



Technical data

Measuring humidity range	0 to 100% r.H.
Working humidity range	10 to 90% r.H.
Measuring temp. range	0 to +50°C (4-20 mA and 0-10 Vdc) -20 to +80°C (Passive temp. output, Pt 100 etc)
Power supply	24 Vac/dc for 0-10 Vdc output 15-36 Vdc, RI<500Ohm for 4-20 mA output
Hum. output	0-10 Vdc or 4-20 mA (see ordering and wiring)
Temp. output	0-10 Vdc, 4-20 mA or passive (see ordering and wiring)
Humidity sensor	Capacitive humidity sensor
Temp. sensor	NTC sensing element beta for 4-20 mA and 0-10 Vdc output
Hum. accuracy	+/- 3% (40 to 60% r.H.), @ +20°C otherwise +/- 5%
Temp. accuracy	+/- 0.3°C @ +20°C for HDT 010 / HDTT 010 +/- 0.5°C @ +20°C for HDT 420 / HDTT 420
Probe length	230 mm
Mounting	With supplied (attached) flange
Housing material	Plastic
Housing dms	72x64x39 mm excluding cable entry gland
Protection	IP65

Features

- **Outputs**
 - Single humidity 0-10 Vdc or 4-20 mA
 - Humidity and temperature 0-10 Vdc or 4-20 mA
 - Humidity 0-10 Vdc with passive (direct) temperature output such PT100, PT1000, Nickel, NTC and PTC
- **Sensing ranges**
 - Humidity 0 to 100% r.H.
 - Temp. See below
- **Accuracy**
 - Humidity +/- 3% (40 to 60% r.H.), @ +20°C otherwise +/- 5%
 - Temp. +/- 0.3°C @ +20°C HDT 010 / HDTT 010
+/- 0.5°C @ +20°C HDT 420 / HDTT 420
- **Long-term stability**
- **Small hysteresis**

Ordering

Type no.	Humidity output	Temp. output	Temp. range
HDT 010	0-10 Vdc	--	--
HDT 420	4-20 mA	--	--
HDTT 010	0-10 Vdc	0-10 Vdc	0 to +50°C
HDTT 420	4-20 mA	4-20 mA	0 to +50°C
HDTT 010 PT100	0-10 Vdc	PT100	-20 to +80°C
HDTT 010 PT1000	0-10 Vdc	PT1000	-20 to +80°C
HDTT 010 NI1000	0-10 Vdc	NI1000	-20 to +80°C
HDTT 010 NTC 1.8K	0-10 Vdc	NTC 1.8K	-20 to +80°C
HDTT 010 NTC 10K	0-10 Vdc	NTC 10K	-20 to +80°C
HDTT 010 NTC 20K	0-10 Vdc	NTC 20K	-20 to +80°C

All above units measure humidity within 0-100% r.H.

Application/Description

HDT is duct humidity transmitter and is used for sensing the relative humidity (r.H.) in air ducts.

HDTT is a combined duct humidity and temperature transmitter used for sensing relative humidity and temperature in air ducts.

The units are used in HVAC systems.

The HDT measures the relative humidity in the air duct with the help of a capacitive humidity sensor, which via the built-in electronic gives 0-10 Vdc or 4-20 mA output signal .

The HDTT is like HDT and measures also temperature with the help of a thermistor sensing element, which via the built-in electronic gives 0-10 Vdc or 4-20 mA output signal .

Both the capacitive humidity sensor and the temperature thermistor element is fitted in the end of the probe.

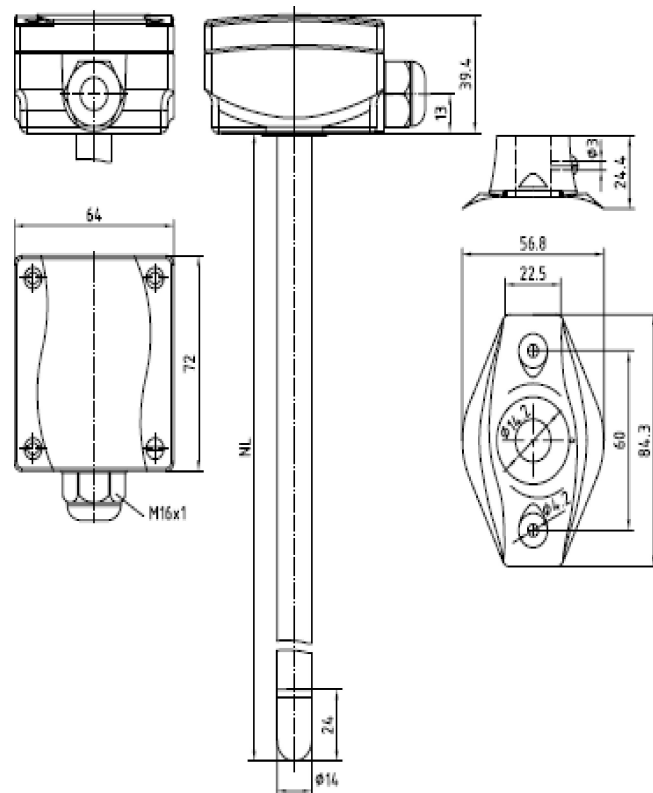
Electronic and wiring connection is suited inside the IP65 housing.

Passive direct output such PT100, PT1000, NI1000, NTC, PTC are also available, HDTT 010 PT 1000 (for example).

The length of the probe is 230 mm, the unit is supplied with a mounting flange for adjustment of penetration depth.

The IP 65 plastic housing is supplied with a plastic cable entry gland.

Dimensions (mm)



Electrical connection

HDT 010	
1	- GND
2	+ Power supply 24 Vac/dc
4	Output 0-10 Vdc (humidity)

HDT 420	
1	Power supply 15-36 Vdc
2	Output 4-20 mA, (humidity) RI<500

HDTT 010	
1	- GND
2	+ Power supply 24 Vac/dc
4	Output 0-10 Vdc (humidity)
6	Output 0-10 Vdc (temperature)

HDTT 420	
1	Power supply 15-36 Vdc
2	Output 4-20 mA (humidity), RI<500 Ohm
3	Output 4-20 mA (temperature), RI<500 Ohm

HDTT 010 PT 1000 (for example)	
1	- GND
2	+ Power supply 24 Vac/dc
4	Output 0-10 Vdc (humidity)
7	PT 1000 (example) (temperature)
8	PT 1000 (example) (temperature)

HDTT 420 PT 1000 (for example)	
1	Power supply 15-36 Vdc
2	Output 4-20 mA, (humidity) RI<500
7	PT 1000 (example) (temperature)
8	PT 1000 (example) (temperature)

Humidity schedule

% r. H.	V	m A
0	0	4,0
5	0,5	4,8
10	1,0	5,6
15	1,5	6,4
20	2,0	7,2
25	2,5	8,0
30	3,0	8,8
35	3,5	9,6
40	4,0	10,4
45	4,5	11,2
50	5,0	12,0
55	5,5	12,8
60	6,0	13,6
65	6,5	14,4
70	7,0	15,2
75	7,5	16,0
80	8,0	16,8
85	8,5	17,6
90	9,0	18,4
95	9,5	19,2
100	10,0	20,0

Temperature schedule

°C	V	m A
0	0	4,0
5	1	5,6
10	2	7,2
15	3	8,8
20	4	10,4
25	5	12,0
30	6	13,6
35	7	15,2
40	8	16,8
45	9	18,4
50	10	20,0

See separate schedule for passive sensors, temperature vs resistance schedule.

We reserve the right to make changes in our products without any notice which may effect the accuracy of the information contained in this leaflet.