Innovative Sensor Technology

physical. chemical. biological.

R-Series

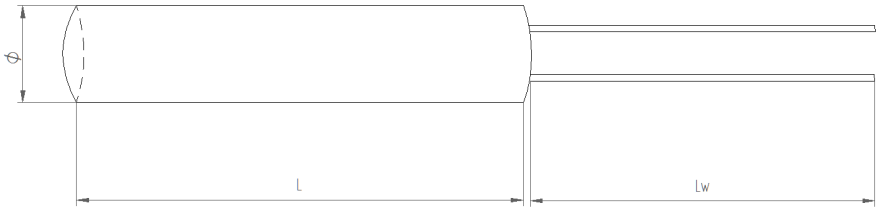
Platinum sensor with round ceramic housing

For medium temperatures

Benefits & Characteristics

- Same dimensions as a traditional wire wound sensor - easy interchangeability into existing applications
- Easy to assemble (boreholes etc.)
- Excellent long-term stability
- Vibration and temperature shock resistant (depending on assembly)
- Fast response time (depending on assembly)
- Low self-heating
- Extended class F0.15 (IST AG class A) area available
- Customer-specific solutions available upon request

Illustration [1)]



Dimension tolerances:	Ø ±0.2 mm, L ±1 mm, L_W (up to 30 mm) ±1 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, Ø 0.25 mm (solderable, weldable)	
	Pt-cladded Ni-wire, Ø 0.2 mm (solderable, weldable, crimpable, brazeable)	
	Pt-wire, Ø 0.2 mm (solderable, weldable, crimpable, brazeable)	

Recommended applied current:[2)] [2)] *Self-heating must be considered*	1 mA at 100 Ω 0.5 mA at 500 Ω 0.3 mA at 1000 Ω
Other alternatives:*	Insulated wires, stranded wires etc.

* 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
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)
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)
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

	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. 451. 4 W. A. 010. R

ISO 9001 RoHS

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