HW2 PROTOCOL SERIES
Wall Mount Humidity Sensors

HW2Txxxx   HW2Lxxxx   HW2Xxxxx

The HW2 Protocol Series of humidity sensors for living space is a flexible multisensor platform for use with BAS controllers designed to accept BACnet and Modbus outputs. HW2 Protocol 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 Protocol Series sensors.

BACnet & Modbus

Embedded BACnet and Modbus communication protocols…easy systems integration

Sensor element

Thin-film capacitive sensor element recovers from 100% saturation

Interchangable element

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

Field replaceable

Replace element in the field… maintain accuracy and minimize downtime

Easy to install

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

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
Protocol Output	BACnet or Modbus via RS-485, selectable
Operating Temp. 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

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, 240x300px Setpoint: 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: Temperature, humidity or fan speed selectable Timeout override: Display timeout Lockout override: Touchscreen/button lockout

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	Scale: 10 to 35 °C (50 to 95 °F) / 0 to 50 °C (32 to 122 °F)
Humidity Setpoint	Scale: 0 to 100% RH
Fan Speed Setpoint	Off, Low, Medium, High, Auto

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

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)

* 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.
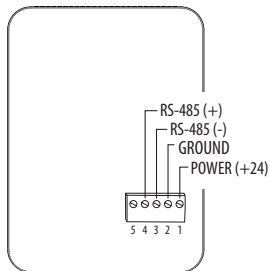
USER INTERFACE TYPES

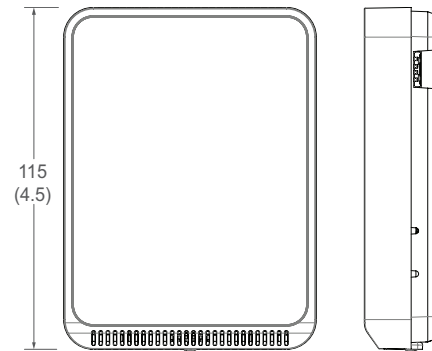Touchscreen   LCD with Buttons   Blank

WIRING DIAGRAM

RS-485 (+)
RS-485 (-)
GROUND
POWER (+24)
5 4 3 2 1

DIMENSIONAL DRAWING

115
(4.5)

ORDERING INFORMATION

MODEL	USER INTERFACE	RH*	TEMP	SETPOINT	OVERRIDE
HW2TP2A	Touchscreen	X	X	X	X
HW2LP2A	LCD / 3 Buttons	X	X	X	X
HW2XP2A	Blank	X	X		

* Replaceable 1% with NIST certificate, 2% with NIST certificate and 2% elements available.

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