sensience
ADVANCED SENSING TECHNOLOGIES

93J Series

The 93J is a precise temperature measurement sensor with an ultra fast response time to be used in numerous applications. Both the immersion style and the flat-tipped version are available in various rugged designs. UL recognized models are available upon request.

Specifications

- Typical thermal time constant 0.5-2 sec. (dependent on tip confi guration) (measured: 25°C air to 85°C stirred water, 63.2% ΔT)
- Typical operating temperature range -40°C to 200°C (dependent on wire rating, epoxy rating and plastic)
- Insulation strength 500VAC/0.5mA/2sec. (inquire for others)
- Stable performance with high degree of accuracy
- Moisture resistant

Applications

- Boiler Heating Systems
- Bath/Spa (Shower units)
- Laundry
  - Dryer
  - Steamer
- Small Appliances
  - Coffee Makers
  - Single Brewers, Multi-Brewers
  - Kettles
  - Dishwasher
- Refrigeration

Technical Data

Typical Resistance/Temperature

T (°C)	Grade 1	Grade 5	Grade 9	Grade 15	Grade 18	Grade 19	Grade 25
	B25/85=3977K	B25/85=4107K	B25/85=3435K	B25/85=3740K	B25/85=4269K	B25/85=3468K	B25/85=3680K
	Multiplier						
-40	33.73	37.25	19.58	25.79	43.67	21.65	24.87
-35	24.32	26.63	14.83	19.12	30.73	16.23	18.34
-30	17.74	19.26	11.34	14.31	21.89	12.30	13.69
-25	13.08	14.07	8.76	10.81	15.77	9.41	10.33
-20	9.74	10.38	6.83	8.23	11.48	7.27	7.88
-15	7.321	7.74	5.37	6.33	8.45	5.66	6.07
-10	5.55	5.83	4.25	4.90	6.28	4.45	4.72
-5	4.25	4.42	3.39	3.83	4.71	3.52	3.71
0	3.27	3.38	2.72	3.01	3.56	2.81	2.93
5	2.54	2.61	2.20	2.38	2.72	2.26	2.34
10	1.99	2.03	1.79	1.90	2.09	1.82	1.87
15	1.57	1.59	1.47	1.52	1.62	1.48	1.51
20	1.25	1.26	1.21	1.23	1.27	1.21	1.23
25	1	1	1	1	1	1	1
30	0.81	0.80	0.83	0.82	0.79	0.83	0.82
35	0.65	0.84	0.69	0.67	0.63	0.69	0.68
40	0.53	0.52	0.58	0.55	0.51	0.58	0.56
45	0.44	0.43	0.49	0.46	0.41	0.49	0.47
50	0.36	0.35	0.41	0.38	0.33	0.41	0.39
55	0.30	0.29	0.35	0.32	0.27	0.35	0.33
60	0.25	0.24	0.30	0.27	0.22	0.30	0.28
65	0.21	0.20	0.26	0.23	0.19	0.25	0.23
70	0.18	0.17	0.22	0.19	0.15	0.22	0.20
75	0.15	0.14	0.13	0.17	0.13	0.19	0.17
80	0.13	0.12	0.17	0.14	0.11	0.16	0.14
85	0.11	0.10	0.15	0.12	0.09	0.14	0.12
90	0.09	0.08	0.13	0.11	0.08	0.12	0.11
95	0.08	0.07	0.11	0.09	0.07	0.11	0.09
100	0.07	0.06	0.10	0.08	0.06	0.10	0.08
105	0.06	0.05	0.09	0.07	0.05	0.08	0.07
110	0.05	0.05	0.08	0.06	0.04	0.07	0.06
115	0.04	0.04	0.07	0.05	0.04	0.07	0.05
120	0.04	0.03	0.06	0.05	0.03	0.06	0.05
125	0.03	0.03	0.05	0.04	0.03	0.05	0.04
130	0.03	0.03	0.05	0.04	0.02	0.05	0.04
135	0.03	0.02	0.04	0.03	0.02	0.04	0.03
140	0.02	0.02	0.04	0.03	0.02	0.04	0.03
145	0.02	0.02	0.03	0.03	0.02	0.03	0.02
150	0.02	0.02	0.03	0.02	0.01	0.03	0.02

Other values are available upon request. For higher temp values, contact a Therm-O-Disc Sales Engineer.

Product Nomenclature Thermistors

Model Designation System

XXJ	1B	XXXXX
I	II	III

I – Series designator, where X is any numeral between 0-9

II – Grade and NTC type (Ex: 1B, 1E, 1G, 1H, 1M, 1R, 1S, etc.)

III – Customer speci c numbers (4 or 5 digits)

Product Nomenclature Thermistors – UL Recognized

Model Designation System

XXJ	1B	A	M	Z	XXXXX
I	II	III	IV	V	VI

I – Series designator, where X is any change to numeral between 0-9

II – Grade and NTC type (Ex: 1B, 1E, 1G, 1H, 1M, 1R, etc.)

III – Temperature rating – A, B, C etc. – See table below for details

III	Max Op Temp
A	80
B	90
C	105
D	120
E	125

III	Max Op Temp
F	130
G	150
H	180
K	200

IV – Construction

E - Plastic shell with epoxy fi ll
M - Metal shell
R - Molded in plastic
X - Not insulated with or without shell

V – Investigation Standard Code

Z - NTC elements tested to UL60730-1
Without Z - NTC elements tested to UL1434

VI – Customer specifi c numbers (4 or 5 digits)

Part # - J Probes Not UL Recognized Using RTD Sensors

Model Designation Syste

XXJ	PT	102	XXXXX
I	II	III	VI

I – Product Series Designator

II – Material of RTD: PT = Platinum RTD, NI = Nickel RTD

III – Resistance: 201 = 200 ohms, 501 = 500 ohms, 102 = 1,000 ohms

VI – Customer specifi c numbers (4 or 5 digits)

Product Nomenclature RTD Sensors

Model Designation System

XXJ	PT	103	XX	X	XXXXX
I	II	III	IV	V	VI

I – Series designator

II – Material of RTD: PT = Platinum RTD, NI = Nickel RTD

III – Resistance: 201 = 200 ohms, 501 = 500 ohms, 102 = 1,000 ohms

IV – Max Temperature Rating Designator – A, B, C etc. - See table below for details (1 or 2 letters)

III	Max Op Temp
A	80
B	90
C	105
D	120
E	125
F	130
G	150
H	180
K	200
L	250

III	Max Op Temp
M	300
N	350
P	400
Q	450
R	500
S	520
T	540
U	560
V	580
W	600

V- Construction Designator:

E- Plastic shell with epoxy fi ll (shrink tube does not need to be UL recognized if plastic is the insulator

M- Dead metal shell

R- Molded in plastic

X- Not insulated with or without shell

VI – Customer specifi c numbers (4 or 5 digits)