Fast Response Immersion Sensors

for hot water systems

TENA sensors are especially designed for hot domestic water temperature control applications. Sensors are protected by a stainless steel pocket for prolonged life. Housing is made of heat resistant plastics. The screw cover and the terminal blocks tilted to 45° make an easy installation. Temperature is detected by a range of thermistors and resistive elements with nominal resistances (see table overleaf).

Sensor is installed to the water pipe by means of the R1/2" threads.

Model Types

Model	Description
TENA 1000	PTC1000 Fast Response Immersion Sensor
TENA PT1000	PT1000 Fast Response Immersion Sensor
TENA NTC10	NTC10 Fast Response Immersion Sensor (Trend, Johnson and Saia equivalent)
TENA NTC20	NTC20 Fast Response Immersion Sensor (Honeywell equivalent)
TENA NTC1800	NTC1800 Fast Response Immersion Sensor (TAC equivalent)
TENA NI1000-LG	NI1000 Fast Response Immersion Sensor (Landis & Staefa equivalent)
TENA NTC10-KB	NTC10 Linearised Fast Response Immersion Sensor (Satchwell equivalent)
TENA NTC10-AN	NTC10-AN Fast Response Immersion Sensor (Andover equivalent)

Technical Data

Sensor Element	TENA 1000 - 1000Ω PTC thermistor TENA PT1000 - Pt1000 EN 60751/B TENA NTC10 - 10kΩ NTC thermistor TENA NTC20 - 20kΩ NTC thermistor TENA NTC1800 - 1800kΩ NTC thermistor TENA NI1000-LG - Ni1000-LG TENA NTC10-KB - Linearised 10kΩ NTC thermistor TENA NTC10-AN - 10k4A1 NTC thermistor
Accuracy	TENA 1000 - ±1.3°C (at 25°C) TENA PT1000 - ±0.3°C (at 0°C) TENA NTC10, TENA NTC20, TENA NTC10-AN & TENA NTC1800 - ±0.2°C (at 25°C) TENA NI1000-LG - ±0.5°C (at 0°C) TENA NTC10-KB - ±0.3°C (at 25°C)
Connection	R 1/2", threads
Stem	Ø4mm x 80mm HST steel
Housing	plastic (<120°C)
Protection class	IP 54, cable entry or stem down
Cable entry	M16
Range	0...120°C
Time constant	ca 2.5s
Pressure rating	PN 16

Temperature/Resistance

°C	PTC1000/Ω	PT1000/Ω	NTC10/Ω	NTC20/Ω	Ni1000-LG/Ω	NTC10-KB/Ω	NTC10-AN/Ω	NTC1800/Ω
120	1923	1460.6	389.0	609	1616.4	466	483	114
100	1700	1385.0	680.0	1114	1500.0	721	817	182
90	1594	1347.0	917.7	1541	1444.4	921	1084	N/A
80	1492	1308.9	1258.0	2166	1390.1	1193	1458	304
75	1442	1289.8	1480.0	2585	1363.5	1364	1700	N/A
70	1394	1270.7	1752.0	3099	1337.1	1563	1990	403
65	1347	1251.6	2082.0	3732	1311.1	1792	2339	N/A
60	1300	1232.4	2488.0	4517	1285.4	2056	2760	542
55	1254	1213.2	2968.0	5494	1260.1	2358	3271	634
50	1209	1194.0	3603.0	6718	1235.0	2702	3893	744
45	1166	1174.7	4368.0	8259	1210.2	3089	4656	878
40	1123	1155.4	5327.0	10211	1185.7	3518	5594	1042
35	1081	1136.1	6532.0	12698	1161.5	3987	6754	1243
30	1040	1116.7	8057.0	15887	1137.6	4492	8197	1491
25	1000	1097.3	10000.0	20000	1114.0	5025	10000	1800
20	961	1077.9	12490.0	25350	1090.7	5573	12268	2187
15	923	1058.5	15710.0	32346	1067.6	6125	15136	2675
10	886	1039.0	19900.0	41567	1044.8	6667	18787	3295
5	850	1019.5	25400.0	53812	1022.3	7152	23462	4090
0	815	1000.0	32650.0	70203	1000.0	7661	29490	5117
-5	781	980.4	42340.0	92322	978.0	8093	37316	N/A
-10	748	960.9	55330.0	122431	956.2	8472	47549	N/A
-15	716	941.2	72980.0	163777	934.7	8796	61030	N/A
-20	685	921.6	97070.0	221088	913.5	9067	78930	N/A
-25	655	901.9	130400.0	301297	892.5	9288	102890	N/A
-30	625	882.2	177000.0	414698	871.7	9465	135233	N/A
-40	570	842.7	336500.0	810861	830.8	9711	239831	N/A
-50	518	803.1	670100.0	1659082	790.9	N/A	N/A	N/A

Dimensions