N840

8 Channel Leading Edge Discriminator

NIM	8	Leading Edge
Package	No. of Channels	Function

The CAEN N840 is an 8-channel leading-edge discriminator in a one-unit-wide NIM module. It accepts eight negative inputs and provides 2×8 NIM outputs with fan-out of two, plus eight negated NIM outputs on front-panel LEMO 00 connectors. Each channel has an individually programmable threshold from -1 mV to -255 mV in 1 mV steps via an 8-bit DAC; the minimum detectable signal is -5 mV. Output width is adjustable from 5 ns to 40 ns, with selectable Updating or Non-Updating operation. TEST and VETO inputs, OR and current-sum outputs, and a 4-digit LED display are included.

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Overview

Product Highlights

- Individually programmable thresholds
- Selectable Updating/Non Updating mode
- Programmable output width
- TEST and VETO inputs
- OR and Current sum outputs
- 4 digit led display

Product Description

The CAEN **Mod. N840** is an 8 Channel **Leading Edge Discriminator** housed in one unit wide NIM module. The module accepts 8 negative inputs and produces 2x8 NIM outputs (NIM outputs are provided with a fan-out of two)+ 8 /NIM outputs (negated) on front panel LEMO 00 connectors.
The pulse forming stage of the discriminator produces an output pulse whose width is adjustable in a range from 5 ns to 40 ns. Each channel can work both in Updating and Non-Updating mode according to on-board jumpers position. The discriminator thresholds are individually settable in a range from -1 mV to -255 mV (1 mV step), via an 8-bit DAC. The minimum detectable signal is -5 mV. The back panel houses VETO and TEST inputs, the OR output and the *Current Sum* output, which 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) ±20%.

AT A GLANCE	
Package	**NIM**
No. of Channels	**8**
Function	**Leading Edge**
Updating	**Selectable**
Min Input (mV)	**-5**
Output Width (ns)	**5 ÷ 40**

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Technical Specifications

Packaging	1U-wide NIM unit
Threshold range	1 mV to -255 mV (1 mV step)
Inputs Channels	8 inputs, negative polarity, DC coupling
Input Impedance	50 Ω
Reflections	<4% for input pulses with a 2 ns rise time
Interchannel Isolation	>44 dB
Max Input voltage	-5 V
Min. detectable signal	-5 mV
Max input frequency	110 MHz (Updating mode); 80 MHz (Non Updating mode)
Double Pulse Resolution	7 ns (Updating mode), 12 ns (Non Updating mode)
Test Input	NIM signal; High impedance; Min. FWHM: 12 ns; Max. frequency: 40 MHz
Veto Input	NIM signal; High impedance; Min. FWHM: 15 ns
Output channels	16 NIM (Fan-Out of 2) + 8 / NIM (single), 50 Ω Impedance
Output Width	Out: 5 ÷ 40 ns / Out: 6 ÷ 41 ns
Output Rise / Fall Time	Out: < 1.2 ns; / Out: < 2.5 ns
Input/output delay	9 ns
Test Input/output delay	11 ns
Or Output	NIM signal; 50 Ω impedance Max. frequency: 30 MHz; Min. FWHM: 10 ns
Σ Output	-1 mA ± 20% per hit; high impedance Max. frequency: 30 MHz; Min. FWHM: 15 ns

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Ordering Information

ORDERING CODE	DESCRIPTION
WN840XAAAAAA	N840 – 8 Channel Leading Edge Discriminator 50 Ohm Negative

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

Accessories

A385 — Adapter 2.54mm 34-pin female to 16x LEMO 00 female (or MCX male) – 50 cm / 1 m

Related Products

NIM8302 — 5U 10 slot 150 W Compact Crate

NIM8303 — 5U 12 slot 300/600 W Crate

NIM8305 — 2 Slot Switching 450 W Mini Crate

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

NIM8302P — 5U 5 slot 150 W Portable Crate

NIM8304 — 7U 12 slot smart fan unit Switching 2000 W Crate

NIM8306 — 2 Slot Switching 750 W Mini Crate

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