**Data Sheet - EddyCus® TF inline Series**

**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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www.suragus.com
www.sheet-resistance-testing.com
www.suragus.com/FAQ
www.suragus.com/EddyCusInline

Made and Engineered in Germany

**Innovation Award by Free State of Saxony 2013**
1st Place
EddyCus® TF inline Series

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

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)