

LB 444

Proven in thousands of applications

Using proven 2-wire technology

- The most commonly used radiometric detector worldwide
- Ideal for standard and special applications such as concentration measurement and product analysis
- Proven 2-wire technology with separate evaluation unit and intrinsically safe power supply
- Very easy to use
- Ideally suited for applications with limited space requirements due to its compact design
- Highest reliability

Lead collimator provides protection from background radiation and ensures high reliability and measurement accuracy

Full Ex-i
(intrinsically safe power supply)

Detector and terminal connection room offer increased safety

Slim and light design, also ideally suited for applications in dip pipes

Stainless steel housing

In order to ensure an optimal adjustment to the measurement task, various scintillator crystals are available



Proven in thousands of applications – LB 444

The LB 444 offers proven 2-wire technology with a separate evaluation unit of the best quality. During the decades of its successful use, it has received many system optimisations. The more than 15,000 systems that are in operation today are an impressive proof of its high industrial standard. LB 444 has successful applications in SIL2 plants as well. The detector is slim and light, easy to mount and can be used for dip pipes. It is a system that provides unique versatility and reliability.

Separate evaluation unit with display



LB 379 measuring unit for special applications

Due to the use of the low-energy isotope AM-241, elements can be detected depending on their atomic number using the LB 379. This way, the concentration of one or several elements in a solution can be calculated. These measurements can even be carried out if the density does not or only slightly changes when the material composition varies.

Application examples: %HCl, %H₂SO₄ and %Zn in aqueous solution.

Calibration using UNIBERT

UNIBERT makes calibrating very convenient. All calibrating functions can be activated using a PC or laptop connected to the RS 232 interface. The results can be graphically displayed.

LB 444

Evaluation unit	
Power supply	115/230 VAC, ±10 %, 50 ... 60 Hz, 30 VA 24 VDC (18 ... 32 VDC), 30 W; 24 VAC, +10 %/-15 %, 50 ... 60 Hz, 30 VA
Ambient temperature	Operation: 0 ... +50 °C (-40 ... +122 °F), no condensation Storage: 0 ... +70 °C (-40 ... +158 °F), no condensation
Design	19" module 3 HE, 21 TE, protection class IP 20
Installation	19" frame (max. 4 modules), wall housing (max. 2 modules) or switchboard

Detector operating data	
Power supply	Supplied by AWE via a 2-wire signal cable
Cable connections	1x M16 for cable 4 ... 9 mm 1x M12 for cable 3 ... 6 mm
Maximum cable length	for Berthold cable id. no. 32024, LiYCY-OZ 2 x 1 mm ² : 1000 m other cables: max. 40 Ω, for intrinsically safe installations: L & C to be considered according to certificate.
Wire cross-section	0.5 ... 1.5 mm ²
Housing material	Stainless steel ISO 1.4301 / AISI 304
Water cooling	Option (can also be retrofitted), max. 6 bar

	Scintillator size Ø x length [mm]	Weight [kg]	Weight with cooling system [kg]	Collimator
CrystalsENS (point detectors)	44 x 5 NaI(Tl)	6	8	N.A. (LB 379)
	25 x 25 NaI(Tl)	6	8	Option
	40 x 35 NaI(Tl)	6	8	Option
	50 x 50 NaI(Tl)	18	20	Standard
SuperSENS	150 x 150 polymer	45	54	Standard
Ambient temperature (Operation and storage)	-40 ... +60 °C (-40 ... +140 °F) for NaI(Tl) and/or -40 ... +55 °C (-40 ... +131 °F) for polymer Observe possible temp. restrictions for Ex-protection!			
Temperature stability	≤0.002 %/°C (-20 ... +50 °C) for NaI(Tl) and/or ≤0.01 %/°C (-20 ... +50 °C) for polymer			

Measuring unit LB 379	
Material	Stainless steel 1.4571, 1.4401 or 1.4301 (for pipes with linings)
Measurement pipe	DN 65, 10 bar, optional soft rubber or PTFE lining Flange in accordance with DIN 2576 or ASA, threaded connection pipe SC 65 in accordance with DIN 11851
Product temperature	with PTFE coating / without lining: -190 ... +260 °C (-310 ... +500 °F) with soft rubber: -30 ... +80 °C (-22 ... +176 °F)

Detector certificates & tests		
IP protection	IP65	
Explosion protection	ATEX: II 2 G EEx de IIC T6 II 2 D EEx de IIC T6 IP65 T80 II 2 G EEx ib IIC T6	-40 ... +73 °C -40 ... +73 °C -20 ... +60 °C
	FM/CSA: Class I Division 1 Group A, B, C, D	-20 ... +50 °C
	FM: Class II Division 1 Group E, F, G	-20 ... +50 °C
	Other certificates	Nepsi, TIIS, Kosha, others upon request

Signal inputs and outputs	
Signal output	0/4 ... 20 mA potential-free / max. impedance 500 Ω
Digital input	Hold input
Analogue input	Pt100 for temperature compensation (directly at the detector)
Digital outputs	1 relay for collective fault message 2 relays for min. / max. alarm or detector temperature Permissible load at ohmic load: AC: max. 250 V, max. 1 A, max. 200 VA DC: max. 300 V, max. 1 A, max. 60 W
Interfaces	RS 232 for parameter export or PC operation using UNIBERT
Data backup	in non-volatile memory
Menu languages	English, German, French