MODULOC Control Systems

LT2000-ST-PB LASER DISTANCE METER WITH PROFIBUS DP INTERFACE

Back View

- ***Visible Class II Laser providing precise distance measurement***
- ***Operates off Natural Surfaces up to 30 Meters (98 feet), off a white target at 100 Meters (328 Feet) and off a special reflector target at 150 Meters (492 Feet)***
- ***Provides +/- 2mm to +/- 5mm accuracy***
- ***Low in cost yet long range***
- ***Ethernet Interface***
- ***Industrial RJ45 Receptacle***
- ***Direct connection to ProfiBus DP***
- ***External Trigger Input***
- ***Robust cast aluminum housing rated IP67 with unique combined air purge & cooling facility Optional water cooling available***

Typical Applications

Product Material	Length, width, level and position of product.
Material Handling	Automated Storage/Retrieval Systems and positioning of mobile equipment.
Metals Industry	Measure/Position slab, billet, bloom or bar.
Crane Control	Positioning of cranes & crane trolleys.
Collision Avoidance	Distance alarm between vehicles using reflective target.

General Description

The LT2000-ST-PB Laser Distance Meter with ProfiBus DP Interface operates over a substantial range off static or passing product in difficult areas in harsh environments. The LT2000-ST-PB measures distances over a working range up to 30 meters off of natural surfaces , up to 100 meters off of white surfaces and up to 150 meters off of a special reflector. For operation with automated positioning control of material handling transport systems a white reflective target is used or the special reflector is used.

Especially suited for precise detection and measurement of cold/hot product at temperatures up to 600°C. For higher product temperature a Model LT2000-HT is available for measurement of cold/hot product at product temperatures up to 1260°C.

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

Accuracy is +/- 2mm to +/- 5mm according to ambient temperature and surface reflectivity. Repeatability is +/- 0.5mm and the user scalable resolution is 0.1mm.

The distance offset is user programmable, this allows the user to define a zero point independent of the zero offset.

This Robust Laser Distance Meter with built-in air coolant chamber venting as air purge. Standard operating temperature without air cooling is 50°C and with air cooling is 60°C. Optional In Line Vortex Air Cooling for an operating temperature up to 90°C. Optional water cooling is available for an operating temperature up to 120°C.

The LT2000-ST-PB Laser Distance Meter provides a highly accurate measurement reading. It is ideal for length and width determination, and checking position of product in and around furnace areas.

The LT2000-ST-PB is supplied as standard with an ProfiBus DP Interface with IP66 connections for ProfiBus In and ProfiBus Out. Setup of measurement mode, inside temperature measurement, switch-off Laser (Stan-by) controlled by ProfiBus control byte. An RS232 Interface is provided for initial setup of programming parameters. After connection to ProfiBus master RX line will be switched off.

MODULOC Technology - The Total Laser Solution

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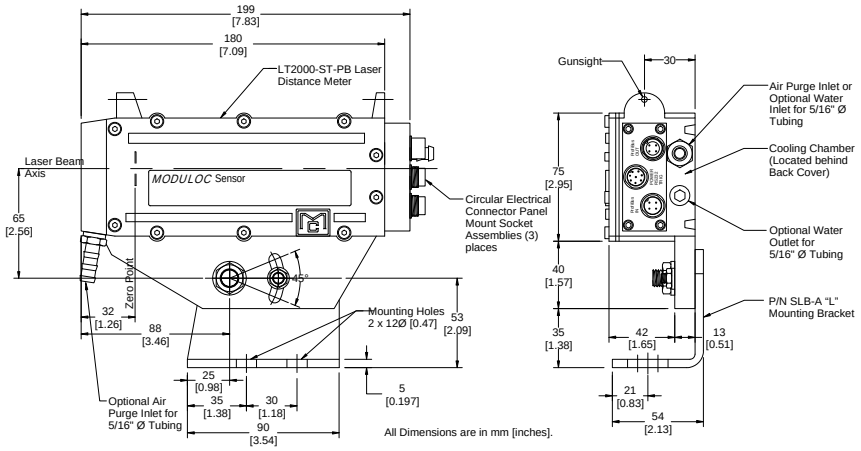
Housing Specifications

Housing: Aluminum AL6, Oven baked blue paint
Housing Rating: IEC IP66, DIN 89011
Weight w/o Cable: 1.9 Kg (4.2lb)
Electrical Connector: IP67 Plug/Socket
Ethernet Connector: IP67; Industrial RJ45
Cable Length: 2.0 M (Optional 5, 10 & 15M 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 80°C (176°F) use ambient water below 25°C (77°F)
For Ambient Temperature up to 120°C (248°F) use water chilled to 5°C

LT2000-ST-EN Dimensions



General Specifications

Operating range[1] (Type of surface)	Natural Surface: 0.2M (7.8IN) to 30M (98FT) White Surface: 0.2M (7.8IN) to >100M (328FT) Special Reflector: 2M (6.6FT) to > 150M (492FT)	Laser Spot Diameter	6mm (0.236 in) at 10m (32.8 ft), 60 mm (2.36 in) at 100m (328 ft)
		MTTF	32,000 hrs
Accuracy (according to surface reflectivity)	± 3 mm (0.118in) for 15°C (59°F) to 30°C (86°F)	Operating Temperature	-10°C (14°F) to +50°C (122°F) no cooling
	± 5 mm (0.197in) over full operating temperature range		-10°C (14°F) to +60°C (140°F) w/air cooling
Resolution	0.1 mm user (programmable & scalable)		+2°C to 120°C with (5°C/68°F) water cooling
Repeatability	±0.5 mm (0.0197in)	Storage Temperature	-20°C (-4°F) to +70°C (158°F)
Scale (programmable)	Output can be M, cm, mm, yard, feet, inch	Supply Voltage	**-86** 10 - 30 VDC
Measuring Time[2] (According to type of surface reflectivity)	Any Surface: 160 msec. to 6 sec. (typically 200 msec)[3]	Power Consumption	1 Watt Operating, 0.4 Watt in Standby
	White Surface: 100 msec (in DW Measuring Mode)	Product Temp. Limit	Standard 600°C (Hi-Temp model available)
		Data Interface	RS232, 9600 Baud, ASCII, 8NI
Laser Wavelength	659nm, Visible Red	Bus Interface	ProfiBus DP, Norm Slave, Auto detect up to 12 MBit, ID-Number 0x2079 (8313), 13 Byte IN, 1 Byte OUT
Laser Classification	Safety Class 2 (DIN EN 60825-1), Class II	Auto Distance Tracking	Can be programmed to start at power on
Trigger Input	Adjustable with delay & hi/lo adjustment (DF Measuring Mode)	Laser Divergence	0.6 mrad

1). Ranges shown are for DT, DW & DM measuring mode. DS measuring mode has a range of 0.5M (197.7IN) to 7M (23FT)
2). Measuring Time can also be preset in intervals of 240 msec to 6 seconds in DT measuring mode and preset in intervals of 150M to 3.75 seconds in DS measuring mode.
3). In DT & DS measuring mode

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

Your Local Sales Representative:

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