



Innovator In Spectroscopy Equipment

# LABS2615

2" & 3"



**LAB ALPHA & BETA  
SPECTROMETER  
MODEL LABS2615  
(2" & 3")**

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CATALOG



SPECTROMETER



FREE DOWNLOAD

# LAB ALPHA & BETA SPECTROMETER

## MODEL LABS2615 (2" & 3")

### Features

- High efficiency
- Wide counting rate range
- Wide temperature range
- Documentation of measured values
- Low limits of detection and decision
- Highly sensitive and uniform response
- Extreme sensitivity to alpha and beta rays
- Supporting different data extraction and reanalysis procedures
- Lightweight field deployable alpha/beta spectroscopy in 2 versions (2" & 3")
- Closed measuring chamber with scintillation detector
- Closed measuring chamber for scintillation detectors (ZnS(Ag) + plastic (PVT))
- On-line and expert mode operation
- Capability of connecting to PC over USB for data transfer
- Continuous operation under severe environmental condition
- Special rugged design to withstand typical field usage
- Waterproof against streaming water
- Fully dust protected

**FAST, ACCURATE AND  
SIMULTANEOUS ALPHA AND  
BETA SPECTROSCOPY SYSTEM**



## Description

The LABS2615 (2" & 3") is a portable alpha-beta activity measurement system offering both simultaneous and separate measurement of alpha and beta activities in the sample. The system can be utilized in various applications including environmental analysis such as analysis of waste water after evaporation, detection of activities in small quantities of food samples and nuclear medicine such as in vitro tests. The device is equipped with a 2" or 3" Phoswich detector ( $25\text{mg}/\text{cm}^2$  ZnS(Ag) + 0.25mm thin Plastic scintillator (PVT)) which lead to impressively high count rates and low measuring time.

The holder considered for the sample is a sliding drawer capable of holding a planchet with maximum diameter 52mm and height 6.5mm and volume  $8\text{cm}^3$  in first version (2") and with maximum diameter 79mm, height 4.7mm and volume  $9\text{cm}^3$  in second version (3").

Using modern digital signal processing algorithms, the USB Base can accurately distinguish between the two types of radiation and accurately measure their energies. It is easy to operate and provides quick and reliable measurement results. The system can accurately distinguish between alpha, beta and mixed pulses. The instrument is ideally suited for nuclide-specific activity measurements in the radionuclide laboratory.

The measurement electronics is a modular designed system accommodated in the housing. It includes a high voltage unit with preamplifier and an ADC for the acquisition of spectra. The measurement electronics LABS2615 is operated via PC software. This allows very intuitive user guidance. Several service functions are available including background measurement, energy calibration and spectrum recording.

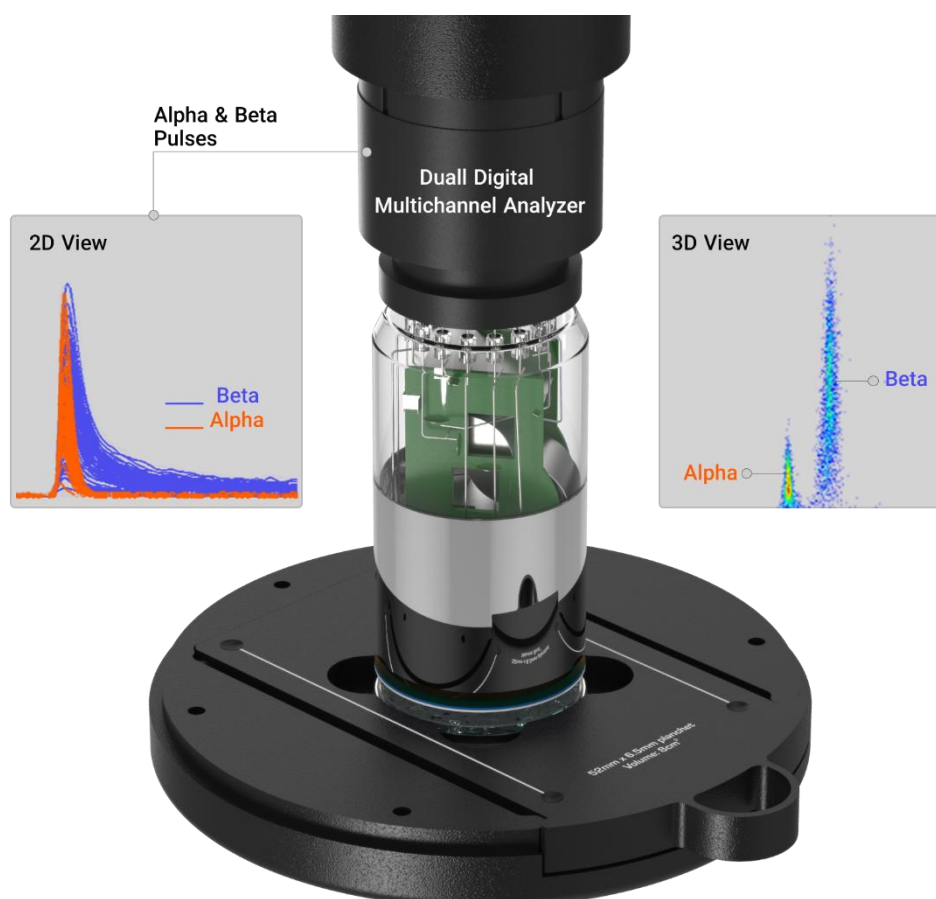


## Specifications

Unit: LABS2615 (2" & 3")		
Type	2"	3"
Input(s)		
LEMO port	DC +5V USB (A) to LEMO 5 - pin (B) (200mA)	
Output(s)		
Output	No output signal	
Control(s)		
LEMO port	Setting configure via USB (A) to LEMO 5 - pin (B) cable	
Indicator(s)		
Indicator	No indicator	
Performance		
Energy rang	Alpha: 3 – 7MeV, Beta > 100keV	Alpha: 3 – 7MeV, Beta > 100keV
False beta to true alpha	1:20000 (in true alpha window)	1:4600 (in true alpha window)
False alpha to true beta	1:1100 (in true beta window)	1:3700 (in true beta window)
Background Measurement	Alpha < 0.01cps, Beta < 0.1cps	Alpha < 0.025cps, Beta < 1.2cps
Detector		
Active Surface Area	16 cm <sup>2</sup>	35 cm <sup>2</sup>
Alpha detector	ZnS(Ag), 25mg/cm <sup>2</sup>	
Beta detector	Plastic scintillator (PVT), 0.25mm	
PMT	14-pin 10-stage PMTs	
Data Acquisition and Analysis		
OS	Windows 7 or higher versions	
Software	LABS2615 (SOFTWARE)	
Measurement/Spectrum		
High voltage	0-2000V, Positive, 12 Bit resolution	
Energy calibration	Linear calibration	
ROI selection	4 ROIs to select on store	
	Spectrum Type	
	2 simultaneous cumulative spectrums	
ADC		
Channels	12bit in 4096CH @120MHz FRQ	
Conversion time	200nsec with 8.3nsec time interval	
Digital Signal Processing		
ADC	12-bit and 120 MHz ADC	
Charge sensitive preamplifier gain	10 – 150mV/pC (selectable)	
Amplifier coarse gain	(x1 to 150x) in 15 step	
Amplifier fine gain	Amplifier fine gain: (0 - 2x) in 65536 step	
Rise time	Integration time filter for the energy calculation with software adjustable rise time in the range 0 to 0.546ms @120MHz in 0 - 65536 step	
Trigger	Trigger threshold software adjustment (0 to 100% scale) in 1024 step	
Pole-Zero cancellation	Software fine tuning of the Pole-Zero cancellation	
Stabilizing	Software gain stabilization	
Pile-up	Pile-up rejection and Live time correction	
Baseline	Baseline restorer with programmable averaging	

## Application

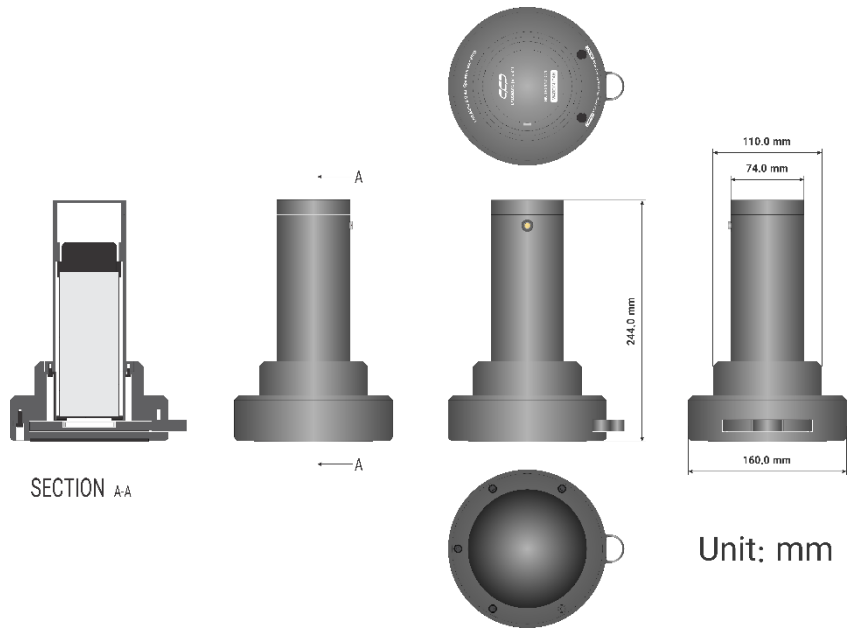
- Determine the range and amount of radioactive particles in water, Foodstuffs, Agricultural and industrial, wood and building materials, environmental materials (soil, vegetables, etc.) and products in metallurgical industry.
- Dosimetry and radiometric monitoring in Nuclear Power Plants, manufacturing facilities, research laboratories, medical institutions, etc
- Radionuclide laboratories
- Nuclear medicine
- Environmental monitoring
- Research



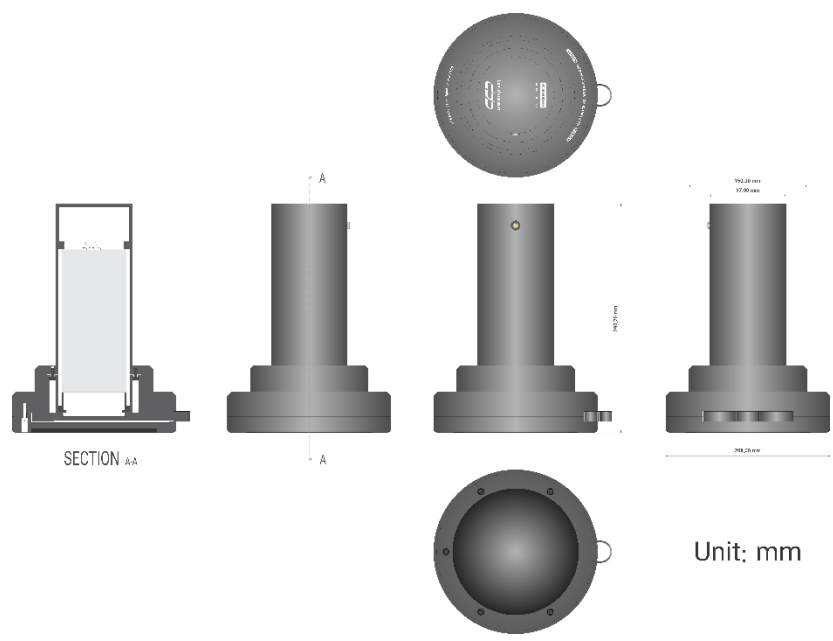


**Electrical, Mechanical and Environmental**

Unit: LABS2615 (2" & 3")		
Type	2"	3"
Electrical		
Power required	5V (150 mA) DC USB port	
Physical		
Dimensions (∅ × H)	160mm × 244 mm	226mm × 290.7 mm
Weight	3.3kg	5.7kg
Environmental		
Storage temperature	0°C to 50°C	
Operating temperature	10°C to 45°C	
Relative Humidity	10 to 80%	



**LABS2615 (2")-Mechanical**



**LABS2615 (3")-Mechanical**

## Software and user interface

### PC software

#### LABS2615 (SOFTWARE)

LABS2615 software containing fast access toolbar, menu bar, and different panels including new alpha histogram, new beta histogram, 3D separation, alpha trace, beta trace and state info

Fast access toolbar provide several functionalities usually used by user

New alpha histogram panel represents the alpha spectrum in real-time manner

New beta histogram panel represents the Beta spectrum in real-time manner

3D separation panel indicates the separated version of all pulses based on their shape in 3d dimensions

Alpha trace panel shows the alpha pulses sensed by detector.

Beta trace panel shows the beta pulses sensed by detector.

State info panel shows some information of detector parameters along with real time measurement results

Menu bar shows the total command needed throughout the device functioning.

#### Input /Output (Using supplied LABS2615 software)

USB (A) to LEMO 5 - pin (B)

#### Data Output formats

\*.MCA (text format )

### Software LABS2615



### Free Windows PC Software

PC not included





Software main window





## Ordering info

### LABS2615-2" Standard package includes





Part #	Image	Description
LABS2615- 2" (Ver1)		Lab alpha and beta spectrometer, 2" Includes the main body of device (Detection system, linear stage, integrated display)
ACCE2615001 - 2"		CD user guide (1 Pack)
ACCE2615003* - 2"		Guaranty (one year)
ACCE2615010- 2"		Cable USB (A) to LEMO 5 pin (B) (1 Pack)

### LABS2615-3" Standard package includes

Part #	Image	Description
LABS2615- 3" (Ver1)		Lab alpha and beta spectrometer, 3" Includes the main body of device (Detection system, linear stage, integrated display)
ACCE2615001 - 3"		CD user guide (1 Pack)
ACCE2615003* - 3"		Guaranty (one year)
ACCE26150010- 3"		Cable USB (A) to LEMO 5 pin (B) (1 Pack)

\* =we stand behind our products. We guarantee your satisfaction in the quality of our instruments by providing a complete one-year warranty covering any defect of workmanship, material, and/or design. If our products do not perform, we will provide complete repair and/or replacement. for guaranty conditions, please refer to manual device (LABS2615- Manual).

**Optional accessories and services**

Part #	Image	Description
ACCE2615004		Installation
ACCE2615005		Training
ACCE2615006**		Re-Calibration (Interval) services. 1year factory maintenance suggested, not required
ACCE2615007		Hard case with foam insert

\*\* = The proper maintenance & calibration of your instruments is critical to ensure proper performance & accuracy. for Re-calibration (Interval) services, please call with CFP company (021- 46045383).



Innovator in Spectroscopy Equipment



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