



300 °C Series



Platinum temperature sensor with wires

For medium temperatures

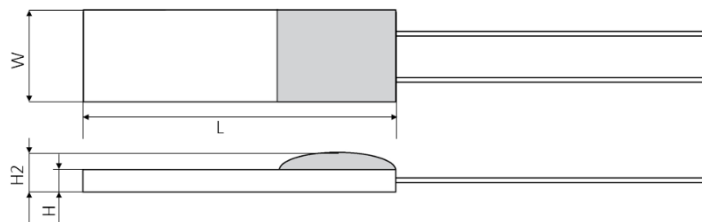


Benefits & characteristics

- 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⁾



Dimensions: L x W x H /H2 in mm

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 in order information



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
- 10000 Ω at 0 °C



Characteristics curve: 3850 ppm/K



Long-term stability: < 0.04 % at 1000 h at maximal operating temperature



Tolerance class: *	iST reference	
(dependent on temperature range)	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 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

¹⁾self-heating must be considered

Design:	ESD-optimized ²⁾
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Other alternatives:*	■ Metallized backside ■ Housed in round ceramics (for dry environments only) ■ Grouped and paired ■ Substrate thickness ■ Wire length
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* 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
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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	7	
1000 Ω	161	1.6 x 1.2 x 0.25 / 0.6	F0.15 (class A)	On request	P1K0.161.3K.A.020	7	
1000 Ω	161	1.6 x 1.2 x 0.25 / 0.6	F0.3 (class B)	On request	P1K0.161.3K.B.020	7	
100 Ω	202	2 x 2 x 0.65 / 1.3	F0.1 (class Y)	On request	P0K1.202.3W.Y.010	10	
100 Ω	202	2 x 2 x 0.65 / 1.3	F0.15 (class A)	155548	P0K1.202.3W.A.010	10	2) ESD optimized
100 Ω	202	2 x 2 x 0.65 / 1.3	F0.3 (class B)	155549	P0K1.202.3W.B.010	10	2) ESD optimized
100 Ω	202	2 x 2 x 0.65 / 1.3	F0.1 (class Y)	On request	P0K1.202.3K.Y.015	15	
100 Ω	202	2 x 2 x 0.65 / 1.3	F0.15 (class A)	101250	P0K1.202.3K.A.015	15	
100 Ω	202	2 x 2 x 0.65 / 1.3	F0.3 (class B)	101243	P0K1.202.3K.B.015	15	
500 Ω	202	2 x 2 x 0.65 / 1.3	F0.1 (class Y)	On request	P0K5.202.3K.Y.015	15	
500 Ω	202	2 x 2 x 0.65 / 1.3	F0.15 (class A)	101173	P0K5.202.3K.A.015	15	
500 Ω	202	2 x 2 x 0.65 / 1.3	F0.3 (class B)	101174	P0K5.202.3K.B.015	15	
1000 Ω	202	2 x 2 x 0.65 / 1.3	F0.1 (class Y)	156194	P1K0.202.3W.Y.010	10	2) ESD optimized
1000 Ω	202	2 x 2 x 0.65 / 1.3	F0.15 (class A)	155750	P1K0.202.3W.A.010	10	2) ESD optimized
1000 Ω	202	2 x 2 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 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 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 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 x 2 x 0.65 / 1.3	F0.1 (class Y)	On request	P0K1.520.3K.Y.010	10	
100 Ω	520	5 x 2 x 0.65 / 1.3	F0.15 (class A)	101239	P0K1.520.3K.A.010	10	
100 Ω	520	5 x 2 x 0.65 / 1.3	F0.3 (class B)	101240	P0K1.520.3K.B.010	10	
100 Ω	102	10 x 2 x 0.65 / 1.3	F0.1 (class Y)	On request	P0K1.102.3K.Y.010	10	
100 Ω	102	10 x 2 x 0.65 / 1.3	F0.15 (class A)	101242	P0K1.102.3K.A.010	10	
100 Ω	102	10 x 2 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 $\pm$ 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 0.4 mm (HxW)

100 Ω	202	1.8 x 2 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 x 0.65 / 1.1	F0.15 (class A)	155761	P0K1.202.3FW.A.007	7	2) ESD optimized
100 Ω	202	1.8 x 2 x 0.65 / 1.1	F0.3 (class B)	155743	P0K1.202.3FW.B.007	7	2) ESD optimized
100 Ω	202	2 x 2 x 0.65 / 1.1	F0.1 (class Y)	On request	P0K1.202.3FW.Y.010	10	
100 Ω	202	2 x 2 x 0.65 / 1.1	F0.15 (class A)	101084	P0K1.202.3FW.A.010	10	
100 Ω	202	2 x 2 x 0.65 / 1.1	F0.3 (class B)	100997	P0K1.202.3FW.B.010	10	
500 Ω	202	2 x 2 x 0.65 / 1.1	F0.1 (class Y)	On request	P0K5.202.3FW.Y.007	7	
500 Ω	202	2 x 2 x 0.65 / 1.1	F0.15 (class A)	101040	P0K5.202.3FW.A.007	7	
500 Ω	202	2 x 2 x 0.65 / 1.1	F0.3 (class B)	100990	P0K5.202.3FW.B.007	7	
1000 Ω	202	2 x 2 x 0.65 / 1.1	F0.1 (class Y)	155752	P1K0.202.3FW.Y.007	7	2) ESD optimized
1000 Ω	202	2 x 2 x 0.65 / 1.1	F0.15 (class A)	155751	P1K0.202.3FW.A.007	7	2) ESD optimized
1000 Ω	202	2 x 2 x 0.65 / 1.1	F0.3 (class B)	155041	P1K0.202.3FW.B.007	7	2) ESD optimized
1000 Ω	202	2 x 2 x 0.65 / 1.1	F0.1 (class Y)	On request	P1K0.202.3FW.Y.010	7	
1000 Ω	202	2 x 2 x 0.65 / 1.1	F0.15 (class A)	101577	P1K0.202.3FW.A.010	7	
1000 Ω	202	2 x 2 x 0.65 / 1.1	F0.3 (class B)	101007	P1K0.202.3FW.B.010	7	
100 Ω	232	2.3 x 2 x 0.65 / 1.3	F0.1 (class Y)	100593	P0K1.232.3FW.Y.007	7	
100 Ω	232	2.3 x 2 x 0.65 / 1.3	F0.15 (class A)	100631	P0K1.232.3FW.A.007	7	
100 Ω	232	2.3 x 2 x 0.65 / 1.3	F0.3 (class B)	100592	P0K1.232.3FW.B.007	7	
500 Ω	232	2.3 x 2 x 0.65 / 1.3	F0.1 (class Y)	100714	P0K5.232.3FW.Y.007	7	
500 Ω	232	2.3 x 2 x 0.65 / 1.3	F0.15 (class A)	100715	P0K5.232.3FW.A.007	7	
500 Ω	232	2.3 x 2 x 0.65 / 1.3	F0.3 (class B)	100716	P0K5.232.3FW.B.007	7	
1000 Ω	232	2.3 x 2 x 0.65 / 1.3	F0.1 (class Y)	100595	P1K0.232.3FW.Y.007	7	
1000 Ω	232	2.3 x 2 x 0.65 / 1.3	F0.15 (class A)	100786	P1K0.232.3FW.A.007	7	
1000 Ω	232	2.3 x 2 x 0.65 / 1.3	F0.3 (class B)	100594	P1K0.232.3FW.B.007	7	
2000 Ω	232	2.3 x 2 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 x 1.6 x 0.65 / 1.3	F0.1 (class Y)	101169	P1K0.216.3FW.Y.007	7	
1000 Ω	216	2 x 1.6 x 0.65 / 1.3	F0.15 (class A)	101018	P1K0.216.3FW.A.007	7	
1000 Ω	216	2 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 x 2 x 0.4 / 1.05	F0.3 (class B)	101290	P5K0.520.3FW.B.007.D	7	
10000 Ω	520	5 x 2 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 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 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 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 x 0.65 / 1.3	F0.3 (class B)	100509	P0K1.232.3SK.B.010.M	10	
1000 Ω	232	2.3 x 2 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 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 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 x 2 x 0.65 / 1.3	F0.15 (class A)	101104	P0K1.202.3W.A.010	10	
100 Ω	202	2 x 2 x 0.65 / 1.3	F0.3 (class B)	101101	P0K1.202.3W.B.010	10	
1000 Ω	202	2 x 2 x 0.65 / 1.3	F0.1 (class Y)	On request	P1K0.202.3W.Y.007	7	
1000 Ω	202	2 x 2 x 0.65 / 1.3	F0.15 (class A)	101088	P1K0.202.3W.A.007	7	
1000 Ω	202	2 x 2 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 x 0.8 x 0.25 / 0.6	F0.1 (class Y)	On request	P1K0.308.3W.Y.025	25	Wire $\varnothing$ 0.15 mm
1000 Ω	308	3 x 0.8 x 0.25 / 0.6	F0.15 (class A)	104055	P1K0.308.3W.A.025	25	Wire $\varnothing$ 0.15 mm
1000 Ω	308	3 x 0.8 x 0.25 / 0.6	F0.3 (class B)	104059	P1K0.308.3W.B.025	25	Wire $\varnothing$ 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



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