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HUMIDITY TRANSMITTER OVERVIEW



DUCT MOUNT INSTALLATION

The Series RHP duct mount transmitters are ideal for monitoring humidity and temperature in supply or return air ducts. For quick verification of measurements, an optional dual line LCD display can be ordered to display both the temperature and humidity inside the duct. The metal mounting bracket has mounting holes wide enough to allow quick installation of the transmitter to the duct, which reduces installation labor cost. The humidity sensors and filter caps can be replaced easily in the field without additional field calibration. The Series RHP comes standard with either a current or voltage output for the humidity and can optionally have a thermistor, RTD, current or voltage output for the temperature.



KEY FEATURES

- Field replaceable sensors
- Optional dual line LCD display

Model	Accuracy	Humidity Output	Temperature Output	Model	Accuracy	Humidity Output	Temperature Output
RHP-2D1A	2%	4 to 20 mA	10KΩ Type 3	RHP-3D1A	3%	4 to 20 mA	10KΩ Type 3
RHP-2D2A	2%	0 to 10 VDC	10KΩ Type 3	RHP-3D2A	3%	0 to 10 VDC	10KΩ Type 3
RHP-2D1B	2%	4 to 20 mA	10KΩ Type 2	RHP-3D1B	3%	4 to 20 mA	10KΩ Type 2
RHP-2D2B	2%	0 to 10 VDC	10KΩ Type 2	RHP-3D2B	3%	0 to 10 VDC	10KΩ Type 2
RHP-2D1D	2%	4 to 20 mA	Pt100 RTD	RHP-3D1D	3%	4 to 20 mA	Pt100 RTD
RHP-2D2D	2%	0 to 10 VDC	Pt100 RTD	RHP-3D2D	3%	0 to 10 VDC	Pt100 RTD
RHP-2D1E	2%	4 to 20 mA	Pt1000 RTD	RHP-3D1E	3%	4 to 20 mA	Pt1000 RTD
RHP-2D2E	2%	0 to 10 VDC	Pt1000 RTD	RHP-3D2E	3%	0 to 10 VDC	Pt1000 RTD
RHP-2D1F	2%	4 to 20 mA	20KΩ	RHP-3D1F	3%	4 to 20 mA	20KΩ
RHP-2D2F	2%	0 to 10 VDC	20KΩ	RHP-3D2F	3%	0 to 10 VDC	20KΩ
RHP-2D10	2%	4 to 20 mA	None	RHP-3D10	3%	4 to 20 mA	None
RHP-2D11	2%	4 to 20 mA	4 to 20 mA	RHP-3D11	3%	4 to 20 mA	4 to 20 mA
RHP-2D20	2%	0 to 10 VDC	None	RHP-3D20	3%	0 to 10 VDC	None
RHP-2D22	2%	0 to 10 VDC	0 to 10V	RHP-3D22	3%	0 to 10 VDC	0 to 10V

For sintered filter option, change the D to a F (Example: RHP-2E1A). For optional LCD display, add -LCD at the end of the model number (Example: RHP-2D1A-LCD).

WALL MOUNT INSTALLATION

The Series RHP-E/N wall mount transmitters are an attractive solution for room or space humidity and temperature monitoring. For improved accuracy, the designer wall mount housing is well vented to improve air flow across the sensor. Humidity outputs can be factory ordered to be 4 to 20 mA, 0 to 10 VDC, or 0 to 5 VDC. For added flexibility, universal outputs can be ordered to allow the technician to select the output type in the field. Temperature outputs can be the same current or voltage output as the humidity or a passive thermistor or RTD output. The Series RHP-E/N can be ordered with an integral or remote LCD display that shows temperature and humidity simultaneously.



North American



European

KEY FEATURES

- Vented designer housing
- Local or remote LCD display

Model	Accuracy	Temperature Output	Housing	Model	Accuracy	Temperature Output	Housing
RHP-2N4A	2%	10KΩ Type III	North American	RHP-2E4A	2%	10KΩ Type III	European
RHP-2N4B	2%	10KΩ Type II	North American	RHP-2E4B	2%	10KΩ Type II	European
RHP-2N4C	2%	3KΩ	North American	RHP-2E4C	2%	3KΩ	European
RHP-2N4D	2%	Pt100 RTD	North American	RHP-2E4D	2%	Pt100 RTD	European
RHP-2N4E	2%	Pt1000 RTD	North American	RHP-2E4E	2%	Pt1000 RTD	European
RHP-2N4F	2%	10KΩ Type II	North American	RHP-2E4F	2%	10KΩ Type II	European
RHP-2N40	2%	None	North American	RHP-2E40	2%	None	European
RHP-2N44	2%	Current/Voltage	North American	RHP-2E44	2%	Current/Voltage	European
RHP-3N4A	3%	10KΩ Type III	North American	RHP-3E4A	3%	10KΩ Type III	European
RHP-3N4B	3%	10KΩ Type II	North American	RHP-3E4B	3%	10KΩ Type II	European
RHP-3N4C	3%	3KΩ	North American	RHP-3E4C	3%	3KΩ	European
RHP-3N4D	3%	Pt100 RTD	North American	RHP-3E4D	3%	Pt100 RTD	European
RHP-3N4E	3%	Pt1000 RTD	North American	RHP-3E4E	3%	Pt1000 RTD	European
RHP-3N4F	3%	10KΩ Type II	North American	RHP-3E4F	3%	10KΩ Type II	European
RHP-3N40	3%	None	North American	RHP-3E40	3%	None	European
RHP-3N44	3%	Current/Voltage	North American	RHP-3E44	3%	Current/Voltage	European

OUTSIDE AIR INSTALLATION

The Series RHP outside air transmitters are ideal for monitoring humidity and temperature outside of air handlers or commercial buildings. The NEMA 4X enclosure protects the internal circuit board and wiring connections from the elements. The bird cage probe or optional sintered filter protects the sensor from debris while allowing air movement across the sensor to take accurate readings. For more accurate measurements, the radiation shield option protects the sensor from radiated heat from direct sunlight or reflected heat from other equipment or the building. The Series RHP comes standard with either a current or voltage output for the humidity and can optionally have a thermistor, RTD, current or voltage output for the temperature.



*Shown with optional radiation shield

KEY FEATURES

- NEMA 4X enclosure
- Optional sintered filter or radiation shield

Model	Accuracy	Humidity Output	Temperature Output	Model	Accuracy	Humidity Output	Temperature Output
RHP-201A	2%	4 to 20 mA	10K Ω Type 3	RHP-301A	3%	4 to 20 mA	10K Ω Type 3
RHP-202A	2%	0 to 10 VDC	10K Ω Type 3	RHP-302A	3%	0 to 10 VDC	10K Ω Type 3
RHP-201B	2%	4 to 20 mA	10K Ω Type 2	RHP-301B	3%	4 to 20 mA	10K Ω Type 2
RHP-202B	2%	0 to 10 VDC	10K Ω Type 2	RHP-302B	3%	0 to 10 VDC	10K Ω Type 2
RHP-201D	2%	4 to 20 mA	Pt100 RTD	RHP-301D	3%	4 to 20 mA	Pt100 RTD
RHP-202D	2%	0 to 10 VDC	Pt100 RTD	RHP-302D	3%	0 to 10 VDC	Pt100 RTD
RHP-201E	2%	4 to 20 mA	Pt1000 RTD	RHP-301E	3%	4 to 20 mA	Pt1000 RTD
RHP-202E	2%	0 to 10 VDC	Pt1000 RTD	RHP-302E	3%	0 to 10 VDC	Pt1000 RTD
RHP-201F	2%	4 to 20 mA	20K Ω	RHP-301F	3%	4 to 20 mA	20K Ω
RHP-202F	2%	0 to 10 VDC	20K Ω	RHP-302F	3%	0 to 10 VDC	20K Ω

For sintered filter option, change the O to a S (Example: RHP-2S1A). For radiation shield option, change O to R (Example: RHP-2R1A).

OUTSIDE AIR INSTALLATION

The Series WHT compact humidity transmitters can be used to monitor humidity in outside air applications, surface mount applications or suspension mount applications. The integral mounting tabs have two holes on each tab to allow the NEMA 3R housing to be suspension mounted for applications such as poultry houses. The smaller holes can be used to mount the transmitter on the side of an air handler or on a wall. The Series WHT comes standard with a sintered filter.



KEY FEATURES

- NEMA 3R enclosure
- Surface or suspension mount

Model	Accuracy	Humidity Output	Temperature Output	Model	Accuracy	Humidity Output	Temperature Output
WHT-210	2%	4 to 20 mA	None	WHT-310	3%	4 to 20 mA	None
WHT-211	2%	4 to 20 mA	4 to 20 mA	WHT-311	3%	4 to 20 mA	4 to 20 mA
WHT-220	2%	0 to 10 VDC	None	WHT-320	3%	0 to 10 VDC	None
WHT-222	2%	0 to 10 VDC	0 to 10 VDC	WHT-322	3%	0 to 10 VDC	0 to 10 VDC
WHT-230	2%	0 to 5 VDC	None	WHT-330	3%	0 to 5 VDC	None
WHT-233	2%	0 to 5 VDC	0 to 5 VDC	WHT-333	3%	0 to 5 VDC	0 to 5 VDC
WHT-21A	2%	4 to 20 mA	10K Ω Type 3	WHT-31A	3%	4 to 20 mA	10K Ω Type 3
WHT-22A	2%	0 to 10 VDC	10K Ω Type 3	WHT-32A	3%	0 to 10 VDC	10K Ω Type 3
WHT-21B	2%	4 to 20 mA	10K Ω Type 2	WHT-31B	3%	4 to 20 mA	10K Ω Type 2
WHT-22B	2%	0 to 10 VDC	10K Ω Type 2	WHT-32B	3%	0 to 10 VDC	10K Ω Type 2

REMOTE PROBE INSTALLATION

The Series RH-R humidity transmitter is ideal for applications in which space is limited. The compact sensor is protected by a field replaceable filter and can be mounted up to 16 feet away from the weatherproof base. The RH-R is available with current or voltage outputs for both humidity and temperature.



KEY FEATURES

- Up to 16 foot cable
- NEMA 4X enclosure

Model	Cable Length	Description	Output	Model	Cable Length	Description	Output
RHU-R004	4'	Humidity	4 to 20 mA	RHU-RI04	4'	Humidity	0 to 10 VDC
RHU-R008	8'	Humidity	4 to 20 mA	RHU-RI08	8'	Humidity	0 to 10 VDC
RHU-R012	12'	Humidity	4 to 20 mA	RHU-RI12	12'	Humidity	0 to 10 VDC
RHU-R016	16'	Humidity	4 to 20 mA	RHU-RI16	16'	Humidity	0 to 10 VDC
RHT-R004	4'	Humidity/Temperature	4 to 20 mA	RHT-RI04	4'	Humidity/Temperature	0 to 10 VDC
RHT-R008	8'	Humidity/Temperature	4 to 20 mA	RHT-RI08	8'	Humidity/Temperature	0 to 10 VDC
RHT-R012	12'	Humidity/Temperature	4 to 20 mA	RHT-RI12	12'	Humidity/Temperature	0 to 10 VDC
RHT-R016	16'	Humidity/Temperature	4 to 20 mA	RHT-RI16	16'	Humidity/Temperature	0 to 10 VDC

HAZARDOUS AREAS INSTALLATION

The Series HHT takes accurate humidity and temperature measurements in the harshest of environments. The transmitter is offered in explosion-proof and intrinsically-safe versions depending on the application's requirements. Both versions have an optional dual-line LCD display for reading both humidity and temperature simultaneously. Intrinsically-Safe models require an intrinsically-safe isolating barrier to meet the hazardous rating.



KEY FEATURES

- Intrinsically-safe or explosion-proof
- Optional dual line LCD

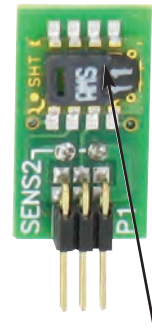
Model	Protection	Description	Display
HHT-EU	Explosion-Proof	Humidity	No
HHT-IU	Intrinsically-Safe	Humidity	No
HHT-IT	Intrinsically-Safe	Humidity/Temperature	No
HHT-EU-LCD	Explosion-Proof	Humidity	Yes
HHT-IT-LCD	Intrinsically-Safe	Humidity/Temperature	Yes

RELIABLE SENSING TECHNOLOGY

Dwyer Instruments, Inc. uses state of the art sensing technology to provide accurate and reliable humidity measurements. The sensor is comprised of a capacitive polymer humidity sensing element and a band gap temperature sensing element. The two sensing elements are seamlessly coupled to a 14 bit analog to digital converter. Each sensor is individually calibrated using a chilled mirror hygrometer reference standard.

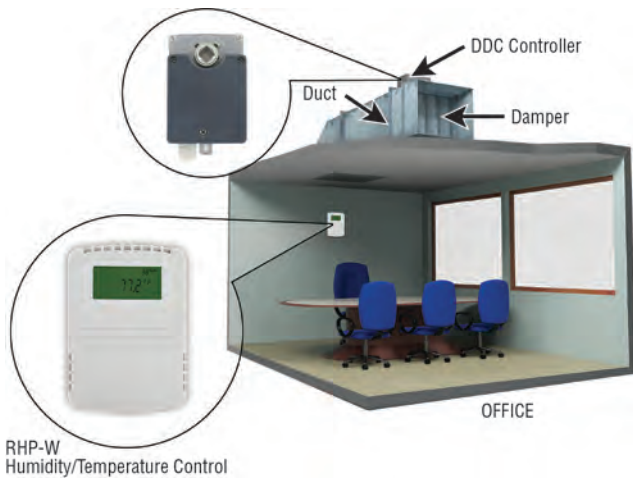
KEY ADVANTAGES

- Excellent long term stability
- Completely recovers from 100% saturation
- No field calibration needed
- Fast response time
- Available with 2% or 3% accuracy

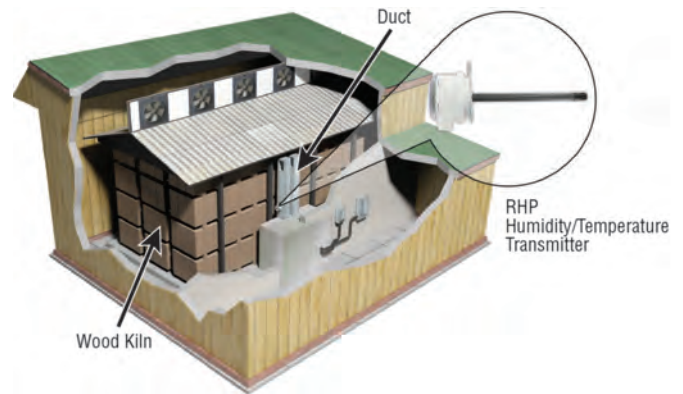


Humidity Sensor

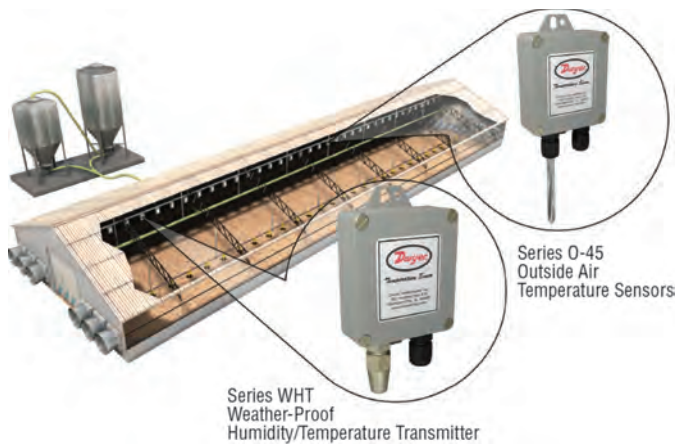
APPLICATIONS



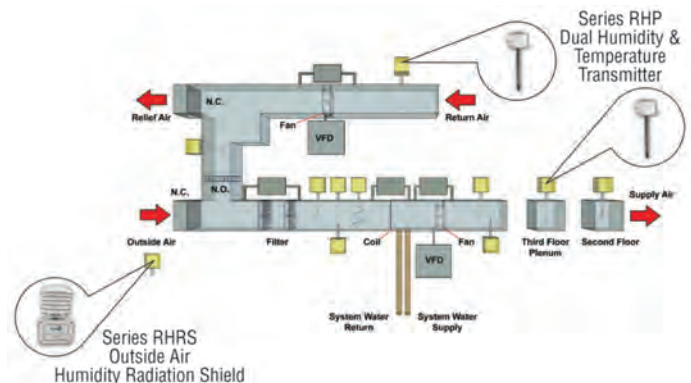
Series RHP-W can be used to accurately measure and control the humidity and temperature in office buildings.



Model RHP-2DIA can be used to greatly reduce the time it takes to dry wood in dehumidification rooms.



Model WHT-322 can be used to maintain environmental conditions in poultry and hog barns.



Outside air and duct mount humidity/temperature transmitters are used to control fresh air intake dampers in air handler economizers.



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Return Service Requested

HUMIDITY TRANSMITTER OVERVIEW



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FIELD INSTRUMENTATION NEEDS**



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