

EddyCus® TF lab 2020SR – Sheet Resistance Tester

P_T_2020SR_23



Highlights

- ▶ Contact-free and realtime
- ▶ Accurate single-point measurement
- ▶ Manual mapping guided by easy-to-handle software
- ▶ Measurement of encapsulated layers
- ▶ Characterization of multilayer materials upon request

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

Device Series

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

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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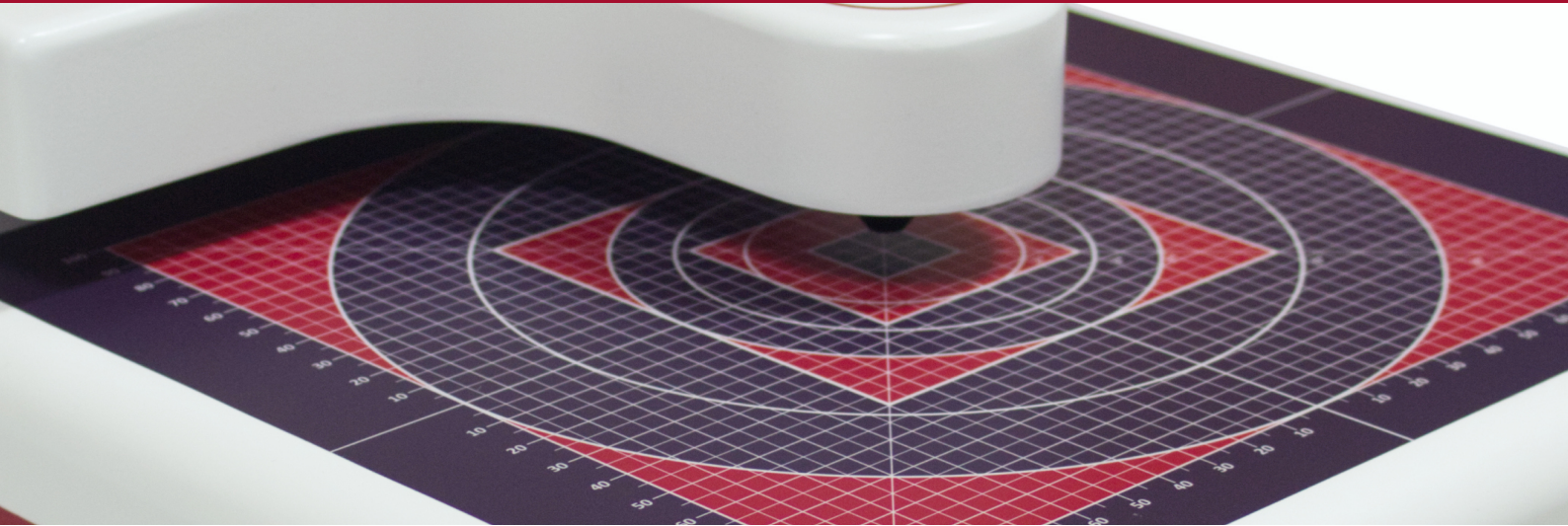
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Engineered and Made in Germany 





| | |
|--|---|
| Measurement technology | Non-contact eddy current sensor |
| Substrates | Foils, glass, wafer, etc. |
| Substrate area | 8 inch / 204 mm x 204 mm (open on three sides) |
| Max. sample thickness / sensor gap | 3 / 5 / 10 / 25 mm (defined by the thickest sample) |
| Thickness measurement range of metal films (e.g. copper) | 2 nm – 2 mm (in accordance with sheet resistance) |
| Device dimensions (w/h/d) / weight | 11.4" x 5.5" x 17.5" / 290 mm x 140 mm x 445 mm / 10 kg |
| Further available features | Sheet resistance measurement / metal thickness monitor |

| | VLSR | LSR | MSR | HSR | VHSR |
|--------------------|---|-----------|-----------|------------|-----------------|
| | 6 decades are measurable by one sensor, but with slightly affected accuracy | | | | |
| Range [Ohm/sq] | 0.0001 – 0.1 | 0.01 – 10 | 0.1 – 100 | 10 – 2,000 | 1,000 – 200,000 |
| Accuracy / Bias | | ± 1% | | ± 1 – 3% | ± 3 – 5% |
| Repeatability (2σ) | | < 0.3% | | < 0.5% | < 0.3% |

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

Device Control and Software

Sheet Resistance
19.83 Ohm/Sq

Mapping

| | | |
|---|-------|-------|
| 1 | 19.87 | 19.92 |
| 2 | 20.00 | 19.83 |

Data Tracker

| Id | Time | Series N. | Value | Unit |
|----|----------|--------------|----------|--------|
| 1 | 11:41:50 | glass ser... | 1.99e+01 | Ohm/Sq |
| 2 | 11:42:07 | glass ser... | 1.99e+01 | Ohm/Sq |
| 3 | 11:42:24 | glass ser... | 1.99e+01 | Ohm/Sq |
| 4 | 11:42:41 | glass ser... | 1.99e+01 | Ohm/Sq |
| 5 | 11:42:58 | glass ser... | 1.99e+01 | Ohm/Sq |
| 6 | 11:43:15 | glass ser... | 2.00e+01 | Ohm/Sq |
| 7 | 11:43:32 | glass ser... | 1.99e+01 | Ohm/Sq |
| 8 | 11:43:50 | glass ser... | 1.99e+01 | Ohm/Sq |
| 9 | 11:44:07 | glass ser... | 1.99e+01 | Ohm/Sq |
| 10 | 11:44:24 | glass ser... | 1.98e+01 | Ohm/Sq |
| 11 | 11:44:41 | glass ser... | 1.99e+01 | Ohm/Sq |
| 12 | 11:44:58 | glass ser... | 1.99e+01 | Ohm/Sq |
| 13 | 11:45:15 | glass ser... | 1.99e+01 | Ohm/Sq |
| 14 | 11:45:32 | glass ser... | 1.99e+01 | Ohm/Sq |
| 15 | 11:45:49 | glass ser... | 1.99e+01 | Ohm/Sq |
| 16 | 11:46:06 | glass ser... | 1.99e+01 | Ohm/Sq |
| 17 | 11:46:23 | glass ser... | 1.99e+01 | Ohm/Sq |
| 18 | 11:46:40 | glass ser... | 1.99e+01 | Ohm/Sq |