

C7600B Solid State Humidity Sensor

PRODUCT DATA



FEATURES

- Long-lasting solid state sensing element is accurate and stable over time.
- Enclosed in rugged, wall-mounted plastic case.
- Vents on top and sides of cover allow air flow to humidity sensing element.
- Compact size and lightweight construction provide easy mounting.
- Provides 2-10 Vdc output directly proportional to relative humidity.

APPLICATION

C7600B Solid State Humidity Sensor senses the relative humidity level of an area and is used with any controller capable of processing a 2-10 Vdc signal.

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SPECIFICATIONS

IMPORTANT

The specifications given in this publication do not include normal manufacturing tolerances. Therefore, an individual unit may not exactly match the listed specifications. Also, this product is tested and calibrated under closely controlled conditions and some minor differences in performance can be expected if those conditions are changed.

Model: C7600B Solid State Humidity Sensor. Provides a dc voltage output in direct proportion to the change in relative humidity.

Dimensions: See Fig. 1.

Case: Rugged, lightweight, compact plastic, easy to install.

Electrical Ratings:

Input: 12-40 Vdc or 12-30 Vac.

Output: 2-10 Vdc voltage signal; increases from 2 to 10 Vdc as humidity increases. Output voltage is directly proportional to the relative humidity increase. See Fig. 2.

Maximum Power Consumption: 0.3 VA.

Mounting: Wall mount (directly to wall or standard outlet box).

Ambient Temperature Ranges:

Operating: 32°F to 125°F (0°C to 52°C).

Shipping: -40°F to +150°F (-40°C to +66°C).

Humidity Range: 10 to 90 percent RH, noncondensing.

Humidity Accuracy:

From 30 to 70% RH: ±5 percent RH.

From 10 to 90% RH: ±7 percent RH.

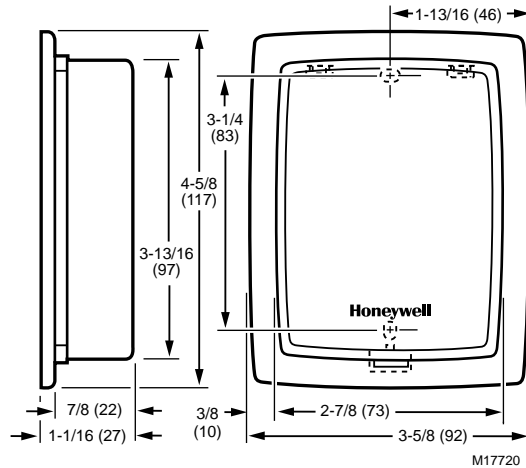


Fig. 1. C7600B dimensions in in. (mm).

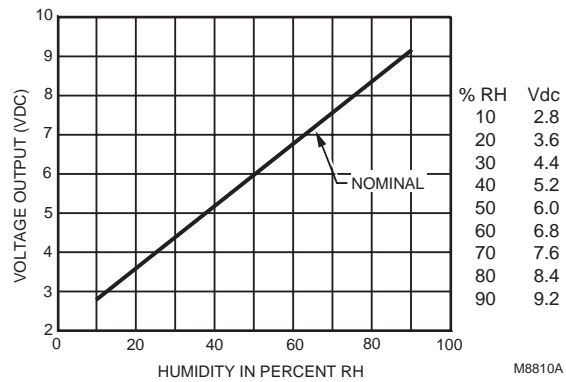


Fig. 2. C7600B nominal output voltage vs. relative humidity.

ORDERING INFORMATION

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If you have additional questions, need further information, or would like to comment on our products or services, please write or phone:

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2. Honeywell Customer Care
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Minneapolis, Minnesota 55422-4386

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INSTALLATION

When Installing this Product...

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check ratings given in instructions and on the product to ensure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.



CAUTION

Electrical Shock or Equipment Damage Hazard.
Can shock individuals or short equipment circuitry.
 Disconnect power supply before installation.

Location

The C7600B Solid State Humidity Sensor may be installed directly on a wall or standard wall outlet box.

The C7600B Solid State Humidity Sensor should be located away from traffic areas, on an inside wall, at least 3 ft (1m) from an outside wall and 54 in. (1.4m) from the floor.

Mounting

1. Loosen the cover locking screw and remove the cover.
2. Run wire to the selected location; thread wire through the semicircular hole in the wallplate; and make connections to the C7600B (see the Wiring section).

3. Four mounting screws are provided, two self-tapping type for wall mounting and two for outlet box mounting. Select the proper screws for the application.
4. If air drafts occur through the wall opening, *eliminate* with suitable material.
5. Fasten the C7600B on the wall or outlet box with screws through the wallplate mounting holes. See Fig. 3.
6. Replace the cover and tighten the cover locking screw.

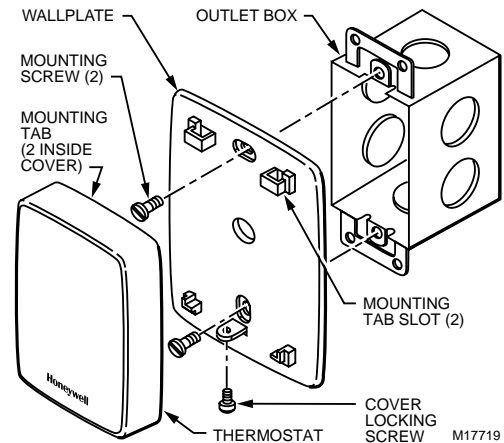


Fig. 3. Mounting the C7600B on an outlet box.

Operation

The C7600B Solid State Humidity Sensor provides a 2 to 10 Vdc output signal directly proportional to the humidity of the air where the unit is mounted.

C7600A,C Solid State Humidity Sensors

PRODUCT DATA



SPECIFICATIONS

IMPORTANT

Specifications given herein do not include normal manufacturing tolerances. Therefore, individual units may not exactly match listed specifications. Also, this product is tested/calibrated under closely controlled conditions. Minor differences in performance can be expected if those conditions are changed.

Models: See Table 1.

Table 1. C7600A,C Solid State Humidity Sensor Models.

Model	Use With
C7600A	W7600 or controller requiring 4-20 mA reverse acting input
C7600C	H775 or controller requiring 4-20 mA direct acting input

APPLICATION

The C7600A,C Solid State Humidity Sensors sense relative humidity in air and are used with controllers that can process a 4 to 20 mA signal (see Table 1).

FEATURES

- Long-lasting solid state sensing element is accurate and stable over time.
- Sensor enclosed in rugged glass-fiber reinforced plastic case.
- Compact size and lightweight construction for easy mounting in duct or on wall.
- Top cover vents allow air flow to humidity sensing element inside.
- 4 to 20 mA output to relative air humidity.
- Can be used indoors or outdoors.
- The C7600A provides 4-20 mA output inversely proportional to air relative humidity.
- The C7600C provides 4-20 mA output directly proportional to air relative humidity.

Dimensions: See Fig. 1.

Mounting: Duct-mounted indoors, or wall-mounted outdoors in a location protected from rain, snow, or direct sunlight.

Case: Compact, rugged, lightweight plastic case.

Terminals: Two 1/4 in. (6 mm) quick-connect terminals.

Electrical Ratings:

Input: 12 to 40 Vdc.

Output: 4 to 20 mA signal. The relationship of output current vs. relative humidity is shown in Table 2 and Fig. 2 and 3. Maximum Power Consumption: 0.30 VA.

Electrical Connections: Two 1/4 in. quick-connect terminals.

Ambient Temperature Ranges:

Operating: 35°F to 125°F (2°C to 52°C).

Shipping: -40°F to +150°F (-40°C to +66°C).

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Table 2. C7600 Output Current vs. Humidity.

Model	Relationship ^a
C7600A	$I = -0.16 \times RH + 20$
C7600C	$I = +0.16 \times RH + 4$

^a I = sensor output (in mA); RH = percent relative humidity.

Humidity:

Operating Range: 10 to 90 percent RH, noncondensing.

Time Constants:

Airflow: 500 fpm.

Time: 15 minutes.

Approvals:

Underwriters Laboratories Inc. Flammability Rating:

C7600A: UL94V-0.

C7600C: UL94-5V.

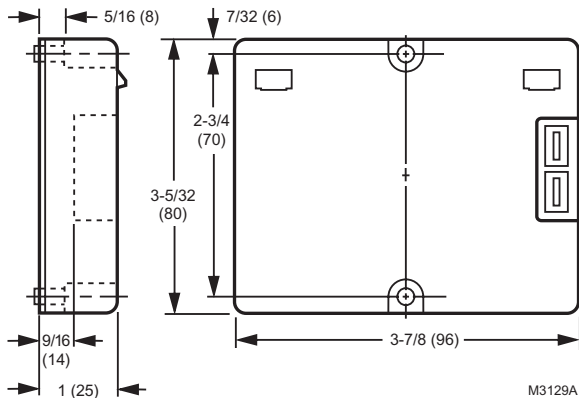


Fig. 1. C7600A,C Humidity Sensor dimensions in in. [mm].

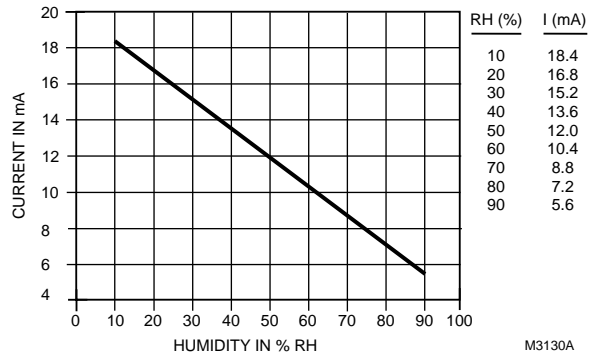


Fig. 2. C7600A output current vs. relative humidity.

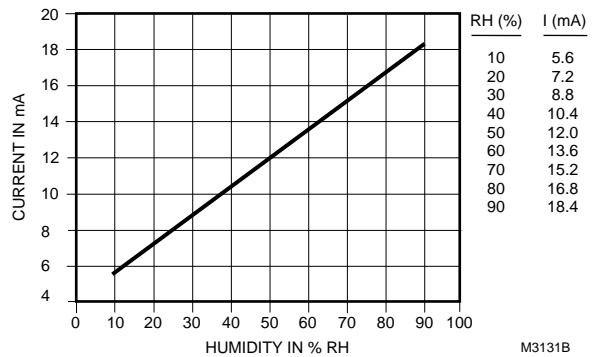


Fig. 3. C7600C output current vs. relative humidity.

ORDERING INFORMATION

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INSTALLATION

When Installing this Product...

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check ratings given in instructions and on the product to ensure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, check out product operation as provided in these instructions.



CAUTION

Electrical Shock or Equipment Damage Hazard.
Can shock individuals or short equipment circuitry.

Disconnect power supply before installation.

IMPORTANT

All wiring must agree with applicable codes, ordinances and regulations.

Follow specific instructions furnished by the equipment manufacturer. If unavailable, follow the procedure below.

Location

The sensor can be mounted in any position where it is exposed to freely circulating air (with at least 500 fpm airflow) and proper protection.

Mounting Outdoors

IMPORTANT

When selecting the location, make certain the sensor is not exposed to rain, snow, or direct sunlight.

1. Select a location properly protected.
2. Attach the sensor to the wall with two 1/8 in. (3 mm) diameter screws.
3. Wire as shown in the Wiring section.

Mounting in Return Air Duct (See Fig. 6)

NOTE: Installers need to supply the following: sheet metal cutter or snips; drill with 1/16 in. (2 mm), 1/8 in. (3 mm) and 1/2 in. (13 mm) bits; screwdrivers; 1/2 in. (13 mm) rubber grommet; eight self-tapping sheet metal screws; and two 1/8 in. (3 mm) by 3/4 in. (19 mm) machine screws with lockwashers and nuts.

1. Cut a 5 in. (127 mm) by 6 in. (152 mm) rectangular hole in one side of the return air duct.
2. Center the sensor on a 6 in. (152 mm) by 7 in. (178 mm) piece of sheet metal. Mark locations for mounting screws and for a hole for the control wire.
3. Drill two 1/8 in. (3 mm) mounting holes for the sensor and one 1/2 in. (13 mm) hole for the control wire.

4. Drill eight starting holes in the sheet metal rectangle for self-tapping sheet metal screws.
5. Center sheet metal rectangle over opening in duct so there is a 1 in. (25 mm) overlap on all four sides. Then mark the eight sheetmetal screw locations on the duct.
6. Drill eight starting holes in the duct for self-tapping sheet metal screws.
7. Attach sensor to sheet metal rectangle with 1/8 in. (3 mm) by 3/4 in. (19 mm) machine screws, washers and nuts. Attach machine screws from sheet metal outside to eliminate protrusions and possible sharp edges.
8. Place a rubber grommet in the sheet metal 1/2 in. (13 mm) hole to protect control wires from abrasions.
9. Put the control wires through the 1/2 in. (13 mm) hole and wire as shown in the Wiring section.
10. Attach sheet metal rectangle to duct with self-tapping sheet metal screws. Make sure that airflow over the sensor is as shown in Fig. 6.

Wiring



CAUTION

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Disconnect power supply before installation.

IMPORTANT

All wiring must agree with applicable codes, ordinances and regulations.

Follow wiring information furnished by the controller manufacturer or refer to Fig. 4 and 5 for typical wiring hookups. Note and follow polarity markings.

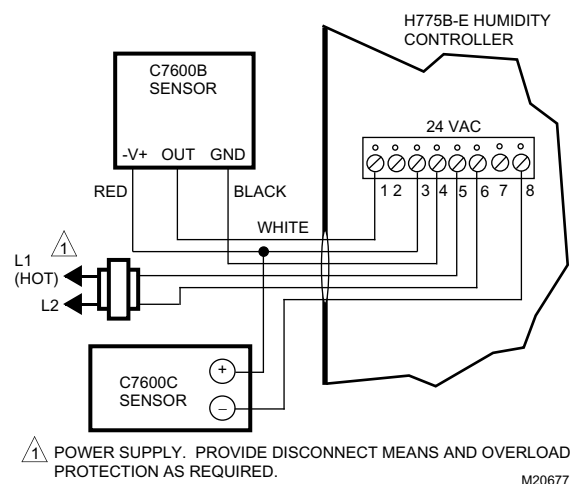


Fig. 4. Wiring C7600C and C7600B Wall-mounted Sensors to H775B-E Humidity Controller.

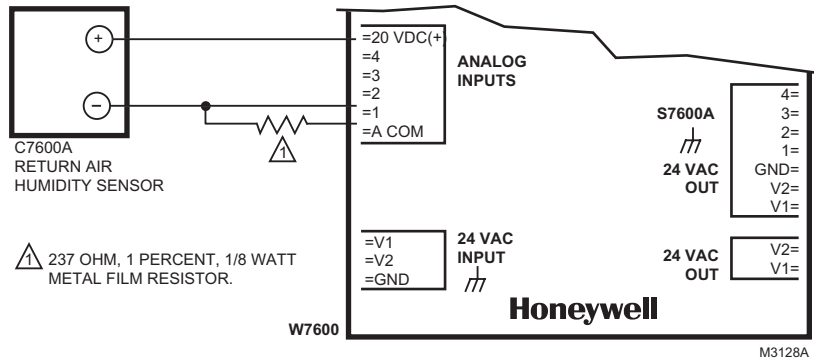


Fig. 5. Wiring C7600A Humidity Sensor to W7600 Control Module.

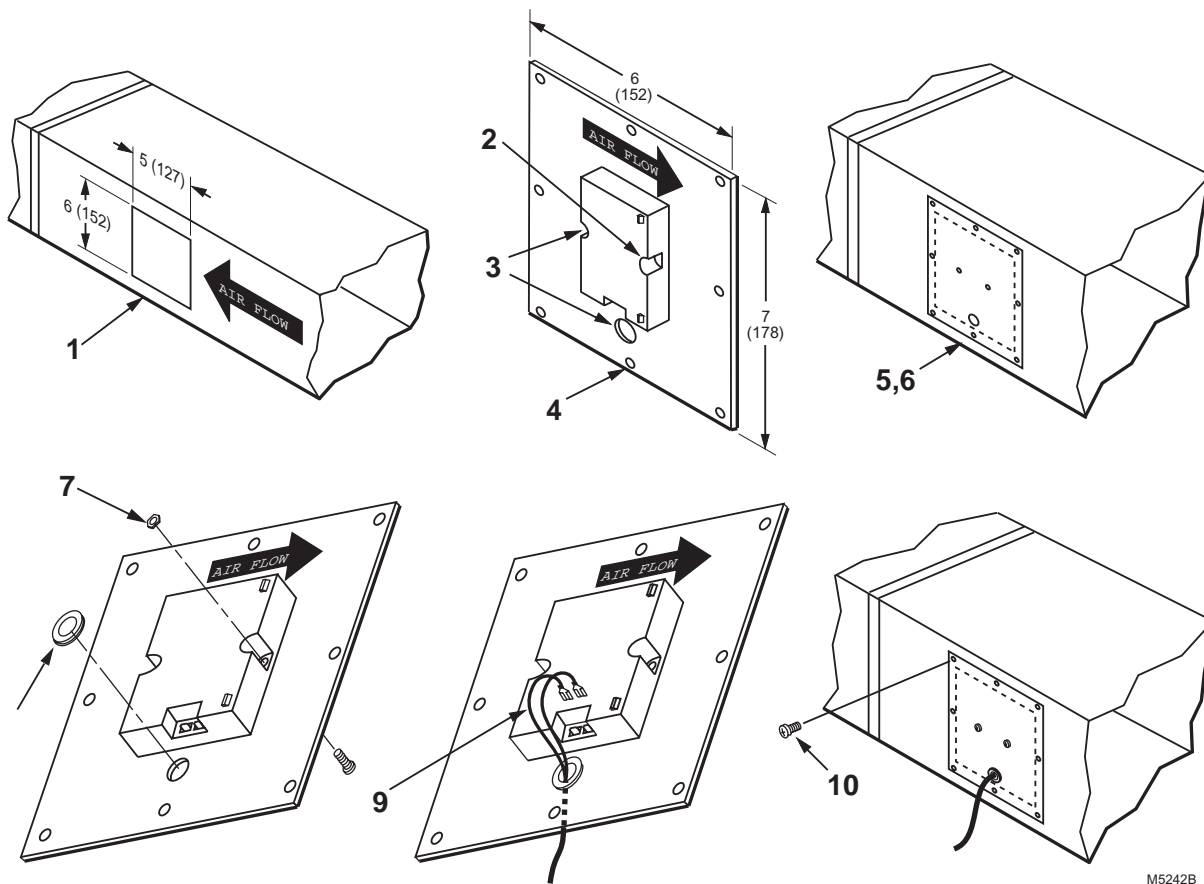


Fig. 6. Installing C7600A Solid State Humidity Sensor in return air duct.

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