PHILIPS

SpaceWise

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1 Philips SpaceWise wireless technology introduction

Philips luminaires with SpaceWise wireless technology are stand-alone LED lighting systems with integrated occupancy sensing and daylight harvesting, designed specifically for office spaces. Automated dimming behaviors are activated after installation using an Android phone and Philips Field App to create groups and connect wireless switches.

A SpaceWise luminaire contains an integrated multi-sensor which is comprised of the following elements:
· PIR based occupancy sensor – For detecting motion
· Light sensor – For daylight dependent light level regulation
· IR receiver – For receiving signals from the App
· LED indicator – Red indication when motion is detected or yellow indication when motion is not detected

A maximum of 40 luminaires can be grouped together using the App.

Occupancy Sensor

Light Sensor

IR Receiver

LED Indicator

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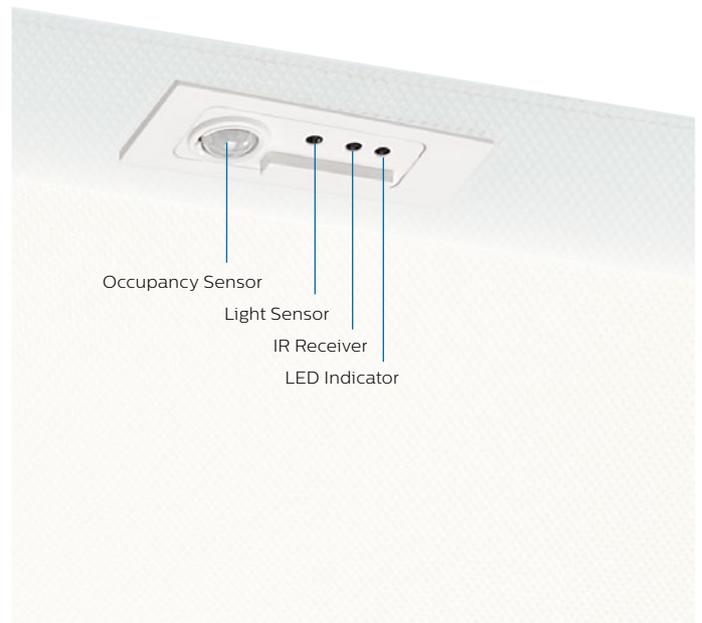
2 Sensor coverage area

The detection area for the movement sensor can be roughly divided into two parts:
· Minor movement
  Person moves ≤ 0.9 m/s (≤ 3 ft/s).
· Major movement
  Person moves ≥ 0.9 m/s (≥ 3 ft/s).

Photosensor spatial response
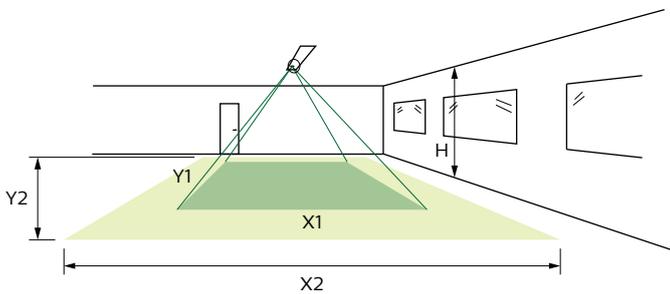
Height	Minor Movement		Major Movement	
H	**Y1**	**X1**	**Y2**	**X2**
2.4 m (7.9 ft)	2.9 m (9.5 ft)	2.7 m (8.9 ft)	4.5 m (14.8 ft)	2.9 m (9.5 ft)
3 m (9.8 ft)	3.6 m (11.8 ft)	3.4 m (11.2 ft)	5.4 m (17.7 ft)	3.6 m (11.8 ft)

Note
Longer dimension of detection area (Y1, Y2) is parallel to longer dimension of sensor.
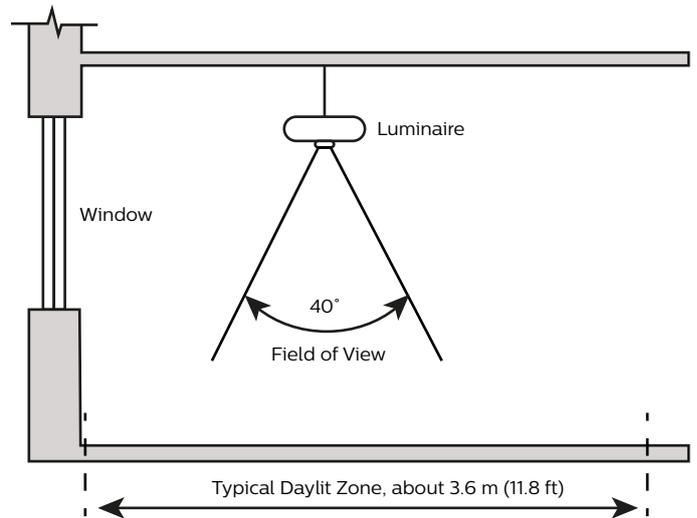
To limit unwanted motion detection, the coverage of the luminaire can be restricted by the sensor shield. The shield is a plastic circular ring located around the occupancy sensor lens. To install the shield, first pull out the ring completely and then reinsert it backwards so that the elongated part of the shield is facing downwards.

3   Philips Field App download and usage instructions

The Philips Field Apps, the user-friendly Android smartphone app can be downloaded from the Google Play store. First time user needs to accept Conditions of use and then sign in with username and password, which can be requested at https://www.componentcloud.philips.com/appregistration/. Sign in is only required once per installation of the App. **To have a successful sign in, please make sure that the phone has an internet connection.**

There are two application modes within the Philips Field App for configuring EasyAir and SpaceWise. These modes are EasyAir NFC and EasyAir IR. The EasyAir IR mode can be used to commission (group) luminaires and add wireless switches to the group, while the EasyAir NFC mode can be used to read out sensor parameters.

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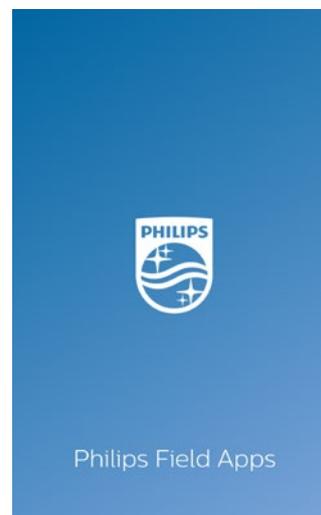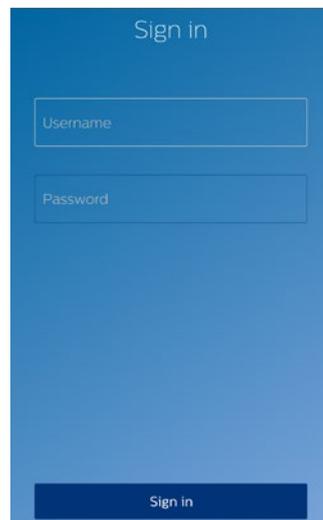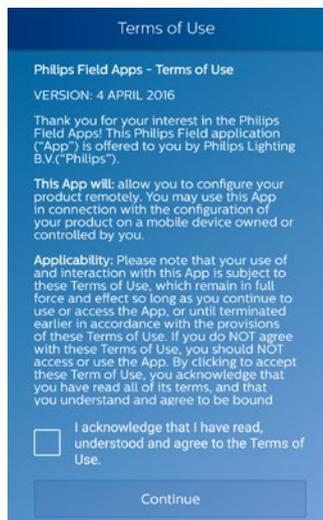
4   Optional pre-commissioning

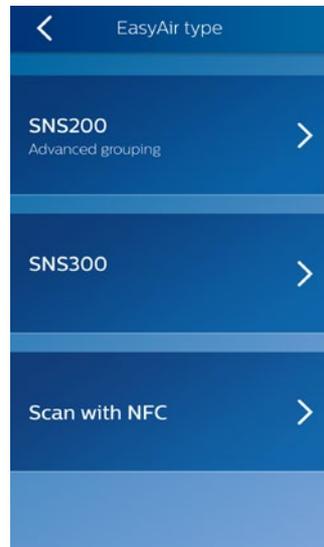**How to populate "Dwell Time" feature**
For the dwell time feature to populate in the Philips Field App, a SpaceWise enabled sensor must be scanned. For NFC scanning, the sensor does not have to be powered. Scanning can be performed even before the luminaire has been installed in the ceiling.
Access the **EasyAir IR mode** in the App followed by selecting "Scan with NFC".

Place the back of the smartphone (where the NFC reader is located) onto the sensor NFC antenna (almost touching) to enable NFC communication. NFC communication might take a few seconds. Do not move until you hear a beep and the next screen appears.

Select "EasyAir IR"

Select "Scan with NFC"

After hearing a beep, click on "Configure", followed by "Configure parameters". The following screen will appear along with the "Dwell Time" feature.

Note 1

"Last scanned: SNS200" reveals the dwell time screen shown below, and is synonymous with SWZDT. Selecting "SNS200" does not show the dwell time feature and is synonymous with the EasyAir base SNS200 sensor.
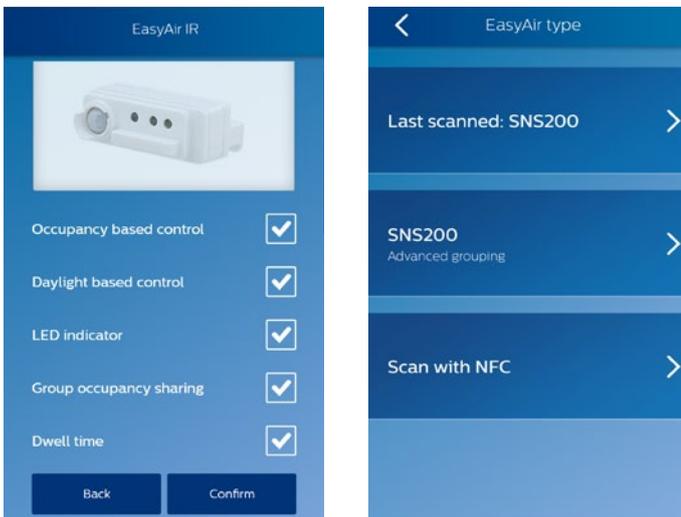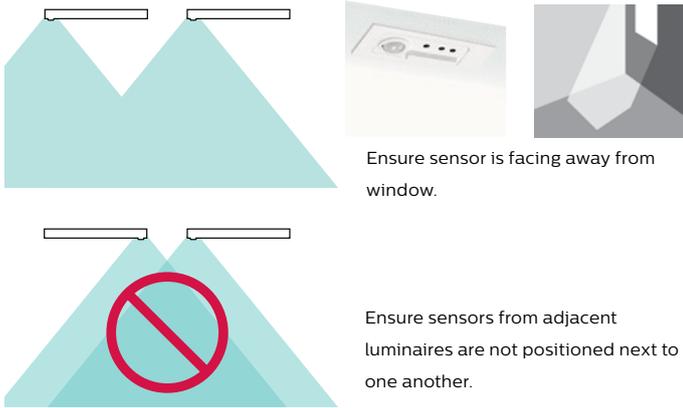

Note 2

Just one (any) SpaceWise sensor needs to be scanned, there is no need to scan multiple sensors. Once the Dwell Time feature is populated into the app, it will stay there until the phone is switched off or the app is updated or deleted.

Note 3

Dwell Time feature (enable/disable) will not work on standard EasyAir model SNS200.
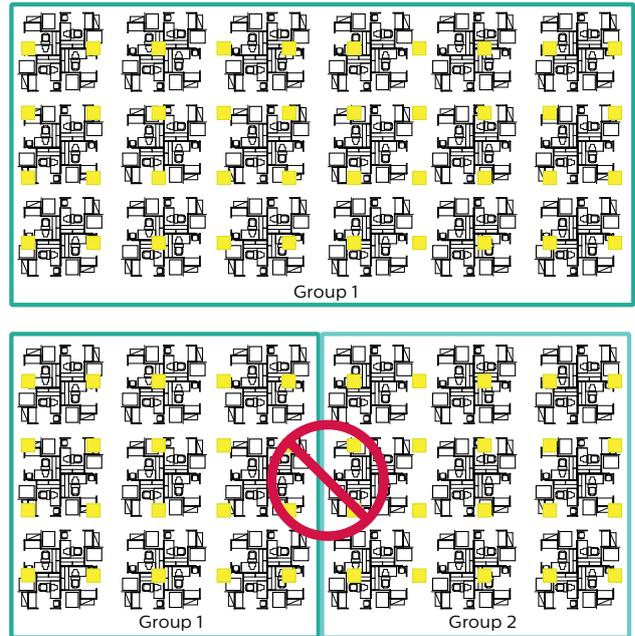
5 Commissioning

5.1 Install the luminaires and plan wireless groups

Determine luminaire orientation

Ensure sensor is facing away from window.

Ensure sensors from adjacent luminaires are not positioned next to one another.

Install luminaires per manufacturer installation instructions.

Plan luminaire wireless groups
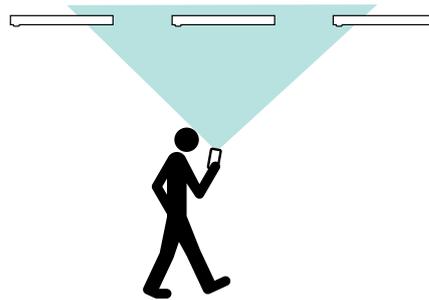

Group 1

Group 1   Group 2

When configuring open plan offices with SpaceWise, large groups of 30–40 luminaires are recommended to maintain the lighting aesthetics of the space. Smaller groups may turn off more frequently than desired.

5.2   How to point the phone for IR commissioning
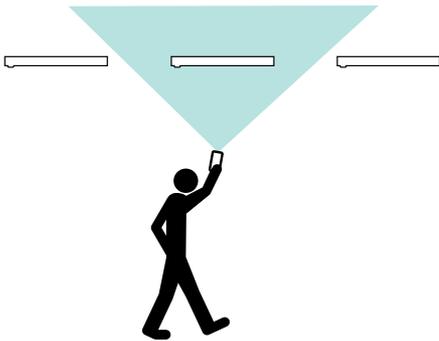
For proper commissioning, hold the phone above your head, pointed at the luminaire that you wish to target. This will help ensure that the IR range or cone is restricted to just one luminaire, and only that luminaire will react.
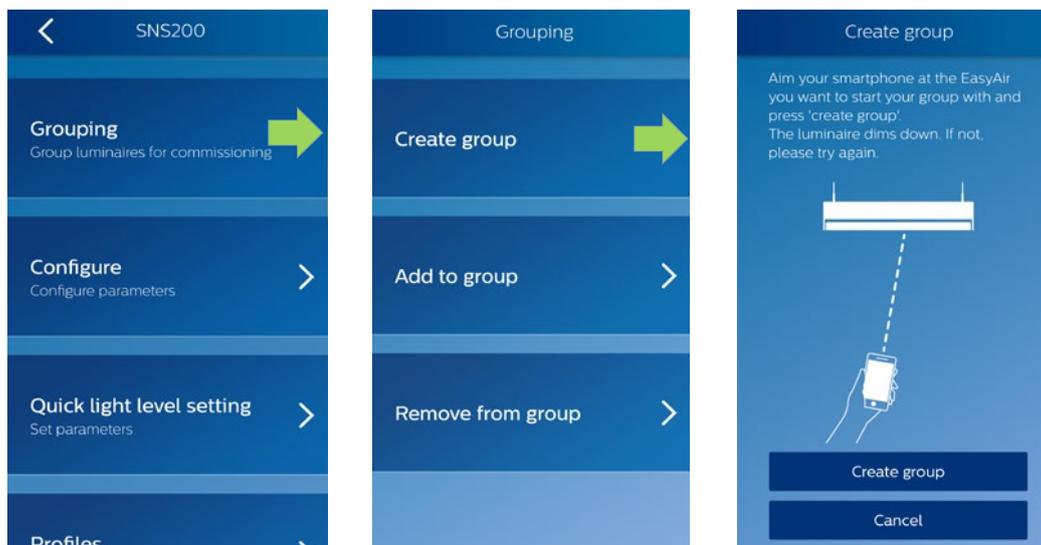
Holding the phone closer to eye level or lower will result in a wider IR range or cone. This will cause multiple luminaires to receive the signal.

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5.3 Grouping

On the main dashboard, click the "EasyAir IR" mode to continue. Then select "Last scanned: SNS200" or "SNS200".
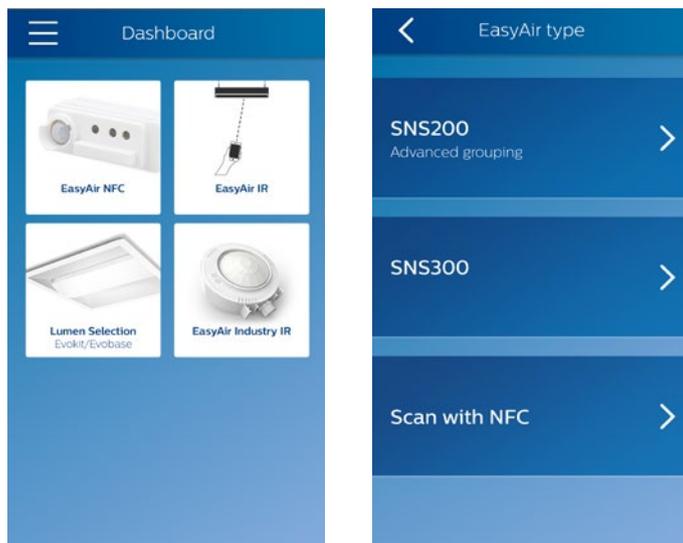

Follow the flow of the app to create a new group.

To add a luminaire to an existing group, select "Add to group" and follow flow of the app. Please make sure that instructions are followed in the app correctly so that you open up an existing group while adding a new luminaire rather than opening a new group.

Once the user has finished adding all the luminaires to the group, the app will prompt the user to add a switch.

If a non Philips switch is used then please refer to the commissioning instructions specific to that manufacturer's switch. If Philips wireless switch (UID 8450/10 or UID8460/10) is used, then follow the below instructions.
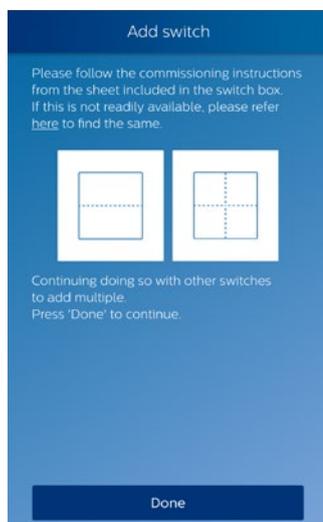
Up to 5 switches can be linked together in a group. There is no need to connect to any electrical power supply as the devices generate their own power, to communicate, when one of the buttons is pressed (kinetic energy).
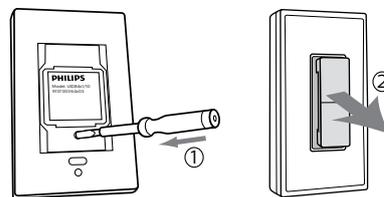· A small press and release action on the button will turn on or turn off the lights.
· A long press and hold action on the button will dim the lights accordingly.

Step 1
Press the "Add switch" button on the app.

Step 2
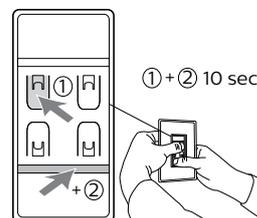Remove the cover of the switch by applying pressure at the back of the switch. You will find 4 small buttons behind the cover.
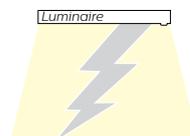

Step 3
Select the correct wireless channel by pressing and holding one of the small buttons (1) and horizontal bar (2) for at least 10 seconds.
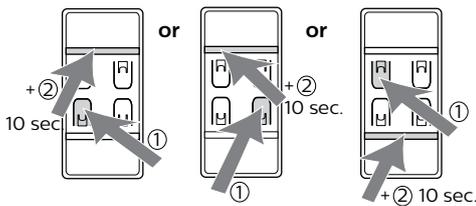

If the switch joins the group then the luminaire will FLASH twice and group light level will go to 5 %.

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Step 4

If the switch did not join the group as per step 3 then repeat step 3 but with a different button (1) this time.

If the switch joins the group then the luminaire will FLASH twice and group light level will go to 5 %.

Step 5

Finish the group creation process as per the instructions on the app

Step 6

Install the buttons back on the switch and test the switch by pressing the buttons.
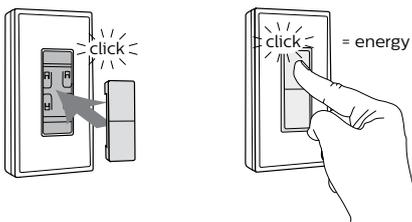
All the luminaires in the group will turn on/off based on the buttons action.
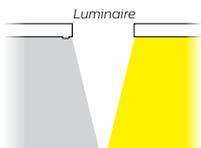
To remove a luminaire or switch from the group, follow the flow of the app precisely. Removing a device from the group does not revert the device back to factory settings. To revert a device to factory settings please refer to the section 5.9 (reset sensor parameters).

5.4 Configuring sensor parameters

The sensor parameters that can be configured are listed below:

- Occupancy based control (Enable/Disable)
- Daylight based light control (Enable/Disable)
- LED indicator (Enable/Disable)
- Occupancy mode: Auto-on/off, Manual-on/off or Manual-on/auto-off
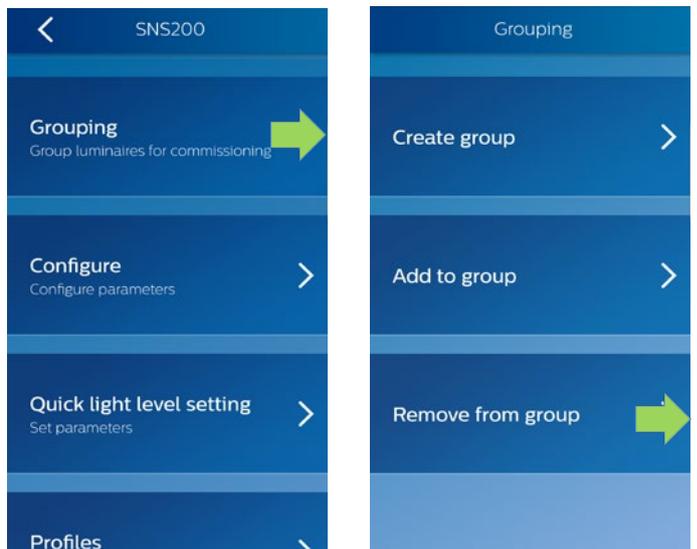- Field task level: in percentage of the maximum power level of the luminaire
- Dwell time: (Enable/Disable) Dwell Time will only populate in the app if SpaceWise sensor has been scanned as per the instructions in section 4
- Eco-on level: in percentage of the maximum power level of the luminaire
- Background light level: in percentage of the maximum power level of the luminaire
- Hold time: the time for which lights remain at high level (after vacancy has been detected) before dimming to background level.
- Prolong time: the time for which lights remain at the background level before turning off
- Grace fading time: fade time when lights dim from high level to background level
- Group light behavior: Light output of luminaires within the group that detect vacancy. By default luminaires that detect vacancy within the group are configured to dim to background light level. If all the luminaires within the group should always be at the same light level irrespective of occupancy pattern then configure this setting to "Field task level"
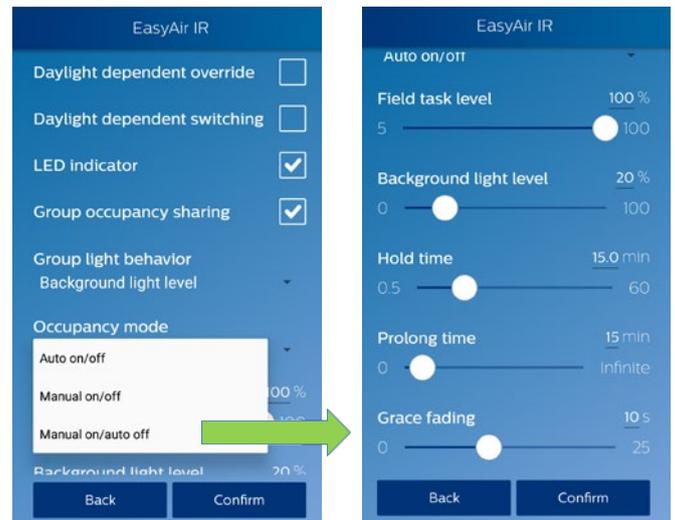
Once all parameters have been set, select confirm & either save these parameters as a profile for future reference as per the instructions in section 5.5 or users can skip the saving profile option and push these settings on a single luminaire or the entire group.

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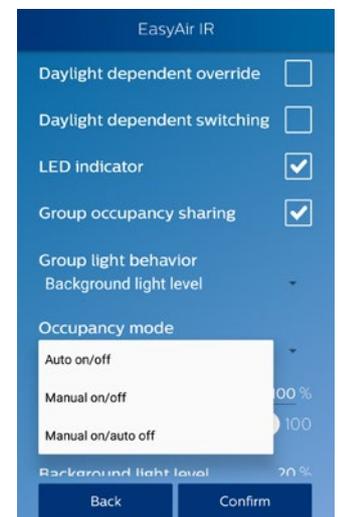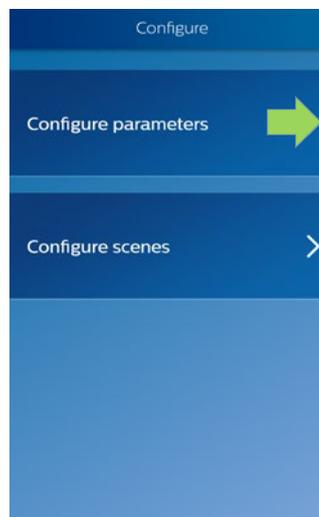
5.5   Save a profile for reference

After confirming the sensor parameters, the app will prompt the user to save these parameters with a "Profile name" and "Location". Enter a profile name & location that best resonates with the project. This saves a profile for future use and stores the data from the scanned sensor in the Philips Lighting database, in the future it will be possible to request reports of various data. For similar installations and projects, users can quickly recall this profile from the app and execute it on new luminaires.

⊜ Note
Executing profile will only configure sensor parameters, it will not automatically create groups or add a new luminaire to an existing group.
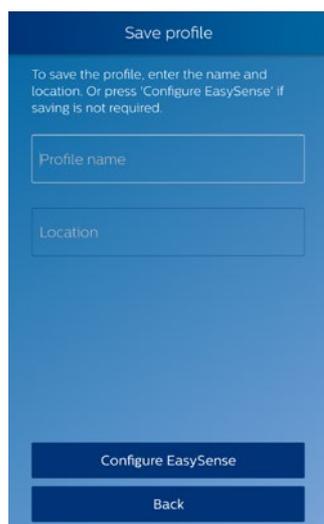
❶ Important
It is critical that you enter detailed location information whenever you program the sensor. The information in this 40-character field will be used to extract your data from the database. It is not possible to extract your information without detailed location data. You may choose to opt out from sending information to this database by selecting Preferences from the main menu and unchecking the "Upload configuration data" checkbox. Click ▤ for "Preferences."

To use a saved profile, go to "Profile" from the main menu, select the desired profile and program sensors. Users can also edit/delete profiles by clicking "edit" on the top right corner.
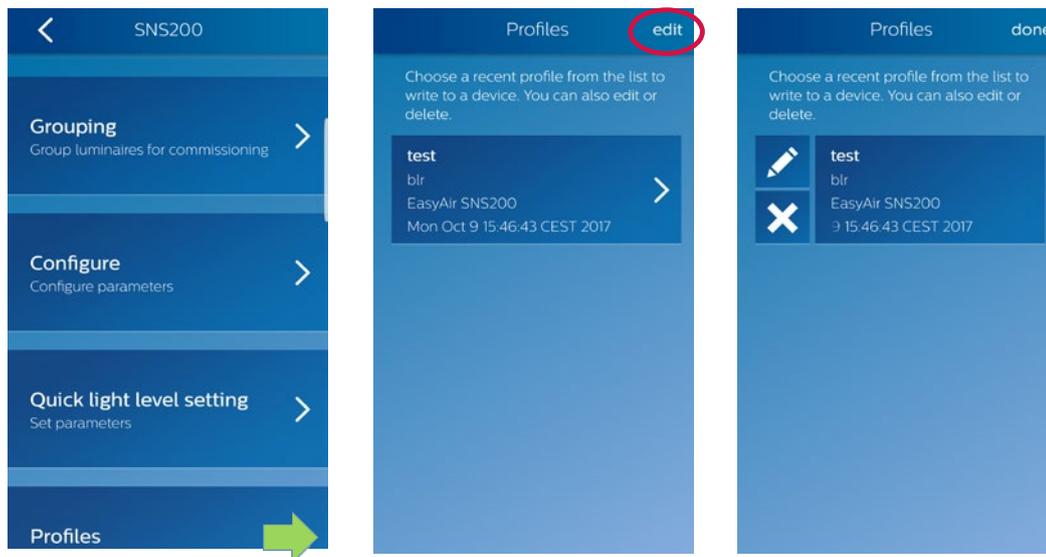
5.6   Quick light level setting

The IR mode provides an option to quickly configure light level related parameters – task tuning level, background light level and eco-on level – without configuring from a full list of the parameters.

Note
Eco-on level must be configured to a level between the field task tuning level and background light level.
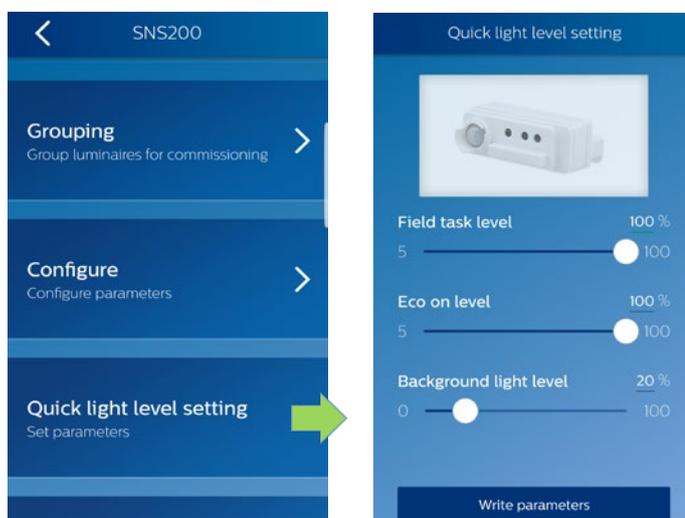
5.7 Configuring scenes

Scenes can be easily configured for single luminaires or entire groups. From EasyAir IR mode, select "Last scanned: SNS200" or "SNS200" and follow the flow of the app as below.
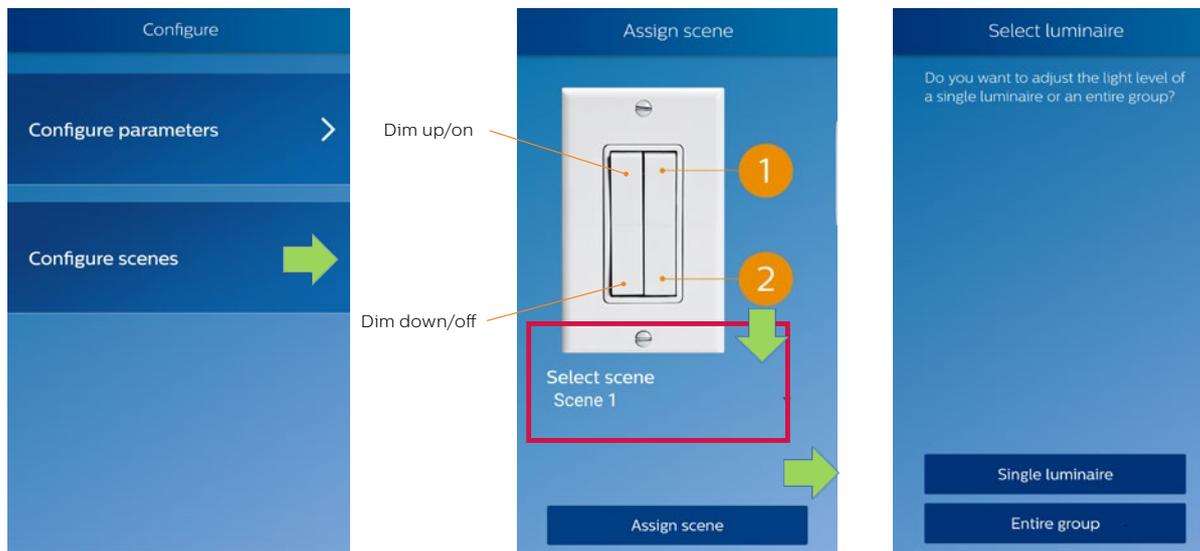
The scenes are selectable via the scene buttons of the switches associated either to the luminaire or an entire group. In any case, the configuration proceeds through the "Adjust light level" screen that enables the user to select desired light level for the selected scene.

Configure scenes for single luminaires

After choosing the single luminaire adjusted light level for the selected scene, the actions for storing the scene level and associating it to the switch must be executed as represented in the sequence below.

For a given scene, individual luminaires within the group can be configured to different light level settings. This is beneficial for example in a conference room where luminaires closer to the projection wall are desired to be dimmed/off while other luminaires in the same group are desired to be at higher light levels on the same scene.

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Configure scenes for entire groups
After choosing the entire group adjusted light level for the selected scene, the app additionally allows the user to adjust light levels for individual luminaires within the group. Users can skip this step by selecting "No".

The actions for storing the scene level and associating it to the switch must be executed as represented in the sequence below.
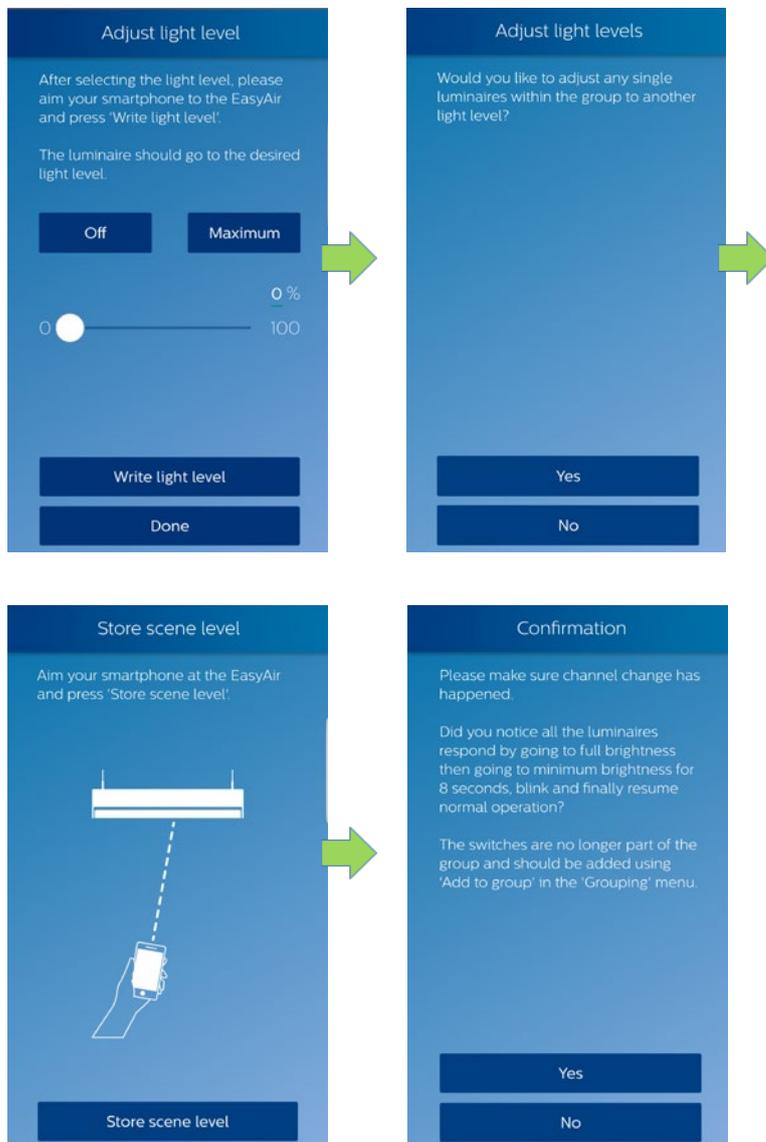
5.8   Reset network

From the IR mode, select "Last scanned: SNS200" or "SNS200", then "Maintenance", then "Reset network settings". Point the phone at the target luminaire and perform the reset command. Note that the reset command only removes the luminaire from the group; it does not change any parameter settings of the sensor in that luminaire.

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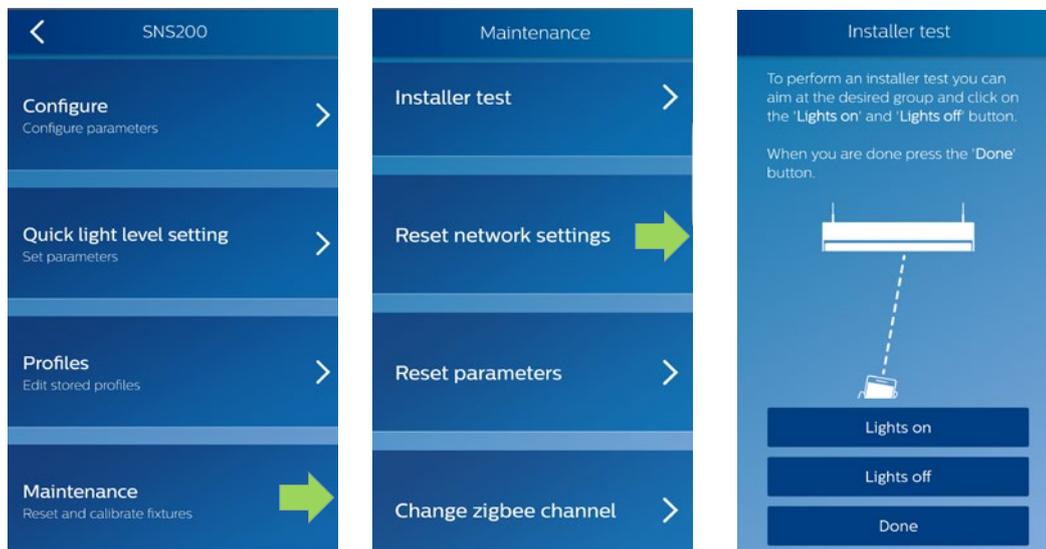
5.9   Reset parameters

From the IR mode select "Last scanned: SNS200" or "SNS200", then "Maintenance", then "Reset parameters". Select whether you prefer to reset a single luminaire or an entire group. Point the phone at the target luminaire and perform the reset command. The luminaire or group of luminaires get reset to factory default settings.
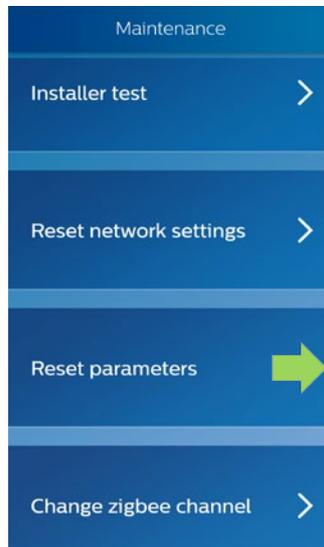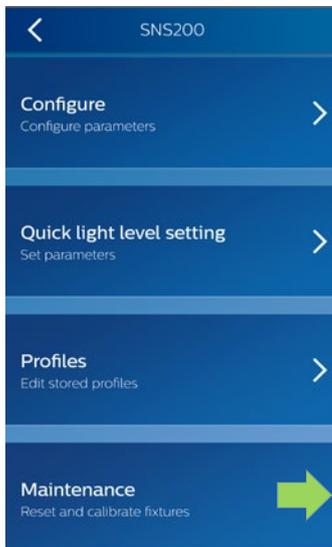
5.10　Change Zigbee channel

The IR mode also offers an option to change the Zigbee channel of luminaire(s) if there is interference, select "Last scanned: SNS200" or "SNS200", then "Maintenance", then "Change zigbee channel".
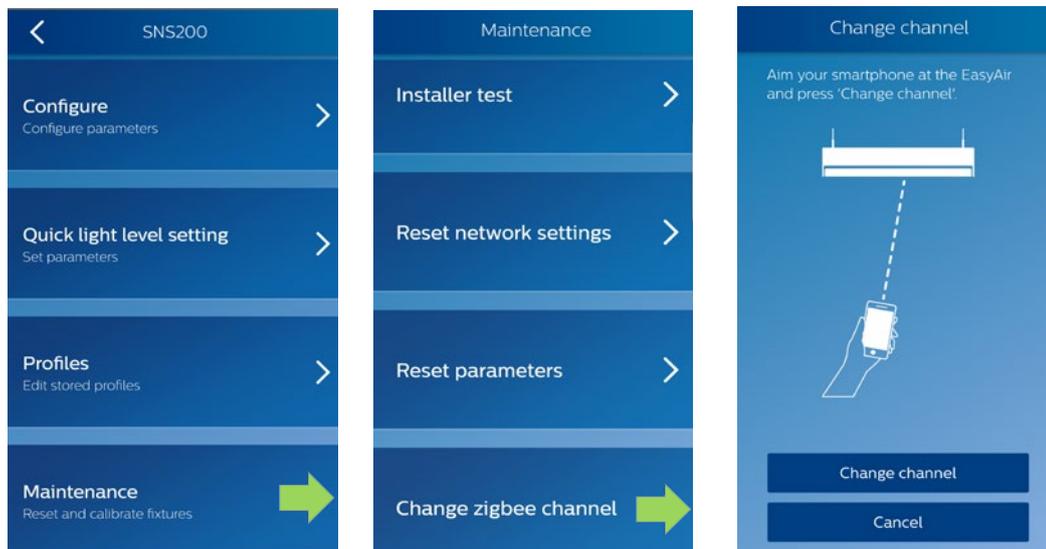
Note

If Zigbee channel is changed on the luminaires, then any switches part of the group will have to be re-joined to the group because the switches do not change their Zigbee channel and rejoining action will ensure that the switches are operating on the same new channel as the luminaires.

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5.11   Installer test

The user can test the luminaires working as an entire group by turning the lights on and off. To use this feature, from the IR mode select "Last scanned: SNS200" or "SNS200", then "Maintenance" then "Installer test".
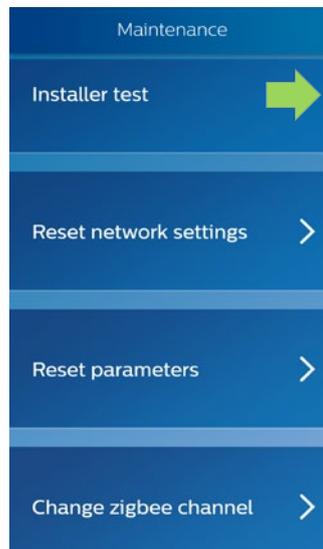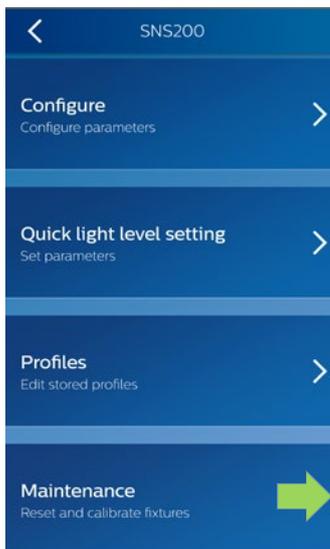
6 Troubleshooting tips/system messages

- Every time you program the sensor, the app will try to upload the related data to the Philips Lighting database. If you are working offline, you will see regular reminders that you should connect to Wi-Fi as soon as it's convenient.
- As soon as you connect to Wi-Fi, after working offline, the app will upload the data for any units that you have programmed. If you see the messages below, click "RETRY" to initiate the upload.
- You will see this message when it has been up to seven days since your phone has been refreshed with the latest data from the Philips Lighting database.

🖴 Note
You can ALWAYS click past these warning messages and continue to work with Philips field apps. To keep your data current, you should connect to Wi-Fi on a regular basis.

Explanation: Error message received if it has been up to seven days since your last upload.
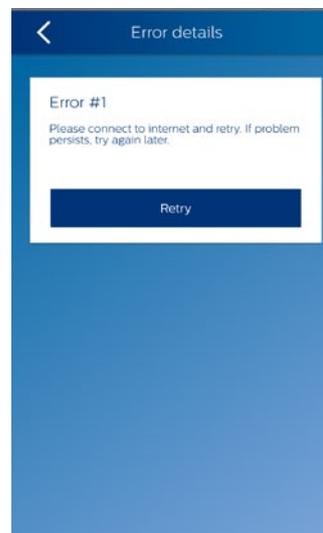
Explanation: Clicking on the error message generates a reminder to connect to Wi-Fi.
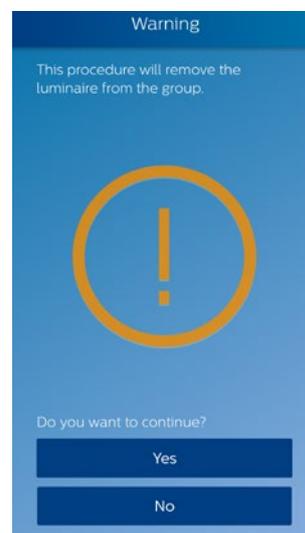
Explanation: If it has been seven or more days since your last upload, you will see this message.

Explanation: If you see this message, first try connecting to Wi-Fi to refresh the database on your phone. Scan the unit again. If you still see the message after the refresh, the unit in question is not supported by the app.

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7   FAQs

Q   What protocol and frequency do the SpaceWise luminaires operate on?

A   SpaceWise luminaires use ZigBee 2.4 GHz frequency to communicate in a mesh network topology.

Q   How many SpaceWise groups can be created on a project and what is the maximum limit on the total number of devices within a SpaceWise group?

A   Infinite number of SpaceWise groups can be created on a project. Within a group, up to 40 sensors and up to 5 switches can be linked together.

Q   Do the SpaceWise luminaires forget their settings after power is lost or interrupted?

A   No, all settings are retained as long as the luminaires have not been factory reset or there has been a hardware failure.

Q   Why do the lights momentarily ramp up and dim down after the SpaceWise luminaires experience a power interruption?

A   Upon power cycle, SpaceWise luminaires undergo a daylight calibration sequence for few seconds. During the sequence the SpaceWise luminaires alter their light levels to determine the contribution of any ambient light.

Q   What is the recommended distance between two SpaceWise luminaires?

A   Standard grid spacing must be maintained between luminaires.

Q   Dwell Time feature is not showing up within the configure settings page of the App.

A   Please update the App to the latest version and make sure you have read the sensor settings by selecting the EasyAir IR mode followed by "Scan with NFC". Scanning the sensor with EasyAir NFC mode will not populate the app with the Dwell Time feature.

8   Disclaimer

The information in this guide is accurate at the time of writing. This guide is provided "as is" without expressed or implied warranty of any kind. Neither Philips nor its agents assume any liability for inaccuracies in this guide or losses incurred by use or misuse of the information in this guide.

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9   Technical

FCC Compliance Statement

The luminaire complies with the part 15 of the FCC rules. Operation is subject to the following two conditions:

· This luminaire may not cause harmful interference, and

· This luminaire must accept any interference received, including interference that may cause undesired operation

Any changes or modification not expressly approved by Philips could void the user's authority to operate this equipment. This product is intended for commercial use only.

Warranty

A detailed product warranty statement can be found on the Philips website http://www.lighting.philips.com/main/support/support/warranty

www.lighting.philips.com