New!

SmartSeries LB 414

Smart field detector for density, concentration and solids content

Simply Smart!

- Compact field device with integrated evaluation unit
- For the use in non-hazardous areas (general area)
- Easy handling through local display and local operation
- Process connection via 4-20mA/HART
- No recalibrations required
- Inexpensive solid system

for liquids and slurries

Robust design with stainless steel housing

Guided Quick Start menu

Operation via 475 HART communicator, Simatic PDM or AMS/DeltaV

Self-diagnostics according to Namur standard NE-107

Connector for PC or 475 HART communicator (option)

Polymer lid with window or stainless steel lid for extreme temperature applications (option)

Local user interface for display and operation

Status LED according to NE-107

BERTHOLD TECHNOLOGIES

The smart way of solving standards

The SmartSeries detector is the clever choice for standard density, concentration and solids content measurements in non-hazardous, non-explosive environments. Its tough robustness – verified in several stress tests by Fraunhofer Institute – qualifies this detector for the harshest of process conditions like mining, cement and pulp & paper.

Local display and operation

Beside the standard HART parametrization the SmartSeries' highlight is the local display and the possibility to carry out calibration and all parameter settings directly on the detector. The operation is intuitive and easy. Either a push button or an infrared remote control can be used, ensuring comfortable and great ease of operation. Alternatively, with the help of our detector service modem a PC can be connected for full parametrization.

SmartSeries LB 414

Detector operating data	
Power supply	100…240 VAC +/- 10%, 50…60 Hz max. 10 VA 24 VDC, 18…32 VDC max. 8 W
Cable connections	3 cable entries with plastic cable glands, 1x M20, 2x M16
Maximum cable length	3300 m (120 Ω), 1600 m (250 Ω), 800 m (500 Ω)
Wire cross-section	0.5 … 1.5 mm² (up to 2.5 mm² 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

	Scintillator size Ø x length [mm]	**Weight [kg]**	**Weight with cooling system [kg]**	**Collimator**
CrystalSENS (point detectors)	50 x 60 polymer 40 x 35 NaI(Tl)	10 10	13.5 13.5	Option Option
Ambient temperature (Operation and storage)	-20 … +60°C (-4 … +140 °F)			
Temperature stability	≤ 0.01 %/°C (-20 … +50 °C) for polymer and/or ≤ 0.002 %/°C (-20 … +50 °C) for NaI(Tl)			

Detector certificates & tests	
IP protection	IP 66 / IP 67
Other certificates	CSA$_{C/US}$ general area

Signal inputs and outputs	
Signal output	HART 4 … 20 mA potential-free, active or passive max. impedance: 500 Ω (active) Voltage supply: 12 V … 24 V (passive) max. impedance at 12 V: 250 Ω (passive) max. impedance at 24 V: 500 Ω (passive)
Digital output	Relay (SPDT) for status events, detector temperature or high or low process value alarm Permissible load at ohmic load: max 5 A at 30 VDC or 30 VAC
Interfaces	Menu driven local user interface with push button, 2 line display

Software	
Measuring units	Selectable: g/cm³, kg/m³, g/l, SGU, % (wt/wt), lb/gal, lb/ft³
Compliance	Compliant with NE-21, NE-43, NE-107
Software lock	General write lock to protect from unauthorized operation
Data backup	In non-volatile memory

Accessories	
Extended temperature kit	Stainless steel lid and cable glands -40 … +60 °C (-40 … +140 °F) with water cooling: -40 … +100 °C (-40 … +212 °F)
External communication kit	M20 connector and cable for Detector Service Modem or 475 HART communicator
IR Remote Control	Infrared remote controls local user interface
Mechanical lock	Protect polymer lid from unintended removal

SmartSeries LB 414 • 05-2013.500 • ID56927PR2 • Rev00 • 05-2013

BERTHOLD TECHNOLOGIES GmbH & Co. KG • P.O. Box 100 163 • 75312 Bad Wildbad, Germany
Phone +49 7081-177-0 • Fax +49 7081-177-100 • info@Berthold.com • www.Berthold.com