

Specialty Humidity Sensors

Pendant and Insertion



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 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.

APPLICATIONS

- HVAC control for improved comfort & 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

- 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 eliminate 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

SPECIFICATIONS



Input Power:*

Voltage Model	12-30VDC/24VAC, 15mA max.
mA Model	Loop powered 12-30VDC only, 30mA max.

Output Power:

Voltage Model	3-wire, observe polarity
mA Model	2-wire, not polarity sensitive (clipped and capped)

Humidity:

HS Element	Digitally profiled thin-film capacitive (32 bit mathematics) U.S. Patent 5,844,138†
Accuracy @ 25°C**	±1%, 2%, 3%, or 5% (specify)@10 to 80% RH; Multi-point calibration, NIST traceable
Reset Rate***	24 hours
Stability	±1%@20°C (68°F) annually, for two years
Hysteresis	1.5% typical
Linearity	Included in accuracy spec.
Temperature Coefficient	±0.1% RH/°C above or below 25°C (typical)
Scaling	0-100% RH

Temperature:

Optional Temperature Transmitter Output	Digital, 4-20mA (clipped and capped) or 0-5V/0-10V output; accuracy ±0.5°C (±1°F) typical
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Operating Environment:

Operating Humidity Range	0 to 100% RH noncondensing
Operating Temperature Range	-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.

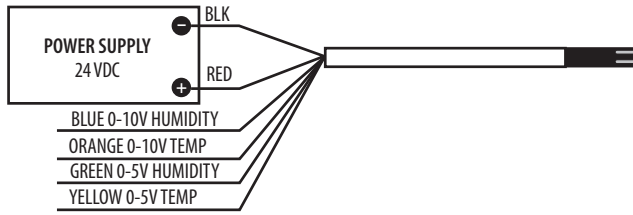
EMC Conformance - CE Option: Low Voltage Directive 2006/95/EC and EMC Directive 2004/108/EC.

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).

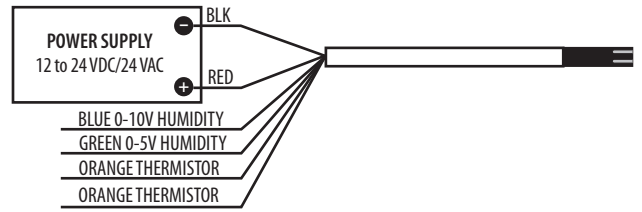
HUMIDITY

APPLICATION/WIRING DIAGRAMS

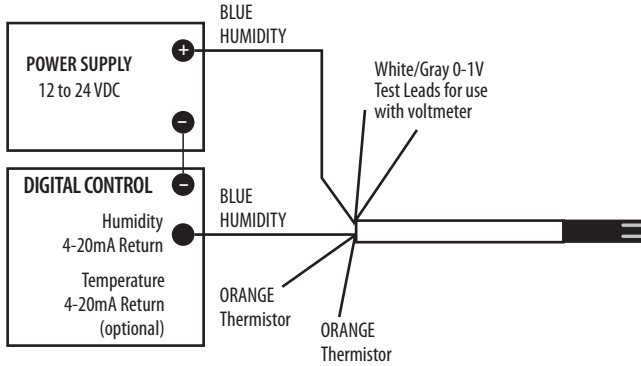
HN/HP 0-5V/0-10V Versions



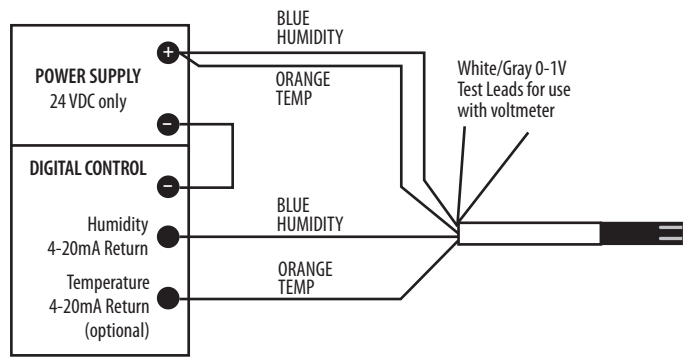
HN/HP with RTD/Thermistor 0-5V/0-10V Versions



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

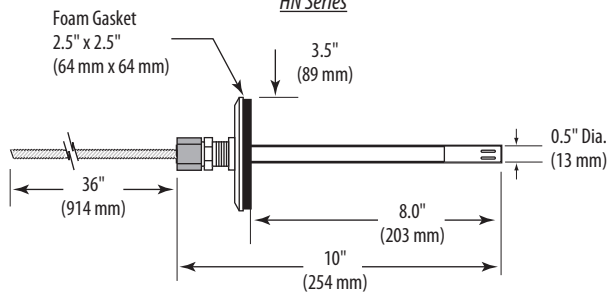


HN/HP 4-20mA Versions

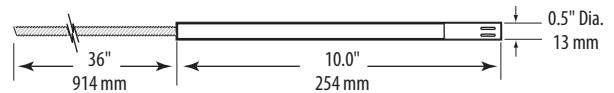


DIMENSIONAL DRAWINGS

HN Series



HP Series



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	1 = 1%	N = NIST	M = 4-20mA	S = Standard	T = Temp
P = RH Pendant	2 = 2%	1%, & 2% only	V = 0-5V/0-10VDC	C = CE	X = No Temp (Stop here)
	3 = 3%	X = None			
	5 = 5%	2%, 3%, 5% only			

Example: (No Temp)

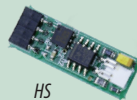
H P 2 X V S X *Stop Here*

Example: (With Temp)

H N 2 X V S T C 2

ACCESSORIES

Replacement humidity element (HS)



Humidity Transmitter Combination

Sensor Type	Range	OPTION Temp Cert
A <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
= 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"/>	<input type="checkbox"/>
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	Blank = None 1 = 1pt Cal 2 = 2pt Cal