MODULOC® Control Systems

LT2000-HT LASER DISTANCE METER - HIGH TEMPERATURE MODEL

- ***Visible Class II Laser for precise measurement.***
- ***Measurement range 20 Meters off red hot glowing material to 1200°C.***
- ***Provides < +/- 6mm accuracy .***
- ***Low in cost yet very accurate.***
- ***RS232 & RS422 Serial Interface***
- ***Programmable 4-20 mA Analog Output***
- ***Programmable Digital Output & Offset***
- ***External Trigger Input***
- ***Robust compact IP66 aluminum housing with unique combined air purge & cooling facility.***

Typical Applications

Product Material Length, width, level and position of hot product.
Metals Industry Measure/Position slab, billet, bloom or bar, automatic cutoff.

General Description

The LT2000-HT Laser Distance Meter is designed to operate off static or passing product with product temperatures up to 1200°C in harsh environments. Measures off red hot glowing product at distances of up to 20 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 digital switching output which is triggered by exceeding in the positive or negative direction a user programmable distance threshold. The hysteresis of the digital switching output is also programmable.

The LT2000-HT Laser Distance Meter provides a highly accurate measurement reading. It is ideal for width, height or length determination and checking position of the product inside the furnace as well as for molten metal level.

Supplied as standard with a switch selectable RS232 & RS422 serial interface with a 2400 to 38,400 Baud Rate & a programmable 4 - 20 mA 16 BIT analog output. An optional ProfiBus DP Gateway Interface Box is available. ProfiBus DP, DeviceNet and Ethernet Interface Options will soon be available.

MODULOC® Technology - The Total Laser Solution

MODULOC® Control Systems Ltd.
Wheathamstead, Hertfordshire, AL4 8SB United Kingdom
Phone: +44 (0)845 8736501 FAX: +44 (0)1582 831980
E-Mail: sales@moduloc-intl.com Website: www.moduloc-intl.com

MODULOC® Control Systems, Inc.
2808 Broadway Blvd. - Suite 201B, Monroeville, PA 15146 USA
Phone: 412-824-1260 FAX: 412-824-8890
E-Mail: sales@moduloc-usa.com Website: www.moduloc-usa.com

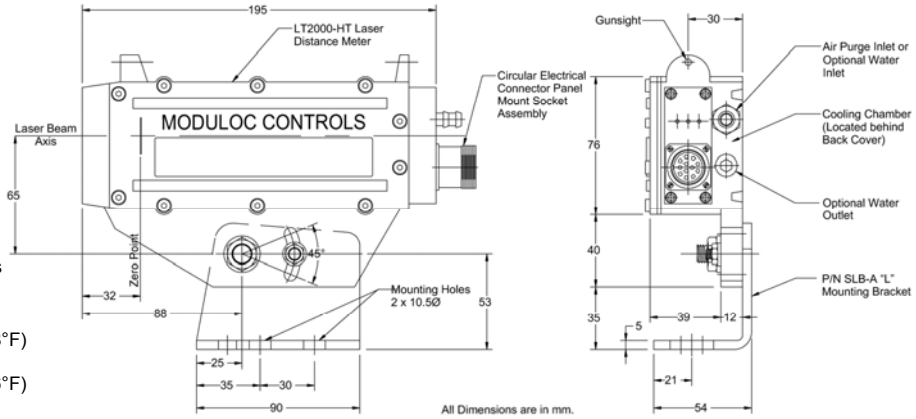
Housing Specifications

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 cu ft./min at 5 PSI for normal conditions
5 cu ft./min at 15 PSI for severe conditions
Water Pressure: 5 to 10 PSI
Water Volume: Regulate between 0.2 - 0.3 liters/min.
Water Temp.: For Ambient Temperature up to 70°C (158°F) use ambient water below 20°C (68°F)
For Ambient Temperature up to 80°C (176°F) use water chilled to 5°C

LT2000-HT Dimensions



General Specifications

Operating range	Up to 20 Meters (65.6 FT) off of Red hot glowing material ≤ 1200°C	Supply Voltage	**-86** 10 - 30 VDC
		Power Consumption	1 Watt Operating, 0.4 Watt in Standby
Typical Accuracy	± 6 mm (0.236")	Operating Temperature	-10°C (14°F) to +50°C (122°F) w/o air cooling
Resolution	0.1 mm user scalable		-10°C (14°F) to +60°C (140°F) w/ air cooling
Repeatability	±2.0 mm (0.079")		+2°C to 65°C with (20°C/68°F) water cooling
Measuring Time	160 msec. to 6 sec. (dependent on surface)	Storage Temperature	-20°C (-4°F) to +70°C (158°F)
Update Rate	5 Hz	Product Temp. Limit	High Temp ≤ 1200°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	Optional Interface*	ProfiBus gateway connection box, half-duplex
Laser Spot Diameter	6mm (0.236") at 10M (32.8 FT) & 12mm (0.472") at 20M (65.6 FT)	Auto Tracking	Can be programmed to start at power on
MTTF	32,000 hrs	Digital Output	High value output with adjustable threshold, logic & hysteresis. 0.5 A limit
Power Indication:	Red LED		
Trigger Input (optional)	Adjustable with delay & hi/lo adjustment	Analog Output	Programmable 4-20mA, 16 BIT (0.15%) with 500 ohm distance limit.
Temperature drift	< 50ppm/°C		

***Coming Soon:** New Interface Options - ProfiBus DP Interface, DeviceNet Interface and Ethernet Interface.*

Optional BR22 Laser Interface

The BR22 Laser Interface provides a localized LCD display of distance measurement and programming of the laser operational parameters via keypad operation and a user-friendly menu. The BR22 operates from 90 - 240 VAC supply and provides the required DC power to the laser.

The BR22 communicates to the laser via an RS422 Serial Interface to accommodate long cable runs. When powered on the BR22 automatically starts and programs the laser to configured operational parameters. The BR22 provides a 4-20 mA analog output of the laser distance measurement as well as RS232 & RS422 serial interfaces. The BR22 has a relay output with adjustable threshold for product presence. Parameters for the BR22's analog output, host serial interface and relay output as well as for the laser are configured using the keypad and are displayed via a menu on the BR22 LCD display.

The BR22 is housed in an IP65 rated painted aluminum enclosure and can be placed directly on the mill floor. The operating temperature range is -10° C to +50°C.

The BR22 is available in several configurations for operation of 1 or 2 lasers, for product length, thickness or width measurement, and for positioning control. The BR22 is also available with a supply voltage of 24VDC ±20%.

MODULOC® Technology - The Total Laser Solution

MODULOC®
Control Systems

Your Local Sales Representative:

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

Bulletin MC-LT2000-HT-08-01
January 2008