

Room Aero Humidity

Wall mount sensor for relative humidity (RH) & temperature (T)

PRODUCT INSTALLATION DATA



GENERAL

High quality room relative humidity and/or temperature sensor in the attractive, low-profile Aero plastic enclosure. Humidity sensors are also available with accurate thermistors or RTDs for temperature sensing. Humidity elements have high accuracy and very low drift over 5 years.

The onboard DIP switches enable user to select proper relative humidity analog output signal in the field for 0-5V, 0-10V and 4-20mA. DIP switches are preset when ordering and can be changed if needed. These products are also available with digital RH/T output on request.

The Quick Connect wire terminals make installation easy and eliminates screw terminals and wire nuts.

FEATURES

- Wide sensing range
- Capacitance-type sensing element for rel. humidity
- High airflow and fast response

SPECIFICATION

Measured Values

Relative humidity (4...20mA, 0...5V, or 0...10V)

Working range	10...90% %RH (non-condensing)
Accuracy (active sensor)	±2 or 3%RH (10...90% RH) at 20 °C, otherwise ±5% (0...100% RH)
Temperature dependency	typically ±0.05% RH / °C
Typical response time	< 180 s

Temperature

Passive Signal:	NTC thermistor, 2-wire
	RTD Pt100, Pt1000, 2-wire
	RTD Ni1000-891, Ni1000-TC5, 2wire

General Specifications

RH Supply Voltage (4-20mA):	(100 Ohm Load): 10 to 35 VDC
RH Supply Voltage (4-20mA):	(250 Ohm Load): 13 to 35 VDC
RH Supply Voltage (0-5V DC):	8 to 35 VDC / 10 to 35 VAC
RH Supply Voltage (0-10V DC):	13 to 35 VDC / 13 to 35 VAC
Voltage Output Current:	0-5V/0-10V mode 10-12mA
Voltage Output Resistance:	0-5V/0-10V mode 1 kOhm
Supply Current:	Voltage mode 32-35mA, Current mode 4-20mA

Connection	Spring-loaded terminals, max.1.5mm ²
Housing material	Injection-molded ABS UL 94 HB
Cover	Quick snap, injection-molded ABS
Mounting	Direct mounting with quick snap faceplate. Fits standard single gang box or mounts directly to wall. Built-in level for accurate installation.
EMC	EN61326-1, EN61326-2-3; FCC Part 15, Class B; ind. environment: ICES-003 Issue 5 Class B
Working conditions	0...50°C / 32...122°F
Storage conditions	0...95% RH (non-condensing) -25...+60 °C (-13...+140 °F), 20...80% RH
Dimensions	See Fig 1.
Mounting	wall or space
Approvals	CE / RoHS

Outputs

Analog output RH	0...5/10V or 4...20mA ≡ 0...100%
Passive temp. sensor	2-wire, passive sensor; wire resistance (terminal-sensor), typ. 0.5 W; temp. unit: °C

WIRING

wiring run	maximum length
sensor to controller	200 m (660 ft)

NOTE: Installation of the sensor near high EMI-emitting devices may lead to faulty measurements.

Use shielded wiring in areas with high EMI.

Keep 15 cm (6") min. distance between sensor lines and 230 Vac power lines.

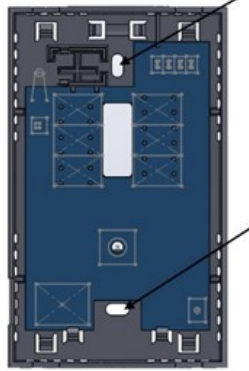
MOUNTING INSTRUCTIONS

Feed wires through.



Step 1 – Feed wires through hole in rear of sensor.

Mount with screws to wall or box.



Step 2 - Mount with screws, then make connections.



Step 3 – Snap on cover. Depress hooks through vents with tool to remove.

CONFIGURATION

Instructions for 4-20mA Output

Terminal	Function
TEMP	2-pole connection for optional passive temperature sensor (no polarity)
VIN	Main power – DC only
4-20mA	Current mode signal output
COM	(not used in current mode)
VOUT	(not used in current mode)

Step 1 – Be sure the white Output mode DIP switches are in the proper configuration. For 4-20mA output, DIP switch #2 must be in the LEFT position. Switch #1 has no function in this mode.

Step 2 – Terminate control wires in quick connects as indicated in the table above. Only 2 wires are needed for 4-20mA output mode; main power supply and signal output. These wires terminate at “VIN” and “4-20mA”.

Step 3 – Power on control.

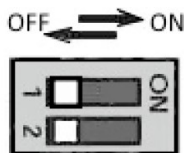


Fig. 1. DIP position 4-20mA

Instructions for 0-5V or 0-10V Output

Terminal	Function
TEMP	2-pole connection for optional passive temperature sensor (no polarity)
VIN	Main power – AC or DC
4-20mA	(not used in voltage mode)
COM	Common
VOUT	Voltage signal output

Step 1 – Be sure the white Output mode DIP switch is in the proper configuration. For 0-5V output, DIP switch #1 must be in the LEFT position and DIP switch #2 must be in the RIGHT position (see Fig 2). For 0-10V output, both #1 and #2 DIP switches must be in the RIGHT positions (see Fig 3).

Step 2 – Terminate control wires in quick connects as indicated in the table above. Three wires are needed for Voltage output mode: 1. main power supply (VIN), 2. common (COM), and 3. signal output (VOUT).

Step 3 – Power on control/power supply to sensor.

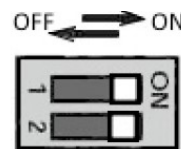


Fig. 2. DIP position 0-10V

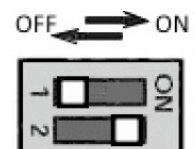


Fig. 3. DIP position 0-5V