



Sensor Calibration Tool DCA

USER MANUAL

Translation of the original instructions

Version: **1.0**

Date: **14/04/2026**

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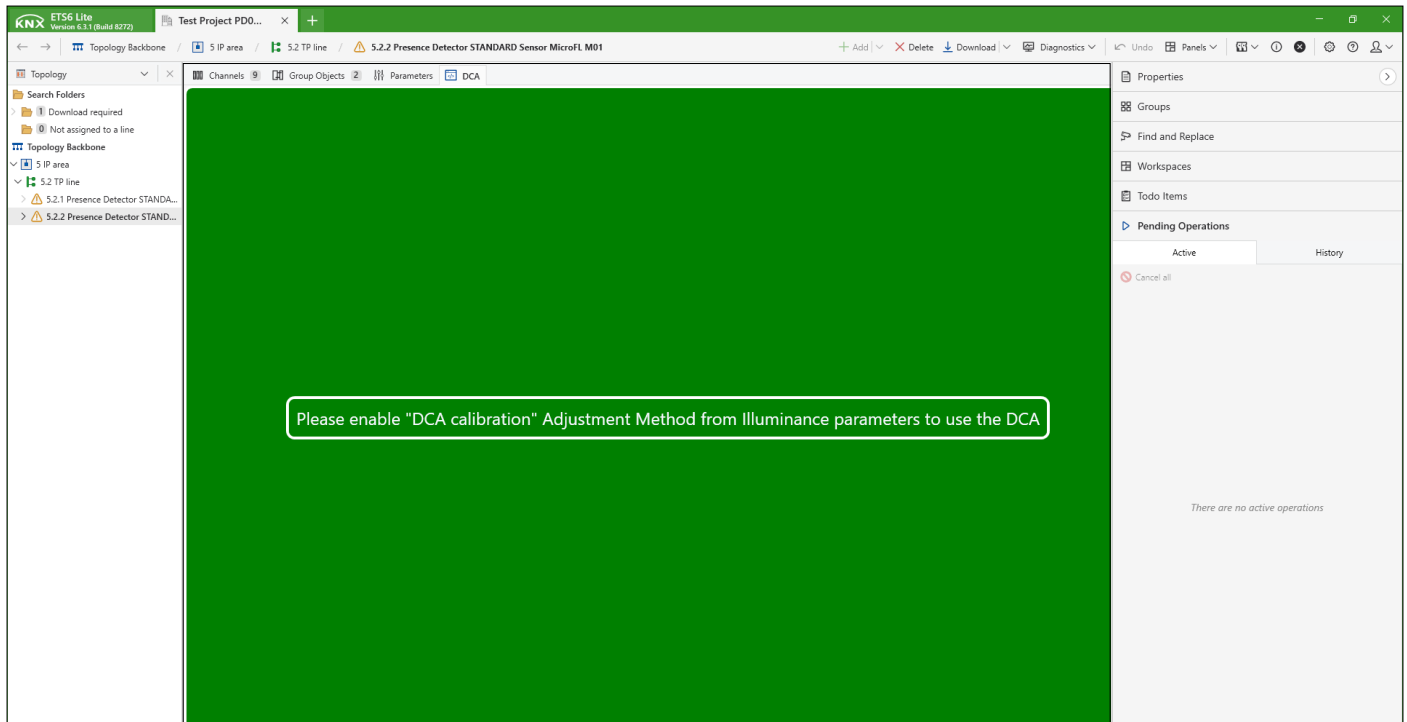
VERSION	DATE	CHANGES
1.0	14/04/2026	-

1. Purpose of the manual

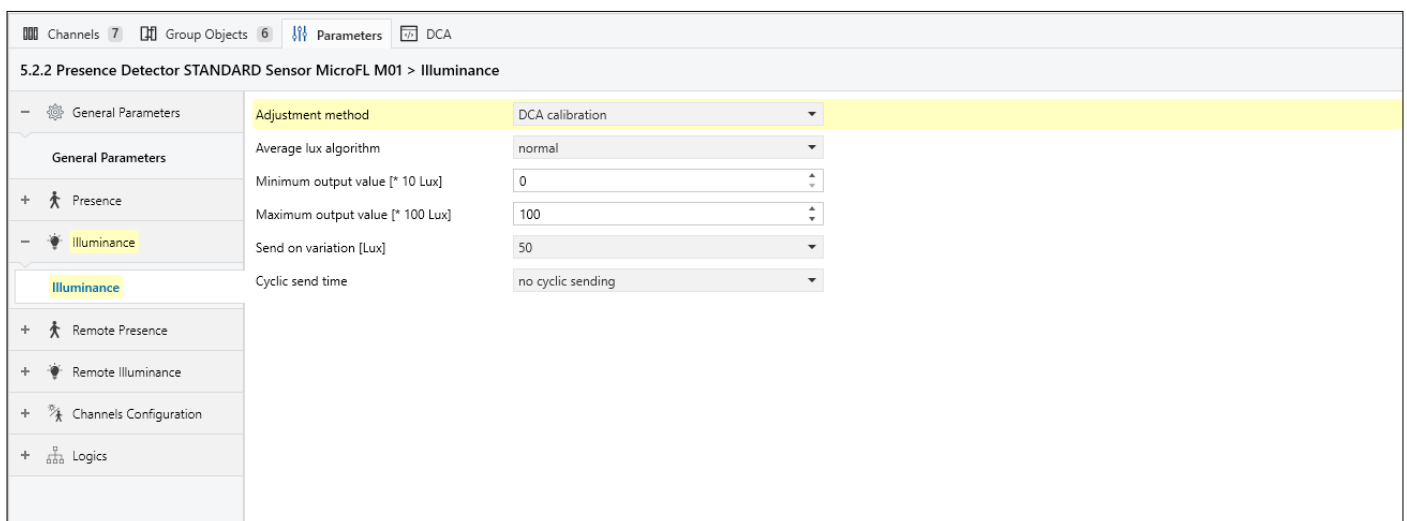
DCA "Sensor Calibration Tool" by Eelectron SpA allows to calibrate the sensor by setting the internal curve of the lamp and the ratio between natural light and artificial light to optimize light control and grant ideal conditions of illuminance.

2. ETS® application

ETS configuration



01 - Upon starting a new project with the Presence Detector (e.g., PD00M01KNX), the DCA tab will become available, allowing you to begin using the calibration software.



02 - From Illuminance section, set adjustment method as DCA calibration.

Setpoint setup

Sensor Calibration

Group Addresses

- <Illuminance> Calibration Setpoint
Not linked
- <Illuminance> Calibration Action
Not linked
- <Illuminance> Command/Status Lamp
Not linked, Not linked

Presence Detector STANDARD Sensor MicroFL M01

Setpoint setup

Artificial light setup

Lamp sampling

Natural light setup

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Please link all the required objects from the Group Objects tab

Reset calibration

End calibration

03 - First and foremost, you must link all the required communication objects from the Group Objects tab: group addresses will be shown on the black sidebar.

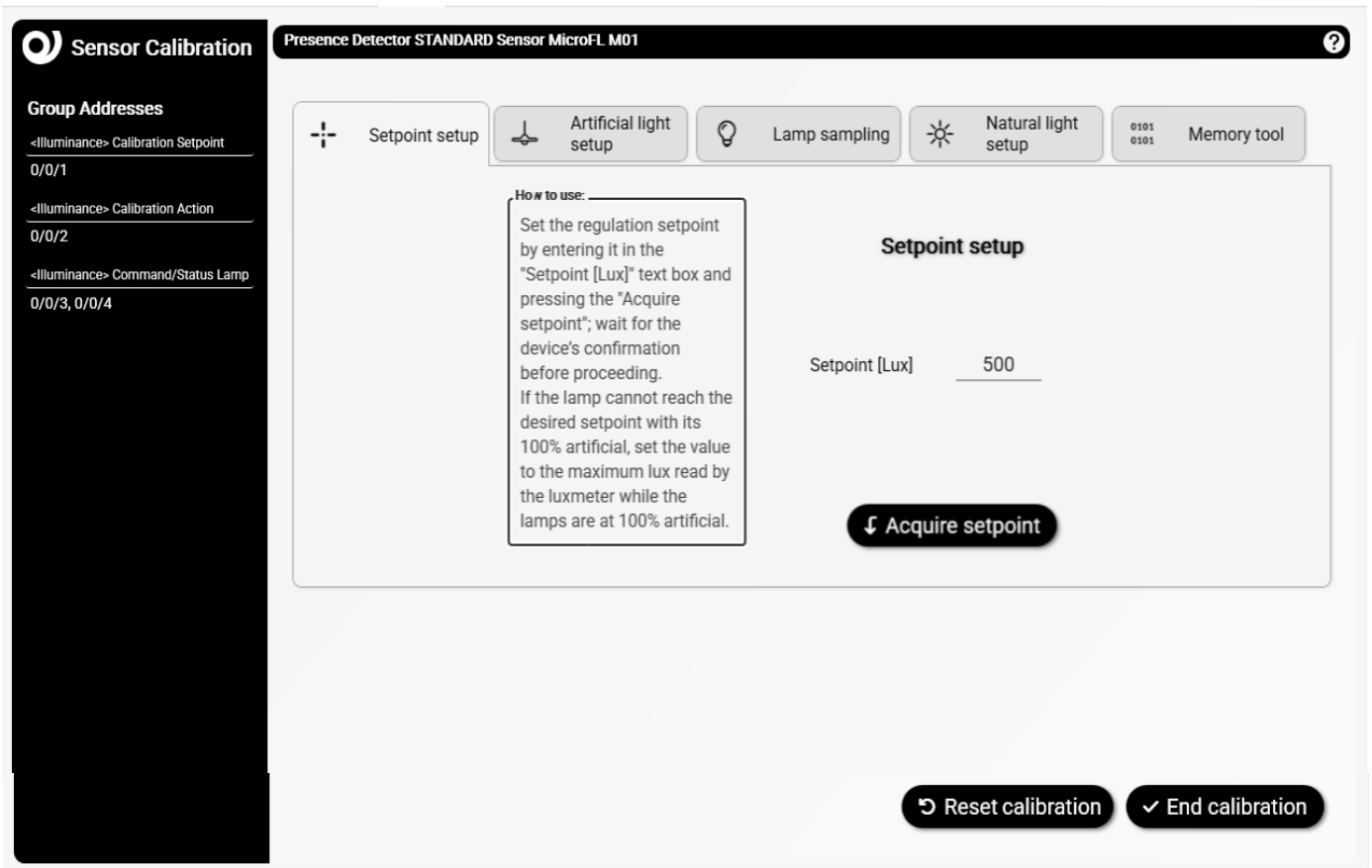
Number	Name	Object Function	Linked with	Group Addresses	Length	C	R	W	T	U	Data Type	Priority
2	<General> Power On Event	Power On Event			1 bit	C	R	-	T	-	switch	Low
10	<Slave> Output	Off/On			1 bit	C	R	-	T	-	switch	Low
12	<Illuminance> Output	Lux			2 bytes	C	R	-	T	-	lux (Lux)	Low
13	<Illuminance> Calibration Setpoint	Lux			2 bytes	C	R	W	T	-	lux (Lux)	Low
14	<Illuminance> Calibration Action	0-255	0-255	0/0/3	1 byte	C	R	W	T	-	counter pulses (0..255)	Low
15	<Illuminance> Command/Status Lamp	0-100%	0-100%	0/0/6	1 byte	C	R	W	T	-	percentage (0..100%)	Low

Sensor Calibration

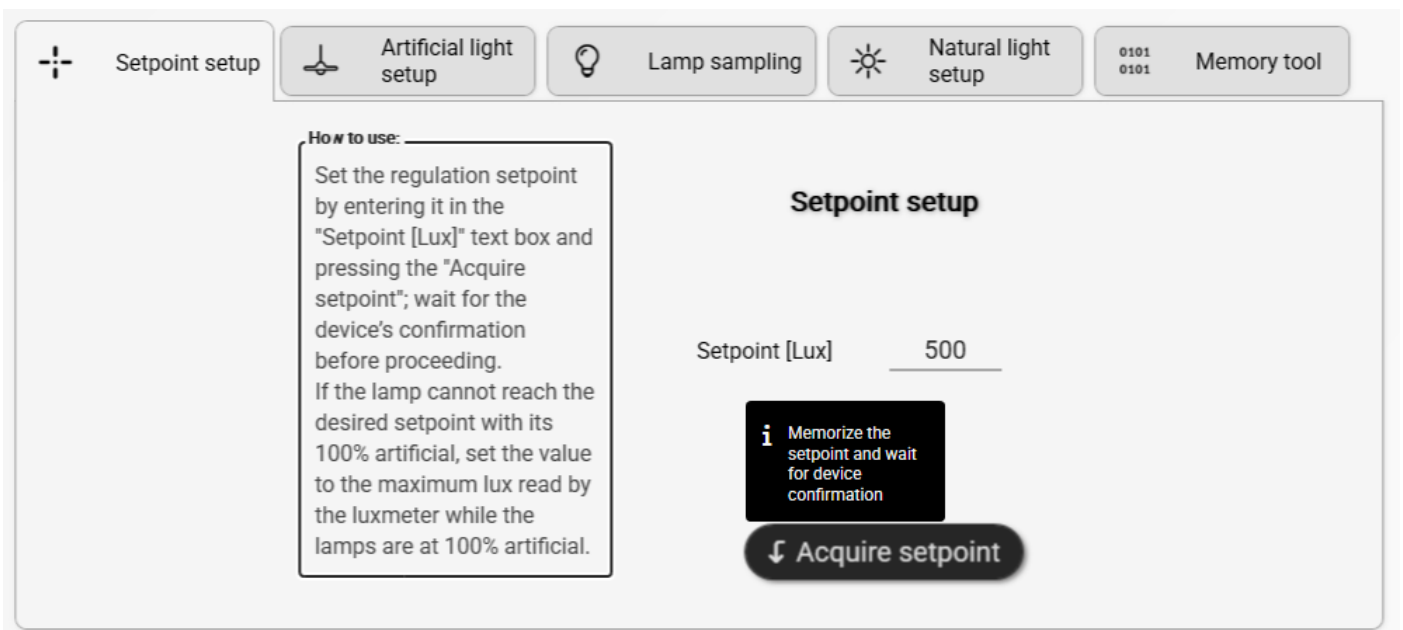
Group Addresses

- <Illuminance> Calibration Setpoint
Not linked
- <Illuminance> Calibration Action
0/0/3
- <Illuminance> Command/Status Lamp
0/0/6, Not linked

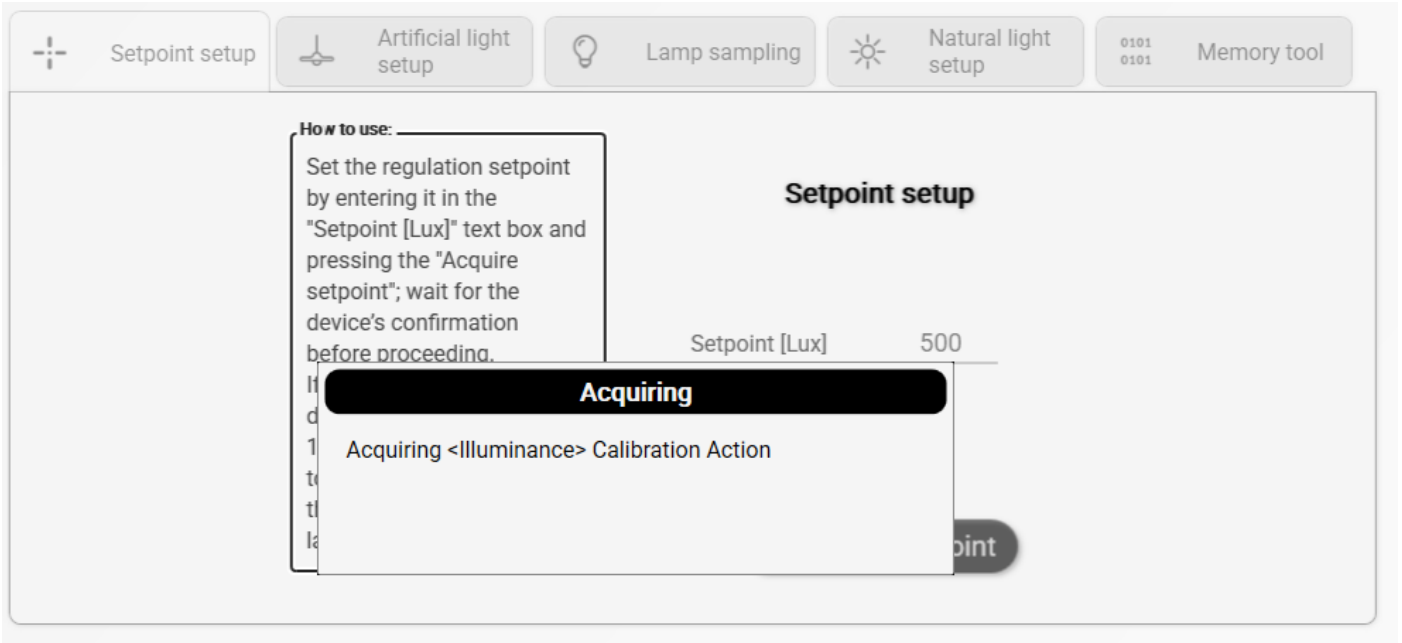
04 - Once an object has been linked and assigned to an address (e.g. 0/0/3), the red triangular warning symbol will disappear.



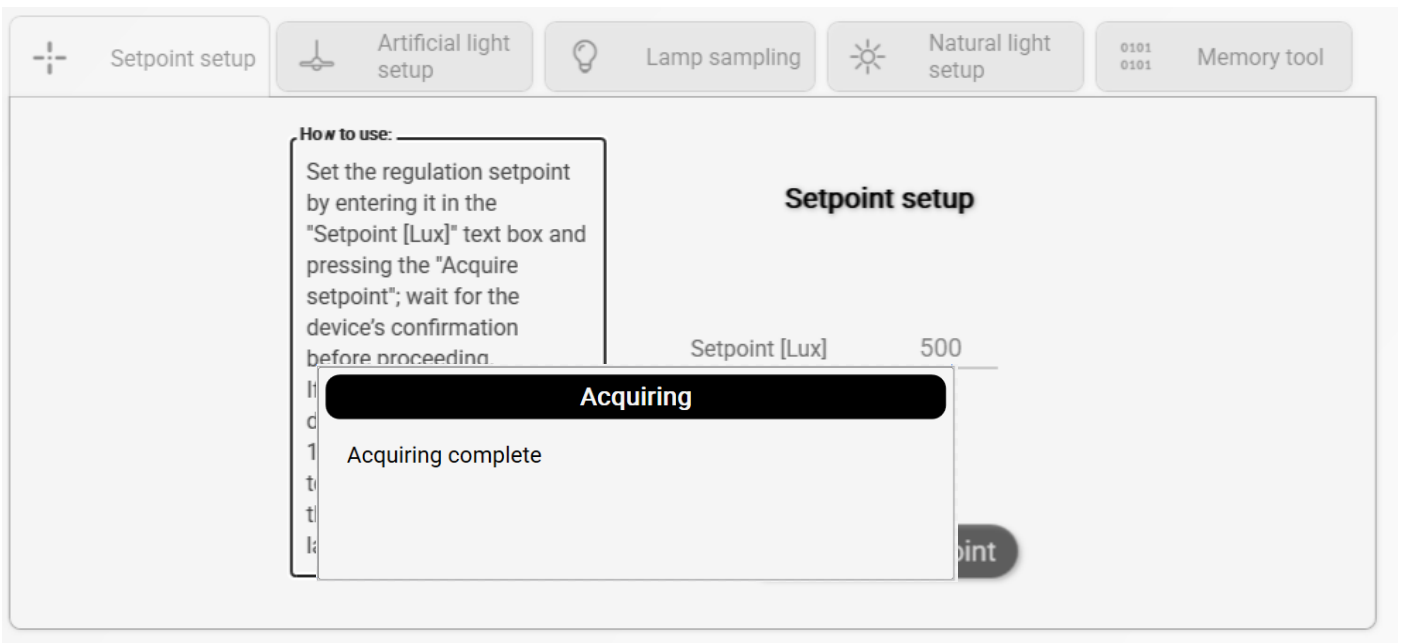
05 - Once all group addresses have been assigned in the black sidebar, you can begin configuring the setpoint. The following images (06 ÷ 08) show the entire process step-by-step.



06 - Write value in relative box and click on Acquire setpoint.



07 - Acquiring in progress.



08 - Acquiring complete.

Artificial light setup

Sensor Calibration

Group Addresses

- <Illuminance> Calibration Setpoint
0/0/1
- <Illuminance> Calibration Action
0/0/2
- <Illuminance> Command/Status Lamp
0/0/3, 0/0/4

Presence Detector STANDARD Sensor MicroFL M01

Setpoint setup

Artificial light setup

Lamp sampling

Natural light setup

0101
0101 Memory tool

How to use:
 Put yourself in a situation with only artificial light, such as in the evening or with the shutters fully closed. Adjust the lamp brightness until the luxmeter shows the desired setpoint at the table, using the trackbar and the "Send lamp value" button. Once the correct lux value is reached, instruct the device to store the measurement by pressing the "Acquire 100% artificial" button, then wait for the confirmation message (about 10 seconds).

Artificial light setup

Lamp value fine tuning

Fine tune the lamp value in the textbox or from the trackbar

200

Send lamp value

Acquire 100% artificial

Reset calibration

End calibration

09 - The artificial light setup section analyze the contribute of artificial lights in reaching the desired setpoint. The following images (10 ÷ 14) demonstrate the entire process step-by-step.

Setpoint setup

Artificial light setup

Lamp sampling

Natural light setup

0101
0101 Memory tool

How to use:
 Put yourself in a situation with only artificial light, such as in the evening or with the shutters fully closed. Adjust the lamp brightness until the luxmeter shows the desired setpoint at the table, using the trackbar and the "Send lamp value" button. Once the correct lux value is reached, instruct the device to store the measurement by pressing the "Acquire 100% artificial" button, then wait for the confirmation message (about 10 seconds).

Artificial light setup

Lamp value fine tuning

Fine tune the lamp value in the textbox or from the trackbar

200

Send the measured lamp value to device

Send lamp value

Acquire 100% artificial

10 - Adjust lamp brightness via the trackbar and send the value by clicking on Send lamp value till the luxmeter shows the desired setpoint.

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Setpoint setup

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Artificial light setup

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Lamp sampling

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Natural light setup

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Memory tool

How to use:

Put yourself in a situation with only artificial light, such as in the evening or with the shutters fully closed. Adjust the lamp brightness until the luxmeter shows the desired setpoint at the table, using the trackbar and the "Send lamp value" button. Once the correct lux value is reached, instruct the device to store the measurement by pressing the "Acquire 100% artificial" button, then wait for the confirmation message (about 10 seconds).

Artificial light setup

Lamp value fine tuning

Fine tune the lamp value in the textbox or from the trackbar

200

Send lamp value

⬇️ Acquire 100% artificial

💡 Lamp value fine tuning

Lamp value sent!

↺ Reset calibration

✓ End calibration

11 - When the lamp value is sent, a confirmation message will appear at the bottom of the software page.

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Setpoint setup

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Artificial light setup

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Lamp sampling

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Natural light setup

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Memory tool

How to use:

Put yourself in a situation with only artificial light, such as in the evening or with the shutters fully closed. Adjust the lamp brightness until the luxmeter shows the desired setpoint at the table, using the trackbar and the "Send lamp value" button. Once the correct lux value is reached, instruct the device to store the measurement by pressing the "Acquire 100% artificial" button, then wait for the confirmation message (about 10 seconds).

Artificial light setup

Lamp value fine tuning

Fine tune the lamp value in the textbox or from the trackbar

200

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Store the measured "100% artificial" lux value and wait for device confirmation

Send lamp value

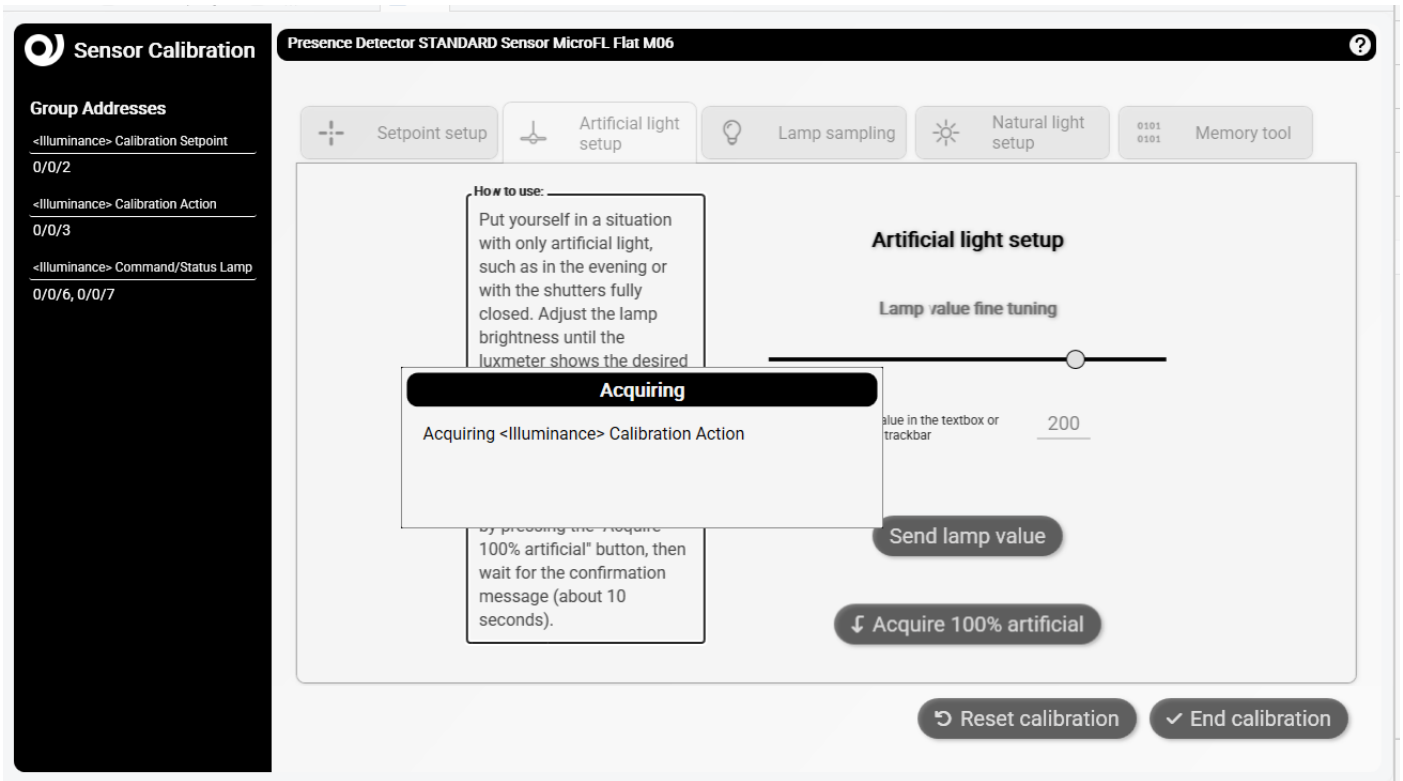
⬇️ Acquire 100% artificial

12 - Click on Acquire 100% artificial to store data.

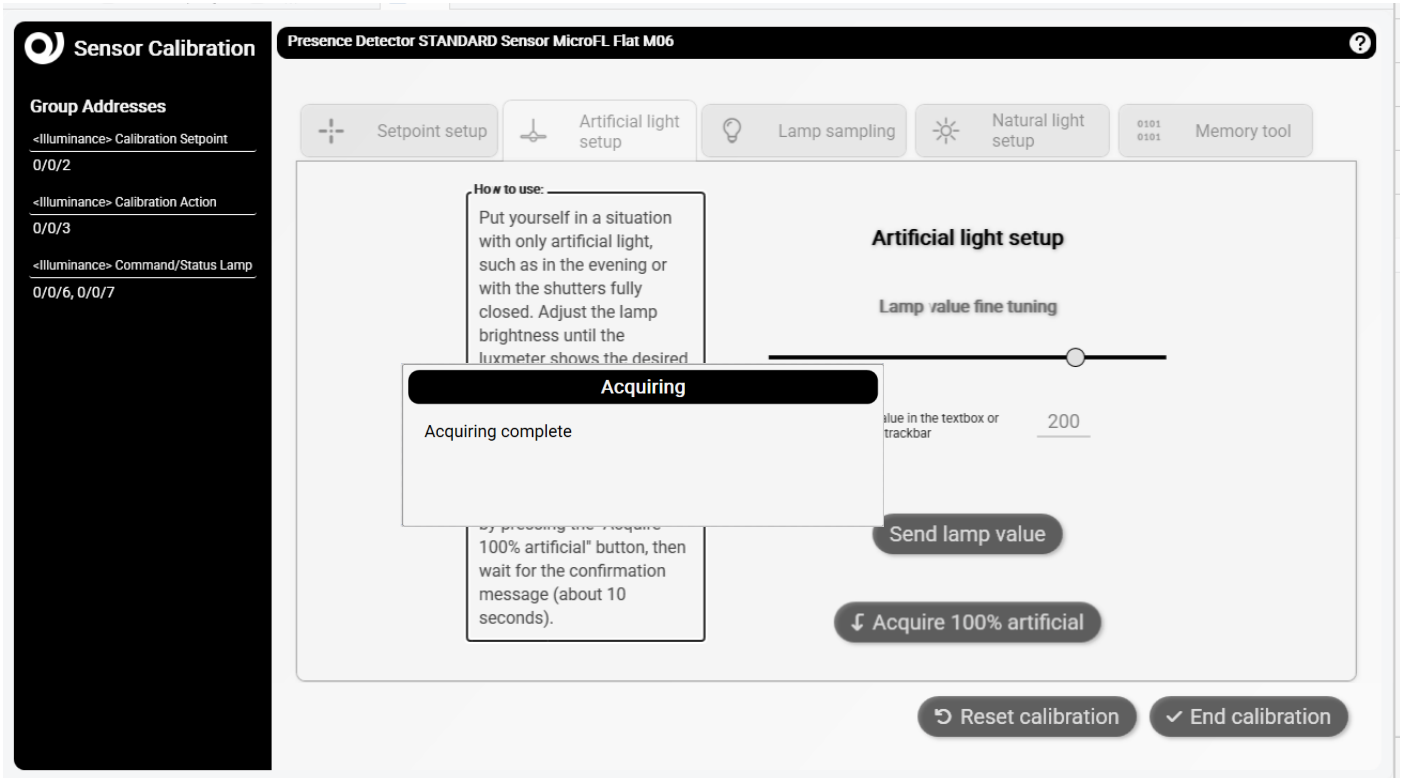
Sensor_Calibration_Tool_DCA_UM_EN_1.0

KNX

8

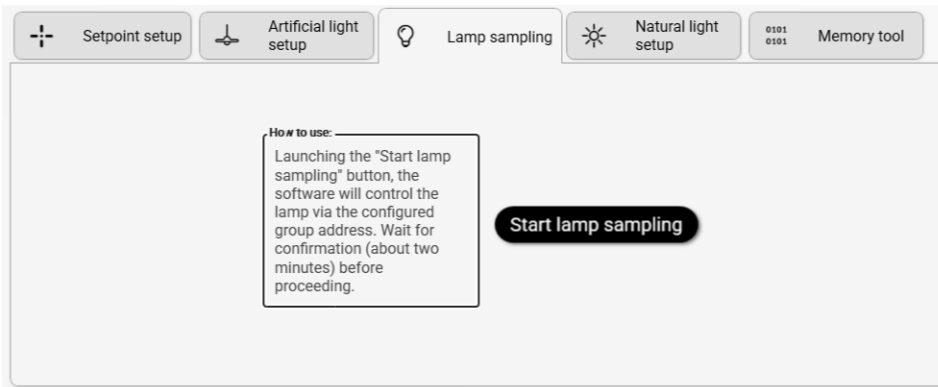


13 - Acquiring in progress.

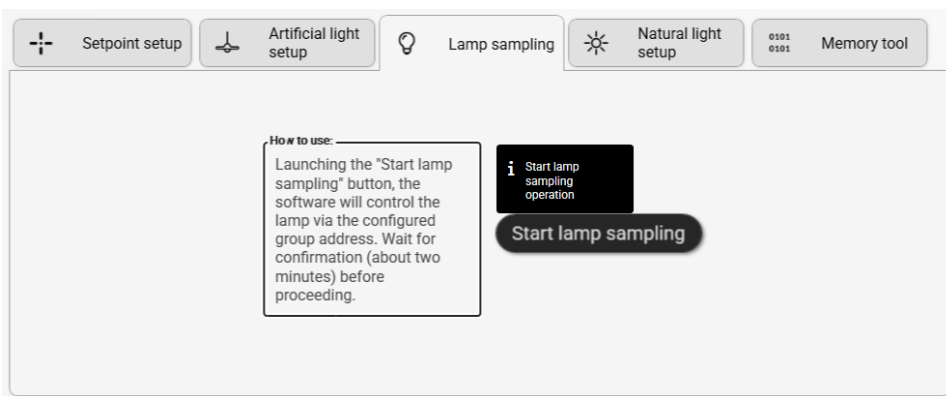


14 - Acquiring complete.

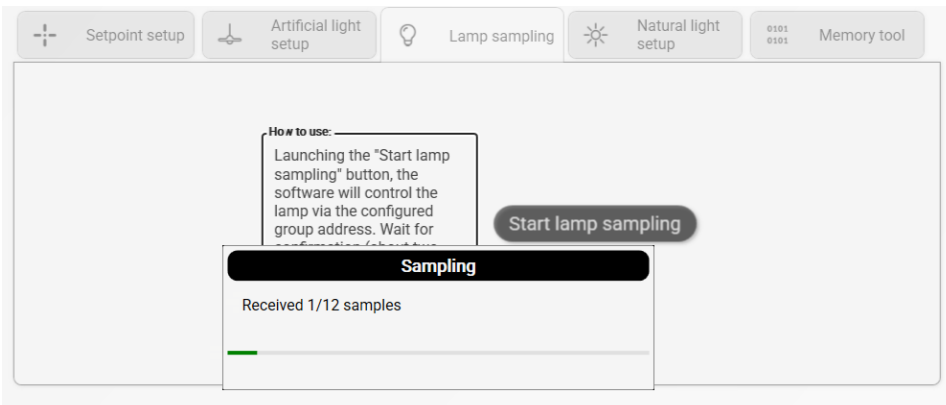
Lamp sampling



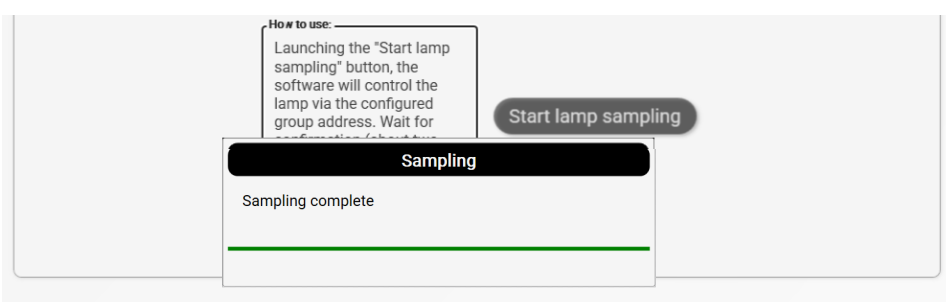
15 - The 'Lamp sampling' section allows the DCA to control the lamp and acquire relative data. The following images (16 ÷ 18) show the entire process step-by-step.



16 - Click on Start lamp sampling to launch the process.



17- Sampling in progress.



18 - Sampling complete.

Natural light setup

Sensor Calibration

Group Addresses
 <Illuminance> Calibration Setpoint
 0/0/1
 <Illuminance> Calibration Action
 0/0/2
 <Illuminance> Command/Status Lamp
 0/0/3, 0/0/4

Presence Detector STANDARD Sensor MicroFL M01

Setpoint setup

Artificial light setup

Lamp sampling

Natural light setup

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Memory tool

How to use:
 Reduce artificial light as much as possible and use only natural light to reach the setpoint shown on the luxmeter. Once the correct value is reached, instruct the device to store the measurement by pressing the "Acquire 100% natural" button, then wait for the confirmation message (about 10 seconds).

Natural light setup

 Send the natural light value

How to use:
 If you cannot reach 100% natural light, manually set the current setpoint by entering it in the "Not 100% setpoint [Lux]" text box and pressing the "Acquire not 100% natural" button and wait for the confirmation message (about 10 seconds).

Not 100% natural light setup

 Not 100% setpoint [Lux] 300

Reset calibration

End calibration

19 - The natural light setup section allows an additional calibration, ideal in buildings where natural light plays a major part in ambient light. To acquire 100% natural light reduce artificial light contribute to 0% and acquire data in the most favourable conditions (e.g. shutters up). If setpoint can't be reached only by natural light use function Acquire not 100% natural to store the maximum setpoint. The following images (20 + 25) demonstrate the entire process step-by-step.

Setpoint setup

Artificial light setup

Lamp sampling

Natural light setup

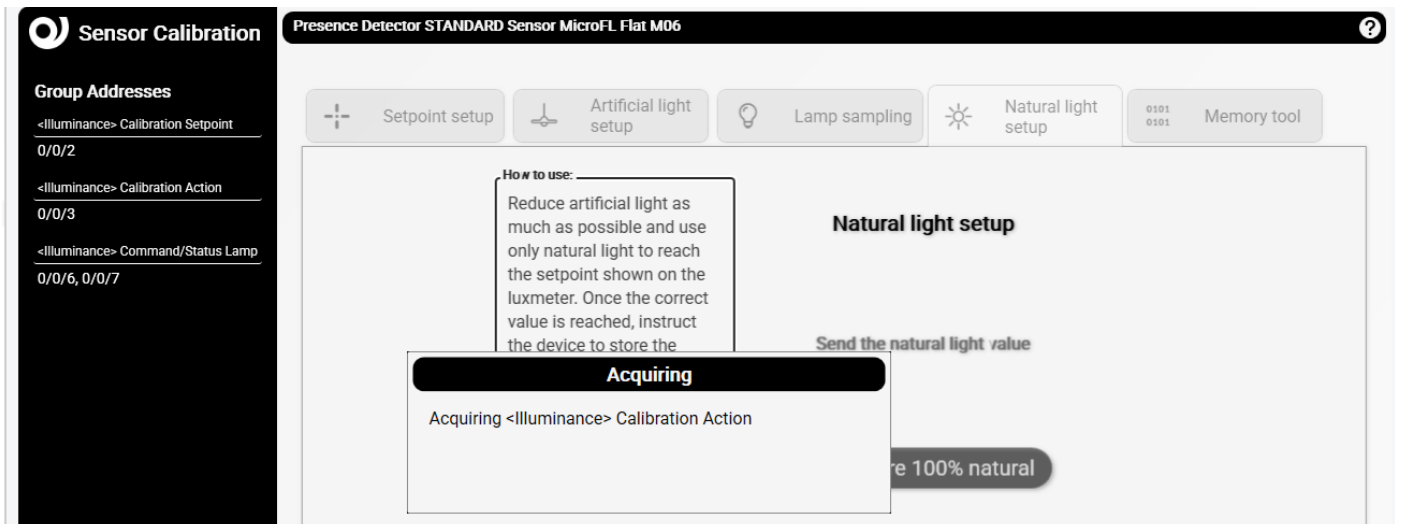
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0101

Memory tool

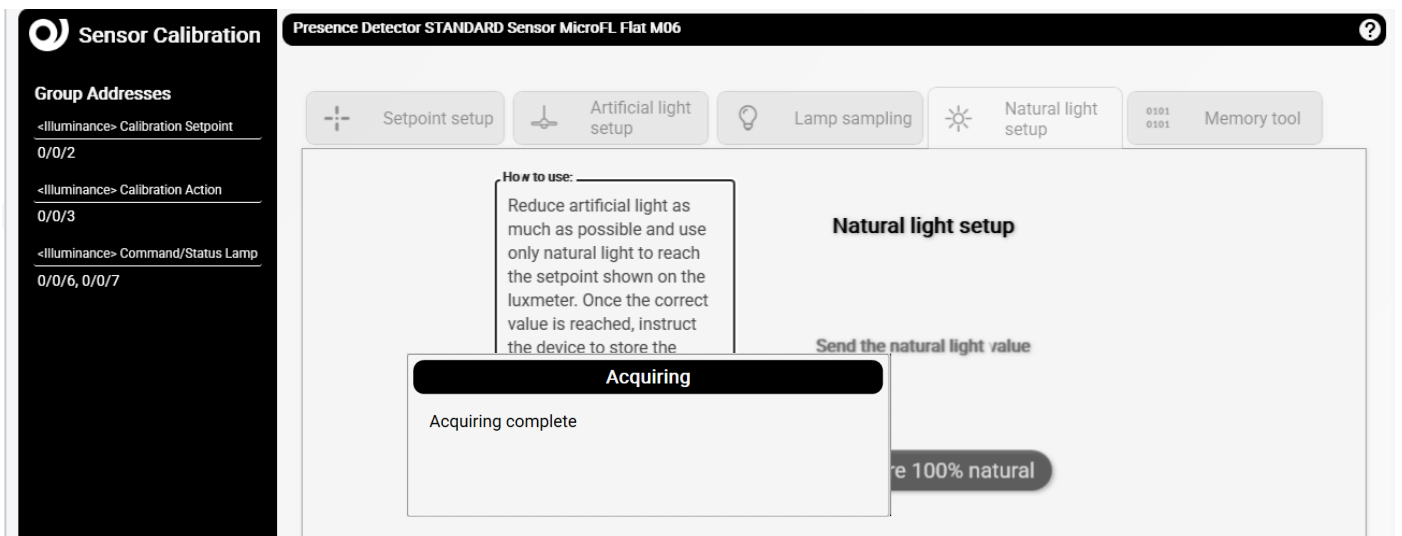
How to use:
 Reduce artificial light as much as possible and use only natural light to reach the setpoint shown on the luxmeter. Once the correct value is reached, instruct the device to store the measurement by pressing the "Acquire 100% natural" button, then wait for the confirmation message (about 10 seconds).

Natural light setup

20 - Click on Acquire 100% natural to start this process.



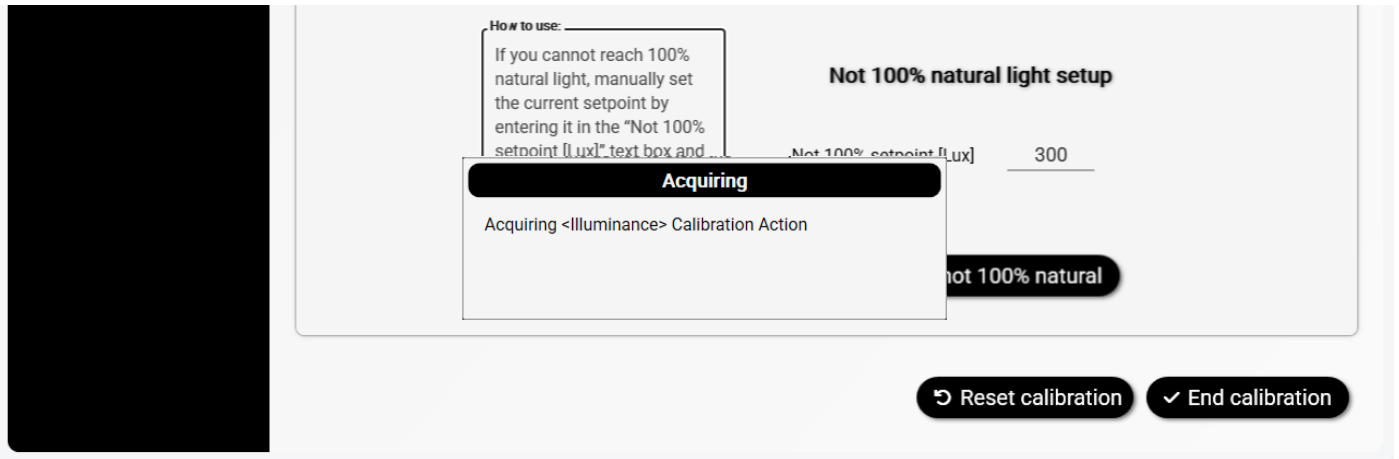
21 - Acquiring in progress.



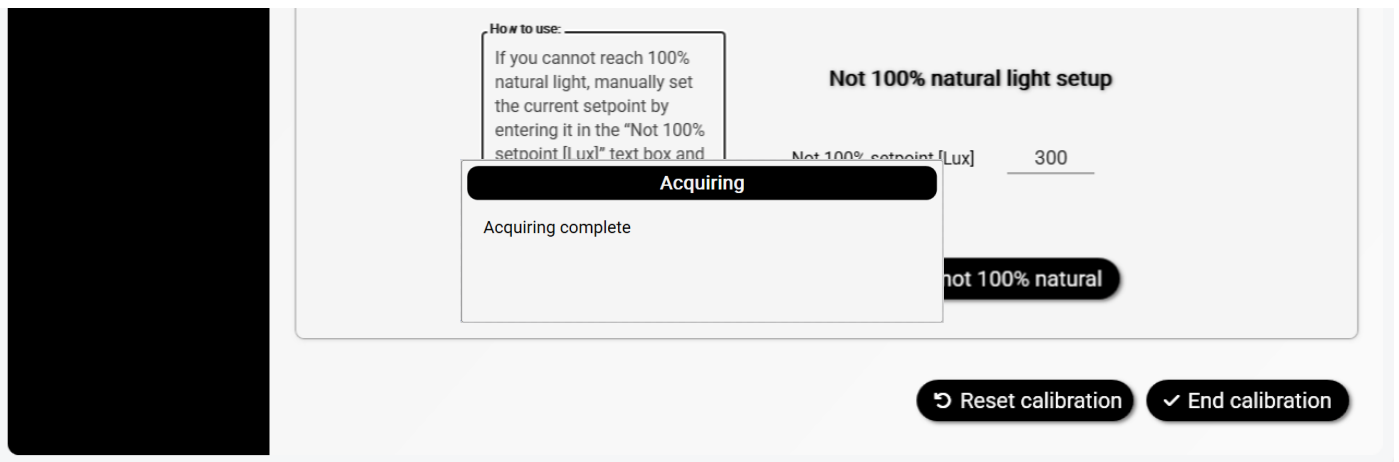
22- Acquiring complete.



23 - Click on Acquire not 100% natural to start this process.



24 - Acquiring in progress.



25 - Acquiring complete.

Memory tool

Sensor Calibration

Group Addresses

- <Illuminance> Calibration Setpoint
0/0/1
- <Illuminance> Calibration Action
0/0/2
- <Illuminance> Command/Status Lamp
0/0/3, 0/0/4

Presence Detector STANDARD Sensor MicroFL M01
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Setpoint setup
 Artificial light setup
 Lamp sampling
 Natural light setup
 0101 0101 Memory tool

How to use:

Using the button below, analyze the calibration setup and view the acquired values. Export the calibration data into a file or import an already available file for calibrating your device.

Analyze calibration data

Export data

Import data

Memory analysis results

Lux setpoint	No data available
100% artificial setpoint	No data available
100% natural setpoint	No data available
Lamp ramp	No data available

Reset calibration

End calibration

26 - The final section of the DCA allows you to analyze calibration parameters, as well as export or import them by converting the data into a specific file format. If any data from the previous sections is missing, a warning message will appear indicating that the export is incomplete, or that an incomplete import will overwrite the current calibration data. The following images (27 ÷ 34) demonstrate the entire process step-by-step.

Setpoint setup
 Artificial light setup
 Lamp sampling
 Natural light setup
 0101 0101 Memory tool

How to use:

Using the button below, analyze the calibration setup and view the acquired values. Export the calibration data into a file or import an already available file for calibrating your device.

Analyze calibration data

Analyze calibration data

Export data

Import data

Memory analysis results

Lux setpoint	No data available
100% artificial setpoint	No data available
100% natural setpoint	No data available
Lamp ramp	No data available

27 - Click on Analyze calibration data to show the values stored in the device.

Setpoint setup

Artificial light setup

Lamp sampling

Natural light setup

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0101Memory tool

How to use:

Using the button below, analyze the calibration setup and view the acquired values. Export the calibration data into a file or import an already available file for calibrating your device.

Analyze calibration data

Export data

Import data

Memory analysis results

Lux setpoint

100% artificial setpoint

100% natural setpoint

Lamp ramp

499

No data available

No data available

125 498 1486 1604 1617 1617 1612 1594 1621 1624 1623 1624

28 - Some parameters are missing.

Setpoint setup

Artificial light setup

Lamp sampling

Natural light setup

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0101Memory tool

How to use:

Using the button below, analyze the calibration setup and view the acquired values. Export the calibration data into a file or import an already available file for calibrating your device.

Analyze calibration data

Export data

Import data

Memory analysis results

Lux setpoint

100% artificial setpoint

100% natural setpoint

Lamp ramp

499

1842

1807

1844 1847 1839 1842 1821 1832 1836 1851 1825 1818 1813 1810

29- All data parameters are complete.

Setpoint setup

Artificial light setup

Lamp sampling

Natural light setup

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0101Memory tool

How to use:

Using the button below, analyze the calibration setup and view the acquired values. Export the calibration data into a file or import an already available file for calibrating your device.

Export calibration data to file

ibration data

Export data

Import data

Memory analysis results

Lux setpoint

100% artificial setpoint

100% natural setpoint

Lamp ramp

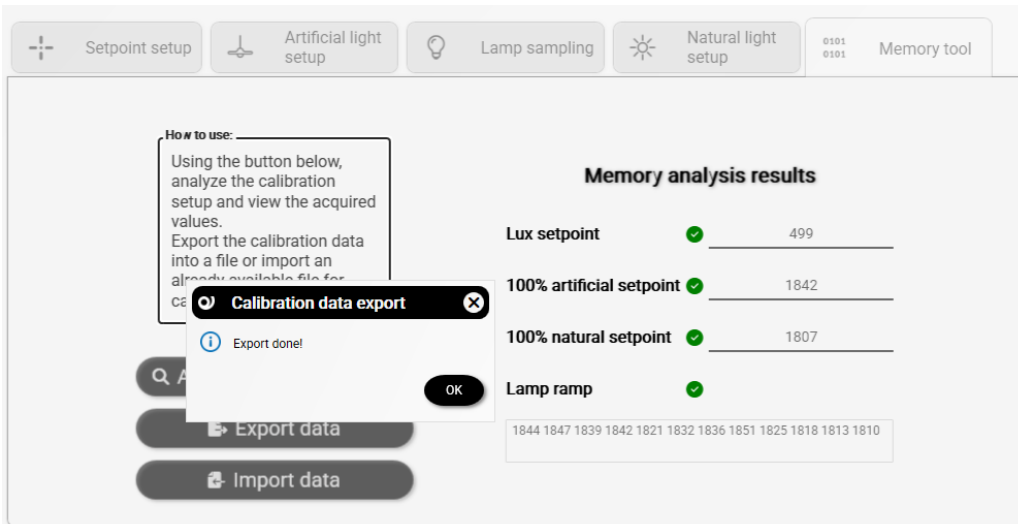
499

1842

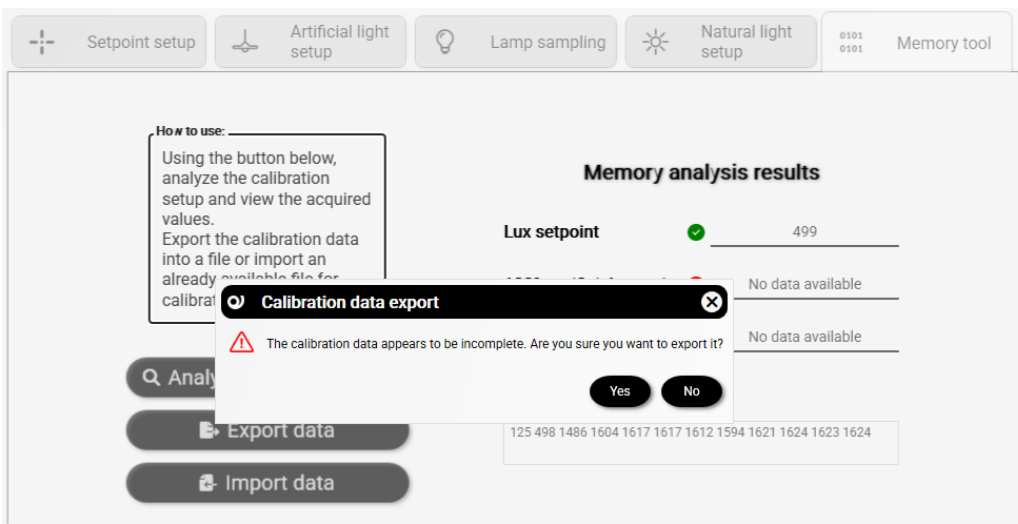
1807

1844 1847 1839 1842 1821 1832 1836 1851 1825 1818 1813 1810

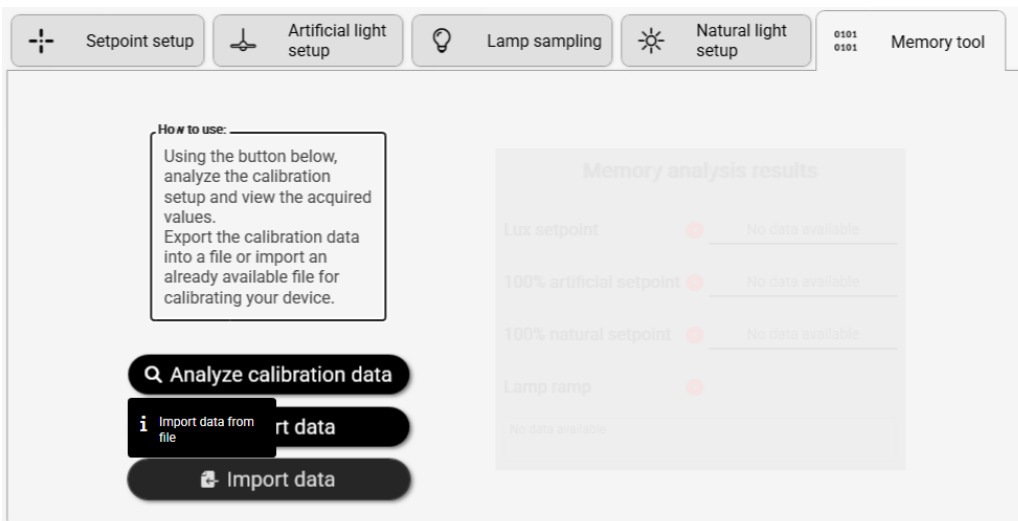
30 - To export data, click on the relative button.



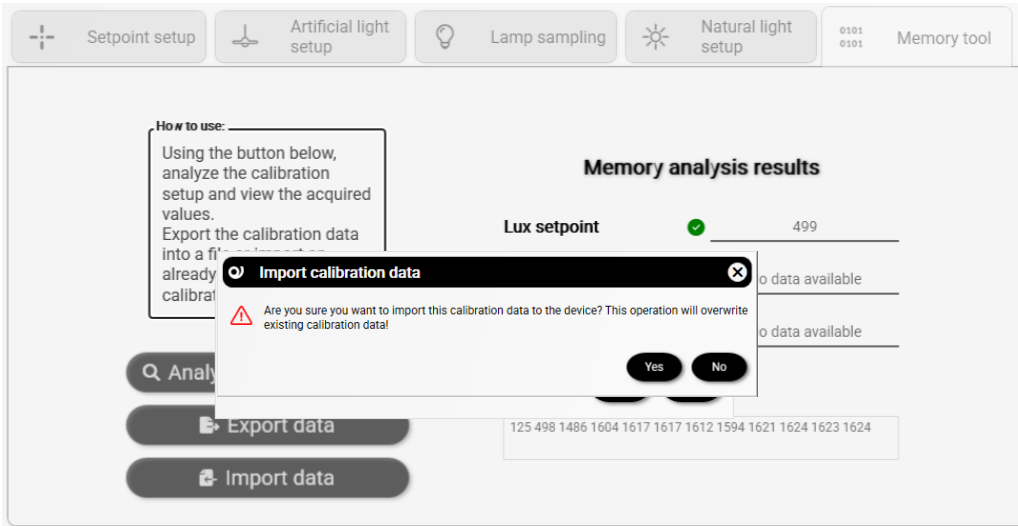
31- Calibration successfully exported.



32 - In case of missing data, a warning message will appear.

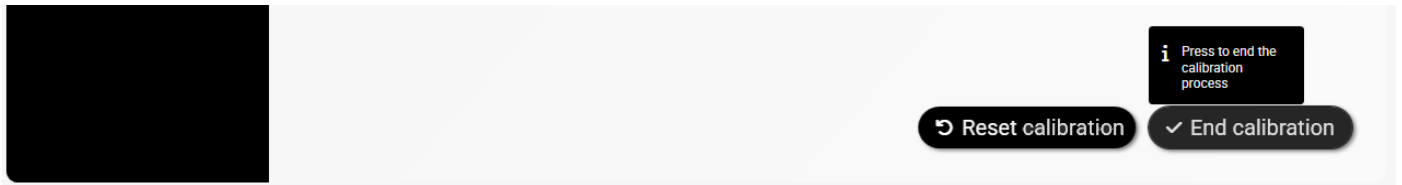


33 - To import data, click on the relative button.

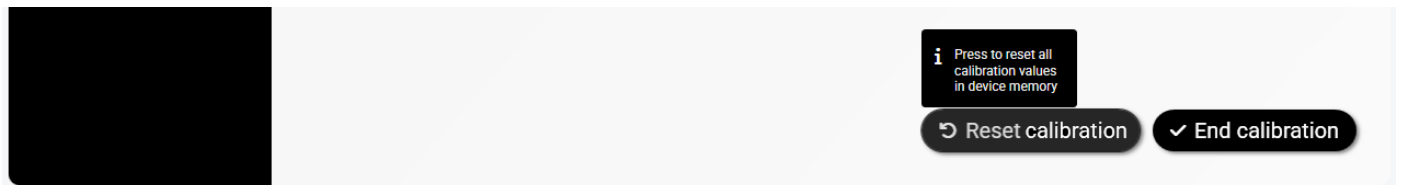


34 - Warning message to confirm the overwrite.

End and reset



34 - To end the calibration process, click on the relative button.



35 - To reset the calibration process and clear all stored data, click on the relative button. Reset operation can be done at any point of the calibration.