

22J Series



The 22J sensor is a high temperature sensor designed to monitor exhaust temperature. This helps determine the efficiency and emission levels of applications to make sure they are meeting emission requirements. This sensor is designed with long term durability and stability in mind, while delivering optimized results.

Specifications

- Temperature Tolerance:
 - ▶ $-40^{\circ}\text{C} < \pm 10^{\circ}\text{C} < 0^{\circ}\text{C}$
 - ▶ $0^{\circ}\text{C} < \pm 5^{\circ}\text{C} < 650^{\circ}\text{C}$
 - ▶ $650^{\circ}\text{C} < \pm 10^{\circ}\text{C} < 1000^{\circ}\text{C}$
- Response Time: <13sec
- N Type Thermocouple: 3.2mm (Other diameter and thermocouple types available)
- Electronic Module Working Temperature: -40°C to 140°C
- Digital output: CAN 2.0B Bus, SENT protocol



Applications

- Emissions Control
- Diesel Oxidation Catalyst
- Exhaust Gas Recirculation

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.

APPLICATION NOTES

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

IV – Construction

E - Plastic shell with epoxy fill

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 specific numbers (4 or 5 digits)

Part # - J Probes Not UL Recognized Using RTD Sensors

Model Designation System

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 specific 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	III	Max Op Temp
A	80	M	300
B	90	N	350
C	105	P	400
D	120	Q	450
E	125	R	500
F	130	S	520
G	150	T	540
H	180	U	560
K	200	V	580
L	250	W	600

V- Construction Designator:

E - Plastic shell with epoxy fill (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 specific numbers (4 or 5 digits)