

MelcoBEMS MINI (A1M R5) Firmware Upgrade Instructions

The *MelcoBEMS MINI (A1M R5)* firmware can be upgraded (bootloaded) through its RS-485 port.

The following hardware is needed:

- The *MelcoBEMS MINI (A1M R5)* unit to be upgraded (see Figure 1)
- A CN92/CN105 connection to provide the *MelcoBEMS MINI (A1M R5)* with power.
- A Windows PC/laptop with a working USB-to-RS485 adapter.



Figure 1 - MelcoBEMS MINI (A1M R5)

The following files are needed:

- A1M R5 Firmwaredownloader
- MelcoBEMS MINI (A1M R5) firmware file (.bin file)

The following steps describe the procedure which should be followed to successfully upgrade a *MelcoBEMS MINI (A1M R5)* unit.

- 1) Download the latest firmware upgrade files from the support FTP site via a web browser:

URL: <ftp://dpe.t-mac.co.uk>

Host: **dpe.t-mac.co.uk**

Login Username: **filedrop.MEUK.MelcoBemsMini**

Login Password: **hTze0w04bVHCPcrP**



Figure 2 - FTP support site via web browser

Once logged in the zip file for the relevant firmware version can be downloaded (see Figure 2). Once downloaded extract all files to a known location. If the files have been downloaded successfully jump to step 3.

- 2) If there is a problem with downloading the files via a web browser then an FTP client application can be used instead. One such client is FileZilla, it's free to use and can be downloaded from <https://filezilla-project.org/>. After installing, when running FileZilla click **File** and then **Site Manager**. Create a new site with the settings as shown in Figure 3 and the username and password given above in step 1.

Note the Protocol setting is set to **SFTP – SSH File Transfer Protocol**.

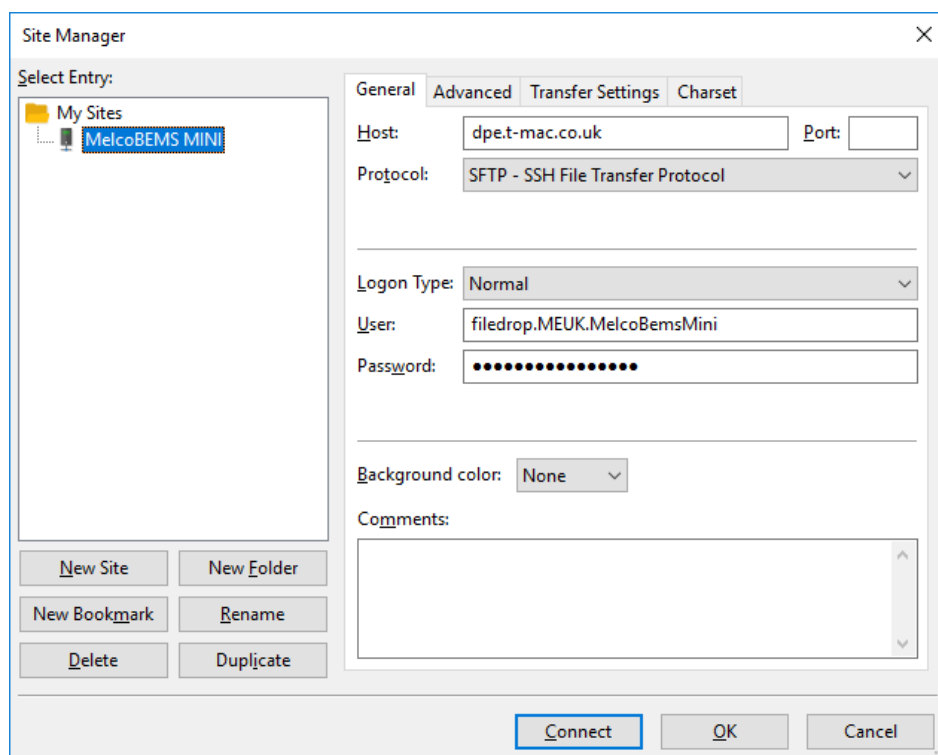


Figure 3 - FileZilla Site Manager connection settings

After clicking **Connect** the FTP site will be accessed and the files available for download will appear in the *Remote site* pane from where they can be downloaded, as shown in Figure 4.

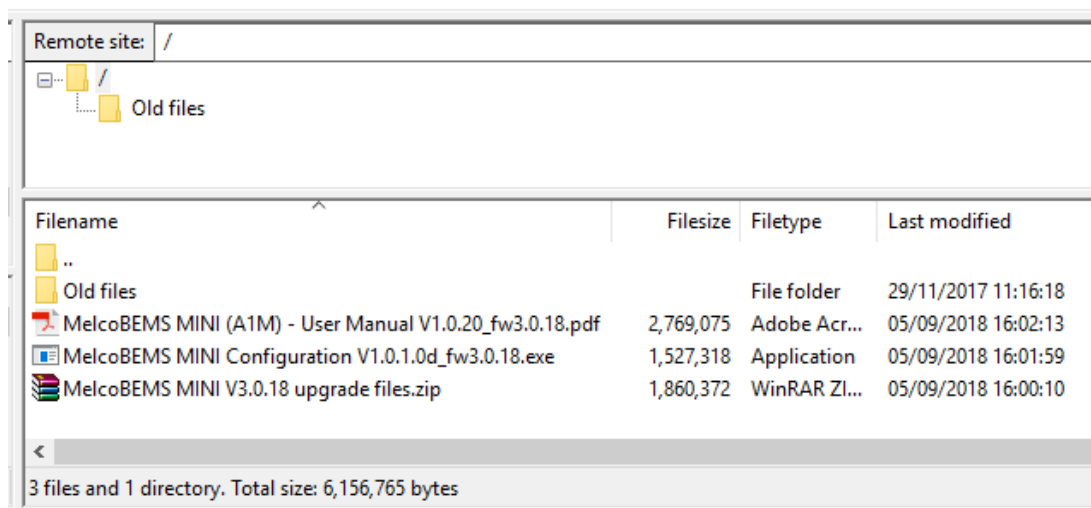


Figure 4 - FileZilla remote site files

- 3) If not already installed, install the A1M R5 Firmware Downlaoder.
The FirmwareDownloader need .NET framework 7.0 or above, please download it from Microsoft.
- 4) Ensure the USB-RS485 adapter is connected to the PC/laptop and the drivers are successfully installed. This can be done by opening *Device Manager* and expanding *Ports*. Make a note of the com port number of the adapter (e.g. COM4).

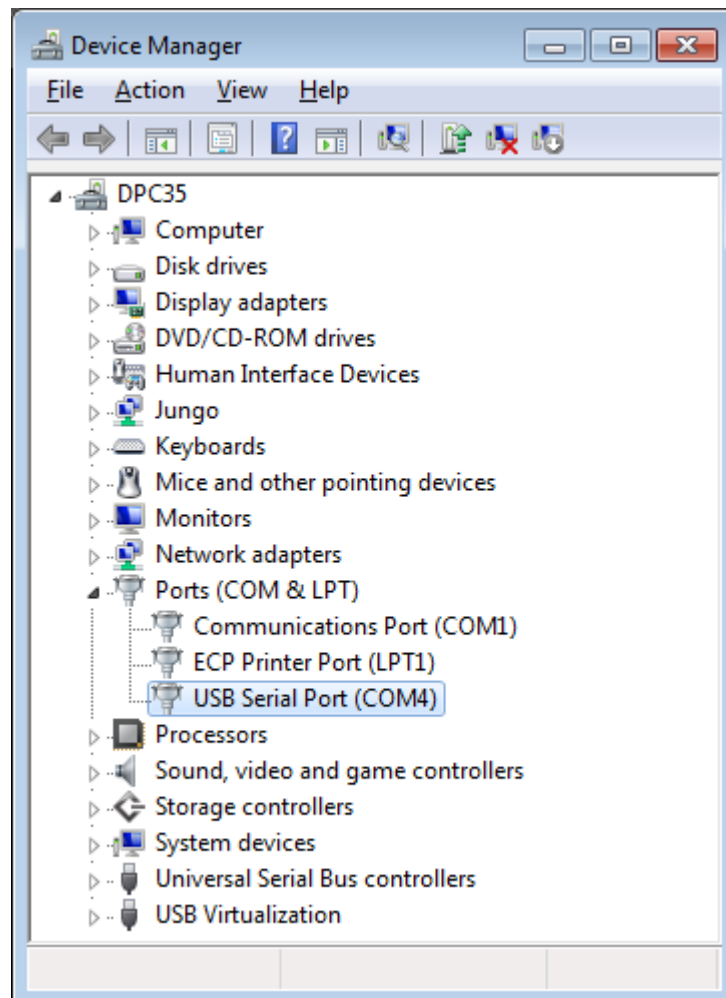


Figure 5 – Device Manager showing correctly installed USB-RS485 adapter drivers

- 5) Connect the USB-RS485 adapter to the *MelcoBEMS MINI (A1M R5)* 3-pin RS-485 connector.

Note: A, B and GND lines must all be connected for correct operation.

Note: Do not connect the 5-pin connector **CN105/CN92** connector yet!

6) Run FirmwareDownloader.exe

Click '*Open bin File*' and then navigate to and open the firmware .bin file extracted from the zip file earlier (e.g. A1M_R5_Release_08008000.bin)

Click the '*Select Comm Port*' button and select the comm port of the USB-RS485 adapter.

At this point the screen should resemble that of Figure 6.

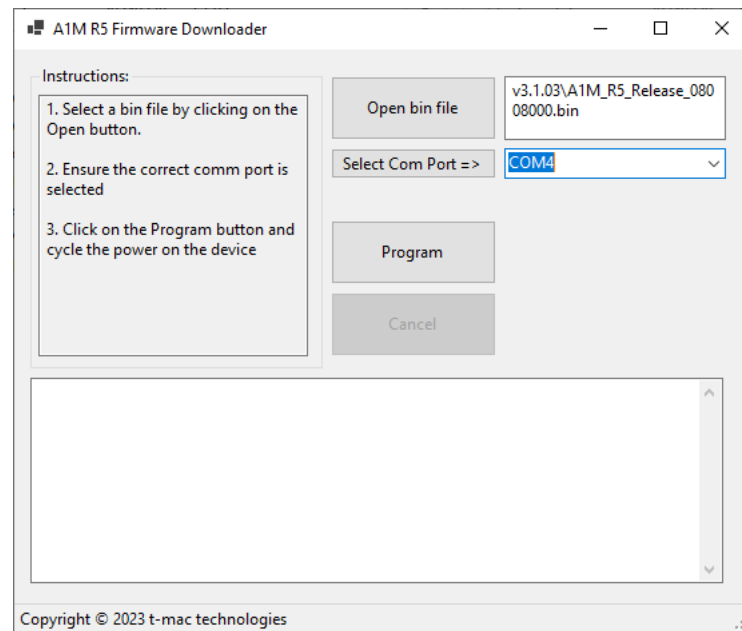


Figure 6 – FirmwareDownloader before bootloading commences

- 7) Make a note of the current DIP switch settings on the *MelcoBEMS MINI (A1M)* unit.
- 8) Switch all 8 DIP switch all 8 DIP switches on the MelcoBEMS MINI (A1M R5) to the OFF position.
- 9) Click the '*Program*' button on the firmwareDownloader. At this point a '*Started*' message will appear and a counter will slowly count up.

- 10) Apply power to the *MelcoBEMS MINI (A1M R5)* by plugging the white 5-pin plug into the CN92/CN105 socket.

After a few seconds the bootloading will start and an '*Erasing Flash*' message will appear on screen, followed by a "Writing" message as shown in Figure 7.

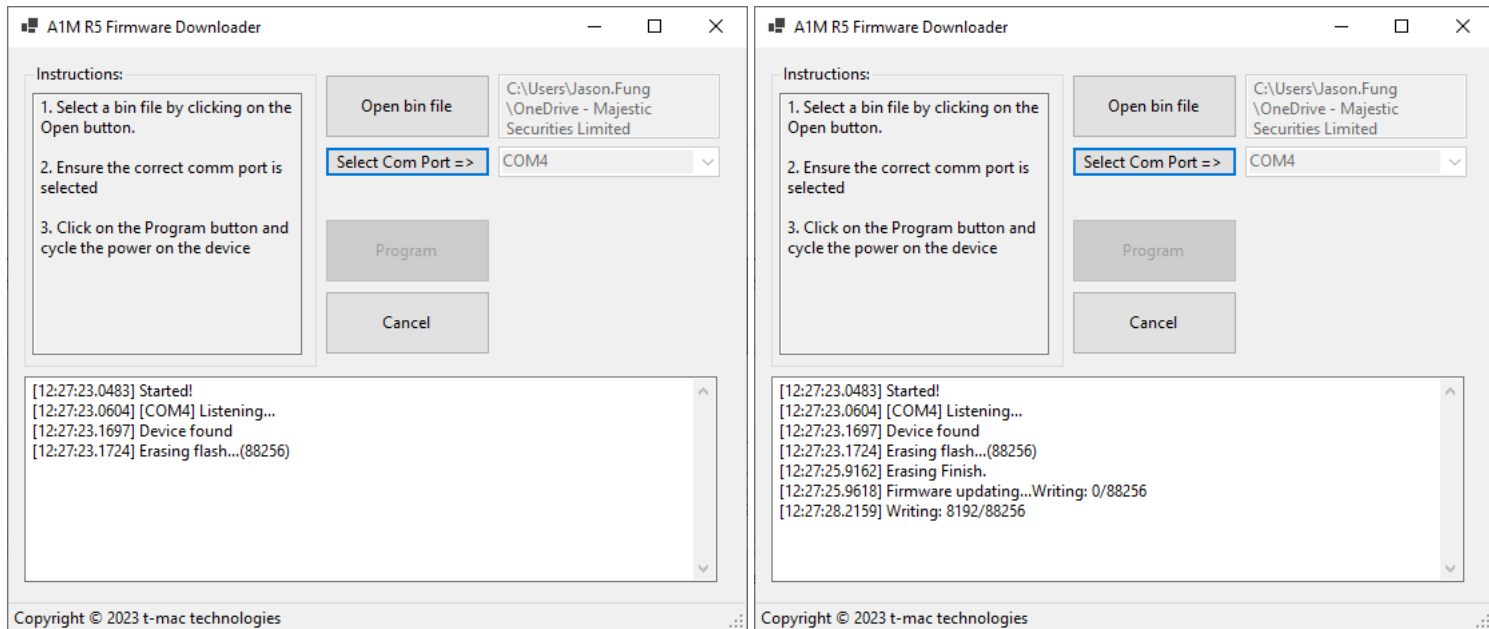


Figure 7 – FirmwareDownloader during programming

- 11) After successful programming, [Firmware update finished] will appear in the Text box.

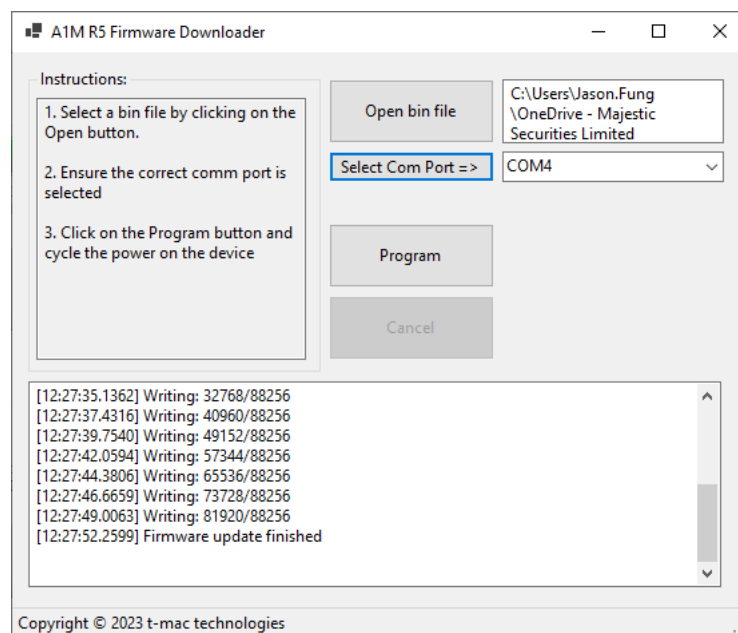


Figure 8 – FirmwareDownloader successful updated the firmware

12) Remove the power to the MelcoBEMS MINI (A1M R5) by unplugging it from the CN92/CN105 socket.

13) Revert the DIP switches on the MelcoBEMS MINI (A1M R5) back to those noted down in step 7.

14) The firmware upgrade is now complete.