

CB211 - CHARGE SENSITIVE PREAMPLIFIER

The preamplifier CB211 is a low noise charge sensitive preamplifier designed for PMTs. Low gain 166mV/pC and $Z=50\ \Omega$ impedance make it an excellent module for PMTs. The preamplifier is optimized for high input capacitance (up to 1000pF) and impedance of dividers. The module has bias input (up to 3 KV) and protection circuit to avoid breakdown of the input of the preamplifier circuit.

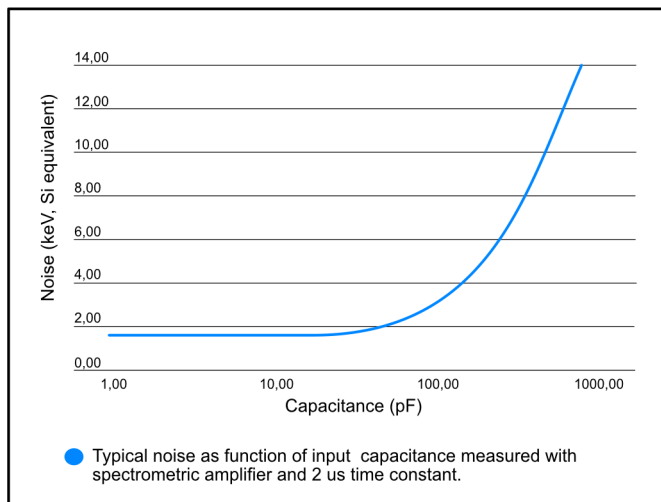
Model	Charge sensitivity (Si Equivalent)	Max. Noise (KeV/(Si)) ($C_{in}=0pF$)	Energy range
CB211	10 mV/MeV	< 1,45 KeV	0-700 MeV

PERFORMANCE

Decay time	1000 μs
Dynamic input capacitance	Up to 1000 pF
Noise/Input capacitance ratio	< 9 e^-/pF
Integral nonlinearity	0,03% (without termination)
Dynamic output range	$\pm 7,5\ V$ (without termination) $\pm 3\ V$ (with 100 Ω termination)
Temperature stability	$\pm 100\ ppm/C$
Rise time	7 ns (up to 100 pF detector capacitance)
Open loop gain	50,000
HV Bias resistor	50 Meg Ω
Output resistors	100 Ω
Test Capacitance	3 pF ($\pm 3\%$)

INPUT/OUTPUT

Input	Accepts positive or negative charge signal. DC Input resistance is 100KΩ BNC connector.
Bias	Voltage can be applied through SHV input connector. The serial resistance between input and bias connectors is optional value. Default value 50 MegΩ.
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	0,5 kg
cable length	3 m

- Option version: power voltage ± 12 Volt

