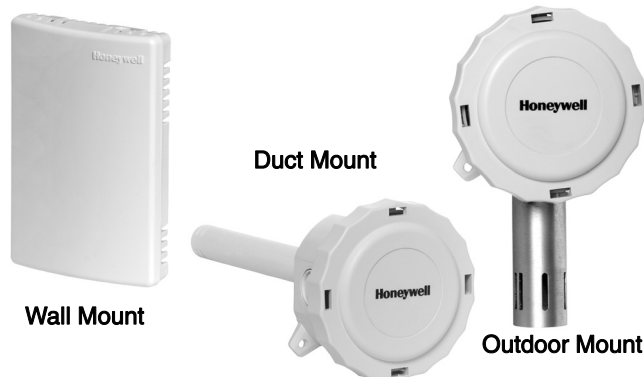


## H7625, H7635, H7655 Series 2000 Humidity/Temperature Sensors

### SPECIFICATION DATA



The H7625, H7635, and H7655 are highly accurate, stable humidity transducers designed for use with HVAC controllers such as the T7350 Thermostat, H775 Remote Humidity Controller, and W7760 Direct Digital Controllers. The Ceramic Technology humidity sensor is not affected by condensation and provides excellent long-term stability.

### FEATURES

- Ceramic Technology overcomes the limitations of other resistance based humidity sensors that use water soluble polymer coatings.
- Ceramic Technology allows sensors to recover fully from condensation, fog, and high humidity.
- Highly accurate, repeatable, stable output with negligible hysteresis.
- Temperature compensated output
- Zero and span trimmers, and increment/decrement recalibration feature.
- All units have selectable 4-20mA, 0-10Vdc, or 0-5Vdc output.
- NIST traceable 2%, 3%, and 5% calibration, every sensor calibrated at 3 different points.

### SPECIFICATIONS

#### Operating RH Range:

- 0 to 95% RH non-condensing.

#### RH Measurement Range:

- 0-100% RH

#### Humidity Accuracy:

- $\pm 2\%$ ,  $\pm 3\%$  or  $\pm 5\%$  from 20 to 95% RH.

#### 1K Ohm Temperature Accuracy:

- $\pm (0.15 + 0.002t)$  C t = actual temperature in C

#### 20K Ohm Temperature Accuracy:

- $\pm 0.4^\circ\text{F}$  at  $77^\circ\text{F}$  ( $\pm 0.2^\circ\text{C}$  at  $25^\circ\text{C}$ )

#### 1K Ohm Temperature Output Range:

- Room: 32 to  $122^\circ\text{F}$  (0 to  $50^\circ\text{C}$ ).
- Duct:  $-58$  to  $572^\circ\text{F}$  ( $-50$  to  $300^\circ\text{C}$ ).

#### 20K Ohm Temperature Output Range:

- Room:  $40^\circ$  to  $110^\circ\text{F}$  ( $4^\circ$  to  $43^\circ\text{C}$ ).
- Duct/Outdoor:  $-40^\circ$  to  $240^\circ\text{F}$  ( $-40^\circ$  to  $116^\circ\text{C}$ ).

#### Hysteresis:

- Less than  $\pm 0.5\%$  RH.

#### Supply Voltage:

- 4-20mA Output: 250 Ohm Load 15 – 40 VDC / 18 - 28 VAC
- 4-20mA Output: 500 Ohm Load 18 – 40 VDC / 18 - 28 VAC (500 Ohm Load Max)
- 0-5 VDC Output: 12 - 40 VDC / 18 - 28 VAC (10K Load Minimum)
- 0-10 VDC Output: 18 - 40 VDC / 18 – 28 VAC (10K Load Minimum)

#### Maximum Supply Current:

- Current Mode: 24 mA.
- Voltage Mode: 8 mA.

#### Finish:

- Room Enclosure: ABS Plastic (UL94-VO rated).
- Duct Enclosure: ABS Plastic (UL94-5VA rated).
- Outdoor Enclosure: ASA Plastic (UL-94V0 rated).

#### Compensated Temperature Range: Full RH Range

- Room: 32 to  $122^\circ\text{F}$  ( $-0$  to  $50^\circ\text{C}$ ).
- Duct/Outdoor:  $-10$  to  $140^\circ\text{F}$  ( $-23$  to  $60^\circ\text{C}$ )

#### Humidity Response Time:

- 200 seconds.



**Saturation Response Time:**

☐ 10 minutes.

**Sensitivity:**

☐ 0.1%RH.

**Interchangeability:**

☐ Less than ±3% RH nominal.

**Repeatability:**

☐ 0.5% RH.

**Long-term humidity sensor drift:**

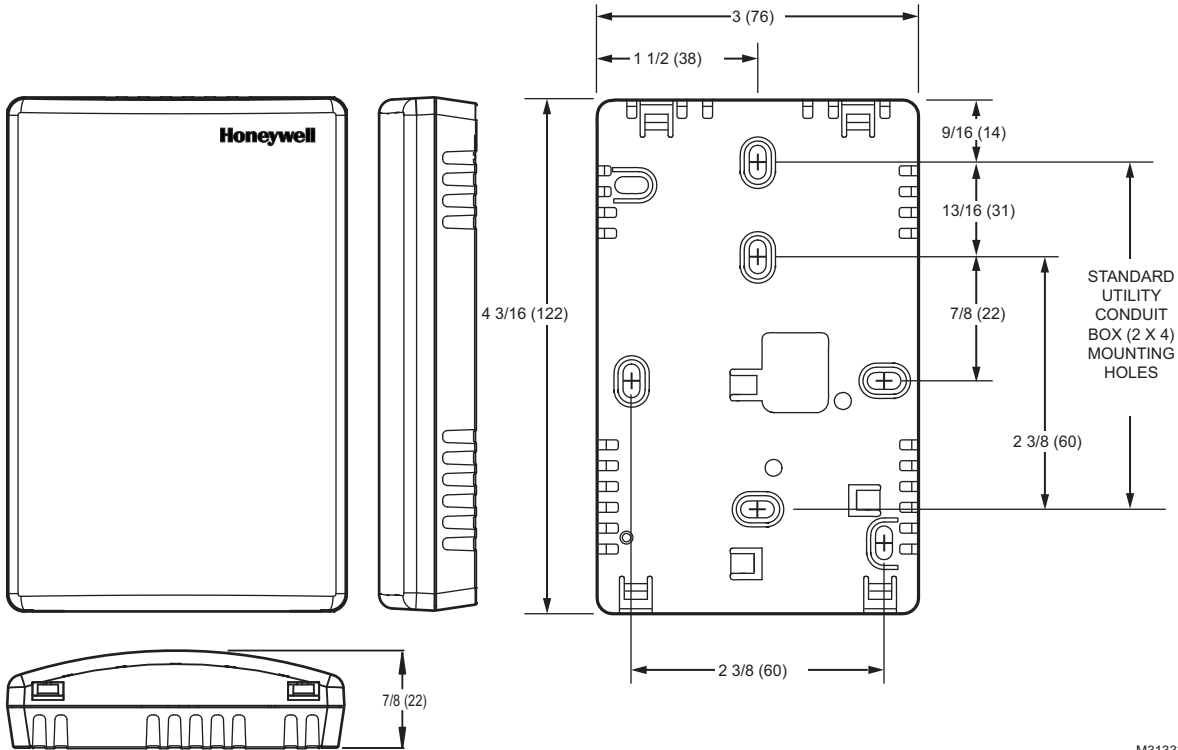
☐ Less than 2% RH drift/5 years.

**Long-term temperature sensor drift (For 20k Ohm Sensors Only)**

☐ Maximum sensor drift is nominally +/-0.13°F after 5 years of operation, no appreciable drift thereafter. No calibration of the device is possible. Long term drift calibration/maintenance through controller software is typically not necessary.

**Table 1. Model Description**

MODEL NUMBER	REPLACES	RH ACCURACY	MOUNTING	TEMPERATURE SENSOR	OUTPUT SIGNAL	USED WITH
H7625A2010	H7625A1008	2%	ROOM	20K ohm at 77F, reference 206598"	Selectable 4-20mA, 0-10Vdc, or 0-5Vdc	T7350, H775, XL50, XL500, XFC, W7750B/C, W7753, W7760A/C, W7761"
H7635A2012	H7635A1006	3%				
H7625B2006	H7625B1006	2%	DUCT			
H7635B2018	H7635B1004	3%				
H7655B2014	H7655B1009	5%				
H7635C2015	H7635C1002	3%	OUTDOOR			
H7626A2020		2%	ROOM	1097 ohm at 77F		T775
H7636A2022		3%				
H7626B2024		2%	DUCT			
H7636B2026		3%				
H7656B2029		5%				



M31332

**Fig. 1. Wall-mount sensor dimensions in in. (mm).**

## TYPICAL SPECIFICATION

Humidity transducer shall be accurate to  $\pm 2\%$ ,  $\pm 3\%$ , or  $\pm 5\%$  RH (whichever is specified) across the relative humidity range from 20-95%, NIST traceable calibration.

Humidity transducers shall be calibrated at three different points across the RH range.

Interchangeability of output between humidity transducers shall be within  $\pm 3\%$ .

Each humidity transducer shall have selectable 4 to 20 mA, 0 to 10 Vdc, or 0 to 5 Vdc output.

Each humidity transducer shall have the option for field calibration using zero and span potentiometers, and toggle switches to increment or decrement the RH value in steps of 0.5% RH.

Accuracy of the humidity transducers shall not be adversely affected by condensation.

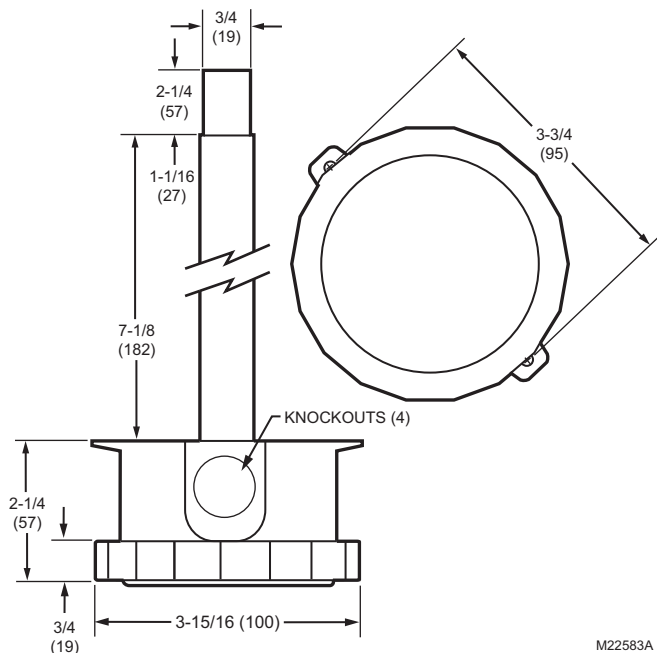


Fig. 2. Duct-mount sensor dimensions in in. (mm).

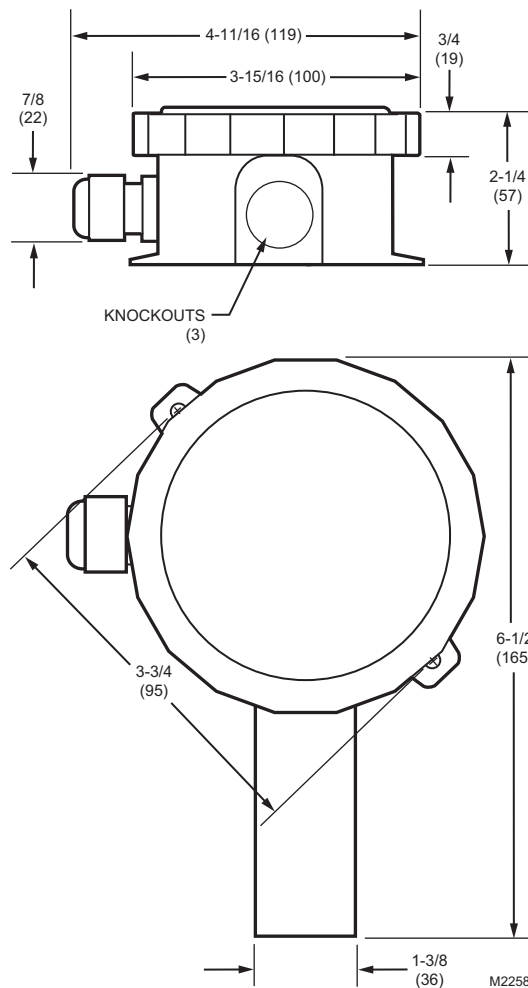


Fig. 3. Outdoor-mount sensor dimensions in in. (mm).

**Automation and Control Solutions**

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