

Temperature Sensor NTC5K-NCTS6A

The NTC5K-NCTS6A utilizes a NTC thermistor featuring a negative temperature response. The sensor delivers reliable and stable performance and is well-suited for a wide range of temperature monitoring and control applications.

Parameters

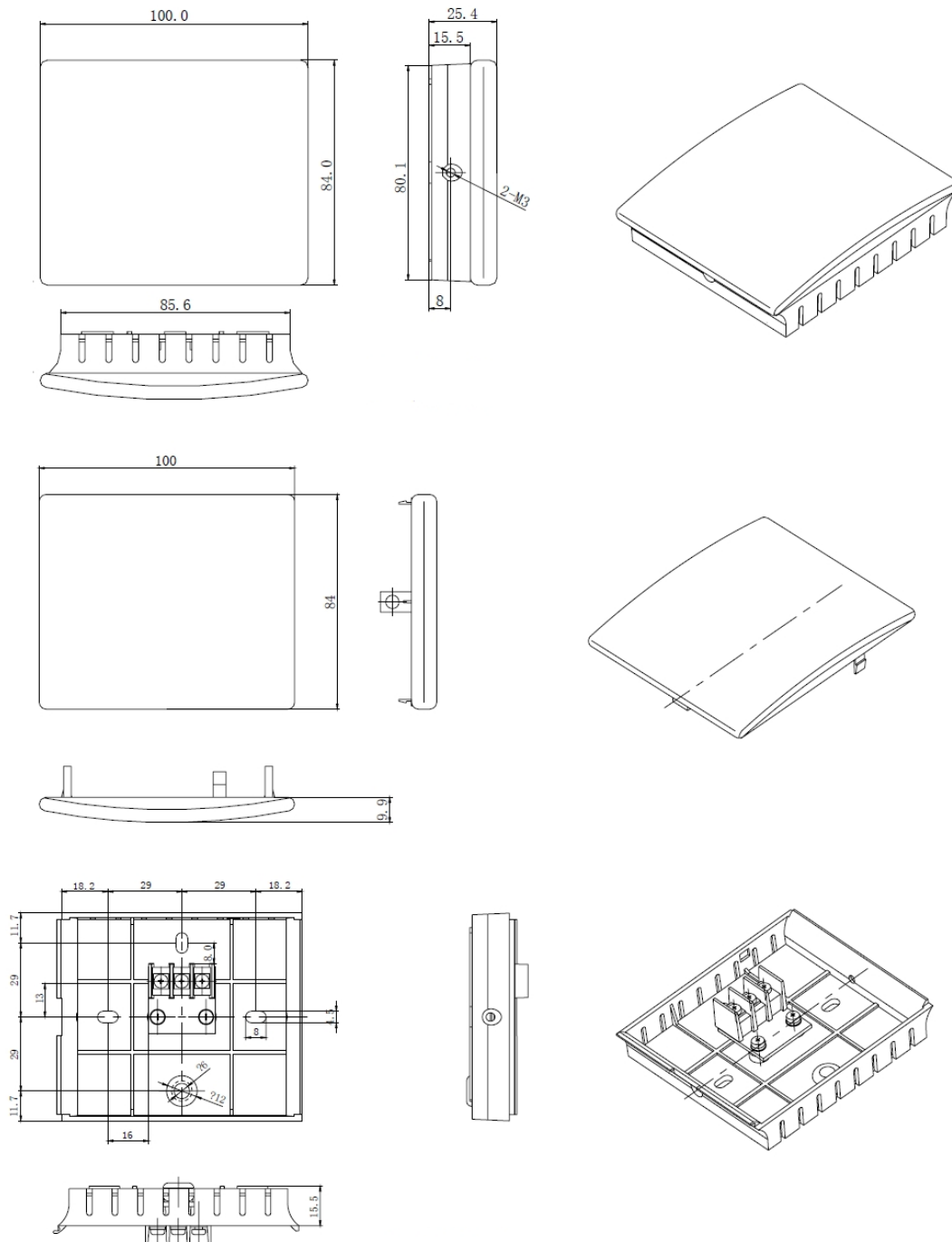
Operating Parameters

- Nominal Resistance: $R(25)=5k\Omega$
- Material Constant: $B(25/50)=3950$
- Operating Temperature: $-50^{\circ}\text{C}\sim+100^{\circ}\text{C}$
- Accuracy: $R(25)=5k\Omega\pm1\%$
 $B(25/50)=3950\pm1\%$
- Dissipation Factor: ≥ 1.5
- Thermal Time Constant: $T_{0.5}\leq 20\text{s}$
- Insulation Resistance: $\geq 100M\Omega@500\text{VDC}$
- Dielectric Strength: $750\text{VAC}/1\text{min}$

General Data

- Flame-retardant plastic housing
- Fire safety compliant with EN45545
- Vibration resistance in accordance with IEC 61373
- Compliant with GBT-6663 / IEC 60539

Outline & Interface



- **Wiring Configuration:** 2-wire system; Terminals 1 & 2 are for the thermistor, while terminal 3 is connected to the shielded wire.

Thermistor Calibration Table

Temp °C	R _{max} kΩ	R. kΩ	R _{min} kΩ	Temp °C	R _{max} kΩ	R. kΩ	R _{min} kΩ
-40	168.38	161.02	153.97	0	16.562	16.206	15.856
-39	157.78	150.98	144.46	1	15.738	15.407	15.083
-38	147.90	141.62	135.59	2	14.959	14.652	14.351
-37	138.69	132.89	127.31	3	14.223	13.939	13.659
-36	130.11	124.74	119.58	4	13.528	13.264	13.004
-35	122.10	117.14	112.37	5	12.871	12.626	12.384
-34	114.63	110.04	105.62	6	12.249	12.022	11.797
-33	107.65	103.41	99.32	7	11.661	11.450	11.242
-32	101.14	97.21	93.43	8	11.104	10.909	10.716
-31	95.06	91.42	87.92	9	10.577	10.396	10.217
-30	89.38	86.01	82.76	10	10.078	9.910	9.744
-29	84.06	80.94	77.93	11	9.605	9.450	9.296
-28	79.09	76.21	73.42	12	9.157	9.013	8.871
-27	74.45	71.77	69.19	13	8.733	8.600	8.468
-26	70.10	67.62	65.22	14	8.331	8.207	8.085
-25	66.03	63.73	61.51	15	7.949	7.835	7.722
-24	62.22	60.09	58.03	16	7.587	7.482	7.377
-23	58.65	56.67	54.76	17	7.244	7.146	7.050
-22	55.30	53.47	51.70	18	6.918	6.828	6.738
-21	52.16	50.47	48.82	19	6.608	6.525	6.443
-20	49.22	47.65	46.12	20	6.314	6.238	6.162
-19	46.46	45.00	43.59	21	6.035	5.965	5.895
-18	43.88	42.52	41.20	22	5.770	5.705	5.640
-17	41.44	40.19	38.97	23	5.517	5.458	5.399
-16	39.16	38.00	36.86	24	5.278	5.223	5.169
-15	37.02	35.94	34.88	25	5.050	5.000	4.950
-14	35.00	34.00	33.02	26	4.837	4.787	4.737
-13	33.11	32.18	31.27	27	4.634	4.584	4.534
-12	31.33	30.47	29.62	28	4.440	4.390	4.341
-11	29.66	28.85	28.07	29	4.256	4.206	4.157
-10	28.08	27.334	26.61	30	4.080	4.031	3.982
-9	26.60	25.905	25.23	31	3.912	3.863	3.815
-8	25.20	24.558	23.93	32	3.752	3.704	3.656
-7	23.89	23.288	22.70	33	3.599	3.552	3.504
-6	22.65	22.092	21.55	34	3.454	3.406	3.359
-5	21.48	20.963	20.46	35	3.314	3.268	3.221
-4	20.38	19.899	19.43	36	3.182	3.136	3.090
-3	19.34	18.895	18.46	37	3.055	3.009	2.964

-2	18.36	17.947	17.54	38	2.934	2.889	2.844
-1	17.43	17.051	16.68	39	2.818	2.774	2.730
40	2.707	2.664	2.621	70	0.8935	0.8693	0.8456
41	2.602	2.559	2.516	71	0.8635	0.8399	0.8168
42	2.501	2.458	2.416	72	0.8348	0.8116	0.7890
43	2.404	2.362	2.321	73	0.8071	0.7844	0.7623
44	2.311	2.271	2.230	74	0.7805	0.7583	0.7367
45	2.223	2.183	2.143	75	0.7549	0.7332	0.7121
46	2.138	2.099	2.060	76	0.7302	0.7090	0.6884
47	2.058	2.019	1.981	77	0.7065	0.6858	0.6655
48	1.980	1.942	1.904	78	0.6837	0.6634	0.6436
49	1.906	1.868	1.832	79	0.6617	0.6418	0.6225
50	1.835	1.798	1.762	80	0.6405	0.6211	0.6022
51	1.767	1.731	1.695	81	0.6201	0.6011	0.5826
52	1.702	1.666	1.632	82	0.6005	0.5819	0.5638
53	1.639	1.605	1.571	83	0.5816	0.5634	0.5457
54	1.579	1.545	1.512	84	0.5633	0.5455	0.5282
55	1.522	1.489	1.456	85	0.5457	0.5283	0.5114
56	1.467	1.434	1.402	86	0.5288	0.5118	0.4952
57	1.414	1.382	1.351	87	0.5125	0.4958	0.4796
58	1.364	1.332	1.302	88	0.4967	0.4804	0.4646
59	1.315	1.284	1.254	89	0.4815	0.4656	0.4501
60	1.268	1.238	1.209	90	0.4669	0.4513	0.4361
61	1.224	1.194	1.166	91	0.4527	0.4375	0.4227
62	1.181	1.152	1.124	92	0.4391	0.4241	0.4097
63	1.140	1.112	1.084	93	0.4259	0.4113	0.3971
64	1.100	1.073	1.046	94	0.4132	0.3989	0.3850
65	1.062	1.035	1.009	95	0.4009	0.3869	0.3734
66	1.026	0.9993	0.9735	96	0.3891	0.3754	0.3621
67	0.9906	0.9648	0.9396	97	0.3776	0.3642	0.3513
68	0.9569	0.9317	0.9070	98	0.3666	0.3535	0.3408
69	0.9246	0.8998	0.8757	99	0.3559	0.3431	0.3307
				100	0.3456	0.3330	0.3209

Notes

- To install the sensor, unscrew the two side screws of the front panel in a counterclockwise direction and remove the panel. Align the cable entry hole on the sensor base with the pre-drilled hole on the wall.
- For installation on a metal surface, three M4 mounting holes and a corresponding cable hole should be prepared in advance.
- It is recommended to use 2x0.5 mm² or 2x0.75 mm² shielded cables. Ensure no exposed strands are present during wiring to avoid potential short circuits.