

NON-CONTACT LASER TRIANGULATION SENSORS

A new range of precision laser triangulation sensors that are fully Orbit Enabled and compatible with all Solartron Readouts and Gauging Software



KEY FEATURES

- Very Compact 20 mm wide
- Measuring Range LT1 (25mm), LT2 (10mm)
- Accuracy – better than 12 μm
- Repeatability LT1 – 2.5 μm , LT2 0.5 μm
- Resolution LT1 – 0.4 μm , LT2 0.15 μm
- Sampling Rate up to 4 kHz
- LT2 specifically for shiny metallic surfaces

Features

- High Measurement accuracy with excellent repeatability
- Fast measurement rates
- Beam on/off function
- Measurement of distance and thickness on numerous surfaces
- Ideal for automation and process control
- Compatible with Solartron Readouts, OrbitGauge Software, GCS Software
- Easy connections to PC or PLC

EtherNet/IP[®]

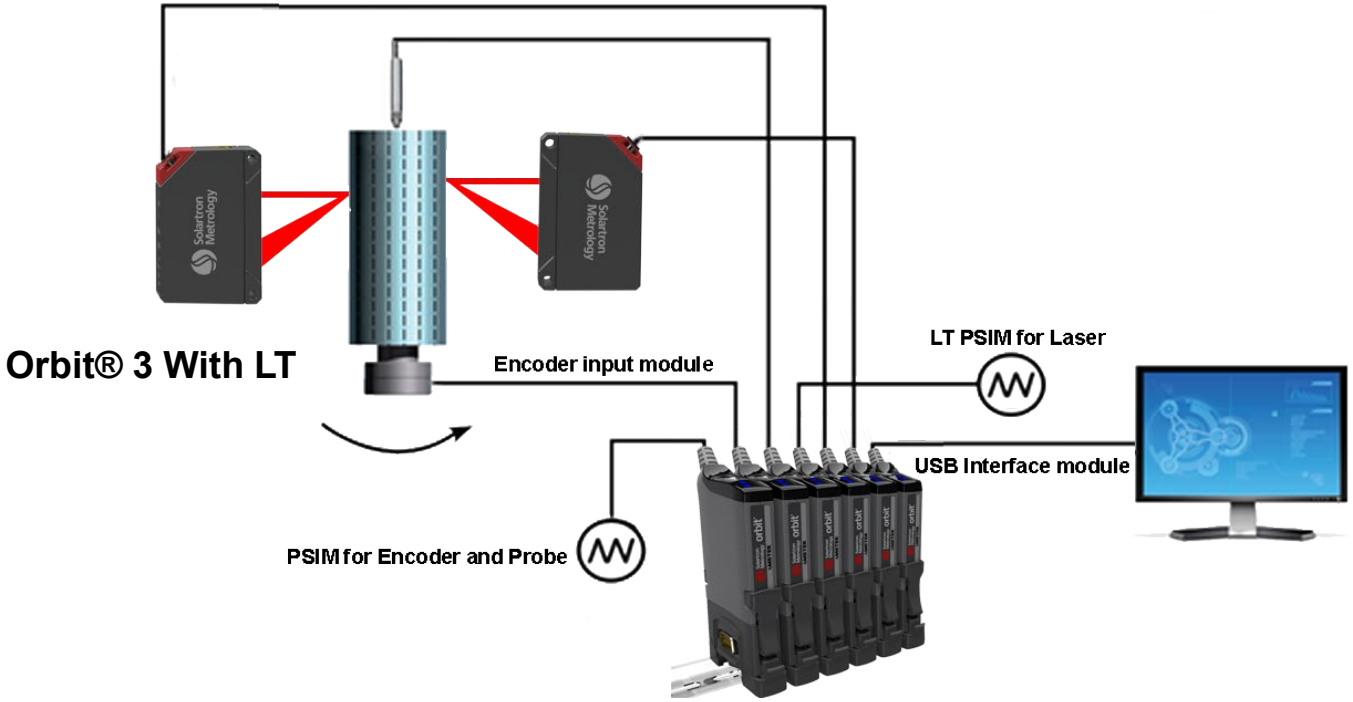
PROFI[®]
NET

EtherCAT[®]

Modbus

CC-Link

Orbit® LT1 and LT2 Applications



Network Orbit® LT with other gauging probes or sensors via the Orbit® 3 network.



Technical Specification

PRODUCT		LT1/25/25/R	LT2/20/10/R
MEASUREMENT RANGE			
SMR (Start of Measuring Range)	mm	25	10
MMR (Middle of Measuring Range)	mm	37.5	25
EMR (End of Measuring Range)	mm	50	30
PSS (Position for smallest spot)	mm	31	25
MEASUREMENT PERFORMANCE			
Accuracy	±µm	12	6
Resolution	µm	0.4	0.15
Repeatability (@ SR) ⁽²⁾	µm	2.5 (@SR1)	0.5
Sample Rate (SR)⁽¹⁾			
SR 1	kHz	1	4
SR 2	kHz	0.5	2
SR 3	kHz	0.25	1
SR 4	kHz	N/A	0.5
SR 5	kHz	N/A	0.25
SR 6	kHz	N/A	N/A
SR 7	kHz	N/A	N/A
OPTICAL PARAMETERS			
Light Source	nm	670 (red)	670 (red)
Class		Class 2 in accordance with DIN EN 60825-1: 2015-07	
Power	mW	0.2	0.2
Laser Spot Size (x,y)			
SMR	mm	0.100,0.140	0.140,0.720
MMR	mm	0.120,0.130	0.065,0.680
EMR	mm	0.390,0.500	0.140,0.660
PSS	mm	0.055,0.050	0.065,0.680
PHYSICAL PARAMETERS			
Weight (Laser Head)	grams	30	60
Materials (Laser Head)		Aluminium	
ENVIRONMENTAL			
Laser Head Operating Temperature	°C	0 to +50	
Laser Head Storage Temperature	°C	-20 to +70	
Orbit Electronics Operating/Storage Temperature	°C	0 to +60	
Sealing (Laser Head / Electronics)		IP65/IP43	
Laser Head Shock		15g/6 ms	
Laser Head Vibration		20g/2-500Hz	
EMC (Emissions)		EN61000-6-3	
EMC		EN61000-6-2	
ELECTRONICS INTERFACE			
Orbit Interface Options		USB/Ethernet/RS232	
Reading Rate		3906 Readings/sec	
PLC Interface (using PIM adapter)		Ethernet/IP, ProfiNet, Ethercat, Modbus, CC-Link	

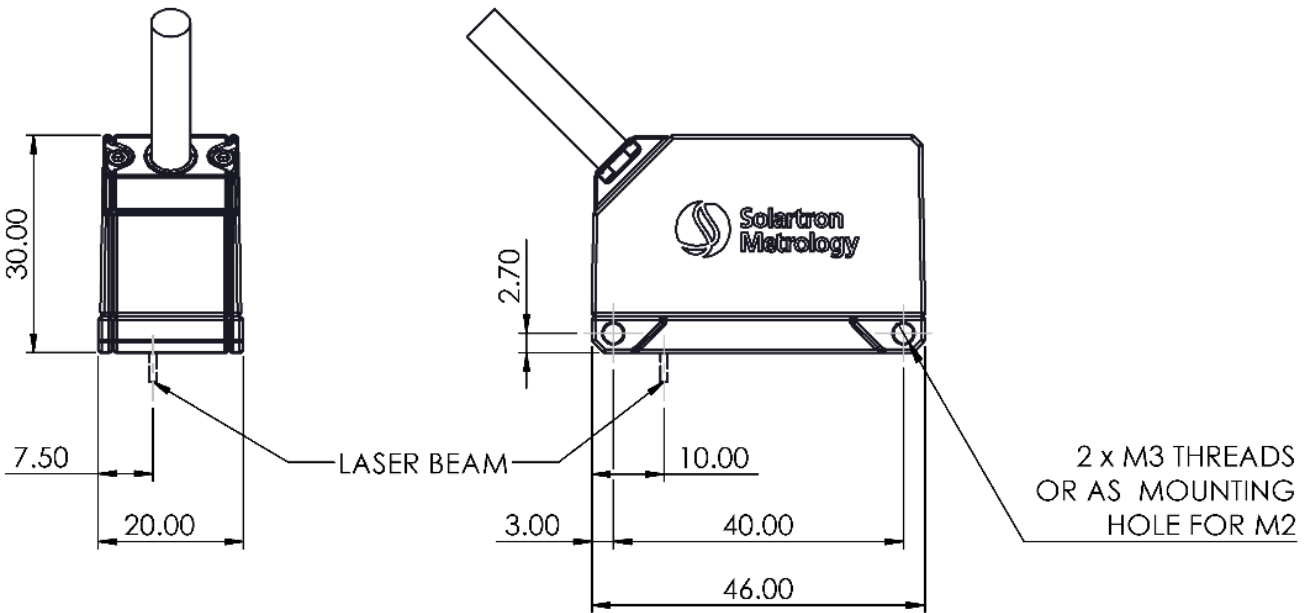
(1) Programmable via Orbit

(2) at Sampling Rate of 1 KHz for LT1, 2kHz for LT2



Dimensional drawing

(Solartron pursues policy of continuous development, specifications in this document may therefore be changed without notice, dimensions are nominal and specified in millimetres)



INNOVATIVE
MEASUREMENT
TECHNOLOGY LTD.



Innovative Measurement Technology Ltd

Unit 3E Vinnetrov Business Park
Vinnetrov Road, Chichester
West Sussex PO20 1QH
United Kingdom

E-mail: sales@imeasure.co.uk
E-mail: support@imeasure.co.uk
Tel: +44 (0) 1243 942010

www.innovative-measurement-technology.co.uk

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