HW2 ANALOG SERIES

Wall Mount Humidity Sensors

HW2Txxxx HW2Lxxxx HW2Xxxxx

The HW2 Series of humidity sensors for living space is a flexible multisensor platform for use with BAS controllers designed to accept 4 to 20mA, 0 to 5Vdc or 0 to 10Vdc outputs. HW2 Series sensors are available with three user interface options: touchscreen, LCD with three buttons and blank. Humidity and temperature sensors are included with all HW2 Series sensors.

Sensor element

Thin-film capacitive sensor element recovers from 100% saturation

Field replaceable

Replace element in the field… maintain accuracy and minimize downtime

Interchangable element

Fully interchangeable element to 1% or 2% accuracy with NIST calibration certificate…no calibration

Easy to install

Large wiring terminals on baseplate and snap-on covers with security screw simplify installation and service

Flexible

3+ wires, 4 to 20 mA or 0-5/0-10 Vdc versions…flexible systems compatibity…save time in the field, stock fewer devices

Calibration free

Calibration-free interchangeable NIST traceable HS element

SPECIFICATIONS

OPERATING ENVIRONMENT	
Input Power	Class 2; 20 to 30 Vdc, 24 Vac, 50 to 60 Hz
Analog Output	Selectable 4 to 20 mA, 0 to 5 V, 0 to 10 V
Operating Temperature Range	0 to 50 °C (32 to 122 °F)
Operating Humidity Range	0 to 95% RH non-condensing
Housing Material	High-impact ABS plastic
Terminal Block Torque	0.5 to 0.6 N-m (0.37 to 0.44 in-lbf)
IP Rating	IP 30
Mounting Location	For indoor use only. Not suitable for wet locations.
Surface Mount	The device can be surface mounted on Single Gang J-Box, British Standard and CE60 wall boxes
RH TRANSMITTER	
HS Sensor	Solid state capacitive, replaceable
Accuracy (Includes Hysteresis)*	±3.8% RH from 10 to 60% RH @ 25°C (77 °F) ±4.8% RH from 60 to 80% RH @ 25°C (77 °F) ±5.8% RH from 80 to 100% RH @ 25°C (77 °F)
Stability	±1% @ 20°C (68 °F) annually for 2 years
Output Range	0 to 100% RH
Temperature Coefficient	±0.1% RH/°C above or below 25 °C (77 °F) typical
TEMPERATURE TRANSMITTER OPTION	
Sensor Type	Solid state, integrated circuit
Accuracy	±0.2 °C (±0.4 °F) typical
Resolution	0.1 °C (0.1 °F)
Range	0 to 50 °C (32 to 122 °F)
DISPLAY MODELS	
Touchscreen	61 mm (2.4 in), color, backlit, capacitive, 240x300 px Setpoint: 0-10 Vdc. Temperature, humidity or fan speed selectable Timeout override: Display timeout** Lockout override: Touchscreen/button lockout**
LCD	52mm (2.05 in), segmented with 3 buttons Setpoint: 0-10Vdc. Temperature, humidity or fan speed selectable Timeout override: Display timeout** Lockout override: Touchscreen/button lockout**
SETPOINTS* **	
Temperature Setpoint	0 to 10V output Scale: 10 to 35 °C (50 to 95 °F) / 0 to 50 °C (32 to 122 °F)
Humidity Setpoint	0 to 10V output Scale: 0 to 100% RH
Fan Speed Setpoint	0 to 10V output Off 0V, Auto 1.5V, Low 3.3V, Med. 6.7V, High 10.0V
OVERRIDE	
Override Button	Display models feature momentary-to-ground override button
WIRING TERMINALS	
Terminal Blocks	Screw terminals, 18-24 AWG
Screw Terminal Torque	0.2 N-m (2.0 in-lbF) max.
WARRANTY	
Limited Warranty	5 years

APPLICATIONS

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

SPECIFICATIONS, CONT.

COMPLIANCE INFORMATION

Agency Approvals	UL 916 European Conformance CE: EN 60730-1, EN 60730-2-9, EN 60730-2-13, EN 61000-6-2, EN 61000-6-3, EN 61000 Series - Industrial Immunity, EN 61326-1 FCC Part 15 Class B, REACH, RoHS, RCM (Australia), ICES-003 (Canada), UKCA (UK)

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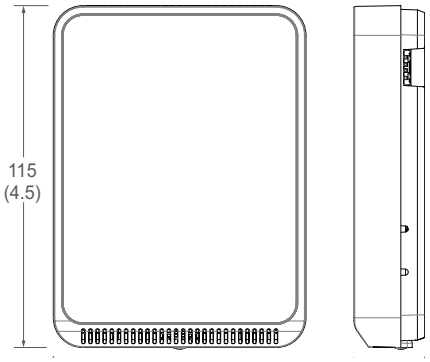
CE

* Humidity sensor overall accuracy should include: accuracy, temperature coefficient and stability. Humidity accuracy is shown as an absolute value, so if testing accuracy with a hand-held device, you must check for deviation in its readings instead of calculating the percentual deviation. Additionally, you must consider the overall accuracy of the hand-held device in the comparison.
** DIP switch selectable..
*** One setpoint type is selectable via DIP switch on display models only.

DIMENSIONAL DRAWING



USER INTERFACE TYPES


Touchscreen


LCD with Buttons


Blank

ORDERING INFORMATION

	User Interface	Output	RH Accuracy*	Temperature
HW2	☐	☐	☐	☐
	T = Color touchscreen L = 3-button LCD display X = None	A = Analog output	2 = 2%	A = Transmitter only C = 1000 PT RTD D = 10K T2 thermistor G = 10K CPC thermistor** H = 10K T3 thermistor K = 10K curve G/11K shunt M = 20K NTC thermistor N = 1.8K TAC thermistor R = 10K curve G***

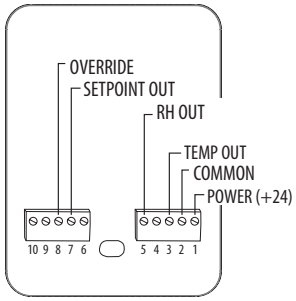
Example:

HW2	T	A	2	A

* Replaceable 1% with NIST certificate, 2% with NIST certificate and 2% elements available.
** Available in HW2XA2G only.
*** Available in HW2XA2R only.

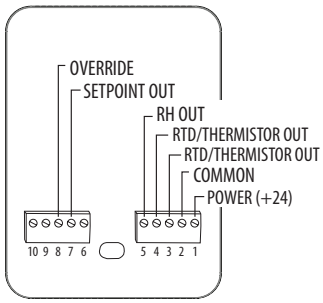
HW2L/HW2T DISPLAY MODELS WITH TEMP TRANSMITTER

Wiring Diagram



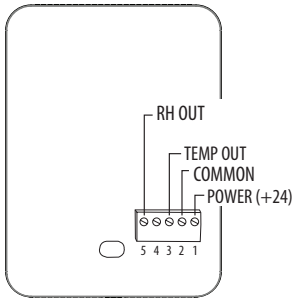
HW2L/HW2T DISPLAY MODELS WITH RTD/THERMISTOR

Wiring Diagram



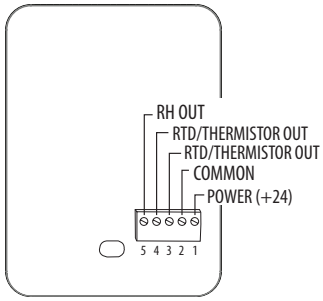
HW2X WITH TEMP TRANSMITTER

Wiring Diagram



HW2X WITH RTD/THERMISTOR

Wiring Diagram



REPLACEABLE RH ELEMENTS

MODEL	DESCRIPTION	TEMP. CALIBRATION	RH CALIBRATION
HS1N	Replaceable RH sensor, 1% with NIST certificate	N/A	2-point calibration
HS2N	Replaceable RH sensor, 2% with NIST certificate	N/A	2-point calibration
HS2X	Replaceable RH sensor, 2%	N/A	2-point calibration


Replaceable RH Element

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