

CB200C1 module, 1 channels charge sensitive preamplifier.

The preamplifier **CB200C1** is low noise charge sensitive preamplifier. CB200C1 series has adjustable gain values. The preamplifier is optimized for high input capacitance (up to 1000pF). The module has bias input (up to 3 KV) and protection circuit to avoid breakdown of the input of the preamplifier circuit. In module C200C1 is a small box with only +/- 12 Volt power supply voltage.

Model	Charge sensivity	Max. Noise	Energy range
	(Si Equivalent)	(keV/(Si) (Cin=0pF)	
CB200C1	20-100 mV/MeV	<1.5 KeV	0-200 MeV

Note: Noise value diagram see on Fig.1.

PERFORMANCE

Decay time	100 us
Dynamic input capacitance:	up to 1000 pF
Noise/Input capacitance ratio:	9 e-/pF
Integral nonlinearity:	0,03 % (without termination)
Dynamic output range :	+/- 7,5 V (without termination). +/-3 V (with 100 Ohms termination).
Temperature stability:	+/- 100 ppm/C.
Rise time	Less then 20 ns
Open loop gain:	30,000
HV Bias resistor	26 Meg
Output resistors:	100 Ohm
Test Capacitance:	3 pF

INPUTS/ OUTPUT

INPUT	Accepts positive or negative charge signal.
BIAS	High voltage can be applied through SHV input connector. The serial resistance between input and bias connectors is 26 MOhm.
TEST	Pulse input connector is LEMO type connector. Test capacitance is 3 pF.
POWER	Input power through 3 meter screened cable from spectrometric amplifier or portable power supply.
ENERGY	LEMO type connector

POWER SUPPLY REQUIREMENTS:

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

Power supply pin out:

P. Voltage (V)	Current(mA)
+12	24,0
-12	20,0

Pin number	
4	+12 Volt
9	-12 Volt
1	Ground
2	Ground

Box dimensions: 111x80x40 mm

Cable length 3 m.

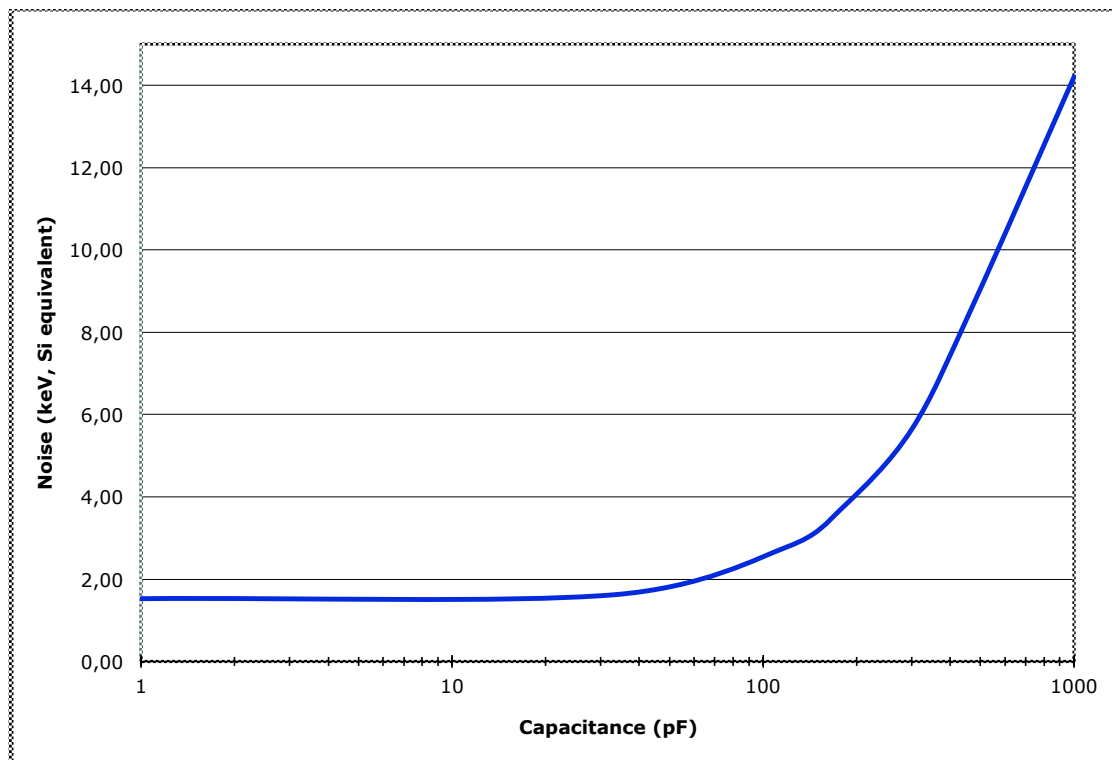


Fig.1. Typical noise as function of input capacitance measured with spectrometric amplifier and 2 us time constant.