

## CIS Single Load (with Dimming Function)

Menu

- 1. Select CIS Controller
- 2. Night Light Function
- 3. SOC / LVD
- 4. Night Detection Threshold
- 5. Battery Type
- 6. Print

Error OK Transmit

Test Send

Evening (h) Morning (h)

SOC (V) LVD (V)

Night Detect (V)

Dimming (h)

Timer Reference

h based on middle of night

h based on Dusk & Dawn

A B



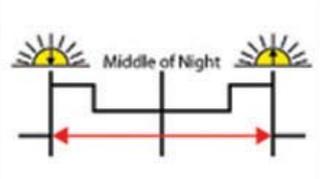
**Light ON**

Turn light ON from Dusk to Dawn (Entire night)

based on dusk and dawn

Turn light ON at dusk. Turn light OFF 1 hours after dusk.

Turn light ON 0 hours before dawn. Turn light OFF at dawn.



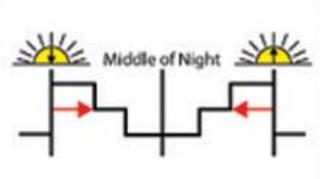
**Dimming**

based on dusk and dawn

Full brightness at Dusk. Dim Light 4 hours after dusk.

Full brightness 2 hours before dawn.

Brightness while light is dimmed 60 %



**Light ON**

**Dimming**

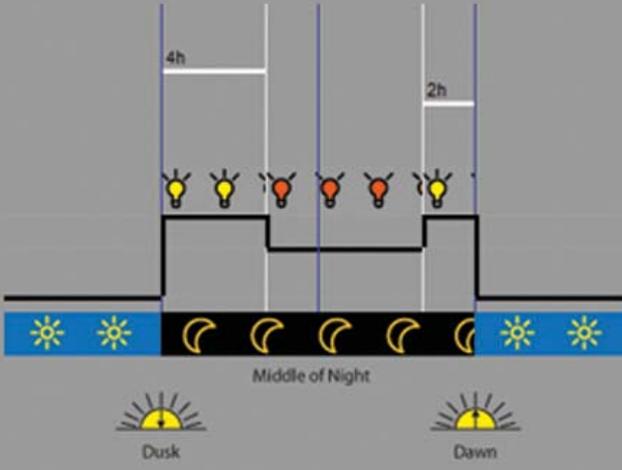
Light ON / Dimming / OFF

Light 100% ON

Brightness 60%

Light OFF

Day / Night



## CISCOM Manual

Software for Phocos CIS Controller Series:

Single Load: CIS, CIS-N, CIS-LED, CIS-MPPT

Dual Load: CIS, CIS-N

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**Please note:** All settings apply to a 12 V system. Settings of a 24 V system are the same as in a 12 V system.

# 1. Software Installation

Dear customer,  
Please double click on the setup.exe file and follow the setup instructions.  
If the Microsoft dotnet framework 4.0 is not installed on your PC the setup will request you to install the framework.

# 2. Software Features/Controller

Not every software feature is available for all CIS controllers. Please find below a list stating which feature is available for which controller type.

## For CIS single load and CIS dual load

CIS single Load: CIS, CIS-LED

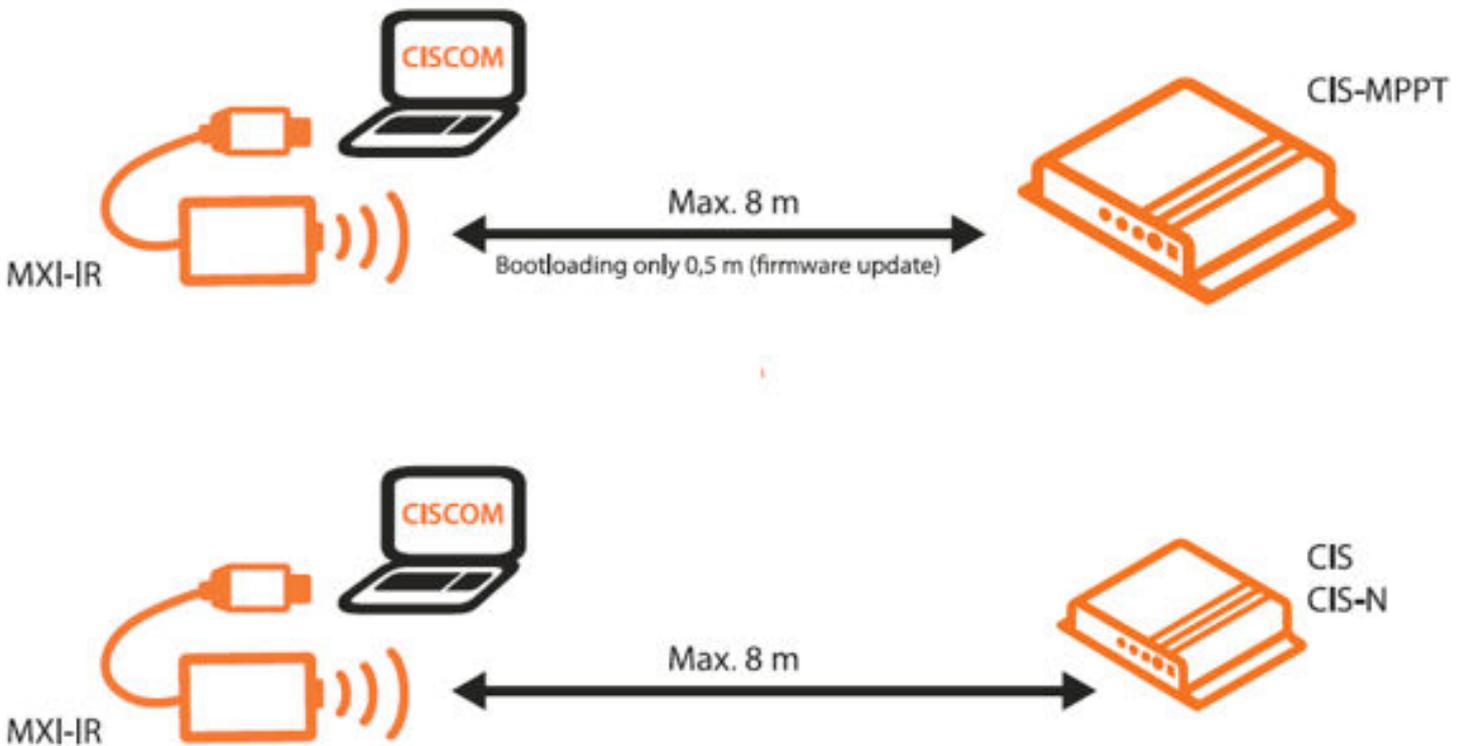
- Settings:
  - nightlight function settings
  - SOC/LVD settings
  - battery type
- Save and load settings again

## For CIS-MPPT:

- Settings:
  - nightlight function settings
  - SOC/LVD settings
  - battery type
- Save and load settings again
- Datalogging:
  - last 30 days (dataset per day)
  - last 24 months (dataset per month)

### 3. Drivers for the Interface MXI-IR

Please connect the MXI-IR to your PC/laptop and install the USB driver and the virtual RS232 driver.

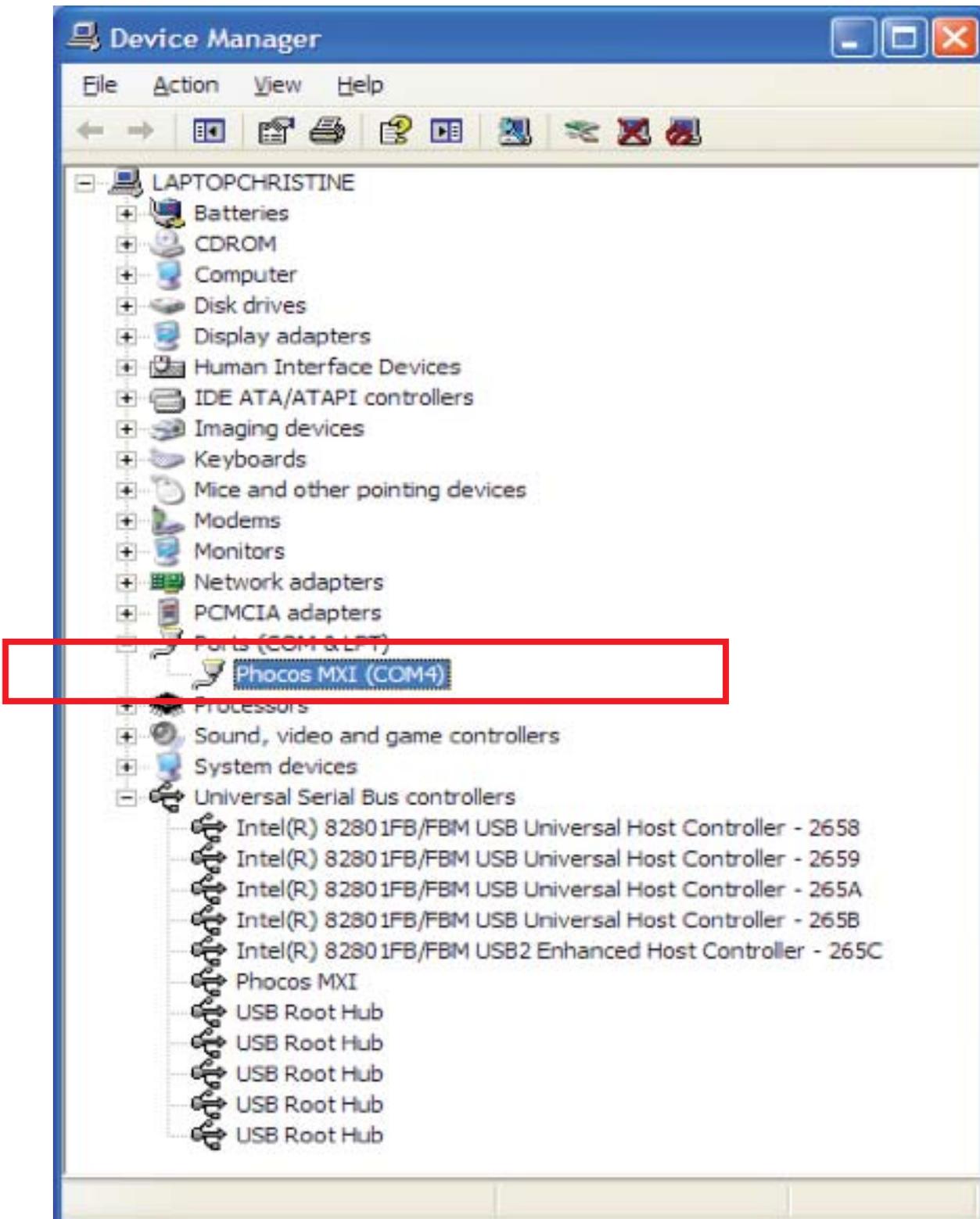


Both MXI-IR drivers can be found in the following folder:

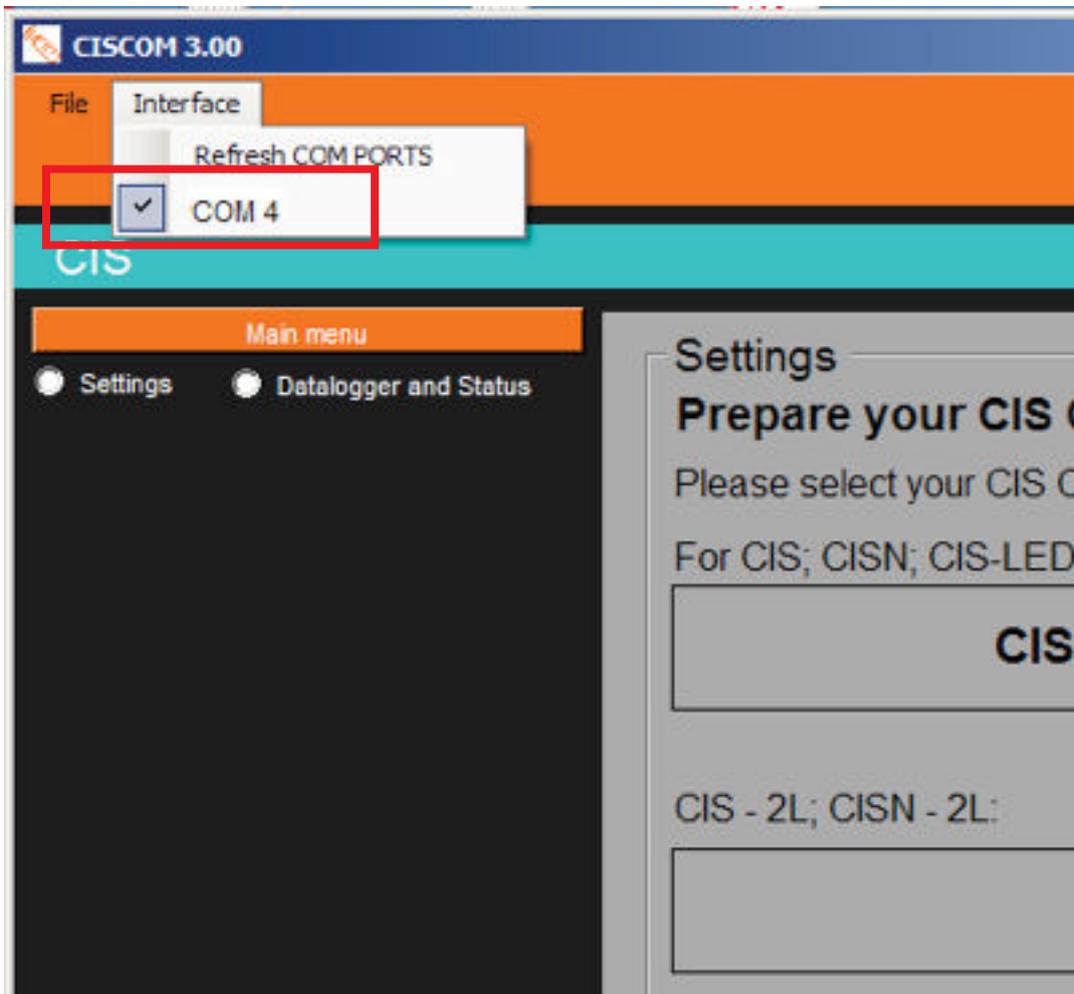
- MXI-IR/Windows\_7
- MXI-IR/Windows\_Vista
- MXI-IR/Windows\_XP

depending of your operating system.

Please select the number of your COM port in the CISCOM software under the menu item „Interface“.



Please select the number of your COM Port in the CISCOM software under the menu point „Interface“.



## 4. Software Features

Start page of the CISCOM software

The screenshot displays the CISCOM software interface. At the top, there is an orange header bar with the text "File Interface" on the left and the "phocos" logo on the right. Below this is a teal bar with the text "CIS". A dark grey sidebar on the left contains a "Main menu" with two items: "Settings" (selected) and "Datalogger and status". The main content area is titled "Settings" and contains the following sections:

- Settings**
  - Prepare your CIS CU settings by following the steps:**
  - Please select your CIS Controller
  - For CIS; CISN; CIS-LED; CIS-MPPT select:
    - CIS single load (with dimming function)**
  - CIS - 2L; CISN - 2L:
    - CIS dual load**
  - Read settings from controller:**
    - Read settings from controller**
  - The expert mode allows to select more than the standard features: **Expert mode disabled**
- Datalogger**
  - Read data and status values from CIS-MPPT (only CIS-MPPT possible):
    - Read data, status and settings from controller**
- Import system data**
  - Import from file**

At the bottom left of the sidebar, there is a grey bar with the text "Communication".

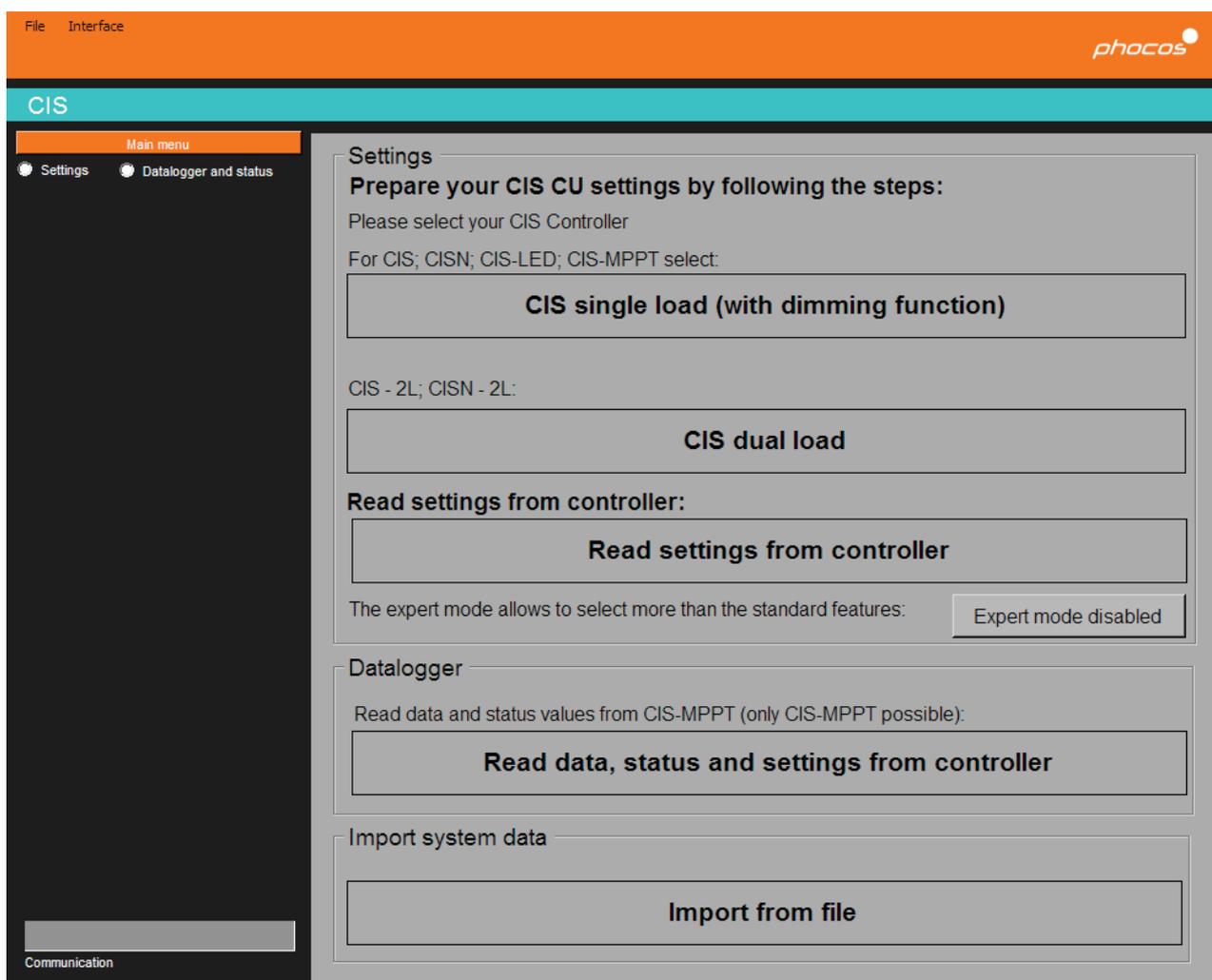
## 4.1. Expert Mode and Non-Expert Mode

### 4.1.1. Non-Expert Mode:

The default setting is the „non-expert mode“.

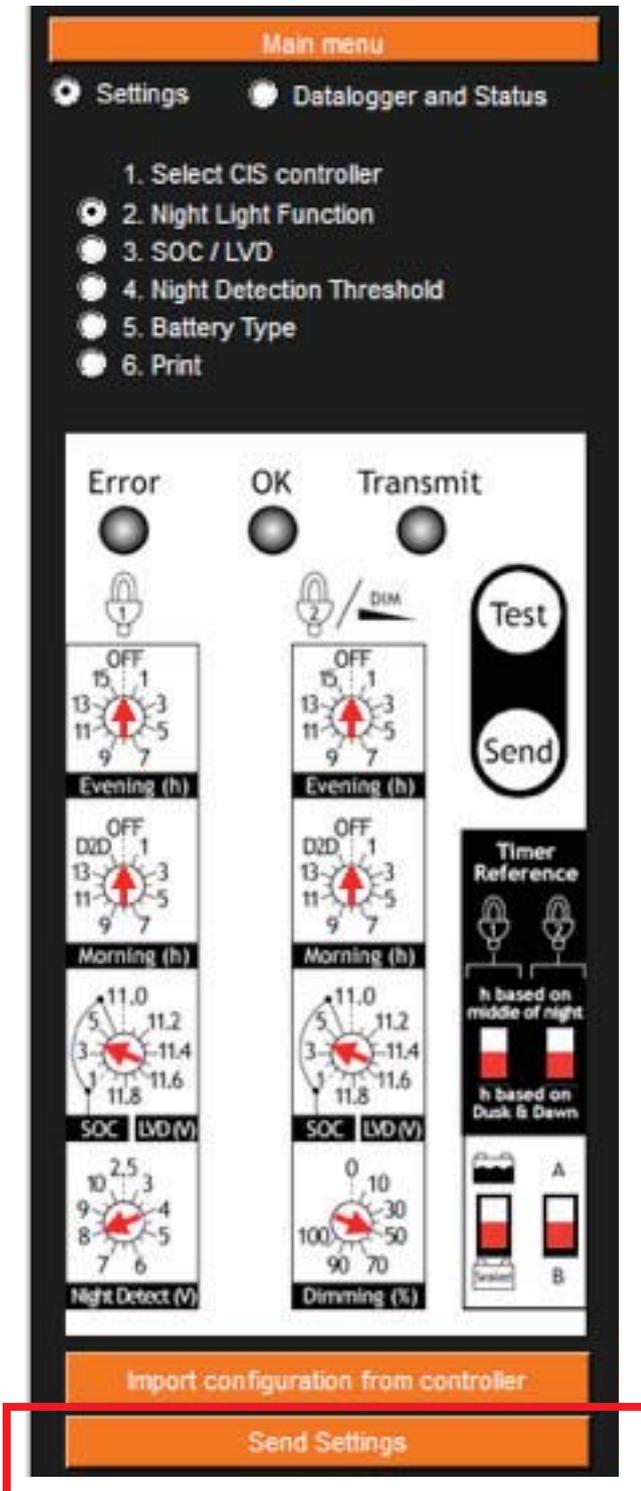
The window below shows the non-expert mode with the same setting possibilities as with the remote control (CIS CU).

The non-expert mode offers different setting possibilities for the CIS single und dual loads.



The non-expert mode should help you easily set your CIS remote control or transmit the settings via the MXI-IR Interface to your CIS-controller.

By clicking on „Send Settings“, the settings will be sent to your controller via MXI-IR.



# Select your CIS Controller Type

The screenshot displays the Phocos CIS software interface. At the top, there is an orange header with 'File Interface' on the left and the 'phocos' logo on the right. Below this is a teal bar with the text 'CIS'. A dark sidebar on the left contains a 'Main menu' section with two options: 'Settings' (selected) and 'Datalogger and status'. The main content area is titled 'Settings' and contains the following text: 'Prepare your CIS CU settings by following the steps: Please select your CIS Controller'. Below this, a red rectangular box highlights two buttons: 'CIS single load (with dimming function)' and 'CIS dual load'. The text 'For CIS, CISN, CIS-LED, CIS-MPPT select.' is positioned above the first button, and 'CIS - 2L; CISN - 2L:' is positioned above the second button. Below the highlighted buttons, there is a section titled 'Read settings from controller.' with a button labeled 'Read settings from controller'. Further down, a text label reads 'The expert mode allows to select more than the standard features:' followed by a button labeled 'Expert mode disabled'. The 'Datalogger' section contains the text 'Read data and status values from CIS-MPPT (only CIS-MPPT possible):' and a button labeled 'Read data, status and settings from controller'. The 'Import system data' section contains a button labeled 'Import from file'. At the bottom left of the interface, there is a 'Communication' status bar.

# Nightlight Function

The „Back“ and „Next“ buttons enable you to go through the whole setting possibilities of the single load CIS controller.

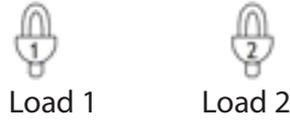
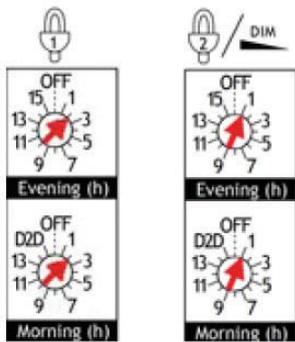
Please select your nightlight program. Results of the settings can be directly visualized on the graphic.

The screenshot displays the CISCOM 3.00 software interface for configuring the Nightlight Function. The interface is divided into several sections:

- Header:** CISCOM 3.00, File, Interface, and the phocos logo.
- Section:** CIS Single Load (with Dimming Function).
- Main menu:** Settings (selected) and Datalogger and Status. A list of steps includes: 1. Select CIS controller, 2. Night Light Function (selected), 3. SOC / LVD, 4. Night Detection Threshold, 5. Battery Type, and 6. Print.
- Control Panel:** Includes Error, OK, and Transmit buttons, along with a Test button and a Send button. There are also indicators for Night Detect (V) and Dimming (%).
- Light ON Settings:**
  - Turn light ON from Dusk to Dawn (Entire night):  based on dusk and dawn.
  - Turn light ON at dusk. Turn light OFF: 1 hours after dusk.
  - Turn light ON: 0 hours before dawn. Turn light OFF at dawn.
- Dimming Settings:**
  - Full brightness at Dusk. Dim Light: 1 hours after dusk.
  - Full brightness: 0 hours before dawn.
  - Brightness while light is dimmed: 50 %.
- Visualization:** A timeline showing Light ON / Dimming / OFF, Light 100% ON, Brightness 50%, Light OFF, and Day / Night. It includes icons for Dusk, Middle of Night, and Dawn, and a slider for Length of Night set to 12 hours.
- Navigation:** Back and Next buttons are highlighted with red boxes at the bottom of the interface.

# CIS Dual Load

Lights for load 1 and 2 are on  
 - based on the middle of the night  
 - based on dusk and dawn



CISCO V1.08 phocos

### CIS Dual Load

**Menu**

- 1. Select CIS Controller
- 2. Night Light Function
- 3. SOC / LVD
- 4. Night Detection
- 5. Battery Type
- 6. Print

**Error** **OK** **Transmit**

**Test** **Send**

**Timer Reference**

- h based on middle of night
- h based on Dusk & Dawn

**phocos**

**Light 1**

Turn light ON from Dusk to Dawn (Entire night)

based on dusk and dawn

Turn light ON at dusk. Turn light OFF 2 hours after dusk.

Turn light ON 2 hours before dawn. Turn light OFF at dawn.

**Light 2**

Turn light ON from Dusk to Dawn (Entire night)

based on dusk and dawn

Turn light ON at dusk. Turn light OFF 3 hours after dusk.

Turn light ON 3 hours before dawn. Turn light OFF at dawn.

**Light 1**

Light ON

Light 1

Light OFF

**Light 2**

Light ON

Light 2

Light OFF

0h 15h 3h 3h

Middle of Night

Dusk Dawn

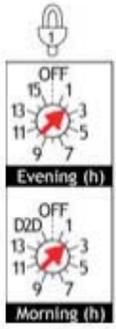
Length of Night 12 hours

**Back** **Next**

# CIS Single Load (with Dimming Function)

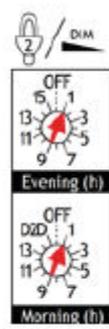
## Light on for Load 1

- based on middle of the night
- based on dusk and dawn

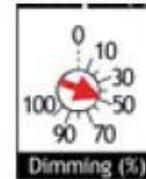


## Dimming

- Time when the controller starts to dim
- based on middle of the night
- based on dusk and dawn

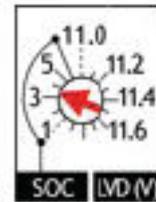
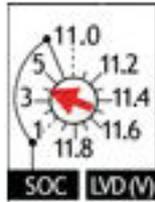


- Brightness while light is dimmed



SOC (State of Charge) / LVD (Low Voltage Disconnect)

# Changing the Low Voltage Disconnect Levels



File    Interface phocos

CIS single load (with dimming function)

**Main menu**

Settings     Datalogger and status

1. Select CIS controller
2. Nightlight function
3. SOC / LVD
4. Night detection threshold
5. Battery type
6. Print

Error
OK
Transmit

OFF

Evening (h)

OFF

Evening (h)

OFF

Morning (h)

OFF

Morning (h)

**Timer Reference**

h based on middle of night

h based on Dusk & Dawn

10 2.5 3

Night Detect (V)

0 10 30

Dimming (%)

Import configuration from controller

Send settings

Communication

**Low battery behavior**

Light OFF below SOC / battery voltage 4

**Battery voltage**

**Low battery behavior**

Dim light below SOC / battery voltage 4

**Battery voltage**

**Example**

If the battery voltage falls below the LVD / SOC level (e.g. 11.0 V), the light will be switched OFF. When the LVD / SOC of the dimming function is set to a higher level (e.g. 11.6 V), it will reduce brightness if the battery goes down. This extends the time before the light is switched OFF completely.

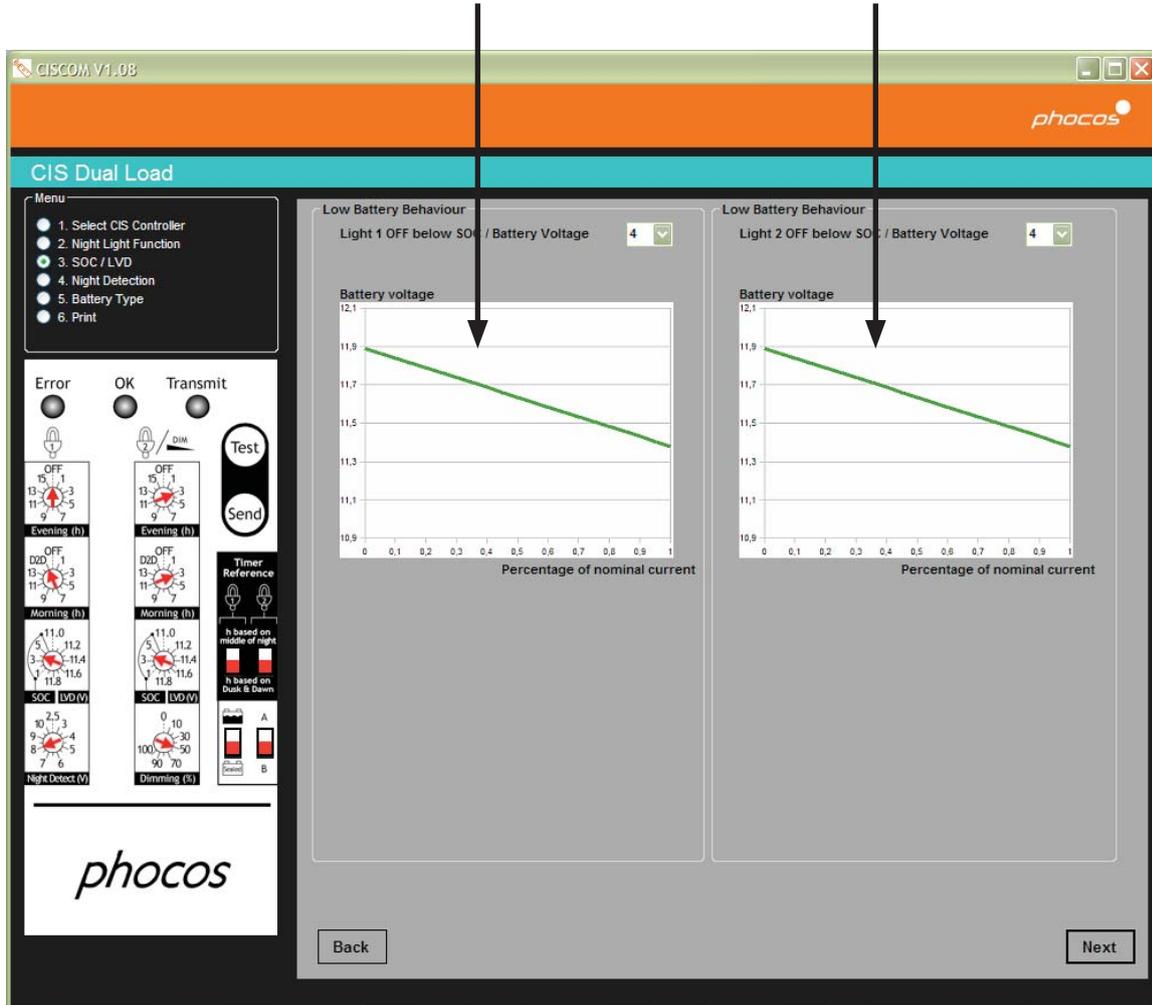
**Battery voltage**

Back
Next

# CIS Dual Load

Graph 1: Disconnect level for light 1

Graph 2: Disconnect level for light 2



# CIS Single Load with Dimming Function

Graph 1: Disconnect level for light

Graph 2: Dimming level

The screenshot displays the CISCOM V1.08 software interface for configuring a CIS Single Load with a Dimming Function. The interface includes a menu, control buttons, and two main graphs illustrating battery behavior.

**Menu:**

- 1. Select CIS Controller
- 2. Night Light Function
- 3. SOC / LVD
- 4. Night Detection
- 5. Battery Type
- 6. Print

**Control Buttons:** Error, OK, Transmit, Test, Send.

**Timer Reference:**

- h based on middle of night
- h based on Dusk & Dawn

**Graph 1: Low Battery Behaviour - Light OFF below SOC / Battery Voltage**

This graph shows the battery voltage (Y-axis, 10.9 to 12.1 V) versus the percentage of nominal current (X-axis, 0 to 1). A green line indicates the voltage level at which the light will be switched OFF. The voltage starts at approximately 11.9 V at 0% current and decreases to about 11.3 V at 100% current.

**Graph 2: Low Battery Behaviour - Dim light below SOC / Battery Voltage**

This graph shows the battery voltage (Y-axis, 10.9 to 12.1 V) versus the percentage of nominal current (X-axis, 0 to 1). A green line indicates the voltage level at which the light will be dimmed. The voltage starts at approximately 11.9 V at 0% current and decreases to about 11.3 V at 100% current.

**Example:**

If the battery voltage falls below the LVD / SOC level (e.g. 11.0 V), the light will be switched OFF. When the LVD / SOC of the Dimming function is set to a higher level (e.g. 11.8 V), it will reduce brightness, if the battery goes down. This extends the time before the light is switched OFF completely.

**Graph 3: Battery voltage vs. Extended Time**

This graph shows the battery voltage (Y-axis, 10.9 to 12.1 V) versus extended time. The voltage starts at approximately 12.1 V and decreases to about 11.0 V. A horizontal line at 11.0 V is labeled "OFF". A horizontal line at 11.8 V is labeled "DIM". The time between the DIM and OFF levels is labeled "Extended Time".

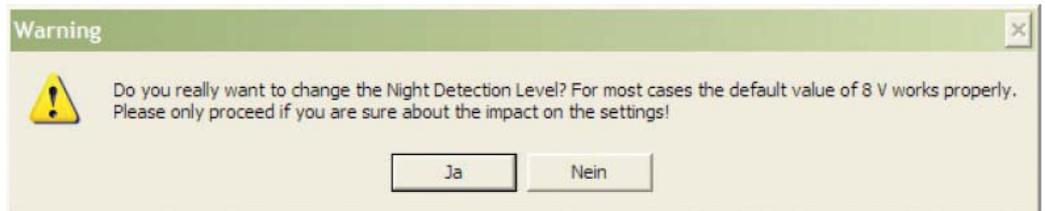
**Navigation:** Back, Next

# Night Detection

Standard setting



Default standard value: 8.0 V



File Interface phocos

### CIS single load (with dimming function)

**Main menu**

- Settings
- Datalogger and status

1. Select CIS controller
2. Nightlight function
3. SOC / LVD
4. Night detection threshold
5. Battery type
6. Print

Error OK Transmit

OFF 13 11 9 7

Evening (h)

OFF 13 11 9 7

Evening (h)

OFF 11.0 11.2 11.4 11.6

Morning (h)

OFF 11.0 11.2 11.4 11.6

Morning (h)

SOC LVD (V)

2.5 10 9 8 7 6

Night Detect (V)

Test

Send

Timer Reference

h based on middle of range

h based on Dusk & Dawn

Ph-A A

Ph-B B

Import configuration from controller

Send settings

Communication

#### Night detection

Night detection level  V  
(default value is 8 V)

If the PV panel voltage falls below the "night detection level", the controller starts the nightlight program within two minutes.

Day detection level 9.5 V

If the PV panel voltage rises above the "day detection level", the controller stops the nightlight program within two minutes.

**Recommendation:**  
In most cases the default value of 8 V works properly. For accurate settings measure the PV panel voltage at night at the location before changing the night detection level.

Time

Back
Next

# Battery Type

Please select the battery type (in this case a sealed battery is selected)  
Display on the remote control (CIS CU):



Lead acid battery

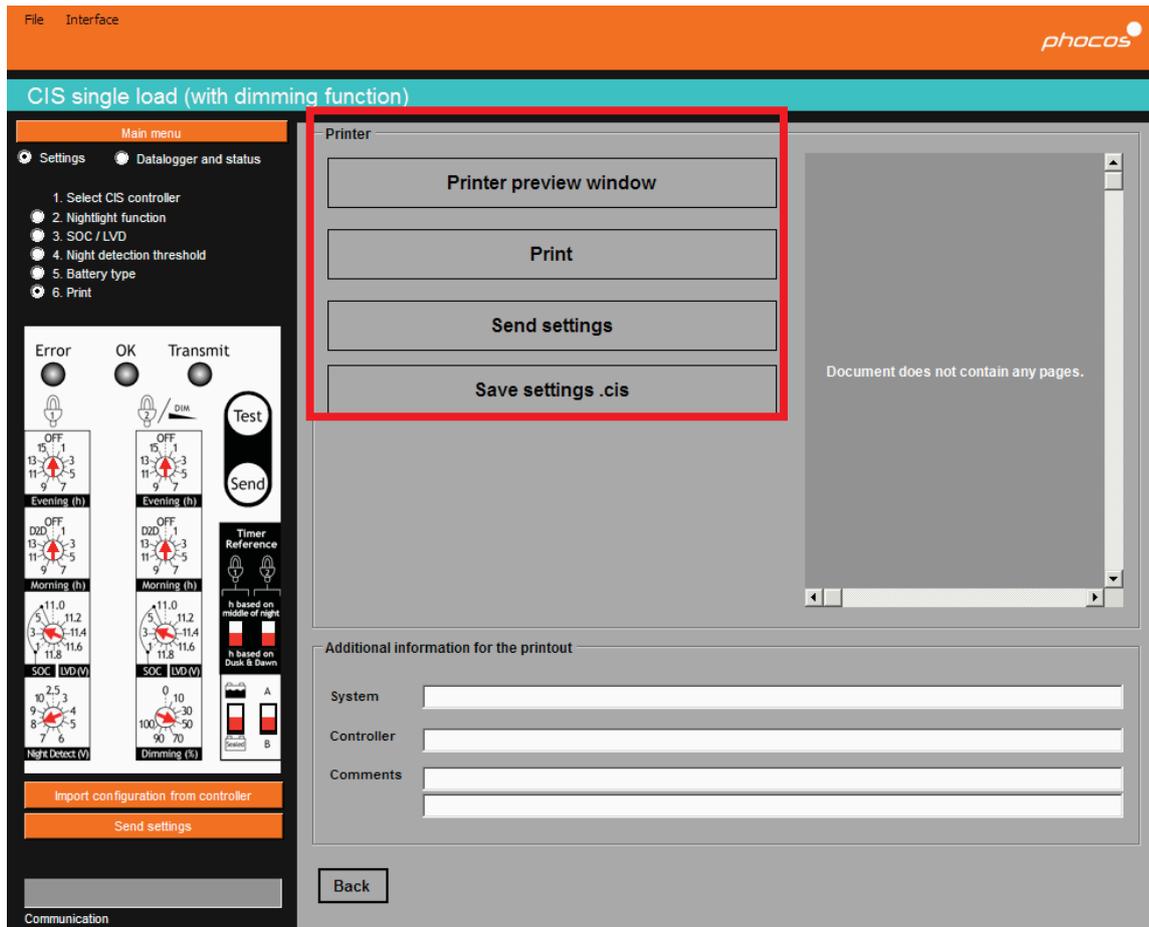


Sealed battery

The screenshot shows the 'phocos' remote control interface. At the top, there is a menu bar with 'File' and 'Interface' on the left and the 'phocos' logo on the right. Below this is a teal header for 'CIS single load (with dimming function)'. The main area is divided into a left sidebar and a main content area. The sidebar contains a 'Main menu' with options for 'Settings' (selected) and 'Datalogger and status'. Under 'Settings', there is a list of steps: 1. Select CIS controller, 2. Nightlight function, 3. SOC / LVD, 4. Night detection threshold, 5. Battery type (selected), and 6. Print. Below the list are several control panels for 'Error', 'OK', and 'Transmit', each with a 'Test' and 'Send' button. There are also 'Evening (h)', 'Morning (h)', 'SOC | LVD (V)', and 'Night Detect (V)' settings. At the bottom of the sidebar are buttons for 'Import configuration from controller' and 'Send settings'. The main content area is titled 'Battery type' and has two radio button options: 'Lead acid battery' (unselected) and 'Sealed battery' (selected). The 'Sealed battery' option includes the text 'All other lead acid battery types (VLRA, AGM, GEL, sealed...) Includes float and boost mode'. At the bottom of the main area are 'Back' and 'Next' buttons. A black arrow points from the 'Sealed battery' option towards the 'Next' button.

# Print, Send and Save Settings

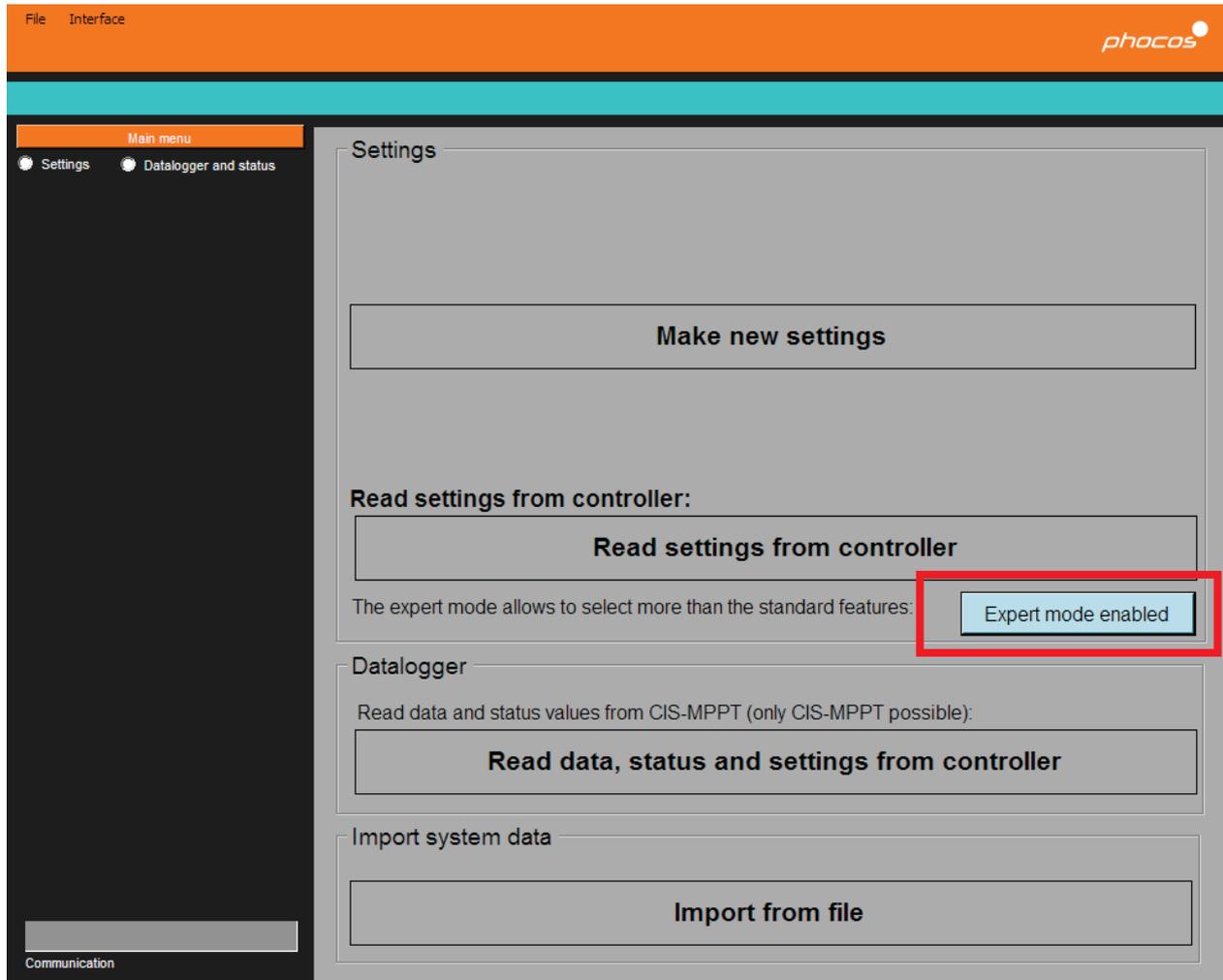
You can select a printer and print your individual CIS settings. You can also send them to the CIS Controller via MXI-IR or save the settings on your computer.



## 4.1.2 Expert Mode

With the button “expert mode enabled” / „Expert mode disabled“ you can enable and disable the expert mode.

The expert mode offers you more possibilities to add settings.



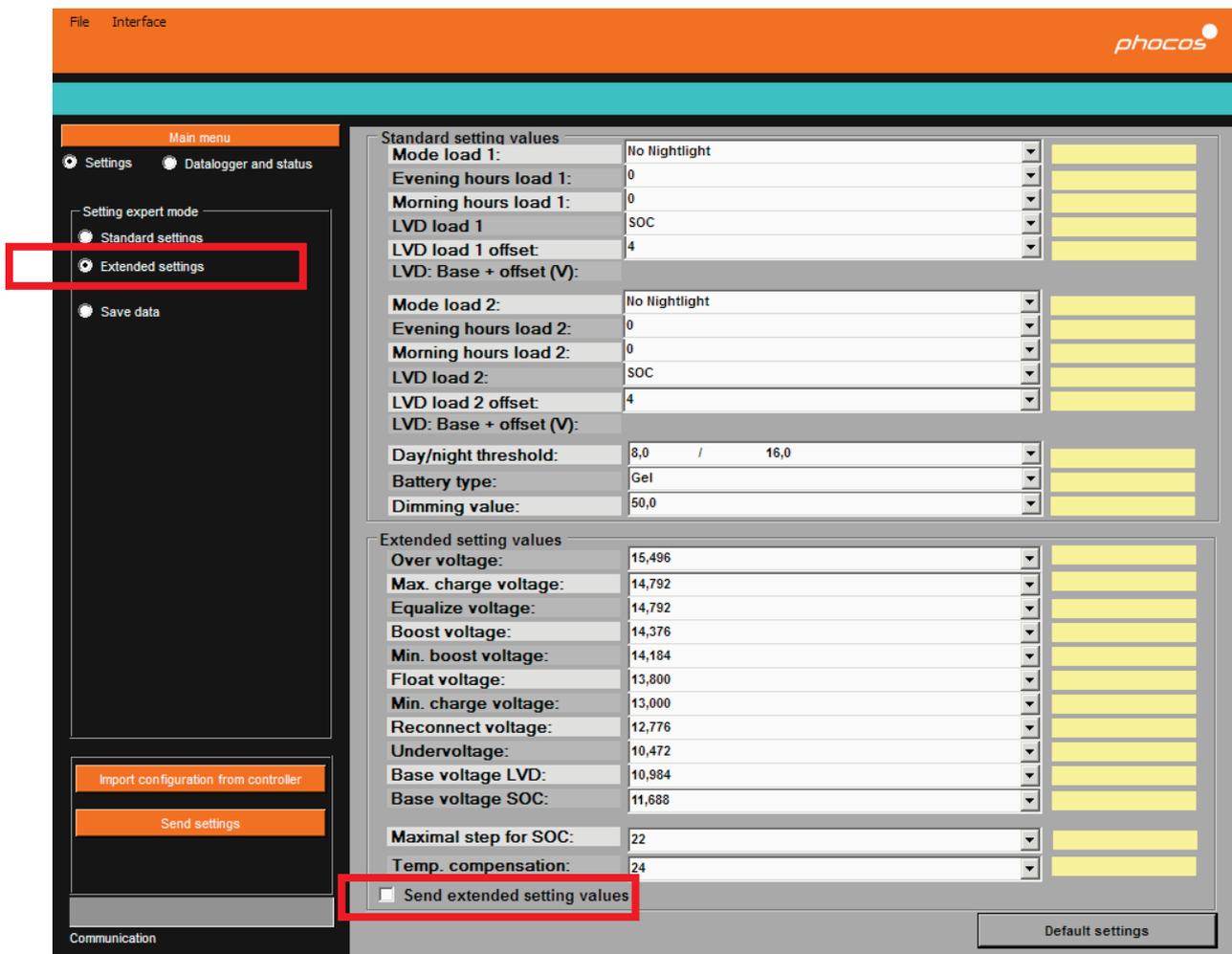
# Settings in the Expert Mode

Standard settings: Here you can modify the same settings as in the non-expert mode but in an extended range.

Extended settings: Here you can modify even more than the standard settings.

If you want to also transmit the extended settings, please check the box „send extended settings“.

Note: Temperature compensation will not affect behavior of CIS (positive grounded) controllers.



## 4. 2. Daily / Monthly Datalogger Values

In the menu you can switch between „Settings“ and „Datalogger and status“. Please note that the „Datalogger and status“ values feature is only possible with the CIS-MPPT controller.

The screenshot displays the Phocos software interface. At the top, there is an orange header with 'File Interface' on the left and the 'phocos' logo on the right. Below the header is a teal bar. A red box highlights the 'Main menu' section, which contains two radio buttons: 'Settings' (selected) and 'Datalogger and status'. An arrow points from the text above to the 'Datalogger and status' option. The main content area is divided into several sections: 'Settings' with instructions to prepare CIS CU settings, 'Datalogger' with a button to read data and status values, and 'Import system data' with a button to import from a file. The interface is clean and professional, with a dark grey background for the main content area.

File Interface phocos

Main menu

- Settings
- Datalogger and status

CIS-MPPT

- Status
- Datalogger SOS
- Daily datalogger value
- Daily data graph
- Monthly datalogger values
- Monthly data graph
- Save data
- Controller settings
- Controller identification

Buttons

Only CIS-MPPT:

Read in data, status and settings

Communication

Settings

Prepare your CIS CU settings by following the steps:

Please select your CIS Controller

For CIS; CISN; CIS-LED; CIS-MPPT select:

**CIS single load (with dimming function)**

CIS - 2L; CISN - 2L:

**CIS dual load**

Read settings from controller:

**Read settings from controller**

The expert mode allows to select more than the standard features: Expert mode disabled

Datalogger

Read data and status values from CIS-MPPT (only CIS-MPPT possible):

**Read data, status and settings from controller**

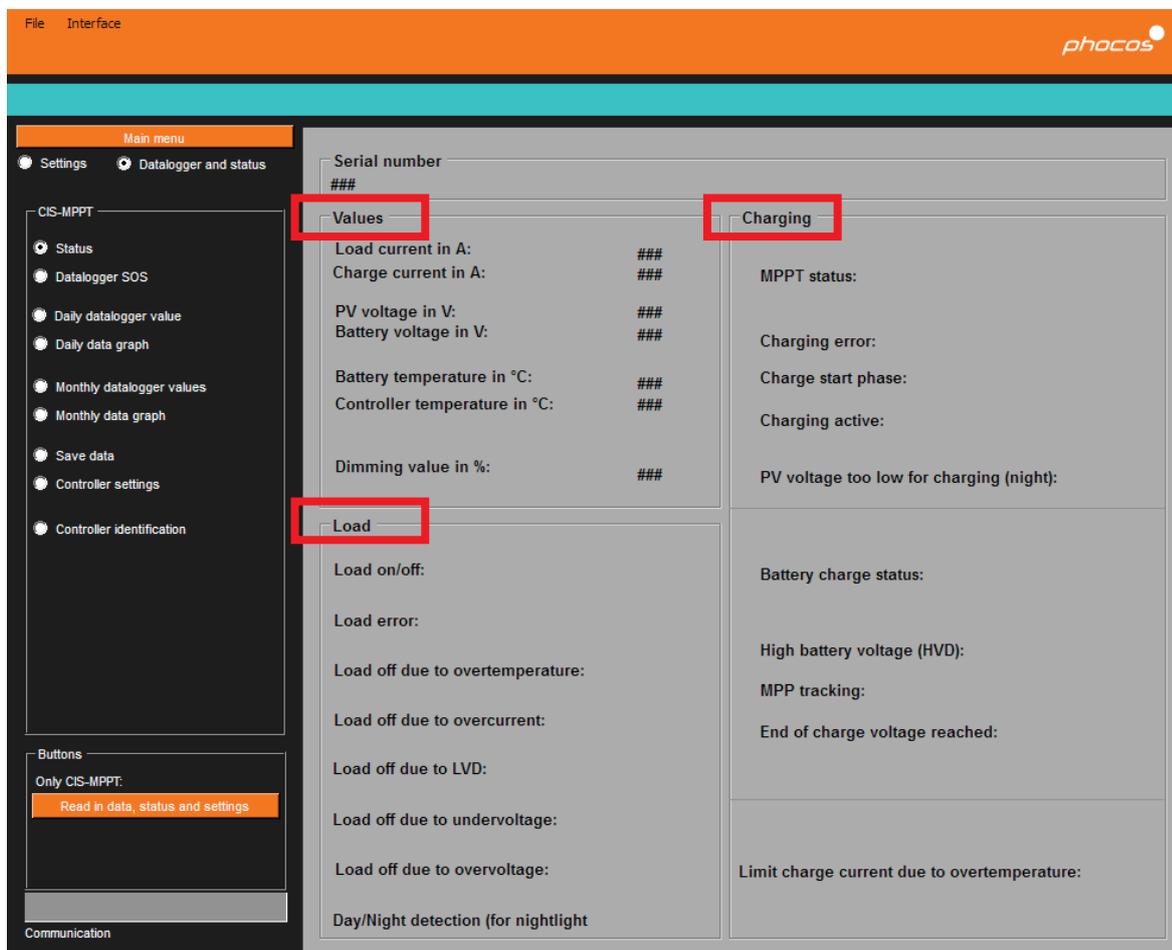
Import system data

**Import from file**

# Status Values

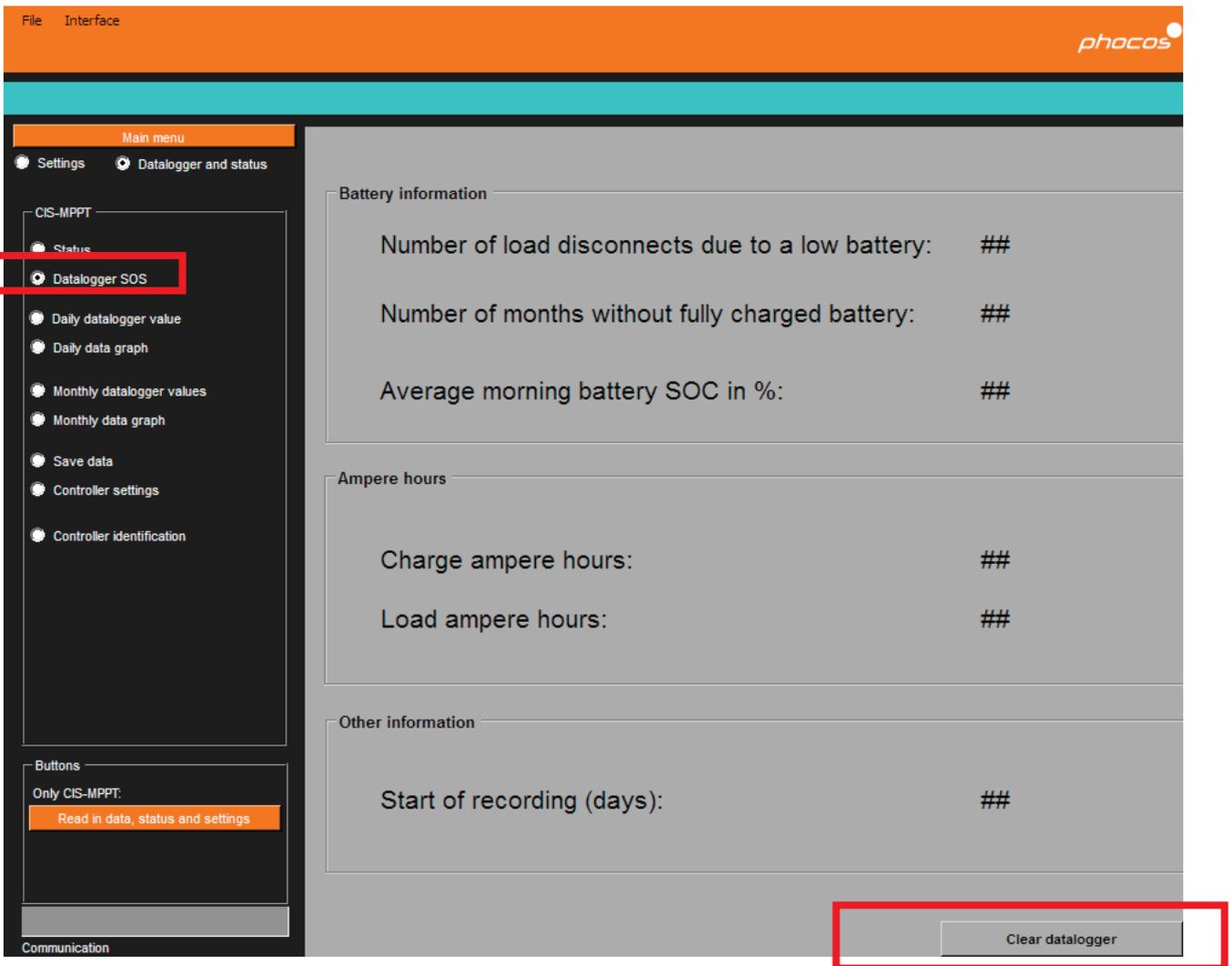
The status value settings display many different values of your current system such as:

- Load and charge currents
- Battery voltage
- Loading error messages
- Charging error messages, etc.



# Datalogger Values

By selecting „Datalogger SOS“ in the menu, the State Of System (SOS) values will be displayed. These are the collected datalogger values since the last clearing of the datalogger. You will find the button „Clear datalogger“ at the bottom on the right.



# Daily / Monthly Datalogger Values

If you select the menu point „Daily datalogger values“ or „Monthly datalogger values“ you will get more detailed values.

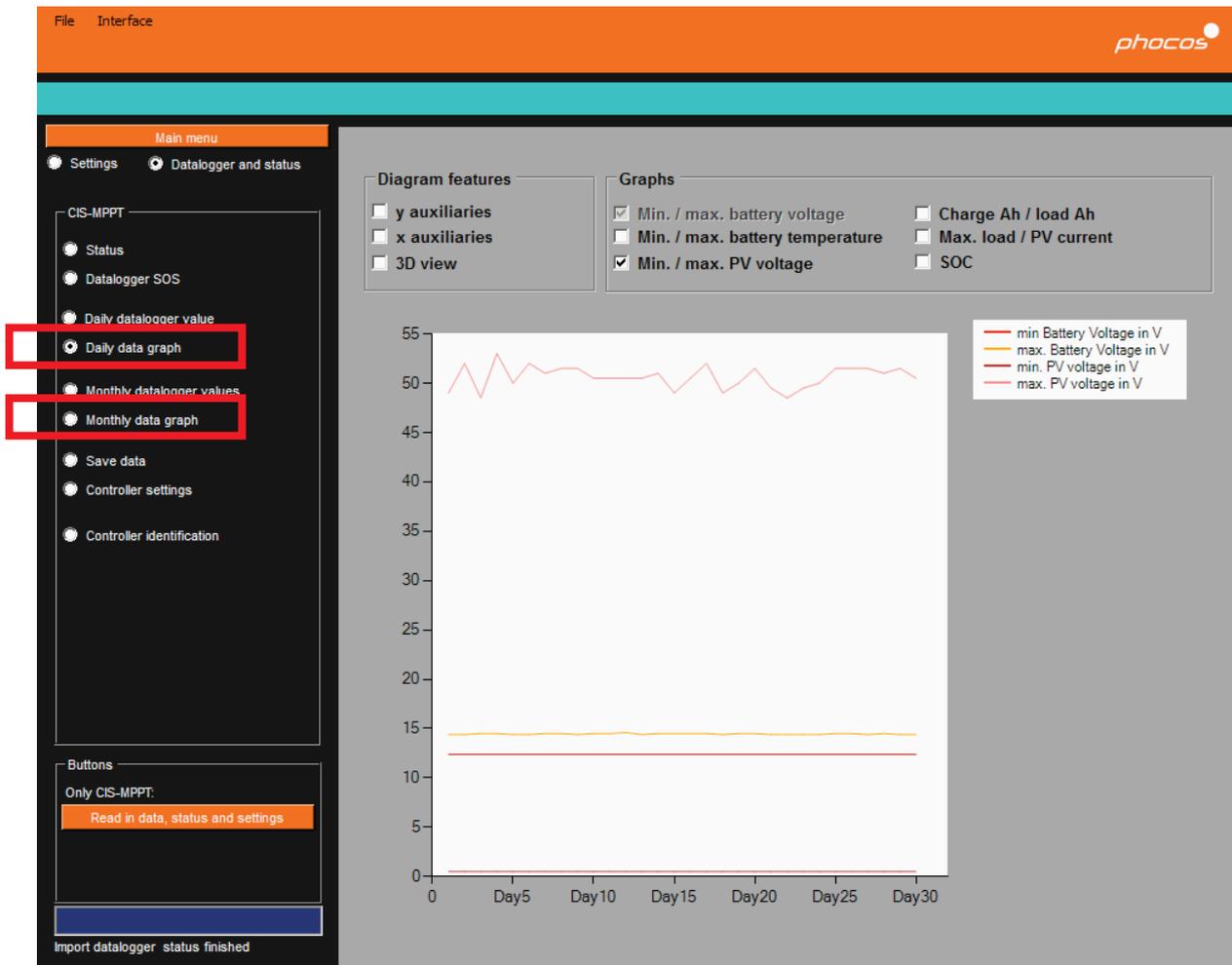
The screenshot shows the Phocos interface with the following components:

- Header:** File Interface | phocos
- Main menu:**
  - Settings
  - Datalogger and status
    - CIS-MPPT
      - Status
      - Datalogger SOS
      - Daily datalogger value** (highlighted)
      - Daily data graph
      - Monthly datalogger values** (highlighted)
      - Monthly data graph
      - Save data
      - Controller settings
      - Controller identification
  - Buttons
    - Only CIS-MPPT: Read in data, status and settings
- Table of Datalogger Values:**

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10
Max. battery voltage (V):	14,40	14,40	14,50	14,50	14,40	14,40	14,50	14,50	14,40	14,50
Min. battery voltage (V):	12,40	12,40	12,40	12,40	12,40	12,40	12,40	12,40	12,40	12,40
Charge ampere hours (Ah):	3,32	2,78	2,70	2,93	2,83	2,78	2,91	2,75	2,70	3,04
Load ampere hours (Ah):	0,19	0,23	0,25	0,18	0,21	0,22	0,21	0,23	0,23	0,23
Max. load current (A):	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Max. PV current (A):	1,50	1,00	0,50	1,00	1,00	0,50	1,00	1,00	1,00	0,50
Max. PV voltage (V):	49,00	52,00	48,50	53,00	50,00	52,00	51,00	51,50	51,50	50,50
Min. PV voltage (V):	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50
SOC (State Of Charge) (%):	67	60	60	60	60	60	60	67	67	60
Max. battery temperature	+22	+21	+22	+21	+22	+22	+22	+21	+21	+21
Min. battery temperature (°C):	+17	+21	+17	+12	+15	+17	+15	+21	+21	+17
Night length (h):	9,7	11,7	12,2	11,7	11,5	11,5	11,3	11,3	11,5	11,7
- Battery Status Indicators:**
  - Fully charged battery: 100% (10 icons)
  - Load off due to low battery: [Empty]
  - PV overcurrent: [Empty]
  - Load overcurrent: [Empty]
  - High battery voltage: [Empty]
  - Overtemperature (PV off): [Empty]
  - Overtemperature (load off): [Empty]
  - Overtemperature (PV limit): [Empty]
- Footer:** Import datalogger status finished

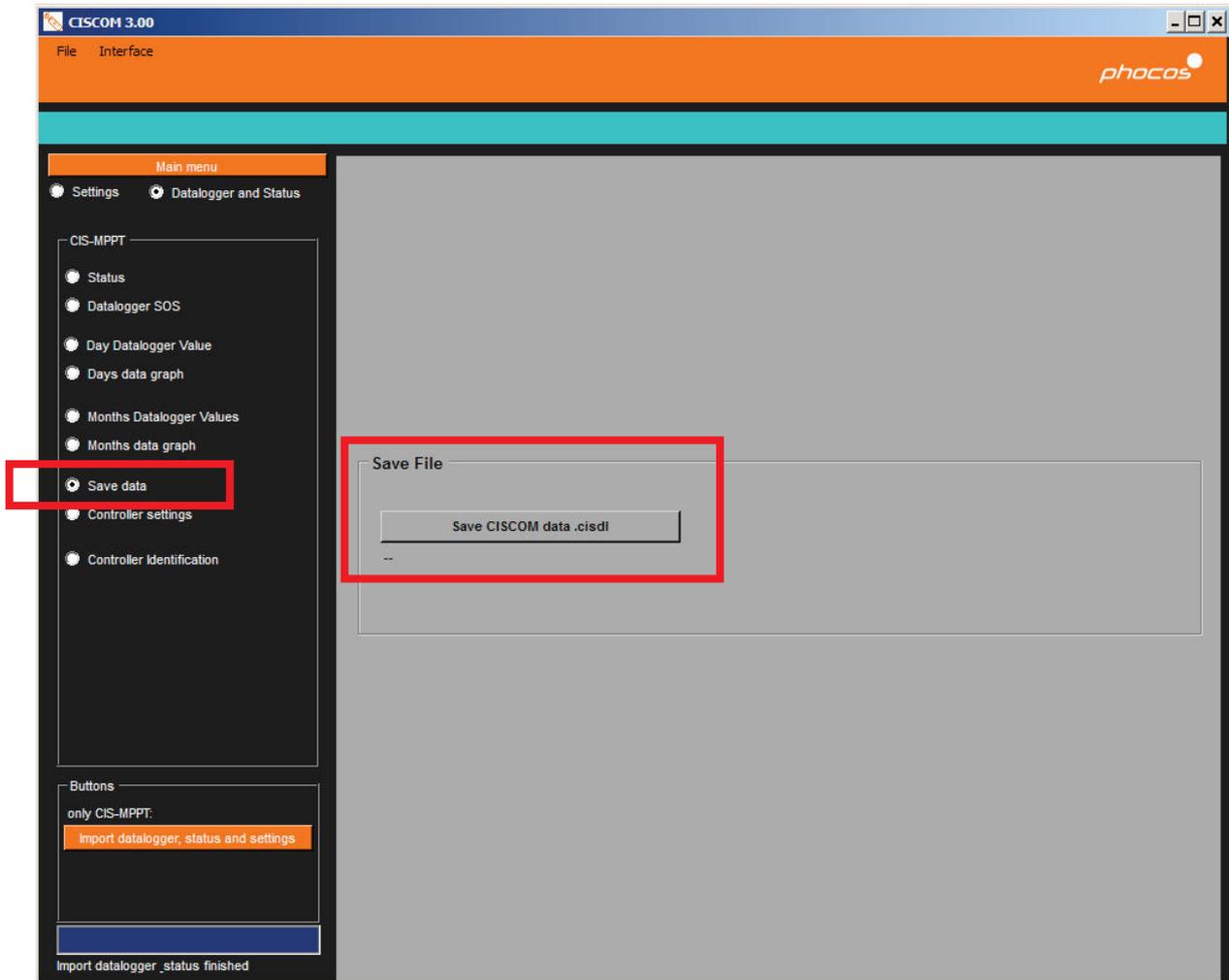
# Datalogger Graphs

If you select the menu point „Graph daily values“ or „Graph monthly values“ you will get more detailed values.



# Save Datalogger Values

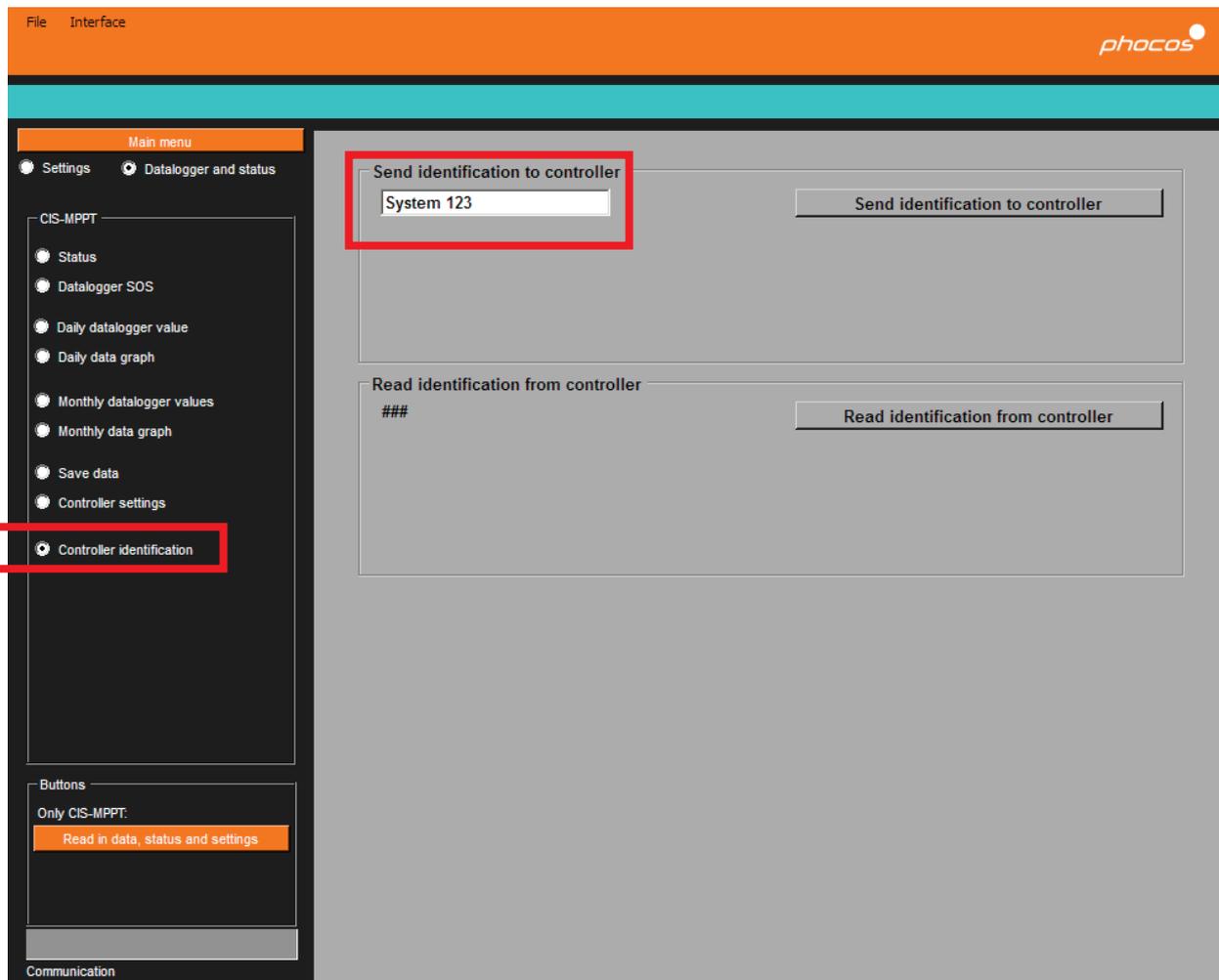
If you want to save the datalogger values please click on the menu point „Save data“. In the opening window click on the button „Save CISCOM data .cisdl“



# Controller Identification

You can send an individual text to each CIS-MPPT controller.  
Enter the text and click on the button „Send controller individual text“.

If you read in the datalogger values, you will also obtain your controller's identification.



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