

LANDMARK VFD CONTROLLER (LVC2) KIT

INSTALLATION INSTRUCTIONS FOR THE LANDMARK VFD CONTROLLER (LVC2) KIT (92W17) USED WITH KC & KG ROOFTOP UNITS

Variable Frequency Drive Controller

The Landmark VFD Controller (LVC2) controls the Variable Frequency Drive to provide operation at two blower speeds. The blower will operate at lower speeds when de-

mand is low and increases to higher speeds when demand is high. Refer to the installation instructions provided with each rooftop unit for more detail.

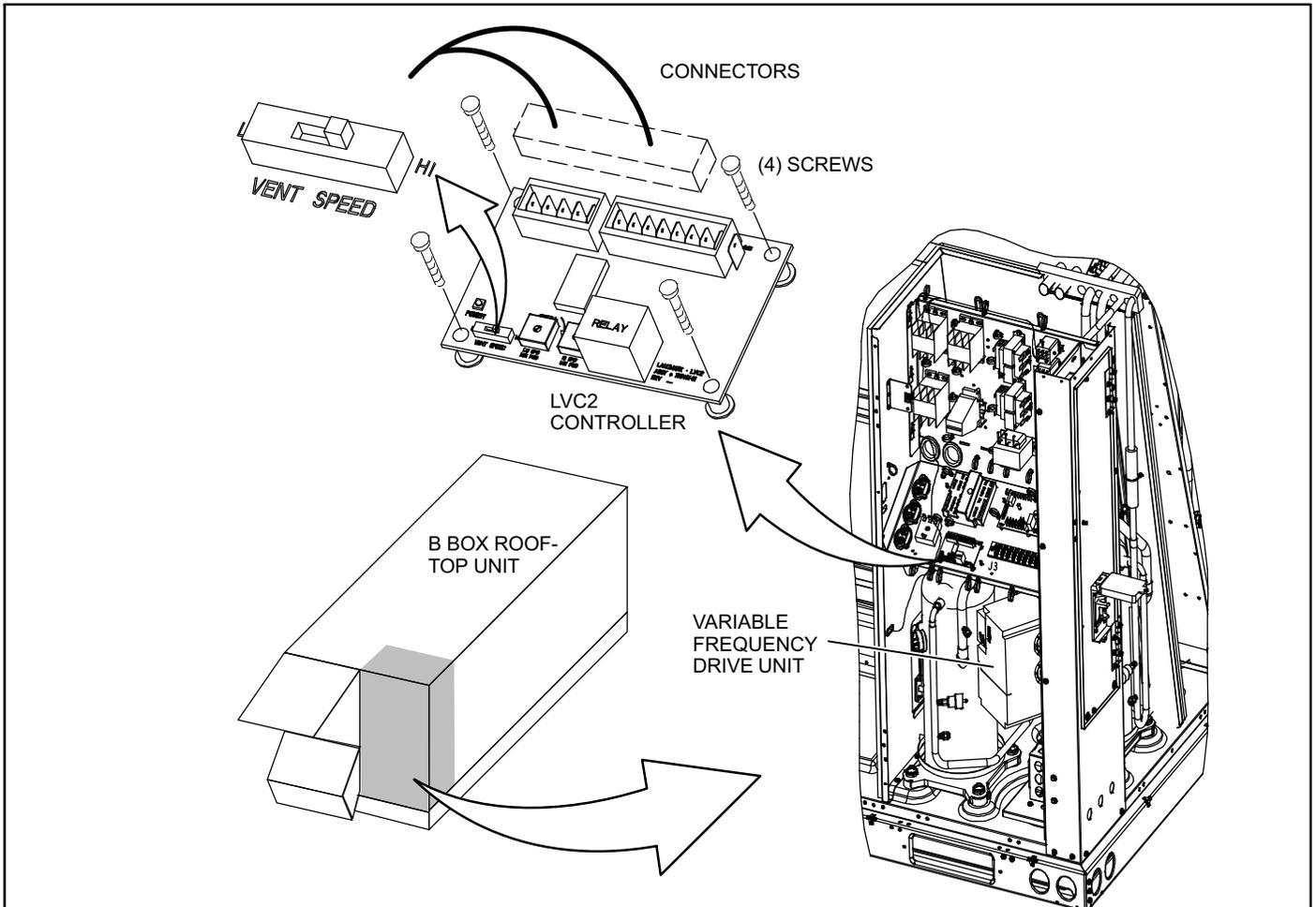


Figure 1. Location of VFD Controller (LVC2) module (Landmark B Box)

LVC2 module installation (see figure 1 and 2)

1. Shut down power to the rooftop unit.
2. Access the rooftop unit control area.
3. Observe the potentiometer settings on the existing LVC2 Controller being replaced and set the new controller potentiometers at similar settings.
4. Note the VENT SPEED switch setting and set the switch on the new controller in the same position.
5. Disconnect all connectors on the LVC2 Controller.
6. Remove screws and the defective LVC2 Controller.
7. Install the new LVC2 Controller using the (4) #6-32 screws.
8. Install the connectors to the new controller.
9. Turn power on to the rooftop unit.



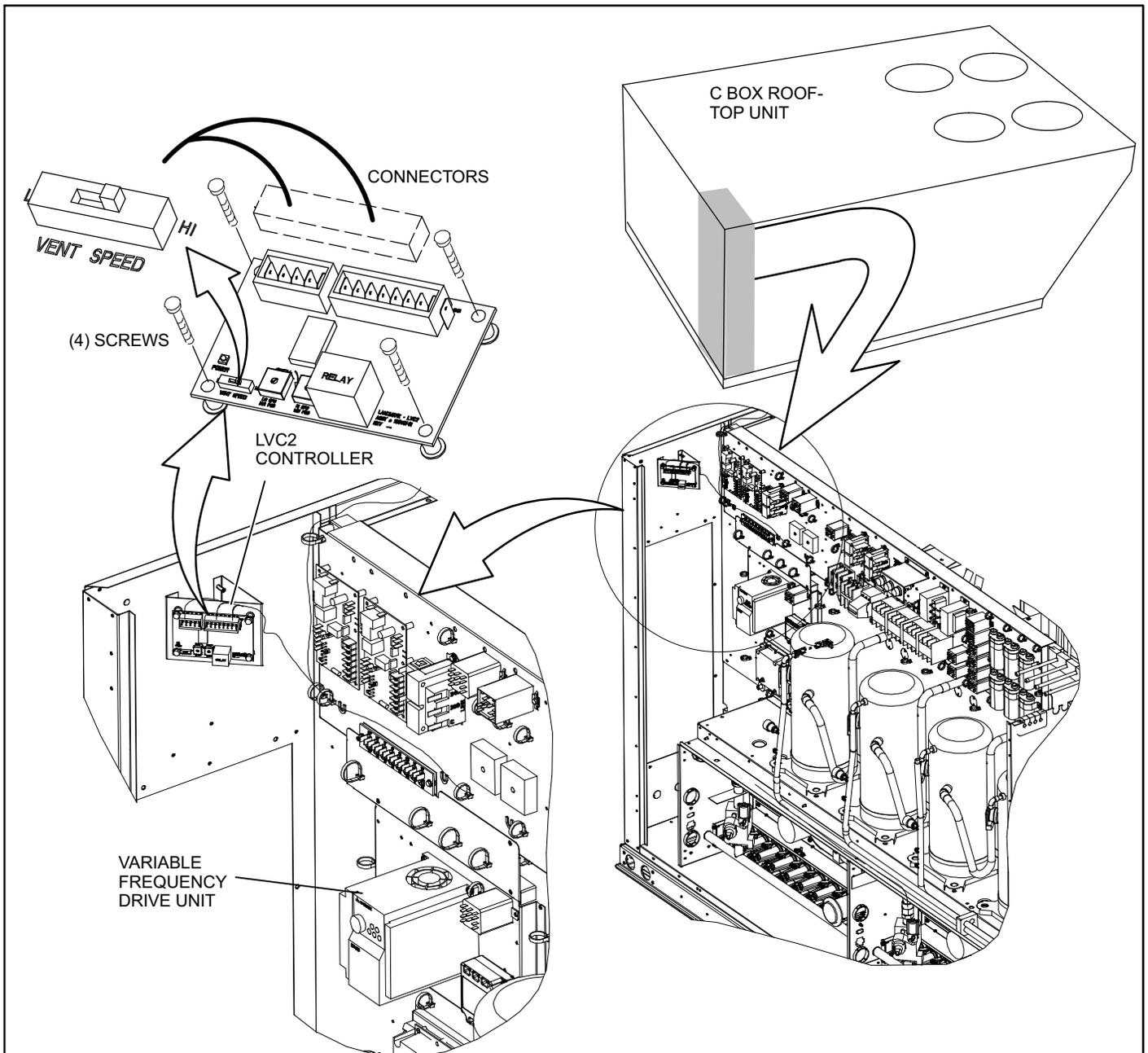


Figure 2. Location of VFD Controller (LVC2) module (Landmark C Box)

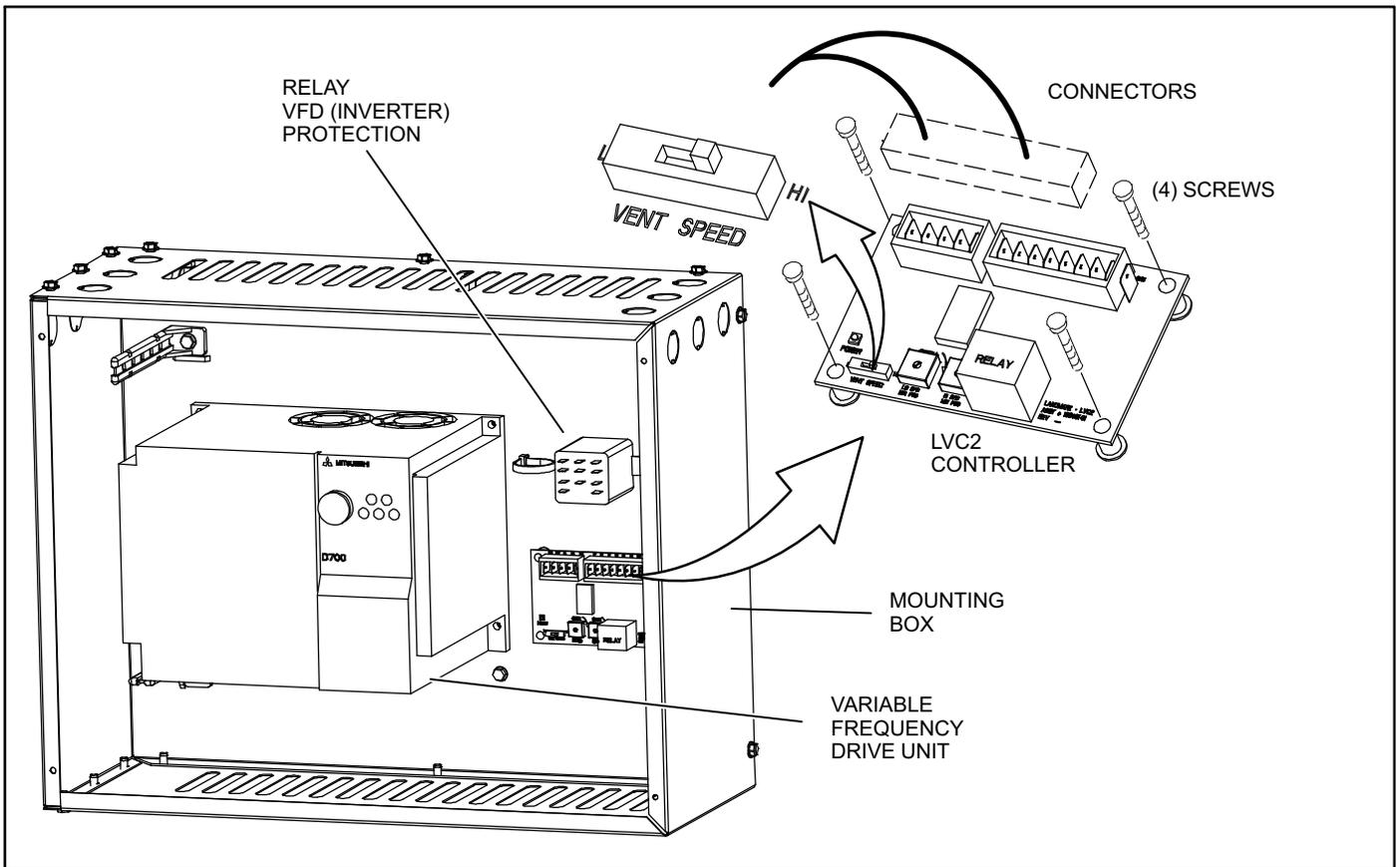


Figure 3. Location of VFD Controller (LVC2) module (Split System MSAV Kit mounting box)

LVC2 module installation (see figure 3)

1. Shut down all power to the split system indoor air handling unit. Verify that the MSAV Kit mounting box does not have a separate power supply; if it has, shut down that power source also.
2. Access the split system MSAV kit mounting box.
3. Observe the potentiometer settings on the existing LVC2 Controller being replaced and set the new controller potentiometers at similar settings.
4. Note the VENT SPEED switch setting and set the switch on the new controller in the same position.
5. Disconnect all connectors on the LVC2 Controller.
6. Remove screws and the defective LVC2 Controller.
7. Install the new LVC2 Controller using the (4) #6-32 screws.
8. Install the connectors to the new controller.
9. Turn power on to the unit.

Blower speeds

Optional Multi-Stage Air Volume (MSAV™) units are available which provide two blower speeds. The blower will operate at lower speeds when cooling demand is low and higher speeds when cooling demand is high. This results in lower energy consumption.

MSAV™ units will operate at high speed during ventilation (blower “G” only signal) but can be adjusted to operate at low speed (approximately 2/3 of full speed RPM).

Set Blower Speed During Ventilation

To save energy during ventilation, blower speed can be set to low by changing the ventilation speed switch on the VFD control board to “LO” (see figure 4).

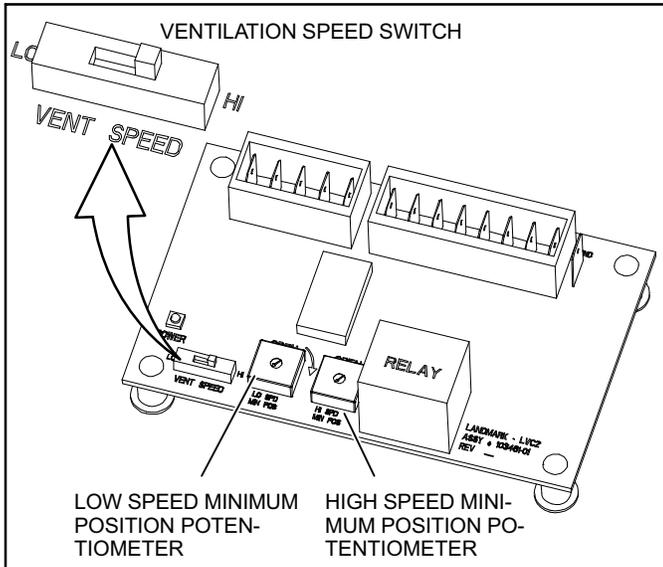


Figure 4. LVC2 (A183) VFD Control Board

NOTE - On units equipped with an economizer, set damper minimum position as shown in the next section. After adjusting the low speed minimum position, the ventilation speed switch will be in the “LO” position.

Set Damper Speed Minimum Position (Units with Economizer)

To maintain required minimum ventilation air volumes when the unit is in the occupied mode, two minimum damper positions must be set. A high and a low speed potentiometer are provided on the VFD control board to adjust minimum damper position (see figure 4).

Set high speed minimum position as follows:

1. Initiate a blower (G) only AND occupied demand from the room thermostat or control system.
2. Set the ventilation speed switch on the VFD control board to “HI”.
3. Rotate the high speed potentiometer on the VFD control board to set the high speed minimum damper position.
4. Measure the intake air CFM. If the CFM is lower than the design specified CFM for ventilation air, use the potentiometer to increase the damper percent open. If the CFM is higher than specified, decrease the damper percent open.

NOTE - Intake air CFM can also be determined using the outdoor air temperature, return air temperature and mixed air temperature. Refer to the economizer or outdoor air damper installation instructions.

Set low speed minimum position as follows:

1. Initiate a blower (G) only AND occupied demand from the room thermostat or control system.
2. Set the ventilation speed switch on the VFD control board to “LO”.
3. Rotate the low speed potentiometer on the VFD control board to set the low speed minimum damper position.
4. Measure the intake air CFM. If the CFM is lower than the design specified CFM for ventilation air, use the potentiometer to increase the damper percent open. If the CFM is higher than specified, decrease the damper percent open.

NOTE - Intake air CFM can also be determined using the outdoor air temperature, return air temperature and mixed air temperature. Refer to the economizer or outdoor air damper installation instructions.

Troubleshooting

Refer to the Landmark rooftop unit (KG/KC/KH) installation manual for troubleshooting procedures. All documentation is available through the Lennox Commercial website (www.lennoxcommercial.com).