COMMISSIONING GUIDELINE

# M4M Firmware update
# Getting started

## Table of Contents

# 1    Material and tools needed

- Latest FW version of M4M downloaded automatically from Ekip Connect in C:\ProgramData\ABB\EkipConnect3\Firmware\M4M. Alternatively, available at this link (1SDC200011X0100)

- User manual of M4M 20 Network Analyzer available at this link (2CSG445032D0201)

- User manual of M4M 30 Network Analyzer available at this link (2CSG445042D0201)

- Ekip Connect 3 software, updated to the latest version, available at this link (1SDC20011X3000)

# 2    Initial settings on M4M device

- Steps described below shall be completed per each M4M before starting updating FW.

- In case of product communicating via Modbus RTU, please follow the dedicated section "M4M Modbus RTU" for both M4M 20 and M4M 30 versions

- In case of M4M product communicating via Modbus TCP/IP, please follow the dedicated section "M4M Ethernet" for both M4M 20 and M4M 30 versions

## 2.1    M4M Modbus RTU
**(M4M 20 Modbus, M4M 20 I\O, M4M 20 Rogowski, M4M 30 Modbus, M4M 30 I\O, M4M 30 Rogowski)**

A.  Check that Modbus RTU cable connected to the ABB power meter is correctly connected, in particular make sure that

W1=A=+

W2=B=-

> **TIP**: in case the device is not communicating, re-cable the device by switching terminals (hence: W1=B=-; W2=A=+)

B.  Steps to set Modbus RTU communication parameters are described in section "Communication menu" of M4M 20 and M4M 30 user manual.

On the device, go to "HOME"→"Configuration"→"Communication"→"Modbus RTU".

In the "Address" section, select an address from 2 to 247.

In the "Baud rate" section, select the desired baud rate from the list (9600, 19200, 38400, 57600, 115200).

> **TIP:** with a default baud rate of 19200 the FW update takes about 20 minutes. With 115200 it takes about 6 minutes.

In the "Parity" section, select the desired parity from the list (Even, Odd, None)

C. Follow the instructions in case M4M is a slave device in master/slave RS485 network or M4M is directly connected via serial port to PC:

> **TIP**: In order to directly connect M4M to PC, a RS-485/USB converter is needed.

Verify that Modbus RTU communication settings of M4M are equal to Modbus RTU settings of the master device.
If the master device is an ABB cloud access point, default settings are reported below:

- Baud Rate = 19200
- Protocol = 8E1 (8 bit data, even parity and 1 bit stop)
- RTU address for Master Device = 1
- RTU address for M4M slave device: to be inserted starting from 2 to 247.

> **TIP**: Each device shall be provided with a different slave address. Otherwise, only one of the devices with the same slave address can be recognized.

## 2.2 M4M Ethernet
### (M4M 20 Ethernet, M4M 30 Ethernet)

A. Steps to set Modbus TCP/IP communication parameters are described in section "Communication" of M4M 20 and M4M 30 user manual.

To reach the settings section, on the device, go to "HOME" → "Configuration" → "Communication" → "Modbus TCP/IP". Parameters that can be set are DHCP, IP address, Subnet mask, Gateway and TCP port.

In the "DHCP" section, select between Enable and Disable.

In the "IP address" section, select the desired address of the device (in "Static Configuration" or read the current IP address if the DHCP support is enabled.

> **TIP**: In case of ABB cloud access point, DHCP on M4M should be disabled (as default) and its TCP port, which is already enabled, should be at the default value (502).

> **TIP**: In case of ABB cloud access point, IP of M4M shall be in the range of the sub-network where the cloud access point is connected, which must be provided with access to the internet.

B. According to the architecture, follow the instructions

> 1. <u>M4M directly connected to laptop via Ethernet port</u>
>
>    Laptop shall be connected to same Ethernet network where the M4M is connected. To access IP settings in Windows, access laptop "Control Panel" → "Network and Sharing Center" → "Change adapter settings" → right click on "Local Area Connection (LAN)" → "Properties">"Internet Protocol Version" and "Properties".

2. <u>M4M connected in the local area network</u>

   Laptop shall be connected to the same local area network as M4M.

# 3    Procedure via Ekip Connect desktop

A. Make sure you have a MyABB account. If not, it is recommended to register on MyABB to activate an account.

> **TIP**: In case of Modbus master device in the RS-485 architecture (e.g. PLC), the master should be disabled in order to use Ekip Connect desktop and perform the FW update

B. Open Ekip Connect desktop in the "Scan" tab

C. Configure the scanning via communication protocol

1. Via Modbus RTU (M4M Modbus)

   Click on "Configure" under Serial port.

   

   Select port name, baudrate, parity, slave addresses of all devices connected via Modbus RTU to be updated.

   Press "OK".

2. Via Modbus TCP/IP (M4M Ethernet)

Click on "Configure" under Ethernet



In the section "Sniffer", do not select the "Sniff gratuitous ARP packets" box if not needed.

In the section "IP addresses", insert the IP address of M4M Ethernet in the list of IP addresses to be scanned. It is possible to either add IP addresses one by one ("Use IP address list"), or input IP address range ("Use IP address range").
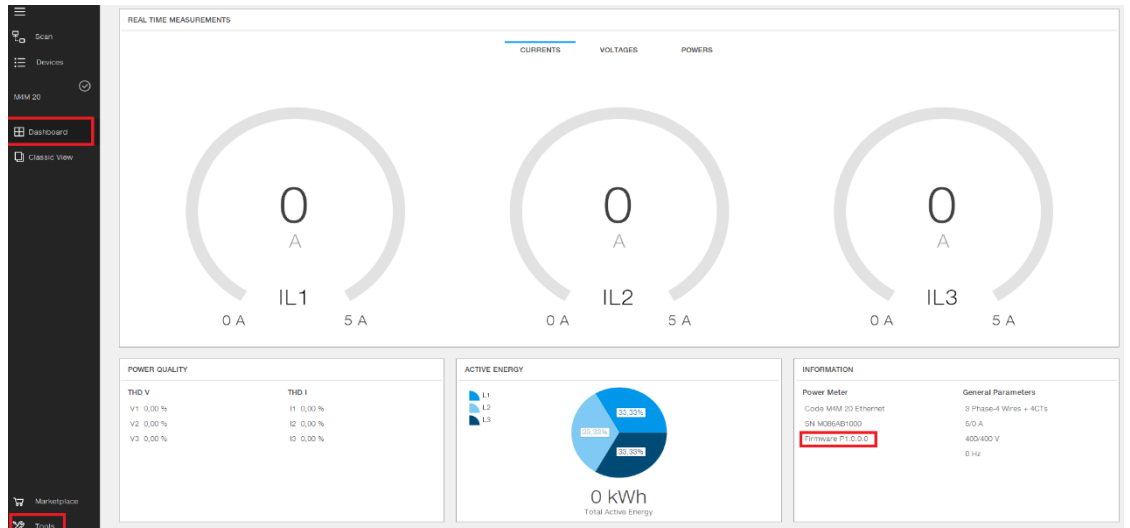
Press "Ok".

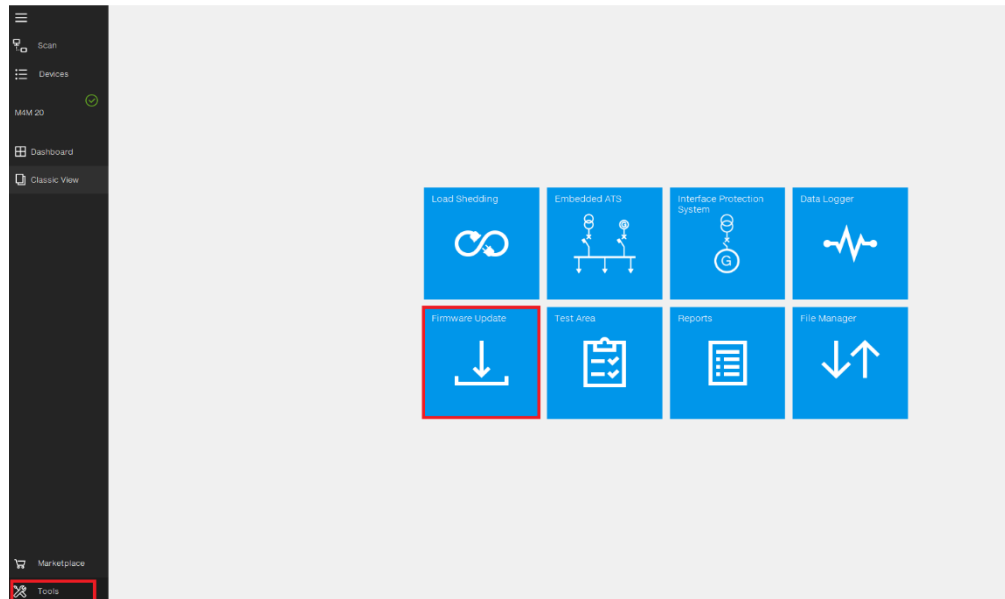D. After the configuration is completed, click on "Scan"
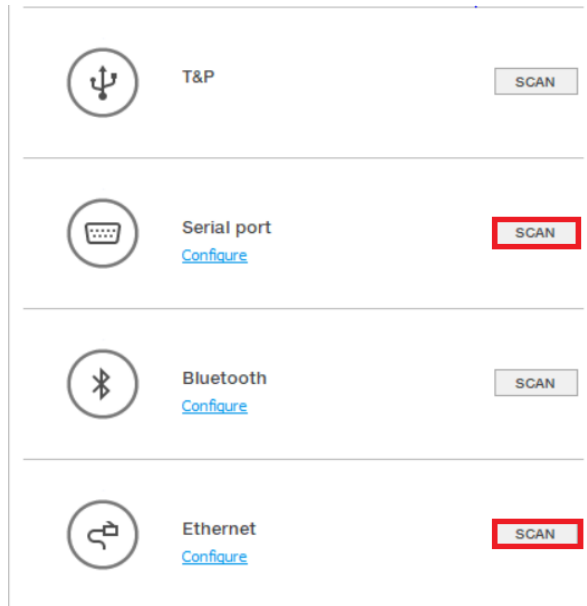


E. Ekip Connect desktop allows to visualize the product-related pages, including dashboard and Modbus map reading via Classic View.

In the Information section of the Dashboard it is possible to check what is the firmware version currently installed on M4M
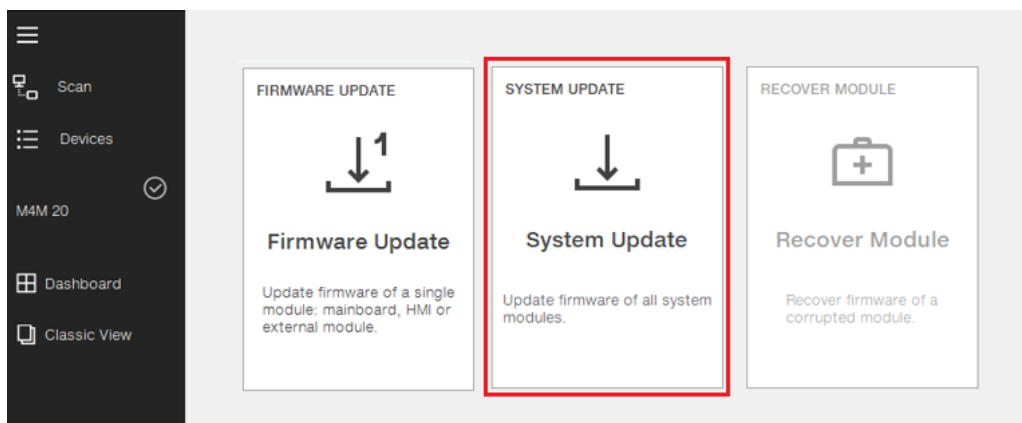
F. Click on "Tools"

G. Click on "Firmware Update"



## 3.1    System update

A. Click on "System update" in order to upload the FW version. Ekip Connect automatically downloads from ABB Library the latest M4M FW version, stored in: C:\ProgramData\ABB\EkipConnect3\Firmware\M4M. Alternatively, download from the ABB Library here. Please extract the .enc file from the .zip.
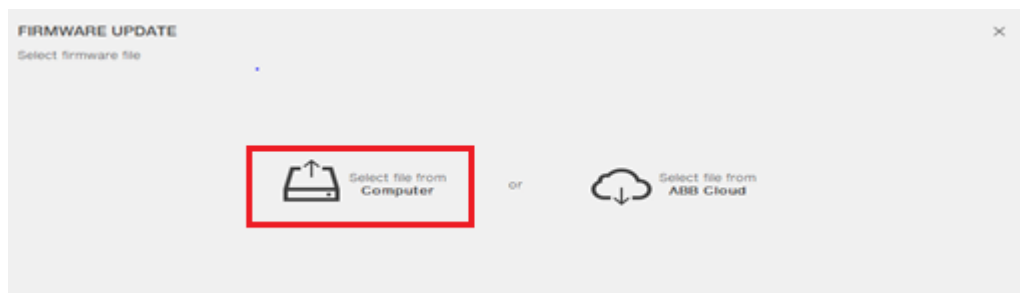


## 3.2    FW update

A. Click on "Firmware update" in order to upload the FW version. Ekip Connect automatically downloads from ABB Library the latest M4M FW version, stored in: C:\ProgramData\ABB\EkipConnect3\Firmware\M4M. Alternatively, download from the ABB Library here. Please extract the .enc file from the .zip.
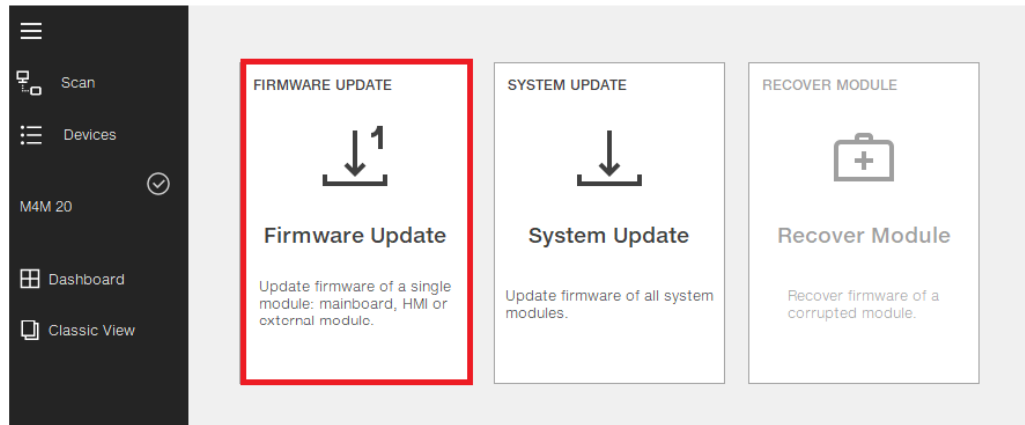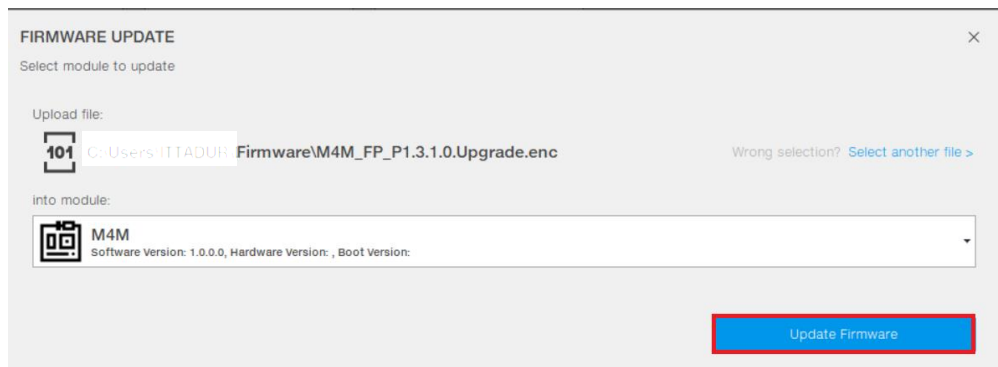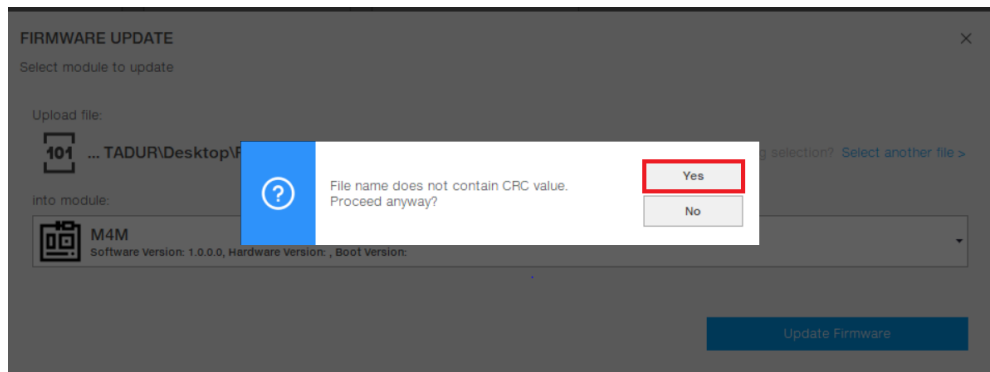
B. Please click on the "Select file from Computer" option and select the .enc related to the latest FW version of M4M.



C. Click on "Update Firmware" and later on "Yes" in order to start the update process.

> **TIP**: Please ensure that no other software or devices are actively communicating with the M4M during the FW update process, in order to have a successful update.

D. A loading bar will inform regarding the status of the FW update. After reaching the 100%, M4M will start the rebooting process for few minutes while checking the new firmware. The screen will turn black and the red LED lights will be on. Please do not unplug the M4M's auxiliary power supply during this operation.
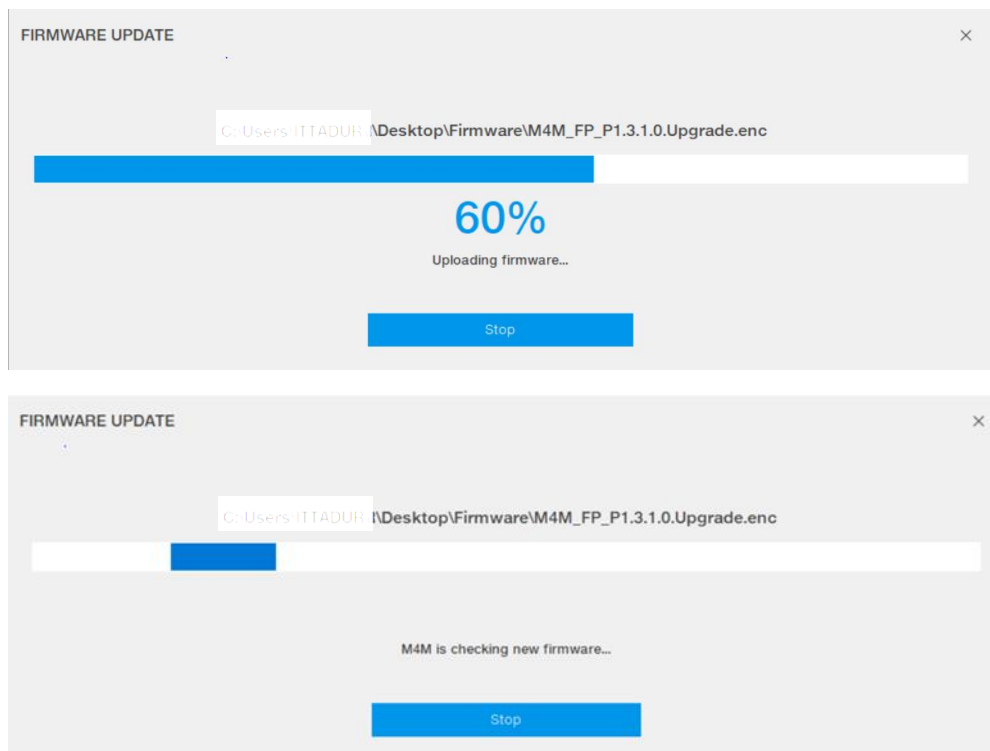




E. As the FW update is completed successfully, a banner will appear on Ekip Connect to inform the user.

**FIRMWARE UPDATE**                                                   ✕

Firmware update success.

. C:\Users\ITTADUR\Desktop\Firmware\M4M_FP_P1.3.1.0.Upgrade.enc

Firmware update succesfully completed.

OK