

Product Manual

ABB-free@home™

DS-3.1 and DS-6.1 Dimmer Switch



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1 The Device

The Dimmer Switches are used to dim 120 V lighting devices continuously. They can be integrated into the ABB-free@home™ Smart Home system allowing remote operation, i.e. by mobile devices (free@home System Access Point required).

A binary input allows the connection of a mechanical switch to create a 3-way installation.

DS-3.1 Dimmer Switch (2-wire)

The DS-3.1 dims incandescent lamps up to 300 W or LED lamps up to 150 W.

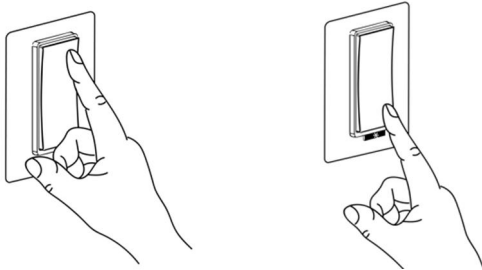
Note: No Neutral wire required.

DS-6.1 Dimmer Switch (3-wire)

The DS-6.1 dims incandescent lamps up to 600 W or LED lamps up to 150 W.

Note: A neutral wire is required.

1.1 Basic Operation

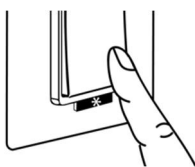


To Turn ON: Short press at the top of the rocker switch.

To Make Brighter: Long press at the top of the rocker switch.

To Turn OFF: Short press at the bottom of the rocker switch.

To Make Dimmer: Long press at the bottom of the rocker switch.



***Safety-OFF Switch:** This switch allows the user to turn OFF the power to safely replace a lamp. However, the rocker may have been configured to operate a lamp other than the one switched OFF by the Safety OFF. Before replacing a lamp, verify that the wires to the lamp do not have power. Turn the lamp on, then operate the Safety OFF. If the lamp turns OFF when the Safety OFF is activated, it is safe to replace the lamp.

LED Indicator: The 5 LED's show the brightness level of the connected lighting.

2 Adding the Dimmer Switch

This section describes how to add the Dimmer Switch to the system.

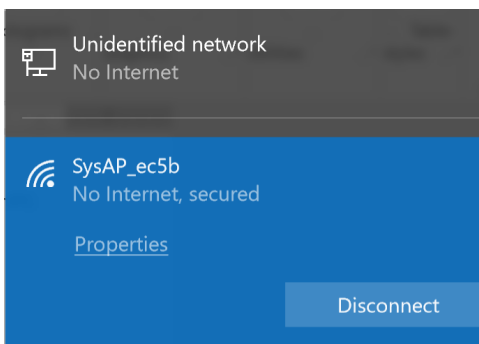
STEP 1: Install the Dimmer Switch

Install the device by following the Operating Instructions of [DS-3.1](#) and [DS-6.1](#) included in the original packaging.

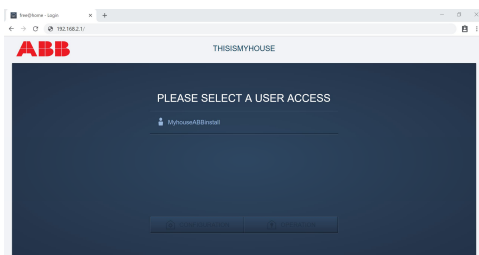
Note: After installation, the Dimmer Switch will immediately allow the lamp to function. To control the switch wirelessly, it will need to be added to the free@home network. If the Dimmer Switch has been assigned to a different SysAP, it will need to be reset. Please see [here](#) for instructions.

STEP 2: Open configuration and search for the Light Switch

Ensure that the SysAP is in Access Point mode by pressing the button on the SysAP. The indicator light will turn solid blue. Connect to the SysAP by selecting it from the list in your wireless network.



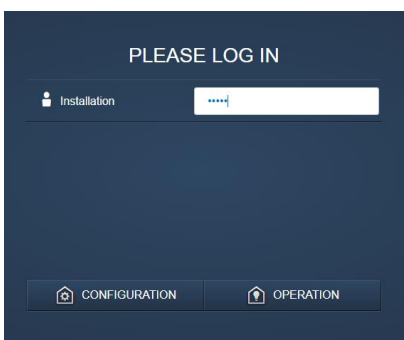
Once connected, open a browser and enter 192.168.2.1 in the address line.



If you have a tablet, use the free@home App.

Note: It is not possible to set up the Dimmer Switch by using a smartphone.

Log in as a user that has configuration rights.



Start Go to Settings > free@home radio > Search for wireless devices

The SysAP will now search for the Dimmer Switch.

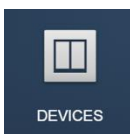
Note: The Dimmer Switch can only be found if the search starts within 30 minutes after the Dimmer Switch was connected to power. If 30 minutes has elapsed, the user must turn the power OFF and back ON again to restart the 30 minutes. You can do this by using the Safety-OFF Switch.

The Dimmer Switch will be found automatically and will be inserted into the configuration software.

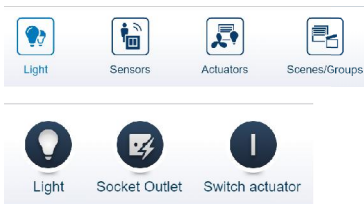
Please wait until the Dimmer Switch configuration is read. This may take up to 10 minutes.

STEP 3: Add the Dimmer to the floor plan

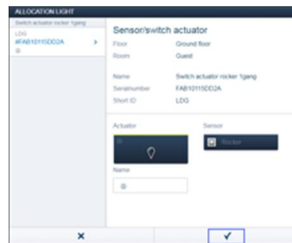
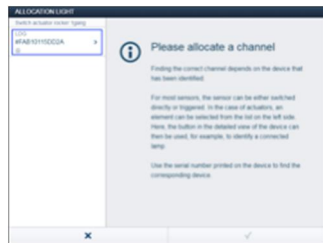
A. Go To “Devices”.



B. Click on “Light”.



C. Drag the light bulb symbol into the floor plan.

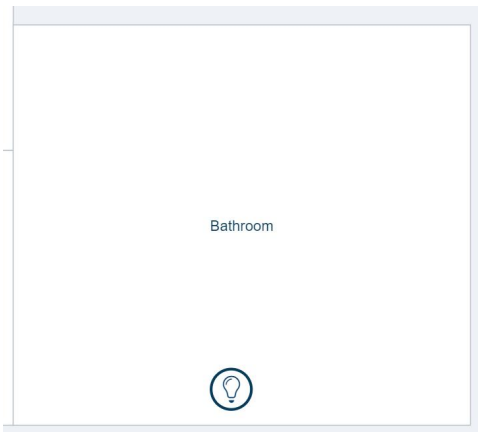


D. Choose the device from the list.



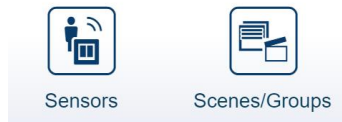
Note: The device can be identified by its serial number or 3-digit code.

E. A new symbol will appear in the floor plan corresponding to the element that was placed into the floor plan.

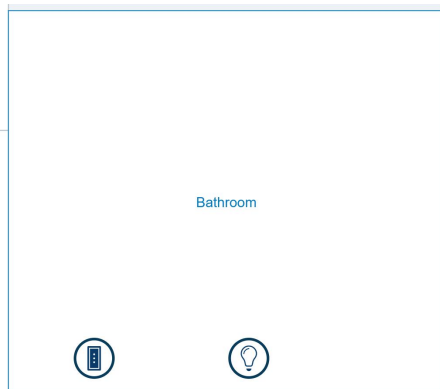


STEP 4: Add the Dimmer Switch to the floor plan

A. Click on "Sensors".

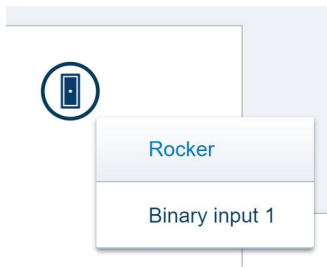


B. Drag the "Rocker" element into the floor plan. A new symbol will appear in the floor plan corresponding to the Rocker.



STEP 5: Connect the Dimmer Switch to the Light

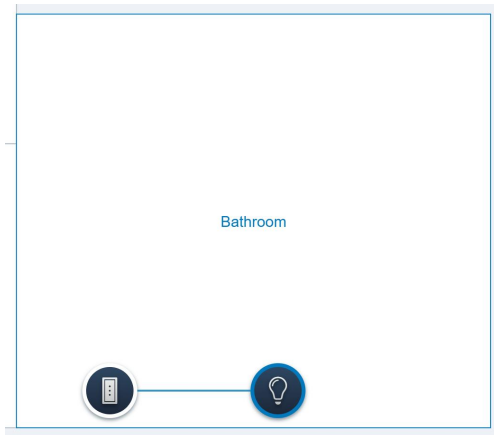
A. Click on Rocker in the floor plan. Select "Rocker" from the drop-down menu that pops up.



B. In the menu on the right-hand side of the screen, click on the button that says "Rocker".



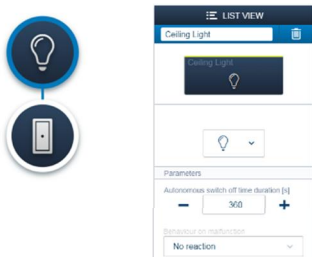
C. Click on the Light in the floor plan. This creates a link between the two devices. (A link between a Rocker and Light is shown below).



3 Configuring the Dimmer Switch

STEP 1: Lamp Settings


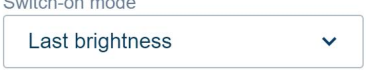
Click on the lightbulb symbol to show the lamp settings.



Define a name for this lamp.

3.1 Dimmer Switch Settings

Setting	Description	Options	Image
Type of Load	Sets what type of bulb is connected to the control	Dimmable LED/CFL Inductive Load Incandescent Lamp	Type of load Dimable LED/CFL
Minimum Brightness [%]	Sets the minimum brightness the dimmer will dim to	1 to 100 in increments of 1	Minimum brightness [%] 1
Maximum switch-on brightness, day [%]	Sets the maximum brightness the dimmer with start at when first turned on during the day	1 to 100 in increments of 1	Maximum switch-on brightness, day [%] 100
Maximum switch-on brightness, night [%]	Sets the maximum brightness the dimmer with start at when first	1 to 100 in increments of 1	Maximum switch-on brightness, night [%] 100

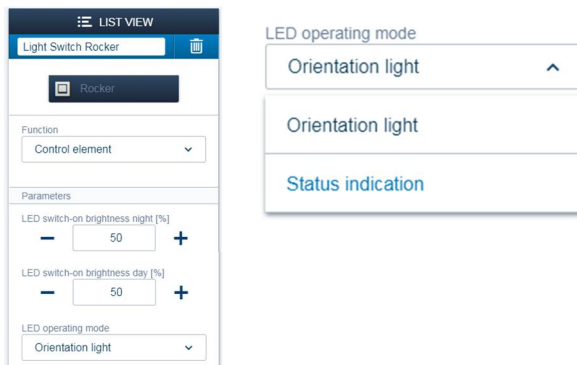
	turned on at night		
Autonomous switch off time duration [s]	This setting is only used in combination with a motion detector. Dimmer Switch will automatically switch OFF after time has elapsed.	30 to 1800 in increments of 10	Autonomous switch off time duration [s] 
Switch-on mode	Defines what happens with the rocker is switched ON.	Last brightness Maximum Brightness	Switch-on mode 

STEP 2: Rocker Settings

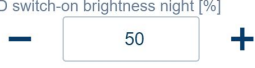
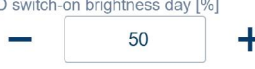
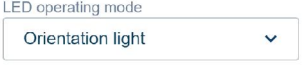
After clicking on the rocker symbol, select “Rocker”.



“Binary Input” is only used when the Binary Input is connected, (i.e. in a 3-way installation).



3.2 LED Settings

Setting	Description	Options	Image
LED switch-on brightness night [%]	User can adjust brightness of LED	0 to 100 in increments of 1	LED switch-on brightness night [%] 
LED switch-on brightness day [%]	User can adjust brightness of LED	0 to 100 in increments of 1	LED switch-on brightness day [%] 
LED mode	LED lighting to help user navigate	<ul style="list-style-type: none"> “Orientation light”: LED is always ON to find Light Switch at night “Status indication”: LED shows status of light, i.e. LED is ON when switch is ON, 	LED operating mode 

Configuring the Dimmer Switch

		and OFF when switch is OFF	
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4 Technical Data

4.1 Technical Data: DS-3.1 and DS-6.1

Description	Value
Operating Voltage	120 VAC, 60 Hz
Operating Voltage Range	103 VAC to 121 VAC
Connection	DS-3.1: No Neutral Wire Required DS-6.1: Neutral Wire Required
Binary Input Voltage	120 VAC Nominal
Maximum Power Consumption	< 1 W
Standby* Power Consumption	< 300 mW
Transmission Protocol	free@home, 2.400 - 2.483 GHz, meshed
Transmission Power	< 15 dBm
Protection Type	IP 20
Ambient Temperature Range	23° F to 113° F (-5° C to 45° C)
Storage Temperature Range	-40° F to 140° F (-40° C to 60° C)

*If output is off and no active wireless communication

4.2 Load Table DS-3.1

Load Type	Value
Incandescent or Halogen Lamps	300 W
Magnetic Low-Voltage Transformer (MLV)	Not Allowed
Electronic Low-Voltage Transformer (ELV)	200 W
Compact Fluorescent Lamps (CFL)	150 W
LED lamps, Maximum 20 Lamps Allowed	150 W
Fan or Motors	Not Allowed

4.3 Load Table DS-6.1

Load Type	Value
Incandescent or Halogen Lamps	600 W*
Magnetic Low-Voltage Transformer (MLV)	600 W*
Electronic Low-Voltage Transformer (ELV)	600 W
Compact Fluorescent Lamps (CFL)	150 W
LED Lamps, Maximum 20 Lamps Allowed	150 W
Fan or Motors	Not Allowed

*If 3 Dimmer Switches are mounted next to each other in a 3-gang installation, the maximum output power per device will be reduced to 550 W.

5 Appendix

5.1 Dimming LED's

Some LED's are not easy to dim. If you have issues, please follow this guide first:

STEP 1: Right setting



In the DEVICES view click on the lamp and have a lock on the right at the LIST VIEW.

Put "Type of load" to "Dimmable LED/CFL".

Type of load

Dimmable LED/CFL

STEP 2: Are the LED's flickering?

Some LED's tend to flicker close to 100%. Reduce the "Maximum brightness" setting (day and night) to a lower value, e.g. 90%.

Maximum switch-on brightness, day [%]

90

Maximum switch-on brightness, night [%]

90

Some LED's flicker when dimming down. In this case increase the "Minimum brightness":

Minimum brightness [%]

10

STEP 3: LED remains ON

Some LED's still produce some light even after the Dimmer Switch switches them off. We recommend to replace the LED in this case.

Note: Please send us a short note with the manufacturer and type of the lamp together with date and seller where you purchased the lamp. ABB will provide a list of incompatible lamps. Furthermore it helps us in continuously improving the Dimmer Switches.

5.2 Resetting the Device

Reset the Light Switch if it was previously assigned to a different System Access Point (SysAP). The reset will remove any previous connection and enable the device to connect to a new SysAP.

Reset procedure:

- Press and hold the bottom of the rocker for at least 20 seconds.
- The bottom LED light will start flashing after 10 seconds.
- After another 5 seconds, the LED will start flashing rapidly. After another 5 seconds, the LED light will turn off.
- Release the bottom of the rocker within the next 10 seconds.

E) Then press the bottom of the rocker. The lower LED light will stay on. Press the bottom of the rocker again. The previous actions must be completed within 5 seconds.

F) The device will now return to factory settings and restart.

ABB

Electrification Products
860 Ridge Lake Boulevard
Memphis, TN 38120
abb.com/freeathome

Customer Service:

800-816-7809
7:00 am – 5:30 pm, CST, Mon-Fri
elec_custserv@tnb.com

Technical Support:

888-385-1221, Option 1
7:00 am – 5:00 pm, CST, Mon-Fri
freeathome_techsupport@us.abb.com

For information about the many functions of this device, see the system manual at abb.com/us/freeathome

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