

# orbit<sup>LT</sup>

## Non-Contact Laser Triangulation Sensor

### Description

Solartron Metrology, the world leader in linear measurement innovation, is now adding a non-contact laser to its lineup! Like our standard touch probes, you have a precise, reliable reading that is quick and easy to set up, with multiple outputs available into a PC or PLC.

The laser gauge can be connected with other Solartron probes and 3<sup>rd</sup> party sensors using the Orbit<sup>®</sup>3 Digital Measurement System. If a stand-alone or two channel solution is preferred, it can be connected to an SI100, SI200, or other Orbit<sup>®</sup> ACS system. Connections into Solartron digital readouts, such as the SI5500 is available as well.

### Features

- Compact Laser Triangulation unit
- 10mm measurement range with 45mm offset
- Teachable settings for different surfaces
- 0.1% F.S. Accuracy
- 2  $\mu$ m repeatability, 1  $\mu$ m resolution

Widest range of available outputs: Modbus, RS232 or RS485 Serial, USB, Ethernet TCP, Discrete NPN, PNP & Logic

Laser Beam Control – the laser beam can be switched off, allowing multiple lasers to measure points very close together where the beams could interfere. In the beam off mode the laser head is still powered allowing readings to be taken quickly after turning the beam on. Beam control is via the Orbit<sup>®</sup>3 interface or via the Orbit<sup>®</sup> ACS using either the Menu or Modbus commands.



Precision. Quality. Reliability

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## orbit<sup>3</sup>



*Network Orbit<sup>®</sup> LT with other gauging probes or sensors via the Orbit<sup>®</sup> 3 network.*

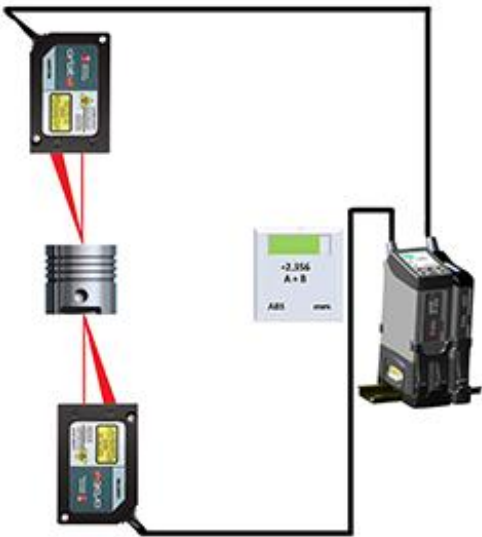
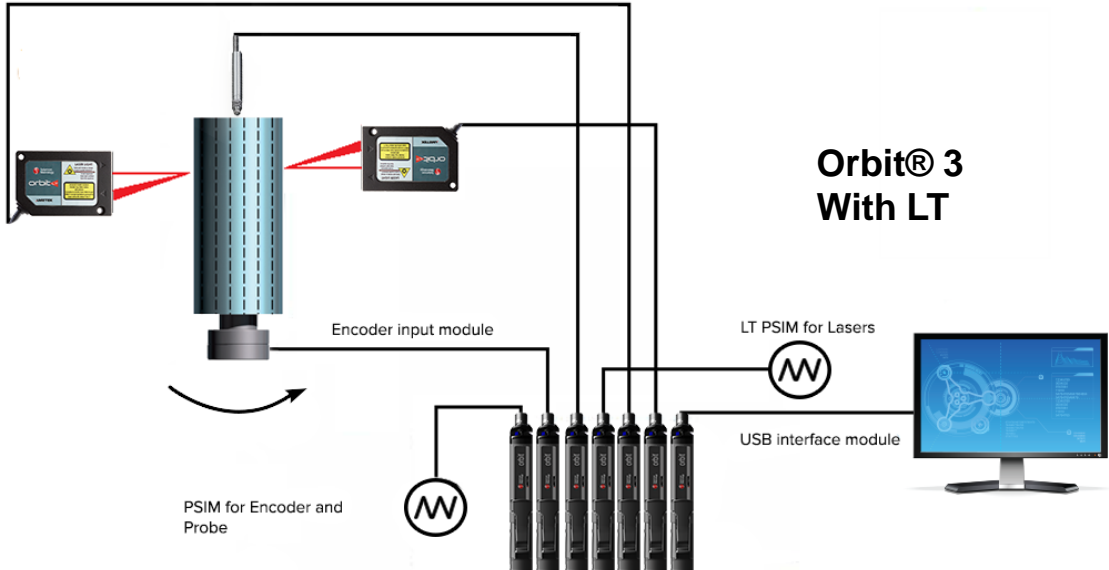
## orbit<sup>ACS</sup>



*Easily connect Orbit<sup>®</sup> LT to PLC via SI 100, SI 200, or SI 400 interface module.*

*For full Orbit<sup>®</sup> and Orbit<sup>®</sup> ACS system specifications, please refer to their respective datasheets. A unit with a 0-10 VDC output is also available. Please contact your Solartron representative or distributor for details.*

**Orbit<sup>®</sup> LT Applications**



**Orbit<sup>®</sup> LT with SI100 chip**

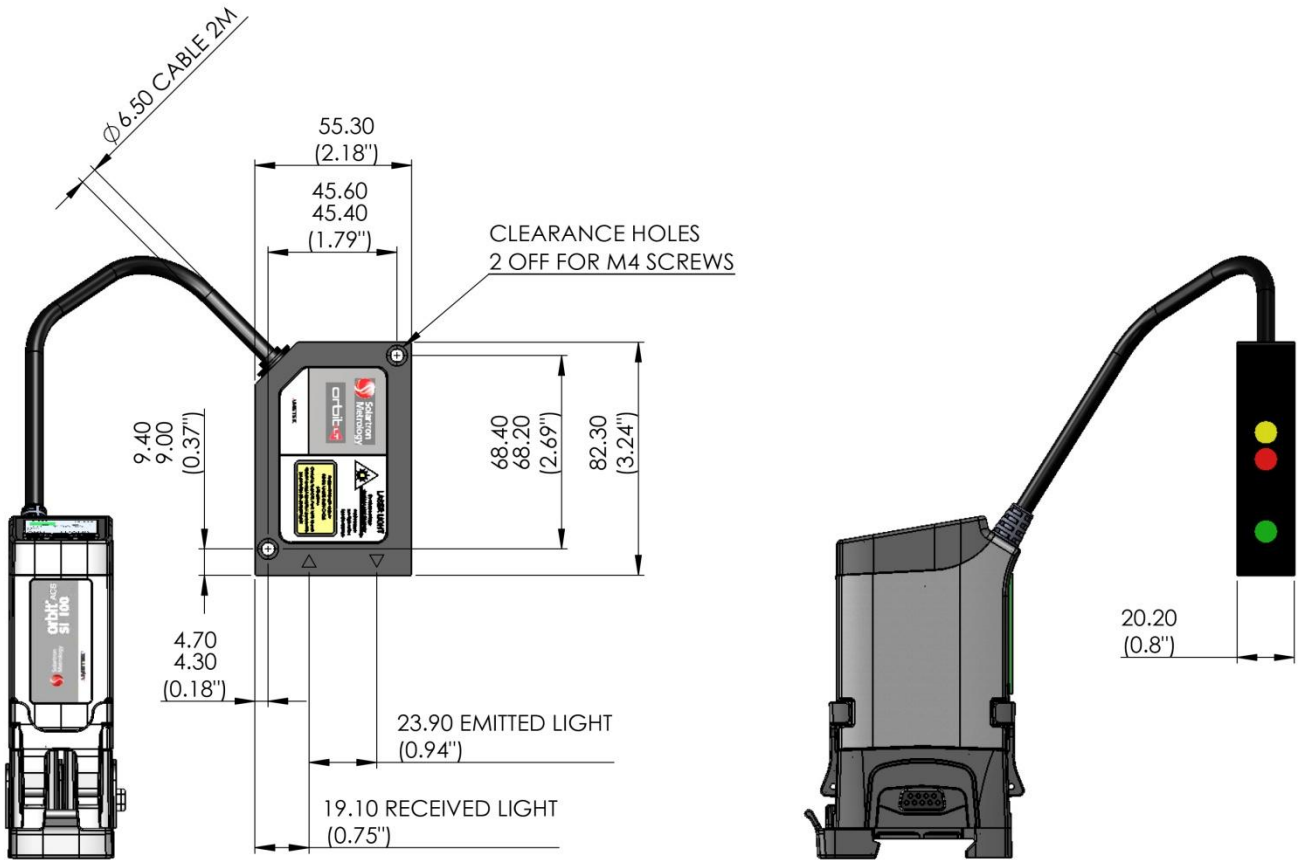


## Technical Specification

	LTD/15/A or SIxxxD/15/A
<b>Product</b>	
<b>Measurement Performance</b>	
Measurement Range (mm) Note 1	15
Offset (mm) Note 1	45
Spot size (mm) @ 45 mm from laser face	0.6 x 0.9
@ 53 mm from laser face	0.4 x 0.6
@ 60 mm from laser face	0.3 x 0.5
Accuracy (% FSO) Note 2	0.1
Repeatability (µm) Note 2	2
Resolution (µm) Note 3	1
Temperature Drift (±µm/°C)	7
Colour Sensitivity (µm)	<75 microns for white to dark grey ceramic
<b>Laser</b>	
Laser Power (mW)	0.2
Laser Class	2
Laser Wavelength (nm)	650
Laser Mode	Diffuse
<b>Environmental</b>	
Sealing - Laser head	IP67
Sealing for Probe Interface Electronics	IP43 for module and TCON
Sealing for Probe Interface Electronics (SIxxx)	Top and Front: IP41, Rear: IP20, In line connector: IP67
Operating Temperature (°C)	-10 to +50
Shock	30G for 11ms 3 axis
<b>Materials</b>	
Laser Head Housing	Zinc Die Cast
Laser Head Cover Plate	Aluminium
Lens	Acrylic
Electronics Module	ABS
<b>Electronics Interface (Orbit®3)</b>	
Orbit®3 Interface Options	USB, Ethernet, RS232
Reading Rate	3906 readings per second
Bandwidth of Electronics (Hz) user selectable	460, 230, 115, 58, 29, 14, 7,4
<b>Electronics Interface (Orbit ACS)</b>	
Alarm Outputs - selectable High, OK, Low	3 outputs either NPN, PNP, logic Programmable Active Hi or Lo
Discrete Inputs - user selectable	4 inputs user configurable eg. Print, Zero, Preset
Update Rate for I/O discretes (ms)	5
Bandwidth of Electronics (Hz) - user selectable	460, 230, 115, 58, 29, 14, 7,4
Communications Interface Protocol	RS485 or RS232 (User selectable) Up to 115,200 Baud
Communications Interface Hardware	RS485 or RS232 (User selectable) Up to 115,200 Baud
Update Rate for Serial Data (ms)	25
Power	18 to 32 VDC
Note 1: Measurement Range is adjustable from 3 mm to 15 mm anywhere within the band 45 mm to 60 mm from the Laser front face. Offset is also therefore adjustable from 45 mm to the start of the set measurement bandd	
Note 2: Accuracy and Repeatability assume a white target with the laser speed set to 4.5Hz	

**DIMENSIONAL DRAWING**

(SOLARTRON PURSUES A POLICY OF CONTINUOUS DEVELOPMENT, SPECIFICATIONS IN THIS DOCUMENT MAY THEREFORE BE CHANGED WITHOUT NOTICE, DIMENSIONS ARE NOMINAL AND SPECIFIED IN MILLIMETERS)



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