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HWS Series

LCD Wall Mount with Analog Setpoints, Humidistat Control

CE

Product Overview

The HWS analog series measures humidity of the air inside a room. Devices are designed for use in hospital rooms, laboratories, and other spaces that require precise environmental control. The keypad allows control of setpoint values. The slide switch position determines the output type (amp or volt). To maintain accuracy, keep vents clear of dust, debris, etc. The HWS is warranted for period of five years.

Product Identification

	Accuracy	*NIST*	*Setpoint*	
HWS	☐	☐	A	S

1 = 1%
2 = 2%
3 = 3%
5 = 5%

N = NIST (1 & 2% only)
X = No (2, 3, 5% only)

= Analog

= CE

Specifications

Input Power	15 to 30VDC/24VAC, 100mA max.
Outputs	Switch-selectable amp or volt
	If volt is selected, the configuration menu allows selection between 0-5V or 0-10V
RH Sensor*	Digitally profiled thin-film capacitive (32-bit mathematics)
	U.S. Patent 5,844,138
RH Accuracy at 25°C from 10-80% RH** (Multi-point Calibration NIST traceable)	±2%, 3%, or 5% models, ±1% at 20-50% RH
Reset Rate***	24 hours
Stability	±1% @ 20°C (68°F) annually, for two years
Hysteresis	1.5% (typical)
Linearity	Included in Accuracy spec.
Operating Humidity Range	0-100% RH (non-condensing)
Temperature Coefficient	± 0.1%RH/°C above or below 25°C (typical)
Operating Temperature Range	10° to 35°C (50° to 95°F)
Analog Output Scaling	0-100% RH
Calibration Offset	Adjustable ±9.9% in 0.1% increments
Setpoint Range	10-80% RH in 1% increments

* The HS sensing element has a 1-year warranty. The element is not a part of the 5-year product warranty.
*** Accuracy is specified with 24 VDC supplied power with rising humidity.*
*** Reset Rate is the time required to recover to 50% RH after exposure to 90% RH for 24 hours.
One side of the transformer secondary is connected to the signal common, so an isolation transformer or dedicated power supply may be required.
RTD/Thermistors in wall packages are not compensated for internal heating of the product.
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).

Dimensions

4.75"
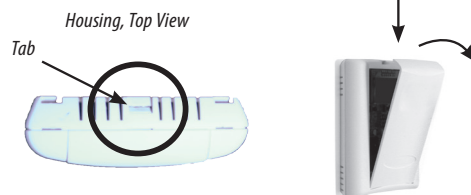(121 mm)

3.5"
(89 mm)

1.2"
(29 mm)
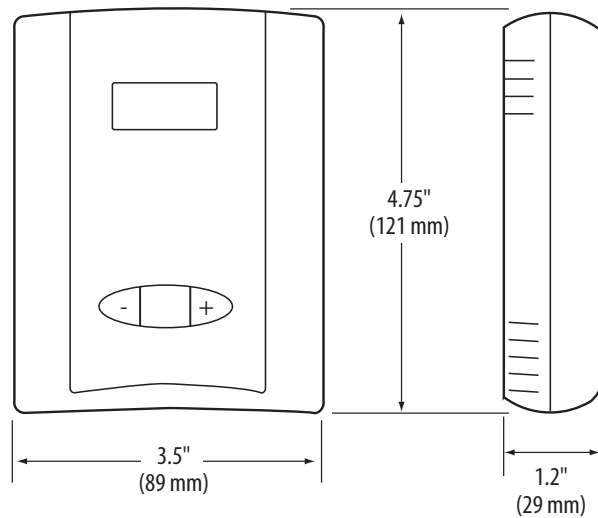
Installation

Observe precautions for handling static sensitive devices to avoid damage to the circuitry that is not covered under the factory warranty.

1. Locate the tab at the top of the sensor housing. Using only the minimum required force, press this tab down and pull the cover outward from the top. Set the cover aside.

Housing, Top View

Tab

2. Remove the backplate by unfastening the sensor from the bottom of the backplate and pivoting the sensor outward.
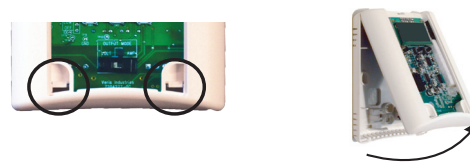
3. Punch out wire opening in the backplate.
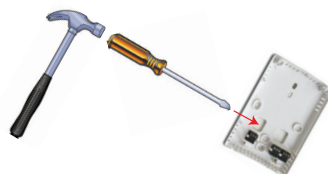
4. Position the backplate vertically on the wall, 4 ½ feet (1.4 m) above the floor. Locate away from windows, vents, and other sources of draft.

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Installation (cont.)

5. Mount the backplate onto the wall using the screws provided.

Five screwholes available; use a minimum of two for secure mounting.

6. Wire the backplate.

RH Output

RH Setpoint Output
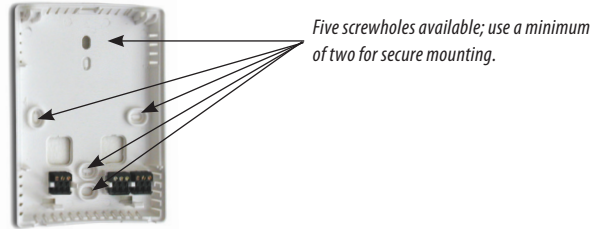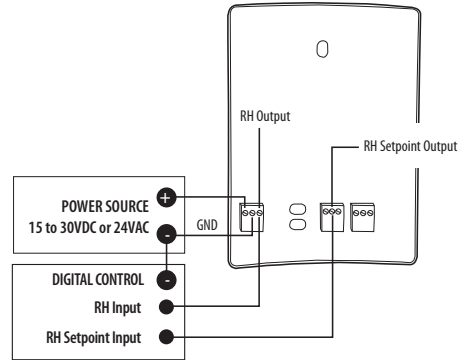
POWER SOURCE +
15 to 30VDC or 24VAC −
GND

DIGITAL CONTROL −
RH Input
RH Setpoint Input

7. Install and configure the sensor.

RH
YES   NO

AMP   VOLT   RUN CAL

−   +
Minus   Select   Plus

RH
SENSOR

RH YES/NO Jumper:
YES - allows user to change RH setpoint
NO - user can NOT change RH setpoint

RUN/CAL Jumper:
CAL Mode - allows full access to all features.
RUN Mode - allows access to setpoint ONLY.
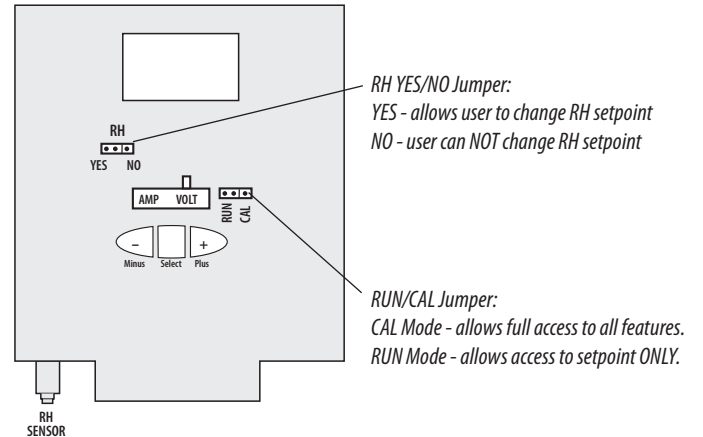
NOTICE

RISK OF EQUIPMENT DAMAGE
· Ensure that the output selection is correct before applying power.
Failure to follow these instructions may result in permanent equipment damage.

8. When the installation is complete, replace the cover and snap it into position.

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Calibration Instructions

Menu Options

1. To calibrate, move the RUN/CAL jumper to the CAL position.

2. Relative humidity allows for a calibration offset of ±9.9% RH, at the user's discretion.

Display screen
Scroll down
Select
Scroll up

NORMAL MODE

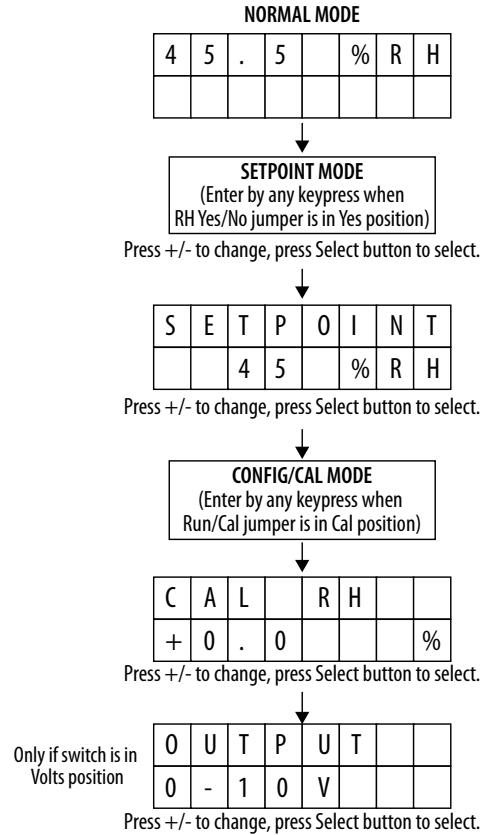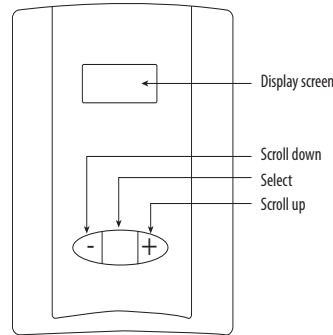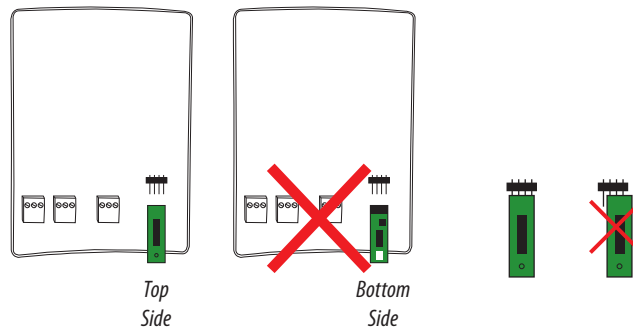| 4	5	.	5		%	R	H

↓

SETPOINT MODE
(Enter by any keypress when
RH Yes/No jumper is in Yes position)

Press +/- to change, press Select button to select.

↓

S	E	T	P	O	I	N	T
		4	5		%	R	H

Press +/- to change, press Select button to select.

↓

CONFIG/CAL MODE
(Enter by any keypress when
Run/Cal jumper is in Cal position)

↓

C	A	L		R	H		
+	0	.	0				%

Press +/- to change, press Select button to select.

↓

Only if switch is in
Volts position

O	U	T	P	U	T		
0	-	1	0	V			

Press +/- to change, press Select button to select.

Replacing the HS Element

ATTENTION OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES

Observe precautions for handling static sensitive devices to avoid damage to the circuitry that is not covered under the factory warranty.

1. Disconnect power to the unit.

2. Remove the faceplate.

3. Remove the HS element by gently pulling from the pin connector.

4. Place a new HS element onto the pin connector. Orient as shown, or the unit will not function. Ensure that the four HS pin holes are inserted fully onto the unit pin connectors.

Top Side

Bottom Side

5. Replace the faceplate.

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