HW2 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.

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)
RH TRANSMITTER	
HS Sensor	Thin-film capacitive, replaceable
Accuracy	±2% from 10 to 80% RH @ 25°C (77 °F)
Hysteresis	1.5% typical
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: 0-10Vdc. Temperature, humidity or fan speed selectable Timeout override: Display timeout* Lockout override: Touchscreen/button lockout*
LCD	52mm (2.05 in), segemented with 3 buttons Setpoint: 0-10Vdc. Temperature, humidity or fan speed selectable Timeout override: Display timeout* Lockout override: Touchscreen/button lockout*

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

Polarity insensitive, two-wire 4 to 20 mA or 3-wire 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

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

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, Low 3.3V, Med. 6.7V, High 10.0V
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
COMPLIANCE INFORMATION	
Agency Approvals	UL 916, European conformance CE: EN61000-6-2 EN61000-6-3 EN61000 Series - industrial immunity EN 61326-1 FCC Part 15 Class B, REACH, RoHS, RCM (Australia), ICES-003 (Canada)

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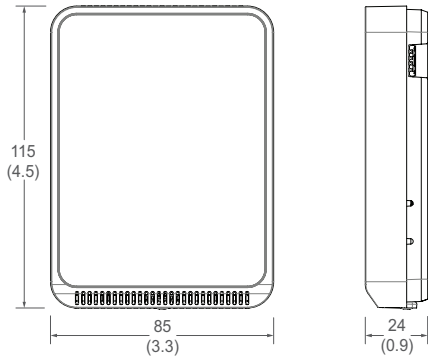
*DIP switch selectable..
** One setpoint type is selectable via DIP switch on display models only.

DIMENSIONAL DRAWING



USER INTERFACE TYPES

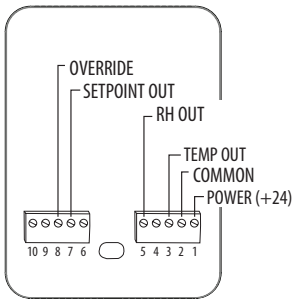
Touchscreen

LCD with Buttons

Blank

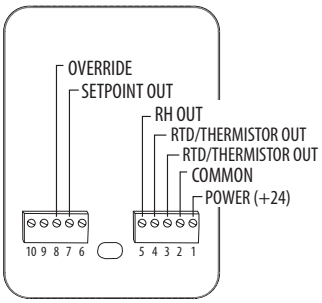
HW2L/HW2T DISPLAY MODELS WITH TEMP TRANSMITTER

Wiring Diagram



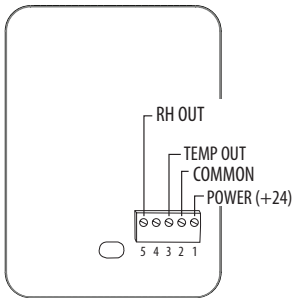
HW2L/HW2T DISPLAY MODELS WITH RTD/THERMISTOR

Wiring Diagram



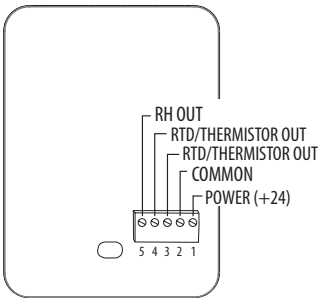
HW2X WITH TEMP TRANSMITTER

Wiring Diagram



HW2X WITH RTD/THERMISTOR

Wiring Diagram



ORDERING INFORMATION

HW2 [User Interface] [Output] [RH Accuracy*] [Temperature]

User Interface
- T = Color touchscreen
- L = 3-button LCD display
- X = None

Output
- A = Analog output

RH Accuracy*
- 2 = 2%

Temperature
- 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.

REPLACEABLE RH ELEMENTS

MODEL	RH ACCURACY	CALIBRATION CERTIFICATE	DESCRIPTION
HS1N	±1%	X	Replaceable RH sensor, 1% with NIST certification
HS2N	±2%	X	Replaceable RH sensor, 2% with NIST certification
HS2X	±2%		Replaceable RH sensor, 2%

Replaceable RH Element