



## Overview of the software features for our data concentrators (data loggers)

We are continuously adding features to our devices. It is our aim to always offer the latest and suitable products for different applications. Below you will get an overview of our new software features for the products MUC.easy<sup>plus</sup>, MUC500 M, MUC500 W and MBUS-GSLE.

### Extended maintenance

The understated tab *Log* offers a powerful tool for analysing the logged communication history and system events, such as status messages of reports, error codes and user logins.

This means that the customer can do the failure mode analysis on his own and resolve the issue easier. This saves time and is advantageous, for example, if one is directly on-site at the facility. In most cases the error can be fixed by the customer.

Additionally, there is a filter function and a file export. The exported log file can be sent to our support department (support@solvimus.de) for a detailed analysis.

System events and application messages are immediately available when the device is taken into operation.

The logging of the interfaces M-Bus, wM-Bus and DLDE is initially disabled due to many potentially incoming telegrams and the related memory requirements. Logging can be activated in the tab *Configuration* using "Raw log active".

Furthermore, a manual export of an individual meter data report can be downloaded via the button "Export" in the tab *Meter*. This is very helpful in case of a server failure and missed reports.

### Pre-configuration / Ex- and Import of the configuration

This feature enables an easy transfer of the device configuration from one device to another.

After the device has been configured, its configuration can be exported and imported to any other devices to be reconfigured. This saves

time for setting of other individual devices with the same configuration.

Once the configuration has been set, it can also be used as a backup for a defective device. In this way, the created configuration can easily be installed on the new device / replacement device.

In that way, system/meter and certificate configuration can be exported.

The meter list can be exported directly from the website as a CSV file as well, e.g. for checking the configuration.

### Firmware update

It is now possible to install a firmware update via the website. In the tab *Service* there is the button "Update firmware".

After uploading the firmware, a status bar indicates the progress of the update.

Then, the device reboots automatically and the new software version can be found on the device website in the tab *Service*.

In order to check that the used browser does not load an old website version from the cache, the software and website version have to be compared in the tab *Service*. If the website version is older, the browser cache has to be cleared and the website has to be restarted after logging out.

The latest firmware is available on our homepage [www.solvimus.de](http://www.solvimus.de) in the *Download-Center* or by sending an e-mail to our support (support@solvimus.de). Please note: We do not recommend a downgrade to a firmware version, which does not support this option of updating via the website.

### Provisioning / Rollout support

Users, who are deploying several of our devices, can manage them simultaneously by using our tool Netdiscover. It enables both firmware and configuration on different devices to be updated at the same time. This greatly speeds up this process.





### Interval and due date readout

The readout of the meters and sending the reports can, as always, be done at certain intervals and now also at certain moments (due dates). For the intervals, the user can select a free number of seconds, minutes, or hours. For the due dates, the user can set the time and the day for a daily, weekly, monthly, quarterly, or yearly reading, for example every first day of a month at 4:00 a.m.

### Multi-Channel-Reporting (MCR)

The report data can now be sent to 10 independent instances. It is possible to set up 10 different configurations for sending meter data, which are executed in parallel. For each instance, the communication protocol used (e.g. SMTP, FTP, TLS) with the necessary output format (XML, CSV, user-specific) can be individually set for the corresponding target addresses.

#### Example:

- Instance 1: Daily report of a user-specific CSV file to an energy management system (e.g. SFTP-Server)
- Instance 2: Hourly report of an XML file to a web server

### Highlighting of entries

Duplicates are now marked yellow in the tab *Meter*. This is helpful for finding, for example, duplicated primary addresses or inconsistencies in meter data allocation.

In the tab *Meter*, the "Search" button can be used to search for meters or other values, such as a specific meter value or user label. The found data is highlighted with a green font.

This is advantageous if many meters are installed and a specific one is being searched for.

### Load profile recording (only for MUC.easy<sup>plus</sup>)

In certain cases, there are taxes and renewable energy surcharges. For reducing them and energy costs the consumer needs to differentiate between its own consumption and consumption of third parties in his facilities or properties.

Reduced surcharges or taxes can only be applied for the own consumption of a company, not for energy delivered to third parties. Therefore, the third-party consumption needs to be measured and separately disclosed in accordance with the law on weights and measurements.

In order to define the electricity consumption of third-party consumers, meters are required, which measure the amount of electricity every 15 minutes in conformity with the regulations and generate load profiles.

The load profile readout is slightly different from the M-Bus standard. Special commands have to be sent to the meter. Therefore, we have written a special driver for reading the load profile. The meter can be read out with the necessary software extension load profile recording for EMH meters.

### Encryption

We are also working on security. The data transfer is carried out via HTTPS, SSH, FTPS, SFTP or via encrypted e-mail and can be secured via OpenVPN if required.

### Database

Meter data is now stored directly in a database. In the database, all meter values are collected with the correlating time (based on the time stamp). The reports are generated from this database. So, any data can be exported later again and also be accessed directly via SSH.

This increases the flexibility and availability of your data.

### Script solutions

It is always challenging to integrate one product into another. Often, individual solutions are required. Especially the data export to the external server system is relevant for our devices. These solutions are created on the base of defined customer requirements.

#### Reporting script:

The reporting script refers to the way in which data should be transferred to a server. Standard interfaces are TCP, TLS, SMTP, FTP. For example, the meter data can be exported also directly into a database such as Influx DB.





### **Formatting script:**

This script offers the possibility to customize the format of the standard output formats XML and CSV by use of XSLT scripts. Own formats can also be created. For example, the Unix timestamp can be changed to a human readable UTC timestamp or the order of meters and meter values can be resorted and changed.

### **System meter script/Measurement script:**

The system meter provides values for tracing the status of the device, such as operating time or bus load in mA. By use of bash scripts, individual system values can be generated and logged. When using a mobile data communication, it is possible, for example, to display the RSSI of this connection as a value in the system meter, to read it out periodically and to log it.

### **Read out Modbus meters**

Up to now, the focus for the use of our data loggers has been on the M-Bus and wireless M-Bus (wM-Bus) interfaces.

Increasingly, especially for the acquisition of electrical energy, parameters and consumptions, another interface is required. Compared to M-Bus, Modbus offers more flexibility and a higher data rate.

Until now, Modbus only played a role in our products (gateways MBUS-GEM and data logger MUC family) to transfer data to other systems (SCADA, PLC, BMS), but not to retrieve data from these systems.

This is changing now.

So that these meters can also be integrated into our data loggers, Modbus will also be supported in the future. There are two types of Modbus.

**Modbus TCP** is available globally on all data concentrators because each device has an Ethernet interface.

**Modbus RTU** is usually operated via an RS-485 interface. Therefore, this interface is available on the MUC.easy<sup>plus</sup>.

As with the M-Bus meters, the integration of the meters is done via the website of the devices.

