DATA SHEET

Thin Films Platinum Temperature Sensors

Application

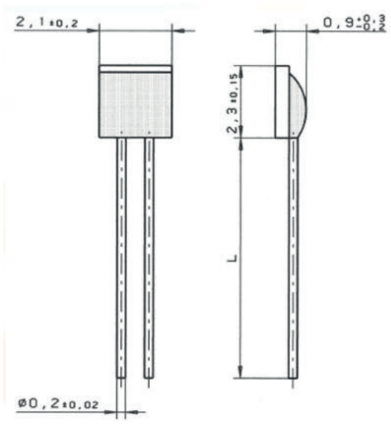
These thin film Platinum resistance temperature sensors (PRTD) are designed for large volume applications where long term stability, interchange ability and accuracy over a large temperature range are vital. Typical applications are Automotive, White Goods, Heating-Ventilation and Air Conditioning, Energy management, Medical and Industrial equipment.

Technical Data

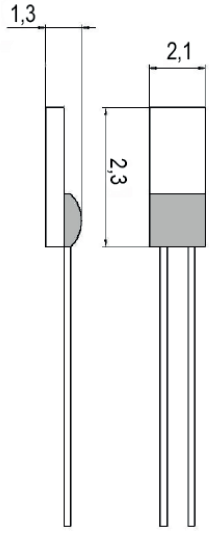
Properties	
Norm	DIN EN 60751
Range	- 70°C to + 500°C (permanent) (short exposure up to 550 °C), -200 °C up to +600 °C (0364 0093), -50 °C up to +300 °C (0364 0098)
Accuracy	Class B: ±(0.3 + 0.005x|T|)°C Class A: ±(0.15 + 0.002x|T|)°C 1/3 of Class DIN B
Classes Validity Range	Class B: - 70°C to + 500°C Class A: - 50°C to + 300°C Class 1/3 DIN: 0°C to + 150°C
Temperature coefficient	TCR = 3850 ppm/K
Dimensions	2.3 x 2.1 x 1.5 mm (Art.-No. 0364 0048, 0364 0102-10), 2.3 x 2.1 x 0.9 mm (0364 0018-20), 2.5 x 2.0 x 1.3 mm (Art.-No. 0364 0037, 0364 0102-30), 2.3 x 2.1 x 1.5 mm (Art.-No. 0364 0025), 10 x 2 x 1.3 mm (Art.-No. 0364 0015), 6 x 2 x 0,8 mm (Art.-No. 0364 0003-10), 5 x 2 x 1,3 mm (Art.-No. 0364 0010-10), 9,5 x 1,9 x 0,9 mm (Art.-No. 0364 0015-01, 0364 0093), 10 x 2 x 1,2 mm (Art.-No. 0364 0022), 4 x 2 x 1,3 mm (Art.-No. 0364 0093), 10 x 2 x 1 mm (Art.-No. 0364 0102)
Leads	Pt clad Ni wire. Recommended connection technology: Welding, Crimping and Brazing
Lead length L	10 mm ±1, Ø0.2 mm
Mechanical Properties	
Durability	Max. R0-Drift 0,04% after 1000 h at 500°C
Vibration Resistance	Min. 40 g acceleration at 10 to 2000 Hz, depending on the installation type
Shock Resistance	Min.100 g acceleration with 8ms half-Sinus-Wave, depending on the installation type
Environmental	Unprotected, only in dry environments
Elektrical Properties	
Insulation Resistance	> 100 MΩ at 20°C; > 2 MΩ at 500°C
Measuring Current	100 Ω: 0,3 to 1,0 mA 500 Ω: 0,1 to 0,7 mA 1000 Ω: 0,1 to 0,3 mA (Pay attention to self heating!)
Self heating	0,4 K/mW at 0°C 0,2 K/mW at 0°C (Art.-No. 0364 0015)
Response time	Water flow (v = 0,4 m/s): t0,5 = 0,05 s; t0,9 = 0,15 s; Air flow (v = 2 m/s): t0,5 = 3,0 s; t0,9 = 10,0 s; At Art.-No. 0364 0015: Water flow (v = 0,4 m/s): t0,5 = 0,10 s; t0,9 = 0,30 s; Air flow (v = 2 m/s): t0,5 = 4,0 s; t0,9 = 12,0 s;
Note	Other accuracies, Other resistances and lead lengths available under request

Order information		
Pt100	Class B	0364 0037
	Class B	0364 0015
	Class B	0364 0010-10
	Class A	0364 0025
	Class A	0364 0022
	Class A	0364 0025-01
	1/3 DIN	0364 0048
	1/3 DIN	0364 0015-01
Pt500	Class B	0364 0018-20
Pt1000	Class B	0364 0102-10
	Class B	0364 0102
	Class A	0364 0102-30
	Class A	0364 0093
	Class A	0364 0098
Pt2000	Class B	0364 0003-10

0364 0018-20, 0364 0025-01



0364 0025



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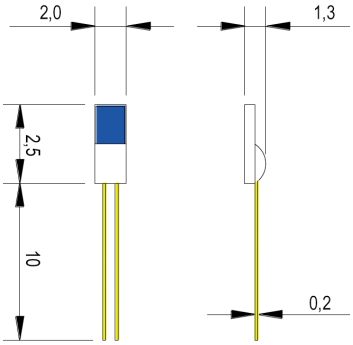
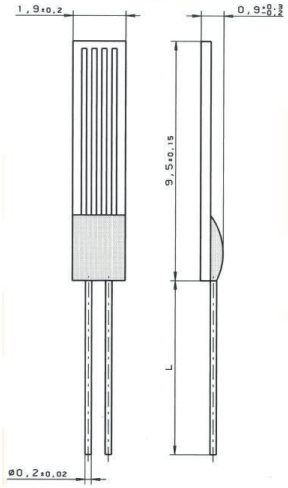
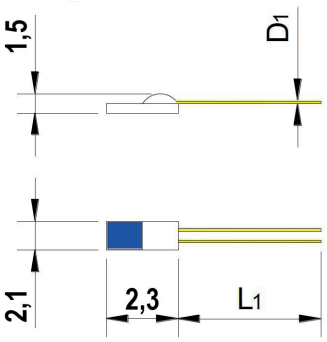
0364 0037, 0364 0102-30



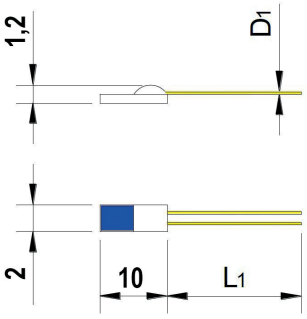
0364 0015-01, 0364 0093



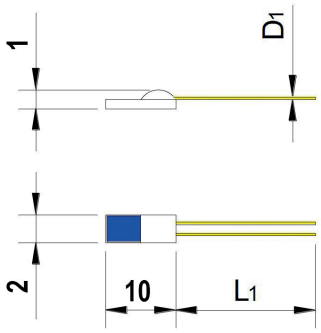
0364 0048, 0364 0102-10



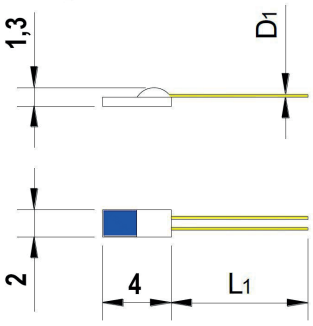
0364 0022



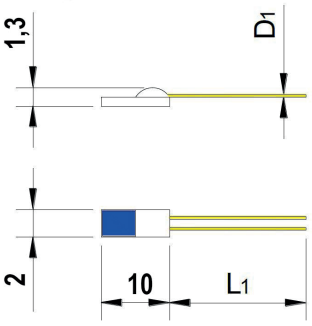
0364 0102



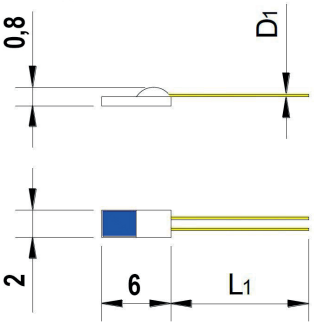
0364 0093



0364 0015



0364 0003-10



0364 0010-10