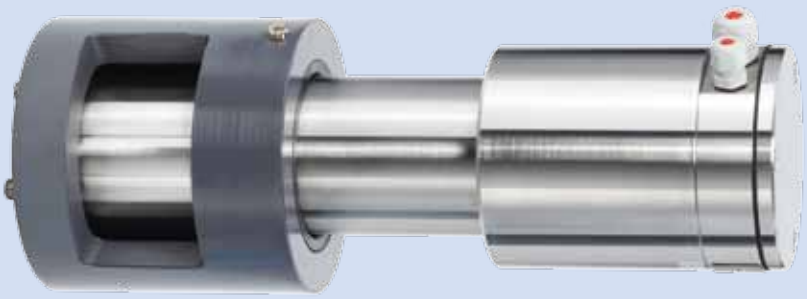
LB 440

The right choice for standard applications

Using proven 2-wire technology

- The most commonly used radiometric detector worldwide
- Ideal for standard applications
- Proven 2-wire technology with separate evaluation unit and intrinsically safe power supply
- Very easy to use
- Radiation interference discrimination
- Highest reliability



Full Ex-i (intrinsically safe power supply)

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

Detector and terminal connection room offer increased safety

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

Stainless steel housing

For cascaded systems: Status messages of the Slaves are transferred to the Master. Complete functional monitoring of the slaves is possible.

Proven in thousands of applications – LB 440

The LB 440 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 440 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

Radiation Interference Discrimination

The patented method for suppressing interference radiation makes this system especially reliable. The measurement continues without being interrupted even if interference radiation is present. The interference radiation is recognised due to its different kind of energy. The detector then switches to a second measurement channel and continues the measurement in an error-free manner. This patented method makes the LB 440 especially reliable and safe.

Calibration using UNIBERT

UNIBERT makes calibration 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 440

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 evaluation unit 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	with Berthold cable ID no. 32024, LiYCY-OZ 2 x 1 mm²: 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 mm²
Housing material	Stainless steel ISO 1.4301 / AISI 304
Water cooling	Option (can also be retrofitted), max. 6 bar
Cascading	up to 9 detectors

	Scintillator size Ø x length [mm]	**Weight [kg]**	**Weight with cooling system [kg]**	**Collimator**
CrystalSENS (point detectors)	25 x 25 (NaI/Tl)	6	8	Option
	40 x 35 (NaI/Tl)	6	8	Option
	50 x 50 (NaI/Tl)	18	20	Standard
UniSENS (rod detectors)	50 x 500 (polymer)	9	11,5	Option
	50 x 750 (polymer)	10,5	14	Option
	50 x 1000 (polymer)	12	17	Option
	50 x 1250 (polymer)	13,5	19,5	Option
	50 x 1500 (polymer)	15	22	Option
	50 x 2000 (polymer)	16,5	25	Option
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			

Detector certificates & tests			
IP protection	IP65		
Explosion protection	ATEX:	II 2 G EEx de IIC T6	-40 … +73 °C
		II 2 D EEx de IIC T6 IP65 T80	-40 … +73 °C
		II 2 G EEx ib IIC T6	-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 inputs	Hold input
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