



SMA Data Manager M powered by ennexOS - Release Notes

Publishing date: May, 20th 2019

Related Versions: EDMM-10 V1.04.19.R and ennexOS Portal V1.4

Changes between Version 1.03.13.R and 1.04.19.R

New features:

1. It is now possible, to use more than one SMA Data Manager M in one plant, organized as:

- One Master with several slaves (Master EDMM is responsible for Grid Control, Slave EDMM were treated as a “big” inverter)
- Several Slave-only EDMMs in big plants without Grid Control
- Only one EDMM in legacy mode

Notes:

- Each Slave EDMM needs its own connection to Sunny Portal, because the Master-EDMM does not supervise the devices connected directly to the Slave EDMM.
- For the Master EDMM each Slave EDMM counts as one device (devices connected directly to a Slave EDMM do not count for the Master EDMM).

2. New Grid Control Module

- After reset of EDMM (Power loss or restart due to other reasons) the last known valid Setpoint for grid control is sent to the inverters instead of 0% or 100%.
- Power setpoints can be applied by using external analogue 4..20mA input modules (WAGO 750 system or Moxa E1242 multi I/O Module).
- Active power, reactive power, setpoints for active power or reactive power can be applied to external analogue output modules.
Currently following I/O modules are supported by the SMA Data Manager M:
 - Moxa E1241, 0...20 mA analog output modul
(SMA order number: EIO-1241)
 - Wago 750 Bundle with 0...10 V analog output modul
(SMA order number: EIO-Bundle)
 - **Wago 750 Bundle with 0...20 mA analog output modul
(SMA order number: 115214-00.01)**
This Wago 750 Bundle will be the standard bundle offered by SMA in the near future and will replace the bundle with 0...10V analog output modul!



- In detail following In-/Output signals are supported by the external I/Os:
 - 1 AIN (4..20mA) setpoint of P for grid operator in [%]
 - 1 AIN (4..20mA) setpoint of P for grid operator in Q in [%]
 - 1 AIN (4..20mA) für Netzbetreibervorgabe von cos phi
 - 1 AOUT (4..20mA) actual value of P
 - 1 AOUT (4..20mA) actual value of Q
 - 1 AOUT (4..20mA) actual setpoint of P in [%]
 - 1 AOUT (4..20mA) actual setpoint of Q in [%]
 - 1 AOUT (0..10V) actual value of P
 - 1 AOUT (0..10V) actual value of Q
 - 1 AOUT (0..10V) actual setpoint of P in [%]
 - 1 AOUT (0..10V) actual setpoint of Q in [%]
 - 1 DOUT for back channel of critical Operation Health (Plant in error mode - Error)
 - 1 DOUT for back channel of critical Operation Health (Plant in error mode - Warning)
 - System status (Error, Warning) can be applied to external digital output modules (Wago 750 system, Moxa E1242 multi I/O Module)
 - Cos-phi setpoints can be assigned via EDMM-Modbus server. All documentation concerning Modbus grid control is separated into a second documentation available on demand (please contact SMA Service).

Notes:

To be able to use the In-/Output channels they have to be configured as values in [%] or nominal power [W] via the configuration menu. Only after this configuration the channels can be assigned.

Furthermore the contacts have to be current-carrying in the range of 4...20 mA. Otherwise a configuration is also not possible.

3. Sunny Portal Visualization of external production (diesel genset, CHP, hydro power) in energy balance.
4. Energy meters (SMA Energy Meter or Modbus Energy meters) can be mapped in Sunny Portal for visualization of external production from CHP, diesel genset and hydro power plant.
5. WebBox-10 (RS485) can be replaced by EDMM in combination with SMA COMGW. Existing Classic Portal plants can be migrated to Sunny Portal powered by ennexOS.
6. New Modbus profile for Janitza UMG-604, which now has to be used in scenarios with an STPS-60 Battery System (via Inverter Manager).



Known problems and work-arounds:

1. Configuration of analogue inputs is only possible, if the measured current of the appropriate channel is within the allowed range of 4..20mA (<4mA / no signal connected or > 20mA can cause problems during configuration)
2. Sometimes, when re-configuration of external I/O is necessary, it may happen that the former configuration is not changed correctly. Check all settings after configuration. If this problem happens, it will be necessary to erase and re-configure the Grid Management Services.
3. Sensor Box via SMA COMGW: COMGW needs a Firmware 1.0.28.R or higher. Only temperature values are available in Sunny Portal ATP. Locally at EDMM all values, including irradiation and windspeed are available. This is related to SMA Meteo Station, too.
4. AC Delta-Voltage Data is not available in Sunny Portal analysis tool pro (only line-to-neutral voltage is available).
5. Sunny Island: Diesel Generator Data is not available in Sunny Portal.
6. If WiFi Access point is activated, mDNS does not work. The user has to address the device directly using IP-address 192.168.12.3.
7. If the user changes the IP-Address, the WebUI is not redirected to the new address directly. The browser window has to be closed and a new one with the new IP-address can be used.
8. If FTP-Push is used, an eventually necessary (...recommended!) Password has to be entered each time the user wants to change parameters for the PTP Push function. The connection can be checked with "connection test"
9. Some Sunny Island device parameters cannot be changed by EDMM. The Sunny Island prevents using this function. In case of such an error the user can check this within the event log ("Setting of parameter failed. Installation assistant has to be started"). These parameters have to be set directly at the Sunny Island device.
10. Setting of device parameters via Sunny Portal is not possible for all SMA inverters. Currently this behavior is known for SI8.0H-12 and SI6.0H-12. The setting of these parameters locally via EDMM-10 is possible.
11. Parameters for time setting in inverters works only, if the value is converted to UTC (seconds since 1970, can be converted with an online service, e.g. <https://www.epochconverter.com>).



12. Setting of time zone in inverters works only, if the inverters are configured to "automatic time synchronization (Parameter .DtTm.TmSynIsOn) is set to "ON" and "Time zone" (Parameter .DtTm.TmZn) is set to "UTC-AUTO/Automatic via SMA-Protocol". If this is not fulfilled, the inverters refuse accepting time and time zone settings from EDMM-10.
13. Configuration of I/O sensors was changed in version 1.1.6.R already. Configuration of sensors now is located to the device class of the I/O-device. For using these sensor values via the Modbus-server interface of the EDMM-xx-10, the sensors have to be assigned via the menu entry "Sensor assignment" at plant level to the Modbus channels. For using the sensors for performance ratio calculation, the sensors have to be additionally assigned in Sunny Portal in menu entry sensor assignment for performance ratio. Unfortunately, in existing plants the above mentioned configuration has to be carried out after update.
14. If the device administrator-account is resetted via WebUI, it can happen that after restart of the device the login page instead of the installation assistant page is shown. It takes some time, until the correct page is shown. If the device administrator-account is resetted via the push-button directly at the device, the installation assistant page is shown immediately.
15. If the buffer capacitor is fully discharged due to long time storage without operation, it can happen that the device does not support a proceeding more than step 4 in the installation assistant. In this case, the device has to be power-cycled.



Hints for installing the Firmware to ennexOS SMA Data Manager M

First of all, before going to setup the EDMM-10, it has to be enabled to receive a valid update. The device will update automatically, if there is an unrestricted access to the Internet and therefore to the SMA Update Portal available.

The devices will search for updates once a day or directly after restart. Available update-files will be checked if they are valid for the device (corresponding DeviceID matching and higher version number than the current one).

If an update process is running, the LEDs will blink for some minutes, after that the device will automatically reboot.

If an automatic update is not possible (in case of no or restricted internet access) or not allowed by the user, there is a second way for updating the device by using an USB Memory Stick.

- Update process via USB Stick:
- provide an USB Stick \leq 32GB (1 GB is enough), FAT32-formatted
- create a directory named "update" in its root a directory
- rename the received update file to "update.upd"
- copy this file "update.upd" into the USB-Stick directory "update"
- remove the stick safely (dismount it from the system prior to pull it off)

- power-up the EDMM-10 (if it is not still running), wait until the upper LED is green
- plug-in the USB stick
- the update process will start soon (blinking LEDs).

After some minutes, the process is finished, the device will reboot visible by both-LEDs-orange followed by the upper LED red). The USB Stick then can be removed.

If the update is done, the system will initiate a restart. Attention:

- The automatic Restart can be delayed up to 10 Minutes due to internal upgrade activities, be patient
- automatic restart is only possible if there is no one logged-in to the WebUI

If the restart is done and the system finished the startup processes (safe: wait 5 minutes after reboot), try to access the EDMM-10 via Ethernet using your preferred browser.

SMA Solar Technology AG
Niestetal (Germany) Dec. 10th, 2018



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Archived Release-notes:

Publishing date: Dec, 10th 2018

Related Versions: EDMM-10 V1.03.13.R and ennexOS Portal V1.3

Changes between Version 1.02.16.R and 1.03.13.R

- Setup without internet connection / alternative NTP Server
 - Setup assistant can be started without network communication to Sunny Portal
 - Additional topic „NTP-server“ in „Network configuration“
 - Definition of custom specific NTP server if SMA NTP server cannot be reached
- Reset to Factory settings can be initiated via EDMM Web-UI
- FTP-Push and Modbus Server configuration located within topic “External Communication”
 - Modbus server configuration (now located here)
 - New FTP-Push configuration dialog with hourly/daily push interval
- Modbus Client
 - Attention: all Modbus devices now require a plant-unique serial number to be configured
 - Support of SMA STPS-60 battery inverter via Inverter Manager
 - New custom defined Modbus profiles for monitoring of 3rd party PV inverters and gas meters
 - Multiple sensors support.
 - Up to 4 irradiation and wind sensors and
 - up to 6 temperature sensors of a I/O device can be configured and visualized in Sunny Portal Analysis Pro.
- Grid management services
 - Support of cosPhi as constant set point
- New related Sunny Portal features
 - Improved location input using Google Maps
 - Visualization of PV yield expectation in view Energy & Power – PV
 - Improved analysis for battery inverters
 - Information about plant features bundled with EDMM-10

Publishing date: Oct, 29th 2018

Related Release: 2018-07

Related Versions: EDMM-10 V1.02.16.R and ennexOS Portal V1.2

Changes between Version 1.01.06.R and 1.02.16.R

Release note EDMM-10 Rel 1.4



- Metering
 - Registration of custom Modbus/TCP electric energy meter with user defined modbus register. Go to “Configuration/Device registration/modbus devices – Configuration/Managing your own modbus profiles”
- Messaging
 - Filtering of customer messages in the view Customer Messages of the data manager, best known from ennexOS Portal. See “Monitoring/Event monitor”
- Update
 - Update of SMA Speedwire devices over EDMM-10. Therefore, copy the Speedwire inverter update file(s) unmodified onto a USB Stick (<=32GB FAT32), directory \update, and put the USB Stick into the USB Socket on the EDMM-10. The duration of this update process depends on the amount of device Update files and their size. It can last up to several hours. Best practice is, to start in the evening and to check the next day (and then remove the Stick). The success of the device updates can be checked in the event log.
- Device management and administration
 - It is possible to deactivate registered devices in the EDMM-10. The devices will be deleted in the EDMM-10 and in the ennexOS portal. Go to “Configuration/Device administration” and click at the end of the line of the three points. Choose “delete” in the new Window. This action is not reversible. In Sunny portal historical data can be displayed within Analysis Pro until the date of deletion.
 - Parameter import in the "Device parameter adjustment" function avoids the import of device individual parameters like an IP address or device name.
 - A new modbus/TCP mapping file for the Elkor WattsOn Mark II energy meter in the “Configuration/Device registration/modbus devices – configuration”
 - It is possible to switch the permission for remote configuration via the ennexOS portal in the EDMM-10 OFF-state. The ON-state can be changed only by using the local webinterface of the EDMM-10. In ennexOS Portal go to “PV System properties”, then use the switch “disable external parameterization”. For locally activating it again, go to “Configuration/System properties” and toggle the appropriate switch as desired.
 - For a List View of all registered Devices, see “Configuration/Device administration”. Here detailed info (e.g. Date of commissioning, firmware version, IP-Address) is displayed
 - A view for the device properties, choose a device and then go to “Configuration/Device properties”.
- power curtailment and grid management services
 - Closed loop control of reactive power: support of the input sources “Modbus Communication” or “Manual Setpoint”. Go to “Configuration/Grid management service” and then choose the link “to the configuration” in the “reactive power” line.
 - A new direct seller interface supporting SMA SPOT function is available. For activation of your SMA SPOT contract chose "Configuration/system properties/SMA SPOT" in ennexOS Portal. For activation of SMA SPOT in EDMM-10 go to “Configuration/Grid management service” and click the link “to the configuration” in the “active power” line.



- A new function for realizing Volt-Var-curves (Q[V]) for reactive power controlling is available.