

Product Information LB 134

All-round monitor with built-in dose rate detector



Applications

- α and β/γ measurements with innovative scintillation technology
- Activity measurements
- Gamma dose and dose rate
- Neutron dose and dose rate

Highlights:

- Lightweight, easy to handle and rugged instrument
- Connection of all portable detectors
- Network capability
- Wide temperature range
- PC Software with remote application

Dose Rate Detector [built-in]

- Detector positioned parallel to the front side of the instrument
- Energy response to $H^*(10)$ Ambient Dose Equivalent
- Halogen quenched Geiger-Müller tube
- Dynamic Range: 0.1 $\mu\text{Sv/h}$ to 20 mSv/h
- Energy Range: 50 keV to 1.3 MeV
- Alarm threshold for dose rate measurement
- Unit selection: $\mu\text{Sv/h}$
- Dose accumulation is possible



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Equipment Concept

The all-round Monitor LB 134 is a portable battery-powered instrument. It is comprised of a display unit with microprocessor electronics, a signal processing electronics.

Through the integration of a Geiger-Müller tube it is possible to measure gamma dose rate without the necessity of connecting an external detector.

Due to its attractive and ergonomic design and its low weight the LB 134 is easy to handle. Even under adverse conditions, the measured results can be read easily on the large-highly-resolution display with background lightning.

A few directly accessible function keys suffice to operate the LB 134. The instrument's surface can be easily decontaminated.

The instrument can be used to measure radioactive alpha and beta-gamma contaminations on surfaces such as floors, walls, desks, objects, clothing or skin as well as gamma dose rate in ambient dose equivalent $H^*(10)$.

Data communication via RS 485 and USB with F²C protocol including PC program for remote parameter up- and download, data storage on PC and various graphs.

With a USB memory stick you can save the data storage, perform a parameter up- and download and even upgrade the firmware.



Technical Data

Instrument	
Display	Monochrome LCD 192 x 64 pixel Electro-luminescence illumination
Radiation detector	
Gamma radiation detector	Geiger-Müller tube [built-in]
Measurement modes	ratemeter, scaler-timer-, search-, clearance mode,

External dimensions	160 x 160 x 55 (L x W x D in mm)
Weight	1400 g (with batteries)
Data memory	2400 measured values with date & time
Communication	USB, Host for USB stick, RS 485
Max. operating time	> 20 h alkaline batteries 2.6 Ah > 15 h NiMH rechargeable Batteries 1.9 Ah [internal detector activated]

Ambient Conditions	
Temperature range	-20°C to +40°C (operation)
Rel. humidity	0% to 80% (no condensation)
External pressure	500 to 1300 hPa (operation)
Protection class	IP 53 (according to IEC 60529)

Sensitivity	
Gamma Radiation Detector	
Dose rate range	0.1 μ Sv/h to 20 mSv/h
Energy range	50 keV to 1.3 MeV
Calibration factor	0.625 μ Sv/h per cps Cs-137
Intr. background	approx. 0.07 cps



LB number	Detector type	Application
LB1231	Xe gas	$\beta\gamma$ contamination
LB1233	P10 gas	$\alpha\text{-}\beta\gamma$ contamination
LB1234	Nal crystal	γ activity (only cps)
LB1238	end-window. counter	$\alpha\text{-}\beta\gamma$ activity
LB1239	P10 – gas	tritium contamination
LB6411	He-3 detector	neutron dose rate
LB6411-1	He-3 detector	neutron dose rate
LB1236-H10	proportional detector	γ – dose rate
LB6414	He-3 detector	neutron survey
LB6386	P10 gas	$\alpha\text{-}\beta\gamma$ contamination
LB6376	Xe gas	$\beta\gamma$ contamination
LB1342	ZnS (170cm ²)	$\alpha\text{-}\beta\gamma$ contamination
LB1343	ZnS (300cm ²)	$\alpha\text{-}\beta\gamma$ contamination
LB1341	Xe gas	$\beta\gamma$ contamination

This instrument is not intended to be used for diagnostic and/or therapeutic purposes for human beings and is not a medical device according to the definitions of the European Council Directive 93/42/EEC concerning medical devices.

Subject to change without further notice.

