Optech

Sentry SR Level Monitor

The Sentry SR Level Monitor is a continuous, non-contact device used to monitor material levels under a wide range of process conditions — from the simplest bin to the most demanding vessel.

Designed to remain non-intrusive, the Sentry SR offers a reliable alternative for demanding applications where conventional technologies fail. Specifically optimized for industrial level monitoring applications, the unit is eyesafe and is the leader in hazardous location approvals, dust penetration, and discrete and continuous signal outputs.

The Sentry SR is versatile and easy to install. Its enhanced signal processing algorithm and last-pulse capabilities eliminate problems associated with ultrasonic and radar gauges, making it the ideal choice for applications up to 25 meters.

The laser uses a precision time interval meter to measure the time for infrared laser pulses to travel from the transmitter to the target material and return to the unit's receiver. Rapid, accurate readings are possible because the unique properties of the laser are unaffected by conditions such as pressure, vacuum, temperature, tank geometry, obstacles and off-center mounting.

Features

- Explosion-proof enclosure
- European and North American Hazloc approvals
- Programmable discrete relays
- Mounts to 2"-plus flanges
- RS-232C and analog outputs
- Easily programmable
- Completely eyesafe
- CSA, CE, FM, approval
- High-temperature options
- Internal diagnostics
- HART protocol*

*HART pending and ATEX approval pending

Applications

High Performance Unit (Demanding Applications)

- Coal bunkers under fill conditions
- Plastic pellet silos
- Lime and talc solids
- High vapor applications

Standard Unit (Basic Applications)

- Wood chips
- Molten aluminum and other metals
- Fuel, oil and petrochemical materials
- Low-dielectric materials
- Liquid asphalt
- High pressure and vacuum processes

Specifications

Measurement Range[1] 0.4 m to 25 m

	CP Model	DV Model
Absolute accuracy[2]	±2 cm	±4 cm
Operating accuracy	±5 mm	±25 mm
Repeatability	±3 mm	±4 mm
Resolution	1 mm	
Update rate	Programmable from 1 reading every 60 seconds to 5 readings per second	

Outputs

Analog[3]	4-20 mA; max. load 1,200 ohms; 1,500 VDC isolation
Serial	RS-232C bi-directional; for test and setup only; not isolated
Relays	Programmable for range (set/reset) or alarms

Power

Input	24 VDC, 110 VAC or 220 VAC
Consumption @ 24 VDC	10 W (without heater) 101 W (with heater)

Lasers

Infrared measurement beam	905 nm
Beam divergence	4 mrad
Infrared spot size	3 x 1 cm at exit aperture
Visible pointer	650 nm
Visible beam divergence	<5 mrad
Visible spot size	3.5 mm x 5.8 mm @ 7 m

Eyesafety

IR (infrared) laser	Class 1 (US FDA 21 CFR 1040) Class 1M (IEC 60825)
Visible pointer	Class 2 (US FDA 21 CFR 1040) Class 2 (IEC 60825)
Device (combined)	Class 2 (US FDA 21 CFR 1040) Class 2M (IEC 60825)

Environmental

Operating temperature	0° C to 50° C
With AC or DC heater	-40° C to 50° C
With cooling option	0° C to 150° C
Storage temperature	-40° C to 70° C
Relative humidity rating	10 to 95% RH, non-condensing
Max. altitude	2,000 m

Approvals

Class I, Div 1, Groups B, C and D
Class I, Div 2, Groups A, B, C and D
Class II, Div 1 and 2, Groups E, F and G
Class III, Div 1 and 2
Zone 1 and 2, Groups IIA, IIB and IIC
NEMA 4, 4X, IP65
EE x d IIB + Hydrogen

Physical

Size	127 mm W x 305 mm L (5" W x 12" L)
Weight	6.2 kg (13.5 lbs.)
Standard mounting	Articulated bracket
Flange mounting	ANSI 2", 3", 4", 6", 8"; 150#, 300#, 600# flanges

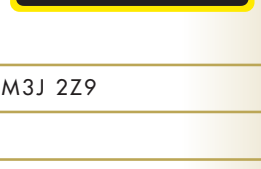
Approvals:

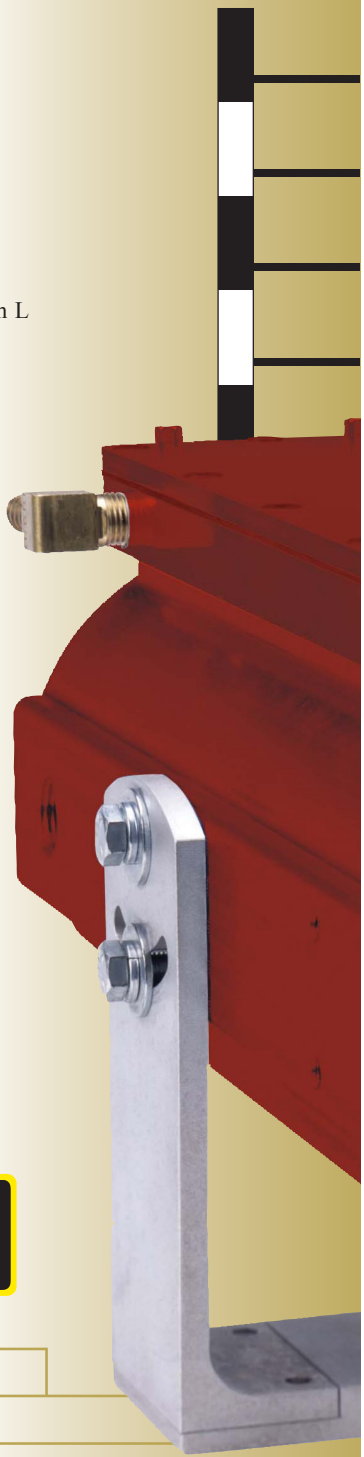
FM CSA CE

Approvals Pending:

Ex

(1) Maximum ranges are typical and depend upon target reflectance,vessel conditions (e.g., dust) and background radiation.
(2) At a measurement rate of 1 reading per second, the specified accuracy is absolute over the full temperature range, with a variety of materials and at any distance, within 1 standard deviation.
(3) Analog accuracy is equal to absolute or operating accuracy ±0.1% of range.





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