

### Overview

- The Model 3000 provides two additional control wires between a thermostat and indoor unit, or indoor unit and outdoor unit.
- It is compatible with all 24VAC heating and cooling systems.
- The Model 3000 can provide a common connection 'C' using a thermostat cable with 3 or more wires. For adding a common with only 2 wires see the Model 5000 or Common Maker.

### Electrical Safety

- This product should only be installed by a qualified technician.
- Requires a Class 2 transformer providing 23-28VAC
- The total connected load must not exceed 2 amps.
- The connected load cannot operate at more than 30VAC (not designed for direct connection to 120VAC equipment).
- To avoid risk of electrical shock or equipment damage, disconnect power before beginning installation.

### Sender Installation

The Sender is the smaller component and is installed inside the wall behind the thermostat.

- Remove the thermostat from the wall.
- If the hole where the thermostat cable wires come through is not big enough to fit the Sender, enlarge it.
- Place the Sender in the wall and connect the wires to the sub-base according to the appropriate wiring diagram (pages 2-4). The Sender will hang by its wires and does not require any mounting.
- Install the thermostat on the wall.

If extending the wiring between an indoor and outdoor unit, the Sender can be placed inside the indoor unit cabinet or grouped with other wiring.

**Note:** The Sender can produce a small amount of heat while operating. Keep the Sender wires as long as possible to maximize the distance between the Sender and thermostat.

### Receiver Installation

The Receiver is the larger component and is installed inside the cabinet of the indoor or outdoor unit. If there is no space inside the cabinet, the Receiver may be placed in any location without exposure to high temperatures or water.

Connect the wires according to the relevant wiring diagram for the system (pages 2-4). Additional wiring diagrams can be found at [www.fast-stat.com](http://www.fast-stat.com).

### Testing

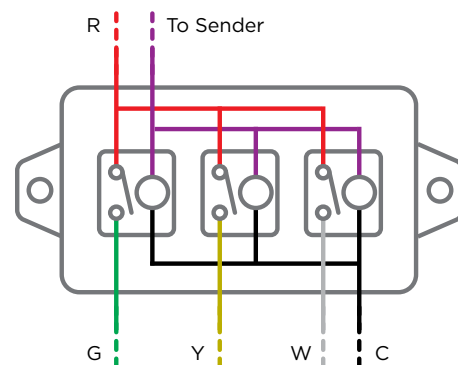
After installation, check each control on the thermostat (G, Y, W, etc) to ensure it is turning on and off correctly. Activating the control on the yellow wire will activate the load on both the yellow and green wire at the Receiver.

### Troubleshooting

1. Measure the transformer voltage to ensure it is between 23-28VAC. If it is outside this range the Model 3000 may not work as intended.
2. Join the Receiver's purple and red wires together (use the red wire going to the Sender). All three relays in the Receiver should energize, internally connecting the yellow, green, and white wires to 'R'. If the connected loads do not start, then measure the voltage from each output wire to common. If each wire reads 24VAC, then the Receiver is working correctly. If not then there may be a problem with the Receiver.
3. Disconnect the Sender from the thermostat and connect the Sender's red and white wire together. This should energize the relay connected to the Receiver's white wire, and activate its connected load. Repeat this process for the yellow and green wires, connecting each wire to red individually. If all loads activate, the Model 3000 is functioning properly and there may be a compatibility issue with the thermostat. If a load fails to activate, there may be a problem with the Sender.
4. If applying power to the Sender's yellow wire activates the load connected to the Receiver's white wire (or vice versa), then the wires connecting the Sender and Receiver are crossed. Disconnect the two wires in the thermostat cable from the Sender's purple and red wire, and switch where each wire is connected.

### Internal Wiring

The Receiver's yellow, green, and white wires are each connected to a normally open relay. One side of the relay is connected to transformer 'R' through the red wire. Applying 24VAC to the Sender's yellow, green, or white wire will energize its respective relay, and connect transformer 'R' to the output wire (yellow, green, or white).

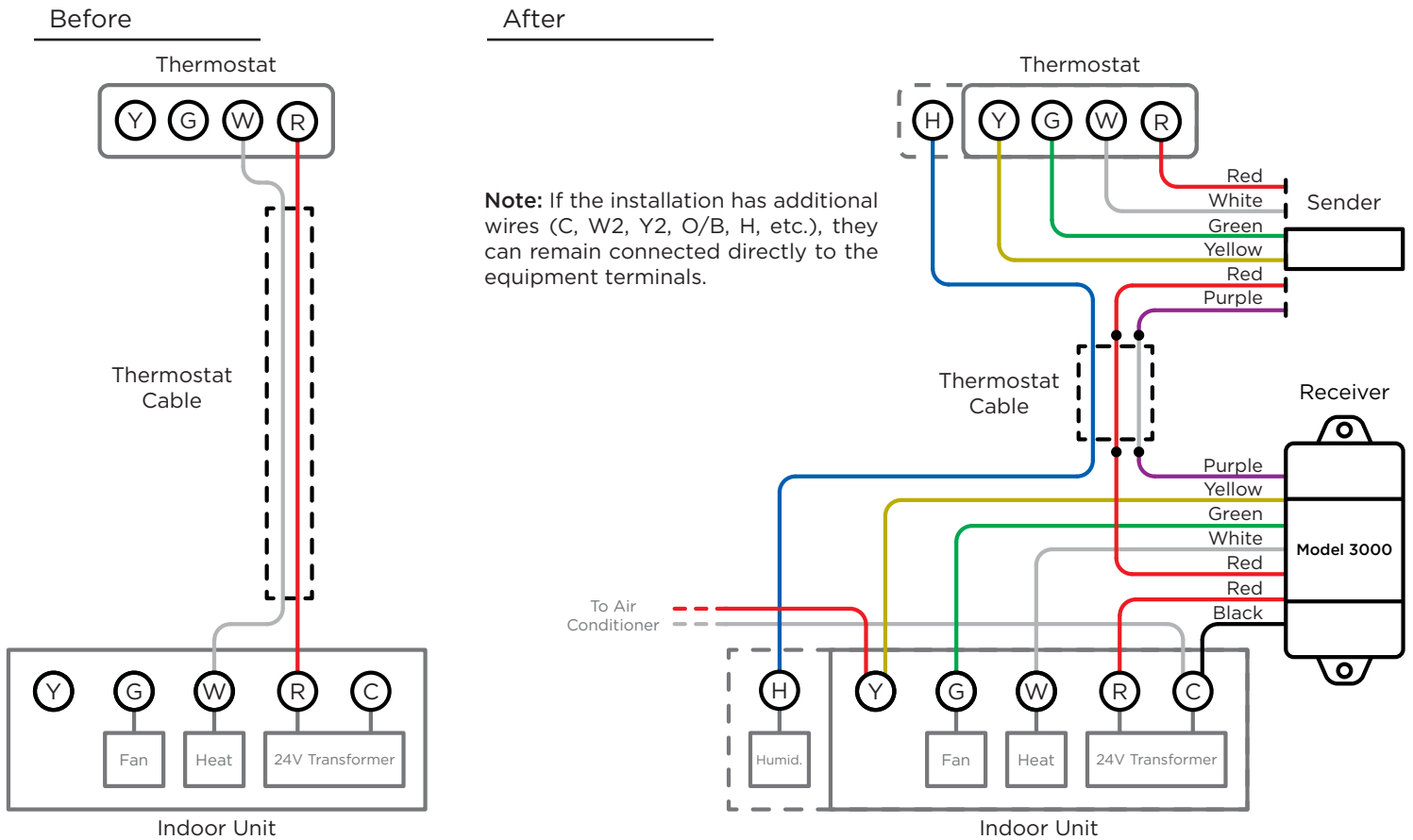


**Note:** Applying 24VAC to the Sender's yellow wire will activate both the green and yellow relays on the Receiver. The Model 3000's yellow, green, and white wires can not be used for a common connection 'C'.

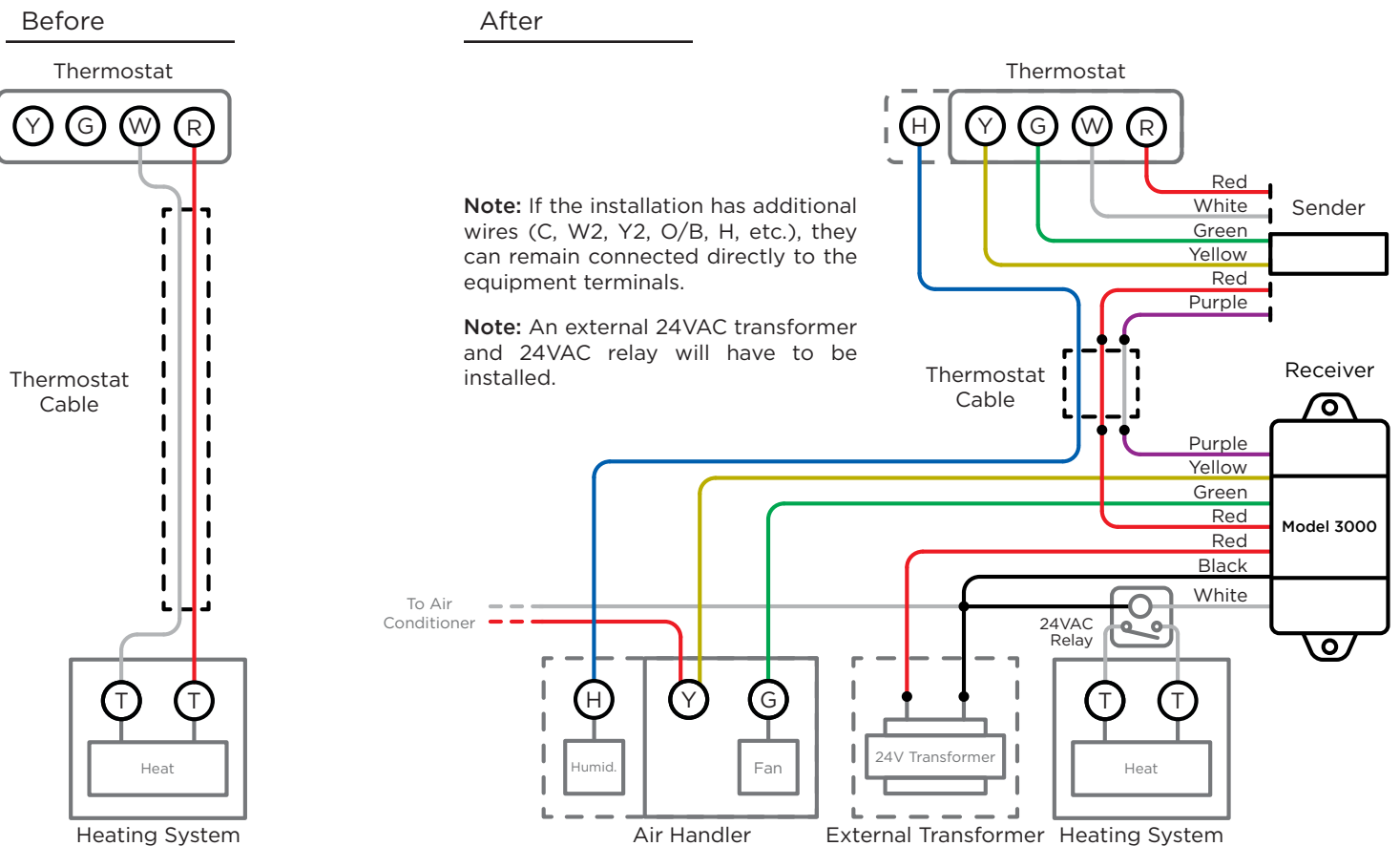
### Contact Us

For installation assistance, our technical support line can be reached at 1-800-775-4750, 9am-5pm PST, or emailed at [info@nordictech.ca](mailto:info@nordictech.ca)

## A Adding an Air Conditioner to a Heat-Only System



## B Adding an Air Conditioner to a Heat-Only System (Dry-Contact Switching)

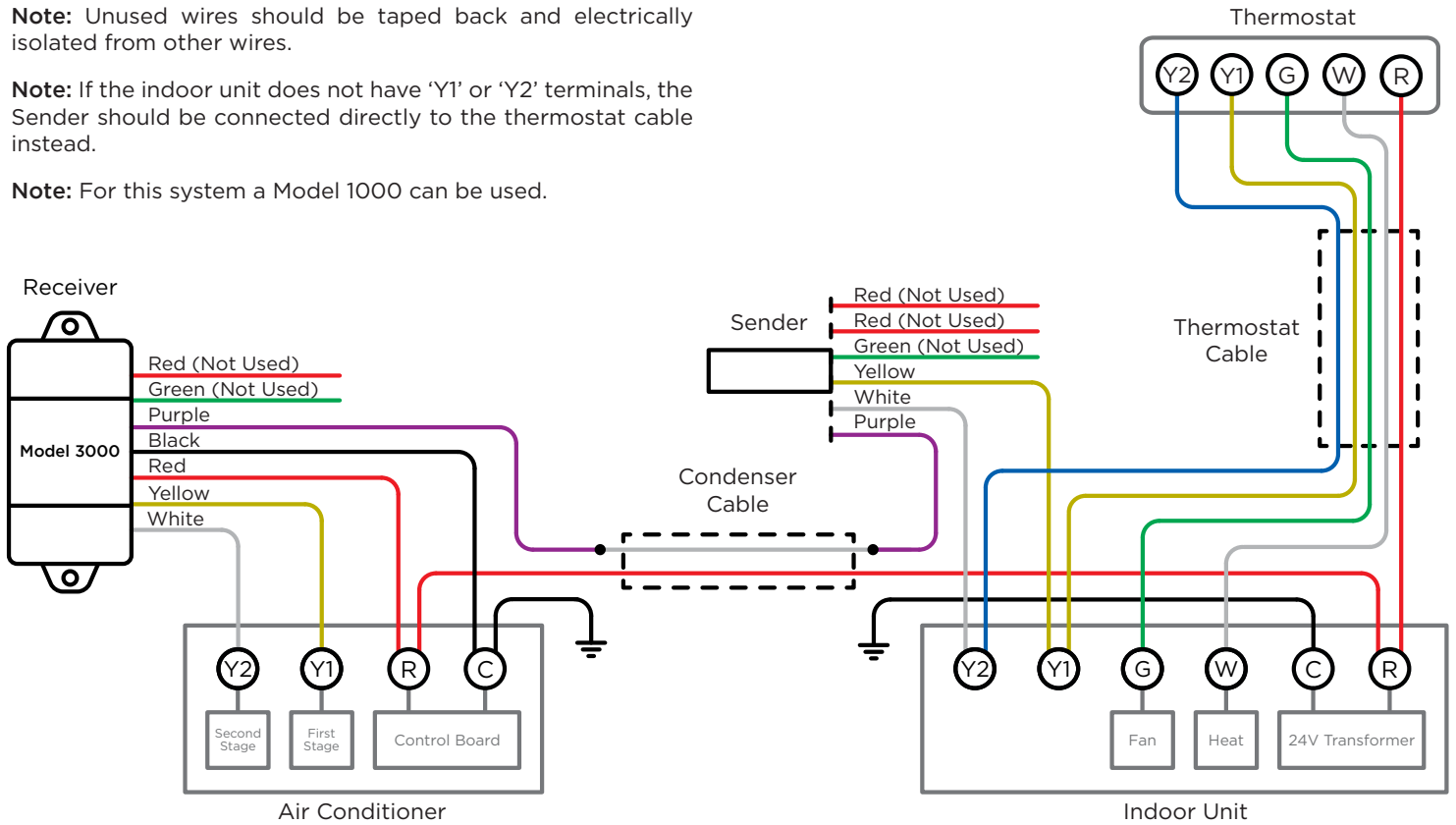


## C Upgrading to a Two-Stage Air Conditioner (Grounded Commons)

**Note:** Unused wires should be taped back and electrically isolated from other wires.

**Note:** If the indoor unit does not have 'Y1' or 'Y2' terminals, the Sender should be connected directly to the thermostat cable instead.

**Note:** For this system a Model 1000 can be used.



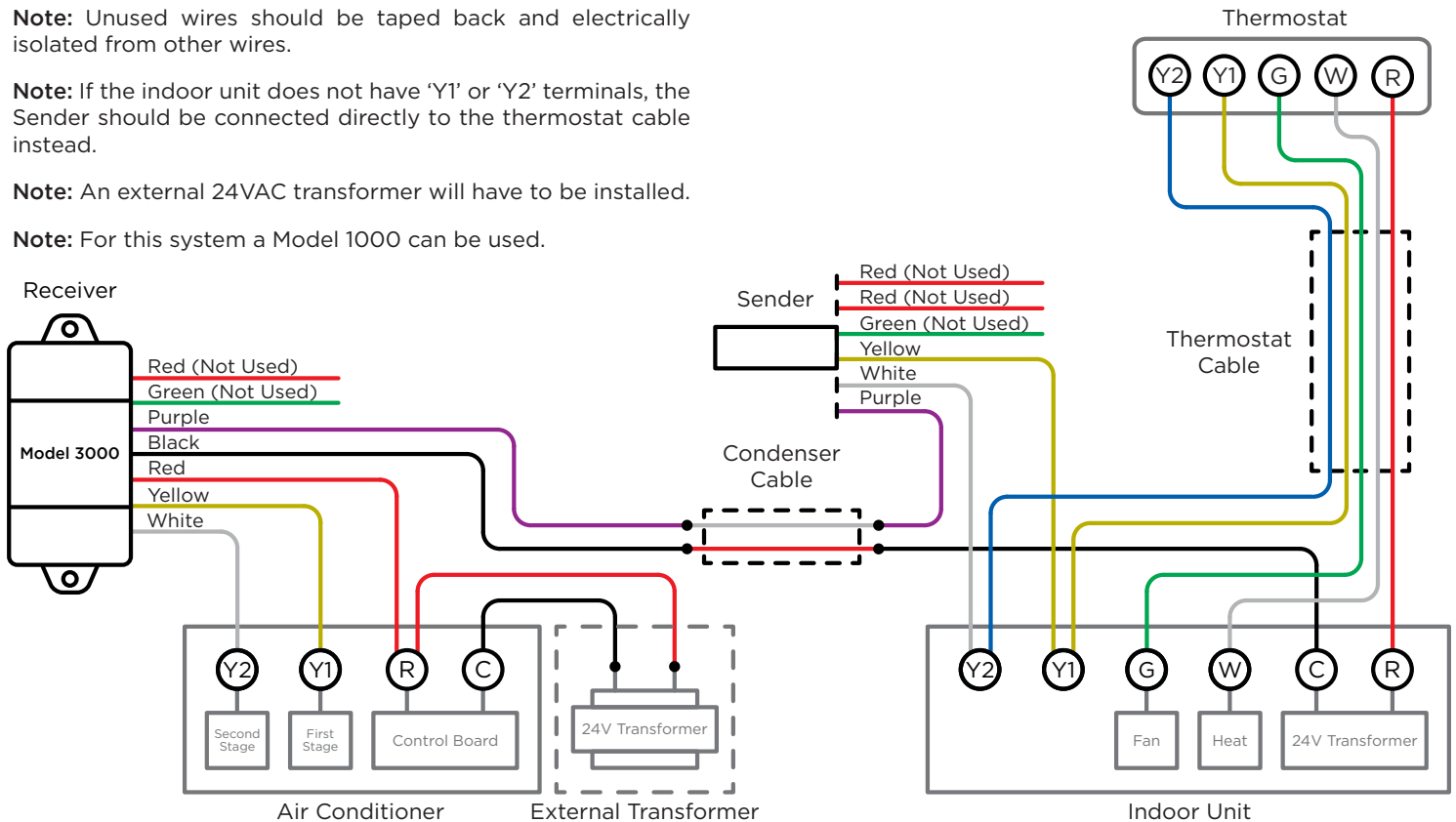
## D Upgrading to a Two-Stage Air Conditioner (Two Transformers)

**Note:** Unused wires should be taped back and electrically isolated from other wires.

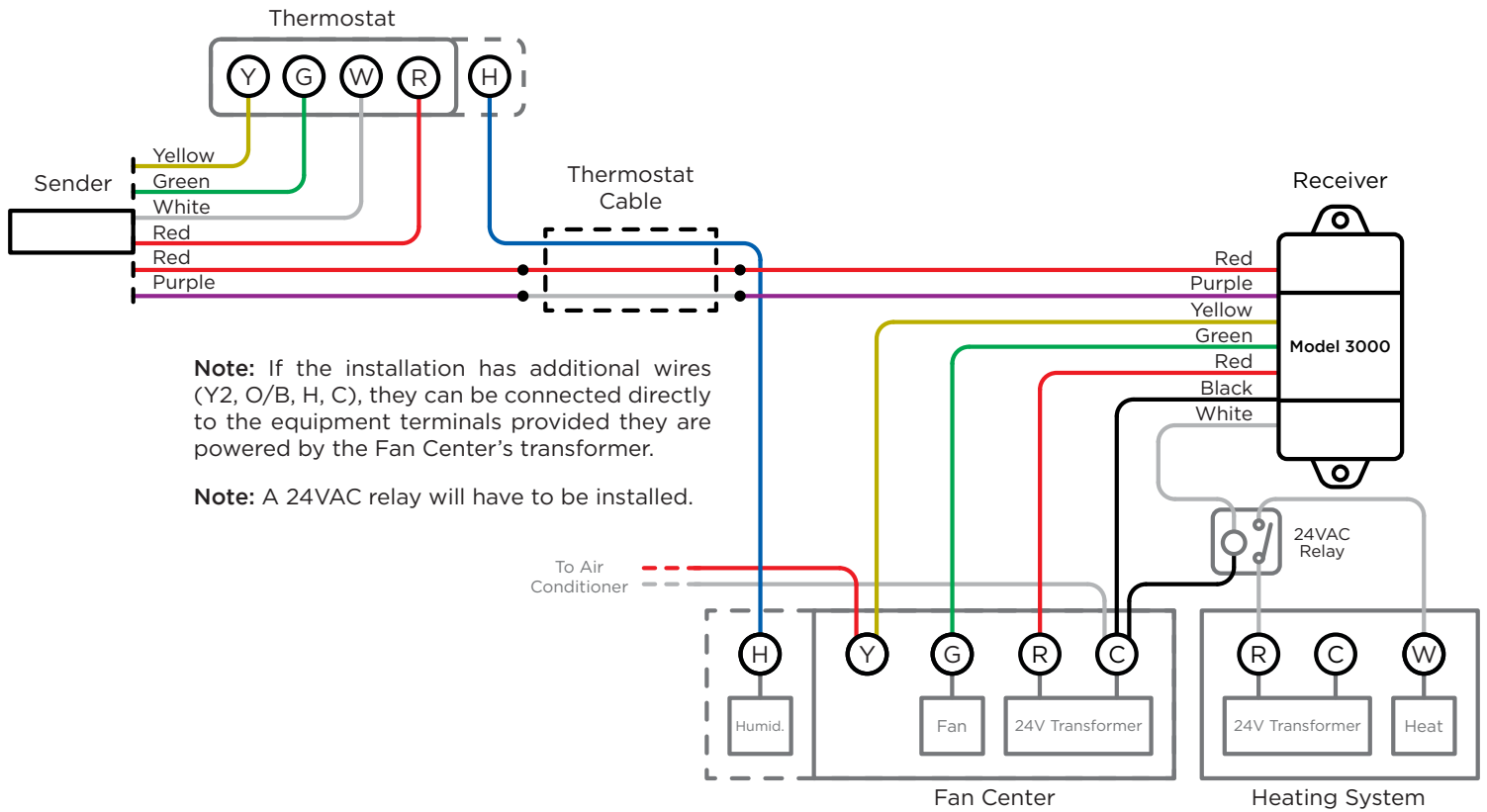
**Note:** If the indoor unit does not have 'Y1' or 'Y2' terminals, the Sender should be connected directly to the thermostat cable instead.

**Note:** An external 24VAC transformer will have to be installed.

**Note:** For this system a Model 1000 can be used.



## E Extending Wiring with a Fan Center



## F Upgrading from a Single-Stage Air Conditioner to a Two-Stage Heat Pump

**Note:** Unused wires should be taped back and electrically isolated from other wires.

**Note:** If the indoor unit does not have 'Y1' or 'Y2' terminals, the Sender should be connected directly to the thermostat cable instead.

**Note:** An external 24VAC transformer and 24VAC relay will have to be installed.

