## gSKIN® Heat Flux Sensors for R&D

- Ultra-high resolution of thermal energies and temperature differences
- Low invasiveness & thickness
- Versions with connectors compatible with all gSKIN® DLOG data loggers
- All sensors with conductive heat flux calibration cohering to ISO 8301

### Product Specifications

<table>
<thead>
<tr>
<th>Product Name</th>
<th>gSKIN®</th>
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<th>gSKIN®</th>
</tr>
</thead>
<tbody>
<tr>
<td>Article Number</td>
<td>XM 26°C</td>
<td>XP 26°C</td>
<td>XI 26°C</td>
<td>XO 67°C</td>
<td>XO-66°C Temp</td>
</tr>
<tr>
<td>Detector Type</td>
<td>Thermolectric</td>
<td>Thermolectric</td>
<td>Thermolectric</td>
<td>Thermolectric</td>
<td>Thermolectric / NTC</td>
</tr>
<tr>
<td>Surface Material (Sensing Area)</td>
<td>Anodized Aluminum</td>
<td>Anodized Aluminum</td>
<td>Anodized Aluminum</td>
<td>Polyamide</td>
<td>Polyamide</td>
</tr>
<tr>
<td>Sensing Dimensions (a x b x d) [mm x mm]</td>
<td>4.4 x 4.4 x 0.5</td>
<td>10.0 x 10.0 x 0.5</td>
<td>18.0 x 18.0 x 0.5</td>
<td>30.0 x 30.0 x 3.3</td>
<td>30.0 x 30.0 x 3.3</td>
</tr>
<tr>
<td>Heat Flux Range Min/Max [W/m²]</td>
<td>-150 / 150</td>
<td>-150 / 150</td>
<td>-150 / 150</td>
<td>-15 / 15</td>
<td>-15 / 15</td>
</tr>
<tr>
<td>Noise Equivalent Heat Flux+ [W/m²] / absolute [μW]</td>
<td>0.34 / 6.6</td>
<td>0.05 / 5.0</td>
<td>0.02 / 4.6</td>
<td>0.07 / 64.3</td>
<td>0.07 / 64.3</td>
</tr>
<tr>
<td>Heat Flux Resolution [W/m²] / absolute [μW] with gSKIN® DLOG inhibit</td>
<td>0.41 / 7.9</td>
<td>0.06 / 6.1</td>
<td>0.02 / 5.7</td>
<td>0.09 / 78.4</td>
<td>0.09 / 78.4</td>
</tr>
<tr>
<td>Min/Avg Sensitivity (S) [μW/W(m²)]</td>
<td>1.5 / 4.0</td>
<td>100 / 200</td>
<td>35.0 / 65.0</td>
<td>7.0 / 130</td>
<td>7.0 / 130</td>
</tr>
<tr>
<td>Temperature Dependence° of S [°/°C]</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td>Response Time+ (0-95%) [s]</td>
<td>0.7</td>
<td>0.7</td>
<td>0.7</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Electrical Resistance [Ohm]</td>
<td>&lt; 20</td>
<td>&lt;150</td>
<td>&lt;400</td>
<td>&lt;150</td>
<td>&lt;150</td>
</tr>
<tr>
<td>Thermal Conductivity [W/mK]</td>
<td>~1.1</td>
<td>~1.2</td>
<td>~1.3</td>
<td>~0.4</td>
<td>~0.4</td>
</tr>
<tr>
<td>Max. Compressive Force when clamped [kgf]</td>
<td>&lt; 2</td>
<td>&lt;10</td>
<td>&lt;32</td>
<td>&lt;32 (not specified)</td>
<td>&gt;32 (not specified)</td>
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<tr>
<td>Calibration Temperature Range Min/Max [°C]</td>
<td>-30 / 70</td>
<td>-30 / 70</td>
<td>-30 / 70</td>
<td>-30 / 70</td>
<td>-30 / 70</td>
</tr>
<tr>
<td>Calibration Accuracy [±%]</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
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<tr>
<td>Homogeneity [%]</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Linearity with Power [%]</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Accuracy Temperature Measurement [°C]</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Resolution Temperature Measurement [°C]</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

### Notes

- Experimentally evaluated values under optimal steady state conditions.
- Guaranteed minimum heat flux resolution using the gSKIN® DLOG-4219 (not applicable for XO-Temp).
- Only a reference point.
- The sensitivity increases (decreases) as the temperature goes above (below) 22.5°C.
- Refers to the heat flux measurement.
- Conductive heat flux calibration cohering to ISO8301 standard with mean temperature of 22.5°C.
- Position dependent signal change across sensing area.

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