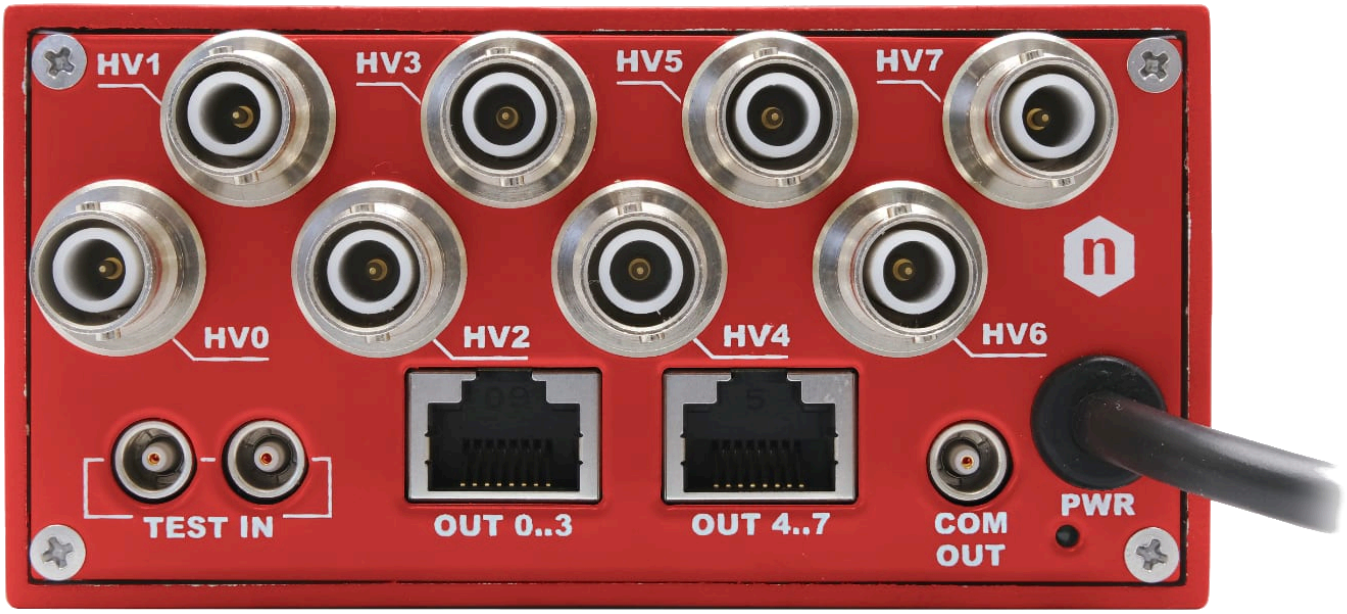
A1422C/D

Low Noise Fast Rise Time Charge Sensitive Preamplifier

Features



- Fast, low noise inverting preamplifier
- Gain 5 mV/MeV(Si)
- Positive or negative input signals
- 8 input channels
- Up to 200 pF detector capacitance supported
- Up to 2000 V (positive or negative) detector bias voltage
- Low noise input stage composed JFETs diode protected

Description

The CAEN **Mod.A1422C/D** is a **5 mV/MeV** 8-channel preamplifier implemented into an alloy box and features **SHV** connectors for the DET/IN and HV/IN signals, **2 RJ45** for the differential outputs, **LEMO** connectors for the TEST IN and COM OUT and a cable with a **D-type 9** pin male connector for the power supply. The module accepts both positive and negative input charge pulses and provide a differential output of ±5V max on 1 kΩ termination, and ±2.5V on 100 Ω back termination. A test input accepts positive and negative signals for calibration purposes. Moreover the sum of the 8 energy outputs, with 1 µs decay time, is available on the COM OUT output.

A customization is available to improve amplifier protection from transients at detector input connection.

Technical Specifications

No. of Channels

A1422CDxxx: 8-channels

Packaging

Alloy Box;Dimensions WxHxD connector included: 100.0 x 50.0 x 162 mm3

Charge Sensitivity

5 mV/MeV (Si)

Recommended Range of Input Capacitance

F2: up to 200 pF

Output Linear Range

±5 V 1 kΩ termination±2.5 V 100 Ω termination

COM Output Linear Range

±5 V 50 Ω termination

Open Loop Gain

5 mV/Mev (F2) >1*10 ⁵

E2CRP Maximum energy-squared count-rate product

E²CRP: 1.57*10¹⁰ MeV²/s

Energy Sensitivity

5 mV/MeV (Si)

Decay Time

5 mV/MeV(Si) 50µs

Integral non Linearity

<± 0.05% (0 ÷ ±10 V 1 kΩ termination)

Temperature Instability

< ±100 ppm/°C (0 to 50°C)

Noise FWHM keV (Si)

Model Detector 0 pF Capacitance 200 pF F2 - 5 mV/MeV < 4.7 < **7.6**

Rise Time

Model Detector 0pF Capacitance 200pF F2 - 5 mV/MeV < 5 ns <15

Detector Bias Voltage
±2000 V max

Ordering Options

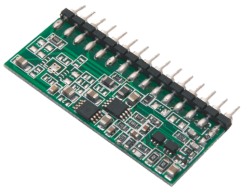
Code	Description	
WA1422CD05F2	A1422CD05F2 - 8 Ch. Charge Preamplifier, 5mV/MeVgain, Cdet<200pF with differential outpus	RoHS

Related Products

N5424

Quad NIM Power Distributor for A1422 Preamplifiers

A1422H



Low-Noise Fast-Rise-Time Charge-Sensitive Preamplifiers

V5425

Quad VME Power Distributor

DT5423

Quad Linear Desktop Power distributor for A1422 Preamplifiers and DT57xx Digitizers

A1422

Low-Noise Fast-Rise-Time Charge-Sensitive Preamplifiers (Boxed)

A1422E/F

Low Noise Fast Rise Time Charge Sensitive Preamplifiers

N1068

16 ch Programmable Spectroscopy Amplifier and 16ch CFD

N968

Spectroscopy Amplifier

Gallery


HV1
HV3
HV5
HV7
HV0
HV2
HV4
HV6
TEST IN
OUT 0..3
OUT 4..7
COM
OUT
PWR


IN6
IN4
IN2
IN0
IN7
IN5
IN3
IN1
CAEN
A1422C-D
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