

## HN & HP Series



### Pendant and Insertion

#### FEATURES

- Thin-film capacitive sensor element recovers from 100% saturation
- Electronics are encapsulated in stainless probe to resist corrosion
- Fully interchangeable element to 1%, 2%, 3%, or 5% accuracy...no calibration
- Pendant and insertion versions for application flexibility
- Polarity insensitive two-wire 4-20mA or 3-wire 0-5/0-10VDC versions...flexible systems compatibility
- Calibration-free interchangeable NIST traceable HS element
- Replace digital sensor quickly without calibration...maintain accuracy and reduce downtime
- HS element is microprocessor profiled with on-board nonvolatile memory
- Multi-point digital calibration to NIST standards
- NIST certification available
- Recovers from 100% saturation...no damage to sensor

#### DESCRIPTION

**HN and HP Series** probe type humidity transmitters are easy to install and exceptionally accurate. Their long-term stability and trouble-free serviceability make them among the best in the industry. The electronics are embedded inside the probe, protecting them from condensation-related failures. The thin-film capacitive HS sensor elements are factory calibrated using NIST traceable calibration equipment, eliminating the need for field calibration. Field replacement of the sensor element is a snap with the patented removable sensor, lowering costs and reducing downtime.

#### SPECIFICATIONS

INPUT POWER	
<b>Voltage Model</b>	Class 2; 12-30VDC/24VAC, 15mA max.
<b>mA Model</b>	Class 2; Loop powered 12-30VDC only, 30mA max.
OUTPUT	
<b>Voltage Model</b>	3-wire, observe polarity
<b>mA Model</b>	2-wire, not polarity sensitive (clipped & capped)
HUMIDITY	
<b>HS Element†</b>	Digitally profiled thin-film capacitive (32 bit mathematics) U.S. Patent 5,844,138
<b>Accuracy @ 25°C**</b>	±1%, 2%, 3%, or 5% (specify)@10 to 80% RH; Multi-point calibration, NIST traceable
<b>Reset Rate***</b>	24 hours
<b>Stability</b>	±1%@20°C (68°F) annually, for two years
<b>Hysteresis</b>	1.5% typical
<b>Linearity</b>	Included in accuracy spec.
<b>Temperature Coefficient</b>	±0.1% RH/°C above or below 25°C (typical)
<b>Scaling</b>	0-100% RH
TEMPERATURE OPTION	
<b>Optional Temperature Transmitter Output</b>	Digital, 4-20mA (clipped & capped) or 0-5V/0-10V output; accuracy ±0.5°C (±1°F) typical
OPERATING ENVIRONMENT	
<b>Operating Humidity Range</b>	0 to 100% RH noncondensing
<b>Operating Temp Range</b>	-40° to 50°C (-40° to 122°F)

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

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

\*\* 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.

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](http://www.veris.com).  
EMC Conformance - CE Option: Low Voltage Directive 2006/95/EC and EMC Directive 2004/108/EC.

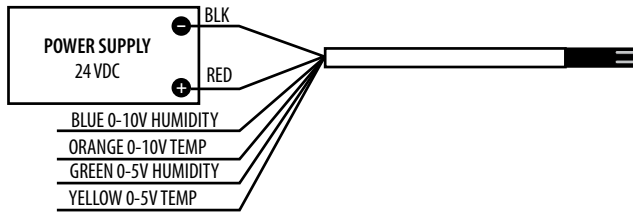
EMC Special Note: Connect this product to a DC distribution network or an AC/DC power adaptor with proper surge protection (EN 61000-6-1:2007 specification requirements).

#### APPLICATIONS

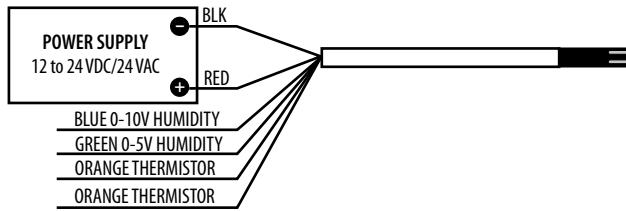
- HVAC control for improved comfort & energy savings
- Museums, schools, printing shops, & other locations requiring humidity control
- Facilitating compliance with ASHRAE standards for environmental control and indoor air quality

## WIRING DIAGRAMS

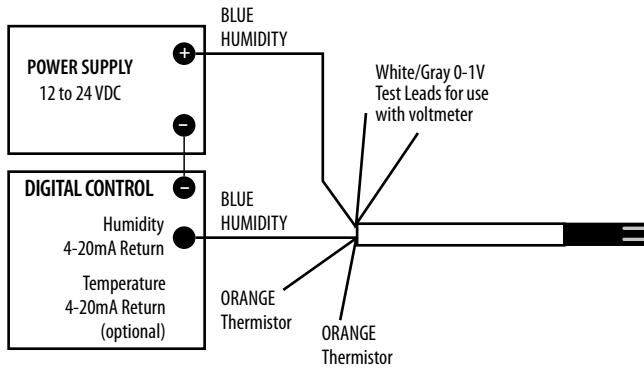
### HN/HP 0-5V/0-10V Versions



### HN/HP with RTD/Thermistor 0-5V/0-10V Versions

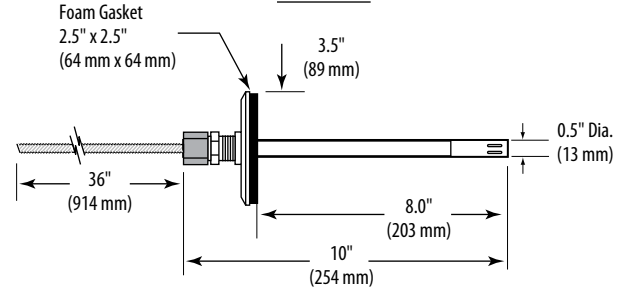


### HN/HP with RTD/Thermistor 4-20mA Versions

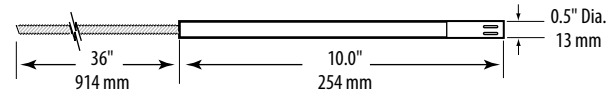


## DIMENSIONAL DRAWING

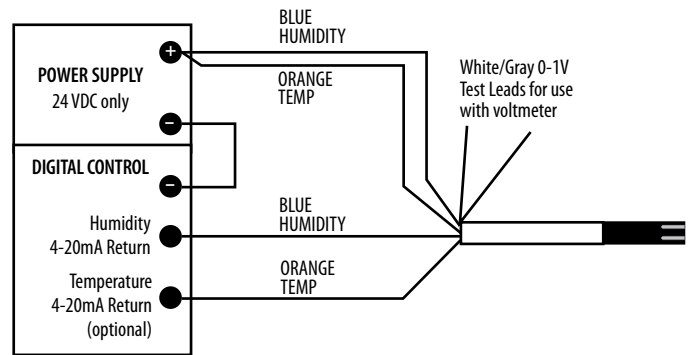
### HN Series



### HP Series



### HN/HP 4-20mA Versions



## ORDERING INFORMATION

Enclosure	Accuracy	NIST	Output	US or EU	Temp.
H <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
N = RH Insertion P = RH Pendant	1 = 1% 2 = 2% 3 = 3% 5 = 5%	N = NIST 1%, & 2% only X = None 2%, 3%, 5% only	M = 4-20mA V = 0-5V/0-10VDC	S = Standard C = CE	T = Temp X = No Temp (Stop here)



### Humidity Transmitter Combination

Sensor Type	Range	OPTION Temp Cert
<input type="checkbox"/> A = Transmitter	1 = -40° - 122°F (-40° - 50°C) 2 = 32° - 122°F (0° - 50°C)	Blank = None 1 = 1pt Cal 2 = 2pt Cal

### Humidity RTD/Thermistor Combination

Sensor Type	OPTION Temp Cert
<input type="checkbox"/>	Blank = None 1 = 1pt Cal 2 = 2pt Cal
B = 100R Platinum, RTD	
C = 1k Platinum, RTD	
D = 10k T2, Thermistor	
E = 2.2k, Thermistor	
F = 3k, Thermistor	
G = 10k CPC, Thermistor	
H = 10k T3, Thermistor	
J = 10k Dale, Thermistor	
K = 10k with 11k shunt, Thermistor	
M = 20k NTC, Thermistor	
N = 1800 ohm TAC, Thermistor	
Q = 1uA/°C, Linitemp	
R = 10k US, Thermistor	
S = 10k 3A 221, Thermistor	
T = 100k, Thermistor	
U = 20k "D", Thermistor	
W = 10k T2 high accuracy, Thermistor	
Y = 10k T3 high accuracy, Thermistor	
Z = 10k E1, Thermistor	

## ACCESSORIES

Replacement humidity element (HS)

