

Non-Contact Laser Triangulation sensors



LT2

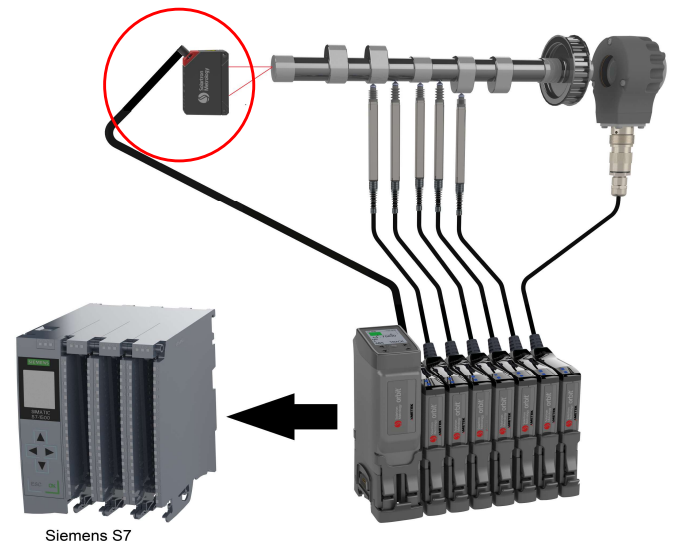
- High precision for metallic and reflective surfaces
- Linearity up to 6 microns, with repeatability up to 0.1 microns
- Sample rate up to 4 kHz
- “Oval” spot that is ideal for checking metallic surfaces
- **“Adaptive Surface Adjustment:”** Laser automatically adjusts beam intensity based on surface for optimum repeatability
- Software Drivers offer different measurement modes and averaging adjustments for peak repeatability

LT1

- 25, 100, and 200 mm ranges
- Linearity up to 12 microns, with repeatability of up to 1 micron
- Sample rate up to 1 kHz

KEY FEATURES

- **Orbit® LT2** (Higher Precision) and **Orbit® LT1** (Basic Precision) models
- Very Compact: Just 20 mm wide
- No extra controller needed
- Connect with other sensors via the Orbit® Network
- Easy setup and adjustments



EtherNet/IP®

EtherCAT®

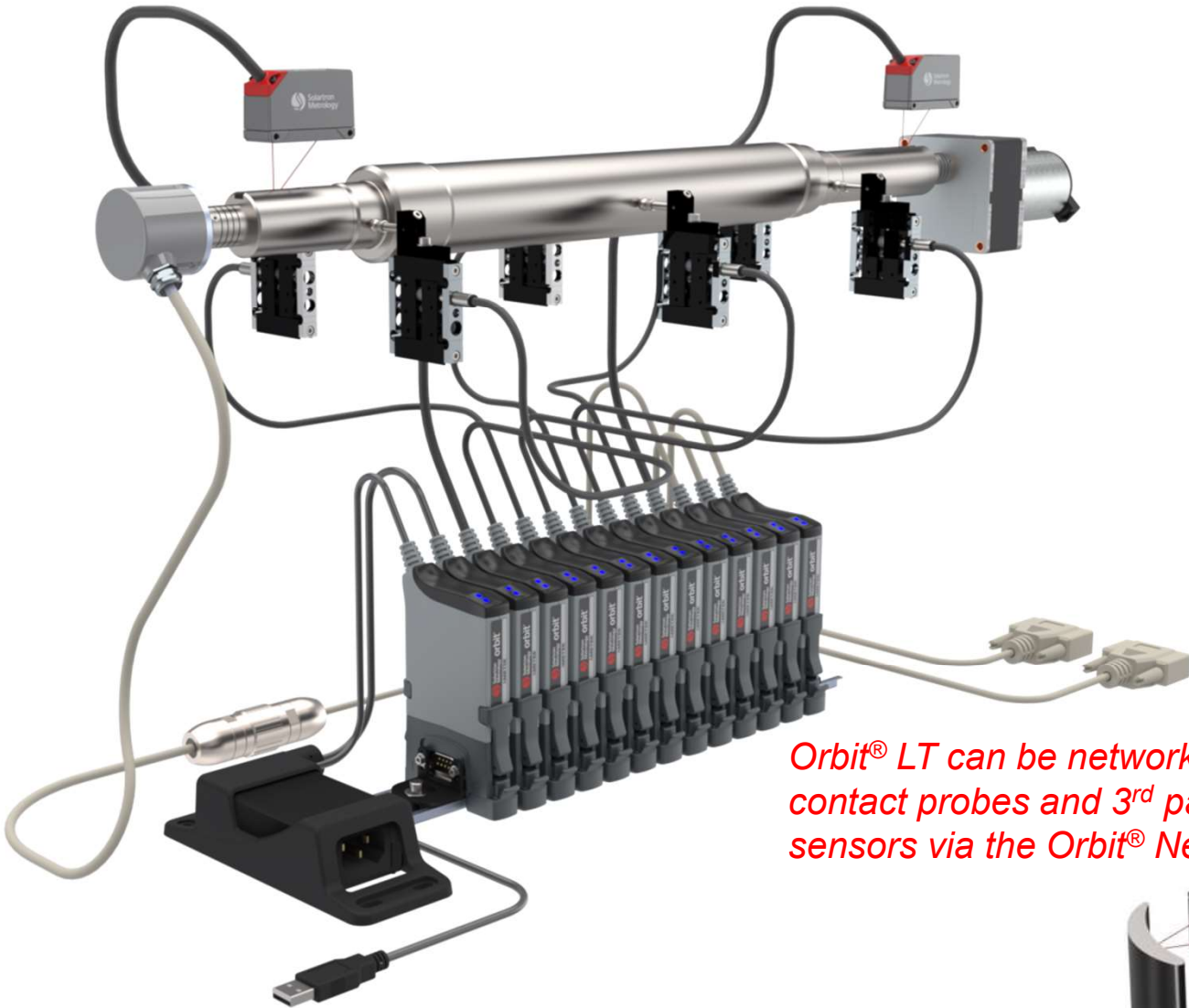
Modbus

PROFINET®

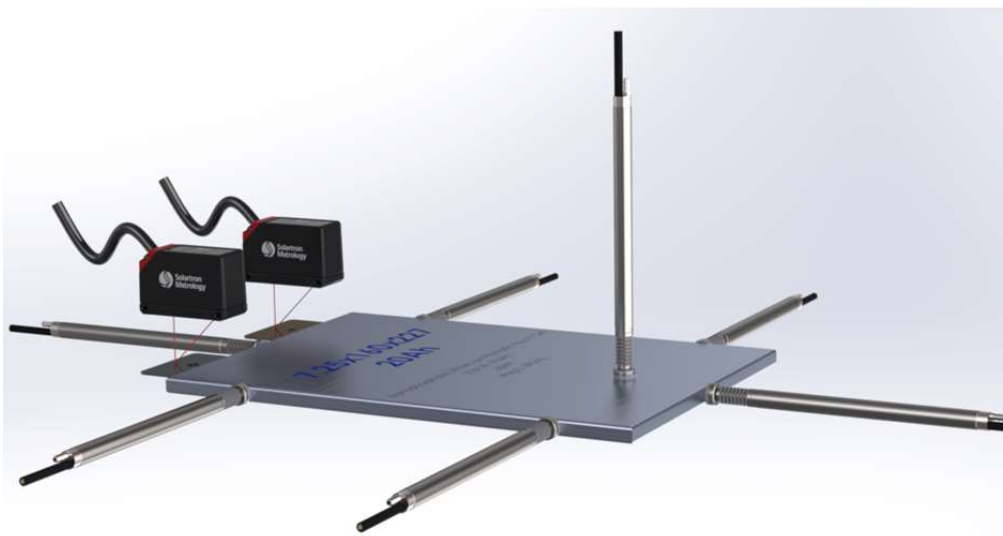
CC-Link

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Orbit® LT can be networked with contact probes and 3rd party sensors via the Orbit® Network.



Orbit® LT lasers and Digital probes checking an EV Battery Pouch



Orbit® LT checking a turbine blade.

Specifications



PRODUCT		LT1/25/25/R	LT1/50/100/R	LT1/60/200/R	LT2/20/10/R	LT2/60/200/R
MEASUREMENT RANGE		25	100	200	10	200
SMR (Start of Measuring Range)	mm	25	50	60	20	60
MMR (Middle of Measuring Range)	mm	37.5	100	160	25	160
EMR (End of Measuring Range)	mm	50	150	260	30	260
PSS (Position for smallest spot)	mm	31			25	
MEASUREMENT PERFORMANCE						
Accuracy (% Full Scale Output)	±% FSO	<0.1%	<0.1%	<0.1%	<0.08%	<0.08%
Resolution	µm	0.4	1.5	3.0	0.15	3.0
Repeatability ⁽²⁾	µm	1 (Typical) 2.5 (Max)	6 (Typical) 10 (Max)	20 (Typical) 20 (Max)	0.1 (Typical) 0.5 (Max)	8 (Typical) 8 (Max)
Temperature Stability	±% FSO/ deg C	0.015%	0.01%	0.01%	0.015%	0.010%
Sample Rate (SR) ⁽¹⁾						
SR 1	kHz	1	1	1	4	4
SR 2	kHz	0.5	0.5	0.5	2	2
SR 3	kHz	0.25	0.25	0.25	1	1
SR 4	kHz	N/A	N/A	N/A	0.5	0.5
SR 5	kHz	N/A	N/A	N/A	0.25	0.25
SR 6	kHz	N/A	N/A	N/A	N/A	N/A
SR 7	kHz	N/A	N/A	N/A	N/A	N/A
OPTICAL PARAMETERS						
Light Source	nm	670 (red)				
Class		Class 2 in accordance with DIN EN 60825-1: 2015-07				
Power	mW	0.2				
Laser Spot Size (x,y)						
SMR	mm	0.100, 0.140			0.140, 0.720	
MMR	mm	0.120, 0.130	0.75, 1.100	0.75, 1.100	0.065, 0.680	0.75, 1.100
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	30	30	60	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/Bluetooth				
Reading Rate		Up to 3906 Readings/sec				
PLC Interface (using PIM adapter)		Ethernet/IP, ProfiNet, EtherCAT, Modbus, CC-Link				

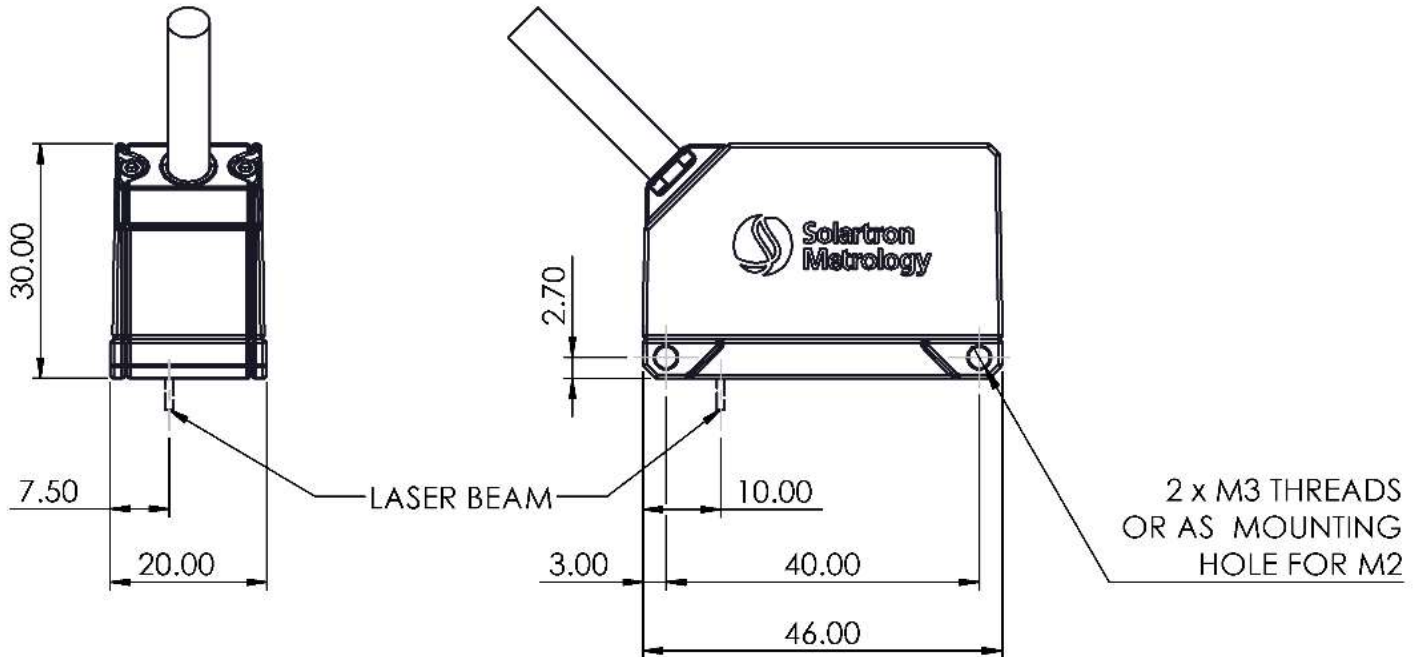
(1) Programmable via Orbit

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

Dimensional drawing



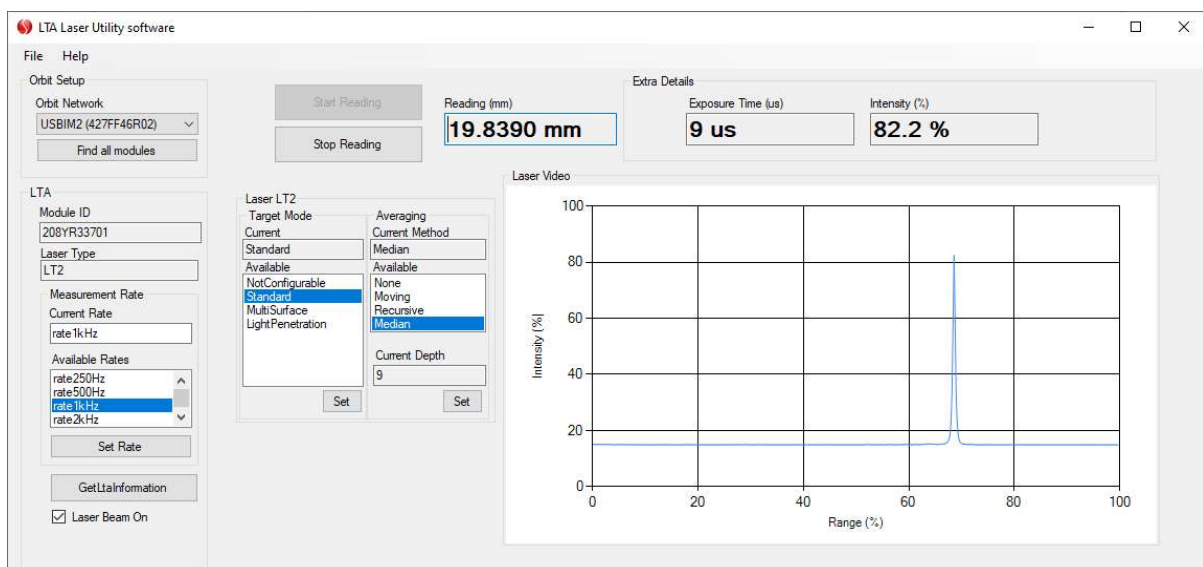

(Solartron pursues policy of continuous development, specifications in this document may therefore be changed without notice, dimensions are nominal and specified in millimetres)

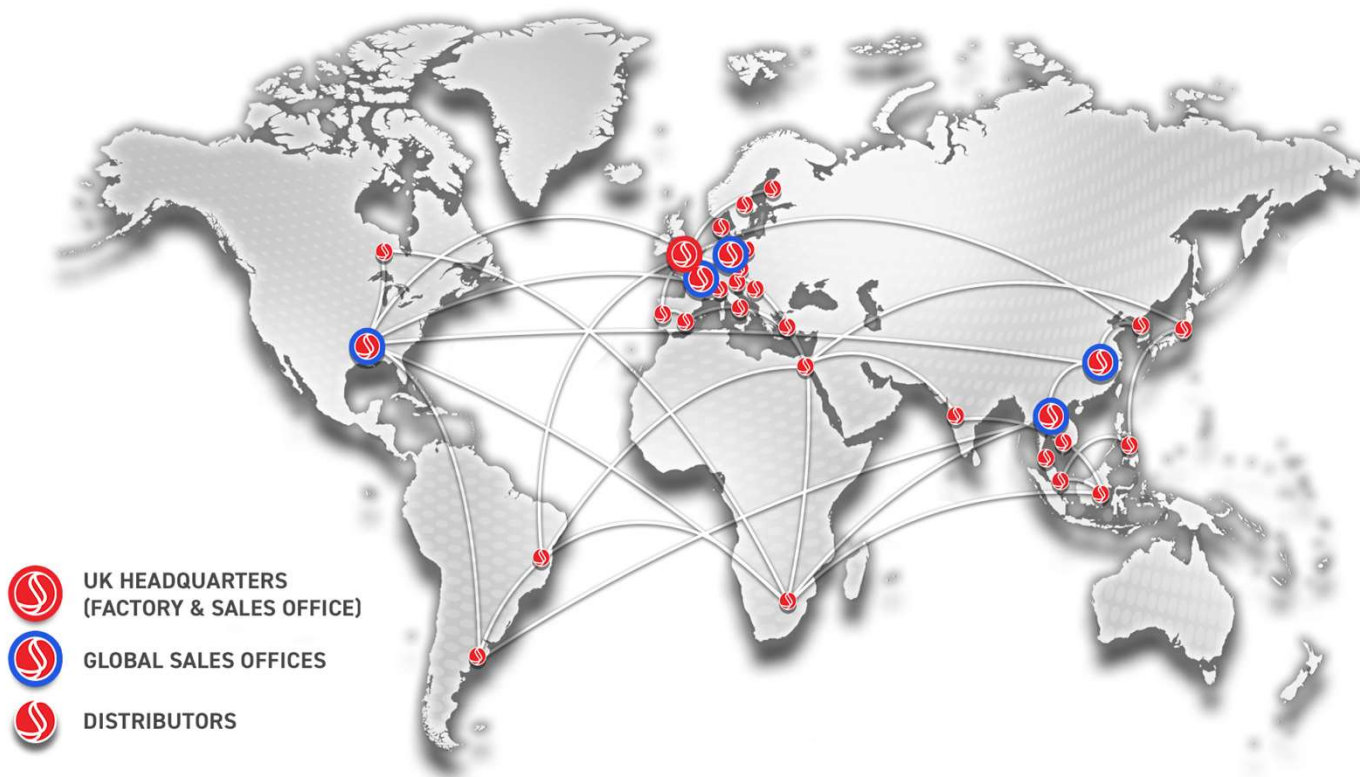


Orbit® LT Utility

An Orbit® LT Configuration Utility is included with Orbit® Software Drivers. The sample rate can be adjusted on Orbit® LT1 and LT2. With Orbit® LT2 you can also:

- Adjust the measurement (Target) mode
- Adjust Averaging
- View Exposure Time, Intensity, and Video signal





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