



## HT Series

Wall Mount with Analog Setpoints, LCD, and Humidistat and Thermostat Control

### Product Overview

The HT analog series has dual outputs to measure temperature and 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 HT is warranted for period of five years.



#### NOTICE

- This product is not intended for life or safety applications.
- Do not install this product in hazardous or classified locations.
- Read and understand the instructions before installing this product.
- Turn off all power supplying equipment before working on it.
- The installer is responsible for conformance to all applicable codes.

No responsibility is assumed by Veris Industries for any consequences arising out of the use of this material.

### Product Identification

	Accuracy	NIST	Setpoint	Temp Cal Certificate	Option
HT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> A	<input type="checkbox"/>	<input type="checkbox"/>
	1 = 1%	N = NIST (1 & 2% only)	= Analog	0 = None	B = 100R Platinum, RTD
	2 = 2%	X = No (2, 3, 5% only)	= CE	1 = 1 point Cal Validation	C = 1k Platinum, RTD
	3 = 3%			2 = 2 point Cal Validation	D = 10k T2, Thermistor
	5 = 5%				E = 2.2k, Thermistor
					F = 3k, Thermistor
					G = 10k CPC, Thermistor
					H = 10k T3, Thermistor
					I = 1k Balco (nickel-iron) RTD
					J = 10k Dale, Thermistor
					K = 10k w/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
					CC= 15k, Thermistor

## Specifications

<b>Input Power</b>	15 to 30VDC/24VAC, 100mA max.
<b>Outputs</b>	Switch-selectable amp or volt (switch affects both temp and humidity outputs) If volt is selected, the configuration menu allows selection between 0-5V or 0-10V
<b>RH Sensor*</b>	Digitally profiled thin-film capacitive (32-bit mathematics) U.S. Patent 5,844,138
<b>RH Accuracy at 25°C from 10-80% RH** (Multi-point Calibration NIST traceable)</b>	±2%, 3%, or 5% models, ±1% at 20-50% RH
<b>Reset Rate†</b>	24 hours
<b>Stability</b>	±1% @ 20°C (68°F) annually, for two years
<b>Hysteresis</b>	RH: 1.5% (typical)
<b>Linearity</b>	Included in Accuracy spec.
<b>Operating Humidity Range</b>	0-100% RH (non-condensing)
<b>Temperature Coefficient</b>	± 0.1% RH/°C above or below 25°C (typical)
<b>Operating Temperature Range</b>	10° to 35°C (50° to 95°F)
<b>Temperature Accuracy</b>	± 1.0°C ( ± 1.8°F)
<b>Analog Output Scaling</b>	RH: 0-100% RH; Temp: 10° to 35°C (50° to 95°F) or 0° to 50°C (32° to 122°F) menu selectable <sup>‡</sup>
<b>Calibration Offset</b>	RH: Adjustable ±9.9% in 0.1% increments; Temp: Adjustable ±9.9° (C or F) in 0.1° increments
<b>Setpoint Range</b>	RH: 10-80% RH in 1% increments; Temp: Minimum to Full Scale 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.

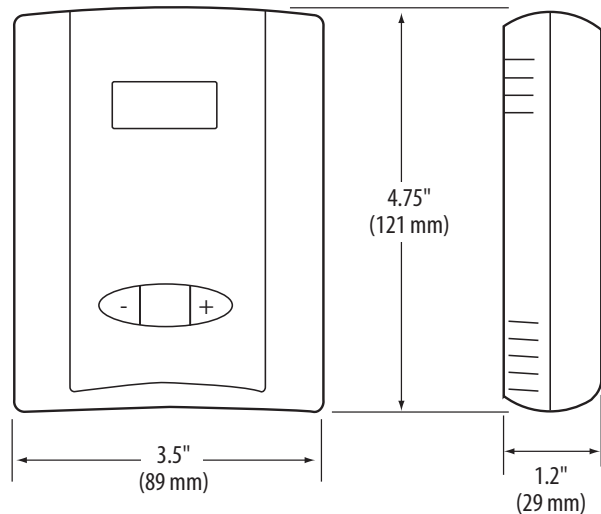
† Reset Rate is the time required to recover to 50% RH after exposure to 90% RH for 24 hours.

‡ If the 0° to 50°C (32° to 122°F) scaling range is selected, the device's operating temperature range still applies. 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

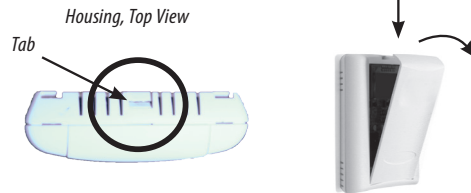


## Installation



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

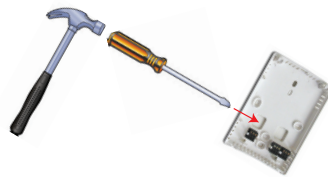
1. Locate the tab at the top of the sensor housing. Using only the minimum required force, press this tab down and pull the cover outward from the top. Set the cover aside.



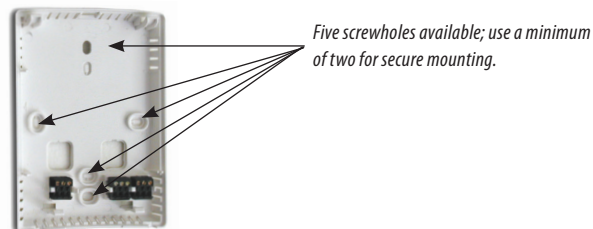
2. Remove the backplate by unfastening the sensor from the bottom of the backplate and pivoting the sensor outward.



3. Punch out wire opening in the backplate.

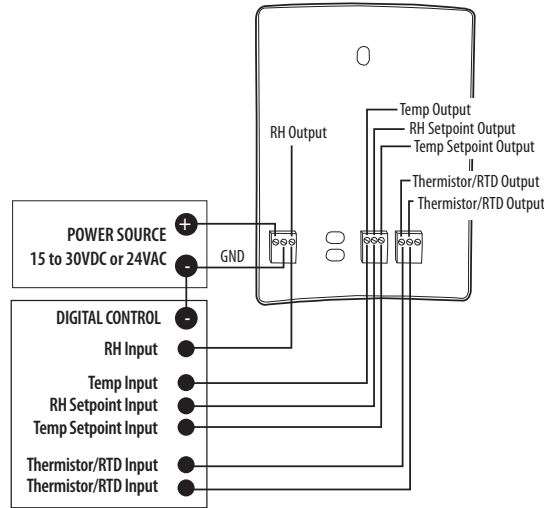


4. Position the backplate vertically on the wall, 4 ½ feet (1.4 m) above the floor. Locate away from windows, vents, and other sources of draft. If possible, do not mount on an external wall, as this might cause inaccurate temperature readings.
5. Mount the backplate onto the wall using the screws provided.

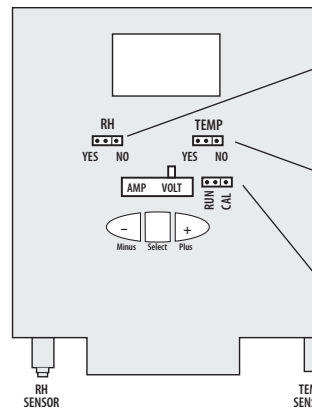


Installation (cont.)

6. Wire the backplate.



7. Install and configure the sensor.



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

**TEMP YES/NO Jumper:**  
YES - allows user to change temp setpoint  
NO - user can NOT change temp setpoint

**RUN/CAL Jumper:**  
CAL Mode - allows full access to all features.  
RUN Mode - allows access to relay setpoints 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.

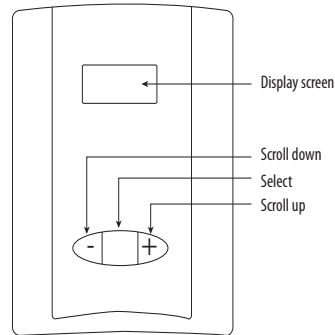
8. When the installation is complete, replace the cover and snap it into position.



## Calibration Instructions

## Operation Instructions

1. Temperature calibration allows for a calibration offset of  $\pm 9.9^\circ$  (C or F), at the user's discretion.
  2. Relative humidity allows for a calibration offset of  $\pm 9.9\%$  RH, at the user's discretion.
- RH and temperature can be field calibrated by moving the RUN/CAL jumper to the CAL position.



### Normal Operation

**NORMAL MODE**

4	5	.	5	%	R	H
6	8	.	5	°		F

### Temperature Selection

Use the (+) and (-) buttons to scroll to the Thermostat mode:

S	E	T	P	O	I	N	T
		7	0				F

Press +/- to change the setpoint value.  
 When the desired setpoint appears,  
 press the Select button to select.  
 The setpoint is in °C if Celsius units are selected.

### Humidity Selection

Use the (+) and (-) buttons to scroll to the Humidistat mode:

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

Press +/- to change the setpoint value.  
 When the desired setpoint appears,  
 press the Select button to select.

## Menu Options

### NORMAL MODE

4	5	.	5		%	R	H
6	8	.	5			°	F



### CONFIG/CAL MODE

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



U	N	I	T	S			
*	°	F				°	C

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



S	E	T	P	O	I	N	T
		7	0				F

Press +/- to change, press Select button to select.  
Setpoint in °C if Celsius units are selected.



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

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



C	A	L		T			
+	0	.	0				F

Press +/- to change, press Select button to select.  
Setpoint in °C if Celsius units are selected.



C	A	L		R	H		
+	0	.	0				%

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



Output Scaling  
(does not affect LCD display)

T	E	M	P		S	E	T
+	5	0			+	9	5

Press +/- to change, press Select button to select.  
Options are 10° to 35° C (50° to 95° F) or 0° to 50° C (32° to 122° F).



Only if switch is in  
Volts position

	0	U	T	P	U	T	
	0	-	1	0	V		

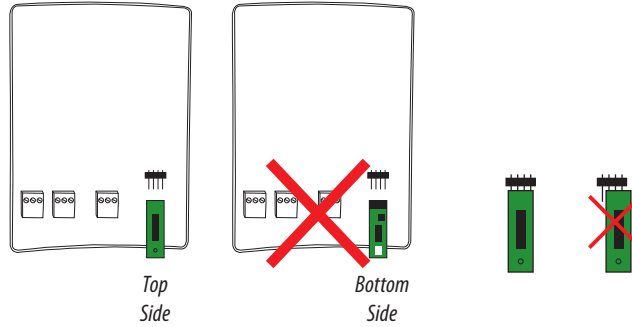
Press +/- to change, press Select button to select.

## Replacing the HS Element



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.



5. Replace the faceplate.