



- Visible Red Class II Laser for precise distance measurement
- Measure off Natural Surfaces up to 30m, off a white target at 100m and off a special reflector target <150m
- Measuring rate as low as 20ms off a white surface or off a special reflector target
- Provides +/- 2mm to +/- 5mm accuracy
- RS232 or optional RS422/RS485 Serial Interface
- Programmable 4-20 mA Analog Output
- Programmable Zero and Distance Offset
- Programmable Digital Output & Offset
- Programmable Digital Output and External Trigger Input
- Aluminum Housing rated IP66
- Horizontal Mounting Platform

### General Description

The MSE-LT205 Laser Distance Measurement Sensor operates over a substantial range off static or passing product in difficult areas in harsh environments. It 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 reflective target.

For operation with automated positioning control of material handling transport systems a white reflective target is used or the special reflective target is used. The MSE-LT205 can provide a measuring rate as low as 20 milliseconds when used with a white target or special reflective target.

Especially suited for precise detection and measurement of cold/hot product at temperatures up to 600°C (1112°F). A model MSE-LT205HT is available for target temperatures up to 900°C (1652°F) and a model MSE-LT205VHT is available for target temperatures up to 1200°C(2192°F). Straight forward 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.

Supplied as standard with either a RS232 or an optional RS422/RS485 serial interface operating at 2400 to 38,400 Baud Rate.

Standard operating temperature without cooling is 50°C (122°F). Optional water cooling is available for an operating temperature up to 80°C (176°F). An optional internal heater is available for low temperature applications down to -40°C (-40°F).

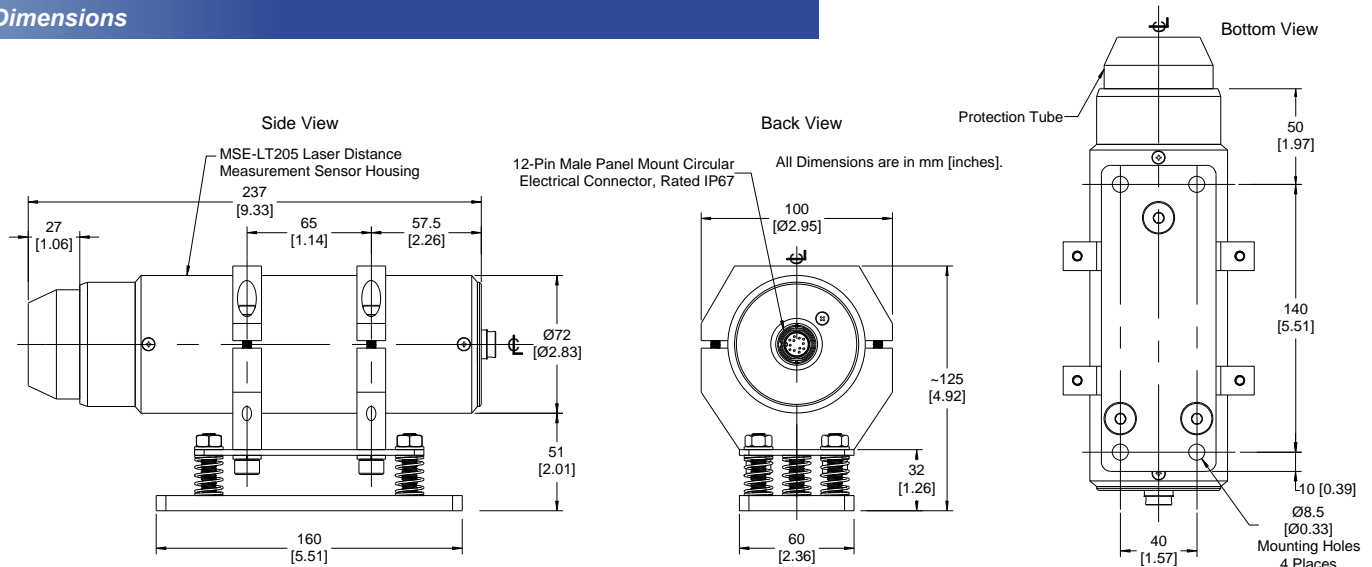
The MSE-LT205 Laser Distance Measurement Sensor provides a highly accurate measurement reading. It is ideal for length and width determination, and checking position of product in and around furnace areas.

Optional Accessories are available including: Fieldbus Interface Connections for Profibus, ProfiNet, & Ethernet TCP/IP. Other options include Junction Box, AC to DC Power Supply, HMI for programming and display of distance measurement, length, width, thickness or position; White Targets and a Special Reflective Targets. Coming Soon: Ethernet/IP Fieldbus Interface Connection. Please contact your local MSE sales representative for additional information.

### Typical Applications

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

## Dimensions



## Housing Specifications

**Housing:** Aluminum with steel hardware  
**Housing Rating:** IEC IP66, DIN 89011  
**Weight w/o Cable:** 5.1 Kg (11 LBS)  
**Electrical Connector:** IP67 Plug/Socket  
**Cable Length:** 2m (standard) - Optional 5m, 10m, 15m, 20m  
 Optional water cooling (-W) is available. Please contact you MSE Sales Representative for more information.

## Part Number Specifications

**Example: MSE-LT205-1-H**  
 (RS232 Serial Interface with Heater)

<b>Serial Interface</b>	-1	RS232
	-2	RS422/RS485
<b>Heating:</b>	-H	Internal 24VDC Heater for operation down to -25°C (-13°F)
		No suffix is required when heater option is not included.

## General Specifications

Operating range <sup>1)</sup> (Type of surface)	Natural Surface: 0.2m (7.8in) to 30m (98ft)	Supply Voltage	10 - 30 VDC	
	White Surface: 0.2m (7.8in) to >100m (328ft)	Power Consumption	1.5 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	-20°C (-4°F) to +50°C (122°F) no cooling	
	± 5 mm (0.197in) over full operating temperature range		-40°C (-40°F) with optional internal heater	
Resolution	0.1 mm user (programmable & scalable)	Storage Temperature	-40°C (-40°F) to +70°C (158°F)	
Repeatability	±0.5 mm (0.0197in)	Target Temp. Limit	Standard 600°C (1112°F)	
	Measuring Time <sup>2)</sup> (According to surface reflectivity)	Any Surface: 240ms to 6s. (typically 200 ms) <sup>3)</sup>	Trigger Input	Adjustable with delay & hi/lo adjustment
		White Surface: 100ms (in DW Measuring Mode) <sup>4)</sup>	Serial Interface	RS232, 2400 - 38,400 baud, ASCII, 8N1
Laser Wavelength	650nm, Visible Red	Optional Interface	RS422/RS485, 2400 - 38,400 baud, ASCII, 8N1	
Laser Classification	Safety Class 2 (DIN EN 60825-1:2001-11), Class II	Programming	via Hyper-terminal and Supplied Software	
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)	Analog Output	Programmable 4-20mA, 16 BIT (0.15%) with 500 ohm Load Resistance. Programmable Zero & Span. Temperature drift of < 50ppm/°C.	
Laser Angle Tolerance	Better than ± 1° to the ground plane			
MTTF	30,000 hrs, 24hr/7day, operation temp. +25°C (77°F)			
Scale (programmable)	Output can be m, cm, mm, yard, feet, inch			

1). Ranges shown are for DT, DW & DM measuring mode.

2). Measuring Time can also be preset in intervals of 240 msec to 6 seconds in DT measuring mode.

3). In DT measuring mode

4). With white surface, white target or with special reflective target.

This MSE sensor is manufactured by Moduloc System Engineering Ltd. Yantai Shandong, China P.R. which was established 2007.

Please contact MSE for additional questions on other replacement model numbers .

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

Your Local Sales Contact:

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