



## Immersion Temperature Sensor NEMA 4X Weatherproof Enclosure

### FEATURES

- Durable injection-molded NEMA 4X/IP 66 watertight enclosure
- AISI 316 stainless steel temperature probe
- Choice of 1/2" NPT brass/copper well, 1/2" NPT stainless steel immersion well or brass adapter
- Includes conveniently packaged syringe of thermal paste
- Built in 1/2" NPT conduit connection on bottom
- Optional 1/2" NPT conduit adapter on both sides
- Patent Pending Quick Connect System eliminates wire nuts
- NTC thermistors, RTD elements and transmitters available
- Compatible with all major control systems
- CE & RoHS compliant
- 5 Year Limited Warranty
- Made in the USA

### GENERAL INFORMATION

High quality universal Immersion Temperature Sensor with weatherproof NEMA 4X/IP 66 injection-molded polycarbonate enclosure and stainless steel AISI 316 probe for commercial and industrial applications

Available measuring elements interface with all major control manufacturers. Accurate thermistors and RTD's ensure low drift and are double encapsulated to guarantee the highest reliability. Transmitters available with 4-20mA, 2 wire loop connection and three field selectable, pre-set temperature ranges.

The sensor comes with a 1/2" NPT brass/copper or stainless steel immersion well. The patent pending Quick Connect System makes installation easy and reduces installation costs.

### SPECIFICATIONS

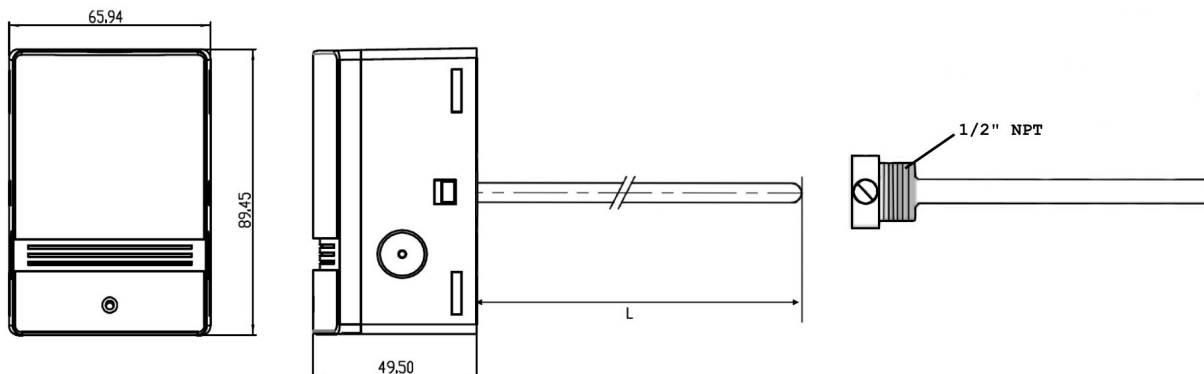
Enclosure:	Weatherproof NEMA 4X/IP 66, injection-molded polycarbonate UL 94 V-2
Cover:	Quick snap with hinges and screw down ability
Mounting Options:	1/2" NPT brass/copper immersion well 1/2" NPT stainless steel immersion well 1/2" NPT brass adapter (Machined high pressure stainless steel wells on request)
Probe Length:	2" and 4" brass/copper well, 4" stainless well
Probe Material:	6mm ( $\pm 1/4$ ") AISI 316 stainless steel
Connection:	2 pole AWG 22-16 / 0.35—1.5mm <sup>2</sup> spring-loaded, patent pending Quick Connect System



## SPECIFICATIONS CONT.

Sensor Element:	Interchangeable NTC thermistor, 2-wire RTD Pt100, Pt1000, 2-wire RTD Ni1000-891, Ni1000-TC5, 2 wire
Sensor Value:	NTC 10K Ohm type 2 @ 25°C / 77°F NTC 10K Ohm type 3 @ 25°C / 77°F NTC 20K Ohm @ 25°C / 77°F NTC 3K Ohm @ 25°C / 77°F RTD Pt1000 1000 Ohm @ 0°C / 32°F RTD Pt100 100 Ohm @ 0°C / 32°F RTD Ni1000-891 891 Ohm @ 0°C / 32°F RTD Ni1000-TC5 1000 Ohm @ 0°C / 32°F (Other elements on request)
Accuracy:	NTC thermistor 0...70°C ± 0.2°C / 32...158°F ± 0.36°F Pt100 / Pt1000 Class B IEC751, ± 0.3°C / ± 0.5°F @ 0°C / 32°F Ni1000 DIN 43760, ± 0.5°C / ± 0.9°F @ 0°C / 32°F
Range:	-40...105°C / -40...221°F
Transmitter Element:	Pt1000 IEC 751
Loop Supply Voltage:	8 - 36 VDC, 100 Ohm load 10.5 - 36 VDC, 250 Ohm load 14.25 - 36 VDC
Supply Current:	4 - 24 mA
Resolution:	0.05% FSR
Accuracy:	0.1% - 0.4% FSR
Connection:	2-pole AWG 22-16 / 0.35 - 1.5mm <sup>2</sup> spring-loaded, Patent Pending Quick Connect Syst.
Operating Env.	-25°C- 50°C
Temp. Ranges:	Range 1 0°C - 100°C / 32°F - 212°F Range 2 -7°C - 49°C / 20°F - 120°F Range 3 -18°C - 38°C / 0°F - 100°F
Dimensions:	40mm X 19mm
Short Circuit Det.	< 840 Ohm
Open Circuit Det.	> 1500 Ohm
Fault Current:	>22.5 mA
Approval:	CE & RoHS compliant
Warranty:	5 year limited warranty
Accessories	Machined stainless steel immersion wells 10 pack of thermal paste 1/2" NPT brass adapter or plastic compression adapter

## DIMENSIONS (in mm)



**ORDERING INFORMATION**

**HOW TO BUILD A TASSERON Q-IMMERSION SAFE PART NUMBER**

Sample Part Number (THTISA4B) —Q-Immersion Safe sensor with 10k Type 2 element, 4” probe and a brass/copper well. Also comes with a syringe of thermal paste.

<b>T</b>	<b>H</b>	<b>T</b>	<b>I</b>	<b>S</b>	<b>A</b>	<b>4B</b>
<b>Tasseron</b>	<b>HVAC</b>	<b>Temp</b>	<b>Immersion</b>	<b>Safe</b>	<b>Element</b>	<b>Details</b>
					A—10K -2	2A-2” probe,
					B—10K -3	adapter
					C—20K	
					D—3K	2B-2” probe,
					E—Pt1000	brass well
					F—Ni1000-891	
					G—10K-4	4A-4”probe,
					H— Pt100	adapter
				*Other elements available on request	I—4.7K	
					J—10K-3 (11K)	4B- 4” probe,
					K— Ni1000-TC5	brass well
					<b>Transmitters:</b>	4S- 4” probe,
					T—Range 1	stainless well
					32°F– 212°F	
					U—Range 2	
					20°F– 120°F	
					V—Range 3	
					0°F– 100°F	

**NOTE:**

Immersion sensors with lengths other than 2” and 4” are available if you have a third party provided well. Additional immersion sensors with a 1/2” NPT adapter are available in 6”, 8” or 12” lengths.

# HVAC temperature measuring elements

## R/T TABLES

Temp		NTC thermistors					RTD elements			
		curve A	curve B	curve G	curve C	curve D	curve E	curve F	curve H	curve K
		NTC 10K type 2	NTC 10K type 3	NTC 10K type 4	NTC 20KOhm	NTC 3KOhm	Pt1000/B	Ni1000-891	Pt100/B	Ni1000-TC5
		R (kOhm)	R (kOhm)	R (kOhm)	R (kOhm)	R (kOhm)	R (Ohm)	R (Ohm)	R (Ohm)	R (Ohm)
°C	°F									
-40	-40	341.4	242.1	191.9	784.6	97.40	843	697	84.3	831
-35	-31	246.2	181.0	146.6	558.8	71.53	862	719	86.2	851
-30	-22	179.5	136.6	112.9	402.7	52.80	882	743	88.2	872
-25	-13	132.2	103.9	87.59	293.6	39.16	902	766	90.2	893
-20	-4	98.34	79.64	68.47	216.3	29.24	922	790	92.2	914
-15	5	73.73	61.54	53.91	160.7	22.04	941	815	94.1	935
-10	14	55.78	47.91	42.74	120.5	16.74	961	839	96.1	956
-5	23	42.59	37.57	34.11	91.07	12.79	980	864	98.0	978
0	32	32.82	29.66	27.40	69.40	9.856	1000	891	100.0	1000
5	41	25.52	23.57	22.14	53.33	7.663	1020	916	102.0	1022
10	50	19.97	18.85	17.99	41.28	5.999	1039	942	103.9	1045
15	59	15.75	15.17	14.72	32.18	4.729	1058	968	105.8	1068
20	68	12.51	12.28	12.09	25.28	3.754	1078	994	107.8	1091
25	77	10.00	10.00	10.00	20.00	3.000	1097	1021	109.7	1114
30	86	8.048	8.184	8.308	15.92	2.416	1117	1048	111.7	1138
35	95	6.516	6.735	6.936	12.75	1.957	1136	1075	113.6	1162
40	104	5.306	5.577	5.819	10.27	1.595	1155	1102	115.5	1186
45	113	4.345	4.641	4.904	8.320	1.307	1175	1130	117.5	1210
50	122	3.578	3.877	4.151	6.779	1.076	1194	1158	119.4	1235
55	131	2.962	3.261	3.529	5.556	0.888	1213	1187	121.3	1260
60	140	2.464	2.756	3.012	4.577	0.737	1232	1216	123.2	1285
65	149	2.060	2.340	2.582	3.788	0.616	1252	1245	125.2	1311
70	158	1.730	1.996	2.221	3.150	0.518	1271	1274	127.1	1337
75	167	1.460	1.707	1.918	2.630	0.441	1290	1304	129.0	1364
80	176	1.236	1.466	1.663	2.206	0.377	1309	1334	130.9	1390
85	185	1.051	1.264	1.446	1.857	0.324	1328	1365	132.8	1417
90	194	0.896	1.095	1.262	1.570	0.278	1347	1396	134.7	1444
95	203	0.767	0.952	1.105	1.333	0.239	1366	1427	136.6	1472
100	212	0.659	0.831	0.970	1.136	0.206	1385	1459	138.5	1500
105	221	0.569	0.728	0.855	0.972	0.179	1404	1491	140.4	1528
110	230	0.493	0.640	0.755	0.834	0.156	1423	1524	142.3	1557
115	239	0.428	0.564	0.669	0.719	0.136	1442	1556	144.2	1586
120	248	0.374	0.499	0.594	0.621	0.119	1461	1590	146.1	1615
125	257	0.327	0.443	0.529	0.539	0.105	1479	1623	147.9	1645

\* Other elements on request

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