IBC®
Better Boilers

Installation Instructions

P-270 Safety Ignition Module (SIM) replacement kit

If the boiler has a 5-button board running software version 3.11.3 or earlier, use the replacement Fenwal module, IBC part 240-004. The software version is displayed for three seconds upon powering up the board. You can also find it in the Installer Setup menu under System Information. If no such directory exists, the software version is older and you should use the Fenwal replacement module.

IBC Part #	Description	Boiler Model
P-270	Safety Ignition Module (SIM)	SL Series 'G1' (SL 20-115, SL 28-160, SL 30-175, SL 35-199, SL 45-260, and SL 80-399), SL Series G2, SL 40-399 G3, SL 26-260 G3

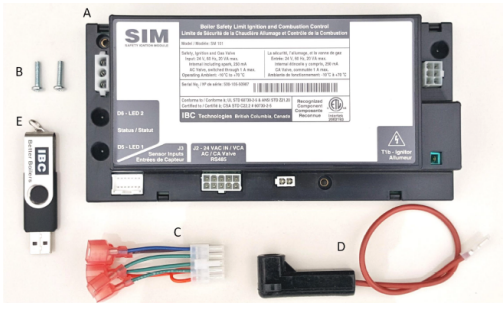
Warning

This kit must be installed by a qualified service agency in accordance with the manufacturer's 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.

Note

For increased reliability, we recommend that you replace the electrode/flame sensing rod when you replace the SIM (purchased separately). It is possible to reuse ignitors with low running hours.

Kit contents:



A. SIM module (backwards compatible mode) - # 500-105
B. 2 x screws - 6-32 x 5/8" - #150-015
C. SIM adapter cable # 200-165
D. SIM Ignitor cable # 200-154
E. USB stick with software version 1.03.3 or later- # 900-009

Replacing a SIM in the SL 'G1' and G2 series boilers

The supplied USB contains the latest software that we recommend using to update - although not essential - the above models with the latest features. Note that you cannot update the older 5-button controller boards with a USB. For additional information on the ignition system, its normal operation, and troubleshooting, refer to the boiler's Installation and Operation manual.

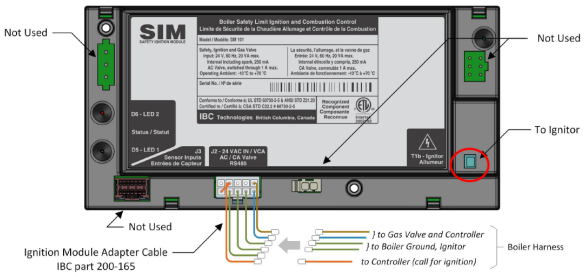


Figure 1 SIM connections - SL G1 and G2 series boilers

Boilers with a 5-button controller running software version 3.11.4 can use this kit. All 5-button boards running version 3.11.3 or earlier should use the replacement Fenwal Ignition module, IBC part 240-004. The software version is displayed for three seconds upon powering up the board. You can also find it in the Installer Setup menu under System Information. If no such directory exists, the software version is older and you should use the Fenwal replacement module.

The P-270 SIM kit replaces the Fenwal or Capable Controls ignition module for all IBC SL series 'G1' (SL 20-115, SL 28-160, SL 30-175, SL 35-199, SL 45-260, and SL 80-399) and G2-series boilers. Yo do not need to use the supplied USB software update for these models. However, the update provides the latest features and improvements. For information on how to perform a software update, see Software update. Note that you cannot update the 5-button control boards with a USB.

1. Disconnect the power to the boiler and close the gas shut-off valve.

   This SIM kit can replace an IBC Fenwal Ignition module, a Capable Controls module, or an existing SIM.

   If replacing an existing SIM, all the module's connector plugs, except the ignition lead, have retaining clips.

2. Note the position of the retaining clips for each plug.

   To unplug the connectors, you must press down on the retaining clips and then properly release them.

3. Unplug the connectors from the module. If replacing a Fenwal or Capable Controls Ignition module, disconnect the wires one by one. If necessary, use needle-nose pliers to grip the wire terminals.
4. Check that the wire connections are still solid and secure.
5. To remove the existing module, hold it firmly in place as you unscrew the two mounting screws. Keep the screws.
6. Position the new module, so that the mounting holes align.
7. Insert the screws, and lightly tighten to secure the module in place. Do not over-tighten.
8. If replacing a Fenwal or Capable Controls ignition module, attach the SIM adapter cable provided to transition from the boiler wiring harness. The wiring connections are color-coded. For example, from the gas valve the brown and blue wires connect to the brown and blue plugs on the SIM adapter cable. If wires are not color-coded, use any plug, for example, for multiple green grounding wires.
9. Replace the original ignitor cable with the SIM ignitor cable provided, and run it to the ignitor tab on the SIM (see image above).
10. Leaving the gas off, restore power to the boiler.
11. If the ignitor was replaced, pressurize the combustion chamber for a leak test around the ignitor gasket with an approved leak test solution:
    - Remove any call for heat.
    - From the **Main Menu**, go to **Diagnostics** > **Fan Operation**.
    - Press the **Vent Test On/Off** button to drive the fan into high speed.
    - When complete, press On/Off again, and wipe off the excess solution.
12. Leaving the gas off, initiate a call for heat. Look through the sight glass to see that the spark is present during the ignition trial.
13. If the spark looks bright and stable, turn on the gas and allow the boiler to go through another trial for ignition. It should light off smoothly and quietly.

Replacing a SIM in the SL G3 series boilers

For the controller to recognize the new SIM, the boiler requires software version 1.03.3 or later.

Tip: To check the boiler controller's software version, in the Main Menu, select Diagnostics>Boiler Information>Software Release. If your boiler requires a software update, see *Downloading software from the USB to the touchscreen controller on page 5*.

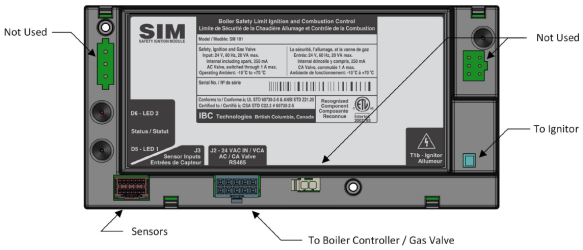


Figure 2 SIM connections - SL 26-260 G3, SL 40-399 G3 series boilers

1. Disconnect the power to the boiler and close the gas shut-off valve.

   All the module's connector plugs, except the ignition lead, have retaining clips.

2. Note the position of the retaining clips for each plug. To unplug the connectors, you must press down on the retaining clips and then properly release them.
3. Unplug all the connectors from the module.
4. Check that the wire connections are still solid and secure.
5. To remove the existing module, hold it firmly in place as you unscrew the two mounting screws. Keep the screws.
6. Position the new module, so that the mounting holes align.
7. Insert the screws and lightly tighten to secure the module in place.
8. Plug the connectors into their respective sockets (see image above), ensuring that the retaining clips click into place properly. Each wire connector plug should fit snugly into a socket.
9. Plug connectors into their respective sockets, ensuring that the retaining clips click into place properly.

   Each wiring connector should fit snugly into a socket.

   Note that the Ignition Module adapter cable part # 200-115 (included in this kit) is not used on G3 Series boilers, and can be discarded. Similarly, a G3 will already have a SIM Ignition Cable 200-154, so the ignition cable provided with this kit can be set aside as a spare part.

10. Leaving the gas off, restore power to the boiler.
11. If the ignitor was replaced, pressurize the combustion chamber for a leak test around the ignitor gasket with an approved leak test solution. To do this:

    - Remove any call for heat.
    - From the **Main Menu**, go to **Diagnostics** > **Fan Operation**.
    - Press the **Vent Test On/Off** button to drive the fan into high speed.
    - When complete, press On/Off again, and wipe off the excess solution.

12. Leaving the gas off, initiate a call for heat.
13. Look through the sight glass to check that a spark is present during the ignition trial.
14. If the spark looks bright and stable, turn on the gas and allow the boiler to go through another trial for ignition. It should light off smoothly and quietly.

Downloading software from the USB to the touchscreen controller

1. At the boiler, remove active calls for heat. The home screen should show a Standby status.
2. Carefully insert the USB stick into one of the ports on the left-hand side of the controller.
3. On the controller screen, tap **Main Menu**>**Diagnostics**>**Advanced Diagnostics**>**Software Update**.
4. Select the USB.

   If you do not get a response, select **Cancel** and try again.

   The controller checks if a software update is required. If required, the system prompts you for permission to proceed.

5. Select **Yes** and **OK**.

   If you see a message "Could not mount flash device", select **Cancel** and try again. The controller automatically restarts after loading the update, and the process takes a few minutes.

6. To check that the controller has the latest software release, go to **Main Menu**>**Diagnostics**>**Boiler Information**>**Software Release**.