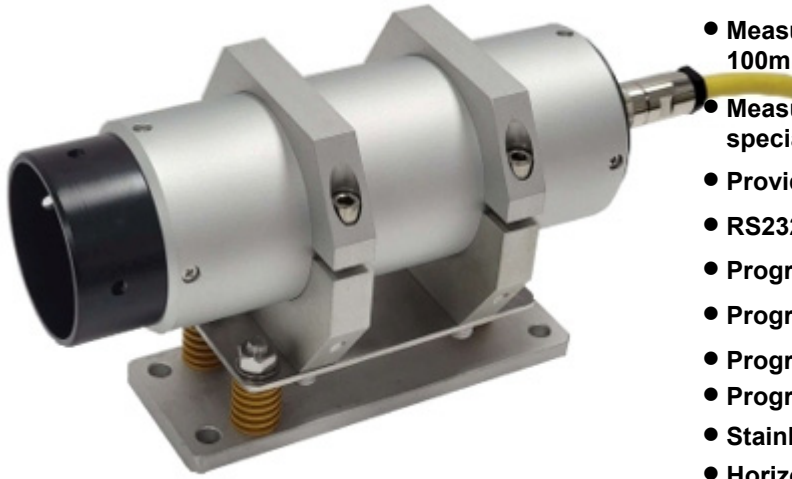


MSE-LT205 Laser Distance Measurement Sensor



- **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**
- **Stainless Steel 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.

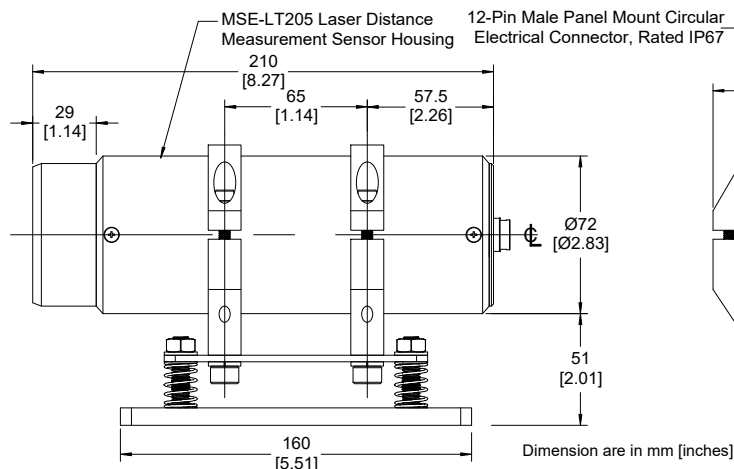
Typical Applications

Product Material
Material Handling
Metals Industry
Crane Control
Collision Avoidance

Measure length, width, level and position of product.
 Automated Storage/Retrieval Systems and positioning of mobile equipment.
 Measure/Position slab, billet, bloom or bar. Diameter measurement of coils.
 Positioning of cranes, crane trolleys & collision avoidance
 Distance alarm between vehicles using reflective target.

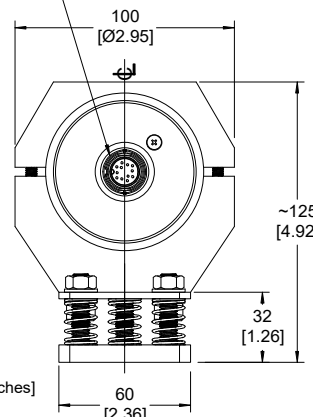
Dimensions

Side View

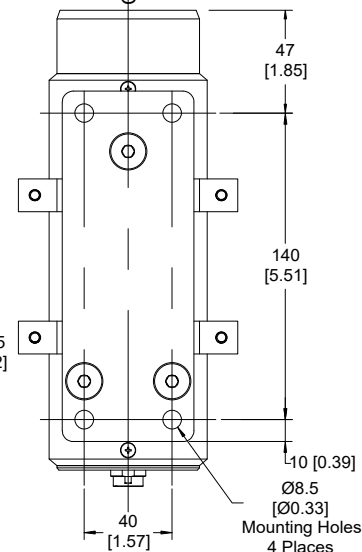


Dimension are in mm [inches]

Back View



Bottom View



Housing Specifications

Housing: 304 Stainless Steel and Aluminum
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 colling is available. Please contact you MSE Sales Representative for more information.

Part Number Specifications

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

Serial Interface	-1	RS232
	-2	RS422/RS485
Heating:	-H	Internal 24VDC Heater for operation down to -25°C (-13°F)

For more information, please refer to the RS232/RS422/RS485 interface section. No suffix is required when heater option is not included.

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)	Supply Voltage	10 - 30 VDC
		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)		
Repeatability	±0.5 mm (0.0197in)	Storage Temperature	-40°C (-40°F) to +70°C (158°F)
Measuring Time ²⁾ (According to surface reflectivity)	Any Surface: 240ms to 6s. (typically 200 ms) ³⁾	Target Temp. Limit	Standard 600°C (1112°F)
	White Surface: 100ms (in DW Measuring Mode) ⁴⁾	Trigger Input	Adjustable with delay & hi/lo adjustment
	White Surface: 20ms (in DX Measuring Mode) ⁴⁾	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)		
Laser Angle Tolerance	Better than ± 1° to the ground plane	Analog Output	Programmable 4-20mA, 16 BIT (0.15%) with 500 ohm Load Resistance. Programmable Zero & Span. Temperature drift of < 50ppm/°C.
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.

The MSE-LT205-1 can be used as a direct replacement for Part No. LMC-J-0050-2-1 and the MSE-LT205-2 can be used as a direct replacement for Part No. LMC-J-0050-2-2 manufactured by LOKE Kempf GmbH when used for applications where the target temperature is 600°C or less.

MODULOC SENSOR ENTERPRISES
MSE

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

Your Local Sales Contact:

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DISCLAIMER: Moduloc Sensor Enterprises, Ltd of the USA and Moduloc System Engineering Ltd. of Yantai Shandong, China P.R. are not associated or affiliated with Moduloc Ltd. or the former Moduloc Control Systems Ltd both of the United Kingdom.

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