400 °C Series

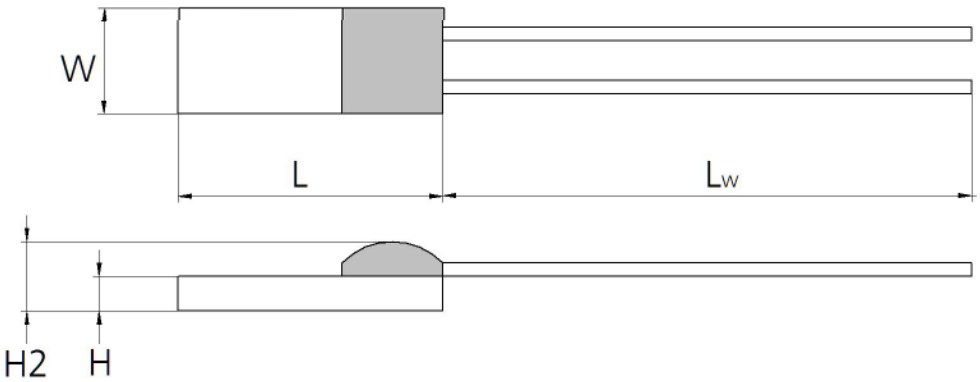
Platinum sensor with wires

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 in order information

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 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	
Wire insulation	[1] Azurro	1.1 @ 0.65 mm blue
	[2] P23	1.2 @ 0.65 mm green
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:*	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

Nominal Resistance	Size	Dimensions (L x W x H / H2; L_W in mm)	Class*	Order code	Product name (secondary reference)	Wire length in mm	Special
4W (Ag-wire, Ø 0.25 mm)							
100 Ω	161	1.6 x 1.2 x 0.25 / 0.6; 10.0	F0.1 (class Y)	100129	P0K1.161.4W.Y.010	10	
100 Ω	161	1.6 x 1.2 x 0.25 / 0.6; 10.0	F0.15 (class A)	100128	P0K1.161.4W.A.010	10	
100 Ω	161	1.6 x 1.2 x 0.25 / 0.6; 10.0	F0.3 (class B)	100127	P0K1.161.4W.B.010	10	
500 Ω	161	1.6 x 1.2 x 0.25 / 0.6; 10.0	F0.1 (class Y)	100216	P0K5.161.4W.Y.010	10	
500 Ω	161	1.6 x 1.2 x 0.25 / 0.6; 10.0	F0.15 (class A)	100215	P0K5.161.4W.A.010	10	
500 Ω	161	1.6 x 1.2 x 0.25 / 0.6; 10.0	F0.3 (class B)	100214	P0K5.161.4W.B.010	10	
1000 Ω	161	1.6 x 1.2 x 0.25 / 0.6; 10.0	F0.1 (class Y)	100244	P1K0.161.4W.Y.010	10	
1000 Ω	161	1.6 x 1.2 x 0.25 / 0.6; 10.0	F0.15 (class A)	100243	P1K0.161.4W.A.010	10	
1000 Ω	161	1.6 x 1.2 x 0.25 / 0.6; 10.0	F0.3 (class B)	100242 [2)]	P1K0.161.4W.B.010	10	
100 Ω	202	1.8 x 2.0 x 0.65 / 1.1; 7.0	F0.1 (class Y)	On request	P0K1.202.4W.Y.007	7	
100 Ω	202	1.8 x 2.0 x 0.65 / 1.1; 7.0	F0.15 (class A)	On request	P0K1.202.4W.A.007	7	
100 Ω	202	1.8 x 2.0 x 0.65 / 1.1; 7.0	F0.3 (class B)	101457 [1)]	P0K1.202.4W.B.007	7	
150 Ω	202	1.8 x 2.0 x 0.65 / 1.1; 10.0	F0.1 (class Y)	On request	P150.202.4W.Y.010	10	
150 Ω	202	1.8 x 2.0 x 0.65 / 1.1; 10.0	F0.15 (class A)	On request	P150.202.4W.A.010	10	
150 Ω	202	1.8 x 2.0 x 0.65 / 1.1; 10.0	F0.3 (class B)	101548 [1)]	P150.202.4W.B.010	10	
350 Ω	202	1.8 x 2.0 x 0.65 / 1.1; 10.0	F0.1 (class Y)	On request	P350.202.4W.Y.010	10	
350 Ω	202	1.8 x 2.0 x 0.65 / 1.1; 10.0	F0.15 (class A)	On request	P350.202.4W.A.010	10	
350 Ω	202	1.8 x 2.0 x 0.65 / 1.1; 10.0	F0.3 (class B)	101549 [1)]	P350.202.4W.B.010	10	
100 Ω	232	2.2 x 2.0 x 0.65 / 1.2; 7.0	F0.1 (class Y)	On request	P0K1.232.4W.Y.007	7	
100 Ω	232	2.2 x 2.0 x 0.65 / 1.2; 7.0	F0.15 (class A)	100107 [2)]	P0K1.232.4W.A.007	7	
100 Ω	232	2.2 x 2.0 x 0.65 / 1.2; 7.0	F0.3 (class B)	100106 [2)]	P0K1.232.4W.B.007	7	
100 Ω	232	2.2 x 2.0 x 0.65 / 1.2; 10.0	F0.1 (class Y)	100105	P0K1.232.4W.Y.010	10	
100 Ω	232	2.2 x 2.0 x 0.65 / 1.2; 10.0	F0.15 (class A)	100103 [2)]	P0K1.232.4W.A.010	10	
100 Ω	232	2.2 x 2.0 x 0.65 / 1.2; 10.0	F0.3 (class B)	100101 [2)]	P0K1.232.4W.B.010	10	
500 Ω	232	2.2 x 2.0 x 0.65 / 1.2; 10.0	F0.1 (class Y)	On request	P0K5.232.4W.Y.010	10	
500 Ω	232	2.2 x 2.0 x 0.65 / 1.2; 10.0	F0.15 (class A)	100437	P0K5.232.4W.A.010	10	
500 Ω	232	2.2 x 2.0 x 0.65 / 1.2; 10.0	F0.3 (class B)	100436 [2)]	P0K5.232.4W.B.010	10	

Nominal Resistance	Size	Dimensions (L x W x H / H2; L_W in mm)	Class*	Order code	Product name (secondary reference)	Wire length in mm	Special
1000 Ω	232	2.2 x 2.0 x 0.65 / 1.2; 7.0	F0.1 (class Y)	On request	P1K0.232.4W.Y.007	7	
1000 Ω	232	2.2 x 2.0 x 0.65 / 1.2; 7.0	F0.15 (class A)	100831	P1K0.232.4W.A.007	7	
1000 Ω	232	2.2 x 2.0 x 0.65 / 1.2; 7.0	F0.3 (class B)	100832 2)	P1K0.232.4W.B.007	7	
1000 Ω	232	2.2 x 2.0 x 0.65 / 1.1; 7.0	F0.1 (class Y)	On request	P1K0.232.4W.Y.007	7	
1000 Ω	232	2.2 x 2.0 x 0.65 / 1.1; 7.0	F0.15 (class A)	101710 1)	P1K0.232.4W.A.007	7	
1000 Ω	232	2.2 x 2.0 x 0.65 / 1.1; 7.0	F0.3 (class B)	101711 1)	P1K0.232.4W.B.007	7	
1000 Ω	232	2.2 x 2.0 x 0.65 / 1.2; 10.0	F0.1 (class Y)	On request	P1K0.232.4W.Y.010	10	
1000 Ω	232	2.2 x 2.0 x 0.65 / 1.2; 10.0	F0.15 (class A)	101582 1)	P1K0.232.4W.A.010	10	
1000 Ω	232	2.2 x 2.0 x 0.65 / 1.2; 10.0	F0.3 (class B)	101583 1)	P1K0.232.4W.B.010	10	
1000 Ω	232	2.2 x 2.0 x 0.65 / 1.2; 10.0	F0.1 (class Y)	100253 1)	P1K0.232.4W.Y.010	10	
1000 Ω	232	2.2 x 2.0 x 0.65 / 1.2; 10.0	F0.15 (class A)	On request	P1K0.232.4W.A.010	10	
1000 Ω	232	2.2 x 2.0 x 0.65 / 1.2; 10.0	F0.3 (class B)	On request	P1K0.232.4W.B.010	10	
100 Ω	216	2.4 x 1.7 x 0.65 / 1.1; 7.0	F0.1 (class Y)	On request	P0K1.216.4W.Y.007	7	
100 Ω	216	2.4 x 1.7 x 0.65 / 1.1; 7.0	F0.15 (class A)	On request	P0K1.216.4W.A.007	7	
100 Ω	216	2.4 x 1.7 x 0.65 / 1.1; 7.0	F0.3 (class B)	101605 1)	P0K1.216.4W.B.007	7	
100 Ω	216	2.4 x 1.7 x 0.65 / 1.2; 15.0	F0.1 (class Y)	On request	P0K1.216.4W.Y.015	15	
100 Ω	216	2.4 x 1.7 x 0.65 / 1.2; 15.0	F0.15 (class A)	101217 1)	P0K1.216.4W.A.015	15	
100 Ω	216	2.4 x 1.7 x 0.65 / 1.2; 15.0	F0.3 (class B)	101216 1)	P0K1.216.4W.B.015	15	
100 Ω	516	5.0 x 1.6 x 0.65 / 1.2; 10.0	F0.1 (class Y)	On request	P0K1.516.4W.Y.010	10	
100 Ω	516	5.0 x 1.6 x 0.65 / 1.2; 10.0	F0.15 (class A)	On request	P0K1.516.4W.A.010	10	
100 Ω	516	5.0 x 1.6 x 0.65 / 1.2; 10.0	F0.3 (class B)	On request	P0K1.516.4W.B.010	10	
500 Ω	516	5.0 x 1.6 x 0.65 / 1.2; 15.0	F0.1 (class Y)	On request	P0K5.516.4W.Y.015	15	
500 Ω	516	5.0 x 1.6 x 0.65 / 1.2; 15.0	F0.15 (class A)	100225	P0K5.516.4W.A.015	15	
500 Ω	516	5.0 x 1.6 x 0.65 / 1.2; 15.0	F0.3 (class B)	On request	P0K5.516.4W.B.015	15	
1000 Ω	516	5.0 x 1.6 x 0.65 / 1.2; 10.0	F0.1 (class Y)	100267	P1K0.516.4W.Y.010	10	
1000 Ω	516	5.0 x 1.6 x 0.65 / 1.2; 10.0	F0.15 (class A)	100265	P1K0.516.4W.A.010	10	
1000 Ω	516	5.0 x 1.6 x 0.65 / 1.2; 10.0	F0.3 (class B)	100263 2)	P1K0.516.4W.B.010	10	
100 Ω	520	5.0 x 2.0 x 0.65 / 1.2; 10.0	F0.1 (class Y)	100160	P0K1.520.4W.Y.010	10	
100 Ω	520	5.0 x 2.0 x 0.65 / 1.2; 10.0	F0.15 (class A)	100158	P0K1.520.4W.A.010	10	
100 Ω	520	5.0 x 2.0 x 0.65 / 1.2; 10.0	F0.3 (class B)	100156	P0K1.520.4W.B.010	10	

Nominal Resistance	Size	Dimensions (L x W x H / H2; L_W in mm)	Class*	Order code	Product name (secondary reference)	Wire length in mm	Special
500 Ω	520	5.0 x 2.0 x 0.65 / 1.2; 10.0	F0.1 (class Y)	On request	P0K5.520.4W.Y.010	10	
500 Ω	520	5.0 x 2.0 x 0.65 / 1.2; 10.0	F0.15 (class A)	100508	P0K5.520.4W.A.010	10	
500 Ω	520	5.0 x 2.0 x 0.65 / 1.2; 10.0	F0.3 (class B)	100435 [2)]	P0K5.520.4W.B.010	10	
500 Ω	520	5.0 x 2.0 x 0.65 / 1.2; 15.0	F0.1 (class Y)	100232	P0K5.520.4W.Y.015	15	
500 Ω	520	5.0 x 2.0 x 0.65 / 1.2; 15.0	F0.15 (class A)	100231	P0K5.520.4W.A.015	15	
500 Ω	520	5.0 x 2.0 x 0.65 / 1.2; 15.0	F0.3 (class B)	100230 [2)]	P0K5.520.4W.B.015	15	
1000 Ω	520	5.0 x 2.0 x 0.65 / 1.2; 10.0	F0.1 (class Y)	100276	P1K0.520.4W.Y.010	10	
1000 Ω	520	5.0 x 2.0 x 0.65 / 1.2; 10.0	F0.15 (class A)	100274	P1K0.520.4W.A.010	10	
1000 Ω	520	5.0 x 2.0 x 0.65 / 1.2; 10.0	F0.3 (class B)	100272 [2)]	P1K0.520.4W.B.010	10	
1000 Ω	520	5.0 x 2.0 x 0.65 / 1.3; 40.0	F0.1 (class Y)	On request	P1K0.520.4W.Y.040	40	
1000 Ω	520	5.0 x 2.0 x 0.65 / 1.3; 40.0	F0.15 (class A)	On request	P1K0.520.4W.A.040	40	
1000 Ω	520	5.0 x 2.0 x 0.65 / 1.3; 40.0	F0.3 (class B)	On request	P1K0.520.4W.B.040	40	
1000 Ω	520	5.0 x 2.0 x 0.65 / 1.1; 1000.0	F0.1 (class Y)	On request	P1K0.520.4W.Y.1000	1000	
1000 Ω	520	5.0 x 2.0 x 0.65 / 1.1; 1000.0	F0.15 (class A)	101479 [1)]	P1K0.520.4W.A.1000	1000	
1000 Ω	520	5.0 x 2.0 x 0.65 / 1.1; 1000.0	F0.3 (class B)	On request	P1K0.520.4W.B.1000	1000	
100 Ω	538	5.0 x 3.9 x 0.65 / 1.2; 10.0	F0.1 (class Y)	On request	P0K1.538.4W.Y.010	10	
100 Ω	538	5.0 x 3.9 x 0.65 / 1.2; 10.0	F0.15 (class A)	100180	P0K1.538.4W.A.010	10	
100 Ω	538	5.0 x 3.9 x 0.65 / 1.2; 10.0	F0.3 (class B)	100179 [2)]	P0K1.538.4W.B.010	10	
1000 Ω	538	5.0 x 3.9 x 0.65 / 1.2; 10.0	F0.1 (class Y)	On request	P1K0.538.4W.Y.010	10	
1000 Ω	538	5.0 x 3.9 x 0.65 / 1.2; 10.0	F0.15 (class A)	100332 [2)]	P1K0.538.4W.A.010	10	
1000 Ω	538	5.0 x 3.9 x 0.65 / 1.2; 10.0	F0.3 (class B)	100331	P1K0.538.4W.B.010	10	
100 Ω	505	5.0 x 5.0 x 0.65 / 1.3; 10.0	F0.1 (class Y)	On request	P0K1.505.4W.Y.010	10	
100 Ω	505	5.0 x 5.0 x 0.65 / 1.3; 10.0	F0.15 (class A)	On request	P0K1.505.4W.A.010	10	
100 Ω	505	5.0 x 5.0 x 0.65 / 1.3; 10.0	F0.3 (class B)	On request	P0K1.505.4W.B.010	10	
1000 Ω	505	5.0 x 5.0 x 0.65 / 1.2; 10.0	F0.1 (class Y)	On request	P1K0.505.4W.Y.010	10	
1000 Ω	505	5.0 x 5.0 x 0.65 / 1.2; 10.0	F0.15 (class A)	On request	P1K0.505.4W.A.010	10	
1000 Ω	505	5.0 x 5.0 x 0.65 / 1.2; 10.0	F0.3 (class B)	100296 [2)]	P1K0.505.4W.B.010	10	
100 Ω	102	10.0 x 2.0 x 0.65 / 1.3; 10.0	F0.1 (class Y)	100198	P0K1.102.4W.Y.010	10	
100 Ω	102	10.0 x 2.0 x 0.65 / 1.3; 10.0	F0.15 (class A)	100196	P0K1.102.4W.A.010	10	
100 Ω	102	10.0 x 2.0 x 0.65 / 1.3; 10.0	F0.3 (class B)	100194 [2)]	P0K1.102.4W.B.010	10	

Nominal Resistance	Size	Dimensions (L x W x H / H2; L_W in mm)	Class*	Order code	Product name (secondary reference)	Wire length in mm	Special
500 Ω	102	10.0 x 2.0 x 0.65 / 1.3; 10.0	F0.1 (class Y)	On request	P0K5.102.4W.Y.010	10	
500 Ω	102	10.0 x 2.0 x 0.65 / 1.3; 10.0	F0.15 (class A)	101014	P0K5.102.4W.A.010	10	
500 Ω	102	10.0 x 2.0 x 0.65 / 1.3; 10.0	F0.3 (class B)	101019 [2)]	P0K5.102.4W.B.010	10	
1000 Ω	102	10.0 x 2.0 x 0.65 / 1.3; 10.0	F0.1 (class Y)	100306	P1K0.102.4W.Y.010	10	
1000 Ω	102	10.0 x 2.0 x 0.65 / 1.3; 10.0	F0.15 (class A)	100303 [2)]	P1K0.102.4W.A.010	10	
1000 Ω	102	10.0 x 2.0 x 0.65 / 1.3; 10.0	F0.3 (class B)	100301	P1K0.102.4W.B.010	10	

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

100 Ω	161	1.6 x 1.2 x 0.25 / 0.6; 10.0	F0.1 (class Y)	On request	P0K1.161.4SW.Y.010	10	
100 Ω	161	1.6 x 1.2 x 0.25 / 0.6; 10.0	F0.15 (class A)	100587	P0K1.161.4SW.A.010	10	
100 Ω	161	1.6 x 1.2 x 0.25 / 0.6; 10.0	F0.3 (class B)	100412 [2)]	P0K1.161.4SW.B.010	10	
1000 Ω	161	1.6 x 1.2 x 0.25 / 0.6; 10.0	F0.1 (class Y)	On request	P1K0.161.4SW.Y.010	10	
1000 Ω	161	1.6 x 1.2 x 0.25 / 0.6; 10.0	F0.15 (class A)	100401	P1K0.161.4SW.A.010	10	
1000 Ω	161	1.6 x 1.2 x 0.25 / 0.6; 10.0	F0.3 (class B)	100327	P1K0.161.4SW.B.010	10	
100 Ω	232	2.2 x 2.0 x 0.65 / 1.2; 10.0	F0.1 (class Y)	100930	P0K1.232.4SW.Y.010	10	
100 Ω	232	2.2 x 2.0 x 0.65 / 1.2; 10.0	F0.15 (class A)	100630	P0K1.232.4SW.A.010	10	
100 Ω	232	2.2 x 2.0 x 0.65 / 1.2; 10.0	F0.3 (class B)	100734	P0K1.232.4SW.B.010	10	
500 Ω	232	2.2 x 2.0 x 0.65 / 1.2; 10.0	F0.1 (class Y)	On request	P0K5.232.4SW.Y.010	10	
500 Ω	232	2.2 x 2.0 x 0.65 / 1.2; 10.0	F0.15 (class A)	On request	P0K5.232.4SW.A.010	10	
500 Ω	232	2.2 x 2.0 x 0.65 / 1.2; 10.0	F0.3 (class B)	100397	P0K5.232.4SW.B.010	10	
1000 Ω	232	2.2 x 2.0 x 0.65 / 1.2; 15.0	F0.1 (class Y)	On request	P1K0.232.4SW.Y.015	15	
1000 Ω	232	2.2 x 2.0 x 0.65 / 1.2; 15.0	F0.15 (class A)	100399	P1K0.232.4SW.A.015	15	
1000 Ω	232	2.2 x 2.0 x 0.65 / 1.2; 15.0	F0.3 (class B)	100254	P1K0.232.4SW.B.015	15	

308 (with Ag-wire, Ø 0.15 mm)

100 Ω	308	2.9 x 0.8 x 0.25 / 0.6; 10.0	F0.1 (class Y)	On request	P0K1.308.4W.Y.010	10	
100 Ω	308	2.9 x 0.8 x 0.25 / 0.6; 10.0	F0.15 (class A)	101533	P0K1.308.4W.A.010	10	
100 Ω	308	2.9 x 0.8 x 0.25 / 0.6; 10.0	F0.3 (class B)	101532	P0K1.308.4W.B.010	10	
1000 Ω	308	2.9 x 0.8 x 0.25 / 0.6; 10.0	F0.1 (class Y)	On request	P1K0.308.4W.Y.010	10	
1000 Ω	308	2.9 x 0.8 x 0.25 / 0.6; 10.0	F0.15 (class A)	101529	P1K0.308.4W.A.010	10	
1000 Ω	308	2.9 x 0.8 x 0.25 / 0.6; 10.0	F0.3 (class B)	101528	P1K0.308.4W.B.010	10	

Nominal Resistance	Size	Dimensions (L x W x H / H2; L_W in mm)	Class*	Order code	Product name (secondary reference)	Wire length in mm	Special
1000 Ω	308	2.9 x 0.8 x 0.25 / 0.6; 60.0	F0.1 (class Y)	On request	P1K0.308.4W.Y.060	60	
1000 Ω	308	2.9 x 0.8 x 0.25 / 0.6; 60.0	F0.15 (class A)	101531	P1K0.308.4W.A.060	60	
1000 Ω	308	2.9 x 0.8 x 0.25 / 0.6; 60.0	F0.3 (class B)	101530	P1K0.308.4W.B.060	60	
100 Ω	308	3.0 x 0.8 x 0.25 / 0.6; 18.0	F0.1 (class Y)	On request	P0K1.308.4W.Y.018	18	
100 Ω	308	3.0 x 0.8 x 0.25 / 0.6; 18.0	F0.15 (class A)	On request	P0K1.308.4W.A.018	18	
100 Ω	308	3.0 x 0.8 x 0.25 / 0.6; 18.0	F0.3 (class B)	On request	P0K1.308.4W.B.018	18	

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

100 Ω	308	2.9 x 0.8 x 0.25 / 0.6; 10.0	F0.1 (class Y)	101547	P0K1.308.4W.Y.010.S	10	
100 Ω	308	2.9 x 0.8 x 0.25 / 0.6; 10.0	F0.15 (class A)	On request	P0K1.308.4W.A.010.S	10	
100 Ω	308	2.9 x 0.8 x 0.25 / 0.6; 10.0	F0.3 (class B)	On request	P0K1.308.4W.B.010.S	10	

Additional Documents

Application Note	Document name: APT_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.	308.	4	W.	B.	010.	S

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