The LaBr3(Ce) Detector Measurement System

TechnoAP

XL150-SYS

This is a measurement system that packages a LaBr3(Ce) scintillation detector, which has excellent characteristics with an energy resolution of approximately 3% at 662 keV and an decay time of 16 ns, along with a charge-sensitive amplifier for scintillation detectors and an all-in-one digital spectrometer. Additionally, newly included as a standard feature is real-time updatable spectrum analysis software.

System Configuration

Scintillation Detector

XL150

LaBr₃(Ce)φ1.5x1.5 inch

Charge-Sensitive

Amplifier

APG1500

Measuring Detector

APU101S



All-in-One

- High Voltage Power Supply
- Pre-amplifier Power Supply
- DSP-type MCA (Multi-Channel Analyzer) *Includes high voltage power supply,

pre-amplifier power supply, and signal cables.*

Application Software

When using 137Cs source

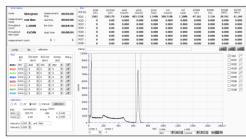
- High Voltage Power Supply Control
- Up to 8 types of ROI (Region of Interest) settings
 - Spectrum Analysis

Specifications

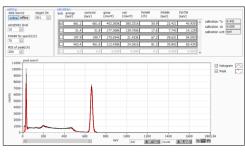
Detector

Detector	Model XL150
Crystal	LaBr3(Ce) Scintillator
	φ1.5 inches×1.5 inches (φ38mm×38mm)
Resolution	2.8~3.5%@662keV
Dimensions Weight	$\Phi45 \times 195 \text{ mm (excluding protrusions)}$
	Approximately 536g
Charge-Sensitive Amplifier	Model APG1500
Noise Characteristics	> 100µVrms
Input Capacitance	220pF · 1000pF · 2200pF Selectable
Dimensions Weight	70(W)×20(H)×53(D) mm, Approximately138g
Measuring Detector	Model APU101S
Analog input	1channel BNC connector
	The range $\pm 1V$, Input Impedance $1k\Omega$
Analog gain	Coarse Gain x1, x2, x5, x10
	Fine Gain x0.5~x1.5
ADC	100Msps, 16bit
ADC gain	16k, 8k, 4k, 2k, 1k, 512, 256 ch.
Digital Processing	Trapezoidal Filter, rise time $0.1\sim20\mu s(0.01\mu s step)$ flattop time $0.05\sim2\mu s(0.01\mu s step)$ Timing Filter, Baseline Restorer, etc.
High Voltage Power Supply	0V~±4000V (maximum 1mA), Ripple Noise 5mVp-p, SHV Connector
Pre-amplifier Power Supply	±12V, ±24V, D-sub9 Pin Connector
Communication	Gigabit Ethernet, TCP/IP and UDP
Dimensions Weight	210(W)x45(H)x275(D) mm, Approximately1800g
Application	Data measurement control, spectrum analysis software

Model XI 150



Histogram Mode



Spectrum Analysis Software (Peak Search Analysis)

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^{*}Images is for illustration purpose.

^{*}Please note that contents may change without prior notice.