VOLTCRAFT®

BATTERY CHARGING STATION
„CHARGE MANAGER 2024“

GB OPERATING INSTRUCTIONS FOR THE SOFTWARE

Item no.
2002024

CE

VERSION 05/15

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GB

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1. FUNCTIONS OF THE „CM2024 LOGGER“ SOFTWARE

- Display of the selected programme, the current programme section, the rechargeable battery chemistry, the time and charging parameters, such as voltage and charging current
- Recording the progress of voltage, current, charging and discharging capacity, etc.
- Graphical illustration of the progresses of voltage and current in chart form
- Print function for measuring logs
- Saving, loading, pausing and continuing recordings
- Export of the recorded data to Excel (from Version 2010 or higher) including generation of voltage and current charts
- Export of the recorded data as CSV file (= „Comma Separated Values“) for reading into all common spreadsheet programmes
- Input and start of charging programmes
- Import of the records from the SD memory card

System Requirements:

- Windows operating system from Windows XP with SP3 or higher
- Net Framework V4.0 (Client Profile)
- Resolution at least 1280 x 768

2. INSTALLATION OF THE „CM2024 LOGGER“ SOFTWARE

After the operating system has been fully loaded, start installation of the software and follow the instructions of the installation programme or your operating system.

➔ Note:

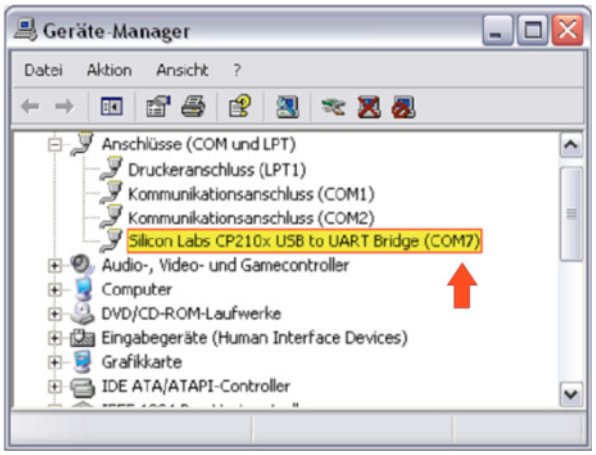
Before connecting the „Charge Manager 2024“ to the computer, always install the driver software („Silicon Labs CP210x USB-UART Bridge“) according to the instructions of the installation programme.

The latest driver version can be found under http://www.silabs.com/products/mcu/Pages/USBtoUARTBridgeVCPDrivers.aspx

After completion of the software and driver installation, connect the „Charge Manager CM2024“ to a free USB port of your computer with a suitable connection cable. The charger has a USB interface for this (USB-B socket at the rear of the device).

Windows recognises the new hardware when it is connected for the first time and completes the installation of the required drivers.

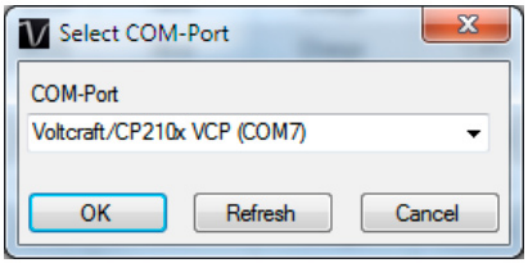
In the Windows control panel, you can check in the device manager which COM port has been awarded to the „Charge Manager 2024“ (e.g. „COM7“, see arrow in the following figure).



Now software installation has been completed.

3. GETTING STARTED

At the first start of the software, you need to select the COM port of the „Charge Manager 2024“ according to the entry in the control panel (in this example „COM7“.



This setting can be changed under „Settings/COM-Port“ later.

After confirming the selection with „OK“, the main window of the software appears.

By clicking the button „Start Logging“ (upper left), recording of the data will be started (the button switches its colour from red to green and the label switches to „stop logging“).

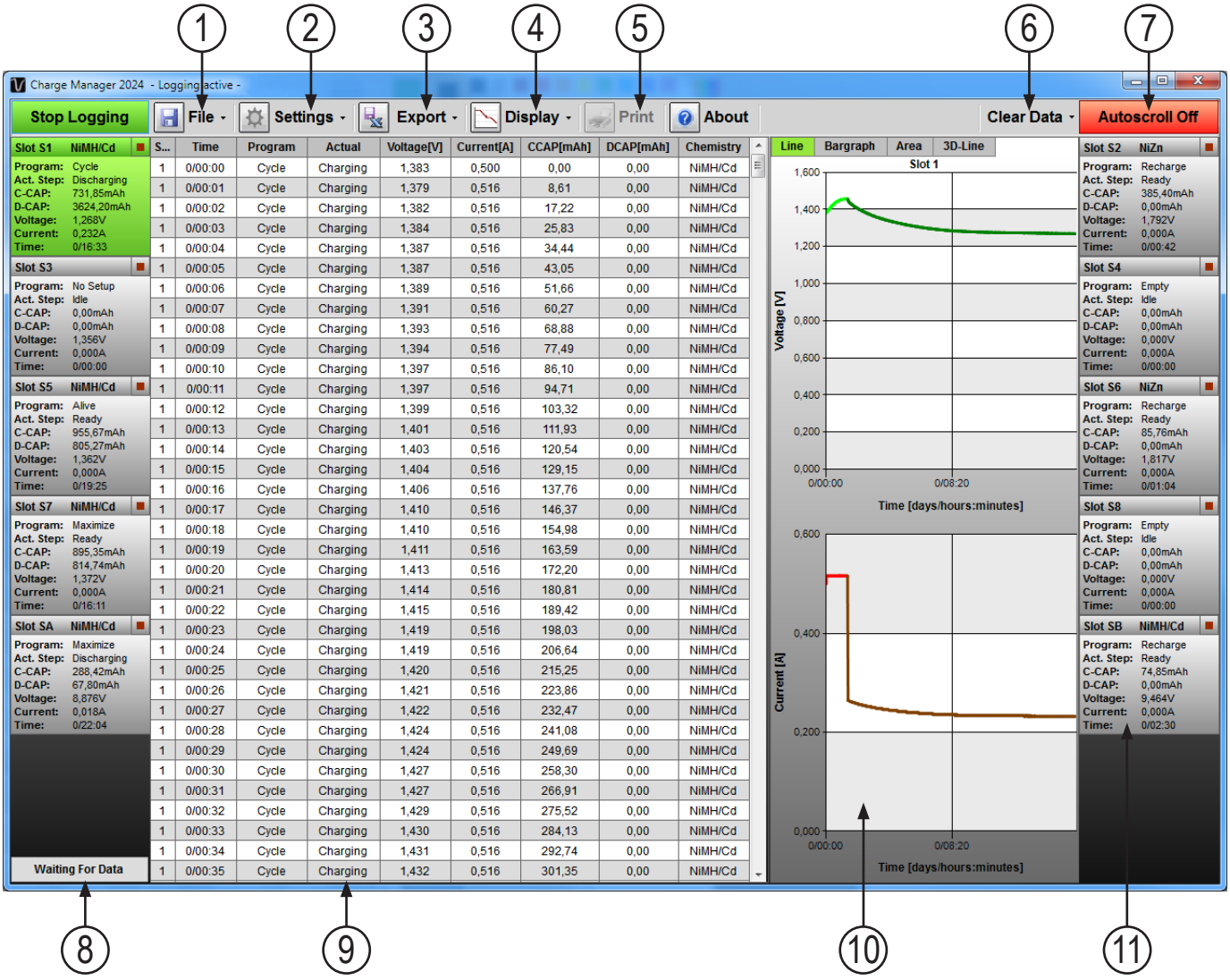
➔ The charger must be in operation, i.e. the display lighting of the „Charge Manager 2024“ is on.

To terminate data recording, click the button again. The colour changes back to red (and the label of the button back to „Start Logging“, see above).

➔ If no data are recorded by the charger for more than approx. 10 seconds because, e.g., the connection to the charger has been disconnected, the programme will automatically interrupt data recording. Continuation of the recording is possible.

4. OPERATION OF THE SOFTWARE

View during data recording:



1 Load, save and import recordings from card

2 Setting the COM-port/display brightness. Terminating the recording on the SD memory card

3 Export to Excel or „CSV-file“

4 View: Chart and/or table

5 Print measuring log

6 Delete recording

7 Automatic display of the last measured value in the table

8 Display for data reception from the charger

9 Display of the recorded data in table form. The data transfer to other programmes via the clipboard is supported.

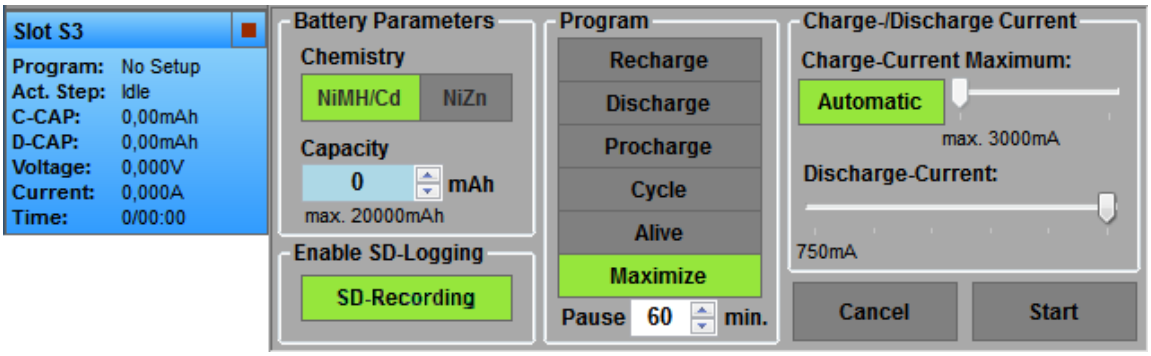
10 Curves of voltage and current. Different display versions can be chosen.

11 Parameter display of the charging slot. Clicking selects the corresponding view. If the display has a blue background, the charge programme input is shown after clicking. The „Stop“ symbol or right-click cancels the running charge programme.

General Notes:

- The recorded data are always put in interim storage in parallel to the display in the temporary files as well. If there are temporary files at programme start, the programme offers to continue the recording.
- When removing a rechargeable battery during the recording, the associated values are automatically deleted. This ensures data integrity.
- The export functions for „Excel“ and „CSV“ refer only to the currently chosen charging slot.
- The print function is not available during data recording.
- The charts are printed out as shown in the software. This means: If a cut-out has been enlarged, the output takes place in this enlarged view as well. Insertion of a title line under indication of the battery slot number, duration, charging and discharging capacity take place automatically. The recommended print format is DIN A4 or DIN A3.
- Loading and saving data via „File“ -> „Load Logged Data“ or „Save Logged Data“ refers to the data of all battery chutes of the „Charge Manager 2024“. The temporary data are overwritten in „Load Logged Data“.
- The programme ensures uninterrupted data recording by deactivating the energy savings mode of the computer during the recording.

5. STARTING CHARGING PROGRAMMES



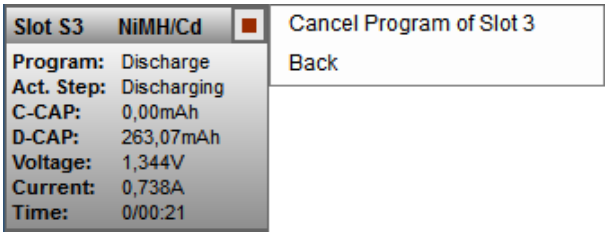
If one or several rechargeable batteries are inserted, the parameter display shows „No Setup“.

The parameter setup of the battery slot where programme input is possible is displayed in blue. After clicking the parameter display, the charge programme input is now displayed. The parameters suggested by the charger are displayed and can now be changed.

After clicking „Start“, the charging programme is executed.

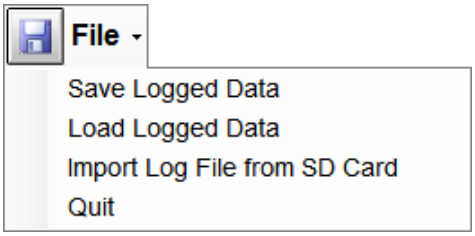
➔ If the charging programme is started at the charger in the meantime, it will be executed with the parameters chosen at the charger. Then the active programme input in the PC software is concealed after starting.

6. CANCELLING CHARGING PROGRAMMES



The current programme of the charging slot can be cancelled via the respective „stop“ symbol or by right click on the battery slot display and the final confirmation of „Cancel Program of Slot x“.

7. SAVING/LOADING RECORDINGS



The charge curves can be saved on the SD memory card and/or the PC („Save Logged Data“).

➔ When saving on the PC, it must be continually connected to the charger and the recording („Logging“) must be active.

If the charging curves have been recorded on the SD memory card, the data can only be read via a card reader at the PC subsequently („Import Log File from SD Card“). It is also possible to load the saved records again with this software („Load Logged Data“).

8. USE OF THE WINDOWS CLIPBOARD

In addition to the export function, there is also the option of exporting the recorded data via the Windows clipboard into any spreadsheet programmes, such as „LibreOffice / OpenOffice“.

Procedure:

1. Select the required cells in the table
2. Right-clicking the table shows the following dialogue:

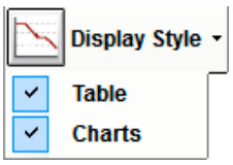
   „Copy To Clipboard“ copies the selected area or „Copy All...“ copies the entire active table into the clipboard.

   Alternatively, there is also the option of saving selected data by „CTRL+C“ (Copy).

3. These data can be directly transmitted to the target table by „CTRL+V“ (insert).

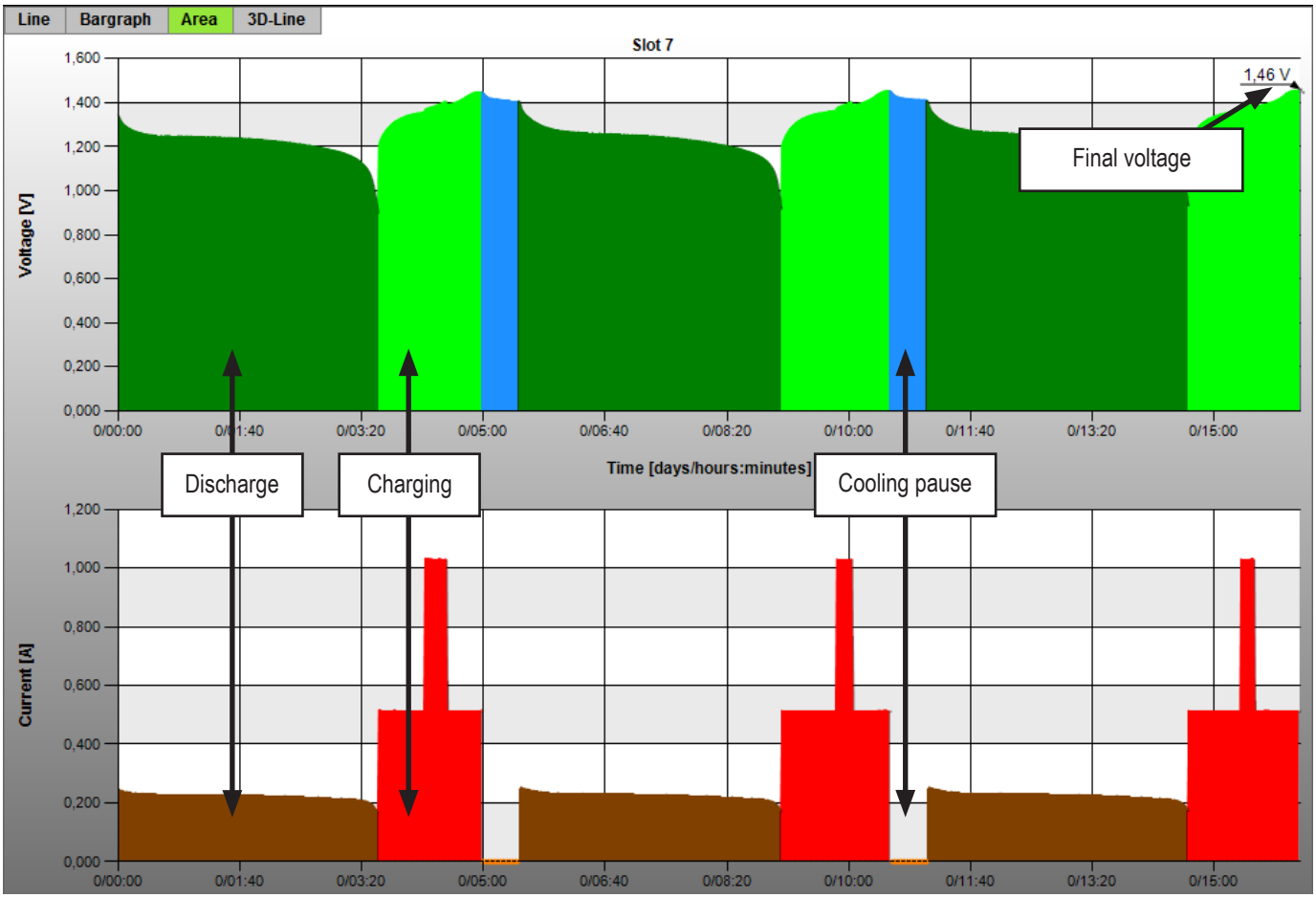
9. DISPLAY OPTIONS

Under „Display Style“, you can select the required display. If „Table“ is selected, only the data in table form are shown; when selecting „Charts“, the illustration of the curves for voltage and current in graphic form is active.



There is also the option of concurrent display of both versions.

Example: Display version „Charts“



Whether charging or discharging is currently underway is shown by colour:

- Green and red: During the charging phases
- Dark green and brown: During the discharging phases
- Blue and orange: Cooling phases in the „Maximize“ programme

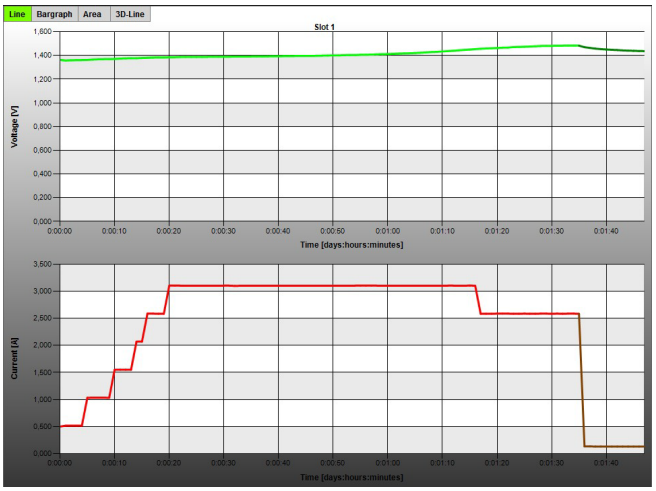
→ Missing data points (e.g. due to recording pauses) are marked by grey dots.

At the end of the programme, the chart also indicates the final voltage.

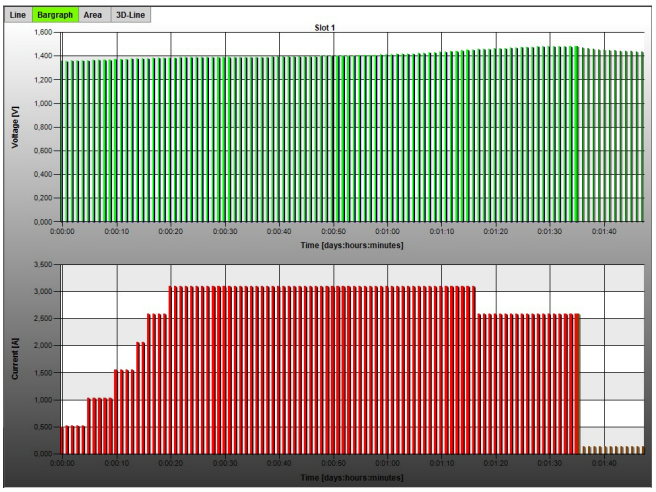
10. OPERATION OF THE CHART FUNCTION

Functions:

Four views are possible: Line, bar, area chart and lines in 3D perspective („Tilt“ and „Rotation“ can be set).

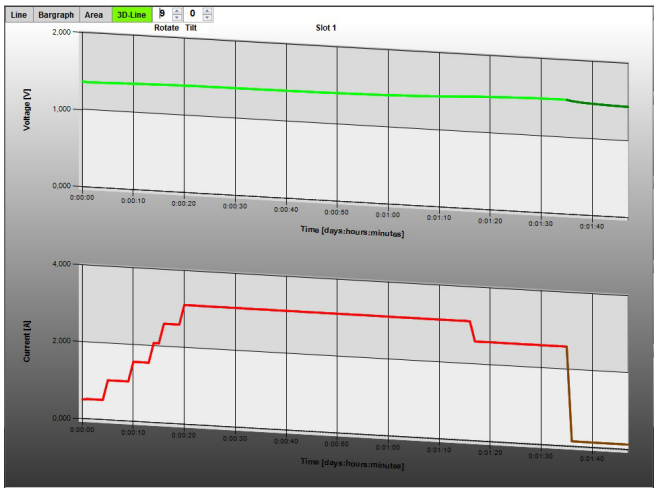


Line chart



Bar chart

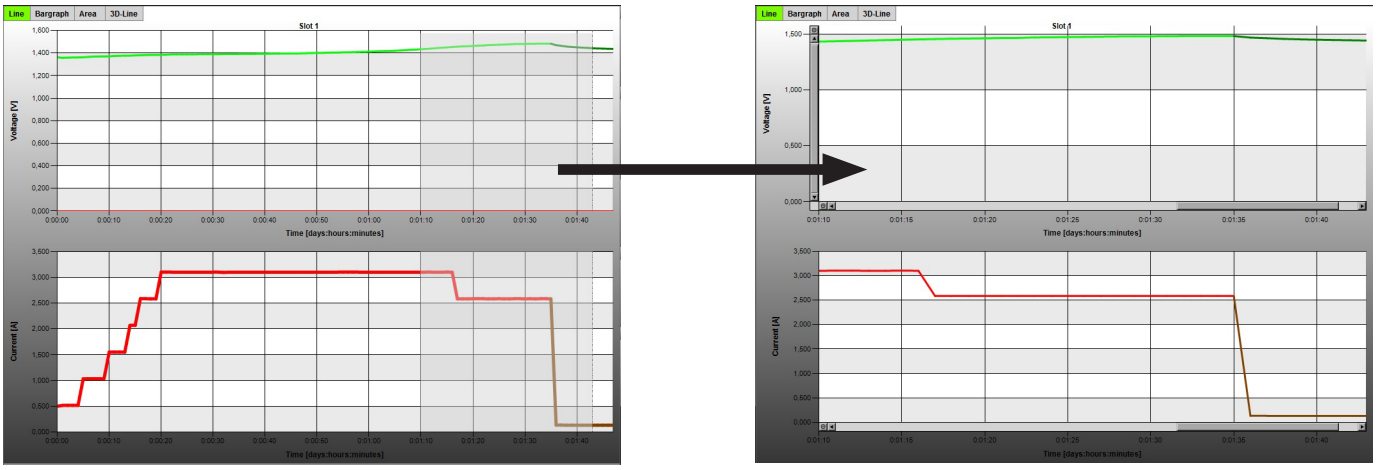
Area chart



3D-lines

Enlarging to certain areas, „Zoom“ by mouse:

Keep the left mouse button pushed in the graphical display and draw a frame over the desired area. After releasing the mouse button, the selected area is shown enlarged.



Alternative:

Move the mouse pointer to the area of the chart and right-click. The following input field appears (see figure on the right).

- „Zoom In“ enlarges the view by half of the recording.
- „Reset Zoom“ takes you back to the overall view.

➔ Depending on the pointer position of the mouse, you can also use the scroll wheel to enlarge/reduce.

Moving the displayed areas

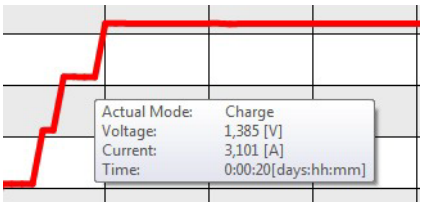
Movement is possible via the cursor buttons on the keyboard (arrows) or the scroll bars at the chart windows.

Further control options via the keyboard

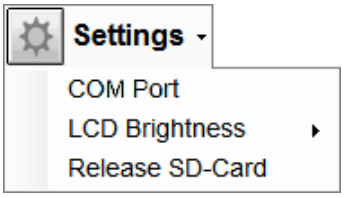
Button	Function
„Home“ („Pos1“)	Restore total view (like „Reset Zoom“)
„Delete“ („Entf“ / „Del“)	Jump to the start of the recording
„End“ („Ende“)	Jump to the end of the recording
„←“ („Backspace“)	Reduce zoom by one level
„Page Up“ („Bild↑“)	Move X-axis towards the end in large steps
„Page Down“ („Bild↓“)	Move X-axis towards the start in large steps

Display of the data on the mouse pointer position

If the mouse pointer is placed on one of the displayed curves, pushing the right mouse button will return the current values at this time.



11. SETUP „SETTINGS“



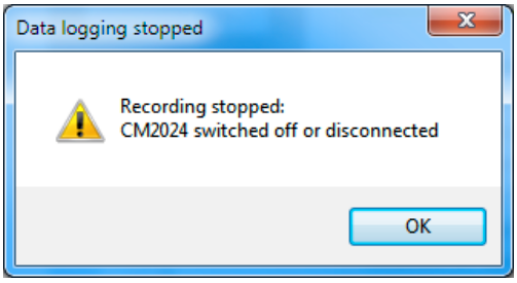
„COM Port“: Selection of the COM-port (only possible when no recording is running)

„LCD brightness“: Setting the display brightness of the „Charge Manager 2024“ (only possible when the recording is running)

„Release SD-Card“: Terminate recording on the SD-memory card (only possible when a recording is running)

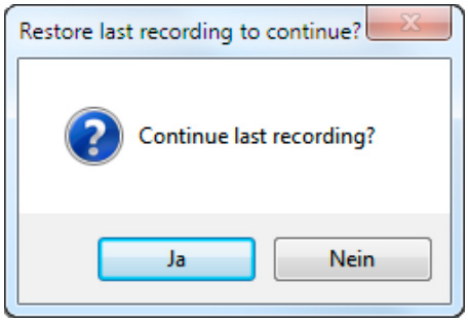
12. SUSPEND/CONTINUE RECORDINGS

After disconnecting the mains unit of the charger, the following message will be displayed by the software after approx. 10 seconds:



Now close the software. If required, the computer can now be switched off.

The software will offer to continue the recording at the next programme start.



You can now take the charger into operation again and then confirm the software message with „Yes“. Now the last recorded data are loaded and the recordings are automatically continued.

When selecting „no“, the data are deleted and a new recording is started.

➔ If the software has not been terminated, push the button „Start Logging“ after taking the „Charge Manager 2024“ into operation. The recording is continued here as well.

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