HO2 SERIES

Duct Mount Weatherproof Humidity Sensors

HO2

HO2 Series Humidity Sensors provide an ideal solution for measuring relative humidity in a wide range of conditions. All models are equipped with a solid state capacitive sensor that is easy to replace in the field. The housing is completely weatherproof and intended for outdoor mounting.

The HO2 is an all-in-one device combining humidity and temperature sensing. The device ensures a building's optimum temperature and humidity levels, resulting in greater energy efficiency.

Each device is an active sensor that converts a humidity or temperature measurement into an analog output (4-20 mA) or a voltage level (0 to 5 Vdc or 0 to 10 Vdc).

Different models are available based on application requirements for lower-cost installations.

SPECIFICATIONS

OPERATING & STORAGE ENVIRONMENT	
Operating Temp. Range	-40 to 55 °C (-40 to 131 °F)
Operating Humidity Range	0 to 95% RH non-condensing
Storage Temperature	-40 to 60 °C (-40 to 140 °F)
Storage Humidity Range	0 to 95% RH non-condensing
Power Supply	3-wire volt mode: 20 to 30 Vdc, 24 Vac, 50 to 60 Hz; loop powered 20 to 30 Vdc
Output	Selectable 4 to 20 mA, 0 to 5 Vdc, 0 to 10 Vdc
Power Consumption	0.8VA @ 24VAC Voltage Mode 0.96W @ 24V DC Current Mode
Output Load	Voltage mode ≥ 5K Ohms Current mode ≤ 250 Ohms
Medium	Neutral gas, air
Housing Material	Polycarbonate; flammability rating UL 94 V0
Mounting Location	For outdoor use
IP Rating	IP 65
Protection Class	Class III
RH SENSOR	
Sensor Type	Solid state capacitive, replaceable
Accuracy*	±2% / ±3% from 10 to 80% RH @ 25 °C (77 °F) ±2% NIST and 2% replaceable option
Hysteresis	1.5% typical
Linearity	Included in accuracy specification
Stability	±1% @ 20°C (68 °F) annually for 2 years
Output Range	0 to 100% RH
Temperature Coefficient	±0.1% RH/°C above or below 25 °C (77 °F) typical
TEMPERATURE SENSOR	
Sensor Type	See Ordering Information matrix for thermistor types
Temp. Sensing Element**	10K T3 thermistor, 1000 PT RTD
Time Constant	Air velocity 1.5 m/s. approx. 72 s; Air velocity 3.0 m/s. approx. 52 s
Accuracy***	±0.2 °C (±0.4 °F) typical
Resolution	0.1 °C (0.1 °F)
Range	-40 to 55 °C (-40 to 131 °F)
WIRING TERMINALS	
Terminal Blocks	Screwless terminal block with spring actuator, 16-24 AWG
WARRANTY	
Limited Warranty	5 years
COMPLIANCE INFORMATION	
Agency Approvals	UL 916, European conformance CE: EN61000-6-2 EN61000-6-3 EN61000 Series - industrial immunity EN 61326-1 FCC Part 15 Class A REACH, RoHS, RoHS 2 (China), ICES-003 (Canada), UKCA (UK)

c UL us LISTED CE

* Humidity sensor measurement uncertainty should include: accuracy, hysteresis, temperature coefficient and stability. Humidity sensor accuracy to -20 °C.
**See thermistor table Z202030 for accuracy.
***±0.5 °C accuracy from 0 to 55°C, ±1 °C accuracy from -40 °C to 0 °C.

Field replaceable

Replace RH element and temp. transmitter module in the field… maintain accuracy and minimize downtime and cost

Calibration free

Fully interchangeable element to 1% or 2% accuracy with NIST calibration certificate…no calibration

Easy to install

Latch-on sensor cover and screwless terminal block wiring with spring actuator

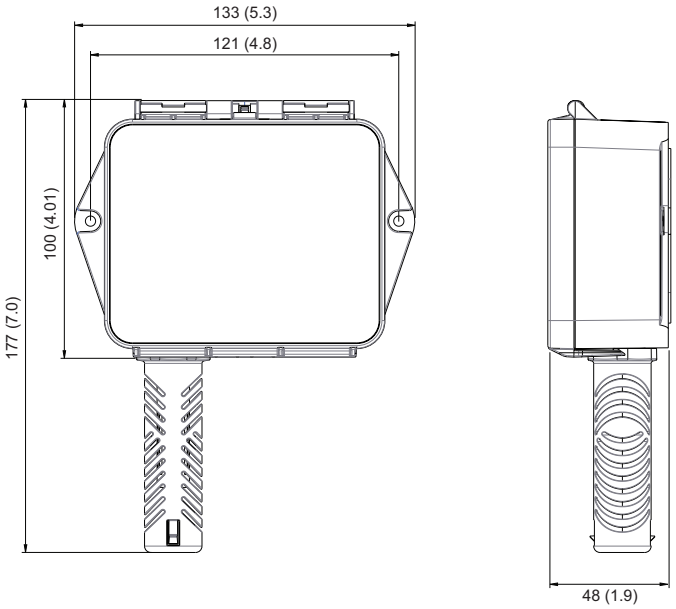
APPLICATIONS

- Controlling HVAC systems for improved comfort and energy savings
- Museums, schools, printing shops, and other locations requiring humidity control
- Facilitating compliance with ASHRAE standards for environmental control and indoor air quality
- Key component for the LEED green building program and WELL Building Standard*

*Leadership in Energy and Environmental Design (LEED) is a registered trademark of the US Green Building Council. The WELL Building Standard is a trademark of the International WELL Building Institute in the United States and other countries.

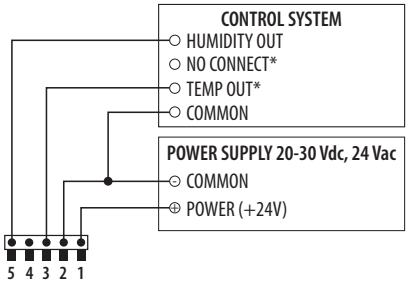
DIMENSIONAL DRAWING

mm (in.)



WIRING DIAGRAM

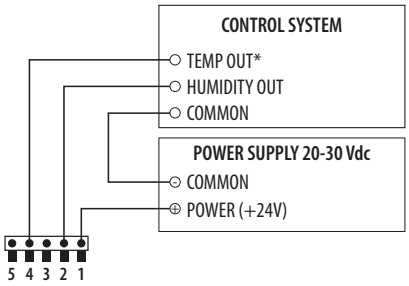
Voltage Mode



*For thermistor or RTD models, pins 3 and 4 are used for thermstor/RTD connection.

WIRING DIAGRAM

Current Mode



*For thermistor or RTD models, pins 3 and 4 are used for thermstor/RTD connection.

ORDERING INFORMATION

	User Interface	Output	RH Sensor	Temp.
HO2	X	A		
	X = None	A = Analog Output	2 = 2% 3 = 3%	A = Transmitter only B = 100R platinum, RTD C = 1000 PT RTD D = T2 thermistor G = 10K CPC thermistor H = 10K T3 Thermistor K = 10K curve G/11K shunt M = 20K NTC thermistor N = 1.8K TAC thermistor R = 10K curve G

Example:

HO2	X	A	2	A

Note: Replaceable RH and temperature modules available to be ordered separately per table below.

REPLACEABLE RH ELEMENTS & TEMPERATURE AND HUMIDITY CALIBRATION MODULES

PART NUMBER	DESCRIPTION
HS2N	Replaceable RH sensor, 2% with NIST certificate
HS2X	Replaceable RH sensor, 2%
TS2*	Replaceable temperature module with 2-point calibration certificate
THS2*	Replaceable temperature and humidity module with 2-point calibration certificate

*For temperature transmitter models only.

Replaceable RH and Temperature Module

800.354.8556 | +1 503.598.4564 | sales@veris.com | intl@veris.com | veris.com