

## HUMIDITY TRANSMITTERS RHT DUCT SERIES



Duct mount relative humidity transmitters for building automation systems

RHT Duct is a relative humidity transmitter with temperature output installed in air ventilation duct. In addition to these measured values, RHT Duct calculates various parameters such as dew point, mixing ratio, enthalpy and absolute humidity. Illuminated display ensures easy readability also from a distance. The RHT has a screwless lid and an easily adjustable mounting flange that make the installation of the device easy.

### RHT Duct series devices include:

- Two selectable voltage outputs (0-10 V / 2-10 V / 0-5 V) for measured and calculated parameters (rH, T, dew point, mixing ratio, enthalpy and absolute humidity).
- Offset feature enabling field calibration for measurement parameters rH and T.
- Mounting flange

### RHT Duct series device options offer:

- Clear backlit display
- Modbus configuration
- Two selectable current outputs (4-20 mA) for measured and calculated parameters.



## APPLICATIONS

RHT Duct series devices are commonly used to monitor and control:

- Relative humidity and temperature levels of incoming and return air in ventilation system

## MODEL SUMMARY

Description	RHT Duct		RHT Duct with mA output	
	Model	Product code	Model	Product code
Relative humidity transmitter for duct	RHT Duct	302.002.001	RHT-Duct-A	302.008.005
- with display	RHT Duct-D	302.002.002	RHT Duct-A-D	302.008.006
- with Modbus configuration and display	RHT-MOD Duct-D	302.002.006		

# HUMIDITY TRANSMITTERS

## RHT DUCT SERIES

### SPECIFICATIONS

#### Performance

##### Measurement ranges:

Temperature: -30...80 °C, sensor  
Relative humidity: 0-100 %

##### Accuracy:

Temperature: <0.5 °C  
Relative humidity: ±2...3 % at 0...50 °C and 10-90 % rH  
Total error band includes accuracy, hysteresis and temperature effect over 5...50 °C and 10-90 % rH.

#### Technical Specifications

##### Media compatibility:

Dry air or non-aggressive gases

##### Measuring units:

°C and % rH

##### Measuring element:

Temperature: NTC10k  
Relative humidity: Thermoset polymer capacitive sensing element

##### Environment:

Operating temperature: 0...50 °C  
Storage temperature: -20...70 °C  
Humidity: 0 to 95 % rH, non condensing

#### Physical

##### Dimensions:

Case: 119 x 95.5 x 45 mm  
Probe: L=188 mm, d=12 mm

##### Mounting:

With flange, adjustable 40...155 mm

##### Weight:

150 g

##### Materials:

Case: ABS  
Cover: PC  
Probe: ABS  
Mounting flange: LLPDP

##### Protection standard:

IP54

##### Electrical connections:

4 spring loaded terminals (24 V, GND, OUT1\*, OUT2\*)  
0.2-1.5 mm<sup>2</sup> (16-24 AWG)  
A-model:  
2 additional spring loaded terminals for mA-output (OUT1\*, OUT2\*)  
0.2-1.5 mm<sup>2</sup> (16-24 AWG)  
\*Default OUT1=rH, OUT2=TE  
Outputs selectable on the display:  
temperature / dew point / mixing ratio / enthalpy / absolute humidity / relative humidity

#### Electrical

Supply voltage: 24 VAC or VDC ±10 %  
Current consumption: max 90 mA (at 24 V) + 10 mA for each voltage output  
Output signals for every media:  
0/2...5/10 VDC, Load R minimum 1 kΩ  
Only A-model:  
4...20mA, Load R maximum 500 Ω, minimum 20 Ω  
Output calibrated within ±0.08mA

#### Conformance

Meets requirements for:

	CE:	UKCA:
EMC:	2014/30/EU	S.I. 2016/1091
RoHS:	2011/65/EU	S.I. 2012/3032
WEEE:	2012/19/EU	S.I. 2013/3113

COMPANY WITH  
MANAGEMENT SYSTEM  
CERTIFIED BY DNV  
ISO 9001 • ISO 14001



### HOW TO GENERATE A MODEL?

Example:	Product Series				
	RHT Duct-D	RHT	Relative humidity transmitter, analog configurations		
RHT-MOD		Relative humidity transmitter, Modbus configuration			
		<b>Mounting</b>			
		Duct	Duct mount		
			<b>Output</b>		
			Voltage output		
		-A	Voltage and current output		
			<b>Display</b>		
			-D	With display	
				Without display	
Model	RHT	Duct		-D	



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