P-271 Safety Ignition Module+ (SIM+) replacement kit

The kit replaces an existing SIM+ module.

IBC Part #	Description	Boiler Model
P-271	Safety Ignition Module+ (SIM+)	SL 10-85 G3, SL 14-115 G3, SL 20-160 G3, SL 30-199 G3

Warning

This kit shall 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.

Kit contents:

A. SIM+ module configured to Fenwal mode - # 500-078
B. 2 x screws - 6-32 x 5/8" - # 150-015

Note

For increased reliability, we recommend that you replace the ignitor (purchased separately) at the same time as the SIM. However, ignitors with low running hours can be reused. See *Replacing the ignitor on page 2*.

Installing a SIM+

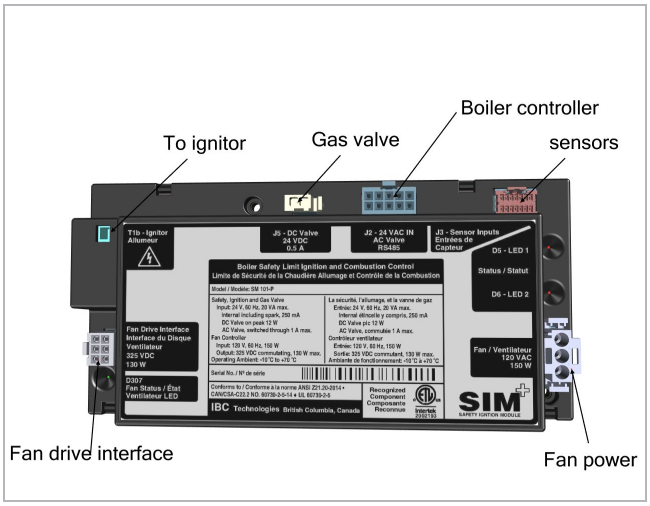

Figure 1 SIM connections - SL 10-85 G3, SL 14-115 G3, SL 20-160 G3, SL 30-199 G3 series boilers

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. The retaining clips must be depressed and properly released before the connectors can be unplugged.
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 in place as you unscrew the two mounting screws. Retain 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. (Optional) To replace the ignitor:
   a. Unscrew the two Phillip head screws holding the ignitor in place.
   b. Position the new ignitor and gasket in place, and attach using the two ignitor screws supplied with the kit.
10. Leaving the gas off, restore power to the boiler.

    If the ignitor was replaced, you should pressurize the combustion chamber to check for leaks around the ignitor gasket. The way to pressurize the combustion chamber is to put the fan into vent test mode that will drive the fan into high speed.

11. To perform the leak test:
    a. Apply an approved leak solution around the ignitor gasket.
    b. Remove any call for heat.
    c. From the touchscreen controller's **Main Menu** go to **Diagnostics**>**Fan Operation**>Press the **Vent Test On/Off** button to drive the fan into high speed.
    d. When finished, press the **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.

Replacing the ignitor

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

2. Remove the ignition wire and ground wire from the ignitor.
3. Remove the two mounting screws holding the ignitor in place, and retain them.
4. Remove the existing ignitor and gasket, and replace with the new parts.
5. Install the retained mounting screws and firmly tighten.
6. Re-attach the ignition wire and ground wire from the module.

   If the ignitor was replaced, you should pressurize the combustion chamber to check for leaks around the ignitor gasket. The way to pressurize the combustion chamber is to put the fan into vent test mode that will drive the fan into high speed.

7. To perform the leak test:
   a. Apply an approved leak solution around the ignitor gasket.
   b. Remove any call for heat.
   c. From the touchscreen controller's **Main Menu** go to **Diagnostics**>**Fan Operation**>Press the **Vent Test On/Off** button to drive the fan into high speed.
   d. When finished, press the **On/Off** again, and wipe off the excess solution.
8. Leaving the gas off, initiate a call for heat.
9. Look through the sight glass to check that a spark is present during the ignition trial.
10. 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.