

Data Sheet- EddyCus® TF inline Series

P_T_inline_11



Highlights

- ▶ Contact free and real time
- ▶ Accurate measurement
- ▶ High degree of variability 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

Parameters

- ▶ Sheet resistance (Ohm/sq)
- ▶ Metal layer thickness (nm, μm)
- ▶ Metal substrate thickness (μm)
- ▶ Anisotropy
- ▶ Defects
- ▶ Integrity assessment

Applications

- ▶ Architectural glass (LowE)
- ▶ Touch screens and flat monitors
- ▶ OLED and LED applications
- ▶ Smart-glass applications
- ▶ Transparent antistatic foils
- ▶ Photovoltaics
- ▶ Semiconductors
- ▶ De-icing and heating applications
- ▶ Batteries and fuel cells
- ▶ Packaging materials

Materials

- ▶ Metal films and meshes
- ▶ Conductive oxides
- ▶ Nanowire films
- ▶ Graphene, CNT, Graphite
- ▶ Printed films
- ▶ Conductive polymers (PEDOT:PSS)
- ▶ Other conductive films and materials

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Made and Engineered in Germany

Innovation Award by
Free State of Saxony 2013
1st Place





Sheet resistance measurement technology	Non-contact eddy current sensor
Substrates	e.g. foils, glass, wafer, etc.
Measurement gap size	5 / 10 / 15 / 25 / 50 / 75 mm
Number of sensor pairs / monitoring lanes	1 - 99
Sensor sizes (W x L x H)	Sensor M: 80 x 100 x 66 mm Sensor S: 34 x 48 x 117 mm
Conductive layers	Metals/ TCOs/ CNTs/ nanowires/ graphene/ grids/ PEDOT/ others
Sheet resistance range accuracy can be optimized over sheet resistance decade within a customer specified range	Low 0.0001 - 10 Ohm / sq; 2 to 7 % accuracy Standard 0.01 - 1,000 Ohm / sq; 2 to 7 % accuracy High 10 - 100,000 Ohm / sq; 3 to 8 % accuracy
Thickness measurement of metal films (e.g. Al, Ag, Mo, Ag paste)	2 nm - 2 mm (in accordance with sheet resistance)
Other integrated measurements	Metal thickness/ optical transparency /density /electrical anisotropy
Environment	Ex-vacuo/ in-vacuo @ T < 60°C / 140°F (on request <90°C / 194°F)
Sample rate	1 / 10 / 50 / 100 / 1,000 measurements per second
Hardware trigger	5, 12, 24 V
Interfaces	UDP, .Net libraries, TCP, Modbus, analog/digital

Software - EddyCus® TF inline Series

- Several views and user level
- 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 automatic data export (csv, txt, xls,...)
- Several smart functions (automated DB cleaning, self-reference etc.)
- Parameterizable I/O modules (triggering of actions or alarms)

