PHILIPS

Controls Indoor

SpaceWise DT

User manual

Table of Contents

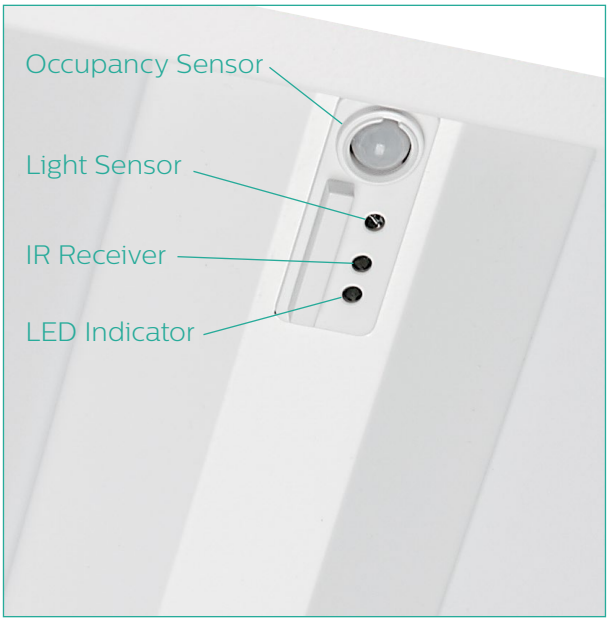
1.	Philips SpaceWise wireless technology DT introduction	3
2.	Sensor coverage area	4
3.	Philips Field App download and usage instructions	5
4.	Optional pre-commissioning	
	4a. How to populate "Dwell Time" feature	6-7
5.	Commissioning	8-19
	5a. Install the luminaires and plan wireless groups	8
	5b. How to point the phone for IR commissioning	9
	5c. Grouping	10-12
	5d. Configuring sensor parameters	13
	5e. Save a profile for reference	14
	5f. Quick light level setting	15
	5g. Configuring scenes	16-17
	5h. Reset network	18
	5i. Reset parameters	18
	5j. Change Zigbee channel	19
	5k. Installer test	19
6.	Energy reporting – beta version	20
7.	Troubleshooting tips/system messages	21
8.	FAQs	22
9.	Disclaimer	23
10.	Technical	23

1. Philips SpaceWise wireless technology DT introduction

Philips luminaires with SpaceWise wireless technology DT 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 DT 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



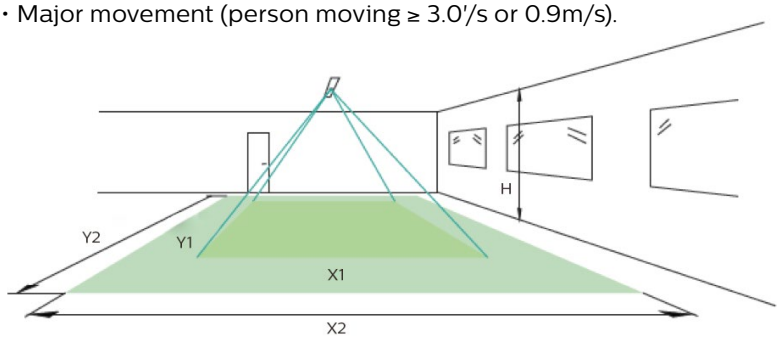
A maximum of 40 luminaires can be grouped together using the App. Out of the box SpaceWise DT enabled luminaires are optimized for the following standard application space parameters:

Luminaire length	Celling grid	Ceiling height	Partition height	Workstation
4 ft	8 ft x 10 ft	8 to 9 ft	4.5 ft	8 ft x 12 ft 2.5 ft
2 ft	8 ft x 8 ft	8 to 9 ft	4.5 ft	8 ft x 12 ft 2.5 ft

2. Sensor coverage area

The detection area for the movement sensor can be roughly divided into two parts:

- Minor movement (person moving ≤ 3.0'/s or 0.9m/s).
- Major movement (person moving ≥ 3.0'/s or 0.9m/s).

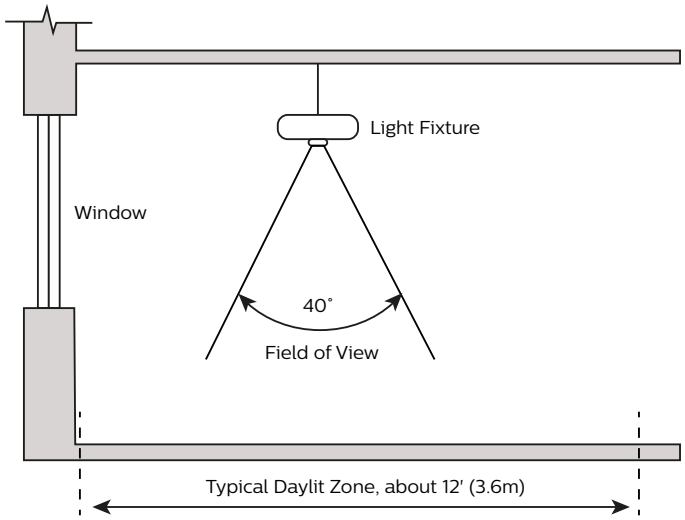


Height	Minor Movement		Major Movement	
H	Y1	X1	Y2	X2
8'/2.4m	10'/2.9m	9'/2.7m	15'/4.5m	9'/2.9m
10'/3m	12'/3.6m	11'/3.4m	18'/5.4m	12'/3.6m

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.

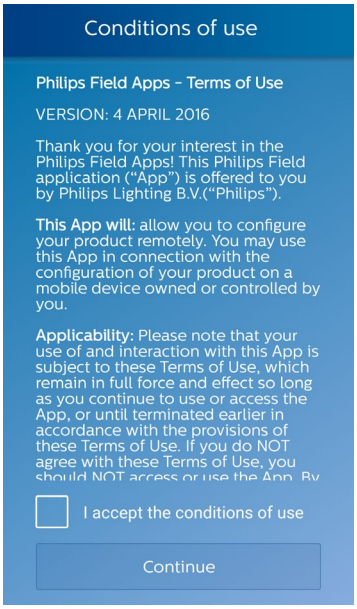
Photosensor spatial response

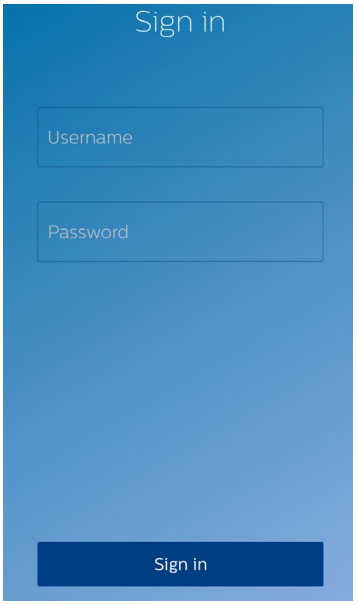


3. Philips Field App download and usage instructions

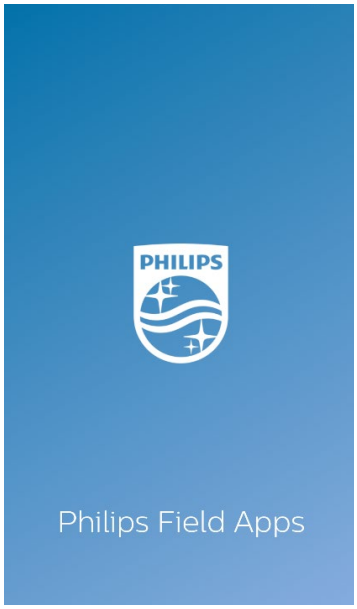
Phone requirement: The app works only on certain Android-based smartphones. Check the following websites: www.philips.com/spacewise and/or www.philips.com/easysense, for the latest list of compatible phones with NFC and IR blaster functionality and their NFC reader locations.

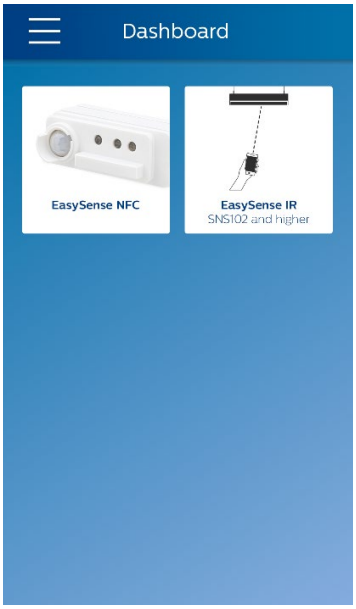
Register for Philips Field Apps at: www.usa.lighting.philips.com/support/support/tools/. During registration select EasySense NFC and EasySense IR options. Once registered, you will be provided with a username & password to download the Philips Field App from the Google Play store. Sign-in is only required once per installation of the app. **To have a successful sign-in, please make sure that the phone has internet access.**





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





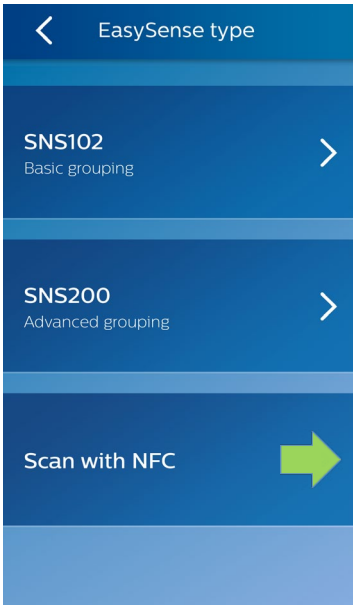
4. Optional pre-commissioning

4a. How to populate "Dwell Time" feature

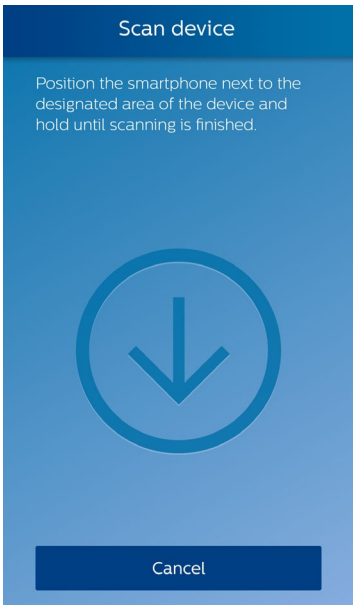
For the dwell time feature to populate in the Philips Field App, a SpaceWise DT enabled sensor must be scanned. Access the **EasySense IR mode** in the App followed by selecting "Scan with NFC".

Select “EasySense IR”

Select “Scan with NFC”

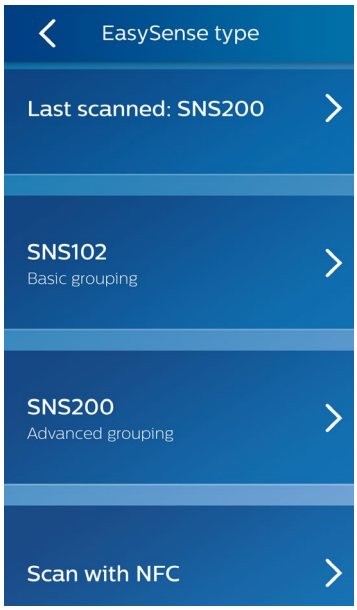


Place the back of the smartphone (where the NFC reader is located) onto the sensor NFC antenna (almost touching) to enable NFC communication. NFC communication might take a few seconds. Do not move until you hear a beep and the next screen appears.



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 EasySense base SNS200 sensor.**



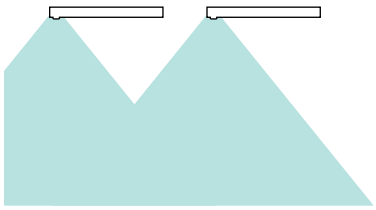
Note 2: **Just one (any) SpaceWise DT sensor needs to be scanned, there is no need to scan multiple sensors. Once the Dwell Time feature is populated into the app, it will stay there until the phone is switched off or the app is updated or deleted.**

Note 3: **Dwell Time feature (enable/disable) will not work on standard EasySense models SNS 102 & SNS 200.**

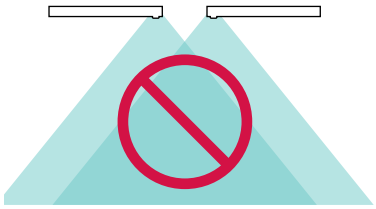
5. Commissioning

5a. Install the luminaires and plan wireless groups

Determine luminaire orientation



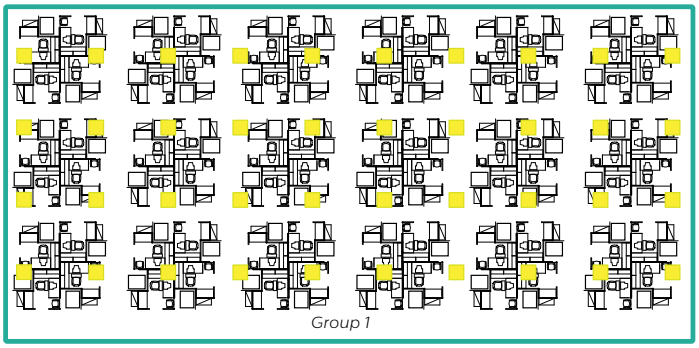
Ensure sensor is facing away from window.

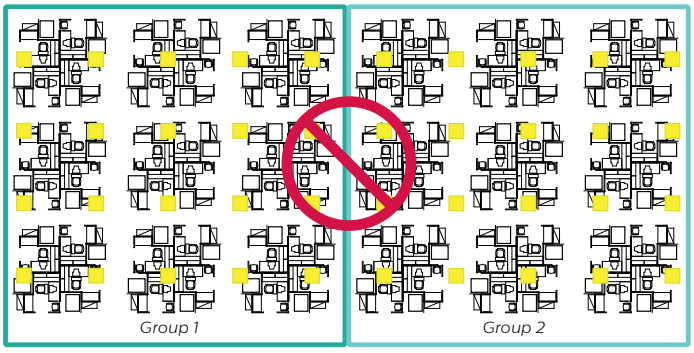


Ensure sensors from adjacent luminaires are not positioned next to one another.

Install luminaires per manufacturer installation instructions.

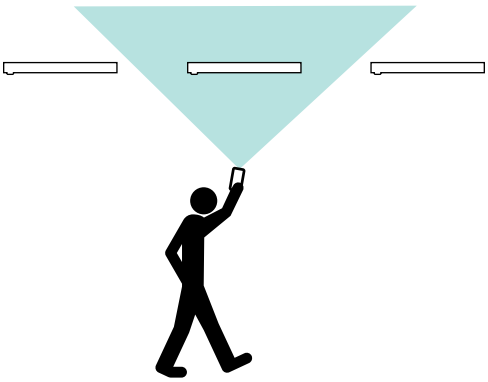
Plan luminaire wireless groups



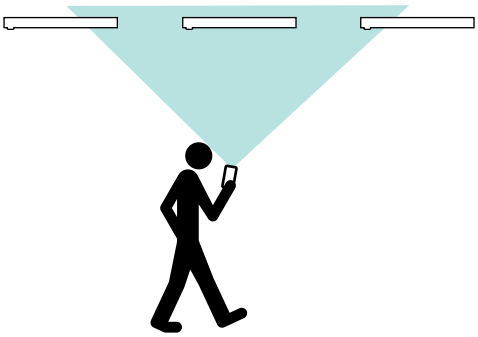


When configuring open plan offices with SpaceWise DT, large groups of 30–40 luminaires are recommended to maintain the lighting aesthetics of the space. Smaller groups may turn off more frequently than desired.

5b. How to point the phone for IR commissioning



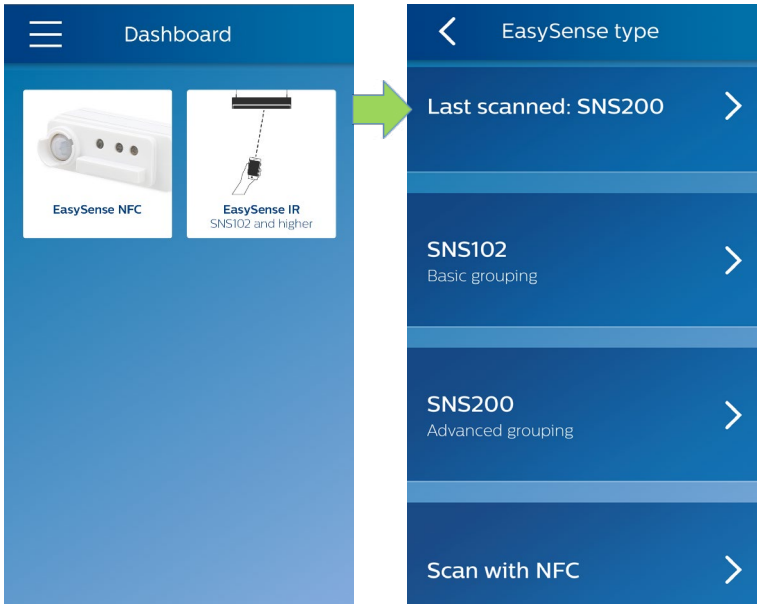
For proper commissioning, hold the phone above your head, pointed at the luminaire that you wish to target. This will help ensure that the IR range or cone is restricted to just one luminaire, and only that luminaire will react.



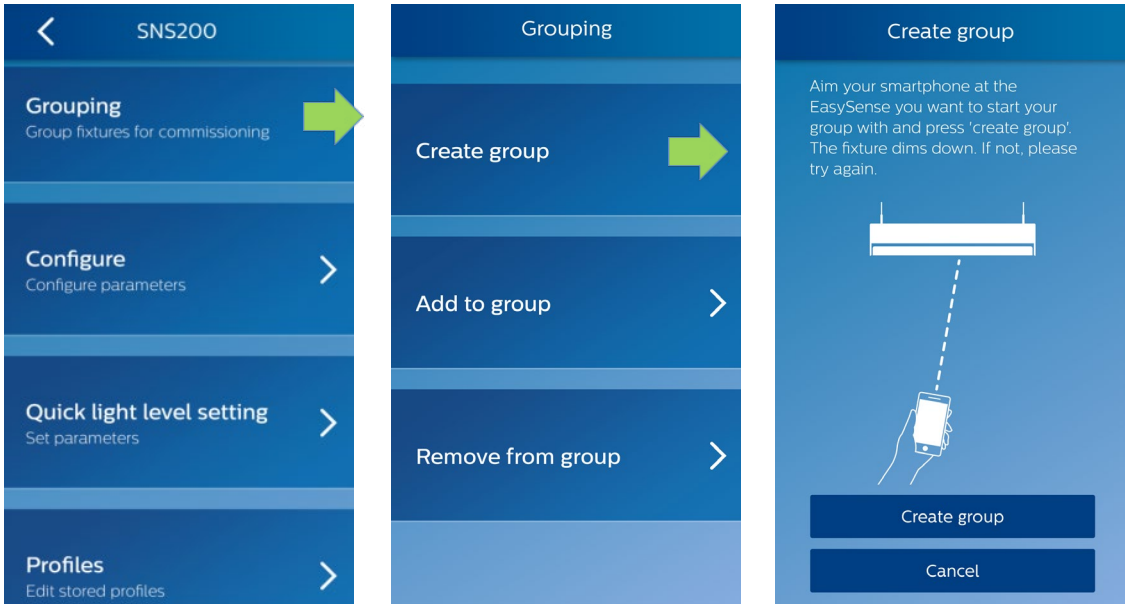
Holding the phone closer to eye level or lower will result in a wider IR range or cone. This will cause multiple luminaires to receive the signal.

5c. Grouping

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



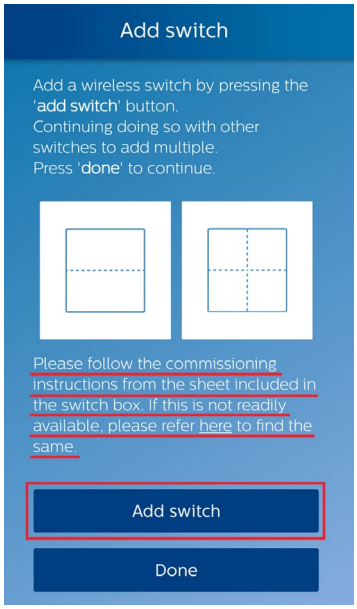
Follow the flow of the app to create a new group.



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 8451/10) is used, then follow the below instructions.



Up to 5 switches can be linked together in a group. The switch uses EnOcean technology and does not need batteries or any power supply. Every time the switch is physically pressed it generates energy and transmits a wireless message to the luminaires.

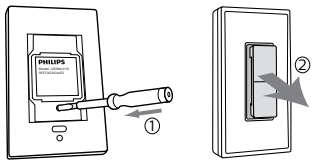
- A small press and release action on the rocker will turn on or turn off the lights.
- A long press and hold action on the rocker will dim the lights accordingly.

Step 1

Press the "Add switch" button on the app.

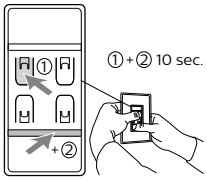
Step 2

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

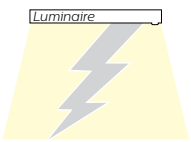


Step 3

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

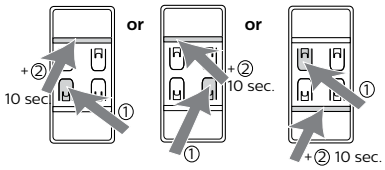


If the switch joins the group then the luminaire will FLASH twice and group light level will go to 5%.

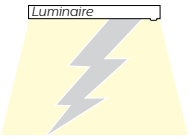


Step 4

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%.

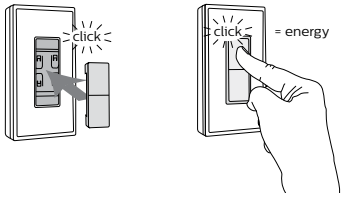


Step 5

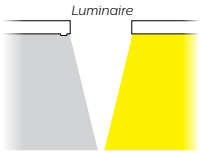
Finish the group creation process as per the instructions on the app

Step 6

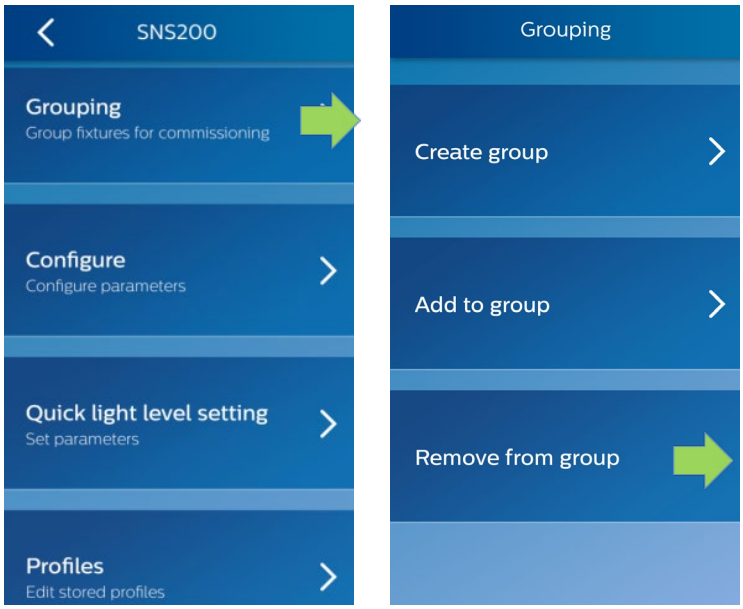
Install the rocker pad back on the switch and test the switch by pressing the rocker pads.



All the luminaires in the group will turn on/off based on the rocker pad action.



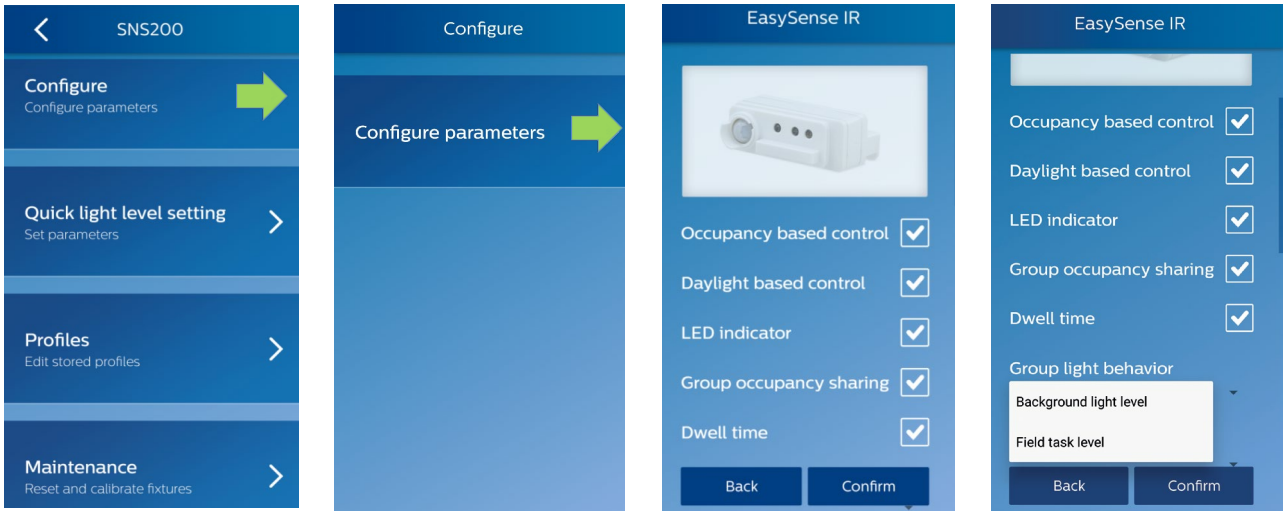
To remove a luminaire or switch from the group, follow the flow of the app precisely. Removing a device from the group does not revert the device back to factory settings. To revert a device to factory settings please refer to the section 5i (reset sensor parameters).



5d. 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 fixture
- **Dwell time:** (Enable/Disable) Dwell Time will only populate in the app if SpaceWise DT sensor has been scanned as per the instructions in section 4a
- **Eco-on level:** in percentage of the maximum power level of the fixture
- **Background light level:** in percentage of the maximum power level of the fixture
- **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"

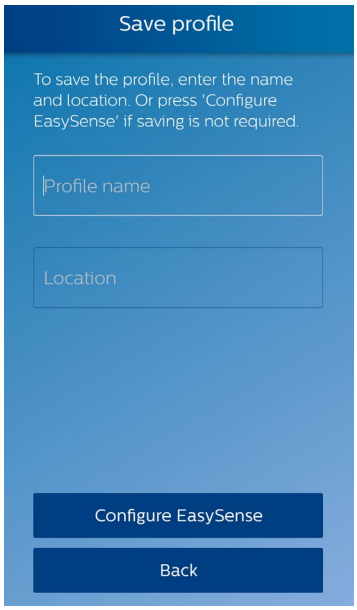


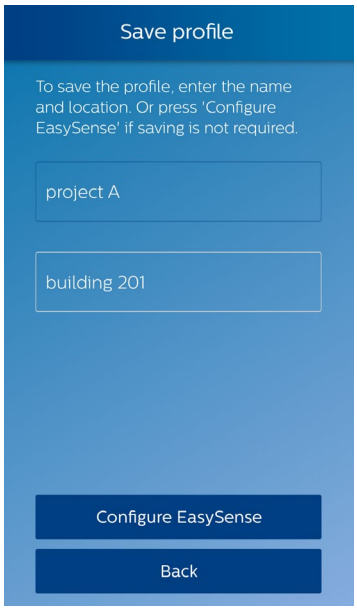
Once all parameters have been set, select confirm & either save these parameters as a profile for future reference as per the instructions in section 5e or users can skip the saving profile option and push these settings on a single fixture or the entire group.

5e. 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.

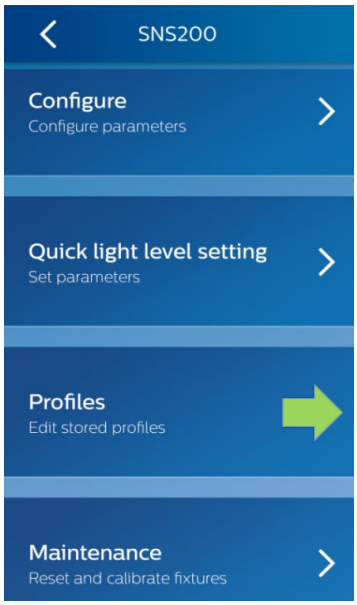
Note: Executing profile will only configure sensor parameters, it will not automatically create groups or add a new luminaire to an existing group.

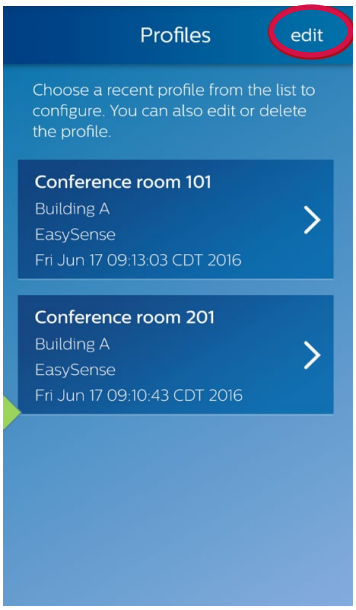


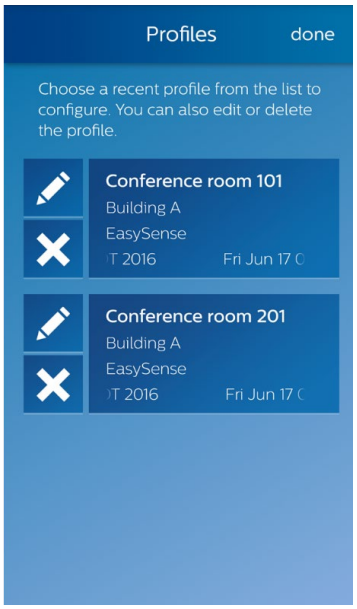


IMPORTANT: It is critical that you enter detailed location information whenever you program the sensor. The information in this 40-character field will be used to extract your data from the database. It is not possible to extract your information without detailed location data. You may choose to opt 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.



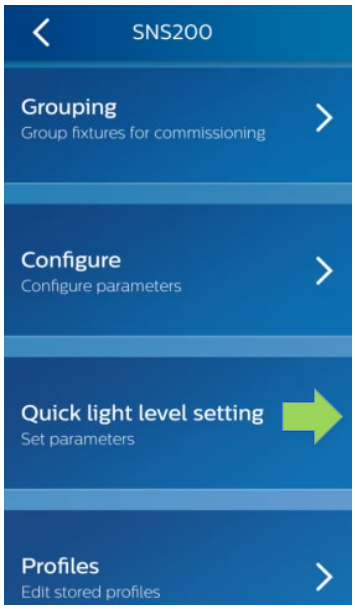


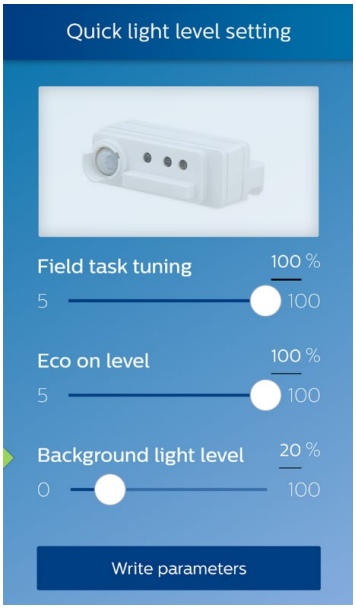


5f. Quick light level setting

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.

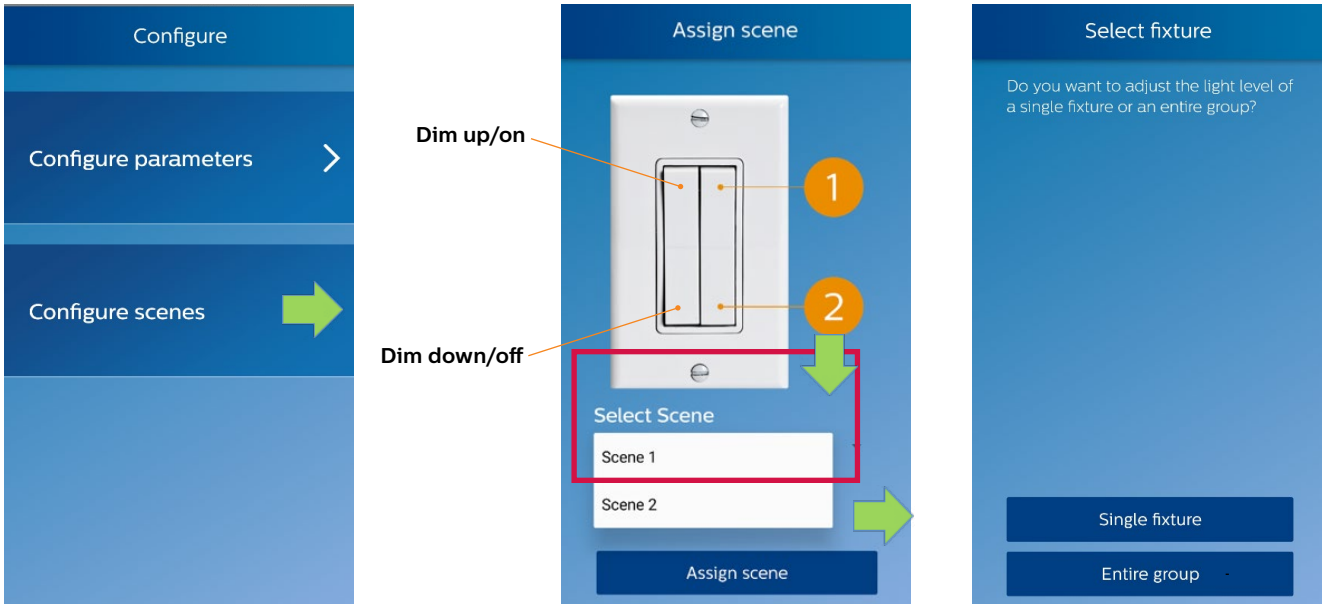
NOTE: Eco-on level must be configured to a level between the field task tuning level and background light level.





5g. Configuring scenes

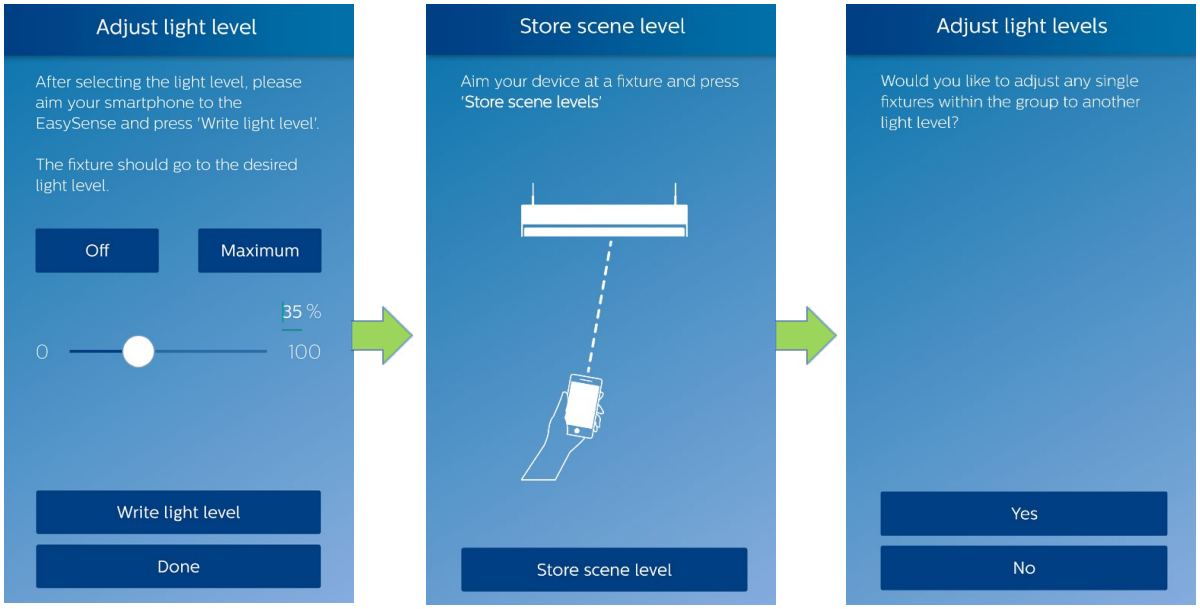
Scenes can be easily configured for single fixtures or entire groups. From EasySense IR mode, select "Last scanned: SNS 200" or "SNS200" and follow the flow of the app as below.



The scenes are selectable via the scene buttons of the switches associated either to fixture 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 fixtures

After choosing the single fixture 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.

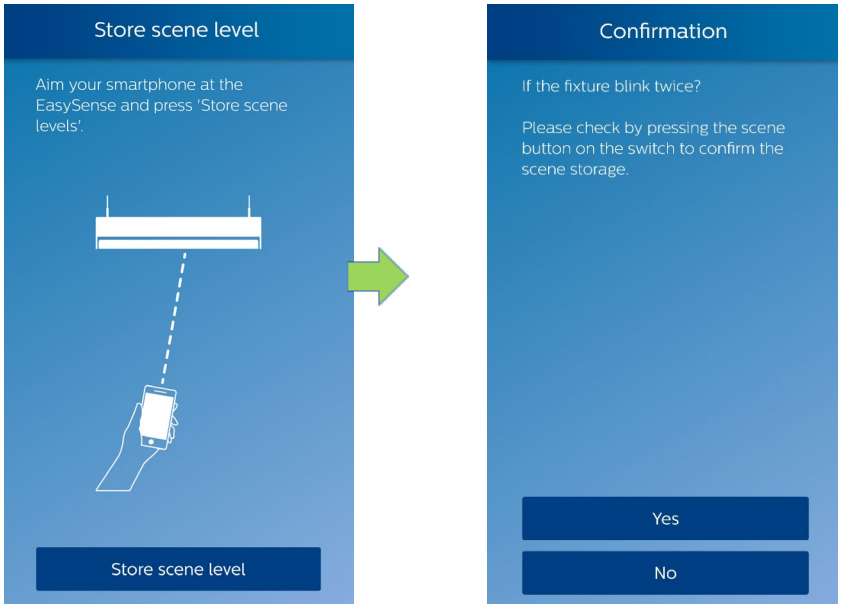


For a given scene, individual fixtures within the group can be configured to different light level settings. This is beneficial for example in a conference room where fixtures closer to the projection wall are desired to be dimmed/off while other fixtures in the same group are desired to be at higher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

Configure scenes for entire groups

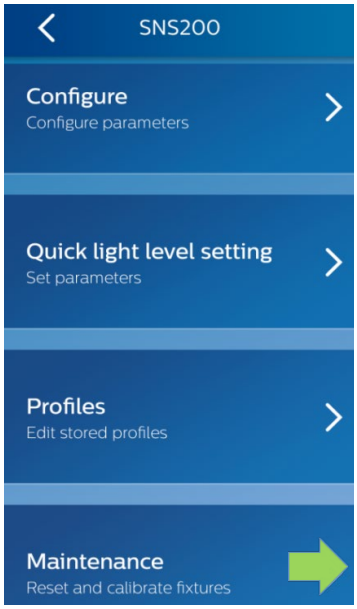
After choosing the entire group adjusted light level for the selected scene, the app additionally allows the user to adjust light levels for individual fixtures within the group. Users can skip this step by selecting "No".

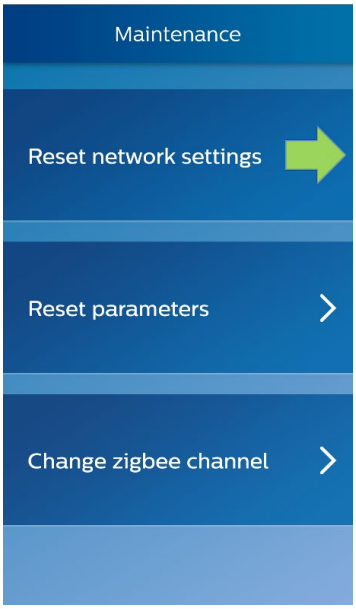
The actions for storing the scene level and associating it to the switch must be executed as represented in the sequence below.

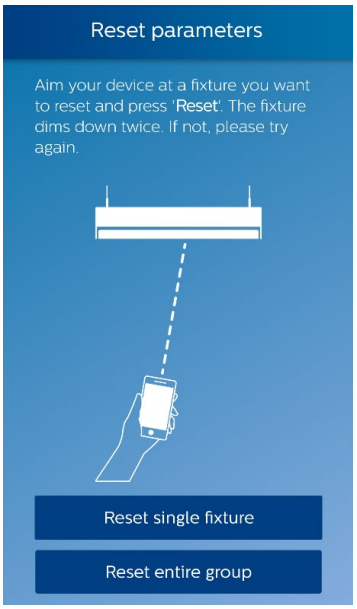


5h. Reset network

From the IR mode, select "Last scanned: SNS 200" or "SNS200", then "Maintenance", then "Reset network settings." Point the phone at the target fixture and perform the reset command. Note that the reset command only removes the fixture from the group; it does not change any parameter settings of the sensor in that fixture

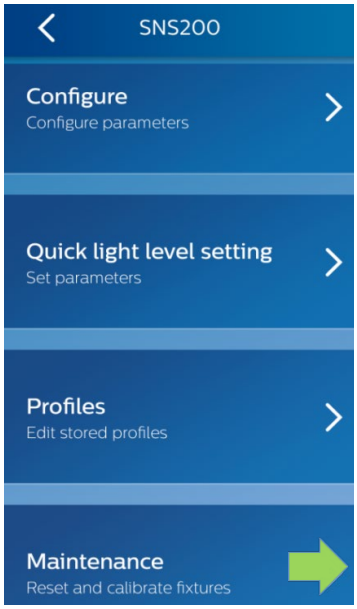


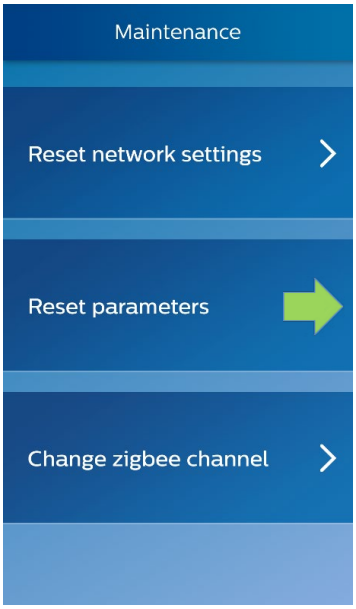


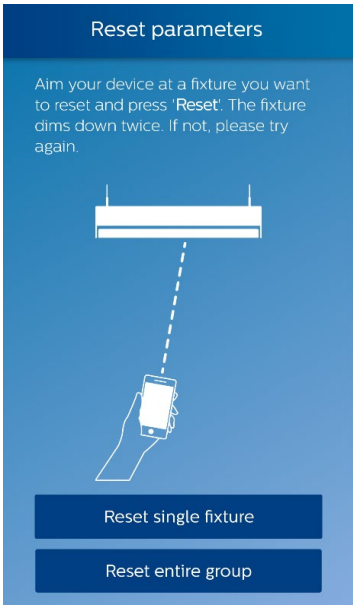


5i. Reset parameters

From the IR mode select "Last scanned: SNS 200" or "SNS200", then "Maintenance", then "Reset parameters". Select whether you prefer to reset a single fixture or an entire group. Point the phone at the target fixture and perform the reset command. The fixture or group of fixtures get reset to factory default settings.

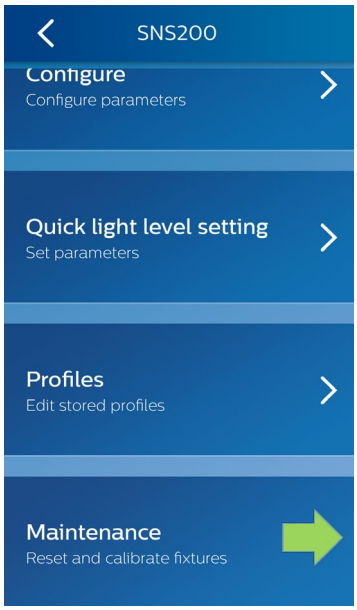


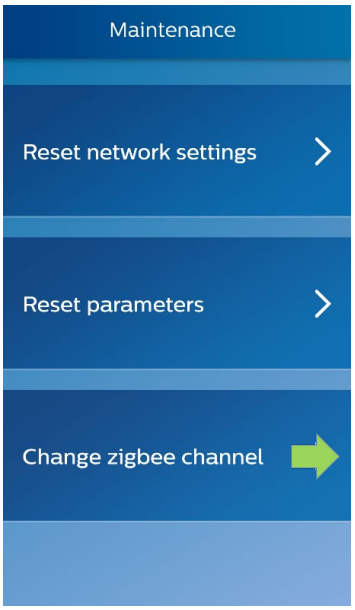




5j. Change Zigbee channel

The IR mode also offers an option to change the Zigbee channel of fixture(s) if there is interference, select "Last scanned: SNS 200" or "SNS 200", then "Maintenance". then "Change zigbee channel".

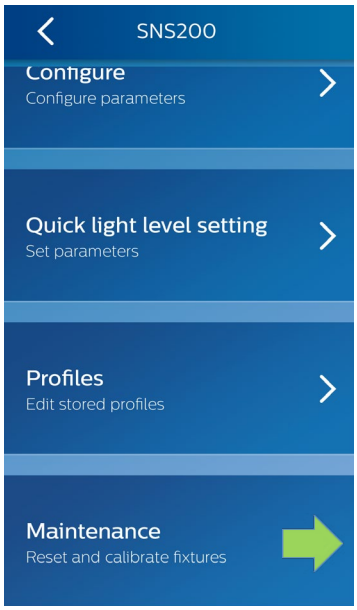


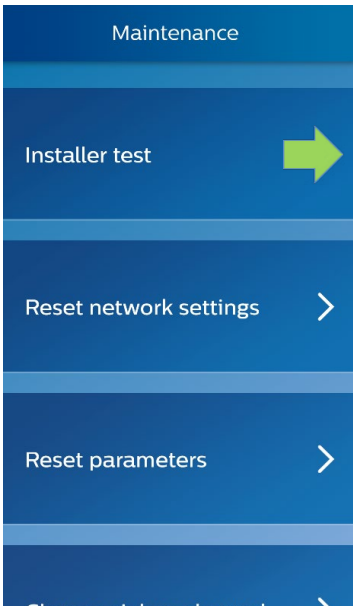


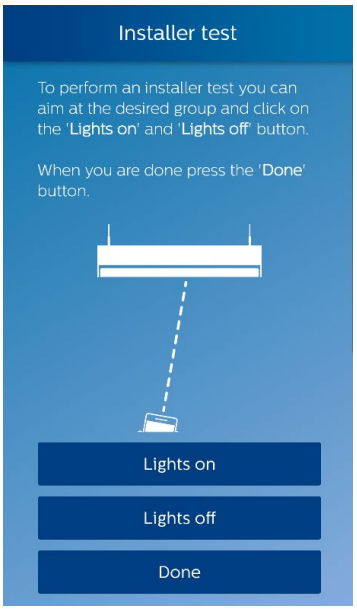
Note: **If Zigbee channel is changed on the luminaires, then any switches part of the group will have to be re-joined to the group because the switches do not change their Zigbee channel and rejoining action will ensure that the switches are operating on the same new channel as the luminaires.**

5k. Installer test

The user can test the fixtures 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".



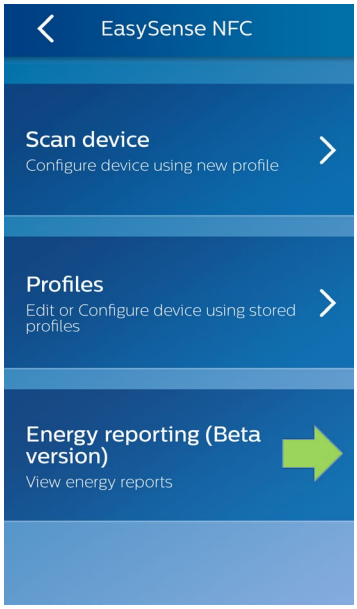


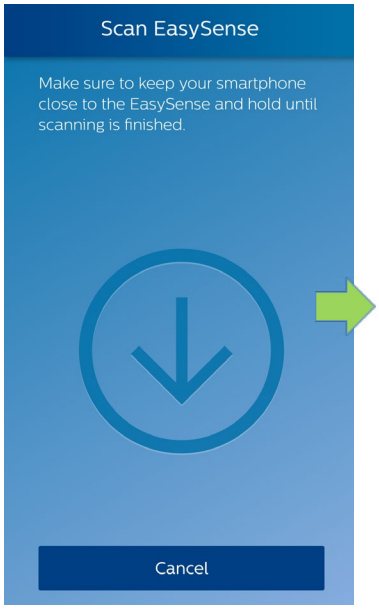


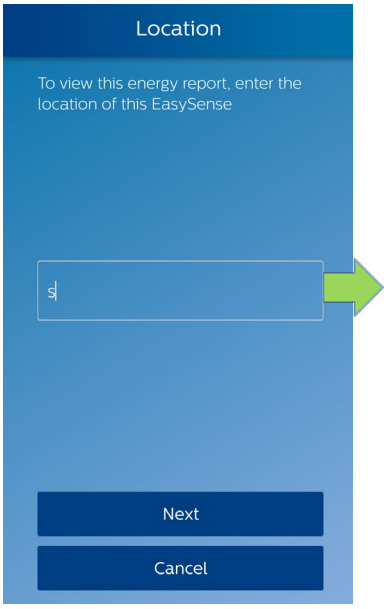
6. Energy reporting - beta version

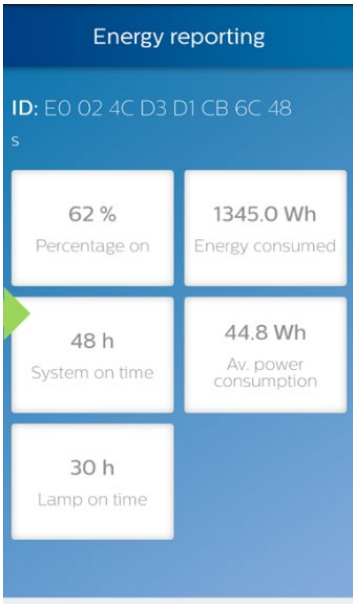
Philips Lighting has provided a beta version. (Beta means "not yet released for production use.") Please feel free to use this feature and provide us your feedback.

The user can follow the steps below to read out energy data, e.g., total consumed energy, average power consumption, percentage time the light has been on, system on time and lamp on time. This feature only works after the system has been powered for at least one hour and when EasySense NFC mode is selected.





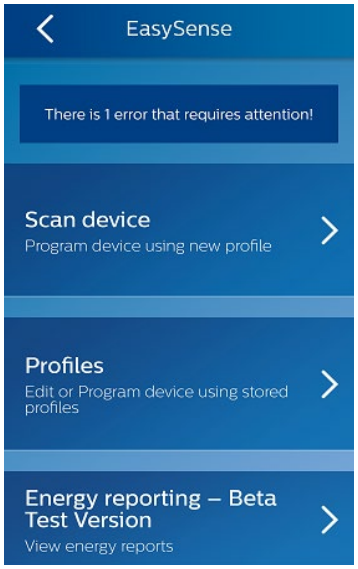




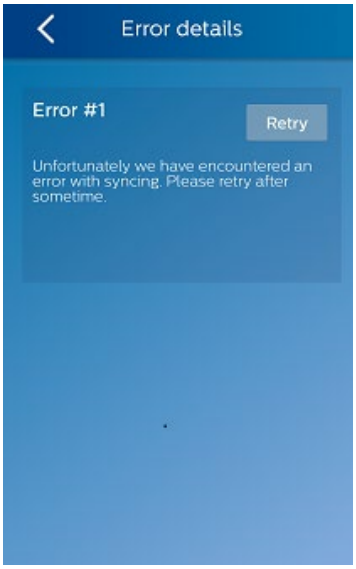
7. Troubleshooting tips/system messages

- 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.

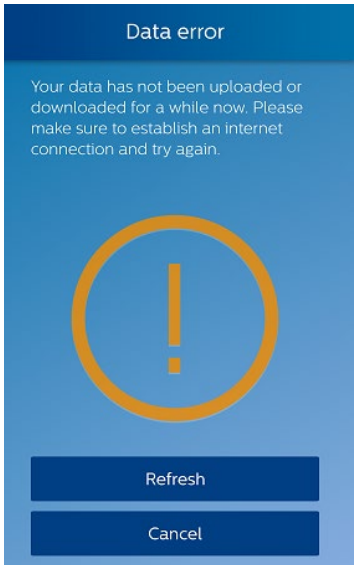
NOTE: **You can ALWAYS click past these warning messages and continue to work with Philips field apps. To keep your data current, you should connect to Wi-Fi on a regular basis.**



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.

8. FAQs to come

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

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

Q. How many SpaceWise DT groups can be created on a project and what is the maximum limit on the total number of devices within a SpaceWise DT 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 DT 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 DT luminaires experience a power interruption?

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

Q. What is the recommended distance between two SpaceWise DT luminaires?

A. Standard grid spacing must be maintained between luminaires. It is recommended to keep the distance as short as possible but it can be extended up to 25 ft. to 30 ft. if other physical parameters of the space are conducive for wireless transmission.

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 EasySense IR mode followed by “Scan with NFC”. Scanning the sensor with EasySense NFC mode will not populate the app with the Dwell Time feature.

9. 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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10. 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 www.philips.com/warranties

Technical Support

For technical support on this product contact 1-800-372-3331 and select the controls prompt option.

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Philips Lighting
North America Corporation
200 Franklin Square Drive
Somerset, NJ 08873
Tel. 855-486-2216

Philips Lighting Canada Ltd.
281 Hillmount Rd,
Markham, ON,
Canada L6C 2S3
Tel. 800-668-9008