Troubleshooting & faults guide

mini bems

www.minibems.com

Content

Introduction

The Minibems solution is an intelligent control and monitoring system.

Minibems allows communication across a complex heating network to provide the most efficient method for delivering heat. It also provides the capability to monitor a complex installation from anywhere in the world.

The purpose of this manual is to provide an overview of the Minibems product and a guide to installation, operation and fault finding.

What happens when things go wrong?

The Minibems control system is designed to provide the most efficient heating possible. In order to deliver this it requires a lot of information from sensors and other units; this intercommunication is what makes Minibems so powerful.

Iif this complex system fails, the system must continue to perform at least as well as a simple system.
This section details the possible failure scenarios and what you should expect the system to do in these instances.

Internet Goes Down

This won't affect the system's performance or efficiency. The real time data will not be available via the internet and you won't be able to make any changes to your system on your computer, tablet or phone. The heating and hot water will continue to work as normal.

Local Area Network Fails

In this case, much of the Minibems intelligent control cannot work as it relies on communication between all the boards. However, the system will continue to work at least as well as a simple control system.

The network export will revert to a fall back temperature of 70°C.
Heat exchangers will open the control valves on the primary side and assume heat will arrive, then they will modulate, delivering heat to heating circuits as normal.

Sensors Fail

If the controller requires a particular sensor to function, such as a room sensor in a heating circuit, the controller will stop running. The status light on the box will go red, and the error will be reported via the UI.

As this will mean that heat is no longer being delivered, the sensor will need to be fixed.
If the sensor is only required for monitoring, the system will continue to run normally. A warning will displayed via the UI.

Troubleshooting

1

Heating circuit has no heat

Check the status light on board, if this shows red, go to section 5. If is showsyellow, go to section 6.

Check the room control unit if fitted. Is the room shown as occupied?

Check the ‘last change message’ in the controller diagnostics.
This should read “On - in schedule period (21.00C)” or similar. Act on message if different.

Check the producer (i.e heat network export). If this is not hot, check the producer upstream.

2

Biomass boiler has not fired

Check the device diagnostics and boiler Modbus data. Make sure no boiler errors are displayed.

If you are unsure whether the boiler is ignited, check the O^2 content on the chart.

A reading of 7-15% means there is a fire.

3

Heat interface unit not delivering heat to heat interface unit

Is the primary flow temperature similar to, or lower than, the primary return temp?
- Check that the flushing bypass is not open.

Is the primary flow control valve open, but minimal heat is being delivered to the secondary side of plate?
- Check the line strainers on the primary side of plate.
- Check the plumbing – is the heat main flow plumbed to the HIU primary return?

4

Hot water cylinder is too hot

Check the flow control valve for the cylinder.
If lights are flashing the valve is in error state - this may indicate thatthe valve is stuck open due to a blockage

Troubleshooting

5

Orange/yellow status light

This light indicates that the process is not running.
Try pushing the configuration form the UI using the ‘Generate Config’ button.
If this fails, use the WSS-monitor “send commands” tool, clear the ‘settings.json’ and ‘configuration.json’ files to reboot the board.
You can find further details in the WSS-monitor remote commands library.

6

Red status light

This light indicates that the main process is running but there is an error.
Check the device diagnostics – devices in error will be highlighted red. Check the cabling, settings and voltage levels are as described in the hardware guide

7

No lights at all

Look through the network port, you should see a blue light which may be flashing.
If the light is not visible, check the power supply.
If the blue light is on, check to see if the board is visible via the WSS-monitor, and try updating the Minibems software.
If the board is not visible on WSS-monitor, try power cycling the board, (turn off, wait 30 seconds, turn on).
The light should illuminate after a maximum of 5 minutes.
If the above fails, you may need to change the board.

Contact

Technical support -
+44 (0)1392 249 110
support@zerocarbonfuture.com

minibems®

Troubleshooting & faults guide

www.minibems.com