

INSTALLATION MANUAL

SMART BRIDGE

Attention

This product may only be used within the in-lite system. If components are used in the system that do not originate from in-lite, the warranty no longer applies.

Install the in-lite system components (fixtures, transformers, mini-connectors, Easy-Locks and cable connectors) in a way that they can easily be replaced

Never use the in-lite low-voltage cable directly connected to 100-230V. This cable is only meant for use with the components of the in-lite low-voltage system.

Contents

1x SMART BRIDGE

Input: 12V DC, max. 1A.

Frequency: 2400-2480 MHz, max. 20 dBm.

1x POWER ADAPTER

Input: 230V AC, 50 Hz.

Output: 12V DC, max 1A.

1x SCREW

1x ETHERNET UTP CABLE, max. 1m.

Or,

1x SMART BRIDGE 120V

Input: 12V DC, max. 1A.

Frequency: 2400-2480 MHz, max. 20 dBm.

1x POWER ADAPTER 120V

Input: 120V AC, 60 Hz.

Output: 12V DC, max 1A.

1x SCREW

1x ETHERNET UTP-CABLE, max. 1m.

Please read the following instructions before installing. You are advised to keep these installation instructions in a safe place. Although a low voltage system is safe, we advise you to have a qualified electrician check the installation.

Use

The SMART BRIDGE is controlled by the in-lite app, suitable for Android and iOS phones or tablets produced, for example, by Samsung and Apple. At the same time the SMART BRIDGE can also be controlled by a "smart home" app like Apple Homekit or Google Home. All control is done in the application and none has to be done physically on the SMART BRIDGE. The only physical button available is a reset button.

Bluetooth Low Energy

The transformer connects to the in-lite SMART HUB via Bluetooth Low Energy (BLE) and this way it can communicate and control.

Ethernet

The SMART BRIDGE is connected to the ethernet via a UTP cable. Via a server in the cloud a user can interact with the SMART BRIDGE at long distance, as long there is an internet connection by the device like a smart phone or tablet.

Safety

Along with the SMART BRIDGE a power adapter is supplied. This is the only way to connect the product to the main power source of 100-230V. When the adapter is connected in a wrong or insufficient way the SMART BRIDGE will show with a led signal that it's facing a power supply issue. Intill this issue is solved it will do so.

Description Power limitation Smartbridge

The adapter limits the power supply to 12V DC with a max. of 1A. The current of the incoming supply line is further limited by a 1.1A resettable fuse.

The supplies for the processing are derived in the following way:

1. 12V -> 5V switchmode converter (buck)
2. 5V -> 3V3 switchmode converter (buck)
3. 5V -> 1V5 switchmode converter (buck) for DDR memories
4. 3V3 -> 2V5 linear converter (LDO) for Ethernet interface.

The power for the main processor (A20) is derived from the 3V3 supply by IC15 (AXP209):

1. 3V3 -> 1V2 switchmode converter (buck) for CPU
2. 3V3 -> 1V2 switchmode converter (buck) for internal CPU
3. 3v3 -> 3V0 linear converter (ldo) for VDD_RTC

EU Declaration of Conformity

"Hereby in-lite Design B.V. declares that the radio equipment SMART BRIDGE is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available via in-lite Customer Service.

IC Statement

This device complies with Industry Canada licence-exempt RSS standard(s).

Operation is subject to the following two conditions:

- 1) this device may not cause interference and
- 2) this device must accept any interference, including interference that may cause undesired operation of the device

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes :

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

To comply with FCC and Industry Canada RF radiation exposure limits for general population, the antenna(s) used for this transmitter must be installed such that a minimum separation distance of 20 cm is maintained between the radiator (antenna) and all persons at all times and must not be co-located or operating in conjunction with any other antenna or transmitter.

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example - use only shielded interface cables when connecting to computer or peripheral devices).

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

To comply with FCC and Industry Canada RF radiation exposure limits for general population, the antenna(s) used for this transmitter must be installed such that a minimum separation distance of 20 cm is maintained between the radiator (antenna) and all persons at all times and must not be co-located or operating in conjunction with any other antenna or transmitter.

Installation

The SMART BRIDGE is easy to install. After having installed an in-lite SMART HUB and having downloaded and installed the in-lite application (app), the SMART BRIDGE is ready for connection. Mount the product at max. 50 cm distance of an ethernet router (connection point) and connect the UTP-cable on both the BRIDGE and the router.

When connected, the SMART BRIDGE will establish a network connection by itself and will search for in-lite HUB's by itself to create a BLE-connection. To control the settings of the SMART BRIDGE the user will be guided stepwise in the in-lite app.

Installation step by step

The SMART BRIDGE is designed to be installed inside, preferably within 50 cm of an ethernet router (connection point) to create a wired connection.

Installing the transformer**Step 1**

Open the package of the SMART BRIDGE. Here you will find the screw for mounting the transformer on its intended position. Mount the product to a wall, panel or post using the screw supplied. See FIG. 1.

Step 2

Put the plug of the power adapter into the 110V/230V power socket. Put the cable of this adapter into the connector on the bottom of the SMART BRIDGE. The BRIDGE will be switched on automatically and this will be indicated with a light on the front of the BRIDGE.

Step 3

Take the UTP-cable out of the package and connect one end to the SMART BRIDGE. On the bottom side of it you will find the UTP-port to do this.

Step 4

Take the other end of the UTP-cable and connect it to an available port on the ethernet router or a router connection point. The SMART BRIDGE will now try to establish a network connection. A light on the front of the SMART BRIDGE will signal if this has been done successfully.

Step 5-6

Open the in-lite app and go to the settings menu where you can add a new product. Go to "my gardens" and select the garden in which you want to add the SMART BRIDGE. Then select the option "SMART BRIDGE" to add this product to your garden (system).

Step 7-8

Follow the instructions in the in-lite app to perform the right settings for your product.

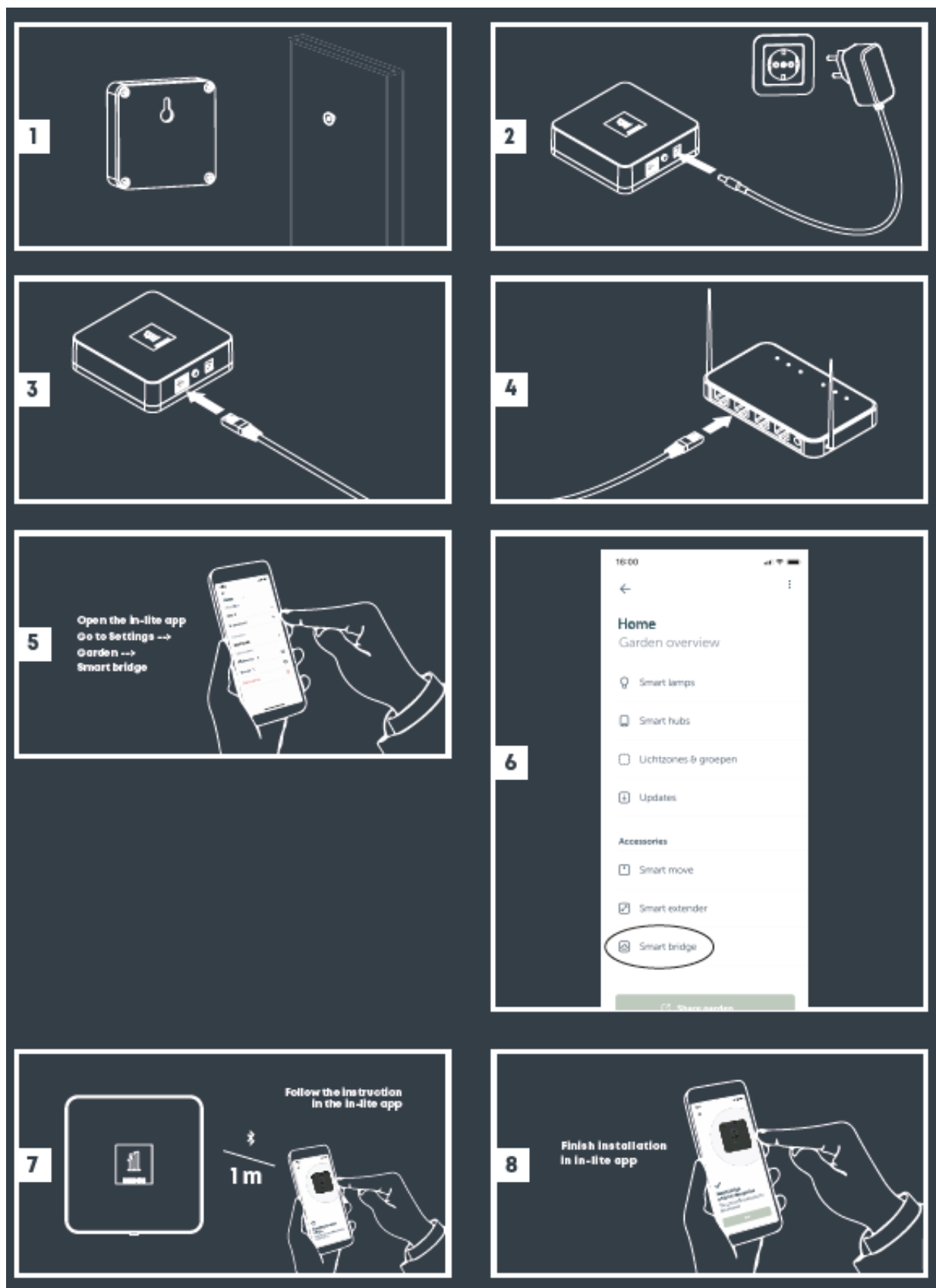


FIG. 1

Installing the in-lite app

Step 1

Open the app store on your Android or iOS device (smart phone or tablet). Search for in-lite and download the app.

Step 2

Open the app on your device. You have two options to select; you're a new user or you already have an account. (Fig. 2)

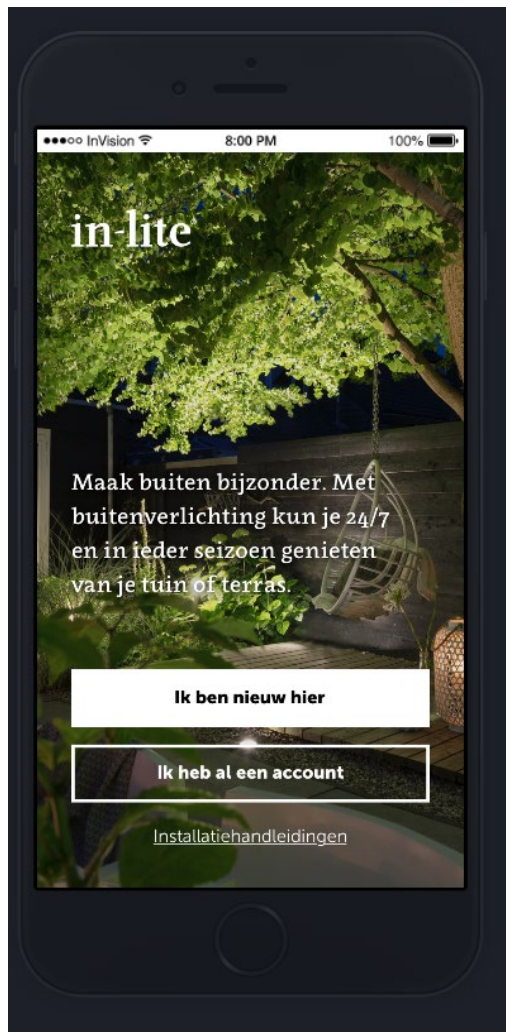


FIG. 2

Step 3

Follow the instructions in the app. You'll be guided through the process of logging in or creating your account.

While creating your account you will configure the Bluetooth connection with the transformer, the set up of your outdoor space and the names of the light sections. (Fig. 7-14)

If you'd like to have more support you can select the option "installation manual" at the bottom of the screen. (Fig. 6). You'll get more information about the most important features of the app. (Fig. 15-16)

When you've created an account before you can log in with the code you've got by email. (Fig. 17)

It's also possible to skip the set-up when it has already been done by someone else and you've got a share code. You use that code to log in. (Fig. 18)

Step 4

After logging in or creating your account you can connect accessories; also the SMART BRIDGE is available. Go to "my gardens" and select the garden in which you want to add the SMART BRIDGE. Then select the option "SMART BRIDGE" to add this product to your garden (system). (Fig. 19)

Step 5

Now you can follow the instruction in the app. You will be guided to create a complete set-up of your SMART BRIDGE and connect it with Google, Apple or Alexa. (fig. 20-23)

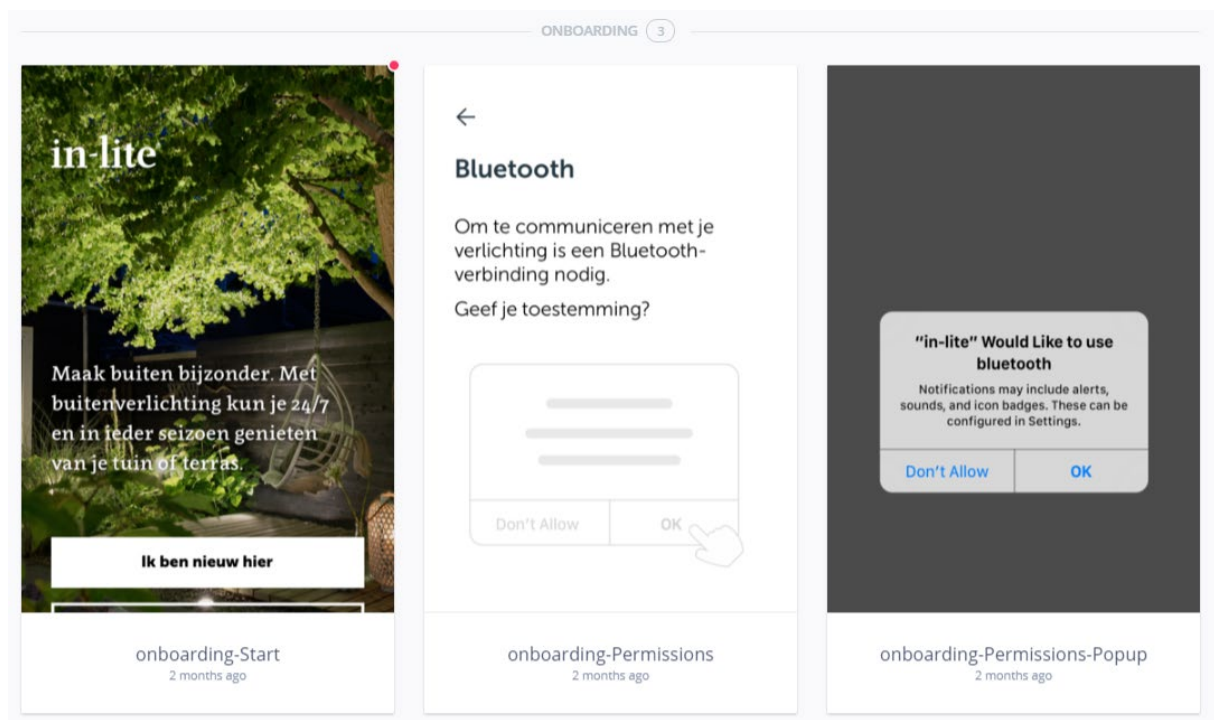


FIG. 7

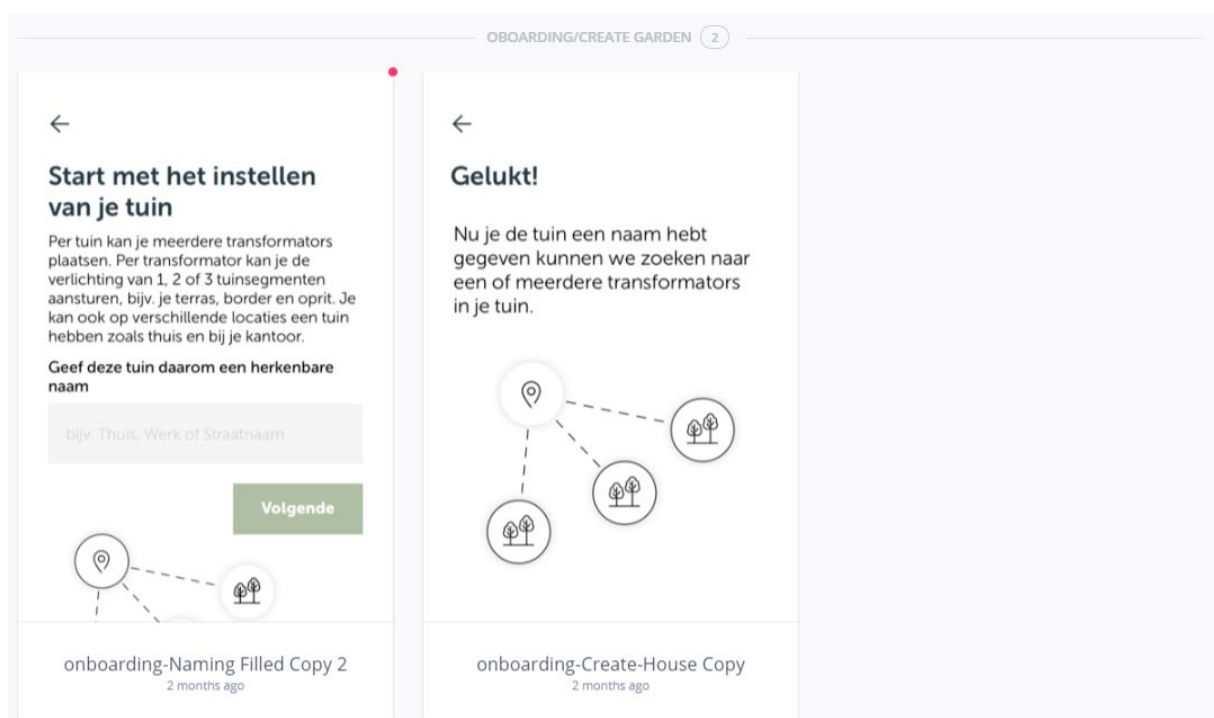


FIG. 8

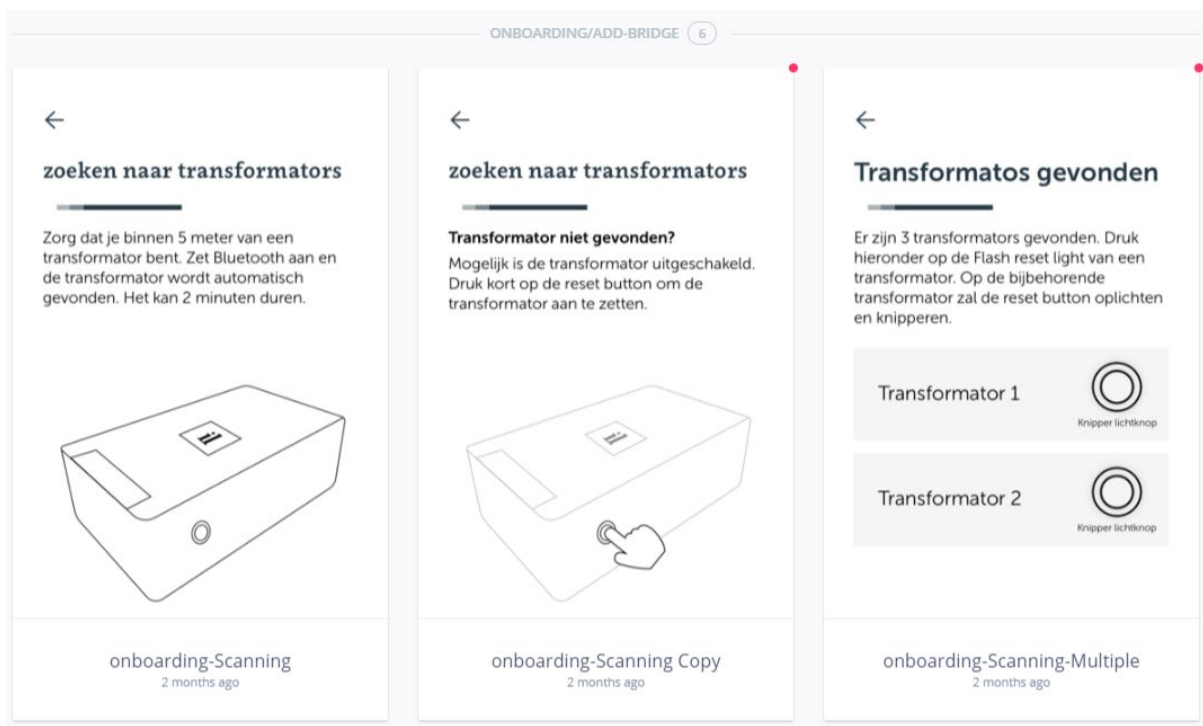


FIG. 9

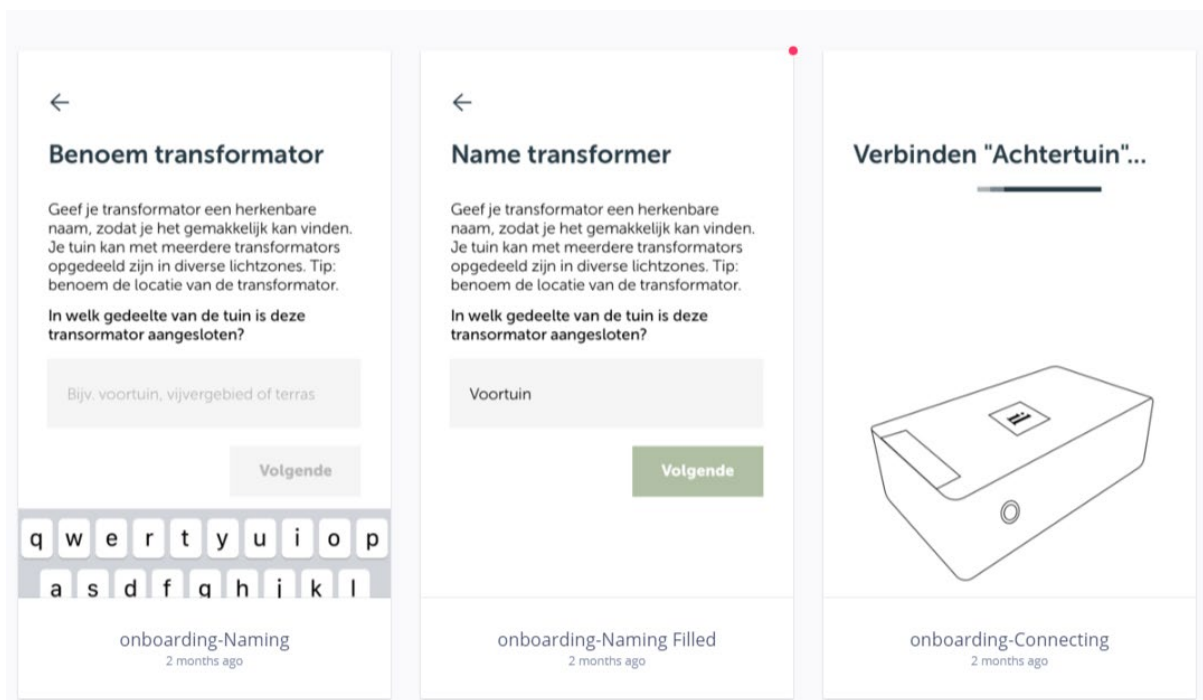
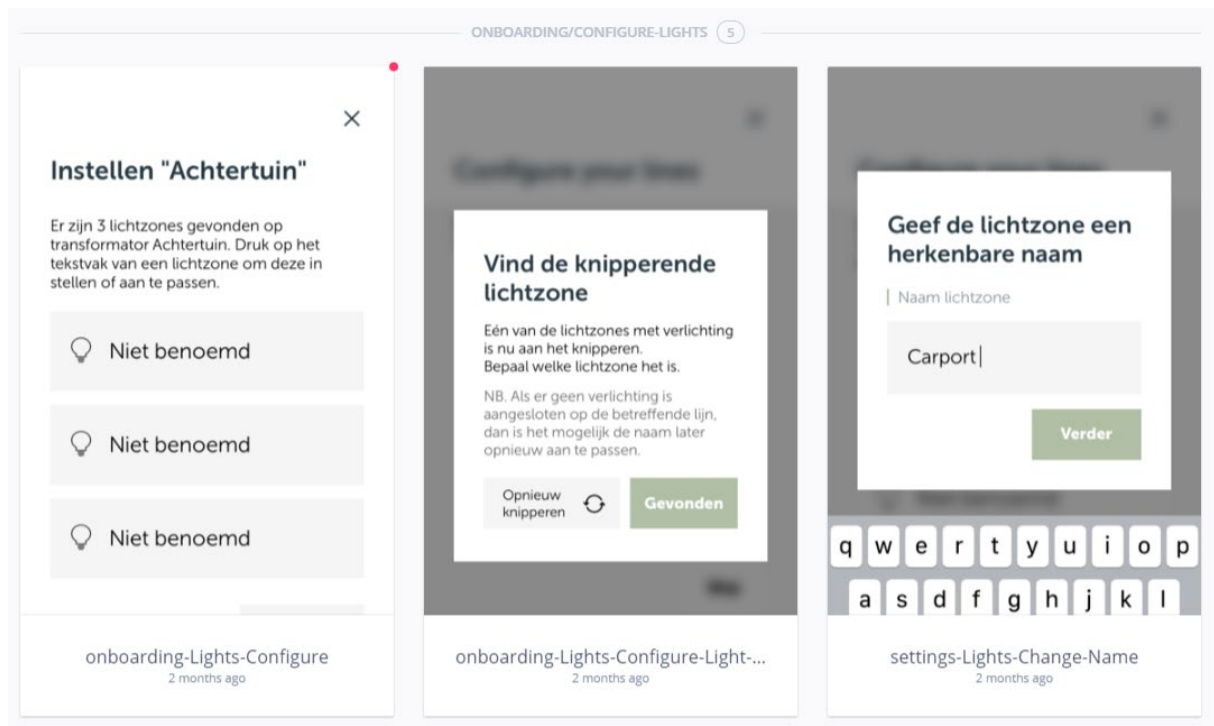
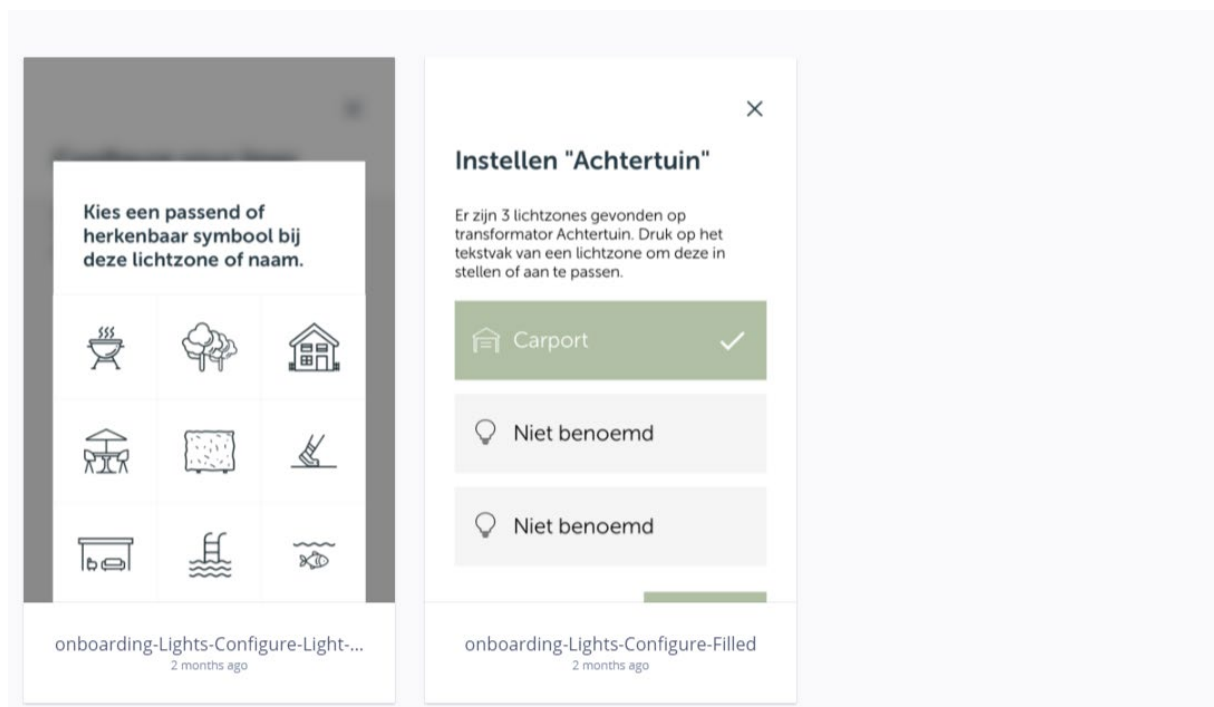


FIG. 10

**FIG. 11****FIG. 12**

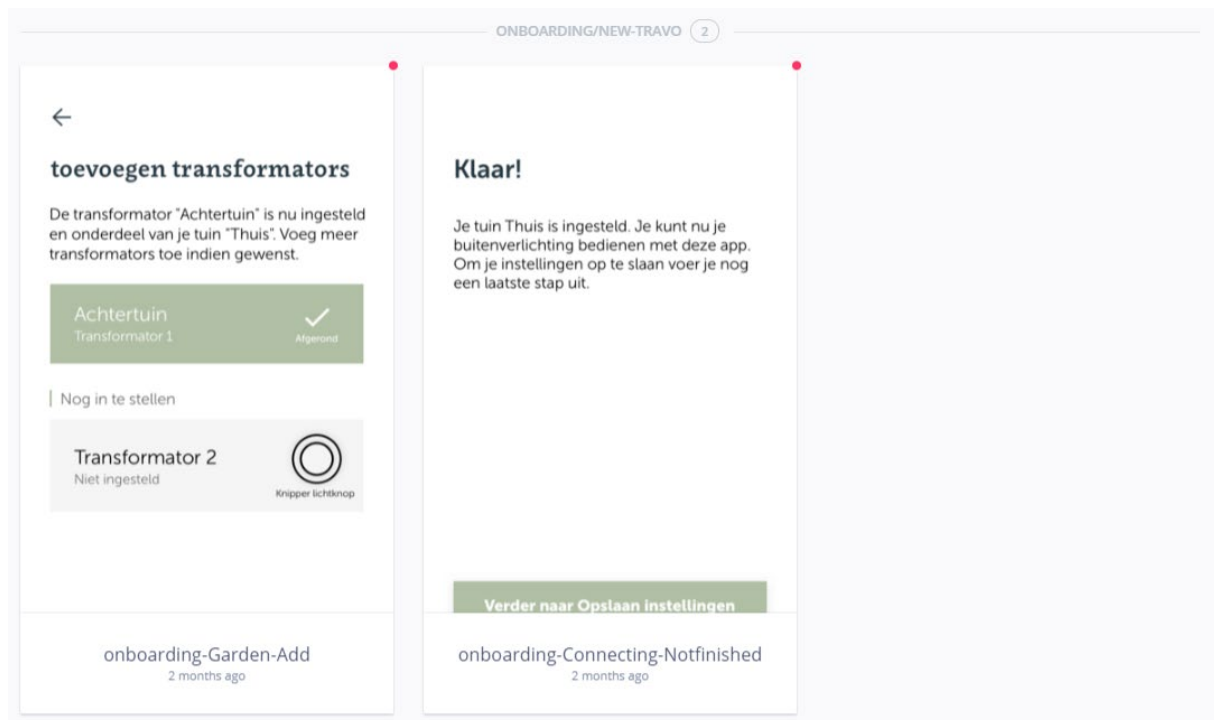


FIG. 13

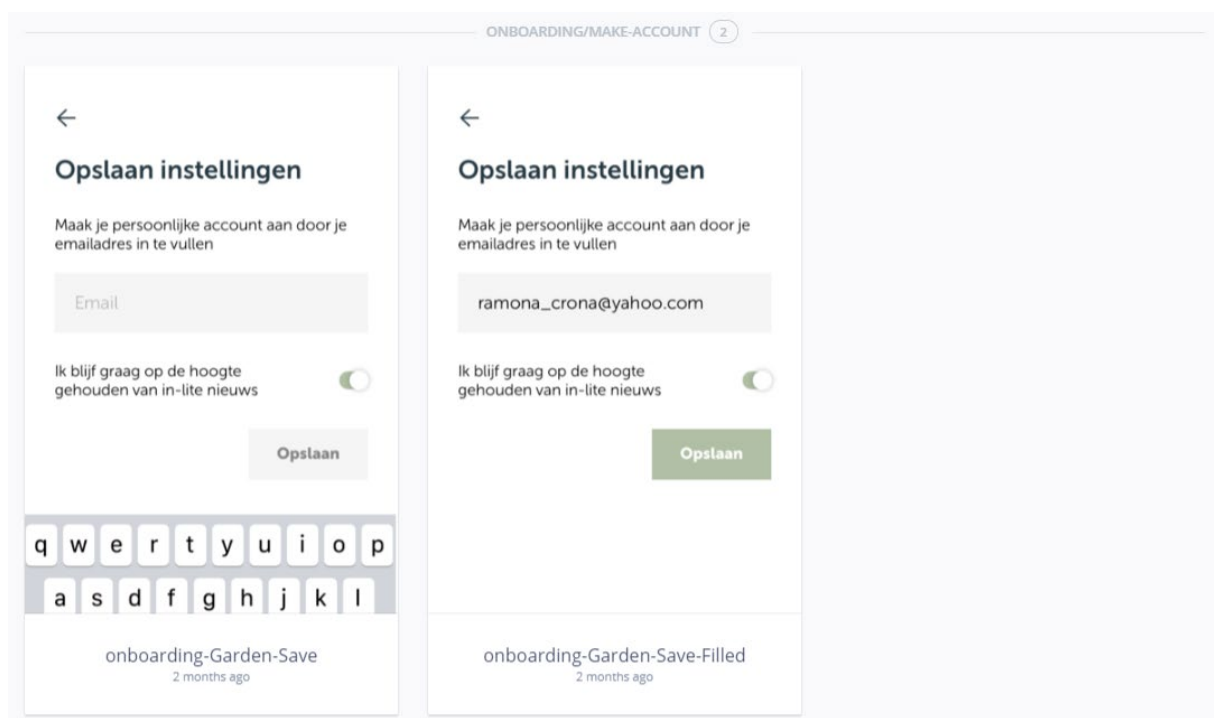


FIG. 14

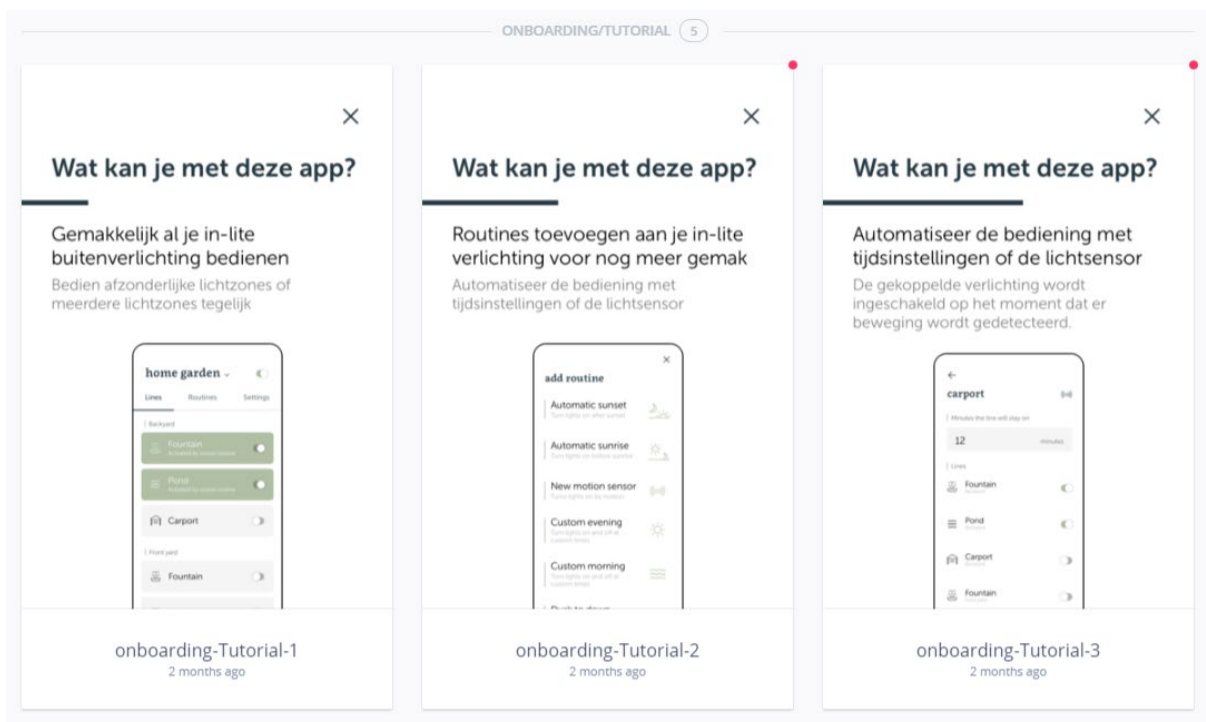


FIG. 15

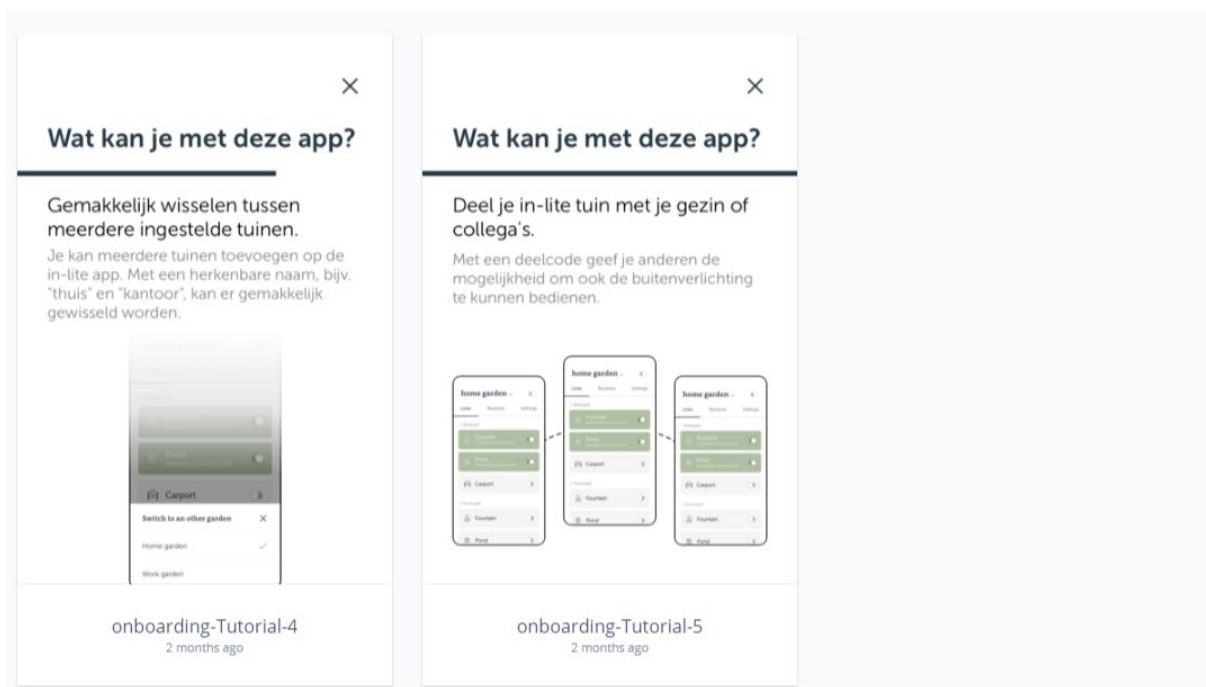
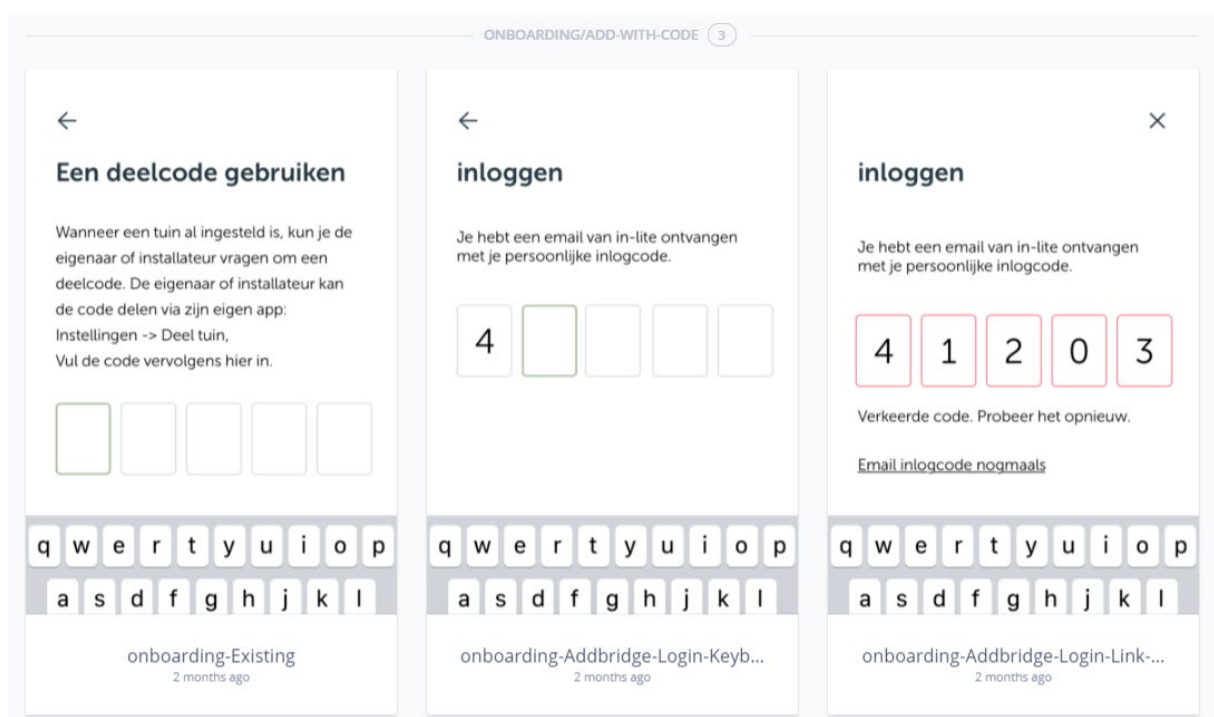
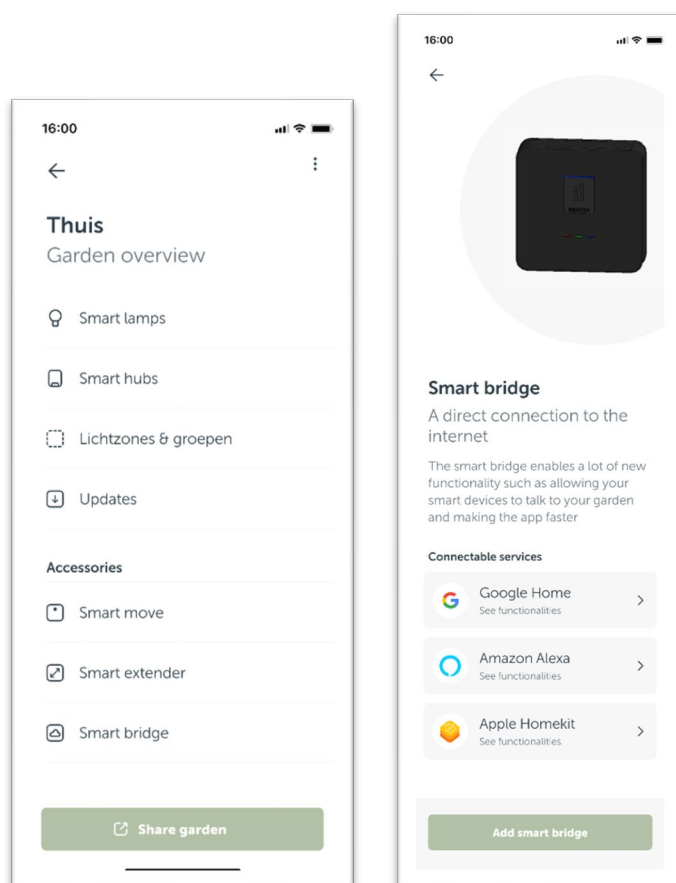
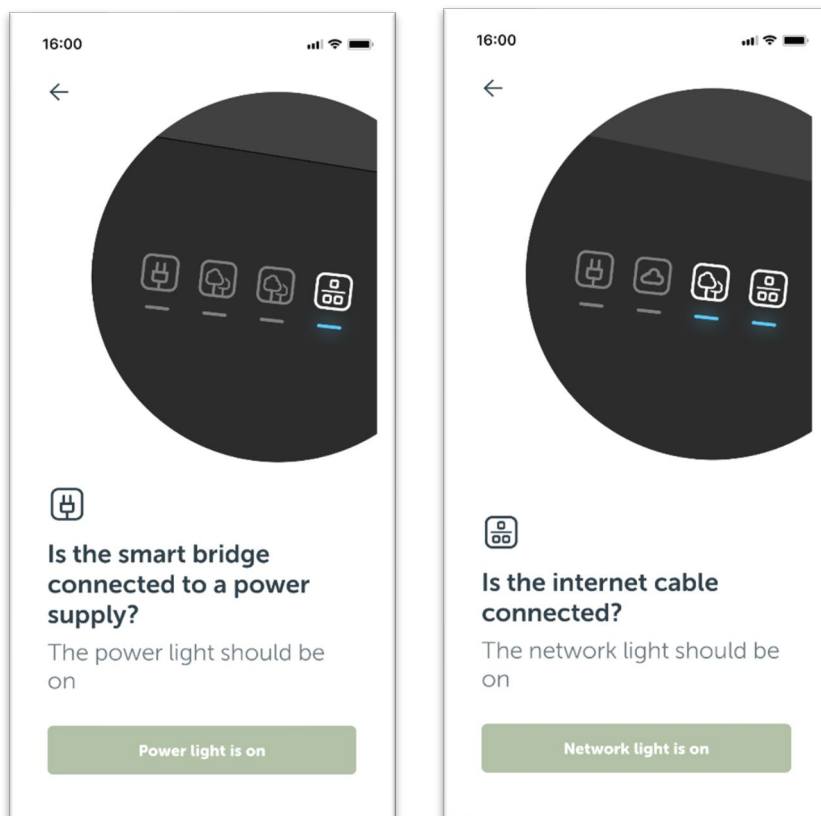
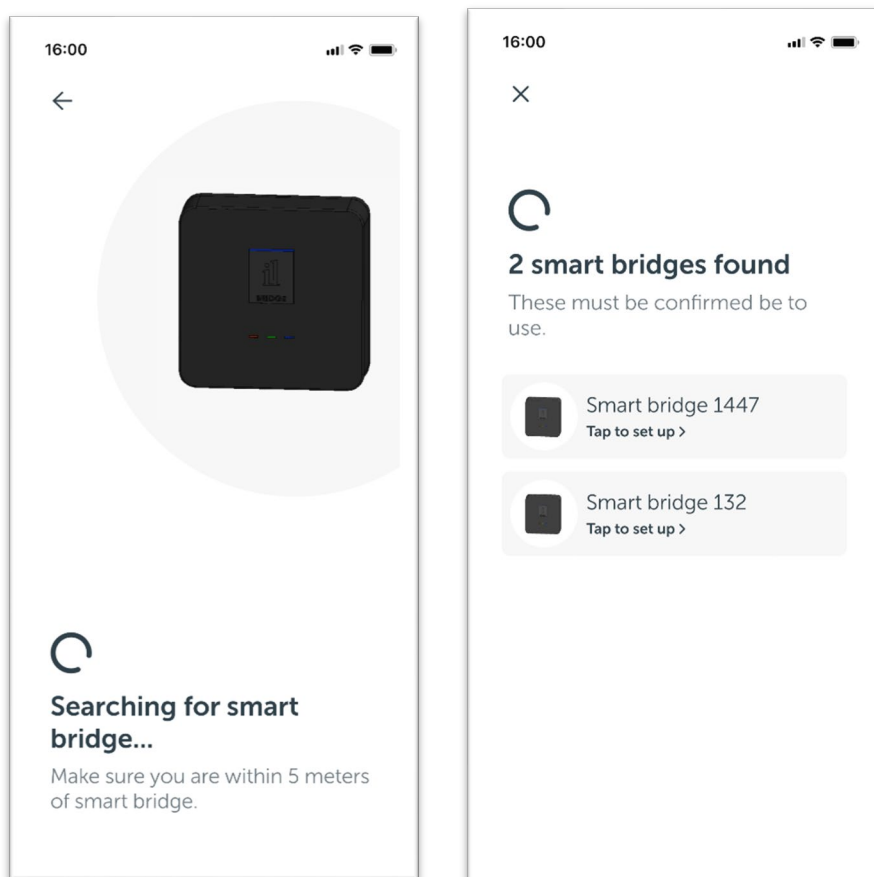
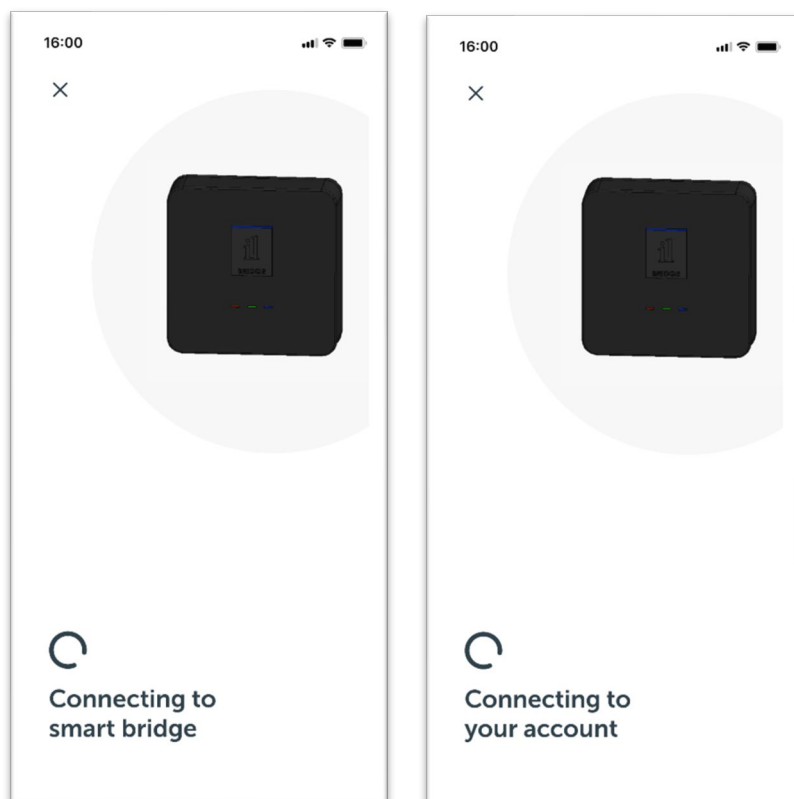
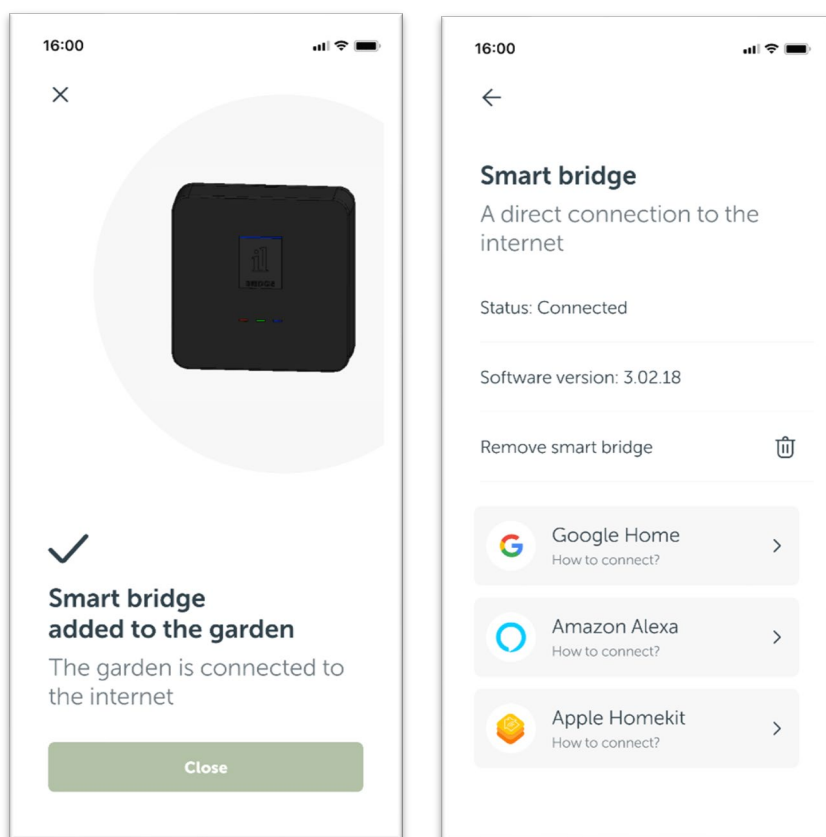


FIG. 16

**FIG. 17****FIG. 18**

**FIG. 19****FIG. 20**

**FIG. 21****FIG. 22**

**FIG. 23**

Use in general

Manual use

Press the on/off button on the side of the transformer to switch between "ON" and "OFF".

When the transformer is switched to "ON", the light settings in the device application (in-lite app) are activated. If one or more light sections (total 3) are set to "ON" they will be activated; the lights switch on. The light sections that are set to "OFF" stay deactivated. The first time while installing, all light sections will be set to 'ON'.

When the transformer is switched to "OFF", all light sections are deactivated; all lights switch off.

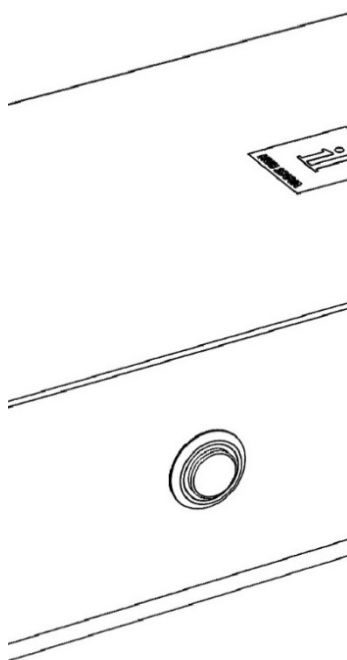


FIG. 6

Use with smart device

All lights can be controlled with the in-lite application (app) on a smart phone or tablet. The app, which is suitable for an Android and iOS device, can be downloaded from the app store and installed on your device.

The in-lite app makes it possible to communicate with the transformer by a Bluetooth connection. In the app you can turn light sections (total 3) "ON" and "OFF". You can also set different scenarios based on sunset and sunrise, time of the day and/or movement detection (with accessory SMART MOVE).

Troubleshooting tips

The lighting does not switch on with any of the programs.

Check that the transformer is correctly connected. If so, check the voltage at the electric socket (you can do this using a voltage tester). Check that the low-voltage cable is correctly wired to the transformer.

Only a few lamps switch on.

Check that the contacts of the fixture's Easy-Lock have correctly pierced the insulation of the cable. Check whether the fixture is properly attached and that it is not defective.

Options for laying 21 V cable

There are two types of cable plans or methods of laying cables: linear and split. If you have made a lighting plan then making the wiring diagram is just a question of drawing the cable onto the garden design. Follow an imaginary line between the fixtures. Always test the circuit above ground before you bury the cable underneath paving or soil.

Option 1: linear set-up

Roll out the cable from the transformer into the garden and lead it to the various armatures. The cable can end anywhere and can have the following maximum length:

14/2 cable up to 40 m

10/2 cable up to 80 m

Does your lighting plan include fixtures with total power greater than 35 VA?
Always use the 10/2 cable for these situations.

Option 2: split set-up

Roll out the cable from the transformer into the garden. Using the cable connectors, make one or more branches that you lead to the various fixtures.

The maximum length of the branch or branches depends on the place where you install the cable connectors or fixtures. For each branch first calculate the length of cable from the transformer to the relevant cable connector. Subtract this length from the maximum cable length for the cable you are using. The remaining number of metres is the maximum length of the branch. You can make several branches as long as this total does not exceed the maximum cable length:

14/2 cable up to 40 m (Fig. 8A)

10/2 cable up to 80 m (Fig. 8B)

Does your lighting plan include fixtures with total power greater than 35 VA?
Always use the 10/2 cable for these situations.

Installation tips

Tip 1

Use plenty of cable for the installation. In that case the cable will have enough length if the garden subsides a little.

Tip 2

Insulate the cable ends with caps. You can do this by pulling the end three centimetres of cable apart and putting a cap on each end. You do not need to remove any insulation from the cable.

Tip 3

When connecting the fixtures leave plenty of cable from the fixture. There are special extension cables (CBL-EXT CORD) of 1 metre and 3 metres available to increase the distance of the fixture to the main cable. These are easy to install between the mini-connector on the fixture and the mini-connector on the Easy-Lock.

If after reading these instructions you have further question about installing cable, please contact your dealer.

Installing fixtures on 21 V

You can easily connect in-lite fixtures to the low-voltage cable using the Easy-Lock connector (supplied with each fixture).

Important: always check the manual for specific instructions for the relevant fixture. See www.in-lite.com.

Step 1

Join the Easy-Lock connector to the main cable.

- a. Clamp the cable duct on top of the main cable. There should be no space left between the cable and the duct.
- b. Place the cable duct (with the cable at the bottom) in the Easy-Lock connector.
- c. Tighten the threaded cap on the Easy-Lock connector. This will cause the contacts to be pushed through the insulation on the cable. In tightening the cap, a little gel is applied to the contacts in the Easy-Lock connector. This serves to protect the contacts against moisture. A little gel may possibly come out of the Easy-Lock connector: so after installation (and/or before a meal), wash your hands with soap and water, and avoid the gel coming into contact with your eyes.

Step 2

Connect the Easy-Lock to the fixture by connecting the mini-connector. If the lamp does not work correctly, check that the Easy-Lock connector is properly connected to the main cable. Do the same for the mini-connector. Repeat steps 1 and 2. When the fixture is connected to the main cable also check that the contacts of the Easy-Lock connector are not bent. If you have any problems, contact your dealer.