COMMISSIONING GUIDELINE

M1M Firmware update
Getting started
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1 Material and tools needed

- Latest FW version of M1M available at this link
- User manual of M1M 15 Multimeter available at this link
- User manual of M1M 20 Power meter available at this link
- User manual of M1M 30 Power meter available at this link
- M1M FW update tool available at this link

2 Initial settings on M1M device

- Steps described below shall be completed per each M1M before starting updating FW.
- In case of product communicating via Modbus RTU, please follow the dedicated section "M1M Modbus RTU"
- In case of product communicating via Modbus TCP/IP, please follow the dedicated section "M1M Ethernet"

2.1 M1M Modbus RTU
(M4M 15 Modbus, M1M 20 Modbus, M1M 20 I/O, M1M 30 Modbus, M1M 30 I/O)

A. Check that Modbus RTU cable connected to the ABB power meter is correctly connected

**TIP:** in case the device is not communicating, re-cable the device by switching terminals

B. Steps to set Modbus RTU communication parameters are described in section “Communication (COMM)” of M1M 15, M1M 20 and M1M 30 user manuals.

On the device, go to "MENU"→"CONF"→"COMM"

In the "ADDR" section, select an address from 1 to 247.

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

In the "BYTE" section, select the desired parity from the list (8E1, 8O1, 8N1, 8N2)

C. Follow the instructions in case M1M is a slave device in master/slave RS485 network or M1M 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 M1M 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 M1M Ethernet
(M1M 20 Ethernet, M1M 30 Ethernet)

A. Steps to set Modbus TCP/IP communication parameters are described in section "Communication (COMM)" of M1M 20 and M1M 30 user manual. On the device, go to "MENU" → "CONF" → "COMM"

In the "DHCP" section, select between YES and NO.

In the "IP" section, select the desired address of the device (in “Static Configuration”) or read the current IP address if the DHCP support is enabled. The default IP address is: 192.168.2.252.

**TIP:** In case of ABB cloud access point, DHCP on M1M 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 M1M 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. **M1M directly connected to laptop via Ethernet port**
   
   Laptop shall be connected to same Ethernet network where the M1M 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. **M1M connected in the local area network**
   
   Laptop shall be connected to the same local area network as M1M.
3 Procedure via M1M FW update tool

After opening the FW update tool, two different procedures are needed in case of connection via Modbus RTU or Modbus TCP/IP

3.1 Connection to M1M

3.1.1 Modbus RTU (M1M Modbus)

Select type: Serial MB

It is needed to enter the main communication parameters of the device:

- Address: enter the value of the device that can be found in the "MENU"→"CONF"→"COMM"→"ADDR" page of M1M (options: from 1 to 247)

- Port: select the port that is being used to connect the device to the computer (COM3 for RS-232 port, COM4 for USB port)

- Baudrate: enter the value of the device that can be found in the "MENU"→"CONF"→"COMM"→"BAUD" page of M1M (options: 9600, 19200, 38400, 57600, 115200)

- Byte: enter the value of the device that can be found in the "MENU"→"CONF"→"COMM"→"BYTE" page of M1M (options: 8E1, 8O1, 8N1, 8N2)
3.1.2 Connection via Modbus TCP/IP (M1M Ethernet)

Select type: Ethernet MB

It is needed to enter the main communication parameters of the device:

- IP Address: enter the value of the device that can be found in the "MENU" → "CONF" → "COMM" → "IP" page of M1M (default: 192.168.2.252)

- Port: select the port that is being used to connect the device to the computer (default: 502)
3.2 FW update

A. Download the M1M FW version from the ABB Library here

B. Please click on “Open File”

C. Select the latest M1M FW version available (.enc file previously extracted from the .zip).

D. Please click on “Download”
**TIP**: Please ensure that no other software or devices are actively communicating with the M1M during the FW update process, in order to have a successful update.

E. Please do not unplug the M1M’s auxiliary power supply during this operation.

F. As the FW update is completed successfully, you can check the installed FW version on your M1M directly on the “MENU”→”CONF”→”UNIT”→”INFO” page.