



## Coatings thickness control by laser



### CONTACTLESS

The Enovasense device measures the thickness of coatings without any contact with the part. Laser and infrared sensors are used to analyse the coating from a distance of 2 to 50 cm. This means that parts can be measured in their industrial coating environment, even when they are on moving lines, at high temperatures, still brittle or wet.



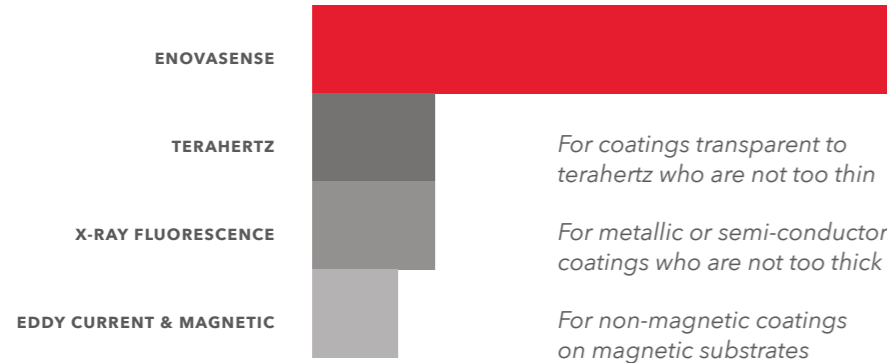
### NON DESTRUCTIVE

Since very little heat is created by the laser beam, neither the coating nor the part are damaged or altered during measurement. As a result, each part can be systematically measured even for industrial applications where, up until now, existing methods have required destruction of the test specimen.



### REAL TIME

Measurement takes most often less than one second with a very high repeatability. This allows to control up to 100% of the parts coated, follow precisely the performances of the coating process and react in real-time to keep it optimal.

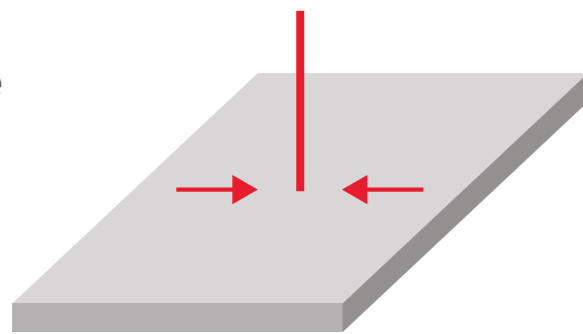


### 1. Available for all kinds of coatings on all kinds of substrates

### 2. The broadest range of measurable thickness values



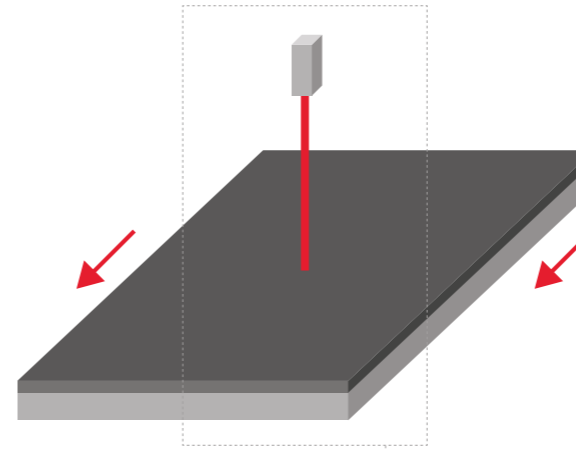
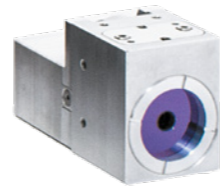
### 3. Incredible spatial precision



with a spot size down to 150 µm

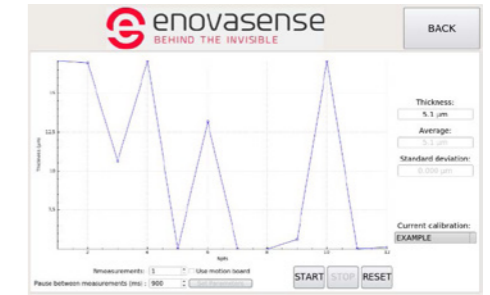
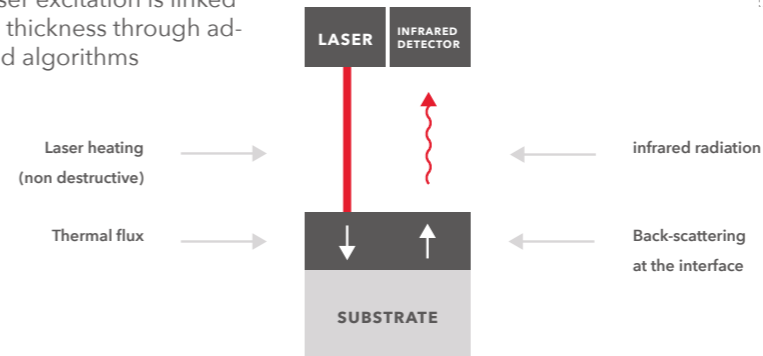
### 4. Most compact lightweight plug-and-play

measuring head for easy in-line contactless measurement



### WORLDWIDE PATENTED INNOVATIVE TECHNOLOGY

The delay and attenuation of the thermal flux compared to the laser excitation is linked to the thickness through advanced algorithms



### DEDICATED SOFTWARE SUITE INCLUDING

Calibration softwares with unlimited calibrations storage and measure software with data analysis and unlimited storage

### FULL CONNECTIVITY TO THE LINE MANAGEMENT

For real-time control input and data output through all industrial protocols (HDMI, USB, TTL, Ethernet...)

Measurable thickness range	0,1 µm - 1mm
Accuracy	< 3% of measured thickness
Repeatability	< 1% of measured thickness
Spatial resolution	Available spot sizes : 0,6mm - 2mm - 10mm
Measurement Duration	< 1s for one point
Distance Probe - sample	40 ± 2 mm (standard) / 500 ± 30 mm (optional)
Operating temperature	< 80 °C
Dimensions	Computing Unit : 31 cm (L) x 22,1 cm (P) x 8,8 cm (H) Measuring Head : 7,5 cm (L) x 3,2 cm (P) x 4,1 cm (H)
Weight	Computing Unit : 3,1 kg Measuring Head : 0,15 kg
Linking wires length	1 - 20 m (on demand)
Power Supply	100 - 240 Vac 50 - 60 Hz 4.5 - 2.5 A

Most common performances values, may vary with the application.

### IN-LINE MEASUREMENT BRINGS

- ✓ Savings on raw material consumption
- ✓ 100% control quality
- ✓ Better management of coating process
- ✓ Scrap rate reduction



STANDARD  
IMPLEMENTATIONS AVAILABLES

5-50  $\mu\text{m}$

Anodizing treatment

Aluminium

ALUMINIUM PARTS

30-80  $\mu\text{m}$

Paint

Silver

Glass

MIRRORS FOR HOUSING

2-15  $\mu\text{m}$

Enamel

Glass

AUTOMOTIVE WINDSHIELDS  
COOKING HOTPLATES

10-50  $\mu\text{m}$

Copper

Plastics

CONNECTORS

5-200  $\mu\text{m}$

Paint

Plastics or  
composite material

CAR OR AIRCRAFT  
EXTERIOR PARTS

5-100  $\mu\text{m}$

Rubber

Stainless steel

AUTOMOTIVE HEADS GASKETS

50-500  $\mu\text{m}$

Ceramics or metal

Metal

ENGINE OR  
GAS TURBINE BLADE

1-20  $\mu\text{m}$

PTFE

Aluminium

COOKING PLATES

1-10  $\mu\text{m}$

Zinc Nickel Alloy

Steel

BEARINGS OR  
ENGINE PARTS

STANDARD  
IMPLEMENTATIONS AVAILABLES



On a moving line  
going up to more than 100m/min

INT02-PL Series



In an automated control station

INT01-CS Series



On a robotic arm

INT03-RB Series



POLYTEC GmbH  
Tel: +49 (72 43) 604 1730

Polytec-Platz 1 - 7  
Fax: +49 (72 43) 6 99 44

D -76337 Waldbronn  
E-Mail: ot@polytec.de

GERMANY  
www.polytec.de