MODULOC® Control Systems

LT2000-SC-HTR LASER DISTANCE METER

Incorporates internal electronic heater within insulated enclosure

- ***Visible Class II Laser for precise distance measurement.***
- ***Incorporates thermocouple controlled heater within its insulated enclosure for extreme cold usage***
- ***Operates off Natural Surfaces at 30M off white target at 100M & off a special reflector at 150M***
- ***Measuring rate as low as 100msec off of a white surface.***
- ***Provides +/- 2mm to +/- 5mm accuracy.***
- ***Low in cost yet long range.***
- ***RS232 & RS422 Serial Interface***
- ***Programmable 4-20 mA Analogue Output***
- ***Programmable Digital Output & Offset***
- ***External Trigger Input***

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-SC-HTR Laser Distance Meter operates over a substantial range off static or passing product in difficult areas in harsh and extreme cold environments. The LT2000-SC-HTR 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 or the special reflector is used.

The LT2000-SC-HTR Laser Distance Meter is specifically engineered to utilise in extreme cold environment as the housing is insulated and a thermocouple controlled electronic heater is incorporated operating for 24 VDC supply.

Straight forward alignment is easily accomplished via the visible red laser measuring beam. Accuracy is +/- 2mm to +/- 5mm according to ambient temperature variation 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 analogue output are both user programmable. The distance offset is also user programmable, this allows the user to define a zero point independent of the analogue output zero offset.

Provided with a user programmable digital switching output triggered by exceeding in the positive or negative direction a user programmable distance threshold. The hysterisis of this output is programmable. The LT2000-SC-HTR laser distance meter provides a highly accurate measurement reading. It is ideal for length and width determination, and positioning of vehicles and overhead cranes.

Supplied as standard with either a RS232 or RS422/RS485 serial interface with a 2400 to 38,400 Baud Rate & a programmable4 - 20 mA 16 BIT analogue output. An optional ProfiBus DP Gateway Interface Box is available. ProfiBus DP, DeviceNet and Ethernet Interface Options will soon be available.

MODULOC® Technology - The Total Laser Solution

A Rotalec Group Company

Group Head Office
Quebec, Canada
E : info@rotalec.com
T : 514-341-3685

UK Manufacturing & Sales Centre
Hertfordshire SG3 6JP
E: sales@moduloc-intl.com
T: +44 (0) 845-873-6501

USA Sales Office
Minneapolis MN55344
E : sales@moduloc-usa.com
T : 952-238-8453

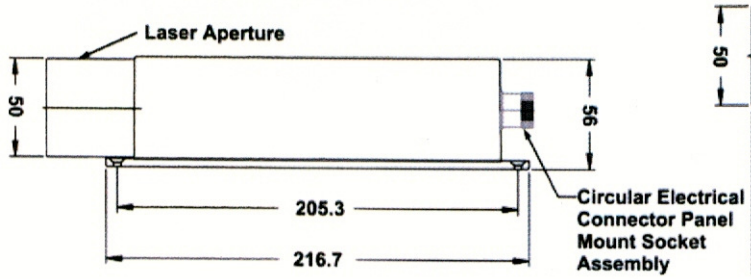
Housing Specifications

Housing: Aluminium, Oven baked blue paint

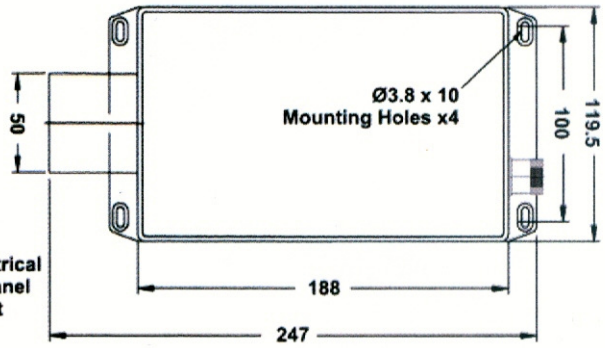
Housing Rating: IEC IP65, DIN 89011

Weight w/o Cable: 2.4 Kg (5.3Lbs)

Cable Length: 2 M Standard (Optional 5, 10 & 15M Available)



LT2000-SC 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)	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	-30°C (14°F) to +60°C (122°F)
	± 5 mm (0.197in) over full operating temperature range		With heater connected
Resolution	0.1 mm user (programmable & scalable)		
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	Any Surface: 160 msec. to 6 sec. (typically 200 msec)[3]	Serial Interface	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
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)		

Optional BR22 Laser CPU

This CPU provides a localized LCD display and keypad for programming of the laser operational via a user-friendly menu. The CPU operates from 90-240 VAC supply and provides the required DC power to the laser.

The CPU communicates to the laser via an RS422 Serial Interface to accommodate long cable runs. When powered, it automatically starts and programs the laser to configured operational parameters. The CPU provides a 4-20mA analog output of the measurement as well as both RS232 and RS422 Serial Interfaces and has a relay output with adjustable threshold for product presence. All parameters using the keypad are displayed on the LCD display.

The CPU is housed in an IP65 rated painted aluminium enclosure for local mounting and available in various configurations for operation of 1 or 2 lasers for determining product length thickness ,width or positioning control.

MODULOC® Technology - The Total Laser Solution

MODULOC®

Control Systems

Your Local Sales Representative:

nqa. ISO 9001 Registered — UKAS QUALITY MANAGEMENT 015