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**
- **Passive temperature sensing element**
  PT1000, PT100, NTC 10K, NTC 20K, NTC 1.8K , NI1000 etc as option
- **With or without LCD display**
- **Humidity accuracy ± 2% at 20 to 80% rH**
- **Temperature accuracy ± 0,3K**
- **On request potentiometer**

Ordering

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

XXX = Passive temperature sensing element
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 passive temperature sensing element and Display,
type is : **RHT 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)
Passive temperature sensing element	PT1000, PT100, NTC 10K, NTC 20K NTC 1.8K, NI1000 etc. (option)
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
Humidity measuring range:	0 to 100% rH
Humidity accuracy	± 2% at 20 to 80% rH
Temperature accuracy:	± 0,3K (+5°C to 60°C) + 1.5% f.s
Analogue output load 0-10 Vdc:	10 to100 kOhm
Analogue output load 4-20 mA:	50 to 500 kOhm
Operating temperature:	0°C to +50°C
Operating range:	0 to 98% rH
Connection:	Screw clamps 1,5 mm²
Casing:	Material ABS, Colour RAL 9010
Dimensions Housing (L x W x H):	87,5 x 87,5 x 30 mm
Protection class:	IP30
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
Standards:	
Directive:	20014/108/EG
DIN	EN 61326-2-1:2013

Description

The RHT is room humidity and temperature transmitter measures the humidity and temperature of air.

The room humidity and temperature transmitter RHT converts the measurements humidity and temperature into standard signals of 0-10 Vdc or 4-20 mA.

Passive temperature sensor PT1000, PT100, NTC 10K, NTC 20K, NTC 1.8K, NI1000 as option

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

The built-in display on room humidity and temperature transmitter RHT show actual humidity and actual temperature.

The RHT room humidity and temperature transmitters are applied in non-aggressive dust-free ambiences in refrigeration, air conditioning, ventilation and clean room technology, in interior rooms such as residential rooms, offices, hotels, technical rooms, meeting rooms and convention centres.

Configuration

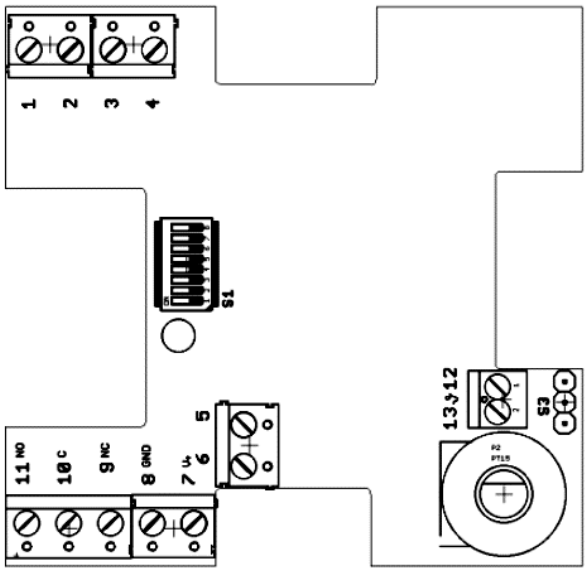
Temperature-ranges

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

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

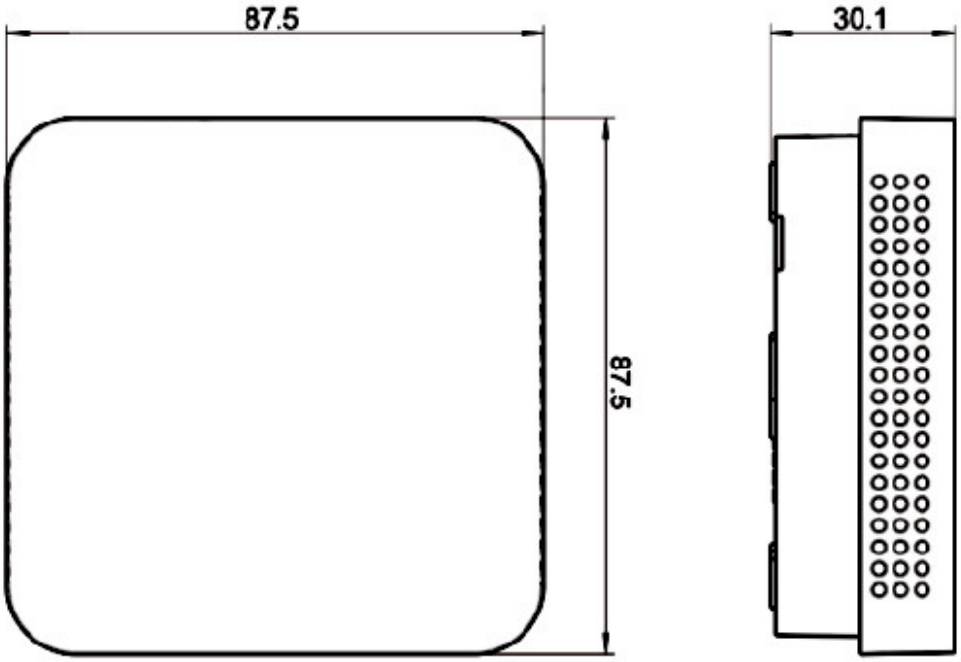
Electrical connection



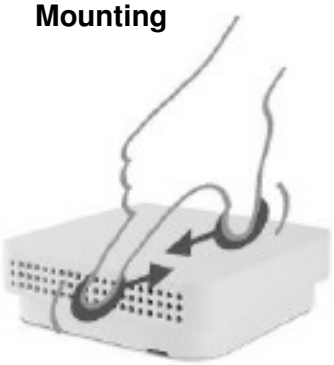
Electrical connection

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	
S3	polarity R3	

Dimensions



Mounting



The convection must be aligned at the bottom to ensure a flow of air up

The sensor should always be mounted on the opposite wall of the radiator.

Ideal mounting height of 1.5 m above the floor.

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.