

Long range laser level transmitter LM200

Basic Information

- Brand Name: ABB
- Model Number: LM200



Product Specification

- Customized Support: OEM
- Mounting Bracket: 316 Stainless Steel
- Supply Voltage Effect: 0.005% Span Per Volt
- Output Signal: 4~20mA
- Measurement Range: 0.1...0..100MPA
- Power Supply: 24VDC
- Operating Temperature: 40~85
- Electrical Output Signal: DC 0 ... 10
- Highlight: **oem abb pressure transmitter,
20ma abb pressure transmitter,
oem absolute pressure transmitter**

Product Description

High performance laser distance level and position sensor

The LM200 Laser is a laser-based distance measuring instrument used in process control systems. The on-board microprocessor calculates distance by multiplying the speed of light by the time it takes for a laser pulse to travel from the instrument to a target and back.

Overview

The measuring laser uses invisible, infrared light. There is a second, visible aiming laser to help with the alignment of the measuring laser. The laser beams have very little divergence so that accurate targeting is easy even in silos or vessels that have internal structures.

FEATURES:

- Maintenance free, non-contact continuous level sensor
- Range up to 190 m (623 ft) for level applications
- Range up to 400 m (1312 ft) for positioning applications
- Easy and intuitive setup
- No calibration required
- Continuous level monitoring for granular solid materials and opaque liquids
- Measures solids and opaque liquids at any angle
- Last Pulse Detection for Measurement with Light and Moderate Dust
- Built-in laser pointer for accurate alignment in narrow or tall vessels
- Auto-ranging to measure all levels
- Available non condensing heated optics prevent condensation issues
- No Beam Divergence = No False Echoes
- Rugged and Robust Aluminum Enclosure
- CSA, ATEX and IECEx potentially explosive atmosphere ratings

OPTIONS:

- Many mounting options
- Configuration device (LCD2)
- Non-condensing optics (heated lens)

Data

The LM200 uses a high speed laser pulse to measure distance. The laser light is emitted towards the surface and some of it reflects back to the instrument where it is detected by a sensitive optical receiver. The time it takes for the light to travel to the surface and back to the instrument is directly proportional to the distance between the instrument and the surface. Using a time-of-flight calculation, and knowing the height of the vessel, the LM200 accurately measures the distance to the target surface using the equation below:

$$\text{Level} = \text{height} - \frac{\text{speed of light} \times \text{time-of-flight}}{2}$$

The unique characteristics of laser light give the LM200 significant performance advantages over other technologies. The narrow, long range beam can measure both near and far distances while the optical wavelength makes it easy to evaluate applications. If you can see the surface clearly, the LM200 can measure the level.

The characteristic narrow beam divergence of the laser permits direct aiming to the target surface without interference from structure or falling material. With both continuous 4-20 mA and single point relay outputs, the LM200 can operate as a process control sensor while simultaneously providing high and low alarms.

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