MODULOC®
Control Systems

LT3500-XT LASER DISTANCE METER IN EXPLOSION PROOF HOUSING

- *Class* II *Laser providing precise measurement*
- *Multiple Selectable RS232 , RS422, RS485 Serial Interfaces*
- *Operates off Natural Surfaces up to 100M and off Oralite*
  5200 Reflector Panels at up to 500M
- *Provides +/- 1mm accuracy and 0.1mm resolution*
- *Low in cost yet long range*
- *Programmable 4-20 mA Analogue Output*
- *Three programmable Digital Outputs with Offset*
- *External Trigger Input and Output*
- *The LT3500-XT is offset at 5 degrees to the front glass*

Certification:

Laser Unit pre-mounted in IP66 Double Compartment Cast copper free aluminium explosion proof housing with 1/4-20 UNC mounting holes and 3/4" MPT conduit gland holes. Explosion proof housing to the following specification:
Exd 11C   /   EExd11C Class I Groups B, C & D   /   Class II Groups E, R and G   /   Class III—Atex 112 GD
The user is responsible for connecting and implementing this Laser Device within the installation parameter guidelines for the intended location.

Typical Applications

Product Measurement	Length, width, level and position of product.
Material Handling	Automated Storage Systems and mobile equipment.
Metals Industry	Measure/Position slab, billet, bloom or bar.
Crane Control	Positioning of cranes & crane trolleys.
Collision Avoidance	Distance alarm between crane trolleys off reflectors
Gas Holder	Automatic floor level control

General Description

The New Generation LT3500-XT Laser Distance Meter operates over a substantial range off static or passing product as well as providing crane positioning and control in harsh environments. It has a substantial working range up to 100M off natural surfaces and up to 500M off Reflector foil panels. As the Laser Distance Meter has a fast measuring rate of up to100 Hz and provides a highly accurate measurement reading it is ideal for length and width determination, checking position of product in the Plant as well as for Crane Control and positioning.

Especially suited for precise detection and measurement of product at temperatures up to 1300°C. For higher product temperature other Models are available. Each model is available with internal regulated heater with remote activation to enable use of the Sensor in –40ºC.
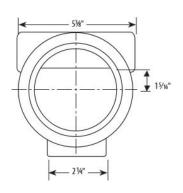
Straightforward alignment is easily accomplished via the visible laser measuring beam. Accuracy provided is +/- 1mm with a repeatability of +/- 0.1mm and the user scalable resolution is 0.1mm. The zero offset and the span of the 4 - 20 mA analogue output are user programmable. The distance offset is also user programmable and allows the user to define a zero point independent of the analogue output zero offset.
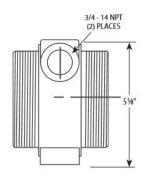
Provided with three programmable digital switching outputs to provide independent alarms triggered by exceeding in the positive or negative direction a user programmable distance threshold. The hysteresis of these is programmable. In addition a trigger function is provided by selection that can be used as an input or output.
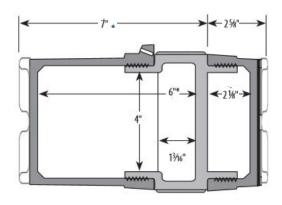
Supplied as standard with multiple RS232, RS422 and RS485 Serial Interfaces as well as 4 - 20 mA 12 Bit analogue output. Other Models with ProfiBus DP or SSI connection being introduced shortly.

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General Specifications

Operating range Off Natural Surfaces 100hz/variable measuring rate	White matt surface: From 150mm to 30M / 100M Grey matt surface: From 150mm to 10M / 50M Black matt surface: From 150mm to 10M / 20M (According to measuring rate)	Supply Voltage	10 - 30 VDC 10W (with Heater 42W)
		Min Operating temperature With Heater (Option)	- 10°C ... + 60°C - 40°C
Operating Range Off Oralite Reflector Foils	From 500 mm to 100M off 3M 3279 Reflector foil	Operating Temperature Humidity	-10°C (14°F) to +60°C (140°F) no cooling
	From 50M to 500M off Oralite 5200 Reflector foil		15% - 90% non-condensing
Resolution	± 0.1 mm user (programmable & scalable)		
Measuring Frequencies	Selectable 20, 50 and 100Hz	Storage Temperature	-40°C (-4°F) to +70°C (158°F)
Scale (programmable)	Output can be M, cm, mm, yard, feet, inch	Product Temp. Limit	1300°C
Accuracy according to surface reflectivity & averaging value	± 1 mm at 20 Hz / < ± 2.5 mm at other frequencies (1α)	Standard Serial Interfaces	RS232, RS422 & RS485 Interfaces by selection
Analog Output	Programmable 4-20mA, 12 BIT Load Resistance 100 ohm <R < 500 ohm/0.5W Programmable Zero & Span. Output Error at 20mA + 15% at 25°C.	Optional Interfaces According to Model (No Heater available)	1. SSI with RS232, RS422 and RS485 SSI, Transmission Rate 200kHz, 24 µs pause 2. Profibus with RS232, RS422 and RS485 Transmission Rate 9.6Kbaud … 12Mbaud 3. SSI, Profibus with RS232, RS422 and RS485
Minimum measuring period	10 m.s.	Remote Programming	Via Hyper-terminal or other terminal programming
Maximum Target Velocity	20 m.s.	Communication Protocol	7 Bit ASCII codes Synchronous & Data Bit, no parity & stop hit
Laser Wavelength	635 nm, Visible Red	Auto Distance Tracking	Can be programmed to start at power on
Laser Classification	Safety Class 2 (DIN EN 60825-1): 2007	Digital Outputs	3 X High value output with adjustable threshold, logic & hysteresis. 0.2 A limit
Min. Measuring Time	10 ms Varies according to surface reflectivity	Housing Specifications:	Housing: Aluminium: AL6 Oven baked blue paint Housing Rating: IEC IP67 DIN 89011 Weight W/o cable: 1.9 Kg (4.2lb) Connectors: IP65 Plug/Sockets Cable Length: .20 M (optional 5, 10 & 15 available at additional cost Fastening: M6 screws (base 3 off, side 2 off)
Laser Divergence	0.13 W mrad x 0.17H mrad		
Laser Spot (Elliptical)	Divergence 4 x 5mm @10M, 25 x 35mm @100M, 130x170mm @ 500M		
MTTF	32,000 hrs		
Power Indication:	Green LED		
Triggers	Input and Output Triggers Adjustable with delay & hi/low adjustment		

MODULOC® Technology - The Total Sensor Solution

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