

Power CyCLO Firmware Upgrade Instructions

1. Introduction

The Adaptive products are all in-field upgradable allowing them to receive enhanced functionality or apply software updates. This is a robust fail-safe procedure that can be carried out using the Adaptive HMI application or a standalone program.

No special tools are required other than the normal serial cable used for communication and access to the power supply for the module. Optional access to the board LEDs for visual indication may be helpful.

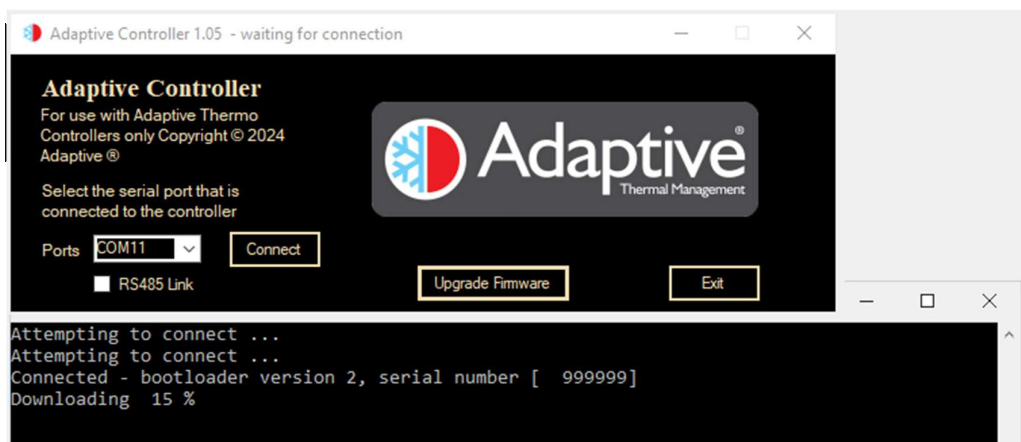
Full instructions for upgrading Adaptive boards are describe in the document “Adaptive Firmware Upgrade Instructions” however this document specifically details the process to upgrade Power CyCLO modules in detail.

2. Upgrade Process

Power CyCLO modules have two methods of upgrading; the first is using the USB connector which is seamless using the Adaptive HMI, or second via the optional RS232/485 adapter board which requires the power to be cycled.

Using the USB interface.

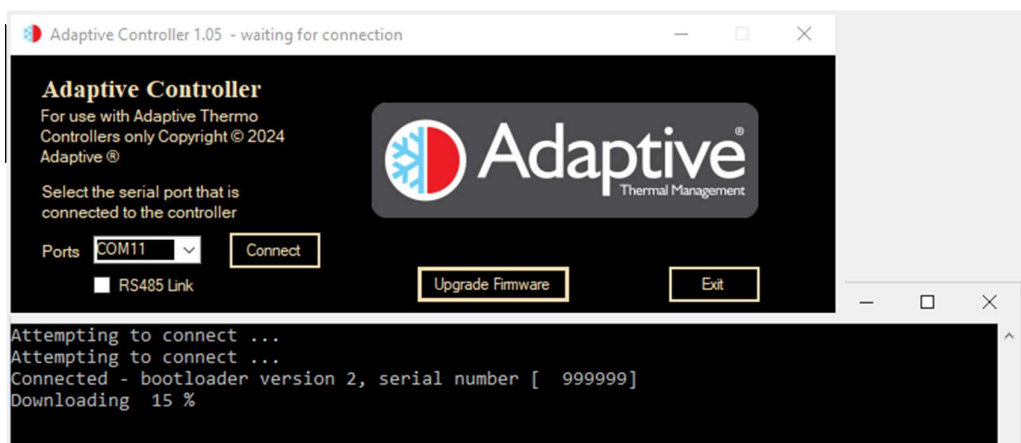
- To use the USB interface first ensure the USB/Exp switch is set to USB to select the USB device for communication.
- Connect a USB cable between the Power CyCLO and the PC being used to perform the upgrade
- Switch on the Power CyCLO and start the Adaptive HMI but do not connect to the board.
- Select the serial port that’s connected to the Power CyCLO from the Ports drop down list.
- Click the ‘Upgrade Firmware’ button and select the firmware upgrade file such as ‘**CyCLO_2p00.1d**’
- Click on ‘Open’ to select the file and start the download. A window should open and show the download progress.



- Monitor the progress and wait for the message stating ‘Download complete’.
- Remove the power and close the Adaptive HMI and then reapply power, open the HMI and connect to confirm the board now displays the upgrade version in the title bar.

Using the optional expansion board RS232/485 modules

- a) To use one of the expansion modules first ensure the USB/Exp switch is set to Exp to select the expansion module for communication.
- b) Connect the appropriate cable between the expansion board and the PC being used to perform the upgrade. If using RS485 ensure that the PC is only connected to one Power CyCLO.
- c) Start the Adaptive HMI but do not connect to the board.
- d) Select the serial port that's connected to the Power CyCLO expansion module from the Ports drop down list. Note you do not need to select the RS485 checkbox at this point because the boot loader process does not use device addresses and at this point only one Power CyCLO is connected.
- e) Click 'Upgrade Firmware' button and select the firmware upgrade file such as 'CyCLO_2p00 .1d' but do not click 'Open'
- f) Switch on the Power CyCLO to enter boot mode and within 8 seconds click on 'Open' to select the file and start the download. A window should open and show the download process.



- g) Monitor the progress and wait for the message stating 'Download complete'
- h) Remove the power and close the Adaptive HMI and then reapply power, open the HMI and connect to confirm the board now displays the upgrade version in the title bar.

3. Troubleshooting the upgrade process

- If no download window appears or it appears briefly before closing, this indicates an issue with the file which may be:
 - a) A corrupt file, incorrect file type – ensure it has the '.ld' extension
 - b) the file is for a different Adaptive board – check the file name
 - c) the filename or path where it is stored has one or more spaces in it – rename and / or relocate to a different location
- Attempting to connect ... displayed but fails to connect. This indicates that the programme cannot connect to the boot loader on the device check the following:
 - a) That the correct communication cable / method is selected and the USB/Exp switch is set accordingly.
 - b) If the Exp board is selected make sure the Power CyCLO is turned off and on again to enter boot mode and that the download is started within 8 seconds of being turned back on
 - c) If long USB cables or Hubs are used try to use a single shorter cable.
- Observe the red LED while attempting to download.

- a) When power is applied the red LED should flash twice a second (2Hz) for approximately 8 seconds to denote that the board is in the boot mode and able to receive upgrade commands. If using the Exp board to upgrade ensure the download process is started within this 8 second window.
- b) During the download process the red LED flashes as the packets are processed and will flash at a much faster rate.