Smart Home Controller 2.4

WebAdmin Help

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1. What's New in 2.4?

!-> *If you are new to the System*, start with the Quick Install in chapter 2.

!-> *If you updated the system*, read this chapter.

1.1. Major changes in the release:

1.1.1. *Major changes in SHC 2.0 compared to SHC 1.x*

The SHC installation and configuration is integrated with new MRF (2.59 or higher). Now in MRF a SHC project can be predefined including SHC Device functionality assigned to Zones. ECI interfaces and Datapoints are automatically assigned to the SHC.

Main changes:
- SHC setup moved to MRF (Can still be maintained in the SHC):
  o SHC Zones based on MRF Project-Topology.
  o Preconfigure the SHC Device names and functionality.
  o Assign SHC Devices to Zone(s).
- SHC setup moved to MRF (Obsolete in SHC):
  o Interfaces (ECIs): Automatically assigned to the SHC.
  o Load Datapoints: Automatically assigned to the SHC.
- SHC configuration can be exported from MRF and imported into the SHC with datapoints, ECI interfaces, Zones, Devices. Zones and functions automatically available. Just add users and you're good to go.
- All SHC configuration like Macros, Planner programs, cameras and system configurations can be imported and saved in the MRF project and will be available in the exported SHC configuration.
- The Macro and Scene functions are combined to one Macro function. Now a Macro can be set to be available as a Scene. Additional the Scene can be assigned to the Main Dashboard.

Find additional information in the MRF helpfile:
- Smart Home Controller - Devices & Zones
- How to correctly update from SHC 1.x to SHC 2.x? - Important Information when updating the Smart Home Controller
- Dimming profiles

1.1.2. *Major changes in SHC 2.1 compared to SHC 2.0.x*

Main changes:
- Support of new dimming actuators CDAE – 01/05
- New type of notifications for Apple and Android devices
- Adaptive heating – learning mode of Climate function
- Voucher support – activation of additional functionality via coupons (vouchers)
- New RF module firmware version: RF module firmware has to be updated to work with new dimming actuators.
- New MRF supporting new dimming actuators CDAE – 01/05

Find additional information in the MRF helpfile:

- Actions / Dimming profiles

1.1.3. *Major changes in SHC 2.2 compared to SHC 2.1*

Main changes:
- Support of new Room Controller Touch
- New RF module firmware version: RF module firmware has to be updated to work with new Room Controller Touch
- Dedicated device functions for floor protection: Floor Temperature for temperature sensor, Floor Heating for actuators.
- Climate mode can be now controlled via macros.

1.1.4. *Major changes in SHC 2.3 compared to SHC 2.2*

Main changes:
- Quick Install feature (Installation Wizard)
- New default user "owner" allowing user account administration including admin account
- Project information and installer contact information available in SHC and MRF
- Planner improvements: New planner user interface in WebAdmin, WebView and Apps, new internal planner data structure
- Macro editor improvements: Macro copy function, toggle on dashboard, add light scene, sorting of macro functions
- Eaton push messages to inform users about e.g. planned maintenance of xComfort server
- Improved security: Default passwords not accepted by the system, rules for passwords, cyphering of account information in configuration
- Improved configuration of cameras (editing of camera parameters)
- Activation of planners in Main Dashboard tile
- Alarm tile in Main Dashboard tile
- More info on SHC system in WebView and Apps
- Improved handling and integration of SHC and MRF configuration in MRF sw (History of imports / exports of SHC configuration files in MRF)
- New default file names of SHC and MRF configurations files
- New heating actuator support (One channel heating actuator)
- Validation of SHC configuration in WebAdmin
- Improved SHC status indication by Power LED blinking

1.1.5. *Major changes in SHC 2.4 compared to SHC 2.3*

Main changes:
- New macro action - reboot system
- Emails in macro can be sent with history and configuration attachments
- Added option to insert system and device information into macro notification messages – current date, current time, selected device values, system load, uptime
- Security improvement - changing users passwords now requires entering logged in user password as well
- Alexa voice control - it is possible to control some xComfort devices and SHC functions (switching actuators, macros/scenes, etc.) using voice commands with an Amazon Echo device. See section *8 - Alexa*.

After the update

If you leave your SHC Configuration unchanged after the update no further actions are needed. Be aware SHC 2.3 configurations files can't be used in older releases because of cyphering of account information (e.g. e-mail, sms).

If you like you can enable the following tiles on the Main Dashboard:
- Temperature tile:
  - o Show Indoor temperature: See chapter 4.3.1 Show indoor temperature on Main Dashboard.
  - o Outdoor temperature: Install an Outdoor Temperature sensor.
- Main Climate control tile: The Climate mode in one or more Zones can be controlled via the Main Dashboard. Enable the "Operation Mode can be changed by Main Dashboard" option in the Climate function configuration. See 7.2.4 Function settings in chapter 7.2 Climate Function.
- Scene tiles: Make the most used Scenes also available on the Main Dashboard. See 5.4.1 Scenes.

If you want to extend your project or to save the SHC Configuration in the MRF Project follow the steps in the chapter below.

1.1.6. *Synchronize and save SHC Configuration in MRF Project*

Follow the next steps to synchronize the SHC Zones and Device configuration with the original used MRF project. Also all additional configuration like Macros, Planner programs, cameras and system configurations will be saved in the project.

1. Export the SHC configuration: See chapter 4.1.1 Export Configurations or History Data (Always create and keep these files to be able to restore old SHC configuration).
2. Open the originally used MRF project for this SHC in the new MRF V2.58 or higher.
3. Right-click on the Smart Home Controller and select: `Load Device new` (Only necessary if SHC device was replaced in the project by MRF replace device function).
4. Right-click on the SHC and select: `Settings`
5. Navigate to `General` and click: `Import`
6. Select the just exported SHC Configuration file and click: `Open`
7. The SHC configuration is imported and you should see the zones and changes in device names and functions.
8. Click OK and save the MRF project. The SHC configuration is now in sync with the MRF project. Use the MRF project now to make changes to SHC Zone and Device configurations.

1.2. SHC 2.x menu structure

In the SHC 2.x the menu structure is simplified and adjusted to the MRF integration.
Find below the SHC 2.x menu structure compared to SHC 1.x for reference between the old and new structure.

Table 1: SHC2.x Menu structure reference table

Main Tab	Menu Tab	SHC 2.2	SHC 1.1 Main	SHC 1.1	Integrated Tab

			Tab	Menu Tab	
0. Quick install	Wizard	0. Import	1. System	Datapoints	ECIs and Datapoints imported directly from MRF
1. Diagnostics	System Status	0. Users	1. System	Users	
	State of Devices	0. Time Zone	1. System	Time Zone	
	System Info	1. System Status	7. Diagnostics	Firmware	License Info, RemoteAccess
2. System	Export/Import	1. Devices Status	7. Diagnostics	Devices Status	Device Recording
	Devices	1. System Log	1. System	System Log	
	Zones	2. Import/Export	1. System	BackupRestore	History (Backup)
	Users	2. Devices	2. Zones	Devices	History (Delete history)
	Time Zone	2. Zones	1. System		
	Network	2.Users	1. System	Users	
	Messages	2.Time Zone	1. System	Time Zone	
	Cameras	2.Network	1. System	Network	
3. Advanced	Functions	2.Messages	1. System	Messages	
	Planner	2.Cameras	4. Planner	Cameras	Camera Checker
	Alarm	3.Functions	5. Scenes		
	Macros & Scenes	3.Planner	6. Macros		
		3.Alarm	3. Functions		
		3.Macros & Scenes			

2. Tab: 0. Quick Install

To prepare new SHC device for usage and to get overview about SHC system functions you can do basic configuration with assistance of configuration Wizard.

Wizard steps:
1. Select language
2. Import configuration file
3. Enter project name and installer information
4. Define time zone and location
5. Edit remote access settings
6. Enter admin password
7. Add Users
8. Configure Climate function
9. Add a default Zone with all devices
10. Define default Scenes for Zones and Main Dashboard
11. Export backup configuration

Additional steps if needed:
1. Add cameras if needed (Chapter 4.8 Tab: Cameras).
2. Connect and use the Eaton App (Chapter 6 Quick setup iPhone App).

3. Tab: 1. Diagnostics

3.1. Status bar: Indicators and colors

In the top bar the following status indicators are shown:

SHC status:
- o Green: Smart Home Controller up and running
- o Yellow: Smart Home Controller is starting, please wait

Network status:
- o Green: Connected to the remote server
- o Yellow: Connected to Internet
- o Red: No Internet connection

RF interface status:
- o Green: All configured interfaces are up (Internal RF interface, ECI interfaces)
- o Red: One or more interfaces are down

New messages available in the system Log:
- o Green: No new messages after the last check
- o Yellow: New warning messages
- o Red: New error messages

Battery status battery powered Devices:
- o Green: All batteries are good
- o Yellow: One or more batteries are weak
- o Red: One or more batteries are empty

3.2. Tab: System Status

This tab gives general information including installed software versions and supported languages.

Item	Information example
Terms and Conditions	[Read Terms and Conditions][License information]
Uptime	15:51:53 up 2 days, 6:18, 0 users, load average: 0.36, 0.24, 0.22
Hardware version	Freescale i.MX28 (Device Tree)
OS version	Linux 3.7.0a-theobroma+ armv5tejl
SHC software version	Eaton-SHC-7.5-2.1.0
RF module firmware version	2.15
SHC software auto download is enabled:	[X]
Language package version	0.2.25
Languages	English, Czech, German, French, Italian, Dutch, Norwegian, Polish
Installer Info	John Smith
Telephone number	555-2345
Email address	john.smith@company.com
Project name	Home Sweet Home
Device ID	SHC-980284fe0021
Connection status	Remote access available via Remote Server
Remote Access URL	https://mysmarthome.eaton.com/
Remote Access ID	Abcd1234
Expire date	1/1/26 12:09 PM
Initial Activation Key	SHC-980284fe0021 [Activate]

Activate Coupon	_____[Activate]
Global Remote Access	[X]
Validate configuration	[Apply]
Set system back to factory default	[Apply]
Set internal RF Module to factory settings	[Apply]
Reboot system	[Apply]

3.2.1. *Terms and Conditions*

The Terms and Conditions and License information are available by clicking the buttons.

3.2.2. *Remote Access*

Remote access feature offers you the possibility to receive software updates for your Smart Home Controller and access your system from anywhere in the world. To have remote access available you need to activate the SHC and enable Global Remote Access.

Setup steps:
1. Check if there is Internet access: **Connection status: Connected to Internet**
2. Select: **Activate**
3. Accept Terms And Conditions: **Accept**
4. Wait until the popup closes
5. Remember the received Remote Access ID to connect remotely
6. Enable: **Global Remote Access**

3.2.3. *SHC software update*

In case the Smart Home Controller is activated and a new software release is available an update button will be shown.
If **SHC software auto download is enabled** checkbox is Enabled and new SHC software release is available then the software is automatically downloaded and it is ready to perform the update.

Steps:
1. Make a backup of the history data and system configuration
2. Click: **Download SW (**if not downloaded automatically**) and then Install: <version>**
3. Please wait until the popup shows the process is ready! This will take several minutes.
4. Click: **OK**

3.2.4. *SHC software rollback*

In case the Smart Home Controller software is updated the previous release will be available for rollback. Perform a rollback only if the new release is not working correctly.

Steps:
1. Click: **Rollback to: <version>**
2. Please wait until the popup shows the process is ready! This will take several minutes.
3. Click: **OK**

3.2.5. *RF module firmware*

After an SHC software update a new version of the RF module firmware may be available. Always install new firmware if the update button is visible.
In case of a SHC software rollback the previous firmware will be available . Only downgrade to the previous firmware version if absolutely necessary.

Steps:
1. Click: `Update to: <version>`
2. Please wait until the popup shows the process is ready!
3. Click: `OK`

3.2.6. *Set system back to factory default*

Caution! All data will be lost! Only RF password remains in the RF Module.
Use this recovery method only in case a fresh configuration is needed. Otherwise use Restore System Configurations.

Steps:
1. Only proceed if you have a Smart Home Controller configuration backup available!
2. Click: `Apply`
3. Read the popup box information
4. Click: `OK`

3.2.7. *Set internal RF Module back to factory settings*

Caution! The RF password in the RF Module will be lost and can only be reprogrammed locally via the MRF.
Use this recovery method only in case the SHC RF module is not accessible via MRF (Question mark or password unknown).

Steps:
1. Only proceed if you're able to reprogram with MRF locally!
2. Click: `Apply`
3. Read the popup box information
4. Click: `OK`

3.2.8. *Reboot system*

Notice! A reboot will take several minutes.
The Power Led on the Smart Home Controller will start blinking (4s ON, 1s OFF) when finished: ⏻

3.2.9. *Voucher Activation*

To activate an additional functionality of the system provided remotely via vouchers:
1. Enter the obtained voucher text to the `Activate Coupon`
2. Click `Activate`.

SHC will provide you with information on the result of the activation.

Notice! Validity of Vouchers can be time limited. When time limited voucher expires, the remotely delivered functionality is automatically removed from the system.

3.3. Tab: State of Devices

Device Status tab shows an overview of available information for all known Devices and Device Groups. This information is important for monitoring of the Devices behavior and status in the RF network. For example battery status is shown for battery powered Devices.

Column	Description
Name	Devices grouped on physical device or group devices. In front of the name the following Device status information is provided: * No messages received yet from this Device. ! Attention is needed for this Device. Check the Battery Status.
Recording	Enable/disable recording for this device. See chapter 3.3.1 Device Recording
Serial Number	Serial number of the Device
Type	Device type indication
Last received value	This is the last message received from the Device. This can be status and analog values. - Indicates no message is received since the SHC start
Last message received at	This is the time when the last message was received - Indicates no message is received since the SHC start
Amount of messages today	This is the amount of messages received today. Enable recording if you like to save the received messages. Remark: You can recognize if the Device is behaving like expected. E.g.: • Cyclic sending is set incorrect • Detect heavy RF network load • No messages received
Battery Status	Possible status indications: ?? – Never received the battery status Good – Battery in good condition Weak – Replace battery soon Very Weak – Replace battery

3.3.1. Device Recording

Device Recording saves a log of all events for selected devices. Data can be used for statistics of investigating unusual Device behavior. Maximum number of records for all selected Devices is: 50 000 (5 files of 10 000 records)
All selected Devices will log into the same circular buffer. If buffer is full, new entries overwrite the oldest data.
The record files can be downloaded via the Record Files link in the right bottom corner of the screen.

Steps to enable/disable recording:
1. Select one or more available Devices for Recording
2. To enable the recording click: **Record**

3. Recording should indicate: Recording ⇄

Steps to disable all recording:
1. Deselect all devices
2. Click: **Record**

3. Recording should indicate: Recording Ø

Note recording configuration is not stored in the system permanently and needs to be configured after each start of the system.

3.4. Tab: System Info

Always check the log messages if the system does not work properly. Log messages are indicated with a Log Level indication:

Log Level indication	
Warning	The System has discovered a temporary issue. All System functions are fully operational.
Minor	The System has discovered some limited functionality at this moment. Major System functions still work. Actions need to be taken if the message is logged more often.
Major	The System is operational but exhibits serious shortcomings; a patch / workaround is possible; situation requires urgent solution.
Critical	The System cannot be used; it has critical impact on the environment where it is indicated; requires immediate solution. There is no workaround possible.

Log message examples	Level	Interpretation
No temperature value received	**Warning**	The Climate function in this Zone missed a temperature event from the temperature sensor and will wait for the next event. By default the Climate function expects a temperature reading every 55 minutes from the sensor. Possible causes: - Missed an event due to RF traffic - The sensor is not set to cyclic sending of 50 minutes - The Climate function protection timer needs adjusted - The sensor battery is empty - The sensor is out of reach
Timeout. Sending retry to the device	**Warning**	Actuators used for heating and cooling: The Smart Home Controller did not receive an acknowledgement from the Device and will retry.
Device not responding. Check RF network	**Minor**	Actuators used for heating and cooling: The Smart Home Controller tried three times to reach the Device but did not receive any acknowledgement from the Device.
Timeout. No response received from device. Check RF network	**Warning**	Multi-Channel actuator, Room Manager: The Smart Home Controller tried to reach the Device but did not receive an acknowledgement from the Device.
Remote access available via Remote Server Connected to Internet but no Remote Server Remote Server disconnected	**Warning**	These messages could sometimes be logged. Some providers will close the network connection every day mostly during the night. The Smart Home Controller will always try to reconnect to the Eaton server after a disconnect. This is normally done in a minute.

4. Tab: 2. System

4.1. Tab: Import/Export

Use this page to export or import Smart Home Controller configurations and history data. This allows you to share configuration data between your MRF project and your Smart Home Controller.

Notice! Additional configurations like Macros and Planner Week-programs can be brought into the MRF project by importing the SHC configuration.

4.1.1. *Export Configurations or History Data*

Steps:
1. Click: **Export**
2. Save file to disk.

4.1.2. *Import Configurations or History Data*

Steps:
1. Select the file: `D:\bak\shc-functions.zip` [Browse...]
2. Click: **Import**
3. Wait until the popup window shows the OK button
4. Click: **Ok**
5. The Power Led on the Smart Home Controller start blinking green when finished: ⏻

Notice! Always export the latest Configuration and History Data.

4.2. Tab: Devices

Small adjustments can be made directly on the SHC itself while using the MRF project is better suited to making bigger changes.

4.2.1. *Device configurations*

Column	Description
Interface	Device connected via SHC or ECI interface
Name in MRF	Device name in MRF
Name	Device name in the Smart Home Controller
Function	Based on the Device type the function can be set. For new dimming actuators an additional selection box is available, see 4.2.2
Contact Type	Change the working of Door or Window sensors (Binary Sensors)
Custom ON	Define the name of the status presented in the GUI if ON
Custom OFF	Define the name of the status presented in the GUI if OFF
Counter constant	To show the correct values the ratio must be set for each impulse sensor. To determine the ratio check the specified output rate of the pulse output of the measuring device. For example: • kWh meter: 10 pulses is 1kWh -> Ratio = 10 • Water meter: 100 pulses is 1M3 -> Ratio = 100.
Unit	A unit needs to be specified (impulse counters, analog inputs)
Basic value	Energy measurement Devices are counting incrementally from start of usage and will always remember the value. In case such a Device is reused in a new situation the basic value can be set to the counter value of the Device. In this way the user will see the history starting at 0.
Offset	Energy measurement Devices are counting incremental from the start of usage. Use the offset value to adjust the value reported by the device.
History	For analog Devices and sensors the history data can be deleted. A recycle bin button will be available for this type of Device.

Remark: If changes are made the changes must be save with the Save button on the bottom of the page!

4.2.2. *New dimming actuator support*

If function of the new dimming actuator is set to *Light* or *General*, an additional selection box appears below function selection box for controlling of dimming profile of the actuator.

Pre-defined dimming profiles and one custom dimming profile are available for the actuator. Use MRF to configure a custom dimming profile and load it to actuator. Read more about dimming profiles in MRF help file.

The additional selection box contains the following sections:

Section	Description
Read Profile	Contains option 'Read Current Profile' to read custom profile of the actuator as loaded to the actuator by MRF and store it in SHC
MRF Custom Profile Status	If 'MRF Custom Profile Not Yet Read' is shown then SHC doesn't have information about custom profile of the actuator.
Write Custom Profile	'SHC Custom Profile doesn't exist' is shown when information on custom profile of the actuator is not available. Otherwise an option like 'Use SHC Custom Profile (20-40-60 Auto 0s)' is shown that can be used for loading of the profile to the actuator.
Write Basic Profiles	Contains list of pre-defined dimming profiles. Pre-defined profiles can be selected and loaded to the actuator.

To perform an action from the additional selection box, select one of commands and click save button.

4.2.3. *Markers (virtual Devices)*

Markers are virtual Devices which can be used to store status information, values and to make calculations. Markers are like real Devices and can be configured and used in the same way in functions and Macros.

Available Markers:
- Binary Input: Binary Sensor like Door, Window, Motion
- Binary Output: Like Switch Actuator
- Analog Input: Analog Sensor like Temperature, Lux, Air Quality, Humidity, Energy
- Analog Output: Like Analog and Dim Actuator
- Energy Sensor (Energy and Power): For example to summarize the energy for three phase installations

Steps to Add Markers:
1. Click: **Add new marker**
2. Select Marker Type
3. Define Marker Name
4. Click: **Save**
5. Select a different function if needed
6. Repeat above steps for each needed Marker

7. Click save button on the bottom of the page!
8. Wait until the markers are saved and click: OK

Updating Devices Configuration

Configure Devices
Devices Configured
Starting Home Functions

....
Home Function Started

Updating Device Configuration Completed.

OK
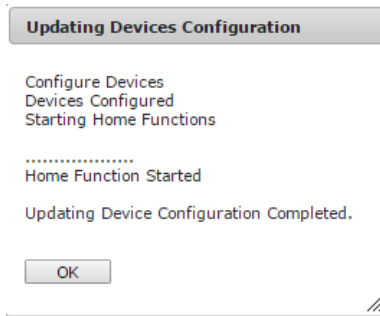
9. Move the Markers to the Zones where needed

Marker examples:
- Create a single 3-phase Energy Device based on 3 single energy sensors.
- Create an On/Off Status Marker based on an analog value.

Marker example 1: Single 3phase Energy Marker:

1. Follow the "Steps to Add Markers" to create: Marker (Analog input)
2. Click the configure Icon for the Energy Marker:
3. Select the Energy Device used for Phase 1
4. Select behind the selected device: **select next device**
5. Repeat step 2 for Energy Device used for Phase 2 and 3
6. Enable: When there is a change among the connected devices do the following calculation and save the result to *Marker Energy Sensor (Energy)*
7. Select: **PLUS**
8. Click: **Save**
9. Repeat the same steps for the Power Marker

Marker example 2: On/Off Status Marker based on an analog value:

1. Follow the "Steps to Add Markers" to create: Marker (Binary input)
2. Click the configure Icon for the created Marker:
3. Select an Analog Device (Temperature in this example)
4. Select device property: **temperature**
5. Select operator: **=, !=, <, >, <=, >=**
   a. **=**: In case value is equal to value (step 6)
   b. **!=**: In case value is unequal to value (step 6)
   c. **>**: In case value is greater than value (step 6)
   d. **<**: In case value is smaller than value (step 6)
   e. **>=**: In case value is greater or equal than value (step 6)
   f. **<=**: In case value is smaller or equal than value (step 6)
6. Set the analog value to compare to (for example): **20.0**
7. Select the actions for the conditions: **Switch_ON, Switch_OFF**
8. Click: **Save**

4.3. Tab: Zones

Important!
Create Zones already in the MRF project to have all customer settings available in the customer project. Zones can still be added or modified in the Smart Home Controller if needed.

Page overview:
- Left side: Devices already in the selected Zone
- Right side: All available Devices not in this Zone

Steps:
1. Click: **New**
2. Define a Zone name and click: **OK**
3. Select one or more available Devices on the right side (hold shift or ctrl):
4. Click to add the selected Devices to the Zone: `<<`
5. Added Devices are shown in the left screen
6. Repeat all steps for each Zone

4.3.1. *Show indoor temperature on Main Dashboard*

Steps:
1. Select the main Zone you like to see the indoor temperature
2. Enable "Main indoor temperature source" for the indoor temperature on the Main Dashboard

4.4. Tab: Users

Read also chapter 4.4.4 Best way to set up Users.

Page overview:
- Left side: Available Users (change User options, delete User)
- Right side: Possibility to Add new Users

4.4.1. *Change the admin password*

1. Click for User admin the change password icon:
2. Change and remember the password
3. For password change logged in user password is required
4. Click: **Ok**
5. Change the language if needed (used for the Admin Console)
6. To enable remote access* for *admin* or *owner* Users, check option: **Remote**
*Remote access is only possible when "Global Remote Access" is enabled (See chapter 3.2.2 Remote Access).

4.4.2. *Setup steps per User*

1. Specify User credentials:
   a. Username: **<Username>**
   b. Password: **<Password>**
   c. Retype Password: **<Password>**

2. Select: `Language`
3. Click: `Add`
4. The new User is shown in the list of Users
5. For Advanced User check option: `Advanced`
6. To enable remote access*, check option: `Remote`

*Remote access is only possible when "Global Remote Access" is enabled (See chapter 3.2.2 Remote Access).

4.4.3. *Setup Zones and Functions (Hide and Order) per User*

1. Click for the User the change order Icon: ⇧⇩
2. The change order popup appears
3. Make the necessary changes to this user:
   a. Hide Zones by unchecking the checkboxes (disabled for Advanced Users)
   b. Hide functions by unchecking the checkboxes (disabled for Advanced Users)
   c. Change order of Zones (use drag and drop or the arrow buttons)
   d. Change order of functions (use drag and drop or the arrow buttons)
4. Click: `Ok`

4.4.4. *Best way to set up Users*

The following type of Users exist in the system:
- <u>admin</u>: Normally used only by the Installer. Full access to all features.
- <u>owner</u>: Default user for the home owner with limited admin rights. This user has the rights to
    - Access Web Admin Console
    - Manage user accounts (add, remove, define permissions)
    - Enable/disable remote access for admin account
    - Advanced User features
- <u>Normal User</u>: The option "Advanced" is NOT set for this User.
  This User can only control the system with the available controls shown in the functions (for example children or guests). Use the change order button to hide Zones and functions for this User.
- <u>Advanced User</u>: The option "Advanced" is set for this User.
  This User (for example parents) can also edit some function configurations via the App, like:
    - Add, change or delete a Scene.
    - Switch between Heating/Cooling/Off.
    - Change the predefined temperature setpoints.
    - Program and change Planner events.
    - Enable, disable or delete a Macro.

Define Users based on the following questions:
- Who will make small changes in the function configurations?
  Advanced User
- Who needs to control functions only locally?
  Normal User.
- Who needs to control functions locally and remotely?
  Normal User (enable remote access).

- Who needs to have the menu and functions in another language?(Scene names are not translated)
  Normal User (select language).
- Which functions and Zones do I need to hide for this User?
  Normal User
- How to present the order of the Zones and functions?
  Normal User, Advanced User

It is not necessary for everyone to have their accounts, but you should always have following accounts:
1. One general Normal User account with or without remote access.
2. One Advanced User account with remote access.

⚠️ **ATTENTION! Be careful providing account information to persons. With wireless network access this person could control your system and eventually change its settings.**

4.5. Tab: Time Zone

The Smart Home Controller time is automatically set if there is internet access. Otherwise set the time and date by hand. For the correct sunrise and sunset calculation the correct country and city must be selected. As an alternative, geographical coordinates can be directly entered in Set Custom Location section.

Page overview:
- Left side: view time zone settings
- Right side: edit time zone settings

Setup steps:
1. Select: `Country`
2. Select: `City`
3. Select: Date and Time
4. Save settings: `save`

4.6. Tab: Network

By default DHCP is enabled on the SHC. Follow the steps to assign a Static IP Address to the Smart Home Controller.

Warning! Only change to Static IP Address if absolutely necessary. In case of failures use chapter 10.5 How to restore the SHC network settings.

Setup steps:
   By default, the configuration fields are prefilled with the settings provided by DHCP.
1. Uncheck: *DHCP enabled*
2. Check or update the IP address.
3. Check or update the gateway
4. Click: `Save`

4.7. Tab: Messages

Via the Macro function, notifications can be sent via:

- FCM (Firebase Cloud Messaging): Send notifications to Android app
- APN (Apple Push Notification): Send notifications to iOS App
- Mail: Send email messages via an email provider. This can also be a Gmail account
- Clickatell SMS Service: Send SMS messages via Clickatell

If `Eaton Push Messages` are enabled for FCM or APN then Eaton can send push notifications to registered devices relating e.g. planned maintenance of remote access server.

SMS notifications can be sent via the Clickatell SMS Gateway.
For more information and pricing see: http://www.clickatell.com
Steps to creating a Clickatell SMS account (In general. Subject to changes):
1. Go to: http://www.clickatell.com
2. Create account (Remember Username and Password)
3. Buy credits
4. Go to page: `Central Home`
5. Click: `Create a new Connection`
6. Select: `HTTP`
7. Fill-in description: `HTTP API`
8. Click: `Submit and Get API ID` (Remember API ID)
9. Go to page: `My Settings`
10. Select: `Manage Sender IDs`
11. Select: `Add Sender ID`
12. Fill-in your mobile phone number: `31612345678` (Remember Sender Address)
13. Click: `Submit`

Setup and test SMS notification account:
1. Fill-in server address: `http://api.clickatell.com/http/` (Default)
2. Username: (From Clickatell Account)
3. Password: (From Clickatell Account)
4. System Type/API ID: (Created API ID)
5. Source/sender address: `31612345678` (Created Sender ID)
6. Click: `Save`
7. Test the account settings:
   a. Set phone number of the receiver: `31611111111`
   b. Click: `Test`
   c. Check for SMS message: `Test message Smart Home Controller`

Setup and test mail notification account (Gmail example):
1. Create a Gmail account via: http://mail.google.com
2. Fill-in SMTP Server Address: `smtp.gmail.com`
3. Fill-in Server Port: `587`
4. Username: (From Gmail Account)
5. Password: (From Gmail Account)

6. E-mail Address: **yourname@gmail.com**
7. Connection Type: **TLS**
8. Click: **Save**
9. Test the account settings:
    a. Set mail address of the receiver: **someone@provider.com**
    b. Click: **Test**
    c. Check for mail message: **Test message Smart Home Controller**

Register and test your iOS device(s) for APN notifications:
1. To register a device, connect to SHC using iOS App.
2. Go to System/Messages and check your mobile device appeared in the list of **Registered Devices**
3. Select the device you want to test in the list of **Registered Devices**
4. Click **Test**
5. Check for notification on your mobile device

Repeat above mentioned steps to register more iOS devices. Each connected device will appear in the list of registered devices. Remember assigned device names for future reference.

Unregister and delete registered devices:
1. Select one of the **Registered Devices**
2. Click **Unregister and delete**

Register and test your Android device(s) for FCM notifications:
1. To register a device, connect to SHC using Android app.
2. Go to System/Messages and check your mobile device appeared in the list of **Registered Devices**
3. Select the device you want to in the list of **Registered Devices**
4. Click **Test**
5. Check for notification on your mobile device

Repeat above mentioned steps to register more Android devices. Each connected device will appear in the list of registered devices. Remember assigned device names for future reference.

Unregister and delete registered devices:
1. Select one of the **Registered Devices**
2. Click **Unregister and delete**

4.8. Tab: Cameras

To be able to add cameras to Zones, cameras need to be added to the system first.
For ONVIF camera support see section **4.8.1 SHC ONVIF Support** and **4.8.2 Check for Camera ONVIF compliancy**.

Page overview:
- Left side: The already available camera Devices (delete cameras)
- Right side: Available UPnP network Devices (not only cameras),

Adding a camera:
1. Search for the needed local camera in the list: Available UPnP Network Devices
2. If the camera is found in the list, click: `Use` (otherwise skip this step and define the address and port manually)
3. Update or define the following parameters:
4. Name: **`<Name of the camera>`**
5. Address (Internal/External IP address or URL): **`<192.168.178.63>`**
6. Port: **`<8080>`**
7. Username: **`<username>`**
8. Password: **`<password>`**
9. Select appropriate driver (See chapter **4.8.1 SHC ONVIF Support**)
10. Click: `Add`
11. Repeat previous steps for each camera
12. The created cameras are now available to add to Zones

Editing a camera:
1. Click the edit icon of a camera on the left side
2. Edit camera properties in the camera parameters on the lower right side
3. Enter camera password
4. Click *Save changes*

4.8.1. *SHC ONVIF Support*

About ONVIF

ONVIF (Open Network Video Interface Forum) is an open industry forum for the development of a global standard for the interface of IP-based physical security products. ONVIF is committed to the adoption of IP in the security market. The ONVIF specification will ensure interoperability between products regardless of manufacturer.
Information about ONVIF, its objectives and members can be found on http://www.onvif.org/.

The Smart Home Controller supports ONVIF cameras based on the ONVIF core specification version 1.02. The ONVIF driver supports the basic Profile S (streaming profile) which is forward compatible. Profile S provides a standard interface to stream video and audio (audio not supported) between conformant devices and clients. Only the first camera video connection (1st stream) with JPEG is supported. Default used RTSP port: 554

The following two ONVIF camera drivers are available in the camera configuration tab of the Web Admin Console:
- `v1.02 (ONVIF)` Default
- `v1.02 (ONVIF-CPT)` Camera with Controlled Pan and Tilt System

Eaton cannot guarantee that all ONVIF cameras will work. Always check if the camera is ONVIF enabled. More drivers are available that can be used based on your specific camera type.

4.8.2. *Check for Camera ONVIF compliancy*

Not all cameras are ONVIF compliant or have the latest firmware installed. Also in some cameras the ONVIF support option needs to be enabled. You should first verify that the

camera is ONVIF enabled.

Please follow the below instructions first:
1. Check if the camera is ONVIF compliant (http://www.onvif.org/)
2. Check if the latest firmware is installed
3. Check if ONVIF support needs to be enabled (Camera manufacturer)
4. Check if the camera stream is set to: First stream: JPEG

If the Camera still doesn't work use the ONVIF Camera Checker tool to send a test report to your supplier.

Steps:
1. Click: **Camera Checker tool: Start**
   ONVIF cameras will be discovered automatically (If the camera is not listed, the camera IP address and port have to be set)
2. Specify: **Username, Password**
3. Click: **Check**
4. Save the report file and send this to your supplier

4.8.3. *Using of Generic Driver*

If your camera can't be configured using ONVIF, use generic driver. In the list of drivers it is listed as "*1.0 (Generic)*". If the generic driver is selected URL path is required:

To enter correct URL path information:

1. Visit: https://www.ispyconnect.com/sources.aspx
2. Select camera brand name
3. Find camera model name
4. Search for connection type: JPEG (more options could be available), e.g. image/jpeg.cgi, /jpg/image.jpg, /cgi-bin/image.jpg, /cgi/jpg/image.cgi, …
5. Use URL Path behind IPADDRESS part, i.e. /cgi-bin/guest/Video.cgi?media-JPEG instead of http://IPADDRESS/cgi-bin/guest/Video.cgi?media-JPEG

5. Tab: 3. Advanced

5.1. *Tab: Functions*

Important!

Functions will be automatically created and enabled by default on a new Smart Home Controller by importing the MRF SHC configuration file. Disable functions or change function settings if needed.

Find detailed information about functions and function properties in chapter **7. Functions**.

Steps:
1. Select the Zone (by default the functions are disabled)
2. Enable the needed functions for this Zone (function properties appears)
3. Adjust specific properties if needed (See chapter **7. Functions**)
4. Repeat all steps for each Zone

5.2. Tab: Planner

Via the Planner, Planner Events can be scheduled to control Functions time based. To understand the event driven mechanism of the Smart Home Controller please read chapter 9.4 How to use: Scenes, Macros and Planner.

Notice! Climate and Shading Functions need to be set to "Auto" to be controlled by Planner Events.

Steps to schedule a Planner event:
1. Select the function (On the left side the Zones for this function are presented)
2. Click on the Zone name in which a planner event needs to be scheduled
3. Select event. Example Climate function: `Protection, Comfort, Economy, Standby`
4. Select mode: `<Time, Sunrise, Sunset>`
5. Set time
   a. Time: `<Hour, Minute>` (the exact time)
   b. Before/After: `<Minute>` (offset in minutes before (**-**) or after (**+**) sunrise/sunset) or time variation: `<Minute>` (time range for presence simulation)
6. Select the days of the week
7. Click: `Save`

Steps to edit a Planner event:
1. Select the function (all known events for this function are presented)
2. Select the event to be changed or deleted (click to the event row in the Time column)
3. Make changes and click: `Save`
   (To remove this event click: `Delete`)

5.3. Tab: Alarm

To be able to use the Alarm function:
- Enable the Alarm function in the Zones. See section 5.1 Tab: Functions, 5.3 Tab: Alarm
- Configure the email or SMS providers, register iOS and/or Android devices. See section 4.7 Tab: Messages

Page overview:
- Top: Alarm messages sent to recipients or registered devices

- Bottom: Overview of all available enabled/disabled alarm sensors

Configuration steps:
1. Define the recipient(s) who should receive the Alarm messages (Separate multiple recipients with a comma), compose the message text
2. Select registered devices that should receive the Alarm messages, compose the message text
3. Select the available sensors which should trigger the alarm in the Armed Away and Armed Home mode
4. Create Scenes like: Sleep, Away or Present (See section 5.4.1 Scenes)
5. Add control Alarm function actions to the Scenes like: Armed Home, Armed Away and DISARMED
6. Add the Scenes to the Main Dashboard if needed. At the same time you can use Alarm tile in dashboard to choose alarm function (Armed Away, Armed Home, Disarmed)

5.4. Tab: Macros & Scenes
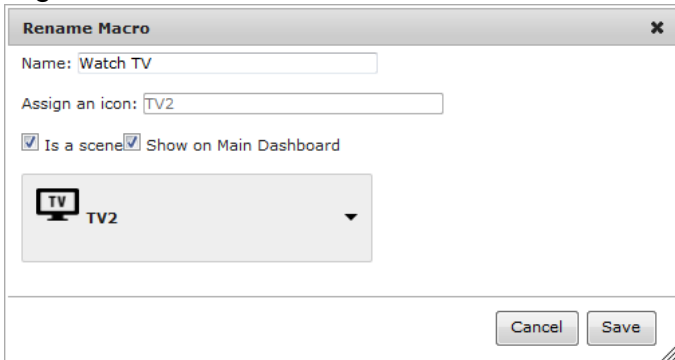
5.4.1. Scenes

Scene buttons can be created per Zone, which will show up in the GUI. In addition the Scenes buttons in the GUI (mobile Apps, Web View), Scenes can also be triggered by xComfort sensor devices like push buttons and contacts.

Scenes are based on Macros.
Steps to create a Scene:
1. Create a Macro (See next chapter Macros).
2. Right click on the Macro name and select: **Edit**

3. Enable the Checkbox: **Is a Scene**
4. To make this Scene button also available on the Main Dashboard:
   a. Enable also the checkbox: **Show on Main Dashboard**
   b. Select an icon for the Main Dashboard
5. Click: **Save**

Overview of Macros and Scenes looks like this:
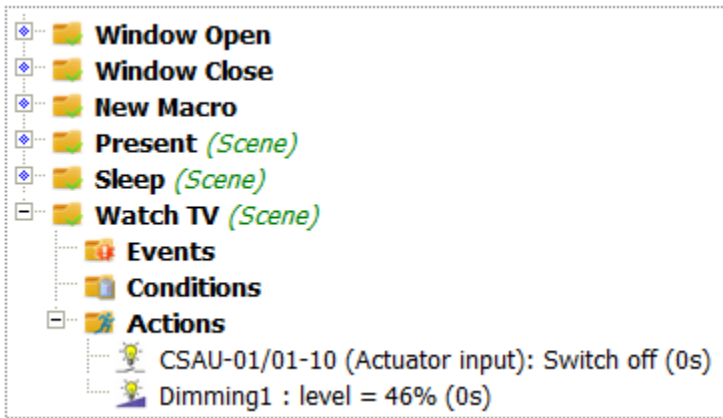
5.4.2. *Macros*

With Macros, additional functionality can be added to the system.

A Macro is based on:
- Events: One or more xComfort Device events can trigger the Macro. The Planner can also trigger the Macro directly.
- Conditions (only used in Macros): Define xComfort Device conditions and time periods to be met, before the actions will be executed. If no condition is defined, the condition is met always.
- Actions: List of defined actions to be executed, if the Macro is triggered and the conditions are met.

Type of Actions:
- Control a function in a Zone (Example Climate Function):
 Set Climate function in mode: `Protection, Comfort, Economy, Standby`
- Device operation (Example DimActuator):
  Send a command to an actuator: `darker, brighter, stop, switchOff, switchOn`
- Device property (Example DimActuator):
  Send a value to an Actor: `level = 0 - 100%`
- Send text message via SMS
- Send text message to multiple email addresses
- Send a notification to registered iOS devices
- Send a notification to registered Android devices

How conditions work:
Conditions are checked sequentially from top to bottom.

For example:
1. Condition1
2. AND Condition2
3. OR Condition3
4. AND Condition4

The next condition will be compared with the previous one.
In case of an AND condition, the previous condition must be fulfilled also.

In case of an OR condition, the previous condition does not matter.
The notation of this example is:
```
(Condition1 AND (Condition2 OR Condition3) AND Condition4)
```

In case of a Time Period Condition the condition is met between the Start and the End time. If the condition continues into the next day (like Sunset – Sunrise), two conditions needs to be defined. For example:

1) 🕐 `Time period: Sunset - 23:59 (All Days)`
2) 🕐 `OR Time period: 00:00 - Sunrise (All Days)`

Steps to create a Macro:
1. Select the Zone
2. Define a Macro name: **`<New Macro>`**
3. Click: **`Add Macro`**
4. Click on the new created entry in the list of macros: 📁 **`<New Macro>`**
5. Follow the steps to add events
6. Follow the steps to add conditions (Not used if Macro is set to Scene)
7. Follow the steps to add actions

Steps to add Events to the Macro:
1. Open the sub tree of the macro: 📁 **`<Macro>`**
2. Click on the folder: 📁 **`Events`**
3. On the right side a list is presented: **`Available Device Triggers`**
4. Select the needed item and drag this in the folder **`Events`** on the left side
   a. Example: Dialog add trigger event: 🌡 **`<Device name>: temperature`**
      1) Select operator: **`=, <, >, <=, >=`**
      2) Define property value
      3) Click: **`ok`**
5. Repeat the previous step for each additional needed trigger

Steps to add conditions to the Macro (Not used if Macro is set to Scene):
1. Open the sub tree of the macro: 📁 **`<Macro>`**
2. Click on the folder: 📱 **`Conditions`**
3. On the right side a list is presented: **`Available Device Conditions`**
4. Select the needed item and drag this in the folder **`Conditions`** on the left side
   a. Example: Dialog add condition: 🕐 **`Time period`**
      1) Start condition (Skip for the first one): **`<AND/OR>`**
      2) Set start time: **`<Time, Sunrise, Sunset>`**
         (For sunrise/sunset is minutes the offset before or after)
      3) Set end time: **`<Time, Sunrise, Sunset>`**
         (For sunrise/sunset is minutes the offset before or after)
      4) Select the days of the week
      5) Click: **`ok`**
   b. Example: Dialog add condition: 🔲 **`<Device name (Channel A)>: state`**
      1) Select condition (Skip for the first one): **`<AND/OR>`**
      2) Select operator: **`equals`**
      3) Select state: **`<OPEN/CLOSE>`**

          4)   Click: **ok**

5. Repeat the previous step for each additional needed condition

<u>Steps to add actions to the Macro:</u>

1. Open the sub tree of the macro: 📒 **<Macro>**
2. Click on the folder: 📂 **Actions**
3. On the right side a list is presented: **Available Actions**
4. Select the needed item and drag this in the folder **Actions** on the left side

   a. Example: Dialog add action: 🏠 **Control Function: <Zone>**
      1)   Select **Function** name
      2)   Select **Event** name
      3)   Click: **ok**

   b. Example: Dialog add action: 💡 **<Device name>: operation**
      1)   Select **Command** name: **darker, brighter, stop, switchOff, switchOn**
      2)   Define **Execution delay** if needed (delay relative to the previous action)
      3)   Click: **ok**

   c. Example: Dialog add action: 💡 **<Device name>: property**
      1)   Select **Command** name: **level**
      2)   Set **property** value: **0 – 100%**
      3)   Define **Execution delay** if needed (delay relative to the previous action)
      4)   Click: **ok**

   d. Example: Dialog add action: 📱 Send message: SMS
      1)   To (Phone number): **+31611111111**
      2)   Define **Execution delay** if needed
      3)   Define <u>Message</u>
      4)   Click: **ok**

   e. Example: Dialog add action: ✉ Send message: Mail
      1)   To (Email address): <u>name1@gmail.com</u>
          Multiple Email addresses: **name1@gmail.com, name2@gmail.com**
      2)   Define **Execution delay** if needed
      3)   Define **Subject**
      4)   Choose **Attachments - history, configuration**
      5)   Define <u>Message</u>
      6)   Click: **ok**

   f. Example: Dialog add action: Send message: APN

      1)   To: Select from the list of registered devices ☑Chopain's iPad ☑E9948567's iPhone
      2)   Define **Execution delay** if needed
      3)   Define <u>Message</u>
      4)   Click: **ok**

   g. Example: Dialog add action: 🤖 Send message: FCM

      1)   To: Select from the list of registered devices ☐SM-G850F (4100532f45827147) ☑GT-I9195 (0f452641)
      2)   Define **Execution delay** if needed
      3)   Define <u>Message</u>

4) Click: **ok**
5. Repeat the previous step for each additional needed action

Find extra options in the right-click mouse popup menu:
- Test Macro
- Enable/Disable macro
- Edit Item
- Delete Item

Notification message

The notification message (SMS, e-mail, APN, FCM) is a plain text message that can contain expressions which will be replaced with real values in the final message.

Supported expressions:
- %date
    - Current date in format YYMMDD
- %time
    - Current time in format hh:mm
- %system_uptime
    - System uptime
- %system_load
    - System load
- %v[device_serial_number]
    - Value of the device specified by serial number. The serial number can be taken from *Diagnostics/State of devices* tab in web admin interface.

Supported devices:
- Analog input
- Analog actuator
- Binary input
- Dimming actuator
- Room controller - temperature channel
- Shutter actuator
- Switching actuator
- Temperature sensor

Example message configured:
- Today %date at %time the value of sensor was %v[13694220]

Example message received:
- Today 190524 at 15:24 the value of sensor was 23

6. Quick setup iPhone App

6.1. *Download and connect the App (IOS)*

This example is based on the iPhone.

Figure 1: Download App
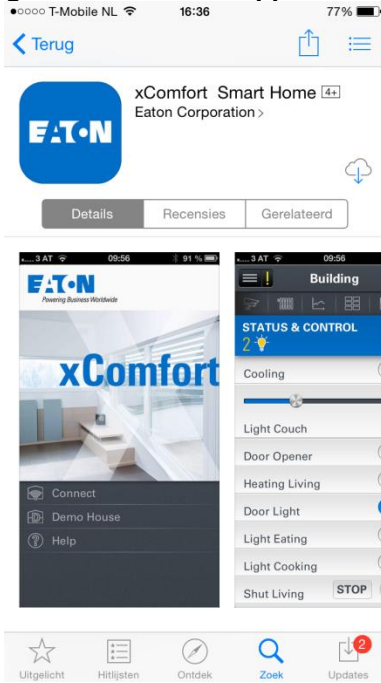
Open the App Store:
Search for: **Eaton**
Install and open the App

Figure 2: Connect to Smart Home Controller when in the same local network (LAN)
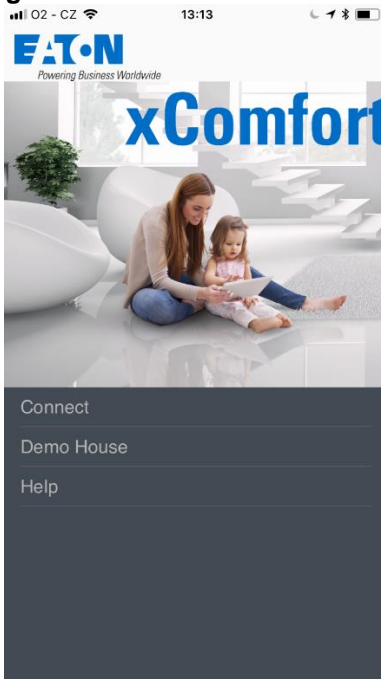
Click: **Connect**
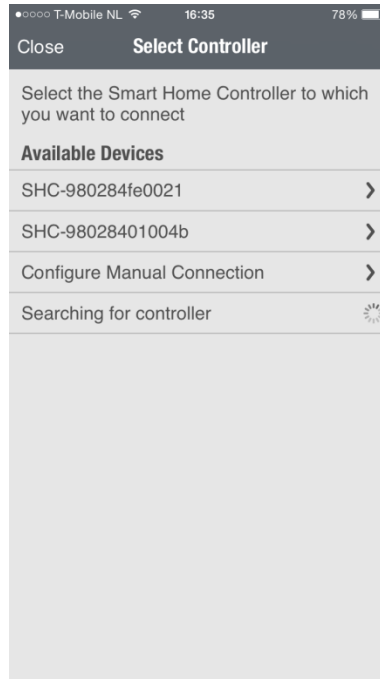
Select your controller
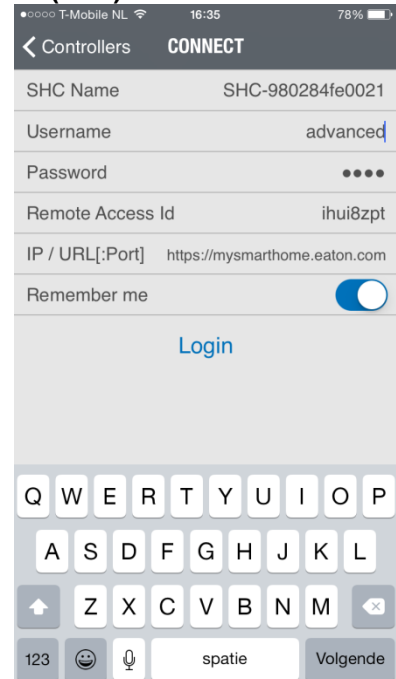
Login as advanced User

6.2.   IOS App: Start the Temperature Control

Select the Climate function:

Figure 3: Start the Temperature Control
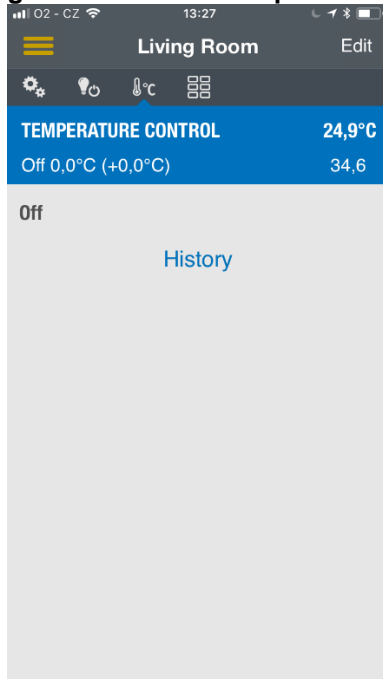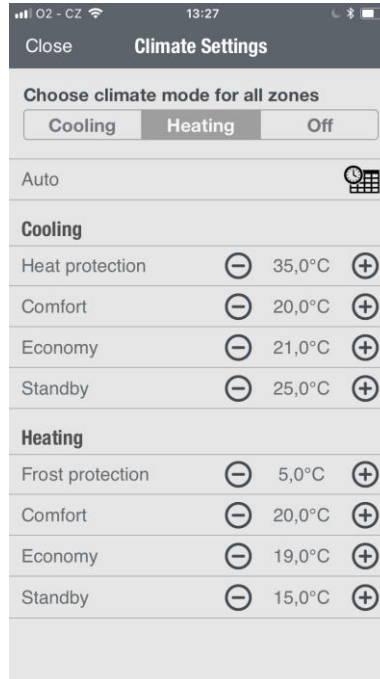
| Click: **Edit** | Select: **Heating**
And: **Close** | Select a predefined mode |
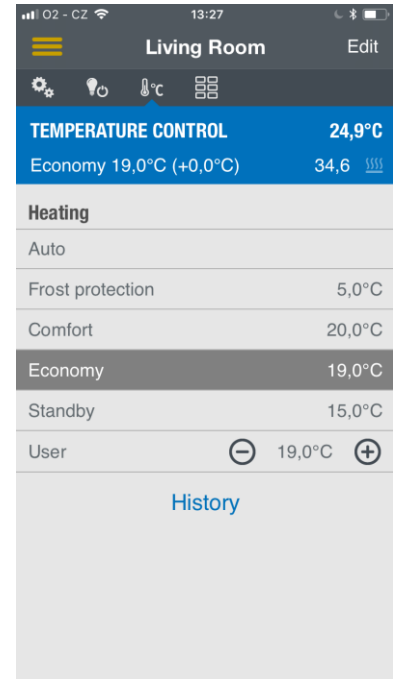
The question mark indicates that no temperature value is received yet. Find detailed information in chapter **7.2 Climate Function**.
Start the temperature control in every Zone with a Climate function.

6.3. IOS App: Create Light Scenes

To create a Light Scene, select the Status & Control Function to set the preferred light settings.

Figure 4: Create a Light Scene 1
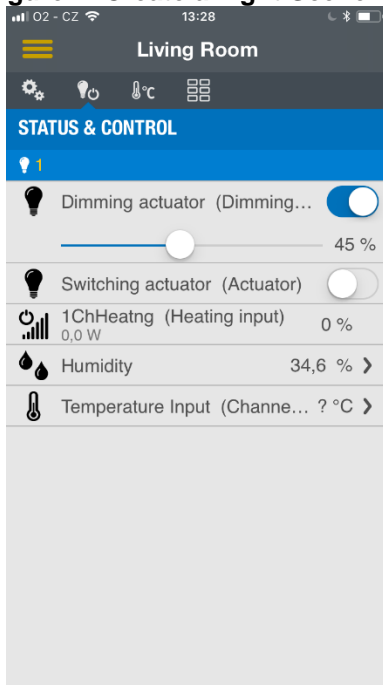
Select Status & Control Set preferred Lights	Select Scene Function And click: **Edit**	Click:
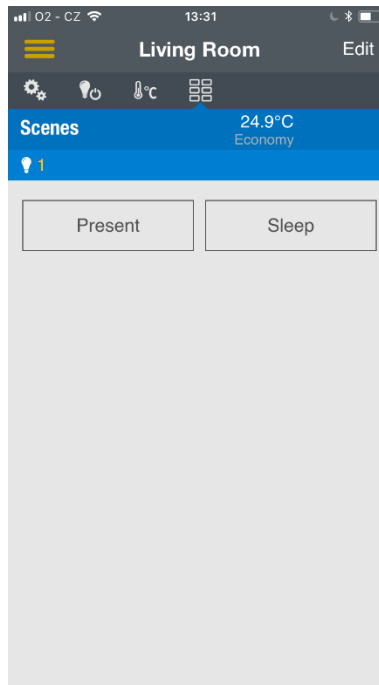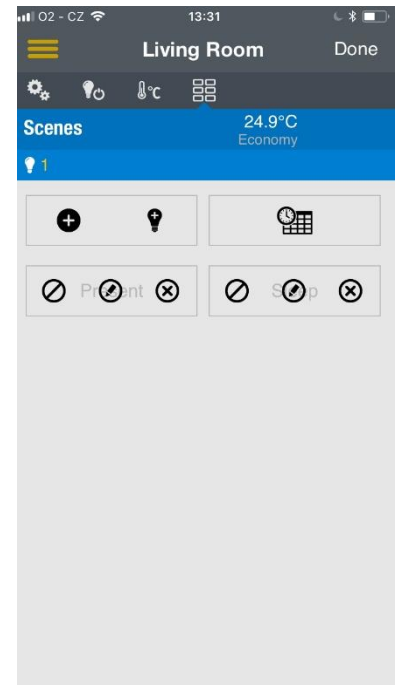
Figure 5: Create a Light Scene 2
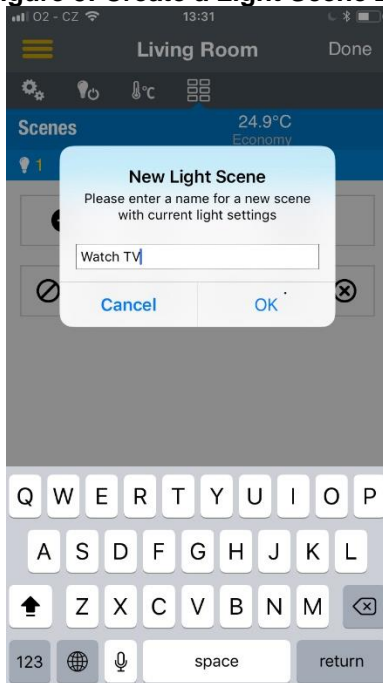
Define a Scene name And click: **OK**	Check light settings And return to Zone	Button created
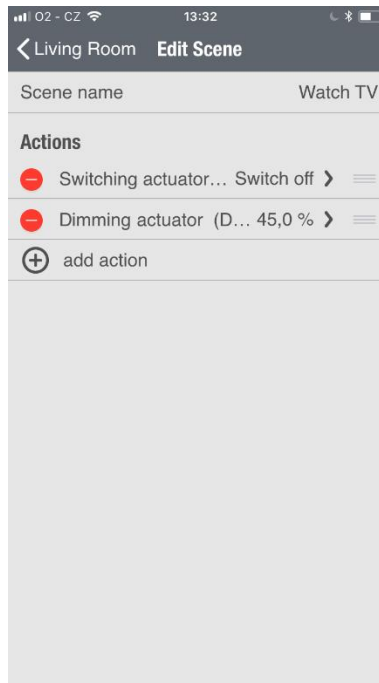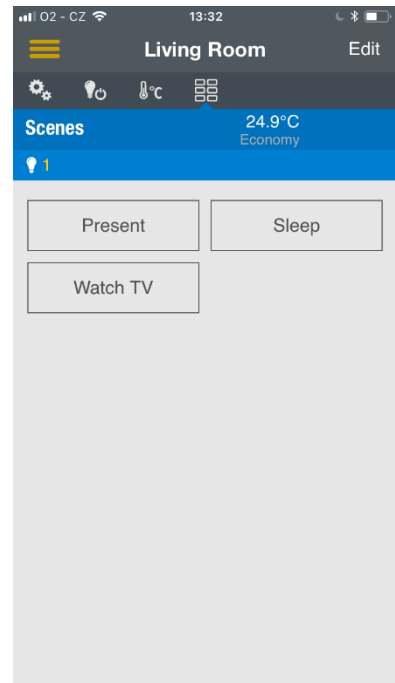
7. Functions

This chapter provides an overview of all the available functions and their functionality.
By default the Smart Home Controller provides the following Smart Home functions:
- Camera function
- Climate function
- Energy function
- Macro function
- Scene function
- Shading function
- Status and Control function

Per Function the following information is provided:
- <u>What can it do:</u> Short description of the functionality and application.
- <u>How does it work:</u> Description of behavior of available functionality.
- <u>Supported Functional Devices:</u> Overview of the devices which can be used with the function and which additional function's features this enables.
- <u>Function Settings:</u> The possible function configuration settings and there factory defaults.

7.1. Camera Function

Purpose: See camera images of a Zone and control the lights.

7.1.1. What can it do

- Show Camera images: The Dashboard presents a snapshot per available camera. Click on the snapshot to watch the camera stream.
- Control lights: The screen presents control buttons to switch on and off the lights if one or more light and/or dimming actuators are present.

7.1.2. How does it work

Function availability in a Zone

The Function starts if a camera Device is moved into the Zone. To be able to add cameras to Zones, cameras need to be added to the system first. See section **4.8 Tab: Cameras**.

7.1.3. Supported Functional Devices

Functional Device	xComfort Device
Light Actuator	Available switch actuators can be switched on and off via the Camera function.
Dim Actuator	Available dimming actuators can be switched on and off via the Camera function.

7.1.4. Function Settings

By default the function is disabled. Just check the box next to the function name to enable this function in this Zone. The function settings appear.

Parameter	Type	Purpose
<Device type>: <Device name>	Checkbox	Enable/Disable Device. Disabled Devices are not used in the function.

7.2. Climate Function

Purpose: Control the climate per Zone and see the overall temperature information and statistics per Zone.

7.2.1. What can it do

- Heating or cooling per Zone.
- Set the Zone temperature mode using programmable set points.
- See the temperature of the Zone in the Main Dashboard
- See the temperature and humidity of the Zone in the Zone Dashboard
- See the graphical history of temperature

7.2.2. How does it work

Function availability in a Zone

The function becomes available when a temperature sensor is in the Zone. If the temperate sensor is the only device in the zone then temperature (and humidity if available) is visible in the GUI but no control is possible.

Heating or Cooling

The function will provide heating and cooling control only if the appropriate actuators are available in the Zone or Building. At least one of the following actuators should be available:

Zone control	Needed Devices
Heating	Heating temperature actuator, Heating actuator, Main Heating actuator, Floor Heating Actuator
Cooling	Cooling actuator, Main Cooling actuator
Heating and Cooling	Temperature actuator, Valve actuator

Each additional added actuator in the Zone will be switched by the function automatically.

A central heater or cooling system in the building can be controlled by the **Main Heating Actuator** and **Main Cooling Actuator**. These actuator types are present on building level and will be switched on automatically if one of the running Climate functions demands it.

Temperature control

Climate function can only perform heating or cooling on building level. So if one Zone is switched to heating or cooling, all synchronized Zones will switch over. The temperature is controlled per Zone individually.

The Zone temperature control is based on the internal on/off temperature regulation. This will be switched off if one of the following devices are available in the Zone:

xComfort Device	Control
Radiator Thermostat (Valve Sensor)	The heating or cooling demand is based on one or more open valves.
Multi-Channel Actuator (Binary Pump Demand Sensor)	The heating or cooling demand is based on the pump ON state.

Auto mode (Planner)

In Auto Mode the Climate function reacts on the programmed Planner events. Planner events can be programmed via the Web Admin Console or the Smartphone app (possible for admin or advanced user only). If the function is switched from manual to Auto Mode the function will switch to the last programmed temperature mode from the Planner.

Inertia and outside temperature

The inertia functionality works only in Auto Mode and will adjust the scheduled planner event time. The Inertia function calculates the start time to get the room on the temperature level on the scheduled planner time. The calculation is more precise if an outside temperature sensor is used. Otherwise it is recommended to switch the Inertia function off.
Warning! The time of the scheduled Planner events will be influenced by the Inertia function if enabled. The temperature mode could be switched much earlier than scheduled. This could lead to unexpected switching behavior.

Learning mode

When inertia is enabled Learning mode can be used. Operation of climate system is evaluated based on the time of Climate Function Planner events and its defined temperature. Inertia settings is adapted accordingly to get the best results.

Multi-Channel actuator

The Multi-Channel actuator provides 12 channels. Each channel (heating input) represents a temperature actuator which will be updated with the new temperature and setpoint of the Zone automatically.
Important! Only connect the channels to the Smart Home Controller which are used in Zones. Channels not assigned to a Zone will not be updated by the SHC. The respective led on the Multi-Channel actuator will blink.

The Binary Pump Demand sensor (sum request) is by default available in each Zone and will be enabled automatically if also a temperature actuator is in this Zone.
Important! If the Binary Pump Demand sensor is enabled in a Zone without one of the temperature actuators, the Zone regulation will follow the pump sum request of the Multi-Channel actuator.

Floor protection function

When Floor temperature sensor is used, floor heating protection temperature can be defined to switch floor heating actuators off when floor temperature rises above the defined limit. The protection function has no impact to heating actuators in the zone. If climate function runs in auto mode (i.e. according to a planner) it switches from auto to the manual, the same climate mode, to eliminate further changes of mode by planner before floor protection function is deactivated. Then auto mode is switched back to ON and climate mode is set to the last climate mode activated by Planner.

Protection timer

The Climate function will switch off the actuators if within the defined protection time no temperature value is received. A question mark is displayed instead of the temperature value. Climate will turn on the devices when the temperature value is received again.
The devices with built-in climate protection - One-Channel Heating (3 hours), Multi-Channel Heating (1 hour) - have their own timeout and switch on/off automatically. Battery Valve drive continues regulating with the last set point and the temperature measured internally when connection error is indicated on the display of the device.
The user can set a macro event to receive a notification when the protection timer is triggered. Check section 5.4 - *Tab: Macros & Scenes* for more information about how to set up a macro. The Temperature Sensor must be set to cyclic sending with the cyclic sending period configured accordingly.

Refresh messages

Actuators configured for climate function receive refresh messages every 30 minutes so they are in the state required by SHC system.

7.2.3. *Supported Functional Devices*

Functional Device	xComfort Device
Temperature Sensor	Room Controller, Room Controller Touch, Radiator Thermostat, CTEU, Room Manager: Just one temperature sensor can be selected. By default the first one assigned to the Zone is preselected.
Floor Temperature Sensor	Temperature input, Analog input, Room Controller Touch: Optional temperature sensor to enable and control floor heating protection function. Only Floor Heating Actuators are protected based on configured temperature.
Humidity Sensor	Room Controller: Just one humidity sensor can be selected. By default the first one assigned to the Zone is preselected.
Wheel Sensor	Room Controller: Just one wheel sensor can be selected. By default the first one assigned to the Zone is preselected. If more Room Controller Touch devices are used in one zone, wheel value can be adjusted on all Room Controller Touch devices and all respective devices share the value.
Binary Window Sensor	Binary Input: If one or more windows are open the Zone switches to Protection mode and the Planner events will be blocked. If all windows are closed the Zone switches back to the previous settings.
Heating Actuator	Switch actuator, Dimming actuator, Analog actuator: switches Zone based on heating demand.
Floor Heating Actuator	Switch actuator, Dimming actuator, Analog actuator: switches Zone based on heating demand. Protected by floor heating protection.
Cooling Actuator	Switch actuator, Dimming actuator, Analog actuator: switches Zone based on cooling demand.
Valve Actuator	Switch actuator, Dimming actuator, Analog actuator: switches Zone based on heating and cooling demands.
Valve Sensor	Radiator Thermostat: The internal temperature regulation will be switched off. The heating or cooling demand is based on one or more open valves.
Temperature Actuator	Multi-Channel Actuator, Room Manager (Heating/Cooling): The new temperature and setpoint in each device will be updated automatically.
Binary Pump Demand Sensor	Multi-Channel Actuator (Sum request): Is By default available in each Zone. The internal temperature regulation will be switched off. The heating or cooling demand is based on the pump is ON state.
Changeover Actuator	Multi-Channel Actuator: heating, cooling. Will be switched based on the Heating or Cooling.

Heating Temperature Actuator	Radiator Thermostat, E-Heating Actor (Only Heating): The new temperature and setpoint in each device will be updated automatically.
Main Heating Actuator	Switch actuator, Dimming actuator, Analog actuator: Is by default available in each Zone. Switches the central Heater of the building on heating request of Zones.
Main Cooling Actuator	Switch actuator, Dimming actuator, Analog actuator: Is by default available in each Zone. Switches the central Cooling system of the building on cooling request Zones.
Outdoor Temperature Sensor	Temperature input, Analog input, Room Controller Touch: If available the outdoor temperature is additionally used by the Inertia function.

7.2.4. *Function settings*

By default the function is disabled. Just check the checkbox behind the function name to enable this function in this Zone. The function settings appears.

Parameter	Type	Purpose
General: Inertia	Selection box	Calculates the inertia time to start the climate system earlier. Works only in Auto Mode. Planner event times will be influenced. Off: default Fast: Radiator heating with high temperature Medium: Radiator heating with low temperature Slow: Floor heating Log: Calculated inertia time is available in the System Log but the calculated time is not used for event times in Planner.
General: Learning Mode	Checkbox	Operation of climate system is evaluated based on the time of Climate Function Planner events and its defined temperature. Inertia settings is adapted accordingly to get the best results. Works only if inertia is set to other than Off value.
General: Protection Timer	Selection box	0: Disable protection 1: default (set cyclic sending sensor to 55 minutes) 1-6: (set cyclic sending sensor to 55 minutes – 5 hours) 6: Use with Temperature Sensor from Home Manager Read *Protection timer* in *7.2.2 - How does it work* for details.
General: Operation Mode can be changed by Main Dashboard	Checkbox	Enable if the mode in this Zone should be controlled by the Main Climate control Tile in the Main Dashboard. This Tile will now show if this option is disabled in all Zones.
General: Climate Type Synchronization	Checkbox	All synchronized zones use the same climate type. Selected by default.
heating: <Mode name>	Selection box	Select the default temperature setpoint for this mode.
cooling: <Mode name>	Selection box	Select the default temperature setpoint for this mode.
TemperatureSensor	Selection box	Just one temperature sensor can be selected.
HumiditySensor	Selection box	Just one humidity sensor can be selected.
WheelSensor	Selection box	Just one wheel sensor can be selected.
<Device type>: <Device name>	Checkbox	Enable/Disable Device. Disabled Devices are not used in the Function.
Outdoor Temperature Sensor	Selection box	Select an available Temperature Sensor for Inertia function.
Underfloor heating: Protection	Selection box	If the temperature from Floor Temperature Sensor is higher than the selected temperature the respective Floor Heating Actuators will be switched off.
Floor Temperature Sensor	Selection box	Just one floor temperature sensor can be selected.

7.3. Energy Function

Purpose: See per Zone the Energy Consumption statistics.

7.3.1. *What can it do*

- Show overall status: The Dashboard presents real-time the total used power in the Zone. How do we do so far this year presented in costs.
- Energy statistics: See per Device the graphical consumption overviews in time.
- Top 5 Consumers: See in one pie chart overview the top five consumers per Zone.

7.3.2. *How does it work*

Function availability in a Zone

The function starts if one or more energy sensors (EMS, Impulse Counter) are available in the Zone.

Power balance meter

The power balance meter represents the balance between production and consumption meters on main building level and/or Zone level.
The following two balance meters are supported:
- Zone power balance meter:
  Sum of power consumption meter(s) and power production meter(s) in a Zone.
- Main power balance meter:
  Sum of main power consumption meter(s) and main power production meter(s).

The power balance meter will become available automatically based on the presence of production meter(s) and energy consumption meter(s).
EMS device settings: The power meter will get the same function assignment as configured for the energy meter: production, consumption, main production, main consumption.

Example to use the main power balance meter: The main production energy meter needs to provide the available produced energy of your own renewable energy installation like a solar PV installation. The main consumption energy meter is connected to the main electricity meter in the building. Select in a Macro the power balance meter to trigger on positive and negative values of this meter.

Zone Power consumption indication on Dashboard

The Energy function dashboard shows on the right the power consumption in watts. This is the sum of all enabled energy consumption meters available in the Zone. This can be verified with the power meters shown in the Status & Control function.

7.3.3. *Supported Functional Devices*

Functional Device	xComfort Device
Main Energy Production Meter	EMS or Impulse Counter: Used for measuring the available output of your own renewable energy installation (Solar PV installation).
Main Energy Consumption Meter	EMS or Impulse Counter: Used for the main electricity meter in the building.
Energy Production Meter	EMS or Impulse Counter: Used for small Zone based energy generators.
Energy Consumption Meter	EMS or Impulse Counter: Used for an energy consumer in the Zone.
Gas Meter	Impulse Counting Input: If connected to the main gas meter.
Water Meter	Impulse Counting Input: If connected to the main water meter.
Impulse Counter	Impulse Counting Input: Anything else.

7.3.4. *Function Settings*

By default the function is disabled. Just check the checkbox behind the function name to enable this function in this Zone. The function settings appears.

Parameter	Type	Purpose
Energy: co2_factor	Input field	CO2 factor per kWh. Only indicative representation. Default: 0.41228
Energy: cost	Input field	Define the costs per kWh. Only indicative representation. Default: 0.2211
Energy: co2_unit	Selection box	Default: Kg Carbon dioxide equivalent per kWh (kgCO2e/kWh)
Water: co2_factor	Input field	CO2 factor per liter. Only indicative representation. Default: 0.41228
Water: cost	Input field	Cost per liter. Only indicative representation. Default: 1.5392
Water: co2_unit	Selection box	Default: Kg Carbon dioxide equivalent per liter (kgCO2e/l)
Gas: co2_factor	Input field	CO2 factor per Cubic meter. Only indicative representation. Default: 0.41228
Gas: cost	Input field	Cost per Cubic meter. Only indicative representation. Default: 0.8632
Gas: co2_unit	Selection box	Default: Kg Carbon dioxide equivalent per Cubic meter (kgCO2e/m3)
<Device type>: <Device name>	Checkbox	Enable/Disable Device. Disabled Devices are not used in the Function.
Virtual Balance Meter	Checkbox	Enable/Disable the Virtual Balance Meter. Disabled Devices are not used in the Function. The Virtual Balance Meter will be available automatically if a Main Energy Production Meter and a Main Energy Consumption Meter is available in the building.

7.4. Macro and Scene function

Purpose: Create automatic control by Device events.

7.4.1. *What can it do*

- Macro: Trigger a Macro (only advanced users).
- Macro: Enable and disable Macros (only advanced users).
- Scene: Trigger a Scene with the Scene button.
- Scene: Add and configure scenes.
- Set Planner events.
- Take actions based on events (and conditions in case of Macro).

7.4.2. *How does it work*

See section 5.4.2 Macros.

Function availability in a Zone

The function starts if one or more supported functional Devices are available in the Zone.

7.4.3. *Supported Functional Devices*

All available Devices in the Zone.

7.4.4. *Function Settings*

By default the function is disabled. Just check the checkbox behind the function name to enable this function in this Zone. The function settings appears.

Parameter	Type	Purpose
<Device type>: <Device name>	Checkbox	Enable/Disable Device. Disabled Devices are not used in the Function.

7.5. Shading Function

Purpose: Control shading automatically. See overall information in Dashboard bar.

7.5.1. *What can it do*

- Control all shading simultaneously with the up, down and stop button.
- Select sensor mode to control shading by temperature or light intensity.
- See the value and setpoint of the enabled sensor.
- Change the setpoint of the enabled sensor.

7.5.2. *How does it work*

Function availability in a Zone

The function starts if one or more shutter actuators are available in the Zone.

Auto mode (Planner)

In Auto Mode the Shading function reacts on the programmed Planner events and also the selected sensor. Planner events can be programmed via the Web Admin Console and the Smartphone app.

Control by Sensor

The shading in a Zone can be controlled by a temperature or lux sensor to prevent that the room is getting too hot. Just one sensor can be selected to control the shading in the room. This works only in Auto Mode.

7.5.3. *Supported Functional Devices*

Functional Device	xComfort Device
Shutter Actuator	Shutter Actuator
Binary Temperature Sensor	Binary Input, Analog Input, Room Controller: Just one sensor can be selected.
Temperature Sensor	Room Controller, Radiator Thermostat, CTEU, Room Manager: Just one sensor can be selected.
Binary Lux Sensor	Binary Input, Analog Input: Just one sensor can be selected.
Lux Sensor	Analog Input: Just one sensor can be selected.

7.5.4. *Function Settings*

By default the function is disabled. Just check the checkbox behind the function name to enable this function in this Zone. The function settings appears.

Parameter	Type	Purpose
temperature: setpoint	Input field	Temperature setpoint. Default: 26
temperature: hysteresis	Input field	Hysteresis around the setpoint to prevent fast up/down toggle. Default: 5
lux: setpoint	Input field	Lux setpoint. Default: 50
lux: hysteresis	Input field	Hysteresis around the setpoint to prevent fast up/down toggle. Default: 20
general: inverseMode	Checkbox	Normally the Shading is going down if for example the temperature is too hot in the room. Check this option if the shading needs to go down if it gets to cold.
<Device type>: <Device name>	Checkbox	Enable/Disable Device. Disabled Devices are not used in the Function.
Sensor	Selection box	Just one of the available sensors can be selected (temperature of lux). The shading up/down in this Zone is controlled by this selected sensor value according to the setpoint set.

7.6. Status & Control function

Purpose: Provide Actuator controls and Sensor information per individual Device. See overall information in Dashboard bar.

7.6.1. *What can it do*

- Show Device status overview: The Dashboard presents an icon per Device type if one or more Device of this type is active. The icon shows also the number of active devices.
- Show Sensor Devices: The screen shows each known and supported sensor with their value. Sensors with historical data do have a button to enter the graphics.
- Show Actuator Devices: The screen shows each known and supported actuator with controls to set the state or value.

7.6.2. *How does it work*

Function availability in a Zone

The function starts if one or more sensor Devices and/or actuators are available in the Zone.

7.6.3. *Supported Functional Devices*

All Devices except for heating and cooling actuators.

7.6.4. *Function settings*

By default the function is disabled. Just check the checkbox behind the function name to enable this function in this Zone. The function settings appears.

Parameter	Type	Purpose
<Device type>: <Device name>	Checkbox	Enable/Disable Device. Disabled Devices are not used in the

		Function.

8. Alexa

You can control your xComfort devices and SHC functions (switching actuators, macros/scenes, etc.) using voice commands with an Amazon Echo device.

To have Alexa (Amazon Echo) working with your SHC you need:
- SHC 2.4
- the Alexa functionality activated on your SHC
- a browser and Internet connection
- an Amazon Echo physical device
- To link the Amazon Echo skill with your SHC you need your SHC key for Alexa. It can be found in Web Admin, Diagnostics/System Status "SHC key for Alexa" (provided the Alexa functionality is activated on your SHC):

Device ID:	
Connection status:	Remote access available via Remote Server
Remote Access URL:	https://mysmarthome.eaton.com/
Remote Access ID:	
Expire date:	1/1/26 11:23 PM
Initial Activation Key:	[ ] Activate
Activate Coupon:	[ ] Activate
Global Remote Access:	☑
SHC key for Alexa:	SHC-38FCE0A3-██████-3630DA5E36F9

8.1. Activate the functionality on your SHC

Enter "xComfortAlexa_v1" to the Activate Coupon field in in Web Admin, *Diagnostics/System Status* and click the button Activate. The system responds with "OK" if the activation was successful. Refresh Web Admin to get the SHC key for Alexa – be aware that it takes about 1 minute to get the download installed on your SHC.

8.2. Activate the skill

1. Log in to your Alexa app. If you need more information about the Alexa app, check section *8.8 Alexa app*.
2. On the Alexa app, click on "Skills" on the left menu and search for "xComfort" skill.
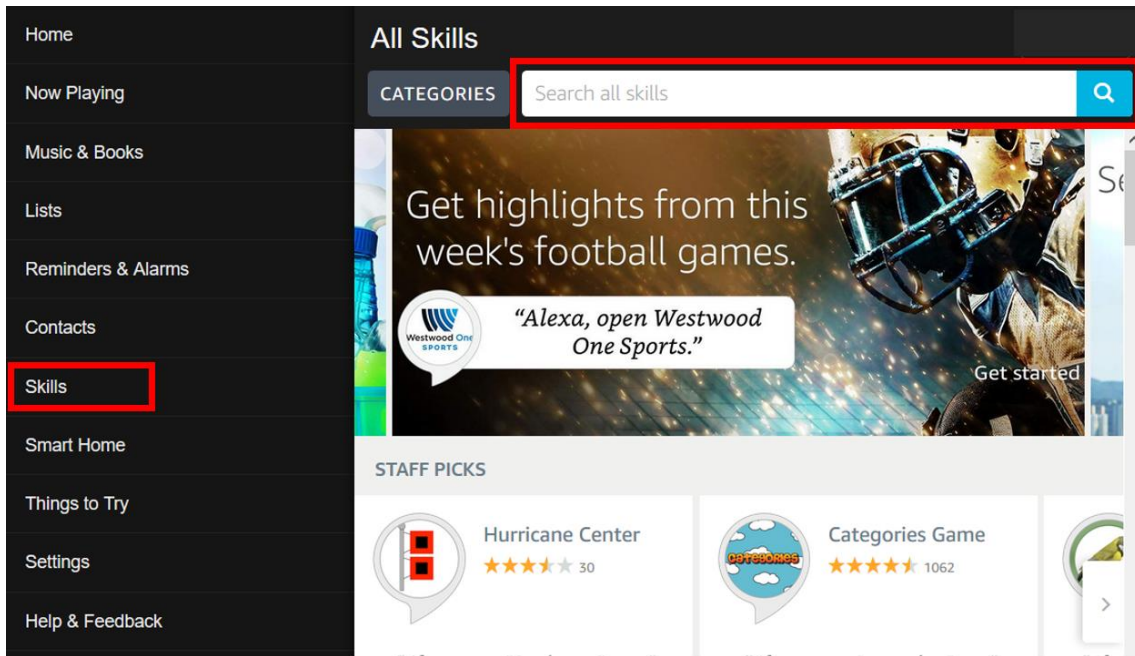
3. Click on the xComfort skill. A page with the details of the skill will show up. Click on "Enable" on the top right corner.
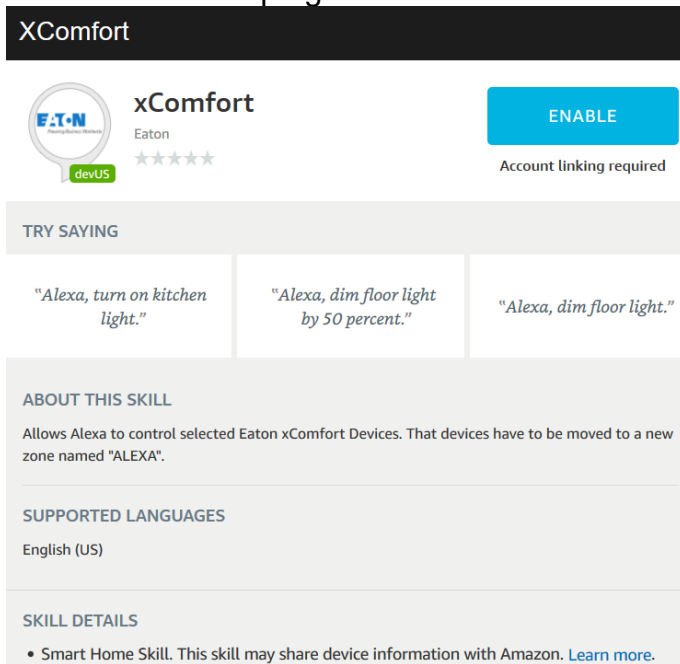
4. A page to insert your SHC ID will open:

Enter your SHC ID:

Submit

5. Insert your SHC ID in the format "`SHC-5F1A9A4-F43D-12A4-CE3E-1234E54E36A9`" (the key is available in Web Admin, *Diagnostics/System Status*). A confirmation page will be displayed confirming that the account linking process was successful:

amazon alexa

xComfort AWS has been successfully linked.

What to do next:

→ Close this window to discover smart-home devices you can control with Alexa.

8.3. Check connectivity

The SHC needs to be able to reach the `ssl://a239s9yk6mjhr3.iot.us-east-1.amazonaws.com` server, so the connection must be allowed in the network (firewall/router).

8.4. Create the Alexa zone

1. In the SHC admin console, go to System/Zones and create a new zone called "ALEXA" (must be in capital letters).
2. Add to that zone the devices you want to control from the list of available devices. Currently the following devices types are supported:

Table 2 - Device types in SHC and commands supported in Alexa

Device Type	Commands
Switching Actuator	on, off
Dimming Actuator	on, off, brightness
Light Actuator	on, off
Outdoor Temperature Sensor	temperature query
Temperature Sensor	temperature query
Shutter Actuator	on, off

3. Go to Advanced/Functions and enable the functions you want to have enabled for that zone.

8.5. *Test the skill*

You can test the skill using your Alexa physical device (Amazon Echo):

1. To control your devices with Alexa, you must tell Alexa to find your devices first. Ask Alexa to find your devices with: "Alexa, find my devices".
2. Try the different commands available for the devices discovered. For example, "turn on the kitchen lights" or a similar command to control the devices you have configured for your ALEXA zone. Check section 8.6 - *Voice commands* for a list of the available voice commands supported by Alexa.

8.6. *Voice commands*

You can use voice commands in English or German, according to the language you have set for your Echo device. The following table has a list of the commands you can use to control different xComfort devices and functions.

Table 3 - Available Alexa Commands

	English	German	Effect
Switch	Alexa, turn on *<device-name>*	Alexa, schalte *<device-name>* ein	Turns on the specified device
	Alexa, turn off *<device-name>*	Alexa, schalte *<device-name>* aus	Turns off the specified device
Dimmer	Alexa, set *<device-name>* to XX percent	Alexy, setze <device-name> auf XX Prozent.	Sets the dimmer to XX% of brightness
	Alexa, dim *<device-name>*	Alexa, mach *<dimmer-name>* dunkler	Lowers the brightness of the dimmer by 25%
	Alexa, brighten *<device-name>*	Alexa, mach <dimmer-name> heller	Increases the brightness of the dimmer by 25%
	Alexa, turn on *<device-name>*	Alexa, schalte *<dimmer-name>* ein	Sets the dimmer to full brightness
	Alexa, turn off *<device-name>*	Alexa, schalte *<dimmer-name>* aus	Turns off the dimmer
Shading	Alexa, turn on Shading	Alexa, schalte die Beschattung ein*	Activates the shading function and closes the blinds
	Alexa, turn off Shading	Alexa, schalte die Beschattung aus*	Activates the shading function and opens the blinds
Macros	Alexa, start *<macro-name>* Alexa, turn on *<macro-name>*	Alexa starte *<macro-name>* Alexa schalte <marco-name> ein	Starts the specified macro
	Alexa, start *<scene-name>* Alexa, turn on *<scene-name>*	Alexa starte *<scene-name>* Alexa schalte <scene -name> ein	Starts the specified scene
Temp	Alexa, what's the temperature of *<sensor-name>*	Alexa, welche Temperatur hat <sensor-name> Alexa, wie hoch ist die Temperatur von <sensor-name>	Retrieves the temperature of the specified temperature sensor
	Alexa, what's the temperature inside	Alexa, wie hoch ist die Temperatur im Haus?	Retrieves an average of the temperature sensors in ALEXA zone
Misc	Alexa, find my devices	Alexa, finde meine Geräte	Retrieves the devices from the SHC

*To use Beschattung instead of Shading you will have to rename it using the instructions on Section 8.8.1 - Renaming devices.

8.7. Shading

With shading you control all the shutter actuators in your ALEXA zone at the same time. You cannot control the shutter actuators individually, but only as if they were one single device called "Shading".

Note that, while in the SHC app you can close, open and stop the shading actuators, in Alexa you can only open or close them completely (there is no stop command), and the close and open are invoked instead with "turn on" and "turn off" (for the English language). Check Table 4 for the equivalence of the shading commands in the Web View and Alexa.

Table 4 - Equivalence of the shading commands in the Web View and Alexa

	SHC Web View		Alexa	
	English	**German**	**English**	**German**
Shading	Open	Öffnen	Turn off	Ausschalten
	Close	Schließen	Turn on	Einschalten
	Stop	Stop	x	x

The shading needs to be set in automatic mode. To set the shading to automatic mode:
- Using the Web View:
  1. Log in to the Web View.
  2. Select the ALEXA zone.
  3. Click on the Shading function.
  4. Enable the checkbox "Automatic".

- Using the SHC app:
  1. Log in to the SHC app.
  2. Select the ALEXA zone.
  3. Click on the Shading function.
  4. Click Edit and turn on "Auto".

8.8. Alexa app

The Alexa application is available for iOS and Android systems. You can use it, for instance, to activate the skill, manage the smart home devices found by Alexa and control them using your phone's microphone.

The web version of the app does not allow controlling the devices, only listing them. You can, however, create groups of devices and manage them.

You can find it on the following locations:
- iOS:
  https://itunes.apple.com/us/app/amazon-alexa/id944011620
- Android:
  https://play.google.com/store/apps/details?id=com.amazon.dee.app

- Web:
  https://alexa.amazon.com/spa/index.html

Note: the main goal of the integration of Alexa and SHC is to be able to control the xComfort smart home devices using voice commands, not to use the Alexa app as a replacement for the SHC app.

8.8.1. *Renaming devices*

You can rename your devices in the Alexa app to names that Alexa will understand better. For example, if you are using the English language with Alexa, you can rename your devices to names that have a pronunciation closer to English.

These new names will only be visible on the Alexa side; they will continue having the old name on the SHC side. If you want to rename them also in SHC, you must use the SHC admin console.

Note: after renaming your device on the Alexa side, you can use both the new and the old names in your voice commands.

8.8.2. *Categories of devices*

In the Alexa app, the devices are categorized into predefined types and grouped automatically so that you can find them more easily according to their type.

The following table lists the devices that Alexa can handle and their associated type.

Table 5 - SHC devices and their type in Alexa

SHC device type	Type in Alexa
Switching Actuator	Switch
Dimming Actuator	Light
Light Actuator	Light
Outdoor Temperature Sensor	Temperature Sensor
Temperature Sensor	Temperature Sensor
Shutter Actuator	Switch

8.8.3. *Controlling your devices using your phone's microphone*

Click on the Alexa logo on the bottom-centre of the screen to enable talking to Alexa with the app. You will have to give Alexa permission to access your phone's microphone.
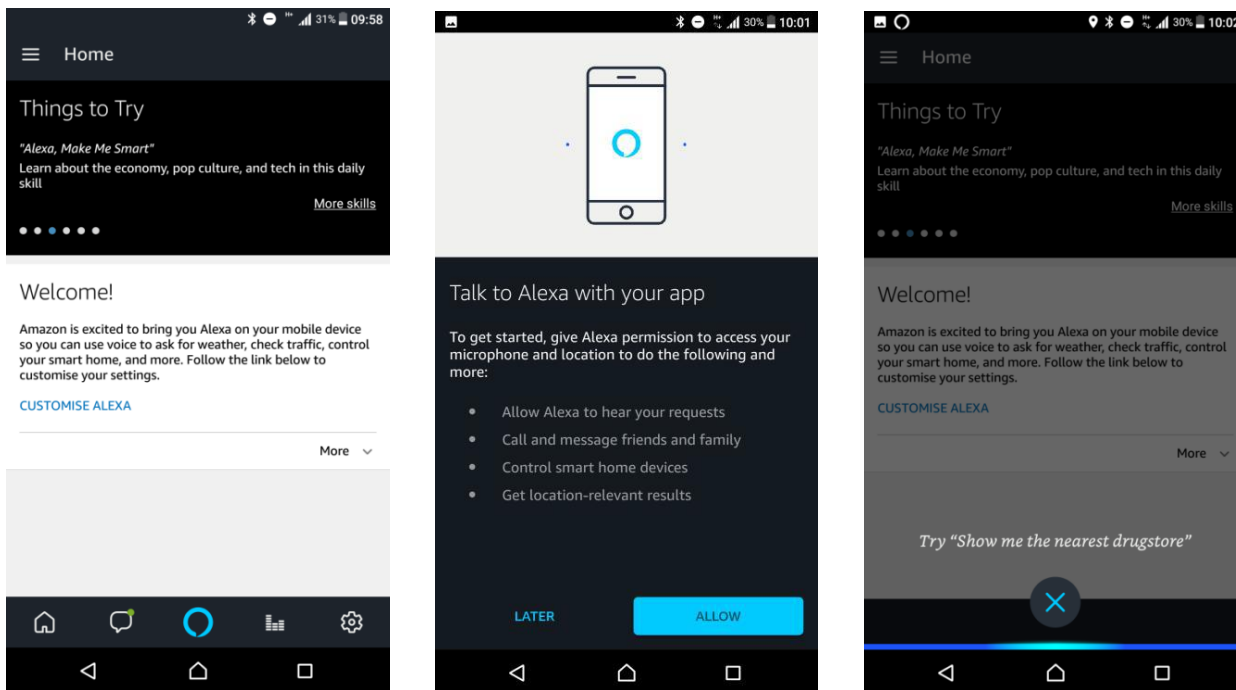
Figure 6 - Enable talking to Alexa with the app

8.8.4. *Groups*

You can group your devices in the Alexa app and control the devices in the group using the group's name. For instance, you can group different lights in a room and use the group name to turn all the lights on or off at the same time.

To group your devices:
- On your mobile:
  1. Log in to your Alexa app
  2. Click on "Devices".
  3. Click on "+" icon on the top-right corner of the screen and then on "Add Group".
  4. Enter a group name and follow the instructions on the screen.

- On your browser:
  1. Log in to the Alexa app at https://alexa.amazon.com
  2. Click on "Smart home" on the left menu.
  3. Click on "Groups".
  4. Click on "Create Group".
  5. Enter a group name, select the intended devices and click "Save".

8.8.5. *Scenes*

You can use the SHC scenes in Alexa, after performing a discovery.

To start a scene in your Alexa app:
  1. Log in to your Alexa app.
  2. Click on "Devices".
  3. Click on "Scenes".

4. Click on the scene you want to start.

8.8.6. *Routines*

Routines allow you to combine several actions under one single command. You can also use it to automate tasks.
To create a routine in the Alexa app:
1. Log in to your Alexa app
2. Click on the top-left menu icon to show the menu on the left.
3. Click on "Routines" and then on the "+" icon.
4. Click on "When this happens" and choose how to trigger the routine.
5. Click on "Add action" and choose an action to execute.

As an example, you can set routines like the following ones:

By **voice:**
- Alexa, Home → Activate scene "Home" – Sets the main areas like the living room, kitchen and hallway lights to 70% → *Welcome home greeting from Alexa*
- Alexa, Away → Activate scene "Away" – Turns off all lights → *Goodbye greeting from Alexa*
- Alexa, Night → Activate scene "Night" – Disconnects technical appliances, turns off all lights, except the bedroom lights, and closes the bedroom blinds → *God night message from Alexa*
- Alexa, Morning → *Good morning greeting from Alexa* → Play the local news from Alexa → scene "Morning" – Opens the bedroom blinds, dims up the bedroom lights with a delay, then the living room, kitchen and hallway

By **schedule:**
- 23:00 → "Night" → Activate scene "Night" – Disconnects technical appliances, turns off all lights, except the bedroom lights, and closes the bedroom blinds → *Good night message from Alexa*
- 05:00 → "Morning" → *Good morning greeting from Alexa* → Play the local news from Alexa → scene "Morning" – Opens the bedroom blinds, dims up the bedroom lights with a delay, then the living room, kitchen and hallway

By **location:**
- "Home" → Open the garage door → Activate scene "Home" – Sets the main areas like the living room, kitchen and hallway lights to 70% → *Welcome home greeting from Alexa*
- "Away" → Close the garage door → Activate scene "Away" → Turns off all lights

For more information on Routines, check Amazon documentation:
https://www.amazon.com/gp/help/customer/display.html?nodeId=202200080

8.9. *Adding smart home devices*

To add an xComfort device to Alexa, you must add it to the ALEXA zone in your SHC admin console and then run a device discovery from Alexa:
1. Log in to the SHC admin console.

2. Go to "System/Zones" and add the intended device to your ALEXA zone.
3. Tell Alexa to find your devices.

8.10. Removing smart home devices

Temporarily

To remove a device temporarily from Alexa you can use the Alexa app:

- On your mobile:
  1. Log in to your Alexa app
  2. Click on "Devices" and choose the device you want to remove.
  3. Click on the settings icon on the top-right corner of the screen.
  4. Click on the delete icon on the top-right corner of the screen.

- On your browser:
  1. Log in to the Alexa app at https://alexa.amazon.com
  2. Click on "Smart home" on the left menu.
  3. Click on "Devices".
  4. Click on "Forget" for the device you want to remove.

This will delete your device only from the Alexa side. If you run a device discovery again, your device will still be in the Alexa zone on the SHC, so it will be found again. If you don't want to discover it again, you must delete it permanently.

Permanently

To remove a device permanently from Alexa you have to remove it from both sides: Alexa and SHC. Remove it from the zone in the SHC admin console and then remove it from Alexa:
  1. Log in to your SHC admin console.
  2. Go to System/Zones and remove the device from the zone.
  3. Remove the device from Alexa using your Alexa app:
- On your mobile:
  1. Log in to your Alexa app
  2. Click on "Devices" and choose the device you want to remove.
  3. Click on the settings icon on the top-right corner of the screen.
  4. Click on the delete icon on the top-right corner of the screen.

- On your browser:
  1. Log in to the Alexa app at https://alexa.amazon.com
  2. Click on "Smart home" on the left menu.
  3. Click on "Devices".
  4. Click on "Forget" for the device you want to remove.

8.11. Adding another Echo device

You can add more than one Echo device to your Alexa account and use them to control your xComfort devices at the same time.

To add another Echo device to you Alexa account:

- On your browser:
    1. Log in to the Alexa app at https://alexa.amazon.com
    2. Click on "Settings" on the left menu.
    3. Click on "Set up a new device".
    4. Follow the instructions on the screen according to the device you want to add.

8.12. Deactivating the functionality on your SHC

To deactivate the functionality, enter "xComfortAlexa_v1_deactivate" as coupon text in Web Admin and click the activate button.

8.13. Recommendations

Names of devices

The names of your devices should be different enough so that Alexa can distinguish them easily. For instance, avoid having two devices called "Bedroom" and "The Bedroom". It might also be a problem to have two devices called "Light Living Room" and "Temperature Living Room" and then use the German language to control them. Having two devices with very similar names might cause Alexa to take longer to reply to a command or it might also deduce the wrong device and reply that the device does not support that operation.

Try to name your devices in a way that their pronunciation would be understandable in the language you are using with Alexa. For example, if you're using English, try to name your devices in an English-friendly way, so that Alexa understands their names better.

Groups of devices

Avoid creating groups in the Alexa app with too many devices in it. If you issue a command, Alexa will have to receive a response from all the devices in the group within 8 seconds, otherwise it will report them as unresponsive.

8.14. FAQ

8.14.1. *How can I activate the Alexa functionality on my SHC?*

Follow the instructions from section 8.1 - *Activate the functionality on your SHC.*

8.14.2. *How can I deactivate the Alexa functionality on my SHC?*

To deactivate the Alexa functionality on your SHC, check section 8.12 - *Deactivating the functionality on your SHC.*

8.14.3. *Can I use an analog input with Alexa?*

Yes, but only if it is set as a temperature sensor in the admin console. Check Table 2 - *Device types in SHC and commands supported in Alexa* for a list of all the device types you can use.

8.14.4. *Can I add another Echo device?*

Yes, you can have more than one Echo device associated with your Alexa account. Check section 8.11 - *Adding another Echo device* for instructions on how to do it.

8.14.5.   *How can I add an xComfort device?*

Check section 8.9 - *Adding smart home devices* for how to add an xComfort device to Alexa.

8.14.6.   *How can I remove an xComfort device?*

Check section 8.10 - *Removing smart home devices* for how to remove an xComfort device from Alexa.

8.14.7.   *Can I talk to Alexa using my phone?*

Yes. Check section 8.8.3 - *Controlling your devices using your phone's microphone* for instructions on how to control Alexa using your phone.

8.14.8.   *Is there a way to control multiple xComfort devices all at once?*

Yes. You can create groups in Alexa and control the devices inside the group as if they were only one device. Check section 8.8.4 - *Groups.*

8.14.9.   *How can I solve an existing issue with Alexa?*

Check section *8.16 Troubleshooting Alexa* to find a solution for your issue. If you cannot find a solution for your issue, and the problem is SHC-related, please contact your Eaton support contact person. If the problem is Alexa-related, please contact Amazon Alexa support.

8.15. Known Issues

Responsiveness when issuing a command

Sometimes Alexa replies that the device is not responding, although the command executes successfully. This happens when it takes longer than 8 seconds to get an answer back to a command, which can happen for different reasons:
- a longer delay in authenticating and communicating with the different parts of the system
- using the Amazon infrastructure in the United States instead of Ireland according to how/where the user registered in Amazon
- having different devices with very similar names

Responsiveness using groups or shading in the app

The Alexa app will report the shading as unresponsive most of the time, although the commands for shading are executed normally.

If you use groups in the Alexa app with too many devices in the group, the Alexa app may report that the devices are unresponsive.

Alexa reports success for shading commands when Automatic mode is off

The automatic mode in shading needs to be on for shading to work correctly. If the automatic mode is off, the command will not be executed but Alexa will falsely report success.

8.16. Troubleshooting Alexa

8.16.1. *Alexa does not find a device when I tell her to find my devices*

If you told Alexa to find your devices before, and your device was found before, it will not be found again: Alexa only reports new devices found. You can remove your device from the list of found devices and then ask Alexa to find it again.

Also, your device must belong to one of the device types supported by the Alexa skill.

8.16.2. *I tell Alexa to find my devices again and she doesn't report any new devices*

Try repeating the discovery operation a few times.

Alexa only reports new devices found since the last discovery. If you want to force Alexa to find the devices she already knew before, you need to remove them by going to your Alexa app, clicking on the *Smart Home* tab, *Devices*, and *Forget* either a specific one or *Forget All* to remove all of them. Then you can tell Alexa to find your devices again and she will report all the devices that she is able to handle in the ALEXA zone.

If Alexa cannot find your devices, you can also try to add a new device to the zone temporarily, ask Alexa to find your devices again, and then remove your temporary device from the zone.

8.16.3. *Alexa replies that my device does not support this command*

You can only use the device commands listed in Table 3 - Available Alexa Commands. If you a command that is not supported, Alexa will reply that the device does not support it.

Also, if you have devices or groups with very similar names, Alexa might deduce the wrong device and reply that the device she understood (not the one you intended) does not support that operation. Check if you have devices or groups with similar names (Living room vs. Light living room) and rename it to make them different or specific enough (Living room light vs. Living room temperature).

8.16.4. *Alexa always takes too long to execute a command to one specific device*

Check if you have other devices or groups with a similar name to that one and rename them to make them different or specific enough. For example, if you have a temperature sensor called "Kitchen" and there is an actuator called "Kitchen light", rename them to "Kitchen temperature" and "Kitchen light".

8.16.5. *Shading is not working for me*

Make sure you have the auto mode on, as shading needs to be set to automatic mode to work with Alexa. Check section 8.7 - *Shading* for instructions on how to do it.

8.16.6. *The Alexa app says "server unresponsive" for all my devices*

Check if you have the devices duplicated in Alexa:
1. Log in to http://alexa.amazon.com
2. Click on "Smart Home -> Devices". If you can see the devices duplicated here, that is the likely reason for the issue.
3. Click on "Forget all".
4. Click on "Discover".

Alexa will find the new devices and then you will be able to control them again.

8.16.7. *I can see devices duplicated in Alexa*

If you see devices duplicated in Alexa, you should delete them and discover them again, as this might prevent you from controlling them correctly.
To do that:
1. Log in to http://alexa.amazon.com
2. Click on "Smart Home -> Devices". You can confirm here that the devices are duplicated.
3. Click on "Forget all".
4. Click on "Discover".

Alexa will find the new devices and then you will be able to control them as usual.

8.16.8. *Alexa says "Sorry, the hub that device <your device> connected to is not responding. Please check its network connection and power supply."*

Try repeating the account linking process.

9. Good to know

This chapter contains additional information about the system setup and configurations.

Good to know:
- Use the MRF project topology to define rooms/Zones. This can be directly used to define the SHC Zones.
- Functionality in Zones are based on the installed Devices per Zone. Make a plan of the needed functionality and components per Zone.
- The SHC Device names, configurations and interfaces (ECIs) can be directly configured in MRF (SHC settings screen).

9.1. Create a SHC MRF Project

xComfort MRF Project installation steps:
1. Make a plan of all the functionality in Zones needed. For example:
   a. Control your lights by Scenes buttons.
   b. Use the planner to control your lights by time.

c. Use Macros to control your lights by events and conditions.
d. Connect and control shutters or shading if present.
e. Control the temperature of a room if possible.
f. Make use of cameras if needed. Check which vendors are supported.
2. Open the MRF tool and create a MRF project.
3. Scan the network for xComfort Devices.
4. Configure the Device settings if needed. For example:
   a. Door (switch) actuator: Function: Off / On with switch off delay.
   b. Shutter actuator: Runtime.
   c. Dimming actuator: Dimming time, dimming limits.
   d. Binary inputs: Mode 2, cyclic sending.
   e. Analog inputs: 0 – 10V, cyclic sending.
   f. Temperature sensors: Send temperature value, cyclic sending. By default the Climate function expects within every hour a temperature value. Set cyclic sending value to 55 minutes.
   g. Room Controller: Send temperature value, send humidity value, cyclic sending. By default the Climate function expects within every hour a temperature value. Set the protection timeout in the Climate function to 6 hours. See chapter **7.2 Climate Function**.
5. Connect the needed xComfort Devices to the Smart Home Controller.
6. Specify a clear name for each Device.
7. Scan reception quality of all devices. Calculate and check all connections.
8. Load the configuration into the devices.
9. Open settings of the Smart Home Controller.
10. Import the project topology as Zones and remove Zones not used.
11. Select the Zone one by one and add the applicable Devices to this Zone.
12. Per Device set the SHC name and Device function.
13. Export the SHC Configuration and import this in the Smart Home Controller.
14. Save project.

9.2. How to save the SHC Configuration in MRF Project

Follow these steps to synchronize the SHC Zones and Device configuration with the original used MRF project.
Also all additional configurations like Macros, Planner programs, cameras and system configurations will be saved in the project.
1. Export the SHC configuration (Always keep this file to be able to restore the SHC configuration).
2. Open the original used MRF Project for your SHC in the new **MRF V2.42** or higher.
3. Right-click on the SHC Icon and select: **Settings**
4. Navigate to **Devices & Zones** and click: **Import Configuration**
5. Select the just exported SHC configuration file and click: **Open**
6. The SHC configuration is imported and you should see the zones and changes in device names and functions.
7. Click OK and Save the MRF project. The SHC configuration is now in sync with the MRF project.

Tip: Use now the MRF project to make changes to SHC Zones and Device configurations, export it and import it into the SHC.

9.3. How to get a reliable status indication in the xComfort network (old type actuators)

The Smart Home Controller maintains the status information of known xComfort sensors and actuators in the xComfort network. Status information is used by Functions to present it to the User or to use it in their controls (for example in Macros).
Sensor values are always received directly from the xComfort network. This will never be a problem unless the sensor is out of reach, defect or the battery is empty.
For actuators this is different. Actuator status information is maintained in two ways:
1. The Smart Home Controller sends a command to the actuator. The status will be maintained by the controller itself.
2. The Actuator sends a status update to the Smart Home Controller. The status will be updated according this status update information.

To maintain the correct status of the (old) actuators it is important to connect all xComfort actuators directly to the Smart Home Controller or an ECI via MRF. Use for larger xComfort networks always extra ECIs.

⚠ **ATTENTION! In large installations the status of (old) actuators could be wrong due to heavy RF traffic. Use the new generation actuators with Extended Status Messaging support to increase the status reliability at hot spots.**

9.3.1. *The status of the sensors is not shown?*

The status of a sensor is not shown in the following situations:
- After a power up of the Smart Home Controller and no status is received yet.
- The sensor is not configured properly. Check this with MRF.
- The sensor is out of reach. Check this with MRF.
- If the battery is empty. Replace the battery.

9.3.2. *The status of the actuator is not correct?*

The status of an actuator is not correct in the following situations:
- After a power up of the Smart Home Controller and no actuator command is send or received.
- The actuator is not directly connected to the Smart Home Controller or ECI, but uses an indirect connection via a router. Reconfigure the network via MRF.
- The actuator status message to the Smart Home Controller is lost.
- The actuator is out of reach. Check this with MRF.

9.4. How to use: Scenes, Macros and Planner

The Smart Home Controller supports a general event driven mechanism to automate the control of functions and xComfort Devices. With the Scenes, Macros and Planner functionality, a lot of automation is possible.

⚠ **ATTENTION! Please understand the event mechanism before you think "Who did that?".**

9.4.1. *The event mechanism*

The whole System works event driven.
In general:

- The Planner can send time based Planner events to all eunctions in all Zones.
- Functions can send and receive xComfort Device events within their Zone.
- The Macro and Scene function can also send function events to all functions in all Zones.
- Only the Macro function can send SMS and email notification events.

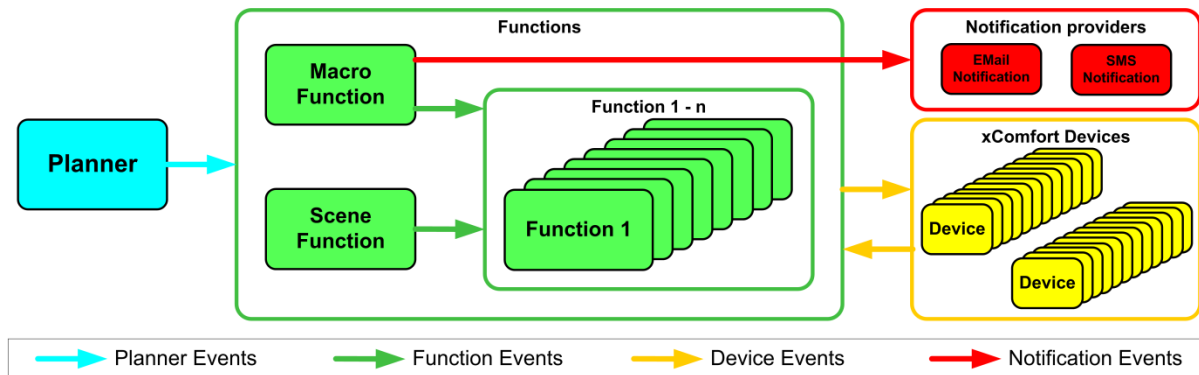Below you will find an overview of the possible event control flows in the system in Figure 7: Event Control flow.

Figure 7: Event Control flow

The following types of event control flows are possible in the system:

Planner events

Use the Planner to schedule Planner events to control functions based on time. The Planner supports the following event types: date, time, time period, sunset, sunrise
Supported Planner events (based on function), like:

- Scene function: Trigger Scenes
- Macro function: Enable, disable, and trigger Macros
- Climate function: Switch to a mode: Comfort, Economy, Standby, off.
- Shading function: Open, close, stop and sensor mode on/off
- Status and Control function: Commands to xComfort Devices

Some functions will block planner events if they are not in auto mode!

Function events

Like the Planner, the Scene and Macro function can also send function events to all functions (also to themselves). Functions can provide other type of function event controls to functions then to the Planner.
Supported function events (based on function), like:

- Scene function: Trigger Scenes
- Macro function: Enable, disable, and trigger Macros
- Climate function: Switch to a Mode: Comfort, Economy, Standby, off.
- Shading function: Open, close and ctop.

- Status and Control function: Commands to xComfort Devices
- Switch function auto mode: Auto, manual

Device events

Each function can send and receive xComfort Device events based on their specific functionality and support of Devices. Only the Scene function, the Macro function and the Status Control function support almost all xComfort Device events, which the User can program.

Notification events

Only the Macro function supports notification events to be send as an action.
Supported notification events:
- SMS (ia a Clickatell account, based on credits)
- Email
- APN
- FCM

9.4.2. *Best way to use Scenes and Macros*

Almost all controls can be defined by Scenes. A Scene is also directly available to the User as a Scene button. Use a Macro to define actions triggered by sensor events.
Best practice:
- Define the most used scenarios for light actuators, dimming actuators and shutter actuators in Scenes per Zone.
- Define general scenes in a Zone to trigger other Scenes (wake up, sleep) in different Zones or to set functions (Climate, Shading) in a specific mode (auto, manual) in different Zones.
- Assign push buttons (Hallway, Stairway) to Scenes to trigger a scenario directly.
- Define a Macro if still needed. For example the night orientation in hallways can be created by using a motion sensor to switch on the lights for some time during the night.

10. Troubleshooting

The xComfort Smart Home Controller (SHC) is an intelligent device. A good working xComfort Smart Home Controller system depends on the xComfort installation itself, the MRF configuration, the SHC setup and the SHC configurations. In most cases possible issues can be recognized and also solved very easily.

This chapter contains information and instructions to solve problems. Consult also the latest FAQ to find answers to questions www.eaton.eu/xcomfort

10.1. First check (Most important)

Besides the SHC should be running and connected to the internet. Always update to the latest release before starting to investigate issues. New releases contain fixes for known issues. Always make a backup of the configuration and history file first!

#	🖉	Check	Action
1	☐	🟢⏻ Is the Power LED blinking green?	Power LED is red: Power-off the SHC for 5 minutes Power LED stays red: Replace the SHC! Power LED is off or unstable: Replace the power adapter

			Power LED is orange: Wait until the SHC is started (> 1hours) Power LED stays orange after one hour: Replace the SHC!
2	☐	⊞🟢 Diagnostics: Is the Network Icon green?	Network Icon is green: Eaton Server connected. Go to step 4 Network Icon is orange: Internet ok. Activate SHC. Go to step 3 Network Icon is red: Solve the internet connection (local network have no internet access)
3	☐	Is the (Global) Remote Access enabled?	Enable the Global Remote Access: Menu: System - RemoteAccess Enable the Remote for User admin: Menu: System - Users
3a	☐	Initial Activation Key is: SHC-980284010000?	Replace the SHC!
4	☐	Is the SHC software version up-to-date?	Update button is available: click update (after update actualize the browser screen e.g. press F5)
5	☐	Is the OS version up-to-date?	Update button is available: click update
6	☐	Is the RF Module firmware version up-to-date?	Update button is available: click update If version is "undefined": Restart the SHC, stays the RF Module on undefined – Replace the SHC!
6a	☐	📡🟢 Diagnostics: Is the RF Icon green?	RF Icon is red: Power-off the SHC for 5 minutes RF Icon stays red: Replace the SHC! RF Icon is green: Go to Basic Health Check

10.2. Basic Health check

Follow this checklist until the problem is solved. Always make a backup of the configuration and history file first!

#	✎	Check	Action
1	☐	MRF: Are all changes loaded into the Devices?	Click the Icon "Load changes" in the top menu bar
2	☐	Problem with devices connected to an ECI?	If not, import Data Points
2a	☐	ECI(s) correctly powered?	Check if each ECI is powered
2b	☐	ECI(s) correctly connected to the network?	Check if each ECI is available on the network
2c	☐	ECI(s) correctly configured in the SHC?	Check each ECI interface configuration (e.g. IP address)
3	☐	Problems started after configuration changes?	Restore previous configuration
4	☐	Is your question answered by the SHC FAQ - check www.eaton.eu/xcomfort ?	Provide the Smart Home Controller Issue report (contact your supplier or the local Eaton organization)

10.3. LED Indicators on the Smart Home Controller Box

Power LED:
- o   Green blinking: Power ON, the System is operational.
- o   Orange blinking: The System is booting.

Network Connection LED:
- o   Green: Remote Server Connection.
- o   Orange: Internet connection. The SHC is not activated yet.
- o   Red: No Internet connection. Check your internet connection via a PC or laptop.

RF Traffic LED:
- o   Blinking Green: RF traffic.

System Message LED:
- o   Green: There are no new messages in the Mailbox.

- o Yellow: New Warning Message in the Mailbox.
- o Red: New Error Messages in the Mailbox.

Battery Status LED
- o Green: All batteries are OK.
- o Yellow: At least one battery is weak. Consider to replace batteries.
- o Red: At least one battery one battery is very weak or empty. Replace batteries.

10.4. How to restore the default admin password

This symbol indicates the recovery button on the Smart Home Controller box. Use a small pin to access this button.

Press the button on the Smart Home Controller for 15 seconds (power LED flashes green and will finally change to orange), system will reboot. Wait until the LED is blinking green. Also the network settings will be set to DHCP.

10.5. How to restore the SHC network settings

This symbol indicates the recovery button on the Smart Home Controller box. Use a small pin to access this button.

Press the button on the Smart Home Controller for 15 seconds (power LED flashes green and will finally change to orange), system will reboot. Wait until the LED is blinking green. Also the admin password is set to default.

10.6. How to do a SHC recovery from SD card

This symbol indicates the recovery button on the Smart Home Controller box. Use a small pin to access this button.

Use this procedure only to do a complete recovery from SD card. All software will be overwritten and set to default. Please backup your settings as they will be lost during recovery process. Disconnect the power supply, insert the Eaton micro SD card, during reconnecting the power supply - keep the button pressed for ~ 3 sec till the power LED switches from orange to red. The flashing red power LED indicates the update process. Make sure the power supply is not disconnected and the SD card is not removed. System will reboot when finished. Wait until the Power LED starts to blinking green and restore the saved configurations.
In case of a failed recovery process, all LEDs will flash red and please contact your Eaton support contact person.
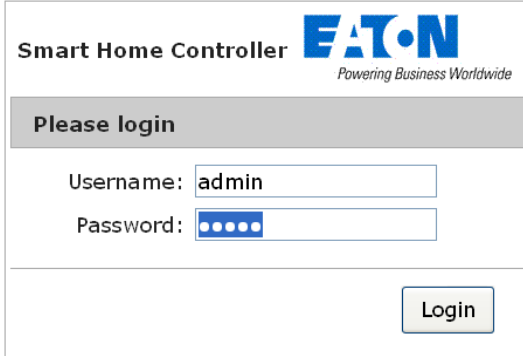
10.7. Ways to recover the SHC

The Smart Home Controller can be recovered in the following ways:
- Power Off the System by removing the power plug for 1 minute and reconnect.
- Reboot the Smart Home Controller via the Web Admin Console.

- Set the Smart Home Controller back to factory settings. Reconfigure everything.
- Reset internal RF Module password and datapoint list. Use MRF to reprogram.

10.8. *How to connect to the SHC Web Admin Console via address*

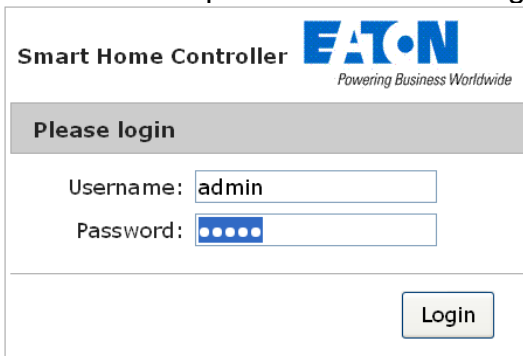1. Open a browser
2. Open the login page: `http://<address>`:

3. Login with:
   - Username: `admin`
   - Password: `admin`
4. The Web Admin Console is available

On login the change of default password is required. Use at least 8 characters, at least 1 capital letter, at least 1 small letter and at least 1 number.

10.9. *How to connect to the SHC Web Admin Console via Bonjour (MAC)*

1. Open: Safari
2. Click the Bookmark icon:
3. Select Bonjour:
4. Double click Bookmark: Smart Home Controller
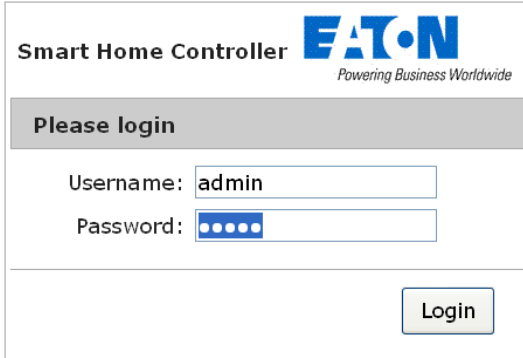5. The browser opens and show the login page:

6. Login with:
   - Username: `admin`
   - Password: `admin`
7. The Web Admin Console is available

On login the change of default password is required. Use at least 8 characters, at least 1 capital letter, at least 1 small letter and at least 1 number.

10.10. How to connect to the SHC Web Admin Console via UPnP (Windows)

1. Open My Network Places:
2. Double click link: Smart Home Controller
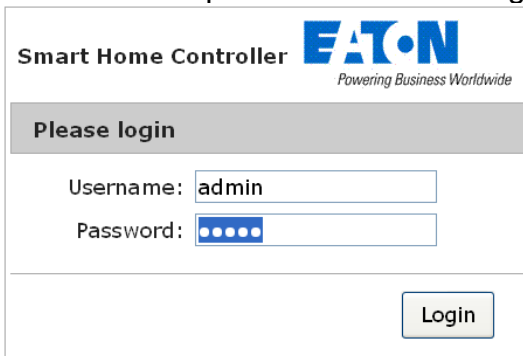3. The browser opens and show the login page:

4. Login with:
   - Username: **admin**
   - Password: **admin**
5. The Web Admin Console is available

On login the change of default password is required. Use at least 8 characters, at least 1 capital letter, at least 1 small letter and at least 1 number.

10.11. How to connect to the SHC Web Admin Console via MRF

1. Open MRF and right-click on the SHC:
2. Select Check IP-address
3. Click on the address
4. The browser opens and show the login page:

5. Login with:
   - Username: **admin**
   - Password: **admin**
6. The Web Admin Console is available

On login the change of default password is required. Use at least 8 characters, at least 1 capital letter, at least 1 small letter and at least 1 number.

10.12. Default admin password?

The default password for admin is admin.

On login the change of default password is required. Use at least 8 characters, at least 1 capital letter, at least 1 small letter and at least 1 number.