850 °C Series
Platinum sensor with wires
For very high temperatures

Benefits & Characteristics

▪ Excellent long-term stability
▪ Low self-heating
▪ Fast response time
▪ Vibration and temperature shock resistant
▪ Simple interchangeability
▪ Customer-specific sensor available upon request

Illustration

Dimension Tolerances: W ±0.2 mm, L ±0.2 mm, H ±0.1 mm, H2 ±0.3 mm, Lw (up to 30 mm) ±1 mm
1) For actual size, see dimensions

Technical Data

<table>
<thead>
<tr>
<th>Operating temperature range:</th>
<th>-200 °C to +850 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal resistance:*</td>
<td>100 Ω at 0 °C</td>
</tr>
<tr>
<td></td>
<td>200 Ω at 0 °C</td>
</tr>
<tr>
<td></td>
<td>1000 Ω at 0 °C</td>
</tr>
<tr>
<td>Characteristics curve:*</td>
<td>3850 ppm/K</td>
</tr>
<tr>
<td>Long-term stability:</td>
<td>&lt; 0.04 % at 1000 h at maximal operating temperature</td>
</tr>
<tr>
<td>Tolerance class (dependent on temperature range):*</td>
<td>Innovative Sensor Technology IST AG reference</td>
</tr>
<tr>
<td>IEC 60751 F0.15</td>
<td>A</td>
</tr>
<tr>
<td>IEC 60751 F0.3</td>
<td>B</td>
</tr>
<tr>
<td>IEC 60751 F0.6</td>
<td>C</td>
</tr>
<tr>
<td>IEC 60751 F0.1</td>
<td>Y</td>
</tr>
<tr>
<td>Connection:*</td>
<td>Pt-wire, Ø 0.2 mm (solderable, weldable, crimpable, brazeable)</td>
</tr>
<tr>
<td>Recommended applied current:</td>
<td>Max. 1 mA</td>
</tr>
<tr>
<td>Other alternatives:*</td>
<td>Substrate thickness</td>
</tr>
</tbody>
</table>

1) Self-heating must be considered

* Customer-specific alternatives available
### Order Information - 8W (Pt-wire, Ø 0.2 mm)

<table>
<thead>
<tr>
<th>Size</th>
<th>Dimensions (L x W x H / H2; L, W in mm)</th>
<th>F0.1 (class Y)</th>
<th>F0.15 (class A)</th>
<th>F0.3 (class B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>516</td>
<td>5.0 x 1.6 x 0.65 / 1.0; 7.0</td>
<td>Upon request</td>
<td>Upon request</td>
<td>P0K1.516.8W.B.007</td>
</tr>
<tr>
<td>102</td>
<td>10.0 x 2.0 x 0.65 / 1.0; 10.0</td>
<td>Upon request</td>
<td>Upon request</td>
<td>P0K1.102.8W.B.010</td>
</tr>
</tbody>
</table>

Nominal resistance: 100 Ω at 0 °C

<table>
<thead>
<tr>
<th>Size</th>
<th>Dimensions (L x W x H / H2; L, W in mm)</th>
<th>F0.1 (class Y)</th>
<th>F0.15 (class A)</th>
<th>F0.3 (class B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>420</td>
<td>3.85 x 1.9 x 0.65 / 1.0; 7.0</td>
<td>Upon request</td>
<td>Upon request</td>
<td>P0K2.420.8W.B.007</td>
</tr>
</tbody>
</table>

Nominal resistance: 200 Ω at 0 °C

<table>
<thead>
<tr>
<th>Size</th>
<th>Dimensions (L x W x H / H2; L, W in mm)</th>
<th>F0.1 (class Y)</th>
<th>F0.15 (class A)</th>
<th>F0.3 (class B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>516</td>
<td>5.0 x 1.6 x 0.65 / 1.0; 7.0</td>
<td>Upon request</td>
<td>Upon request</td>
<td>P1K0.516.8W.B.007</td>
</tr>
</tbody>
</table>

Nominal resistance: 1000 Ω at 0 °C

## Additional Documents

<table>
<thead>
<tr>
<th>Document name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATP_E</td>
</tr>
</tbody>
</table>
Order Information
Platinum Sensor
Secondary reference

Material

$P = \text{Platinum}$

TCR

$\text{P} = \text{Pt } 3850 \text{ ppm/K}$

$\text{G} = \text{Pt } 3911 \text{ ppm/K}$

$\text{U} = \text{Pt } 3750 \text{ ppm/K}$

$\text{W} = \text{Pt } 3850 \text{ ppm/K} \text{ (extended operating temperature range in class A)}$

Resistance in $\Omega$ at 0 °C

Size in mm

Operating temperature range

1 = -50 °C to +150 °C

2 = -50 °C to +200 °C

3 = -200 °C to +300 °C

4 = -200 °C to +400 °C

5 = -200 °C to +600 °C

6 = -200 °C to +750 °C

7 = -200 °C to +850 °C

8 = -200 °C to +1000 °C

Connection

S = SIL

FK = flat wire customer-specific

I = insulated wire

SW = perpendicular wire

K = customer-specific

L = insulate stranded wire

W = wire

E = enameled Cu-wire

FW = flat wire

Tolerance class

A = IEC 60751 F0.15

K = customer-specific

B = IEC 60751 F0.3

P = pair

C = IEC 60751 F0.6

G = group

Y = IEC 60751 F0.1

Wire length in mm

Special

$T = \text{substrate thickness } 0.25 \text{ mm}$

$D = \text{substrate thickness } 0.38 \text{ mm}$

$R = \text{round housing}$

$W = \text{sintered powder}$