

HW SERIES

Wall Mount Humidity Sensors

1%, 2%, 3%, or 5% Accuracy
NIST certificate available

HW Series wall mount humidity transmitters combine state of the art digital electronic design with an esthetically pleasing enclosure making them ideal for space monitoring. In addition, they provide excellent accuracy, long-term stability and are the best in the industry for serviceability. The thin-film capacitive HS sensor elements are factory calibrated using NIST traceable calibration equipment, are field replaceable, and never require field calibration. LCD models provide local display of humidity/temperature.

Reduce installation costs with combination sensors

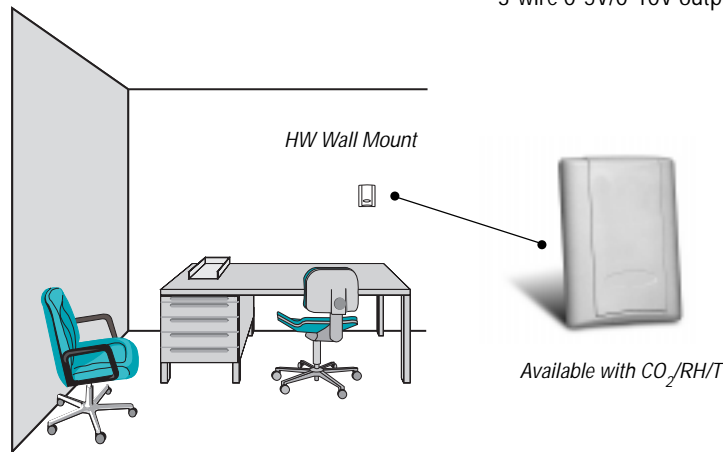
- Monitor humidity and temperature with a single device—reduce installation cost
- Fully interchangeable RH sensor element—calibration-free
- Semiconductor temperature transmitter or popular thermistor/RTD sensors available

Applications

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

Calibration-free interchangeable NIST traceable HS element

- Replace digital sensor quickly without calibration...maintain accuracy and eliminate downtime
- Multi-point digital calibration to NIST standards
- Recovers from 100% saturation...no damage to sensor
- Field-selectable two-wire 4-20mA or 3-wire 0-5V/0-10V output



Compact room sensor can be surface or single gang mounted



ORDERING INFORMATION



	(Display)	(Accuracy)	(NIST)	(US or EU)	(Temp.)	(Sensor Type)
HW	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	L = LCD Display X = No Display	1 = 1% 2 = 2% 3 = 3% 5 = 5%	N = NIST X = None	S = Standard C = CE	T = Temp X = No Temp (Stop here)	A = Transmitter B = 100R PT RTD C = 1k PT RTD D = 10k T2 RTD E = 2.2k Thermistor F = 3k Thermistor G = 1k Balco Thermistor H = 10k T3 Thermistor J = 10k Dale Thermistor K = 10k w/11k with Shunt Thermistor M = 20k NTC Thermistor

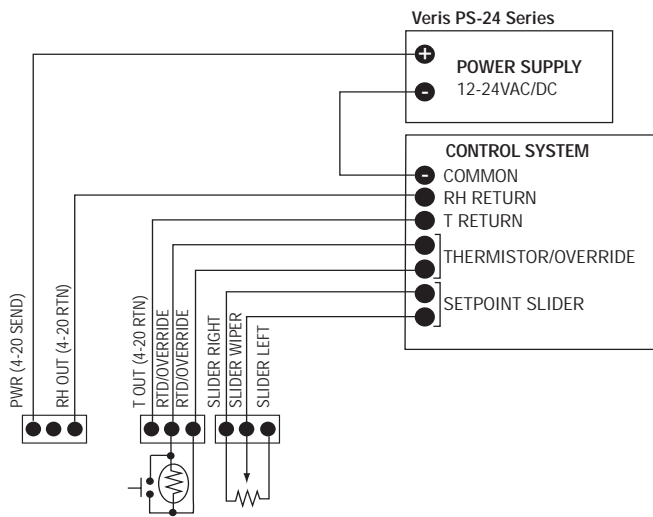
Example:

HW X 2 N S T F

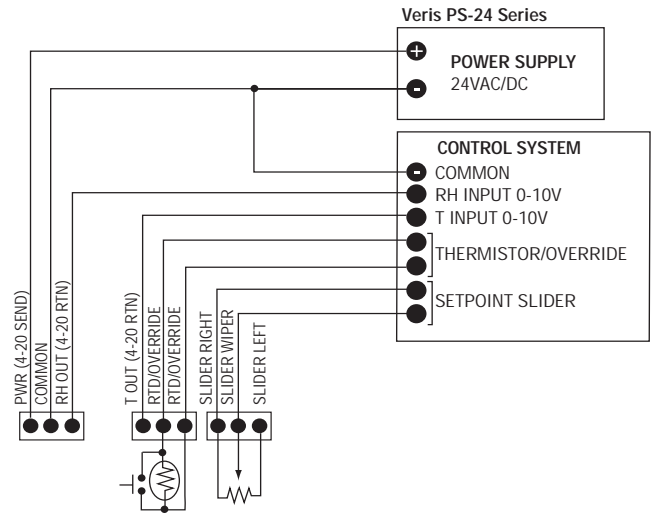
*Custom ranges available upon request

WIRING DIAGRAMS

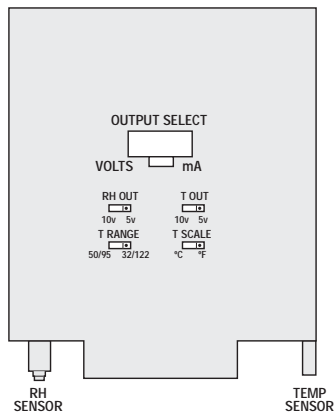
Current Output (2-Wire, 4-20mA)



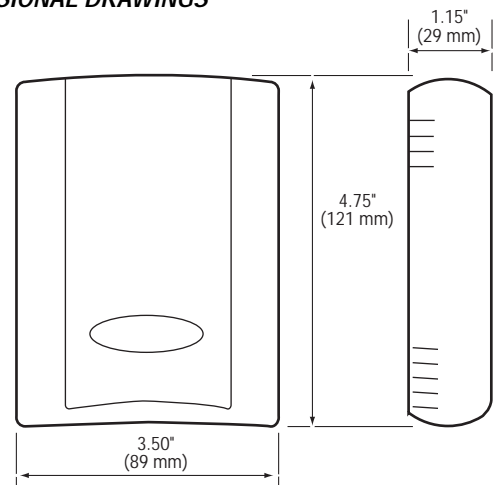
Voltage Output (3-Wire, 0-5V/0-10V)



CONFIGURATION



DIMENSIONAL DRAWINGS



SPECIFICATIONS

HS Element	Digitally profiled thin-film capacitive (32-bit mathematics) U.S. Patent 5,844,138
Accuracy	±1%, 2%, 3%, or 5% (specify) @ 10 to 90% RH; Multi-point calibration NIST traceable (±5% 2-point calibration)
Stability	±1% @ 20°C (68°F) annually, for two years
Operating Humidity Range	0 to 100% RH
Temperature Coefficient	±0.03% RH/°C over 0 to 60°C (32° to 122°F)
Analog Output	4-20mA mode; 2-wire, polarity insensitive 0-5V/0-10V mode; 3-wire, observe polarity
Scaling	0 to 100% RH
Input Power	4-20mA mode; loop powered 12-30VDC, 30mA max. 0-5V/0-10V mode; 12-30VDC/24VAC, ±0.2°C/±0.5°C (±0.5°F/±1°F) 15mA max.
Physical	High impact ABS plastic, plenum rated UL94-5VA, White
Optional Temperature Output	
<i>Transmitter option</i>	Digital, 4-20mA/0-5V/0-10V output; resolution/accuracy. ±0.2°C/±0.5°C (±0.5°F/±1°F) typical. Range specified on sensor
<i>Resistance option</i>	Customer specified thermistor or RTD
EMC Conformance – CE option	EN 50081-1, EN 50082-1, EN 61000-4-4, EN 61000-4-5, EN 61000-4-3, ENV 50204, EN 61000-4-6

*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

LCD Wall Mount HW SERIES

Digital RH & RH/T Transmitters
1%, 2% NIST
2%, 3% EMS
5% VALUE

VERIS INDUSTRIES
PORTLAND, OREGON USA

Toll Free in USA 1.800.354.8556

Tel USA 1.503.598.4564 FAX USA 1.503.598.4664
http://www.veris.com email: sales@veris.com



- Read instructions thoroughly prior to install
- This product is not intended for life or safety applications

Applications shown are suggested means of installing sensors, but it is the responsibility of the installer to ensure that the installation is in compliance with all national and local codes. Installation should be attempted only by individuals familiar with codes, standards, and proper safety procedures for control installations.

INSTALLATION INSTRUCTIONS

Sensor Location and Backplate Mounting

Select a mounting location with good air circulation away from ventilation inlets, doors, windows, or other fresh air entry points. For room installation, the sensor should be mounted at least 4-1/2 feet above the floor.

The backplate may be flush mounted on a wall, or mounted on a standard US or European single gang junction box. Punch out openings in the backplate for wiring as required, and use the backplate as a template for locating holes for screws and wiring. Mount the backplate using screws provided. Wall anchors are recommended for drywall installations.

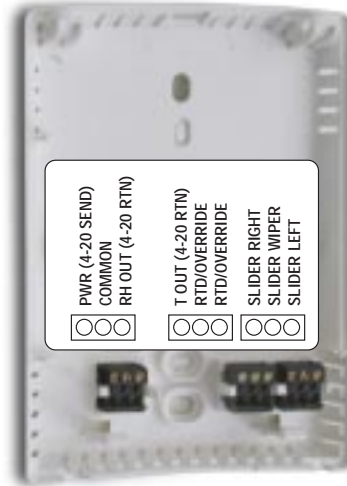


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Note: Sensor must be mounted to vertical surface to ensure proper ventilation.

Backplate Wiring

Install wiring into terminal blocks as indicated, and push slack wire back into wall or junction box.

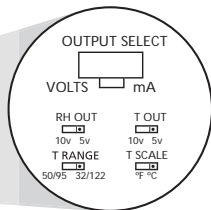


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WARNING: Applying power to output terminal may cause permanent damage!

Sensor Installation

Carefully align top of sensor assembly to mounting plate and close as shown. Press firmly to ensure terminal pins and housing latches are fully engaged. Select switch position for mA or voltage output. Select jumper positions for desired configuration.



3

WARNING: Output select must be correct before applying power.

Cover Installation

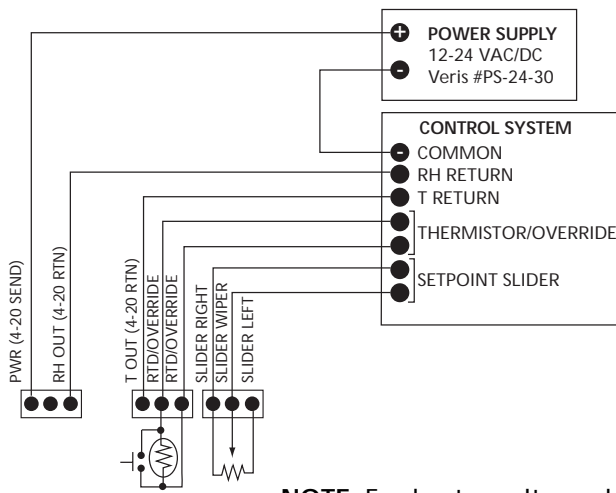
Install cover plate as shown. Cover plate may be removed using a screwdriver as needed to access switch and jumpers for setup.



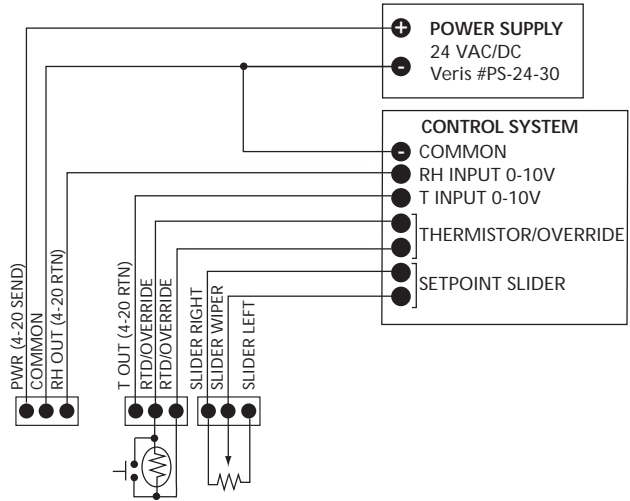
4

WIRING

Current Output (2-Wire, 4-20mA)

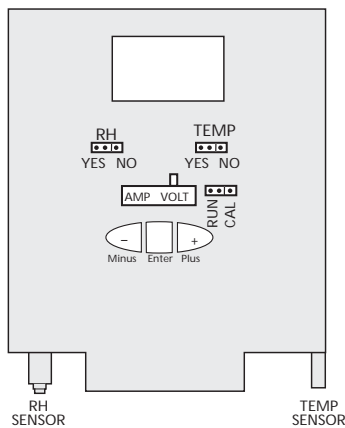


Voltage Output (3-Wire, 0-10V)

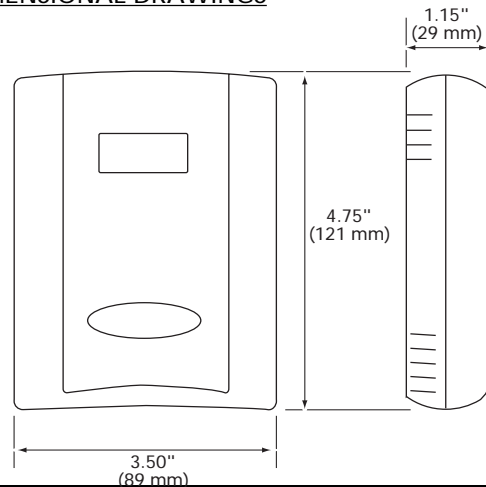


NOTE: For best results, make all connections with shielded, twisted pair wire. (Belden 1120A or equivalent). Connect shield at power supply or controller only. Do not connect shield at sensors.

CONFIGURATION



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Operating Humidity Range	0 to 100% RH
Temperature Coefficient	±0.03% RH/°C over 0 to 60°C (32° to 122°F)
Analog Output	4-20mA mode; 2-wire, non-polarity sensitive
.....	0-5V/0-10V mode; 3-wire, observe polarity
Scaling	0-100% RH
Input Power	4-20mA mode; loop powered 12-24VDC only, 30mA max.
.....	0-5V/0-10V mode; 12-24VDC or 24VAC*, 15mA max.
Physical	High impact ABS plastic, plenum rated UL945VA, White
Optional Temperature Output	
T Models	Digital, 4-20mA or 0-5V/0-10V output; resolution/accuracy ±0.25°C (±0.45°F). Range specified on sensor
RTD Models	Customer specified thermistor or RTD
Conformance	EMC EN 50081-1, EN 50082-1, EN 61000-4-4, EN 61000-4-5, EN 61000-4-3, ENV 50204, EN 61000-4-6

*One side of transformer secondary is connected to signal common. Isolation transformer or dedicated power supply may be required To conform to EMC standards, shielded cabling and technical information is available from factory upon request or is available on our website: www.veris.com