



HT Series

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



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 Overview

The HT relay series has dual outputs to measure temperature and humidity of the air inside a room. They are designed for use in hospital rooms, laboratories, and other spaces that require precise environmental control. Two separate relays control the setpoints for heating and cooling when in thermostat mode or humidifying and de-humidifying when in humidistat mode. 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.

Product Identification

	Accuracy	NIST	Setpoint	Temp Cal Certificate	Option
HT	☐	☐	☒ R	☒ S ☐	☐
	1 = 1%	N = NIST (1 & 2% only)	= Relay	= CE	0 = None
	2 = 2%	X = No (2, 3, 5% only)		1 = 1 point Cal Validation	B = 100R Platinum, RTD
	3 = 3%			2 = 2 point Cal Validation	C = 1k Platinum, RTD
	5 = 5%				D = 10k T2, Thermistor
					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

Input Power	15 to 30VDC/24VAC, 100mA max.
Outputs	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
Setpoint Relays	2 Form C (SPDT), 1A 30VDC, resistive, 30W max
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)	±1% at 12-40% RH in mA output mode; ±1% at 30% RH in voltage output mode
Reset Rate†	24 hours
Stability	±1% @ 20°C (68°F) annually, for two years
Hysteresis	RH: 1.5% (typical)
Deadband	RH: 1 to 10% in 1% increments Temp: 1 to 10°F or 1 to 5°C in 1° increments
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)
Temperature Accuracy	± 1.0°C (± 1.8°F)
Analog Output Scaling	RH: 0-100% RH; Temp: 10° to 35°C (50° to 95°F) or 0° to 50°C (32° to 122°F) menu selectable‡
Calibration Offset	RH: Adjustable ±9.9% in 0.1% increments; Temp: Adjustable ±9.9° (C or F) in 0.1° increments
Setpoint Range	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.

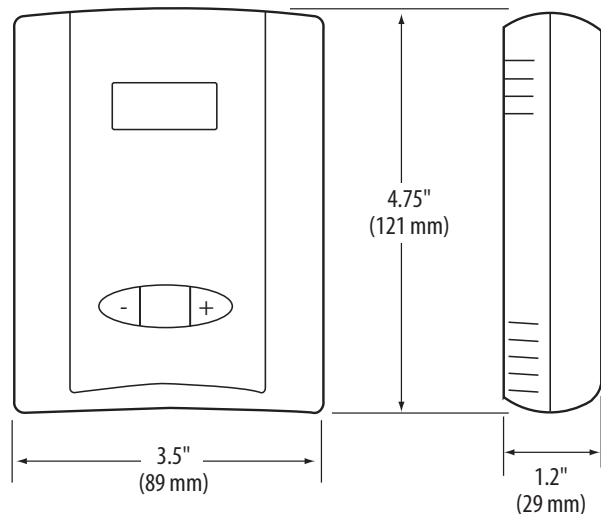
‡ If the 0° to 50°C (32° to 122°F) scaling range is selected, the device's operating temperature range still applies.

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

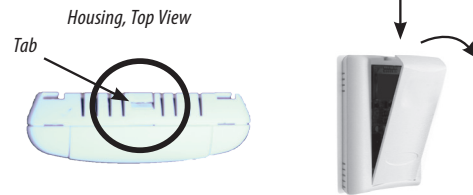


Installation



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

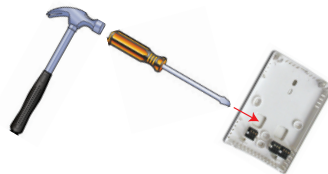
1. Locate the tab at the top of the sensor housing. Using only the minimum required force, press this tab down and pull the cover outward from the top. Set the cover aside.



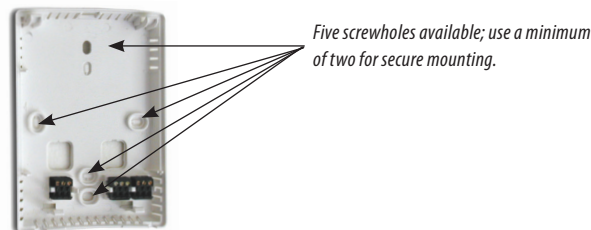
2. Remove the backplate by unfastening the sensor from the bottom of the backplate and pivoting the sensor outward.



3. Punch out wire opening in the backplate.

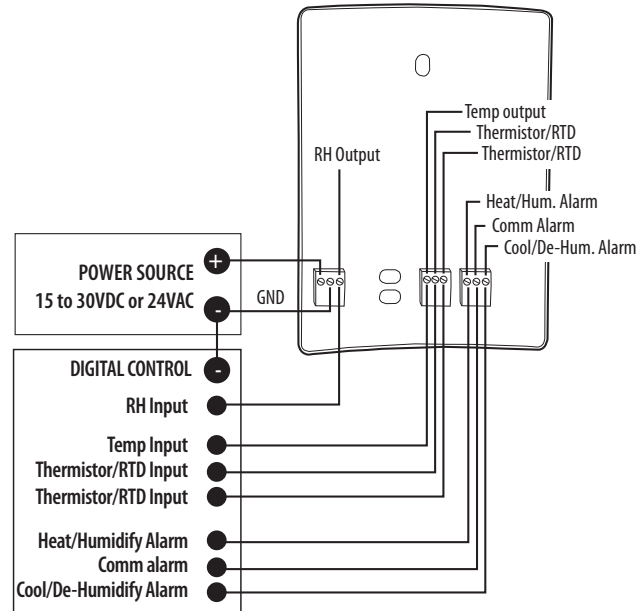


4. Position the backplate vertically on the wall, 4 ½ feet (1.4 m) above the floor. Locate away from windows, vents, and other sources of draft. If possible, do not mount on an external wall, as this might cause inaccurate temperature readings.
5. Mount the backplate onto the wall using the screws provided.

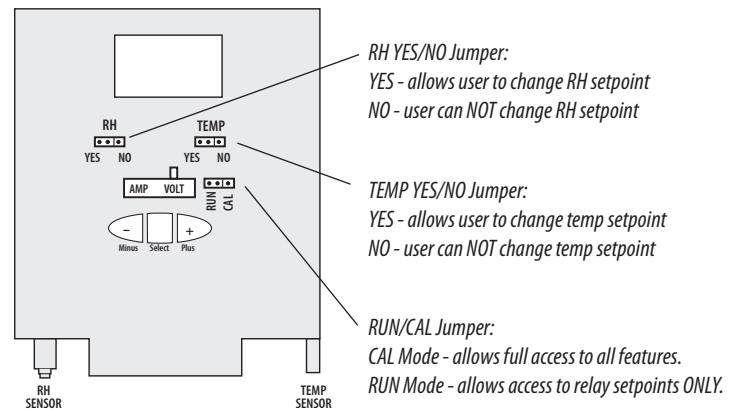


Installation (cont.)

6. Wire the backplate.



7. Install and configure the sensor.



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.

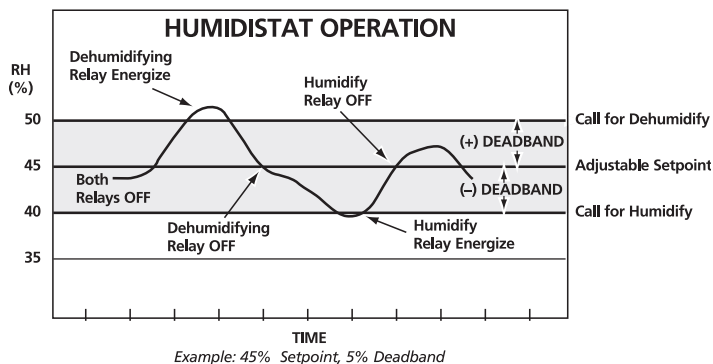
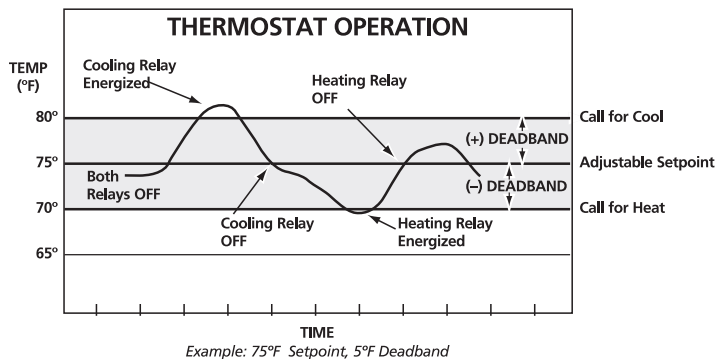


Calibration Instructions

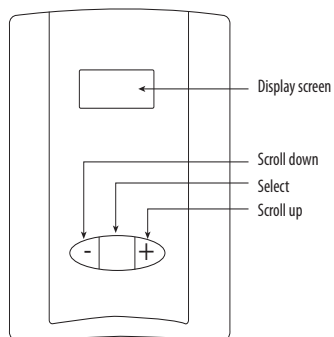
1. Temperature calibration allows for a calibration offset of $\pm 9.9^{\circ}$ (C or F), at the user's discretion.

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.



Operation Instructions



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

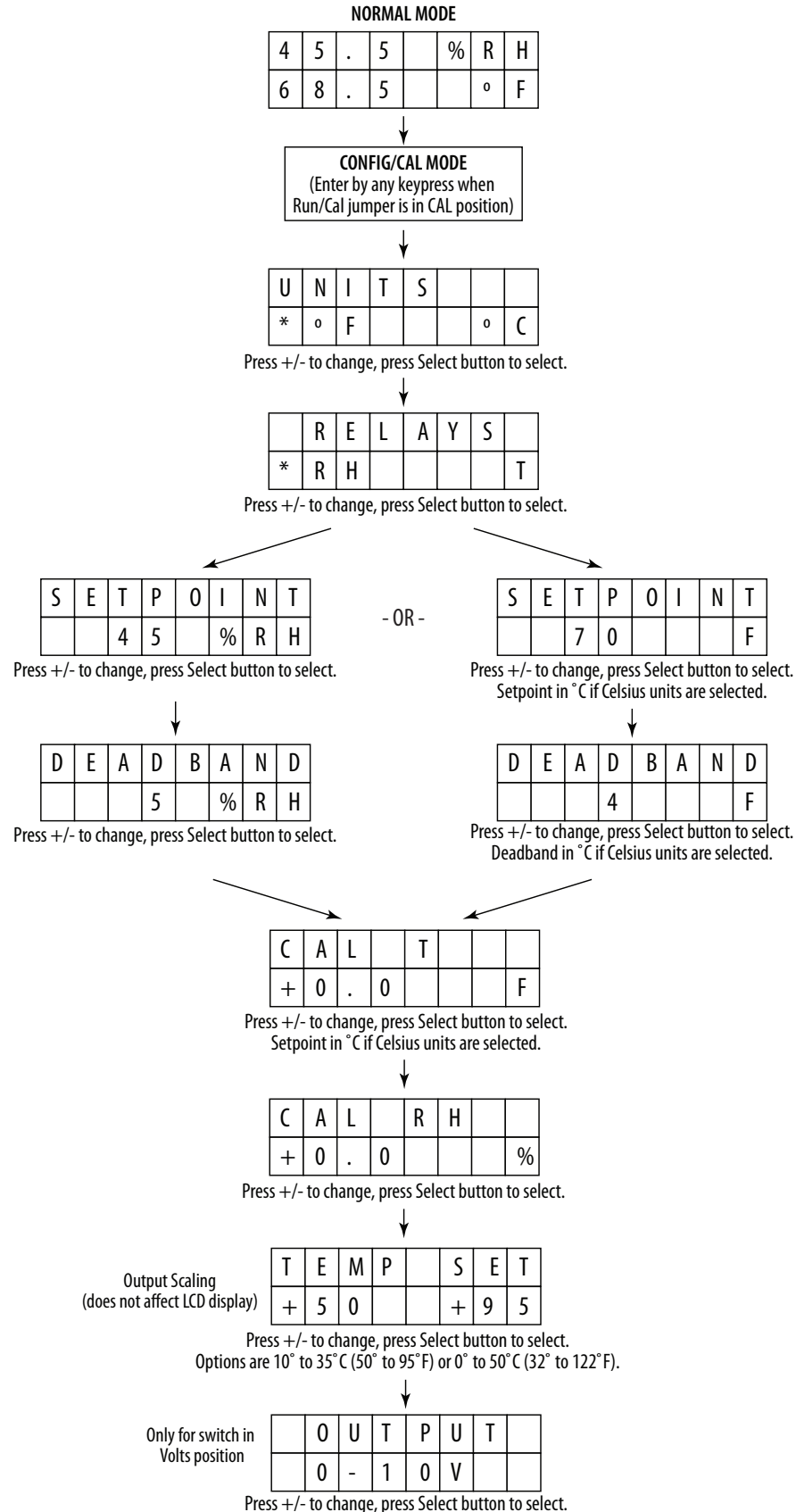
Use the (+) and (-) buttons to scroll to the Humidistat mode:

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

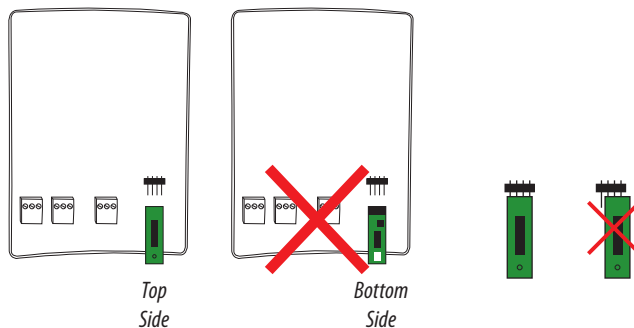


Replacing the HS Element



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.