GENEREX User Manuals

English

UPS Management Software

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Introducing: The UPS Management Software UPSMAN

UPSMAN from Generex is a software solution designed to monitor and control uninterruptible power supplies (UPS) from almost any manufacturer in networks. Thanks to the integrated RCCMD server functionality in UPSMAN, the software enables comprehensive shutdown and message management of UPS systems in heterogeneous (different operating systems) networks. The collected UPS data is clearly displayed in a web interface and can be recorded and managed centrally, so that administrators can always keep an eye on the status of their systems, while any necessary shutdown process runs automatically via RCCMD in the network.

UPSMAN and RCCMD: The basis for network-wide shutdown management

RCCMD (Remote Command) is a protocol specifically designed to control computers over a network. UPSMAN uses RCCMD to send commands to other computers on the network in the event of impending power outages or other critical events. These commands can include, for example, safely shutting down servers, saving data or executing certain scripts.

Advantages of the RCCMD functionality within the UPSMAN software

- ✓ **Coordinated shutdown:** In the event of a power failure, UPSMAN can safely shut down all connected systems in a defined order using RCCMD to avoid data loss.
- ✓ **Centralized management:** Centrally managing RCCMD clients via UPSMAN significantly reduces the complexity of shutdown management in large networks.
- ✓ **Flexibility:** UPSMAN offers a variety of configuration options to realize even complex shutdown scenarios, e.g. redundancies can be taken into account in order to achieve a higher level of security against false alarms during a shutdown.
- ✓ **Security:** The use of authentication mechanisms prevents unauthorized access (cybersecurity) to the RCCMD functionality.

UPSMAN as the heart of UPS management

As a full-fledged RCCMD server, UPSMAN plays a central role in UPS management:

- ✓ **Central data source:** UPSMAN collects data from all connected UPS systems and makes it available in a central database.
- ✓ **Visualization and Reporting: T**he clear presentation of the data allows administrators to always keep an eye on the status of their UPS systems and create reports if necessary.
- ✓ **Automation:** UPSMAN allows you to automate routine tasks such as testing batteries or sending notifications when certain events occur.
- ✓ **Integration into existing IT infrastructures:** UPSMAN can be easily integrated into existing IT landscapes and can work with other monitoring tools.

UPSMAN is a flexible and cost-effective software solution for users of networks.

When is the UPSMAN software used?

The UPSMAN software is used whenever the UPS does not offer the option of adding a management card (network card for direct connection of the UPS to a network, e.g. via SNMP, web browser, Modbus, BACnet, etc.) or when the purchase of such a management card is not desired for cost reasons. In this case, the UPSMAN software offers the ideal solution.

System Requirements and Installation

Hardware requirements

The UPSMAN software requires hardly any system resources, therefore it can run on almost any commercially available X86 / X64 hardware platform for Windows and Linux.

Software support / Supported operating systems:

Extract from the Software Compatibility List*:

UPSMAN Software for WINDOWS:

- WINDOWS 7 (Home Premium or higher) x86/x64 CPU
- WINDOWS 8.x (Pro, Enterprise) x86/x64 CPU
- WINDOWS 10.x (Pro, Enterprise) x86/x64 CPU
- WINDOWS 11.x (Pro, Enterprise) x64 CPU
- WINDOWS Server 2008 CORE x64 CPU
- WINDOWS Server 2008 R 2 (Standard, Enterprise, Datacenter, Web Server) x64 CPU
- WINDOWS Server 2012 R2 (Standard, Datacenter) x64 CPU
- WINDOWS 2012 X64 Standard & Core Server / and HYPER-V
- WINDOWS 2016 SERVER x64 Standard & Core Server / and HYPER-V
- WINDOWS 2019 SERVER X64 Standard & Core Server / and HYPER-V
- WINDOWS 2022 SERVER X64 Standard & Core Server / and HYPER-V

UPSMAN Software for UNIX/Linux Solution:

All kinds of LINUX flavors x64 CPU based as there are United /SCO Linux Server, LINUX SUSE & SLES, Fedora Linux, GENTOO Linux, RedHat, x64, TurboLinux, Debian, Caldera Open Linux, Ubuntu, CentOS x64 Linux Mint as well as all other x64 kernel 2 based LINUX versions.

**)Please also note the official ->System Compatibility List<-, which contains the most current information on supported operating systems for all GENEREX software products.*

download sources

The current version can be downloaded directly from GENEREX using the following link:

https://generex.de/support/downloads/software/rccmd/update

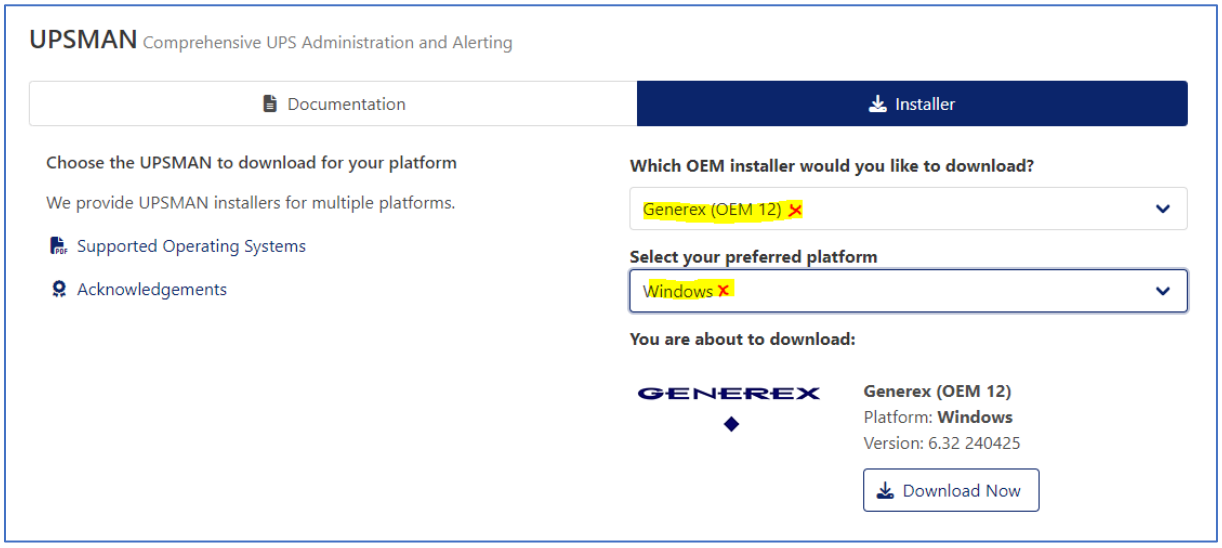
Before downloading, select

a. *Which OEM (manufacturer of your UPS) you want to download*

   The OEM version contains the list of available UPS models. In addition to OEM-specific adjustments, please note that the wrong OEM version may mean that the UPS model you are using cannot be selected after installation.

b. *The operating system*

   You can choose between Linux (X64) and Windows operating systems. For Linux and UNIX operating systems, please select “Linux (X64)”, for Windows operating systems, select “Windows”



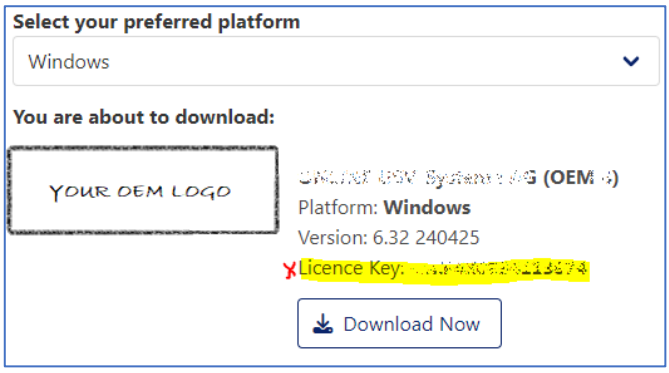
If the operating system you want is not included, or you are unsure which version you need, our technical support will be happy to help you at support@generex.de/us further.

Tip: OEM versions from manufacturers

Some OEM partners provide a valid key via the OEM download. If this is the case with your UPS provider, the key will be displayed on the OEM partner portal next to the software download.

Visit the OEM Partner Portal and open the OEM page associated with your UPS provider:

https://generex.de/partners/oem

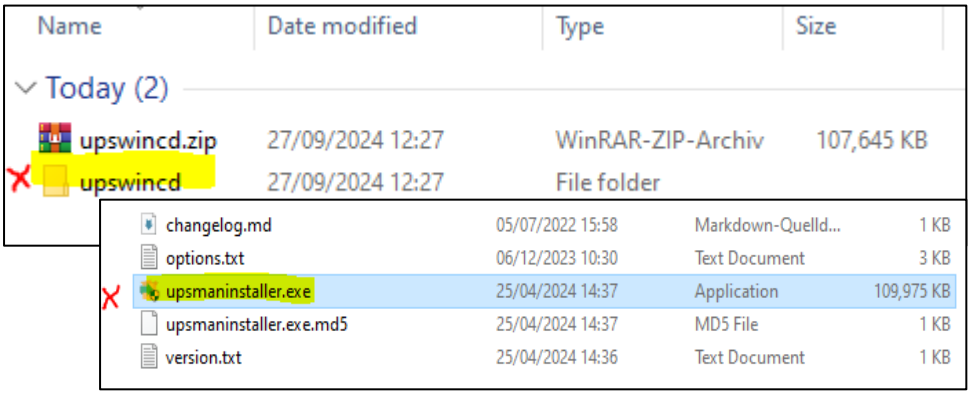


If you are missing a key, please contact the respective UPS manufacturer to purchase the license.

Installation under Windows operating systems

- ✓ **Please have the activation key ready, this is required for the installation of the UPSMAN software.**

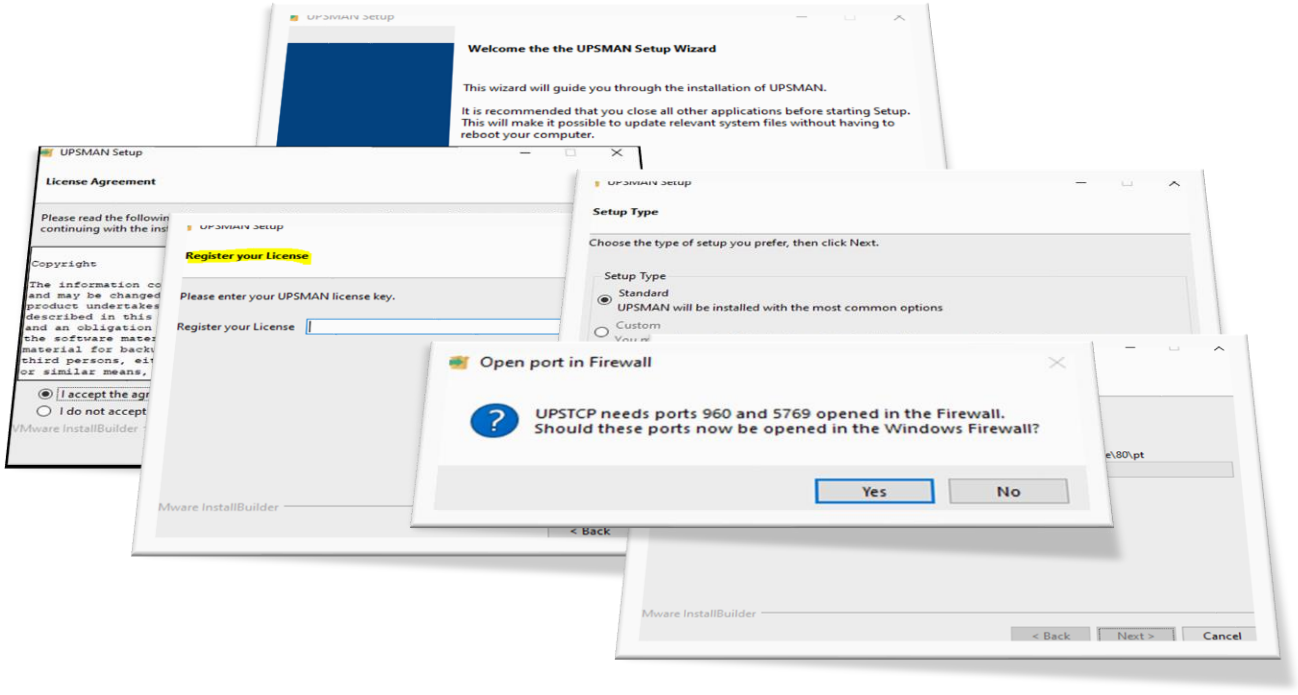
Please note that Windows has a preview function that can display files directly. However, installation from a compressed folder is only possible to a limited extent. Please ensure to unpack the file and then open the respective file folder and run UPSMANinstaller.exe:



If an older or different version of the program is already installed, the installer will notice this and ask you whether you want to remove it before installing. The regular installation dialog will then start and guide you through the installation.

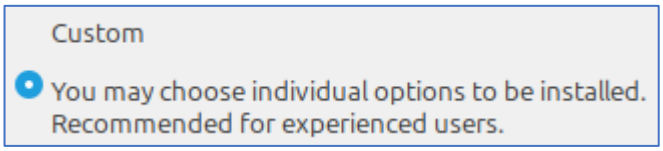
standard installation under Windows

The standard installation includes all the required components and will automatically configure your Windows firewall for operation if desired. After installation, the configuration wizard for setting up the UPS system starts automatically.

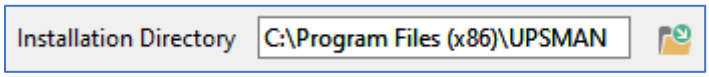


Custom Installation under Windows

The custom installation offers you any additional installations that may be available.

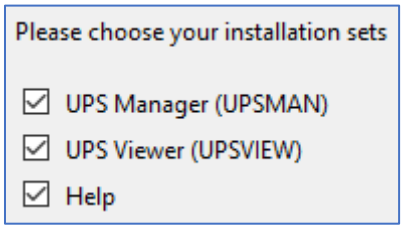


Installation Directory



By default, UPSMAN for Windows is installed under C:\Program Files (x86)\UPSMAN. Select the installation directory where you want to install the UPSMAN software.

Installation Set



Select the modules to be installed.

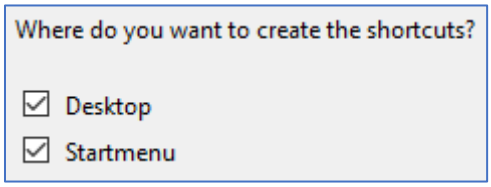
UPS Manager (UPSMAN): Includes the UPSMAN Manager, the system services and the configuration dialog. The UPSMAN software cannot function without this module.

UPS Viewer (UPSVIEW): Includes the web-based interface for the UPS data as well as some control options and a graphical diagnostic tool for viewing the UPS statistics and the ability to download the UPS log files.

Help: Support files such as the UPSMAN user manual.

Create shortcuts

Decide whether to create shortcuts.



Desktop: Creates a shortcut on the desktop

Startmenu: Creates a shortcut in the Windows Start menu.

Installation without GUI

If your operating system does not provide a GUI (for example, with a Windows Core Server), the installer starts automatically with a text-based installation dialog that guides you through the installation. The same selection options are available as with the graphic installation.

Silent Install with Answer File under Windows

The download includes a response file for “Silent Install” including help text:

changelog.md	05/07/2022 15:58	Markdown-Quelld...	1 KB
options.txt	06/12/2023 10:30	Text Document	3 KB
upsmaninstaller.exe	25/04/2024 14:37	Application	109,975 KB
upsmaninstaller.exe.md5	25/04/2024 14:37	MD5 File	1 KB
version.txt	25/04/2024 14:36	Text Document	1 KB

The silent installation uses the file "options.txt" as a "response file" in which the decisions can be pre-programmed. The license key can also be entered there. Start the silent installation using this file as followed:

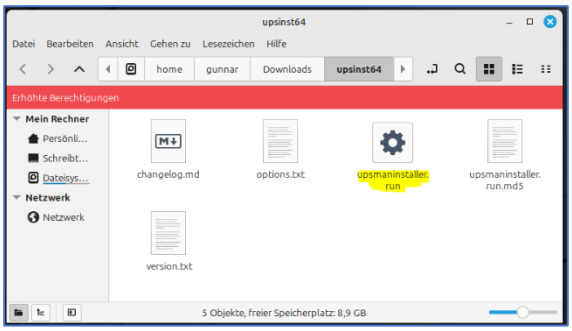
```
Upsmaninstaller.exe --optionfile options.txt
```

Installation under Linux/Unix operating systems

- ✓ **Please have the activation key ready, this is required for the installation of the UPSMAN software.**

Standard installation under Linux with GUI (using Linux Mint as an example)

Unpack the downloaded tar file and open the corresponding directory as system administrator to obtain the appropriate system rights necessary for installation.

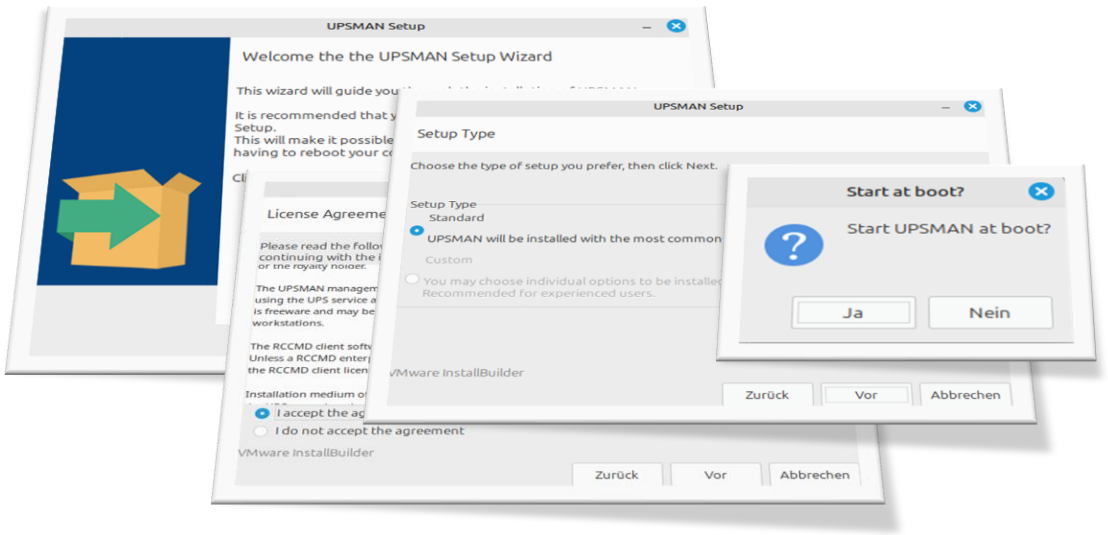


Start the installation using the file

"upsmaninstaller.run"

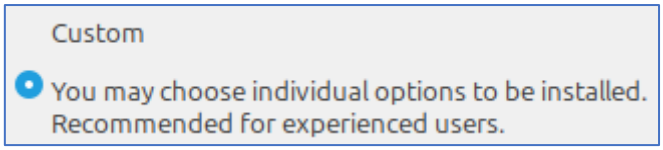
The standard installation automatically selects and installs the most common items.

When asked whether UPSMAN should be started automatically during the boot process, answer “Yes”. You can then automatically start the configuration dialog.



Custom Installation under Linux

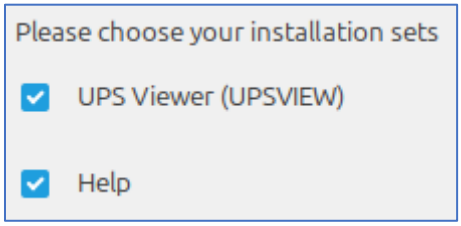
The custom installation offers you an individual installation dialog with more freedom. The following options are available:



Installation Directory

By default, UPSMAN for Linux is installed under /opt/UPSMAN. Select the installation directory that should be used differently for the UPSMAN software.

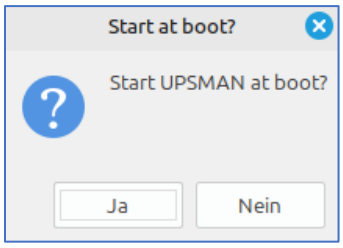
installation sets



Select the optional modules for operating UPSMAN.

UPS Viewer (UPSVIEW): Includes the web-based interface for the UPS data as well as some control options and a graphical diagnostic tool for viewing the UPS statistics and the ability to download the UPS log files.

Help: Support files such as the UPSMAN user manual.

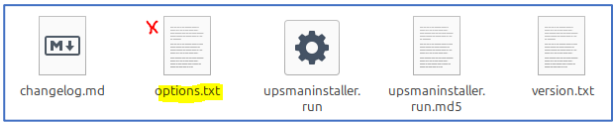


During the custom installation you will also be asked whether UPSMAN software should be loaded at startup. Answer “yes”.

Please note that if you answer this question with “No”, the UPSMAN system management software will not start automatically and must be started manually.

Silent Install with Answer File and Linux

As with Windows, after unpacking you will find the file “options.txt” next to the installer in the installation directory. Use a suitable text editor to adapt the file to your requirements.



You can then start the silent install with the command

./upmsaninstaller.run

Installation without GUI

If your operating system does not provide a GUI, the installer will automatically start with a text-based installation dialog that will guide you through the installation. The same options are available as with the graphical installation.

Use under Apple /MAC

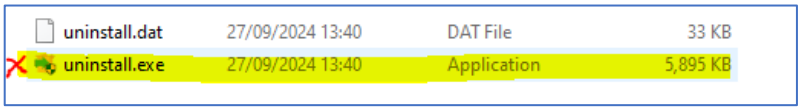
The Apple/MAC operating system is no longer supported and compiled. If you need an older UPSMAN version that still runs on Apple/MAC, please contact our technical support at support@generex.de /us.

Uninstallation

Start the UPSMAN installer - When started, it automatically detects whether an active installation exists and will automatically suggest uninstallation. After successful uninstallation, exit the installation program by canceling the installation.

Uninstalling under Windows

Make sure that the user has the necessary system rights, otherwise the uninstallation cannot be carried out. Navigate to the directory:



C:\Program Files (x86)\UPSMAN\Uninstall_UPSMAN

And start the uninstall.exe program. This will guide you through the installation process.

Uninstalling under Linux & Unix

Open a console and use the command sudo su to obtain elevated system rights. These are required for the uninstallation.

Command: sudo su

```
gunnar@gunnar-virtual-machine:~$ sudo su
[sudo] Passwort für gunnar:
root@gunnar-virtual-machine:/home/gunnar#
```

Then navigate to the folder /opt/UPSMAN/Uninstall_UPSMAN

Command: cd /opt/UPSMAN/Uninstall_UPSMAN

```
gunnar@gunnar-virtual-machine:~$ sudo su
[sudo] Passwort für gunnar:
root@gunnar-virtual-machine:/home/gunnar# cd /opt/upsman/Uninstall_UPSMAN/
root@gunnar-virtual-machine:/opt/upsman/Uninstall_UPSMAN#
```

Start the uninstallation

Command: ./uninstall

```
gunnar@gunnar-virtual-machine:~$ sudo su
[sudo] Passwort für gunnar:
root@gunnar-virtual-machine:/home/gunnar# cd /opt/upsman/Uninstall_UPSMAN/
root@gunnar-virtual-machine:/opt/upsman/Uninstall_UPSMAN# ./uninstall
```

Follow the instructions of the installer. Depending on your system configuration, the installer will either report in a test-based manner or with a graphical interface and guide you through the uninstallation:

After installation, exit the elevated system rights with the command “exit”

Command: exit

Configuration of the UPSMAN software

General information

The UPSMAN configuration opens and shows 2 configuration windows "Device" and "System". Using these simplified configuration windows, the user can select a UPS connected locally (via USB, COM or network) and activate the local shutdown.

The “Advanced User” mode allows you to configure numerous other actions before the local shutdown, e.g. to stop several other computers via RCCMD and only activate the local shutdown at the end of this action.

Please note that UPSMAN relies on some external services provided by the operating system and some functions can only be used if the operating system has installed them (e.g. when connecting via SNMP or if UPSMAN is to send email notifications). If in doubt, contact your local administrator or system administrator.

General port list for GENEREX products

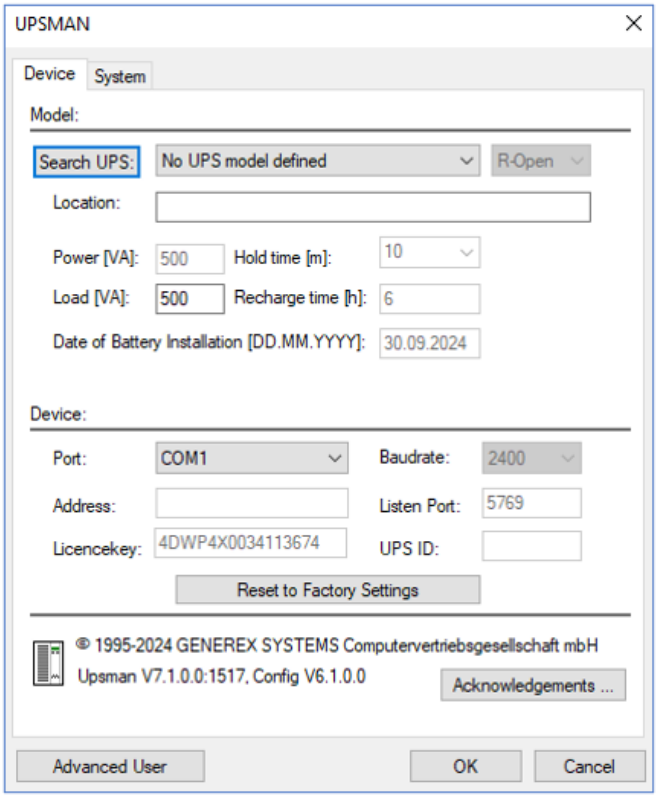
The following list contains all standard ports that you may encounter when installing and operating GENEREX products.

port	TCP/UDP	service
6003	TCP	RCCMD
5769	TCP	UPSMAN /UNMS
960	TCP	UPSMAN/RCCMD Message Port
161	TCP	SMTP
162	UDP	SNMP trap
25	TCP	SMTP
80	TCP	http
443	TCP	https
8081	TCP	UPSMAN web interface
7 or 9	UDP	WOL – Wake On LAN

Please note that there may be network-specific differences.

Easy configuration with local shutdown

Under “Device” you specify the communication port to which the UPS is connected via cable:



- ➔ System Tab: Device – UPS Setup
- ➔ UPS Model Selection
- ➔ Information about installation site
- ➔ General Operating Data
- ➔ Battery Installation Date
- ➔ UPS Communication Method
- ➔ Changing the license key
- ➔ Delete the current configuration
- ➔ Information about licensing
- ➔ Switch to advanced mode
  - Save / Abort

Search UPS

Instruct the UPSMAN software to search for your UPS on this communication port. This function "Search UPS" can only recognize the basic function of a UPS, it is always better if you know the UPS name and you search for this model in the drop-down list "No UPS model defined" and select the correct model.

If neither “Search UPS” nor the correct model was found in the list, the OEM version you installed may not be compatible with the UPS and you will need to contact support.

General operating data

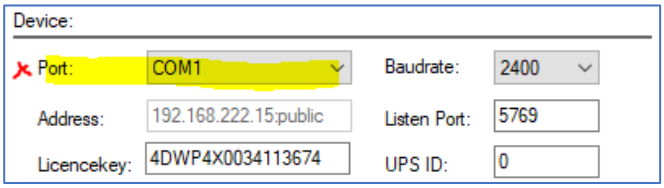
If the UPS does not provide operating data on power, hold time, load or recharge time via the communication protocol, the UPSMAN software can calculate possible time windows for a shutdown based on the data entered here. If communication can be established and the measured values appear plausible, no adjustments to the operating data on this configuration page are necessary.

battery installation date

The UPSMAN software can, if desired, inform you that the batteries should be checked after a period of 48 months. If you do not enter any information, the UPSMAN software will use its own installation date as the basis.

Device: Port selection

Select the communication port the UPS is connected to from the drop-down menu. The list contains all available serial COM ports and USB to choose from.



Difference between USB and COM

With USB, the UPS is first mounted as a USB device in the operating system and the data packet is then made available to the UPSMAN software. This happens in parallel to the power options available in the operating system for UPS solutions and runtime management of Windows or Linux. The UPSMAN software then no longer has any influence on internal shutdown routines or the USB port itself; the operating system takes over control (UPS with HID USB interface).

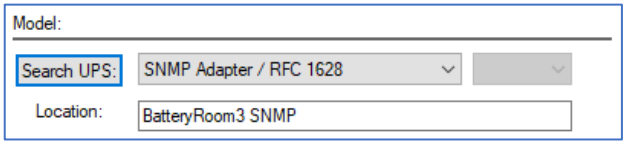
COM uses an exclusive COM interface and the UPSMAN software queries the UPS directly via the serial UPS protocol. However, this communication option requires a physical COM port on the server.

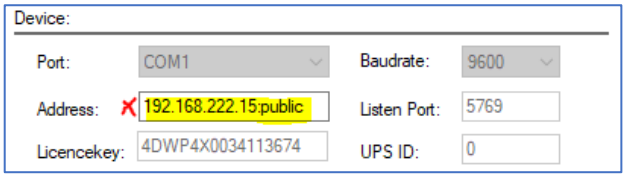
Special feature virtualized COM ports

Purely virtual COM ports are not officially supported, as experience has shown that they are not or only partially suitable for the serial connection to a UPS.

Device: Address

- ✓ This menu is only available if the selected UPS model is "SNMP adapter / RFC1628". This is an SNMP card in the UPS which the UPSMAN can also query via SNMP to initiate a local shutdown in the event of a power failure, for example. This turns the SNMP card into a communication port, like a virtual COM port - and the UPSMAN receives the data from the SNMP card as if the UPS were directly connected.





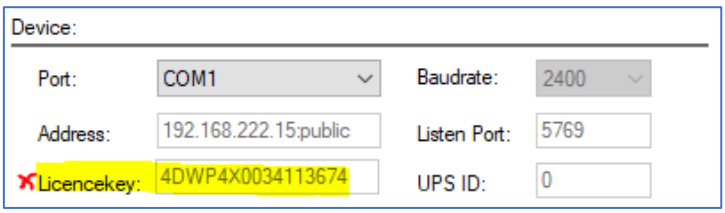
Define the target address and the SNMP group via which you want to query the target device. The following SNMP versions are supported:

- SNMP v1 - v2c.
- SNMP v3 is not currently supported.

Please note that for this function, additional settings must be made on the respective target card so that the UPSMAN can access it via LAN.

Device: License Key

- ✓ Only available with Advance User/ in advanced operating mode.

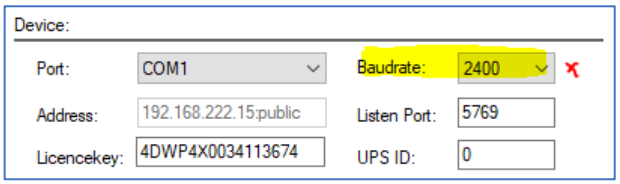


As with RCCMD, a UPSMAN license may only appear once in the network. If a key appears multiple times in the network, the first UPSMAN that starts completely will claim the license. Subsequent UPSMAN installations will stop their service due to a license violation.

Please note that the license key used during installation defines the UPS list that will be installed. Changing the license key has no effect on the loaded UPS list!

Device: Baud rate

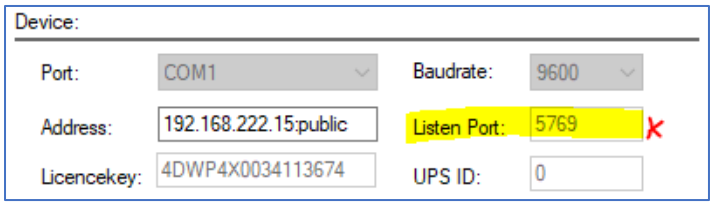
- ✓ This menu is only available with Advanced User/in advanced operating mode in conjunction with a UPS connected via COM port.



The baud rate is the speed at which the serial COM port queries the UPS. This field is usually automatically preset to the correct value when you select the UPS model. Only change this value in consultation with the technical support of your UPS provider.

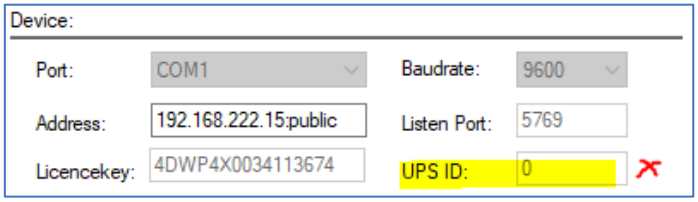
Device: Listen Port

Port 5769 TCP defines the standard port on which GENEREX products want to establish communication with UPSMAN. Only change the port in consultation with the responsible system administrator. In simple operating mode, this port is preset and cannot be adjusted.

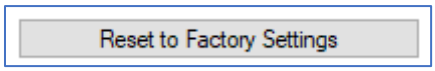


Device: UPS ID

In modular UPS systems, the UPS ID defines which UPS module is to be queried. The "0" is preset and allows the UPSMAN software to find all available modules and display them accordingly.

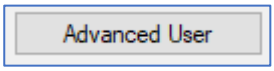


Reset o Factory Settings



This deletes all settings that have been saved in UPSMAN so far and restores the delivery state.

Advanced User



The Advanced User switches the UPSMAN configuration dialog to advanced mode, which unlocks numerous additional functions.

OK / Cancel

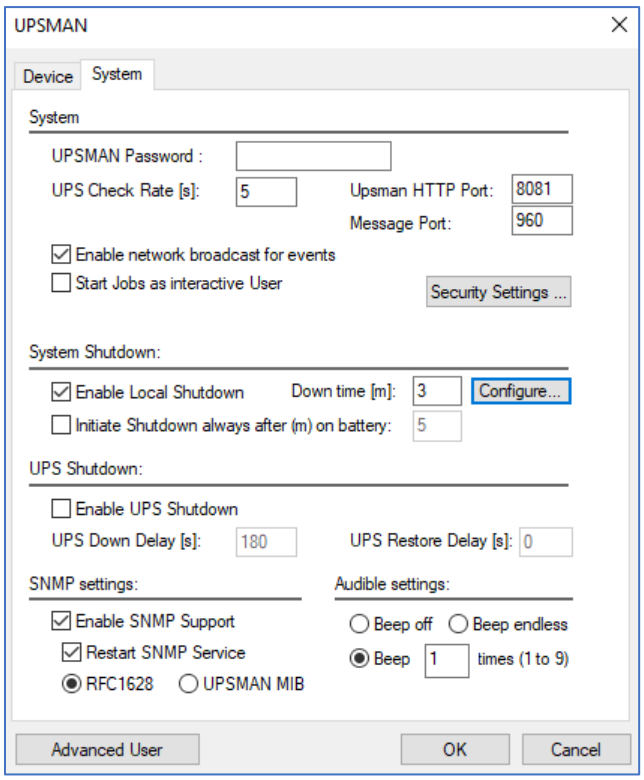
Saves / Discards the settings made.

OK: Saves the changes and restarts the UPSMAN software. The settings made are adopted into the currently active configuration and the configuration dialog is closed.

Cancel: Discards all settings and closes the configuration dialog

System tab System: Setting up the local shutdown

Define what should happen to the computer/server on which the UPSMAN software is installed.



➔ System tab: System/Settings local shutdown

➔ password for the web interface
➔ UPS polling rate in seconds
➔ Port for UPSMAN pop-up window
➔ Event-driven broadcasts
➔ security settings
➔ Interactive user for testing purposes

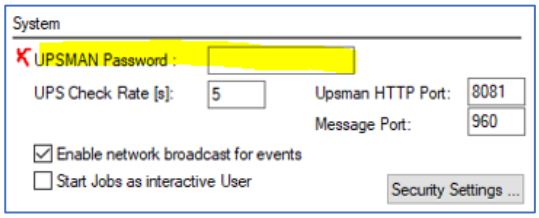
➔ Server Shutdown Settings

➔ UPS shutdown settings

➔ SNMP agent settings
➔ Acoustic feedback for alarms

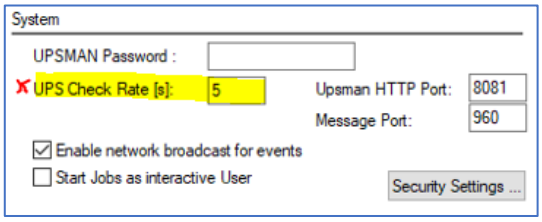
System: UPSMAN Password

Depending on the UPS model, the UPSMAN web interface also offers the option of sending control commands to a UPS. You can secure access with the UPSMAN password.



System: UPS Check Rate [s]

By default, the UPSMAN service queries the operating data of the configured UPS every 5 seconds. With this setting, the time intervals between the individual requests to the UPS can be increased or decreased in seconds.

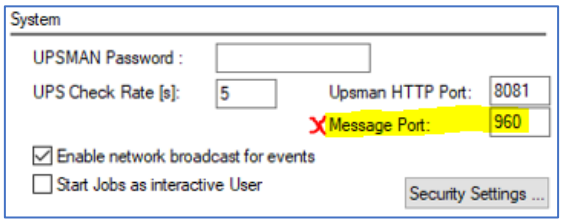


System: UPSMAN HTTP Port

The UPSView web interface can be accessed at any time by entering the IP address of the respective server and the correct port (e.g. http(s)://192.168.5.5:8081). By default, you can access the UPSMAN web interface using port number 8081. You can use this setting to change the port.

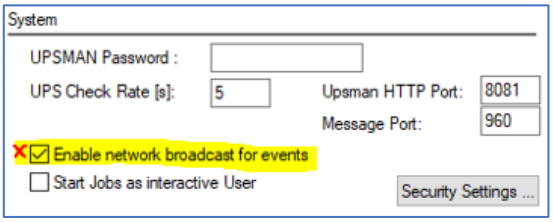
System: Message Port

The message port defines the internal port through which the UPSMAN service interacts with the system tray in the Windows taskbar to display pop-up messages. The default is port 960 TCP. If the port is already occupied by other software, you can assign an alternative port here.



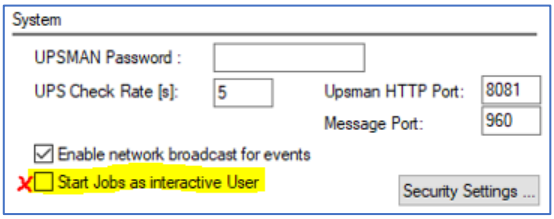
Enable network broadcast for events

Sends a broadcast message about the status change of the UPS to a network. If the necessary messaging service is not available or installed, this message is automatically sent to the operating system via a pop-up message.



Start Jobs as interactive users

The UPSMAN service as a background process (system service) is not allowed to interact directly with a user by system design. If you can run your script normally as a logged in user, but the UPSMAN service cannot, then it is recommended that you activate the Interactive User under SERVICES. This means that the job is run by UPSMAN as a foreground process with the system rights of the currently logged in user. Important: Unlike when running as a system service, UPSMAN will no longer be able to run the job as soon as the user logs off!



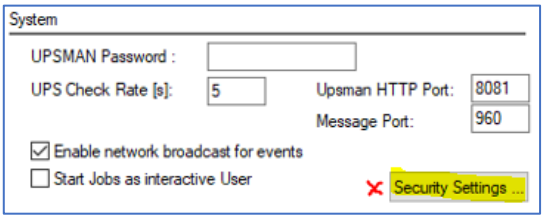
Security Settings

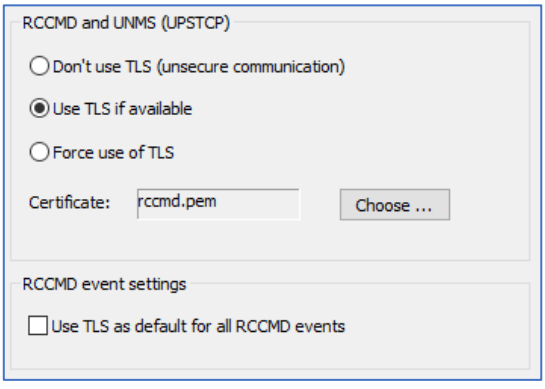
- ✓ Required when interacting with RCCMD / UNMS installations.

The UPSMAN software is also an RCCMD server, which can be configured as required to send RCCMD control commands to RCCMD clients, for example to shut them down. With this SECURITY setting you can encrypt the communication between the communication partners and with the UNMS 2.

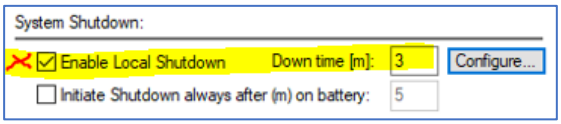
Simply select a suitable certificate and determine how the communication should take place.

For more information about this function, see the chapter “Advanced operating mode”.





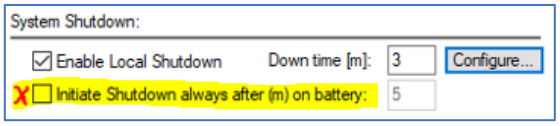
System Shutdown: Enable Local Shutdown



- ✓ Activates the local server shutdown on the computer where the UPSMAN software is installed.

Downtime [m] defines that the UPSMAN will shut down the computer if the remaining runtime of the UPS is less than 3 minutes. If your server needs more than 3 minutes to shut down, adjust this value upwards accordingly.

System Shutdown: Initiate Shutdown always after (m) on battery



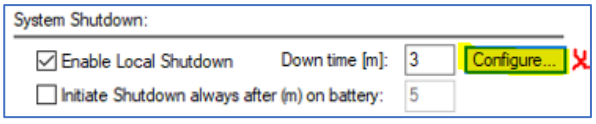
- ✓ Independent shutdown timer for local shutdown

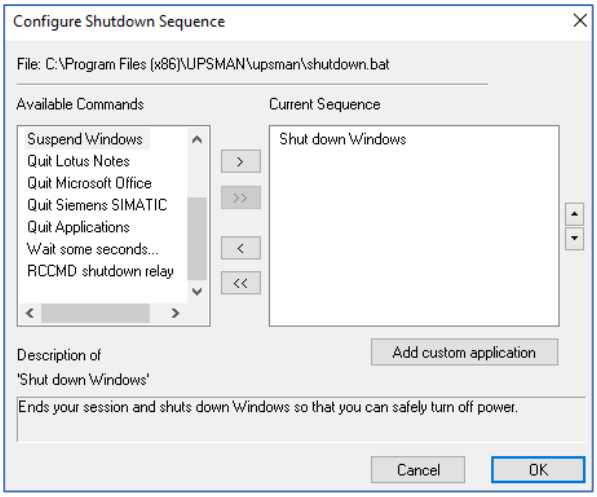
In addition to the shutdown based on the reported or calculated remaining runtime (default 3 minutes), the UPSMAN software can initiate the local shutdown if the power fail event is active for a certain time. The default is five minutes. If you enable this option with the default values, the shutdown will be initiated automatically if the UPS has been running on battery for 5 minutes AND the downtime of 3 minutes has NOT yet been reached.

If power returns before the shutdown is initiated, the shutdown process will be aborted.

System Shutdown: Configure

Here you can select a sequence of commands that will be executed from top to bottom in the event of a shutdown. The last "job" on this list should be "Shutdown Windows", which shuts down the local operating system.





Jobs entered after this command can no longer be executed.

< | >: Add or remove individual jobs

<< | >>: Add all jobs or remove all jobs from the command sequence

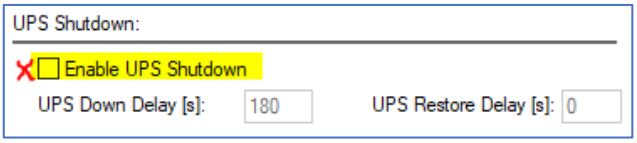
Change the order of jobs to be executed.

Add custom application:

Run your own program or script as part of the command sequence.

OK/Cancel: Saves or discards your entries.

System: Enable UPS Shutdown



Not all UPSs support this function.

Normally, a UPS is designed to provide emergency power until the batteries are exhausted. However, depending on the UPS manufacturer, model and usage scenario, it may make sense to switch the UPS off itself after a certain time in the event of a power failure in order to reduce unnecessary battery consumption and, if necessary, to survive another power failure.

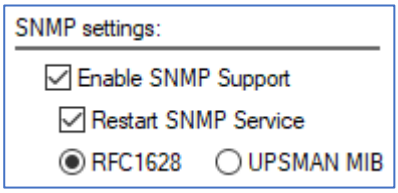
- UPS Shut Down Delay [s]: XXX:

If possible, the UPS will provide the entered value of emergency power in seconds and then shut itself down.

- UPS Restore Delay [0]: XXX

  After the power is restored, the UPS will wait for this value in seconds before the outputs are switched ON. If a 0 is entered, the outputs are switched immediately after the power is restored.

System: SNMP settings

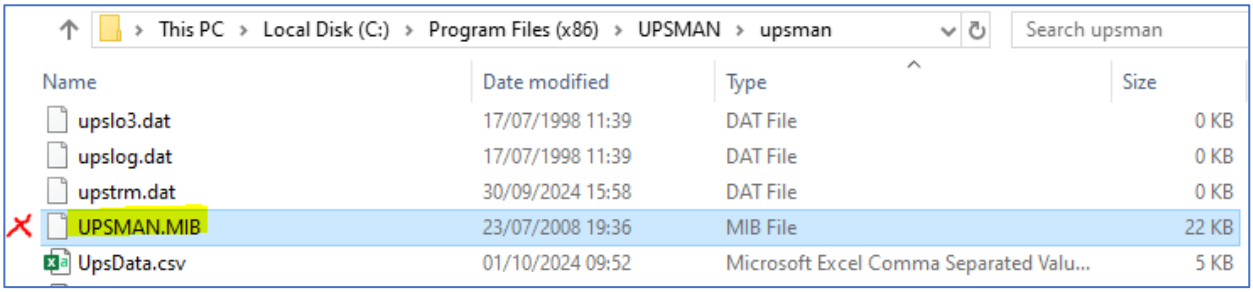


Extends the UPSMAN with an SNMP interface.

The SNMP service offers the possibility of connecting and centralizing the UPSMAN software to a higher-level management system via SNMP v2c.

Here you can choose between the RFC1628 MIB (widely used standard MIB for UPS systems) and the customized private UPSMAN-MIB

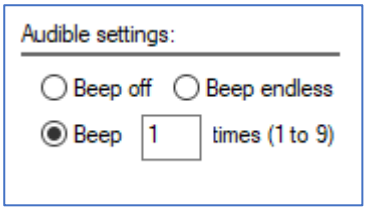
The UPSMAN MIB can be found in the installation directory of the UPSMAN software:



Note: The RFC1628 MIB

The RFC 1628 MIB is a standard UPS MIB that is included with most MIB browsers and SNMP monitoring systems. If necessary, you can also add the CS141 MIB extended by GENEREX to your system. You can obtain the MIB file in the download area at www.generex.de.

System: Audible settings



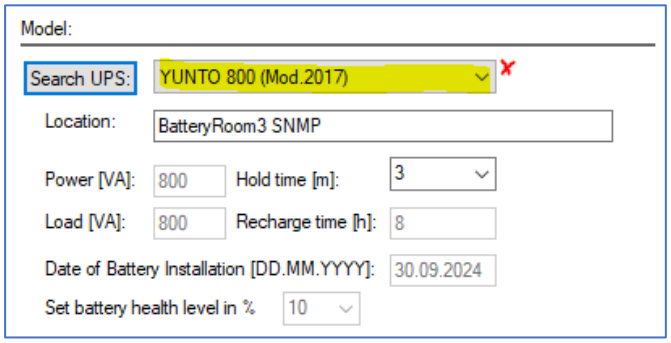
✓ Define how often a system beep should sound for the pop-up window.

As soon as there is a status message from the UPS, the UPSMAN software will display a warning message locally on the desktop. This setting defines whether and, if so, how often a warning signal should be issued to draw attention to the pop-up window.

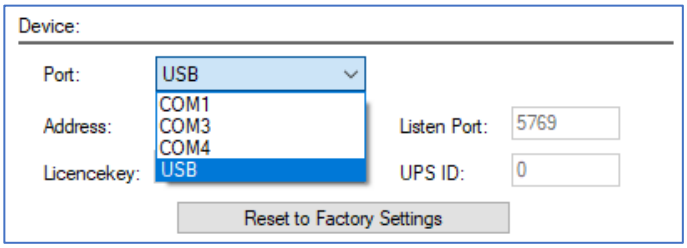
Steps to start UPSMAN

Step 1: UPS and location

Select the correct UPS model from the drop-down box and enter the location of the UPS under “Locations”.



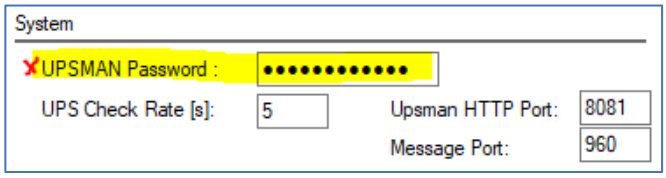
Step 2: Communication type



Define exactly which serial port you are using to operate the UPS. The UPSMAN software will reserve this port for itself and open an exclusive connection to the UPS. If you select the wrong COM port, the connection attempt will fail.

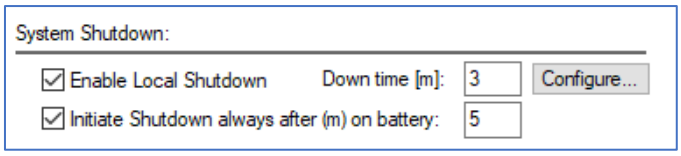
For USB connections, make sure that the operating system has correctly recognized the UPS as a HID device, since the USB packet is passed to the UPSMAN software by the operating system's HID server. If the UPS is not correctly recognized as a USB device, the UPSMAN software cannot establish communication.

Step 3: Set password



Assign a password to protect any available control functions in the UPSMAN web interface UPSView and the configuration tool against unauthorized access.

Step 4: Define server shutdown



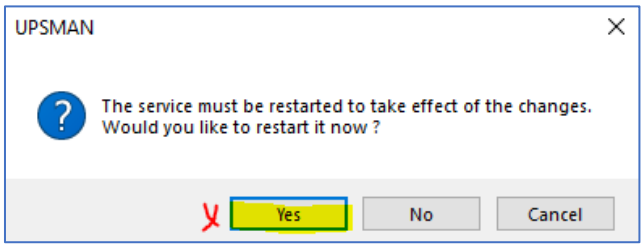
The default setting is:

Once the UPS operating time falls below 3 minutes, UPSMAN will shut down the local server.

Adjust the value for Enable Local Shutdown to match the actual shutdown time so that the server has enough time to shut down in an emergency. 3 minutes is usually enough time to complete a shutdown but is already close to the end of a typical UPS runtime and aims to operate on UPS power for as long as possible until the 3 minutes remaining time are reached, then the shutdown is initiated, and the UPS battery is empty.

Optional: Under Initiate Shutdown always…, activate and define a timer after which the server should generally shut down in the event of a power failure. Contrary to the "Downtime" goal of running on battery for as long as possible and only initiating the shutdown when there are 3 minutes left, this option always initiates a shutdown after 5 minutes. The goal here is to only draw power from the batteries for 5 minutes during each power failure and thus only drain the capacity of the batteries in the UPS in 5-minute increments.

Step 5: Press OK and start UPSMAN



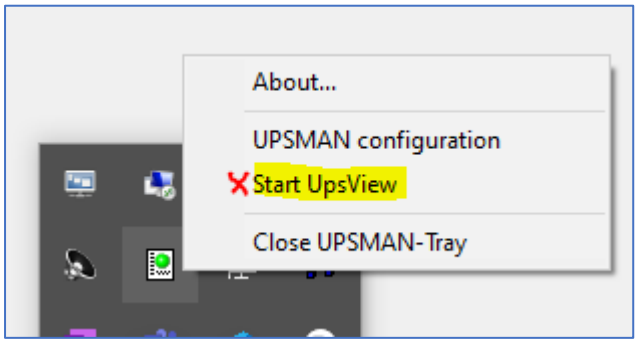
When all settings have been made, click OK to accept the entries. Confirm that the UPSMAN service should be restarted. If you select No, only the settings in the registry or configuration file are saved and the service is then started when the computer is restarted or by the command "net start UPSMAN".

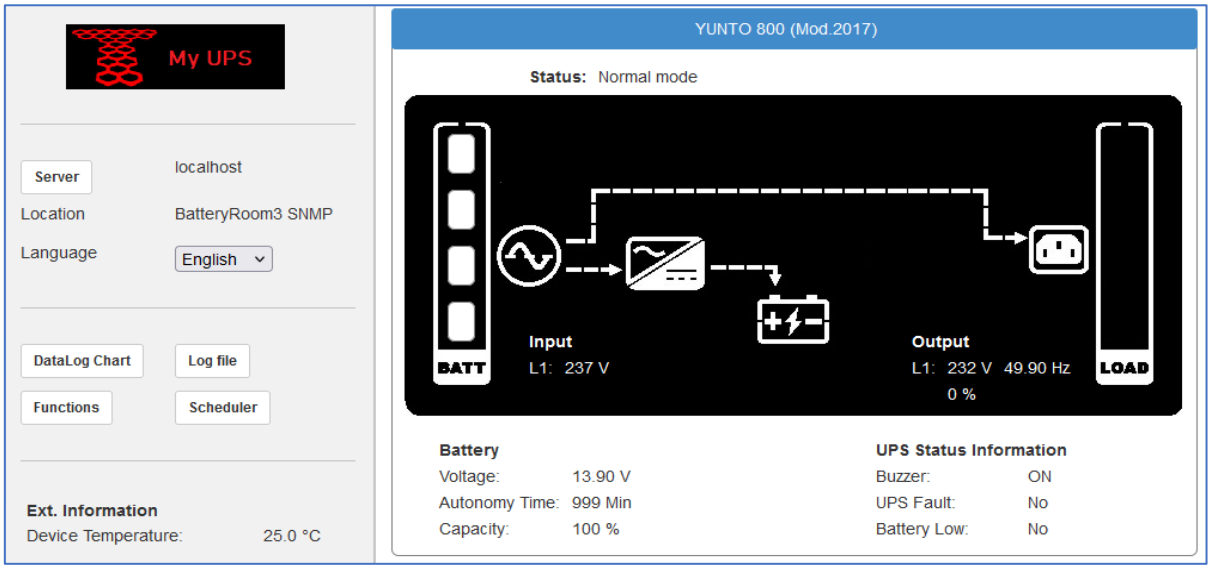
If the UPSMAN service does not start, check your virus scanner and firewall settings

Step 6 – Check settings

Call up the graphical web server display UPSVIEW via the context menu or by entering the http address of your computer and check whether the UPS data is within the normal range.

Example: http:// [IP address of the server]:8081 (eghttp://192.168.5.15:8081)



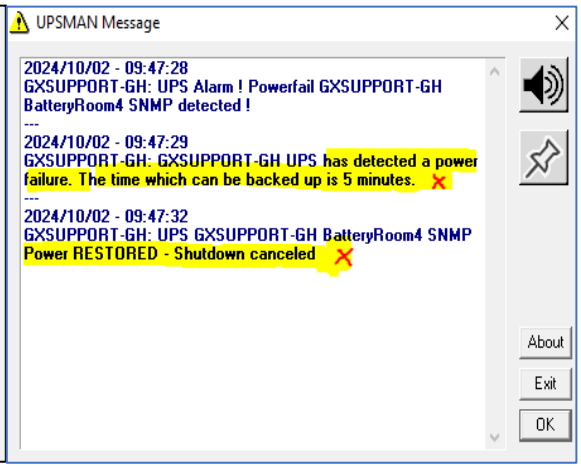


Test the power outage:

The circuit diagram should change and the UPSMAN software should display a corresponding message on the server's desktop.

If scripts are not executed:

- Check available system rights for UPSMAN service and possibly virus scanners and firewalls.
- Test your scripts with the setting “Run job as interactive user”.

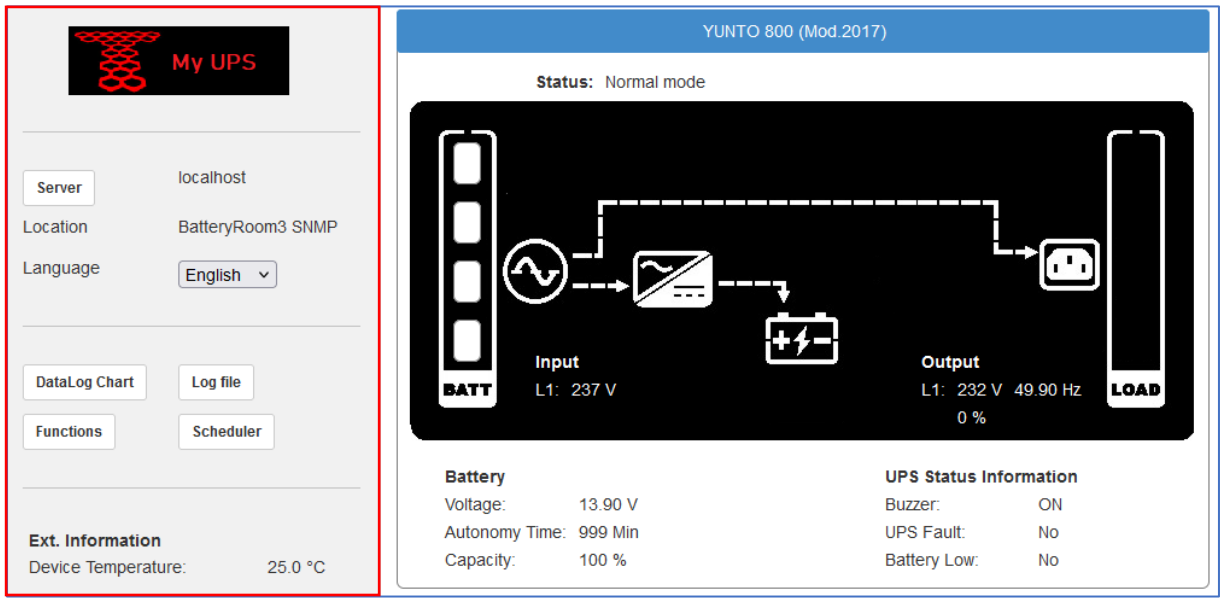


Note: Test shutdown!

Finally, we recommend a “hard shutdown test”: In the event of a power failure, the server should shut down according to your settings when the set parameters have been reached.

Overview - The UPSView web interface

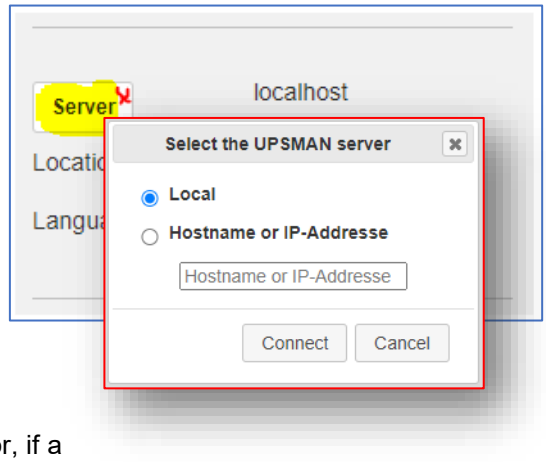
The UPSView web interface provides an intuitive overview of all available vital data. The data and diagrams displayed adapt flexibly to the UPS model selected, so the following is only an example for a specific UPS model and can be displayed completely differently for other models.



function menu	Model-specific display shows all available vital data of the UPS in real time.

UPSView: Access and language selection

server



If you have multiple UPSMAN installations on the network, you can switch directly between the UPSMAN servers and display the respective UPS data and associated controls.

- Local:

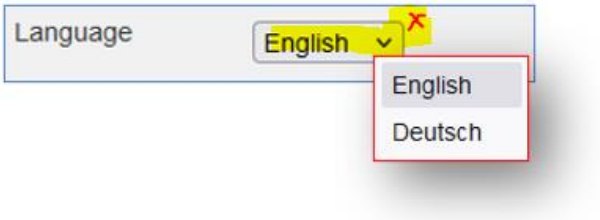
This defines the so-called “localhost” or 127.0.0.1. With this setting you select the local PC on which the web browser was opened.

- Hostname or IP address:

Enter either the IP address: port (e.g. 192.16.4.3:8081) or, if a DNS uplink is available, the host name of the UPSMAN server you want to reach. Clicking "Connect" will take you to the relevant web interface.

Language

Unlike the UPSMAN-Config tool, the web interface offers different languages.



Select between the following languages from the drop-down box:

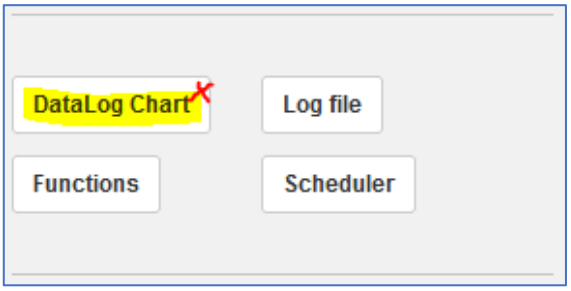
- English
- German

The web interface is automatically switched to the target language without restarting the UPSMAN service in the background.

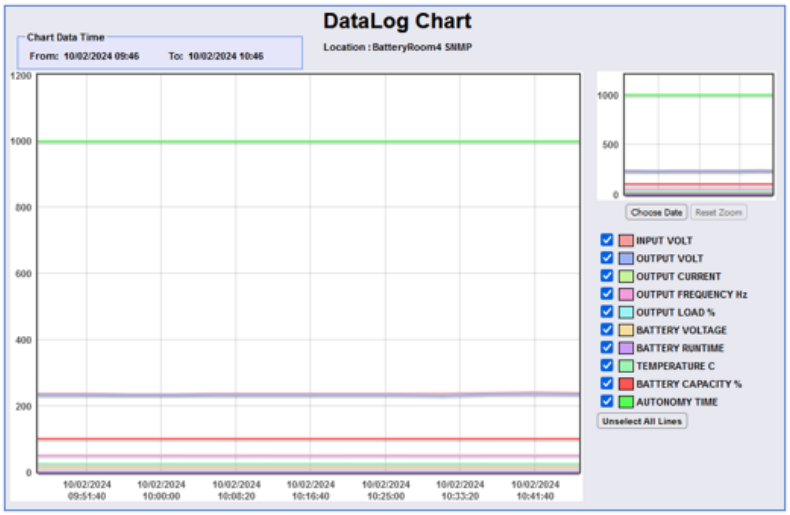
diagnostic tools system and UPS functions

Data Log Chart

- ✓ Generates a graphical representation of the charge/discharge cycles and battery performance from the available battery data.
- ✓ Provides a scalable timeline to address any aspect of a power outage.



The DataLog Chart provides insight into the operating and performance data of the UPS managed by the UPSMAN software. The Datalog Chart enables this data to be displayed visually in graphs and compared with event log files and log files for actions. In this way, it is possible to process a power failure, and all server actions and trigger points carried out for a report.



➔ Chart Data Time

➔ Quickzoom

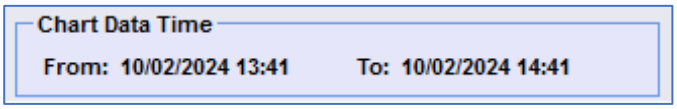
➔ Auswahl Datum / Zoom Reset

➔ Verfügbare Messwerte

➔ Aktueller Zoomfaktor / Zeit

Chart Data Time

The Chart Data Time shows the start of recording – the time of the first log entry – and the last available log entry.



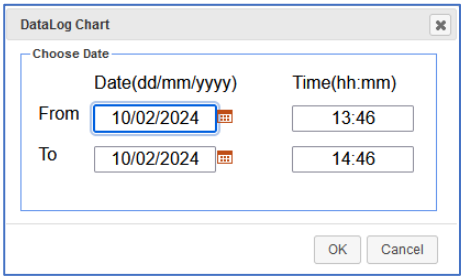
Quick zoom

The quick zoom allows you to quickly jump to a specific date within the available timeline. Hold down the mouse button and drag a frame around the image section you want. This will then be displayed in the main window with an adjusted date and time axis.

Choose Date

If you want to view a specific time window (the power outage between 11am and 12pm on a specific date), enter the start and end date and the specific time window here. The main window will focus the display on the corresponding time window. You can then use the quick zoom display to enlarge the image section

- ✓ Click “Reset Zoom” to reset the display to the global chart data time.

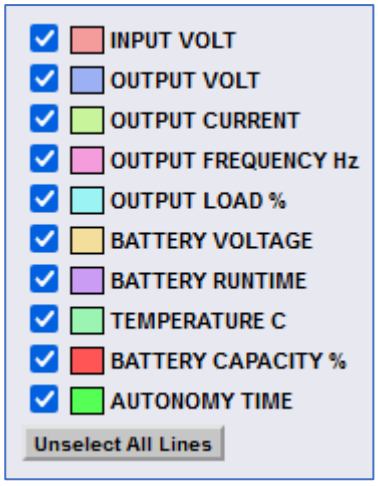


Available measured values

The options offered here are dynamic and depend on the technical capabilities of the respective UPS model.

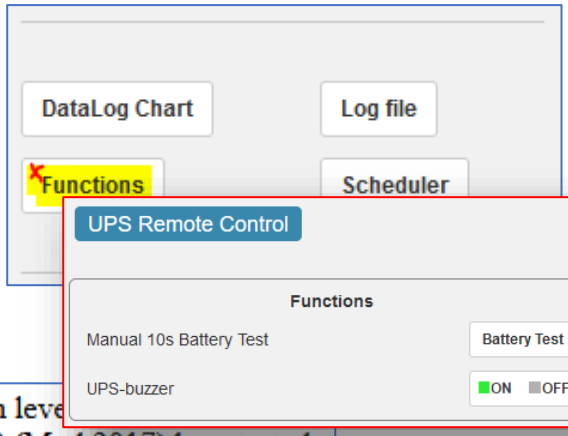
Show important graphs and hide currently irrelevant information.

With “Unselect All Lines” you can hide all graphs and then display the information that is important to you one after the other.

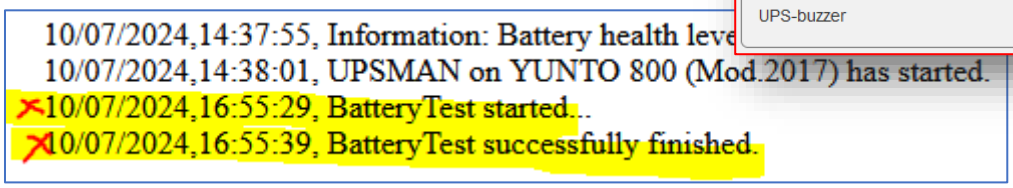


Functions

Functions are dynamic and depend on the range of functions of the respective UPS model. For this reason, the following functions are described as examples to explain the functional principle of this menu:



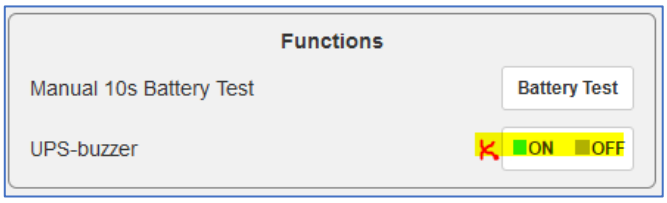
Example: 10s Battery Test



The battery test sends a command to the UPS to carry out a short battery test. In most cases, this is also the same as a "self-test" that is also offered by some devices. The main focus here is on whether the batteries can take over in an emergency. If an error occurs, it will be visible in the log file.

Example: UPS buzzer

Every UPS system has an acoustic alarm that goes off when the UPS switches to autonomous mode (i.e. there is a power failure or technical problem). Depending on the UPS model, features and size, this alarm buzzer can be deactivated.



In this example you can see a green mark at ON, which marks the ACTUAL state. Click OFF to permanently deactivate the alarm buzzer.

Note: Audible alarms are intended to alert the user to the precarious situation where the UPS is providing emergency power from the batteries. This emergency power is limited and therefore this alarm should never be ignored.

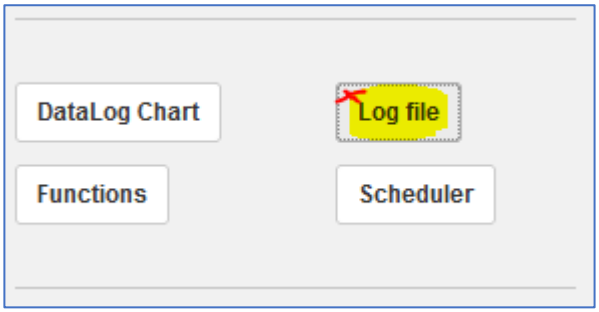
Individual options

Depending on the manufacturer, UPS model and individual equipment as well as firmware version, numerous options can appear under the functions, e.g.

- Turning the UPS on/off
- Shutdown of the UPS
- Quick battery test.
- Electrical test
- Custom test with own time window
- Full discharge test
- Turning individual outputs on/off
- Delayed switching on after cold start

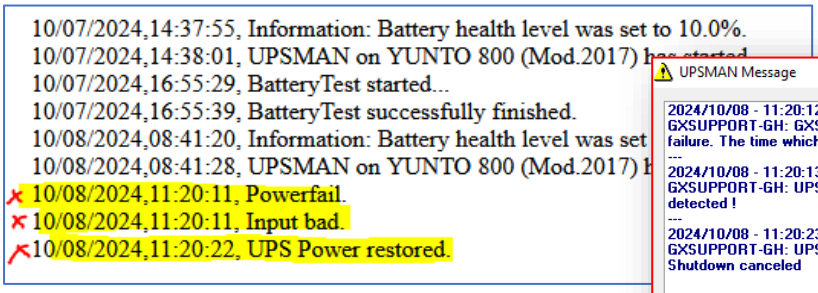
log file

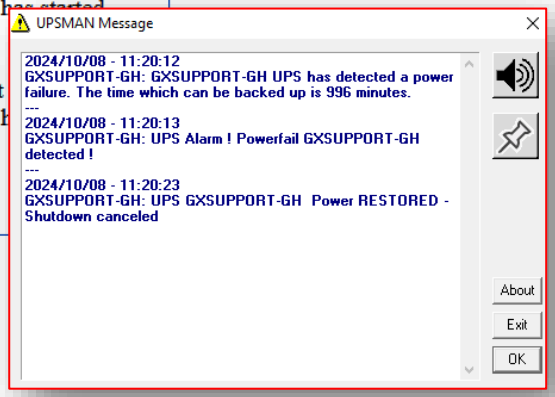
The log files document the operating states and also malfunctions. Basically, the UPSMAN software distinguishes between the event log and the logged UPS data:



Log File - The Event Report

The log file provides text information about the operating status of the UPS. If a power failure occurs, the chronological sequence of events and configured actions performed by the UPSMAN software is recorded here with a time stamp.



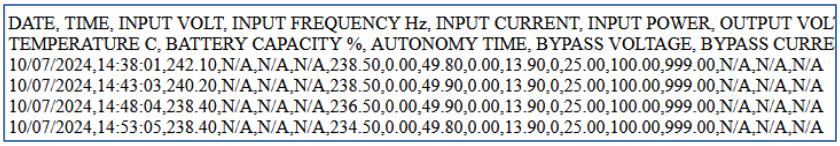


This way you can trace back:

- When a power outage occurred
- How long the power outage lasted
- When the UPSMAN sent RCCMD signals
- When the server was shut down.
- Etc.

Data File – The measurement data of the UPS

The data file provides the time-stamped measurement data in text form in the “SCV” format, corresponding to the event log, which can be further processed by EXCEL, for example.

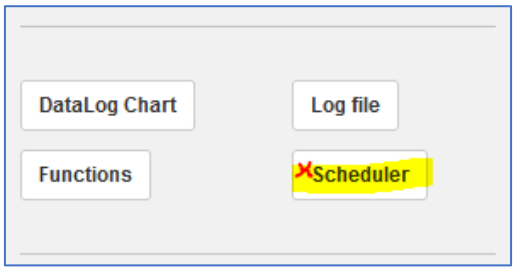


The data file is used, among other things, by the Data Log Chart to provide a visual representation of the available measurement data.

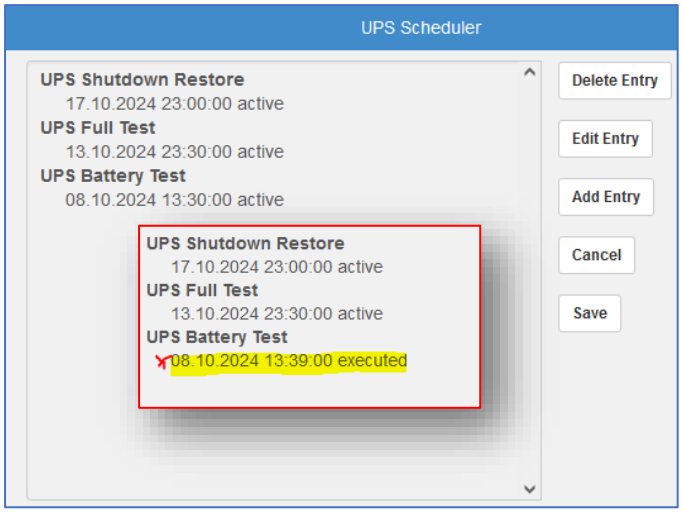
scheduler

Recurring tasks can be automated using the task scheduler. Depending on the range of functions and UPS model, different jobs are dynamically available, which are carried out at specific times using an integrated task manager.

The created jobs are clearly displayed in a list.



Using the Scheduler



➔ *delete entry*

➔ *Edit entry*

➔ *Add entry*

➔ *Cancel*

➔ *Save Settings*

Delete Entry

Mark an entry and press "Delete Entry" to remove it from the active list. As soon as you save the changed list with "Save", the UPSMAN service will adopt it and execute the stored jobs according to the entered time parameters.

Edit Entry

Actions that are executed once at a specific time remain on the list as "executed". Select an entry and click on Edit Entry to edit it and activate it, for example by entering a new date.

Add Entry / Add New Task

Click Add Entry to create a new task. It will then appear in the list of available/active jobs.

Cancel

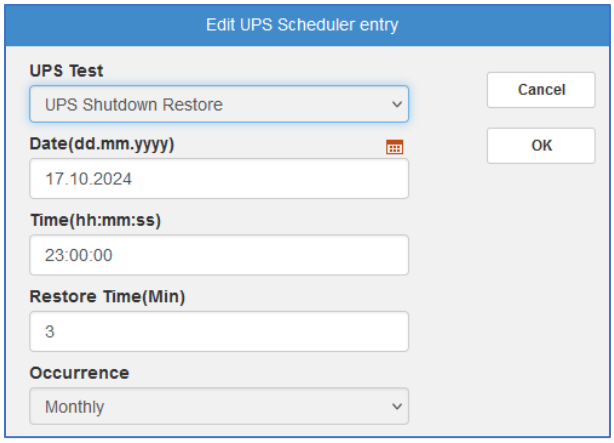
Discards all your settings and changes you have made to the current job list and restores the last saved state.

Save / Save Settings

Saves your settings permanently and makes this list active. Please note that when you click "Save" you create a new save point, there is no way to go back to an older save point.

Creating and editing jobs in the scheduler

The difference between editing and creating a job is minimal. When editing, you change jobs that have already been created, while when creating, you add a new job to the task list. The job editor offers exactly the same functions in both cases:



➔Depending on the function: Add or Edit …

➔Drop down menu, selection of the job

➔OK / Cancel: Save/Discard

➔Date Start date

➔time

➔Job – Specific Parameter

➔Repetition of jobs by appointment

Drop-down menu with UPS jobs

The drop-down menu shows a list of all available jobs that this UPS could perform. The exact list of available jobs depends on the UPS model and manufacturer.

Cancel / OK

Discards this dialog and the settings made or passes the settings to the UPS Scheduler List.

Date

Specify the start date on which the job should be run or from when the job should be run regularly

Time

Define the time at which the event should be executed.

job-specific parameters

This field is dynamic and is displayed when required, for example if additional parameters are available for a job.

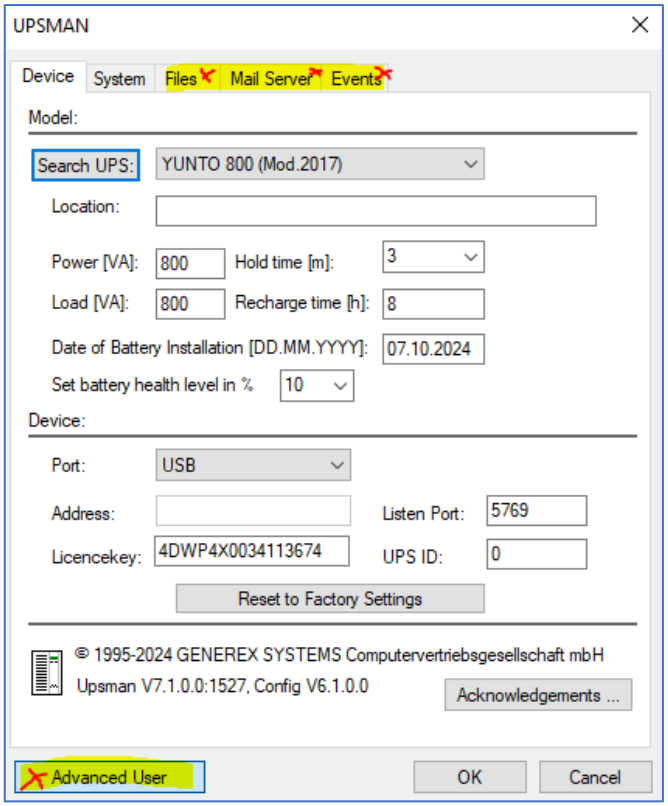
Occurrence / Repetition

Define whether the job should be carried out once or repeated periodically. You can choose between daily, weekly, monthly and annually.

Advanced User

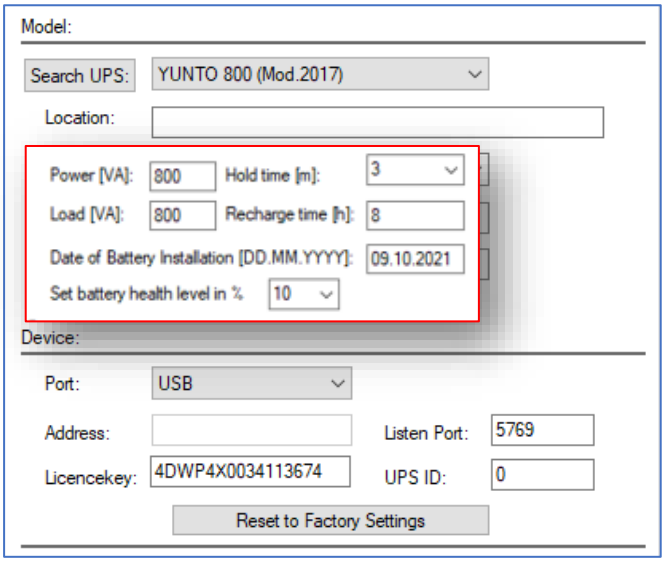
The Advanced User displays new functions for communication and debugging. Settings in the Advanced User menu is generally not necessary for a computer that is only locally connected to a UPS. This menu should only be used for email and shutdown use via RCCMD:

- ✓ Files: Definition of log and raw file names.
- ✓ Mail Server: Configuration of the email service
- ✓ Events: Advanced job management and configuration of the RCCMD shutdown signal



Unlocked: UPS functions

Normally, the optimal default values are loaded automatically when the UPS is selected. These include the "Hold Time" (the time window for how long the UPS emergency power can be provided at 100% load), "load" the maximum load that the UPS model can handle and other values. In most cases, the UPS provides these values via the communication protocol and should therefore only be adjusted if necessary (technical support or changing the standard setup of the UPS).

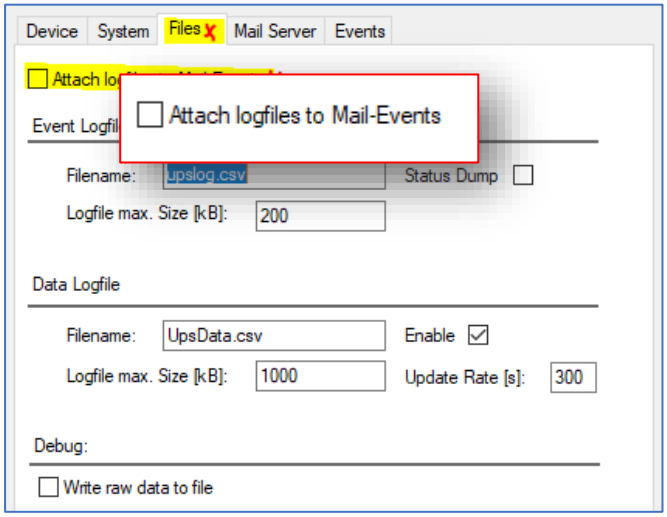


System Tab: Files

Under Files you can change the recording behavior

Attach logfiles to mail events

When enabled, the UPSMAN service automatically attaches all available log files (UPSlog and Datalog) to every outgoing email you send. This is a global setting that affects all emails.



event log file and status dump

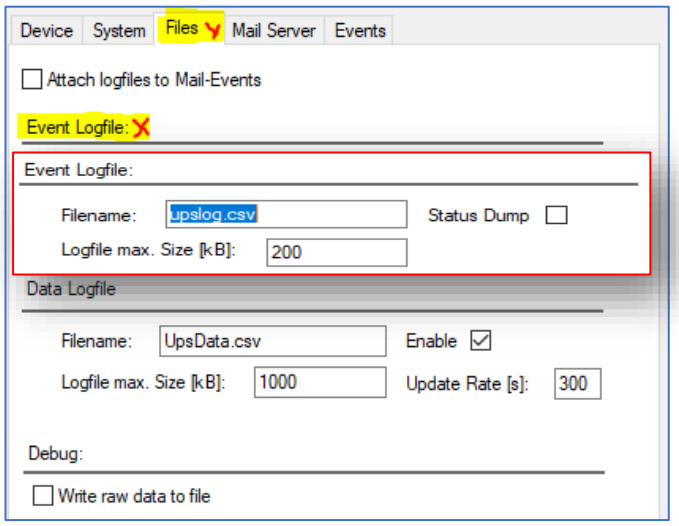
By default, a “status dump” with all UPS data at that time is entered into the upslog.csv file in the installation directory of the UPSMAN software at regular intervals.

Filename

This can be read later via the web interface or opened and edited directly in the installation directory. Important: This file is necessary for UPSVIEW and should not simply be deleted or renamed at runtime.

If you rename the file in the installation directory, a new upslog.csv will automatically be created on the next restart of the UPSMAN software.

You can use Filename to create an individual file name.



log file size

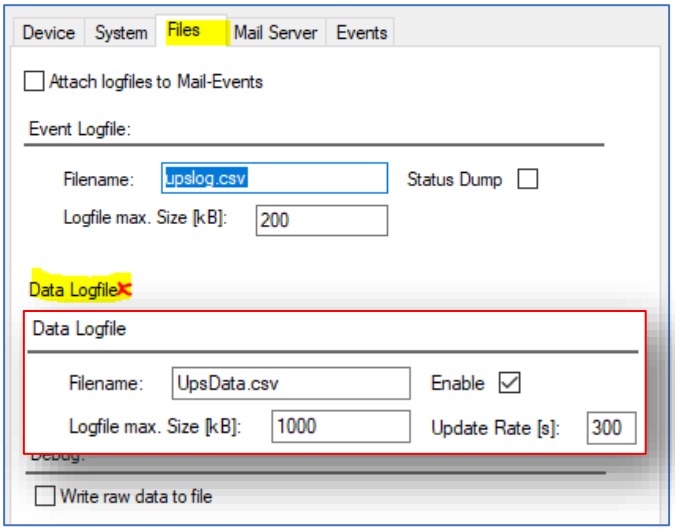
The log file size defines the maximum size this file can be. When the limit is reached, the oldest entry is removed, and a new entry is generated.

Status Dump: UPS debugging function

Normally, the event log only provides new events when they actually occur; the status dump will also write the current UPS status to the event log approximately every 10 minutes. Please note that this function affects the storage space provided and can make a log file very confusing.

data log file

The data log file is the csv file in which all UPS measurement data is recorded with date and time stamp.



Filename

By default, the file is called UpsData.csv. This file is the basis for the DataLog chart, which is available via the web interface of the UPSMAN software. If you change or delete this file, then restart UPSMAN to ensure that the file is automatically recreated.

LogFile Size and Update Rate

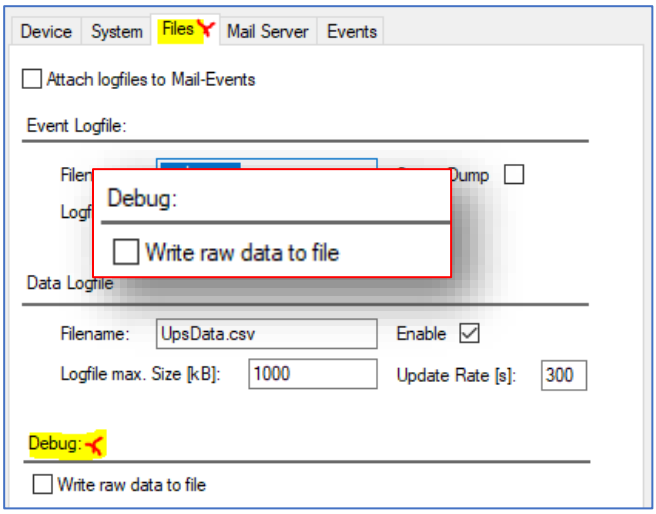
Defines the maximum size of the log file. When the allocated storage space is exhausted, the last entry is removed and replaced by the newest entry. At the same time, the UPSMAN software is designed to guarantee UPS data for approximately 24 hours.

The update rate defines how often an entry is made. The standard 1000kb with an update rate of 300 seconds provides enough storage space to record the last 24 hours. If you want to reduce the update rate, i.e. want an entry to be made more frequently, the log file size must be increased accordingly. If you do not need the data log, you can also deactivate this function by removing the tick next to Enable and restarting the UPSMAN software by clicking on the OK button.

Debug Mode: Write raw data file

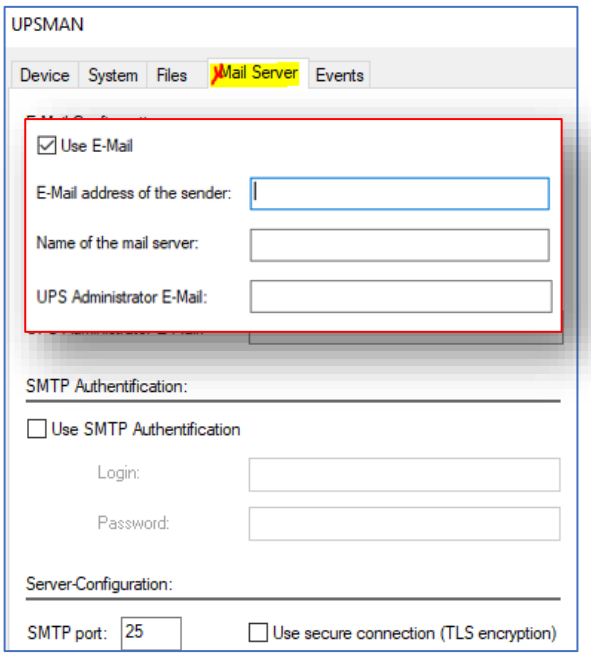
If you experience communication problems, this function can be used to create a so-called Line.raw file to provide support with additional information.

Do not enable this feature unless instructed to do so by the manufacturer's technical support.



System Tab: Mail Server

The UPSMAN can automatically send an email to one or more email recipients for each UPS event that can be found under “Events”.



- ✓ If you enable this feature, a corresponding mail job will be automatically added to each UPS event.
- ✓ Make sure that you activate the mail server first and then add your own mail jobs, as this function edits all mail jobs globally.

E-mail address of the sender

Enter the sender’s address. Some mail servers are set up in such a way that a specific From field is required in order to send an email to the respective server. You can find out the sender address from the responsible system administrator.

Name of the mail server

Enter the mail server that is responsible for sending the emails. This can be an IP address (e.g. 192.168.5.17) or a so-called DNS name (e.g. Mail.stuttenheim.de, smtp.intracurve.net, ...). You can find out the exact DNS name from the responsible system administrator.

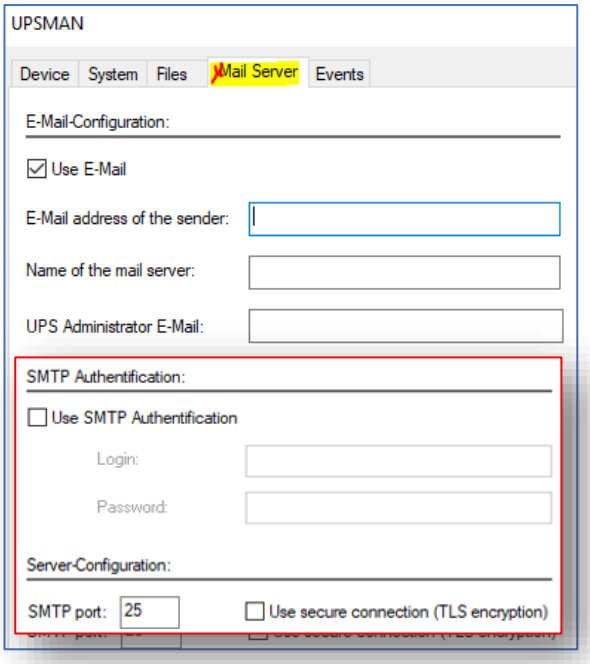
UPS Administrator EMAIL:

Here you specify who should receive the email. If there is more than one recipient, you can also enter multiple email addresses one after the other, separated by a comma:

techteam@RuraPenthe.org, Administration@admin.net ,...

SMTP Authentication & TLS/Port

Depending on the server configuration, you may be required to provide a username and password. This can either be an independent username or the sender's email address. You can obtain the exact access data from the system administrator responsible.



- Login: Enter the username
- Password: Enter the password

Server Configuration: TLS and Port

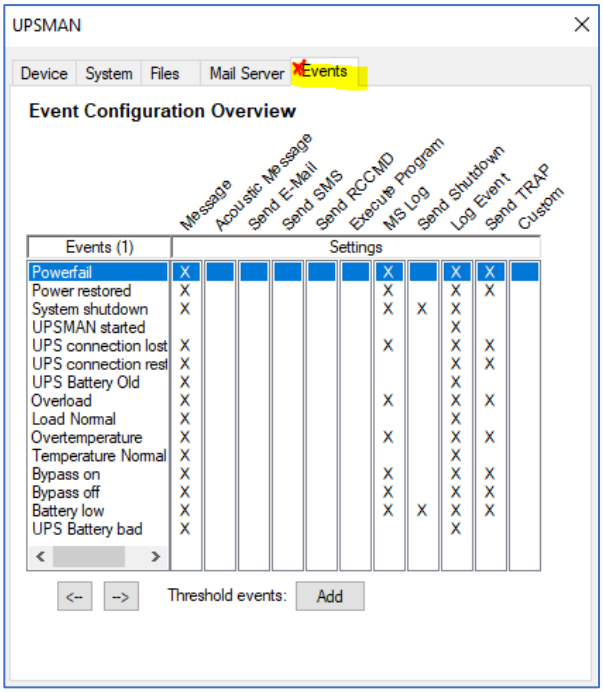
If the server only allows encrypted communication, please enable TLS Encryption.

SMTP Port (Default 25):

For security reasons, the ports on which a mail server looks for incoming communication may vary. Adjust the SMTP port according to the instructions of your system administrator.

System Tab: Events

RCCMD commands are sent via events, for example to automate network-wide shutdown scenarios. Please note that the UPS events configured under Events are handled independently of the local shutdown settings entered under System.



Event Configuration Overview

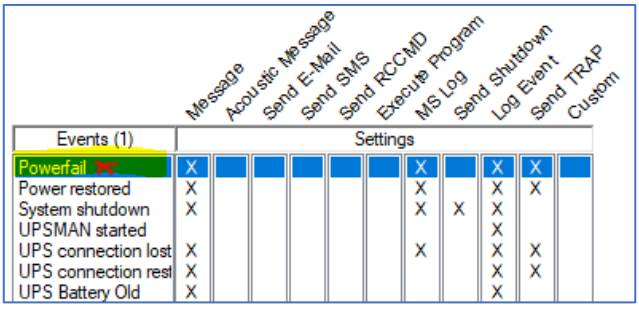
The overview provides an overview of all theoretically available UPS events to which a "job" can be assigned that is executed in the event of this event.

Tip: Pay attention to the UPS documentation!

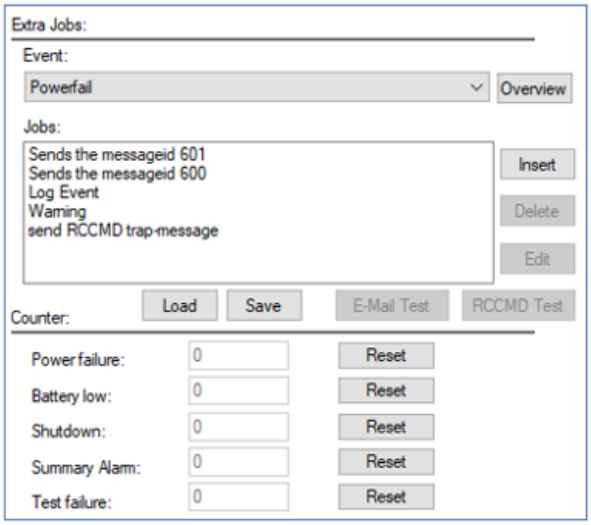
Not every event is necessarily available for your specific UPS just because it is shown as a theoretical possibility on this screen. If in doubt, contact the UPS manufacturer to find out if a particular system event is supported by the UPS.

The job editor

To open the job editor, double-click the system event you want to edit.



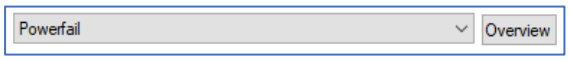
A corresponding submenu opens in which you can make all settings:



- ➔ *Event Selection*
- ➔ *Jobs: Jobs assigned to this event*
- ➔ *Add a new job*
- ➔ *Delete a selected job*
- ➔ *Edit a selected job*
- ➔ *Load / Save: Save and restore configuration*
- ➔ *Event Counter: Static information about event occurrence*

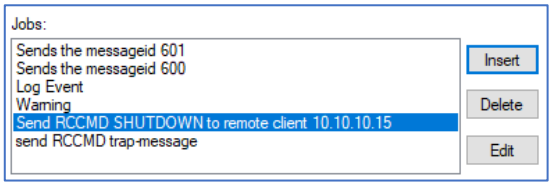
event selection

Use the dropdown menu to switch between the available UPS events. Use the "Overview" button to return to the general Event Configuration Overview list



Jobs

The jobs assigned to the selected event are displayed here and can be edited. The jobs are executed in order from top to bottom. There are three function buttons available for this:



- Insert
  Select a new job from a list of jobs and add it to the job list.
- Delete
  Select a job (click) and press Delete to remove the job from the job list. The job will be completely deleted including specific settings.
- Edit
  Select a job and click Edit to edit the job. You can adjust individual parameters of this job or replace the entire job with another job.

Special feature: E-mail job with function variables

Each UPSMan version supports the ability to automatically include location and UPS data in an email using function variables.

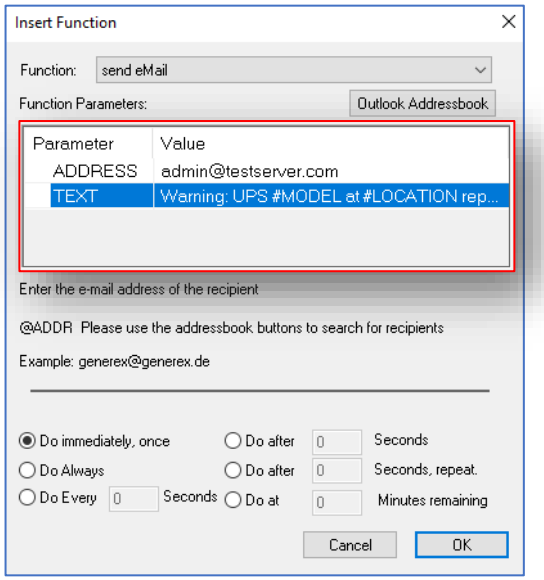
This makes it easier to assign incoming messages, and a power outage can also be fully evaluated and processed.

Under ADDERESS, enter the email address to which a report should be sent. If there are multiple recipients, enter additional email addresses one after the other, separated by a comma:

admin@testserver.com , info@testserver.com, …

Under TEXT you define the message that should be sent. The UPS data can be added dynamically using the respective function variable.

Example: E-mail job on event “Power Fail”:



TEXT:	WARNING for #MODEL at #LOCATION reports an error. Remaining Time #TIMEUNTILSHTDWN

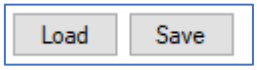
In this case, in the event of a power failure (“Power Fail” event), an email is automatically sent containing the selected UPS model, location data and the remaining runtime until shutdown.

List of available function variables

function variable*	Description
#OUTPOWER	Current load in % on the UPS
#TEMPDEG	Current UPS temperature in Celsius
#AUTONOMTIME	Current autonomy time in minutes
#LASTTSTBUPT	Last tested BackUpTime (UPS test) in minutes
#STATUS	Current UPS status
#LASTERR	Last Error
#TIMEUNTILSHTDWN	Current remaining time until shutdown
#RUNTIME	Current remaining time until shutdown
#INCURR	input current
#BATTVOLT	Battery voltage in volts (V)
#INFREQ	input frequency in Hz
#OUTFREQ	output frequency in Hz
#CNT_PF	counter for power failure
#CNT_BL	Battery Low counter
#CNT_SD	counter for shutdown
#CNT_SA	Counter for Summary Alarms
#CNT_TF	counter for test errors
#INVOLT	input voltage in volts (V)
#LOCATION	location of the UPS
#MODEL	UPS model used
** Please note that functional variables depend on the capabilities of the UPS model used. The list of functional variables therefore varies depending on the manufacturer and UPS model. If the variable you require is not included in this list, our support team can help you at support@generex.degladly continue.*	

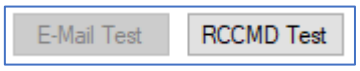
Load / Save

With Load this file can be manually reloaded, for example after an update.



test functions

Depending on the nature of the job, RCCMD and mail jobs can be tested manually. In this way, for example, when an RCCMD shutdown signal is sent to an RCCMD client, it is possible to check whether both the UPSMAN software and the RCCMD client are correctly configured and whether the RCCMD shutdown will reach its target in an emergency.

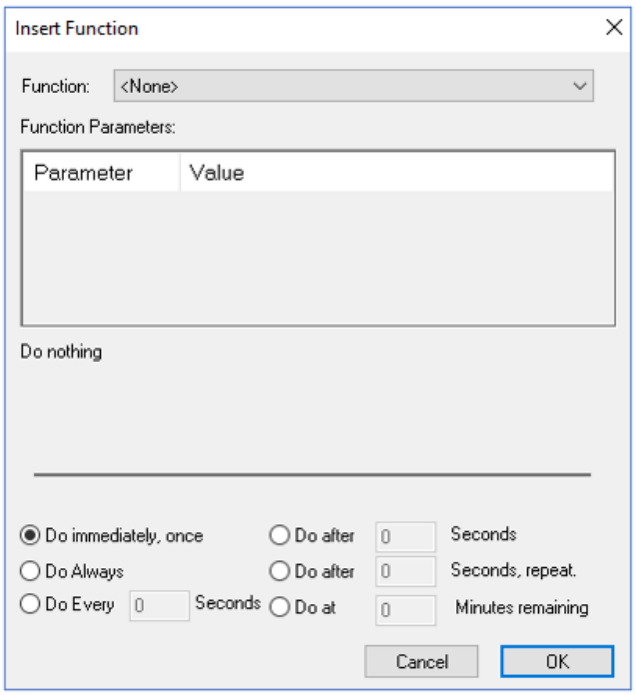


Tip: The RCCMD vs "Test Shutdown"

RCCMD does not distinguish between a "test" and a "real power fail" - if you want to check the communication between RCCMD and UPSMAN, it is recommended not to do this with a sharp shutdown signal, but with the "RCCMD Message" job - this uses exactly the same mechanism, but only a message appears on the target system.

Create and configure jobs and parameters

Click Insert to create a new job for an event. A new window will open with the wizard that will help you with the setup.



➔ Auswahl des Jobs

➔ Parameterliste
Diese Liste ist dynamisch und passt sich den jeweils ausgewählten Job an

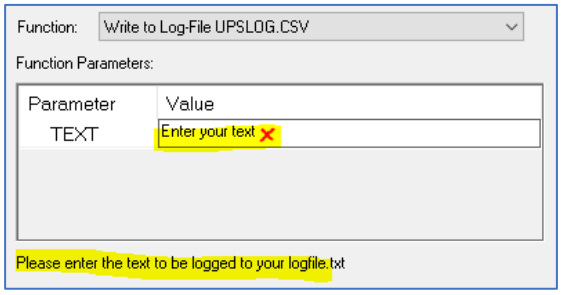
➔ Beschreibung des Jobs

➔ Zeitmanagement und Job-Timing

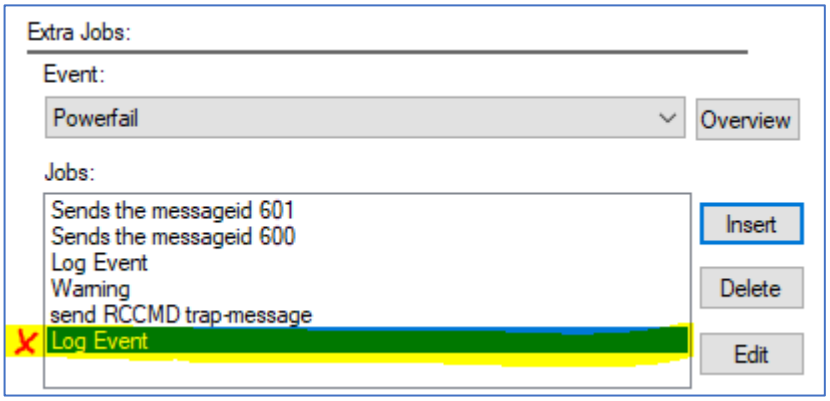
First, under Function, select the job you want to insert:

Example 1: Add a manual entry to the event log:

1. Under Function select “Write to Log File UPSLOG.CSV
   The parameters change and an input field for text messages appears:
2. Click in the input field to define your own text.
3. Confirm your entry with OK

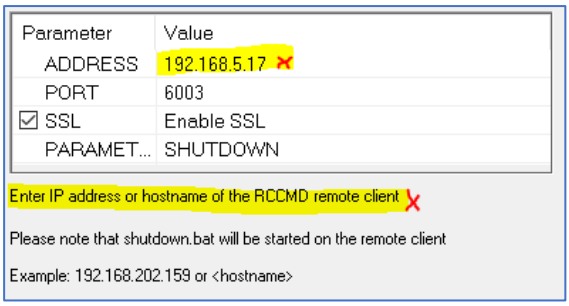


The job is stored in the “Power fail” event and is executed as soon as this event occurs:



Example 2: Send RCCMD shutdown signal to an RCCMD client

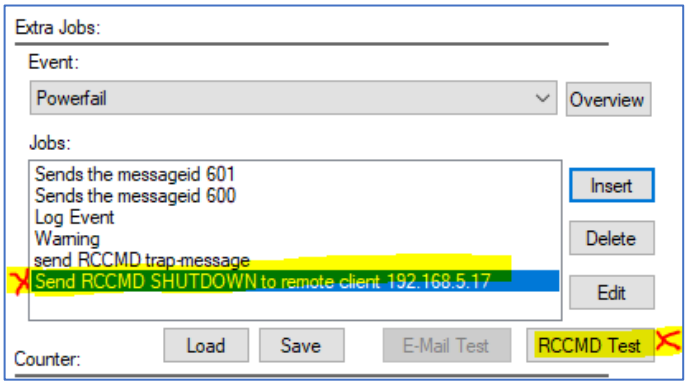
1. Click Insert to open the job configurator.
2. Select the “Send RCCMD SHUTDOWN” job from the drop-down menu.



The available parameters automatically adapt to the job requirements.

Click in the field to fill it in. Below the parameter field there is a help text that briefly explains what needs to be entered in the respective field so that the job can be carried out correctly later.

3. Press OK to add the job to the current job list.



Since this is an RCCMD job, the test function is enabled in a context-related manner. Please note that the "RCCMD Test" function executes the job that the addressed RCCMD client will execute 1:1!

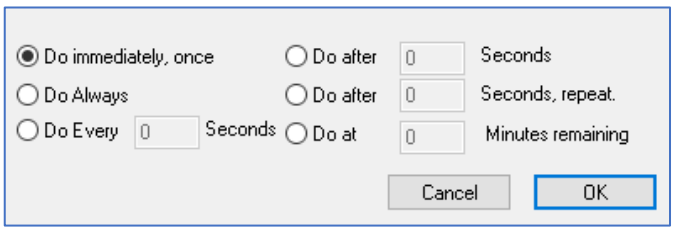
- ✓ A SHUTDOWN will shut down the corresponding server immediately!
- ✓ For testing, we recommend the RCCMD Job Message, as this
  - The same mechanism used
  - RCCMD requires a response
  - Only a pop-up message is generated on the target system

  If the RCCMD Message job is executed correctly, then the shutdown will also be transmitted correctly.

Tip: If the RCCMD job arrives but is not executed, please check whether the RCCMD client of the target system has been granted the necessary rights and has not been prevented from doing so by security software.
For more information on RCCMD client configuration, see the RCCMD software manual, which is available from the download area of www.generex.de receive.

timing / time management

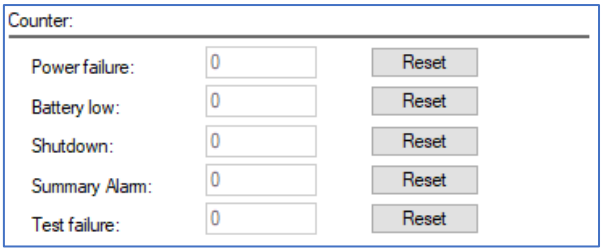
RCCMD offers the possibility to individually delay job execution. If the event no longer occurs in the meantime, the job will not be executed.



The UPS error counter

The UPS error counter provides a statistical value about the use of the connected UPS system and how often the UPSMAN software had to intervene to protect your system from damage.

You can use Reset to reset each counter individually to 0.



Appendix:

Difference Windows / Linux UPSMAN software

Why are some features missing in UPSMAN for Linux?

Because Windows is not Linux. Sure, everything that is available for Windows is also available in a multi-layered version for Linux, but that is exactly where the problem lies:

Some UPSMAN functions require in-depth configuration of individual system tools in order to work. Which tools are available here depends not only on the Linux derivative in relation to the version and patch level, but also offers a lot of scope for the individual taste of the respective user.

This means that functions offered by the Linux version are guaranteed to be described in the Windows menus in this manual, but not the other way around:

Just because Windows has always offered a specific feature does not mean that this feature will always look the same in all Linux versions…

Why is UPSMAN for Linux not an open-source project?

Because we take responsibility for our software and, unlike other providers, do not pass the risk associated with open-source projects on to the user. Therefore, we prefer to forego open-source influences and guarantee that the software runs exactly as we describe and test it.

Configuration Example: Using SNMP with UPSMAN for Linux

However, these differences between Linux and Windows are particularly evident when using SNMP: The basic concept is identical, but while the UPSMAN for Windows communicates internally with Windows' own SNMP service, the UPSMAN SNMP service for Linux gives more freedom, but expects the SNMP service to be installed and configured manually by an administrator.

Important Note:

This tutorial describes an exemplary default scenario in which UPSMAN / Linux is to be queried via SNMP in combination with an Ubuntu operating system. Please note that the Linux operating system you are using may require further configuration or distribution-specific adjustments.

Installing the SNMP service

An SNMP service is required so that the UPSMAN software can be queried via SNMP. "snmpd" is widely used under Linux, but typically for Linux it is not necessarily included by default after installation.

The first step is to open the console and temporarily obtain root rights. With the command "sudo su" you remain in this terminal as "superuser" until you explicitly type "exit". This saves you having to write "sudo" before each command and having to enter the user and password repeatedly.

Command: “sudo su“

```
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

gunnar@snmp-upsman-test:~$ sudo su
[sudo] Passwort für gunnar:
root@snmp-upsman-test:/home/gunnar#
```

The console will confirm successful execution by adding root@....

Before starting, evaluate via systemctl, if snmpd is already installed:

Command: “systemctl status snmpd“

```
gunnar@snmp-upsman-test:~$ sudo su
[sudo] Passwort für gunnar:
root@snmp-upsman-test:/home/gunnar# systemctl status snmpd
Unit snmpd.service could not be found.
```

Systemctl will either display an existing service or, as in this case, report that the service does not exist.

Before the actual installation, please update the package data.

Command: “apt-get update”

```
root@snmp-upsman-test:/home/gunnar# apt-get update
OK:1 http://ppa.launchpad.net/kubuntu-ppa/backports/ubuntu jammy InRelease
OK:2 http://security.ubuntu.com/ubuntu jammy-security InRelease
OK:3 http://ppa.launchpad.net/kubuntu-ppa/ppa/ubuntu jammy InRelease
[...]
OK:15 http://archive.ubuntu.com/ubuntu jammy-updates InRelease
Holen:16 https://packages.microsoft.com/ubuntu/22.04/prod jammy/main arm64 Packages [39,2 kB]
Holen:17 https://packages.microsoft.com/ubuntu/22.04/prod jammy/main amd64 Packages [171 kB]
Holen:18 https://packages.microsoft.com/ubuntu/22.04/prod jammy/main armhf Packages [15,5 kB]
Es wurden 230 kB in 3 s geholt (91,5 kB/s).
Paketlisten werden gelesen… Fertig
```

Installing the SNMP data packages

There are now two packages, the SNMP daemon itself, which is needed for communication, and the toolbox, which can be used to search for and isolate potential problems after installation.

It is essential to install the SNMP daemon (snmpd)

This is the daemon that the UPSMAN software will later contact to enable the data to be queried via SNMP.

Command: “apt install snmpd“

```
root@snmp-upsman-test:/home/gunnar# apt install snmpd
Paketlisten werden gelesen… Fertig
Abhängigkeitsbaum wird aufgebaut… Fertig
Statusinformationen werden eingelesen… Fertig
Starting pkgProblemResolver with broken count: 0
Starting 2 pkgProblemResolver with broken count: 0
Done
Vorgeschlagene Pakete:
  snmptrapd
Die folgenden NEUEN Pakete werden installiert:
  snmpd
```

After installation, check with *systemctl status* the installation status of snnpd.

Command: “systemctl status snmpd“

```
root@snmp-upsman-test:/home/gunnar# systemctl status snmpd
● snmpd.service - Simple Network Management Protocol (SNMP) Daemon.
     Loaded: loaded (/lib/systemd/system/snmpd.service; enabled; vendor preset: enabled)
     Active: active (running) since Wed 2024-11-13 10:35:55 CET; 4min 24s ago
   Main PID: 5892 (snmpd)
      Tasks: 1 (limit: 4524)
     Memory: 7.2M
        CPU: 113ms
     CGroup: /system.slice/snmpd.service
             └─5892 /usr/sbin/snmpd -LOw -u Debian-snmp -g Debian-snmp -I -smux mteTrigger mteTriggerConf -f
```

Optional: The SNMP Toolbox

This toolbox a collection of softwaretools like an SNMP, trap receiver, Tools for querying OIDs, etc. The toolbox is very helpful if you want to check the functionality of SNMP, but not necessary to run SNMP on the operation system. For the sake of completeness, it is installed in this tutorial.

Command: “apt install snmp“

```
root@snmp-upsman-test:/home/gunnar# apt install snmp
Paketlisten werden gelesen… Fertig
Abhängigkeitsbaum wird aufgebaut… Fertig
Statusinformationen werden eingelesen… Fertig
Starting pkgProblemResolver with broken count: 0
Starting 2 pkgProblemResolver with broken count: 0
Done
Die folgenden NEUEN Pakete werden installiert:
  snmp
0 aktualisiert, 1 neu installiert, 0 zu entfernen und 9 nicht aktualisiert.
Es müssen 176 kB an Archiven heruntergeladen werden.
```

With this step, the installation work is carried out.

SNMPD configuration guide

To edit the files, an editor is necessary. “nano” has proven to be recommended as it offers clear operation and will therefore be used in this manual to carry out configuration work. If needed, install the editor using the command “apt install nano”.

Change to the /etc/snmp directory and list the contents:

Command 1: „cd /etc/snmp“
Command 2: „ls“

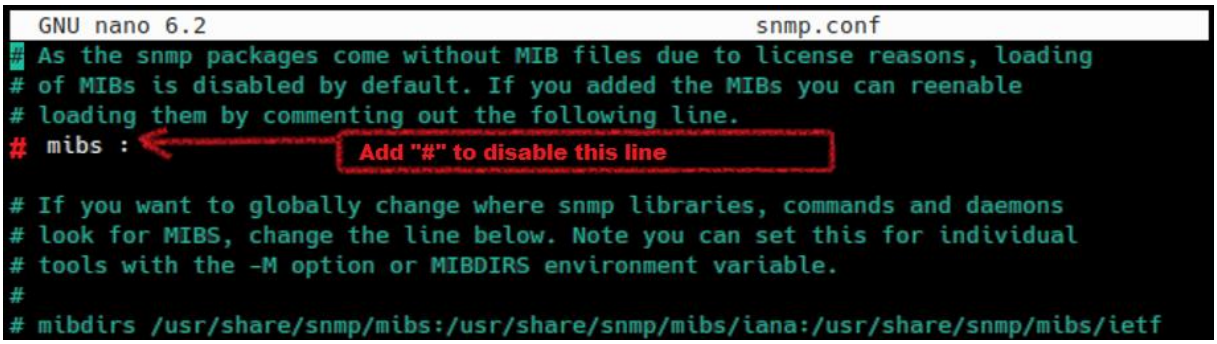
```
root@snmp-upsman-test:/home/gunnar# cd /etc/snmp/
root@snmp-upsman-test:/etc/snmp# ls
snmp.conf  snmpd.conf  snmpd.conf.d
root@snmp-upsman-test:/etc/snmp#
```

Important: Write access for these files are normally restricted. Editing is therefore online possible with the according root user privileges!

Configuration of snmp.conf

By default, the SNMP package comes without MIBs, but with a reference to MIB files. To avoid errors, it is recommended to disable the MIB reference by commenting out with „#“.

Command: „nano snmp.conf“



Save the file with CTRL + X. Ensure that both, file name and location do not change.

Setting up snmpd.conf

snmpd.conf is the configuration file for the SNMP daemon. This file needs configuration for allowing the UPSMAN software to communicate with the daemon, but also whether and how the SNMP daemon can be accessed by querying tools. This file will also be used to carry out access restrictions.

Due to the variety of options available here, the configuration for snmpd can become very complex, so this tutorial is limited to an easy-to-understand example:

- SNMP v2c with the groups Public and Private
- No further restrictions on the query
- Setting up a trap receiver

Even for this simple example, several mandatory settings must be carried out.

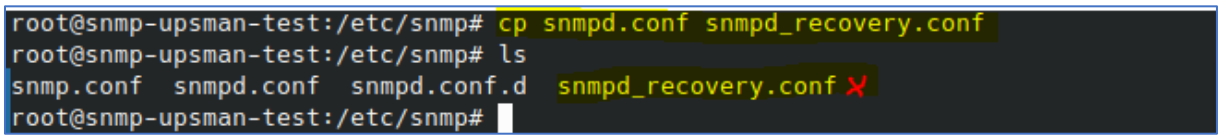
For further configuration options, please refer to the Linux program help pages or the manual of the respective Linux distribution.

Note: Save a backup copy of snmpd.conf before starting configuration work!

Before editing the file, it is best to make a backup copy of snmpd.conf using the “cp” command.

Command 1: „cp snmpd.conf snmpd_recovery.conf“

Command 2: „ls“



After this, open snmpd.conf with an editor of your choice to start editing. This example procedure will use nano for this procedure.

Command: „nano snmpd.conf“

The file snmpd.conf provides different sections – Change the configuration as followed:

```
###############################################################################
# SECTION: System Information Setup
#

# syslocation: The [typically physical] location of the system.
#   Note that setting this value here means that when trying to
#   perform an snmp SET operation to the sysLocation.0 variable will make
#   the agent return the "notWritable" error code.  IE, including
#   this token in the snmpd.conf file will disable write access to
#   the variable.
#   arguments:  location_string
sysLocation    Sitting on the Dock of the Bay
sysContact     Me <me@example.org>

# sysservices: The proper value for the sysServices object.
#   arguments:  sysservices_number
sysServices    72
```

sysLocation System location	**Customize entry**
sysContact mailadresse <admin@RuraPente.org>	**Customize entry**
sysdescr UPSMAN Software Server	**Add entry**
sysname UPSMAN	**Add entry**
sysObjectID 1.3.6.1.2.1.33	**Add entry**
# sysServices 72	**Disable entry with „#“**

```
###############################################################################
# SECTION: Agent Operating Mode
#
#   This section defines how the agent will operate when it
#   is running.

# master: Should the agent operate as a master agent or not.
#   Currently, the only supported master agent type for this token
#   is "agentx".
#
#   arguments: (on|yes|agentx|all|off|no)

master  agentx

# agentaddress: The IP address and port number that the agent will listen on.
#   By default the agent listens to any and all traffic from any
#   interface on the default SNMP port (161).  This allows you to
#   specify which address, interface, transport type and port(s) that you
#   want the agent to listen on.  Multiple definitions of this token
#   are concatenated together (using ':'s).
#   arguments: [transport:]port[@interface/address],...

agentaddress  127.0.0.1,[::1]
```

agentAddress udp:161	**Add entry**
engineIDType 3	**Add entry**
master agentx	**Do not change**
# agentaddress 127.0.0.1,[::1]	**Disable entry with „#“**
agentXSocket tcp:127.0.0.1:705	**Add entry**
agentXTimeout 10	**Add entry**
maxGetbulkResponses 20	**Add entry**

```
###############################################################################
# SECTION: Access Control Setup
#
#   This section defines who is allowed to talk to your running
#   snmp agent.

# Views
#   arguments viewname included [oid]

#  system + hrSystem groups only
view   systemonly  included   .1.3.6.1.2.1.1
view   systemonly  included   .1.3.6.1.2.1.25.1


# rocommunity: a SNMPv1/SNMPv2c read-only access community name
#   arguments:  community [default|hostname|network/bits] [oid | -V view]

# Read-only access to everyone to the systemonly view
rocommunity  public default -V systemonly
rocommunity6 public default -V systemonly

# SNMPv3 doesn't use communities, but users with (optionally) an
# authentication and encryption string. This user needs to be created
# with what they can view with rouser/rwuser lines in this file.
#
# createUser username (MD5|SHA|SHA-512|SHA-384|SHA-256|SHA-224) authpassphrase [DES|AES] [privpassphrase]
# e.g.
# createuser authPrivUser SHA-512 myauthphrase AES myprivphrase
#
# This should be put into /var/lib/snmp/snmpd.conf
#
# rouser: a SNMPv3 read-only access username
#    arguments: username [noauth|auth|priv [OID | -V VIEW [CONTEXT]]]
rouser authPrivUser authpriv -V systemonly

# include a all *.conf files in a directory
includeDir /etc/snmp/snmpd.conf.d
```

# view systemonly included .1.3.6.1.2.1.1	**Disable entry with „#“**
# view systemonly included .1.3.6.1.2.1.25.1	**Disable entry with „#“**
# rocommunity public default -V systemonly	**Disable entry with „#“**
# rocommunity6 public default -V systemonly	**Disable entry with „#“**
rocommunity public	**Add entry**
rocommunity6 public	**Add entry**
rwcommunity private	**Add entry**
rwcommunity6 private	**Add entry**
# rouser authPrivUser autpriv -V systemonly	**Disable entry with „#“**
# includeDir /etc/snmp/snmp.conf.d	**Disable entry with „#“**
trap2sink [IP address] public*	**Add entry**

*) trap2sink: This IP address is the target trap receiver.

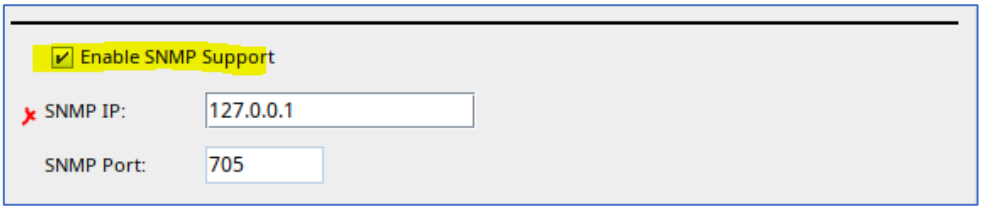
- ➔ Then press CTRL + S to save the file.
- ➔ Restart the SNMP service with „systemctl restart snmpd“
- ➔ Check with the command systemctl status snmpd the snmps service status

Command 1: „systemctl restart snmpd“
Command 2: „systemctl status snmpd“

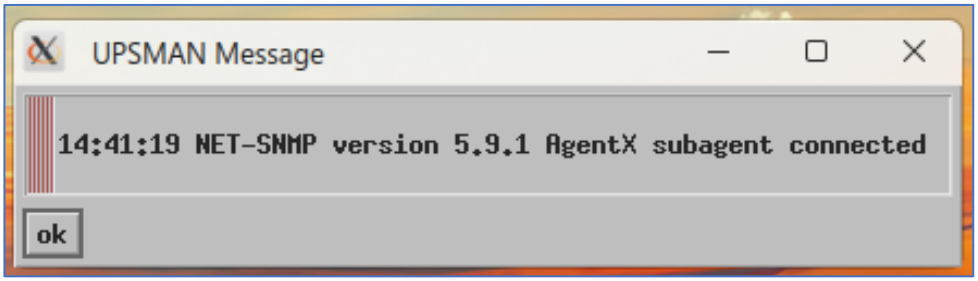
```
root@snmp-upsman-test:/etc/snmp# systemctl restart  snmpd
root@snmp-upsman-test:/etc/snmp# systemctl status  snmpd
● snmpd.service - Simple Network Management Protocol (SNMP) Daemon.
     Loaded: loaded (/lib/systemd/system/snmpd.service; enabled; vendor preset: enabled)
     Active: active (running) since Wed 2024-11-13 14:32:21 CET; 3s ago
   Main PID: 13827 (snmpd)
      Tasks: 1 (limit: 4524)
     Memory: 4.1M
        CPU: 28ms
     CGroup: /system.slice/snmpd.service
             └─13827 /usr/sbin/snmpd -LOw -u Debian-snmp -g Debian-snmp -I -smux mteTrigger mteTriggerConf -f
```

Enable UPS SNMP Support

Open the UPSMAN Configurator, click on system and mark SNMP support to enable SNMP. Since you have configured SNMPD on the computer the same computer that holds the UPSMAN installation, the UPSMAN should be able to connect to the SNMP service via the IP address 127.0.0.1, port 705.



After restarting the UPSMAN Software, the message / log entry should confirm the connection attempt:



Connection test:

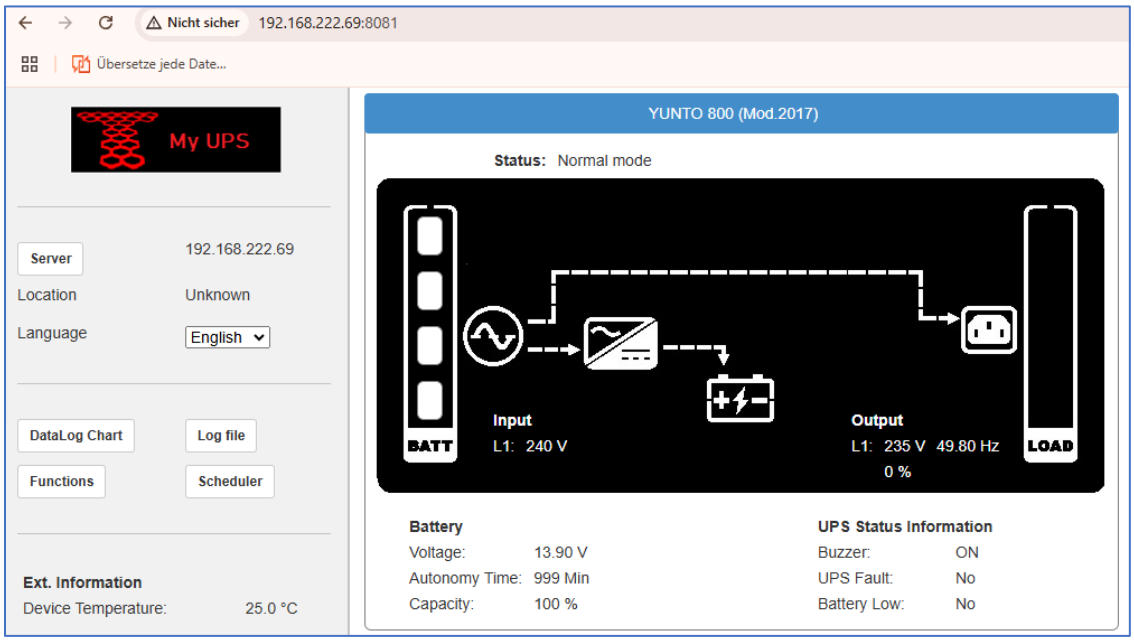
An SNMP v2c connection was configured via the public community. An SNMP program should be able to access the UPS data and display the data:

1. Use the console command “ifconfig” to evaluate the IP address the UPSMAN will respond to.

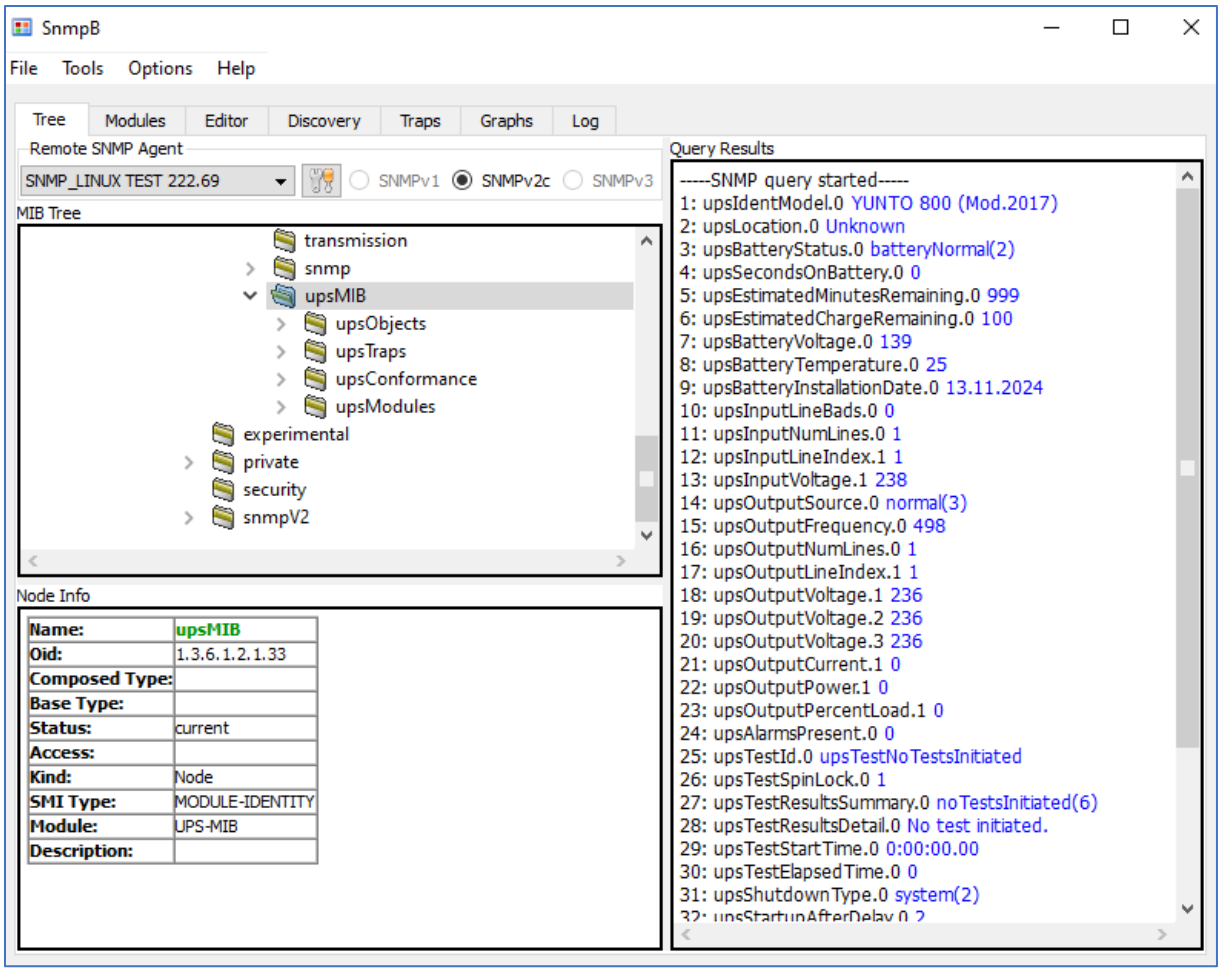
   Command: „ifconfig“

```
gunnar@snmp-upsman-test:~$ ifconfig
ens33: flags=4099<UP,BROADCAST,MULTICAST>  mtu 1500
        ether 00:0c:29:59:ca:cd  txqueuelen 1000  (Ethernet)
        RX packets 52324  bytes 30301624 (30.3 MB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 34067  bytes 4844449 (4.8 MB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

enxf8e43b5a756c: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.222.69  netmask 255.255.255.0  broadcast 192.168.222.255
        inet6 fe80::98a1:bbfb:aa60:20cb  prefixlen 64  scopeid 0x20<link>
        ether f8:e4:3b:5a:75:6c  txqueuelen 1000  (Ethernet)
        RX packets 1837  bytes 208493 (208.4 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 1209  bytes 132321 (132.3 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Lokale Schleife)
        RX packets 10787  bytes 1348178 (1.3 MB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 10787  bytes 1348178 (1.3 MB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```

In this example, the web interface should be accessible on the IP 192.168.222.69:8081:



Using a tool such as SNMPB, the UPS should also be able to query the UPS using the same IP address via SNMP v2c via the Linux SNMP daemon:



The server shuts down when connected to USB, even if the UPSMAN should not yet

That's right... IF that happens, then this command came from the operating system. Since the UPS was connected as a HID interface (and recognized as a UPS), the operating system's internal UPS management intervenes here, which is certainly authorized to shut down an operating system. In Windows, you can define the behavior using the power saving functions.

Using SSL/TLS for RCCMD jobs

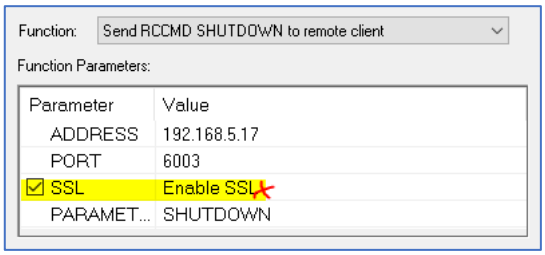
For this function, you must synchronize the PEM files that RCCMD and UPSMAN use. In the installation directories of UPSMAN and RCCMD you will find the file rccmd.pem. This defines the default certificate that UPSMAN and RCCMD use to communicate with each other.

- ✓ If you want to use your own certificates, you must exchange this file on both endpoints.

Furthermore, SSL/TLS must be ON or OFF on both endpoints. With RCCMD, this is a global setting that you can find under Options>Connections under the option “Accept only SSL/TLS connections”.

In UPSMAN you set TLS for the job itself individually using the respective parameter.

Make sure that this setting is harmonized.



Registry entries cannot be written under Windows Server

Unfortunately, this happens from time to time - the reasons for this are as complex as the configuration options for a server. Here are a few reasons why the Windows post-installation process could not be completed because access to the registry is blocked for some reason.

1. Missing administrator rights
   Possible solution:

- Run as administrator: Right-click the installation file and select "Run as administrator".
- User Account Control (UAC): Make sure that UAC is not set too restrictive.
- Temporarily disabling UAC (not recommended): This may pose security risks. Only for advanced users and with caution.

2. Corrupted user profiles
   Possible solution:

- Create a new user profile: Create a new user profile with administrator rights and try the installation there.
- Repair existing profile: Use system restore points or SFC scannow to repair the profile.

3. software conflicts
   Possible solution:

- Disable other security software: Temporarily disable other antivirus or firewall programs.
- Install in Safe Mode: Try installing in

4. registry problems
   Possible solution:

- Check registry permissions: Check the permissions for the corresponding registry key. Warning: Changes to the registry can make the system unstable. For advanced users only.
- Registry cleaning tools: Use registry cleaners with caution to fix potential problems.

5. Corrupted installation file:
   Possible solution:

- Check installation file: Download the installation file again and check for corruption.
- Use a different installation source: Try installing the software from a different source.

If the problem cannot be narrowed down:

- ✓ Set the missing registry key manually.
- ✓ In the UPSMAN installation directory you will find the file Install.bat
- ✓ In the UPSMAN installation directory you will find the file UPSMAN.bat
- ✓ In the UPSMAN installation directory you will find the Register.bat

Start these three batch files one after the other with the context "Run as administrator". UPSMAN should then work as expected. If this is not the case, please contact technical support with a detailed error message at support@generex.de

UPSMAN software is running, but the web interface is not accessible

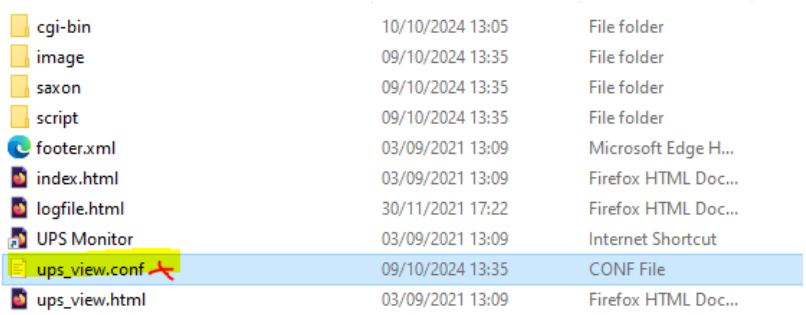
This is a direct consequence of the previous problem that registry entries must not be set. If the UPSMAN software is running but the web interface is not receiving any data, this is often because a configuration file is still locked by the operating system, or a process could not be created or edited due to a lack of system rights.

Check the following directory:

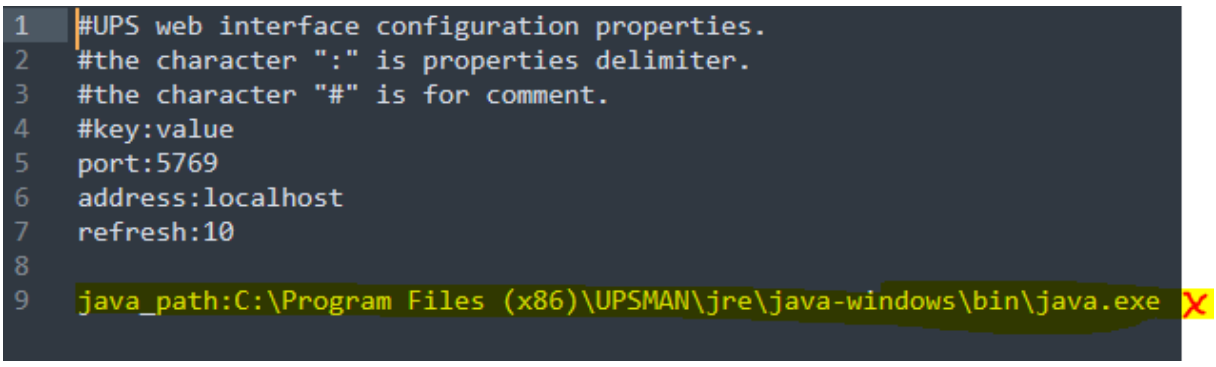
C:\[...]\UPSMAN\UPSMAN\www

(Default: C:\Program Files (x86)\UPSMAN\UPSMAN\www)

1. The following file does not exist, was damaged during installation or is (still) locked:



2. In the file the following should be noted in the file:



The entry marked in yellow is the first cause of the problem - make sure

a. This line exists.
b. In the case of a different installation the directory was specified correctly.
c. that this file is allowed to run correctly and is not blocked.

After that, the web interface of the UPSMAN software should be able to run correctly.