
Touchscreen Controller Software Release Note – Version 1.02.0

New Features

- Load Zoning allows up to 3 Loads to be programmed as a zone of another, already configured, Load (the primary load). The zoned loads must be the same type and will use the same settings as the primary load but will independently respond to their own calls for heat using their own load relay. When a boiler has a load with zones plus other loads, the load with its zones will be treated as one load with respect to the priority scheme for servicing multiple loads.
- Support for the Stainless Sidewall Terminal (flat pack) for sidewall direct vent applications.
- Web Portal Remote Access; via the touchscreen the boiler controller can be instructed to connect and register with IBC's remote access portal website www.portal.ibcboiler.com. This feature requires that the boiler be connected to a data network that has access to the Internet.
- A completely redesigned web interface, which includes both a "Touchscreen" mode and a "Technician" Interface. The "Touchscreen" interface emulates the look and feel of the boiler's touchscreen interface and is also very mobile device friendly. The "Technician" interface is a rewrite of the old web page interface, which was based on the web pages originally written for the BIC-II. The updates also include giving all the web pages the "IBC" look and feel.
- Added an indication, similar to the Summer Shutdown message, on the Home screen that is displayed whenever the Fail Safe Setpoint temperature is being used instead of the temperature corresponding to the external control voltage.
- Added the air flow pressure sensor recalibration feature to support field replacements of the pressure sensor or boiler controller. When Restart Boiler is selected from the Advanced Diagnostics menu and the restart process begins an option the recalibrate the pressure sensor is presented for selection. Recalibration should be done when the version 1.02.0 update is done and every time the pressure sensor or boiler controller is replaced.

Improvements

- Improved immunity to windy conditions in sidewall direct vent installations. Old s/w versions allowed windy conditions to change the Offset Pressure, essentially the calibration zero point for the air flow pressure sensor, and degrade the boiler's operation (intermittent low air flow errors). A new algorithm, with standard deviation filtering and long term averaging makes the determination of Offset Pressure immune to windy conditions. We recommended code upgrade of sidewall direct vent installations.
- Issue: The SL 28-160, operating with propane fuel, could produce a howling sound as the input power reduces from high fire after ignition or on a fast drop from high fire to low fire.
 - The issue is likely to be exposed if the boiler is using propane fuel and the gas valve is tuned at the lower end of the recommended CO2 tuning range.
 - The improvement controls and slows the rate that the boiler reduces the power input such that the thermo-acoustic resonance that causes the howl does not occur.
- Issue: In multi-boiler operation, usually two boilers, the slave boiler is running very near high fire and as the supply temperature is climbing very close to the target temperature the master boiler suddenly reduces the target supply temperature and the slave drastically reduces its power level even though the load had not been satisfied. This cycle can repeat over and over.
 - The issue is likely to be exposed if;
 - The supply water temperature is being sensed from the secondary loop sensor.
 - The slave boiler is opting out to service another load, DHW for example.

- The secondary loop temperature is likely to change more quickly than usual because of mixing on the secondary loop from load switching or mixing valves.
- The boiler network is configured with Rotation set On and Fixed Lead set to OFF.
- Problem:
 - The boiler power control algorithm, for control based on a remote sensor, such as the secondary loop sensor, was tuned for large mass loads and smaller mass loads can have unexpectedly fast temperature changes sensed when the water temperature is at or near the set point. These relatively quick temperature changes would be deemed “out of range” and the target temperature would be drastically lowered in response to a perceived error.
 - An issue in the boiler rotation algorithm with two boilers and specific run time relationships could result in the master boiler initiating a rotation even though the slave is running. This creates very similar symptoms.
- Improvement:
 - The power control algorithm response time was damped to avoid the out of range error. The improvement has been shown to resolve the issue in some cases. However, problems with similar symptoms may require a different solution.
 - A modification to the rotation algorithm will prevent the premature start of boiler rotation.
- Issue: When the VS Output was set to “Boiler Status” the status voltages were 1/3 the level that they were with the 5 button controller.
 - This issue has been present since the first release of the Touch Screen controller.
 - This software release corrects the status voltages so that they are the same as they were of the 5 button controller.

Replaces Versions

- It is compatible with in all IBC SL boiler models, the VFC 15-150 and the VFC 45-225.