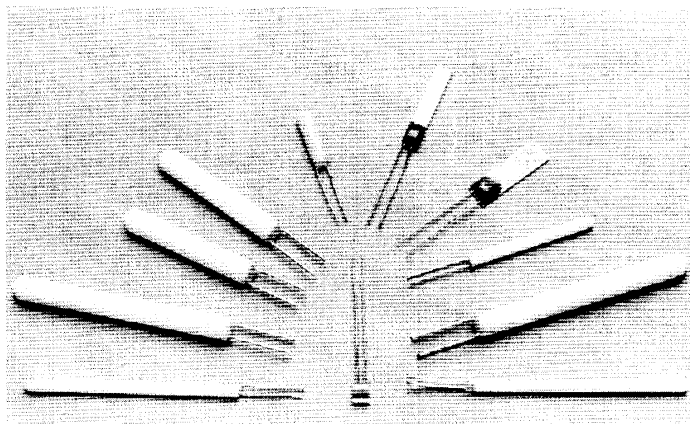


# LABFACILITY

## TEMPERATURE & PROCESS TECHNOLOGY

- ◆ Precision platinum temperature sensors
- ◆ Pt100, Pt500, Pt1000 and other values available
- ◆ Available from stock
- ◆ Wire-wound and flat film types Wide range of sizes
- ◆ Tolerance values from Class B to 1/10 Class B
- ◆ Single or duplex detectors Specials available to order including alternative  $R_0$  values and nickel resistors



Labfacility offers a wide range of precision platinum temperature sensing resistors in both wire-wound and flat film construction. All standard items are available in quantity from stock; non-standard detectors can be supplied to order.

Platinum **wire-wound detectors** comprise a pure platinum wire wound into a miniature spiral and located within axial holes in a high purity alumina rod. The freedom of movement of the platinum wire gives good long term stability and a wide operating temperature range of  $-200$  to  $+800^{\circ}\text{C}$ . Labfacility wire-wound detectors are cylindrical in shape and ideally suited for housing within a protective metal tube.

Although more expensive than flat film alternatives, wire-wound detectors have a wider temperature range (particularly below  $-50^{\circ}\text{C}$ ) and are readily available in close tolerance classes.

A range of alternative diameters and lengths is available. Duplex detectors containing two platinum resistors are also available.

Platinum **flat-film detectors** are produced by the deposition of a platinum film on to a flat ceramic substrate, the platinum being sealed to provide protection. Flat-film detectors are available in a range of sizes and are recommended for applications requiring small size, fast response to temperature changes, surface measurement, and resistance to vibration and shock. They are generally less expensive than wire-wound detectors, but the choice of tolerance classes is more limited.

In addition to the standard detectors listed in this data sheet, specials are available including other sizes, duplex detectors, alternative  $R_0$  values, and nickel detectors to suit a wide range of applications.

### LABFACILITY LIMITED

#### HEADQUARTERS:

LABFACILITY LTD, 8 Feltham Business Complex, Browells Lane, Feltham, Middlesex TW13 7LW  
Tel:+44(0)208818188 Fax +44(0)2088181881

#### NORTHERN DIVISION:

LABFACILITY LTD, Unit 7 Abbey Way, North Anston Trading Estate, Dinnington, Sheffield S31 7JL, UK.

Tel:+44(0)1909 569446 Fax:+44(0)1909 550632

#### SOUTHERN and EXPORT DIVISION:

LABFACILITY LTD, Unit 7 Southern Cross Industrial Estate Shripney Road, Bognor Regis, West Sussex PO22 9SD

Tel: +44(0)1243 871280 Fax +44(0)1243 871281;



Reddington Certificate No. 1706

## SPECIFICATIONS

Sensor type Unless stated all detectors are Pt100 to BS EN60751:1996, BS1904:1984, DIN 43760:1980 and IEC 751:1983  
 Ro 100 Ohms  
 Temperature range Wire wound: -200 to +800°C  
 Flat film: -50°C to maximum value shown below.

### Resistance v temperature and tolerances for Pt100 thermometers to IEC 751

Temperature Resistance		Tolerance		Temperature Resistance		Tolerance	
(°C)	(Ω)	Class A (±°C)	Class B (±Ω)	(°C)	(Ω)	Class A (±°C)	Class B (±Ω)
-200	18.52	0.55	0.24	500	280.98	1.15	0.38
-100	60.26	0.35	0.14	600	313.71	1.35	0.43
0	100.00	0.15	0.06	650	329.74	1.45	0.46
100	138.51	0.35	0.13	700	345.28	—	—
200	175.86	0.55	0.20	800	375.70	—	—
300	212.05	0.75	0.27	850	390.48	—	—
400	247.09	0.95	0.33				

#### Tolerances

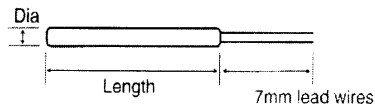
Class B  $\pm(0.3^{\circ}\text{C} + 0.005t)$   
 Class A  $\pm(0.15^{\circ}\text{C} + 0.002t)$   
 Where t is the measured temperature  
 1/3 Class B  $\pm(0.1^{\circ}\text{C at } 0^{\circ}\text{C})$   
 1/5 Class B  $\pm(0.06^{\circ}\text{C at } 0^{\circ}\text{C})$   
 1/10 Class B  $\pm(0.03^{\circ}\text{C at } 0^{\circ}\text{C})$   
 Note: 1/3, 1/5 and 1/10 Class B  
 Tolerances apply at 0°C

Specifications may be subject to change

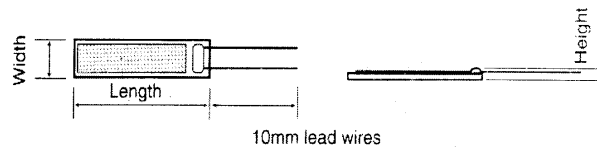
#### Dimensions

Individual dimensions are given in Order Codes & Dimensions below.

#### Wire Wound



#### Flat-film



### Order Codes and Dimensions

#### Wire Wound Detectors, PT100

Dimensions Dia x length (mm)	Tolerance Class	Specification No.
2.8 x 25	B	P100/2528 B
2.8 x 25	A	P100/2528 A
2.8 x 25	1/3	P100/2528 1/3
2.8 x 25	1/5	P100/2528 1/5
2.8 x 25	1/10	P100/2528 1/10
1.5 x 25	B	P100/2515 B
2.8 x 15	B	P100/1528 B
2.8 x 15	A	P100/1528 A
2.8 x 15	1/3	P100/1528 1/3
2.8 x 15	1/5	P100/1528 1/5
2.8 x 15	1/10	P100/1528 1/10
2.4 x 15	B	P100/1524 B
1.6 x 15	B	P100/1516 B
1.5 x 15	B	P100/1515 B
1.5 x 15	A	P100/1515 A
1.5 x 15	1/3	P100/1515 1/3
1.5 x 15	1/5	P100/1515 1/5
1.5 x 15	1/10	P100/1515 1/10
0.8 x 15	B	P100/0815 B
0.8 x 15	A	P100/0815 A
0.8 x 15	1/3	P100/0815 1/3
0.8 x 15	1/5	P100/0815 1/5
0.8 x 15	1/10	P100/0815 1/10

#### Flat-film detectors, Pt100 and Pt1000

Order Code	Sensor type	Dimensions WxLxH (mm)	Tolerance Class	Max temperature (°C)	Order Code
DA-016	Pt100Ω	2 x 5 x 1.1	B	500	DM-503
DA-017	Pt100Ω	2 x 5 x 1.1	A	400	DM-508
DA-018	Pt100Ω	1.7 x 5 x 1.1	B	600	DM-385
DA-019	Pt100Ω	2 x 10 x 1.4	B	600	DM-333
DA-020	Pt100Ω	2 x 10 x 1.4	A	400	DM-334
DA-026	Pt1000Ω	2 x 10 x 1.1	B	500	DM-507
DA-041	Pt1000Ω	2 x 10 x 1.4	B	600	DM-367
DA-042					
DA-043					
DA-044					
DA-045					
DA-046					
DA-056					
DA-061					
DA-062					
DA-063					
DA-064					
DA-065					
DA-081					
DA-082					
DA-083					
DA-084					
DA-085					

Class A and B detectors are readily available from stock.  
 When ordering alternative tolerance devices please call to first to confirm availability.

For sizes and types not listed, contact sales office

Labfacility manufactures and stocks a wide range of RTD probes



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