


Preamplifiers Products

CAEN *Short Form Catalog 2010*

The Preamplifiers section of the CAEN catalog was introduced for the first time in 2007.

In this 2010 catalogue all the latest developments of the CAEN preamplifiers are included widely expanding the Charge Sensitive Preamplifier CAEN offer.



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Charge Sensitive Preamplifier	A1422x090F2	Charge Sensitive Preamplifiers 1/4/8 Ch 90mV/Mev gain Cdet < 200pF	71 New
Charge Sensitive Preamplifier	A1422x005F3	Charge Sensitive Preamplifiers 1/4/8 Ch 5mV/Mev gain Cdet < 1000pF	71 New
Charge Sensitive Preamplifier	A1422x045F3	Charge Sensitive Preamplifiers 1/4/8 Ch 45mV/Mev gain Cdet < 1000pF	71 New
Charge Sensitive Preamplifier	A1422x090F3	Charge Sensitive Preamplifiers 1/4/8 Ch 90mV/Mev gain Cdet < 1000pF	71 New

A422A Charge Sensitive Preamplifier with timing (Box)

The 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 Ohm load. Three different sensitivities (5, 30 or 60 mV/MeV) can be selected.

- 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

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Ordering Information

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

A422 Charge Sensitive Preamplifier with Timing (Hybrid)

The Mod. A422 is a charge sensitive preamplifier implemented on an open frame SIP hybrid assembly. The module is 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 1 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 220 μ s. A Timing output provides an unipolar inverting fast voltage pulse, with a 15 ns typical rise time, across a 50 Ohm load. Three different sensitivities (1, 45 or 90 mV/MeV) can be selected via internal connections. A 8-slot motherboard for the A422 is also available; it can be purchased equipped with LEMO 00 I/O connectors (Mod. A658) or with soldering pads (Mod. A658A).

- Fast, low noise inverting preamplifier
- Positive or negative input signals
- Energy sensitivity range selectable between 1, 45 or 90 mV/MeV (Si)
- Timing output
- Up to 1 kV (positive or negative) detector bias voltage

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Ordering Information

Code	Description
WA422XAAAAAA	A422 - Charge Sensitive Preamplifier with timing (Hybrid)
WA658AXAAAAA	A658A - A422 Mother Board (Without connectors)
WA658XAAAAAA	A658 - A422 Mother Board (With connectors)

A1422 Charge Sensitive Preamplifier

The A1422 series are charge sensitive preamplifiers, available with either 1, 4 or 8 channels. Various sensitivities values (5mV/MeV, 45mV/MeV and 90mV/MeV so far) are available and various detectors capacitances (up to 200pF and 1000pF so far) are supported.

All of them can be used in nuclear and subnuclear physics experiments, where very low noise, fast response and high counting rates are required.

The modules accept both positive and negative charge pulses and provide an energy output in the ± 4 V range across a 50 Ω load. Moreover a test input accepts positive and negative signals for calibration purposes.

The hybrid preamplifiers are realized using a Cold Discharge Mechanism: this allows to have a low decay time value maintaining a very high feed-resistance value.

This technique provides good performances minimizing the pile-up in presence of moderate high counting rates

The A1422 are implemented into alloy boxes and feature SHV connectors for the IN/ DETECTOR and HV BIAS signals, LEMO connectors for the TEST IN and ENERGY OUT and a cable with a D-type 9 pin male connector for the power supply.

- Fast, low noise inverting preamplifier
- Positive or negative input signals
- Three available gain values: 5mV/MeV, 45mV/MeV and 90mV/MeV
- Up to 1000pF detector capacitance supported
- 1, 4 and 8 channel model available
- Up to 2 kV (positive or negative) detector bias voltage

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Detector capacitance pF	Gain mV/MeV	No. of Channels	Ordering Code	Description
200	5	1	WA1422A005F2	A1422A005F2 - 1Ch.Charge Preamplifier, 5mV/MeV gain, Cdet<200pF
		4	WA1422B005F2	A1422B005F2 - 4Ch.Charge Preamplifier, 5mV/MeV gain, Cdet<200pF
		8	WA1422C005F2	A1422C005F2 - 8Ch. Charge Preamplifier, 5mV/MeV gain, Cdet<200pF
	45	1	WA1422A045F2	A1422A045F2 - 1Ch. Charge Preamplifier, 45mV/MeV gain, Cdet<200pF
		4	WA1422B045F2	A1422B045F2 - 4Ch. Charge Preamplifier, 45mV/MeV gain, Cdet<200pF
		8	WA1422C045F2	A1422C045F2 - 8Ch. Charge Preamplifier, 45mV/MeV gain, Cdet<200pF
	90	1	WA1422A090F2	A1422A090F2 - 1Ch. Charge Preamplifier, 90mV/MeV gain, Cdet<200pF
		4	WA1422B090F2	A1422B090F2 - 4Ch. Charge Preamplifier, 90mV/MeV gain, Cdet<200pF
8		WA1422C090F2	A1422C090F2 - 8Ch. Charge Preamplifier, 90mV/MeV gain, Cdet<200pF	
1000	5	1	WA1422A005F3	A1422A005F3 - 1Ch.Charge Preamplifier, 5mV/MeV gain, Cdet<1000pF
		4	WA1422B005F3	A1422B005F3 - 4Ch. Charge Preamplifier, 5mV/MeV gain, Cdet<1000pF
		8	WA1422C005F3	A1422C005F3 - 8Ch. Charge Preamplifier, 5mV/MeV gain, Cdet<1000pF
	45	1	WA1422A045F3	A1422A045F3 - 1Ch.Charge Preamplifier, 45mV/MeV gain, Cdet<1000pF
		4	WA1422B045F3	A1422B045F3 - 4Ch. Charge Preamplifier, 45mV/MeV gain, Cdet<1000pF
		8	WA1422C045F3	A1422C045F3 - 8Ch. Charge Preamplifier, 45mV/MeV gain, Cdet<1000pF
	90	1	WA1422A090F3	A1422A090F3 - 1Ch.Charge Preamplifier, 90mV/MeV gain, Cdet<1000pF
		4	WA1422B090F3	A1422B090F3 - 4Ch. Charge Preamplifier, 90mV/MeV gain, Cdet<1000pF
		8	WA1422C090F3	A1422C090F3 - 8Ch. Charge Preamplifier, 90mV/MeV gain, Cdet<1000pF