

AGASENRST01A

Furnace Return and Supply Air Temperature Sensor Kit

Installation Instructions

Safety Considerations

Improper installation, adjustment, alteration, service, maintenance, or use can cause explosion, fire, electrical shock, or other conditions which may cause death, personal injury, or property damage. Consult a qualified installer, service agency, or your distributor or branch for information or assistance. The qualified installer or agency must use factory-authorized kits or accessories when modifying this product. Refer to the individual instructions packaged with the kits or accessories when installing.

Follow all safety codes. Wear safety glasses, protective clothing, and work gloves. Have a fire extinguisher available. Read these instructions thoroughly and follow all warnings or cautions included in literature and attached to the unit. Consult local building codes, the current editions of the National Fuel Gas Code (NFGC) NFPA 54/ANSI Z223.1 and the National Electrical Code (NEC) NFPA 70.

In Canada, refer to the current editions of the National Standards of Canada CAN/CSA-B149.1 and .2 Natural Gas and Propane Installation Codes, and Canadian Electrical Code CSA C22.1.

WARNING

ELECTRICAL SHOCK, FIRE OR EXPLOSION HAZARD

Failure to follow this warning could result in personal injury or death, or property damage.

Before installing, modifying, or servicing system, the main electrical disconnect switch must be in the OFF position with a lockout tag. There may be more than one disconnect switch. Lock out and tag switch with a suitable warning label. Verify proper operation after servicing.

WARNING

FIRE, EXPLOSION, ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury, death and/or property damage.

The ability to properly perform maintenance on this equipment requires certain knowledge, mechanical skills, tools, and equipment. If you do not possess these, do not attempt to perform any maintenance on this equipment other than procedures recommended in the Owner's Manual.

WARNING

FIRE, EXPLOSION, ELECTRICAL SHOCK AND CARBON MONOXIDE POISONING HAZARD

Failure to follow this warning could result in personal injury, death and/or property damage.

Improper installation, adjustment, alteration, service, maintenance, or use can cause carbon monoxide poisoning, explosion, fire, electrical shock, other conditions, which could result in personal injury or death. Consult your distributor or branch for information or assistance. The qualified installer or agency must use only factory-authorized kits or accessories when servicing this product.

CAUTION

CUT HAZARD

Failure to follow this caution may result in personal injury.

Sheet metal parts may have sharp edges or burrs. Use care and wear appropriate protective clothing, safety glasses and gloves when handling parts, and servicing furnaces.

Air Temperature Sensor

This kit includes two sensors: the Supply Air Temperature (SAT) sensor and the Return Air Temperature (RAT) sensor. These sensors measure the air temperature leaving and returning to the unit. SAT and RAT readings can be shown on the control board three-digit display. To enable this feature, navigate to (t°) on the display and select F or C; the default setting is off. When enabled, the display cycles through the current operating mode, SAT, RAT, and temperature differential during heating, cooling, and heat pump operation. Temperatures are not displayed in other operating modes.

Data Collection Technology

The temperature sensors in this kit can be used to collect performance data to send to the cloud. Using Carrier's connected portal digital tool, with homeowner opt-in, dealers can gather system settings and equipment data to provide faster and more efficient service.

For system setup and troubleshooting, refer to the thermostat advanced installation and configuration instructions. For more information, visit the URLs or scan the QR codes below:

Carrier IntelliSense™ – <https://Carrier.hvacpartners.com/InteliSense>



Bryant IntelliSense™ – <https://Bryant.hvacpartners.com/InteliSense>



ICP SmartSense™ – <https://ICP.hvacpartners.com/SmartSense>



Install Supply Air Temperature (SAT) Sensor

1. Install the SAT sensor in the main supply trunk.

NOTE: Placing the SAT sensor roughly 12 inches after the first bend in main supply trunk will yield the best readings (Fig. 1). Certain installs may require an alternate sensor placement which is permissible and will not affect functionality of the IntelliSense™ in a meaningful way.

2. Drill a 1/4-in. hole at the location in the supply trunk where the sensor will be installed.
3. Insert the sensor in the hole and use it as a template to mark the two mounting holes (use holes located diagonally from each other for best adherence).
4. Drill two 1/16-in. holes to accept No. 8 screws through the pre-drilled holes in the duct temperature sensor back plate.
5. Use the two provided No. 8 sheet metal screws to mount the duct temperature sensor to the unit.
6. Route the SAT wire leads into the unit's blower compartment along with the thermostat wires. Use the provided grommet to protect the wires through the cabinet casing knockout.
7. Connect the sensor wire leads to the control board at the screw terminal marked "SAT" (Fig. 2). If additional wire length is needed, thermostat wire and wire nuts can be used to extend the wires.

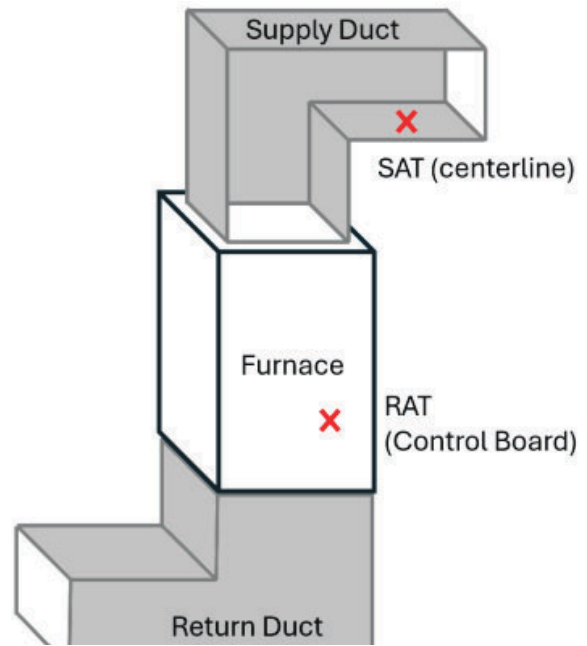


Fig. 1 – Sensor Installation Locations

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Install Return Air Temperature (RAT) Sensor

Install the RAT sensor by connecting the sensor connector to the control board terminal marked "RAT" (Fig. 2).

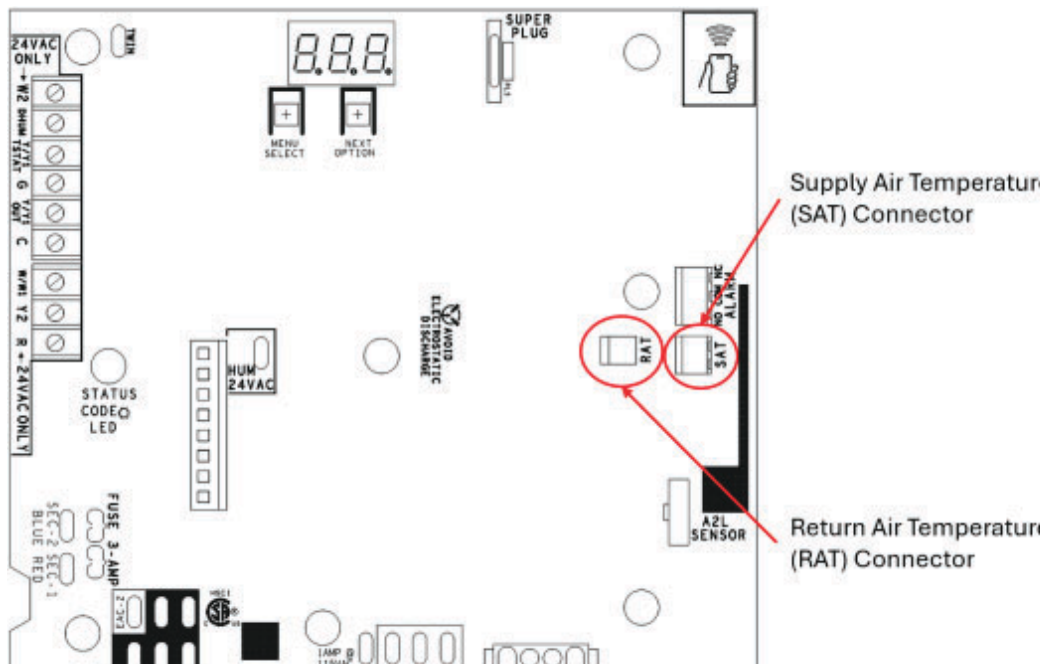


Fig. 2 – Sensor Connections on Furnace Control Board

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