

Title: **Instruction**

Subject: **Firmware update- MCM-12**

Related Product(s):	MCM-12 (Modbus Communicator - M12)
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1 Important information

If the following instructions look to complicated or your IT department don't allow you to install applications. You are always welcome to send the device to us and we can update it for you.

The firmware update will take around 1 minute per unit (Not including the time to install the PC application).

2 Required equipment.

- ♦ A PC running Windows 10 or Windows 11
- ♦ 1x USB-C to USB-A cable
or
- ♦ 1x USB-C to USB-C cable but in this case an external power supply is also required during the update sequence.
- ♦ A 0.5 mm pin (wire, sim card tool etc) to activate the internal push button to put the device in bootloader mode.

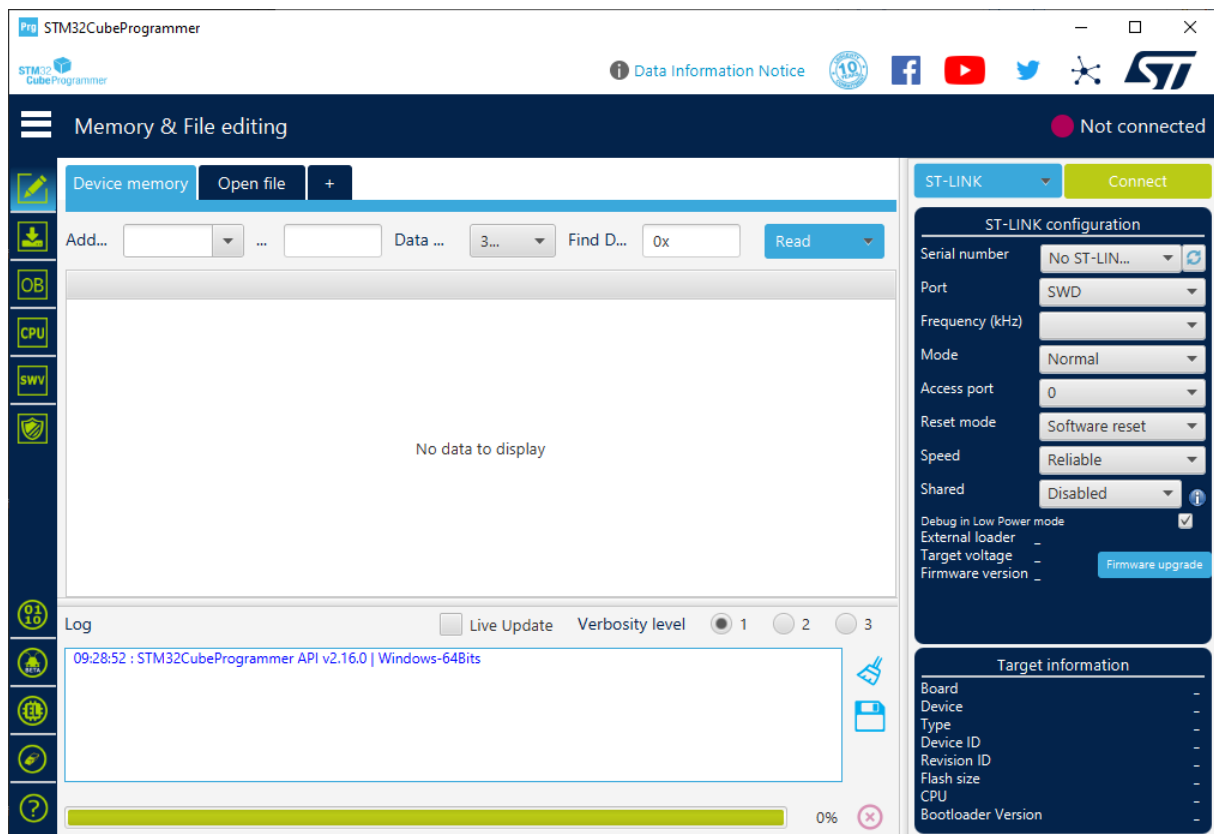
3 PC Software required.

To be able to update the firmware in the device. The programming tool provided by the MCU manufacturer need to be installed.

This tool is called STM32CubeProgrammer and can be downloaded from the ST home page.

<https://www.st.com/en/development-tools/stm32cubeprog.html>

After installation you can start up the application and should see an application like the following picture. Once started, you are ready to start with the update process.

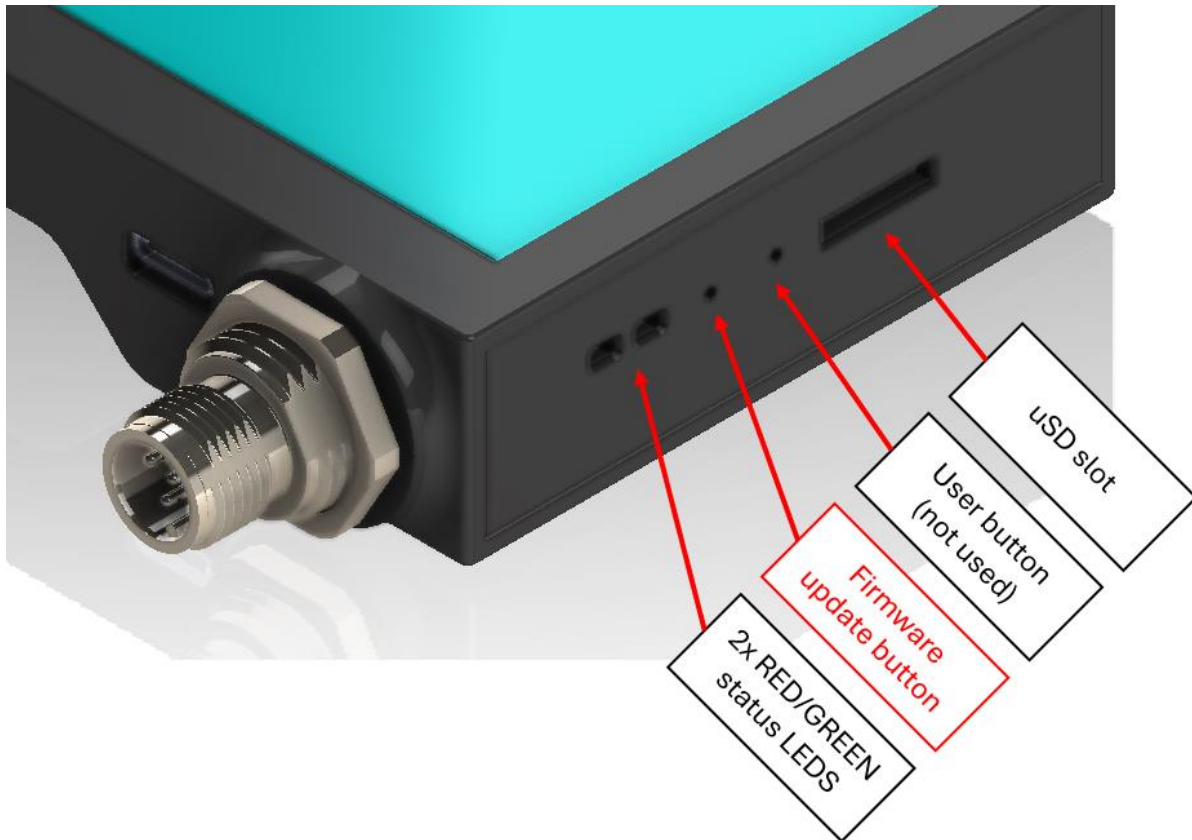


4 Preparing the device for firmware update

To be able to update firmware in the device, the device needs to be put into firmware update mode. This is done by holding an internal (hidden) push button pressed while powering on the unit.

On the right hand side of the device there are 2 round holes (1 hole on first production batch units) next to the uSD card slot. Under the small hole closest to the M12 connector to firmware update switch is located.

The 2 bigger holes closest to the M12 connectors are for 2 status LEDs.



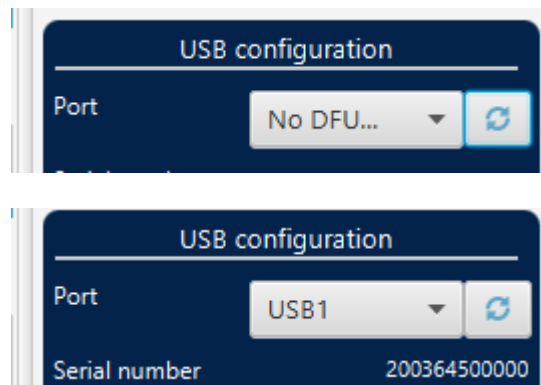
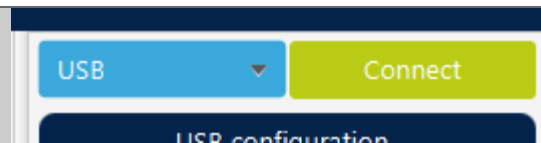
5 Step by step instruction

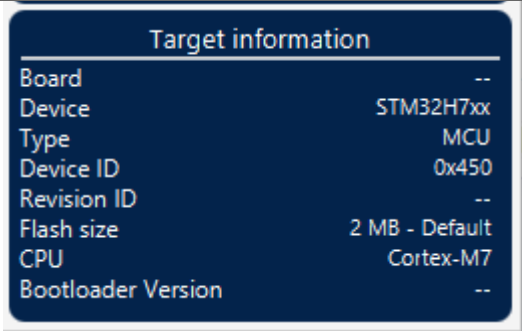
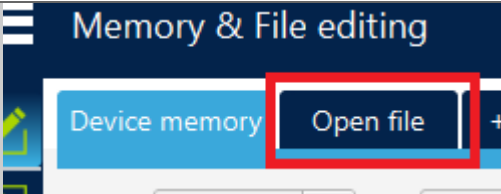
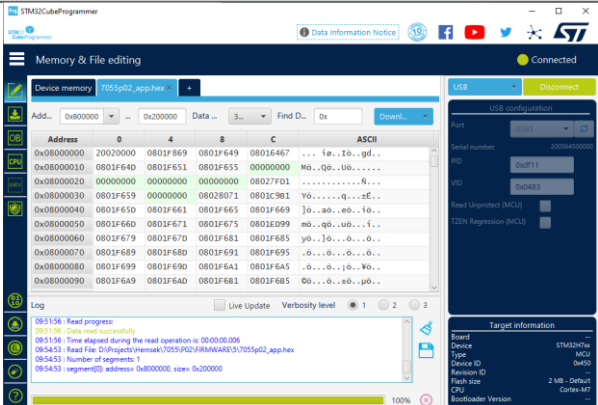
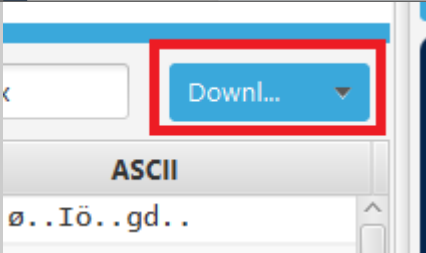
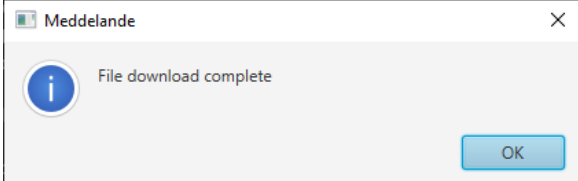
See the following step by step instructions. In case of an error or failure just redo all the steps from the beginning again. It is not possible to brick or destroy the unit during the process, but once the update process is started it need to be completed for the device to be usable.

Step	
1	Start up the PC application.
2	Power OFF the MCM-12 Device
3	Press and hold the hidden firmware update button
4	Power on the device by either connecting the USB cable or by connecting the M12 connector while the push button is pressed.
5	Select USB as the interface in the upper right corner
6	Press the refresh button to ensure the application find the device. If only one device is connected, the port should always say USB1.
7	Press the connect button



Important notice.
If a USB-C to USB-C cable is used. External power needs to be used as well.



8	<p>Once connected you should be able to see information about the target device in the lower right corner.</p> <p>The MCU should say STM32H7xx</p>	
9	Press open file	
10	<p>Select the extracted firmware file from the downloaded zip file.</p> <p>The file should have the file extension .hex</p> <p>The contents of the file should be visible</p>	
11	Press the download button to write the new flash memory contents.	
12	After 45 – 60 seconds the update should be completed, and you should see the following message.	
13	Restart the device and the new firmware should be loaded	