

ANTARIS

 **DIGITAL LASER SENSORS**
with measuring ranges 6" - 160" / 150 mm - 4000 mm

non-contact laser measurement

4000



ANTARIS: PREMIUM LASER TECHNOLOGY.

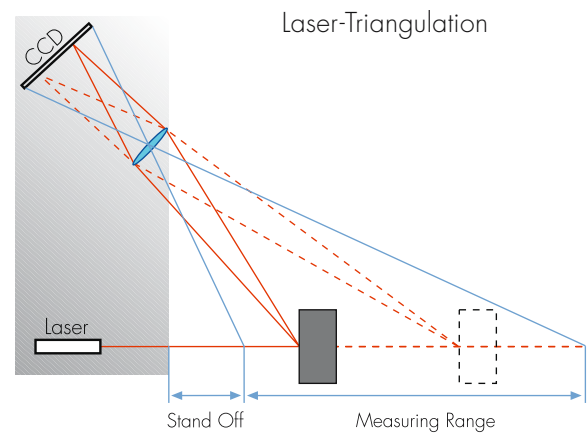


HIGHLIGHTS.

- Highest resolution (down to 0.0001" / 2.5 μ m)
- Measurement ranges up to 4000 mm / 15 ft
- Measurement response up to 4 kHz
- Constant precision on virtually all surfaces
- Digital CCD vs. conventional PSD technology
- RS485 multi-drop capability for up to 32 sensors

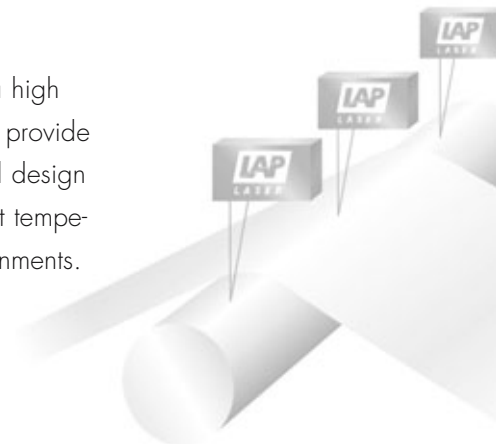
THE OPERATING PRINCIPLE.

The LAP ANTARIS sensors operate according to the triangulation method. A laser beam emitted from the sensor creates a visible spot on the surface of the measured object. Depending on the distance, a CCD line scan camera besides the laser "views" this spot under varying angles. Using this angle and the known distance of laser and camera, the Digital Signal Processor computes the distance between the sensor and the measured object.



PRECISE, STABLE, RUGGED.

In contrast to conventional laser sensors, LAP ANTARIS sensors combine a high resolution CCD line scan camera with a Digital Signal Processor (DSP) to provide pure digital acquisition and processing of measured values. Sophisticated design using proprietary engineered materials ensures the highest stability without temperature drift and provides shock resistance for use in harsh industrial environments.



ANTARIS: THE COMPLETE SOLUTION.

MEASURES ALL MATERIALS.

LAP ANTARIS series gauges provide precise results on virtually all materials, as the integrated DSP adapts the measuring parameters to changing colors and surfaces in real-time.

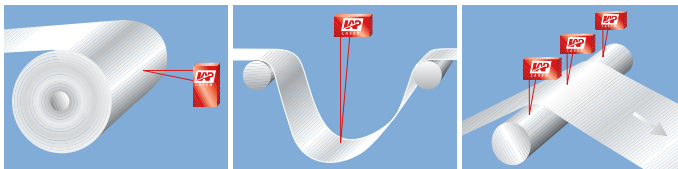
Due to their large measuring distance, LAP ANTARIS sensors are excellently suited for measuring in hostile conditions, e.g. on red-hot materials.



Multi-track differential thickness measurement: strips, webs, plates

Width, height, sorting, classification

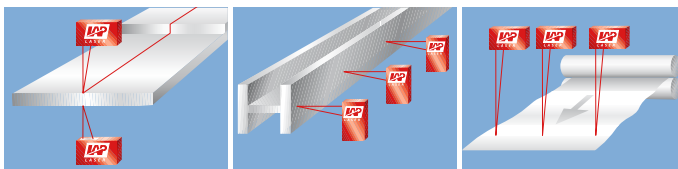
Coil: face profile measurement



Distance measurement, diameter of coils, rolls

Sag, buffer loop

Thickness measurement against roll with roll runoff compensation, detection of taper



Thickness, double-layer detection, doubling, folding, longitudinal profile

Straightness

Edge waviness, flatness

BUILT-IN FEATURES MAKE INTEGRATION EASIER THAN EVER.

LAP ANTARIS simplifies measurement of dimensions such as distance, thickness, width, height, flatness, and diameter with its easy setup and interface modules. Multi-sensor applications, such as step height, thickness, and straightness, which in the past would have required external processors and programming, are now done easily in LAP ANTARIS using the on-board DSP and multi-drop capability. LAP ANTARIS provides unrivalled real-time process monitoring, and immediate and precise feedback of process parameters, allowing corrections to be made quickly with minimal downtime. Simple control tasks, like loop control and accept/reject, are a breeze using the programmable discrete outputs from LAP ANTARIS.

BUILT-IN MATH FUNCTIONS, POWERFUL FILTERS AND LIMIT SWITCHES.

LAP ANTARIS sensors can communicate directly via their RS 485 interface, and compute results, e.g. material thickness, without a "third box". Multiple digital parametric filters provide low-pass filtering, peak or valley detection and fixed or floating setpoint monitoring. A Windows® setup and softscope software allows full configuration of the LAP ANTARIS sensor parameters for special requirements.

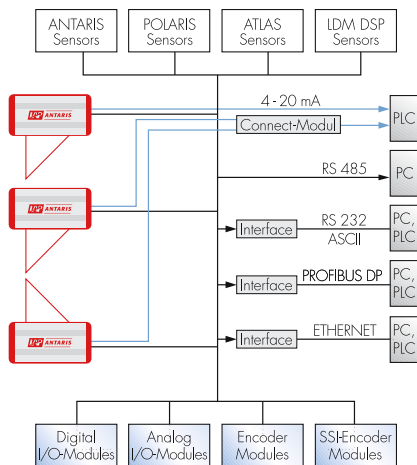
*Windows is a registered trademark of Microsoft Corporation in the United States and other countries.

ANTARIS: LOWEST INSTALLED COST.

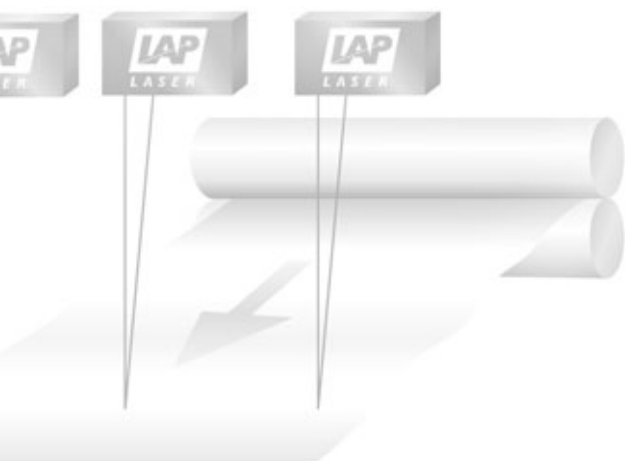
ANTARIS GAUGES HAVE BEEN DESIGNED FOR EASE OF INSTALLATION.

Data transmission via RS 485 allows up to 32 sensors to be connected via one multi-drop network, saving valuable I/O and simplifying connectivity. By using LAP's optional POLARISCONNECT modules, all inter-connecting wiring is handled for you. Additional modules provide the final sensor to computer interface, whether Ethernet, Profibus, or RS232.

The sensors have visual alignment aids to assist in setup, indicating when the proper distance is reached. The adjustable bracket allows easy, yet precise alignment of the sensor.



With the digital concept and the wide range of interfaces, applications from single sensors up to complex measuring tasks can easily be realized.



EASY INTEGRATION.

LAP ANTARIS sensors are equipped with

- RS485 serial interface,
- 4 - 20 mA analog and 2 discrete outputs.

Additional interface modules are available for

- RS232 ASCII
- Ethernet UDP
- Profibus DP

SPC SOFTWARE.

LAP offers standard software for data collection, visualization and documentation. For archiving it can be provided with a SQL database, or it can be linked to existing customer databases. Versions are available from distance measuring with single sensor to multi-track measurement of thickness, profile or flatness, and for profile measurement with traversing sensors.



Sensors, Line Lasers, Projectors
Systems & Solutions

TECHNICAL DATA.

EXAMPLES.

Measuring range, stand off and accuracy are variable and will be optimized per customers requirements.

LAP ANTARIS S

Measuring Range mm/ inch	Stand Off mm/ inch	Resolution µm/ inch	Repeatability (local) µm/ inch	Linearity [*] µm/ inch
350/14	250/10	5.8/0.0002	± 200/0.008	± 215/0.008
800/32	500/20	13.3/0.0005	± 320/0.013	± 370/0.015
1250/50	750/30	20.8/0.0008	± 546/0.022	± 965/0.039

LAP ANTARIS L

Measuring Range mm/ inch	Stand Off mm/ inch	Resolution µm/ inch	Repeatability (local) µm/ inch	Linearity [*] µm/ inch
500/ 20	800/32	8.3/0.0003	± 160/0.0064	± 200/0.004
1000/ 40	1000/40	16.7/0.0006	± 400/0.016	± 470/0.019
2000/ 80	1200/48	33.3/0.0013	± 590/0.024	± 1340/0.054
4000/160	1400/56	66.7/0.027	± 681/0.027	± 1800/0.072

^{*}According to DIN 32877:2000-08

GENERAL DATA.

Laser type, wavelength	Diode, 670 nm (red)
Laser power, class	1 (5) mW, 2 (3R)
Measuring frequency	up to 4 kHz
Outputs	Analog 4 - 20 mA, 12 bit resolution, programmable; serial RS 485
External Interface Modules	RS232 ASCII, Ethernet UDP, Profibus DP
Power supply	24 VDC, 100 mA
Enclosure rating	IP 65
Dimensions (HxWxD)	LAP ANTARIS S: 124 mm x 320 mm x 200 mm (4.9" x 12.6" x 7.9") LAP ANTARIS L: 124 mm x 560 mm x 200 mm (4.9" x 22.0" x 7.9")
Weight (incl. bracket)	LAP ANTARIS S: 21.6 lbs/9,8 kg LAP ANTARIS L: 29.5 lbs/13,4 Kg
Operating conditions	32 – 104°F (0 - 40 °C), 35 - 85 % rel. humidity, non-condensing



ACCESSORIES AND OPTIONS.

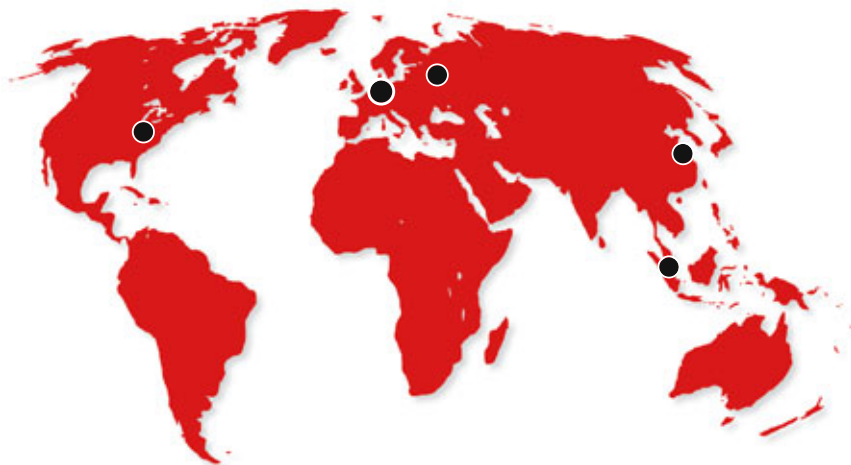
- Air purging housing to keep sensors clean and cool
- Customer-specific software
- Panel and large displays
- Special optical systems for hot and red-hot materials
- Measuring frames

LAP has a great deal of experience with customer-specific turn-key solutions for individual measuring applications. Please inquire!



L A S E R

Sensors, Line Lasers, Projectors
Systems & Solutions



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