

MODULOC Control Systems



LT200HD Programmable Laser Proximity Detector for Furnaces



- **Visible Class II Laser for precise detection.**
- **Detection range up to 10 Meters off red hot glowing material to 1200°C.**
- **Special Optic Filters to allow viewing into furnace.**
- **Programmable Relay Output & SPNO, 5A/115VAC.**
- **Provides < +/- 10mm accuracy .**
- **RS232 Serial Interface for programming.**
- **Robust compact IP66 aluminum housing with unique combined air purge & cooling facility. Optional water cooling available.**

Typical Applications

Detection of Hot or Cold Product inside & outside of furnaces.

General Description

The LT200HD Programmable Laser Proximity Detector is designed to detect static or passing product with product temperatures up to 1200°C in harsh environments. Detects, cold, hot or red hot glowing product at distances of up to 10 meters.

Straightforward alignment is easily accomplished via the visible red laser measuring beam.

The zero offset and the span of the 4 - 20 mA analog output are both user programmable. The distance offset is also user programmable, this allows the user to define a zero point independent of the analog output zero offset.

Provided with a user programmable relay output which is triggered by exceeding in the positive or negative direction a user programmable distance threshold. The Relay Output has a N.O. SPST contact Rated at 5A/115V and a programmable range of 0.25m (9.8 in) - 10m (37.8 ft).

Supplied as standard with a switch selectable RS232 & RS422 serial programming interface with a 2400 to 38,400 Baud Rate.

MODULOC Technology - The Total Laser Solution

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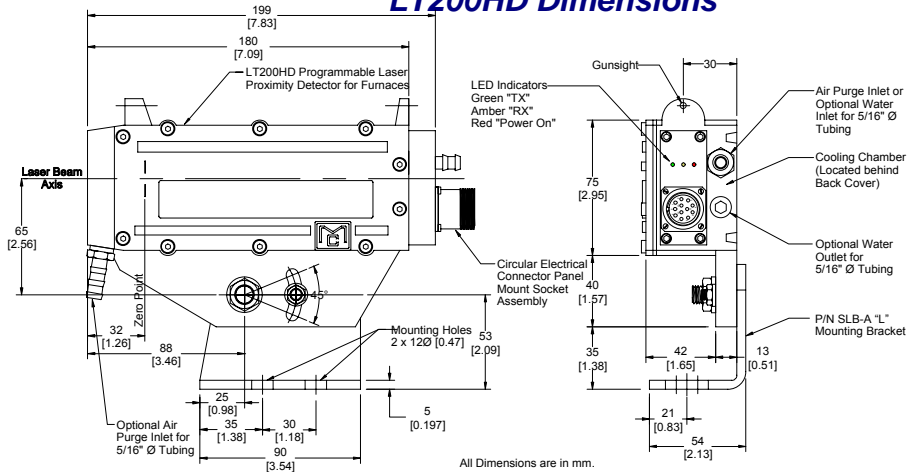
Housing Specifications

Housing: Aluminum AL6, Oven baked blue paint
Housing Rating: IEC IP66, DIN 89011
Weight w/o Cable: 1.9 Kg (4.2lb)
Connector: -P IP65 Plug/Socket
Cable Length: 2.0 M (Optional 5, 10 & 15 Available)
Cooling: Standard: -A Air Cooled & Air Purged
Optional: -D Water Cooled & Air Purged

Air & Optional Water Specifications

Air Pressure: 1 - 2 cu ft./min at 5 PSI for normal conditions, non-instrument dry air and 10 - 15 PSI for severe conditions
Water Pressure: 1 - 2 Bar
Water Volume: Regulate between 0.5 - 1 liter/min.
Water Temp.: For Ambient Temperature up to +80°C (176°F) use industrial quality water at 25°C (77°F)
 For Ambient Temperature up to +120°C (250°F) use water chilled to 5°C (41°F)

LT200HD Dimensions



General Specifications

Operating range	Up to 10 Meters (33.8 FT) off of Red hot glowing material $\leq 1200^{\circ}\text{C}$	Supply Voltage	-86 10 - 30 VDC
Typical Accuracy	± 10 mm (0.394")	Power Consumption	1 Watt Operating, 0.4 Watt in Standby
Resolution	0.1 mm user scalable	Operating Temperature	-20°C (-4°F) to +50°C (122°F) without air or water cooling -20°C (-4°F) to +60°C (140°F) with air cooling -20°C (-4°F) to +90°C (194°F) inline vortex air cooling +2°C (36°F) to +120°C (250°F) with water cooling
Repeatability	± 10 mm (0.394")	Storage Temperature	-20°C (-4°F) to +70°C (158°F)
Update Rate	5 Hz	Product Temp. Limit	High Temp $\leq 1200^{\circ}\text{C}$ (2192°F)
Laser Wavelength	Visible Red 650nm	Serial Interface (selectable)	RS232 or RS422 (2400 - 38,400 baud)
Laser Classification	Safety Class 2 (BS EN 60825-1), Class II	Communication Protocol	Half Duplex via ASCII codes.
Laser Power	1 mW	Programming	via Hyper-terminal and Supplied Software
Laser Divergence	0.6 mrad	Relay Output	5A/115VAC
Laser Spot Diameter	6mm (0.236") at 10M (32.8 FT) & 12mm (0.472") at 20M (65.6 FT)	Analog Output	Programmable 4-20mA, 16 BIT (0.15%) with 500 ohm distance limit.
MTTF	32,000 hrs		
Power Indication:	Red LED		
Temperature drift	< 50ppm/°C		

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We reserve the right to alter specifications without prior notice. Specifications without tolerances are typical values.

Your Local Sales Representative:



Bulletin MC-LT200HD-09-01
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