

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 display
- Humidity accuracy $\pm 2\%$ at 20 to 80% rH
- Temperature accuracy $\pm 0,3K$

Ordering

Type no.	Humidity Output	Temperature Output	Display	Passive Temp. sensor
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**

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

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 to 100 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 mm ²
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 sensor can be ordered with or without display.

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

The RHT room humidity and temperature transmitters are applied in non-aggressive dust-free ambiances 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.

E-paper Display

The display versions for RHT room humidity and temperature transmitter 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.

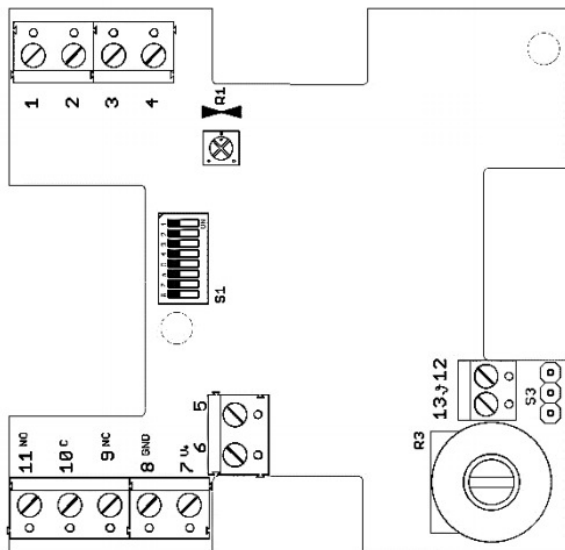
High readability independent of the reader's perspective.



Configuration

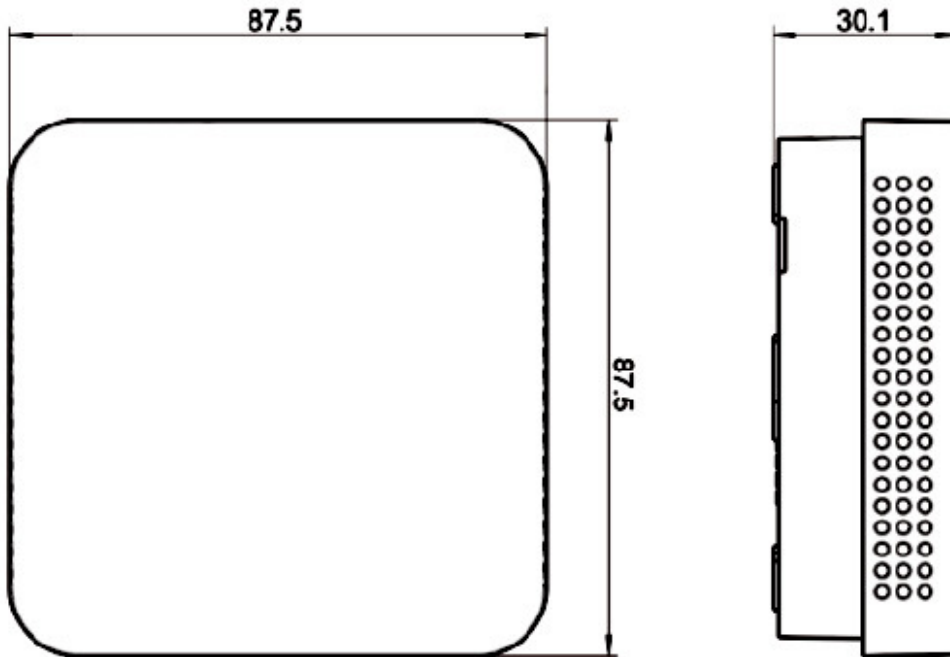
Temperature-ranges	Range	1	2	Humidity-Ranges	Range	3	4	5	6	7	8	
	0°C ... +50°C	OFF	OFF		<i>Relative humidity</i>							
	0°C ... +100°C	ON	OFF		0 % ... 100%	OFF	OFF	OFF	OFF	OFF	N/A	N/A
	-20°C ... +80°C	OFF	ON		<i>Absolute humidity</i>							
	-30°C ... +70°C	ON	ON		0 g/m³ ... 30g/m³	ON	OFF	OFF	OFF	OFF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

Electrical connection

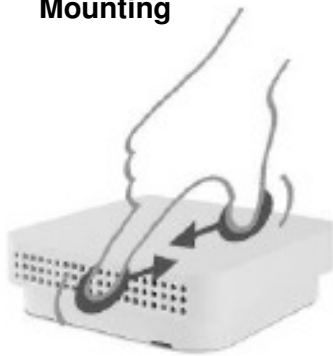


Pin	Assignment	Pin	Assignment
1	temp	1	-
2	humidity	2	-
3	(active poti)	3	temp
4	-	4	humidity
5	(passive poti)		
6	(passive poti)		
7	V+		
8	GND		
9	(relay NC)		
10	(relay C)		
11	(relay NO)		
12	(passive sensor)		
13	(passive sensor)		
R1	temp. adjustment		
S3	polarity R3		

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.

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.