SURAGUS
Sensors & Instruments

EddyCus® TF inline SR – Sheet Resistance Monitoring System

P_T_inlineSR_24

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

Sensor Series

- 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
- Smart-glass
- Transparent antistatic foils
- Photovoltaics
- Semiconductors
- De-icing and heating
- 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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Engineered and Made in Germany

TÜV SÜD ISO 9001

JEC GROUP WINNER OF 2016 INNOVATION AWARD

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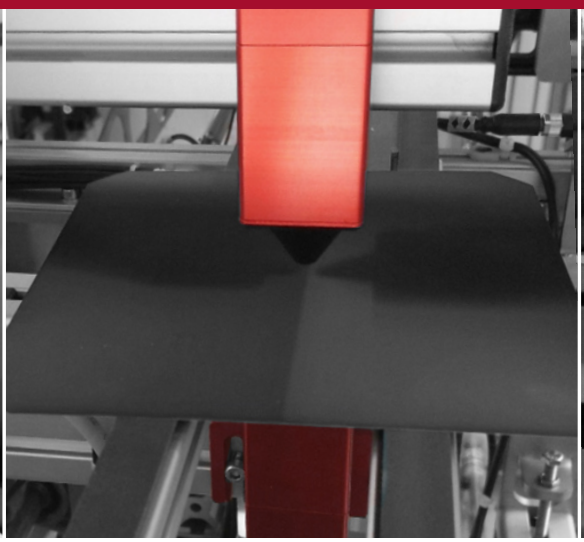


Measurement technology	Non-contact eddy current sensor
Substrates	Boules, ingots, wafer, foils, glass, etc.
Measurement gap size	3 / 5 / 10 / 15 / 25 / 50 mm (other upon request)
Number of sensor pairs / monitoring lanes	1 – 99
Sensor sizes (W x L x H) in mm	Sensor M: 80 x 100 x 66 Sensor S: 34 x 48 x 117
Conductive layers	Metals/ TCOs/ CNTs/ nanowires/ graphene/ grids/ PEDOT/ others
Thickness measurement of metal films (e.g. Al, Ag, Mo, Ag paste)	1 nm – 2 mm (in accordance with sheet resistance)
Other integrated measurements	Metal thickness / optical transmittance / density / anisotropy
Environment	Ex-vacuo / in-vacuo @ T < 60°C / 140°F (higher on request)
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

	VLSR	LSR	MSR	HSR
	6 decades are measureable by one sensor, but with slightly affected accuracy			
Range [Ohm/sq]	0.0001 – 0.1	0.01 – 10	0.1 – 100	10 – 2,000
Accuracy / Bias	± 1%			± 1 – 3%
Repeatability (2σ@1 Hz)	< 0.3%			< 0.5%

VLSR – Very Low Sheet Resistance , LSR – Low Sheet Resistance , MSR – Medium Sheet Resistance , HSR – High Sheet Resistance

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)