

## 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 and 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 mm2 (12–24 AWG)

Relay out:  
3-screw terminal block  
(NC, COM, NO)  
0.2–1.5 mm2 (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: RHT-MOD-1R-D	Product Series				
	RHT	Relative humidity transmitter, analog configurations			
	RHT-MOD	Relative humidity transmitter, Modbus configuration			
		Mounting			
			Wall mount		
		Duct	Duct mount		
			Relay (only for wall mount model)		
			-1R	With relay	
				Without relay	
				Display	
				-D	With display
					Without display
Model	RHT-MOD		-1R	-D	