

Deluxe Duct & Outdoor Humidity Sensors

1% & 2% NIST, or Standard 2%, 3%, or 5%

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

FEATURES

Sense humidity in harsh environments

- Thin-film capacitive sensor element recovers from 100% saturation
- Fully interchangeable element to 1% (HD only), 2%, 3%, or 5% accuracy. Calibration-free!
- Replace element in the field...maintain accuracy and minimize downtime

Rugged industrial design

- Duct sensor element can be serviced without disturbing conduit
- Polarity insensitive two-wire 4-20mA or 3-wire 0-5/0-10VDC versions...flexible systems compatibility
- In-tube circuitry prevents costly condensate shorts

Calibration-free interchangeable NIST traceable HS element

- HS element is microprocessor profiled with on-board nonvolatile memory
- Multi-point digital calibration to NIST standards
- NIST certification available
- Minimizes field calibration downtime

SPECIFICATIONS

HS Element	Digitally profiled thin-film capacitive (32 bit mathematics) U.S. Patent 5,844,138 [†]
Accuracy at 25°C from 10-80% RH*	±1% (HD only), 2%, 3%, or 5% (specify); multi-point calibration, NIST traceable
Reset Rate**	24 hours
Stability	±1% @ 20°C (68°F) annually, for two years
Operating Humidity Range	0 to 100% RH (non-condensing)
Hysteresis	1.5% typical
Linearity	Included in accuracy spec.
Duct Only Temperature Effect	±0.1% RH/°C above or below 25°C (typical)
Outdoor Only Temperature Effect	4-20mA version: (0.0013x%RHx(T°C-25)); 0-5V/0-10V versions: (0.0015x%RHx(T°C-25)) - (%RHx0.0008xabs(T°C-25))
Analog Output	4-20mA version: 2-wire, polarity insensitive, (clipped and capped); 0-5V/0-10V versions: 3-wire, observe polarity
Scaling	0-100% RH
Operating Temperature Range	-40° to 50°C (-40° to 122°F)
Input Power***	4-20mA version: loop powered 12-30VDC only, 30mA max.; 0-5V/0-10V versions: 12-30VDC/24VAC, 15mA max.
Optional Temperature Transmitter Output	Digital, 4-20mA (clipped and capped) or 0-5V/0-10V output; HO transmitter accuracy: ±1.3°C (±2.3°F) typical; HD transmitter accuracy: ±0.5°C (1.0°F) typical

[†] The HS sensing element has a 1-year warranty. The element is not a part of the 5-year product warranty.

*Specified accuracy with 24VDC supplied power with rising humidity. RTD/Thermistors are not compensated for internal heating of product.

**Reset Rate is the time required to recover to 50% RH after exposure to 90% RH for 24 hours.

***One side of transformer secondary is connected to signal common, so an Isolation transformer or dedicated power supply may be required.

Shielded cabling is required for conformance to EMC standards. Technical information is available from factory upon request or is available on our website: www.veris.com.

EMC Conformance - CE Option: Low Voltage Directive 2006/95/EC and EMC Directive 2004/108/EC.

EMC Special Note: Connect this product to a DC distribution network or an AC/DC power adaptor with proper SURGE PROTECTION (EN 61000-6-1:2007 specification requirements).



DESCRIPTION

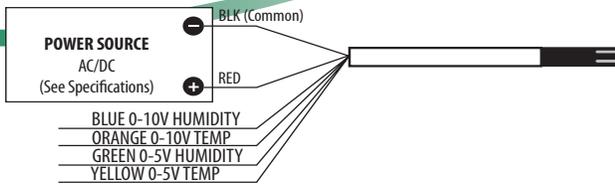
HD/HO Deluxe humidity transmitters provide an ideal solution for measuring relative humidity in a wide range of conditions. All devices are equipped with a thin-film capacitive sensor that is easily replaceable in the field. These sensors are calibrated to NIST standards, with certificates available.

The duct mounted HD is encased in a die cast metal housing for extra strength. The outdoor HO housing is completely weather proof – the most rugged sensor available.

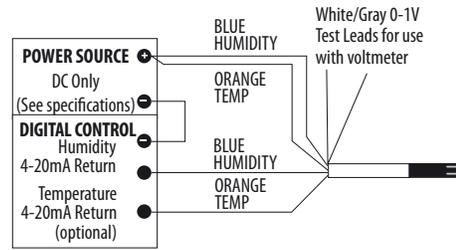
All Deluxe models come with a standard five-year warranty.

APPLICATION/WIRING DIAGRAMS

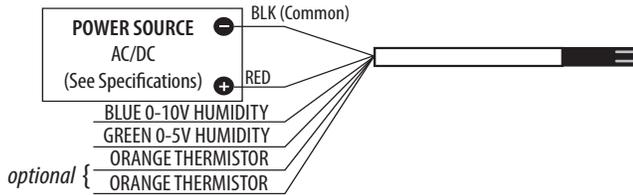
HD/HO 0-5V/0-10V Temperature Transmitter Versions



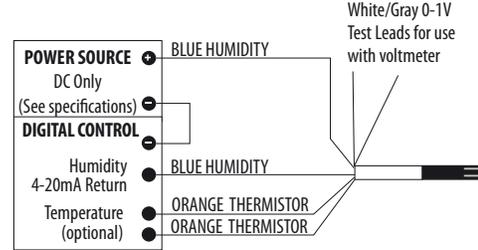
HD/HO 4-20 mA Temperature Transmitter Versions



HO (0-5V/0-10V Resistance Versions)

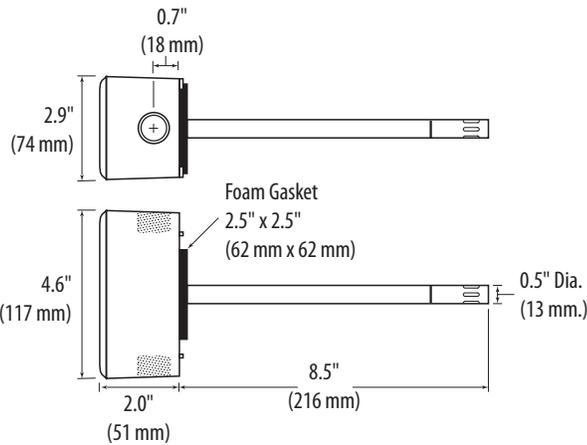


HO 4-20mA Resistance Versions

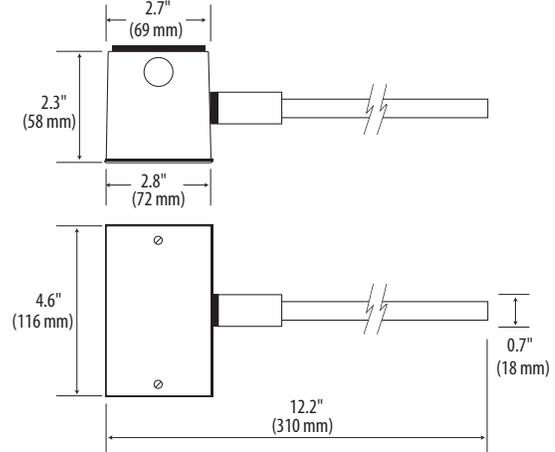


DIMENSIONAL DRAWINGS

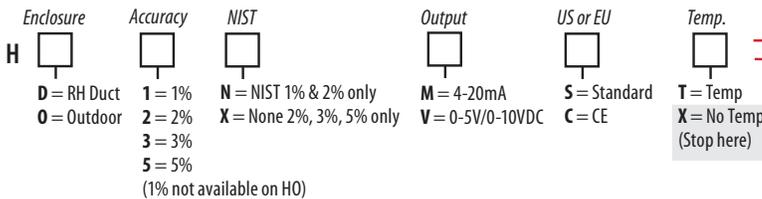
HD



HO



ORDERING INFORMATION



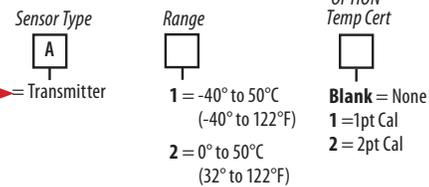
Example: (No Temp)



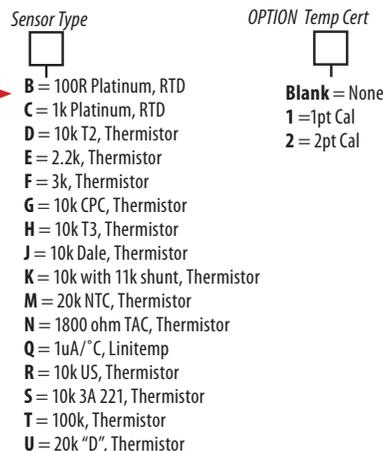
Example: (With Temp)



Humidity Transmitter Combination



Humidity RTD/Thermistor Combination



ACCESSORIES

Water guard (AA42)

Replacement humidity element (HS)