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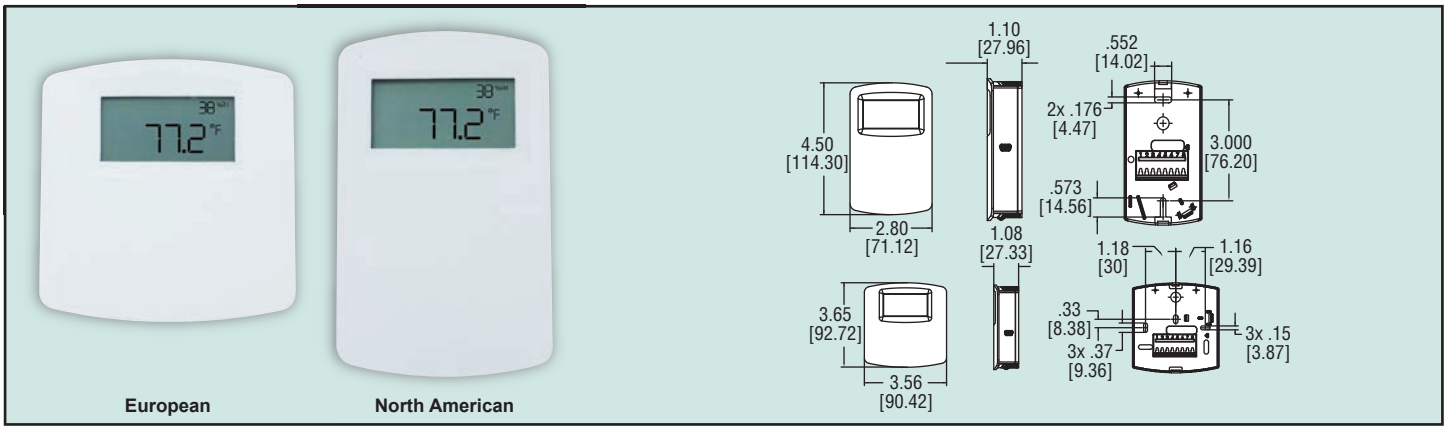
RHP-E/N

Wall Mount Humidity/ Temperature/ Dew Point Transmitter

Optional LCD Display, Replaceable Sensors



The Series RHP-E/N Wall Mount Humidity/Temperature/Dew Point Transmitter is the most versatile room transmitter on the market. The stylish housing is well vented to provide air flow across the sensor to improve measurement accuracy. An optional LCD display can be integral to the transmitter or a remote display can be ordered for building balancing or LEED® validation. The LCD display indicates the ambient temperature along with the humidity or dew point. The transmitter has internal dip switches to select the temperature engineering units and whether the transmitter outputs humidity or dew point. The humidity and temperature sensors are field replaceable to reduce service cost and inventory. The humidity and the dew point are measured using a capacitive polymer sensor that completely recovers from 100% saturation. The humidity and dew point can have either a current or voltage output, while the optional temperature output can be a current, voltage, RTD or thermistor. For models with current or voltage for the temperature output, the temperature range is field selectable.

Example	RHP	3	N	4	A	LCD	RHP-3N4A-LCD
Series	RHP						Humidity/Temperature/ Dew Point Transmitter
Accuracy		2 3 5					2% Accuracy 3% Accuracy 5% Accuracy
Housing			E N				European Wall Mount North American Wall Mount
Humidity/Dew Point Output				4			4-20mA/0-5 VDC/0-10 VDC
Temperature Output					0 4 A B C D E F		None 4-20mA/0-5 VDC/0-10 VDC 10KΩ @ 25°C Thermistor Type III 10KΩ @ 25°C Thermistor Type II 3KΩ @ 25°C Thermistor 100Ω RTD DIN 385 1KΩ RTD DIN 385 20KΩ @ 25°C Thermistor
Options						LCD NIST	LCD Display NIST traceable calibration certificate

ACCESSORIES

A-449, Remote LCD Display allows remote indication of select Dwyer Wall Mount Transmitters for validation or certification purposes

SCD-PS, 100-240 VAC/VDC to 24 VDC Power Supply

SPECIFICATIONS

Relative Humidity Range: 0 to 100% RH.

Temperature Range: -40 to 140°F (-40 to 60°C) for thermistor and RTD sensors. -20 to 140°F (-28.9 to 60°C) for solid state band gap temperature sensors.

Dew Point Temperature Range: -20 to 140°F (-28.9 to 60°C); 0 to 100°F (-17.8 to 37.8°C); 40 to 90°F (4.4 to 32.3°C); -4 to 140°F (-20 to 60°C) field-selectable ranges.

Accuracy:

RH: Model RHP-2XXX ±2% 10-90% RH @ 25°C; Model RHP-3XXX ±3% 20-80% RH @ 25°C; Model RHP-5XXX ±5% 20-80% RH @ 25°C;
Thermistor temperature sensor: ±0.36°F @ 77°F (±0.2°C @ 25°C);
RTD temperature sensor: DIN Class B; ±0.54°F @ 32°F (±0.3°C @ 0°C);
Solid state band gap temperature sensor: ±0.9°F @ 77°F (±0.3°C @ 25°C).

Hysteresis: ±1%.

Repeatability: ±0.1% typical.

Temperature Limits:

Operating: -40 to 140°F (-40 to 60°C);
Storage: -40 to 176°F (-40 to 80°C).

Compensated Temperature Range: -4 to 140°F (-20 to 60°C).

4-20 mA Loop Powered Outputs:

Power requirements: 10 to 35 VDC;
Output signal: 4 to 20 mA, 2 channels for humidity/solid state temperature sensor models (loop powered on RH). Switch selectable RH/dew point. Switch selectable normal or reverse output.

0-5/10V Outputs:

Power requirements: 15 to 35 VDC or 15 to 29 VAC;
Output load: 5 mA max., 2 channels for humidity/solid state temperature sensor models. Switch selectable 0-10V/2-10V or 0-5V/1-5V output. Switch selectable RH/dew point. Switch selectable normal or reverse output.

Solid State Band Gap Temperature Sensor Output Ranges: Switch selectable, -20 to 140°F (-28.9 to 60°C); 0 to 100°F (-17.8 to 37.8°C); 40 to 90°F (4.4 to 32.3°C); -4 to 140°F (-20 to 60°C).

Response Time: 15 seconds.

Electrical Connections: Screw terminal block.

Drift: <1% RH/year.

RH Sensor: Capacitance polymer.

Enclosure Material: White polycarbonate (European); Warm gray polycarbonate (North American).

Display: Optional LCD; Switch selectable %RH or dew point, °F/°C.

Display Resolution: RH: 1%; Temperature: 0.1°F (0.1°C); Dew Point: 1°F (1°C).

Weight: 4.4 oz (125 g).

Agency Approvals: CE.

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