

Sensors & Controls

sceneCOM infinity

Manual

Daylight linking



TRIDONIC

Legal information

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1 How to use this manual

We are pleased that you have chosen this *Tridonic GmbH & Co KG* product. So that you can get the most from these instructions, this section provides the following information:

- Signs and icons in these instructions
- Further information
- Target audience of these instructions
- Software version

Signs and icons in these instructions

The following signs and icons are used in these instructions:

Sign/icon	Explanation
1.	Individual steps in the instructions are numbered.
▷	Single-step instructions are indicated by the ▷ icon at the beginning of the line.
↻	After a step has been described, a description of the expected results will follow. These results are indicated by the ↻ icon at the beginning of the line.
—	Requirements which need to be checked before carrying out a step are indicated by —.
i	Notes can be recognised by the i icon. In addition, notes are identified by the word Note .
[Bold text]	Bold text indicates words that are shown on a device display or software user interface.
	<p>Danger and safety instructions are indicated by this icon. Safety and warning information is labelled and classified using the following words:</p> <p>DANGER indicates an immediate danger. This could lead to death or severe injury if not avoided.</p> <p>WARNING indicates a potentially dangerous situation. This could lead to death or severe injury if not avoided.</p> <p>CAUTION indicates a potentially dangerous situation. This could lead to minor injury or damage to property if not avoided.</p> <p>Attention indicates a situation involving potential damage. If it is not avoided, the product or something in the vicinity may be damaged.</p>

Table 1: Signs and icons in these instructions

1 How to use this manual

Further information

Further information on the setup and function of your *sceneCOM infinity* system can be found in our product and system documentation.

If you should have any further questions, please contact your sales partner.

General information on our products can be found on our website:

www.tridonic.com

Target audience of these instructions

These instructions are aimed at persons (e.g. electricians and facility managers) with special *Tridonic* product training who would like to configure and put the daylight linking into operation.

Software version

These instructions are based on software version *sceneCOM 2.16.0*.



Note

This manual contains path information which can be used to access the configuration options. The path always starts from the app overview.

Example: "Path: app overview > **Basic settings** > **Date and time**" means that you should go to the app overview, tap on **Basic settings** and then tap the **Date and time** button.

2 Other available documents

All *sceneCOM* manuals can be downloaded from the website:

<http://www.tridonic.com>

Manual	Description
Commissioning and maintenance	This manual is aimed at electricians without any special product training and describes how the basic functions can be commissioned. It also describes general maintenance functions.
Shows	This manual is aimed at electricians without any special product training and describes how shows can be commissioned and configured.
Special luminaires	This manual is aimed at electricians without any special product training and describes how special luminaires (e.g. RGB luminaires, TW luminaires) can be commissioned and configured.

Table 2: Other available documents – *sceneCOM*

All *sceneCOM infinity* manuals can be downloaded from the website:

<http://www.tridonic.com>

Manual	Description
Infinity mode	This manual is intended for persons (e.g. electricians and facility managers) with special <i>Tridonic</i> product training, and describes how Infinity mode can be enabled. As a result, you obtain access to apps that are only available in Infinity mode and can create an Infinity system consisting of multiple <i>sceneCOM</i> controllers.

Table 3: Other available documents – *sceneCOM infinity*

3 Safety instructions



Attention

- The system may only be used for the application area specified.
- Relevant health and safety regulations must be observed.
- Assembly, installation and commissioning may only be carried out by qualified personnel.
- The *sceneCOM infinity* system and connected devices must only be operated when in full working order.
- The manufacturer does not accept liability nor provide any guarantee for consequential damage that may occur if these instructions are not followed.

4 Navigation principles

There are different buttons in the web application for commissioning, configuring and operating the system. If a button is tapped, its colour changes briefly.

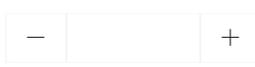
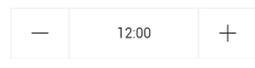
Button	Description
	<p>Set value (e.g. on the start page) You can enter a specific value in the click area so that all devices have the same control value. If, for example, different control values (80%, 60%) are set for the luminaires and you tap on 50%, all luminaires switch to the control value of 50%.</p> <p>If you tap on the left or right click area, the value you are setting decreases or increases respectively in the entire effective range by one unit. If different control values are saved for the luminaires (80%, 60%, 20%) and you tap on the ☀ button, these control values are increased by one unit (81%, 61%, 21%). This function is not available for all setting options.</p>
	<p>Set value (e.g. fade time) Tap these buttons to increase or decrease the value being set. Tap the button to change the value by one unit. Tap and hold the button to change the value, and release when the desired value has been reached. The longer the button is held, the faster the value is changed.</p>
	<p>Special feature: set the time If the time is tapped, the Set time view appears. The hours and minutes can be set separately here.</p>
	<p>Expand – collapse The arrow indicates that additional information or selection options can be displayed (e.g. devices in a group). Tap the arrow pointing right to expand the information or selection options. The arrow changes so that it is pointing down. Tap the arrow pointing down to collapse the information or selection options. The arrow changes so that it is pointing right again.</p>
	<p>Save or confirm Tap this button to save the settings or confirm a message.</p>
	<p>Option not selected – option selected (single choice) This button marks multiple options that are available (e.g. different types of date groups), from which only one can be selected. As soon as an option for a switch is selected, all other switches change to the other option accordingly.</p>
	<p>Option not selected – option selected (multiple choice) This button marks multiple options that are available, from which multiple options can be selected. As soon as an option is selected, it is highlighted.</p>
	<p>Setting not selected – setting selected If an empty button is tapped, the button is marked with a purple background. One or more control elements (such as sliders) appear below.</p>
	<p>Switch between individual pages of the app overview The number of points corresponds to the number of the pages in the app overview. The point filled in with colour indicates the page currently being displayed. Tap an empty point to go to the corresponding page.</p>
	<p>Tap the logo to access the Information view. This page contains manufacturer information, the reference number and version of the web application and information on the licences used.</p>

Table 4: Navigation principles

5 sceneCOM infinity and daylight linking

Daylight linking is a way of controlling luminaires whilst taking into account the daylight and the blinds. Controlling the artificial light by adjusting it to the natural daylight achieves optimal lighting quality and saves additional energy.

The daylight is recorded by one or more light sensors. The light sensor does not have to be located in the room where the daylight linking will be enabled.

Measurement points are used to control the daylight linking of artificial light. The measurement point defines the maximum amount of light a luminaire can output. For each measurement point the illuminance at the workspace is measured with a luxmeter, once at 100% and once at 0% intensity. These two values and the sensor values currently being measured combine to form one measurement point.

Measured illuminance (100%)

↳ Current sensor value when measuring the illuminance with all lights switched on (blinds open)

Measured illuminance (0 %)

↳ Current sensor value when measuring the illuminance with the lights switched off (blinds open)

= measurement point (MP)

The measurement points are then used to calculate the amount of artificial light required to achieve the required illuminance. The number of measurement points created in a room depends on the local conditions in the room and the luminaires installed.

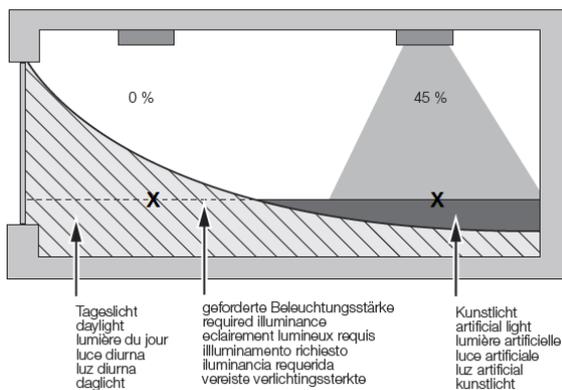


Figure 1: Example of daylight linking with a lot of daylight in the room

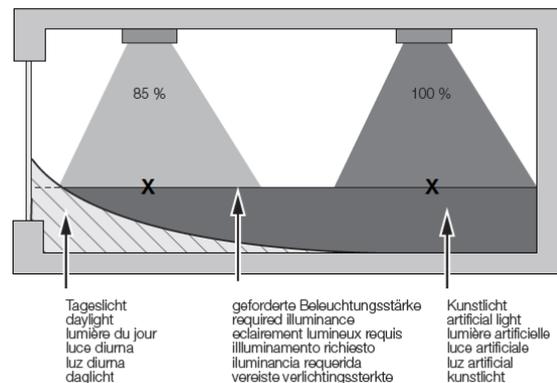


Figure 2: Example of daylight linking with little daylight in the room



Note

In this example two measurement points are needed: One on the workspace below the left luminaire and one below the right luminaire. The measurement points are marked with an X.

5 sceneCOM infinity and daylight linking

Integrating daylight linking in sceneCOM infinity

The following steps are required:

Requirement:

— Infinity mode is enabled.

More information: Manual **Infinity Mode**

- Step 1: Activate **Daylight linking** app.
Path: App overview > **sceneCOM Store**
For more information see Section [Licensing](#)^[10]
- Step 2: When using one or more light sensors: Address one or more light sensors.
Path: App overview > **Addressing** > select control device > **Input devices** > **Sensors**
For more information see Section [Light sensors](#)^[11]
- Step 3: Select effective range.
Path: App overview > **Daylight linking** > button for selecting the effective range (top left)
For more information see Section [Overview of the "Daylight linking" app](#)^[12]
- Step 4: Select one or more light sensors.
Path: App overview > **Daylight linking** > **Sensor**
For more information see Section [Overview of the "Daylight linking" app](#)^[12]
- Step 5: Configure other global settings.
Path: App overview > **Daylight linking** > **Global settings**
For more information see Section [Configuring other global settings](#)^[13]
- Step 6: Create and configure measurement points.
Path: App overview > **Daylight linking** > **Measurement points**
For more information see Section [Overview of the "Daylight linking" app](#)^[12]
- Step 7: Configure scene via daylight linking and define required illuminance.
Path: App overview > **Scenes**
For more information see Section [Scenes and daylight linking](#)^[18]

6 Licensing

Daylight linking can only be configured if a licence has been activated. You have to activate the licence before you can use the **Daylight linking** app.

Path: App overview > **sceneCOM Store** > **Light sensor**

The following steps are required:

- Step 1: Request licence.
Path: App overview > **sceneCOM Store** > **Licensing information**
- Step 2: Activate licence.
Path: App overview > **sceneCOM Store** > **Activate licence**

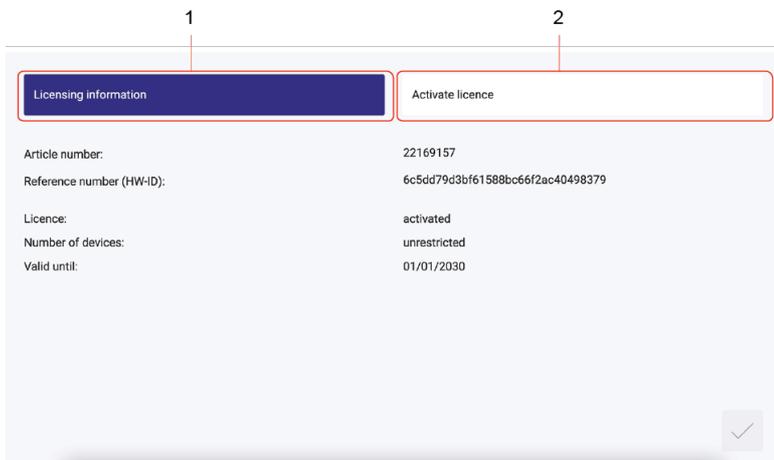


Figure 3: Overview of licensing

	Function	Description
(1)	Licensing information	<p>This page provides information about your licence (article number of the app and Infinity ID). You will need this information to request a licence from your sales partner. You can also see whether the licence has been activated or not.</p> <p>i Note If several licences have been activated, the number of enabled devices will be added together.</p>
(2)	Activate licence	<p>You can activate the licence with a licence number here.</p> <p>i Note</p> <ul style="list-style-type: none"> • Multiple licences can be activated. • The licence number, number of activated devices and the validity period are displayed for each activated licence. • To retrieve the ordered licence numbers, go to the scenecom.tridonic.com website and enter the reference number (HW-ID) of the <i>sceneCOM</i> controller or the Infinity ID.

Table 5: Overview of licensing

7 Preparatory measures

In this section you will find out which preparatory measures are needed before configuring the daylight linking.

7.1 Light sensors

▷ Address light sensor.

Path: App overview > **Addressing** > select controller > **Input devices** > **Sensor**



Note

The test key on the light sensor must be briefly pressed twice to locate the light sensor.

8 Configuration

This section explains how to configure daylight linking.

8.1 Overview of the "Daylight linking" app

The following contains an overview of the functions in the **Daylight linking** app.

Path: App overview > **Daylight linking**

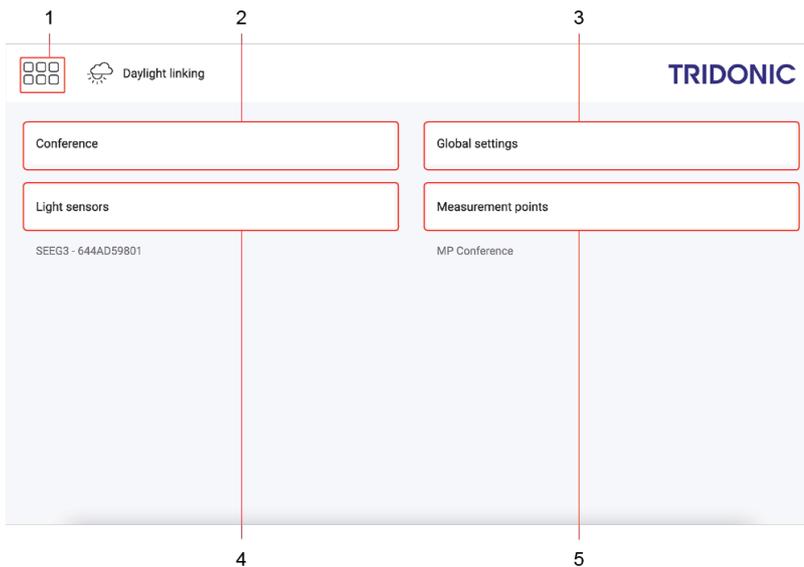


Figure 4: "Daylight linking" app view

	Function	Brief description
(1)	Return to app overview	The app overview can be accessed via this button.
(2)	Select effective range	<p>Whether a room or group is selected as the effective range depends on the project engineering:</p> <ul style="list-style-type: none"> • Select a room if the scene in a room is to be controlled via daylight linking using a light sensor or the average result of several light sensors, regardless of the number of groups. • Select a group if the scene in a room should be controlled via daylight linking using a separate light sensor to detect the available daylight in the room for each group. <p>In both cases the light sensor does not have to be located in the effective range.</p>
(3)	Configuring global settings	<p>Some settings can be applied to all daylight linking, e.g. Interruption period after manual operation.</p> <div style="background-color: #f0f0f0; padding: 10px; margin-top: 10px;"> <p>i Note</p> <ul style="list-style-type: none"> • For more information see Section Global settings^[18] • The Scenes app provides the option of defining whether the global settings are used. For more information see Section Scenes and daylight linking^[18] </div>
(4)	Select one or more light sensors	The daylight is recorded by light sensors. Depending on requirements, select one or more light sensors. If more than one light sensor is selected, the average of the sensor values is used for the daylight linking calculation. The light sensor does not have to be located in the room where the daylight linking will be enabled. If a light sensor is

8 Configuration

	Function	Brief description
		<p>already addressed in the selected effective range, this sensor is automatically added. Another light sensor can be selected at any time.</p> <div style="border: 1px solid #ccc; padding: 5px;"> <p>i Note If you have activated the licence for Daylight linking with light sensor beforehand, you can select one or more light sensors.</p> </div>
(5)	Create, copy and edit measurement points	Daylight linking is implemented using measurement points. An overview of the functions of the Edit measurement points view can be found after this table.

Table 6: Functions in the “Daylight linking” app

The following contains an overview of the functions in the **Edit measurement points** view.

Path: App overview > **Daylight linking** > **Measurement points**

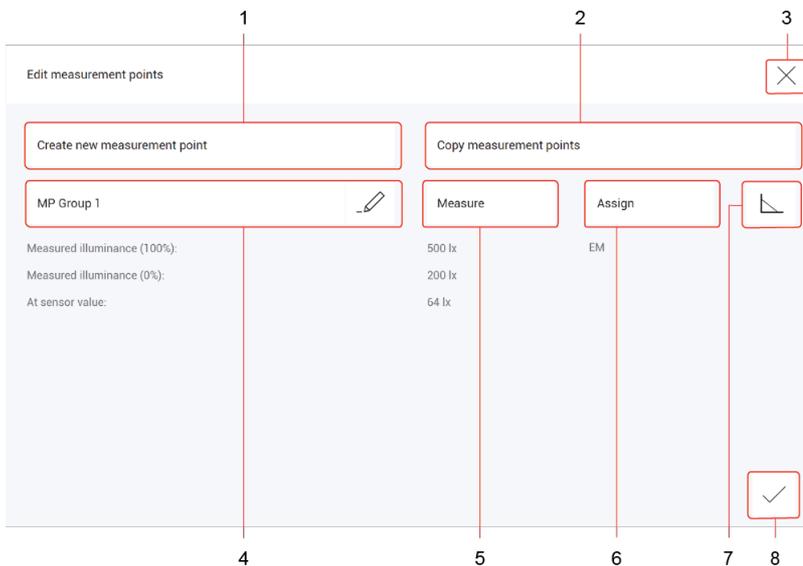


Figure 5: "Edit measurement points" view

	Function	Brief description
(1)	Create new measurement point	<p>Create a new measurement point. During this process, assign the measurement point to a room, group or individual luminaires. A name is automatically suggested for the measurement point, which can be changed at any time. By default the name consists of the abbreviation MP (Measurement Point) and the assignment. Examples:</p> <ul style="list-style-type: none"> • MP Luminaire 1: Measurement point assigned to luminaire 1 • MP Group 3: Measurement point assigned to group 3
(2)	Copy measurement point	<p>Measurement points can be copied from other effective ranges. This is recommended when scenes should be controlled via daylight linking in rooms with a similar setup. The name of the measurement point and measured illuminance are applied. The measurement point only has to be assigned.</p>

8 Configuration

	Function	Brief description
		<p>i Note This function is only available if measurement points have already been created in other effective ranges.</p>
(3)	Return to the Daylight linking view	If you tap the cross, the Daylight linking view is called up.
(4)	Rename measurement point	Change the name of an existing or copied measurement point.
	Delete measurement point	If a measurement point is deleted, all assignments are also deleted.
(5)	Measure illuminance	<p>Measure the illuminance at the workspace underneath the luminaire with a luxmeter, once at 100% and once at 0% intensity, and enter the measured illuminance values.</p> <p>Under the Measure button, parameter At sensor value shows the sensor value when illuminance is measured at 0% intensity.</p> <p>If the measurement point has been corrected manually, the message Corrected manually is displayed instead of the measured illuminance.</p>
(6)	Assign measurement point	<p>Measurement points are assigned to either rooms, groups or individual luminaires.</p> <ul style="list-style-type: none"> When a new measurement point is created, the point is assigned. In this case the assignment is displayed under the Assign button. The assignment can be changed at any time. When a measurement point is copied, the assignment is not copied over with it. In this case the measurement point must be assigned in a separate step. <p>Tap Assign to assign the measurement point. If other measurement points have already been assigned, these are listed in the right-hand column. When saved, existing assignments are overwritten.</p>
(7)	Correct measurement point manually	<p>It may be necessary to manually correct the measurement points (e.g. if the required illuminance is not achieved at the workspace). The values can be set or the control characteristic can be changed via a graphical representation.</p>
		<p>i Note To correct measurement points manually, knowledge of control characteristics and day and twilight points is required. For more information see Section Correcting measurement point manually (for experts)¹⁷⁾</p>
(8)	Return to the Daylight linking view	If you tap the tick mark, the changes are saved and the Daylight linking view is called up.

Table 7: Functions in the "Edit measurement points" view

8 Configuration

8.2 Global settings

In this section you will find out which global settings are possible.

8.2.1 Configuring other global settings

Some settings can be applied to all daylight linking. These settings are enabled for all daylight-linked luminaires as standard. The **Scenes** app provides the option of separately defining whether the global settings are used, however.

Path: App overview > **Daylight linking** > **Global settings**

The following table provides a description of the individual configuration options:

i

Note

Whether parameters marked with an asterisk (*) can be configured depends on whether the parameter **Never dim off via daylight linking** is enabled. The following table provides an overview of which parameters can be configured.

	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Lower dimming limit (daylight linking)	✓	✗
Switch-off intensity	✗	✓
Delay time	✗	✓
Switch-on intensity	✗	✓

Parameter	Description
Never dim off via daylight linking	Option that can be enabled so that the lighting is never dimmed off via daylight linking.
Lower dimming limit (daylight linking)*	Lower limit that further restricts the dimming range for daylight linking and prevents luminaires from being dimmed off completely. The dimming range is a range in which the intensity of the luminaires can be dimmed/brightened. It is restricted to the physical upper and lower limits.
Switch-off intensity*	Intensity level at which the luminaire or lighting is switched off if the intensity reaches this point or drops below it.
Delay time*	Time during which the switch-off intensity must be reached/not reached so that the luminaire/lighting is switched off.
Switch-on intensity*	Intensity level at which the luminaire or lighting is switched on if the intensity reaches this point or exceeds it.
Upper dimming limit (daylight linking)	Upper limit that further restricts the dimming range for daylight linking. The dimming range is a range in which the intensity of the luminaires can be dimmed/brightened. It is restricted to the physical upper and lower limits.
Interruption period after manual operation	Time during which daylight linking can be disabled temporarily by manual operation (e.g. pressing a key/switch). Once this time has expired daylight linking is automatically enabled again.
Daylight linking takes over when calculation matches manual operation	Option that can be enabled so that daylight linking takes over again as soon as the intensity calculated by daylight linking matches the intensity set by the user.
Dimming off threshold	Percentage by which the required illuminance must be exceeded in order for

8 Configuration

Parameter	Description
(for ambient light sensors only)	the luminaire to be dimmed off via daylight linking. This setting prevents the illuminance from dropping below the target value when the luminaires are switched off, which would cause the luminaires to need to be switched on again immediately.

Table 8: Configuration options – Daylight linking; global settings

8 Configuration

8.3 Correcting measurement point manually (for experts)

It may be necessary to manually correct the measurement points (e.g. if the required illuminance is not achieved at the workspace). The values can be set or the control characteristic can be changed via a graphical representation.

i

Note

To correct measurement points manually, knowledge of control characteristics and day and twilight points is required.

Path: App overview > **Daylight linking** > **Measurement points** > ↘

The measurement points are converted into day and twilight points and represented in a control characteristic. The control characteristic is used to implement daylight linking. This control characteristic determines the required brightness of the artificial light based on the available daylight. The day point represents the ratio between the daylight and artificial light when there is a lot of daylight in the room, while the twilight point represents the ratio between the daylight and artificial light when there is little daylight in the room.

The day and twilight point values can be changed or the control characteristic can be moved in the graphical representation.

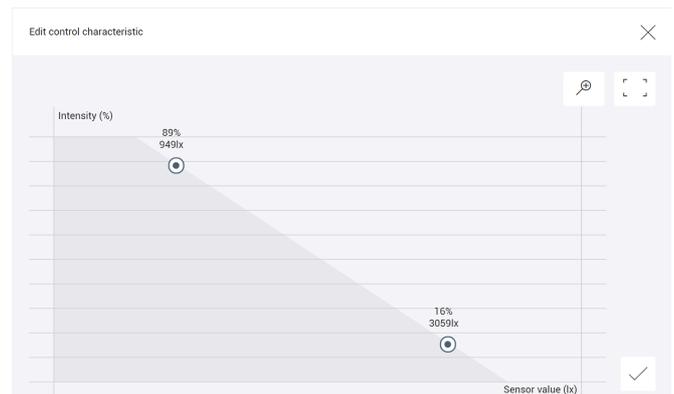
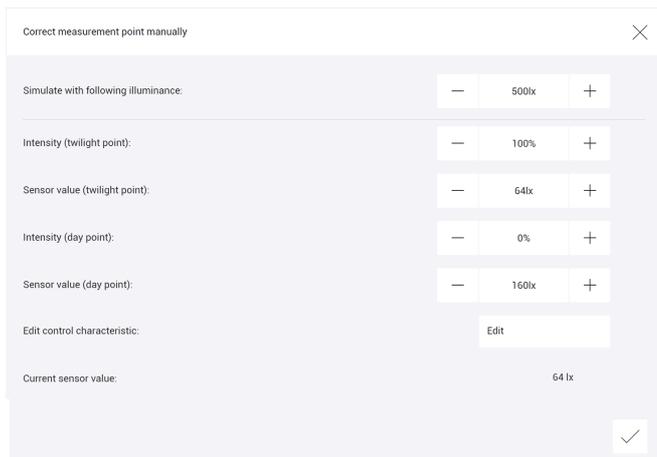


Figure 7: Sample control characteristic

Figure 6: "Correct measurement point manually" view

The following table provides a description of the individual configuration options:

Parameter	Description
Simulate with following illuminance	To manually correct a measurement point, an illuminance is required for simulation using the control characteristic.
Intensity (twilight point)	Artificial light level additionally needed to reach the required illuminance. This value is defined when it is dark in the room.
Sensor value (twilight point)	Illuminance measured by the light sensor when there is little daylight in the room.
Intensity (day point)	Artificial light level additionally needed to reach the required illuminance. This value is defined when there is a lot of daylight in the room (but no direct daylight).
Sensor value (day point)	Illuminance measured by the light sensor when there is a lot of daylight in the room.
Edit control characteristic	The control characteristic is displayed and can be changed.

8 Configuration

Parameter	Description
Current sensor value	The current sensor value for the light sensor is displayed. If more than one sensor is selected for the measurement point, the average sensor value is displayed.

Table 9: Configuration options – “Correct measurement point manually” view

8.4 Scenes and daylight linking

Once the basic configuration has been defined for daylight linking in the **Daylight linking** app, configure the scene for daylight linking and define the required illuminance.

Configuring a scene for daylight linking and defining the required illuminance

Path: App overview > **Scenes**

Requirement:

— The level (room or group) selected in the **Scenes** app has been assigned a measurement point.

i Note

Example: if you want the intensity of a room to be controlled via daylight linking, a measurement point must be assigned to this room.

Path: App overview > **Daylight linking** > **Measurement points** > **Assign**

1. Navigate to the correct page as indicated in the path.
2. Select the effective range (room), scene and level (room, group or luminaire) for which daylight linking is to be configured.

➡ The **Configure scene** view is displayed.



3. Enable the **Daylight linking** option.

8 Configuration

4. Tap the **Configure** button.

➔ The **Configure daylight linking** view is displayed.

Configure daylight linking

Required illuminance: 500lx

Use global settings:

Never dim off via daylight linking:

Lower dimming limit (daylight linking): 10%

Switch-off intensity: 10%

Delay time: 10min

Switch-on intensity: 12%

Upper dimming limit (daylight linking): 100%

Interruption period after manual operation: 2h

Daylight linking takes over when calculation matches manual operation:

Dimming off threshold: 150%

5. Define the required illuminance.

6. Enable the **Use global settings** option or set the configuration options separately.



Note

You can modify the global settings.

Path: App overview > **Daylight linking** > **Global settings**

9 Appendix

This section contains the following information:

- [Factory settings](#) ^[20]
- [Icons](#) ^[20]

9.1 Factory settings

Standard scenes

As soon as you create a room in your *sceneCOM* system, five standard scenes are enabled in the room. The following table contains the defaults for these scenes.

Scene	Absence	Working	Writing	Meeting	Workshop
Icon					
Intensity	0%	100%	40%	16%	7%
Tunable White	3000 K	3000 K	3000 K	3000 K	3000 K
Colour	White	White	White	White	White
Light balance (direct/indirect)	50:50	50:50	50:50	50:50	50:50

Table 10: Standard scenes and their defaults

9.2 Icons

This section contains an overview of all icons shown on the web application.

“Scenes” app

Icon	Description
	Intensity
	Colour
<u>TW</u>	Tunable White
	Light balance
	Different settings are stored for this setting at room, group and device level
	Setting is controlled via daylight linking
	A show is stored for this setting; the settings can only be changed in the Shows app
	Configuration unknown
	Locate device
	Zone

Table 11: Icons in the “Scenes” app

9 Appendix

“System image” app

Icon	Description
	Luminaire
	RGB luminaire
TW	TW luminaire
	Balance luminaire
	Momentary-action switch/standard switch
	Presence detector
	Light sensor
	Emergency luminaire/escape-sign luminaire
	Emergency luminaire/escape-sign luminaire (lighting management)

Table 12: Icons in the “System image” app