# Platinum Temperature Sensors

## 7W – Product Series — Temperature Range: –200°C...+750°C

**Platinum temperature sensor elements with wire connections**

**Advantage: Highest performance**

### Technical Data

| | |
|---|---|
| **Specification:** | DIN EN 60751 |
| **Temperature range:** | -200°C to +750°C |
| **Temperature Coefficient:** | TCR = 3850 ppm/K |
| **Tolerance Classes:** | F 0.1 (Class Y) -50°C to +150°C<br>F 0.15 (Class A) -90°C to +300°C<br>F 0.3 (Class B) -200°C to +750°C<br>F 0.6 (Class C) -200°C to +750°C<br><br>1/5 F 0.3 (Class K) on request<br>1/10 F 0.3 (Class K) on request |
| **Leads:** | Platinum wire connection (Ø = 0.2 mm)<br>Recommended connection technology: Soldering, Welding, Crimping |
| **Lead Lengths:** | 7 mm |
| **Note:** | Other connection lengths on request |

RoHS

INNOVATIVE SENSOR TECHNOLOGY

IST AG, Industriestrasse 2, CH-9630 Wattwil, Switzerland, Phone (+)41 71 987 73 73, Fax (+)41 71 987 73 77
e-mail info@ist-ag.com, www.ist-ag.com

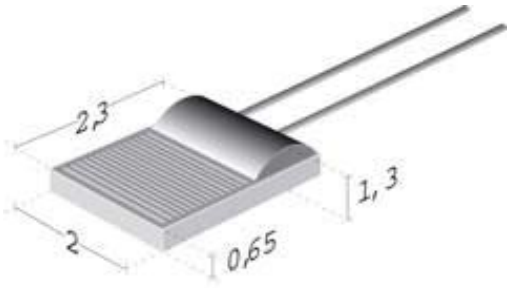
TEMPERATURE

# Platinum Temperature Sensors

## 7W – Product Series — Temperature Range: –200°C...+750°C

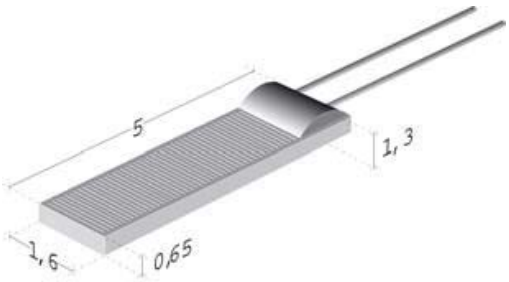
### 7W 232

| | | |
|---|---|---|
| **Dimensions, LxW:** | 2.3 x 2.0 mm | |
| **Nominal Resistance at 0°C (ohm):** | 100/1000 | |
| **Self Heating (mK):** | Water (v= 0 m/s) | $\Delta T_w$ = 2.5 at 0°C |
| | Air (v= 0 m/s) | $\Delta T_a$ = 25 at 0°C |
| **Response Time (s):** | Water (v= 0.4 m/s) | $T_{0.5}$ = 0.15 |
| | | $T_{0.63}$ = 0.2 |
| | | $T_{0.9}$ = 0.55 |
| | Air (v= 1 m/s) | $T_{0.5}$ = 4.5 |
| | | $T_{0.63}$ = 6 |
| | | $T_{0.9}$ = 12 |
| **Measuring Current (mA):** | 100 Ω: 1<br>1000 Ω: 0.3 | |




### 7W 516

| | | |
|---|---|---|
| **Dimensions, LxW:** | 5.0 x 1.6 mm | |
| **Nominal Resistance at 0°C (ohm):** | 100/500/1000 | |
| **Self Heating (mK):** | Water (v= 0 m/s) | $\Delta T_w$ = 1.3 at 0°C |
| | Air (v= 0 m/s) | $\Delta T_a$ = 14 at 0°C |
| **Response Time (s):** | Water (v= 0.4 m/s) | $T_{0.5}$ = 0.25 |
| | | $T_{0.63}$ = 0.3 |
| | | $T_{0.9}$ = 0.7 |
| | Air (v= 1 m/s) | $T_{0.5}$ = 5.5 |
| | | $T_{0.63}$ = 7.5 |
| | | $T_{0.9}$ = 16 |
| **Measuring Current (mA):** | 100 Ω: 1<br>500 Ω: 0.5<br>1000 Ω: 0.3 | |





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INNOVATIVE SENSOR TECHNOLOGY

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e-mail info@ist-ag.com, www.ist-ag.com

TEMPERATURE

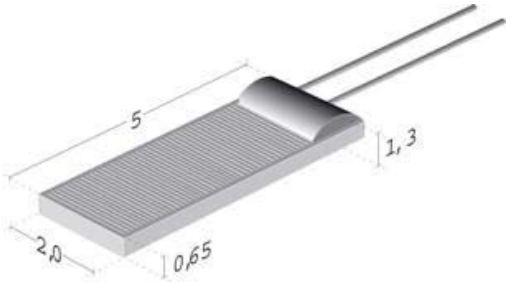
# Platinum Temperature Sensors

## 7W – Product Series

## Temperature Range: –200°C...+750°C

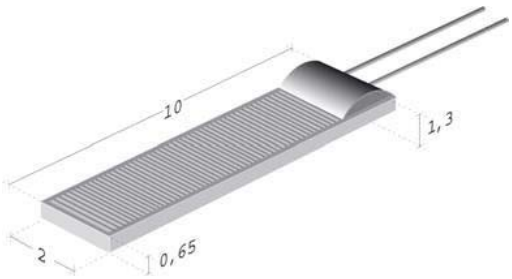
### 7W 520

| | | |
|---|---|---|
| **Dimensions, LxW:** | 5.0 x 2.0 mm | |
| **Nominal Resistance at 0°C (ohm):** | 100/500/1000 | |
| **Self Heating (mK):** | Water (v= 0 m/s) | $\Delta T_w$ = 1.3 at 0°C |
| | Air (v= 0 m/s) | $\Delta T_a$ = 14 at 0°C |
| **Response Time (s):** | Water (v= 0.4 m/s) | $T_{0.5}$ = 0.25 |
| | | $T_{0.63}$ = 0.3 |
| | | $T_{0.9}$ = 0.75 |
| | Air (v= 1 m/s) | $T_{0.5}$ = 6 |
| | | $T_{0.63}$ = 8.5 |
| | | $T_{0.9}$ = 18 |
| **Measuring Current (mA):** | 100 Ω: 1<br>500 Ω: 0.5<br>1000 Ω: 0.3 | |




### 7W 102

| | | |
|---|---|---|
| **Dimensions, LxW:** | 10.0 x 2.0 mm | |
| **Nominal Resistance at 0°C (ohm):** | 100/500/1000 | |
| **Self Heating (mK):** | Water (v= 0 m/s) | $\Delta T_w$ = 0.7 at 0°C |
| | Air (v= 0 m/s) | $\Delta T_a$ = 10 at 0°C |
| **Response Time (s):** | Water (v= 0.4 m/s) | $T_{0.5}$ = 0.33 |
| | | $T_{0.63}$ = 0.4 |
| | | $T_{0.9}$ = 0.85 |
| | Air (v= 1 m/s) | $T_{0.5}$ = 7.5 |
| | | $T_{0.63}$ = 10.5 |
| | | $T_{0.9}$ = 20 |
| **Measuring Current (mA):** | 100 Ω: 1<br>500 Ω: 0.5<br>1000 Ω: 0.3 | |





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## Temperature Range: –200°C...+750°C

***Order Example:***

| ***P*** | ***1K0.*** | ***232.*** | ***7*** | ***W.*** | ***B.*** | ***007*** |
|---|---|---|---|---|---|---|
| *1* | *2* | *3* | *4* | *5* | *6* | *7* |

1. *Material Identification = Platinum temperature sensor*
2. *Resistance Value in ohm = 1000Ω / 0°C*
3. *Chip Dimension = 2.3 x 2.0 mm*
4. *Temperature Range = -200 °C to +750 °C*
5. *Extension = Wire Connections*
6. *Tolerance Class = DIN EN 60751 F 0.3 (former Class B)*
7. *Connection length = 7 mm*

PRC Technologies Corp., Ltd.
Tel: 02 530 1714, 02 530 1619, 02 530 1621
Fax: 02 530 1731
Email: info@prctechth.com, www.prctechth.com

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