



ONECONTROL[®]
HVAC CONTROL 2.0
OEM INSTALLATION MANUAL

L I P P E R T
C O M P O N E N T S[®]

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Introduction

The OneControl® Touch Panel (OCTP) (formerly MyRV®) is a compatible touchscreen device that provides system controls and monitoring software for the recreational vehicle unit. The systems include slide-outs, leveling systems, awnings, lighting, temperature, water tanks, tire pressure, battery levels and any other compatible systems installed on the unit and programmed into the OneControl system. Powering up the unit will also power the OneControl Touch Panel and the various controllers throughout the unit.

Compatibility

This thermostat control is compatible with the following appliances:

1. Single-stage LP gas furnaces with self-contained fan control.
2. Conventional air conditioning systems with one or two-speed fans.
3. Combination air conditioning/heat pump systems with one or two-speed fans.

| Specifications | Min | Typ | Max | Units |
|-----------------------------|----------|------|-----------|----------|
| Operating Supply Voltage | 9 | 13.8 | 18 | Volts DC |
| Operating Temperature Range | -10 (14) | N/A | +45 (113) | C (F) |
| Quiescent Current | N/A | 30 | 45 | mA DC |
| Sink Current (Generator) | N/A | 1.2 | 2.0 | A DC |
| Focused Relay Drive Current | N/A | N/A | 1.5 | A DC |

Specifications

The HVAC control system includes a "capabilities" switch which must be set to correspond with the attached equipment. The switch settings are as follows:

| Switch Function | When "OFF" | When "ON" | Note |
|------------------|------------------------------|--------------------------------|---------------------|
| Dual-Speed Fan | Fan is high-speed only | Fan has a low-speed wire | N/A |
| Heat Pump (HP) | System (if present) A/C only | Rooftop A/C System includes HP | Orange wire |
| Air Conditioning | No A/C system in this zone | This zone has A/C | HP setting ignored |
| LP Gas Heat | No gas furnace installed | Gas furnace installed | Furnace has own fan |

Safety

WARNING

Ensure that power is properly disconnected at the supply (mains and/or battery). Failure to do so may result in damage to the product and personal injury or death.

WARNING

Failure to follow the instructions provided in this manual may result in death, serious injury, unit damage, or voiding of the component warranty.

WARNING

This thermostat control device requires 12V direct current (DC), and cannot operate from alternating current (AC) sources. Confirm that your furnace or air conditioning unit supplies 12V DC to the zone wiring harness before proceeding. Connecting the thermostat to AC will cause irreparable damage, and void the warranty.

CAUTION

Ground connections need to be tied together for ALL heating and cooling appliances in a zone.

NOTE: The thermostat module requires 12V DC power from two separate sources:

1. Power from the house battery should be applied via the main power input connector (PWR)
2. Each active climate zone HVAC unit will supply its own power to its corresponding thermostat zone connector.

Resources Required

- Cordless or electric drill or screw gun
- Appropriate drill bits
- Appropriate drive bits
- Tape measure
- Phillips head screwdriver

Preparation

Prior to Installation

NOTE: Make sure the control capabilities have been configured before the HVAC controller is mounted.

NOTE: The HVAC controller should be in close proximity to any other OneControl controllers. All thermostat control leads should be run from the heating and cooling appliances to this centralized location.

Connections

1. Select configuration for each zone using the DIP switches in the top left corner of the controller (Fig.1). Each zone has four switches:

- A. Dual-Speed Fan
- B. Heat Pump
- C. Air Conditioning
- D. LP Gas Heat

NOTE: All switches are in the "ON" position from the factory. Move the switch to the left for any function not used in each zone. For example, a zone with an air conditioner, dual speed fan and LP gas heat would be:

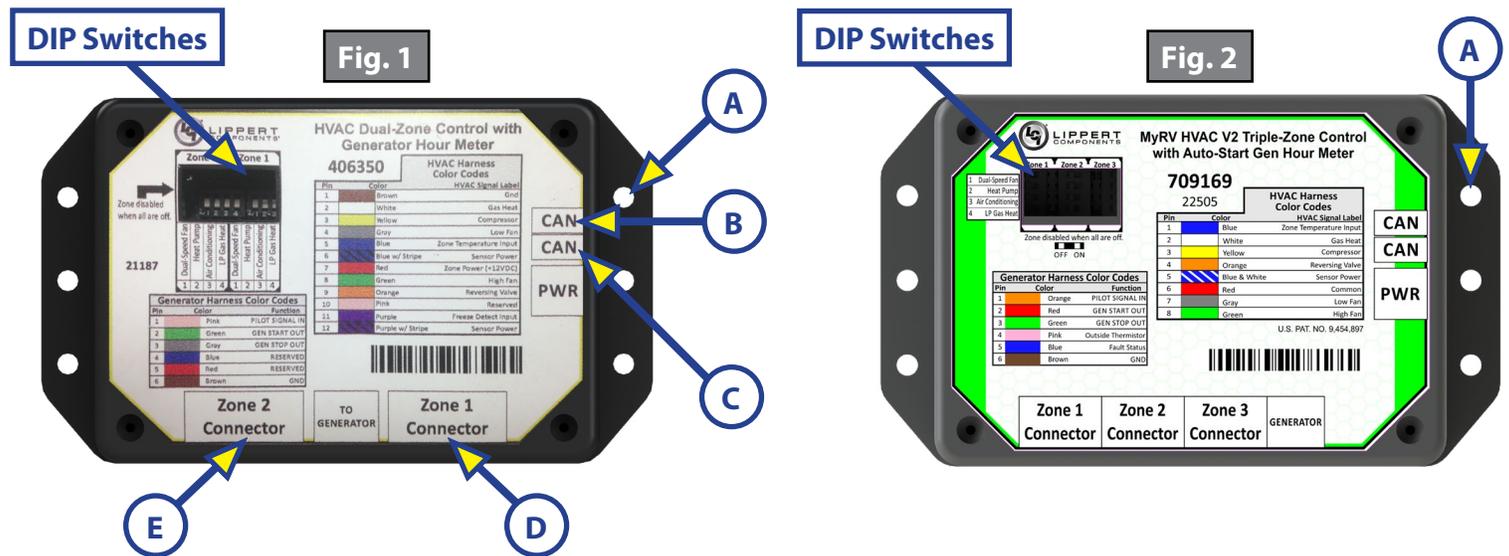
- A. Dual-Speed Fan "ON"
- B. Heat Pump "OFF"
- C. Air Conditioning "ON"
- D. LP Gas Heat "ON"

Installation

The HVAC controller is a CAN bus network enabled module that allows integration of up to three zones of HVAC, plus generator with hour meter and auto-start with the OneControl system. Each zone is capable of controlling one A/C or heat pump, one gas furnace and one fan (single or dual speed). Each zone uses its own temperature sensor rather than a traditional thermostat.

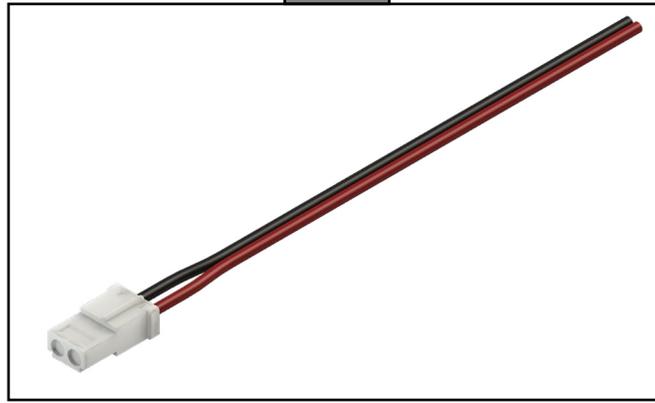
Controller

1. Mount either the HVAC dual zone controller (Fig.1) or triple zone controller (Fig. 2) by securing to the selected solid surface with #8 x 1" wood screws or equivalent through each of the six holes (Fig.1A, 2A).



2. Connect to DC 12V power using the main power harness (Fig.3).

Fig. 3



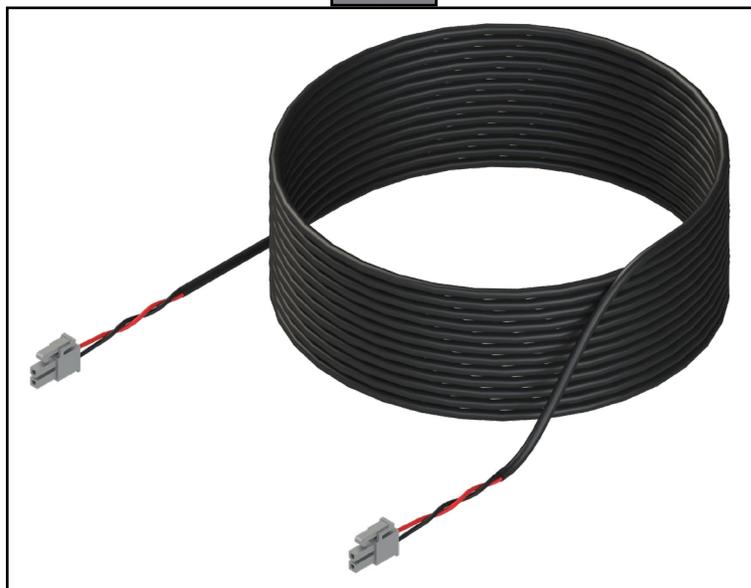
NOTE: The controller draws a relatively low amount of current. Power and ground can be obtained from another nearby module.

3. Using the 6-pin wire harness and wire diagram included, connect the outputs from the controller to the appropriate inputs on the air conditioning, heat pump or furnace (Fig.1D,1E). Do this for each zone used.

NOTE: If utilizing both zone connections of the dual-zone controller make sure to label the zone harnesses as "Zone1" or "Zone2" to prevent accidental swapping. Utilize "Zone3" for Triple zone.

4. Connect both CAN bus cables (Fig.4) from the CAN ports in controller (Fig.1B,1C) in order to link the module into the CAN network.

Fig. 4



NOTE: Heat pump system must have a single wire "heat demand" configuration. The controller does not support independent contacts for the heat pump reversing valve , but rather drives a single lead for the heat pump demand, similar to the gas furnace demand.

NOTE: Coleman Mach systems implement the above noted scheme in Analog Control Box setups. Make certain the system being installed complies with the setup.

Harness Connections

Generator connections to the HVAC thermostat control (Fig. 5A, 6A) are via the 6-pin connector (Fig. 5B, 6B). When wired into the "running signal" of the generator, the system tracks the total running hours of the generator, and can be programmed to display an alert when the generator is due for scheduled maintenance.

NOTE: The controller implements an automatic priming cycle at the beginning of the startup sequence. A solenoid priming click will be heard a few seconds before the generator engine is started.

Fig. 5

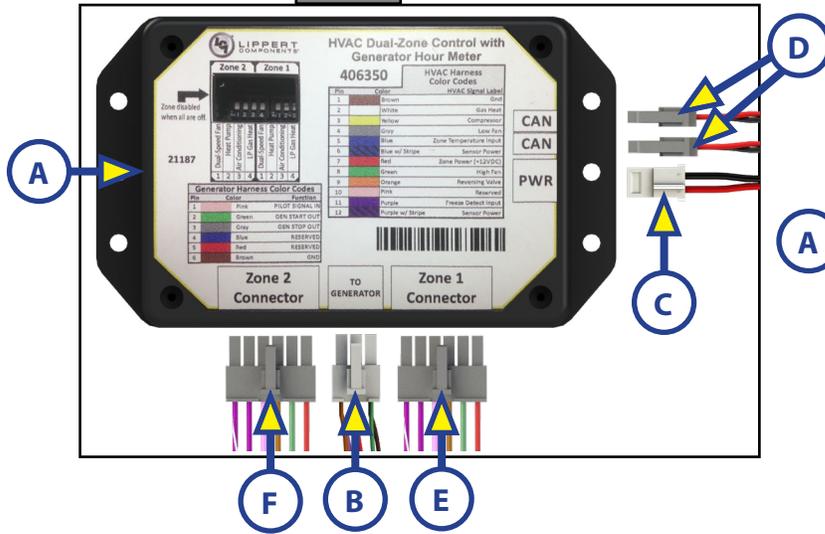
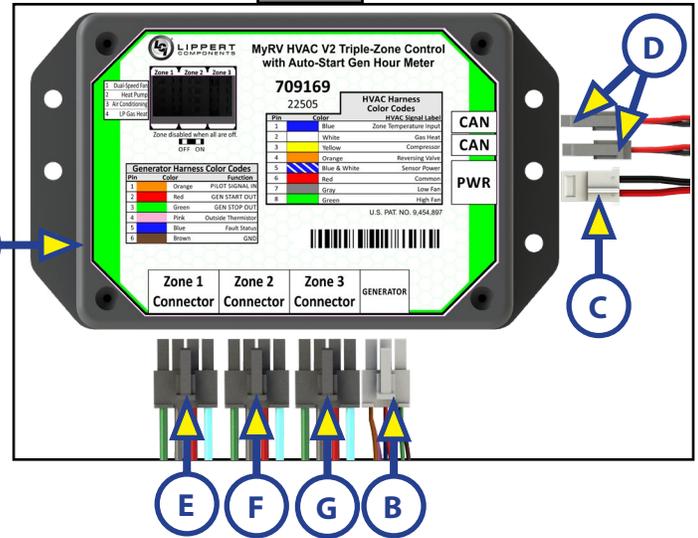


Fig. 6



NOTE: Figures 5 and 6 illustrate all harness connections to the controller.

1. 12V DC power and ground (Fig. 5C, 6C).
2. CANBUS data wires (Fig. 5D, 6D) in proper sequence with OneControl system components.
3. Wire harness to Zone 1 on controller (Fig. 5E, 6E), Zone 2 (Fig. 5F, 6F), Zone 3 (Fig. 6G) connected to OneControl system designated zone.

Zone Sensor Installation

The OneControl Zone Sensor Kit consists of a sensor with cable, a cable hold-down clamp, and a sensor cover. The kit is for use exclusively with OneControl thermostats and climate control systems. A sensor must be installed in each of the climate zones to be controlled.

Each climate zone requires at least one temperature sensor to be connected between the blue with stripe "Sensor Power" lead and the blue "Zone Temperature Input" lead. The zone sensor should be installed on an interior wall if possible at a height between 54" and 66" above the floor.

⚠ WARNING

Disconnect all power sources and the HVAC controller power connections before installing the zone sensor. Failure to do so may result in serious personal injury from electric shock.

1. Location selection.

NOTE: It is important to select a sensor location carefully to ensure proper operation of the OneControl HVAC control system. Use the following guidelines to determine the location for the sensor.

- A. The sensor should be mounted at least 54" but no higher than 66" above floor height.
- B. Install the zone sensor on an interior wall. Avoid installation on outside walls.

NOTE: Do not mount the sensor in close proximity (less than 36") to direct heat or cold-air sources. Avoid locations close to outside doors, windows, or near corners of outside walls. Avoid areas where the air may not circulate, such as under cupboards or above appliances.

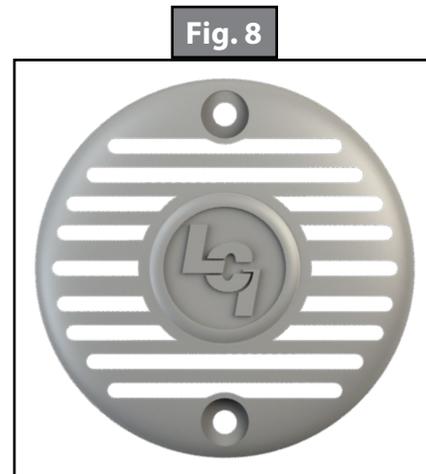
2. Running the zone sensor wire.

- A. The zone sensor wire must connect to the HVAC controller.
- B. Using a drill and $\frac{3}{8}$ " bit, drill a hole in the wall where the sensor will be mounted.
- C. Insert wire through the previously drilled hole in wall.
- D. Secure the sensor to the wall using a "P-clip" (Fig. 7) and a #8 pan head screw.

3. Cover the sensor, "P-clip" and the hole with a plastic thermistor cover (Fig. 8).

4. Secure with two #4 screws.

5. Connect the zone sensor wire between the blue/white stripe sensor power lead and the blue zone temperature input lead on the pigtail harness (Fig. 5B, 6B).



Operation

CAUTION

Adhere to all local and national codes. Disconnect all external A/C power to the unit before installing, removing, or cleaning.

All user control and input is accomplished using the OneControl mobile application, OneControl tablet or OneControl Touch Panel (OCTP).

NOTE: When using the HVAC system, all of the controls you would normally find on your thermostat will be located in the HVAC icon on your OneControl Touch Panel.

Power On/Off

1. The device can be powered on or off using the button on the front of the device (Fig. 9).

NOTE: It will take a few moments to start up and load the system.

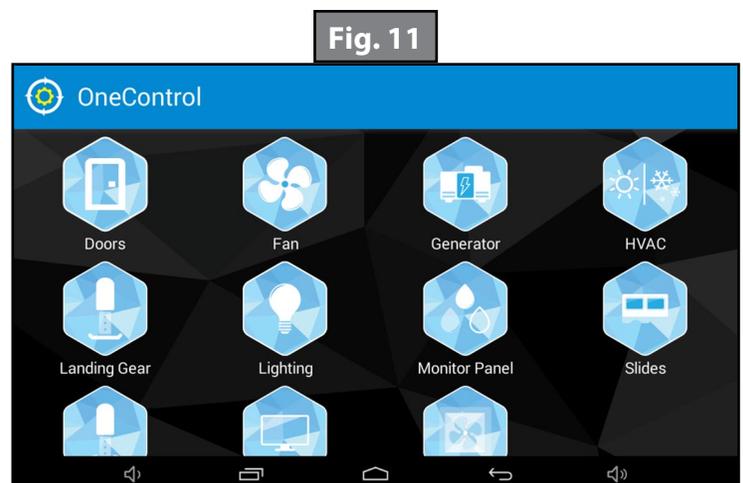
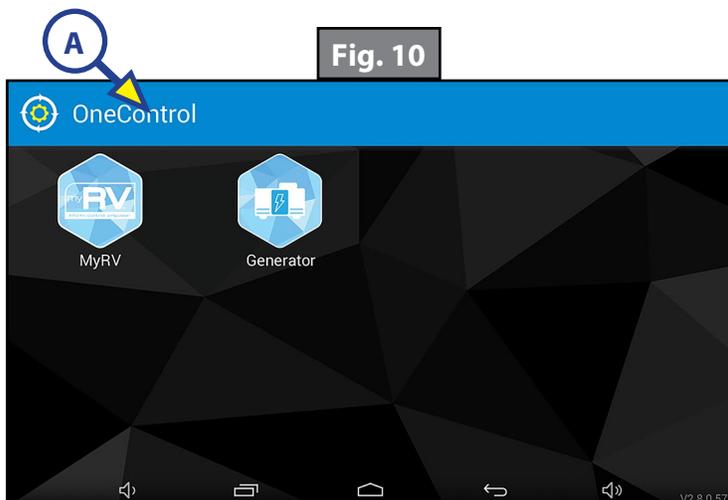


2. To enter or exit sleep mode, press and release the power button.

Touch Panel

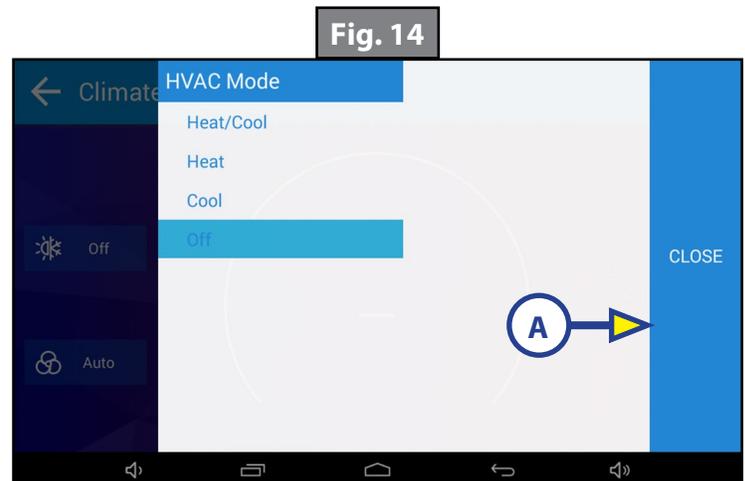
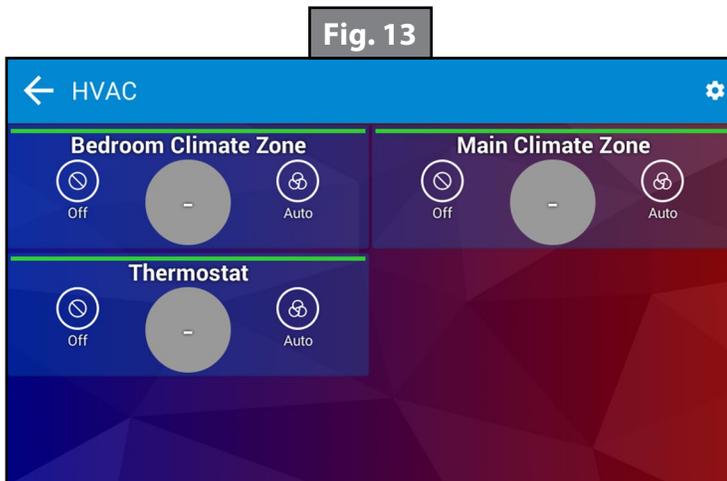
1. Locate "OneControl" control panel (Fig. 10).
2. Press the icon of the system you wish to operate.
3. Push the system "Home" button (Fig. 10A) to return to the OneControl home screen.

NOTE: The touch panel will show icons representing the devices that are currently connected to the "OneControl" system (Fig. 11) via CAN bus.



Adjusting HVAC Control

1. In the touch panel home screen, select the HVAC icon to open the app (Fig. 12A).
2. In the HVAC menu screen, select the Climate Zone you wish to adjust (Fig. 13).
3. There are two boxes on the left hand side of the screen (Fig. 14). The top box controls the heating/cooling mode. The bottom box controls the fan.



- A.** Press the top box to choose the HVAC mode. A large box will populate with all available options for that climate zone. Choose from the following:
- I. Heat/Cool** – In this mode choose a high and low set point and the HVAC system will operate to keep the temperature between those 2 set points.
 - II. Heat** – In this mode choose your desired set point and the furnace or heat pump will operate to keep the temperature at that set point. If equipped with a heat pump, you will be prompted to choose a heat source. The options are gas or heat pump.
 - III. Cool** – In this mode choose the desired set point and the A/C will operate to keep the temperature at that set point.
 - IV. Off** – This setting turns the HVAC system off completely.
- B.** Once the desired mode is selected, press the "Close" button (Fig. 14A).

- C. Press the bottom of the two boxes on the right. A large box will populate with all available fan settings (Fig. 15). Choose from the following:
 - I. **High** – The high fan will run continuously until another setting is chosen
 - II. **Low** – The low fan will run continuously until another setting is chosen
 - III. **Auto** – The fan will run when the HVAC system calls for heating or cooling and then shut off after the set point is reached.

NOTE: The fan will continue to run for two minutes after the set-point has been reached in order to cool the compressor/furnace.

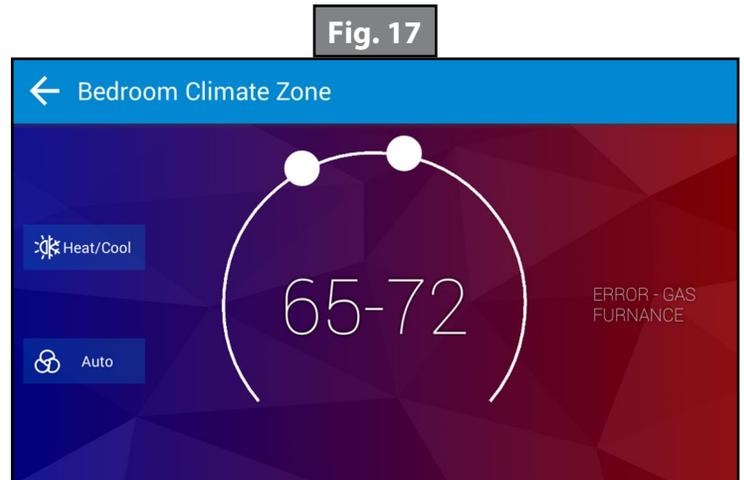
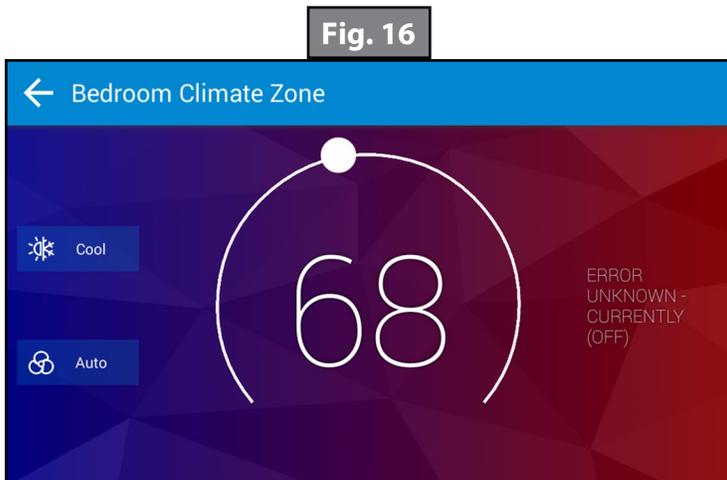
- D. Once you select the desired fan setting, press the "Close" button (Fig. 15A).



- 4. In the center of the screen there will be a temperature with a radius around it (Fig. 16). On that radius will be a white circle. To adjust the set-point:
 - A. Press and hold the white circle to drag it around the radius. Clockwise around the radius will raise the set temperature. Counterclockwise around the radius will lower the set temperature.
 - B. Once the desired set-point is reached, remove finger from the white circle.

NOTE: In "Heat/Cool" mode will be two white circles (Fig. 17). One to the left sets the low end of the temperature range and one to the right sets the high end of the temperature range.

- 5. To the right of the set temperature and radius the system status is displayed, e.g. currently 78° F cooling, currently 65° F heating with gas, currently 72° F idle.



Wiring Diagram

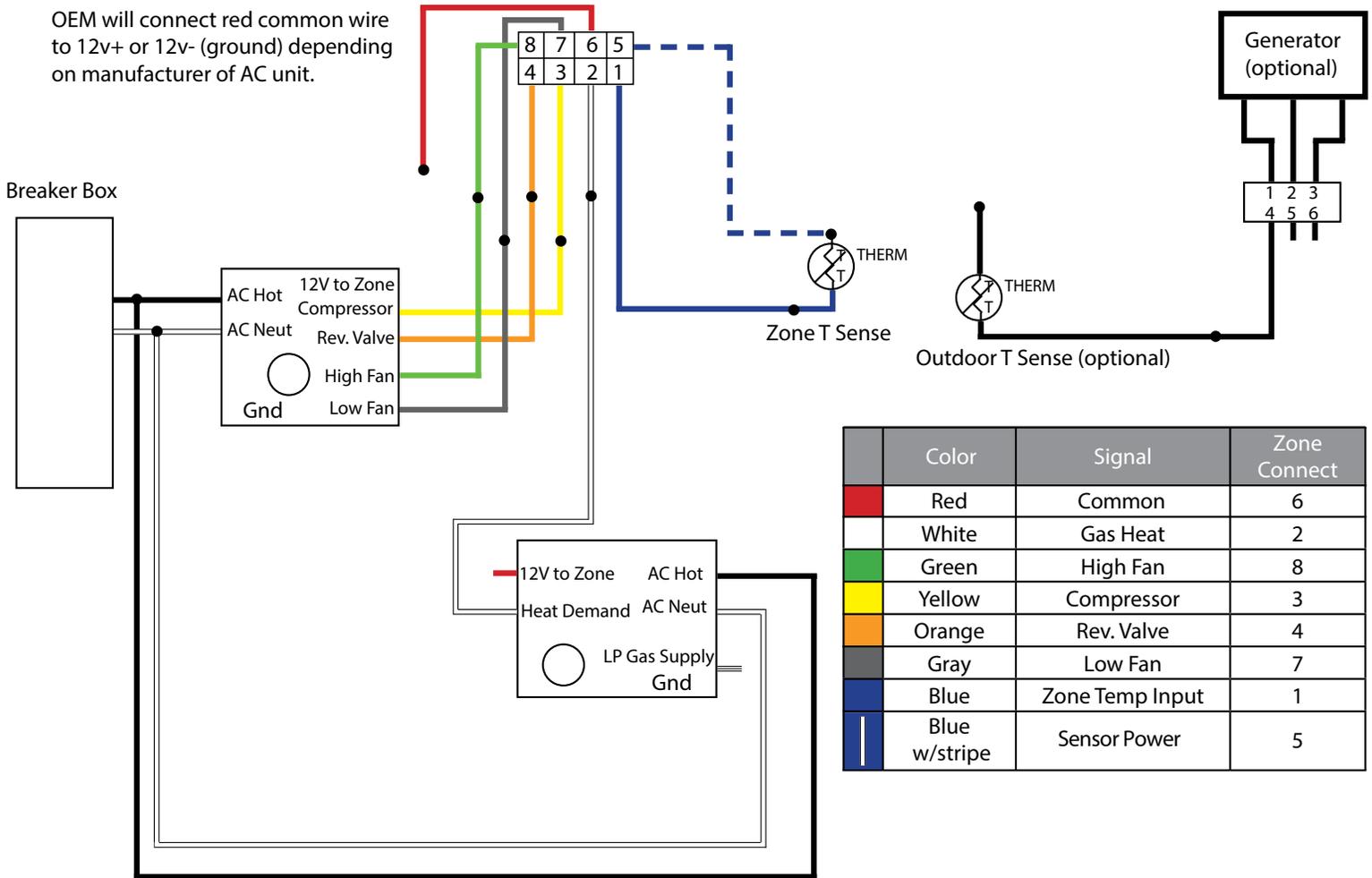
The following wiring diagrams show possible appliance connections, depending on the OEM installed controller.

OneControl® HVAC Triple Zone Wiring Diagram for: Furnace, A/C, Heat Pump, Dual Speed Fan

Fig. 18

Zone Connector (715845 Controller)

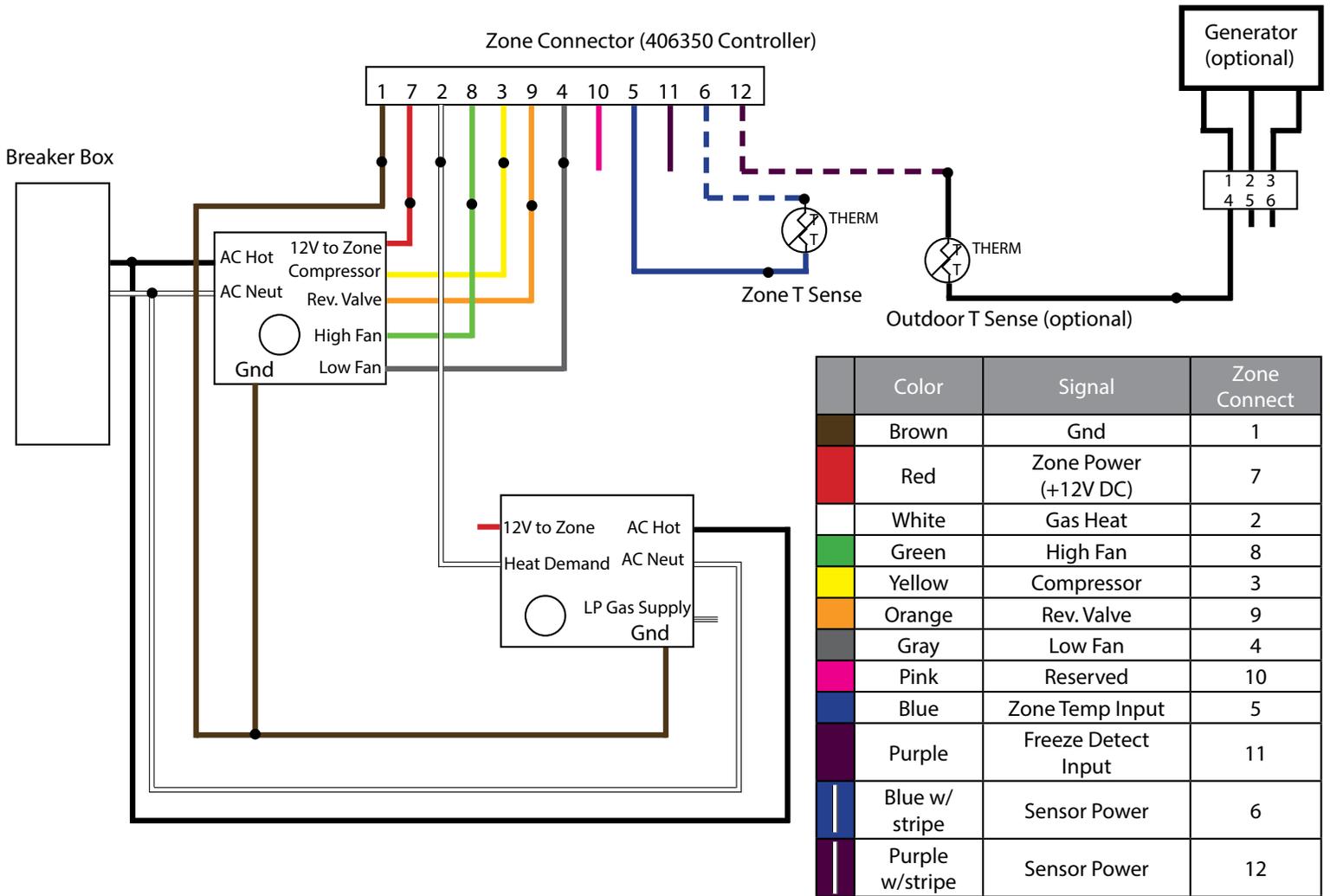
OEM will connect red common wire to 12v+ or 12v- (ground) depending on manufacturer of AC unit.



| | Color | Signal | Zone Connect |
|--|---------------|-----------------|--------------|
| | Red | Common | 6 |
| | White | Gas Heat | 2 |
| | Green | High Fan | 8 |
| | Yellow | Compressor | 3 |
| | Orange | Rev. Valve | 4 |
| | Gray | Low Fan | 7 |
| | Blue | Zone Temp Input | 1 |
| | Blue w/stripe | Sensor Power | 5 |

OneControl® HVAC Dual Zone Wiring Diagram for: Furnace, A/C, Heat Pump, Dual Speed Fan

Fig. 19





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