

P-242B V-10 Touchscreen Controller Kit Installation Instructions

- VFC, SL, EX, VX, CX



Warning

This replacement kit shall be installed by a qualified service agent in accordance with these instructions and all applicable codes and requirements of the authority having jurisdiction. If the information in these instructions is not followed exactly a fire, an explosion or production of carbon monoxide may result causing property damage, personal injury or loss of life.

The qualified service agency is responsible for the proper installation of this kit. The installation is not proper and complete until the operation is checked as specified in these instructions.

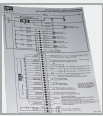


Caution

Static electricity can damage the electronic components on the boiler controller. Avoid touching the electronics.

Note

If this installation concerns a CX model, the CBI board will need to be reutilized from the CX boiler. If this CBI board is not reusable, please order [P-1616](#).

Control Board - VFC, SL, EX, VX,CX			
	Part #	Description	Quantity
	500-063	Touchscreen controller assembly	1
	080-123	Wiring Diagram label	1

When to Install the P-242B V-10 Touchscreen Controller Kit

Install the P-242B kit when you need to update a 5-button to a touchscreen controller, or replace a failed or damaged V-10 Touchscreen Controller

Note

A ladder or step may be required to have a clear vertical view of the work area.

Do not attempt to remove the assemblies without a clear view, as damage to the connectors, screws or refractory may occur.

Replacement of the V-10 Touchscreen Controller

Installation Notes

Replacing a controller with the V-10 touchscreen controller involves the following steps:

- » Removing the old controller.
- » Installing the new touchscreen controller.
- » Wiring the touchscreen controller.
- » Programming and testing connections.

Preparing the Boiler for Servicing

1. Remove call(s) for heat.



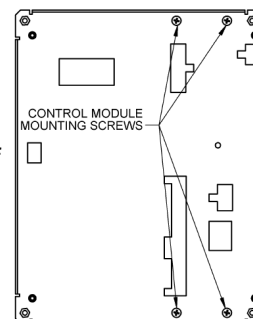
IMPORTANT

Record all settings from the original boiler controller **before** beginning the replacement. For example, record settings in the *Installer Setup* menu, *Multi-boiler* menu, and *Load Pairing*.

2. Remove power to the boiler at a wall switch or a breaker.
3. Shut off gas supply to the boiler.
 - » Do not drain the boiler unless freezing conditions are expected during this procedure.
4. Allow the boiler to cool down.
5. Remove the front panel and set aside.

Removing a 5-Button Controller

1. Remove the controller's right side electrical terminal block cover.
2. Unplug the orange and green terminal block connectors from the right side of the IBC board.
3. Remove the controller's front cover.
4. Remove the screws securing the back plate of the IBC controller to the boiler cabinet.
5. Ensure that the board is held in place and unplug the connectors from the rear of the board.
6. Remove the 5-button controller board from the boiler.
7. Proceed to [Installing Replacement Touchscreen Controller on page 4](#).



Removing a Touchscreen Controller

1. Remove the controller's right side electrical terminal block cover.

Note

Do not remove wires from any terminal strips.

2. Unplug the P/V terminal strip and the two low voltage terminal strips by firmly pulling to the right.
 - » If connected, also unplug the Alarm terminal located at the bottom of board, under controller cover.
3. Swing out the controller to access the back side connections.
4. Remove any retaining brackets that may be securing the connectors to the rear of the board.
5. Unplug all the connectors from the rear of the board.
6. Lift up on the bottom-left corner of the controller and pull forward to remove from the boiler.

Installation of Replacement Touchscreen Controller and Start-Up Procedure

Note

If the boiler has a controller mounted on a swing-out door, follow the procedure for [Swapping the Controller Mounting Plate on page 3](#). Otherwise proceed to [Installing Replacement Touchscreen Controller on page 4](#)

Swapping the Controller Mounting Plate

1. Remove the four screws that secure the control board to the front cover.
2. Remove the five screws off *both* the original and replacement boards (*Figure 1*).
 - » **FOR CX CONTROLLERS ONLY:**
 - » Remove the two screws (2) from the back of the control board before removing the back plate and the CBI connector (1) from the original board.
 - » Remove the screw (3) and retaining bracket (4) that secures the other connector to the back of the CX board (see *Figure 2*).
 - » Retain the bracket and screws for installment on replacement board.
 - » Remove the CBI control board from the original CX controller and install on the replacement controller.

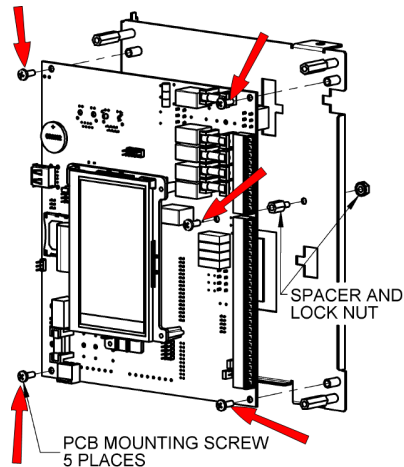


Figure 1

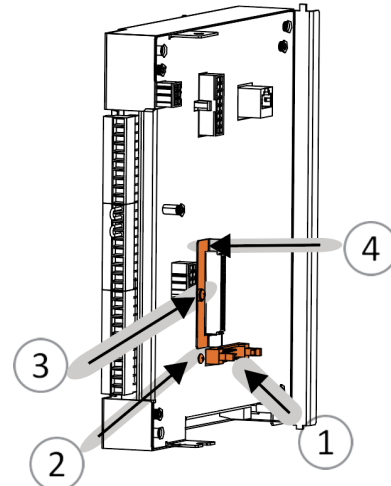


Figure 2

3. Carefully lift the controls off both mounting plates. Proceed to [Installing Replacement Touchscreen Controller on page 4](#)

Installing Replacement Touchscreen Controller

1. Install the replacement controller as directed in the table below:

» For swing-out style controllers:	a. Place the replacement screen control onto the swing-out door style control mounting plate, and reinstall the 5 screws. Avoid over-tightening the screws. b. Plug the connectors into the back of the board.
» For CX Controllers:	a. Ensure that the CBI control board is secured to the replacement control module. b. Place the replacement touchscreen control module onto the swing-out door style control mounting plate, and reinstall the 5 screws. Avoid over-tightening the screws. c. Install retained connector bracket and screw; do not over-tighten the screw. d. Install the retained two screws that secure the CBI control board to the back chassis.
» For older IBC boiler models with fixed controllers:	a. Remove the front cover from the new controller. b. Support the board as you plug the four connectors into the back of the board. c. Screw the back-plate of the controller to the cabinet of the boiler using the four screws previously removed with the old controller. d. Replace the new front cover of the controller.

Table 1: Installing Replacement V10 Touchscreen Controller

Wiring the Replacement Touchscreen Controller (5-Button Original)

Note

The touchscreen has new features including electrical connections that differ from the 5-button controller.

The replacement controller requires the Therm. 1, 2, 3 or 4 connections to be wired slightly differently from the way in which the old controller was wired. See the *V10.0 Electrical Ladder Wiring Diagram*

Please refer to the *V10.0 Electrical Ladder Wiring Diagram*.

When moving the wires from the old green and orange terminal strips to the new terminal strip, either:

» move the wires over one at a time

or

» label all the wires as you disconnect them from the old terminal strip so that they are not mixed up during transition to the new touchscreen controller.

1. Use a flat blade screw driver and move the line and neutral wires from the green terminal block to the corresponding position on the upper terminal block for the new controller.
 2. Move the wires from the orange terminal block to the corresponding positions on the low voltage terminal block on the new controller.
 3. Check that the high voltage terminals are **not** wired into the low voltage wiring block.
 4. Replace the electrical cover on the right side of the controller.
 5. Restore power to the boiler and replace the boiler's main door.
- » The new controller takes 90 seconds to come on line.
6. Place the new Electrical Ladder Diagram sticker on the inside of the boiler's main door if replacing a 5-button controller.
 7. Proceed to [Programming and Testing the Touchscreen Controller on page 6](#).

Wiring the Replacement Touchscreen Controller (Touchscreen Original)

The field wiring terminal strips can plug into the replacement control board without moving the wires over to the new terminal strips.

Programming and Testing the Touchscreen Controller

Note

To avoid damaging the controller's touchscreen, use a stylus or clean finger.

1. Turn on the gas and power to the boiler.

Note

Important: Do not tap the "Start" button to run the "Self Test". *This is for IBC use only.*

If "Start" button is selected, the control will attempt to perform the test and **FAIL**.

The program will then return to the previous screen where the correct boiler model number must be selected.

2. On the touchscreen, select the correct model number from the list, referring to the boiler's rating plate
3. Select the "Save" button in the bottom left corner of the screen.
4. Program the controller using the values saved from the original controller, or use the "Express Setup" function to set up the boiler.
5. Ensure that the boiler has registered the thermostat connections correctly along with the correct load types and settings.
6. Check that all pumps operate as with the previous controller.
7. On the **Diagnostics** screen, check the temperature sensor and pressure sensor readings.