



MULTI CRYSTAL GAMMA COUNTER LB 2111

Remarkable Simplicity For Your RIA Applications And More

THE MULTI CRYSTAL GAMMA COUNTER LB2111

Throughput & sensitivity in a compact format



The Multi Crystal Gamma Counter LB 2111 is a remarkably simple system for gamma counting applications, delivering consistent and reliable results. Due to its compact footprint the system fits into virtually any laboratory setting.

The instrument can be operated in 2 different system configurations (stand-alone or PC-controlled). In stand alone configuration, a keyboard and a monitor are connected to the system, while a serial matrix printer is used for data output.

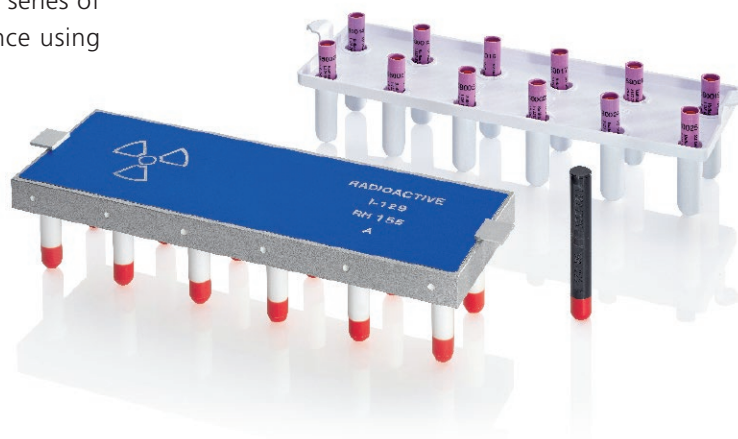
The Multi Crystal Gamma Counter LB 2111 is available as a 12 detector unit. To increase throughput a second detector block can be added, resulting in a 24 detector instrument.

APPLICATIONS & TECHNOLOGY

Superior & consistent gamma counting performance

Laboratory professionals in nuclear medicine, clinical chemistry as well as bioanalytical research rely on the unprecedented sensitivity that gamma counting delivers. The system is suitable for RIA and IRMA type immuno assays and many of your research applications.

- **WELL-TYPE DETECTORS OPTIMIZED FOR BEST COUNTING EFFICIENCY** – High-performance NaI well-type detectors minimize variance effects caused by sample volume and position to guarantee best counting efficiencies. The crystals cover an energy range from 10 to 510 KeV suitable to detect e.g. ^{125}I , ^{57}Co , ^{131}I , ^{51}Cr , ^{75}Se or ^{99}Tc .
- **EFFECTIVE LEAD SHIELDING FOR CONSISTENT BACKGROUND AND REDUCED CROSSTALK** – A 6 mm lead shield surrounds each detector, providing 12 mm lead shielding between detectors to decrease interferences such as crosstalk between samples or background radiation.
- **IDEAL SOLUTION FOR MEDIUM THROUGH-PUT LABORATORIES** – The 12 detector version of the system enables analysis of 204 samples in 17 minutes (1 minute counting time per sample). More than 1.300 samples/h can be measured using the 24 detector model. A complete series of measurements can be prepared in advance using multiple sample racks.
- **NO MOVING PARTS TO ENSURE A LONG SERVICE LIFE** – The Gamma Counter contains no moving parts, eliminating expensive belt repairs and sample jamming.
- **SAMPLE RACK CONCEPT PREVENTS INSTRUMENT CONTAMINATION** – The sample rack concept of the Gamma Counter prevents contamination entering the instrument, e.g. via tubes contaminated on the outside. The tubes are placed in racks for signal measurement which can be cleaned and decontaminated easily.
- **SIMPLE CONNECTION TO THE LABORATORY ENVIRONMENT AND A LIMS SYSTEM** – Patient/Sample-IDs can be manually loaded either from a text file (e.g. CSV), a barcode scanner, or the MikroWin tool MikroWin 2010 Sampler Interface which supports automatic import of patient/sample-IDs from different sources like database systems (e.g. Microsoft SQL, IBM Db2 or Oracle), files (e.g. text/csv files) or interfaces (e.g. serial port). Calculated results can be manually or automatically exported to different target formats like database systems (e.g. Microsoft SQL, IBM Db2 or Oracle), files (e.g. text/csv files) or interfaces (e.g. serial port).



INSTRUMENT QC & SOFTWARE SOLUTIONS

Consistent performance, simple validation

Many laboratories are subject to quality management (QM). The instrument's operating software – both the stand alone version as well as MikroWin – support QM requirements. The functions include:

- Efficiency
- Absolute & relative background
- Relative detector efficiency
- High voltage adjustment

In order to facilitate instrument QC, single-tube or 12-tube ^{125}I or ^{57}Co sources of 2 KBq/tube are available. The software provides a QC report including relative detector count rates and efficiencies, background counts, the respective 2-sigma values and means, CVs and matching of the detector efficiencies. The Chi Square test is available as an additional routine to verify the instrument's performance.

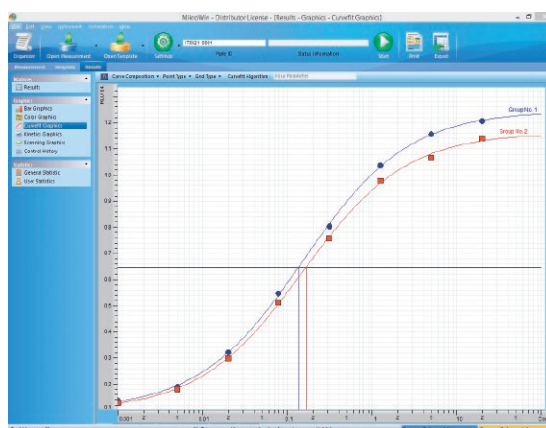
MikroWin Software

The MikroWin software is a complete software solution providing instrument control, data collection, analysis and reporting.



The Advance version of the software provides 21 CFR Part 11 compliance and additional QC features:

- Configurable user hierarchies
- Audit trail with automated Log-file generation
- Automated file-name generation
- Control history for validation
- Assay LOT-No. Verification



MikroWin enables evaluation of any kind of screening assays using controls, classifications and calculation groups. Sophisticated curve fitting routines (linear or nonlinear) enable sample quantification and reliable results even at lower concentrations.

The following data handling and result classification features are provided among others:

- 4 parameter analysis
- Regression
- Logit Log
- Point-to-point
- Polynomial regression
- Smoothed cubic spline
- Worklist

Technical Specifications

Detection Unit	12 x 1.25" borehole NaI crystal with photomultiplier tube
Lead shielding	6 mm lead shielding surrounding each detector
Detector crosstalk	0.413 % (12 mm lead shielding between detectors)
Energy range	10 – 510 KeV
Isotopes	¹²⁵ I, ⁵⁷ Co, ⁵¹ Cr, ⁹⁹ Tc; all other radioisotopes within the energy range
Efficiency	75 % for ¹²⁵ I
Tube format	Ø 14.5 mm in rack; Ø 16 mm in borehole
Interface	serial RS 232
Software	embedded RIA software or LBIS Windows PC Immunoassay Software or MikroWin Software
PC operating system	MikroWin: Windows® 7/8/10
Power supply	220 V / 50 Hz or 110 V / 60 Hz (depending on model)
Regulations	CE, UL, CSA
Temperature range	Storage: 0 – 40 °C; Operation: 15 – 35 °C
Humidity	10 – 85 % not condensing
Dimensions	395 x 235 x 510 mm (W x H x D)
Weight	39 Kg

Operation Modes

CPM raw data	single or dual channel
CPM ratio	RAST, Cr-Release, T3 Uptake
RIA	e.g. FT4, single or dual channel
IRMA	e.g. TSH, single or dual channel
Combined RIA/CPM ratio	e.g. FTI
Combined RIA/IRMA	e.g. FT4/TSH
Receptor binding	e.g. ER
Assay QC	based on intra assay controls
Instrument QC	Detector efficiency, standardisation, background

Ordering Information

LB 2111 Gamma Counter RIA, 12 detectors, incl. terminal & printer	81425-10
LB 2111 Gamma Counter MikroWin, 12 detectors, incl. MikroWin software	81425-15
LB 2111 Gamma Counter RIA24, 24 detectors, incl. terminal & printer	81944-10
LB 2111 Gamma Counter 24 basic, 24 detectors	81944-01
24-pin matrix printer with accessories	08687
12 position sample rack, 10 pcs.	30002
Test source ¹²⁹ I	08691
Test source ⁵⁷ Co	23806
Multi-test source 12-fold ¹²⁹ I	24831
Vials 5 ml, 12 x 75 mm, 2.000 pcs.	09778
PC terminal software WinTerm	29890
MikroWin 2010 Advance	37854-303
MikroWin 2010 Lite	37854-304
MikroWin 2010 Automation Server	37854-341



For information on contamination monitors please check www.berthold.com/en/rplcontamination-monitors

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