MODULOC SYSTEM ENGINEERING

MSE-LT150

- 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
- RS232 or RS422/RS485 Serial Interface, Ethernet
- 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 Optional water cooling available

General Description

The MSE-LT150 Laser Distance Meter operates over a substantial range off static or passing product in difficult areas in harsh environments. The MSE-LT150 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 MSE-LT150 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 +/- 5mm according to ambient temperature and surface reflectivity. 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.

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.

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 water cooling is available for an operating temperature up to 70°C.

The MSE-LT150 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.

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 and Ethernet.

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

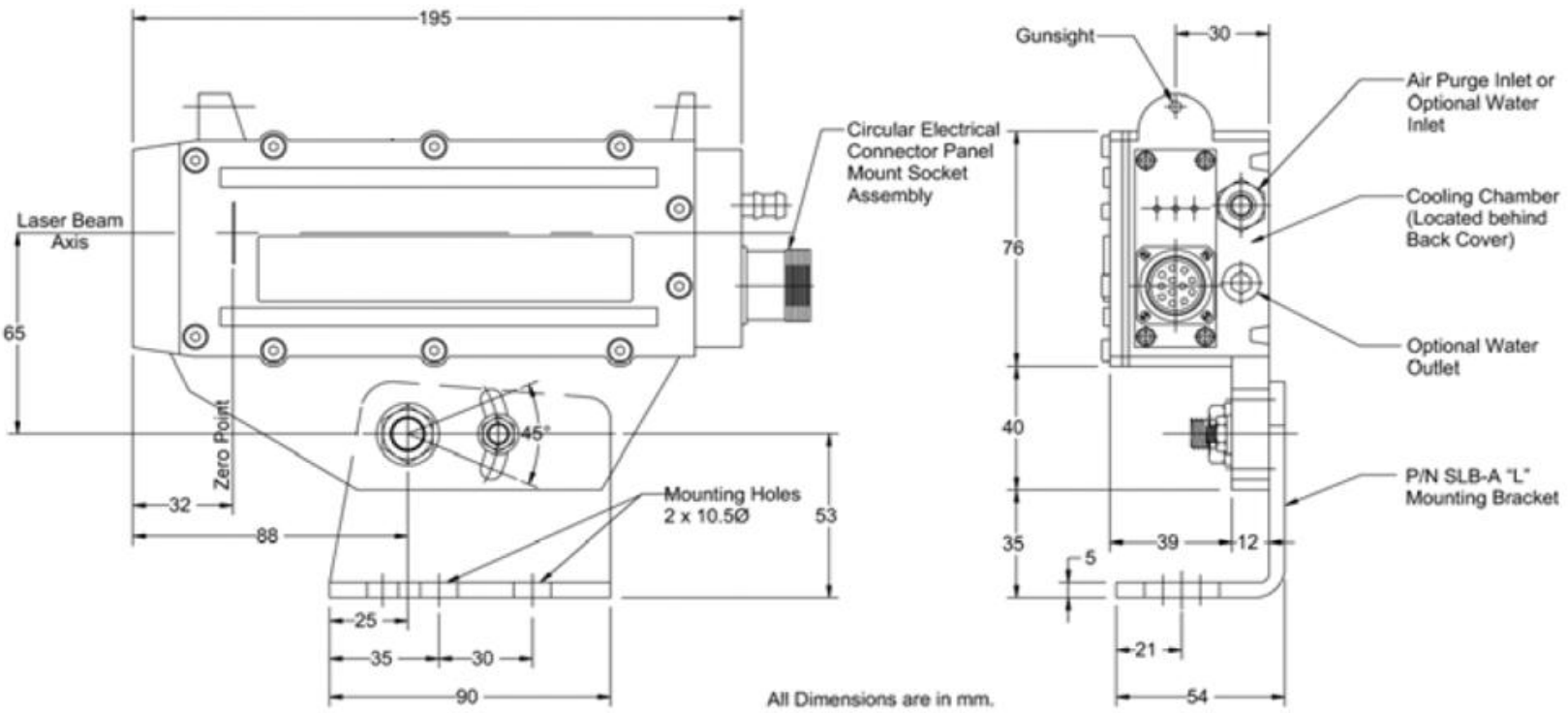
Housing Specifications

Housing:	Aluminum AL6, Oven baked blue paint
Housing Rating:	IEC IP66, DIN, 89011
Weight w/o Cable:	1.9 Kg (4.2lb)
Connector:	IP65 Plug/Socket
Cable Length:	1.5 M Standard up 15 M available
Cooling:	Air Cooled & Air Purged / Water Cooled & Air Purged

Air & 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, 40 PSI Maximum
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 80°C use water chilled to 5°C

Dimensions



General Specification

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)	Supply Voltage	10 - 30 VDC
		Power Consumption	1 Watt Operating, 0.4 Watt in Standby
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 65°C with (20°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	Product Temp. Limit	Standard 600°C (Hi-Temp model available)
Measuring Time 2) (According to type of surface reflectivity)	Any Surface: 160 msec. to 6 sec. (typically 200 msec) 3)	Serial Interface (selectable)	RS232 or RS422/RS485 (2400 - 38,400 baud)
	White Surface: 100 msec (in DW Measuring Mode)	Communication Protocol	Half Duplex via ASCII codes
Laser Wavelength	659nm, Visible Red	Programming	via Hyper-terminal and Supplied Software
Laser Classification	Safety Class 2 (DIN EN 60825-1), Class II	Optional Interface	ProfiBus DP gateway connection box, Ethernet
Laser Power	1 mW	Auto Distance Tracking	Can be programmed to start at power on
Laser Divergence	0.6 mrad	Digital Output	High value output with adjustable threshold, logic & hysteresis. 0.5 A limit
Laser Spot Diameter	6mm(0.236in) at 10M (32.8ft), 60mm (2.36in) at 100M (328ft)		
MTTF	32,000 hrs	Analog Output	Programmable 4-20mA, 16 BIT (0.15%) with 500 ohm Load Resistance. Programmable Zero & Span. Temperature drift of < 50ppm/°C
Power Indication	Red LED		
Trigger Input	Adjustable with delay & hi/lo adjustment (DF Measuring Mode)		

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

Moduloc System Engineering Ltd. & Co.

Kexin Building No. 212, Changjiang Road, Yantai Development Zone,
Yantai, Shandong, China P. R.
phone: +86-535-2161058
e-mail: info@mse-intl.com

Zip code: 264006
fax: +86-535-2161090
web: www.mse-intl.com