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automation technology

SMU Auto Logs 1.0.2.1

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

Manual

Revision information

Rev. 1.0, 28 Sep 2023, IHA: initial version

1 About this manual

This document describes 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, e.g., to the latest version of the Shadow Manager 4 manual, which can be downloaded from our website.

Since SMU Auto Logs offers a large number of setting options and although we have designed the user interface to be user-friendly and intuitive, you will need to refer to this help, especially as a beginner, but now and then even if you are an experienced user.

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

1.1 Conventions

The following conventions apply:

Marking	Meaning
Bold	In the body text, names of menus, windows, buttons, etc. are written in bold. Example: Open the **Connections** window. **Bold writing is** also used to highlight important parts within a text block.
Italic, blue	Path names are shown in italics and blue. Example: *View > Connections > Schedule*.
<u>Blue, underlined</u>	Cross-references are highlighted in blue font color and underlined. Click on a cross-reference in order to jump to its target. Links that have been clicked on before change their <u>font color to purple</u>.
<u>Purple, underlined</u>	Cross-references you have already used once are highlighted in purple font color and underlined.
Highlighted in green	In the explanation for the parameters, you will find information on the input format, input range, etc. highlighted green, where applicable and appropriate.

1.2 Abbreviations

The following abbreviations are used

Abbrev.	Designation	Information
POI	Place of immission	Building with walls and areas to be protected from shadow impact.
SM4	Shadow Manager4	The operating software for our system for shadow impact monitoring and species conservation.
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

When you read this manual in digital form on the screen, you can click on a cross-reference in many places to go directly to a section with further information. Cross-references are highlighted by blue/purple color and underlining. In addition, you can display the table of contents in PDF Reader on the left-hand side of the window and navigate within it.

2   Introduction

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.

The following logs can be downloaded depending on the SMU version used:

SMU version	Downloadable logs
V.3.5	Shadow logs (plus bat and bird protection if available)
V.4.0	- Operating log - Shadow Casting Log - Bat protection - Bird protection - Sector shutdown - Noise protection - Special shutdown - Single data recording (log of individually defined measured values)

For logging into SMU Auto Logs a user and a password are necessary.

On delivery, the user **admin** is created with the password **1234**.

2.1 System overview

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 (WTG), primarily with reference to shadow impact and species conservation. The following illustration and the corresponding brief information will help you gain an initial overview of the system and, in particular, identify the function of SMU Auto Logs within the system.
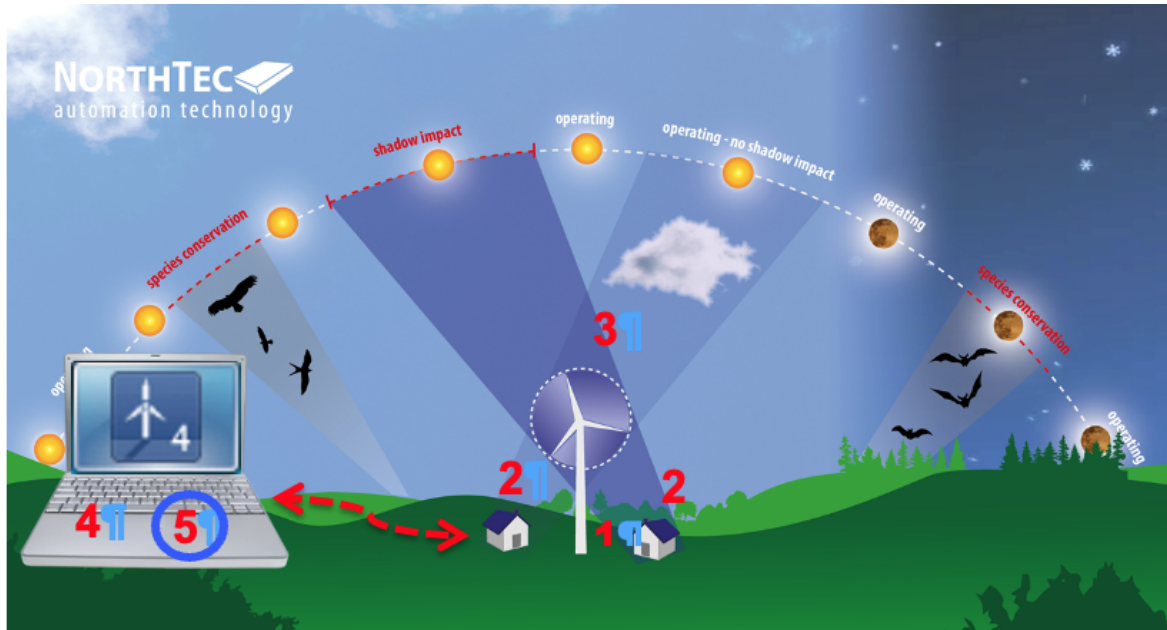
1   **Shadow Master Unit (SMU):** located in the WTG or in a handover station.
The SMU receives project data via Shadow Manager 4, calculates shadow impact periods, shuts down the WTGs if needed, records readings and alarms, sends appropriate email notifications, collects log data.

2   **Places of immission (POIs)**
Buildings with walls and areas requiring protection.

3   **Light sensor**, installed on the nacelle of a WTG
Primarily measures the illuminance of 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 system for shadow impact and species conservation and export the most important data to a CSV file.

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

NOTE

In order 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, or add SMU Auto Logs to the Windows autostart feature. As soon as the downloading of the logs is finished, the connection to the SMU is disconnected (for as long as specified in the schedule) so that evaluating and exporting will not block the SMU.

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.

The following logs can be downloaded depending on the SMU version used:

SMU version	Downloadable logs
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V.4.0	• Operating log • Shadow Casting Log • Bat protection • Bird protection • Sector shutdown • Noise protection • Special shutdown • Single data recording (log of individually defined measured values)

2.2 The main window

SMU Auto Logs consists of a main window (see below) within which other windows can be opened.
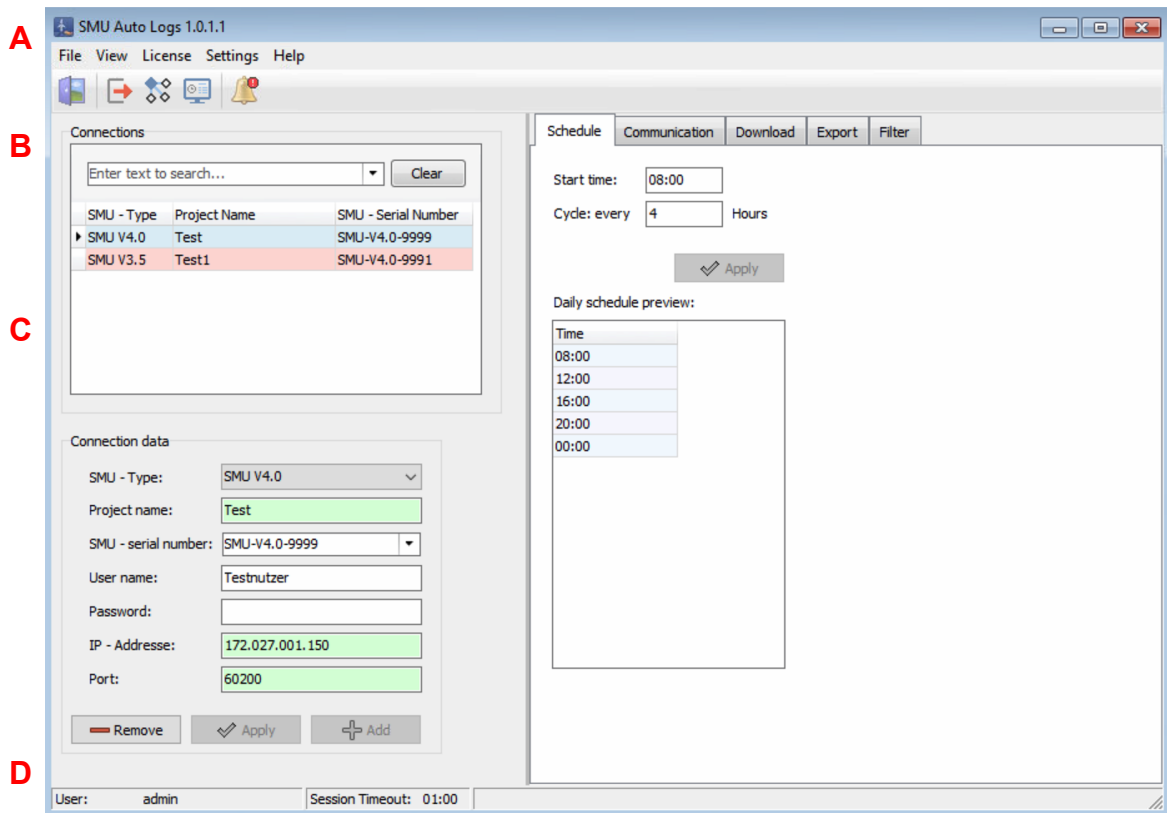

Fig.: SMU Auto Logs main window

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

2.3 Requirements and installation

You can download the latest version of SMU Auto Logs from our website **(www.northtec.de)**. You have the choice between an unzipped (.exe) and a zipped (.zip) file.

The program will run as a desktop version.

To use SMU Auto Logs , the following technical requirements must be met:

Prerequisite	Description
SMU	Shadow Master Unit 3.5 or 4.0 or higher
PC	• at least 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 the Windows 7 or later operating system from Microsoft
Permission	No administrator rights required
License	To use SMU Auto Logs to its full extent, purchase a license file from us.

To install SMU Auto Logs , double-click on 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

In order 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, or add SMU Auto Logs to the Windows autostart feature.

As soon as the downloading of the logs is finished, the connection to SMU is disconnected (as long as specified in the schedule): evaluating and exporting does not block the SMU.

2.4   General features of the software

The menu structure, the assignment of the mouse keys and the design of the application are based on the usual Windows interface and the corresponding operating elements, with which every user should be familiar.

If you feel unsure about using Windows, first familiarize yourself with the basic operation of Windows (mouse operation, menu technique, resizing windows, etc.).

Notes on the SMU Auto Logs software

- If you enter an invalid value (wrong number or wrong input format) in an input field, it will be highlighted in red.

- By pressing the Enter key or the Tab key you can end the current input 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 windows are arranged in menus in SMU Auto Logs and can be accessed through them. Some windows and functions can be opened directly by clicking on the respective button in the toolbar of the main window. The function of each icon is displayed as a tool tip when you rest the mouse pointer on it, see the following figure.

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

The following table provides an overview of the contents of the individual menus. For more information, click on the respective cross-reference.

Menu/menu item	What you can do there
File 　　**Exit**	• Exit program
View 　　**Connections** [15]	• Define download schedule • View/edit data for connection to SMU • Select logs for download • Set target folder for log export • Define filters for individual logs
Monitoring [29]	• Monitor connection status and view logged events
Change password [33]	• Change password for unlocking SMU Auto Logs
User management [34]	• Change, add or delete SMU Auto Logs users, assign/delete admin rights
License 　　**License management** [36]	• View/load/close license file
Settings 　　**Program** [37] 　　**Language**	• Set session timeout, check for updates • Select program language

| Menu/menu item	What you can do there

Help
 	
    NorthTec Homepage
 	
    Check for new version
 	
    About SMU Auto Logs
	
	• Go to NorthTec Homepage
	
	• Check for new version of SMU Auto Log s
	
	• Information about SMU Auto Logs, NorthTec contact details, system information and information about the memory usage information

The following sections describe the menus in detail.

3.1 File menu

Icon	Menu item	Purpose
	Exit	Exit SMU Auto Logs

3.2 View menu

The following table provides an overview of the **View** menu. For more information, click on the respective cross-reference.

Icon	Menu item	Purpose
	Connections 15	• Define download schedule • View/edit data for connection to SMU • Select logs for download • Define storage destination for log export • Define filters for individual logs.
	Monitoring 29	Monitor status of connections and logged events, see 3.2.2 29.
	Change password 33	Change password to unlock SMU Auto Logs, see 3.2.3 33.
	User management 34	Change, add or delete users of SMU Auto Logs, assign/delete admin rights, see 3.2.4 34.

The following sections describe the **View** menu windows in detail.

3.2.1 Connections window

Purpose	**Left half of window** • Search/add/remove connections **Right half of window** • Define schedule for download • View/edit data for connection to the SMU • Select logs for download • Define target folder for log export • Define filters for individual logs
Icon	⬧⬧
Path	*View > Connections*
Usage type	Display + dialog
Requirement	Logged in user

Fig.: **Connections** window

Notes on the above **Connections** window

- The **A** section lists connections to SMUs that have already been set up. You can search for specific SMUs (projects) in the search field. If you then click on **Clear**, all connected SMUs are displayed again. The colored background of the individual connections provides information about the associated license as follows:

  - License is valid
  - License will expire within 14 days (max.)
  - License is no longer valid

- In area **B (connection data)**, the data of the connection currently selected in area **A** is displayed. For more information, see the table below.

- In area **C** you select the registers for editing the readout modalities. For more information on the individual tabs, see the information sections on the individual tabs.

Information and/or setting options in the **Connection data** section:

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

Parameter	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 entered twice; otherwise the field is highlighted in red and the **Apply** button is disabled. **NOTE** "Project one" and "Project One" are considered different project names.
SMU serial number	Can be entered individually, but must not be duplicated; otherwise the field is highlighted in red and the **Apply** button is disabled. **NOTE** Serial numbers stored in a loaded license file can be selected here or are automatically completed when the first characters are 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 to be communicated with. 4 numbers, separated by a dot, example: 192.0.2.42
Port	Port number of the SMU 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 exiting SMU Auto Logs .
➕ Add	This button for adding a new connection is active only if all the fields explained above have been filled in correctly.

3.2.1.1 Schedule tab

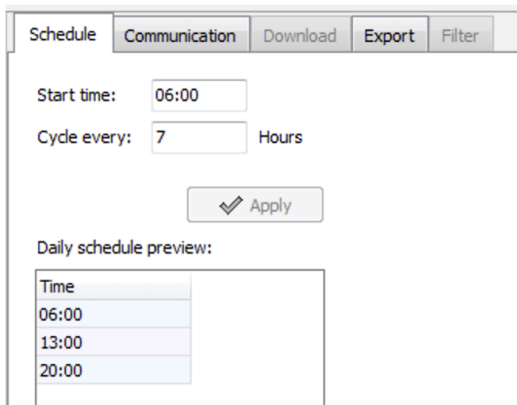|	
Purpose	Set/edit schedule for downloading and exporting logs
Path	*View > Connections > Schedule*
Usage type	Display + Dialog
Requirement	Logged in user

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

Information and/or setting options in the **Schedule** tab

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

Parameter	Explanation
Start time	Here you define at which time a sequence is to be started. Input format: 24-hour format
Cycle:	Here you specify the cycle in which a sequence is to be repeated. Input range: every 4 to 23 hours
✔ Apply	In order for entries to be applied, you must click **Apply** before selecting another tab/connection/window or exiting SMU Auto Logs .
Preview daily schedule	The result of the entries you have made under **Start time** and **Cycle** is displayed here.

3.2.1.2   Communication tab

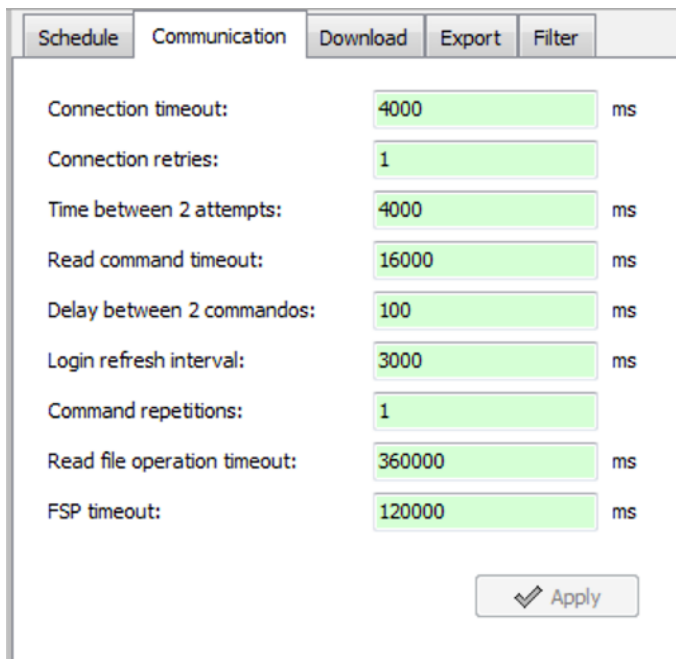|	
Purpose	View and edit data for connection to SMU
Path	*View > Connections > Communication*
Usage type	Display + Dialog
Prerequisite	Logged in user, SMU type V4.0 (Only the parameters Connection timeout, Connection retries and Read command timeout are available for SMU type V3.5).

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

The available input fields in the **Communication** tab are explained in the table below.

Information and/or setting options in the **Communication tab**

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

In the explanation of the parameters, you will find information on default settings, input format, input range, etc., depending on their relevance (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 > Connec-*

Parameters	Explanation
	tions) 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.
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

Parameters	Explanation
	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.
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).

Parameters	Explanation
	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.
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.

Parameters	Explanation
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 Downlad tab

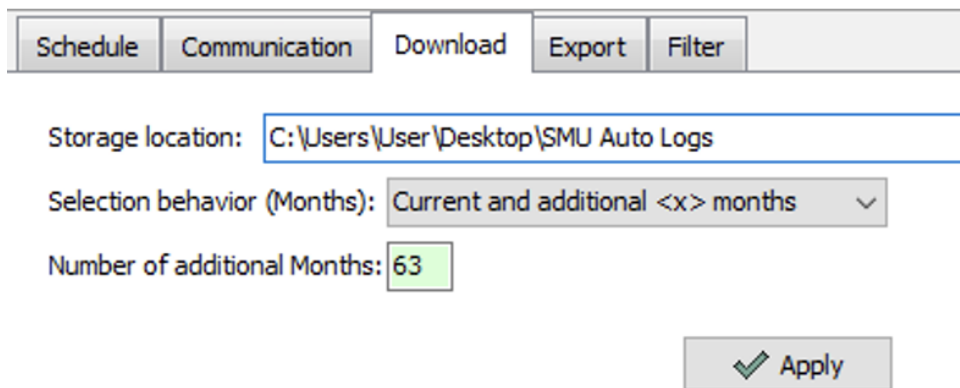|	
Purpose	Set/edit log download schedule
Path	*View > Connections > Download*
Usage type	Display + dialog
Prerequisite	Logged in user, SMU type V4.0

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

Information and/or setting options in the **Download** tab

In the explanation of the parameters, you will find information on default settings, input format, input range, etc., depending on their relevance.(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**

Parameters	Explanation
	• **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
✓ Apply	For entries to be applied, you must click **Apply** before selecting another tab/connection/window or before you exit SMU Auto Logs.

3.2.1.4 Export tab

Purpose	Set storage destination/behavior for exported logs
Path	*View > Connections > Export*
Usage type	Display + dialog
Prerequisite	Logged in user
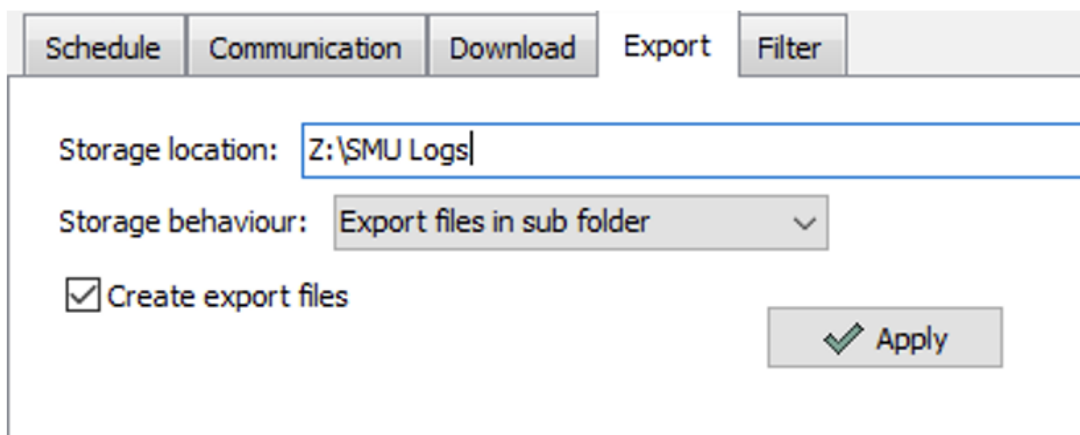
Fig.: **Connections** window, **Export** tab

Information and/or 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*).
✔ Apply	For entries to be applied, you must click **Apply** before selecting another tab/connection/window or before you exit SMU Auto Logs.

3.2.1.5 Filter tab

Purpose	Define event filter for the selected log type
Path	*View > Connections > Filter*
Usage type	Display + dialog
Prerequisite	Logged in user, SMU type V4.0

The filter settings refer only to the selected SMU. 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).
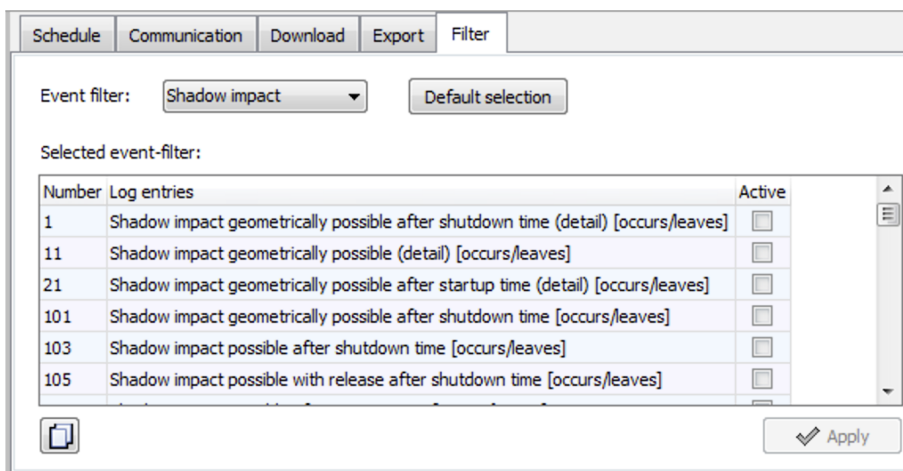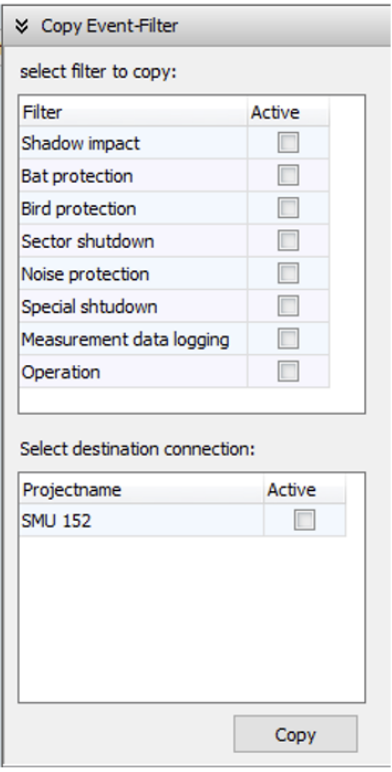

Fig.: **Connections** window, **Filter** tab

Information and/or setting options in the **Filter** tab

Parameters	**Explanation**
Event filter	Selection of the log type whose event filter is to be changed: Regarding Single Data Recordings (Measurement data logging), all logged events are exported; there are no preset filters, as these result from

Parameters	Explanation
	the settings in the SM4 project. This option is only included 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).
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

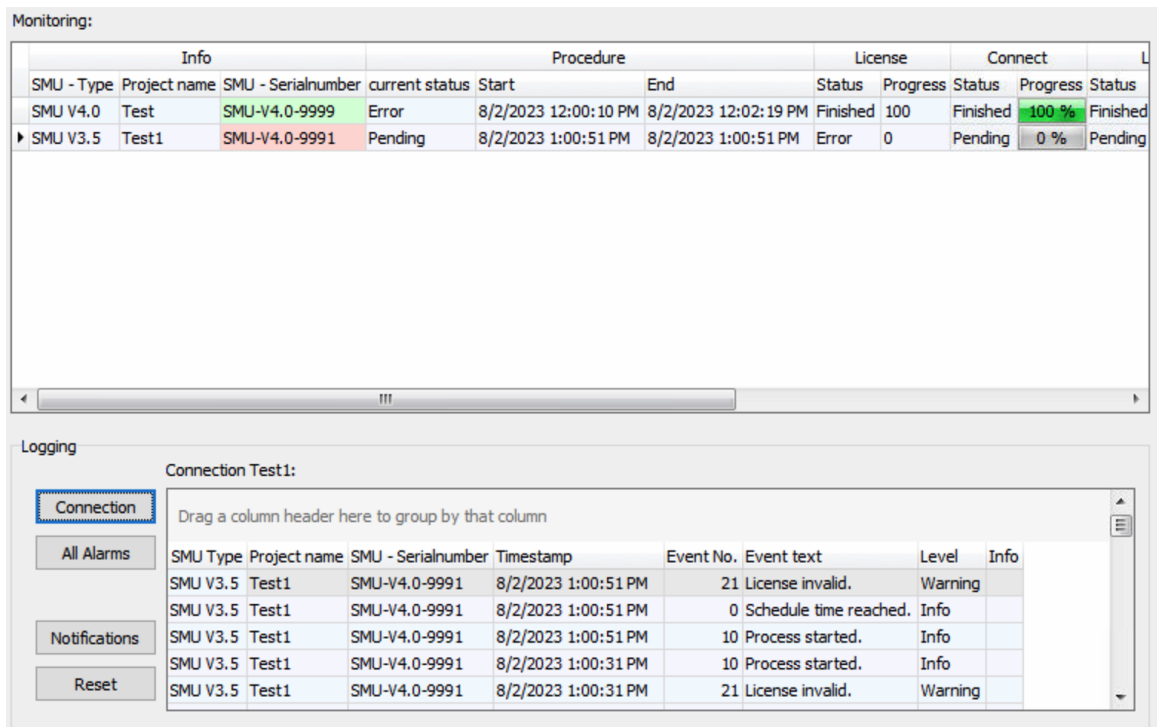| Purpose	Monitor status of connections and display logged events
Icon	
Path	*View > Monitoring*
Usage type	Display + Dialog

Fig.: **Monitoring** window (section thereof)

Notes on the above window

- The **upper table of** the window displays an overview of the added connections with their current status. Double-clicking on a connection displays the events logged for that connection in the lower table.

- Depending on the selection, the **lower table** displays the following:

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

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

    - Messages for **all** connections.

See also: in the **Monitoring** window

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 with their current status.

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

The following figure shows an example of a table with three 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 following overview explains the individual columns of the table:

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 ...	

Column	Explanation
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.
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 the SMU type V3.5, the progress is always set immediately to 100 %.

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

    - messages for **all** connections.

Double-clicking on a connection displays the logged events in the lower table.

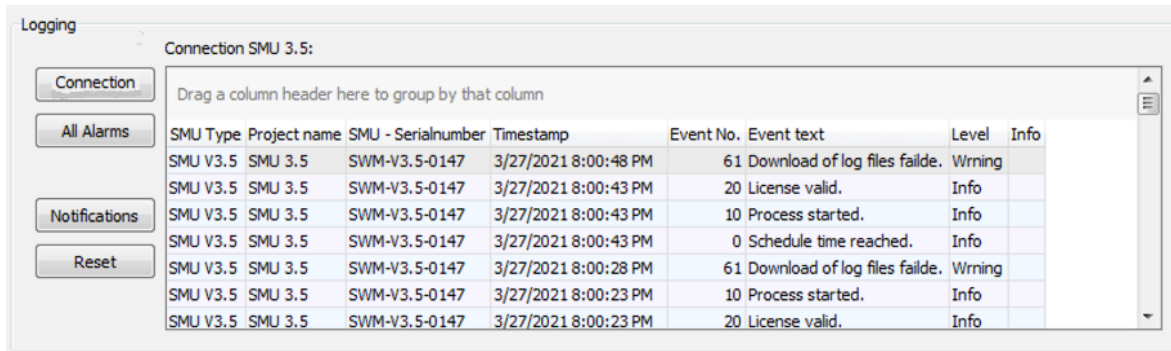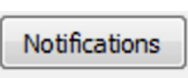The following figure shows an example of a table with four connections added.

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

The columns of the table are named in a self-explanatory way.

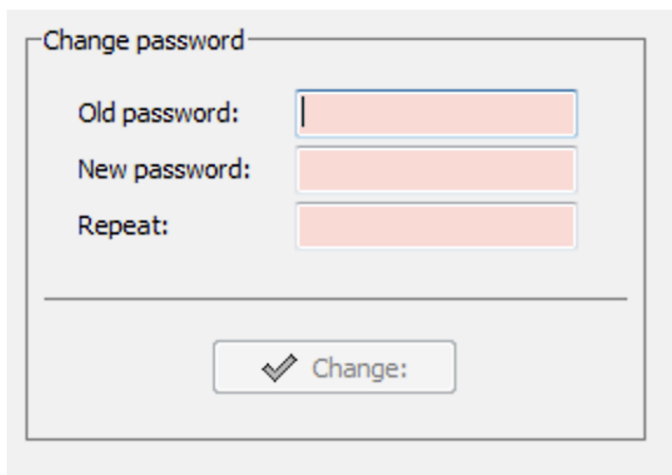The following overview explains the available buttons.

Button	Explanation
Connection	This button displays the logged events of a connection. In order to display the logged events, a connection must be selected from the upper table. Double-clicking on a connection in the upper half of the window does the same.
All Alarms	Displays all logged errors and warnings of **all** connections. No connection needs to be selected for this button.
Notifications	**Notifications** lists all errors and warnings that have been logged since the last time the **Reset** button was pressed. Clicking on 🔔 🔔 in the menu bar has the same effect.
Reset	This button "resets" the accumulated messages . After clicking this button, the red circle with the exclamation mark displayed at the **Notifications** icon (🔔 🔔) in the toolbar will disappear. If you now click on **Notifications** again, nothing will be displayed unless new errors or warnings have been logged since you last clicked **Reset**.

3.2.3   Change Password window

Purpose	Change password of the currently logged in user
Path	*View > Change password*
Usage type	Dialog
Requirement	Logged in user

In this window the currently logged in user can change his password.

Fig.: **Change password** window

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

3.2.4   User Management window

Purpose	Change, add or delete user SMU Auto Logs users Assign/delete user rights
Path	*View > User Management*
Usage type	Display + Dialog
Requirement	Admin right

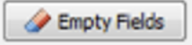In this window users with admin rights can add, modify or delete other users and also assign/delete admin rights.

Fig.: **User Management** window

Existing users are displayed in the upper half of the window; edit, add or delete users in the lower half.

Information and/or setting options **User Management** window

Input field/ button	Explanation
User	Input any character

Input field/ button	Explanation
Password	Input any character, but 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 chosen. Max. 80 characters.
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.
Empty Fields	self-explanatory
Remove	Removes the user selected in the list above.
Apply	Note the following hint 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

In the **License** menu there is only the **License Management** menu item.

See also: License Management window 36

3.3.1   License Management window

Purpose	Display, load and close license file
Path	*View > User Management*
Usage type	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.
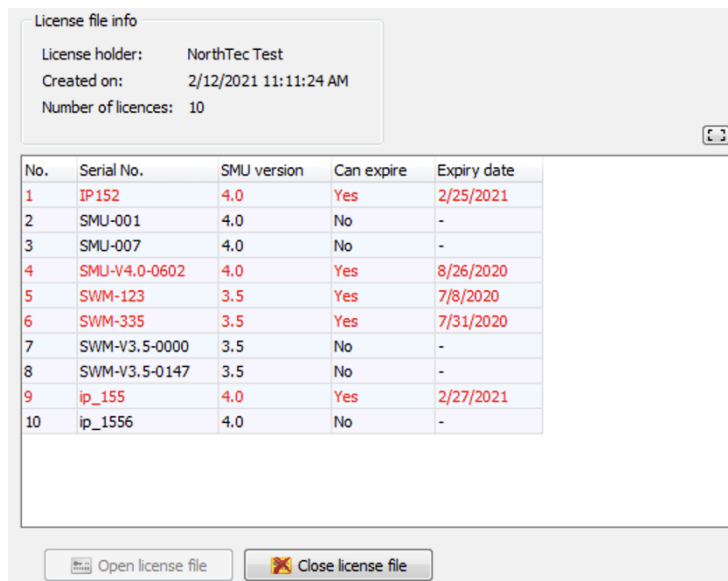

Fig: **License Management** window

Notes on the above example

- Licenses 1 + 9 will expire soon and cannot be renewed, but must be replaced with new licenses.

- Licenses 2, 3, 7, 8, and 10 are unlimited licenses.

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

- Use the **Open License File** button to select a license file that 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 an overview of the **Settings** menu. For more information, click on the cross-reference.

Menu item	Purpose
Program [37]	• Set session timeout • Check for updates
Language	• Select program language

3.4.1 Program window

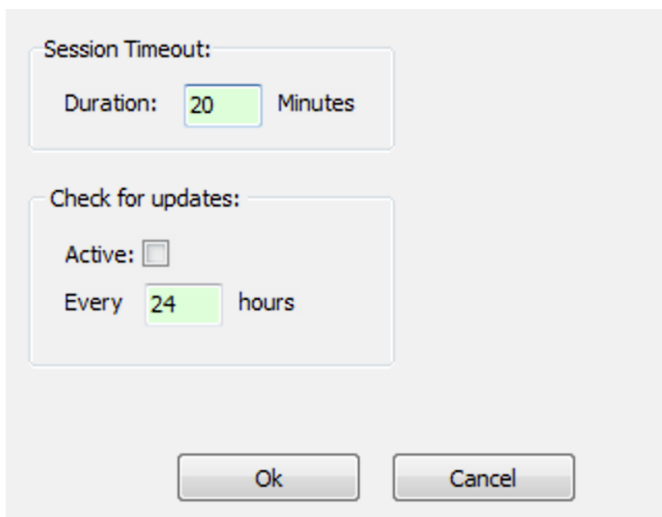|	
Purpose	Set session timeout, check for updates
Path	*Settings > Program*
Usage type	Display + dialog
Prerequisite	Logged in user

Fig.: **Program** window

## Information and/or setting options in the **Program** window

In the explanation of the parameters, you will find information on default settings, input format, input range, etc., depending on their relevance (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	If checked, SMU Auto Logs automatically checks every **<x>** hours in the background 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 English and German user interfaces
Path	*Settings > Language*
Usage type	Dialog
Requirement	none

3.5 Help menu

Icon	Window	Description
	NorthTec Homepage	Call up the NorthTec homepage.
	Check for new version	When you select this menu item, the system checks online whether there are any updates for SMU Auto Logs .
	About SMU Auto Logs	Displays information about the software version, the NorthTec company, the operating system used, and the memory usage