HT/HWS SERIES

Independent RH, Temp, and Analog Setpoint Outputs

HT/HWS

All HT/HWS Series institutional grade relative humidity transmitters are designed to meet the rigorous needs of pharmaceutical labs, hospitals, science labs, and other settings that call for precise environmental control. Internal jumpers control access to a feature that allows adjustment of the calibration offsets. The devices can also be made tamper resistant using a jumper to disable keypad programing functions. HT/HWS models are calibrated with NIST traceable calibration equipment.

Analog Output Transmitter

Analog output models feature a keypad to make adjusting humidity and temperature setpoint values easy. They transmit the setpoint values back to a control system by means of dual outputs. A slide-switch allows easy selection of output type, either 4 to 20 mA or 0 to 5 V/0 to 10 Vdc signals. Dual outputs enable effortless control of both humidity and temperature in a single, compact sensor.

Setpoint Relay Transmitter

The HT Series setpoint relay models also offer thermostat or humidistat functionality. Two separate relays can be configured to control heating and cooling when in thermostat mode, or humidifying and de-humidifying when in humidistat mode.

HWS models offer the same precise humidity measurement and control as the HT, but without the temperature and thermostat features.

SPECIFICATIONS

Input Power	Class 2; 15 to 30 Vdc or 24 Vac 50/60Hz, 100 mA max.
Outputs, Analog	Switch-selectable 4 to 20 mA, or 0 to 10 V/ 0 to 5 Vdc (switch affects both outputs)
Outputs, Relay (Relay models only)	2 Form C (SPDT), 1A 30VDC, resistive, 30 W max.
RH Sensor	Digitally profiled thin-film capacitive (32-bit mathematics) U.S. Patent 5,844,138*
Accuracy at 25 °C from 10 to 80% RH** (Multi-point calibration NIST traceable)	±2%, 3%, or 5% models; ±1% at 20 to 50% RH on HTA models ±1% at 12 to 40% RH on HTR models in mA output mode; ±1% at 30% RH on HTR models in voltage output mode

Flexibility

Independent heat/cool (TWS relay) or analog setpoint outputs (TWS analog) provide application flexibility

Switch-selectable

Switch-selectable 4 to 20 mA or 0 to 5/0 to 10 Vdc analog outputs

LCD display

LCD for local display of readings and setup values

Multi-point calibration

Multi-point calibration to 1% RH, traceable to NIST

Offset function

Offset function adjusts calibration intervals for both RH and T (HT models)

Saves time

Replaceable RH sensor element supports field calibration offset

APPLICATIONS

- Hospitals and operating rooms, pharmaceutical labs
- Clean rooms
- Food processing plants
- Environmental testing facilities and other institutional applications

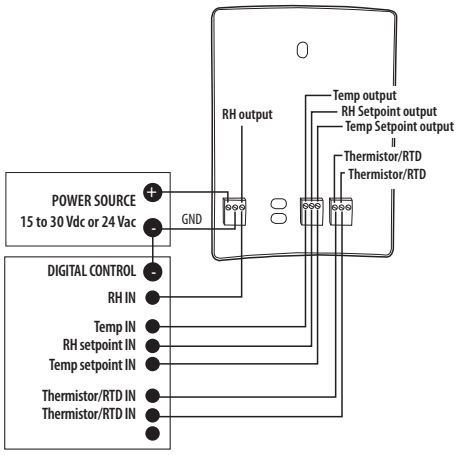
Reset Rate***	24 hours
Stability	±1% @ 20 °C (68 °F) annually, for two years
Hysteresis	RH: 1.5% (typical), Temp: 1 to 10 °F in 1 °F increments
Linearity	Included in accuracy spec.
Operating Humidity Range	0 to 100% RH non-condensing
Temperature Coefficient	±0.1%RH/°C above or below 25 °C (typical)
Operating Temperature Range	10 to 35 °C (50 to 95 °F)
Temperature Accuracy	±1.0 °C (±1.8 °F)
Physical	UL 94V-0 fire retardant ABS
Scaling	RH: 0 to 100%; Temp: 10 to 35 °C (50 to 95 °F) or 0 to 50 °C (32 to 122 °F) menu selectable
Calibration Offset	RH: Adjustable ±10% in 0.1% increments; Temp: Adjustable ±10° in 0.1° increments
Setpoint Range	RH: 10 to 80% in 1% increments; Temp: minimum to full scale in 1 °F increments
WARRANTY	
Limited Warranty	5 years

AGENCY APPROVALS

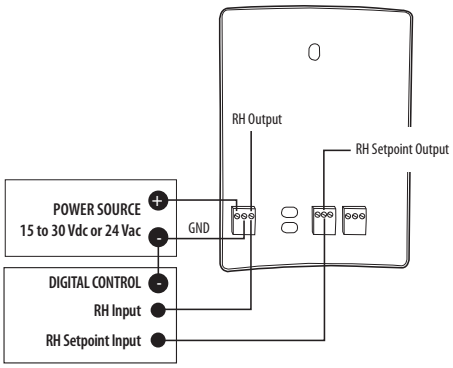
CE****

* The HS sensing element has a 1-year warranty. The element is not included in the 5-year product warranty.
** Specified accuracy with 24 Vdc supplied power with rising humidity.
***Reset rate is time required to recover to 50% RH after exposure to 90% RH for 24 hours.
One side of transformer secondary is connected to a 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 product.*The ****CE mark indicates RoHS2 compliance. Please refer to the CE Declaration of Conformity for additional details.

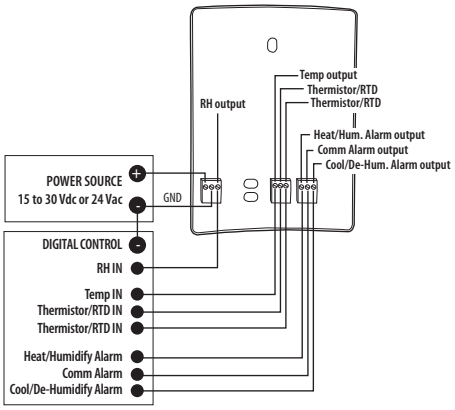
HT ANALOG OPTION
Wiring Examples



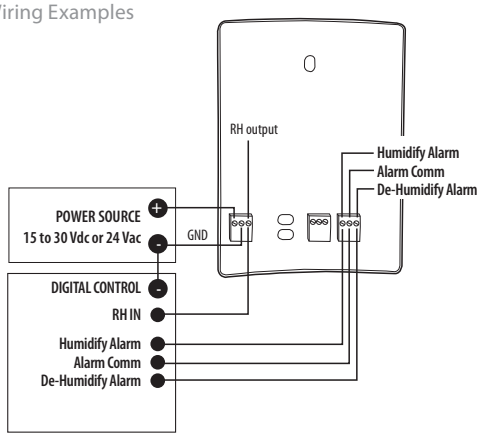
HWS ANALOG OPTION
Wiring Examples



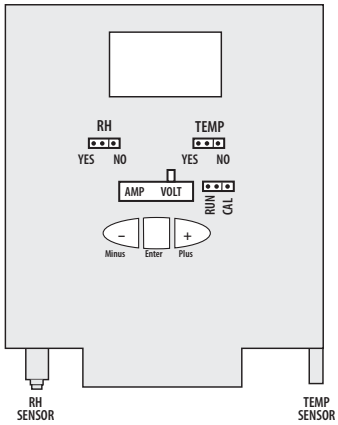
HT RELAY OPTION
Wiring Examples



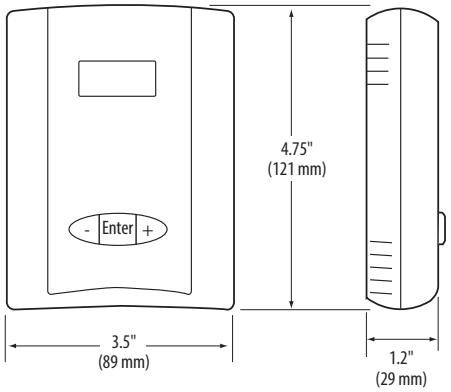
HWS RELAY OPTION
Wiring Examples



CONFIGURATION



DIMENSIONAL DRAWING



ORDERING INFORMATION

RH/T Combination Device

HT [Accuracy] [NIST] [Setpoint] [S] [Temp Cal Certificate] — Option

- Accuracy: 1 = 1%; 2 = 2%; 3 = 3%; 5 = 5%
- NIST: N = NIST (1 & 2% only); X = No (2, 3, 5% only)
- Setpoint: A = Analog; R = Relay
- S = CE
- Temp Cal Certificate: 0 = None; 1 = 1 point Cal Cert*; 2 = 2 point Cal Cert*
- Option: 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; T = 100k, Thermistor; U = 20k "D", Thermistor; W = 10k T2 high accuracy, Thermistor; Y = 10k T3 high accuracy, Thermistor

Example: HT 2 N R S 1 H

HT Series devices contain both humidity and temperature transmitter outputs. Optional RTDs and thermistors are available.

*Not available in W or Y high accuracy thermistors.

RH Only Device

HWS [Accuracy] [NIST] [Setpoint] [S]

- Accuracy: 1 = 1%; 2 = 2%; 3 = 3%; 5 = 5%
- NIST: N = NIST (1 & 2% only); X = No (2, 3, 5% only)
- Setpoint: A = Analog; R = Relay
- S = CE

Example: HWS 2 N R S

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