

SENSseries LB 480

The best choice for high demands

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- Compact field device with integrated evaluation unit
- Process connection via HART
- SILready developed according to IEC 61508 and FMEDA with SFF 96 %
- Quick Start menu for effective and fast start-up
- Daily functional check and continuous self-monitoring
- High interference immunity (SIL standard)
- Gas-density compensation

Monitoring of detector temperature with adjustable max./min. threshold for cooling control

Monitored current output

CPU monitoring through Watch Dog Timer

Cable chamber offering increased safety, easy and safe connection in the field for all four wires

Excellent IP protection: IP 65, 66, 67, 68, 69K

Current output active or passive

Extremely robust design

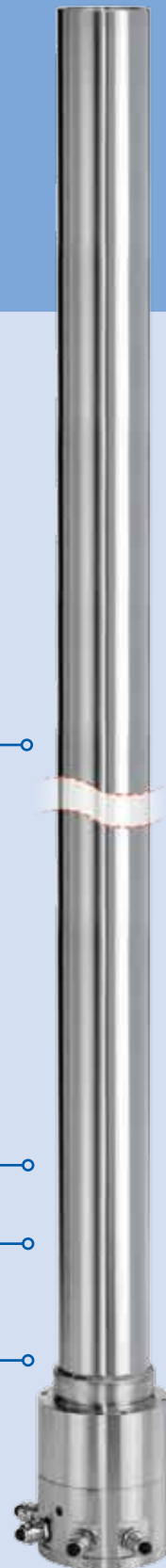
Continuous water cooling for the entire detector (can also be retro-fitted)

Stainless steel housing

Operation via HART communicator, Siemens Simatic PDM or AMS/DeltaV

High durability confirmed in various temperature, shock and vibration tests.

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



SENSseries LB 480 for critical processes

The SENSseries LB 480 measurement system is especially suited for challenging applications. It was developed according to IEC 61508 and features many maintenance-oriented diagnosis functions. For instance, the performance of the detector is continuously monitored by using cosmic radiation as a reference measurement. SENSseries LB 480 is SILready. The system offers an excellent operational safety and system stability as well as a high interference immunity that complies with the SIL standard. In short: It is the best choice for your critical processes.

Automatic gas-density compensation

The automatic gas-density compensation ensures an extremely precise measurement during applications with a extremely fluctuating gas pressure. The influence of the gas density is determined via a pressure sensor, or if necessary by a radiometric detector, and is entered into the level measurement.



LB 480

Detector operating data

Power supply	100 ... 240 VAC, $\pm 10\%$, 50 ... 60 Hz, 8 VA 24 VDC (18 ... 32 VDC), 8 W
Cable connections	4 cable entries M20 closed with blind plug Option: Cable glands M20
Maximum cable length	3300 m (120 Ω), 1600 m (250 Ω), 800 m (500 Ω)
Wire cross-section	0.5 ... 1.5 mm ² (up to 2.5 mm ² without wire-end sleeve)
Housing material	Stainless steel ISO 1.4301 / AISI 304 (others upon request)
Water cooling	Option (can also be retrofitted), max. 6 bar
Cascading	up to 17 detectors

	Scintillator size \varnothing x length [mm]	Weight [kg]	Weight with cooling system [kg]	Collimator
CrystalSENS (point detectors)	50 x 50 (NaI/Tl)	11	14,5	Option
UniSENS (rod detectors)	50 x 500 (polymer)	14	21	Option
	50 x 1000 (polymer)	18	28	Option
	50 x 1500 (polymer)	22	35,5	Option
	50 x 2000 (polymer)	27	44	Option
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	$\leq 0.002\%$ / °C (-40 ... +60 °C) for NaI/Tl and/or $\leq 0.01\%$ / °C (-40 ... +55 °C) for polymer			

Detector certificates & tests

IP protection	IP65 / IP66 / IP67 / IP68 / IP69K		
Explosion protection	ATEX: II 2 G Ex db eb IIC T5 / Ex tb IIIC T95 °C II 2 G Ex db eb IIC T6 / Ex tb IIIC T80 °C		-40 °C ... 80 °C -40 °C ... 65 °C
Vibration / Shock	Vibration: 1.9 g / mechanical Shock: 30 g according to DIN EN 60068-6 and 60068-2-27		

Signal inputs and outputs

Signal output	HART 4 ... 20 mA potential-free, active or passive max. impedance: 500 Ω (active) Resolution better than 0.006 mA Stability $\pm 0.001\%$ / °C (-40 ... 60 °C) Voltage supply: 12 V ... 24 V (passive) max. impedance at 12 V: 250 Ω (passive) max. impedance at 24 V: 500 Ω (passive)
Digital outputs	Open Collector alternatively for: Max. alarm, min. alarm, warning messages + error messages, hold signal, interference radiation detection, detector temperature Permissible load at ohmic load: max. 100 mA at 5 ... 36 VDC
Interfaces	RS 485 for software update, cascading, gas-density compensation
Data backup	in non-volatile memory