Outdoor humidity and temperature transmitter

TTHO

Description

The temperature/humidity transmitter serie TTHO measures the outdoor temperature and humidity by a capacitive humidity sensor and converts the value into a linear output signal 0...10 V DC o 4...20 mA. The humidity and temperature sensor is protected against contamination by a screw sinter filter.

Technical specifications

Measurement range RH	Selectable
Accuracy RH	±2% RH (20...80% RH) + 2% FS
Measurement range °C	4 different scale selectable by dip-switch
Accuracy °C	±0,3°C (5...60°C) + 1,5% FS
Power supply	12…34 V AC/DC
Power consumption	24...44 mA
Working resistance at 0...10 V DC	10...100 kOhm
Working resistance at 4...20 mA	50...500 Ohm
Electrical connection	Screw terminals max. 1,5 mm²
Housing	PA6 15% GF, RAL9010
Dimensions	See drawing
Protection type	IP65
Protection class	III
Working range RH	0...98% RH in contaminant-free, non-condensing air
Working temperature °C	-30...+70°C
Standards	CE conformity, RoHS

Models	Temp. output	Humidity output	Version
TTHOC	4...20 mA	4...20 mA	
TTHOxC	Passive sensor (*)	4...20 mA	
TTHOCD	4...20 mA	4...20 mA	with display
TTHOxCD	Passive sensor (*)	4...20 mA	with display
TTHOV	0...10 V DC	0...10 V DC	
TTHOxV	Passive sensor (*)	0...10 V DC	
TTHOVD	0...10 V DC	0...10 V DC	with display
TTHOxVD	Passive sensor (*)	0...10 V DC	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

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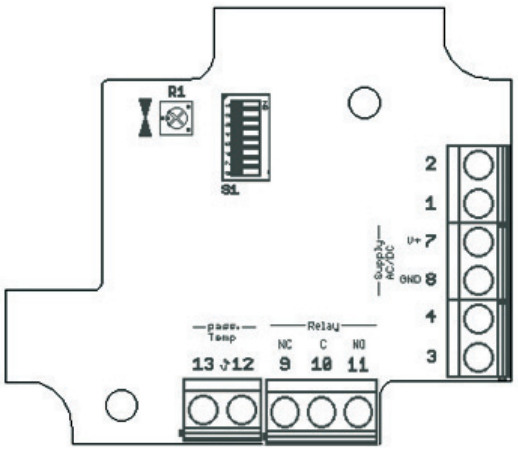
Electrical wirings



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

Humidity ranges

Range	3	4	5	6
Relative humidity				
0...100%	OFF	OFF	OFF	OFF
Absolute humidity				
0 g/m³...30g/m³	ON	OFF	OFF	OFF
0 g/m³...50g/m³	ON	ON	OFF	OFF
0 g/m³...80g/m³	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)