Product manual | 22.07.2025

# 62851 U-WL-500
# Dimming actuator, 1gang, FM, WL

# Table of contents

# 1 Notes on the instruction manual

Please read through this manual carefully and observe the information it contains. This will assist you in preventing injuries and damage to property and ensure both reliable operation and a long service life for the device.

Please keep this manual in a safe place.

If you pass the device on, also include this manual along with it.

ABB accepts no liability for any failure to observe the instructions in this manual.

If you require additional information or have questions about the device, please contact ABB or visit our Internet site at:

https://new.abb.com/en

# 2 Trademarks

The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. Any use of such marks by Busch-Jaeger Elektro GmbH is under licence. Other trademarks and trade names are the property of their respective owners.

# 3 Safety

The device has been constructed according to the latest valid regulations governing technology and is operationally reliable. It has been tested and left the factory in a technically safe and reliable state.

However, residual hazards remain. Read and adhere to the safety instructions to prevent hazards of this kind.

ABB accepts no liability for any failure to observe the safety instructions.

## 3.1 Information and symbols used

The following Instructions point to particular hazards involved in the use of the device or provide practical instructions:

**Danger**

Risk of death / serious damage to health

– The respective warning symbol in connection with the signal word "Danger" indicates an imminently threatening danger which leads to death or serious (irreversible) injuries.

**Warning**

Serious damage to health

– The respective warning symbol in connection with the signal word "Warning" indicates a threatening danger which can lead to death or serious (irreversible) injuries.

**Caution**

Damage to health

– The respective warning symbol in connection with the signal word "Caution" indicates a danger which can lead to minor (reversible) injuries.

**Attention**

Damage to property

– This symbol in connection with the signal word "Attention" indicates a situation which could cause damage to the product itself or to objects in its surroundings.

**NOTE**

This symbol in connection with the word "Note" indicates useful tips and recommendations for the efficient handling of the product.

The following safety symbols are used in the operating manual:

This symbol alerts to electric voltage.

## 3.2 Intended use

The device serves for the switching of lighting systems. Via the 230 V extension unit input a conventional switch or push-button can be integrated.

They may be installed in dry interior rooms in flush-mounted boxes and additionally in ceiling boxes. If different types of installations are used, the applicable regulations are to be observed.

The device is intended for the following:

- Operation according to the listed technical data
- Installation in dry interior rooms and suitable flush-mounted boxes / ceiling boxes
- Use with the connecting options available on the device

The intended use also includes adherence to all specifications in this manual.

## 3.3 Improper use

Each use not listed in Chapter 3.2 “Intended use“ on page 6 is deemed improper use and can lead to personal injury and damage to property.

ABB is not liable for damages caused by use deemed contrary to the intended use of the device. The associated risk is borne exclusively by the user/operator.

The device is not intended for the following:

- Unauthorized structural changes
- Repairs
- Outdoor use
- The use in bathroom areas

## 3.4 Target group / Qualifications of personnel

### 3.4.1 Operation

No special qualifications are needed to operate the device.

### 3.4.2 Installation, commissioning and maintenance

Installation, commissioning and maintenance of the device must only be carried out by trained and properly qualified electrical installers.

The electrical installer must have read and understood the manual and follow the instructions provided.

The electrical installer must adhere to the valid national regulations in his/her country governing the installation, functional test, repair and maintenance of electrical products.

The electrical installer must be familiar with and correctly apply the "five safety rules" (DIN VDE 0105, EN 50110):

1. Disconnect
2. Secure against being re-connected
3. Ensure there is no voltage
4. Connect to earth and short-circuit
5. Cover or barricade adjacent live parts

## 3.5 Cyber security

The industry faces intensifying cyber security risks. In order to increase stability, safety and robustness of its solutions, ABB has formally established cyber security robustness testing as part of the product development process.

The following measures are prerequisite for the safe operation of your ABB-free@home® system.

### Prevention of access to the different media

The careful isolation of the system against unauthorized access is the basis for every protective concept. In case of a ABB-free@home® system, it is only authorized persons (fitter, caretaker, user) who are allowed physical access to the ABB-free@home® system. During planning and installation the ABB-free@home® media (cable and wireless) and the critical points must be protected as best as possible.

Sub-distributions with ABB-free@home® devices are to be locked or located in rooms to which only authorized persons have access.

### Bus cabling

- The cable ends of the ABB-free@home® Twisted Pair cable should not be visible or project out from the wall, neither inside nor outside the building.
- Bus lines in outdoor areas or in areas with limited protection represent an increased risk. Here the physical access to the ABB-free@home® Twisted Pair cable should be made exceptionally difficult.

### IP cabling within the building

The local network represents a sensitive component for safe communication. That is why unauthorized access to the local network should be prevented. The normal security mechanisms for IP networks are to be used. These, for example, are:

- Safe encryption of wireless networks
- Use of complex passwords and protection of these against unauthorized persons
- Physical access to network interfaces (Ethernet interfaces) should only be possible in protected areas.
- MAC filter

### Connection to the Internet

To prevent improper use, no router ports from the Internet into the home network are to be opened for ABB-free@home® components. A VPN tunnel or the myBuildings portal is suitable for secure remote control.

### Data protection

We take the protection of your personal data very seriously and adhere to the legally valid regulations regarding data protection. Personal data are obtained and processed only to the extent necessary for the operation of this online offer. The following declaration provides you with an overview of how we guarantee this protection and what type of data we record and for what purpose.

**Personal data (also telemetry data)**

Personal data consists of details regarding the personal or factual circumstances of a certain or identifiable natural person. Information that cannot be connected directly or indirectly to your identity, such as the number of users of a page, is not personal data.

In the case MyBuildings these consist of data you have made available to us yourself, such as registration data, contact data, or data added in connection with the services used, such as bank data, as well as data of devices which have been allocated to the user account.

The personal data you have made available to us within the scope of this online offer will be used exclusively for this purpose. Your personal data are not passed on to third parties if you do not expressly permit this or we are obligated to do so based on a law or decision of a court or public authority. An exception to this are order processors, whom we carefully select and contractually obligate to observe our instructions and to strictly adhere to the required technical and organisational measures for data protection.

**Duration of storage and deletion**

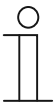
Your personal data will be deleted in accordance with the data protection law as soon as the purposes for the above-stated storage become inapplicable. However, a storage beyond the achievement of purpose can take place when we are obligated to do so on the basis of legal regulations. In this case, processing will be limited and the data will be deleted after the respective legal obligations have been abolished or been met.

**Notice on privacy policies:** https://new.abb.com/privacy-policy/en

Concrete handling of personal data that are obtained, stored and processed by the ABB-free@home® System Access Point:

| Description | Processing options | Obtaining consent | Revocation of consent |
|---|---|---|---|
| User name (an alias or pseudonym) | The name of the user is entered in the app or in the web interface and used for the listing of possible users on the login screen. | The user must confirm the general business terms and conditions before the installation of the DUT and the app. | The user can revoke his agreement by resetting the DUT on the factory settings. |
| E-mail address of the user | An e-mail address (independent of the user!) can be entered in the app and the DUT to be able to be notified about a configured event (e.g. Failure of the heating system). | See “User name” These details are optional. | See “User name” |
| Local data (city, urban area) on the location of the test specimen | The DUT uses this information only locally. Application: Control of blinds depending on summer or winter season. | The user must confirm the general business terms and conditions before the installation of the DUT and the app. | See “User name” or simply delete the entry. |
| Location coordinates (lat/long) for the location of the DUT | The DUT uses this information to implement the application: Geofencing. Data are transmitted to the mobile app. | The user must confirm the general business terms and conditions before the installation of the test specimen and the app. | See “User name” or simply delete the entry. |
| Certificate that is used to authenticate the DUT by the Cloud service | DUT authentication at the Cloud service | The user must confirm the general business terms and conditions before the installation of the DUT and the app. | See “User name” or logout from Cloud service. |

Table:1 Handling of obtained personal data



**Notice**

Further instructions are available in the corresponding chapter of this product manual or in the system manual for ABB-free@home®!

**Concrete handling of telemetry data that are recorded, stored and processed by ABB-free@home® Sy<stem Access Point:**

The telemetry data include all sensors and actuators that are connected via the cable-bound or wireless interfaces with the SysAP. Also IP-connected devices that are controlled by the SysAP or from which it requests information, are enclosed (e.g. Philips HUE, Sonos loudspeakers, etc.). The telemetry data also include events at which a sensor sends data or an actuator receives control messages that changes its state, as well as data that are exchanged with IP-connected devices within the local network. The telemetry data also include information that was exchanged with the mobile app, and whether/when a user was logged into the SysAP, whether/when/which configurations were changed by whom.

| Description | Purpose | Security check | Personal data |
|---|---|---|---|
| Local recording is supported | Can be shared with ABB R&D. R&D can verify protocols on the basis of:<br>– Problems at the configuration<br>– Competitive conditions between different devices/processes | The user can exchange protocols with ABB but the automatic exchanged is not activated.<br>– Can be used to detect brute-force-attacks | N/A |
| Backup files (can be generated by the user) | Can be passed on to ABB to understand the structure of the system configuration and to support customers and R&D during the determination of causes of problems. | K.A.<br>(The data are not used for the security check) | PersData-x (see the table at the top) |
| All telemetry data (data supplied by sensors and switching frequencies of actuators, etc.) are stored in the Cloud/IoT-Hub. | Foresighted maintenance:<br>The target of ABB is to inform the customer when a product has reached the end of its service life or to notify the state the product is in. There is the option of recording operating hours and switching cycles. | Telemetry data are used to increase the security of the product by the recognition of anomalies. The anomalies could include several incorrect password entries within a short space of time.<br>These telemetry data can be used to inform the user at the login via a dialogue that there was an attempt to find out your account / your PIN code / etc. | N/A |

Table:2 Handling of the collected telemetry data

**Notice**

Further instructions are available in the corresponding chapter of this product manual or in the system manual for ABB-free@home®!

### Secure Shell Protocol

The Secure Shell Protocol (SSH) is a cryptographic network protocol for the remote login and the secure operation of network services via an unsecured network.

This function can only be used by the ABB technician, not by the end customer.

The end customer always has his device under his own control. Without activation by the user/end customer, the interface cannot be used by anyone.

The interface is only intended for use in the local network with physical access to the device. The end customer should not set up port forwarding, VPN or similar, to make remote access possible.

The interface must only be activated when the respective ABB technician has identified himself with his personal ID and his employee ID.

**Attention! - Access to the interface**

ABB Technicians would never request this from the customer, especially not on the telephone! Every try to convince the customer to remotely access the interface, should be reported via cybersecurity@ch.abb.com.

To activate the Secure Shell Protocol, proceed as follows:

1. Log yourself into the System Access Point.


Fig. 1: ABB-free@home® Configuration

2. Select “ABB-free@home® configuration" via the main menu or the page menu in the user interface of the System Access Point.


Fig. 2: Activating the Secure Shell Protocol

3. Tap on the tile “free@home System Access Point” [1].
4. Tap on “Service” [2].
5. In section “Further settings” activate the checkbox “Activate SSH access” [3].

### Certificate REST API

The Rest API makes it possible for developers to implement own scripts based on JAVA. Scripts that use the local REST interface can be signed via certificate. The System Access Point offers the option to generate and download such a certificate.

This setting is an option that is only intended for developers. There are simple templates available. The corresponding developer documentation can via:

https://developer.eu.mybuildings.abb.com/

### General delete functions of ABB-free@home® in the System Access Point:

| Description | Target group | Confirmation |
|---|---|---|
| The user has the option to reset the DUT to the factory settings. In this case all configuration data that were created by the user or created as a result of the entries made available by the user, were deleted from the flash memory.<br>All configuration data that were created in defined configuration files (XML documents), are deleted from the file system in the flash memory. Then new configuration files without content are created. | User data and personal data on the device | After the successful reset to the factory settings the device is in the state of delivery. |
| The user can log the device out of the Cloud service. | Personal data about associated services | The status of the Cloud connection is “isolated”. |

Table:3 General deleting functions

**Notice**

Further instructions are available in the corresponding chapter of this product manual or in the system manual for ABB-free@home®!

### Shut-down, archiving and destruction

If the device is to be taken out of operation, archived or destroyed, first remove all sensitive and personal data from the device with the function “Reset to factory settings” (see chapter 10.7 “Factory settings“ on page 64).

## 3.6 Safety instructions

**Danger - Electric voltage!**

Electric voltage! Risk of death and fire due to electric voltage of 100 … 240 V.

Dangerous currents flow through the body when coming into direct or indirect contact with live components. This can result in electric shock, burns or even death.

- Work on the 100 … 240 V supply system may only be performed by authorised and qualified electricians.
- Disconnect the mains power supply before installation / disassembly.
- Never use the device with damaged connecting cables.
- Do not open covers firmly bolted to the housing of the device.
- Use the device only in a technically faultless state.
- Do not make changes to or perform repairs on the device, on its components or its accessories.
- Keep the device away from water and wet surroundings.

**Caution! - Risk of damaging the device due to external factors!**

Moisture and contamination can damage the device.

- Protect the device against humidity, dirt and damage during transport, storage and operation.

# 4 Information on protection of the environment

## 4.1 Environment

**Consider the protection of the environment!**

Used electric and electronic devices must not be disposed of with domestic waste.

– The device contains valuable raw materials which can be recycled. Therefore, dispose of the device at the appropriate collecting depot.

All packaging materials and devices bear the markings and test seals for proper disposal. Always dispose of the packaging material and electric devices and their components via the authorized collecting depots and disposal companies.

The products meet the legal requirements, in particular the laws governing electronic and electrical devices and the REACH ordinance.

(EU Directive 2012/19/EU WEEE and 2011/65/EU RoHS)

(EU REACH ordinance and law for the implementation of the ordinance (EC) No.1907/2006).

# 5 Setup and function

The device serves for the switching of lighting systems. Also the integration into a ABB-free@home® wireless system is possible. The device can be combined with other participants of the ABB-free@home® system and also used for group functions, scenes or events.

Operation and setting is made via the ABB-free@home® Next App or the web-based surface of the System Access Point.

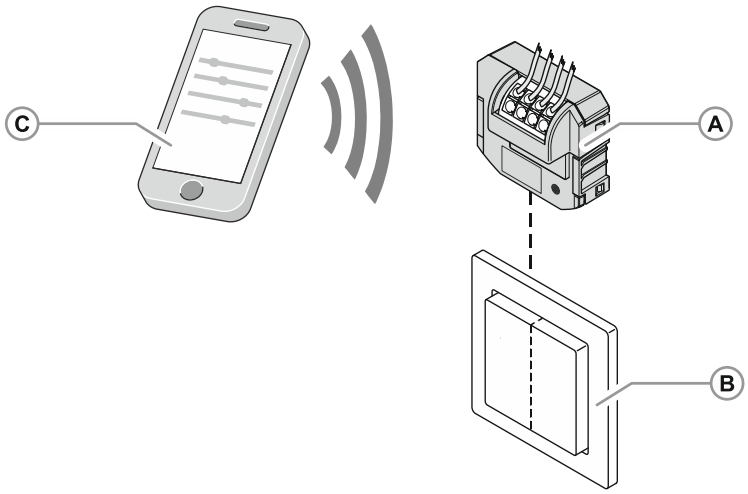



Fig. 3: Dimming actuator, 1gang, FM, WL

[A] Dimming actuator, 1gang, FM, WL

[B] Switch or push-button (optional)

[C] PC, tablet or smartphone

**Notice**

Basic information about the integration into the ABB-free@home® system is contained in the system manual. It is available for downloading at www.abb.com/freeathome.

### Overheating protection

The device is equipped with an overheating protection.

– The device switches off automatically during longer operation with a high load in a hot environment.

– Switch the device back on after cooling down or the fault has been rectified.

# 6 Technical data

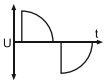
## 6.1 Technical data

| Designation | | Value |
|---|---|---|
| Transmission protocol | | – free@home wireless<br>– Bluetooth |
| Transmission frequency | | 2.4 - 2.48 GHz |
| Maximum transmission power | WL (wireless) | < 15 dBm |
| | Bluetooth LE (BLE) | < 10 dBm |
| Nominal voltage | | 230 V AC ±10% |
| Standby power consumption | | 0.4 W |
| Minimum load | | 3 W |
| Maximum load | | 0.78 A |
| LEDi load | | 180 VA |
| Wire cross-section | | 1.0 - 2.5 $mm^2$ |
| Skinning length | | 10 mm |
| Admissible cable length for extension operation: | | 100 m max. |
| Terminal | | Screwless |
| Type of protection | | IP20 |
| Ambient temperature | | -25°C … +55°C |
| Storage temperature | | -25 °C … +70 °C |

Table:4 Technical data

## 6.2 Types of load

**Operating mode: Leading edge control**

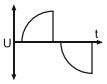




| Minimum load / Maximum load | | Min. | Max. |
|---|---|---|---|
| L **LEDi 230 V AC** | 230 V LEDi retrofit with inductive L ballast | 3 W/VA | 100 W/VA |
| LC 1 **LED** | Low-voltage LED on electronic LC transformers | 3 W/VA | 100 W/VA |
| L | Low-voltage halogen on inductive L transformers. | 20 W/VA | 180 W/VA |

Table:5 Loads for operating mode: Leading edge control

**Operating mode: Trailing edge control**





| Minimum load / Maximum load | | Min. | Max. |
|---|---|---|---|
| C **LEDi 230 V AC** | 230 V LEDi retrofit with capacitive C ballast | 3 W/VA | 180 W/VA |
| C **LED** | Low-voltage LED on electronic C transformers | 3 W/VA | 180 W/VA |
| **230 V AC** | 230 V halogen lamps | 10 W/VA | 180 W/VA |

Table:6 Loads for operating mode: Trailing edge control

**Attention! - Damage to device**

Risk of damaging the device due to overheating!

– When using transformers, ensure that each transformer is fused individually on the primary side or with a thermal fuse according to the manufacturer's specifications.

## 6.3 Dimensional drawings

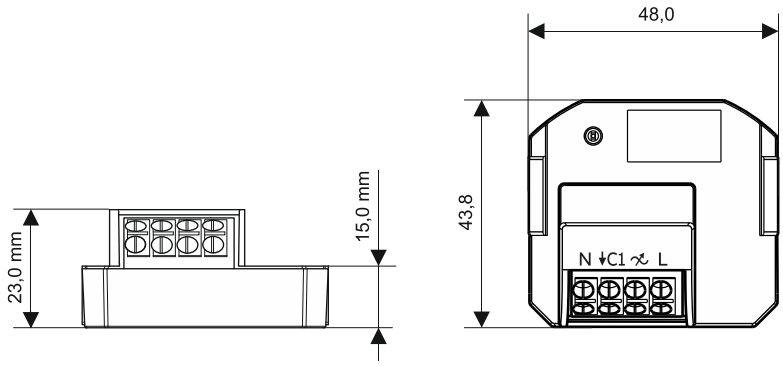



Fig. 4: Dimensions (all dimensions are in mm)

# 7 Connection and installation

## 7.1 Planning instructions

**Note**

Transmitter and receiver communicate via radio control. The transmission range depends on the structural conditions. Walls and ceilings, especially steel reinforcements or metal claddings, reduce the transmission range. The distance of components to each other and to other transmitters that also emit high-frequency signals (e.g. computers, audio and video systems) should be at least 1 m.

**Note**

Planning and application instructions for the system are available in system manual for ABB-free@home®. This can be downloaded via www.abb.com/freeathome.

## 7.2 Safety instructions

**Danger - Electric shock due to short-circuit!**

Risk of death due to electrical voltage of 100 to 240 V during short-circuit in the low-voltage line.

– Low-voltage and 100 - 240 V lines must not be installed together in a flush-mounted box!
– Observe the spatial division during installation (> 10 mm) of SELV electric circuits to other electric circuits.
– If the minimum distance is insufficient, use electronic boxes and insulating tubes.
– Observe the correct polarity.
– Observe the relevant standards.

**Danger - Electric voltage!**

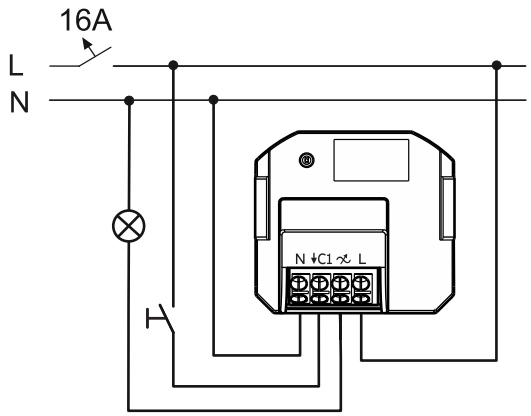
Install the device only if you have the necessary electrical engineering knowledge and experience.

- Incorrect installation endangers your life and that of the users of the electrical system.
- Incorrect installation can cause serious damage to property, e.g. due to fire.

The minimum necessary expert knowledge and requirements for the installation are as follows:

- Apply the "five safety rules" (DIN VDE 0105, EN 50110):
  1. Disconnect
  2. Secure against being re-connected
  3. Ensure there is no voltage
  4. Connect to earth and short-circuit
  5. Cover or barricade adjacent live parts
- Use suitable personal protective clothing.
- Use only suitable tools and measuring devices.
- Check the type of supply network (TN system, IT system, TT system) to secure the following power supply conditions (classic connection to ground, protective earthing, necessary additional measures, etc.).
- Observe the correct polarity.

## 7.3 Circuit diagrams




N Neutral conductor
↓C1 Extension unit input
⇗ Output
L External conductor

Fig. 5: Electrical connection 62851 U-WL-500

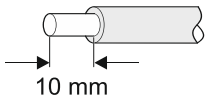



Fig. 6: Skinning length

The skinning length amounts to 10 mm.

## 7.4 Derating

### 7.4.1 Reduction of the connected load

- The devices heat up during operation because part of the connected load is lost and converted into heat.
- The specified rated power is designed for dimmer installation in a solid masonry wall.
- When installing the dimmer in a wall made of gas concrete, wood, or plasterboard, the maximum connection load must be reduced by 20%.
- The connected load must always be reduced when several dimmers are installed one below the other or when other heat sources cause additional heating.
- In intensely heated-up rooms, the maximum connected load must be reduced according to the diagram (see chapter “Derating curve“ on page 24).
- During overheating, e.g. due to overload, the dimmer switches off automatically. After it has cooled down, the device must be switched on again manually (switch light on again).

### 7.4.2 Reduction of the connected load with LEDi

- When determining the connected load of the dimmer, the power factor of the connected LEDi must be taken into account.

  Nominal power = number of LEDis · nominal power of LEDis / power factor
- The heating of the dimmer is essentially determined by the construction of the connected LEDi. LEDis with a low power factor heat the dimmer more strongly so that the connected load might have to be reduced if necessary.
- The electronics for dimmable LEDis are not standardized. The dimming capacity can only be ensured by means of a test.

**Attention! - Damage to device**

Risk of damaging the device due to overheating!

– When using transformers, ensure that each transformer is fused individually on the primary side or with a thermal fuse according to the manufacturer's specifications.
– Use only wound safety isolating transformers according to DIN EN 61558.

### 7.4.3 Operation with transformers / calculating the nominal power

The dimmer operation of lamps on conventional transformers is associated with additional power loss. This reduces the maximum connectable performance of the lamps.

Transformer losses:

– Electronic transformers: 5% of transformer nominal power
– For conventional transformers: 20% of transformer nominal power

Use the following formula for the calculation of the nominal power:

Nominal power = transformer losses + lamp power

### 7.4.4 Derating curve

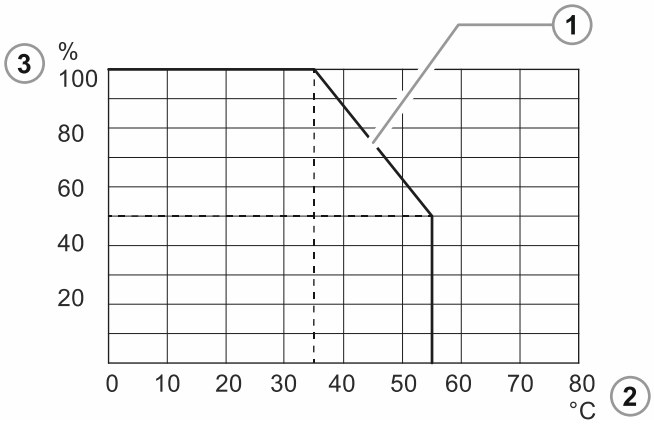



Fig. 7: Maximum connected load

[1] Derating curve
[2] Ambient temperature in °C
[3] Nominal power in %

The maximum connected load (100%) is admissible at an ambient temperature of -5°C - +45°C.

Beyond this, the derating curve applies.

- Operation with isolating transformer networks with a connected load of ≤ 10 kVA is not admissible!

## 7.5 Requirements for the electrician

**Danger - Electric voltage!**

Install the device only if you have the necessary electrical engineering knowledge and experience.

- Incorrect installation endangers your life and that of the user of the electrical system.
- Incorrect installation can cause serious damage to property, e.g. due to fire.

The minimum necessary expert knowledge and requirements for the installation are as follows:

- Apply the "five safety rules" (DIN VDE 0105, EN 50110):
  1. Disconnect
  2. Secure against being re-connected
  3. Ensure there is no voltage
  4. Connect to earth and short-circuit
  5. Cover or barricade adjacent live parts.
- Use suitable personal protective clothing.
- Use only suitable tools and measuring devices.
- Check the type of supply network (TN system, IT system, TT system) to secure the following power supply conditions (classic connection to ground, protective earthing, necessary additional measures, etc.).

## 7.6 Mounting

**Notice**
The device can be mounted in a ceiling box or deep flush-mounted box behind a light switch. Check beforehand whether there is sufficient space.

To install the device, perform the following steps:

1. If necessary, remove the already installed flush-mounted insert, (e.g light switch).
2. Connect the cables to the terminal block.
   – Observe correct wiring (see chapter 7.3 “Circuit diagrams“ on page 22).

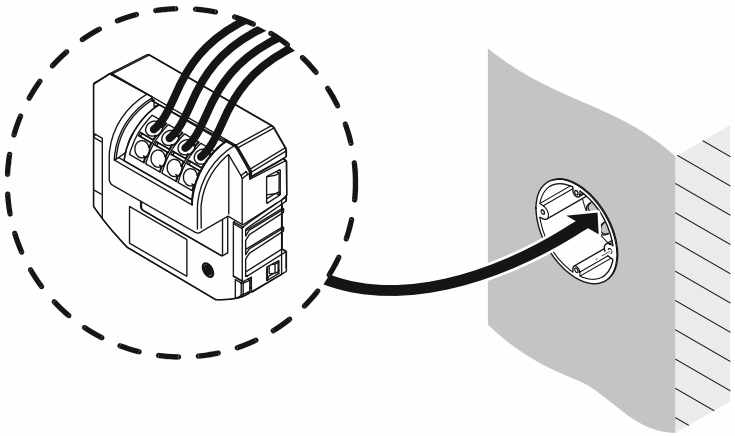


Fig. 8: Mounting in the flush-mounted box

3. Set the device into the flush-mounted box.
4. Then again mount the previously demounted flush-mounted insert or cover of the flush-mounted box.

## 7.7 Dismantling

Dismantling is carried out in the reverse order to mounting.

# 8 Overview of applications

The device can be used in three different expansion stages:

- Device control (individual control)
  - The conventional operation is made via a switch or push-button that is connected to the extension unit. The device can additionally be controlled and parameterised with the ABB-free@home® Next App.
  - For more detailed information, see chapter “Expansion stage "Device control"“ on page 28.
- Room Control
  - In this expansion stage the remote control and parameter setting of a dimming actuator and additional devices are made with the ABB-free@home® Next App via Bluetooth®.
  - The expansion stage allows the migration of the device configuration in a home automation with ABB-free@home®.
  - For more detailed information, see chapter “Expansion stage "Room control"“ on page 29.
- Home automation
  - In this expansion stage the remote control is made with the ABB-free@home® Next App. The parameter setting is made in the web-based interface of the System Access Point of a ABB-free@home®-configuration.
  - For more detailed information, see chapter “Expansion stage "Home automation"“ on page 30.

**Change between expansion stages**

If the device was configured within the "Room control" expansion stage, it can also be migrated in a home automation with ABB-free@home®. The parameter setting is retained.

The change from the "Device control" expansion stage into a home automation is only possible after a previous migration into the “Room control” expansion stage.

## 8.1 Expansion stage "Device control"

The conventional operation is made via the a switch or push-button that is connected to the extension unit. The device can additionally be controlled and parameterised with the ABB-free@home® Next App. In this expansion stage no additional devices or links can be supplemented.

- The access from the smartphone to the networked device is carried out with Bluetooth via the ABB-free@home® Next App.
- The remote control and parameter setting is carried out via the ABB-free@home® Next App.

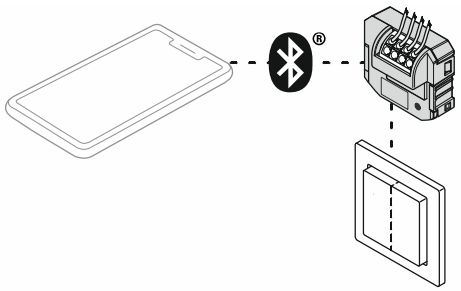


Fig. 9: Device control expansion stage (individual control)

## 8.2 Expansion stage "Room control"

In this expansion stage the configuration, remote control and parameter setting of a dimming actuator and additional devices are made with the ABB-free@home® Next App.

- Up to 32 devices can be linked with each other in the expansion stage via a mesh network.
- The devices can be linked with each other and controlled with group functions, scenes and timers.
- The access from the smartphone to the networked devices is carried out with Bluetooth via the ABB-free@home® Next App.
- A registration at MyBuildings is necessary. Here the configuration data are stored.
- No System Access Point is necessary.

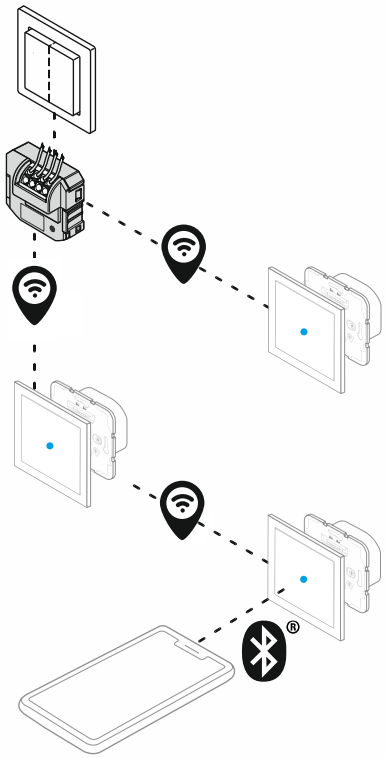


Fig. 10: Room control expansion stage

## 8.3 Expansion stage "Home automation"

In this expansion stage the remote control is made with the ABB-free@home® Next App. The parameter setting is made in the web-based interface of the System Access Point of a ABB-free@home®-configuration.

This expansion stage is totally networkable with the entire range of functions of a ABB-free@home® configuration, such as voice control, logic functions, external access, etc..

The device can be commissioned and integrated in two different ways.

- Commissioning via the ABB-free@home® Next App.
- Commissioning via the web-based surface of the System Access Point.

The connection between the free@home Bus participants and the smartphone, tablet or PC is established during commissioning. The participants are identified and programmed during commissioning.

During initial commissioning all devices are given a universal name and can be parameterized for the use of additional functions.

**Notice**

– It is assumed that the basic commissioning steps of the overall system have already been carried out.
– Knowledge about the basic functions of the app and the System Access Point is assumed.

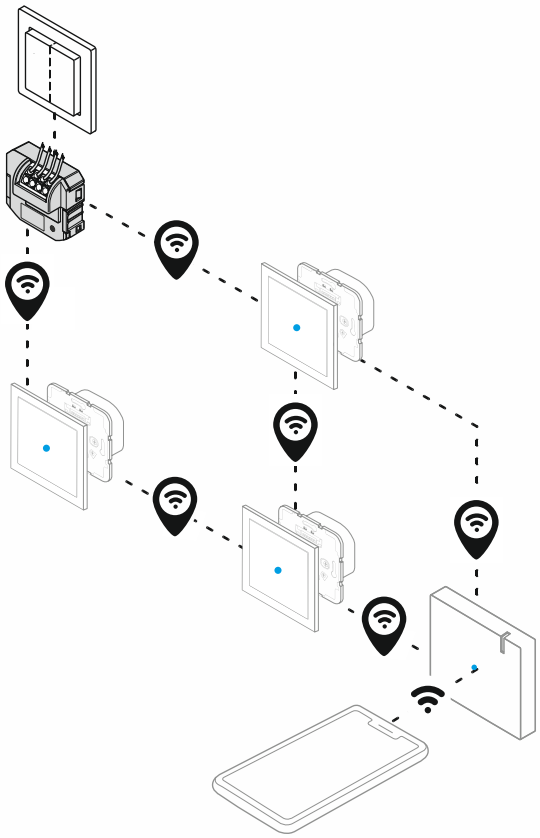


Fig. 11: Home automation expansion stage (home control)

## 8.4 Overview ABB-free@home® Next App areas

In the following you see an example of the function and operating areas of the app for the device.

**Overview area (Example)**


- Change of device name and the position

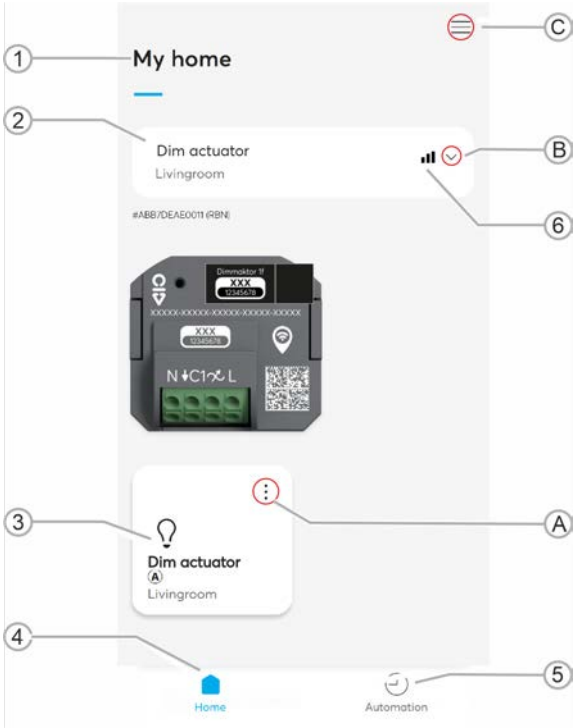
**Parameters (Example)**


- Switching of loads
- Setting the device parameters

**General settings Others (example)**

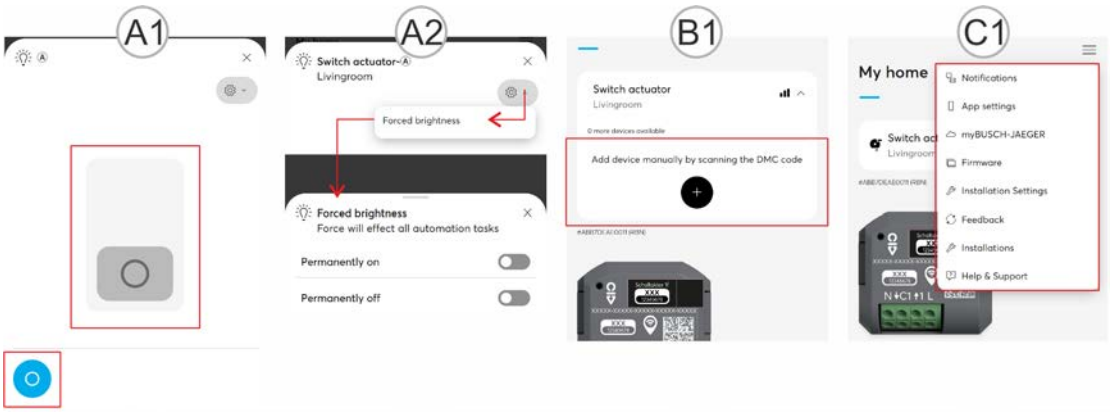

- Information about the device and maintenance
- Display of the software version of the device
- Reset device to factory settings

## 8.5 Overview of start screen




| | |
|---|---|
| [A] | **Three-point menu**<br>The switch menu opens by tapping on the three-point menu (views within illustrations A1 and A2).<br>– Here you can dim the load via the sliding switch / switch [A1].<br>– You can also open the function "Lock to brightness" via the toothed-wheel icon. It can be used to switch the load on or off continuously. |
| [B] | **Adding device**<br>By tapping the arrow, the drop-down menu for adding an additional device opens (see the detailed view in the illustration [B1]). |
| [C] | **Burger menu**<br>Tapping on the burger menu opens the function overview of the ABB-free@home® Next App (see the detailed view in the illustration [C1]). |
| [1] | Name of the selected installation. |
| [2] | Name of the currently selected device within the selected installation. |
| [3] | **Switching**<br>The load can be switched by tapping the lamp icon. |
| [4] | **Home button**<br>Back to start page of the device. |
| [5] | **Automation / Timer**<br>For additional information, please see chapter “Automation/Timer“. |
| [6] | **Signal strength**<br>Bluetooth signal strength of the currently selected device. |

Table. 7: Overview of start screen




| | |
|---|---|
| [A1] | Sliding switch / switch for dimming the load. |
| [A2] | Detail view of function "Lock at brightness. |
| [B1] | Detailed view of the drop-down menu for adding an additional device. |
| [C1] | Detailed view of the function overview of the ABB-free@home® Next App. |

Table. 8: Overview of start screen - detailed view

## 8.6 System integration

The device can be integrated in ABB-free@home®.

Networking with other devices in the app ABB-free@home® Next App is possible. Depending on the desired expansion stage, additional steps are required.

- Registration at MyBuildings.
- Room control: Additional ABB-free@home® flex devices for the setup of a mesh network are necessary.
- Home automation: For integration in ABB-free@home® installation with a System Access Point.

### System limits

- **Bluetooth®:**
  - The radio range between the devices amounts to a maximum of 10 meters.
  - A Bluetooth® connection is used for the connection between the smartphone and an additional device. If thick walls are located within the planned radio line, the attainable transmission ranges are greatly reduced.
  - The same applies to connections on other floors. In this case the radio signals must pass through the floor ceilings.
- **Wireless 2.4 GHz:**
  - The radio range between the devices amounts to a maximum of 30 meters.
  - If thick walls are located within the planned radio line, the attainable transmission ranges are greatly reduced.
  - The same applies to connections on other floors. In this case the radio signals must pass through the floor ceilings.

## 8.7 System requirements

The system requirements differ in dependence of the selected expansion stage. The system requirements are available in the following sections.

- Expansion stage "Device control"
  - Information about the expansion stage: Chapter 8.1 “Expansion stage "Device control"“ on page 28
  - System requirements: Chapter 8.7.1 “System requirements: "Device control"“ on page 34
- Expansion stage "Room control"
  - Information about the expansion stage: Chapter 8.2 “Expansion stage "Room control"“ on page 29
  - System requirements: Chapter 8.7.2 “System requirements: "Room control"“ on page 35
- Expansion stage "Home automation"
  - Information about the expansion stage: Chapter 8.3 “Expansion stage "Home automation"“ on page 30
  - System requirements: Chapter 8.7.3 “System requirements "Home automation"“ on page 35

### 8.7.1 System requirements: "Device control"

A mobile terminal device is required for commissioning in the expansion stage "Device control" via the ABB-free@home® Next App app.

In the following the designation "Smartphone" is used representatively.

**Prerequisites:**

- The current version of the app ABB-free@home® Next App is installed on your smartphone, at least version 3.4.3.
- The smartphone has a Bluetooth function.
- The device is located in the radio range of the smartphone.
- The device is connected to 230 V.
- The ABB-free@home® Next App can be downloaded free of charge from the Apple App Store and from Google Play (see chapter 9.1 “Downloading and installing the app“ on page 36).

### 8.7.2 System requirements: "Room control"

A mobile terminal device is required for commissioning in the expansion stage "Device control" via the ABB-free@home® Next App app.

In the following the designation "Smartphone" is used representatively.

**Prerequisites:**

- The current version of the app ABB-free@home® Next App is installed on your smartphone, at least version 3.4.3.
- The smartphone has a Bluetooth function.
- The device is located in the radio range of the smartphone.
- The device is connected to 230 V.
- The ABB-free@home® Next App can be downloaded free of charge from the Apple App Store and from Google Play (see chapter 9.1 “Downloading and installing the app“ on page 36).

### 8.7.3 System requirements "Home automation"

For commissioning in the expansion stage "Home automation" via the app ABB-free@home® Next App and the web-based interface of the System Access Point, a mobile terminal device (smartphone, tablet, etc.) or a computer is required.

**Prerequisites:**

- A functioning network (WLAN or LAN) is available with the System Access Point.
- There is an available ABB-free@home® configuration.
- The current Firmware version is installed on the System Access Point, at least however, version 3.4.3.
- The smartphone has a connection to System Access Point.
- The current version of the app ABB-free@home® Next App is installed on your smartphone, at least however, version 3.4.3.
- The device is in the radio range of the System Access Point or an additional ABB-free@home® wireless device.
- The device is connected to 230 V.
- The ABB-free@home® Next App can be downloaded free of charge from the Apple App Store and from Google Play (see chapter 9.1 “Downloading and installing the app“ on page 36).

# 9 Commissioning

**Notice**

– After being activated, the device is in programming mode and is automatically visible in the app or in the System Access Point for 30 minutes.
– As long as the device is in programming mode, the green LED on the device flashes.

**Notice**

A device that has already been logged in must be reset to enable it to be set again into programming mode.

– The device can be reset via the ABB-free@home® Next App app.(see chapter 10.5 “Settings / maintenance“ on page 63/ Chapter 10.7 “Factory settings“ on page 64).

The possible procedures for commissioning are described in the following. Depending on the expansion stage selected, the individual commissioning steps vary.

- Commissioning in the expansion stage "Device control"
  – Chapter 9.3 “Commissioning in the expansion stage "Device control"“ on page 37
- Commissioning in the expansion stage "Room control"
  – Chapter 9.4 “Commissioning of the expansion stage "Room control"“ on page 40
- Commissioning in the expansion stage "Home automation"
  – Chapter 9.6 “Commissioning of the expansion stage "Home automation"“ on page 46

You can also scan a non-programmed device via the supplied QR code and then make it operational.

- Chapter 9.5 “Commissioning by scanning the QR code“ on page 43

## 9.1 Downloading and installing the app

Download the app ABB-free@home® Next App from the respective store and install it on your smartphone.

Android

iOS

## 9.2 Identifying the device

Before commissioning, the device can be identified in the ABB-free@home® Next App for 30 minutes after a voltage reset. This function is especially helpful when several device are made operational at the same time.

Tor identify a device, proceed as follows:

1. Open the Burger menu and select "Manage Bluetooth devices".
2. Select the desired device.
3. Tap on “Identify”.
   – The LED on the device and the connected load flash five times.

## 9.3 Commissioning in the expansion stage "Device control"

To connect the device with the app, proceed as follows.

1. Activate the Bluetooth on your smartphone and connect the device to the power supply.

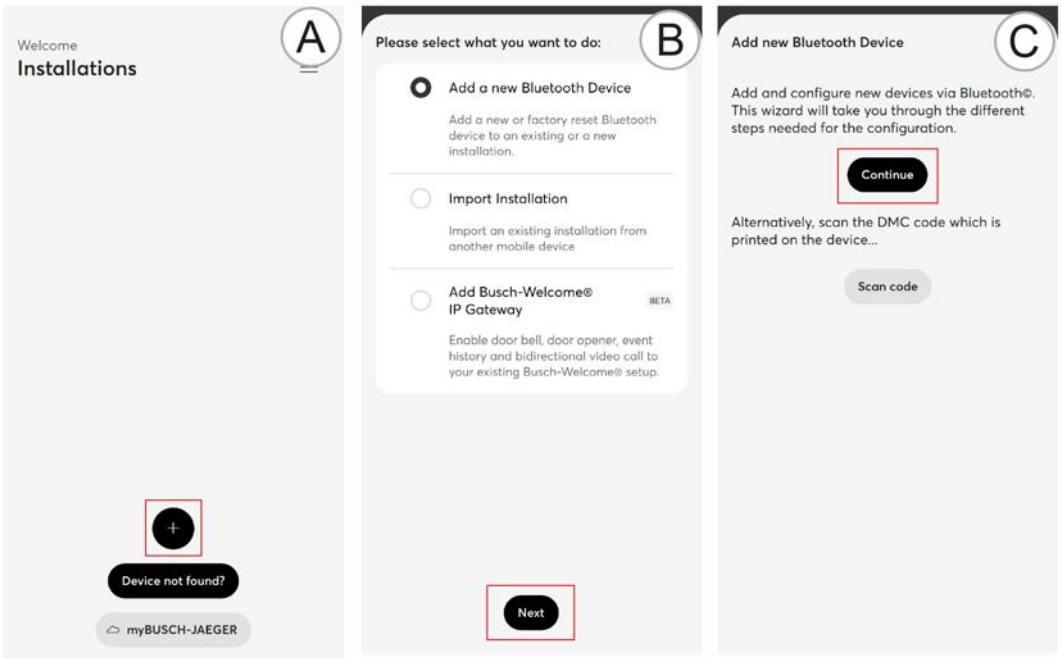



Fig. 12: Integrating the device [A] - [C] (example illustration)

2. Open the app ABB-free@home® Next App and tap on the plus icon [A].
3. Select "Add a new Bluetooth device" and confirm with "Continue” [B].
4. Tap on "Continue " to add the device via Bluetooth [C].

   As alternative, you can add the device by scanning the QR code (see Chapter 9.5 “Commissioning by scanning the QR code“ on page 43).

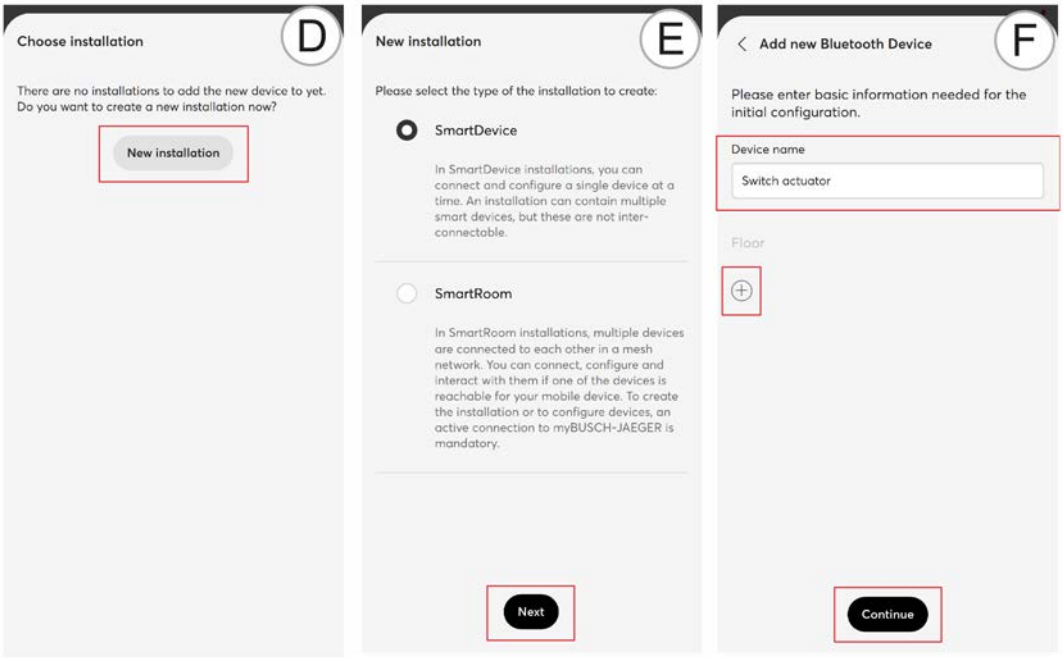



Fig. 13: Integrating the device [D] - [F] (example illustration)

5. Select “New installation” when there is none yet [D].
   – Select the desired installation type and confirm with "Continue" [E].
   – Assign a name for the new installation and select "Continue".
   – Assign a password for the new installation and confirm with "Continue".

**Notice**
If already available, an existing installation can be used.

6. Assign a new device name and position the device inside the installation with the help of the plus icon (specification of floor and room). Then confirm the settings with "Continue" [F].
   – The device is added to the installation [G].

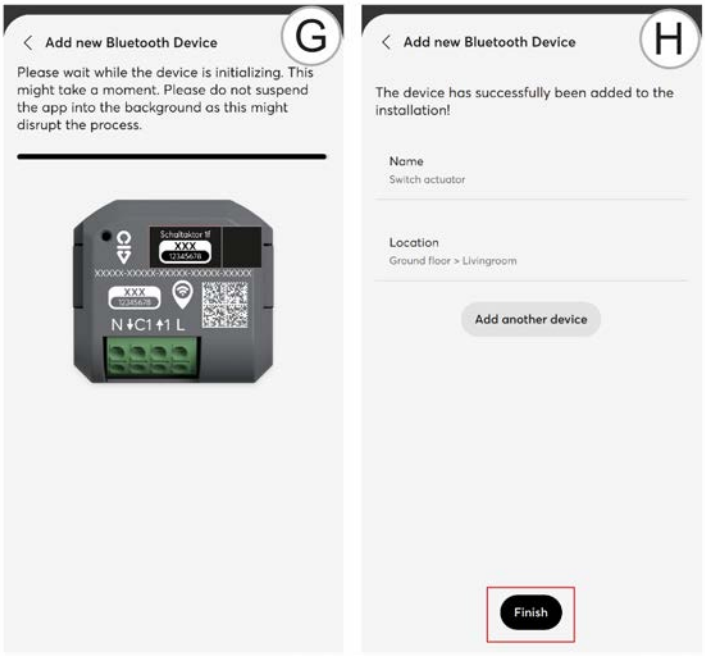



Fig. 14: Integrating the device [G] - [H] (example illustration)

7. The app indicates that the device was added successfully to the installation [H]. Complete the process via "Finished" or, if necessary, repeat the steps via the option "Add an additional device".

The device is connected with the app ABB-free@home® Next App and can be configured via the parameters (see chapter “Overview of parameters“ on page 54).

## 9.4 Commissioning of the expansion stage "Room control"

To connect the device with the app, proceed as follows.

1. Activate the Bluetooth on your smartphone and connect the device to the power supply.

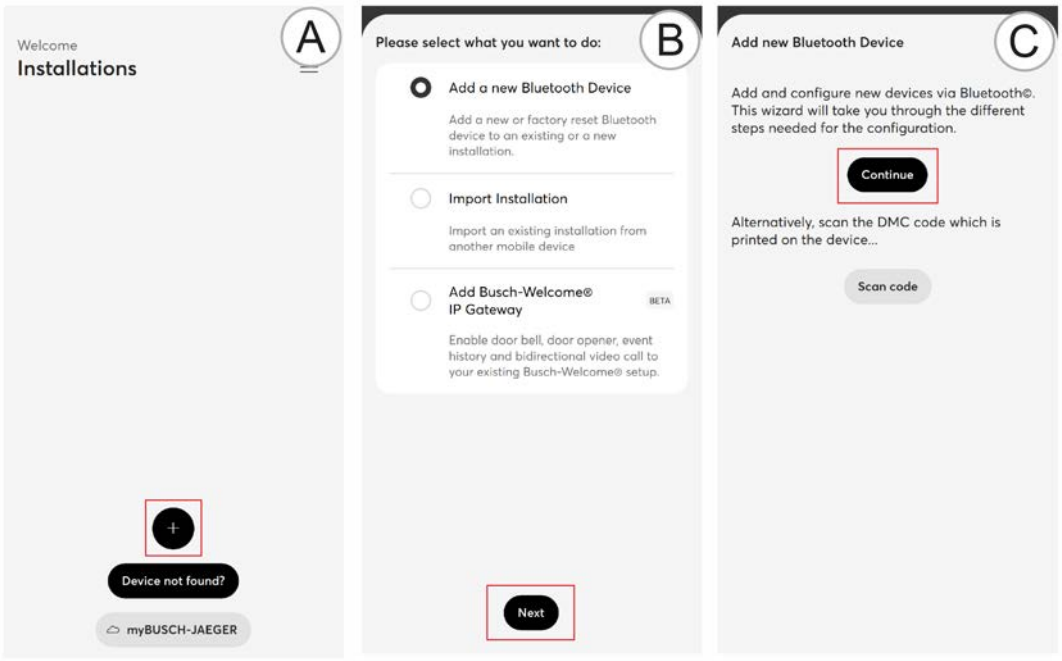



Fig. 15: Integrating the device [A] - [C] (example illustration)

2. Open the app ABB-free@home® Next App and tap on the plus icon [A].
3. Select "Add a new Bluetooth device" and confirm with "Continue" [B].
4. Tap on "Continue " to add the device via Bluetooth [C].

   As alternative, you can add the device by scanning the QR code (see chapter “Commissioning by scanning the QR code“ on page 43).

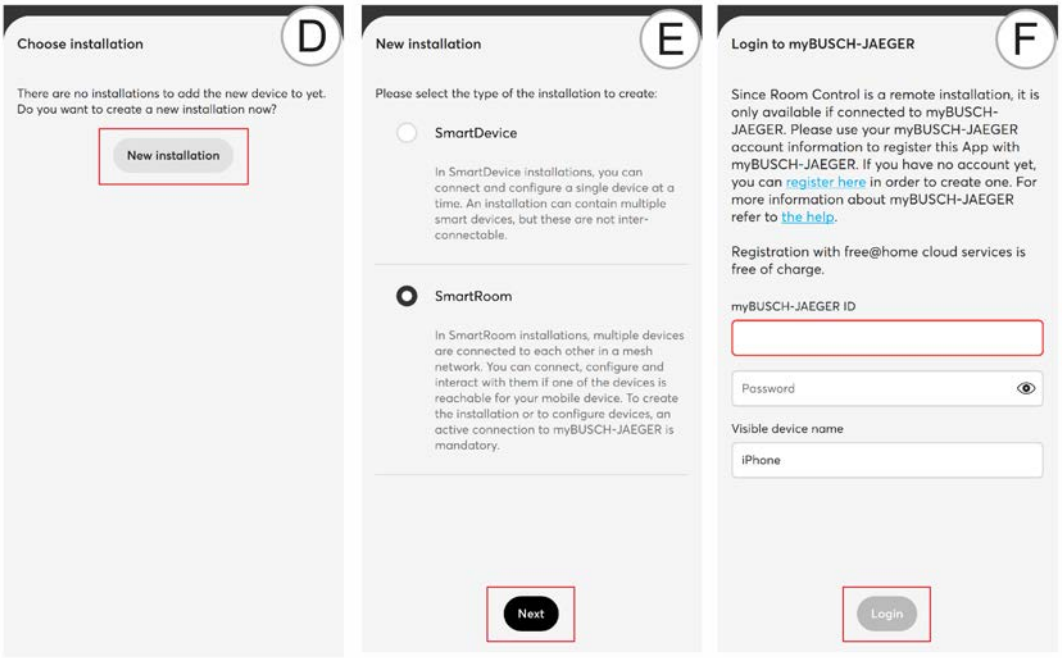



Fig. 16: Integrating the device [D] - [F] (example illustration)

5. Select “New installation” when there is none yet [D].
   - Select the desired installation type and confirm with "Continue" [E].
   - Register yourself at MyBuildings [F].
   - Assign a name for the new installation and select "Continue".
   - Assign a password for the new installation and confirm with "Continue".

**Notice**
If already available, an existing installation can be used.

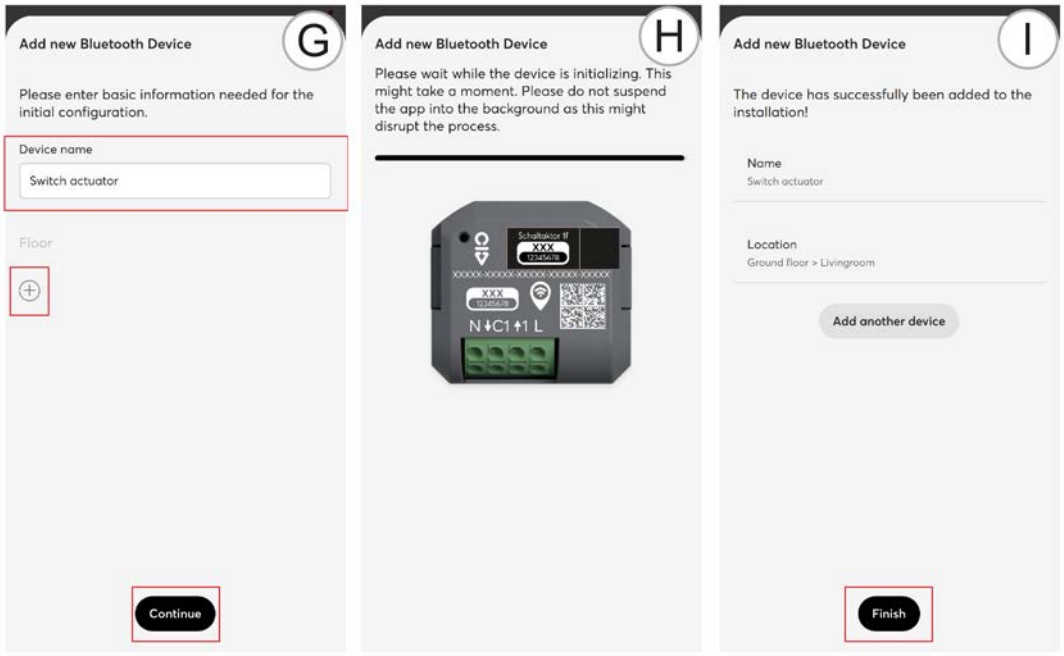



Fig. 17: Integrating the device [G] - [H] (example illustration)

6. Assign a new device name and position the device inside the installation with the help of the plus icon (specification of floor and room). Then confirm the settings with "Continue" [G].
   – The device is added to the installation [H].
7. The app indicates that the device was added successfully to the installation [I]. Complete the process via "Finished" or, if necessary, repeat the steps via the option "Add an additional device".

The device is connected with the app ABB-free@home® Next App and can be configured via the parameters (see chapter “Overview of parameters“ on page 54).

## 9.5 Commissioning by scanning the QR code

**Notice**

- The QR code is located on the rear side of the device.
- This method can also be used if the device is not connected to the power supply. However, one needs to be near the device with the system after the power is connected to add the device automatically.

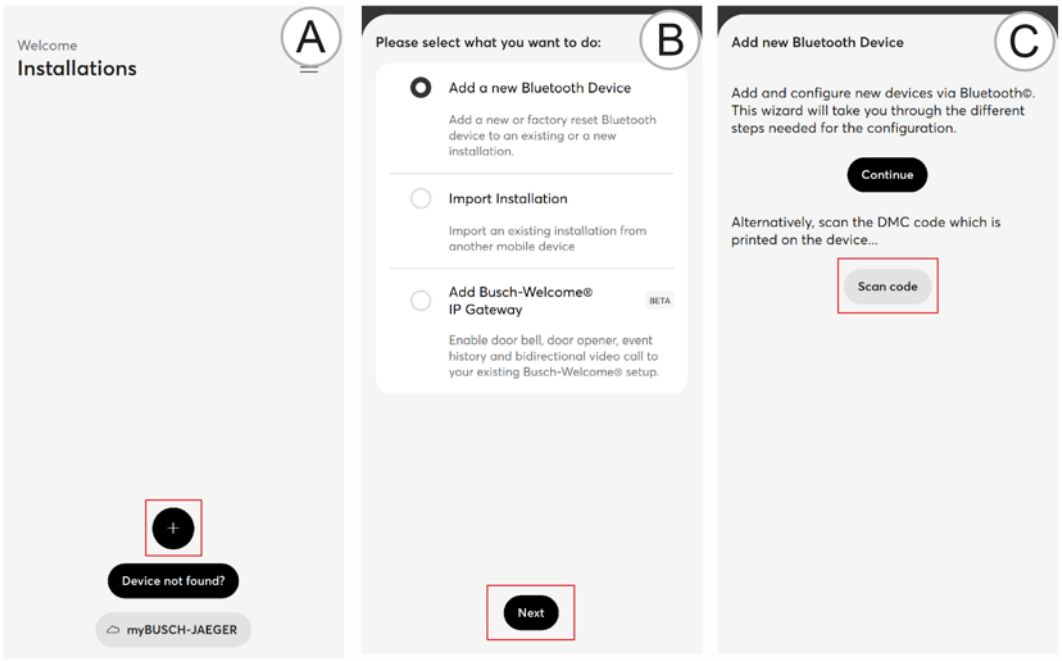



Fig. 18: Integrating the device [A] - [C] (example illustration)

1. Tap the plus icon [A].
2. Select "Add a new Bluetooth device" [B] and confirm with "Continue".
3. Tap on "Scan QR code" [C].
4. Use the camera of your smartphone to scan the printed QR code on the rear side of the device.

**Notice**

To be able to scan the QR code via the app ABB-free@home® Next App , you must allow access to the camera when you are requested.

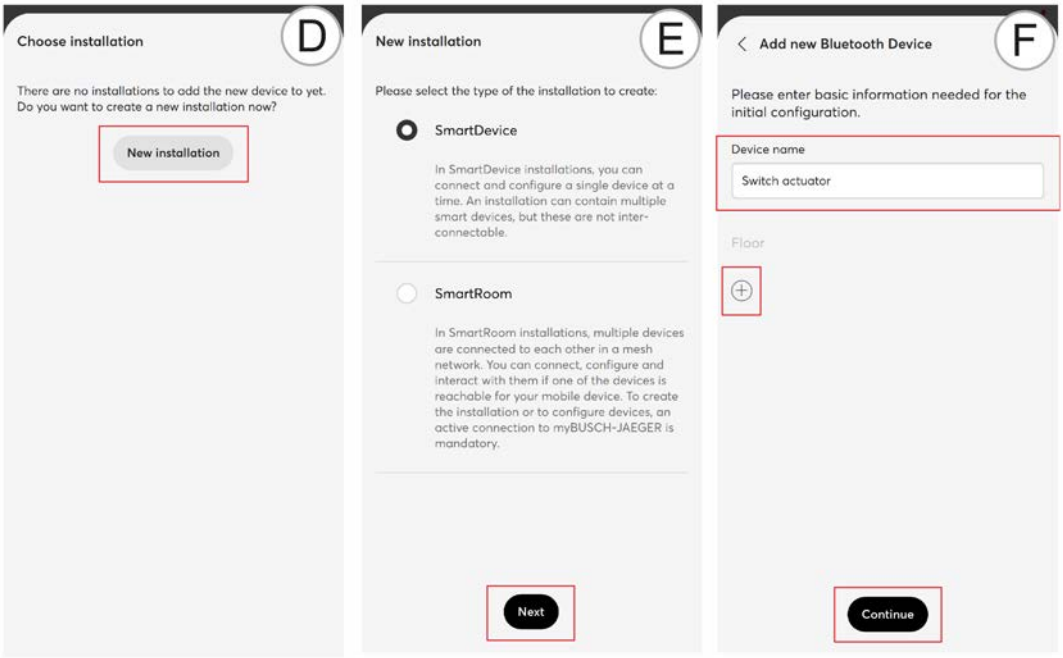



Fig. 19: Integrating the device [D] - [F] (example illustration)

5. Select “New installation” when there is none yet [D].
   – Select the desired installation type and confirm with "Continue" [E].
   – Assign a name for the new installation and select "Continue".
   – Assign a password for the new installation and confirm with "Continue".

**Notice**
If already available, an existing installation can be used.

6. Assign a new device name and position the device inside the installation with the help of the plus icon (specification of floor and room). Then confirm the settings with "Continue" [F].
   – The device is added to the installation [G].

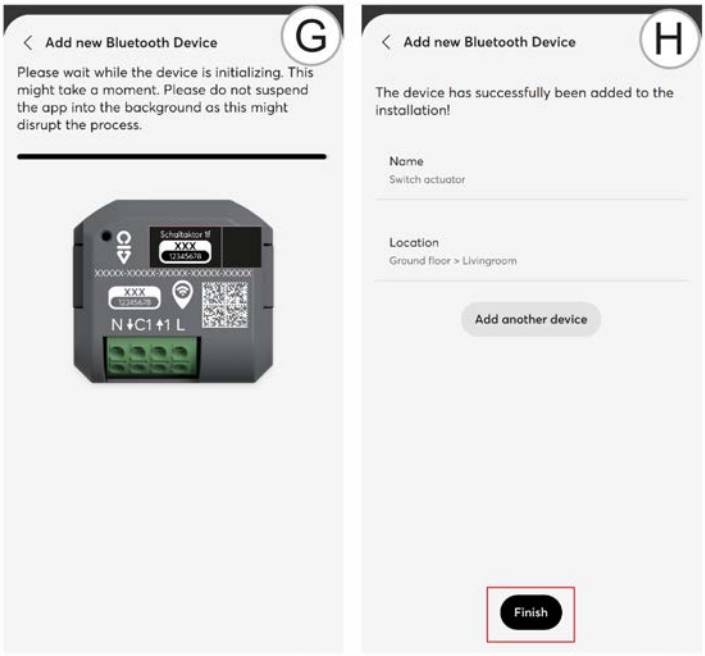



Fig. 20: Integrating the device [G] - [H] (example illustration)

7. The app indicates that the device was added successfully to the installation [H]. Complete the process via "Finished" or, if necessary, repeat the steps via the option "Add an additional device".

When the device is activated, it can be configured via the parameters (see chapter “Overview of parameters“ on page 54).

## 9.6 Commissioning of the expansion stage "Home automation"

**Notice**

– It is assumed that the basic commissioning steps of the overall system have already been carried out.
– Knowledge about the basic functions of the app and the System Access Point is assumed.

### 9.6.1 Authorizations

To be able to make settings on the system during commissioning, the login of the fitter is necessary.

**Notice**

Detailed information on user management is available in the ABB-free@home® system manual.

**Notice**

The setting options and illustrations described in this chapter assume a login as fitter in the web-based user interface of the System Access Point.
The ABB-free@home® Next App can also be used as alternative.

### 9.6.2 Coupling of wireless devices with the System Access Point

ABB-free@home® Wireless devices must first be coupled with the System Access Point before they can be used in a project. The devices exchange a security key during the coupling process (free@home® wireless key).

Communication between devices is carried out encrypted after coupling and they cannot be connected with another System Access Point. They must first be reset to the factory settings.

Carry out the following steps to integrate one or several devices into the system:

1. Install the ABB-free@home® wireless devices.
2. Use your smartphone, tablet or PC to call up the user interface of the System Access Point that is ready for use.
3. Switch on the mains power supply of the ABB-free@home® wireless devices.
   - The devices are now in programming mode for 30 minutes.

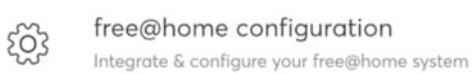



Fig. 21: ABB-free@home® Configuration

4. Select “ABB-free@home® configuration" via the main menu or the page menu in the user interface of the System Access Point.

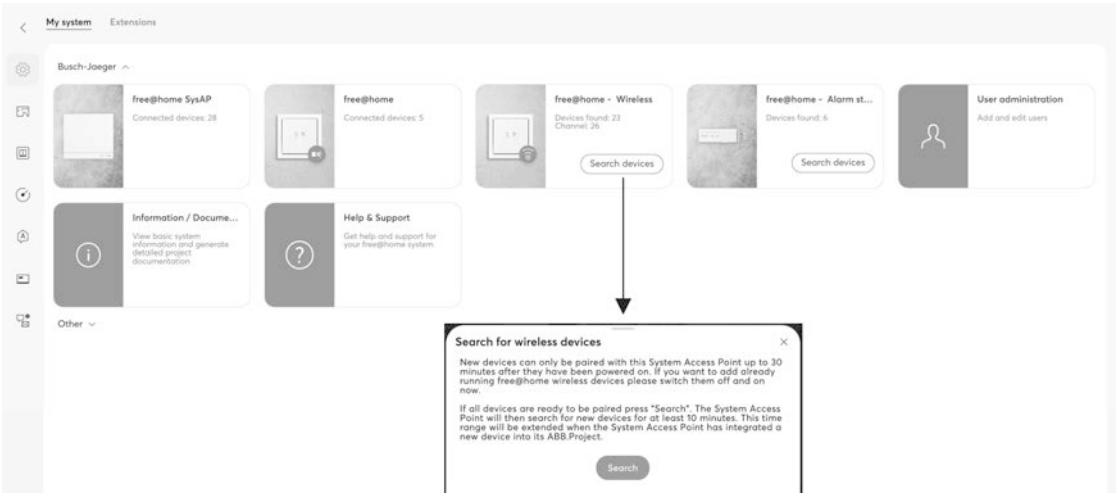



Fig. 22: Coupling wireless devices with the System Access Point

5. Tap on the "Search for devices" button and then on the "Search" button in the "Search for wireless devices" window.
   – Close the notification window "Search for wireless devices" by clicking on "OK".
   – The System Access Point consecutively scans all ABB-free@home® wireless devices. Devices that are in programming mode are automatically integrated into the system. The search process in the System Access Point ends 10 minutes after the last device has been found.
   – Integrated devices are listed in the user interface in submenu "Devices, scenes and groups".
   – To abort the search, click on "End search".
6. Use the serial numbers to check whether all installed devices have been found.
   If a device has not been found, reset it to the factory settings and start a new scanning process.

   Possible reasons for not finding devices:
   - The device is not in programming mode.
   - The 30-minute programming time has expired.
   - The device has already been coupled with a different system.

**Notice**
Bluetooth® is deactivated after the device has been programmed via the System Access Point.

### 9.6.3 Add device

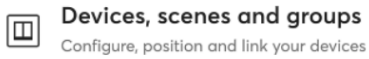



Fig. 23: Devices, scenes and groups

1. Select "Devices, scenes & groups" via the main menu or the page menu in the user interface of the System Access Point.
   – The "Building plan" opens.

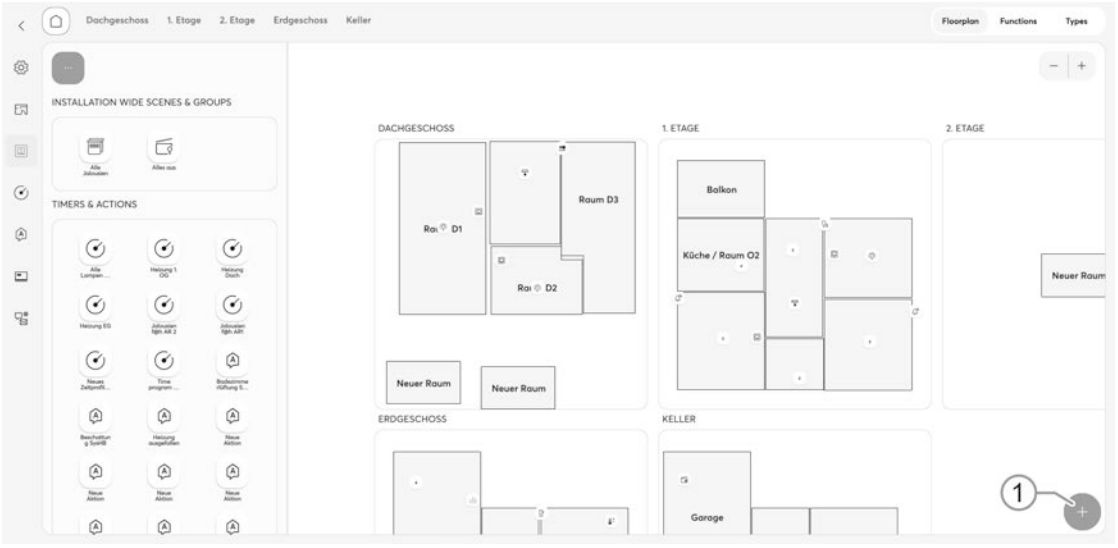



Fig. 24: Opening the building plan and list of components (example illustration)

2. Tap on the round plus icon [1] at the bottom right.
   – The menu "Select component" opens.
3. Tap on the desired characteristic in the list of components.
   – The menu with the available devices, functions and actuators opens.

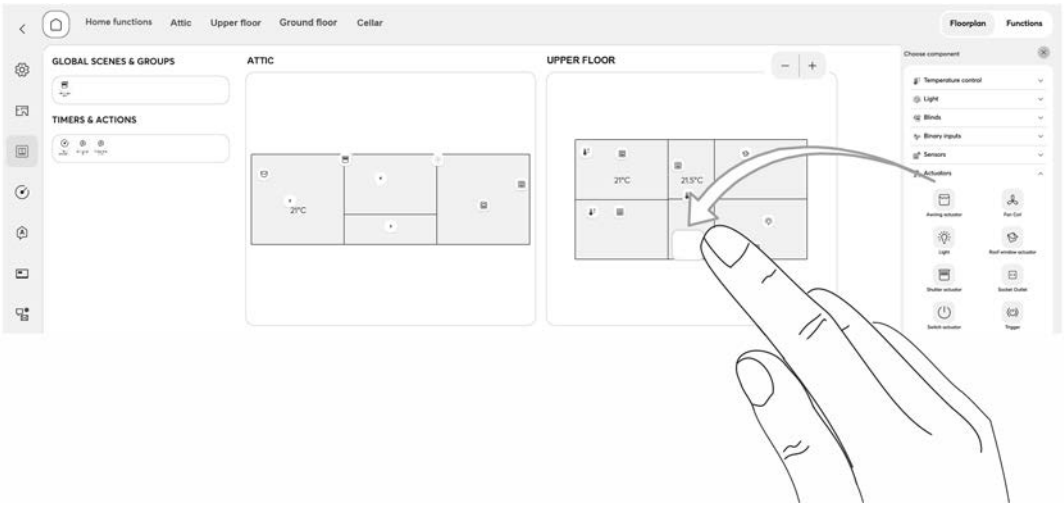



Fig. 25: Pulling the device out of the menu bar (example illustration)

4. Select the desired device and pull it into the building plan via drag-and-drop.
   – If you pull a new device into a room via drag-and-drop, a pop-up window opens in which all devices that are located in the system are listed and which have not been allocated to a room. The devices are suitable respectively for the selected application (e.g. all blind actuators, if the blind application has been selected).

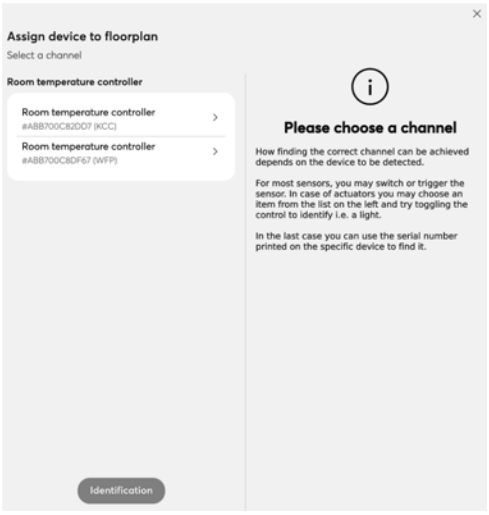



Fig. 26: Pop-up window with the suitable devices (example illustration)

5. Select the corresponding channel.

The device can be identified via the serial number or via switching.

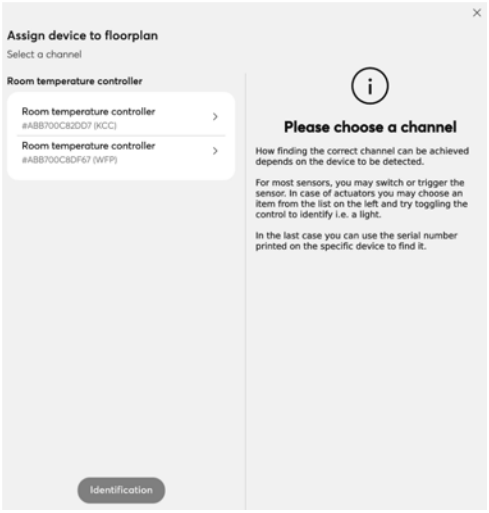



Fig. 27: Allocation of devices

A window opens which lists all the devices suitable for the application selected.

### Identification via serial number

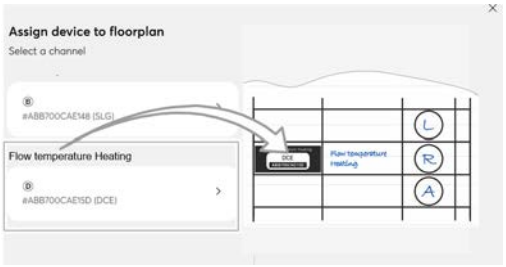



Fig. 28: Identification via serial number

6. Compare the serial number and the short ID of the identification label printed on the device with the numbers and IDs in the list. This is how the searched for device and possibly the searched for channel are identified.
   The specifications of the identification label should also be transmitted to the device plan.

**Notice**

The DMC code on the device can be optionally scanned with the app. This contains a configuration PIN. At a configuration change with a different app or tool, then also the DMC must be scanned in addition to the local connection via NFC. This serves for the protection against unauthorized reconfiguration.

### Identification via switching

If several devices are listed in the device list, you can identify them by switching the actual device.

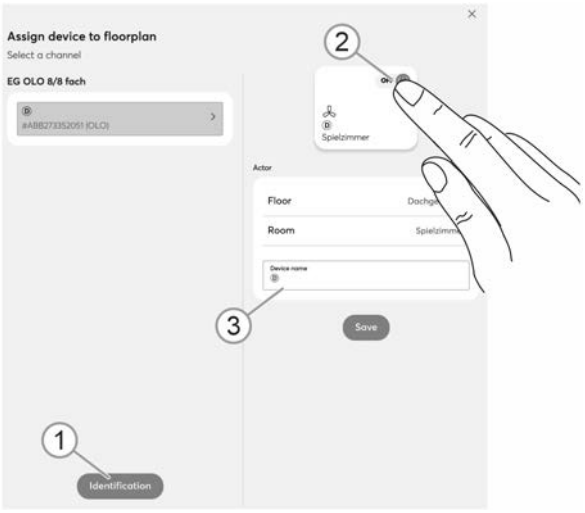



Fig. 29: Identification via switching (example illustration)

1. Open the device list.
2. Press the "Identification" button [1] and then switch the actual device.

   Or, as alternative, press only the button [2] in the web interface.

   – The connected load is switched.
   – The device is then selected automatically in the device list.

### Assigning a name

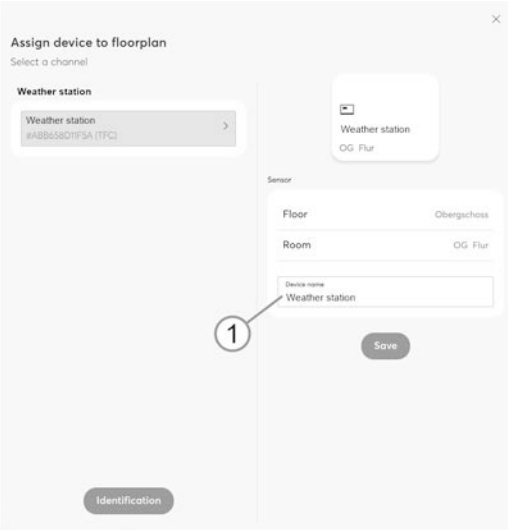



Fig. 30: Assigning a name (example illustration)

3. Enter a name that is easy to understand and under which the application is to be displayed later, e.g. "South-wall weather station".
4. Tap on the "Save" button to take over the adjustments.
   – This takes over the entry.

# 10 Operation

## 10.1 Display elements

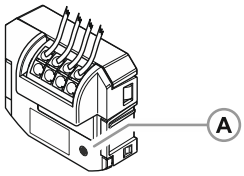



Fig. 31: Display elements

[A] LED Status

| Status LED | Description |
|---|---|
| 5 flashes | The LED on the device and the connected load flash five times because the function “Identify” was activated. |
| Flashing | The device is in programming mode. |

Table. 9: Conditions of status LED

## 10.2 Overview of parameters

For the configuration of the parameters, select the installation and the desired device. Then scroll down to the parameters.

The overview shows the individual parameters in their sequence of appearance during operation.

**Notice**
Some changes must, if necessary, be saved via the "Save" button for them to become effective.

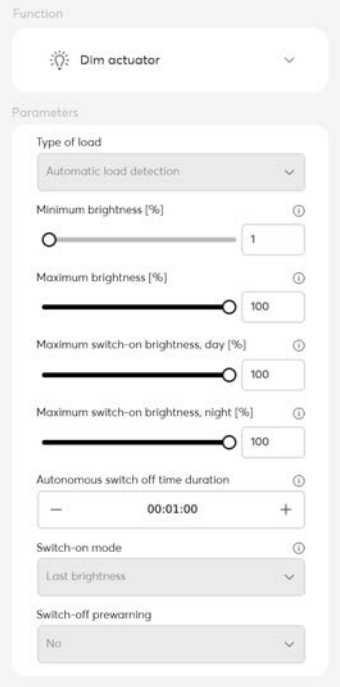



Fig. 32: Parameters section (example illustration)

**Notice**
In the description of parameters, the preselected standard values are underlined. These standard values are used when neither a value is entered nor a setting is made.

### 10.2.1 Overview of actuator parameters

| **Channel name** |
|---|
| Here an individual name can be assigned to the channel. |

| **Function** |
|---|
| The function of the actuator is selected already during the calibration of the device. If the function is to be changed later, the link to the sensor must be removed beforehand. Only then can additional functions be selected. |

| **Load type** | |
|---|---|
| The parameter us used to specify the load type of the dimmer.<br>**Notice:**<br>Please observe the fundamental principle of the respective type of load (leading edge control and trailing edge control). | |
| Incandescent lamp (trailing edge control) | For resistive and capacitive loads with trailing edge control |
| Inductive load (leading edge control) | For inductive loads with leading edge control |
| Dimmable LED/KLL (leading edge control) | For dimmable LEDs and compact fluorescent lamps (KLL) with leading edge control |

| **Minimum brightness [%]** | |
|---|---|
| 1 % ... 100% | The minimum brightness can be adjusted when the connected lamp in the bottom dimming range can no longer be dimmed or the lamp flickers. This setting depends on the lamp. |

| **Maximum switch-on brightness day [%]** | |
|---|---|
| 1 % ... 100% | This parameter can be used to set the maximum brightness with which the lamp us switched on during the day.<br>If, for example, the parameter is set on 80%, the lamp switches on with a maximum of 80%, yet manual dimming brighter is still possible at all times. |

| **Maximum switch-on brightness night [%]** | |
|---|---|
| 1 % ... 100% | This parameter can be used to set the maximum brightness with which the lamp us switched on during the night.<br>If, for example, the parameter is set on 80%, the lamp switches on with a maximum of 80%, yet manual dimming brighter is still possible at all times. |

| **Switch-off delay [seconds]** | |
|---|---|
| - 30 sec. 1800 sec. | The time after which the actuator switches off again can be specified via the sliding controller or by entry in the text field after it was switched on by a movement detector or via the staircase lighting function. |

| **Switch-on mode** | |
|---|---|
| Last brightness | The dimmer switches on with the last brightness value set. |
| Maximum brightness | The dimmer switches on with maximum brightness value. |

| **Switch-off pre-warning** | |
|---|---|
| Yes | Before the final deactivation of the connected lamps, it flashes a few times to signal that the lamp will soon go out.<br>The switch-off pre-warning is only active during the switch-off delay, not at a manual switch-off.<br><br>Phase of switch-off pre-warning:<br>1. The device is switched on<br>2. The device switches itself off for 1 second<br>3. The device switches itself on for 9 seconds<br><br>The process is repeated twice. The 30 seconds are added as switch-off delay. This means that the device switches itself off after 30 seconds. |
| No | The switch-off pre-warning is deactivated. |

### 10.2.2 Overview of sensor parameters

**Notice**
The device is a an actuator. On the extension unit input a conventional switch or push-button can be wired and configured here. Also the connection of a Sub-insert flex is possible.

| **Channel name** |
|---|
| Here an individual name can be assigned to the channel. |

| **Block local operation** | |
|---|---|
| Yes | With this function the operation can be deactivated via the switch/push-button. Operation is then only possible via the app. |
| No | Local operation is possible. |

| **Function** | |
|---|---|
| Control element | To control loads (e.g. lamps). These can be activated and deactivated. |
| Switch operation with switch-off delay | After a switching process, a specified switch-off delay (Page 55) starts after the expiry of which the connected lamp is switched off again.<br>In this way, for example, it can be specified in a staircase that the is switched off only 5 minutes (switch-off delay = 300 s) after the switch/push-button is actuated. |
| Disable actuator | The lamp can be set permanently in force-position “On” or “Off”. As long as the blockage is not cancelled, the switching state of the lamp cannot be changed via app, switch, time program, etc. |
| Dimming operation | The lamp can be switched off with the connected extension unit switch/push-button (brief press) and dimmed (long press). |
| Movement detector | For the control of a movement detector with the connected extension unit switch/push-button. |
| Wind alarm | For the automatic retraction of the blinds, and roller blinds or awnings at wind alarm. |
| Rain alarm | For the automatic retraction of the blinds, and roller blinds or awnings at rain alarm. |
| Frost alarm | For the automatic retraction of the blinds, and roller blinds or awnings at frost alarm. |
| Window contact | The window contact can be used to display the current status of the window (closed/open) in the app.<br>The window contact can also be linked with a blind to block the roller shutter as long as the window is open, or linked with a room temperature controller to switch off the heating when the window is opened. |
| Heating/Cooling changeover | For the switchover between operating modes heating and cooling in two-pipe heating/cooling systems. |
| Detection of flooding | For the automatic activation of an actuator at flooding alarm. |

| **Contact type** | |
|---|---|
| Here the contact type for the extension unit is selected. | |
| Normally open contact | The contact is closed by actuating the switch. |
| Normally closed contact | The contact opens when a the switch is actuated. |

| **Sensor type** | |
|---|---|
| Push-button | This sensor type is intended for operation with a mechanical push-button. The actuator status is inverted with every activation of the input (only rising edge). |
| Switch (switchover) | Reverser and push-button invert the existing status of the actuator. With this type of sensor a classic 2 way circuit can be implemented. Here the reverser inverts the actuator status during each change of the input signal (rising and falling edge) and can be operated in combination with a mechanical reverser. |
| Switch (direct) | This sensor type sends the value to the actuator, that is also attached to the extension unit input, independent of the previous status of the actuator. This makes a 1:1 illustration possible, but no 2 way circuit can be implemented.<br>For example: When a single lamp is to precisely follow the status of the contact of an external movement detector or a mechanical switch. |

## 10.3 Automation/Timer

**Notice**

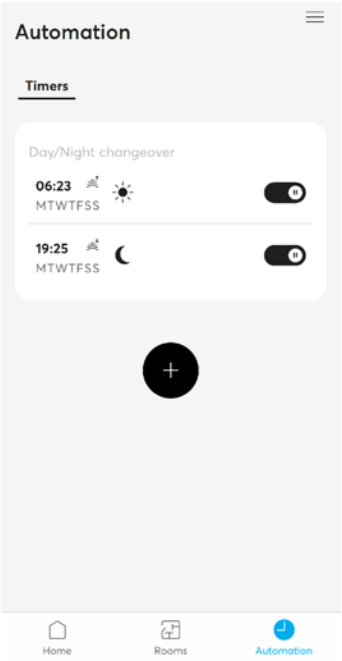
The device is not equipped with batteries.

– Time programs are stopped at a power failure.
– The time in the device is synchronized again only at the next connection with the app.

Up to 28 switching times can be programmed via the automation. Each timer has a weekday function and can be programmed for one or several weekdays.

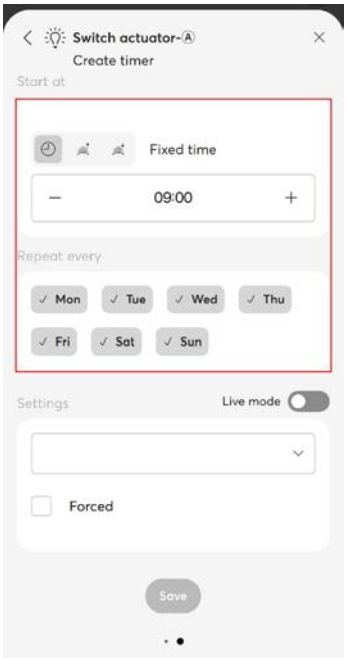
In the following you see the function and operating areas of the "Automation" app area.

**Automation overview area**




- Display of the number of configured timers
- Display of the defined switching times
- Activation / deactivation of timers

**Automation**
**Creation of a new timer**




- Specification of the type (specified time, Astro-dependent)
- Specification of repetition for weekdays
- Activation of live mode
- Specification of switch function

**Notice:** The available settings are dependent on the typification.

**Notice**

Timers can created both for the device as well as the switching output (channel). For example, a timer can be created to block the device for a specific time.

### 10.3.1 Automation/Timer settings

Different switching times can be programmed in the automation area.

The following overview shows the setting options and parameters in their sequence of appearance during operation.

**Notice**
Performed changes must, if necessary, be saved via the "Save" button for them to become effective.

**Notice**
The respective standard values in the overview are underlined. These standard values are used when neither a value is entered nor a setting is made.

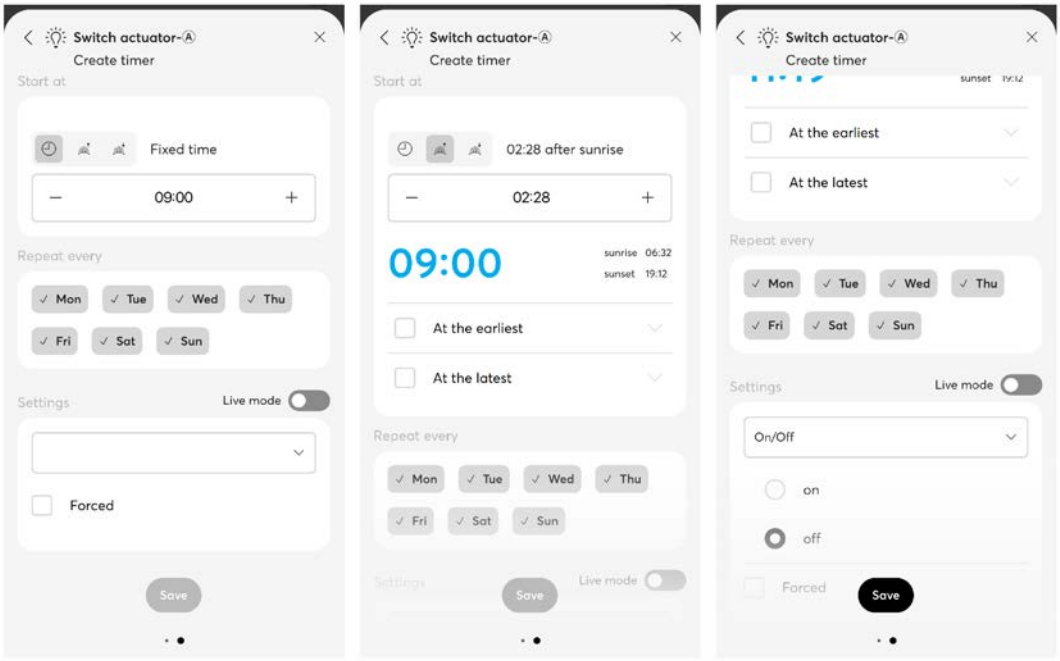



Fig. 33: Automation Settings

| **Start at** | |
|---|---|
| Specified time | The timer starts at a previously specified time. |
| xx.xx after sunrise | Astro timer, at which the starting time to a fixed offset is relative to the sunrise.<br>▪ Astro function, 00:00 to 23:50 |
| xx.xx after sunset | Astro timer, at which the starting time to a fixed offset is relative to the sunset.<br>▪ Astro function, 00:00 to 23:50 |
| At the earliest | Specifying the earliest time at which the astro timer is to start. |
| At the latest | Specifying the latest time at which the astro timer is to start. |

| **Repetition on every** | |
|---|---|
| Mon/Tue/Wed/Thu/Fri/Sat/Sun | Specifying the weekdays at which the timer is to repeat itself. |
| Switching on all weekdays | The standard setting. The timer switches on all weekdays at the same time. |

| **Live mode** | |
|---|---|
| On | If the live-mode is activated, at the change of the configuration the actuator changes into the timer settings to display the configured switching state. |
| Off | If the live-mode is deactivated, the configuration in the timer settings has temporarily no effect on the actuator. Only when the timer triggers is the actuator switched into the configured switching state. |

| **Switching state** | |
|---|---|
| On | The connected lamp is switched on when the timers triggers. |
| Off | The connected lamp is switched off when the timers triggers. |

| **Continuously locked** | |
|---|---|
| Continuous switching deactivated (set status) | With this function an active continuous switching is ended and the selected switching state (ON/OFF) is stopped. |
| Continuous switching deactivated (last status) | With this function an active continuous switching is ended and the last switching state of the actuator is stopped. |
| Permanently switched on | With this function the device is blocked for the time command and switched on. |
| Permanently off | With this function the device is blocked and switched off. |

## 10.4 General settings

The name of the device can be changed in the "General settings" and the position (floor/room) inside the house can be defined.

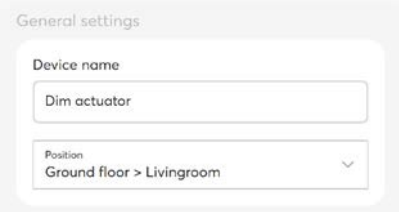
| **General settings**<br>**Expansion stage Device control** | **General settings**<br>**Expansion stage Room control and Home automation** |
|---|---|
|  |  |

Table. 10: General settings

## 10.5 Settings / maintenance

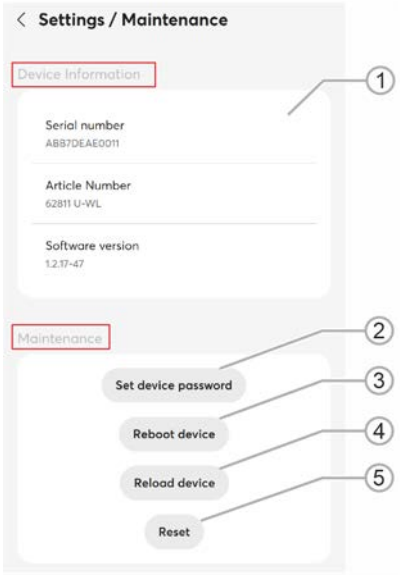
| Settings / maintenance<br>Expansion stage Device control | Settings / maintenance<br>Expansion stage Room control and Home automation |
|---|---|
|  |  |
| **Information about the device**<br>[1] Overview of the device data<br><br>**Maintenance**<br>[2] Setting and changing device password<br>[3] Rebooting the device<br>[4] Read device in again<br>[5] Resetting the device | **Information about the device**<br>[1] Overview of the device data<br><br>**Maintenance**<br>[2] Rebooting the device<br>[3] Read device in again<br>[4] Resetting the device |

Fig. 34: Other - Settings / Maintenance

## 10.6 Firmware update

The ABB-free@home® Next App on the start page shows the notification "Device update available" when a new firmware is available for your device.

To perform the update, proceed as follows:

1. Under the notice "Device update available" tap on "Update now".
2. In the next window, tap on "Update".
   – The update starts and a progress bar indicates the progress.
   – After the update is concluded, the device restarts.
   – The message "Update successful" appears in the app.

**Notice**
In the expansion stages Device control and Room control, a connection via Bluetooth®to the device is necessary.

## 10.7 Factory settings

The device can be reset via the "Reset device" function (see chapter “Settings / maintenance“ on page 63).

When the installation, with which the device is linked, is no longer available in the ABB-free@home® Next App, the device can only be reset by a master reset.

To perform a master reset, proceed as follows:

1. Perform a voltage reset on the device.
   – The device can now be reset for 5 minutes with a master reset.
2. Open the Burger menu and select "Manage Bluetooth devices".
3. Select the desired device.
4. Tap on “Rest”.
   – The requirements of the master reset are sent to the device.
   – A further voltage reset must be performed for the confirmation.
   – The device will be reset to the factory settings and is now in programming mode.
   – If desired, the device can then be reconnected with the app.

# 11 Maintenance

Check the device from time to time for software updates to guarantee the stability and the compatibility of the system.

In addition, the device is maintenance-free. In case of damage, e.g. during transport or storage, do not perform repairs. Once the device is opened, the warranty is void.

Access to the device must be guaranteed for operation, testing, inspection, maintenance and repairs (according to DIN VDE 0100-520).

# 12 Declaration of conformity

ABB herewith declares, that radio system type 62851 U-WL-500 conforms to directive 2014/53/EU.

The complete text of the EU Declaration of Conformity is available at the following Internet address:

| | |
|---|---|
| 62851 U-WL-500 | https://new.abb.com/products/2CKA006710A0038 |

Table:11 Link to Declaration of Conformity

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