NORTHTEC
automation technology

SMU Auto Logs 1.0.1.0

**Software for the automated readout of
logs from the NorthTec Shadow Master Unit**

User Manual

Revision history

Rev.	Date	Name	Description
1.0	20 January 2022	IHA	First version

Preface

This document describes the tasks and functionality of the SMU Auto Logs software.

SMU Auto Logs is used to automatically download logs from the Shadow Master Unit V4 (SMU) of our system for shadow impact monitoring and species conservation and export the most important data to a CSV file.

For more information on the SMU, please refer to the latest version of the Shadow Manager 4 manual, which you can download from our website.

Since SMU Auto Logs provides a multitude of setting options, and although we have designed the user interface to be user friendly with intuitive operation, you will need to consult this manual from time to time, particularly as a beginner and maybe even as an experienced user.

Please read the information in this manual that is relevant to you carefully so that you can use SMU Auto Logs the best way possible and as intended by the manufacturer.

Table of Contents

1. About the manual

This manual documents the range of functions of SMU Auto Logs, a software for the automated readout, backup and export of logs from a Shadow Master Unit (SMU).

We have designed the SMU Auto Logs user inte rface to be user friendly and intuitive to operate so that experienced users will be able to perform many tasks even without the manual.

If you are not yet familiar with SMU Auto Logs, please carefully read through the relevant information in this manual to ensure that SMU Auto Logs always operates correctly.

1.1 Manual conventions

The following conventions apply in this manual:

Designation	Meaning
Bold	The names of menus, windows, buttons etc. are written in bold. Example: Open the **Connections** window. **Bold** type is also used to highlight important parts within a text block.
Italics, blue	Path names are written in blue and italics. Example: *View > Connections > Schedule*
➡	This symbol identifies a cross reference. Click on the text or the number after the red arrow to jump to the target of the cross reference.

1.2 Abbreviations

The following abbreviation is used in this manual:

Fig.	Term	Meaning
POI	Place of immission	Building with walls and areas to be protected from shadow impact.
SM4	Shadow Manager 4	The operating software for the system for shadow impact monitoring and species conservation described in this manual.
SMU	Shadow Master Unit	The central unit of the system for shadow impact monitoring and species conservation.
WTG	Wind Turbine Generator	–

1.3 Digital navigation aids

If you read this manual in digital form on a screen, in many places you can click on a cross reference to jump directly to a section with further information. Cross references are marked with a red arrow ➡. In PDF Reader, you can also display the content at the left-hand side of the window and use it to navigate.

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1.5   Copyright and warranty

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2. Introduction

SMU Auto Logs is used to automatically download logs from the Shadow Master Unit V4 (SMU) of our shadowing and species protection system and export the most important data to a CSV file.

A user and password are required to log into SMU Auto Logs. At delivery the user **admin** is created with the password **1234**.

Our system for shadow impact monitoring and species conservation enables you to comply with a large number of permit conditions that apply to wind turbine generators (WTGs), primarily with reference to shadow impact and species conservation. The following illustration and the brief description below will help you gain an initial overview of the system and, in particular, identify which element takes on which function and/or role and how SMU Auto Logs fits in.
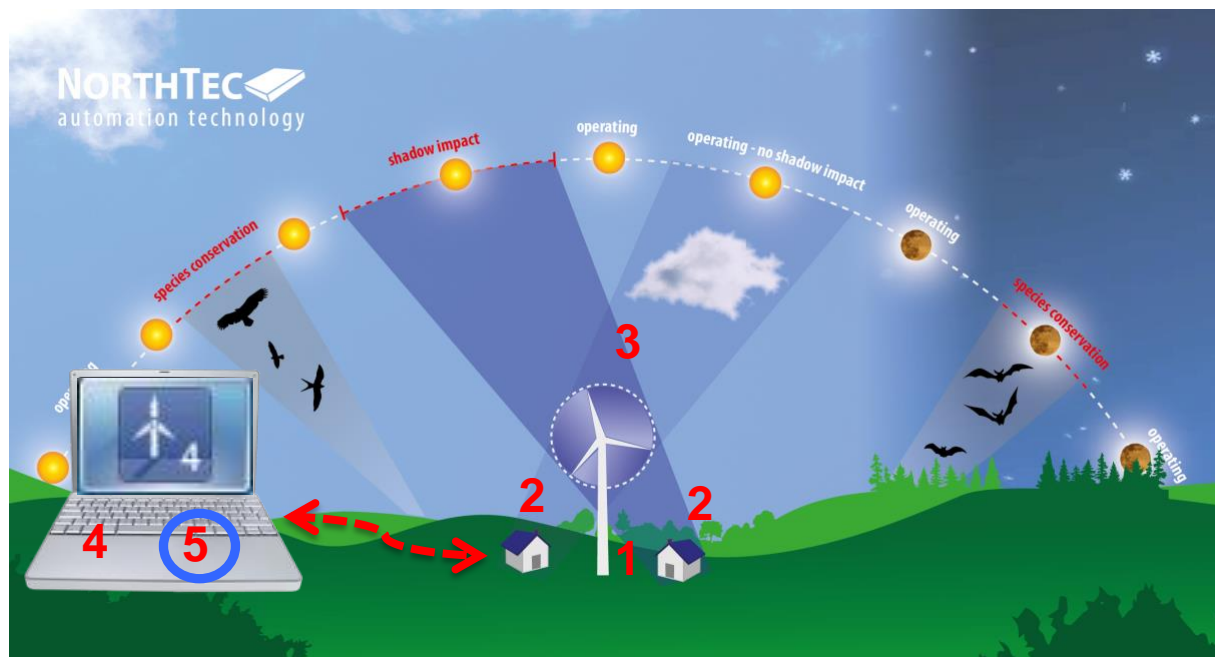
1   **Shadow Master Unit (SMU)**, is located in the WTG or in the hand-over station.
The SMU receives the project data via Shadow Manager 4, calculates shadow impact periods, shuts down the WTGs when required, records measurement data and alarms, sends the corresponding email notifications and records log data.

2   **Places of Immission (POI)**
Building with walls and areas requiring protection.

3   **Light sensor**, mounted on the nacelle of a WTG
Primarily measures the intensity of illumination of the sunlight.

4   **Shadow Manager 4 (SM4)**, operating software
The project data (coordinates of the WTGs and POIs, permitted shadow impact periods, shutdown conditions for species conservation and other shutdown specifications) is defined in SM4. It also reads out measurement data and logs.

(5) **SMU Auto Logs**
Used to automatically download logs from the Shadow Master Unit V4 (SMU) of our shadowing and species protection system and export the most important data to a CSV file.

6 **Ethernet connection with encrypted data transmission**
Used to transfer the project data from SM4 to the SMU and to retrieve measured values and logs from the SMU.

NOTE

For SMU Auto Logs to do its most important job, which is to automatically download and export logs, this software must be open (running) at all times. Keep this in mind when you restart your computer. Alternatively, you can add SMU Auto Logs to the Windows autostart feature.

Once log download process is finished, the connection to SMU is disconnected (for as long as specified in the schedule) so that the evaluation and export processes will not block SMU.

SMU Auto Logs is used to automatically download available logs from the Shadow Master (SMU). The following logs can be downloaded depending on the SMU version used:

SMU version	Downloadable logs
V.3.5	Shadow impact logs (plus bat and bird protection logs as far as available)
V.4.0	- Operation log - Shadow impact log - Bat protection - Bird protection - Sector shutdown - Noise protection - Special shutdown - Measurement data logging (customer-defined)

You will find basic information about the software, such as layout, menu structure and requirements for use, in the following sections.

2.1.1 The main window

SMU Auto Logs consists of a main window (see below), in which various subwindows can be loaded.
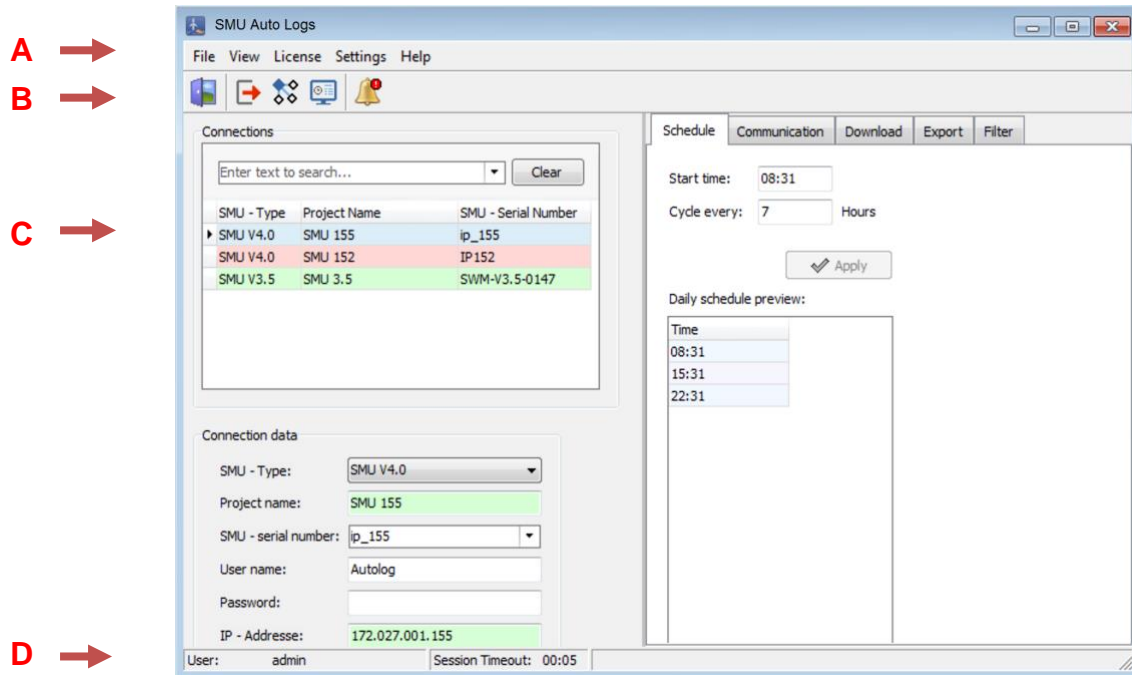

Fig.: SMU Auto Logs main window

Element	Description
A: Menu bar	Access to all menus, menu items, functions and subwindows.
B: Toolbar	Access to frequently used functions and sub windows.
C: Views	Opened subwindows are displayed in this area.
D: Status bar	The status bar is always visible. It shows which user is logged on and how many minutes are left until they are automatically logged out.

2.1.2 Requirements and installation

The latest version of SMU Auto Logs can be downloaded from our website (**www.northtec.de**). You can choose between the unzipped version (.exe) and the zipped version (.zip).

The software runs as a desktop version.

The following technical requirements must be fulfilled before using SMU Auto Logs:

Requirement	Description
SMU	Shadow Master Unit 3.5 or 4.0 or later
PC	- a minimum of 2 GB RAM - at least 100 MB free hard disk space (depending on the size of the downloaded logs) - network port/internet connection
Operating system	SMU Auto Logs runs on computers with Windows 7 or later Microsoft operating systems
Rights	No administrator rights required
License	To enable the SMU Auto Logs to be used to its full extent, purchase a license file from us, which we will then send to you.

To install SMU Auto Logs, double-click the downloaded .exe file and then follow the on-screen instructions. Once the installation is complete, the program will open with the **Login** window.

Enter the credentials of the default user created automatically:

User: **admin**

Password: **1234**

Now you can use SMU Auto Logs as described in this manual.

NOTE

For SMU Auto Logs to do its most important job, which is to automatically download and export logs, this software must be open (running) at all times. Keep this in mind when you restart your computer. Alternatively, you can add SMU Auto Logs to the Windows autostart feature.

Once the downloading of the logs is finished, the connection to SMU is disconnected (for as long as specified in the schedule) so that the evaluation and export processes will not block SMU.

2.1.3 Notes on the working environment

The menu structure, the assignment of the mouse keys and the design of the application are based on the standard Windows interface and the corresponding operating elements. The operator should be familiar with this structure.

If you are not familiar with using Windows, please get up to date with basic Windows operations (using a mouse, menu technique, changing sizes of windows etc.).

2.1.4 General software properties

If you enter an invalid value into an input field (incorrect value or incorrect input format), it will be displayed highlighted in red:

You can press the Enter key or the Tab key to complete the current entry and jump to the next input field.

Some buttons, such as **Apply** and **Add,** will not be activated in some windows until the mandatory fields of the window have been filled out correctly.

3. Menus, windows, and tabs

The views in SMU Auto Logs are arranged in menus and can be called up through them. Some windows and functions can be opened directly by clicking the corresponding button in the toolbar of the main window. The function of individual symbols will be displayed if you hover the mouse cursor over them for a moment, see below figure.

Fig.: Symbols in the SMU Auto Logs main window (with tool tip)

The following table provides you with an overview of the content of the individual menus.

Menu/ menu item	What you can do there
File **Exit**	• Exit program

View
 	
     Connections
 	
     Monitoring
 	
     Change password
 	
     User Management
	
	• Define download schedule
	• Display/edit a connection to the SMU
	• Select logs to be downloaded
	• Set storage destination for log export
	• Define filters for individual logs
	
	• Monitor connection status and view logged events
	
	• Change the password for unlocking SMU Auto Logs
	
	• Change, add or delete SMU Auto Logs users, assign/delete admin rights

License **License Management**	 • Display/load/close the license file

Settings
     Program
     Language
	
	• Set session timeout, check for updates
	• Program language

Help
     NorthTec Homepage
     Check for New Version*
     Info about SMU Auto Logs
	
	• Open NorthTec Homepage
	• Check for new version of SMU Auto Logs
	• Information about SMU Auto Logs, NorthTec contact details, system information and information about the memory usage

The menus are described in detail in the following sections.

3.1 **File** menu

Symbol	Menu item	Purpose
	Exit	Exit SMU Auto Logs

3.2 **View** menu
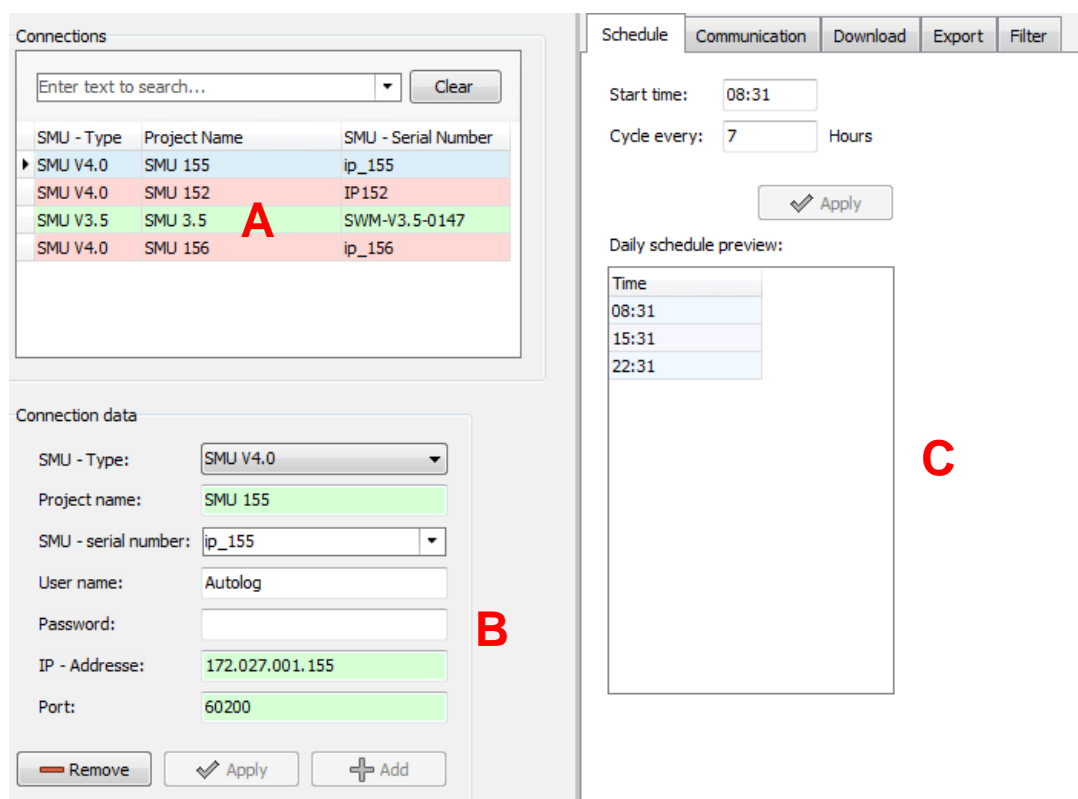
The following table provides you with an overview of the **View** menu.

Symbol	Menu item	Purpose
	Connections	• Define download schedule • Display/edit a connection to the SMU • Select logs to be downloaded • Set storage destination for log export • Define filters for individual logs Further information can be found on the following pages.
	Monitoring	Monitor status of connections and logged events, see section ➜ 3.2.2.
	Change password	Change password to unlock SMU Auto Logs , see section ➜ 3.2.3.
	User Management	Change, add or delete SMU Auto Logs users, assign/delete the admin right, see section ➜ 3.2.4.

The **View** menu windows are described in detail in the following sections.

3.2.1 **Connections** window

Purpose	- Define the download schedule - Display/edit a connection to the SMU - Select logs to be downloaded - Set the storage destination for log export - Define filters for individual logs
Symbol	⚉
Path	*View > Connections*
Type of use	Display + dialog
Requirement	Logged on user

Fig.: **Connections** window

Notes regarding the **Connections** window

- Connections to SMUs that have already been set up are listed in area **A**. In the search field you can search for specific SMUs (projects). If you then click **Clear**, all connected SMUs will be displayed again.

- The data of the connection currently selected in area **A** is displayed in area **B** (**Connection data**). Further information can be found in the table on the next page.

- In area **C**, you can select the tabs for editing the readout provisions. For more information on the individual tabs, see the subsections on the following pages.

Information and setting options in the **Connection data** area:

In the explanation of the parameters, you will find information on default settings, input format, range, etc. as applicable (highlighted in green).

Parameters	Explanation
SMU type	V3.5 and V4.0 are supported. For SMU type V3.5, some settings are disabled (**User name** and **Password**, see below, as well as the **Download** and **Filter** tabs).
Project name	Can be entered individually, but must not be assigned twice; otherwise the field will be highlighted in red and the **Apply** button will be deactivated. **NOTE** "Project one" and "Project One" are considered to be different project names.
SMU Serial Number	Can be entered individually, but must not occur twice; otherwise the field will be highlighted in red and the **Apply** button will be deactivated. **NOTE** Serial numbers stored in a loaded license file can either be selected here or are automatically completed once the first characters have been entered.
User name	Must be stored at the SMU to be addressed. This input field is only available for SMU type V4.0.
Password	Must be stored at the SMU to be addressed. This input field is only available for SMU type V4.0.
IP address	IP address of the SMU you want to communicate with. 4 numbers, separated by a point, example: 192.0.2.42
Port	The port number of the SMU you want to communicate with. number from 1 to 65535
Remove	Used to remove the connection currently selected in the **Connection** area at the top of the window.
Apply	In order for entries to be applied, you must click **Apply** before selecting another connection/window or before you exit SMU Auto Logs.
Add	This button for adding a new connection is only active if all fields described above have been filled in correctly.

3.2.1.1 **Schedule** tab

Purpose	Set/edit schedule for downloading and exporting logs
Path	*View > Connections > Schedule*
Type of use	Display + dialog
Requirement	Logged on user

Fig.: **Connections** window, **Schedule** tab

Information and setting options in the **Schedule** tab:

In the explanation of the parameters, you will find information on default settings, input format, range, etc. as applicable (highlighted in green).

Parameters	Explanation
Start time	Here you define the time at which a procedure is to be started.
	Input format: 24-hour format
Cycle	Here you define the cycle at which a procedure is to be repeated.
	Value range: every 4 to 23 hours
✔ Apply	In order for entries to be applied, you must click **Apply** before selecting a different tab/connection or before you exit SMU Auto Logs.
Daily schedule preview	The result of the entries you made under **Start time** and **Cycle** is displayed here.

3.2.1.2 **Communication** tab

Purpose	View and edit data for the connection to the SMU
Path	*View > Connections > Communication*
Type of use	Display + dialog
Requirement	Logged on user, SMU type V4.0 (Only the parameters **Connection timeout, Connection retries** and **Read command timeout** are available for SMU type V3.5).

Fig.: **Connections** window, **Communication** tab

The input fields available in the **Communication** tab are explained on the next page.

Input fields in the **Communication** tab:

The parameters in this input area correspond to the connection that has been established between SMU Auto Logs and the SMU.

In the explanation of the parameters, you will find information on default settings, input format, range, etc. as applicable (highlighted in green).

Parameters	Explanation
Connection timeout	This timeout is used to monitor the initial setup of a connection to a SMU. As soon as a time defined in the **Schedule** tab (*View > Connections*) has been reached, SMU Auto Logs will attempt to connect to the addressed SMU via the network, but only for as long as specified under **Connection timeout**. If a connection cannot be established during this time and the number of connect retries has been "used up", the attempt will be aborted. Factory default: 4000 ms Changing this value will take the following effects: **INCREASE VALUE** • SMU Auto Logs will try to connect to the SMU over a longer period of time. **DECREASE VALUE** • SMU Auto Logs will abort the attempt to establish a connection sooner.
Connection retries	When establishing a connection to the SMU, the connection attempt is retried for as many times as specified here and until a connection is actually established. Factory default: 1 Changing this value will take the following effects: **INCREASE VALUE** • If a connection attempt fails, SMU Auto Logs automatically carries out the number of further attempts specified here.
Time between 2 attempts	After an attempt to connect has failed, SMU Auto Logs will wait as long as specified here before a new attempt is made (provided that more than 1 attempt has been specified under **Connection retries**). Factory default: 4000 ms Changing this value will take the following effects: **INCREASE VALUE** • SMU Auto Logs will wait longer before a new attempt is started; this may reduce the number of unsuccessful attempts, however, it may take longer to re-establish a connection. **DECREASE VALUE** • After a connection attempt has failed, SMU Auto Logs will start a new attempt sooner; thus, the number of unsuccessful attempts may increase, but the connection may be restored faster.

Parameters	Explanation
Read command timeout	This parameter is identical to the **Connection timeout** parameter in terms of its functionality, however, it applies to all other commands (all commands except the one for establishing a connection). This timeout monitors the time between sending a command to the SMU and receiving a response. The value should mainly depend on the commands with the longest processing times and on the transmission time of TCP packets from SMU Auto Logs to the SMU and back. If SMU Auto Logs, after sending a command, does not receive a response for the period specified here, SMU Auto Logs will assume that the connection to the SMU has been lost. Factory default: 16000 ms Changing this value will take the following effects: **INCREASE VALUE** • SMU Auto Logs will wait longer, after sending a command, until it assumes that the connection to the SMU has been lost due to the absence of a response. **DECREASE VALUE** • If SMU Auto Logs, after sending a command, does not receive a response, it will be quicker to assume that the connection to the SMU has been lost.
Delay between 2 commands	This parameter determines as to how long SMU Auto Logs, after a command has been responded to, will wait until a new (different) command is sent. This will prevent the SMU from getting overloaded. Factory default: 100 ms Changing this value will take the following effects: **INCREASE VALUE** • After sending a command, you will have to wait longer before the next command can be executed. This way, you can avoid overloading the SMU. **DECREASE VALUE** • After sending a command, you can execute the next command sooner. However, this can lead to the SMU getting overloaded.

Parameters	Explanation
Login refresh interval	The only way for SMU Auto Logs and the SMU to reliably determine whether the connection between them still exists is on the basis of "life signs" from their connection partner.
	However, if nothing has been transmitted over a certain period of time, SMU Auto Logs will start a mechanism that sends a ping command to the SMU at regular intervals and receives the corresponding ping response.
	This parameter is used to control as to when and how often this mechanism is activated. As long as no data commands are sent from SMU Auto Logs to the SMU, the sending of ping commands is repeated regularly at the interval specified here.
	This prevents the SMU from falsely assuming that it is still involved in a connection that has long been interrupted (e.g. termination due to a malfunction in the VPN tunnel) and that it is therefore not available for a new connection (only one connection can exist at a time).
	This parameter must match the **Session timeout** parameter, which controls as to how long the SMU will wait for an "empty command": The value on the SMU side (**Session timeout**) must be higher than the value on the SMU Auto Logs side (**Login refresh interval**) to ensure that SMU Auto Logs definitely sends a command **before** the SMU assumes that the connection has been interrupted.
	Factory default: 3000 ms
	Changing this value will take the following effects:
	INCREASE VALUE
	• The monitoring mechanism starts later and the ping commands are sent at longer intervals. If a connection has been lost, the SMU will take longer to get ready for new connections.
	DECREASE VALUE
	• The monitoring mechanism starts earlier and the ping commands are sent at shorter intervals.
Command repetitions	This parameter determines as to how often the command is repeated.

Parameters	Explanation
Read file operation timeout	Commands that affect the SMU file system (e.g. delete file, request directory) will trigger actions on the SMU that take some time to complete, which also means that it may take some time until a response is sent back to SMU Auto Logs. Therefore, with actions like these, SMU Auto Logs has to wait a relatively long time for a response.
	The **Read file operation timeout** parameter is used to make sure SMU Auto Logs waits for a response as long as file operations usually take to be completed.
	The value should be based on the maximum period of time the SMU takes to complete a file operation. The transmission time of the channel is so short that it can be neglected.
	Factory default: 360000 ms
	Changing this value will take the following effects:
	INCREASE VALUE
	• SMU Auto Logs, after having sent a file command and if there is no answer from the SMU, will wait longer before it assumes that its connection to the SMU has been lost.
	DECREASE VALUE
	• If SMU Auto Logs, after sending a file command, does not receive a response, it will be quicker to assume that the connection to the SMU has been lost.
FSP timeout	For data transfers (FSP: File Stream Protocol; download of files) there is a separate timeout as these tasks usually take longer to be completed than others.
	Here, too, the value should depend on how long the SMU takes to complete the respective action. Delays due to the connection channel do not play a major role.
	Factory default: 120000 ms
	Changing this value will take the following effects:
	INCREASE VALUE
	• SMU Auto Logs, after having sent an upload/download command and if there is no answer from the SMU, will wait longer before it assumes that its connection to the SMU has been lost.
	DECREASE VALUE
	• If SMU Auto Logs, after sending a an upload/download command, does not receive a response, it will be quicker to assume that its connection to the SMU has been lost.
✔ Apply	For entries to be applied, you must click **Apply** before selecting another tab/connection/window or before you exit SMU Auto Logs.

3.2.1.3 **Download** tab

Purpose	Set/edit log download schedule
Path	*View > Connections > Download*
Type of use	Display + dialog
Requirement	Logged on user, SMU type V4.0

Fig.: **Connections** window, **Download** tab

Setting options in the **Download** tab:

In the explanation of the parameters, you will find information on default settings, input format, range, etc. as applicable (highlighted in green).

Parameters	Explanation
Storage location	Here you can specify for the current connection the folder in which the downloaded log files should be saved. If the selected/entered directory cannot be created, a warning is logged and the log files are saved in the default directory: (..../<Application>/Data/Download/<SMU_SN_Proj>)
Selection behavior (months)	Here you specify the months whose logs are to be downloaded. The drop-down list offers 3 options: • **Current month only** • **Current and additional <X> months** • **All available months** If you select the second option of the drop-down list, you must specify the value for **X** in the next input field.
Number of additional months	If you selected the second option in the drop-down list above (Current and additional <X> months), you must set the value for **X** here. Value range: 1 to 999
	For entries to be applied, you must click **Apply** before selecting another tab/connection/window or before you exit SMU Auto Logs.

3.2.1.4 **Export** tab

Purpose	Set storage destination/behavior for exported logs
Path	*View > Connections > Export*
Type of use	Display + dialog
Requirement	Logged on user

Fig.: **Connections** window, **Export** tab

Information and setting options in the **Export** tab

Parameters	Explanation
Storage location	Here you specify the path for the storage destination of the export files. If the specified directory does not exist, it will be created when the files are exported. The following default path will be selected if the directory cannot be created: <path to SMUAutoLogs.exe file/Export/<project name>
Storage behavior	The drop-down list offers 2 options: • **Export files to one folder** • **Export files to subfolders** If you choose the second option, you will have to create the **Export** folder yourself, while the subfolders will be created automatically (including the subfolders intended for each log).
Create export files	Since SMU Auto Logs is used in some cases only for downloading (but not for exporting log files), you can specify here whether the export files should be created/export should be executed after downloading. If this option is enabled, export files are always created only for those logs that have been newly downloaded. **Note for SMU version 4.0:** If no check mark is set here, then the status **Disabled** is displayed in the **Evaluate** and **Export** columns in the **Monitoring** area (*View > Monitoring*). **Note for SMU version 3.5:** If no check mark is set here, then the status **Disabled** is displayed in the **Export** column in the **Monitoring** area (*View > Monitoring*).
	For entries to be applied, you must click **Apply** before selecting another tab/connection/window or before you exit SMU Auto Logs.

3.2.1.5 **Filter** tab

Purpose	Define event filters for the selected log type.
Path	*View > Connections > Filter*
Type of use	Display + dialog
Requirement	Logged on user, SMU type V4.0

The filter settings refer only to the currently selected SMU. By selecting an event filter (and thus specific events), you will cause the logged measured values of the "activated" event to be written to the export file (evaluation).
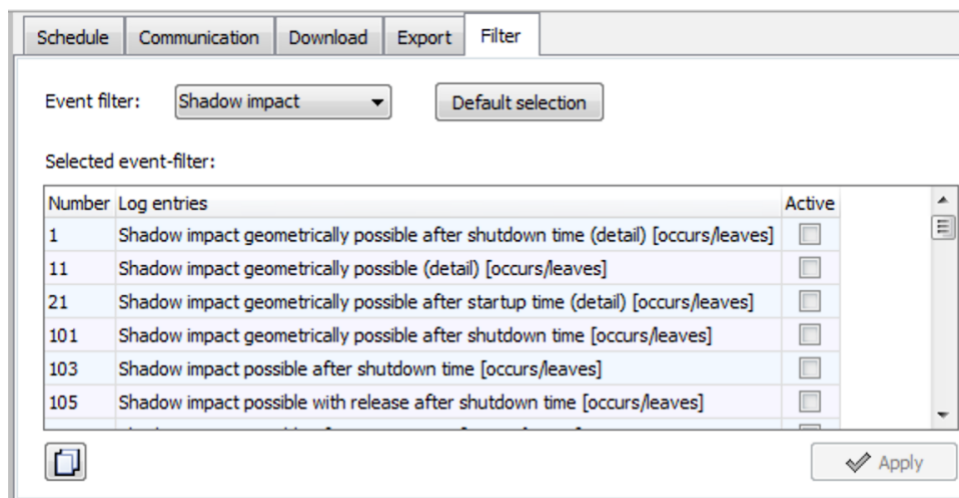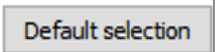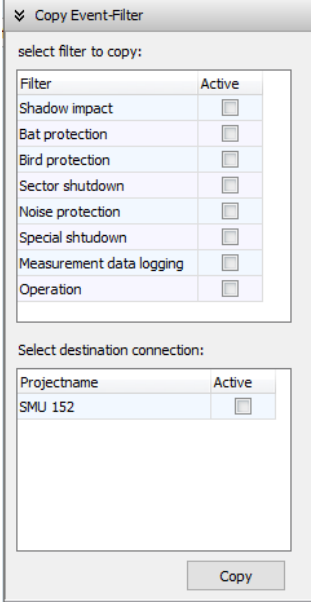

Fig.: **Connections** window, **Filter** tab

Options in the **Filter** tab:

Parameters	Explanation
Event filter	Selection of the log type whose event filter is to be changed: There are no adjustable filters for single data recording – this option is listed only for the sake of completeness. By selecting the event filter (and thus specific events), you will cause the logged measured values of the „activated" event to be written to the export file (evaluation).

Parameters	Explanation
Default selection	If you have changed one of the predefined event filters, you can click this button to reset the currently selected event filter to its predefined state.
(bottom left of the tab)	If you click this button, the **Copy Event Filter** subwindow opens: Here you can select filters of the currently active connection and easily copy them to other connections. To do this, place a check mark for the filters to be copied in the upper half and a check mark for the connections into which you want to copy the filters in the lower half. Then click on **Copy**.
Apply	For entries to be applied, you must click **Apply** before selecting another tab/connection/window or before you exit SMU Auto Logs.

3.2.2 Monitoring window

Purpose	Monitor the status of connections and view logged events
Symbol	⊡
Path	*View > Monitoring*
Type of use	Display + dialog
Requirement	none
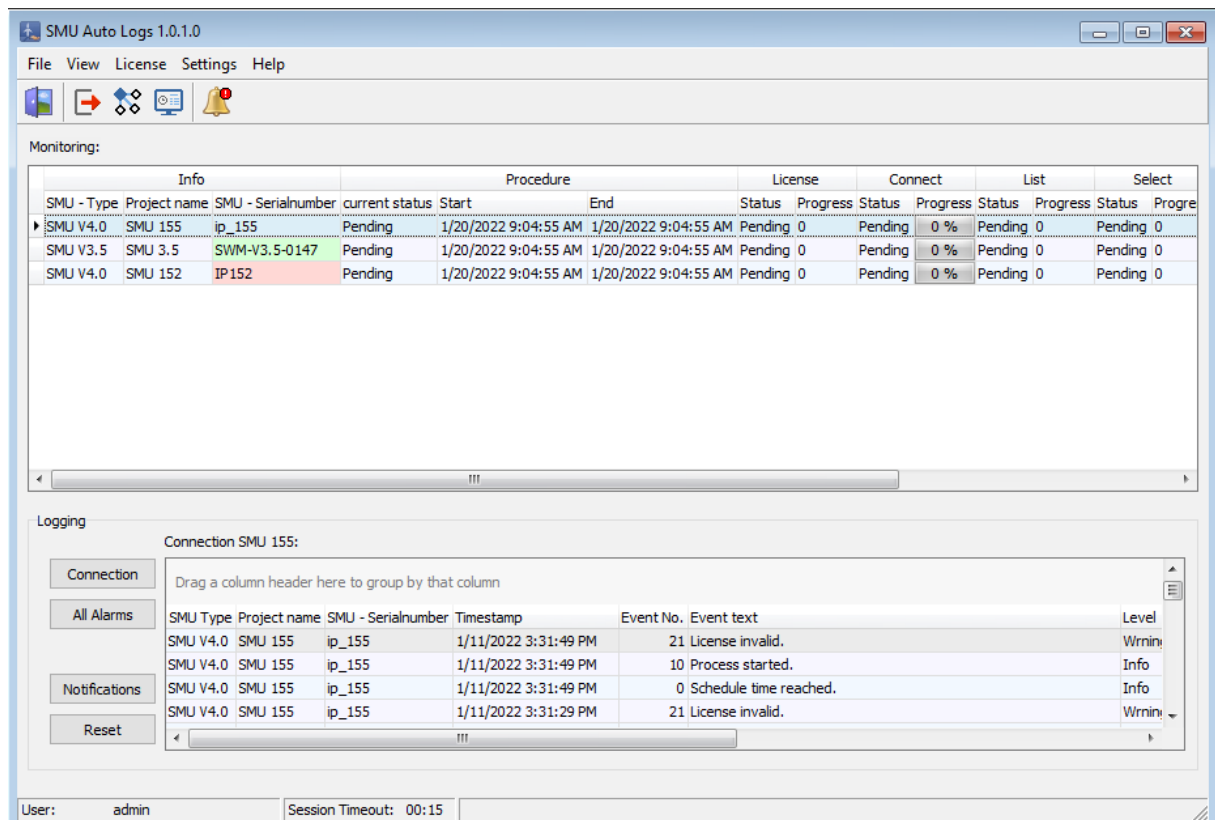
Fig.: **Monitoring** window (section)

Notes regarding the window above

- The **upper table** displays an overview of the added connections including their current status. Double-click on a connection to display the events logged for this connection in the table below.

- The **lower table** displays the following depending on the selection:

    - the logged events of **one** active connection

  OR

    - all errors and warnings of **all** connections

  OR

    - notifications for **all** connections.

The next page first explains the information in the upper table, followed by a description of the lower table and the buttons.
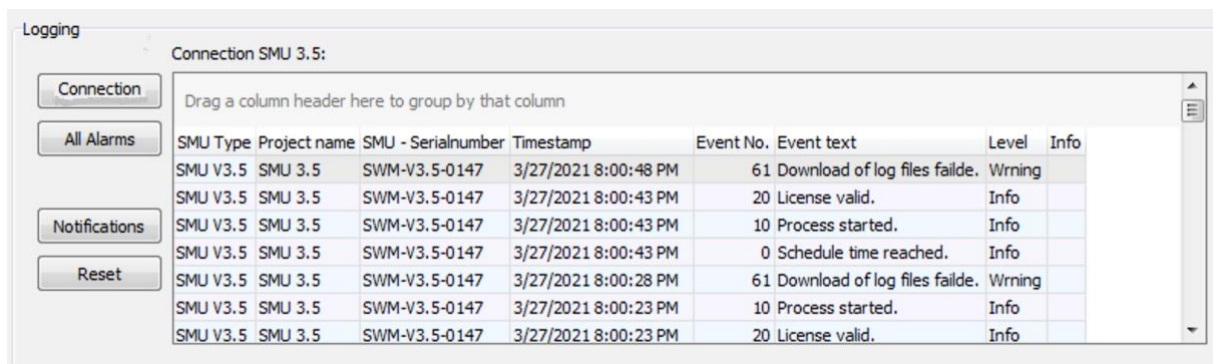
3.2.2.1 Upper table in the **Monitoring** window

To access the **Monitoring** window, select *View > Monitoring* or click 🖥 .

The upper table displays an overview of the added connections including their current status.

Double-click on a connection to display the logged events of this connection in the lower table.

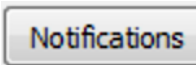The following figure showed an example of a table with four connections added.

Info			Procedure			License		Connect	
SMU - Type	Project name	SMU - Serialnumber	current status	Start	End	Status	Progress	Status	Progre
SMU V4.0	SMU 155	ip_155	Pending	1/20/2022 9:04:55 AM	1/20/2022 9:04:55 AM	Pending	0	Pending	0 %
SMU V3.5	SMU 3.5	SWM-V3.5-0147	Pending	1/20/2022 9:04:55 AM	1/20/2022 9:04:55 AM	Pending	0	Pending	0 %
SMU V4.0	SMU 152	IP152	Pending	1/20/2022 9:04:55 AM	1/20/2022 9:04:55 AM	Pending	0	Pending	0 %

Fig.: Upper table in the **Monitoring** window (section)

The individual columns of the table are explained in the following overview:

Column	Explanation
Info	SMU type, project name and SMU serial number as defined in the **Connections** window.
Procedure (includes all work steps)	**Procedure** refers to the set of steps (**License**, **Connect**, **List**, etc.) listed in the columns to the right of the **Procedure** column and explained later in this table. A procedure is triggered whenever a point of time specified in the schedule (*View > Connections> Schedule*) has been reached. The following may be displayed under **Current Status**: • **Pending**: Waiting for the next start of a procedure • **Progress**: Procedure or work step is currently active • **Error:** An error has occurred in one of the steps of the procedure (to determine the exact step, check for another column in which **Error** is also displayed). • **Finished**: This status is only displayed for a single work step that has been completed. The **Start** and **End** columns indicate as to when a procedure was started (depending on the schedule) and when the corresponding data was saved to CSV files or respectively when the procedure was terminated by an error. Once a procedure has been completed, the status messages of the work steps are retained so that you can see whether the last procedure was carried out successfully or, if not, the work step in which an error occurred.
The individual steps are explained from here on ...	
License	This step checks whether the license for the connection is valid or whether a license exists.
Connect	SMU Auto Logs attempts to connect to the SMU.

Column	Explanation
List*	Downloadable log files are identified and prepared for selection.
Select*	Log files to be downloaded are selected.
Download	Log files are being downloaded. Once all files have been downloaded, SMU Auto Logs logs out of the SMU.
Evaluate	The downloaded log files are evaluated and exported <u>month by month</u>. **Note for SMU version 4.0**: If the **Create export files** option has been disabled in the **Export** tab (*View > Export*), then the status **Disabled** is displayed here.
Export	The most important data of an evaluated monthly log file are stored in a CSV file. **Note for both SMU versions (3.5 and 4.0):** If the **Create export files** option has been disabled in the **Export** tab (*View > Export*), then the status **Disabled** is displayed here.

*With SMU type V3.5, the progress is always set to 100% immediately here.

3.2.2.2 Lower table in the **Monitoring** window

To access the **Monitoring** window, select *View > Monitoring* or click 🖳 .

- The **lower table** displays the following depending on the selection made:
    - the logged events of **one** active connection

    OR

    - all errors and warnings of **all** connections

    OR

    - notifications for **all** connections.

Double-click on a connection to display the logged events in the lower table.

The following figure shows an example of a table with four added connections.

Fig.: Lower table in the **Monitoring** window

The columns of the table carry self-explanatory names.

The following overview explains the available buttons.

Button	Explanation
Connection	This button displays the logged events of a connection. In order for the logged events to be displayed, a connection must be selected from the table above. Double-clicking on a connection in the upper half of the window takes the same effect.
All Alarms	Displays all logged errors and warnings of **all** connections. No connection needs to be selected for this button to take effect.
Notifications	**Notifications** lists all errors and warnings that have been logged since the **Reset** button was last pressed. Clicking 🔔 🔔 in the menu bar takes the same effect.

Button	Explanation
Reset	This button is used to "reset" the accumulated notifications. After clicking this button, the red circle with the exclamation mark display at the **Notifications** icon (🔔 🔔) in the toolbar will disappear. If you now click **Notifications** again, nothing will be displayed unless new errors or warnings have been logged since you clicked **Reset**.

3.2.3 Change Password window

Purpose	Change the password of the currently logged in user
Path	*View > Change Password*
Type of use	Dialog
Requirement	Logged on user

In this window the currently logged in user can change their password.
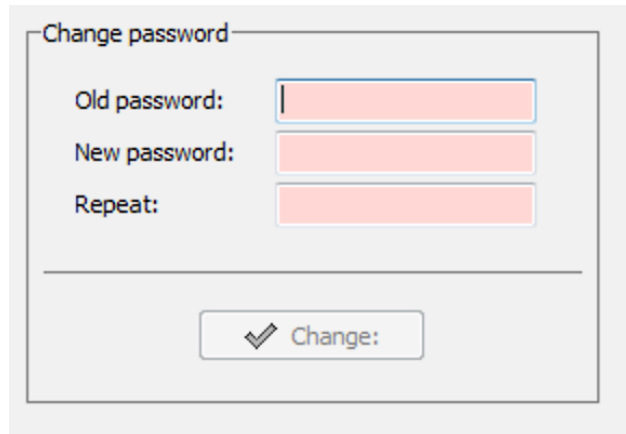
Fig.: **Change Password** window

To change the password, first enter the old password, then enter the new password twice and click on **Change**.

3.2.4 **User Management** window

Purpose	Edit, add or delete SMU Auto Logs users Assign/delete user rights
Path	*View > User Management*
Type of use	Display + dialog
Requirement	Admin right

In this window, users with admin rights can add, edit or delete other users and also assign/delete the admin right.
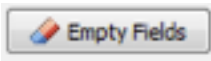
Fig.: **User Management** window

Users that have already been assigned are displayed in the upper half of the window while editing takes place in the lower half.

Information and setting options in the **User Management** window

Input field/ button	Explanation
User	Input any character
Password	Input any character; note the following information in the window: If the password field is empty: -and you click on Apply, the old password will continue to be valid -and you click on Add, the default password 1234 will be set
Description	This field has no defined function, the text can be freely selected. Maximum number of characters: 80
Admin	If you check this box when creating a user, the future user will also be allowed to open the **User Management** window (= this window) and **License Management** window.

Input field/ button	Explanation
Empty Fields	self-explanatory
Remove	Removes the user selected in the list above
Apply	Observe the following note in the window: If the password field is empty: -and you click on Apply, the old password will continue to be valid -and you click on Add, the default password 1234 will be set
Add	see above

3.3 **License** menu

The only item in the **License** menu is the **License Management** menu item. This item is explained in the following section.

3.3.1 **License Management** window

Purpose	Display, load and close the license file
Path	*View > User Management*
Type of use	Display + dialog
Requirement	Admin right

In this window you will find an overview of the licenses contained in the currently loaded license file. You can also close an "old" license file here and load a newly acquired one.
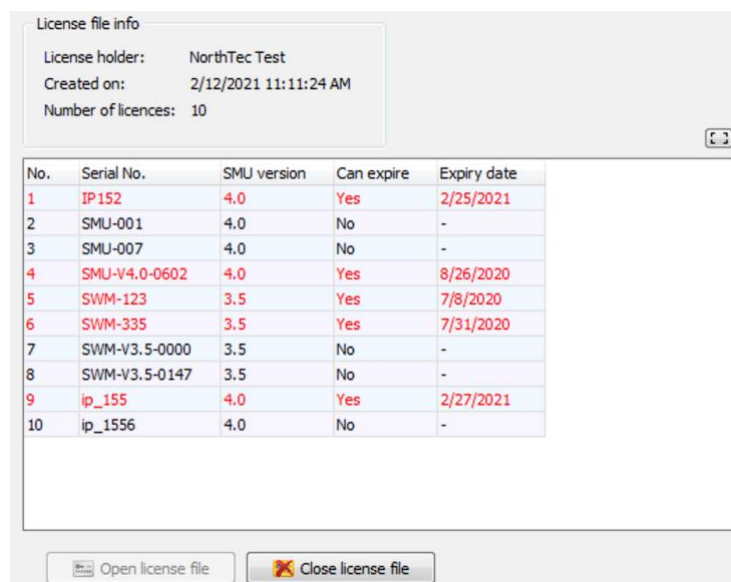

Fig.: **License Management** window

Notes on the above example

- Numbers 1 and 9 expire shortly and cannot be renewed but must be replaced by new licences.

- Licenses 2, 3, 7, 8 and 10 are licenses valid for an unlimited period.

- Numbers 4, 5 and 6 are displayed in red because they have already expired.

- Use the **Open License File** button to select a license file you want to load.

- Use the **Close License File** button to remove the currently loaded license file.

3.4 **Settings** menu

The following table provides you with an overview of the **Settings** menu.

Menu item	Purpose
Program	• Set session timeout • Check for updates
Language	• Select the program language

The **Settings** menu windows are described in detail in the following sections.

3.4.1 **Program** window

Purpose	Set session timeout, check for updates
Path	*Settings > Program*
Type of use	Display + dialog
Requirement	Logged on user

Fig.: **Program** window

Information and setting options in the **Program** window:

In the explanation for the parameters, you will find information on default settings, input format, range, etc. as applicable (highlighted in green).

Input field/ button	Explanation
Duration	After the time specified here has elapsed, a logged-in user is logged out. Input: 5 to 60 minutes
Active	Only if a check mark has been set here, SMU Auto Logs automatically will check (in the background) every **<x>** hours whether a new version is available.
All	At the interval **<x>** specified here, the system automatically checks whether there are any updates for SMU Auto Logs. Input: 1 to 9000 hours

3.4.2 **Language** menu item

Purpose	Switch between German and English user interfaces
Path	*Settings > Language*
Type of use	Dialog
Requirement	none

3.5 **Help** menu

Symbol	Window	Description
	NorthTec Homepage	Go to the NorthTec homepage.
	Check for New Version	When this menu entry is selected, the software will automatically check whether updates for SMU Auto Logs are available.
	Info about SMU Auto Logs	Display of information on the software version, NorthTec (telephone number, address etc.), the operating system used and memory usage.