



300 °C Series



Platinum temperature sensor with wires

For medium temperatures

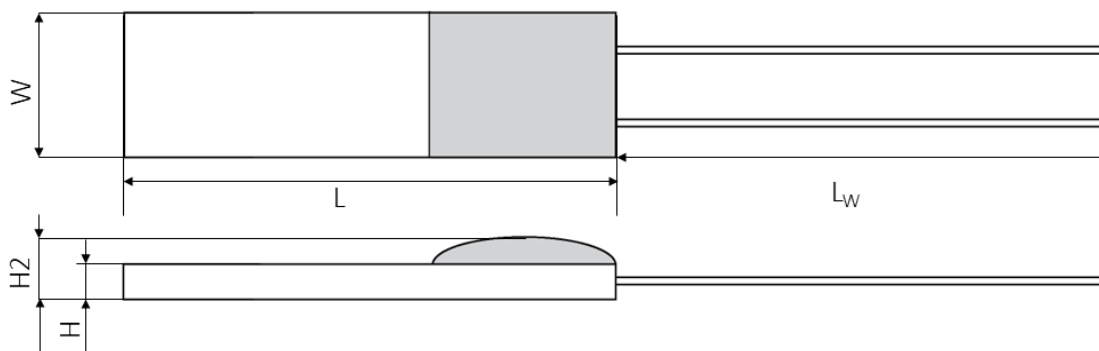


Benefits & characteristics

- Excellent long-term stability
- Low self-heating
- Fast response time
- Optimal price/performance ratio
- Metallized backside available
- Au-coated Ni-wire available
- Perpendicular wires available
- Customer-specific sensors available upon request



Illustration ¹⁾



¹⁾ for actual size see dimensions in order information

H = Substrate Height

H2 = Height

W = Width

L = Length

L_w = Wire length

Dimension tolerances:

W ±0.2 mm, L ±0.2 mm, H ±0.1 mm, H2 ±0.3 mm,

L_w (up to 30 mm) ±1 mm



Technical data

Operating temperature range:	-200 °C to +300 °C	
Nominal resistance:*	100 Ω at 0 °C	
	500 Ω at 0 °C	
	1000 Ω at 0 °C	
	2000 Ω at 0 °C	
	5000 Ω at 0 °C	
	10'000 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
	IEC 60751 F0.1	Y
Connection:*	Ni-wire Au-coated, Ø 0.2 mm	
	Ni-flat-wire Au-coated, 0.2 x 0.4 mm (HxW) (solderable, weldable, crimpable)	
	Ag-wire, Ø 0.25 mm	
	Ni-wire, Ø 0.2 mm	
Alternative wire construction: *	Inverted wires	
	Perpendicular wires	
Recommended applied current: ¹⁾ ¹⁾ Self-heating must be considered	1 mA at 100 Ω	
	0.5 mA at 500 Ω	
	0.3 mA at 1000 Ω	
	0.2 mA at 2000 Ω	
	0.14 mA at 5000 Ω	
	0.1 mA at 10'000 Ω	
Design:	ESD-optimized ²⁾	
Other alternatives:*	■ Metallized backside	
	■ Housed in round ceramics (for dry environments only)	
	■ Grouped and paired	
	■ Substrate thickness	
	■ Wire length	

* Customer-specific alternatives available



Order Information

Nominal Resistance at 0 °C	Size	Dimensions (L x W x H / H2 in mm) L ±0.2, W ±0.2, H ±0.1, H2 ±0.3 mm	Class*	Order code	Product name (secondary reference)	Wire length in mm	Special
3W Ni-wire Au coated, Ø 0.2 mm							
1000 Ω	161	1.6 x 1.2 x 0.25 / 0.6	F0.1 (class Y)	On request	P1K0.161.3K.Y.020	20	
1000 Ω	161	1.6 x 1.2 x 0.25 / 0.6	F0.15 (class A)	101550	P1K0.161.3K.A.020	20	
1000 Ω	161	1.6 x 1.2 x 0.25 / 0.6	F0.3 (class B)	101551	P1K0.161.3K.B.020	20	
100 Ω	202	2.0 x 2.0 x 0.65 / 1.3	F0.1 (class Y)	157719	P0K1.202.3W.Y.010	10	
100 Ω	202	2.0 x 2.0 x 0.65 / 1.3	F0.15 (class A)	155548	P0K1.202.3W.A.010	10	²⁾ ESD optimized
100 Ω	202	2.0 x 2.0 x 0.65 / 1.3	F0.3 (class B)	155549	P0K1.202.3W.B.010	10	²⁾ ESD optimized
100 Ω	202	2.0 x 2.0 x 0.65 / 1.3	F0.1 (class Y)	On request	P0K1.202.3K.Y.015	15	
100 Ω	202	2.0 x 2.0 x 0.65 / 1.3	F0.15 (class A)	101250	P0K1.202.3K.A.015	15	
100 Ω	202	2.0 x 2.0 x 0.65 / 1.3	F0.3 (class B)	101243	P0K1.202.3K.B.015	15	
500 Ω	202	2.0 x 2.0 x 0.65 / 1.3	F0.1 (class Y)	On request	P0K5.202.3K.Y.015	15	
500 Ω	202	2.0 x 2.0 x 0.65 / 1.3	F0.15 (class A)	101173	P0K5.202.3K.A.015	15	
500 Ω	202	2.0 x 2.0 x 0.65 / 1.3	F0.3 (class B)	101174	P0K5.202.3K.B.015	15	
1000 Ω	202	2.0 x 2.0 x 0.65 / 1.3	F0.1 (class Y)	156194	P1K0.202.3W.Y.010	10	²⁾ ESD optimized
1000 Ω	202	2.0 x 2.0 x 0.65 / 1.3	F0.15 (class A)	155750	P1K0.202.3W.A.010	10	²⁾ ESD optimized
1000 Ω	202	2.0 x 2.0 x 0.65 / 1.3	F0.3 (class B)	155528	P1K0.202.3W.B.010	10	²⁾ ESD optimized
100 Ω	216	2.5 x 1.6 x 0.65 / 1.3	F0.1 (class Y)	101209	P0K1.216.3K.Y.010	10	
100 Ω	216	2.5 x 1.6 x 0.65 / 1.3	F0.15 (class A)	101210	P0K1.216.3K.A.010	10	
100 Ω	216	2.5 x 1.6 x 0.65 / 1.3	F0.3 (class B)	101211	P0K1.216.3K.B.010	10	
100 Ω	308	3.0 x 0.8 x 0.25 / 0.6	F0.1 (class Y)	On request	P0K1.308.3K.Y.007	7	Wire Ø 0.15 mm
100 Ω	308	3.0 x 0.8 x 0.25 / 0.6	F0.15 (class A)	101941	P0K1.308.3K.A.007	7	Wire Ø 0.15 mm
100 Ω	308	3.0 x 0.8 x 0.25 / 0.6	F0.3 (class B)	101942	P0K1.308.3K.B.007	7	Wire Ø 0.15 mm
100 Ω	520	5.0 x 2.0 x 0.65 / 1.3	F0.1 (class Y)	On request	P0K1.520.3K.Y.010	10	
100 Ω	520	5.0 x 2.0 x 0.65 / 1.3	F0.15 (class A)	101239	P0K1.520.3K.A.010	10	
100 Ω	520	5.0 x 2.0 x 0.65 / 1.3	F0.3 (class B)	101240	P0K1.520.3K.B.010	10	
100 Ω	102	10.0 x 2.0 x 0.65 / 1.3	F0.1 (class Y)	On request	P0K1.102.3K.Y.010	10	
100 Ω	102	10.0 x 2.0 x 0.65 / 1.3	F0.15 (class A)	101242	P0K1.102.3K.A.010	10	
100 Ω	102	10.0 x 2.0 x 0.65 / 1.3	F0.3 (class B)	101241	P0K1.102.3K.B.010	10	



Nominal Resistance at 0 °C	Size	Dimensions (L x W x H / H2 in mm) L ±0.2, W ±0.2, H ±0.1, H2 ±0.3 mm	Class*	Order code	Product name (secondary reference)	Wire length in mm	Special
3FW Ni flat wire Au-coated, 0.2 x 0.4 mm (HxW)							
100 Ω	202	1.8 x 2.0 x 0.65 / 1.1	F0.1 (class Y)	155742	P0K1.202.3FW.Y.007	7	²⁾ ESD optimized
100 Ω	202	1.8 x 2.0 x 0.65 / 1.1	F0.15 (class A)	155576	P0K1.202.3FW.A.007	7	²⁾ ESD optimized
100 Ω	202	1.8 x 2.0 x 0.65 / 1.1	F0.3 (class B)	155743	P0K1.202.3FW.B.007	7	²⁾ ESD optimized
100 Ω	202	2.0 x 2.0 x 0.65 / 1.1	F0.1 (class Y)	On request	P0K1.202.3FW.Y.010	10	
100 Ω	202	2.0 x 2.0 x 0.65 / 1.1	F0.15 (class A)	101084	P0K1.202.3FW.A.010	10	
100 Ω	202	2.0 x 2.0 x 0.65 / 1.1	F0.3 (class B)	100997	P0K1.202.3FW.B.010	10	
500 Ω	202	2.0 x 2.0 x 0.65 / 1.1	F0.1 (class Y)	On request	P0K5.202.3FW.Y.007	7	
500 Ω	202	2.0 x 2.0 x 0.65 / 1.1	F0.15 (class A)	101040	P0K5.202.3FW.A.007	7	
500 Ω	202	2.0 x 2.0 x 0.65 / 1.1	F0.3 (class B)	100990	P0K5.202.3FW.B.007	7	
1000 Ω	202	2.0 x 2.0 x 0.65 / 1.1	F0.1 (class Y)	155752	P1K0.202.3FW.Y.007	7	²⁾ ESD optimized
1000 Ω	202	2.0 x 2.0 x 0.65 / 1.1	F0.15 (class A)	155751	P1K0.202.3FW.A.007	7	²⁾ ESD optimized
1000 Ω	202	2.0 x 2.0 x 0.65 / 1.1	F0.3 (class B)	155041	P1K0.202.3FW.B.007	7	²⁾ ESD optimized
1000 Ω	202	2.0 x 2.0 x 0.65 / 1.1	F0.1 (class Y)	On request	P1K0.202.3FW.Y.010	7	
1000 Ω	202	2.0 x 2.0 x 0.65 / 1.1	F0.15 (class A)	101577	P1K0.202.3FW.A.010	7	
1000 Ω	202	2.0 x 2.0 x 0.65 / 1.1	F0.3 (class B)	101007	P1K0.202.3FW.B.010	7	
100 Ω	232	2.3 x 2.0 x 0.65 / 1.3	F0.1 (class Y)	100593	P0K1.232.3FW.Y.007	7	
100 Ω	232	2.3 x 2.0 x 0.65 / 1.3	F0.15 (class A)	100631	P0K1.232.3FW.A.007	7	
100 Ω	232	2.3 x 2.0 x 0.65 / 1.3	F0.3 (class B)	100592	P0K1.232.3FW.B.007	7	
500 Ω	232	2.3 x 2.0 x 0.65 / 1.3	F0.1 (class Y)	100714	P0K5.232.3FW.Y.007	7	
500 Ω	232	2.3 x 2.0 x 0.65 / 1.3	F0.15 (class A)	100715	P0K5.232.3FW.A.007	7	
500 Ω	232	2.3 x 2.0 x 0.65 / 1.3	F0.3 (class B)	100716	P0K5.232.3FW.B.007	7	
1000 Ω	232	2.3 x 2.0 x 0.65 / 1.3	F0.1 (class Y)	100595	P1K0.232.3FW.Y.007	7	
1000 Ω	232	2.3 x 2.0 x 0.65 / 1.3	F0.15 (class A)	100786	P1K0.232.3FW.A.007	7	
1000 Ω	232	2.3 x 2.0 x 0.65 / 1.3	F0.3 (class B)	100594	P1K0.232.3FW.B.007	7	
2000 Ω	232	2.3 x 2.0 x 0.65 / 1.3	F0.3 (class B)	100924	P2K0.232.3FW.B.007	7	



Nominal Resistance at 0 °C	Size	Dimensions (L x W x H / H2 in mm) L $\pm$ 0.2, W $\pm$ 0.2, H $\pm$ 0.1, H2 $\pm$ 0.3 mm	Class*	Order code	Product name (secondary reference)	Wire length in mm	Special
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3FW Ni flat wire Au-coated, 0.2 x 0.3 mm (HxW)

1000 Ω	216	2.0 x 1.6 x 0.65 / 1.3	F0.1 (class Y)	101169	P1K0.216.3FW.Y.007	7	
1000 Ω	216	2.0 x 1.6 x 0.65 / 1.3	F0.15 (class A)	101018	P1K0.216.3FW.A.007	7	
1000 Ω	216	2.0 x 1.6 x 0.65 / 1.3	F0.3 (class B)	100847	P1K0.216.3FW.B.007	7	

3FW Ni flat wire Au-coated, 0.2 x 0.4 mm, on thin substrate (thickness 0.4 mm)

5000 Ω	520	5.0 x 2.0 x 0.4 / 1.05	F0.3 (class B)	101290	P5K0.520.3FW.B.007.D	7	
10000 Ω	520	5.0 x 2.0 x 0.4 / 1.05	F0.3 (class B)	100718	P10K.520.3FW.B.010.D	10	

3FK Ni flat wire Au-coated, one lead on each side of the element

1000 Ω	212	2.0 x 1.2 x 0.25 / 0.6	F0.3 (class B)	104190	P1K0.212.3FK.B.007.T.S	7	axial
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3SK Ag wire, Ø 0.25 mm, perpendicular wire, metallized backside

100 Ω	161	1.6 x 1.2 x 0.25 / 0.85	F0.1 (class Y)	On request	P0K1.161.3SK.Y.010.M	10	
100 Ω	161	1.6 x 1.2 x 0.25 / 0.85	F0.15 (class A)	100623	P0K1.161.3SK.A.010.M	10	
100 Ω	161	1.6 x 1.2 x 0.25 / 0.6	F0.3 (class B)	100627	P0K1.161.3SK.B.010.M	10	
100 Ω	232	2.3 x 2.0 x 0.65 / 1.3	F0.1 (class Y)	On request	P0K1.232.3SK.Y.010.M	10	
100 Ω	232	2.3 x 2.0 x 0.65 / 1.3	F0.15 (class A)	On request	P0K1.232.3SK.Y.010.M	10	
100 Ω	232	2.3 x 2.0 x 0.65 / 1.3	F0.3 (class B)	100509	P0K1.232.3SK.B.010.M	10	
1000 Ω	232	2.3 x 2.0 x 0.65 / 1.3	F0.1 (class Y)	On request	P1K0.232.3SK.Y.015.M	15	
1000 Ω	232	2.3 x 2.0 x 0.65 / 1.3	F0.15 (class A)	On request	P1K0.232.3SK.A.015.M	15	
1000 Ω	232	2.3 x 2.0 x 0.65 / 1.3	F0.3 (class B)	100457	P1K0.232.3SK.B.015.M	15	

3W Ni wire, Ø 0.2 mm

100 Ω	202	2.0 x 2.0 x 0.65 / 1.3	F0.15 (class A)	101104	P0K1.202.3W.A.010	10	
100 Ω	202	2.0 x 2.0 x 0.65 / 1.3	F0.3 (class B)	101101	P0K1.202.3W.B.010	10	
1000 Ω	202	2.0 x 2.0 x 0.65 / 1.3	F0.1 (class Y)	On request	P1K0.202.3W.Y.007	7	
1000 Ω	202	2.0 x 2.0 x 0.65 / 1.3	F0.15 (class A)	101088	P1K0.202.3W.A.007	7	
1000 Ω	202	2.0 x 2.0 x 0.65 / 1.3	F0.3 (class B)	101038	P1K0.202.3W.B.007	7	



Nominal Resistance at 0 °C	Size	Dimensions (L x W x H / H2 in mm) L ±0.2, W ±0.2, H ±0.1, H2 ±0.3 mm	Class*	Order code	Product name (secondary reference)	Wire length in mm	Special
1000 Ω	308	3.0 x 0.8 x 0.25 / 0.6	F0.1 (class Y)	On request	P1K0.308.3W.Y.025	25	Wire Ø 0.15 mm
1000 Ω	308	3.0 x 0.8 x 0.25 / 0.6	F0.15 (class A)	104055	P1K0.308.3W.A.025	25	Wire Ø 0.15 mm
1000 Ω	308	3.0 x 0.8 x 0.25 / 0.6	F0.3 (class B)	104059	P1K0.308.3W.B.025	25	Wire Ø 0.15 mm

*Alternative class for each product is available upon request

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	=	Extended wire	L	=	Insulated stranded wire
W	=	Wire	E	=	Enameled Cu-wire
FW	=	Flat wire	SE	=	Perpendicular enameled Cu-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	=	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. 232. 3 FW. B. 010. U



Innovative Sensor Technology IST AG • Stegrütistrasse 14 • 9642 Ebnat-Kappel • Switzerland
+41 71 992 01 00 • info@ist-ag.com • www.ist-ag.com

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