

APU201

This compact and lightweight desktop-type digital pulse processor integrates both a digital pulse processor and a high-voltage power supply into a single unit. It enables comprehensive analysis of timing (CFD-TDC), energy (QDC), and pulse shape discrimination (PSD) information from the anode output signals of a photomultiplier tube. Data is transferred to a PC via Gigabit Ethernet, and list-mode waveform data can be acquired for repeated or post-acquisition analysis.

Features

Target Detector	Plastic Scintillators, LaBr ₃ (Ce), Digital Pulse Processor etc.
Gain Switching	x0.5, x1.0, x1.5, x2.0, x2.5
Time Resolution	Coarse : 1ns Fine : 3.9ps, LSB
Throughput	>2Mcps /channel
Mode	Histogram, List, Waveform
Option	LIST-WAVE function, LIST-PILEUP-WAVE function, Pileup-Reject function



front



Back

Example of List data *TDC: 1digit = 3.9ps

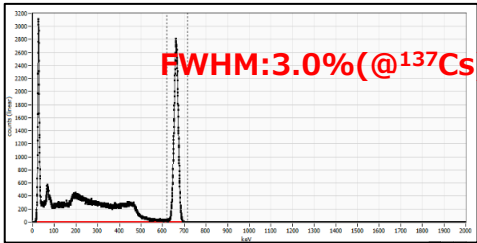
127bit		0bit			
TOTAL [15..0]	FALL [15..0]	RISE [15..0]	TDC [53..0]	CH [3..0]	QDC [12..0]

Example of List Mode Waveform Data

List Data [127..0]	Wave Number [15..0]	Header [31..0]	Wave Data [15..0] x 波形点数分
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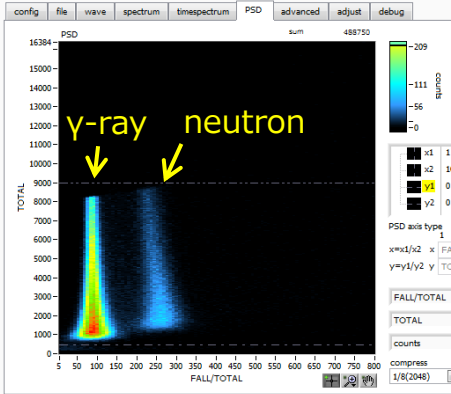
Specifications

Analog input	1 Channel, LEMO connector The range ±1V, Input impedance 50Ω
Rise time	< 2ns
Sampling	1Gsps, Resolution 14 bit
Digital Signal Processing	CFD, TDC, QDC, PSD
High Voltage Power Supply	Max 4000V (1mA) *Polarity depends on the specification. SHV connector
External Connector	Two LEMO connectors for functional expansion. *Functions can be customized according to specifications.
Communication	Gigabit Ethernet, TCP/IP, and UDP
Power Consumption	12V(0.8A), Powered via AC adapter
Dimensions, Weight	150(W)x40(H)x100(D) mm *Excluding protrusions
Accessories	Data Measurement and Control Software



Histogram

In the case of LaBr₃(Ce) Scintillators (1inch)



PSD functions、n-γ Discrimination
In the case of Stillbene Scintillators
(φ50.8×50.8mm)

