DCB209 Charge sensitive preamplifier.

The D**CB209 module has** 8 channels low noise charge sensitive preamplifiers. Fast timing and small size make this preamplifier excellent module for small charged particle detectors or laboratory measurements. 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.

GENERAL default values:

Model	Charge sensitivity (Si Equivalent)	Max. Noise (Si equiv.) Cin = 0pF	Cin = 200pF
DCB209	Adjustable 45 and 200 mV/MeV	<3,54 keV (FWHM)	<7800 keV(FWHM)

PERFORMANCE

Decay time	100 us - 25 us
Dynamic input capacitance:	up to 1000 pF
Noise/Input capacitance ratio:	<9 e-/pF (different for different gain sensitivity)
Integral nonlinearity:	0,1 % (without termination)
Dynamic output range :	+/- 7 V (without termination). +/-3 V(50 Ohms termination).
Temperature stability:	+/- 100 ppm/C (0 to 50 C)
Open loop gain:	100,000
Output resistors:	100 Ohm
Test Capacitance:	Common test pulse for all 8 channels 3,0 pF
Rice Time	7 ns (Cin = 0pF)

INPUTS/ OUTPUT

INPUT	Input SHV connector and accepts positive or negative charge signals.
BIAS	voltage can be applied through SHV. The serial resistance between input and bias connectors is 25 MegOhm.
TEST	pulse input connector is BNC type connector. Test capacitance is 3,0 pF.
POWER	input power through screened cable from spectrometric amplifier, NIM crate power supply or portable power supply.
ENERGY	output negative or positive linear pulse. BNC connector.

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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 (mA)
+12	180,0
-12	140,0

INPUT	OUTPUT	N
Ch1	OUT1	1
Ch2	OUT1	2
Ch3	OUT1	3
Ch4	OUT1	4
Ch5	OUT2	1
Ch6	OUT2	2
Ch7	OUT2	3
Ch8	OUT2	4

Box dimensions: 160x165x51,5 mm

Note: Special shielded cable with LEMO S0 and Dsub9 (3 meter length).

Pin out DSUB 9 connector.

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