scintiSPEC™

UNIVERSAL MULTI-CHANNEL ANALYZER

The scintiSPEC™ universal multi-channel analyzer (MCA) was designed for scintillation detector spectroscopy and counting. The system provides a complete, traditional spectroscopy electronics system with power and communications via a USB interface.

As compared to similar devices, the scintiSPEC supplies all necessary electronics in a small, tube housing. With a simplified connection interface and cost effective design, the scintiSPEC is ideal for radiochemistry laboratories and OEM applications in which scintillators are necessary. In addition, the scintiSPEC provides additional functionality to any mobile lab.

The scintiSPEC is a universal MCA for 14-pin scintillation detector spectroscopy and counting with communications and power via USB interface. The scintiSPEC provides power to the detector PMT, contains signal processing electronics, and a Wilkinson ADC.

FEATURES

- Plugs directly onto a 14 pin PMT

- Analog electronics

- High voltage supply

- Wilkinson ADC

- 1024 channel spectrum

- Captive USB cable

SPECIFICATIONS

PHYSICAL AND ELECTRICAL DIMENSIONS

Configuration	Single input
Interface	USB standard
Physical Size	2.3" x 2.1" (58 x 53 mm)
Power requirements	max. 250 mA, through USB
Weight	7.8 oz (220 g)

SPECTRUM PARAMETERS

Spectrum length	1024 Channels
Bits per channel	32
Operating mode	PHA, opt. MCS
Memory	2k Channels

PROGRAMMABLE CONTROLS

Fine Gain	x0.5 to x2.0
Preset Mode	Live or real time
Preset Time	$0.1 - 10^6$ sec.

SIGNAL PROCESSING

ADC	Integrated Wilkinson, 60 MHz
Conversion range	1024 Channels
Pulse shape	Bipolar
Peaking time	1 µs
Fast channel peaking	0.1 µs
Conversion speed	8 µs
Int. Non-Linearity	±0.05 % of full scale over the top of 99 % of selected range
Diff. Non-Linearity	±0.5 % over the top of 99 % of the range including the effects of INL
Dead time correction	Software controlled
LLD	4096 steps, software controlled
ULD	16 steps, software controlled

INPUTS/OUTPUTS

PMT	14-pin diheptal socket
Computer	USB with cable

HIGH VOLTAGE

Range	0 to +1200 V DC, 1 mA integrated into tube base, 4096 steps, software controlled

ENVIRONMENTAL

Temperature	0 to 50 °C (32 to 122 °F)
Humidity	Up to 80 %, non condensing

SOFTWARE

winTMCA32	Includes basic spectroscopy software
proSPEC-N	Gamma analysis software (optional)