

## Duct humidity and temperature transmitter

# TTHD



### Description

The temperature/humidity transmitter serie TTHD measures the duct temperature and humidity by a capacitive sensor and converts the value into a linear output signal 0...10 V DC or 4...20 mA.

### Technical specifications

<b>Measurement range RH</b>	Selectable by dip-switch
<b>Accuracy RH</b>	±2% RH (20...80%RH) + 2% FS
<b>Measurement range °C</b>	4 different scale selectable by dip-switch
<b>Accuracy °C</b>	±0,3°C (5...60°C)
<b>Speed of response</b>	8 sec.
<b>Power supply</b>	12...34 V AC/DC
<b>Power consumption</b>	24...44 mA
<b>Working resistance at 0...10 V DC</b>	10...100 kOhm
<b>Working resistance at 4...20 mA</b>	50...500 Ohm
<b>Electrical connection</b>	Screw terminals max. 1,5 mm <sup>2</sup>
<b>Housing</b>	PA6 15% GF, RAL 9010
<b>Dimensions</b>	See drawing
<b>Protection type</b>	IP65
<b>Protection class</b>	II
<b>Working range RH</b>	0...98% RH in contaminant-free, non-condensing air
<b>Working temperature °C</b>	-30...+70°C
<b>Installation</b>	Mounting flange (included)
<b>Standards</b>	CE conformity, RoHS



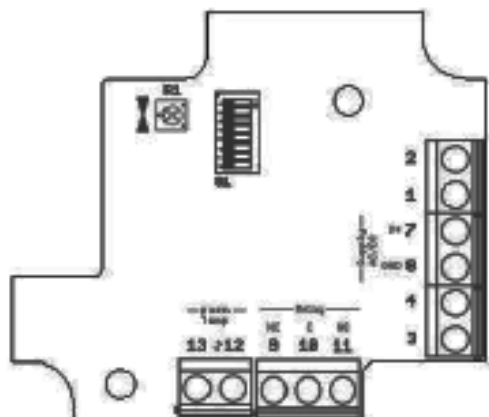
Models	Temp. output	Humidity output	Version
TTHDV	0...10 V DC	0...10 V DC	
TTHDVD	0...10 V DC	0...10 V DC	with display
TTHDxV	Passive sensor (*)	0...10 V DC	
TTHDxVD	Passive sensor (*)	0...10 V DC	with display
TTHDC	4...20 mA	4...20 mA	
TTHDCD	4...20 mA	4...20 mA	with display
TTHDxC	Passive sensor (*)	4...20 mA	
TTHDxCD	Passive sensor (*)	4...20 mA	with display

(\*) Replace "x" with the number of desired passive sensor:

X	Type of passive sensor
1	Pt100 (DIN EN 60751 Cl. B)
2	Pt1000 (DIN EN 60751 Cl. B)
3	Ni1000 (TK6180)
5	NTC20k (±1%)
6	NTC10k (±1%) BETA 3435K



## Electrical wirings



Output 0...10 V		Output 4...20 mA	
PIN	Assignment	PIN	Assignment
1	Output temp.	1	-
2	Output humid.	2	-
3	-	3	Output temp.
4	-	4	Output humid.
7	+	7	+
8	GND	8	GND
12	passive sensor	12	passive sensor
13	passive sensor	13	passive sensor

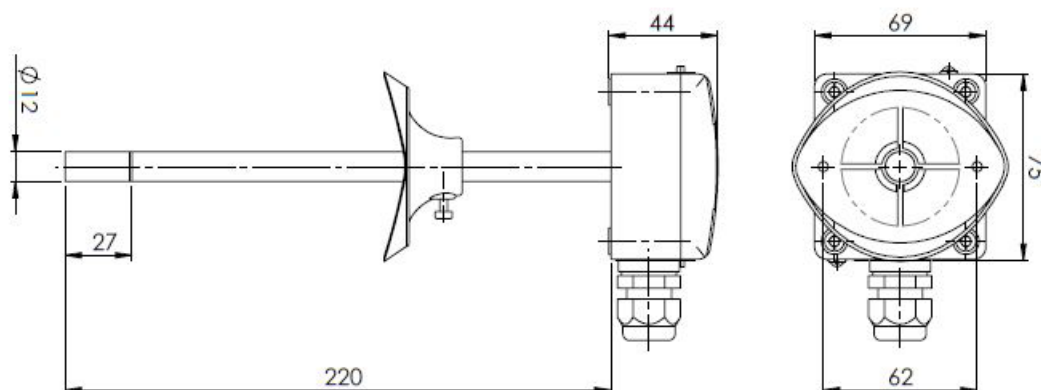
Important: connections in parallel with 24 VAC to consider the phase to prevent short circuits. The device is designed to operate in a low voltage condition.

Note: The sensor is designed for a normal environment condition, other aggressive gases can ruin it.

## Setting

Temperature ranges	Range	1	2	Humidity ranges	Range	3	4	5	6	
	-30...+70°C	OFF	OFF		Relative humidity	0...100%	OFF	OFF	OFF	OFF
	-20...+80°C	ON	OFF		Absolute humidity	0 g/m <sup>3</sup> ...30g/m <sup>3</sup>	ON	OFF	OFF	OFF
	0...+100°C	OFF	ON		0 g/m <sup>3</sup> ...50g/m <sup>3</sup>	ON	ON	OFF	OFF	
	0...+50°C	ON	ON		0 g/m <sup>3</sup> ...80g/m <sup>3</sup>	ON	ON	ON	OFF	
				Mix ratio	0 g/kg...30g/kg	OFF	OFF	OFF	ON	
				0 g/kg...50g/kg	OFF	OFF	ON	ON		
				0 g/kg...80g/kg	OFF	ON	ON	ON		
				Dew point	0...+50°C	OFF	ON	ON	OFF	
				-50...+100°C	ON	OFF	OFF	ON		
				-20...+80°C	OFF	ON	OFF	ON		
				Enthalpy	0 kj/kg...85kj/kg	ON	ON	ON	ON	

## Dimensions (mm)



The contents are subject to revision or change without notice.