



R-Series

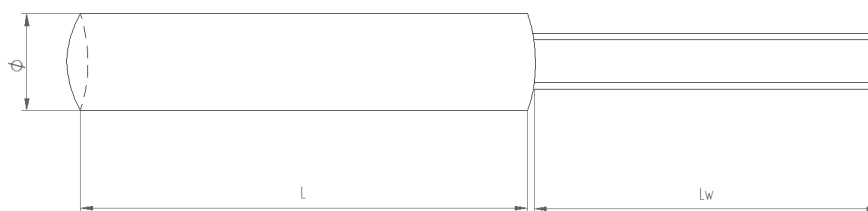
Platinum sensor with round ceramic housing

For medium temperatures

Benefits & Characteristics

- Same dimensions as a traditional wire wound sensor - easy interchangeability into existing applications
- Available in class F0.15 within a temperature range from -200 °C to +600 °C (PW-Series)
- Easy to assemble (boreholes etc.)
- Fast response time (depending on assembly)
- Excellent long-term stability
- Low self-heating
- Vibration and temperature shock resistant (depending on assembly)
- Customer-specific solutions available upon request

Illustration ¹⁾



Dimension tolerances: $\varnothing \pm 0.2 \text{ mm}$, $L \pm 1 \text{ mm}$, L_w (up to 30 mm) $\pm 1 \text{ mm}$

¹⁾ For actual size, see dimensions

Technical Data

Operating temperature range:	-200 °C to +600 °C	
Nominal resistance:*	100 Ω at 0 °C	
	500 Ω at 0 °C	
	1000 Ω at 0 °C	
Characteristics curve:*	3850 ppm/K	
	3911 ppm/K (PG Series)	
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
Connection:*	Ag-wire, \varnothing 0.25 mm (solderable, weldable)	
	Pt-cladded Ni-wire, \varnothing 0.2 mm (solderable, weldable, crimpable, brazeable)	
	Pt-wire, \varnothing 0.2 mm (solderable, weldable, crimpable, brazeable)	



Recommended applied current: ²⁾	1 mA at 100 Ω
²⁾ Self-heating must be considered	0.5 mA at 500 Ω
	0.3 mA at 1000 Ω

Other alternatives: * Insulated wires, stranded wires etc.
Two sensors in one ceramic housing

* Customer-specific alternatives available

Order Information -200 °C to +400 °C (Ag-wire, Ø 0.25 mm)

Size	Dimensions (Ø x L; L _w in mm)	F0.1 (class Y)	F0.15 (class A)	F0.3 (class B)
Nominal resistance: 100 Ω at 0 °C				
281	2.8 x 13.0; 10.0	Upon request	P0K1.281.4W.A.010.R	P0K1.281.4W.B.010.R
Order code			010.00477	010.00476
451	4.5 x 13.0; 8.0	Upon request	P0K1.451.4W.A.008.R	Upon request
Order code			010.00771	
451	4.5 x 13.0; 10.0	Upon request	Upon request	P0K1.451.4W.B.010.R
Order code				010.00481

Order Information -200 °C to +600 °C (Pt-cladded Ni-wire, Ø 0.2 mm)

Size	Dimensions (Ø x L; L _w in mm)	F0.1 (class Y)	F0.15 (class A)	F0.3 (class B)
Nominal resistance: 100 Ω at 0 °C				
281	2.8 x 13.0; 7.0	Upon request	P0K1.281.6W.A.007.R	P0K1.281.6W.B.007.R
Order code			010.00479	010.00478
451	4.5 x 13.0; 7.0	Upon request	P0K1.451.6W.A.007.R	P0K1.451.6W.B.007.R
Order code			010.00483	010.00482
2x 100 Ω at 0 °C (two sensors in one housing)				
281	2.8 x 13.0; 10.0/15.0	Upon request	Upon request	2xP0K1.281.6W.B.010/015.R
Order code				010.02328
451	4.5 x 13.0; 6.0/8.0	Upon request	Upon request	2xP0K1.451.6W.B.006/008.R
Order code				010.02826
Nominal resistance: 1000 Ω at 0 °C				
281	2.8 x 13.0; 7.0	Upon request	P1K0.281.6W.A.007.R	P1K0.281.6W.B.007.R
Order code			010.02388	010.02451
451	4.5 x 13.0; 7.0	Upon request	Upon request	P1K0.451.6W.B.007.R
Order code				010.02628



Order Information -200 °C to +400 °C, PG-Series (Pt-cladded Ni-wire, Ø 0.2 mm)

Size	Dimensions (Ø x L; L _w in mm)	F0.1 (class Y)	F0.15 (class A)	F0.3 (class B)
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Nominal resistance: 100 Ω at 0 °C

281	2.8 x 13.0; 6.0	Upon request	PG0K1.281.4K.A.006.R	PG0K1.281.4K.B.006.R
Order code			310.00447	310.00264

Order Information -200 °C to +600 °C, PW-Series (Pt-wire, Ø 0.2 mm)

Size	Dimensions (Ø x L; L _w in mm)	F0.1 (class Y)	F0.15 (class A)	F0.3 (class B)
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Nominal resistance: 100 Ω at 0 °C

281	2.8 x 13.0; 4.0	PW0K1.281.7W.Y.004.R	PW0K1.281.7W.A.004.R	PW0K1.281.7W.B.004.R
Order code		310.00263	310.00255	310.00408

Additional Documents

Application Note:	Document name: 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 OK1. 451. 4 W. A. 010. R



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