JOHNSON CONTROLS

Controls Group 507 E. Michigan Street
P.O. Box 423, Milwaukee, WI 53202
Code No. LIT-1900122

HE-67xx Series

TRUERH™ Humidity Element with Temperature Sensors

TRUERH™ — *True ±2% Accuracy*

HE-67xx-0N0BT Wall Mount

HE-67xx-0N00P Duct Probe

Description

The HE-67xx Series Humidity devices house both a humidity and a temperature sensor in a wall or duct-mount style. The humidity sensor is capable of measuring Relative Humidity (RH) over the entire range of 0 to 100%, and its All-Polymer™ construction provides improved resistance to chemical corrosion. The TRUERH™ product line delivers devices with RH accuracy of either ±2% or ±3% RH. TRUERH™ humidity elements produce voltage output signals proportional to measured humidity for humidity indication.

Temperature sensors are available in thin-film nickel, thin-film platinum, and silicon. The elements are powered with 14 to 30 VDC or 20 to 30 VAC and feature a user-selectable humidity output of 0 to 10 VDC or 0 to 5 VDC.

Features

- TRUERH™ circuitry and calibration techniques for which patent protection is pending
- All-Polymer humidity sensor patented sensing element provides accurate and reliable humidity sensing
- National Institute of Standards and Technology (NIST) traceable calibration is tested, verified, and audited per NIST standards
- ±2% RH accurate model includes a NIST certificate of conformance documents the devices tracability and accuracy
- humidity and temperature sensors in one unit eliminates the need for separate sensors and reduces installation costs
- user-selectable output voltage range allows choice of standard voltage outputs for use with systems in service or new systems
- all-plastic material for duct probe improves thermal performance and complies with Underwriters Laboratories Inc.® (UL) flammability ratings for plenum use; complies with Blue Angel (Germany) and TCO'95 (Sweden) environmental regulations

To Order

Contact the nearest Johnson Controls representative to order a humidity transmitter, and specify the code number from the selection chart. Refer to the Accessories table for the accessories available for the wall mount humidity element. (There are none for the duct probe models.)

Selection Chart - Wall Mount

Code Number	Description	RH Accuracy	
		±2%	±3%
HE-67P2-0N0BT	Wall mount humidity element with thin-film platinum temperature sensor	■	
HE-67S2-0N0BT	Wall mount humidity element with silicon temperature sensor	■	
HE-67N2-0N0BT	Wall mount humidity element with thin-film nickel temperature sensor	■	
HE-67P3-0N0BT	Wall mount humidity element with thin-film platinum temperature sensor		■
HE-67S3-0N0BT (a)	Wall mount humidity element with silicon temperature sensor		■
HE-67N3-0N0BT	Wall mount humidity element with thin-film nickel temperature sensor		■

(a) Compatible with System 350™ Humidity Controls

Selection Chart - Duct Mount

Code Number	Description	RH Accuracy	
		±2%	±3%
HE-67P2-0N00P	Duct probe humidity element with thin-film platinum temperature sensor	■	
HE-67S2-0N00P	Duct probe humidity element with silicon temperature sensor	■	
HE-67N2-0N00P	Duct probe humidity element with thin-film nickel temperature sensor	■	
HE-67P3-0N00P	Duct probe humidity element with thin-film platinum temperature sensor		■
HE-67S3-0N00P (a)	Duct probe humidity element with silicon temperature sensor		■
HE-67N3-0N00P	Duct probe humidity element with thin-film nickel temperature sensor		■

Accessories

Code Number	Description
GRD10A-608	Plastic Guard with Baseplate and Mounting Ring
T-4000-119	Allen-head Adjustment Tool (30/bag)
TE-1800-9600	Wall Plate Adaptor Kit required for wallbox mounting

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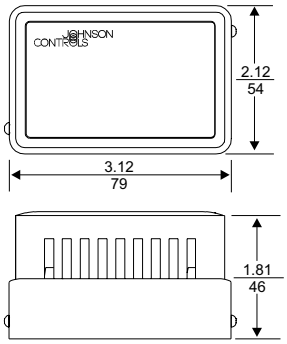
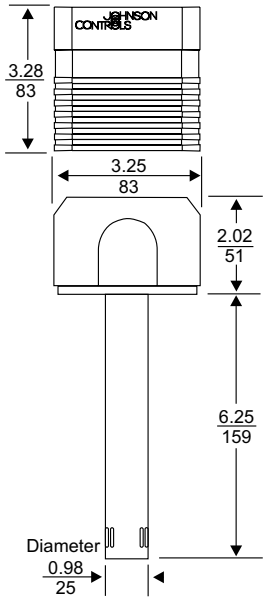
HE-67xx Series TRUERH™ Humidity Element with Temperature Sensors (Continued)



Wall Mount Humidity Element Dimensions, in. (mm)



Duct Probe Humidity Element Dimensions, in. (mm)

Specifications

HE-67xx Series TRUERH™ Humidity Element with Temperature Sensors		
Power Requirements		14 to 30 VDC or 20 to 30 VAC at 50/60 Hz, Class 2
Current Draw		3 mA with no load, 25 mA maximum
Acceptable Wire Gauge		16 to 24 AWG (18 AWG recommended)
Humidity Element at 77°F (25°C)	**Signal:**	0 to 5 VDC or 0 to 10 VD, 1,000 ohm maximum load
	Accuracy:	HE-67x2: ±2% RH for 20 to 80% RH at 77°F (25°C) ±4% RH for 10 to 20% and 80 to 90% RH at 77°F (25°C) HE-67x3: ±3% RH for 20 to 80% RH at 77°F (25°C) ±5% RH for 10 to 20% and 80 to 90% RH at 77°F (25°C)
	Temperature Coefficient:	0.1 to 0.05% RH/°C at 5°C (41°F) to -0.07 to -0.21% RH/°C at 65°C (149°F)
	Response Time:	Within 5% RH of actual in 15 minutes for 10 to 30%, 30 to 90%, and 40 to 90% RH
Temperature Sensors	**Thin-film Nickel**	Accuracy: ±0.34°F (0.18°C) at 70°F (21°C) Reference Resistance: 1000 ohms at 70°F (21°C) Resistance Change: Approximately 3 ohms/°F (5 ohms/°C)
	Silicon	Accuracy: ±1°F (0.6°C) at 70°F (21°C) Reference Resistance: 1035 ohms at 77°F (25°C) Resistance Change: Approximately 4 ohms/°F (8 ohms/°C)
	Thin-film Platinum	Accuracy: ±0.65°F at 70°F (±0.36°C at 21°C) Reference Resistance: 1000 ohms at 32°F (0°C) Resistance Change: Approximately 2 ohms/°F (4 ohms/°C)
Electrical Connections		3-position and 2-position screw terminal blocks
Ambient Operating Conditions		32 to 140°F (0 to 60°C) 0 to 100% RH, 85°F (29.4°C) maximum dew point
Survival Operating Conditions		-20 to 140°F (-29 to 60°C) 0 to 100% RH, 85°F (29.4°C) maximum dew point
Ambient Storage Conditions		-40 to 140°F (-40 to 60°C) 0 to 100% RH, 85°F (29.4°C) maximum dew point
Materials	**Wall Mount:**	Beige plastic cover with metal base and metal foil face plates
	Duct Probe:	White plastic cover with dark gray plastic housing and probe
Dimensions	**Wall Mount (H x W x D):**	1.81 x 2.12 x 3.12 in. (46 x 54 x 79 mm)
	Duct Probe (H x W x D):	3.28 x 3.25 x 8.27 in. (83 x 83 x 210 mm) Probe (L x D): 6.25 x 0.98 in. (159 x 25 mm)
Agency Compliance	**Duct Probe Material:**	94-5V flammability rated per UL 94