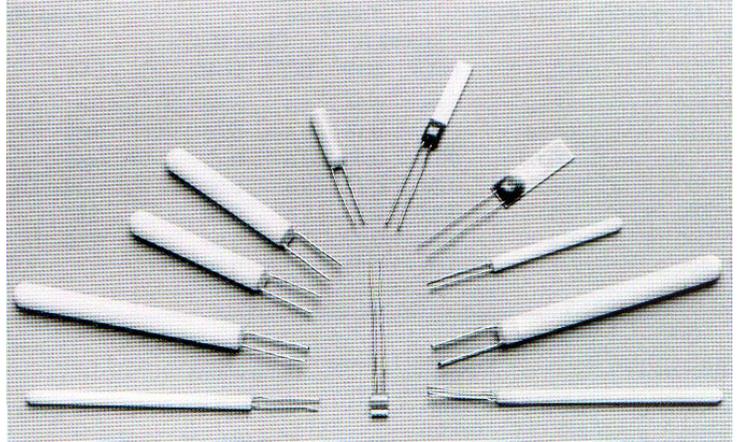


- ◆ Precision platinum temperature sensors
- ◆ Pt100, Pt500, Pt1000 and other values available
- ◆ Available from stock
- ◆ Wire-wound and flat film types Wide range of sizes
- ◆ Tolerance values from Class B to 1/10 Class B
- ◆ Single or duplex detectors Specials available to order including alternative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



B+B 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  $+800^{\circ}\text{C}$ . B+B 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.

Sensor type	Unless stated all detectors are Pt100 to BS EN60751:1996, BS1904:1984, DIN 43760:1980 and IEC 751:1983	
$R_0$	100 Ohms	
Temperature range	Wire wound:	$-200$ to $+800^{\circ}\text{C}$
	Flat film:	$-50^{\circ}\text{C}$ to maximum value shown below.

#### Tolerances

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

Specifications may be subject to change

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

Temperature Resistance		Tolerance		Temperature Resistance		Tolerance	
(°C)	(Ω)	Class A (±°C) (±Ω)	Class B (±°C) (±Ω)	(°C)	(Ω)	Class A (±°C) (±Ω)	Class B (±°C) (±Ω)
-200	18.52	0.55 0.24	1.3 0.56	500	280.98	1.15 0.38	2.8 0.93
-100	60.26	0.35 0.14	0.8 0.32	600	313.71	1.35 0.43	3.3 1.06
0	100.00	0.15 0.06	0.3 0.12	650	329.74	1.45 0.46	3.6 1.13
100	138.51	0.35 0.13	0.8 0.30	700	345.28	— —	3.8 1.17
200	175.86	0.55 0.20	1.3 0.48	800	375.70	— —	4.3 1.28
300	212.05	0.75 0.27	1.8 0.64	850	390.48	— —	4.6 1.34
400	247.09	0.95 0.33	2.3 0.79				

### Dimensions

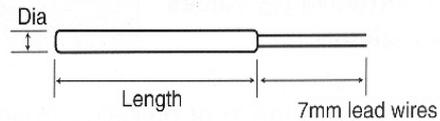
#### Wire Wound Detectors, PT100

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

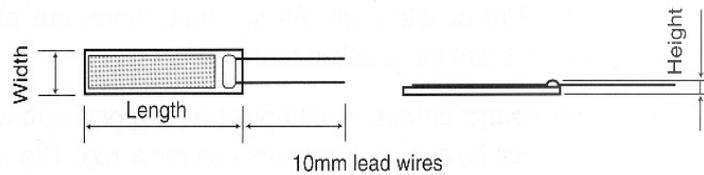
### Dimensions

Individual dimensions are given in Order Codes & Dimensions below.

#### Wire Wound



#### Flat-film



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

Sensor type	Dimensions WxLxH (mm)	Tolerance Class	Max temperature (°C)
Pt100Ω	2 x 5 x 1.1	B	500
Pt100Ω	2 x 5 x 1.1	A	400
Pt100Ω	1.7 x 5 x 1.1	B	600
Pt100Ω	2 x 10 x 1.4	B	600
Pt100Ω	2 x 10 x 1.4	A	400
Pt1000Ω	2 x 10 x 1.1	B	500
Pt1000Ω	2 x 10 x 1.4	B	600

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 manufactures and stocks a wide range of RTD probes