

## APU101

This is **all-in-one digital spectrometer** which has **Multi Channel Analyzer (MCA)**, **high-voltage power supply**, **preamplifier power supply**, and for the measurement by radiation detector. Preamp signal of the detector input directly, and the digital signal processing is processed with high-speed ADC (100 MHz 14-bit) and highly-integrated FPGA. The measurement data will be transferred to the PC via Ethernet.

### Main features

Suitable Detectors	<b>Semiconductor detector such as Ge, CdTe, Si etc.</b> <b>Scintillator detector such as LaBr<sub>3</sub>(Ce), NaI(Tl), CsI(Tl) etc.</b>
Energy Resolution	<b>1.7 keV@1.33 MeV</b> <b>by HPGe detector</b> <b>2.8 to 3.5 %@662 keV</b> <b>by LaBr<sub>3</sub>(Ce) scintillator detector</b>
Output	<b>500 kcps or more</b>
Measurement mode	<b>Histogram, List, Wave</b>
Multi-function	<b>Spectroscopy amplifier</b> <b>Filter waveform output DAC</b>
H.V. power	<b>±4000 V (1.0 mA)</b>

### Specifications

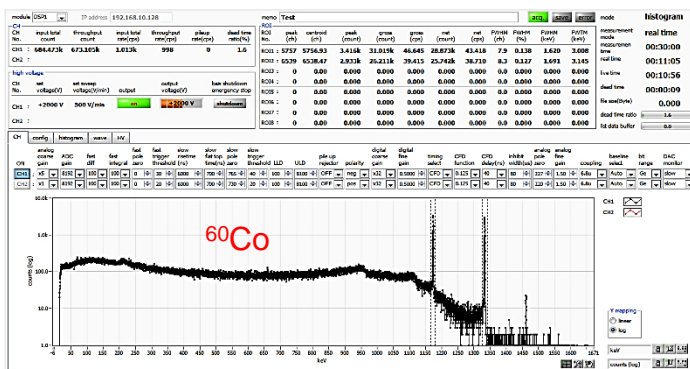
Analog input	1 channel by LEMO connector, Range: ±1V, Input Impedance: 1 kΩ
Analog gain	Coarse Gain: x1, x4, x10, x20 Fine: x0.5 to x1.5
Sampling	100 Msps, Resolution: 14-bit
ADC Gain	16384, 8192, 4096, 2048, 1024, 512, 256 ch.
Digital Processing	Trapezoidal Filter 0.1 to 16 μs, Baseline Restorer, Pileup Rejecter
HV power supply	0 V to ±4000 V (Max: 1.0mA), Ripple: 20 mVp-p (typ.) *Customizable up to ±5000V (Max.: 0.67mA) Bias shut down input terminal mounted
Preamplifier power supply	±12 V, ±24 V (NIM-Standard)
Front	POWER button, LAN Connector, HV power supply monitor LED, Dead-time monitor LED, Emergency Stop button
Back	SHV connector for HV power supply, D-sub9 pin-connector for preamplifier power supply, BNC input connector for preamplifier output signal, LEMO connector for output DAC MONITOR
Communication I/F	Ethernet TCP/IP
Power consumption	AC230V
Dimension Weight	210mm (W) x 45mm (H) x 275mm (D) Approx. 1,800g *without connector,
Accessories	Cable set, (for signal, high voltage power supply, preamplifier power supply, LAN), AC power adapter

**Resolution**  
**2.8 to 3.5% @ 662keV**

**High counting support**  
**500 kcps or more**



Back



Histogram measurement

**Sample programs can be downloaded from our website**

Python

Linux

LabVIEW

Visual C++

Visual C#

\*Images is for illustration purpose.

\*Please note that contents may change without prior notice.

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