REAL SMART HOME

REAL SMART HOME GmbH

APPMODULE

BAB Alexa

Smart Home App Documentation

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1 INTRODUCTION

Thank you for your trust, and the purchase of the BAB Alexa Smart Home App for the BAB **APP**MODULE. With the BAB Alexa Smart Home App, you control your KNX® devices by voice command. This documentation will help you get started with the app and aims to improve your setup experience.

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IMPORTANT INFORMATION ON THE OPERATING INSTRUCTIONS

We reserve the right continually improve the product. This entails the possibility that parts of this documentation might be out-of-date. You will find the latest information at:

www.bab-appmarket.de

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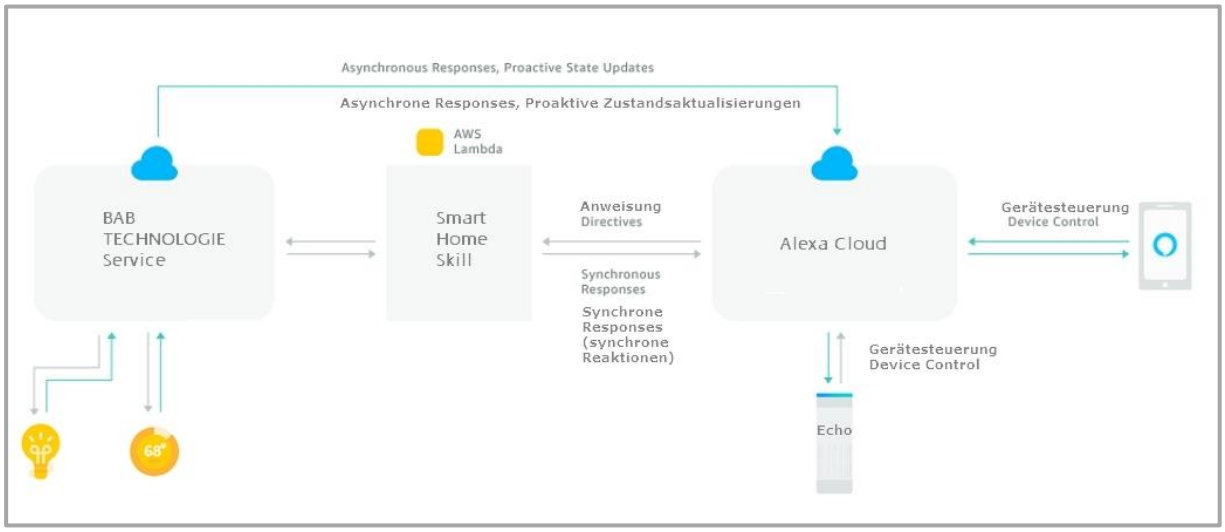
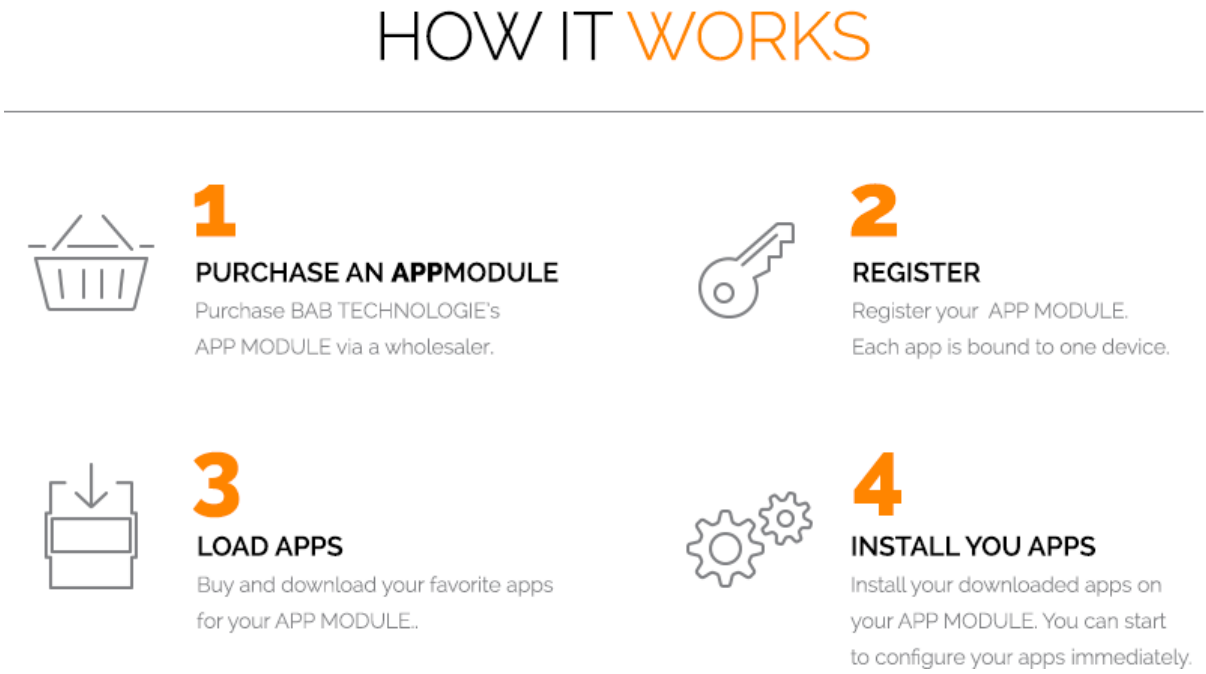
2 BAB ALEXA SMART HOME APP FUNCTIONAL OVERVIEW

With this Smart Home app you can integrate the Alexa voice control system from Amazon into your Smart Home based on KNX, EnOcean and IP. In combination with the Alexa Skill "BAB TECHNOLOGIE" you can effortlessly connect your **APP**MODULE with Alexa. Connect the whole world of IoT and building automation with Amazon's voice control. Control any KNX, EnOcean or IP components by voice or start entire Smart Home scenes. Whether Denon HEOS, Bose SoundTouch, Pushbullet, Sonos or PJLink: All the apps you install on the **APP**MODULE can also be controlled with Alexa - regardless wether this is supported by the manufacturer.



3 THE INNOVATIVE, MODULAR SMART HOME APP CONEPT FOR THE BUILDING AUTOMATION

The innovative, modular Smart Home App concept for building automation. The **APP**MODULE brings the innovative, modular Smart Home App concept into building automation. You can mix and match any of the diverse applications that are available to ingrate third-party solutions. With these Smart Home Apps from the dedicated **BAB** APPMARKET, the **APP**MODULE becomes a tailor-made integration unit for your building automation.



Manufacturer of the **APP**MODULE BAB TECHNOLOGIE GmbH

Distribution of all Smart Home Apps for the **APP**MODULE BAB APPMARKET GmbH

Smart Home App developer REAL SMART HOME GmbH

3.1 INFORMATION ABOUT THE APPMODULE

Please refer to the separate product documentation of the **APP**MODULE for a detailed product description and setup instructions.

http://www.bab-tec.de/index.php/download_de.html

Product variants:
The **APP**MODULE is available in three variants:

- **APP**MODULE KNX/TP – for stand-alone use on KNX/TP Bus
- **APP**MODULE EnOcean – for stand-alone use in the EnOcean wireless network
- **APP**MODULE IP – for use in an IP-based KNX installation (KNXnet/IP) or as extension for an EIB**PORT**

4 SMART HOME APP INSTALLATION / UPDATE

Please proceed as follows to install a Smart Home App.

1. Open the **APP**MODULE web page: Enter <IP Address of **APP**MODULE > into your browser's address bar and press Enter. The **APP**MODULE web interface will appear.

2. Log in with your user credentials. Please refer to the **APP**MODULE documentation for login details.

3. Click on the menu entry "App Manager"

4. You are now on the page where already installed Smart Home Apps are listed. The list will be empty if no Smart Home Apps have been installed. Click "Install App" in order to install a new Smart Home App.

5. Now click on "Select App"; a file selector window will appear. Choose the Smart Home App » BAB Alexa « and click "OK".

The Smart Home App » BAB Alexa « must first be downloaded from the **BAB** APPMARKET (www.bab-appmarket.de).

After the message "Installation successful" appears, click "OK". You are ready to configure the Smart Home App.

To update a Smart Home App manually you have to proceed as follows

1. To update an already installed Smart Home App, click on the App icon in the "App Manager".

2. The detail view of the Smart Home App appears. Click on "Update App" to select the Smart Home App package and start the update. The update version must be downloaded from the **BAB** APPMARKET.

After the message "Installation successful" appears, click "OK". The Smart Home App has been updated. Your instance configurations will remain unchanged.

The Smart Home App can also be updated directly in the web interface. Without having to download the Smart Home App from the **BAB**APPMARKET first.
In the “App Manager” available Smart Home App updates are reported

Information
To configurate the Smart Home App please use Google Chrome.

5 SMART HOME APP SETTINGS/ALEXA SKILL

The Smart Home App "**BAB** Alexa" for the **APP**MODULE is the counterpart to the Alexa Skill "**BAB** TECHNOLOGIE".
The "**BAB** TECHNOLOGIE Service" is used for a particularly comfortable setup of the system. Like Amazon itself, it uses the "Log-In-With-Amazon" authentication to ensure a secure and unambiguous connection between the **APP**MODULE and Amazon.
You use one and the same account (access data) to register on Amazon as well as on the BAB service.

Proceed as follows to connect your **APP**MODULES with Amazon Alexa:

1. Go to the Amazon Alexa App and navigate to the "Smart Home" area.
2. In the "Set up Smart Home" area, select "Activate Skills".
3. Select the skill "**BAB** TECHNOLOGIE" and activate it.
4. Now open the configuration interface of the **APP**MODULE and navigate to the Smart Home App "**BAB** Alexa" in the "App Manager" area.
5. Now click on "Register **APP**MODULE" and log in to the "**BAB** TECHNOLOGIE Service".
6. Enter the serial number and registration key of the **APP**MODULE.
7. Copy the generated app token to the clipboard.
8. Now return to the configuration interface of the **APP**MODULE and insert the app token.

The connection of your **APP**MODULE is now set up and Alexa's voice commands are forwarded to your **APP**MODULE via the "**BAB** TECHNOLOGIE Service".
Continue now with the further configuration of the Smart Home App.

Note:
Devices configured in the **APP**MODULE are not recognized by Alexa until you search for new Smart Home devices in the Amazon Alexa App (e. g. on your smartphone).
You can start the search with the voice command "Alexa, search for new Smart Home devices".
To do this, create an instance with devices as described in the following chapter.

Note:
The BAB TECHNOLOGIE Skill only works with an Amazon account UK, Amazon account DE, Amazon account IT, Amazon account FR or Amazon account ES. In order to use the skill with the Amazon account UK, it is important that the device location in the Amazon app is set to UK and a valid UK postcode is entered.

Figure 1: BAB TECHNOLOGIE Skill APPMODULE

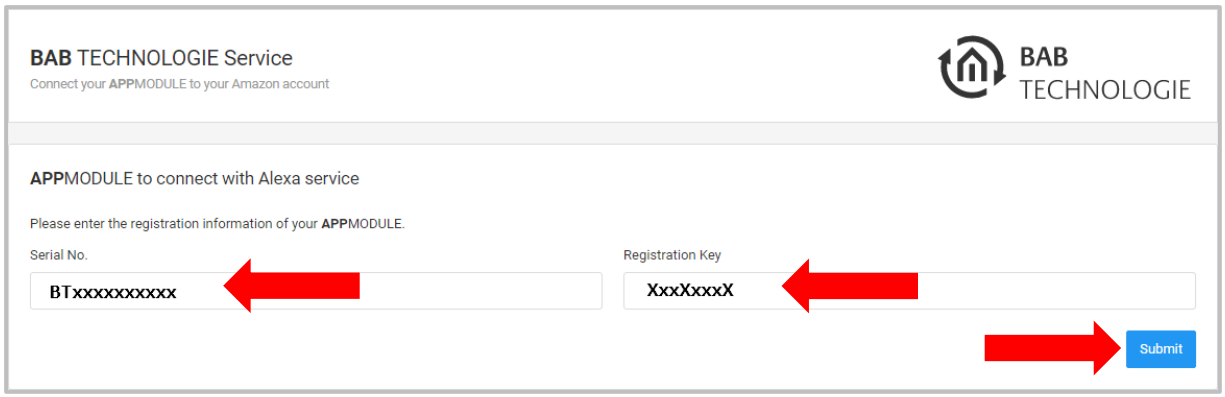
5.1 SMART HOME APP-TOKEN

The **APP**MODULE must be registered in the **BAB** TECHNOLOGIE Service "https://cs1.bab-tec.de:8085".

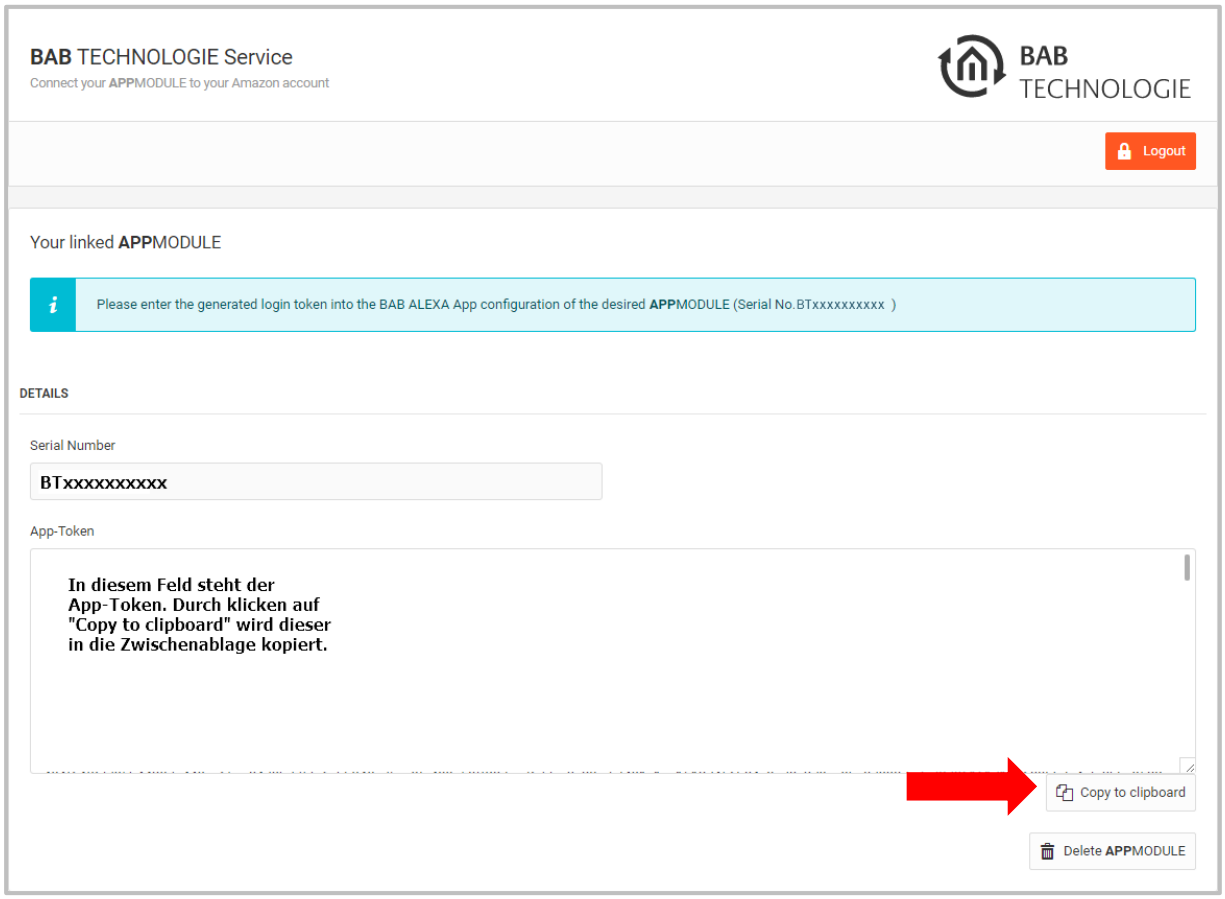
SERIAL NUMBER / REGISTRATION KEY

For registration you need the serial number of the **APP**MODULE (BTxxxxxxxxxxxxxxx) and the registration key for the **BAB** APP MARKET. The serial number can be found on the rear side of the **APP**MODULE or - if you have logged in to the **APP**MODULE web interface - under Information. The registration key can be ound on the packaging and on the enclosed map of the **APP**MODULE. Log in to the BAB TECHNOLOGIE service with your Amazon account data.

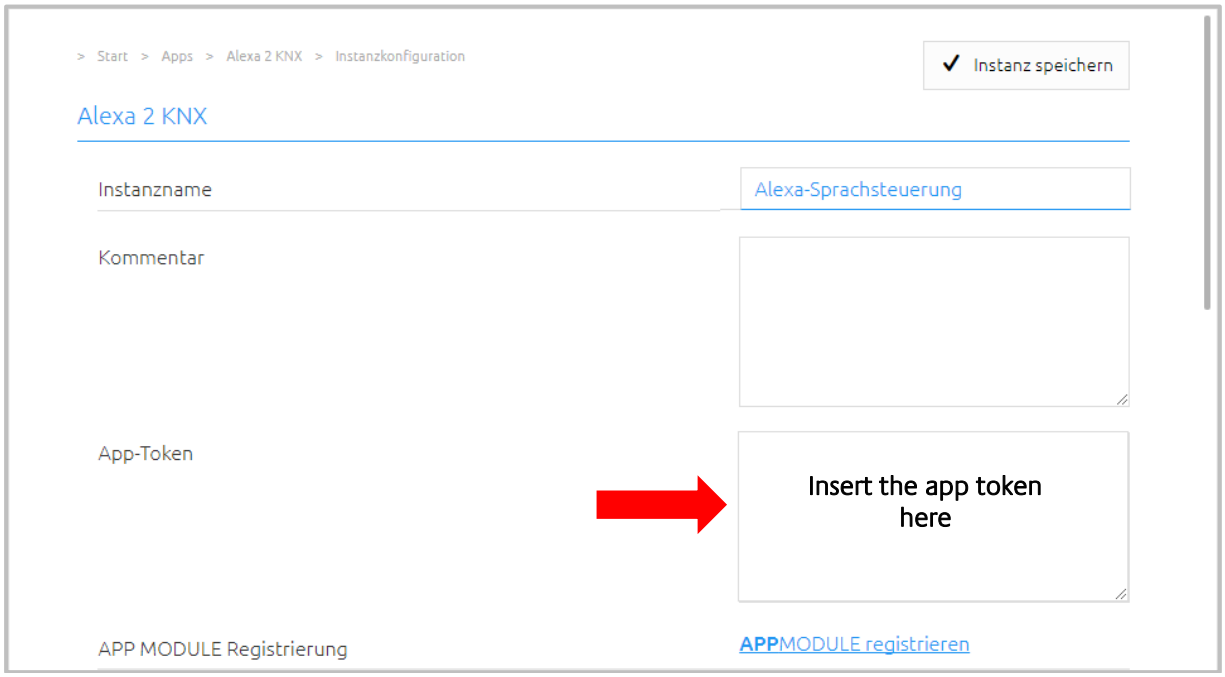
You will be redirected to a registration page of Amazon. Enter your Amazon account data here. Afterwards you will be redirected to the **BAB** TECHNOLOGIE Service page.
Now enter the serial number of the **APP**MODULE and the registration key.



Submit "completes the registration and creates the app token. Copy the app token into the clipboard.



Insert the token from the clipboard into the corresponding field in the Smart Home App "BAB Alexa".



The registration process is completed by saving the instance.

5.2 INSTANCE

As soon as the app is installed, you can create so called “Instance”. An Instance is one of several objects of the same class.

In order to create an instance, click on the symbol "Create Instance".

Instance Name:

Choose a name for this new instance.

Comment:

Insert a description what this instance does.

App Token:

The app token which was generated for this APPMODULE. Register at https://cs1.bab-tec.de:8085 (see also chapter 6.1)

APP MODULE Registration:

In order to use the BAB Alexa app and the corresponding smart home skill BAB TECHNOLOGIE, you must first register this APPMODULE at the BAB TECHNOLOGIE Service.
You will need the credentials of the Amazon account used to register the smart home skill.

Connection State:

Indicates whether the app is connected with the BAB TECHNOLOGIE service and can process requests from Alexa.

Note:
Copying the devices is not possible. The devices require a unique ID (see Device ID). The device ID is copied and not new generated.

5.3 ON/OFF SWITCH

Switch:

Simple switching via 1-bit (1/0) telegram. E.g.: "Alexa, turn [DEVICE] on/off."

Device ID:

Unique id with which Alexa addresses the device. Generated automatically.

Name:

Name of the device as it should be refered to by Alexa.

Description:

Description of the device.

Switching Address:

Address to switch upon Alexa request.
Note:
Copying the devices is not possible. The devices require a unique ID (see Device ID). The device ID is copied and not new generated.

5.4 PERCENTAGES / DIMMING

Percent:

Set, increase or decrease a percentage value. On and off switch commands are also supported. Switching is either realized by setting 0% and 100%, or via an optional 1-bit value. E.g.: " Alexa, set [DEVICE] to 50 percent." or "Alexa, increase/decrease [DEVICE] by 10 percent."

Device ID:

Unique id with which Alexa addresses the device. Generated automatically.

Name:

Name of the device as it should be referred to by Alexa.

Description:

Description of the device.

Switching Address Percent Value:

Address on which the desired percentage will be set

Switching Address On/Off (opt.):

Optional 1-bit value, which switches the device on and off. If you do not configure it, turning the device on will set the percentage to 100% and turning it off to 0%.

Note:
Copying the devices is not possible. The devices require a unique ID (see Device ID). The device ID is copied and not new generated.

5.5 ROLLER SHUTTER CONTROL

Roller shutter:

Move the roller shutter to a certain position. Example command: „Alexa, set [Roller Shutter] to 50%."
Move the roller shutters into the lower or upper limit stop. Example command. „Alexa, go down/up [Roller Shutter]

Device ID:

Unique id with which Alexa addresses the device. Generated automatically.
Name:

Name of the device as it should be referred to by Alexa.
Description:

Description of the device (optional).

Switching Address Value (EIS 6 0 %... 100 %):

Group address via which the desired position is approached by sending the required percentage value. Example command: „Alexa, set [Roller Shutter] to 50%."

Switching address for shutdown/drive up (optional) (EIS 1):

Optional 1-bit value, which moves the roller shutter upwards or downwards. Example command: „Alexa, go down/up [Roller Shutter]"
If not set, Alexa interprets the command as a percentage. For shutdown, the value 100 % is sent. The value 0 % is sent for the ascent.

Note:
Copying the devices is not possible. The devices require a unique ID (see Device ID). The device ID is copied and not new generated.

5.6 COLOUR VALUES

Colours or Shades of White:

Choose which functionality the light supports. You can use separate R, G, and B colour values or a combined 3-byte value. Alternatively, or additionally, you can use an unsigned 2-byte value for colour temperatures. E.g. "Alexa, set [DEVICE] to red." oder "Alexa make [DEVICE] warm white."

Device ID:

Unique id with which Alexa addresses the device. Generated automatically.

Name:

Name of the device as it should be refered to by Alexa.

Description:

Description of the device.

Switching Address Brightness (opt.):

Optional 1-byte value, which either only reacts to percentage commands, or also to switch commands if the switching address is kept blank.

Switching Address On/Off (opt.):

Optional 1-bit value which switches the light on and off. If you do not configure it, turning the light on will set the brightness to 100% and turning it off to 0%.

Colour Temperature:

Configure in order to set, increase or decrease a colour temperature via Alexa. Represented as an unsigned 2-byte value.

Combined Colour Value (RGB):

Configure in order to set a colour via Alexa. Represented as a 3-byte value. (DPT 232.600)

Colour - Red Channel:

Configure all three individual channels in order to set a colour via Alexa. Represented as an unsigned 1-byte value.

Colour - Green Channel:

Configure all three individual channels in order to set a colour via Alexa. Represented as an unsigned 1-byte value.

Colour - Blue Channel:

Configure all three individual channels in order to set a colour via Alexa. Represented as an unsigned 1-byte value.

Note:
Copying the devices is not possible. The devices require a unique ID (see Device ID). The device ID is copied and not new generated.

5.7 TEMPERATURE CONTROL

Temperature:

Sets, increases or decreases the current setpoint temperature. Alexa will receive the new setpoint temperature and the heating mode "AUTO" as a response. E.g.: "Alexa, set [DEVICE] to 22 degrees" or "Alexa, increase/decrease [DEVICE] by 2 degrees"

Device ID:

Unique id with which Alexa addresses the device. Generated automatically.

Name:

Name of the device as it should be refered to by Alexa.

Description:

Description of the device.

Current Setpoint Temperature (read):

The current setpoint temperature must be available on this address. Room temperature controllers usually provide it automatically.

Setpoint Adjustment:

Based on the read setpoint temperature the desired adjustment will be determined and sent. You have to configure this address, or the write address for the desired temperature, or both.

Setpoint Adjustment Step Width:

How many degrees should equal one adjustment step.
Common values are 0.5 and 0.1 degrees per step

Setpoint Temperature (write):

Should setpoint adjustment not be supported, you can directly write the setpoint temperature.

Note:
Copying the devices is not possible. The devices require a unique ID (see Device ID). The device ID is copied and not new generated.

5.8 SCENES

Scene Control:

Activate and "deactivate" scenes. A scene can, generally, be activated and deactivated via Alexa. You can specify here whether your scenes can only be activated, or whether both actions should be allowed. E.g: "Alexa, turn on 'tv night'."

Scene ID:

Unique id with which Alexa addresses the scene. Generated automatically.

Name:

Name of the scene as it should be refered to by Alexa.

Description:

Description of the scene.

Trigger Address:

Address with which to trigger the scene

Trigger Address Data Type:

- 1-bit value (EIS1):
- 1-byte unsigned (EIS14u)

Use Activation Value Only:

If checked, Alexa will be informed that the scene can only be activated.

Value to Activate:

Must be one of "1" or "0" if you chose the 1-bit value data type. "1" will be used if you set an unsupported value.

Value to Deactivate:

Must be one of "1" or "0" if you chose the 1-bit value data type. "0" will be used if you set an unsupported value.

Note:
Copying the devices is not possible. The devices require a unique ID (see Device ID). The device ID is copied and not new generated.

6 WORKING WITH THE SMART HOME APP

To control your KNX® devices with voice control, you need an Amazon account and either an Amazon Echo or Echo Dot in addition to the **APP**MODULE and the BAB Alexa app.

6.1 SWITCHING ON/OFF

A 1 bit value (1) is sent for on and (0) for off command (DPT 1.001).
Example of voice commands for switching on/off.

"*Alexa turn* [Kitchen Light] *on*"
"*Alexa turn* [dining room lighting] *off*"
"Alexa [Kitchen Light] *on"*
"Alexa [dining room lighting] *off"*

6.2 PERCENT VALUE / DIMMING

The device, which is controlled via Alexa by setting percentage values, has the following properties „percentage" and „switch". You can therefore switch this device on and off and set an absolute percentage value. In addition, it is possible to increase or decrease the value by voice input. For the switching command, you can specify an extra group address for a 1-bit switching value. If you leave this field empty, the percentage value is set to 0 (Off) or 100% (On) when Alexa requests switching. Previous dimming levels are not considerd.
Example of voice commands for dimming and setting a percentage value.

„Alexa set [Living Room Light] to 70 percent."
"Alexa lower [garden lighting] by 10 percent."
"Alexa [Living Room Light] *darker."*
"Alexa make [Living Room Light] *brighter."*
"Alexa sets [Shading Living Room] *to 50%."*
"Alexa [shutter bedroom] *70%."*

6.3 ROLLER SHUTTER CONTROL

The roller shutter controlled by Alexa has the properties "percentage" and "switch". You can move the shutter down and up as well as a certain position. The position is given as a percentage value. For the Shutdown / Move Up command, you can specify an extra group address for the 1-bit value. If you leave this field empty, a percentage value of 100 % / 0 % will be terminated instead of the 1-bit value 1/0.
Examples of voice commands for shutter control.

"Alexa sets [roller shutter] at 50 percent."
"Alexa drive [roller shutter] to 70 percent."
"Alexa goes upstairs."
"Alexa's going down."
"Alexa[Rollo] up."
"Alexa[Rollo] down."

6.4 COLOUR VALUES

In addition to the group addresses for colour and colour temperature, you can also optionally define an address for absolute dimming and an address for switching on and off for colour control. The principle is identical to that of the percentage values. If you specify only one address for the percentage value, switching on and off is carried out with 0 or 100%.

The colour values themselves are not adjusted by a changing dimming value. This must be supported by the individual actuator.
Example of voice commands for colour control / colour temperature.

"Alexa turn Bathroom light] blue."
"Alexa make [office lighting] daylight white."
"Alexa [office lighting] *Cold White"*

6.5 TEMPERATURE ADJUSTMENT

Temperature control is just kept simple. Alexa is informed that this is a device where the target temperature can be set absolutely or raised or lowered relatively.
It is important that a setpoint temperature is always available for the reading address. Without this, a relative setting would not be possible. The actual control can be done in two ways. Firstly by sending the absolute setpoint temperature or secondly by sending a setpoint temperature displacement as an integer value in a given step length.
Example of voice commands for temperature control.

"Alexa put [Living Room] at 23 degrees."
"Alexa, raise [Children's Room] by three degrees."
"Alexa [Children's room] *2 degrees warmer."*

6.6 SCENES

Scenes are for Alexa switching actuators with the attribute Scene.
In addition to a 1-bit value, you have the option of sending 1-byte values (0-255).
The scenes themselves are stored in the actuators or in light scene modules.
If you only want to start a single scene, activate the option "Use only power-on value". This tells Alexa that the switch can only be turned on.
It is also possible to invert the 1-bit value via the value specification in the configuration.
Example of voice commands for scenes.

"Alexa turn [nursery multicoloured) on."
"Alexa turn [night lighting] on."
"Alexa [night lighting] *on."*

7 ATTACHMENT

7.1 TIP

In order for Alexa to be able to control the KNX or EnOcean units, these devices must be entered with a name in the Alexa Smart Home App Editor. For this purpose, a unique device name (command) should be assigned. Avoid similar device names (commands) such as "light living room", "light corridor" and "light sleeping", because Alexa will ask you which light to switch on/off if she has not understood the command correctly.

Since the apps can interact with each other (if you have loaded several apps in the APPMODULE) via common group addresses, you are able to integrate their functionalities into the voice control with Alexa.

Amazon Help for Smart Home Devices

7.2 DATAPOINT TYPES

function	EIS type	DPT	typical function	typical values	data	identifier
PriorityPosi-tion	EIS1	DPT 1*	Wind alarm	1=high and inhibit	1 Bit	1-bit
Switch	EIS1	DPT 1*	Light switching	0=Off; 1=On	1 Bit	1-bit
DimControl	EIS2	DPT 3*	Dimming	0=Off; 1=On xxxx=relative dimming 0-255=absolute dimming	1Bit 4Bit 8Bit	3-bit controlled
Time	EIS3	DPT 10*	Time	hh:mm:ss	3Byte	Time
Date	EIS4	DPT 11*	Date	dd:mm:yyyy	3Byte	Date
Value	EIS5	DPT 9*	Float Vaue IEEE	[-671088.64 ... 670760.96]	1Byte	2-byte float value
DimValue	EIS6	DPT 5*	Percent	0...100%	1Byte	8-bit unsigned value
DriveBlade Value	EIS6	DPT 5*	Angle value	0...100%; 0...255	1Byte	8-bit unsigned value
DriveShutter Value	EIS6	DPT 5*	Position value	0...100%; 0...255	1Byte	8-bit unsigned value
Position	EIS6	DPT 5*	Control value Heating	0...100%; 0...255	1Byte	8-bit unsigned value
DriveMove	EIS7	DPT 1*	Move shutter	0=up; 1=down	1Bit	1-bit
DriveStep	EIS7	DPT 1*	Adjusting the slat	0=up; 1= down; 0 or 1 during movement=stop	1Bit	1-bit
PriorityCont-rol	EIS8	DPT 2*	Priority	0,1 switch; 3=forced off; 4=forced on	2Bit	1-bit controlled
FloatValue	EIS9	DPT 14*	IEEE	Floating-point value	4Byte	4-byte float value
Counter 16bit	EIS10	DPT 7*	Counter 16 bit	0 ... 65.535	2Byte	2-byte unsigned value
Counter 16bit	EIS10	DPT 8*	Counter 16 bit signed	-32.768 ... 32.767	2Byte	2-byte signed value
Counter 32bit	EIS11	DPT 12*	Counter 32 bit	0 ... 4.294.967.295	4Byte	4-byte unsigned value
Counter 32bit	EIS11	DPT 13*	Counter 32 bit signed	-2.147.483.648 ... +2.147.483.647	4Byte	4-byte signed value
Access Control	EIS12	DPT 15*	Access control	Card number	4Byte	Entrance access
Char	EIS13	DPT 4*	ASCII characters	Character	1Byte	Character
Counter 8bit	EIS14	DPT 5*	Value	0 ... 255	1Byte	8-bit unsigned value
Counter 8bit	EIS14	DPT 6*	Value signed	-128 ... 127	1Byte	8-bit signed value
String	EIS15	DPT 16*	String	max. 14 characters	14 Byte	Character string

EIB/KNX devices exchange fixed prescribed data formats with each other. These are defined in types.
The old designations of the types are EIS (EIB Interworking Standard)
The new designations are DPT (Data Point Type)