ennexOS Data Manager M Version Notes

Publishing date: February 17, 2019
Versions affected: EDMM-10 Version1.07.8.R

Differences between the previous version 1.06.16.R and 1.07.8.R

New or changed functions

1. The registration of new devices has been moved to Device administration.

2. Modbus client add-ons
   - Support of weather stations by manual Modbus profile for sensors and preconfigured Modbus profile for RainWise PVMET-200 weather station
   - Pre-configured Modbus profile for PQ-Plus UMD-705 energy meters

3. Grid management services
   - Default value for reactive power via digital inputs of an external I/O device

4. Digital outputs allow threshold-based switching.
   With firmware version 1.7.x, the following parameter can be used for threshold-based switching:

   - Alarm in case of warning or error
   - Alarm in case of error
   - System active power
   - System reactive power
   - System active power at the point of interconnection
   - System reactive power at the point of interconnection
   - Setpoint of active power limitation
   - Reactive power setpoint

5. SMA/ Danfoss FLX and TLX devices can be added via EtherLynx protocol (via Ethernet).

General Notes

1. Grid management services

a. If GMS setpoints are sent via the Modbus server interface, there must be an interval of at least 1 second between 2 commands for the system to work correctly. In the Modbus documentation, an interval of 10 seconds is required.

b. The meter configuration currently does not prevent identical channels from being selected for grid feed-in and grid-supplied power.

c. Although no grid management services are configured, it may occur that the GMS widget is shown in Sunny Portal. In this case, the user is able to hide the GMS widget via Widget configuration.

d. If a current > 20 mA or < 4 mA is applied to the analog input, this input cannot be assigned to the GMS configuration. An error message appears that the input is not configured. If the current is between 4 mA and 20 mA, an input assignment is possible.

e. After initial configuration in the commissioning wizard, it may happen that the default value is not constantly displayed in the GMS widget. This effect disappears after about 10 minutes.

f. As of version 1.6.x, the control module was converted to the newly developed Grid Management Services (GMS) module. In this context, the setting options for fallbacks have been reduced.

g. As of version 1.6.x, the control module was converted to the newly developed Grid Management Services (GMS) module. In this context, the information in the GMS widget must be interpreted differently: The widget always displays the source and setpoint currently used by the control module. Since the values specified by the user cannot be technically implemented in all situations, the control module uses technically reasonable procedures in such cases, which are then also displayed in the widget. For example, no reactive power can be provided for very small PV power outputs and the widget therefore displays "Source: Off" and "Reactive power setpoint: 0%". A frequent reason why the controller specifications do not necessarily correspond to the source specifications is the apparent power limitation of the inverters, which is taken into account in the GMS module by an appropriate adjustment of manipulated variables.

2. Network

a. During operation of the Wi-Fi access point, the DNS name resolution is not supported. The user must use a static IP address 192.168.12.3 to access the login page.

b. If the user changes the IP address, the user interface is not automatically redirected to the new address. The user must close the browser window. The EDMM-xx-10 must then be opened again in a new browser window.

c. As of version 1.6.x, the web browser time can be adopted in terms of systems without Internet connection. If the new time differs from the previous time by more than 1 minute, the device is automatically restarted to synchronize the firmware with the new time.

3. Setting of inverter parameters

a. In some cases, the array parameters of an inverter cannot be changed via the EDMM-xx-10. In this case, the parameter must be changed via the inverter's WebUI.

b. It is not possible to set all the parameters for Sunny Island devices. This action is prevented by the Sunny Island device itself. In case of an error, the user receives an entry in the device's event monitor: "Setting of parameter failed. Start the installation assistant." The parameters to be changed must be set directly in the Sunny Island device in this case.

c. Not all SMA device parameters can be successfully configured in Sunny Portal. Currently, this behavior is known for SI8.0H-12 and SI6.0H-12. The parameters can be set via the EDMM-xx-10.

d. Parameter for setting times only works if a UTC value in seconds is entered - (if necessary, convert with the help of an online service, e.g. https://www.epochconverter.com)

e. After changing the country standard in the inverter, it can happen that the inverter parameters can no longer be displayed because the inverter does not provide them.

4. SunSpec Modbus devices

As of version 1.6.x, the EDMM-xx-10 can **basically** communicate with SunSpec Modbus compliant devices. Only the data that the specification regards as mandatory data is collected from the devices. No device-specific data is supported. It is assumed that Modbus devices fulfill SunSpec requirements and deliver mandatory data. If the devices do not completely fulfill the SunSpec requirements, not all data can be collected from the device. This can lead to the fact that not all data required for the displays in EDMM-xx-10 and Sunny Portal powered by ennexOS are available. This is no SMA system error.

The following deviations are known:

- Fronius: No events/messages are delivered.
- ABB: No energy values are delivered. This means that no monthly, annual or total energy graphs can be displayed.
- ABB: Not all parameters can be set.

5. Speedwire Encrypted Communication (SEC)

a. As of version 1.6.x, the Speedwire Encrypted Communication function for communication with SMA Speedwire devices cannot be enabled.

b. The function can only be enabled if all SMA devices (except SMA Energy Meter devices) support the Speedwire Encrypted Communication function.

c. In a network, the function may only be enabled in exactly 1 system with exactly 1 EDMM-xx-10. If the function is enabled with several EDMM-xx-10 in the network, it may not be possible to add devices to the system or communication may be disturbed during operation.

d. If the Speedwire Encrypted Communication function was enabled in the EDMM-10 and the EDMM-10 is now reset to default settings, all inverters of the system must first be decrypted again with Sunny Explorer (with installer PUK) before the devices can be registered again in the EDMM-10 (encrypted or unencrypted).

6. Sensor configuration

a. With the version 1.1.6.R, the configuration of sensor technology connected via external IOs has changed. Sensors are now configured on the IO device. To be able to use the sensors for output via the EDMM-10 Modbus interface, the sensors must be assigned to the Modbus channels at system level using the sensor assignment menu item.

b. To be able to use the sensors for the performance ratio function, the sensors must be assigned in the Sunny Portal using the sensor assignment for performance ratio menu item.
c. The sensor assignment has been moved to the menu External communication / Modbus configuration of Data Manager. This change is not backwards compatible. Consequently, for existing systems the sensors must be configured in the manner described above after the update.

7. Other

a. If the EDMM-xx-10 automatically receives an update via the SMA Update Portal after a device restart, it is only enabled after 10 minutes by an automatic device restart. If the user logs in before the automatic device restart, the previous version is active. The user can speed up the process by disconnecting the device from voltage and restarting it after the charging process is complete (status LED no longer flashes yellow and is green again). The new firmware is thus activated.

b. If the EDMM-xx-10 automatically receives an update after a device restart, the blink code of versions 1.0.13.R and 1.1.6.R does not correspond to the specified behavior. In this case the status LED flashes yellow-green or yellow-red at high frequency.

c. If the device reset button is pressed at the same time as the user has the user interface open, it may be that the user interface is not updated and therefore displays incorrect data. This can be because there is still data stored in the browser cache. In this case, restart the web browser and empty the web browser cache if required.

d. If the administrator account is reset via the WebUI, it may happen that after restarting the device, the login page is displayed instead of the start page of the installation assistant. Only after some time the home page of the installation assistant will be displayed. When resetting the administrator account via the device button, the home page of the installation assistant is displayed directly.

e. SB xxxx–SE-10 devices are not currently supported properly. The graphs for energy, power and energy balance are displayed incorrectly. A special solution has to be implemented into the EDMM-xx-10 to rectify this error.

f. If the battery in the EDMM-xx-10 is completely discharged and the device is then put into operation, it is possible that the installation assistant will not run through from step 4. In this case, the device must be disconnected from all voltage sources and restarted.

g. When operating with a STPS-60 battery inverter (connected via an inverter manager) it can happen after updating to version 1.6.14.R that a peak occurs in the energy display. This is due to the fact that up to now an unsuitable conversion factor was used for this data point. This error correction will cause the said energy peak in charge/discharge energy to occur once. In this context, it should be pointed out again that since version 1.4.19.R there has been a Janitza Modbus profile ("JanitzaUMG604STPS60") specially provided for this application, which corrects the reverse energy flow direction for the Data Manager necessary for STPS-60 operation.

h. As of version 1.7, new devices can be registrated on the page "Device administration". To add new devices, (+) must be selected in the table on the upper right corner.

Known errors

1. Grid management services

a. In rare cases, it may happen that the GMS configuration is not saved completely. The user must correct the configuration and save it again in this case.

b. After an update and an automatically triggered restart of the EDMM-xx-10, it may happen that the last setpoint value received via Modbus is not used. The Modbus setpoint of external control devices must be sent cyclically.

c. Setting of the country standard during commissioning
In the commissioning assistant of the EDMM-xx-10, the country data set can be selected for all inverters connected. The country data set selected is transferred to the inverter. Settings for the point of interconnection previously set on the inverter are overwritten. If individual settings are subsequently changed, "Special setting" is displayed as the country data set. Subsequently, it is not possible to set the country data set simultaneously for all inverters using the "Parameter comparison" function. The value can only be set via the parameter list of each individual inverter. Also in this case the special settings are overwritten, but can be set in a second step via the "Parameter adjustment". If the settings are made from Sunny Portal, note that it takes at least 5 minutes until the new settings are transferred to the inverters. It may take another 5 minutes to receive feedback on the success or failure of this action.

d. During Q(V) configuration of the characteristic curve using 8 interpolation points, it may happen that only the first 6 interpolation points are accepted. The error is only noticeable if specific measurements are taken. For the control to work as expected, the parameter "Parameter.Inverter.VArModCfg.VArCtlVolCfg.Crv.PreSet" (default setting of the Q(V) characteristic) in the system parameters must be set to the value "Characteristic curve with dead band and hysteresis" and saved.

2. Device registration

When adding new devices, it may take several minutes to close the Add dialog. In these cases, you can press "Cancel" - the devices are already added.

Fixed problems of version 1.06.16.R

The problems listed here are fixed in version 1.07.8.R

1. **Grid management services**
   a. After a restart of the EDMM-xx-10, it could happen that the active power limitation jumps briefly to 0 W or 100% and only then the correct default value is sent to the inverters.

   b. If a GMS configuration was deleted that contained an analog input as setpoint source, the correspondingly configured analog input could no longer be used elsewhere or deleted.

2. **FTP Push**
   When using FTP push function, the user had to re-enter a required password each time he made a change to the settings.

3. **Modbus**
   SunSpec Modbus devices could not be added to the system within the commissioning assistant environment.