

EddyCus® TF inline MT – Metal Thickness Monitoring

P_T_inlineMT_21



Highlights

- ▶ Contact-free and realtime
- ▶ Accurate measurement
- ▶ High degree of versatility and flexibility
 - ▶ In- and ex-vacuo solutions
 - ▶ Fixed sensor and traverse solutions
 - ▶ Single-lane and multi-lane solutions
- ▶ High sample rate up to 1,000 measurements per second

Applications

- ▶ Semiconductor industry
- ▶ Electronic industry
- ▶ Metallization in photovoltaics
- ▶ Batteries, fuel cells, capacitors
- ▶ Boards and panels (PCB, WLP, PLP)
- ▶ Mirrors and lenses
- ▶ Barrier films
- ▶ EMC/EMI Shielding
- ▶ Heating and de-icing films
- ▶ Medical applications

Sensor Series

- ▶ Metal layer thickness (nm, μm)
- ▶ Metal substrate thickness (μm)
- ▶ Sheet resistance (Ohm/sq)
- ▶ Conductivity / resistivity (mOhm cm)
- ▶ Electrical anisotropy (%)
- ▶ Weight (g/m^2) and drying status (%)
- ▶ Permeability (H/m) *Beta*

Materials

- ▶ Metal films
- ▶ Metal meshes
- ▶ Metal substrates
- ▶ Alloy films
- ▶ Alloy substrates

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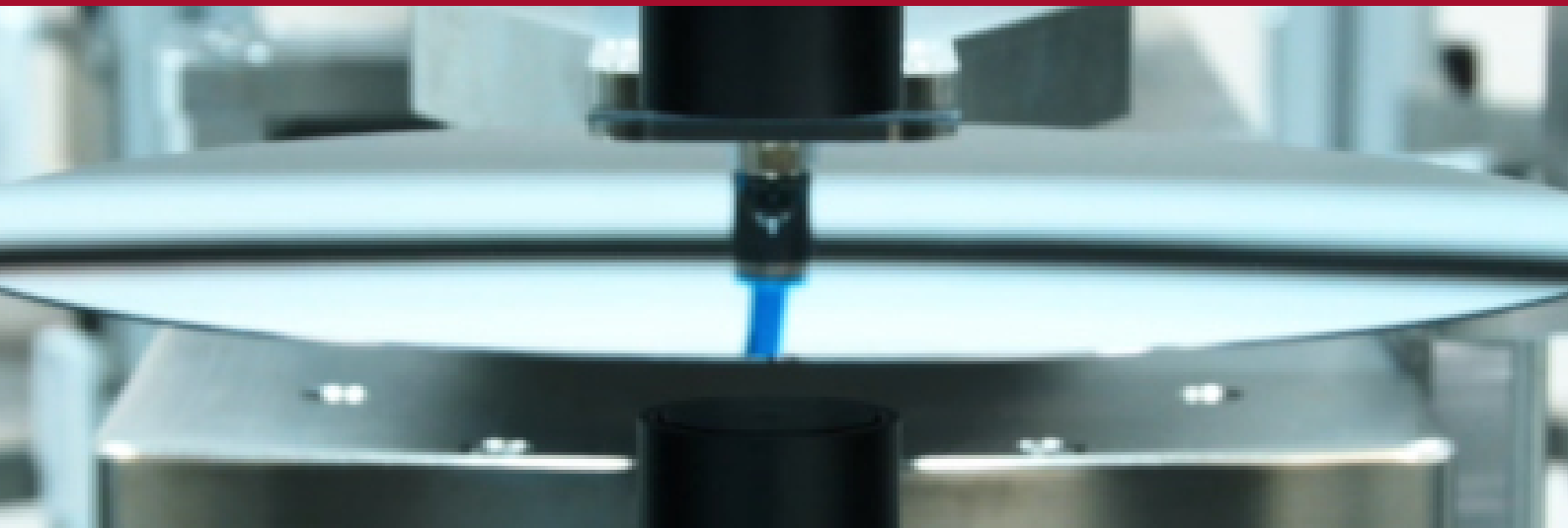
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Engineered and Made in Germany 





Measurement technology	Non-contact eddy current sensor
Substrates	Foil, glass, wafer, etc.
Measurement gap size	3 / 5 / 10 / 15 / 25 / 50 mm (other upon request)
Number of monitoring lanes	1 – 99
Sensor sizes (W x L x H) in mm	Sensor M: 80 x 100 x 66 Sensor S: 34 x 48 x 117
Conductive layers	Metals
Metal thickness range	Low 1 – 10 nm; 2 – 5 % accuracy
Accuracies depend on the selected setup and the type / conductivity of the metal (e.g. copper, aluminum, silver)	Standard 10 – 1,000 nm; 1 – 3 % accuracy
	High 1 – 100 µm; 0.5 – 3 % accuracy
Metal thickness calibration	Direct thickness calibration / sheet resistance conversion
Other integrated measurements	Temperature (for integrated temperature drift compensation for long term measurements)
Environment	Ex-vacuo / in-vacuo @ T < 60°C / 140°F (higher upon request)
Sample rate	1 / 10 / 50 / 100 / 1,000 measurements/s (25,000 Hz upon request)
Hardware trigger	24 V (5 or 12 V upon request)
Interfaces	UDP, TCP, .Net libraries, Modbus, Profinet, analog/digital, CSV, XML, other
Further available features / other tool configurations	Sheet resistance measurement / conductivity / resistivity / anisotropy / emissivity / permeability (<i>beta</i>)

Device Control and Software

- ▶ Several views and user levels
- ▶ Live view with upper and lower limits and alarm functions
- ▶ Analysis view providing statistics
- ▶ Can handle data of several thousands measurements per second
- ▶ Data storage into SQL database
- ▶ Customizable automated data export (csv, txt, xls,...)
- ▶ Several smart functions (automated DB cleaning, self-reference etc.)
- ▶ Parameterizable I/O modules (triggering of actions or alarms)

