HE-6800 Series Humidity Transmitters with Temperature Sensor Catalog Page

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Description

The HE-6800 Series Humidity Transmitters with Temperature Sensor provide both humidity and temperature sensing in room wall-mount applications. The transmitter offers local warmer/cooler temperature setpoint adjustment and temporary occupancy override. The humidity sensor provides Relative Humidity (RH) accuracy of ±2% or ±3% RH and measures RH over the entire range of 0 to 100%.

A warmer/cooler dial is included on certain models for minor temperature adjustments from the setpoint. All models feature an occupancy override button that allows the user to override time-of-day scheduling when the space is occupied outside of the normal occupied hours schedule. The transmitter also includes DIP switches to enable or disable override and Light-Emitting Diode (LED) functions. In addition, all models feature a user-selectable 0 to 5 VDC or 0 to 10 VDC humidity output switch, and a power supply selection switch.

The HE-6800 Series Humidity Transmitters include screw terminal block terminations that provide flexibility for field wiring. All models include a 6-pin modular jack access port for connecting accessories to the Zone Bus. This feature allows a technician to commission or service the controller via the transmitter.

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Features

- controller configuration DIP switch — allows users to adjust the room comfort and choose occupancy features that match the application and transmitter
- power supply selection switch — enables transmitter use in high input voltage applications
- user-selectable humidity output — provides either a 0 to 5 VDC or 0 to 10 VDC output for compatibility with various controllers
- occupancy Light-Emitting Diode (LED) indicator — displays the current operating mode of the controller (VMA12 and VMA14 Series only)
- manual override pushbutton (PB) — overrides time-of-day scheduling when the space is occupied outside of the normal occupied hours schedule
- warmer/cooler setpoint dial (select models) — allows for minor temperature adjustments from the setpoint

Repair Information

If the HE-6800 Series Humidity Transmitter fails to operate within its specifications, replace the unit. For a replacement transmitter, contact the nearest Johnson Controls® representative.

Selection Charts

Table 1: HE-6800 Series Humidity Transmitter with Temperature Sensor Product Code Numbers

Product Code Number	Temperature Sensing Element	Humidity Accuracy (% RH)	Warmer/Cooler Temperature Setpoint Adjustment Override	Enclosure Dimensions (mm)
HE-68N2-0N00WS	Nickel	±2%	No	80 x 80
HE-68N3-0N00WS	Nickel	±3%	No	80 x 80
HE-68N2-1N00WS	Nickel	±2%	Yes	80 x 80
HE-68N3-1N00WS	Nickel	±3%	Yes	80 x 80
HE-68P2-0N00WS	Platinum	±2%	No	80 x 80
HE-68P3-0N00WS	Platinum	±3%	No	80 x 80
HE-68P2-1N00WS	Platinum	±2%	Yes	80 x 80
HE-68P3-1N00WS	Platinum	±3%	Yes	80 x 80
HE-6863-0N00WS	10,000 Thermistor	±3%	No	80 x 80
HE-6863-1N00WS	10,000 Thermistor	±3%	Yes	80 x 80

Table 2: Optional Accessories

Product Code Number	Description
ACC-INSL-0[1]	Wallbox Mounting Pad (10 per Bag)
ACC-INSL-1[1]	Surface Mounting Pad (10 per Bag)
NS-WALLPLATE-0	Adapts an HE-6800 Series Humidity Transmitter (3-3/16 x 3-3/16 in. [80 x 80 mm]) to a Standard3-3/16 x 4-3/4 in. (80 x 120 mm) Wallbox
T-4000-119	Allen-Head Adjustment Tool (30 per Bag)

1 These foam pads help prevent drafts from entering the unit through the wall, and make installation easier when mounting on an uneven surface.

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Technical Specifications

Table 3: HE-6800 Series Humidity Transmitters with Temperature Sensor technical specifications

Specification		Description	
Power Requirements		4.5 to 7.5 mA at 14 to 30 VDC and 5K ohm Load, or 18 to 25 mA at 20 to 30 VAC and 5K ohm Load	
Terminations		9-Position Screw Clamp Terminal Block	
Wire Size		16 to 24 AWG (1.3 to 0.6 mm Diameter); 18 AWG (1.0 mm Diameter) Recommended	
Temperature Measurement Range		32 to 131°F (0 to 55°C)	
Humidity Measurement Range	Full Range	0 to 100% RH	
	Calibrated Range	10 to 90% RH	
Temperature Sensor	Nickel (HE-68Nx Models)	Sensor Type	1,000 ohm Thin Film Nickel
		Coefficient	Approximately 3 ohm per F° (5.4 ohm per C°)
		Reference Resistance	1,000 ohm at 70°F (0°C)
		Accuracy	±0.34F° at 70°F (±0.18C° at 21°C)
	Platinum (HE-68Px Models)	Sensor Type	1,000 ohm Thin Film Platinum
		Coefficient	Approximately 2 ohm per F° (3.9 ohm per C°)
		Reference Resistance	1,000 ohm at 32°F (0°C)
		Accuracy	±0.35F° at 70°F (±0.19C° at 21°C)
	Nonlinear NTC, Thermistor, Type II (HE-686x Models)	Sensor Type	10,000 ohm NTC Thermistor
		Coefficient	Nonlinear NTC, Johnson Controls Type II
		Reference Resistance	10,000 ohm at 77°F (25°C)
		Accuracy	±0.9F° (±0.5C°) at 32 to 158°F (0 to 70°C)
Humidity Sensor Type		Capacitive Polymer Sensor	
Humidity Element Accuracy	HE-68x2 Models	±2% RH for 20 to 80% RH at 50 to 95°F (10 to 35°C); ±4% RH for 10 to 20% RH and 80 to 90% RH at 50 to 95°F (10 to 35°C)	
	HE-68x3 Models	±3% RH for 20 to 80% RH at 77°F (25°C); ±6% RH for 10 to 20% RH and 80 to 90% at 77°F (25°C)	
Setpoint	Range	Warmer/Cooler	
	Resistance	1500 Ohms	
Temperature Sensor Time Constant		10 Minutes at 10 ft per Minute	
Manual Override		Integral Momentary Pushbutton (DIP Switch Selectable)	
LED		Green LED Indicates Three Modes of Operation (VMA12 and VMA14 Series Controllers Only)	
Ambient Operating Conditions		32 to 131°F (0 to 55°C), 10 to 95% RH Noncondensing;86°F (30°C) Maximum Dew Point	
Ambient Storage Conditions		-40 to 140°F (-40 to 60°C), 5 to 95% RH Noncondensing; 86°F (30°C) Maximum Dew Point	
Materials		White Thermoplastic Protection: IP30 (EN 60529)	
Dimensions (H x W x D)	HE-68xx-0 Models	3-3/16 x 3-3/16 x 1-5/16 in. (80 x 80 x 32 mm)	
	HE-68xx-1 Models	3-3/16 x 3-3/16 x 1-7/16 in. (80 x 80 x 35 mm)	
Shipping Weight		0.44 lb (0.20 kg)	
Compliance	United States	UL Listed, File E107041,CCN PAZX, Under UL 916, Energy Management Equipment	

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Table 3: HE-6800 Series Humidity Transmitters with Temperature Sensor technical specifications

Specification		Description
	Canada	UL Listed, File E107041,CCN PAZX7, Under CAN/CSA C22.2 No. 205, Signal Equipment
CE	Europe	CE Mark – Johnson Controls, Inc., declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive 2004/108/EC.WEEE Directive 2002/96/ECRoHS Directive 2002/95/EC
	Australia and New Zealand	C-Tick Mark, Australia/NZ Emissions Compliant

Product warranty

This product is covered by a limited warranty, details of which can be found at www.johnsoncontrols.com/buildingswarranty.

Software terms

Use of the software that is in (or constitutes) this product, or access to the cloud, or hosted services applicable to this product, if any, is subject to applicable end-user license, open-source software information, and other terms set forth at www.johnsoncontrols.com/techterms. Your use of this product constitutes an agreement to such terms.

Patents

Patents: https://jcipat.com

Single point of contact

APAC	Europe	NA/SA
JOHNSON CONTROLS C/O CONTROLS PRODUCT MANAGEMENT NO. 32 CHANGJIJANG RD NEW DISTRICT WUXI JIANGSU PROVINCE 214028 CHINA	JOHNSON CONTROLS WESTENDHOF 3 45143 ESSEN GERMANY	JOHNSON CONTROLS 507 E MICHIGAN ST MILWAUKEE WI 53202 USA

Contact information

Contact your local branch office: www.johnsoncontrols.com/locations

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