

OUTDOOR WEATHER HUMIDITY

Outdoor sensor for relative humidity (RH) and temperature in weatherproof enclosure with solar shield for meteorological applications

FEATURES

- Accurate humidity or temperature/humidity combination options
- Durable NEMA 4X / IP65 injection-molded watertight enclosure
- Dual filters to protect from contamination
- 2% or 3% RH accuracy options available
- Solar shield included for radiation protection and high air flow
- Coated circuit boards for moisture resistance
- Analog temperature with 0-10V output built-in
- NTC or RTD elements available for passive temperature
- Long term stability and low annual drift
- Compatible with most control systems
- Quick Connect wire terminals for tool-free wiring
- CE & RoHS compliant
- 5 year limited warranty
- Made in the Netherlands



GENERAL INFORMATION

The Tasseron Outdoor Weather Sensors are high quality outdoor relative humidity transmitter in a NEMA 4X / IP65 injection-molded Meteorological Box enclosure. The solar shield provides additional protection from rain and snow while protecting both relative humidity and temperature sensors when installed in areas where sunlight may be present.

The Outdoor Weather Series is available in 2% or 3% RH accuracies with 0-10V analog humidity signal, an active temperature signal plus has ordering options for additional passive thermistors or RTDs.

Circuit boards are coated to resist moisture and dual filters on the sensing elements provide extra protection against environmental conditions. Sensing elements are very accurate with long term stability.

SPECIFICATIONS

General:

Supply Voltage:	24 VAC \pm 20%; 15-35 VDC Max
Power Consumption:	3VA for 24VAC, 3W for 24VDC (peak);
Operating Range:	-45...55°C / -49...131°F
Enclosure Rating:	Weatherproof Meteorological enclosure, NEMA4X/IP65, UV resistant injection-molded polycarbonate, UL94 V-0 flame retardant

SPECIFICATIONS CONT.

Enclosure:	Weatherproof Meteorological enclosure, NEMA4X / IP65, UV resistant injection molded polycarbonate, UL94 V-0
Cover:	Weatherproof Meteorological cover, injection-molded polycarbonate
Mounting:	AISI 304 bracket, 2-screw direct or M6 pole bracket 35-53mm + washer/nuts
Connection:	AWG 22-16 / 0.35—1.5mm ² spring-loaded Quick Connect wire terminals
Wiring:	3-wire RH only, 5-wire RH+T
Filter:	Polyethylene Filter

Relative Humidity (RH) Sensor:

RH Output:	0—10V (0...100%RH)
RH Long Term Stability:	Less than 0.25% per year
RH Repeatability:	0.8% RH @ average temp. 25°C / 77°F
RH Sensitivity:	0.1% RH
RH Accuracy :	2%/ 3% 10-90% RH, otherwise 5% RH
RH Sensor Type:	Capacitive, non-condensing
RH Measurement Range:	0...100% RH

Temperature Sensor (T) Active:

T Output	0-10V
T Range	Range 6: (Default) -10...+40°C / -14...104°F
T Response Time	t63 < 120 sec (3 m/s)

Temperature Sensor (Tp) Passive:

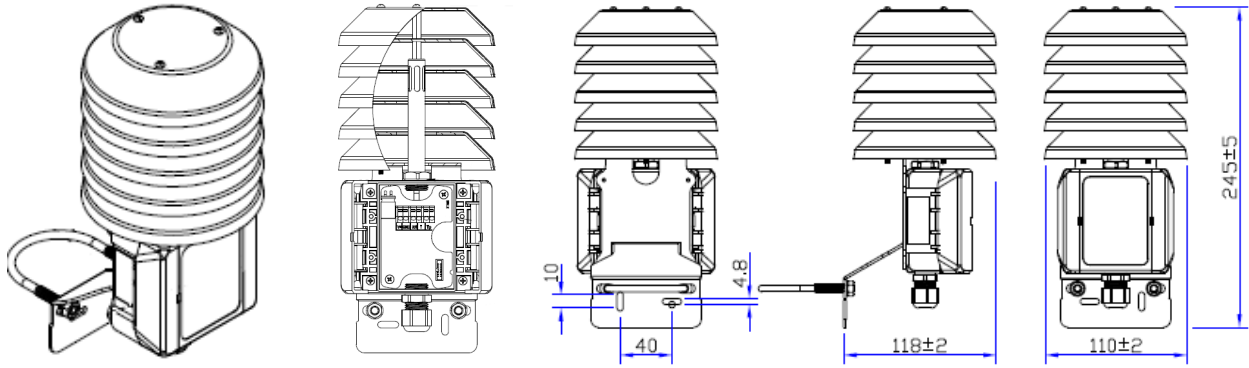
Tp Sensor Element:	Interchangeable NTC thermistor, 2-wire RTD Pt100, Pt1000, 2-wire RTD Ni1000-891, Ni1000-TC5, 2 wire
Tp Sensor Value:	NTC 10K Ohm type 2 @ 25°C / 77°F NTC 10K Ohm type 3 @ 25°C / 77°F NTC 10K Ohm type 4 @ 25°C / 77°F NTC 20K Ohm @ 25°C / 77°F NTC 3K Ohm @ 25°C / 77°F RTD Pt1000 1000 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)
Tp 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

Approval: CE & RoHS compliant

Warranty: 5 year limited warranty

Accessories: 1/2" NPT conduit adapter

DIMENSIONS (in mm)



HOW TO BUILD A TASSERON OUTDOOR WEATHER HUMIDITY PART NUMBER:
 Sample Part Number (THHOMA2C) —Outdoor Safe Humidity sensor with 10k-2 temperature, 2% RH accuracy and 4-20mA output.

T H H O M A 2C

Tasseron

HVAC

Humidity

Outdoor

Weather

Element

Details

A—10K-2

B—10K-3

C—20K

D—3K

E—Pt1000

F—Ni1000-891

G—10K-4

H— Pt100

I—4.7K

J—10K-3 (11K)

K— Ni1000-TC5

L—12K

M—100K

*Other elements available on request

2C—2%, 0-10V

3C—3%, 0-10V

Transmitters:

R—Range 6

-10...+40°C

(-14...104°F)

Y—DIGITAL

Z—NO TEMP

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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