Innovative Sensor Technology

physical. chemical. biological.

400 °C Series

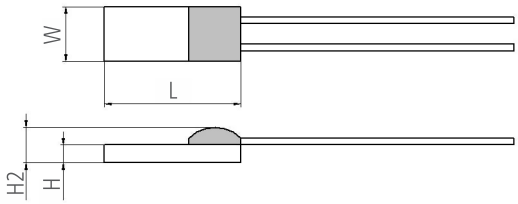
Platinum sensor with wires

For medium temperatures

Benefits & Characteristics

- Outstanding long-term stability
- Excellent solderability
- Low self-heating
- Vibration and temperature shock resistant
- Paired and grouped sensors available
- 1/5 DIN and 1/10 DIN
- Customer-specific sensor available upon request

Illustration[1)]



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

1) For actual size, see dimensions

Technical Data

Operating temperature range:	-200 °C to +400 °C	
Nominal resistance:*	100 Ω at 0 °C	
	500 Ω at 0 °C	
	1000 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 AG reference
	IEC 60751 F0.15	A
	IEC 60751 F0.3	B
	IEC 60751 F0.6	C
	IEC 60751 F0.1	Y
	1/5 IEC 60751 F0.3	K*
	1/10 IEC 60751 F0.3	K*
Connection:*	Ag-wire, Ø 0.25 mm (solderable, weldable)	
Alternative wire construction:*	Perpendicular wires	
	Inverted wires	
Recommended applied current:[1)]	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:*	Housed in round ceramics (for dry environments only) - see data sheet DTP_Round_Housing_E
	Grouped and paired
	Substrate thickness

* Customer-specific alternatives available

Order Information - 4W (Ag-wire, Ø 0.25 mm)

Size	Dimensions (L x W x H / H2; L_W in mm)	F0.1 (class Y)	F0.15 (class A)	F0.3 (class B)
Nominal resistance: 100 Ω at 0 °C				
161	1.6 x 1.2 x 0.25 / 0.6; 10.0	P0K1.161.4W.Y.010	P0K1.161.4W.A.010	P0K1.161.4W.B.010
Order code		010.00048	010.00045	010.00042
202	2.0 x 2.0 x 0.65 / 1.3; 7.0	Upon request	Upon request	P0K1.202.4W.B.007
Order code				010.03050
216	2.5 x 1.6 x 0.65 / 1.3; 7.0	Upon request	Upon request	P0K1.216.4W.B.007
Order code				010.03223
216	2.5 x 1.6 x 0.65 / 1.3; 15.0	Upon request	P0K1.216.4W.A.015	P0K1.216.4W.B.015
Order code			010.02699	010.02698
232	2.3 x 2.0 x 0.65 / 1.3; 7.0	Upon request	P0K1.232.4W.A.007	P0K1.232.4W.B.007
Order code			010.00008	010.00007
232	2.3 x 2.0 x 0.65 / 1.3; 10.0	P0K1.232.4W.Y.010	P0K1.232.4W.A.010	P0K1.232.4W.B.010
Order code		010.00006	010.00004	010.00002
505	5.0 x 5.0 x 0.65 / 1.3; 10.0	Upon request	P0K1.505.4W.A.010	P0K1.505.4W.B.010
Order code			010.00141	010.00139
516	5.0 x 1.6 x 0.65 / 1.3; 10.0	P0K1.516.4W.Y.010	P0K1.516.4W.A.010	P0K1.516.4W.B.010
Order code		010.00075	010.00073	010.00071
520	5.0 x 2.0 x 0.65 / 1.3; 10.0	P0K1.520.4W.Y.010	P0K1.520.4W.A.010	P0K1.520.4W.B.010
Order code		010.00096	010.00094	010.00092
538	5.0 x 3.8 x 0.65 / 1.3; 10.0	Upon request	P0K1.538.4W.A.010	P0K1.538.4W.B.010
Order code			010.00123	010.00121
102	10.0 x 2.0 x 0.65 / 1.3; 10.0	P0K1.102.4W.Y.010	P0K1.102.4W.A.010	P0K1.102.4W.B.010
Order code		010.00150	010.00148	010.00146
Nominal resistance: 150 Ω at 0 °C				
202	2.0 x 2.0 x 0.65 / 1.3; 10.0	Upon request	Upon request	P150.202.4W.B.010
Order code				010.03166
Nominal resistance: 350 Ω at 0 °C				
202	2.0 x 2.0 x 0.65 / 1.3; 10.0	Upon request	Upon request	P350.202.4W.B.010
Order code				010.03167

Size	Dimensions (L x W x H / H2; L_W in mm)	F0.1 (class Y)	F0.15 (class A)	F0.3 (class B)
Nominal resistance: 500 Ω at 0 °C				
161	1.6 x 1.2 x 0.25 / 0.6; 10.0	P0K5.161.4W.Y.010	P0K5.161.4W.A.010	P0K5.161.4W.B.010
Order code		010.00179	010.00177	010.00175
232	2.3 x 2.0 x 0.65 / 1.3; 10.0	Upon request	P0K5.232.4W.A.010	P0K5.232.4W.B.010
Order code			010.00667	010.00664
516	5.0 x 1.6 x 0.65 / 1.3; 15.0	P0K5.516.4W.Y.015	P0K5.516.4W.A.015	P0K5.516.4W.B.015
Order code		010.00190	010.00189	010.00188
520	5.0 x 2.0 x 0.65 / 1.3; 10.0	Upon request	P0K5.520.4W.A.010	P0K5.520.4W.B.010
Order code			010.00946	010.00663
520	5.0 x 2.0 x 0.65 / 1.3; 15.0	P0K5.520.4W.Y.015	P0K5.520.4W.A.015	P0K5.520.4W.B.015
Order code		010.00196	010.00195	010.00194
102	10.0 x 2.0 x 0.65 / 1.3; 10.0	Upon request	P0K5.102.4W.A.010	P0K5.102.4W.B.010
Order code			010.02332	010.02341
Nominal resistance: 1000 Ω at 0 °C				
161	1.6 x 1.2 x 0.25 / 0.6; 10.0	P1K0.161.4W.Y.010	P1K0.161.4W.A.010	P1K0.161.4W.B.010
Order code		010.00217	010.00214	010.00211
232	2.3 x 2.0 x 0.65 / 1.3; 7.0	Upon request	P1K0.232.4W.A.007	P1K0.232.4W.B.007
Order code			010.01938	010.01939
232	2.3 x 2.0 x 0.65 / 1.3; 10.0	P1K0.232.4W.Y.010	P1K0.232.4W.A.010	P1K0.232.4W.B.010
Order code		010.00228	010.03200	010.03201
505	5.0 x 5.0 x 0.65 / 1.3; 10.0	Upon request	P1K0.505.4W.A.010	P1K0.505.4W.B.010
Order code			010.00295	010.00294
516	5.0 x 1.6 x 0.65 / 1.3; 10.0	P1K0.516.4W.Y.010	P1K0.516.4W.A.010	P1K0.516.4W.B.010
Order code		010.00254	010.00252	010.00250
520	5.0 x 2.0 x 0.65 / 1.3; 10.0	P1K0.520.4W.Y.010	P1K0.520.4W.A.010	P1K0.520.4W.B.010
Order code		010.00266	010.00264	010.00262
520	5.0 x 2.0 x 0.65 / 1.3; 40.0	Upon request	Upon request	P1K0.520.4W.B.040
Order code				010.03155
520	5.0 x 2.0 x 0.65 / 1.3; 1000.0	Upon request	P1K0.520.4W.A.1000	P1K0.520.4W.B.1000
Order code			010.03074	010.03075
538	5.0 x 3.8 x 0.65 / 1.3; 10.0	Upon request	P1K0.538.4W.A.010	P1K0.538.4W.B.010
Order code			010.00390	010.00389
102	10.0 x 2.0 x 0.65 / 1.3; 10.0	P1K0.102.4W.Y.010	P1K0.102.4W.A.010	P1K0.102.4W.B.010
Order code		010.00305	010.00301	010.00299

Order Information - 4SW (Ag-wire, Ø 0.25 mm, perpendicular wire)

Size	Dimensions (L x W x H / H2; L_W in mm)	F0.1 (class Y)	F0.15 (class A)	F0.3 (class B)
Nominal resistance: 100 Ω at 0 °C				
161	1.6 x 1.2 x 0.25 / 0.6; 10.0	Upon request	P0K1.161.4SW.A.010	P0K1.161.4SW.B.010
Order code			010.01108	010.00616
232	2.3 x 2.0 x 0.65 / 1.3; 10.0	P0K1.232.4SW.Y.010	P0K1.232.4SW.A.010	P0K1.232.4SW.B.010
Order code		010.02159	010.01179	010.01695
538	5.0 x 3.8 x 0.65 / 1.3; 15.0	Upon request	Upon request	P0K1.538.4SW.B.015
Order code				010.02497
Nominal resistance: 500 Ω at 0 °C				
232	2.3 x 2.0 x 0.65 / 1.3; 10.0	Upon request	Upon request	P0K5.232.4SW.B.010
Order code				010.00578
Nominal resistance: 1000 Ω at 0 °C				
161	1.6 x 1.2 x 0.25 / 0.6; 10.0	Upon request	P1K0.161.4SW.A.010	P1K0.161.4SW.B.010
Order code			010.00599	010.00361
232	2.3 x 2.0 x 0.65 / 1.3; 15.0	Upon request	P1K0.232.4SW.A.015	P1K0.232.4SW.B.015
Order code			010.00586	010.00235

Order Information - 308 (with Ag-wire, Ø 0.15 mm)

Size	Dimensions (L x W x H / H2; L_W in mm)	F0.1 (class Y)	F0.15 (class A)	F0.3 (class B)
Nominal resistance: 100 Ω at 0 °C				
308	3.0 x 0.8 x 0.25 / 0.6; 10.0	Upon request	P0K1.308.4W.A.010	P0K1.308.4W.B.010
Order code			010.03150	010.03149
308	3.0 x 0.8 x 0.25 / 0.6; 18.0	Upon request	P0K1.308.4W.A.018	P0K1.308.4W.B.018
Order code			010.03157	010.03151
Nominal resistance: 1000 Ω at 0 °C				
308	3.0 x 0.8 x 0.25 / 0.6; 10.0	Upon request	P1K0.308.4W.A.010	P1K0.308.4W.B.010
Order code			010.03146	010.03145
308	3.0 x 0.8 x 0.25 / 0.6; 60.0	Upon request	P1K0.308.4W.A.060	P1K0.308.4W.B.060
Order code			010.03148	010.03147

Order Information - 308 (with FKS-wire, Ø 0.15 mm, suitable for Ø 1.0 mm)

Size	Dimensions (L x W x H / H2; L_W in mm)	F0.1 (class Y)	F0.15 (class A)	F0.3 (class B)
Nominal resistance: 100 Ω at 0 °C				
308	3.0 x 0.8 x 0.25 / 0.6; 10.0	P0K1.308.4W.Y.010.S	Upon request	P0K1.308.4W.B.010.S
Order code		010.03165		310.01025

Additional Documents

	Document name:
Application Note:	ATP_E

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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	=	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	=	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. 308. 4 W. B. 010. S

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