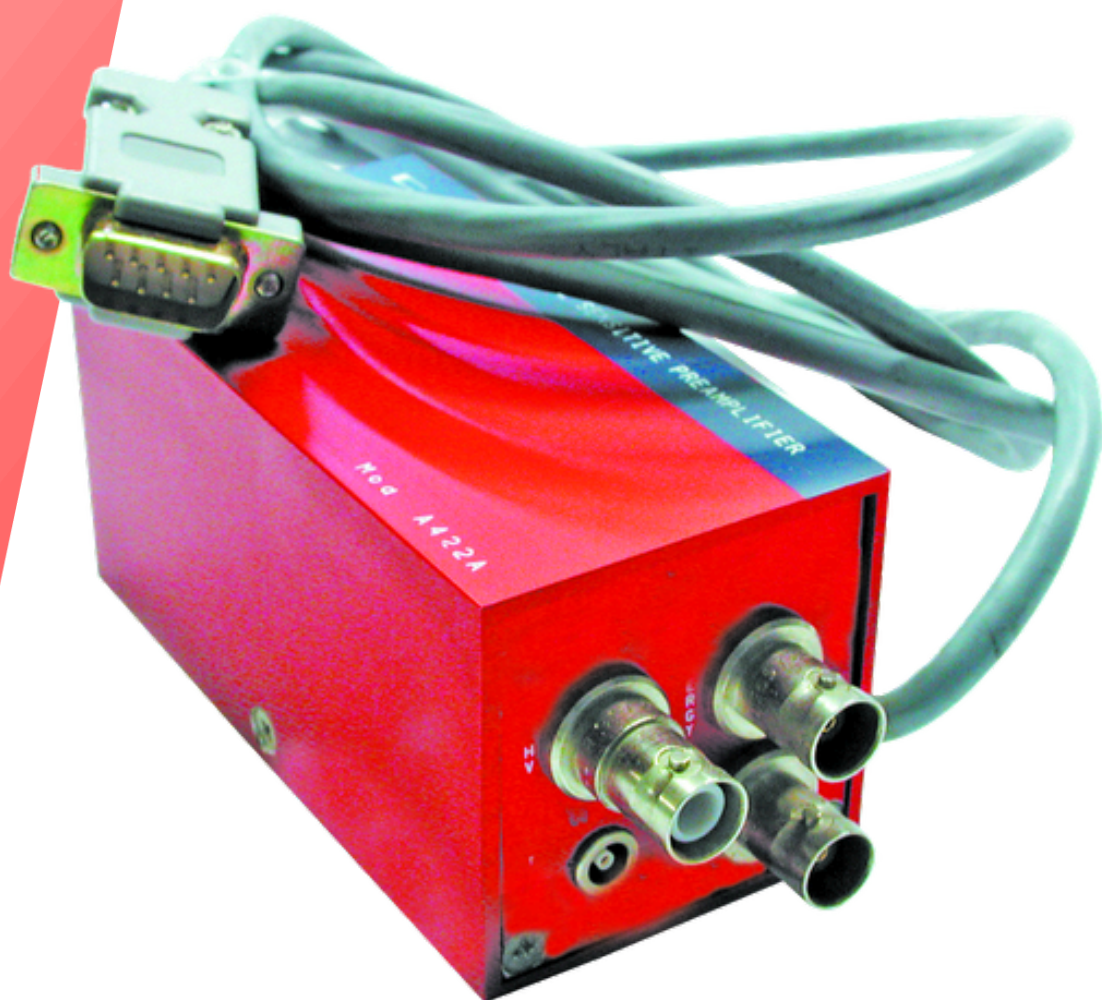
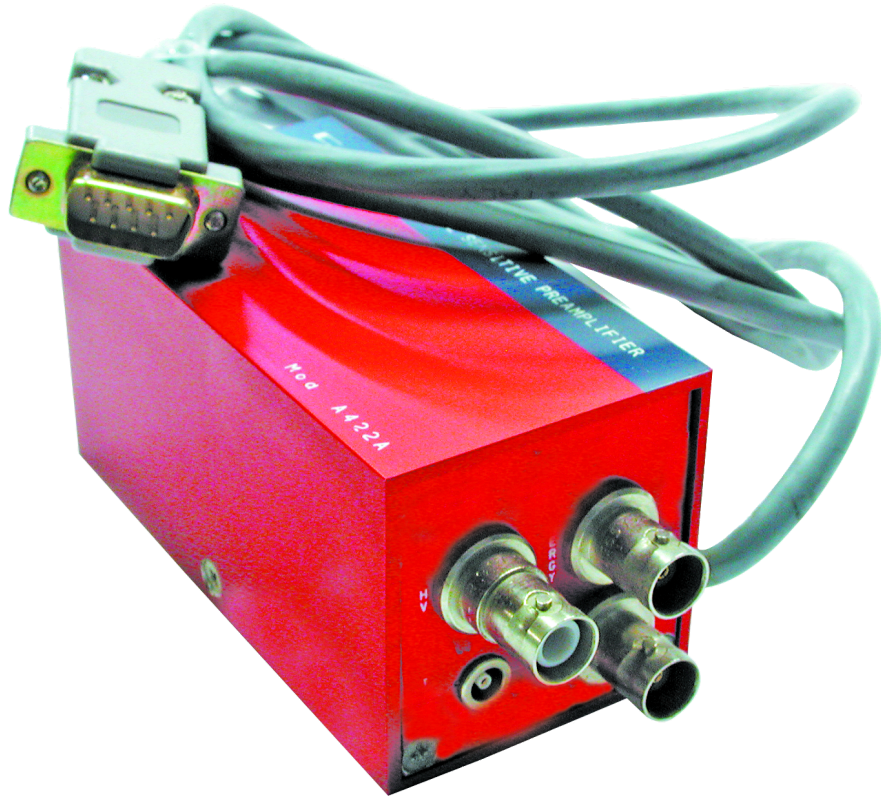


A422A

Charge Sensitive Preamplifier with Timing (Box)



Features



- Positive or negative input signals
- Energy sensitivity range of 5, 30 or 60 mV/MeV (Si)
- Low noise
- Timing output
- Up to 5 kV (positive or negative) detector bias voltage

Description

The CAEN **Mod. A422A** is a charge sensitive preamplifier, designed to be used especially with semiconductor detectors and in particular whenever the charge division is required (as in position sensitive silicon detectors). The unit accepts both positive and negative input pulses. A Test input for detector gain calibration and a HV input (up to 5 kV) for the detector bias are also included.

The output is an inverting unipolar voltage pulse, proportional in amplitude to the integrated charge; decay time is 300 μ s. A Timing output provides an unipolar inverting fast voltage pulse, with a 15 ns typical rise time, across a 50 Ω load. Three different sensitivities (5, 30 or 60 mV/MeV) can be selected.

Technical Specifications

Packaging

Alloy box: 100 mm x 50 mm x 50 mm

Input Signals (IN/DETECTOR)

SHV; accepts positive and negative charge pulses from semiconductor detectors and supplies the HV bias to the detector itself.

* Output tested by using an input pulse with 50 ns rise time and a 1000 μ s fall time.

Input Signals (HV)

SHV; up to 5 kV (positive or negative) for the detector bias. 101 M Ω resistance in series

Input Signals (TEST)

LEMO 00; positive or negative inputs to calibrate the gain of the detector input via $C_{test} = 10$ pF

Output Signals (OUT/ENERGY)

BNC; inverting unipolar voltage pulse proportional in peak amplitude to the charge input. DC offset adjustable to zero via the internal R12 trimmer. 50 ns minimum rise time, 300 μ s decay time, ± 8 V max. peak amplitude

Output Signals (TIMING)

BNC; inverting unipolar fast voltage pulse. 14 ns minimum rise time. Requires a 50 Ω termination whether it is used or not.

Integral non linearity

$\pm 0.045\%$ (from 0 to ± 8 V peak output)

Gain drift

$< \pm 50$ ppm/ $^{\circ}$ C to (from 0 $^{\circ}$ to 50 $^{\circ}$ C)

Energy sensitivity

60/30/5 mV/MeV (Si) selectable via internal jumpers ($\pm 10\%$)

Typical noise

17.5 KeV FWHM at 1000 pF capacitance and 60 mV/MeV sensitivity

Power Requirements

- +12 V: 15 mA
- -12 V: 15 mA
- +24 V: 30 mA
- -24 V: 5 mA

Ordering Options

Code	Description	
WA422AXAAAAA	A422A - Charge Sensitive Preamplifier with timing(Box)	RoHS

Related Products

A1422C/D



Low Noise Fast Rise Time Charge Sensitive Preamplifier

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)

N1068



16 ch Programmable Spectroscopy Amplifier and 16ch CFD

A1422E/F



Low Noise Fast Rise Time Charge Sensitive Preamplifiers

N5424

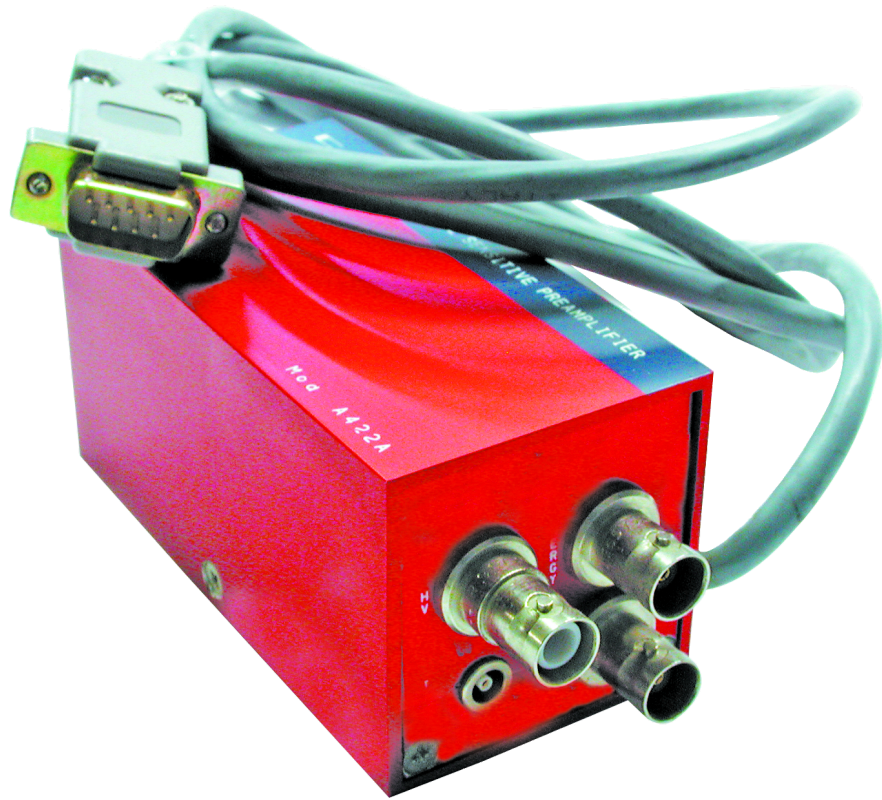


Quad NIM Power Distributor for A1422 Preamplifiers

N968



Spectroscopy Amplifier



This document, or parts thereof, may not be reproduced in any form or by any means without written permission from Caen S.p.A. Although every effort has been made to ensure the accuracy of information presented in this catalog, Caen S.p.A reserves the right to modify its products specifications without giving any notice; for up to date information please visit www.caen.it © Caen S.p.A - 2024

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

