

## HUMIDITY TRANSMITTERS RHT-MOD SERIES



Wall mount humidity transmitters for building automation systems that use Modbus serial communication protocol

RHT-MOD relative humidity transmitters are engineered for building automation systems in the HVAC/R industry. The RHT-MOD measures relative humidity (rH), and temperature (T). RHT-MOD devices are available with large touchscreen display making configuration of the device quick and easy.

### RHT-MOD series devices include:

- Separate field configurable Modbus output for each measurement parameter (rH, T)
- Offset feature enabling field calibration for each measurement parameter (rH, T)
- One analog output for selected measurement: voltage (0/2-10 V) and current (4-20 mA)
- Optional relay output



## APPLICATIONS

RHT-MOD series devices are commonly used to monitor:

- humidity and temperature levels in offices, public spaces, hospitals, meeting rooms and classrooms
- humidity and temperature in various commercial applications
- humidity and temperature in HVAC/R environment

## MODEL SUMMARY

	RHT	
Description	Model	Product code
Relative humidity transmitter for room with Modbus configuration and display	RHT-MOD-D	301.002.003
- with relay	RHT-MOD-1R-D	301.002.005

# HUMIDITY TRANSMITTERS

## RHT-MOD SERIES

### SPECIFICATIONS

#### Performance

##### Measurement ranges:

Temperature: 0...50 °C  
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: Pt1000  
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: 99 x 90 x 32 mm

##### Weight:

150 g

##### Mounting:

3 screw holes slotted, 3.8 mm

##### Materials:

Case: ABS

##### Protection standard:

IP20

##### Display

Touchscreen

Size: 77.4 x 52.4 mm

##### Electrical connections:

Power supply:

5-screw terminal block  
(24 V, GND)  
0.2-1.5 mm<sup>2</sup> (12-24 AWG)

Relay out:

3-screw terminal block  
(NC, COM, NO)  
0.2-1.5 mm<sup>2</sup> (12-24 AWG)

#### Electrical

Input:

24 VAC or VDC, ±10 %  
Current consumption: max 90 mA (at 24 V) +  
10 mA for each voltage output or 20 mA for  
each current output

Relay out:

SPDT Relay, 250 VAC / 30 VDC / 6 A  
Adjustable switching point and hysteresis

#### Communication

Protocol: MODBUS over Serial Line

Transmission Mode: RTU

Interface: RS485

Byte format (11 bits) in RTU mode:

Coding System: 8-bit binary

Bits per Byte:

1 start bit  
8 data bits, least significant bit sent  
first  
1 bit for parity  
1 stop bit

Baud rate: selectable in configuration

Modbus address: 1-247 addresses selectable in  
configuration menu

One analog output for selected media:

0/2-10 VDC, Load R minimum 1 kohm or  
4-20 mA, maximum load 500 ohm

#### Conformance

Meets requirements for CE marking:

EMC Directive 2014/30/EU

RoHS Directive 2002/95/EC

LVD Directive 2014/35/EU

WEEE Directive 2012/19/EU

**COMPANY WITH  
MANAGEMENT SYSTEM  
CERTIFIED BY DNV GL  
= ISO 9001 = ISO 14001 =**



### HOW TO GENERATE A MODEL?

Example:	Product Series			
RHT-MOD-1R-D	RHT	Relative humidity transmitter, analog configurations		
	RHT-MOD	Relative humidity transmitter, Modbus configuration		
		Mounting		
		Wall mount		
		Relay		
		-1R	With relay	
			Without relay	
		Display		
			-D	With display
				Without display
Model	RHT-MOD	-1R	-D	