

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 mm² (16-24 AWG)
A-model:
2 additional spring loaded terminals for mA-output (OUT1*, OUT2*)
0.2-1.5 mm² (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		
		Mounting		
Duct		Duct mount		
		Output		
			Voltage output	
		-A	Voltage and current output	
			Display	
		-D	With display	
			Without display	
Model	RHT	Duct		-D