Crate

VX4718



VME to USB 3.0/Ethernet/Optical Link Bridge

VX3718



VME64 to USB 2.0/Optical Link Bridge

VME8004X



2U 4 Slot VME64X Mini Crate

VME8011



7U 21 Slot VME64 Low Cost Crate

VME8100



8U 21 Slot VME64/64X Enhanced Crate Series

VME8200



9U 21Slot VME64X Enhanced Crate series

VME8002



5U 9 Slot VME64 Mini Crate

V4718



VME to USB 3.0/Ethernet/Optical Link Bridge

VME8010



7U 21 Slot VME64 Low Cost Crate

V3718



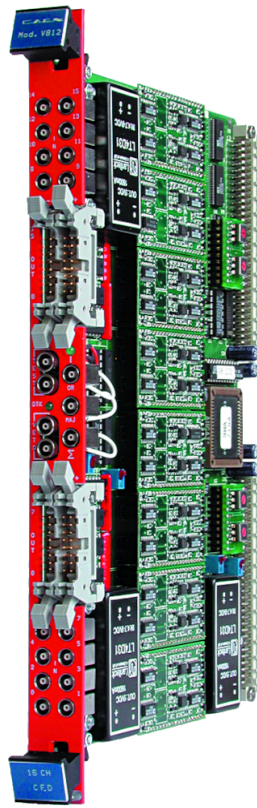
VME to USB 2.0 / Optical Link Bridge

VME8001



1U 2 Slot VME64 Mini Crate

Gallery



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