

FAST-STAT Model 5000 Installation Instructions

Application

The FAST-STAT Model 5000 is designed to add additional control wiring over an existing thermostat cable. For adding additional wiring from an indoor unit to an outdoor unit, a Model 1000, 3000 or 7000 is more suitable for most installations.

Before Installing This Product

1. Read Instructions. If you have any questions please contact our tech support line
2. This product is designed for use only on 24-volt AC circuits supplied by a Class 2 transformer.
3. This product is only to be installed by qualified technicians.
4. To avoid risk of electrical shock or equipment damage, disconnect power before beginning installation.

Sender Installation

The sender is installed in the wall space behind the thermostat. Enlarge the opening around the thermostat cable so that the sender can be inserted into the wall cavity. Trim the lead ends as required to fit the thermostat sub-base terminals but avoid cutting large amounts off. Use the included wire nuts to connect the sender to the thermostat cable. Once the connections to the cable and thermostat are completed, insert the sender into the wall cavity. The sender hangs by its leads and does not require any mounting. In certain modes of operation, the sender will produce a small amount of heat. To prevent this from affecting the thermostat it is advisable to have the sender as far as possible from the thermostat. This is achieved by having the sender leads as long as possible. Any unused leads should be taped back.

Receiver Installation

The receiver module is normally mounted inside the cabinet of the furnace near the other controls. If there is no space inside the cabinet, the module may be located in any dry location without exposure to high temperatures.

Wiring

1. See included **Installation Guides** for your application.
2. The power supply must be between 20 to 30 volts for proper operation. The total connected load must not exceed 2 amps. The connected load cannot operate at a voltage of more than 30 volts (not intended for line voltage control).
3. All red wires are interchangeable
4. Tape back any used wires to prevent shorting.
5. The "common" (black wire) on the sender may not be compatible with all thermostats. If the thermostat does not "power up" then a separate wire connected directly between the thermostat and furnace "common" terminals would be required. In this instance the thermostat cable would need to have a minimum of 3-wires.

Sequence of Operation

The receiver has four normally-open relays, one for each output. One side of each relay contact is connected to red wire which is then connected to the furnace transformer "R" terminal. The other side of the relay contact is connected to either the green, yellow, white or blue wires. When any relay is energized it will connect its load to the transformer "R" terminal.

1. A 24 volt input on the sender green wire will cause a 24 volt output at the receiver green wire
2. A 24 volt input on the sender yellow wire will cause a 24 volt output on both the receiver green and yellow wires
3. A 24 volt input on the sender white wire will cause a 24 volt output at the receiver white wire. When the white wire output is on, the green and yellow outputs will shut off if they were on.
4. A 24 volt input on the sender blue wire will cause a 24 volt output on both the receiver white and blue wires (the green and yellow outputs will shut off if they were on).

Start Up

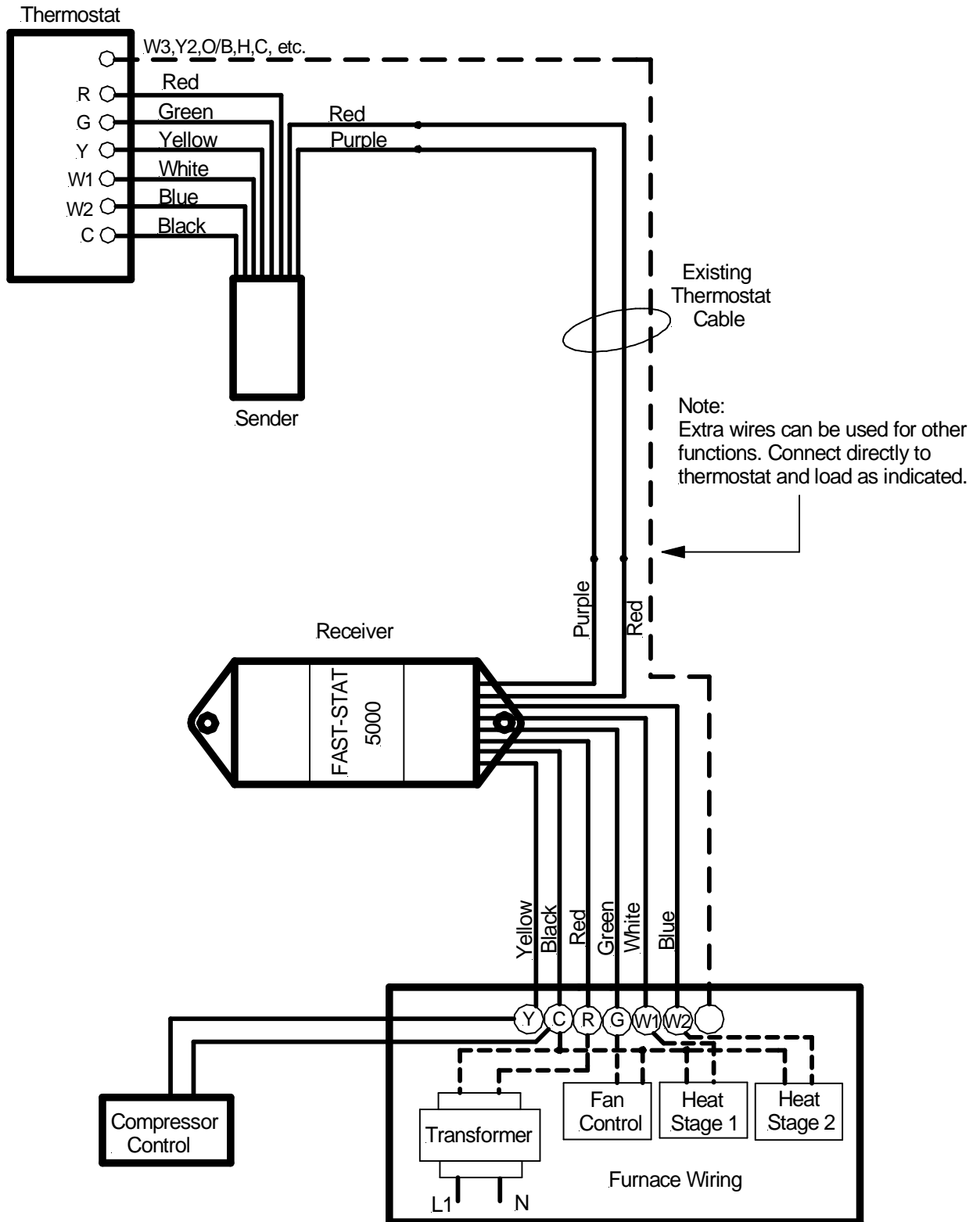
1. Set the thermostat to "fan manual on". The fan will start. Set the fan mode selector switch to "auto mode". The fan will shut off.
2. Set the thermostat so that it will call for the heating system to start. The heating system will start. Return the thermostat to the off position. The heating system will shut off.
3. To test for 2-stage heat control, the thermostat will need to be set to "installation mode" to get the "W2" function to work. The cause of this is that the thermostat will not call for "W2" regardless of how high the temperature is set if the room temperature is increasing at a rate fast enough when the furnace is in 1st stage heat.
4. Set the thermostat to a call for cooling. The fan and compressor will start. Set the thermostat to off. The fan and compressor will stop.

Troubleshooting

1. Check that there is 24-volt power connected to the red and black leads of the receiver module. The receiver black wire must be connected to the furnace common terminal and the red wire (either one) must be connected to the furnace "R" terminal.
2. If the red and purple wires that connect the sender to the receiver are crossed (purple to red) then an automatically resetting circuit breaker in the receiver will trip. When this happens no functions will operate. Once the crossed wires are corrected (red to red and purple to purple) the unit will automatically reset and operate.
3. Remove the thermostat from its sub-base. With a jumper, make a connection between "R" and "W1" on the thermostat terminal strip. The heating system should start. If the heating system starts when a jumper is used but will not start when the thermostat is used, there may be a set up or compatibility issue with the thermostat. If the heating system does not start when a jumper is used proceed to step #4.
4. At the receiver module, disconnect the red and purple wires connected to the thermostat cable. Join the receiver module red and purple wires together – the heating system should start. If the heating system can be switched on by this method then there may be a problem with the thermostat cable or the sender. If the heating system does not start there is a defect with the receiver or the wiring connections need to be checked. Note: if relays inside the receiver can be heard "clicking" when joining the red and purple wires together, then the problem is most likely in the wiring connections.

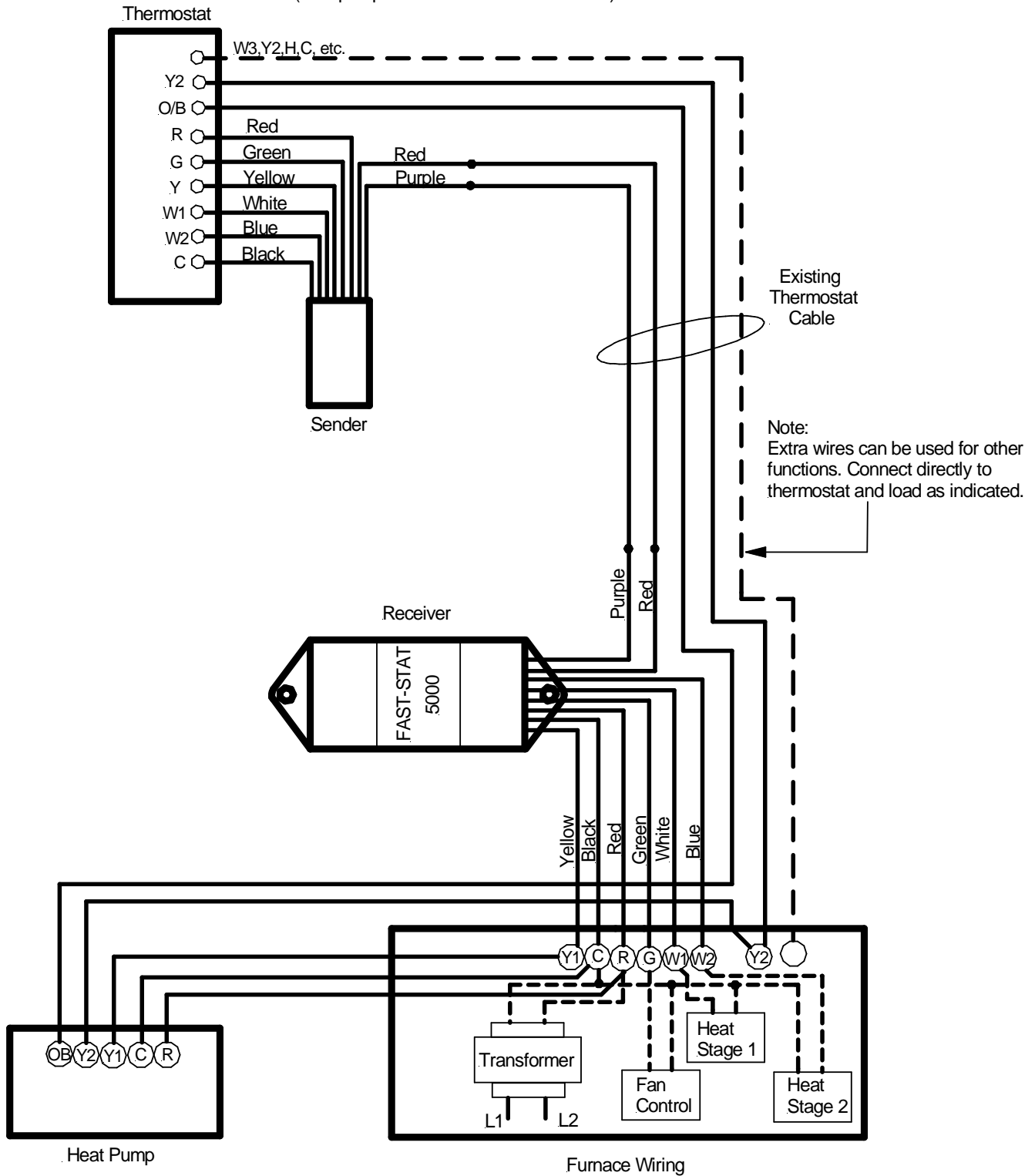
FAST-STAT Installation Guide A

Model 5000 typical installation.



FAST-STAT Installation Guide B

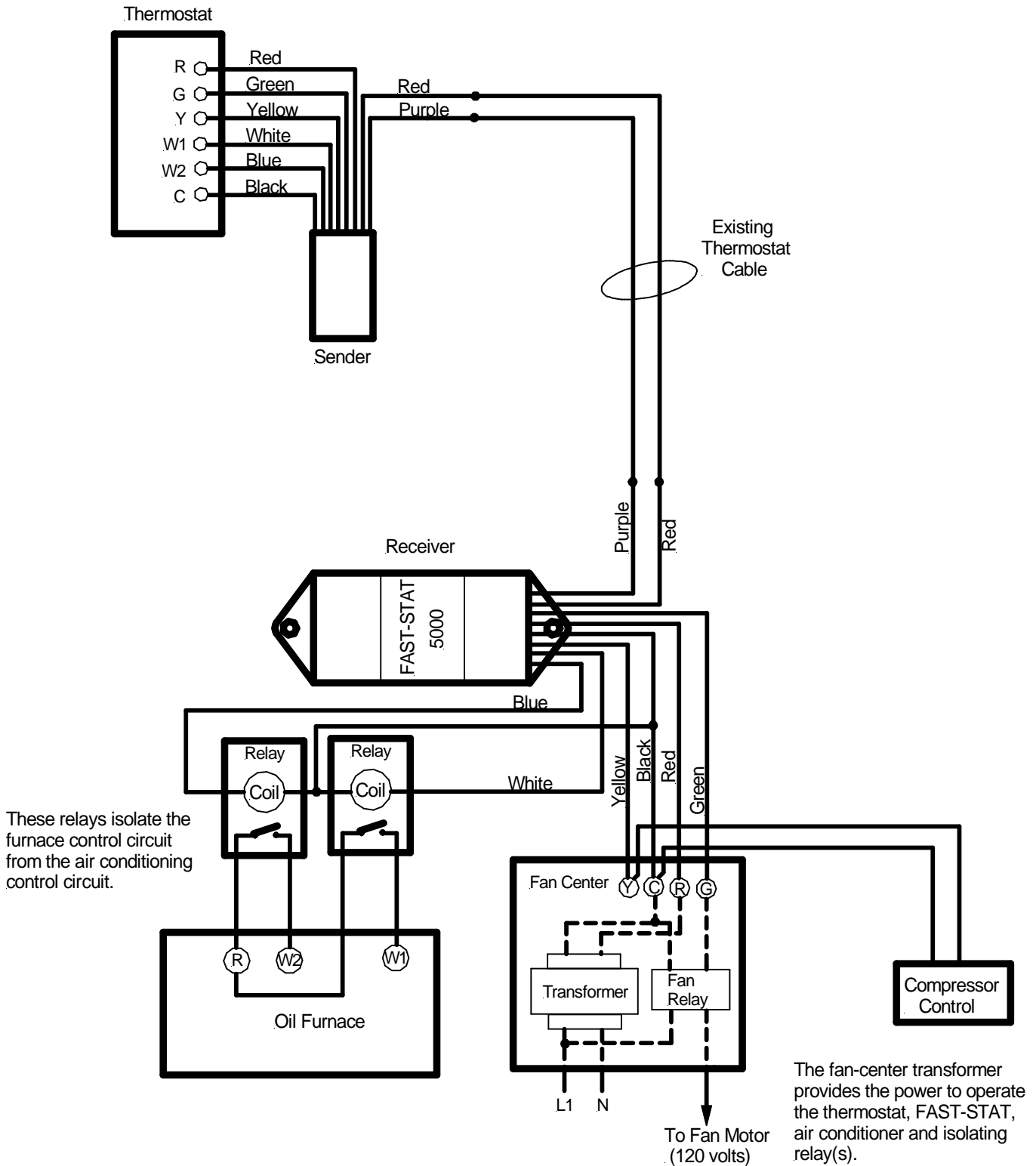
Using a Model 5000 with a fossil fuel mode heat pump.
(heat pump shuts off when furnace starts)



FAST-STAT Installation Guide D

Using a Model 5000 with an oil furnace (without a built-in fan relay).

A fan-center & relay(s) will be required in addition to the FAST-STAT 5000.



FAST-STAT Installation Guide E

Using a Model 5000 with a Model 1000.
2-stage heat and 2-stage cooling.

