

orbit^{LT}

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.

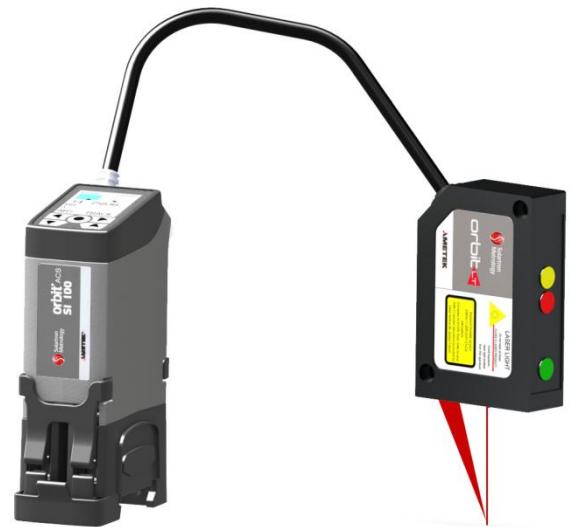
The laser gauge can be connected with other Solartron probes and 3rd party sensors using the Orbit[®]3 Digital Measurement System. If a stand-alone or two channel solution is preferred, it can be connected to an SI100, SI200, or other Orbit[®] ACS system. Connections into Solartron digital readouts,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

Features

- Compact Laser Triangulation unit
- 10 mm measurement range with 45 mm offset
- Teachable settings for different surfaces
- 0.1% F.S. Accuracy
- 2 µm repeatability, 1 µm 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 (0.5S) after turning the beam on. Beam control is via the Orbit[®]3 interface or via the Orbit[®] ACS using either the Menu or Modbus commands.



Precision. Quality. Reliability

www.solartronmetrology.com • sales.solartronmetrology@ametech.com

orbit³



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

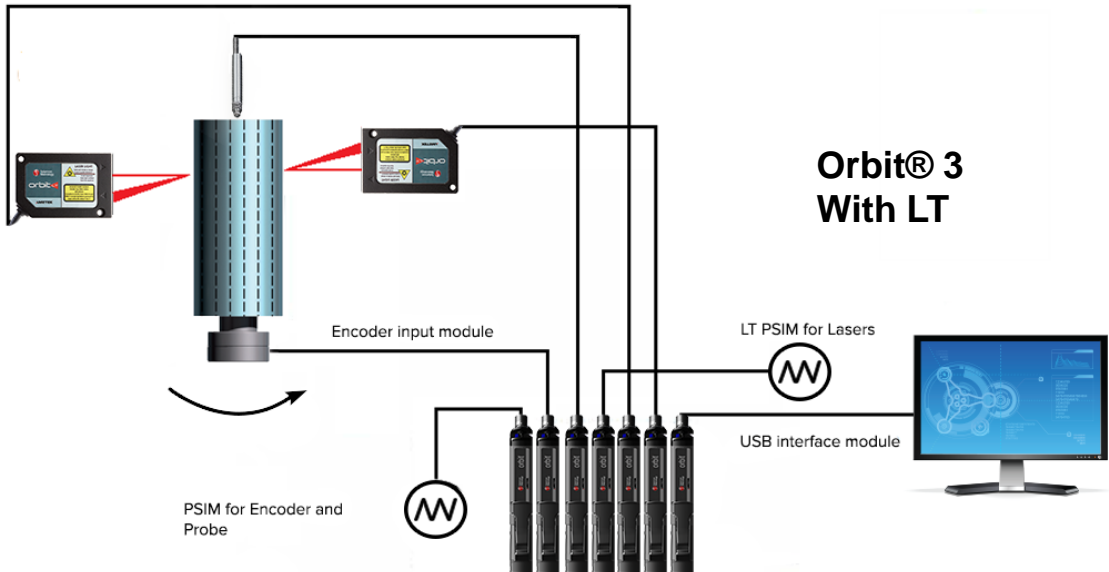
orbit^{ACS}



Easily connect Orbit[®] LT to PLC via SI 100, SI 200, or SI 400 interface module.

For full Orbit[®] and Orbit[®] 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[®] LT Applications



Orbit[®] LT with SI100 chip



Technical Specification

<p>Product</p> <p>Measurement Performance</p> <p>Measurement Range (mm) Note 1</p> <p>Offset (mm) Note 1</p> <p>Spot size (mm) @ 45 mm from laser face</p> <p style="padding-left: 20px;">@ 53 mm from laser face</p> <p style="padding-left: 20px;">@ 60 mm from laser face</p> <p>Accuracy (% FSO) Note 2</p> <p>Repeatability (µm) Note 2</p> <p>Resolution (µm) Note 3</p> <p>Temperature Drift (±µm/°C)</p> <p>Colour Sensitivity (µm)</p>	<p>LTD/15/A or SIxxx/15/A</p> <p>15</p> <p>45</p> <p>0.6 x 0.9</p> <p>0.4 x 0.6</p> <p>0.3 x 0.5</p> <p>0.1</p> <p>2</p> <p>1</p> <p>7</p> <p><75 microns for white to dark grey ceramic</p>
<p>Laser</p> <p>Laser Power (mW)</p> <p>Laser Class</p> <p>Laser Wavelength (nm)</p> <p>Laser Mode</p>	<p>0.2</p> <p>2</p> <p>650</p> <p>Diffuse</p>
<p>Environmental</p> <p>Sealing - Laser head</p> <p>Sealing for Probe Interface Electronics</p> <p>Sealing for Probe Interface Electronics (SIxxx)</p> <p>Operating Temperature (°C)</p> <p>Shock</p>	<p>IP67</p> <p>IP43 for module and TCON</p> <p>Top and Front: IP41, Rear: IP20, In line connector: IP67</p> <p>-10 to +50</p> <p>30G for 11mS 3 axis</p>
<p>Materials</p> <p>Laser Head Housing</p> <p>Laser Head Cover Plate</p> <p>Lens</p> <p>Electronics Module</p>	<p>Zinc Die Cast</p> <p>Aluminium</p> <p>Acrylic</p> <p>ABS</p>
<p>Electronics Interface (Orbit®3)</p> <p>Orbit®3 Interface Options</p> <p>Reading Rate</p> <p>Bandwidth of Electronics (Hz) user selectable</p>	<p>USB, Ethernet, RS232</p> <p>3906 readings per second</p> <p>460, 230, 115, 58, 29, 14, 7,4</p>
<p>Electronics Interface (Orbit ACS)</p> <p>Alarm Outputs - selectable High, OK, Low</p> <p>Discrete Inputs - user selectable</p> <p>Update Rate for I/O discrettes (ms)</p> <p>Bandwidth of Electronics (Hz) - user selectable</p> <p>Communications Interface Protocol</p> <p>Communications Interface Hardware</p> <p>Update Rate for Serial Data (ms)</p> <p>Power</p>	<p>3 outputs either NPN, PNP, logic Programmable Active Hi or Lo</p> <p>4 inputs user configurable eg. Print, Zero, Preset</p> <p>5</p> <p>460, 230, 115, 58, 29, 14, 7,4</p> <p>RS485 or RS232 (User selectable) Up to 115,200 Baud</p> <p>RS485 or RS232 (User selectable) Up to 115,200 Baud</p> <p>25</p> <p>18 to 32 VDC</p>

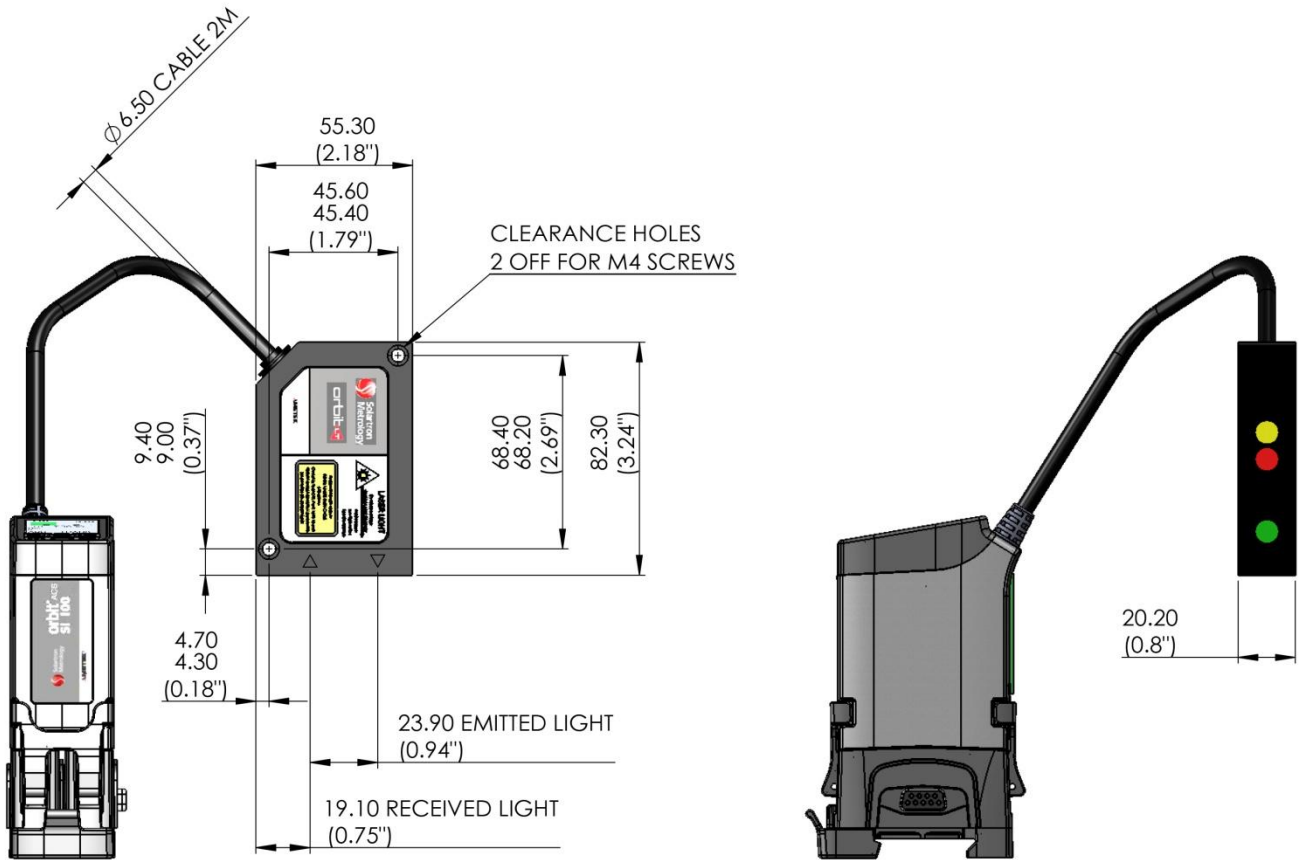
Note 1: Measurement Range is adjustable from 3 mm to 15 mm anywhere within the band 45 mm to 60 mm from the Laser front face. Offset is also therefore adjustable from 45 mm to the start of the set measurement bandd

Note 2: Accuracy and Repeatability assume a white target with the laser speed set to 4.5Hz

Note: Allow 500mS delay between sending beam on command and reading laser data

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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Solartron pursues a policy of continuous development. Specifications in this document may therefore be changed without notice.

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