



A precision non-contact laser for Gauging

## Description

Solartron Metrology, the world leader in linear measurement innovation, has now added another performance sensor to its line-up. Orbit LTM is a Laser Triangulation unit for precision measurements, with 0.04% F.S. reading over 2 or 10 mm measurement ranges.

Its advantages include:

- Auto Gain Circuitry: The unit automatically adjusts the power to the laser based on feedback from the material, providing better readings on more difficult surfaces
- Gap Time: If you are checking a surface with gaps or holes that could throw off data, the laser has a bridging function where you can program the laser to account for those dropoffs. Your data is then less likely to be skewed.
- Diffuse or Specular modes: Instead of purchasing a separate unit for Diffuse or Specular applications, the laser can switch between the two different modes, depending on the material. For Specular Mode, the laser must be tilted to 22.5 degrees from the perpendicular axis (2 mm) or 15.8 degrees (10 mm).

## Features

2 mm and 10 mm ranges

Up to +/- 0.03% F.S. Accuracy

Up to 0.24  $\mu\text{m}$  resolution

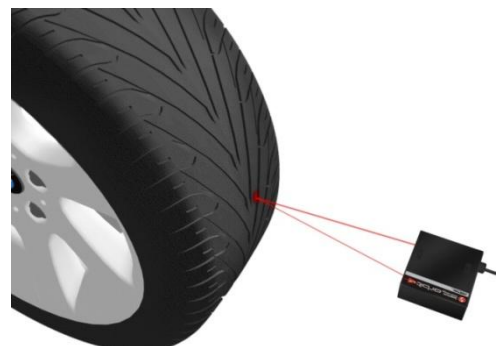
40 kHz sampling speed and up to 4 kHz output

Laser Beam Control – the beam can be switched off allowing multiple lasers to measure points very close together where beam interference could occur. In the beam off mode the laser head remains powered so that readings can quickly be taken after turning the beam on.

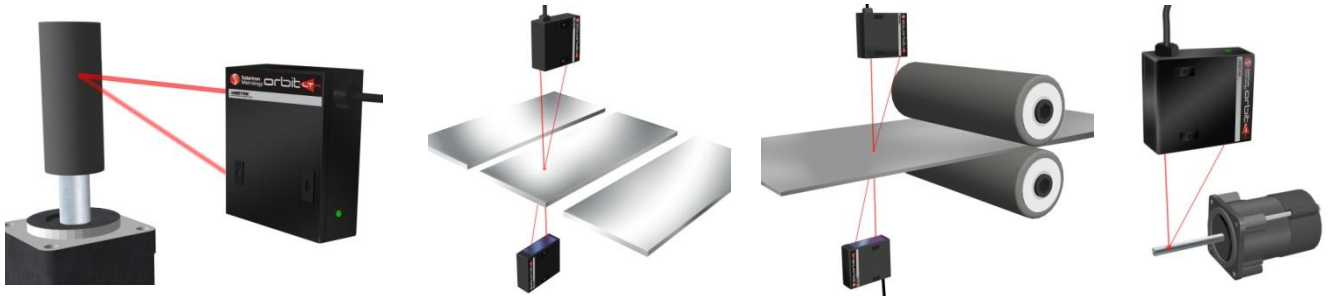
Plugs into Orbit®3, network up to 150 sensors with full control. The laser functions via the Orbit®3, interface using Ethernet, Modbus, USB or RS232. The LTM can also be used with the Orbit®ACS products (with integral display) where control is via the menu or via Orbit® ACS Modbus interface



## Product Applications



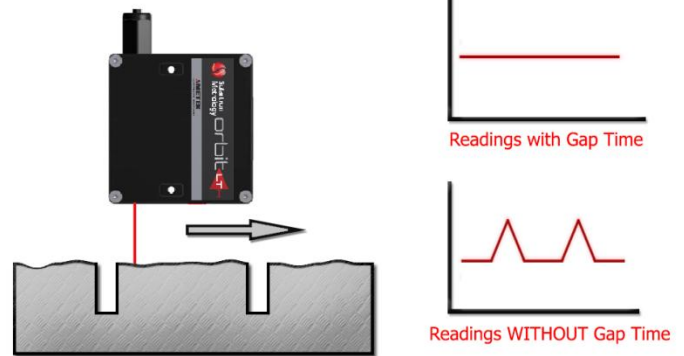
## Product Applications



## Indicator Light to show when in range



## Gap Time Feature



## Diffuse Mode



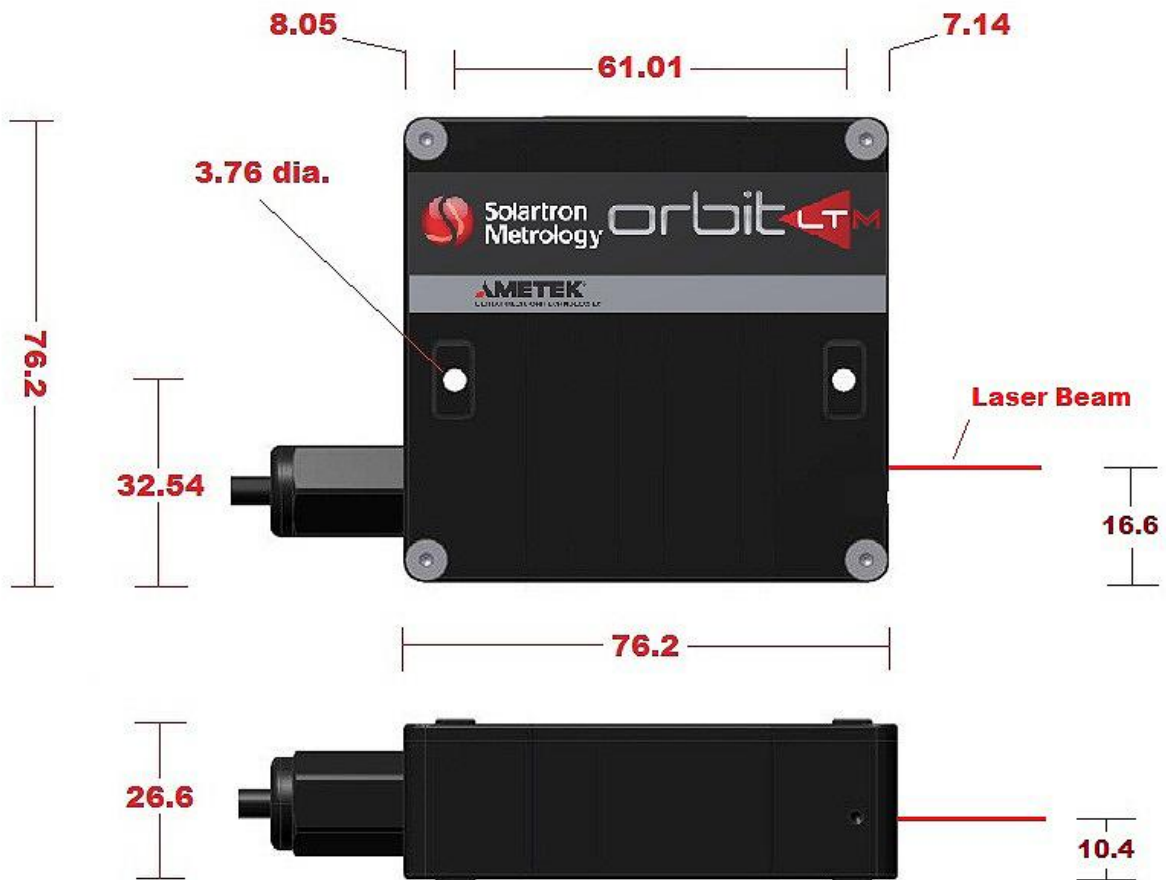
## Specular Mode (for reflective surfaces)



Technical Specification		
	LTMD/2/B	LTMD/10/B
Measurement Range (mm)	2	10
Offset Distance (from laser to start of measurement Range) (mm)	24	45
Reference Distance (from laser to centre of measurement Range) (mm)	25	50
Spot size (diameter $\mu\text{m}$ )	30	25
Linearity (1) ( $\pm\%$ FSO)	0.03	0.04
Linearity (1) ( $\pm\mu\text{m}$ )	0.6	4
Repeatability (2) ( $\mu\text{m}$ )	0.4	0.6
Resolution ( $\mu\text{m}$ )	0.24	0.3
Max Sampling Frequency (kHz)	40	
Output frequency	Up to 4kHz (via Orbit <sup>®</sup> 3 network)	
Sampling Cycles	256/512 $\mu\text{s}$	
	or 1/2/4/8/16/32/64 ms	
Working Bandwidth (Hz)	1300, 650, 325, 163, 81, 40, 20, 10, 5	
(1) Measured on white photographic paper with the laser sample rate at 4 kHz and averaging 16 cycles		
(2) Measured on white photographic paper with the laser sample rate at 4 kHz and averaging 16 cycles, with the laser beam broken between readings		

\*Laser can be calibrated to surface you intend to measure. Please contact your local Solartron representative for details.

## Dimensional Drawing



DM-SENSORS  
Schulstr. 26c  
65835 Liederbach

[www.dm-sensors.de](http://www.dm-sensors.de)

T: +49 69 1534 1776  
F: +49 69 1534 1777  
E: [info@dm-sensors.de](mailto:info@dm-sensors.de)