NCB215 - SPECTROMETRIC AMPLIFIER

The NIM module NCB215 is a general-purpose spectrometric amplifier for energy spectroscopy with all types of detectors. The module has unipolar output, low noise, wide-gain range and front-panel selectable time constant.
The Module NCB215 has active filter networks of circuit that generate a very symmetrical unipolar output with optimal signal-to-noise ratio over a wide range of time constants.
The module NCB215 has a good output DC stability.

PERFORMANCE

Gain range	Continuously adjustable 10 - 1500 range
Pulse shape	Semi-Gaussian on all ranges
Integral nonlinearity	<±0,05%
Noise	<8 µV (measured with 3 us shaping time)
Temperature instability	Gain ≤±0,01%/°C, 0 to 50°C DC Level ≤±50 µV/C, 0 to 50°C
Spectrum broadening	Typically <20% FWHM
Spectrum shift	Peak position shifts typically <0,03%

FRONT PANEL CONTROLS

Fine Gain	10-turn precision potentiometer variable gain factor of x0,5 to x1,5
Coarse Gain	6-position switch selects feedback resistors for gain factors of 20, 50, 100, 200, 500, and 1k.
Input polarity	Locking toggle switch selects either POS or NEG input pulse polarity
Shaping time	6-position switch selects time constants from 0.5, 1, 2, 3, 6 and 10 µs.
Pole zero ADJ (PLR)	Front-panel screwdriver adjustment to compensate for the preamplifier decay time constant from 25 µs to ∞

INPUT/OUTPUT

Input	Front-panel BNC connector accepts positive or negative pulses with rise times of 15 to 1000 ns and decay times of 30 µs to ∞, Zin 1 KΩ DC-coupled; maximum ± 10V; absolute maximum ±12V.
Outputs	UNIPOLAR Front-panel BNC connector with Zo= 100Ω, short-circuit proof; prompt with full scale linear range of 0 to +10V (without termination); active filter shaped; DC-restored; DC-level adjustable to ±20 mV.
Outputs Zero ADJ (Vos)	Front-panel screwdriver adjustment to compensate output offset in range ±20mV. Adjustment is regulated automatic base line restorer threshold (BLZ)
Preamp power	Rear-panel standard D9 power connector

POWER SUPPLY REQUIREMENTS

The module has NIM standard power supply.

P. Voltage (V)	Current/ch (mA)
+12	90
-12	90

DIMENSIONS

dimensions	3,43x22,13 cm per DOE/ER-0457T
weight	1 kg