

# C7772A, F, G Wallplate Temperature Sensor

## PRODUCT DATA



## FEATURES

- Low profile when mounted on industry standard utility conduit box.
- Rugged, brushed stainless steel wallplate.
- Integral foam pad isolates wallplate sensor from conduit box.
- Insulated screw terminals ensure reliable field wiring connection.
- Models available with a variety of resistive temperature sensor elements.

## APPLICATION

The C7772A series of Wallplate Temperature Sensors are designed to be used with the Excel 5000 family and other Honeywell controllers. The C7772F Series is designed to be used with the TB7600, TB7300, and TB7200 Series communicating thermostats and other controllers that require a 10K ohm NTC Type II sensor. The C7772G is designed to be used with WEBS-AX I/O modules and other controllers that require a 10K ohm NTC Type III sensor. The C7772 sensors provide a resistive output signal proportional to sensed room or space temperature. The C7772 is well suited for low-profile wall-mounted applications where durability and tamper-proof construction is desired, such as schools, prisons and institutions.



## SPECIFICATIONS

**Models:** See Table 1.

**Dimensions:** See Fig. 1.

**Temperature Ratings:**

Operating: 45°F to 99°F (7°C to 37°C).

Shipping: -40°F to 150°F (-40°C to 65°C).

**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.

**Humidity Ratings:** 5 to 95% rh, non-condensing.

**Approvals:**

National Electrical Code (NEC) Class II.

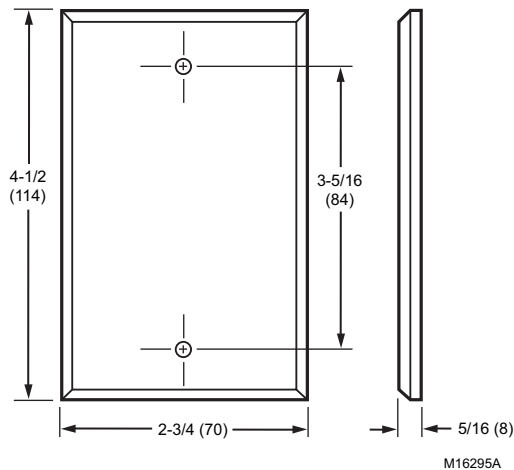


Fig. 1. C7772 Dimensions in in. (mm).

## 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 the ratings given in the instructions and on the product to make sure 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.
5. Follow local codes for installation and application.

**IMPORTANT**

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



### CAUTION

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

### Location

The C7772 Wallplate Temperature Sensor should be located where it can sample an average air temperature. Avoid locations where air stratification can cause sensing errors. The sensor mounts directly on a 2 in. x 4 in. conduit box with the screws provided.

## ORDERING INFORMATION

When purchasing replacement and modernization products from your TRADELINE® wholesaler or distributor, refer to the TRADELINE® Catalog or price sheets for complete ordering number.

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

1. Your local Honeywell Automation and Control Products Sales Office (check white pages of your phone directory).
2. Honeywell Customer Care  
1885 Douglas Drive North  
Minneapolis, Minnesota 55422-4386
3. <http://customer.honeywell.com> or <http://customer.honeywell.ca>

International Sales and Service Offices in all principal cities of the world. Manufacturing in Belgium, Canada, China, Czech Republic, Germany, Hungary, Italy, Mexico, Netherlands, United Kingdom, and United States.

Table 1. C7772 Models.

Model	Sensor Type	Nominal Resistance	Resistance-Temperature Curve Type	Lead Wire Color
C7772A	20K NTC Thermistor	20,000 ohms at 77°F (25°C)	Non-linear Negative TCR	Green/Blue
C7772F	10K Ohm NTC Type II Thermistor	10,000 ohms @ 77°F (25°C)	Non-linear Negative TCR	Green/White
C7772G	10K Ohm NTC Type III Thermistor	10,000 ohms @ 77°F (25°C)	Non-linear Negative TCR	White/White

NOTE: TCR = temperature coefficient of resistance.

## Mounting

To mount on conduit box (see Fig. 2):

1. Remove the appropriate knockout on the standard utility conduit box for the application.
2. Make wiring connections to the system components.

### IMPORTANT

*Level only for appearance. The sensor functions normally even when not level.*

3. Use the No. 6 screws provided to mount the wallplate to the conduit box.

1. Do not route temperature sensor wiring with building power wiring, next to control contactors, near light dimming circuits, electric motors or welding equipment.
2. Avoid poor wiring connections.
3. Do not mount sensor in an incorrect environment.

Connect the low voltage wiring from the controller terminals to the sensor screw terminals and tighten. See Fig. 2.

## Wiring



### CAUTION

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

Disconnect all power supplies before installation.



### CAUTION

**Erratic System Operation Hazard.**  
Failure to follow proper wiring practices can introduce disruptive electrical interference (noise).

Keep wiring at least one foot away from large inductive loads such as motors, line starters, lighting ballasts, and large power distribution panels.

Shielded cable is required in installations where these guidelines cannot be met.

Ground shield only to grounded controller case.

### IMPORTANT

- Temperature sensor wiring can be sized from 16 to 20 AWG depending on the application.
- The maximum length of wire from a device to the wallplate sensor is 300 ft (91m).

NOTE: Erratic temperature readings from a sensor can be caused by the wiring practices described below. These must be avoided to assure proper operation:

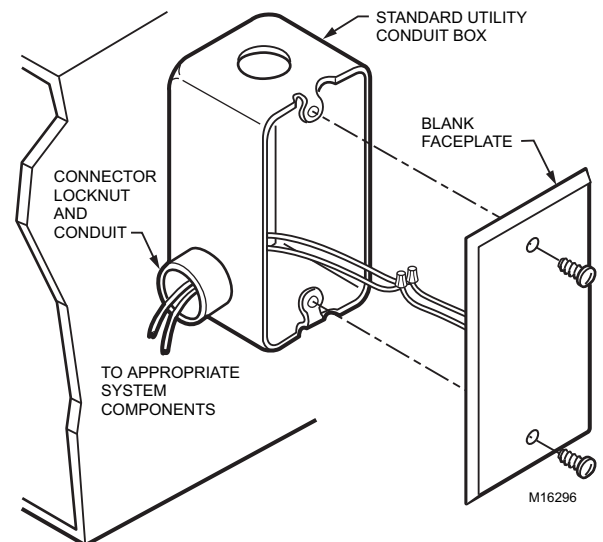


Fig. 2. Mounting, wiring for C7772.

## OPERATION

The C7772 Wallplate Temperature Sensor provides a resistive output signal proportional to the sensed room temperature.

## CHECKOUT

The C7772 Wallplate Temperature Sensor is immediately operational after wiring connections are made. Use an accurate thermometer of  $\pm 1^{\circ}\text{F}$  ( $0.5^{\circ}\text{C}$ ) to measure the temperature at the sensor location. To verify sensor accuracy, use an ohmmeter to measure the resistance across the sensor wires and use Table 2 to check the accuracy of the specific model.

Table 2. Typical Resistance of Sensor Models.

	Typical Resistance (in ohms)		
	C7772A	C7772F	C7772G
At 41°F (5°C)	54,200	25,392	23,467
At 50°F (10°C)	41,758	19,901	18,789
At 59°F (15°C)	32,427	15,712	15,137
At 68°F (20°C)	25,370	12,493	12,268
At 77°F (25°C)	20,000	10,000	10,000
At 86°F (30°C)	15,856	8,057	8,196
At 95°F (35°C)	12,654	6,531	6,754

### Automation and Control Solutions

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