



DIP switch on pcb to select:
Relative Humidity,
Absolute Humidity,
Dew Point or
Enthalpy

Features

- Humidity and Temperature outputs in same unit
- Humidity output 0-10 Vdc or 4-20 mA
- Temperature output 0-10 Vdc or 4-20 mA
- As option passive direct temperature output PT1000, PT100, NTC, NI1000 etc
- With or without display
- Humidity accuracy $\pm 2\%$ at 20 to 80% rH
- Temperature accuracy $\pm 0,5K$
- Including duct mounting flange
- IP65 protection

Ordering

Type no.	Humidity Output	Temperature Output	Display	Passive Temp. Output
DHT 010 010	0-10 Vdc	0-10 Vdc	No	No
DHT 010 010 D	0-10 Vdc	0-10 Vdc	Yes	No
DHT 420 420	4-20 mA	4-20 mA	No	No
DHT 420 420 D	4-20 mA	4-20 mA	Yes	No
DHT 010 010 XXX	0-10 Vdc	xxx (see below)	No	Yes
DHT 010 010 XXX D	0-10 Vdc	xxx (see below)	Yes	Yes
DHT 420 420 XXX	4-20 mA	xxx (see below)	No	Yes
DHT 420 420 XXX D	4-20 mA	xxx (see below)	Yes	Yes

XXX = Passive sensor
PT100, PT100 1/3 DIN,
PT1000, PT1000 1/3 DIN,
NI1000, NI1000/TK5000,
NTC 1.8K, NTC 5K, NTC 10K, NTC 20K, KTY81-210

Example:
Humidity output 0-10 Vdc,
Temperature Output 0-10 Vdc,
PT1000 temperature direct sensor output and
Display,
type is : **DHT 010 010 PT1000 D**

Technical data

Humidity output:	0-10 Vdc or 4-20 mA
Temperature output for active versions:	0-10 Vdc or 4-20 mA
Temperature output passive sensor:	PT1000, PT100, NTC, NI1000 etc.
Power supply with 0-10 Vdc output:	16-36 Vdc or 24 Vac
Power supply with 4-20 mA output:	16-36 Vdc
Sensor element (humidity):	Capacitive sensor
Sensor element (temperature):	Capacitive sensor
Sensor element with passive temperature output:	At customer's selection PT1000, PT100, NTC, NI1000 etc.
Humidity (relative) accuracy:	$\pm 2\%$ at 20 to 80% rH
Temperature operating:	-30°C to +70°C
Temperature accuracy:	$\pm 0,5K$
Load for analogue 0-10 Vdc output:	10 to 100 kOhm
Apparent ohmic resistance for analogue output:	300 to 1000 Ohm
Operating temperature:	-30°C to +50°C
Operating range:	0 to 98% rH
Response time for rH:	8 Secs. (63% at condensation)
Connection:	Screw clamps 1,5 mm ²
Casing:	Material ABS, Colour RAL 9010
Dimensions Housing (L x W x H):	65 x 60 x 38 mm
Probe lenght:	220 mm
Protection class:	IP65
Relative humidity measuring range:	see configuration page 4
Absolut humidity measuring range:	see configuration page 4
Dew point measuring range :	see configuration page 4
Enthalpy:	see configuration page 4

Description

The duct humidity and temperature sensor DHT measures the humidity and temperature of air.

The duct humidity and temperature sensor DHT converts the measurements humidity and temperature into standard signals of 0-10 Vdc or 4-20 mA, temperature passive sensor PT1000, PT100, NTC, NI1000 also available as direct temperature output.

The DHT duct humidity and temperature sensor can be ordered with or without display.

DIP switch on pcb to select relative humidity, absolute humidity or dew point measurement.

The built-in display on room humidity and temperature sensor DHT show actual humidity and actual temperature.

Probe lenght for duct humidity and temperature sensor DHT is 220 mm.

Mounting flange is included in the scope of delivery for DHT room humidity and temperature sensor.

E-paper Display

The display versions for DHT duct humidity and temperature sensor is an E-Paper display that reflect light just as regular paper, therefore the display is a passive (non-luminating) display.

Thin, light, flexible, good contrast, low energy consumption and no light reflections.

Easy reading even with high insolation and ambient brightness.

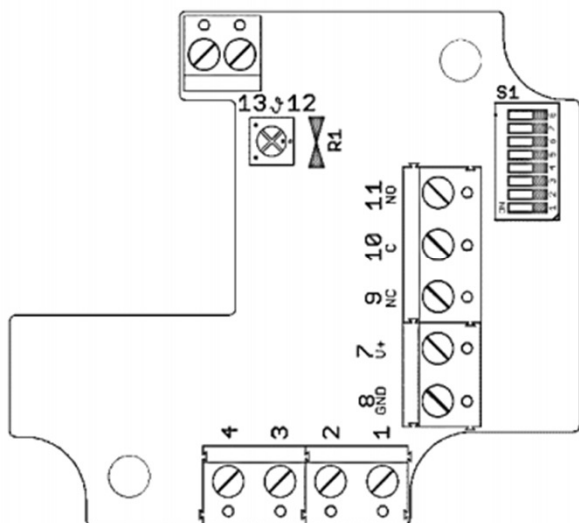
E-Paper displays only need energy when the display contents change.

Optics and readability are significantly better than with monochrome LCD's or other bi-stable systems.

High readability independent of the reader's perspective.



Electrical Connection

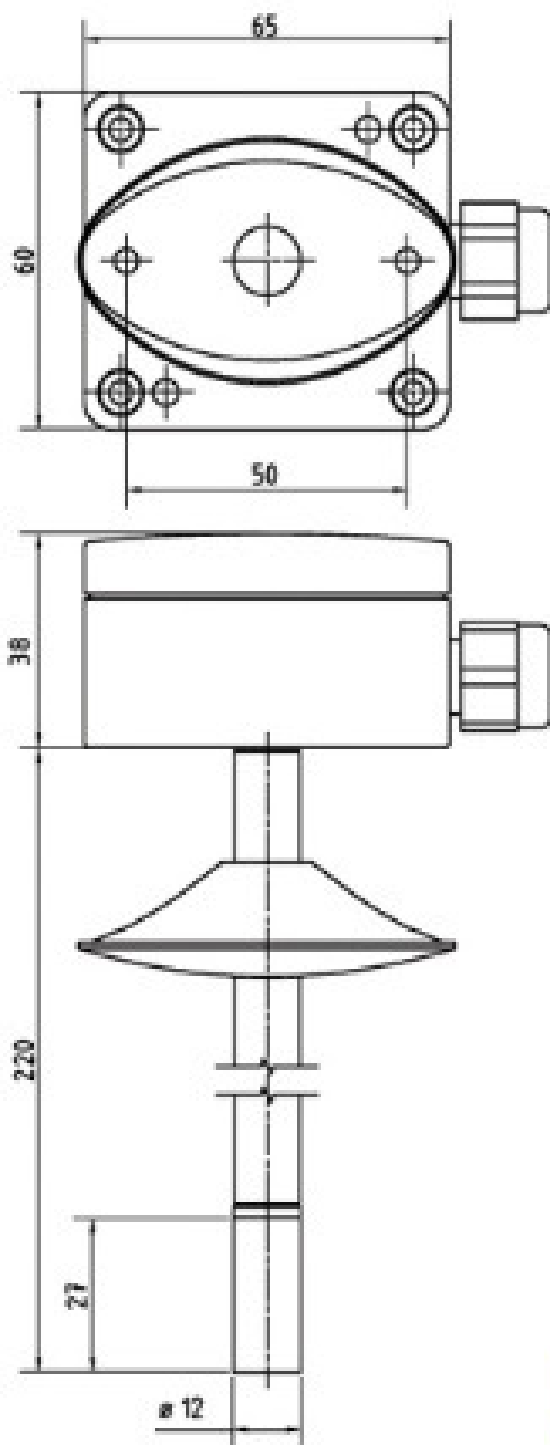


(0-10 V)		(4-20 mA)	
Pin	Assignment	Pin	Assignment
1	temp	1	-
2	humidity	2	-
3	-	3	temp
4	-	4	humidity
7	V+		
8	GND		
9	(relay NC)		
10	(relay C)		
11	(relay NO)		
12	(passive sensor)		
13	(passive sensor)		
R1	temp. adjustment		

Configuration

Temperature-ranges	Range	1	2	Humidity-Ranges	Range	3	4	5	6	7	8
	-30°C ... +70°C	OFF	OFF		Relative humidity						
	-20°C ... +80°C	ON	OFF		0 % ... 100%	OFF	OFF	OFF	OFF	N/A	N/A
	0°C ... +100°C	OFF	ON		Absolute humidity						
	0°C ... +50°C	ON	ON		0 g/m³ ... 30g/m³	ON	OFF	OFF	OFF	N/A	N/A
					0 g/m³ ... 50g/m³	ON	ON	OFF	OFF	N/A	N/A
					0 g/m³ ... 80g/m³	ON	ON	ON	OFF	N/A	N/A
					Mix ratio						
					0 g/kg ... 30g/kg	OFF	OFF	OFF	ON	N/A	N/A
					0 g/kg ... 50g/kg	OFF	OFF	ON	ON	N/A	N/A
					0 g/kg ... 80g/kg	OFF	ON	ON	ON	N/A	N/A
					Dew point						
					0°C ... +50°C	OFF	ON	ON	OFF	N/A	N/A
					-50°C ... +100°C	ON	OFF	OFF	ON	N/A	N/A
					-20°C ... +80°C	OFF	ON	OFF	ON	N/A	N/A
					Enthalpy						
					0 kJ/kg ... 85kJ/kg	ON	ON	ON	ON	N/A	N/A

Dimensions



Important



In-phase connection is necessary for parallel operation with 24 VAC in order to avoid short circuits.

The devices are built for safety extra-low voltage operation. The technical data from the data sheet apply when connecting the devices.

These instruments must be installed by authorised specialists only! Devices shall only be used for their intended purpose. The customer has to ensure adherence to the building and safety regulations and has to avoid all dangers of any kind.

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