

Platinum Resistance Thermometer Sensor Assemblies

- RUGGED CONSTRUCTION
- WIDE OPERATING TEMPERATURE RANGES FROM -200° TO $+600^{\circ}$ C
- HIGH ACCURACY, REPEATABILITY AND REPRODUCIBILITY
- COMPREHENSIVE RANGE OF DIAMETERS AND TERMINATIONS WITH SHEATH LENGTHS TO SUIT CUSTOMER REQUIREMENTS

Platinum resistance thermometers are used for interpolation between the IPTS-68 fixed temperature points of ice and antimony (0° C to $630,76^{\circ}$ C), generally used where accuracy and stability are most important.


Ordering Code

A
B
C
D
E
F
G
H
I

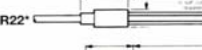
A SUFFIX
G - General Purpose PT100
 Maximum Temperature 200° C
NOT MINERAL INSULATED

B COLD END THERMOCOUPLE TERMINATIONS


R14




R22*



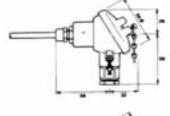
R23



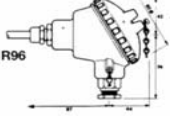
R25



R95 WEATHERPROOF DIE CAST ALLOY HEADS

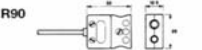


R96




OR ANY STANDARD FITTING


R90



R91



R92



RX - 96 (Transmitter installed)
 N.B.: BAKELITE HEADS ALSO AVAILABLE R97

*R22 STYLE ALSO AVAILABLE AS:
 R26 - With sprague tubing
 R99 - SS braided tails
 R77 - With male connector

D LENGTH IN MM

E

SYMBOL	DM	E	FM	G	I
SHEATH DIAMETER (mm)	3.0	4.75	6.0	8.0	9.52

FOR IMPERIAL EQUIVALENTS REMOVE SUFFIX "M" i.e. F=6.35mm O.D.

F

SYMBOL	
100	PT100 (DIN 43760)

*OTHER RTD'S AVAILABLE UPON REQUEST

G STANDARD SHEATH MATERIAL

CODE	SPEC
C	STAINLESS STEEL 316

*OTHER MATERIALS AVAILABLE UPON REQUEST

H TAIL LENGTH IN MM FOR R22, R23, R25, R26, R77 & R99 ASSEMBLIES


P = PVC S = TEFLON/BRAID T = TEFLON

i.e. 1000 P = 1 metre PVC tails

I BRASS ADJUSTABLE COMPRESSION FITTINGS

These sliding glands are three part fittings comprising body, ferrule and cap and are available in both stainless steel and brass with either BSP taper or NPT/API threads.

4F1 - 1/8" NPT
4F2 - 1/4" NPT
4F4 - 1/2" NPT



For SS fittings add suffix 'S' i.e. 4F4S

OTHER SIZES AVAILABLE ON REQUEST

C

.2	- 2 WIRE SIMPLEX ASSEMBLY
.3	- 3 WIRE SIMPLEX ASSEMBLY
.4	- 2 WIRE DUPLEX ASSEMBLY
.6	- 3 WIRE DUPLEX ASSEMBLY

RTD Conversion Tables

Platinum Resistance Thermometry:

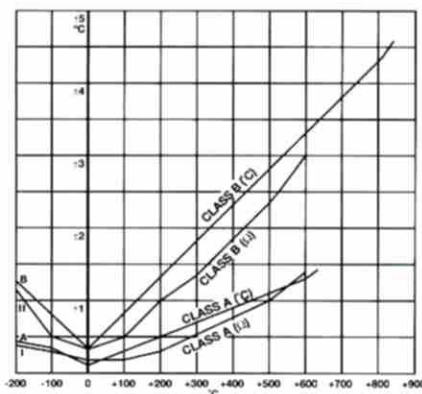
Resistance vs Temperature relationship and tolerances.

Ohms IEC 751:1983 BS EN 60751:1996		Temperature	Ohms (IEC 751:1983 BS EN 60751:1996)				
0	°C	0	2	4	6	8	
18.56	-200	18.49					
22.83	-190	22.80	21.94	21.08	20.22	19.36	
27.11	-180	27.08	26.23	25.37	24.52	23.66	
31.34	-170	31.32	30.47	29.63	28.78	27.93	
35.54	-160	35.53	34.69	33.85	33.01	32.16	
39.72	-150	39.71	38.88	38.04	37.21	36.37	
43.88	-140	43.87	43.04	42.21	41.38	40.55	
48.01	-130	48.00	47.18	46.35	45.52	44.70	
52.12	-120	52.11	51.29	50.47	49.64	48.82	
56.21	-110	56.19	55.38	54.56	53.74	52.92	
60.28	-100	60.25	59.44	58.63	57.82	57.00	
64.32	-90	64.30	63.49	62.68	61.87	61.06	
68.34	-80	68.33	67.52	66.72	65.91	65.11	
72.35	-70	72.33	71.53	70.73	69.93	69.13	
76.34	-60	76.33	75.53	74.73	73.93	73.13	
80.32	-50	80.31	79.51	78.72	77.92	77.13	
84.29	-40	84.27	83.48	82.69	81.89	81.10	
88.23	-30	88.22	87.43	86.64	85.85	85.06	
92.16	-20	92.16	91.37	90.59	89.80	89.01	
96.09	-10	96.09	95.30	94.52	93.73	92.95	
100.00	0	100.00	99.22	98.44	97.65	96.87	
100.00	0	100.00	100.78	101.56	102.34	103.12	
103.90	10	103.90	104.68	105.46	106.24	107.02	
107.79	20	107.79	108.57	109.35	110.12	110.90	
111.67	30	111.67	112.45	113.22	113.99	114.77	
115.54	40	115.54	116.31	117.08	117.85	118.62	
119.40	50	119.40	120.16	120.93	121.70	122.47	
123.24	60	123.24	124.01	124.77	125.54	126.31	
127.07	70	127.07	127.84	128.60	129.37	130.13	
130.89	80	130.89	131.86	132.42	133.18	133.94	
134.70	90	134.70	135.46	136.22	136.98	137.74	
138.50	100	138.50	139.26	140.02	140.77	141.53	
142.29	110	142.29	143.04	143.80	144.55	145.31	
146.06	120	146.06	146.81	147.57	148.32	149.07	
149.82	130	149.82	150.57	151.33	152.08	152.83	
153.57	140	153.58	154.32	155.07	155.82	156.57	
157.31	150	157.31	158.06	158.81	159.55	160.30	
161.04	160	161.04	161.79	162.53	163.27	164.02	
164.76	170	164.76	165.50	166.24	166.98	167.72	
168.46	180	168.46	169.20	169.94	170.68	171.42	
172.16	190	172.16	172.90	173.63	174.37	175.10	
175.83	200	175.84	176.57	177.31	178.04	178.78	
179.50	210	179.51	180.24	180.97	181.71	182.44	
183.16	220	183.17	183.90	184.63	185.36	186.09	
186.82	230	186.82	187.54	188.27	189.00	189.72	
190.45	240	190.45	191.18	191.90	192.63	193.35	
194.07	250	194.07	194.80	195.52	196.24	196.96	
197.69	260	197.69	198.41	199.13	199.85	200.57	
201.29	270	201.29	202.01	202.72	203.44	204.16	
204.88	280	204.88	205.59	206.31	207.02	207.74	
208.46	290	208.45	209.17	209.88	210.59	211.31	

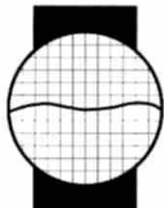
Nominal Resistance: 100 ohms @ 0 °C
Fundamental Interval: 38.5 Ω

Ohms IEC 751:1983 BS EN 60751:1996		Temperature	Ohms (IEC 751:1983 BS EN 60751:1996)				
0	°C	0	2	4	6	8	
212.02	300	212.02	212.73	213.44	214.15	214.86	
215.58	310	215.57	216.28	216.99	217.70	218.41	
219.12	320	219.12	219.82	220.53	221.24	221.94	
222.26	330	222.65	223.35	224.06	224.76	225.46	
226.18	340	226.17	226.87	227.57	228.27	228.97	
229.69	350	229.67	230.37	231.07	231.77	232.47	
233.19	360	233.17	233.87	234.56	235.26	235.96	
236.68	370	236.65	237.35	238.04	238.74	239.43	
240.16	380	240.13	240.82	241.51	242.20	242.90	
243.61	390	243.59	244.28	244.97	245.66	246.35	
247.08	400	247.04	247.73	248.41	249.10	249.79	
250.52	410	250.48	251.16	251.85	252.53	253.22	
253.95	420	253.90	254.59	255.27	255.95	256.63	
257.37	430	257.32	258.00	258.68	259.36	260.04	
260.77	440	260.72	261.40	262.08	262.76	263.43	
264.17	450	264.11	264.79	265.47	266.14	266.82	
267.56	460	267.49	268.17	268.84	269.51	270.19	
270.94	470	270.86	271.53	272.20	272.88	273.55	
274.29	480	274.22	274.89	275.56	276.23	276.89	
277.64	490	277.56	278.23	278.90	279.56	280.23	
280.98	500	280.90	281.56	282.23	282.89	283.55	
284.31	510	284.22	284.88	285.54	286.21	286.87	
287.63	520	287.53	288.19	288.85	289.51	290.17	
290.93	530	290.83	291.49	292.14	292.80	293.46	
294.22	540	294.11	294.77	295.43	296.08	296.74	
297.50	550	297.39	298.04	298.70	299.35	300.00	
300.76	560	300.65	301.31	301.96	302.61	303.26	
304.02	570	303.91	304.56	305.20	305.85	306.50	
307.27	580	307.15	307.79	308.44	309.09	309.73	
310.51	590	310.38	311.02	311.66	312.31	312.95	
313.72	600	313.59	314.24	314.88	315.52	316.16	
316.93	610	316.80	317.44	318.08	318.72	319.36	
320.12	620	319.99	320.63	321.27	321.91	322.54	
323.31	630	323.18	323.81	324.45	325.08	325.72	
326.5	640	326.35	326.98	327.61	328.25	328.88	
329.6	650	329.51	330.14	330.77	331.40	332.03	
332.8	660	332.66	333.28	333.91	334.54	335.17	
335.9	670	335.79	336.42	337.04	337.67	338.29	
339.1	680	338.92	339.54	340.16	340.79	341.41	
342.2	690	342.03	342.65	343.27	343.89	344.51	
345.4	700	345.13	345.75	346.37	346.99	347.60	
348.4	710	348.22	348.84	349.45	350.07	350.69	
351.5	720	351.30	351.91	352.53	353.14	353.75	
354.5	730	354.37	354.98	355.59	356.20	356.81	
357.7	740	357.42	358.03	358.64	359.25	359.86	
360.6	750	360.47	361.06	361.68	362.29	362.89	
363.6	760	363.50	364.08	364.67	365.26	365.85	
366.6	770	366.52	367.10	367.69	368.28	368.87	
369.7	780	369.53	370.11	370.70	371.29	371.88	
372.7	790	372.52	373.10	373.68	374.27	374.85	
375.6	800	375.51	376.09	376.67	377.25	377.83	
378.7	810	378.48	379.06	379.64	380.22	380.80	
381.6	820	381.45	382.03	382.61	383.19	383.77	
384.6	830	384.40	384.98	385.56	386.14	386.72	
387.5	840	387.34	387.92	388.50	389.08	389.66	
390.4	850	390.26					

Tolerance values for 100 ohm elements, 38.5 ohm fundamental interval



Temperature °C	Tolerance IEC 751:1983 (BS EN 60751:1996)			
	Class A		Class B	
	±°C	±Ohms	±°C	±Ohms
-200	0.55	0.24	1.3	0.56
-100	0.35	0.14	0.8	0.32
0	0.15	0.06	0.3	0.12
100	0.35	0.13	0.8	0.30
200	0.55	0.20	1.3	0.48
300	0.75	0.27	1.8	0.64
400	0.95	0.33	2.3	0.79
500	1.15	0.38	2.8	0.93
600	1.35	0.43	3.3	1.06
650	1.45	0.46	3.6	1.13
700	-	-	3.8	1.17
800	-	-	4.3	1.28
850	-	-	4.6	1.34



TEMPERATURE CONTROLS (Pty) Ltd

HEAD OFFICE: 104 NAAF STREET, STRYDOM PARK, EXT 2, RANDBURG, GAUTENG
P.O. BOX 77321, FONTAINEBLEAU 2032
TEL: (011) 791-6000
FAX: (011) 792-1140

BRANCH OFFICES: CPT. (021) 593-4190/1/2
DBN. (031) 701-3272