

CB210 - CHARGE SENSITIVE PREAMPLIFIER

The preamplifier CB210 is a low noise charge sensitive preamplifier designed for PMTs. Low gain 10, 20, 30 mV/pC and $Z=50 \Omega$ impedance make it an excellent module for PMTs. The preamplifier is optimized for high input capacitance (up to 5000pF) and impedance of dividers. The module has protection circuit to avoid breakdown of the input of the preamplifier circuit.

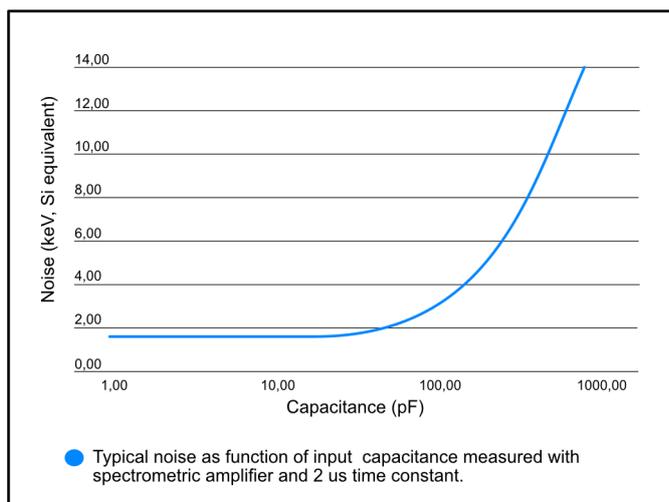
Model	Charge sensitivity (Si Equivalent 3,62)	Max. Noise (KeV/(Si)) (Cin=0pF)	Energy range
CB210	0,6 mV/MeV (10mV/pC)	< 1,45 KeV	0-11600 MeV
CB210A	1,2 mV/MeV (20mV/pC)	< 1,45 KeV	0-5800 MeV
CB210B	1,8 mV/MeV (30mV/pC)	< 1,45 KeV	0-3860 MeV

PERFORMANCE

Decay time	CB210 100 μ s CB210A 50 μ s CB210B 30 μ s
Dynamic input capacitance	Up to 5000 pF
Noise/Input capacitance ratio	< 5 e ⁻ /pF
Integral nonlinearity	0,1% (without termination)
Dynamic output range	$\pm 7,5$ V (without termination) ± 3 V (with 100 Ω termination)
Temperature stability	± 100 ppm/C
Rise time	< 7 ns
Open loop gain	30,000
HV Bias resistor	max 500 VDC
Output resistors	100 Ω
Test Capacitance	3 pF ($\pm 3\%$)

INPUT/OUTPUT

Input	BNC connector, accepts positive or negative charge signal.
Bias	Voltage can be applied through SHV input connector. The serial resistance between input and bias connectors is optional value. Default is BNC connector.
Test	Pulse input connector is BNC type connector. Test capacitance is 3 pF.
Power	Input power through 3m screened cable from spectrometric amplifier, NIM crate power supply or portable power supply.
Energy	Output negative or positive linear pulse. BNC connector.



POWER SUPPLY REQUIREMENTS

The best solution is alimentation from a NIM standard power supply or special low noise linear power supplies.

P. Voltage (V)	Current/ch (mA)
+24	19,6
-24	10,0
+12	10,0
-12	11,6

Power supply pin out:

Pin number	
7	+24 V
6	-24 V
4	+12 V
9	-12 V
1	Ground
2	Ground

BOX DIMENSIONS

box dimensions	111x80x40 mm
weight	0,5kg
cable length	3 m

