



FAST TIME RESPONSE NTC PIPE PROBE

Features

- Fast response time
- Robust, compact design
- Improved overall reliability
- Integrated clip (0.5 inch pipe)
- Temperature range -40°C to +125°C

Applications

- Pipe clamp surface monitoring
- Heating and air conditioning
- Hot water appliances
- Electric shower

Description

This probe consists of a NTC thermistor soldered to a 24 AWG stranded TPE cable and potted in a copper housing. The assembly is over molded leaving the copper housing exposed for fast time response. A metal clip is supplied with the assembly for easy attachment.

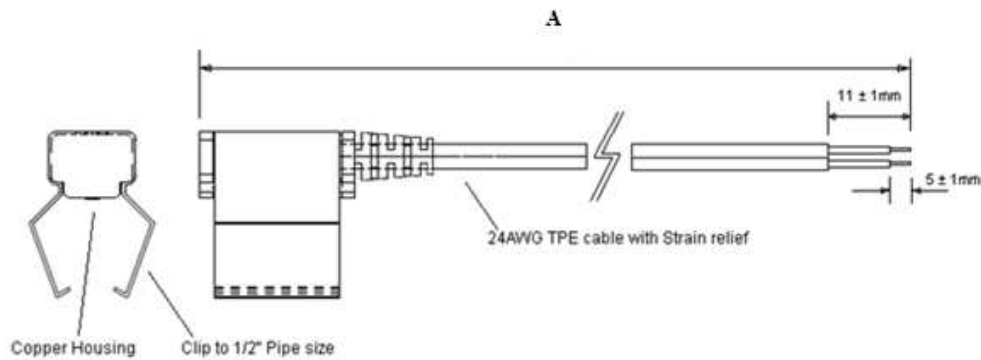
Customized configurations available on request for volume applications. Options include:

- Resistance temperature characteristics
- Wire type and length
- Connector type
- Pipe clip size

Performance Specifications

Parameters	Value	
Resistance and corresponding Beta options	Nominal resistance at +25°C	Beta value (25/85)
	5K	3976 K
	10K	3976 K
	10K	3435 K
	30K	3942 K
	100K	4000 K
Resistance tolerance	± 1%	
Beta tolerance	± 2%	
Dissipation constant	2.0 mW/°C	
Time response (63.2% of temperature span) in liquid	<5 s	
Insulation resistance	100 MΩ @ 500 VDC	
Temperature range	-40°C to +105°C	
Resistance drift after storage at 70°C for 1000h	<1%	
Cable	24 Stranded (7/32) SPC with black TPE insulation	
Probe head	Closed tube copper housing	
Pipe clip	Zinc plated ½” carbon steel	

Dimensional Information



	A
Dimensions	Refer to Page 4
Tolerance	± 25

All dimensions in millimeters

Resistance v Temperature Table

Temp (°C)	5K ohms Beta ^{25/85} = 3976	10K ohms Beta ^{25/85} = 3976	10K ohms Beta ^{25/85} = 3435	30K ohms Beta ^{25/85} = 3942	100K ohms Beta ^{25/85} = 4000
-40	168500	337100	186000	925000	3216000
-35	121600	243200	143100	675500	2342000
-30	88660	177300	110800	498100	1721000
-25	65330	130700	86390	370600	1277000
-20	48620	97240	67790	278300	955400
-15	36530	73060	53530	210700	721100
-10	27000	55400	42540	160900	548800
-5	21190	42370	34010	123900	421100
0	16340	32680	27350	96090	325555
5	12710	25410	22130	75090	253600
10	9956	19910	18000	59100	198900
15	7859	15720	14720	46840	157100
20	6247	12490	12100	37370	125000
25	5000	10000	10000	30000	100000
30	4028	8055	8304	24230	80530
35	3265	6530	6929	19690	65230
40	2662	5325	5809	16090	53140
45	2184	4367	4891	13220	43540
50	1801	3602	4137	10920	35860
55	1493	2986	3513	9070	29680
60	1244	2488	2996	7568	24690
65	1042	2084	2565	6344	20640
70	876.8	1753	2204	5343	17330
75	741.1	1482	1901	4519	14620
80	629.1	1258	1645	3838	12380
85	536.3	1073	1429	3274	10530
90	459.1	918.1	1245	2803	8996
95	394.5	789	1089	2409	7712
100	340.3	680.6	954.9	2078	6636
105	294.6	589.2	840	1799	5730
110	255.9	511.9	741.1	1563	4966
115	223.1	446.2	655.6	1362	4317
120	195.1	390.2	581.7	1191	3766
125	171.2	342.3	517.4	1045	3295

Ordering Information

Part Number	Resistance at +25°C	Beta Value (25-85)	Length (mm) (Dimension A)
20027935-01	5000 Ω	3976	1000
20027935-02			3000
20027935-03			10000
20027935-11	10000 Ω	3976	1000
20027935-12			3000
20027935-13			10000
GA10K3D1217	10000 Ω	3435	1000
GA10K3D1271			3000
GA10K3D1303			10000
20027935-31	30000 Ω	3942	1000
20027935-32			3000
20027935-33			10000
20027935-41	100000 Ω	4000	1000
20027935-42			3000
20027935-43			10000

Example of customization options available for high volume enquiries:

- Various nominal resistance values and material systems available
- Various wire lengths available

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