

LMC-M-0060 Laser Distance Sensor



- Visible Class 2 Laser providing precise distance measurement.
- Operates off Natural Surfaces up to 50 Meters and off a white target at 100 meters.
- Update rate of 5 to 10 Hz according to target.
- Provides +/- 2mm to +/- 3mm accuracy according to operating range.
- Low in cost yet long range.
- RS232 & RS422 Serial Output
- Programmable 4-20 mA Analog Output
- Programmable Digital Output & Offset
- External Trigger Input
- Robust cast aluminum housing rated IP66 with unique combined air purge & cooling facility.

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 Laser Distance Meter operates over a substantial range off static or passing product in difficult areas in harsh environments. The LT2000-ST measures distances off of natural surfaces over a working range up to 50 meters or off of white surfaces over a range of up to 100 meters. For operation with automated positioning control of material handling transport systems a white reflective target 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 1200°C. Straightforward alignment is easily accomplished via the visible red laser measuring beam.

Accuracy is +/- 2mm to +/- 3mm according to distance being measure and the reflectivity of the surface. Repeatability is +/- 0.5mm and the user scalable Resolution is 0.1mm.

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.

The LT2000-ST is 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-ST is a 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 water cooling is available for an operating temperature up to 70°C.

The low cost LT2000-ST 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.



Housing

Housing: Aluminum AL6, Oven baked blue paint
Housing Rating: IEC IP66, DIN 89011
Weight w/o Cable: 1.9 Kg
Connector: IP65 Plug/Socket
Cable Length: 1.5 M
Cooling: Standard: -A Air Cooled & Air Purged
 Optional: -D Water Cooled & Air Purged

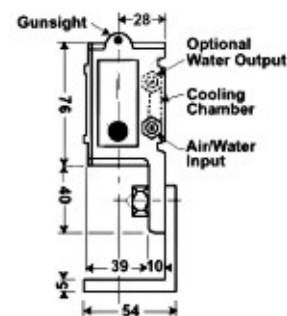
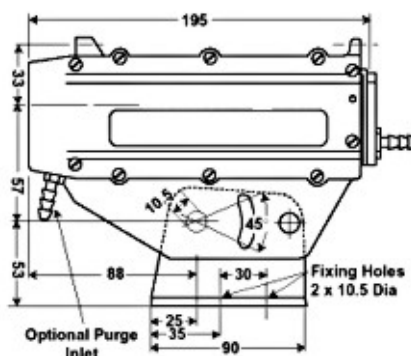
Air Specifications

Air Pressure: 1 cu ft./min at 5 PSI for normal conditions
 5 cu ft./min at 15 PSI for severe conditions

Water Specifications

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 use ambient water below 20°C
 For Ambient Temperature up to 90°C use water chilled to 5°C

Dimensions



Technical Datas

Operating range	0.2 to 50 meters off of natural surfaces	Supply Voltage	10 - 30 VDC	
	0.2 to 100 meters off of white surface	Power Consumption	1 Watt	
Typical Accuracy	± 2 mm - ± 3 mm	Operating Temperature	-10°C - +50°C without air cooling	
Resolution	0.1 mm user scalable		-10°C to +60°C with air cooling	
Repeatability	±0.5 mm		to +70°C with (20°C) water cooling	
Response time	100 msec. depending on surface	Storage Temperature	-20°C - +70°C	
Update Rate	5 - 10 Hz according to surface reflectivity	Product Temp. Limit	Standard 600°C (Hi-Temp model avail.)	
Laser Wavelength	Visible Red 659nm	Serial Interface (selectable)	RS232 or RS422 (2400 - 38,400 baud)	
Laser Classification	Safety Class II (DIN EN 60825-1)	Communication Protocol	Half Duplex via ASCII codes.	
Laser Power	1 mW	Programming	Via Hyper-terminal	
Laser Divergence	0.6 mrad	Optional Interface	ProfiBus gateway connection box	
Laser Spot Diameter	6mm/60mm at 10M/100M	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	
Red LED			Analog Output	Programmable 4-20mA, 16 BIT (0.15%) with 500 ohm distance limit. Temperature drift of < 50ppm/°C
Tx & Rx Indication	LED's			
Adjustable with delay & hi/lo adjustment				

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