PF2200-SB

FREQUENTLY ASKED QUESTIONS

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The following **FAQ** addresses the most frequently asked questions related to the **PF220-SB**. As the **PF220-SB** is a new system, with an entirely new interface, please take the time to read through this **FAQ** document to find answers to the most commonly asked questions related to the system.

1. **I have an alarm, but I don't know what it means. What do I do?**

   - **Appendix A** in the **PF2200-SB Product Manual** contains all alarm codes and descriptions of each alarm. Follow this link to the Product Manual. https://www.profireenergy.com/product_documents/PF2200-SB_Product_Manual.pdf

2. **What's the password?**

   - As publishing the passwords publicly reduces the level of safety for the product, we have changed them.
   - There are two levels of authentication: L1 and L2. These are to only be known by the individuals who require them.
   - Password cards are provided in each PF2200 box.

3. **What temperatures can be used for Process Control?**

   - The **Bath**, **Outlet**, and **Aux Temp** can all be used for Process Control.

4. **Does the outlet temperature work the same as the Aux temp on the PF2100?**

   - No, it does not. The outlet temperature is more advanced on the PF2200. See the **Product Manual** section **"2.1.2.17"** for a description of the operation of the PF2200 and compare it to the **PF2100 Product Manual**.

5. **Why are the PF2200 I/O's logic reversed from the PF2100?**

   - The **PF2200** uses "**High Logic**" compared to the "**Low Logic**" of the **PF2100** for a safer and more reliable input signal. Each installation should be reviewed and may require the installation of a relay to "**close**" and energize the inputs.

6. **Does the PF2200 support all my I/O's for a PF2100 with expansion cards (repeater cards, Modbus, etc.)?**

- Yes, it does. Key features are supported, including input **echo's**, **Modbus**, **data logging** and **others**.
- You can find more information on all the **I/O's** supported by the **PF2200-SB** starting on **page 11** of the **Product Manual**.
  https://www.profireenergy.com/product_documents/PF2200-SB_Product_Manual.pdf

7. **Is the PF2200 Modbus map compatible with the PF2100?**

- Yes, it is. See the **PF2200 Modbus Register Map** at the link below.

  http://docs.profireenergy.com/Content/SUPPLEMENTAL/REGISTERS%20FOR%20PF2200%20MODBUS.htm

8. **How do I wire up Modbus A and B?**

- The main consideration for wiring is to keep inversions consistent throughout the system. Standard TTL logic states that a logic 1 is defined as when line B is greater than line A. A logic 0 is defined as the opposite.

- For a full explanation of wiring Modbus A and B, refer to the provided link Polarities for Differential Pair Signals (RS-422 and RS-485).

9. **Is the stainless-steel enclosure a direct replacement for the PF2100 mounting locations?**

- **No**. Some modifications may have to be made in order to mount the **PF2200 enclosure**. The **PF2200 Installation Manual** has more information on the mounting of the **PF2200_SB enclosures**.

  http://docs.profireenergy.com/Content/Installation%20Manual/Installation%20Manual.html

10. Is there any type of data logging or totalization?

- **Yes**, data logging is supported. Built-in totalization is **not** supported at this time. However, totalized values can be calculated from the **data log**.
- More information on **Data logging** can be found in the "**Data Logging**" sections of the **User Manual and the Product Manual**.

  https://www.profireenergy.com/products/pf2200.html

11. How can I differentiate between setting backup files when I have multiple PF2200's on one site?

- Currently, the backup files are only **time stamped**. In future firmware, the BMS serial number will be used to differentiate between settings files.
- In the meantime, the files can be renamed after the backup is taken, and the USB is uploaded onto a PC. Use the **file explorer** to locate the backup, **right-click** the file name and select "**Rename**" in the options menu.

12. Can I control the process temperature from the stack temperature or is this a shut down only?

- The **Stack Temperature** is a **shut down only**. Use the **Aux** or **Outlet Temperature** input to control the process from a stack temp.
- See **Temperature Inputs** on **page 16** of the **Product Manual** for more information on the **Stack Temperature Input**.

13. What is the difference between the main off setpoint and the process setpoint?

- Process control modes use these differently – see **on/off control** vs **low/high fire** vs **PID** in the **PF2200 Product Manual.**

14. Do I need to connect the solenoid minus terminal to the board, or can I just connect one side of the valve to the ground?

- Both the solenoid **minus** and **plus** terminals should be connected back to the BMS. The solenoid's negative should **not** be grounded. This is to protect against wiring or equipment faults and to increase the safety of the product.

15. How do I set the time?

    a) From the **Settings** screen, press the **Carousel button**.

    b) Use **arrow keys** and go to **Setup** then **Commissioning**.

    c) From there, you can set the current **Date/Time**.

16. Can I see my POC or POLO status on the front screen?

- No. These statuses are **not** available to be displayed on the front screen. They are available on the **Diagnostics** screen only.

17. What do I use Proof of Main Light Off (POL) for?

- The **Proof of Main Light Off** input gives the system the ability to prove a light-off position before opening the main gas valves.
- This can be either **digital** or **4-20mA** position feedback.

18. Is there a separate TCV output, or do I have to use one of the 2 Aux outputs for it?

- **Yes**. There is a **TCV Valve** output (**terminals 13 and14**), which is a **4-20mA output**, intended to connect to a proportional fuel gas valve on the main fuel train. The **TCV output** behavior corresponds to the current state of the system and is actively controlled by the **PID** while in the "**Process Control**" system state.

19. Can I measure temperature with the Aux inputs?

- **Yes**, The **Auxiliary Inputs 1 and 2 (terminals 45-46 and terminals 47-48, respectively)** are intended to be connected to a generic **I/O device**. Configurable as either a **Digital** or **4- 20mA** input, this input is intended to be connected to either a switch/PLC output (digital) or a transmitter (4-20mA).

20. How can I echo a temperature?

- The **Auxiliary Outputs** 1 and 2 **(terminals 37-38 and 39-40 respectively)** are a 4-20mA output signal, which is capable of echo.
- For more information on these **Outputs**, see section **2.1.2.18** of the **Product Manual**.

21. How do I save/backup my settings?

- For information on **Backups**, see the **Reset / Backup / Restore Settings** section in the **PF2200-SB User Guide**.

22. How do I change the status items I see on the front screen?

- Use the **Carousel key** to navigate to the **System** screen. Use the **Arrow keys** to highlight **Status Priority** and press **OK**. You will then be presented with a list of all active settings. These can be shown in prominence on the status screen. Using the **Arrow keys** and the **+** or **- keys**, you can determine the priority order of the **Status** elements.

23. I restored my settings, and now I see an "Incomplete Commissioning" alarm. Why? What does this mean?

- The **commissioning complete** setting is **always reset** to default during the restoration. The operator **must validate all settings** on the BMS unit and acknowledge the completion of the commissioning.

24. Are the default settings identical to the PF2100, or do I need to change them?

- The default settings of the PF2200 are different from those of the PF2100. Many of the safety inputs, including pressures, level, proof of closure, etc. are enabled by default for safety purposes.

25. Do I have to jumper inputs if they're not used? Can these be disabled in settings? Which ones can be disabled?

- Most of the **inputs** can be **disabled in settings** if they are not used. Therefore, these inputs do not require jumpers.
- The exception to this is the **ESD** input and the **external switch contacts**. If no external switch is desired, jumper between the **SW PWR** and **SW RUN** contacts on the external switch connector.

26. Can you use TC's & RTD's interchangeably?

- No. The **Bath input** is a **dual input**, and you **cannot** interchange **TC's** and **RTD's** for this input. The **Outlet** and **Stack inputs** can use **TC's** and **RTD's** interchangeably.

27. What happened to the Low Fire Setpoint?

- Due to confusion experienced by some users regarding the Low Fire Setpoint, it has been renamed to Main Off Setpoint. The functionality is the same. This new naming is intended to give more clarity on the function of the setpoint.

28. Where do I connect the Main valves?

- Similar to the Low Fire Setpoint renaming, the solenoid outputs have been renamed to SSV (Safety Shutoff Valve).

29. Why are there three wires for each thermocouple?

- The PF2200 now supports RTD temperature devices as well as the traditional Type-K thermocouples. There is a wiring diagram printed beneath the terminal blocks for clarity on connections. The selection between thermocouple and RTD is made in the temperature settings menu.

30. What is the process control setting?

- To allow the controller to properly indicate the states of the heater, it must know more information on the type of control being implemented. In the PF2100, this was accomplished via a combination of wiring and settings. While it did get the job done, it did not allow the controller to accurately indicate the state of the heater. The Process Control Setting provides this missing information to the PF2200.

31. Where can I see the flame quality?

- Flame quality can be displayed on the status screen in a quantitative manner, i.e., None, Weak, Strong. Detailed information on the flame quality can be found in the Flame diagnostics screen on the System page. This screen will display a bar graph of the flame strength as well as raw voltages from the flame detection circuit, which can be used in troubleshooting. If you are familiar with the PF2100, the none line on the graph is 0%, and the Weak line is 100%.

32. How do I wire up Modbus A and B?

- The main consideration for wiring is to keep inversions consistent throughout the system. Standard TTL logic states that when line "A" is greater that line "B" would equal a 0 Volt TTL level. When line "B" is greater than line "A" would equal a 5 Volt TTL level.

- For a full explanation of wiring Modbus A and B, refer to the provided link [Polarities for Differential Pair Signals (RS-422 and RS-485)](#).

33. Navigation Tips

- Pressing the **?** key will bring up navigation assistance.

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