

T7047C,G Electronic Thermostats and Remote Space Sensors

INSTALLATION INSTRUCTIONS

APPLICATION

The T7047C,G Electronic Thermostats and Remote Space Sensors are used in Series 70 Control Systems to provide modulating space temperature control.

SPECIFICATIONS

Models:

T7047C: 2-wire remote sensor for use with control systems such as the T7100, T7300, W927, W960, and W973.

T7047G: 2-wire remote sensor without internal adjustment means, requires remote setpoint device such as T7100, T7300, S963B, 7067B or T7080B.

Dimensions: See Fig. 1.

Temperature Sensor: Thermistor-resistor element.

Sensor Resistance:

For the following negative temperature coefficient (NTC) devices, resistance decreases as temperature increases (Fig. 8 and 9):

T7047C: 1420 ohms nominal at 75°F (24°C); resistance changes 15 ohms for each 1°F (0.6°C) temperature change.

T7047G: 710 ohms nominal at 75°F (24°C); resistance changes 7.5 ohms for each 1°F (0.6°C) temperature change.

Mounting: Mounts on wall or 2 x 4 in. vertical outlet box with screws provided.

Accessories:

209649A Universal Cover Plate (taupe);
5-3/4 x 7-3/8 in. (146 x 187 mm).

209650A Universal Cover Plate (premier white);
5-3/4 x 7-3/8 in. (146 x 187 mm).

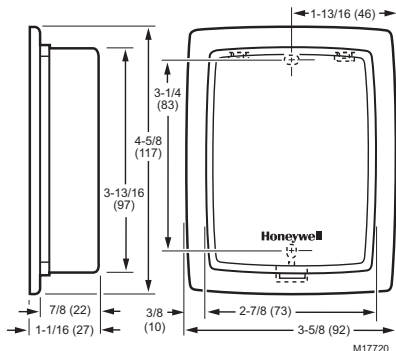


Fig. 1. T7047 dimensions in in. (mm).

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.



CAUTION

Electrical Shock or Equipment Damage Hazard.

Can shock individuals or short equipment circuitry.

Disconnect power supply before installation.



Location

Locate the thermostat or remote sensor about 5 ft (1.5m) above the floor on an inside wall where it is affected by freely circulating air at average room temperatures.

Mounting

1. Loosen the cover locking screw and remove the thermostat cover.
2. Run wire to the selected location; thread wire through the semicircular hole in the thermostat; and make connections to the T7047 (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 T7047 on the wall or outlet box with screws through the thermostat mounting holes. See Fig. 2.

NOTE: Connect sensor wires to T-T terminals on the thermostat cover assembly.

6. Replace the cover and tighten the cover locking screw.

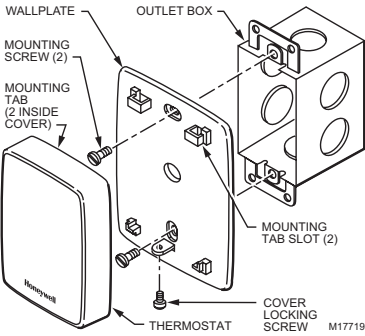


Fig. 2. Mounting the T7047.

Wiring

CAUTION

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 Can shock individuals or short equipment circuitry.
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Fig. 3 through 7 show schematics and typical connections. Also refer to instructions supplied with other system components.

IMPORTANT

- All wiring must agree with applicable codes, ordinances and regulations.
- To avoid electrical interference, which can cause erratic performance, keep wiring runs as short as possible and do not run thermostat wires adjacent to the line voltage electrical distribution systems.
- Use shielded cable (Belden type 8762 or equivalent for 2-wire and Belden type 8772 or equivalent for 3-wire).
- The cable shield must be grounded only at the controlled equipment case.

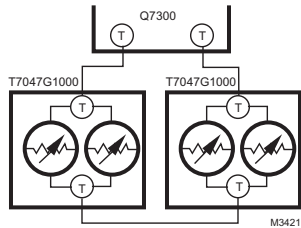


Fig. 3. Two T7047G Sensors providing a temperature-averaging network for a T7100/Q7100 or T7300/Q7300 Thermostat/Subbase.

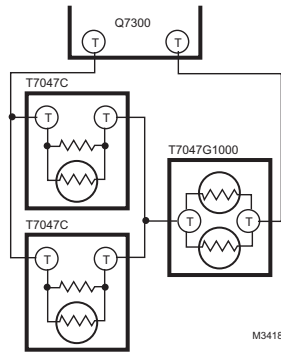


Fig. 4. Two T7047C Sensors and one T7047G Sensor providing a temperature-averaging network for a T7100/Q7100 or T7300/Q7300 Thermostat/Subbase.

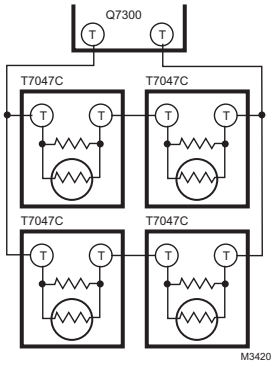


Fig. 5. Four T7047C Sensors providing a temperature-averaging network for a T7100/Q7100 or T7300/Q7300 Thermostat/Subbase.

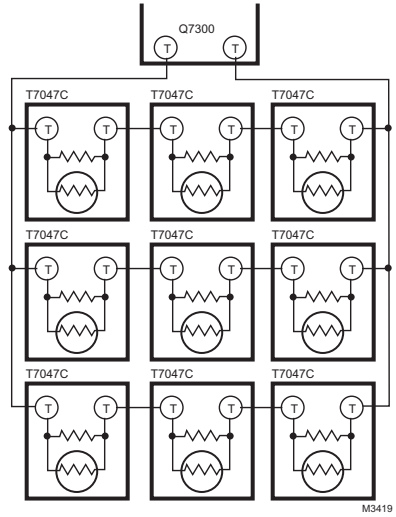


Fig. 7. Nine T7047C Sensors providing a temperature-averaging network for a T7100/Q7100 or T7300/Q7300 Thermostat/Subbase.

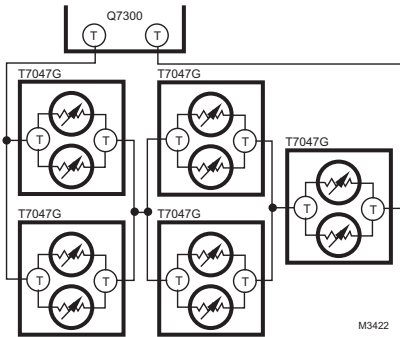


Fig. 6. Five T7047G Sensors providing a temperature-averaging network for a T7100/Q7100 or T7300/Q7300 Thermostat/Subbase.

OPERATION AND CHECKOUT

Operation

The T7047C,G Electronic Thermostat or Remote Space Sensor control element is a negative temperature coefficient (NTC) thermistor. As the room temperature increases, the resistance of the thermistor decreases.

The change in the thermistor resistance causes the motor, system logic panel or system transmitter bridge circuit to become unbalanced. As the electronic motor, system logic panel or system transmitter circuits react to rebalance the circuit, damper or valve movement, or sequential staging of heating and/or cooling equipment occurs.

Calibration

The T7047C,G Electronic Thermostat or Remote Space Sensor is accurately calibrated at the factory. It cannot be field calibrated.

Checkout

Allow the T7047C,G Electronic Thermostat or Remote Space Sensor to stabilize to ambient conditions before taking a resistance measurement. Measure nominal resistance according to the values described in the Specifications section. Measure the T7047 resistance in accordance with the temperature curves. See Fig. 8 and 9.

Check operation of the complete control systems as directed in the associated technical publications.

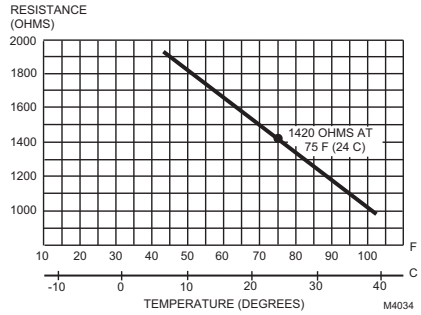


Fig. 8. T7047C Remote Sensor resistance change with change in temperature.

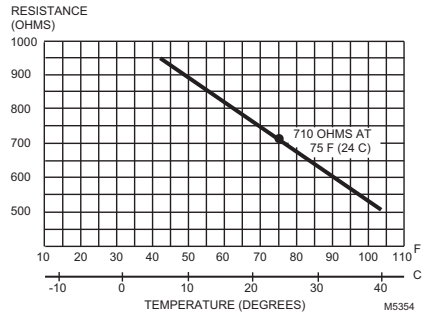


Fig. 9. T7047G Remote Sensor resistance change with change in temperature.

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