# 3-wire sensor up to 200 °C and 400 °C

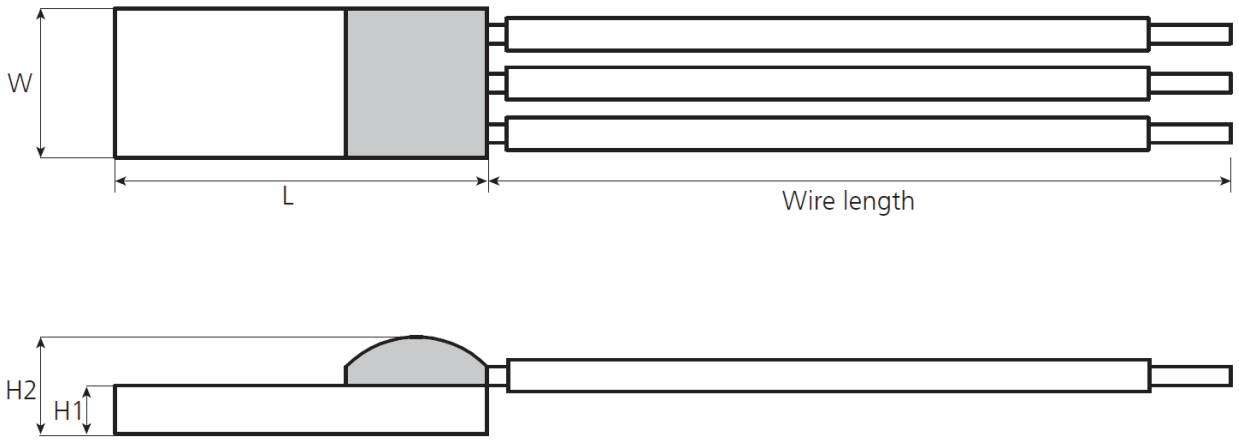
## Platinum sensor with wires

### For low to medium temperatures

## Benefits & characteristics

- Compensation of the wire resistance by 3-wire construction
- Excellent long-term stability
- Low self-heating
- Long insulated wires
- Well suited for applications with tight tolerances
- Fast response time
- Metallized backside available
- Customer-specific sensor available upon request

## Illustration [1)]




[1)] for actual size, see dimensions

## Technical data

| | | |
|---|---|---|
| Operating temperature range: | -50 °C to +200 °C | (2l) |
| | -200 °C to +400 °C | (4W) |
| Nominal resistance:* | 100 Ω at 0 °C | |
| Characteristics curve:* | 3850 ppm/K | |
| Long-term stability: | < 0.04 % at 1000 h at maximal operating temperature | |
| Tolerance class: * (dependent on temperature range) | | **iST reference** |
| | IEC 60751 F0.15 | A |
| | IEC 60751 F0.3 | B |
| | IEC 60751 F0.6 | C |
| Connection:* | -50 °c to +200 °C | Cu/Ag-wire, AWG30, PTFE-insulated (solderable, weldable, crimpable), 5 mm stripped |
| | -200 °C to +400 °C | Ag wire, Ø 0.25 mm |
| Alternative wire construction:* | Inverted wires | |
| | Extended wires | |
| Recommended applied current: | 1 mA at 100 Ω | |
| *1)Self-heating must be considered* | 0.5 mA at 500 Ω | |
| | 0.3 mA at 1000 Ω | |
| Other alternatives:* | Metallized backside | |
| | Housed in round ceramics (for dry environments only) | |
| | Grouped and paired | |
| | Substrate thickness | |

* Customer-specific alternatives available

## Order Information

| Nominal Resistance | Size | Dimensions (L x W x H1 / H2 in mm) L ±0.2 mm, W ±0.2 mm, H1 ±0.1 mm, H2 ±0.3 mm | Class* | Order code | Product name (secondary reference) | Wire length in mm | Special |
|---|---|---|---|---|---|---|---|
| **3 wires, 2I (Cu/Ag-wire, AWG30, PTFE-insulated), 5 mm stripped** | | | | | | | |
| 100 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.15 (class A) | On request | On request | 200 | |
| 100 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.3 (class B) | On request | On request | 200 | |
| 100 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.6 (class C) | On request | On request | 200 | |
| 100 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.15 (class A) | On request | On request | 450 | |
| 100 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.3 (class B) | On request | On request | 450 | |
| 100 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.6 (class C) | On request | On request | 450 | |
| 100 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.15 (class A) | On request | On request | 600 | |
| 100 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.3 (class B) | On request | On request | 600 | |
| 100 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.6 (class C) | On request | On request | 600 | |
| 1000 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.15 (class A) | On request | On request | 200 | |
| 1000 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.3 (class B) | On request | On request | 200 | |
| 1000 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.6 (class C) | On request | On request | 200 | |
| 1000 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.15 (class A) | On request | On request | 450 | |
| 1000 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.3 (class B) | On request | On request | 450 | |
| 1000 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.6 (class C) | On request | On request | 450 | |
| 1000 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.15 (class A) | On request | On request | 600 | |
| 1000 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.3 (class B) | On request | On request | 600 | |
| 1000 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.6 (class C) | On request | On request | 600 | |
| 100 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.15 (class A) | On request | P0K1.520.2I.A.200-3 | 200 | |
| 100 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.3 (class B) | 100948 | P0K1.520.2I.B.200-3 | 200 | |
| 100 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.6 (class C) | On request | P0K1.520.2I.C.200-3 | 200 | |
| 100 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.15 (class A) | 100962 | P0K1.520.2I.A.450-3 | 450 | |
| 100 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.3 (class B) | 100174 | P0K1.520.2I.B.450-3 | 450 | |
| 100 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.6 (class C) | 100662 | P0K1.520.2I.C.450-3 | 450 | |
| 100 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.15 (class A) | On request | P0K1.520.2I.A.600-3 | 600 | |
| 100 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.3 (class B) | 100547 | P0K1.520.2I.B.600-3 | 600 | |
| 100 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.6 (class C) | 100663 | P0K1.520.2I.C.600-3 | 600 | |

| Nominal Resistance | Size | Dimensions (L x W x H1 / H2 in mm) L ±0.2 mm, W ±0.2 mm, H1 ±0.1 mm, H2 ±0.3 mm | Class* | Order code | Product name (secondary reference) | Wire length in mm | Special |
|---|---|---|---|---|---|---|---|
| 1000 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.15 (class A) | On request | On request | 200 | |
| 1000 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.3 (class B) | On request | On request | 200 | |
| 1000 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.6 (class C) | On request | On request | 200 | |
| 1000 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.15 (class A) | On request | On request | 450 | |
| 1000 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.3 (class B) | On request | On request | 450 | |
| 1000 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.6 (class C) | On request | On request | 450 | |
| 1000 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.15 (class A) | On request | On request | 600 | |
| 1000 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.3 (class B) | On request | On request | 600 | |
| 1000 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.6 (class C) | On request | On request | 600 | |

## 3 wires, 4W (Ag wire, Ø 0.25 mm)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 100 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.15 (class A) | On request | On request | 200 | |
| 100 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.3 (class B) | On request | On request | 200 | |
| 100 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.6 (class C) | On request | On request | 200 | |
| 100 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.15 (class A) | On request | On request | 450 | |
| 100 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.3 (class B) | On request | On request | 450 | |
| 100 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.6 (class C) | On request | On request | 450 | |
| 100 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.15 (class A) | On request | On request | 600 | |
| 100 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.3 (class B) | On request | On request | 600 | |
| 100 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.6 (class C) | On request | On request | 600 | |
| 1000 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.15 (class A) | On request | On request | 200 | |
| 1000 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.3 (class B) | On request | On request | 200 | |
| 1000 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.6 (class C) | On request | On request | 200 | |
| 1000 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.15 (class A) | On request | On request | 450 | |
| 1000 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.3 (class B) | On request | On request | 450 | |
| 1000 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.6 (class C) | On request | On request | 450 | |
| 1000 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.15 (class A) | On request | On request | 600 | |
| 1000 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.3 (class B) | On request | On request | 600 | |
| 1000 Ω | 232 | 2.3 x 2 x 0.65 / 1.3 | F0.6 (class C) | On request | On request | 600 | |

| Nominal Resistance | Size | Dimensions (L x W x H1 / H2 in mm) L ±0.2 mm, W ±0.2 mm, H1 ±0.1 mm, H2 ±0.3 mm | Class* | Order code | Product name (secondary reference) | Wire length in mm | Special |
|---|---|---|---|---|---|---|---|
| 100 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.15 (class A) | On request | On request | 200 | |
| 100 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.3 (class B) | On request | On request | 200 | |
| 100 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.6 (class C) | On request | On request | 200 | |
| 100 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.15 (class A) | On request | On request | 450 | |
| 100 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.3 (class B) | On request | On request | 450 | |
| 100 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.6 (class C) | On request | On request | 450 | |
| 100 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.15 (class A) | On request | P0K1.520.4W.A.600-3 | 600 | |
| 100 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.3 (class B) | 100175 | P0K1.520.4W.B.600-3 | 600 | |
| 100 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.6 (class C) | On request | P0K1.520.4W.C.600-3 | 600 | |
| 1000 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.15 (class A) | On request | On request | 200 | |
| 1000 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.3 (class B) | On request | On request | 200 | |
| 1000 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.6 (class C) | On request | On request | 200 | |
| 1000 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.15 (class A) | On request | On request | 450 | |
| 1000 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.3 (class B) | On request | On request | 450 | |
| 1000 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.6 (class C) | On request | On request | 450 | |
| 1000 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.15 (class A) | On request | On request | 600 | |
| 1000 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.3 (class B) | On request | On request | 600 | |
| 1000 Ω | 520 | 5.0 x 2.1 x 0.65 / 1.2 | F0.6 (class C) | On request | On request | 600 | |
| 100 Ω | 538 | 5.0 x 3.8 x 0.65 / 1.3 | F0.15 (class A) | On request | P0K1.538.4W.A.600-3 | 600 | |
| 100 Ω | 538 | 5.0 x 3.8 x 0.65 / 1.3 | F0.3 (class B) | 100182 | P0K1.538.4W.B.600-3 | 600 | |
| 100 Ω | 538 | 5.0 x 3.8 x 0.65 / 1.3 | F0.6 (class C) | 100666 | P0K1.538.4W.C.600-3 | 600 | |

## Additional Documents

| | |
|---|---|
| Application Note | Document name: ATP_E |

# Order Information

## Platinum Sensor - Secondary reference

### Material

| | | |
|---|---|---|
| P | = | Platinum |

### TCR

| | | | | | |
|---|---|---|---|---|---|
| | = | Pt 3850 ppm/K | G | = | Pt 3911 ppm/K |
| U | = | Pt 3750 ppm/K | W | = | Pt 3850 ppm/K (extended operating temperature range in class A |

### Resistance in Ω at 0°C

### Size in mm

### Operating temperature range

| | | | | | |
|---|---|---|---|---|---|
| 1 | = | -50 °C to + 150 °C | 6 | = | -200°C to + 600 °C |
| 2 | = | -50 °C to + 200 °C | 7 | = | -200 °C to + 750 °C |
| 3 | = | -200 °C to + 300 °C | 8 | = | -200 °C to + 850 °C |
| 4 | = | -200 °C to + 400 °C | 10 | = | -70 °C to + 1000 °C |

### Connections

| | | | | | |
|---|---|---|---|---|---|
| S | = | SIL | FK | = | Flat wire customer specific |
| I | = | Insulated wire | SW | = | Perpendicular wire |
| K | = | Customer-specific | L | = | Insulated stranded wire |
| W | = | Wire | E | = | Enameled Cu-wire |
| FW | = | Flat wire | | | |

### Tolerance class

| | | | | | |
|---|---|---|---|---|---|
| A | = | IEC 60751 F0.15 | K | = | Customer-specific |
| B | = | IEC 60751 F0.15 | P | = | Pair |
| C | = | IEC 60751 F0.15 | G | = | Group |
| Y | = | IEC 60751 F0.15 | | | |

### Wire length in mm

### Special

| | | | | | |
|---|---|---|---|---|---|
| T | = | Substrate thickness 0.25 mm | M | = | Metallized backside |
| D | = | Substrate thickness 0.38 mm | U | = | Inverted welding |
| R | = | Round housing | S | = | Special |
| W | = | Sintered powder | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| P | | 0K1. | 520. | 2 | I. | B. | 450-3 | |

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