FAST-STAT Model 1000 Installation Instructions

Application

The FAST-STAT Model 1000 is designed to add additional control wiring between the thermostat and indoor unit or between the indoor unit and outdoor unit.

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

When used to add wiring between the thermostat and indoor unit, 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. 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.

When used to extend wiring between the indoor and outdoor units, the sender is connected to the indoor unit terminal strip or leads. It then hangs from the terminal strip or is grouped together with the other leads.

Receiver Installation

The receiver module is normally mounted inside the cabinet of the indoor or outdoor unit 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 or water.

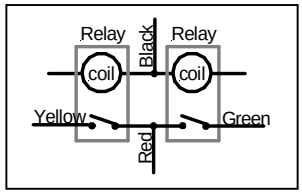
Wiring

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).

Sequence of Operation

The receiver has two normally-open relays, one for the yellow wire and one for the green wire. One side of each relay contact is connected to red wire which is then connected to the transformer “R” terminal. When either or both relays are energized it will connect its load to the transformer “R” terminal.

The power for the relay coils travels through the purple and black wires. The load side of the relays is not connected to the coil side. This provides electrical isolation when two transformers are used on the same control circuit.

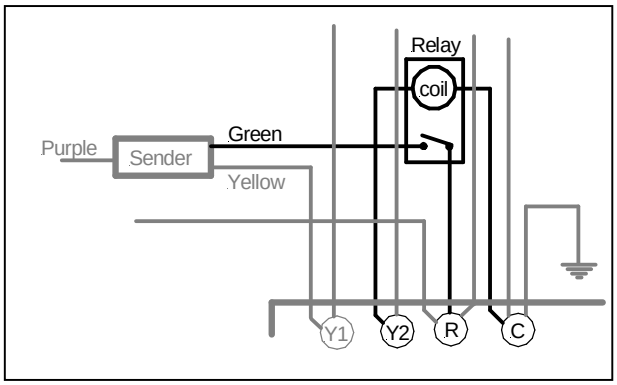


Troubleshooting – not operating

1. Check that there is 24 volts between the receiver red and black wires.
2. Check that the sender purple and receiver purple wires are connected together.
3. At the receiver, jumper the receiver purple wire to the transformer “R” connection. Both relays in the receiver should energize and switch on their connected loads. If the connected loads do not start, then measure the voltage from the receiver green wire to the transformer common. There should be a reading of 24 volts AC. Measure the voltage from the receiver yellow wire to common as well. If there is voltage at the yellow and green wires but the loads do not start, then check the wiring of the connected loads. If the receiver relays cannot be made to energize by this test, then the receiver may be defective.
4. If test #3 works OK but it doesn’t operate when connected to the sender, jumper the transformer power “R” to the sender purple wire (at the sender). This should cause a 24 volt output on the receiver green & yellow wires (same as test #3). If the receiver relays do not energize during this test, then there is a problem with the cable that connects the receiver and the sender together.
5. If test #4 works OK but it doesn’t operate when connected to the sender, then jumper transformer power “R” to the sender green wire. This should cause the load connected to the receiver green wire to start. Do this test for the sender yellow wire as well. If this test fails for either the green or yellow wires, then the sender may be defective. If this works then the FAST-STAT and the field wiring is OK. The problem may be a compatibility issue with the thermostat.

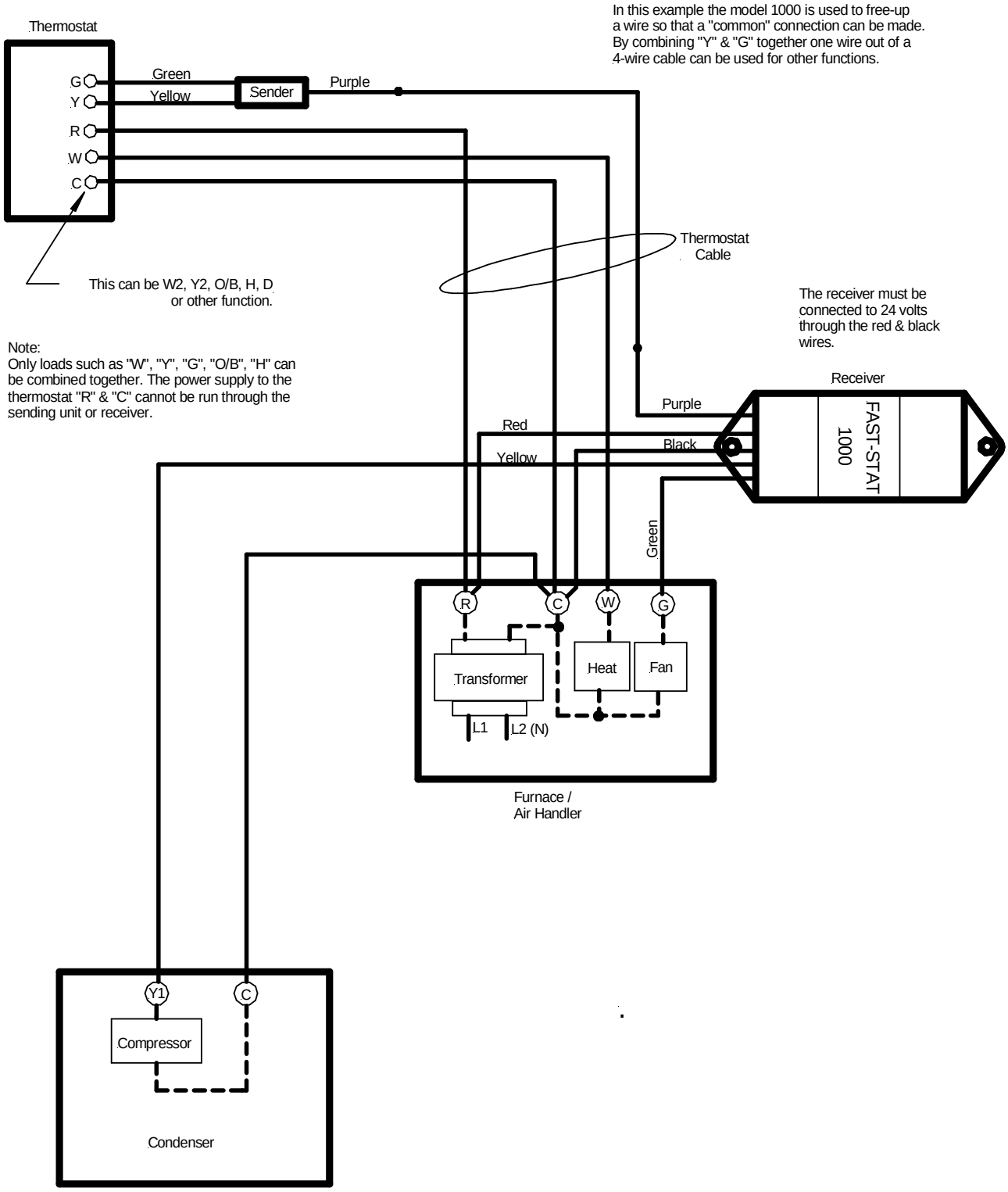
Troubleshooting – 2 stage air conditioner

In some installations the indoor unit fan may operate in high speed when the outdoor unit is running in low speed. This is caused by the sender having a 12 volt DC voltage on the indoor unit Y2 terminal. Some furnaces or air handlers mistake this 12 volts DC for 24 volts AC and switch the fan into high speed. There are two options to correct this when it occurs. One option is to use ***Installation Guide C*** and the other is to add an isolation relay as follows:

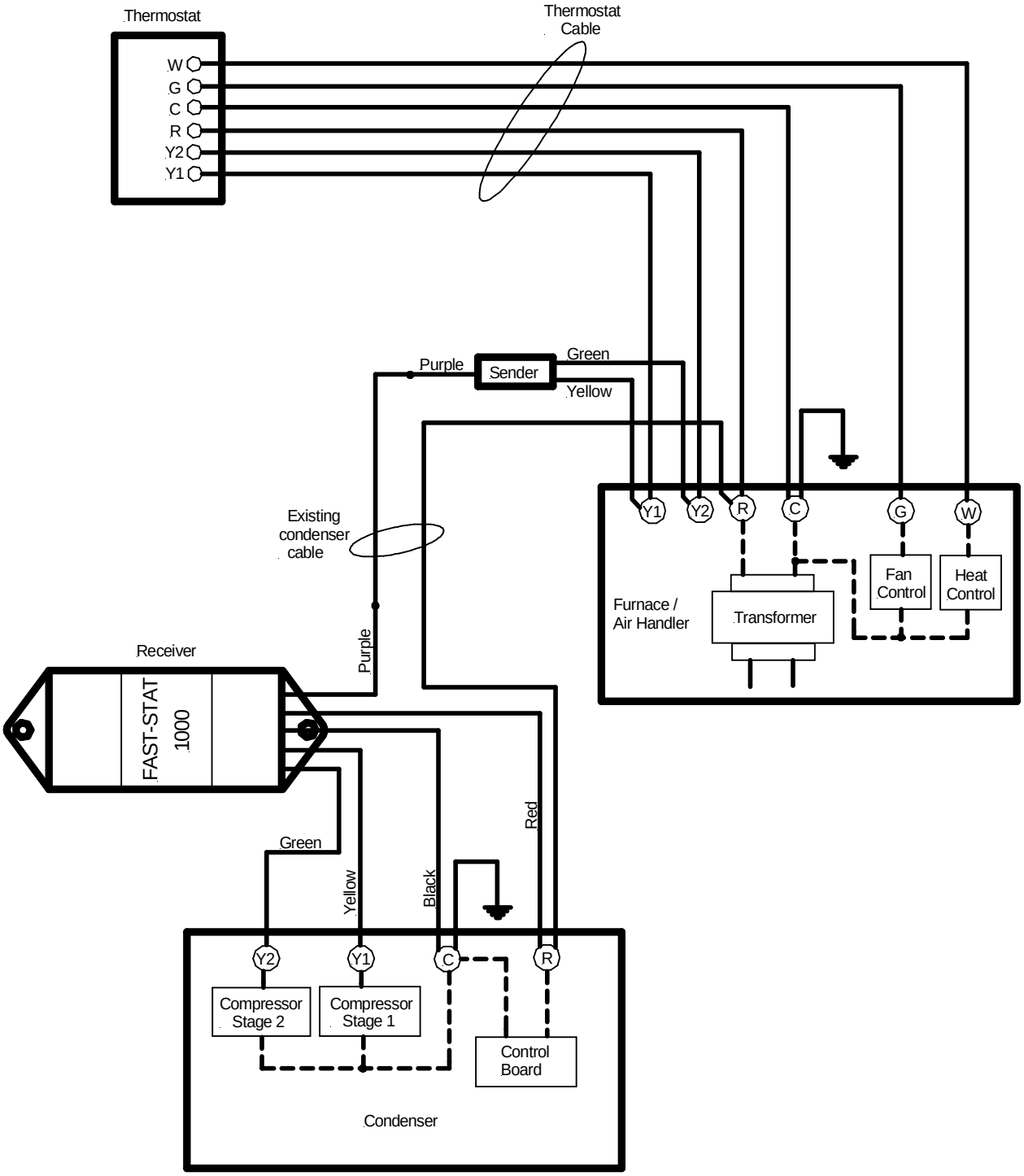


Tech Support Line: 1-800-775-4750 ext. 3
Monday – Friday: 8:30am to 4:30pm (Pacific Standard Time)

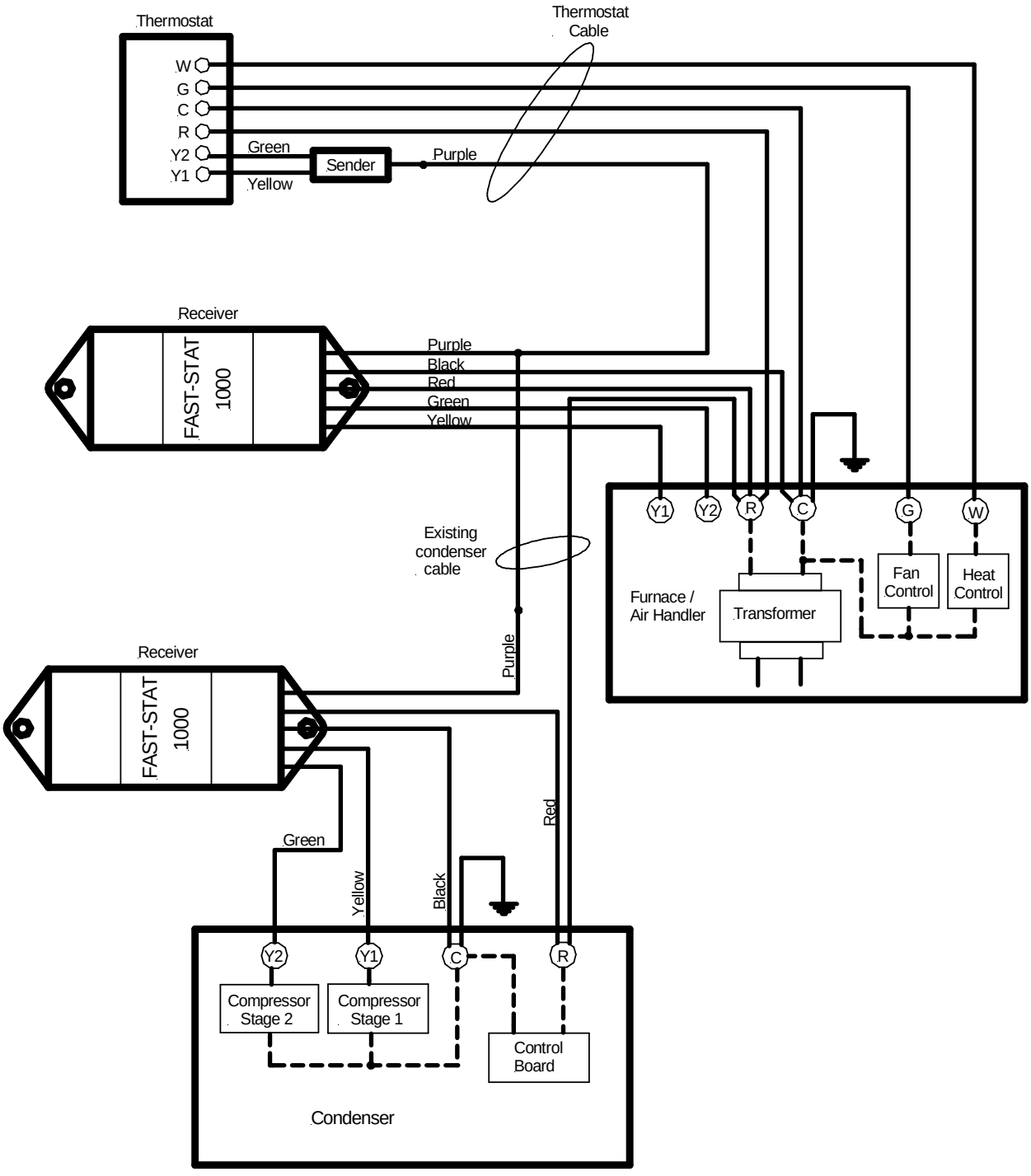
Model 1000 used to extend wiring from thermostat.



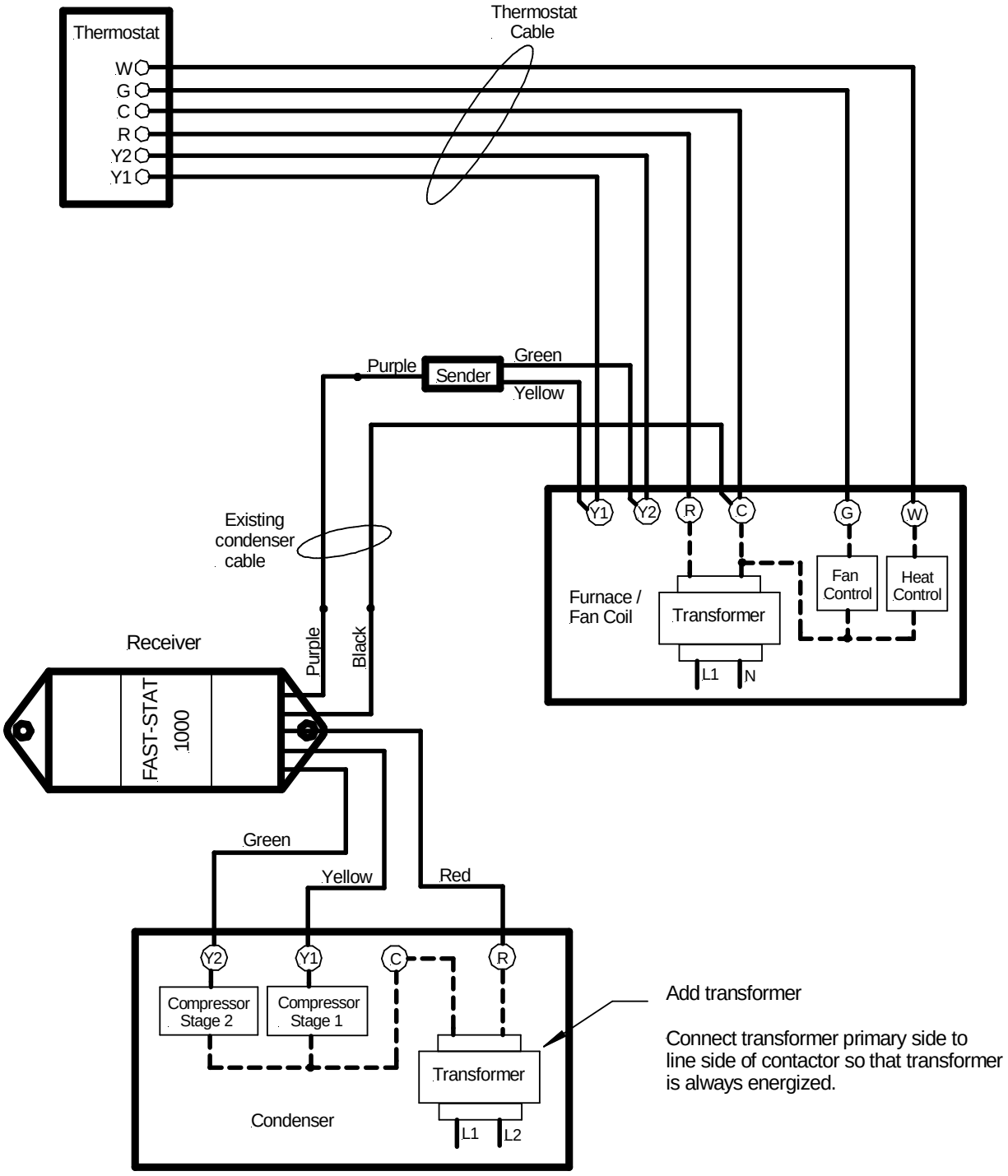
Model 1000 used to extend wiring to a 2-stage condenser.
"Grounded Commons" wiring method.



Model 1000 used to extend wiring to a 2-stage condenser using 2- Model 1000's.
"Grounded Commons" wiring method.



Model 1000 used to extend wiring to a 2-stage condenser.
"Two - Transformers" wiring method



Model 1000 used to extend wiring to a single-stage heat pump.