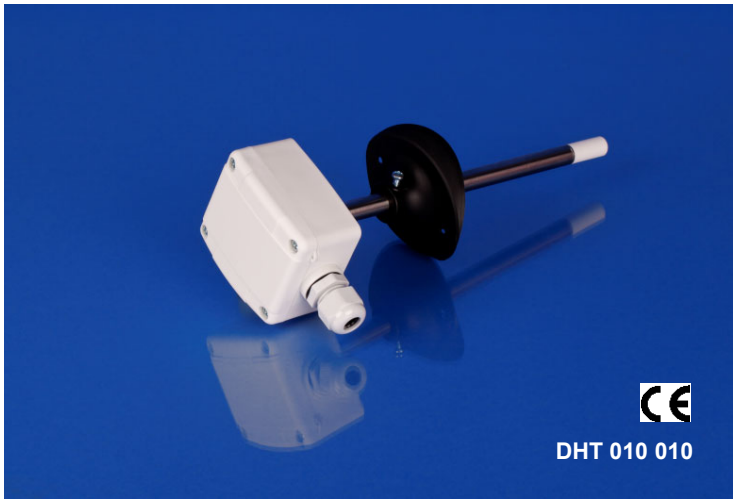
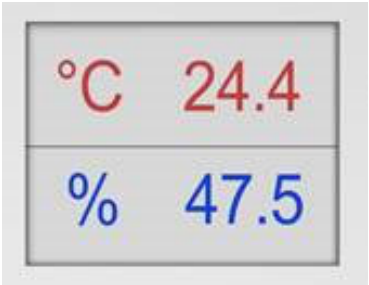




New LCD display 2019

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 LCD display**
- **Humidity accuracy ± 2% at 20 to 80% rH**
- **Temperature accuracy ± 0,5K**
- **Including duct mounting flange**
- **IP65 protection**

Ordering

Type no.	Humidity Output	Temperature Output	LCD 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	0-10 Vdc	No	Yes
DHT 010 010 XXX D	0-10 Vdc	0-10 Vdc	Yes	Yes
DHT 420 420 XXX	4-20 mA	4-20 mA	No	Yes
DHT 420 420 XXX D	4-20 mA	4-20 mA	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 (3-wire)
Temperature output for active versions:	0-10 Vdc or 4-20 mA (3-wire)
Temperature output passive sensor:	PT1000, PT100, NTC, NI1000 etc.
Power supply with 0-10 Vdc output:	12-24 Vac or 16-36 Vdc
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:	± 2% at 20 to 80% rH
Temperature operating:	-30°C to +70°C
Temperature accuracy:	± 0,3K (+5°C to 60°C) + 1.5% f.s
Load for analogue 0-10 Vdc output:	10 to100 kOhm
Load for analogue 4-20 mA output:	50 to 500 Ohm
Operating humidity:	0 to 98% rH
Power consumption:	24 to 44 mA
Sensor set up time:	60 min.
Response time for rH:	8 Secs. (63% at condensation)
Connection:	Screw clamps 1,5 mm²
Housing:	Material ABS, Colour RAL 9010
Protection class housing:	IP65
Dimensions Housing (L x W x H):	65 x 60 x 38 mm
Probe lenght:	220 mm
Probe diameter	12 mm
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 transmitter DHT measures the humidity and temperature of air.

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

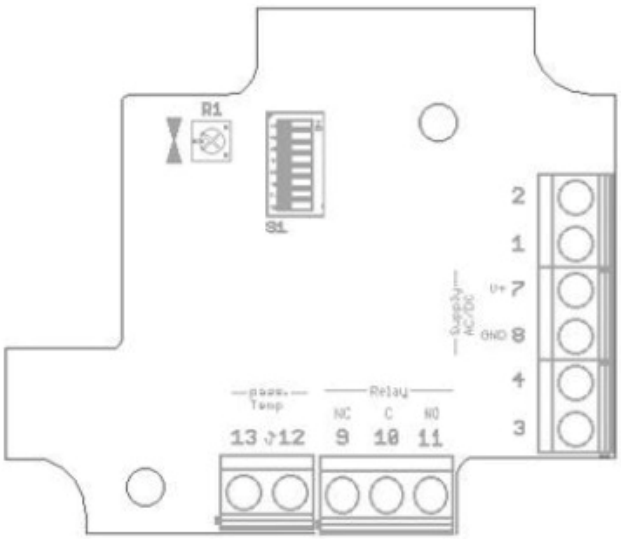
DIP switch on pcb to select relative humidity, absolute humidity or dew point measurement.

The built-in LCD display on duct humidity and temperature transmitter DHT show actual humidity and actual temperature.

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

Mounting flange is included in the scope of delivery for DHT duct humidity and temperature transmitter.

Electrical Connection



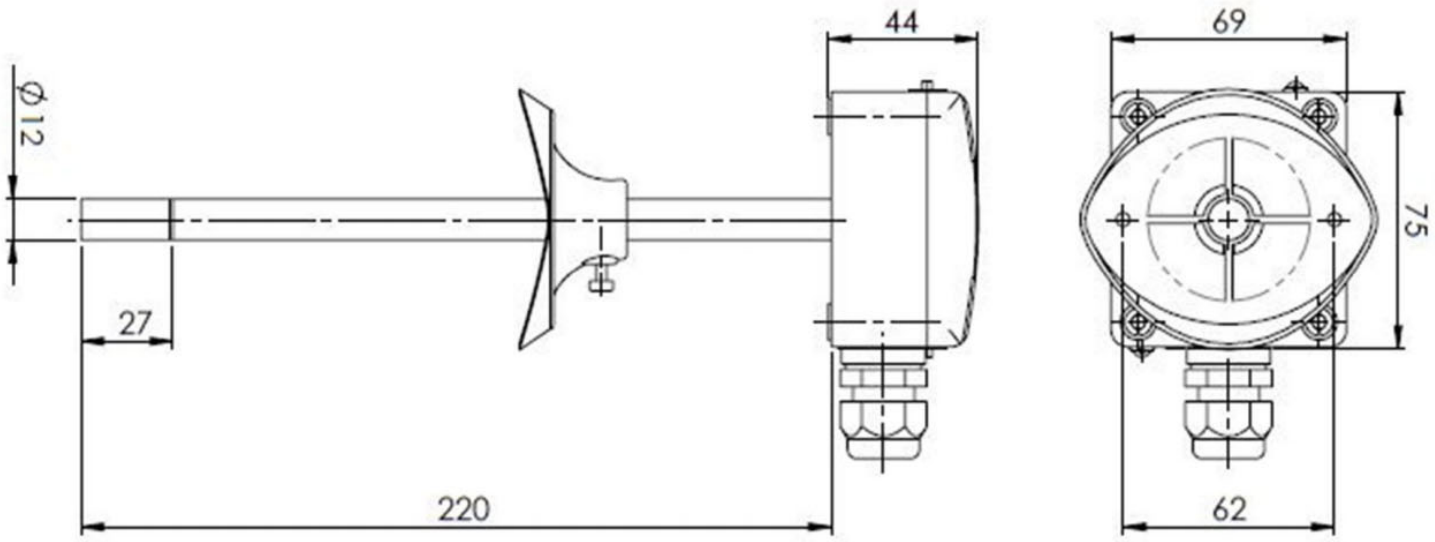
Electrical connection	Pin	(0...10 V)	(4...20 mA)
	1	temp	-
	2	r.h.	-
	3	poti act (opt)	temp
	4	-	r.h.
	5	poti pas. (opt)	
	6	poti pas. (opt)	
	7	V+	
	8	GND	
	9	relay NC (opt)	
	10	relay C (opt)	
	11	relay NO (opt)	
	12	sensor °C pas. (opt)	
	13	sensor °C pas. (opt)	
	R1	temp. adjustment	

Measurement ranges DIP switches

Temperature-ranges	Range	1	2
	0°C ... +50°C	ON	ON
	0°C ... +100°C	OFF	ON
	-20°C ... +80°C	ON	OFF
	-30°C ... +70°C	OFF	OFF

Humidity-Ranges	Range	3	4	5	6	7	8
	Relative humidity						
	0 % ... 100%	OFF	OFF	OFF	OFF	N/A	N/A
	Absolute humidity						
	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.