

TECHNICAL SPECIFICATION

m-thick

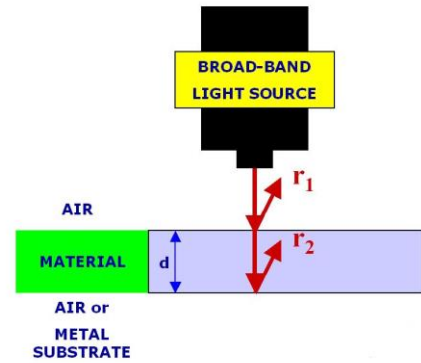
OPTICAL SENSOR FOR
WALL THICKNESS
MEASUREMENT

HOW IT WORKS

The m-Thickness optical sensor is based on low coherence interferometry. The material is illuminated with a broad-band near-infrared light source. The optical head collects reflections from interfaces and makes it possible to obtain interference between the two components.

The resulting optical signal intensity has an oscillatory component whose frequency is linearly related to the thickness of the material.

By measuring the frequency and knowing the refractive index of the material, the thickness can be directly measured with high accuracy.



APPLICATIONS

The sensor can measure any transparent or semi-transparent material. Coatings on substrates can also be measured.

Applications include:

- plastic material extrusion (cast/blown/tube)
- glass production (flat/hollow)
- coating on glass, metal or optical devices
- medical plastic devices

ADVANTAGES

- one-sided measure (reflection mode)
- high accuracy
- non-contact
- quick integration in production lines or QA/QC laboratory

TECHNICAL SPECIFICATIONS

	EP1	EP2	EP3	EP4
measuring rate	Up to 330 Hz			
light source	halogen lamp	superluminescent diode		
accuracy	< 2 micron			
thickness range	0.005 - 0.1 mm	0.018 - 0.38 mm	0.05 - 1.8 mm	0.15 - 4.0 mm

SYSTEM LAYOUT

Optical and electronical main components are located in the controller, which is connected to the optical head via fibre optic cable. Hazardous area or space-limited applications are not a problem thanks to the low-profile measurement sensor.

Integration of the measurements into the production line is straightforward. Data is available on TCP/IP or RS-485 protocol.

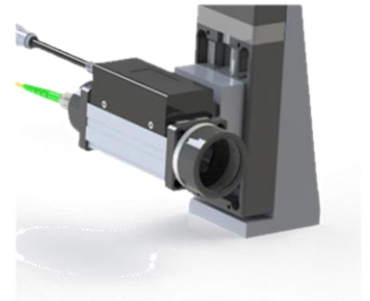
The system can be equipped with additional optics providing multi-channel measurements, e.g. to measure the cross-section of tubular products or many points on the same product.



CUSTOM DESIGN AND INTEGRATION

Custom laboratory fixtures can be provided to hold samples with complex shapes or to measure points with limited accessibility.

Furthermore, the sensor can be coupled with a customized stage for sample mapping to get linear (one-dimensional) or map (bi-dimensional) of the thickness.

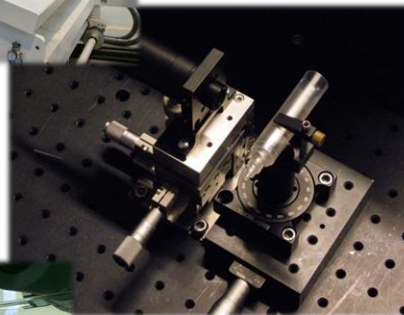


SOLUTIONS



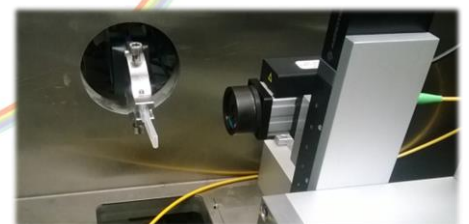
extrusion

medical devices



hollow glass

pharma packaging



MANUFACTURER

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