# Lithernet - Casambi Gateway v4.35

User Manual
Revision: 10.12.2023

# Table of contents

# 1. Hardware



The device has only one connection for network (RJ-45). The power is supplied via POE.

The gateway consumes one address in the Casambi network.

There are 4 LEDs on the front panel for status indication.

## 1.1. LED Status Display



The module has 4 LEDs on the front. From bottom to top:

1) Operating LED - flashes green regularly (1 second)
2) Network status - lights up yellow when the network is plugged in
3) UDP LED - Lights up red when there is no UDP connection, green when one is established
4) TCP / IP LED - Lights up red when there is no TCP / IP connection, green when one has been opened

The LEDs can also be switched off in the software.

When the device is set to identify mode via the surface, the LEDs 2-4 start to flash in ascending and descending order for 10 seconds.

The LEDs with the numbers 3 and 4 can take up to 60s to display the status after a restart.

## 1.2. Hardware Revision

## 1.2.1. Hardware Revision 0

**Hardware Revision 0**

Supports firmware versions 1.XX with "_REV0" in the name.

## 1.2.2. Hardware Revision 1

**Hardware Revision 1**

Supports firmware versions 1.XX and 2.XX as well as 3.XX with "_REV1" in the name.




On the type plate recognizable by the "01-XXXXX" to begin.

## 1.2.3. Hardware Revision 2.X

**Hardware Revision 2**

Supports firmware versions 3.XX and 4.XX with "_REV2" in the name.
A corresponding profile (REV_2) can be selected via the Casambi app.

**Hardware Revision 2**.5

Hardware is identical to revision 2, but there are adjustments in the Casambi profiles that make a further distinction necessary.
Only firmware version 4.XX with "_REV2.5" in the name is supported.
A corresponding profile (REV_2.5) can be selected via the Casambi app.

A REV_2 device can be changed to a version 2.5 device at any time and vice versa.

**Characteristics of revision 2.X**
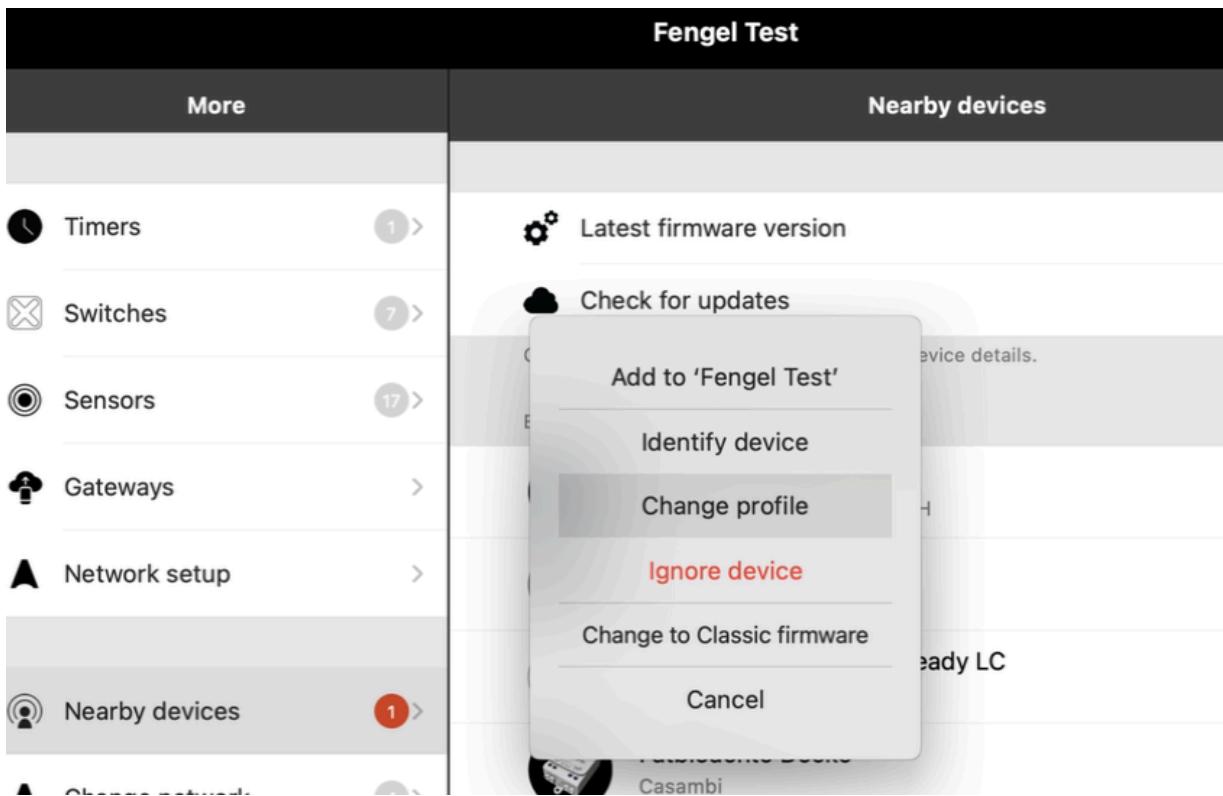


On the type plate recognizable by the "02-XXXXX" to begin.

## 1.2.3.1. Upgrading from REV_2 to REV2.5
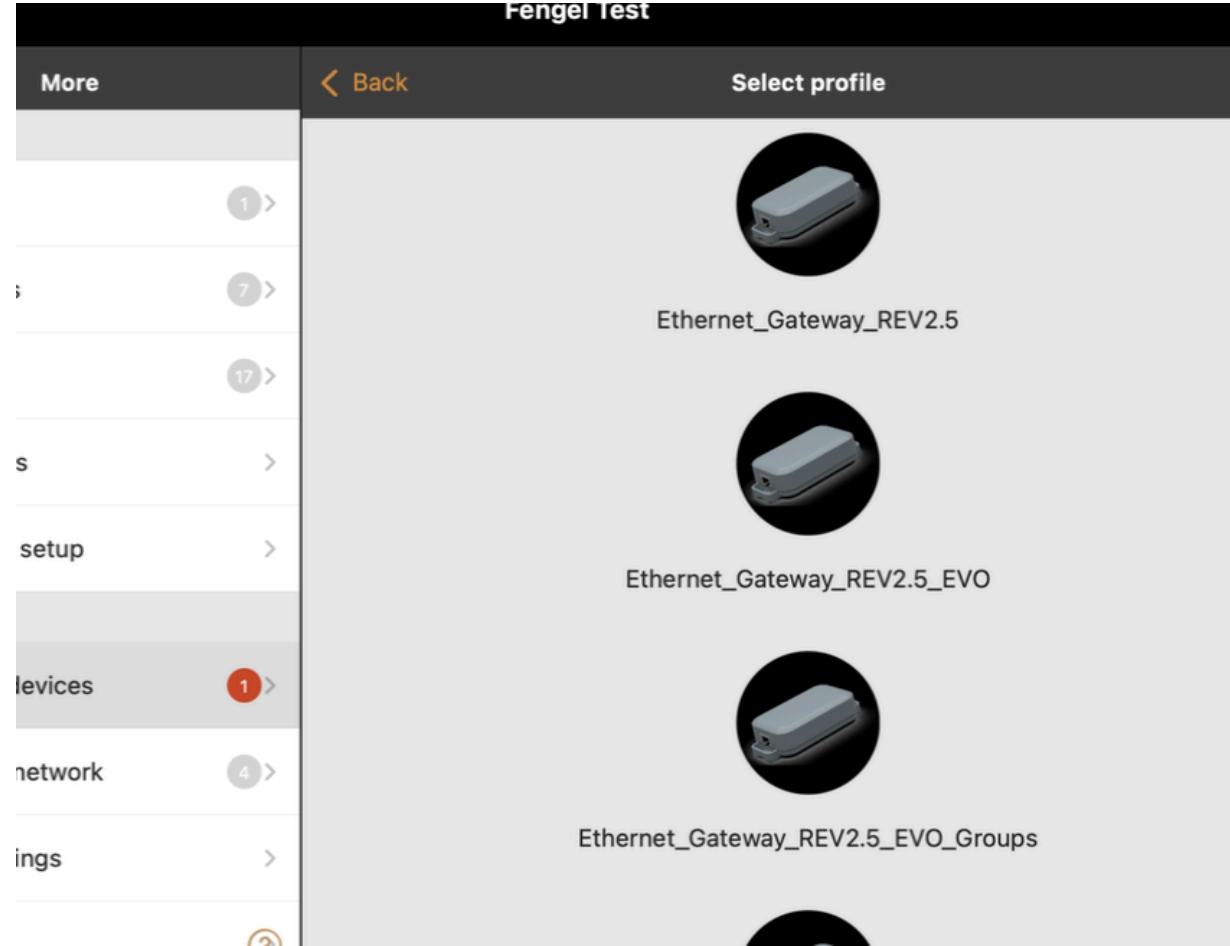
The gateway is selected on the nearby devices page. It must then be unpaired if it is already connected to a network.
Once this has been done, the profile can be changed with "Change profile".



There are several profiles to choose from. It is important to select one that ends with "_REV2.5".

After the update, the device can be paired with the network again.

The firmware of the device must then be updated to a "REV2.5" firmware via the website.

If everything went correctly, the correctly selected profile can now be found on the website under Casambi Settings under Profile.
If there is still something wrong there, use "Refresh Casambi Info" to query the data from the Casambi module again.
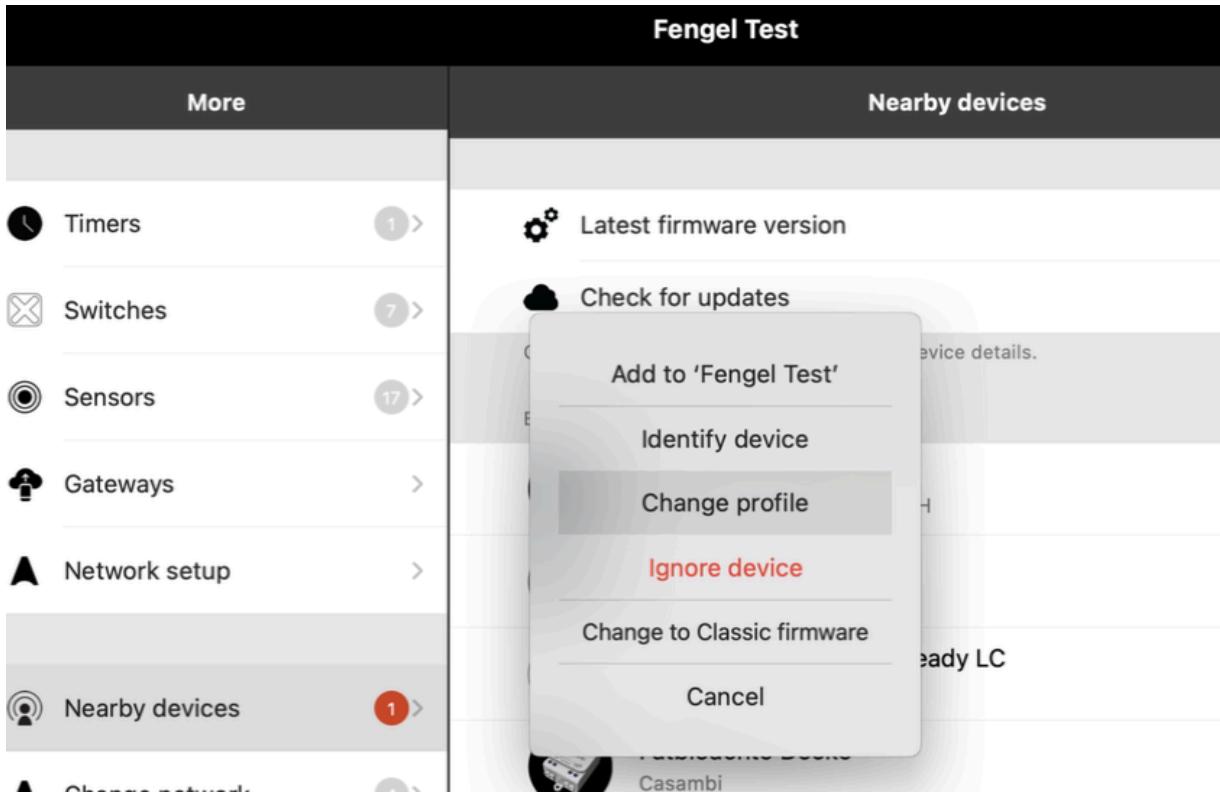
┌─ Casambi Settings ─────────────────────────────────────────────────┐

| | |
|---|---|
| Casambi Version | 40.84 |
| Profile | Ethernet_Gateway_REV2.5 |
| Casambi Network | paired |
| Polling Method | active ⌄ |

| Save |
|---|
| Refresh Casambi Info |

## 1.2.3.2. Downgrade from REV_2.5 to REV_2

The gateway is selected on the nearby devices page. It must then be unpaired if
it is already connected to a network.
Once this has been done, the profile can be changed with "Change profile".



There are several profiles to choose from. It is important to select one that ends with "_REV2".

| Timers | 1 > |
| Switches | 7 > |
| Sensors | 17 > |
| Gateways | > |
| Network setup | > |
| Nearby devices | > |
| Change network | 4 > |
| App settings | > |

Ethernet_Gateway_REV2

Ethernet_Gateway_REV2.5_EVO

Ethernet_Gateway_REV2.5_EVO_Groups

After the update, the device can be paired with the network again.

The firmware of the device must then be updated to a "REV2" firmware via the website.

If everything went correctly, the correctly selected profile is now displayed on the website under Casambi Settings.
If there is still something wrong there, use "Refresh Casambi Info" to query the data from the Casambi module again
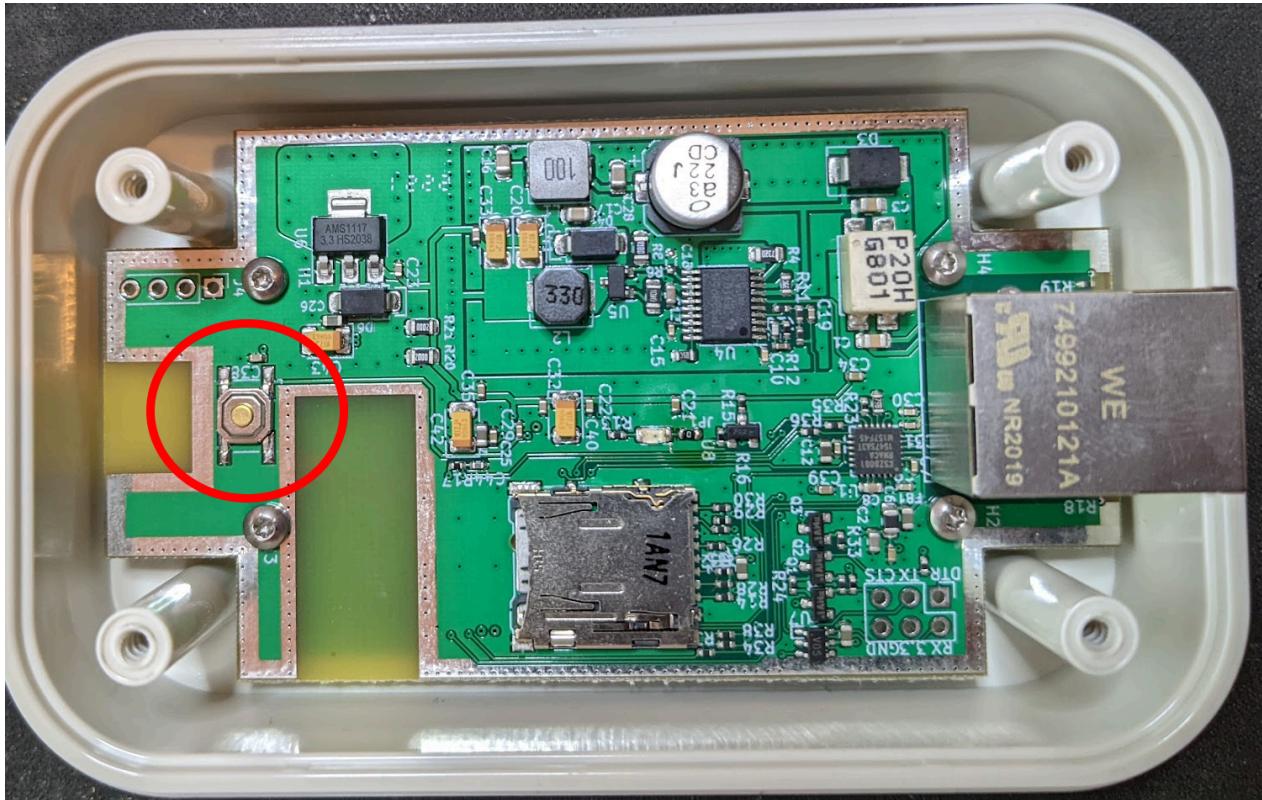
## 1.3. Watchdog

A watchdog runs in the gateway with a set time of 90s in order to restart the device automatically if necessary.

## 1.4. Reset Button

> ⓘ The hardware button is only functional from devices with manufacturing date > 03/2022.



There is a small push button on the circuit board. This can be reached by opening the 4 screws on the underside.

Depending on how long the button is pressed, different actions are performed.

> 0s and < 15s = LED test program
>15s and <30s = soft reset
> 30s = hard reset

With a soft reset, only the IP-> settings and the login data are set to factory settings.

With a hard reset, all settings are set to factory settings and the memory is also completely erased.

## 1.5. Conformity

## 1.5.1. Hardware Revision 1

**EC Declaration of Conformity**
Lichtmanufaktur Berlin GmbH hereby declares that the radio equipment type "Lithernet - Casambi Gateway" is in compliance with Directive 2014/53/EU.

The full text of the EU Declaration of Conformity is available at the following internet address: https://archiv.intelligent-lighting.de/index.php/s/XoR27GRkiMWLyeD

**UKCA**
The full text of the UKCA declaration of conformity is available at the following internet address: https://archiv.intelligent-lighting.de/index.php/s/wH7fddqRoGSK7dE

## 1.5.1. Hardware Revision 1

**EC Declaration of Conformity**
Lichtmanufaktur Berlin GmbH hereby declares that the radio equipment type "Lithernet - Casambi Gateway" is in compliance with Directive 2014/53/EU.

## 1.5.2. Hardware Revision 2

**EC Declaration of Conformity**
Currently being created. Device is still in beta test stage.

**UKCA**
Currently being created. Device is still in beta test stage.

## 1.6. Bluetooth module

⚠️ All information on this page relates only to the radio module used. Not the entire product.

The CBM-002A module from Casambi Oy is used as the Bluetooth module

The declaration of conformity for the radio module can be found at the following Internet address: https://casambi.com/static/datasheets/CBM-002-DoC.pdf

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

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

Contains FCC ID: 2ALA3-CBM002A

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This device complies with Industry Canada's licenseexempt RSSs. Operation is subject to the following two conditions:

(1) This device may not cause interference; and
(2) This device must accept any interference, including
interference that may cause undesired operation of the
device.

Le présent appareil est conforme aux CNR d'Industrie
Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

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

Contains IC: 22496-CBM002A

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| Compliance Information | | |
|---|---|---|
| Radio | USA | FCC Part 15 Subpart C |
| | FCC ID (CBM-002A): | 2ALA3-CBM002A |
| | FCC ID (CBM-002B): | 2ALA3-CBM002B |
| | Canada | RSS-247 |
| | IC (CBM-002A): | 22496-CBM002A |
| | IC (CBM-002B): | 22496-CBM002B |
| | Europe | ETSI EN 300 328 v2.1.1 |
| Environmental | RoHS | RoHS compilant |
| | REACH | REACH compilant |

## 1.6.1. Hardware Revision 0 und 1

⚠️ All information on this page refers only to the radio module used. Not to the complete product.

The Bluetooth module used is the CBM-002A module from Casambi Oy.

The declaration of conformity of the radio module can be found at the following Internet address: https://casambi.com/static/datasheets/CBM-002-DoC.pdf

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

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

Contains FCC ID: 2ALA3-CBM002A

---

This device complies with Industry Canada's licenseexempt RSSs. Operation is subject to the following two conditions:

(1) This device may not cause interference; and
(2) This device must accept any interference, including
interference that may cause undesired operation of the
device.

Le présent appareil est conforme aux CNR d'Industrie
Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions
suivantes:

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

Contains IC: 22496-CBM002A

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| Compliance Information | | |
|---|---|---|
| Radio | USA | FCC Part 15 Subpart C |
| | FCC ID (CBM-002A): | 2ALA3-CBM002A |
| | FCC ID (CBM-002B): | 2ALA3-CBM002B |
| | Canada | RSS-247 |
| | IC (CBM-002A): | 22496-CBM002A |
| | IC (CBM-002B): | 22496-CBM002B |
| | Europe | ETSI EN 300 328 v2.1.1 |
| Environmental | RoHS | RoHS compilant |
| | REACH | REACH compilant |

## 1.6.2. Hardware Revision 2

⚠️ All information on this page refers only to the radio module used. Not to the complete product.

The Bluetooth module used is the CBM-002B module from Casambi Oy.

The declaration of conformity of the radio module can be found at the following Internet address: https://f.hubspotusercontent40.net/hubfs/7177595/Data%20sheets/English/CBM-003/CBM-003_DoC_2022-01-14.pdf

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This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between equipment and receiver.

To comply with FCC RF exposure guidelines, the transmitter and your body must be separated from each other by a minimum of 20 cm and fully supported by the operating and installation configurations of the transmitter and its antenna(s).
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Contains FCC ID: 2ALA3-CBM003B

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This device complies with Industry Canada's licenseexempt RSSs. Operation is subject to the following two conditions:

(1) This device may not cause interference; and
(2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie
Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

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

The device has been evaluated as meeting general RF exposure requirements. To maintain compliance with RSS-102 radio frequency (RF) exposure guidelines, this equipment should be installed and operated with a minimum distance of 20 cm between the radiator (transmitter?) and your body.

Le dispositif de a été évalué à répondre général rf exposition exigence. Pour maintenir la conformité avec les directives d'exposition du RSS-102-Radio Fréquence (RF). Ce matériel doit être installé et exploité à une distance minimale de 20 cm entre le radiateur et votre corps.

Contains IC: 22496-CBM003B

## 1.7. Type label

## 1.7.1. Hardware Revision 1

There are 2 nameplates on the back of the device.

**Lithernet - Casambi Gateway**

**Licht Manufaktur Berlin GmbH**
**Stresemannstr.15**
**10963 Berlin**
**Germany**

Contains FCC ID: 2ALA3 - CBM002A
Contains IC: 22496 - CBM002A

CE
01-11/2022-00000500
UK CA

Here you can see in the barcode that:

01 : Litehrnet - Casambi Gateway Revision 1
41/2020: week and year of production in this case week 41 in 2020
00000001: Serial number of the device
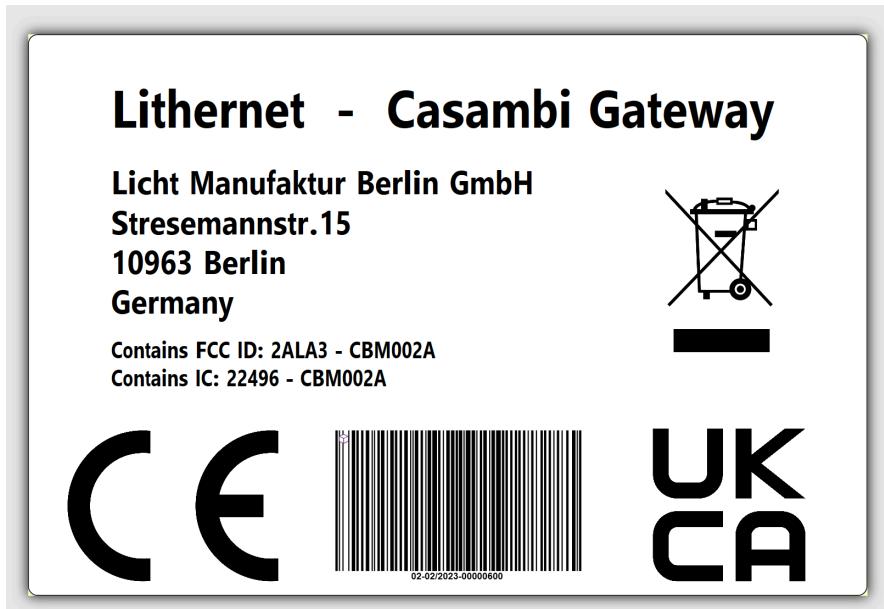
The second nameplate contains the information that must be present for the CBM-002 module installed:

**Contains FCC ID: 2ALA3 - CBM002A**
**Contains IC: 22496 - CBM002A**

## 1.7.2. Hardware Revision 2

There are 2 nameplates on the back of the device.

**Lithernet – Casambi Gateway**

**Licht Manufaktur Berlin GmbH**
**Stresemannstr.15**
**10963 Berlin**
**Germany**

Contains FCC ID: 2ALA3 – CBM002A
Contains IC: 22496 – CBM002A

CE  02-02/2023-00000600  UK CA
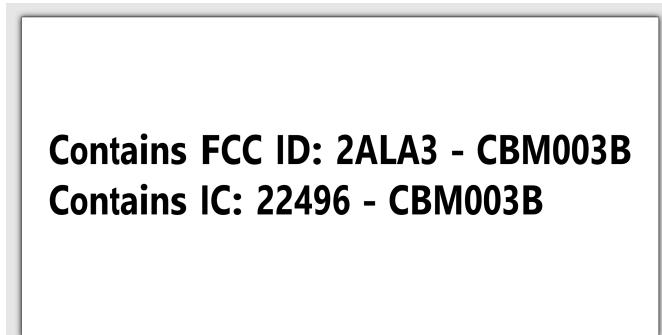
Here is recognizable in the barcode that:

02 : Litehrnet - Casambi Gateway Revision 2
41/2020: week and year of production in this case week 41 in 2020
00000001: Serial number of the device

The second nameplate contains the information that must be present for the installed CBM-003B module:

**Contains FCC ID: 2ALA3 – CBM003B**
**Contains IC: 22496 – CBM003B**

## 1.8. Firmware Version

There are currently 3 versions of the gateway firmware.

There is the firmware 1.XX, this is compatible with the Casambi Classic firmware and the Casambi Evolution firmware with a version lower than 33.22.

There is the firmware 2.XX, this is compatible with the Casambi Evolution firmware with a version greater or equal 33.22.

There is the firmware 3.XX, this is compatible with the Casambi Evolution firmware with a version greater than or equal to 34.50.

The firmware 4.XX is available, this is compatible with the Casambi Evolution firmware with a version greater than or equal to 39.50.

> ❗ The backup files of version 1.XX and 2.XX and 3.XX are not compatible with each other. In the event of an update, the device must be set up again.

> ❗ Between version 3.04 and 3.10 there were some memory adjustments. It could happen that an older backup will be not successfuly imported.

The system will show a warning if the Casambi firmware version does not match the gateway firmware version.

## 1.9. Software Librarys

Here is a list of the software libraries used by the Lithernet Casambi Gateway:

1) AsyncTCP-esphome
Version: 1.2.2
URL: https://github.com/esphome/AsyncTCP
Lizenz: LGPL-3.0 License

2) Async MQTT client for ESP8266 and ESP32
Version: 0.8.6
URL: https://github.com/OttoWinter/async-mqtt-client
Lizenz: MIT License

3) ArduinoJson
Version: 6.19.1
URL: https://github.com/bblanchon/ArduinoJson
Lizenz: MIT License

4) NeoPixelBus
Version: 2.7.7
URL: https://github.com/Makuna/NeoPixelBus
Lizenz: LGPL-3.0 License

5) Espressif32 Framework for Platformio
Versionn: 6.4.0
URL: https://github.com/platformio/platform-espressif32
Lizenz: Apache-2.0

6) eModbus
Versionn: 1.7.0
URL: https://github.com/eModbus/eModbus
Lizenz: MIT License

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Until version 3.16 the following library was still in use:

4) Adafruit NeoPixel Library
Version: 1.10.6
URL: https://github.com/adafruit/Adafruit_NeoPixel
Lizenz: LGPL-3.0 License
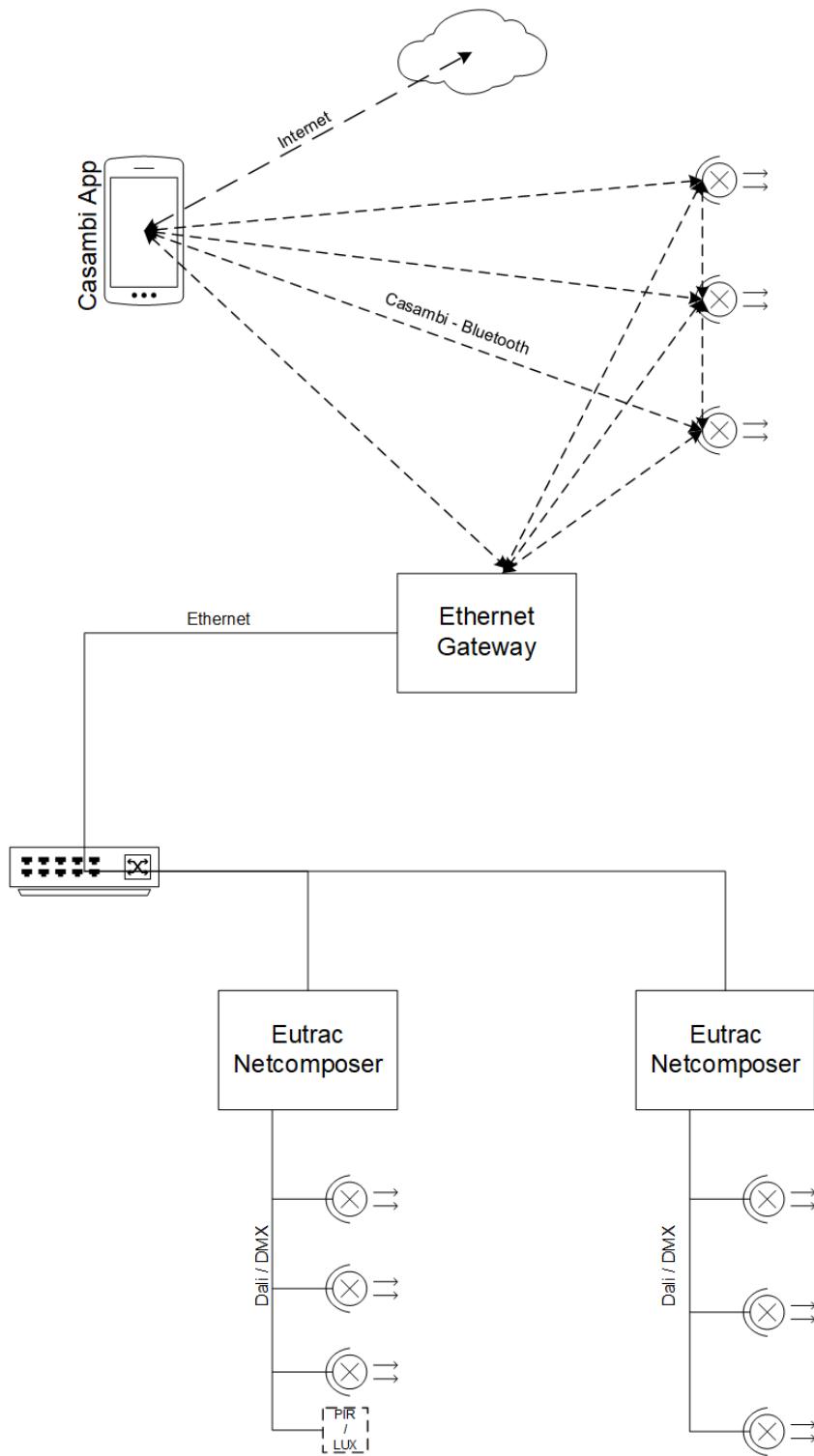
# 2. Areas of application

The Ethernet gateway can be used in various ways.

## 2.1. Gateway to an existing lighting control system (Netcomposer)



In this operating mode it is possible to establish a coupling to a system with the Eutrac Netcomposers.

It is possible to communicate bidirectionally between the two systems. A total of 32 triggers can be set in each direction per gateway.
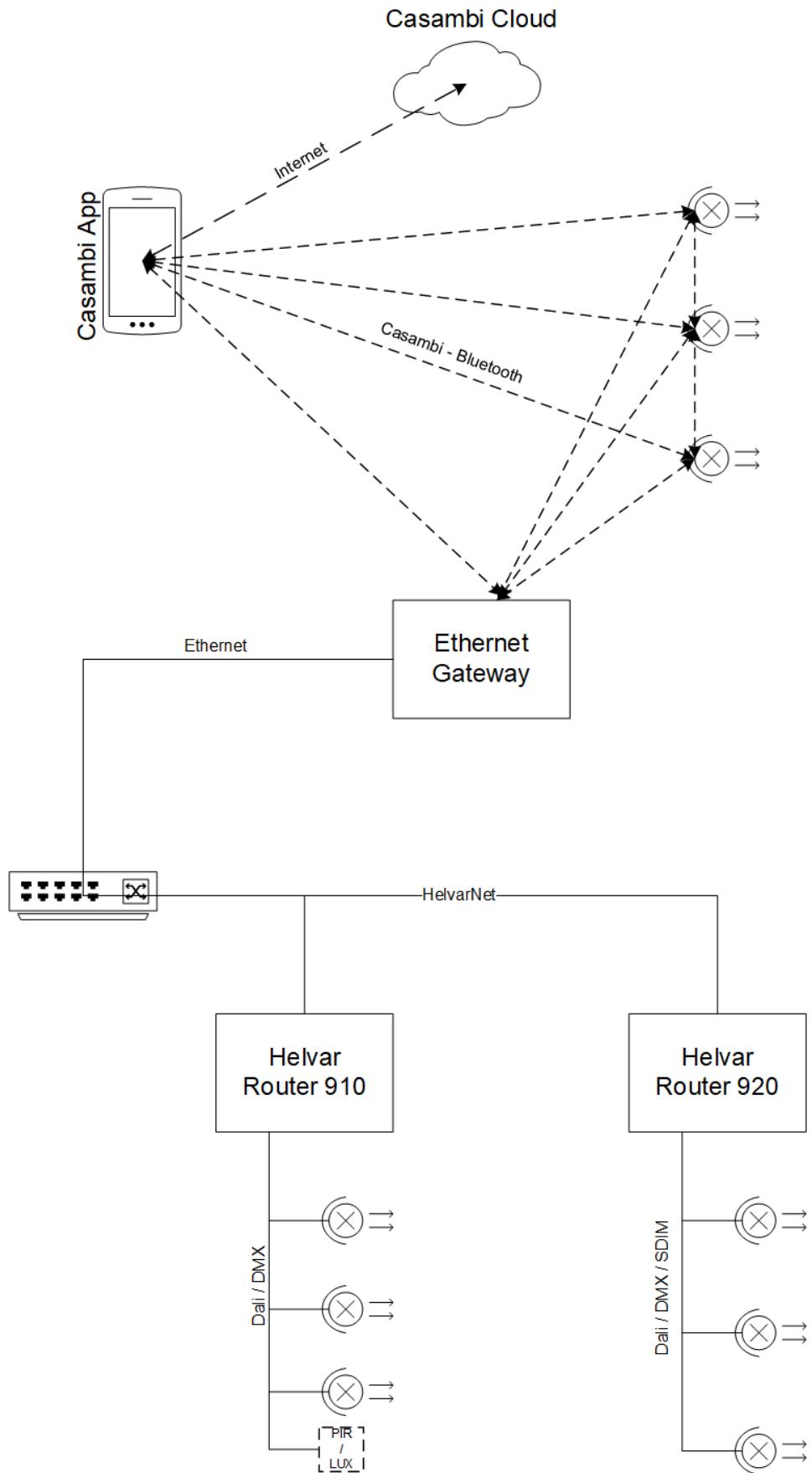
The programming uses a wizard, which simplifies the creation of the commands.

The operating mode to be selected here would be "Netcomposer".

The connection via Netcomposer is explained here: Protokolle/Netcomposer

Video: https://youtu.be/fxEkgmIicBc

## 2.2. Gateway to an existing lighting control system (Helvar)



In this operating mode it is possible to establish a coupling to a system with the Helvar router system.

It is possible to communicate bidirectionally between the two systems. A total of 32 triggers can be set in each direction per gateway.

The programming uses a wizard, which simplifies the creation of the commands.
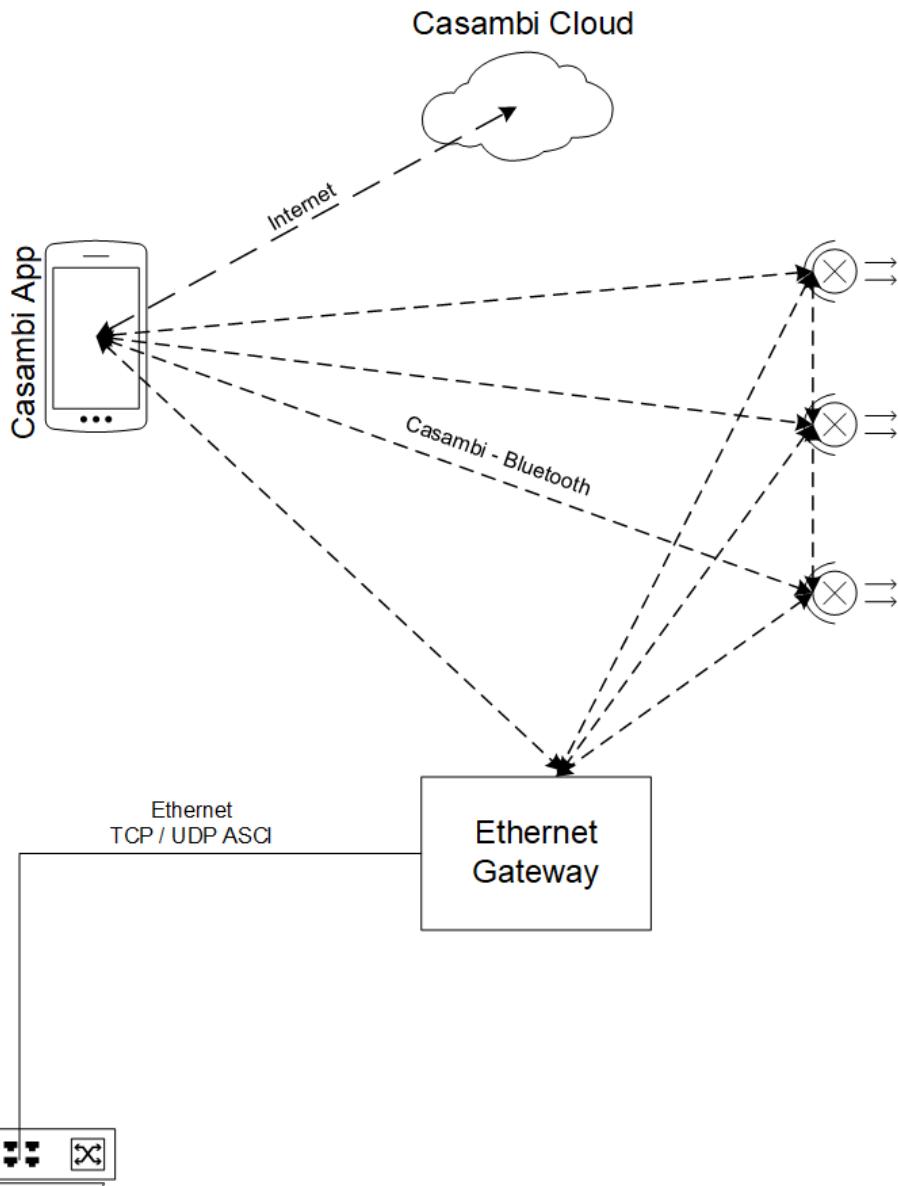
An IP address of a router must be specified as the destination of the connection.

The operating mode to choose would be here "HelvarNet (TCP)".

The connection via HelvarNet is explained here: Protokolle/HelvarNet

Video: https://youtu.be/Uu9n5WTbBqI

## 2.3. Gateway to a system using UDP or TCP (ASCII based commands)



In this operating mode it is possible to establish a link to a system that has not been defined in advance using UDP / TCP ASCII commands.

This could be e.g. media controls (Crestron, ...) or KNX systems where this integration is possible via network.

It is possible to communicate bidirectionally between the two systems. A total of 32 triggers can be set in each direction per gateway.

The operating mode to be selected here would be "UDP Free Messages" or "TCP Free Messages"
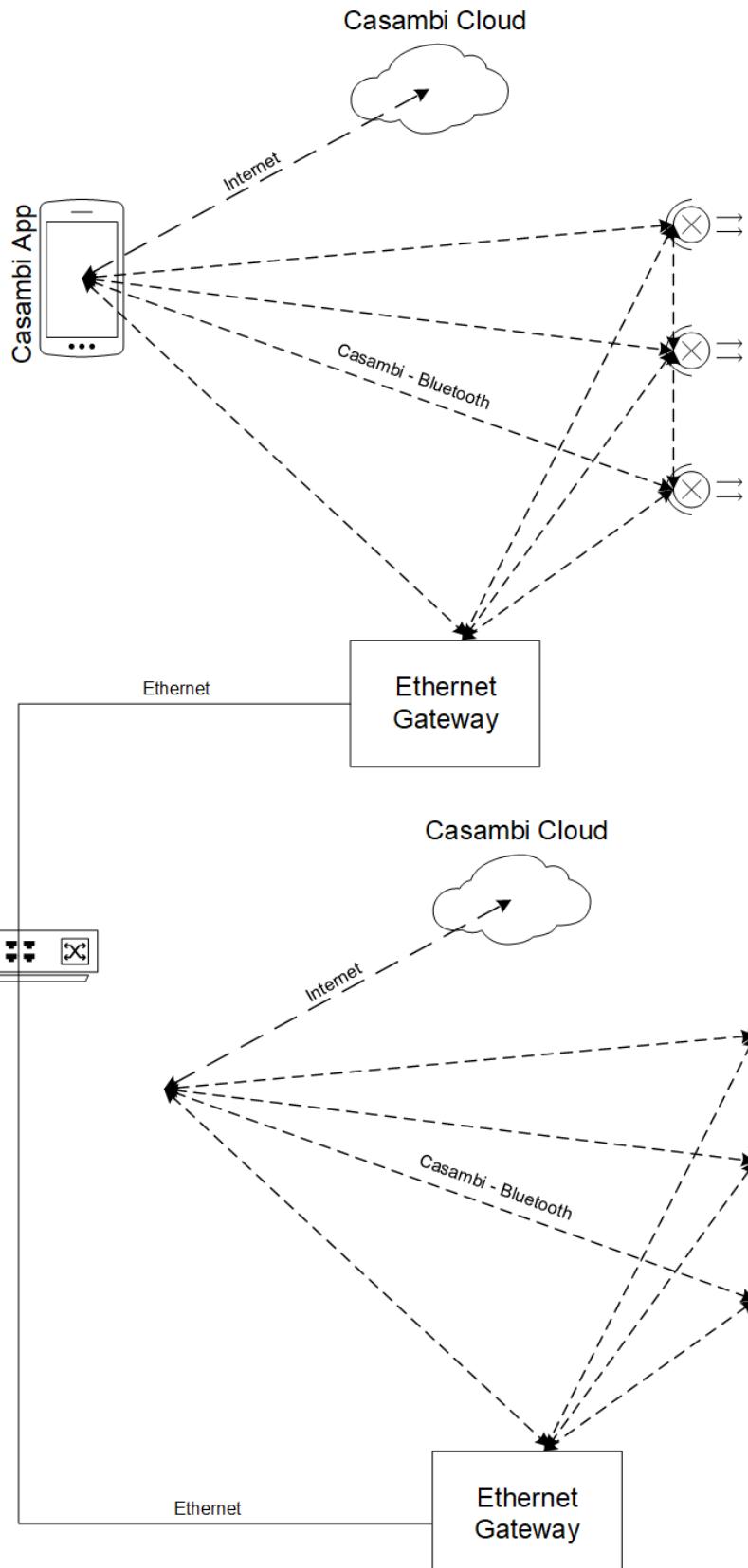
The connection via "UDP Free Messages" is explained here: "Protokolle/UDP Free Messages"
The connection via "TCP Free Messages" is explained here: "Protokolle/TCP Free Messages"

Video - Crestron: https://youtu.be/gpAQnBhzsz8
Video - KNX / Loxone: https://youtu.be/04bY2onxfj4

## 2.4. Bridge between individual Casambi networks



In this operating mode it is possible to connect several autarkic Casambi networks via the gateway.

It is possible to communicate bidirectionally between the two systems. A total of 32 triggers can be set in each direction per gateway.
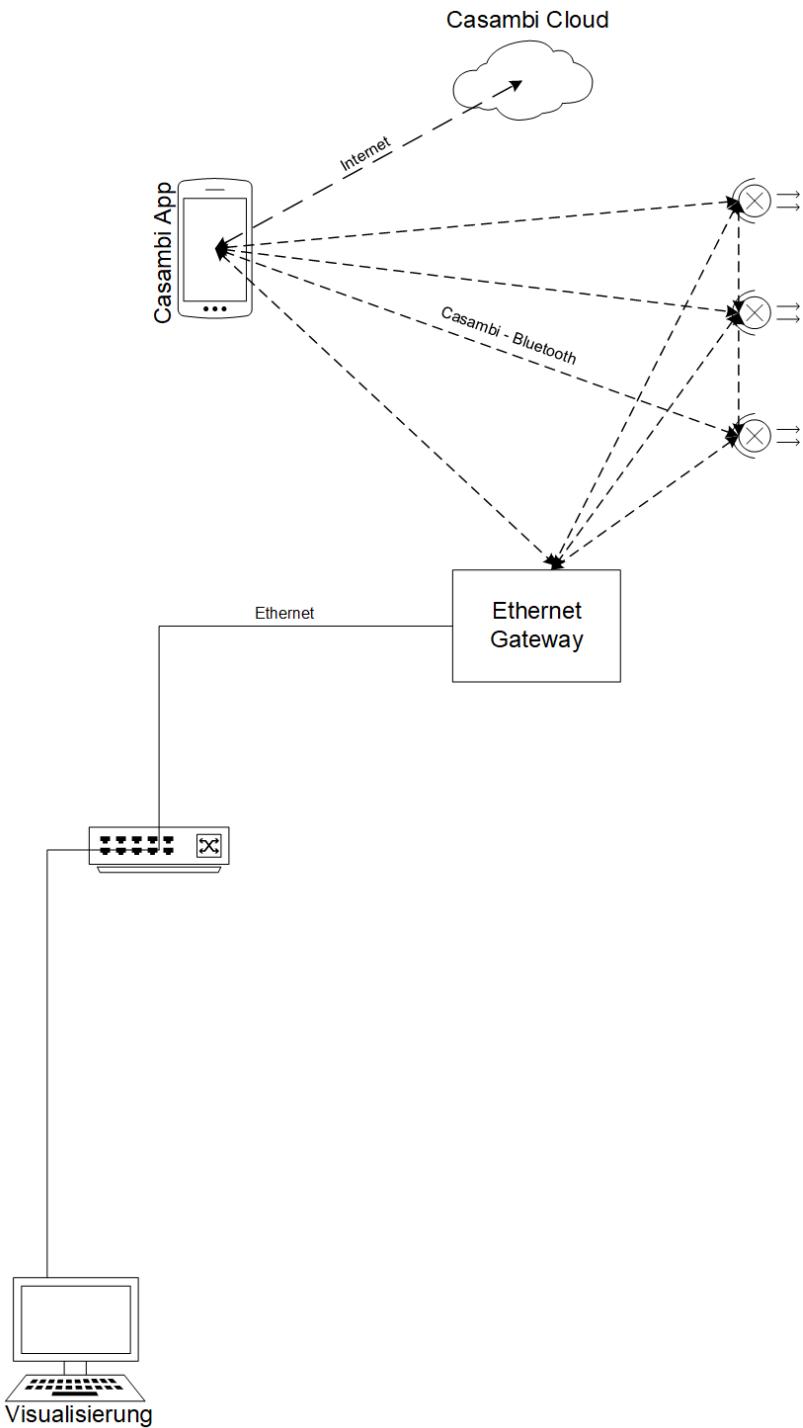
Of course, several gateways can also react to the same commands.

The gateways communicate with each other via UDP broadcast commands on a freely adjustable port.

The operating mode to choose would be here "UDP Casambi Bridge".

The connection via "UDP Casmabi Brige" is explained here: "Protokolle/Casambi Bridge"

## 2.5. Coupling to an existing evaluation system / visualization



In this operating mode it is possible directly via a gateway. Each gateway receives a BridgeID which makes it identifiable in the commands.

It is possible to communicate bidirectionally between the two systems. A total of 32 triggers can be set in each direction per gateway.

Of course, several gateways can also react to the same commands.
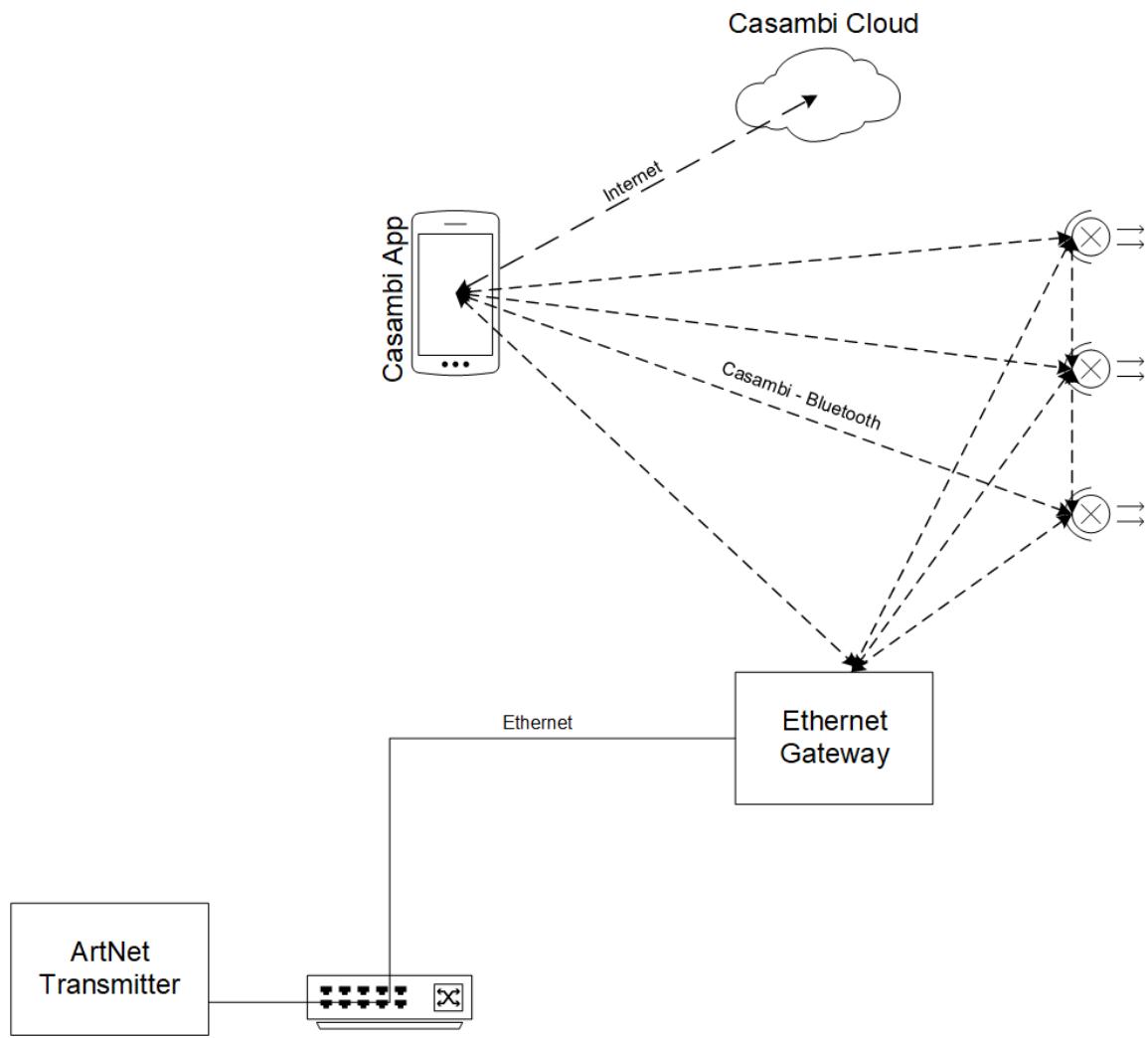
The gateways communicate with each other via UDP broadcast commands on a freely adjustable port.

The operating mode to choose would be here "UDP Casambi Command" or "TCP Casambi Command".

The connection via "UDP Casambi Command" is explained here: "Protocol-specific setting/UDP Casambi Command" or "Protocol-specific setting/TCP Casambi Command"

There are also demo programs that show you the connection and use on the evaluation page.

## 2.6. ArtNet gateway



In this operating mode it is possible to address the gateway directly with ArtNet commands.

It is possible to control 512 Casambi commands (scenes, groups,devices,broadcast) using ArtNet
The level is sent from the ArtNet to the Casambi system.

The operating mode to choose would be here "ArtNet (Input Only)".

Video: https://youtu.be/WNfn9LiD4Cw

The connection via ArNet is explained here: Protokolle/Artnet

## 2.7. BacNet/IP gateway

In this operating mode it is possible to address the gateway directly via BacNet/IP.

For this purpose, the number of devices to be controlled is transferred when setting up the protocol.

It can:
-Broadcast
- Equipment
- ungrouped devices
- Groups
- Scenes

in the values: brightness, scene, color temperature, fade time can be controlled.

The Casambi devices / groups are queried cyclically and the corresponding value is also made available in the BacNet in the event of a change.

A parameter-based system is available for special commands, with which many special commands can also be transmitted.

The commands are set via BacNet/IP and started using a "run" value.

Sensor data can also be reported directly to the Casambi system via BacNet.

> ⚠️ The commands Multiple_Write and Multiple_Read as well as Range are currently not supported. Segmentation is also not supported.

The operating mode to choose would be here BacNet/IP.

The connection via BacNet / IP is explained here: Protokolle/BacNet/IP

A modified version of the YABE software with faster timeout is available for download here: https://archiv.intelligent-lighting.de/index.php/s/wwF3SdELB5RGZxT

## 2.8. MQTT

In this operating mode it is possible to integrate the gateway directly via MQTT.

It is possible to send an unlimited number of commands to the Casambi system.

The Casambi system also reports back which scene has currently been called up.

Sensor data can also be reported directly to the Casambi system via MQTT.

Video:  https://youtu.be/KNUSViU-HsY

Node-RED  Flow: https://flows.nodered.org/flow/21bc268af8cbcfbfb0658c02868ae294

The operating mode to choose would be here MQTT.

The connection via MQTT is explained here: Protokolle/MQTT

## 2.9. Example implementations

**1) Demo programs for API Lithernet Casambi Gateway**
At the following URL we offer 2 test programs (including source code) that show how to use UDP to talk to the gateway in the "UDP Casambi Command" operating mode.

https://github.com/KLKG/Casambi_Gateway_API_Test

There is a program (UDP_Test) that cyclically queries all Casambi participants in a command line. Source code in C++.

The other program (UDP_WPF) is a C# application with a graphical interface. Other commands can also be sent here than just the cyclic query.

Both are demonstration programs and only show what is possible.

**2) Demo programs for different controlsystems**
At the following URL we offer sample programs for various control systems. Depending on demand, these will also be expanded.

https://archiv.intelligent-lighting.de/index.php/s/Xkr2mGYHZ4ttAYx

Currently there are:
1) Node Red
1.1) Node Red for communication with Casambi via MQTT. Including small surface
1.2) Node Red for communication with Steinel MQTT sensors. Includes small surface

2) Loxones
2.1) Communication with Loxone in "UDP Free Command" mode
2.2) Communication with Loxone via the "UDP Casambi Command" mode including value transfer of analog values

3) Crestron
3.1) Visualization + CP2 program for communication with Casambi in "Netcomposer"
3.2) Visualization + CP2 program for communication with Casambi in "UDP Casambi Command" including value transfer of analog values

4) ArtNet
4.1) File to send DMX commands to the gateway with the QLight ArtNet software.

**3) BacNet monitor and readout program**

Likewise under https://archiv.intelligent-lighting.de/index.php/s/Xkr2mGYHZ4ttAYxT in the folder BacNet a slightly modified version of the software YABE is available, where the timeout was shortened.
This allows a faster readout of the variables from our gateway.

# 3. Login

> From 2023, the devices will be delivered with version 3.14. In this version, the device is set to DHCP in the delivery state and uses a fallback IP of 192.168.1.90.

The settings that can be made on the gateway website are described here.

Up to version 3.14:
On delivery, the gateway is equipped with the address 192.168.1.90.

As of version 3.14:
On delivery, the gateway is set to DHCP. If there is no DHCP server available, the fallback IP 192.168.1.90 is used. It is not checked if the address is free.

With a web browser, you can now call up the IP address that the device has and get to the corresponding start page.

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### Casambi Ethernet Gateway - 3.10 - REV1

## Set Login Credentials

**Welcome**

Welcome to the Lithernet Casambi Gateway.

Please take a note of the login credentials you set here and the mac adress you see below.

Store these information in an safe place.

We cant recover your login details. If you forget the password you can do an full reset with the mac address.

For more details, take a look in the manual.

**MAC Address**

Mac        3C:71:BF:62:35:97

**User Management**

| Username | admin |
|----------|-------|
| Password |       |

| Continue |
|----------|

To continue, a user name and password must be set here.

The MAC of the device is also displayed at the top under "Mac Address". You should make a note of this and keep it.
With this you can reset the device in case of emergency.

The password is stored encrypted and can not be read out in plain text.

After pressing "Continue" you will get to a page that will redirect you to the settings page after a short time.

Translated with www.DeepL.com/Translator (free version)

## Casambi Ethernet Gateway - 3.10 - REV1
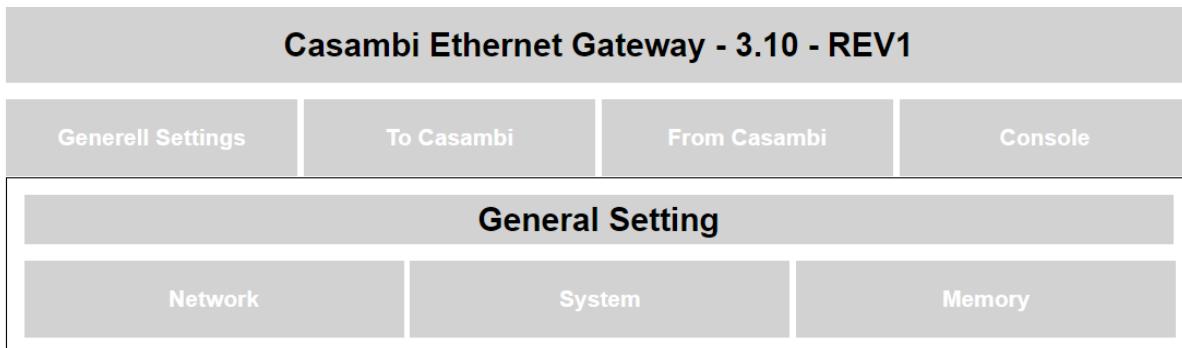
### General Setting

Warning!

Userdata set. Please Login. Redirect in 5s.

# 4. General setting

The basic settings can be made on this settings page.
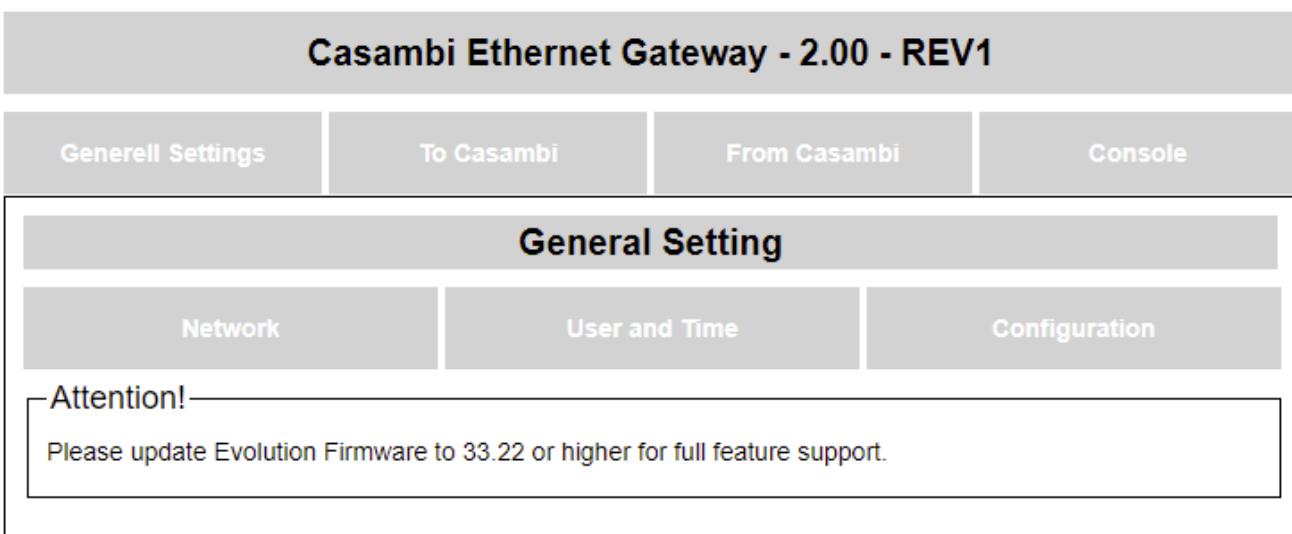


There are 3 subcategories. Network, System, Memory.

Network: Setting of all values that have something to do with the network.

System: All system related settings like "Control System", Casambi settings, time.

Memory: Firmware update, creating and importing backups and diagnostic settings.

## 4.1. Firmware warning



This warning message appears if the Casambi firmware is smaller than the one needed for all functions. If this is the case
not all commands used by the gateway are supported.

If an older firmware is used, an older firmware version of the gateway should be used.

## 4.2. Network

### Casambi Ethernet Gateway - 3.22_beta - REV1

| Generell Settings | To Casambi | From Casambi | Console |
|---|---|---|---|

#### General Setting

| Network | System | Memory |
|---|---|---|

**IP-Settings**

| | |
|---|---|
| DHCP | inactive |
| Hostname | casambi-gateway-4C75255CE213 |
| IP-Adress | 192.168.1.90 |
| Subnet | 255.255.255.0 |
| Gateway | 192.168.1.1 |
| Namserver 1 | 192.168.1.1 |
| Namserver 2 | 0.0.0.0 |

Save

**Webserver Login**

| | |
|---|---|
| Username | admin |
| Password | |

Change Login

**NTP-Client**

| | |
|---|---|
| NTP-Client | inactive |
| NTP-Server | pool.ntp.org |
| gmtOffset in sec | 0 |
| daylightOffset in sec | 3600 |

Save

**Restart Gateway**

Reboot

## 4.2.1. IP settings

Settings for the IP configuration can be made here.

In the factory state, it is delivered with the IP address 192.168.1.90.

IP-Settings

| | |
|---|---|
| DHCP | inactive |
| Hostname | casambi-gateway-4C75255CE213 |
| IP-Adress | 192.168.1.90 |
| Subnet | 255.255.255.0 |
| Gateway | 192.168.1.1 |
| Namserver 1 | 192.168.1.1 |
| Namserver 2 | 0.0.0.0 |
| | Save |

DHCP: DHCP active or inactive
Host name: host name of the device
IP address: IP address of the device
Subnet: subnet mask
Gateway: Gateway address
Name servers 1 and 2: The DNS entries for the gateway

These are accepted with "Save".

After applying, the device must be restarted once.

## 4.2.2. Webserver Login

Here you can set the username and password of the user who should have access to all functions of the system.

Only one user can be created.



With the button "Change Login" username and password are transferred.

The password field is always empty, since this cannot be read out and is stored in encrypted form.
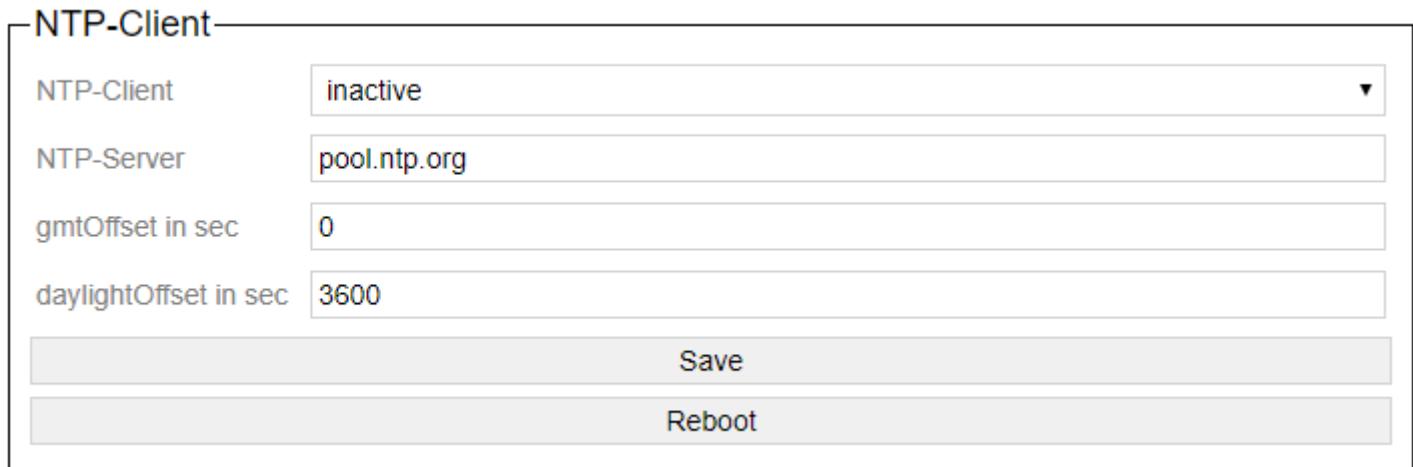
## 4.2.3. NTP-Client

```
┌─NTP-Client─────────────────────────────────────────────────────────┐
│                                                                     │
│  NTP-Client      │ inactive                                    ▼ │  │
│                                                                     │
│  NTP-Server      │ pool.ntp.org                                  │  │
│                                                                     │
│  gmtOffset in sec │ 0                                            │  │
│                                                                     │
│  daylightOffset in sec │ 3600                                    │  │
│                                                                     │
│  ┌───────────────────────────Save───────────────────────────────┐ │
│                                                                     │
│  ┌──────────────────────────Reboot──────────────────────────────┐ │
│                                                                     │
└─────────────────────────────────────────────────────────────────────┘
```

The parameters for the built-in NTP client are set here.

The NTP client field can either be activated or deactivated. If it is activated, the gateway gets the current time of the NTP server when it starts and when queried via the "Date and Time" function.

NTP server is the address / URL of the server. This can be assigned externally if the address of the gateway is obtained via DHCP, or a local address if the IP address is fixed.

gmtOffset is the specification of the time zone in seconds.
daylightOffset is the indication of the time difference due to daylight saving time in seconds.

## 4.2.4. Restart gateway

┌─Restart Gateway──────────────────────────────────────┐
│  Reboot                                                │
└────────────────────────────────────────────────────────┘

This can be used to restart the gateway.

## 4.3. System

# Casambi Ethernet Gateway - 3.10 - REV1

| Generell Settings | To Casambi | From Casambi | Console |
|---|---|---|---|

## General Setting

| Network | System | Memory |
|---|---|---|

### Control System

| Type | none |
|---|---|
| State | no connection established |

| Wizard |
|---|

### Casambi Settings

| Casambi Version | 36.30 |
|---|---|
| Casambi Network | paired |
| Polling Method | active ⌄ |

| Save |
|---|

### LED Settings

| LED Level | 25% ⌄ |
|---|---|
| invert Colour | normal ⌄ |

| Save |
|---|
| Identify Device for 10s |

### Date and Time

| Date | 1 | . | 1 | . | 2020 |
|---|---|---|---|---|---|
| Time | 0 | : | 20 | : | 30 |

| Get Date and Time from Casambi |
|---|
| Get Date and Time from NTP |
| Send Date and Time to Casambi |
| Refresh |

### Restart Gateway

| Reboot |
|---|

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## 4.3.1. Control system wizard



Here all current settings are displayed to the user, as well as the state of the connection in which the device is currently in "State".

The settings dialog is called via the Wizard button.



The wizard supports you in creating the settings for the control system.

With "Type" different systems are available with which the gateway can communicate.

- Netcomposer
- ArtNet
- Free commands over UDP
- HelvarNet (TCP)
- Free commands over TCP
- UDP Casambi Command
- TCP Casambi Command
- BacNet/IP
- MQTT

The "next step" button switches to the next step in the wizard. The button "step Back" allows you to take a step back.

## Control System Wizard

| | |
|---|---|
| Type | UDP Free Messages |
| UDP-Port | 10010 |
| Delimiter (ASCII DEC) | 37 |

step back

reboot..

After entering all the settings, the device can be restarted directly with reboot and the set values are adopted.

## 4.3.1.1. Netcomposer system

```
┌─Control System Wizard──────────────────────────────────────────┐
│                                                                 │
│  Type                    Netcomposer                            │
│                                                                 │
│  UDP-Port                10009                                  │
│                                                                 │
│  ┌──────────────────── step back ─────────────────────┐        │
│  └─────────────────────────────────────────────────────┘        │
│  ┌─────────────────────────────────────────────────────────────┐│
│  └──────────────────────── reboot.. ──────────────────────────┘│
│                                                                 │
└─────────────────────────────────────────────────────────────────┘
```

The Eutrac Netcomposersystem transmits its data via broadcast on port 10009.

These values are also permanently stored in the profile.

## 4.3.1.2. Art-Net



With Art-Net it is possible to address the gateway via DMX commands.

In this case, the port is fixed at 6454. The universe is freely adjustable.

"Art-Net ™ Designed by and Copyright Artistic License Holdings Ltd"

## 4.3.1.3. Free commands over UDP

```
┌─Control System Wizard─────────────────────────────────────┐
│                                                           │
│  Type                    UDP Free Messages                │
│                                                           │
│  UDP-Port                ┌──────────────────────────────┐ │
│                          │ 10010                        │ │
│                          └──────────────────────────────┘ │
│  Delimiter (ASCII DEC)   ┌──────────────────────────────┐ │
│                          │ 37                           │ │
│                          └──────────────────────────────┘ │
│         ┌───────────────step back──────────────────┐      │
│         └──────────────────────────────────────────┘      │
│         ┌──────────────────────────────────────────────┐  │
│         └───────────────────reboot..──────────────────┘   │
│                                                           │
└───────────────────────────────────────────────────────────┘
```

Here commands are sent by broadcast to the specified port.

## 4.3.1.4. HelvarNet (TCP)

Control System Wizard

| | |
|---|---|
| Type | HelvarNet (TCP) |
| TCP-Port | 50000 |
| Delimiter | # |
| Router IP | 192.168.178.222 |
| Start Device | 1 |
| Device Count | 20 |
| Start Group | 1 |
| Group Count | 20 |
| Start Scene | 1 |
| Scene Count | 20 |

step back

reboot..

The TCP port and the delimiter between the commands are fixed according to the protocol and cannot be adjusted.

For the IP address of the router, an existing HelvarNet router address must be specified, to which the gateway then connects.

For Device Count, Group Count, Scene Count a 0 means that this value is inactive and not used.

**Start Device / Device Count (0 to 250)**: From the start device as many devices are queried as DeviceCount is large.
**Start Group / Group Count (0 to 255)**: From the start group as many groups are queried as Group Count is large.
**Start Scene / Scene Count (0 to 255)**: From the start scene, as many scenes are queried as the Scene Count is large.

## 4.3.1.5. Free commands over TCP

**Control System Wizard**

| | |
|---|---|
| Type | TCP Free Messages |
| TCP-Port | 50000 |
| Delimiter (ASCII DEC) | 35 |
| System IP | 10.254.1.1 |

step back

reboot..

The "System IP" is the address of the controller / server to which the gateway is to connect.

The delimiter is the separator between the individual commands. The ASCII number of the corresponding character must be entered here. 35 corresponds to the "#".

## 4.3.1.6. UDP Casambi Command

```
┌─Control System Wizard──────────────────────────────────────────┐
│                                                                 │
│   Type                    UDP Casambi Command                   │
│                                                                 │
│   Net ID                  0                                     │
│                                                                 │
│   DEC or HEX              Hex with dot                     ˅     │
│                                                                 │
│   Send Ack                false                           ˅     │
│                                                                 │
│   UDP-Port                47808                                 │
│                                                                 │
│          step back                                              │
│                                                                 │
│                          reboot..                               │
│                                                                 │
└─────────────────────────────────────────────────────────────────┘
```

To identify from which bridge the command comes the parameter "Net ID" is needed. It can be selected from 0 - 254.

255 is the broadcast ID. This cannot be selected here. But it can be used in commands for all gateways connected to the network.

In the field "DEC or HEX" the type of data transmission can be selected:
Decimal with hash: The commands are transmitted as decimal values (always 3 digits) with a "#" as separation between each value.
Hex with dot: The commands are transmitted as hexadecimal values (2 digits) with a "." as separation between the individual values.
The end of a command is always indicated by "\a\n".

The hexadecimal commands can be used for integration into existing systems which can be programmed more freely by the integrator. They save some network traffic because they are shorter.

The decimal commands are needed for the integration into other systems like Loxone to be able to send and read analog values.

If "Send Ack" is activated, a confirmation is sent when the command has arrived.

The parameter UDP port is used to select the port on which listening and sending should take place.

## 4.3.1.7. TCP Casambi Command

```
┌─Control System Wizard─────────────────────────────────────────┐
│                                                                │
│   Type              TCP Casambi Command                        │
│                                                                │
│   TCP-Port          ┌──────────────────────────────────────┐  │
│                     │ 50000                                │  │
│                     └──────────────────────────────────────┘  │
│   Net ID            ┌──────────────────────────────────────┐  │
│                     │ 0                                    │  │
│                     └──────────────────────────────────────┘  │
│   DEC or HEX        ┌──────────────────────────────────────┐  │
│                     │  Hex with dot                      ⌄ │  │
│                     └──────────────────────────────────────┘  │
│   System IP         ┌──────────────────────────────────────┐  │
│                     │ 10.254.1.1                           │  │
│                     └──────────────────────────────────────┘  │
│           ┌──────────────────────────────────────┐            │
│           │            step back                 │            │
│           └──────────────────────────────────────┘            │
│   ┌────────────────────────────────────────────────────────┐  │
│   │                      reboot..                          │  │
│   └────────────────────────────────────────────────────────┘  │
└────────────────────────────────────────────────────────────────┘
```

To identify from which bridge the command comes the parameter "Net ID" is needed. It can be selected from 0 - 254.

255 is the broadcast ID. This cannot be selected here. But it can be used in commands for all gateways connected to the network.

In the field "DEC or HEX" the type of data transmission can be selected:
Decimal with hash: The commands are transmitted as decimal values (always 3 digits) with a "#" as separation between each value.
Hex with dot: The commands are transmitted as hexadecimal values (2 digits) with a "." as separation between the individual values.
The end of a command is always indicated by "\a\n".

The hexadecimal commands can be used for integration into existing systems which can be programmed more freely by the integrator. They save some network traffic because they are shorter.

The decimal commands are needed for the integration into other systems like Loxone to transfer and read analog values.

With the settings TCP-Port and System-IP the parameters of the server to which the gateway should connect are set.

## 4.3.1.8. UDP Casambi Bridge

```
┌─Control System Wizard──────────────────────────────────────────┐
│                                                                 │
│  Type                    UDP Casambi Bridge                     │
│                                                                 │
│  Bridge ID               0                                      │
│                                                                 │
│  UDP-Port                6454                                   │
│                                                                 │
│                      step back                                  │
│                                                                 │
│                           reboot..                              │
│                                                                 │
└─────────────────────────────────────────────────────────────────┘
```

The "Bridge ID" parameter is required to identify which bridge the command comes from. It can be selected from 0-254.

With the UDP port parameter, you select which port is to be used for listening and sending.

## 4.3.1.9. BacNet/IP

Control System Wizard

| | |
|---|---|
| Type | BacnetIP |
| Local Device ID | 400001 |
| UDP-Port | 47808 |
| Use BacNet Routing | false |
| BacNet Data Typ | PIV |
| Use BBMD Server / FDT | false |
| BBMD Server IP | 192.168.1.255 |
| Use Broadcast | false |
| Start Device | 1 |
| Device Count | 0 |
| Use Ungrouped | false |
| Start Group | 1 |
| Group Count | 0 |
| Start Scene | 1 |
| Scene Count | 0 |

step back

reboot..

**Local Device ID**: ID of the device in BacNet/IP
**UDP port**: Port for BacNet communication (default: 47808)
**Use BacNet Routing**: Activates the possibility of routing BacNet telegrams
**BacNet Data Type**: Changes the variable type in which the data points are displayed; you can choose between PIV (Positive Integer Values) or AV (Analog Values).

**Use BBMD Server / FDT**: Activates the connection to a BBMD server
**BBMD Server IP**: Specifies the BBMD server to which a connection is to be established

For Device Count, Group Count, Scene Count a 0 means that this value is inactive and is not used.

**Use Brodcast**: Activates the entries for broadcast control via Bacnet when set to 1.
**Start Device / Device Count (0 to 250)**: As many devices are queried from the start device as DeviceCount is large.
**Use Ungrouped**: Activates the entries for "ungrouped" if set to 1.
**Start Group / Group Count (0 to 255)**: As many groups are queried from the start group as Group Count is large.

**Start Scene / Scene Count (0 to 255)**: From the start scene, as many scenes are polled as Scene Count is large.

These values are also used to poll information from the Casambi network.
Devices in BacNet/IP mode are only polled for status changes within the limits set here and these are then displayed.

## 4.3.1.10. MQTT

**Control System Wizard**

| | |
|---|---|
| Type | MQTT |
| MQTT-Port | 1883 |
| MQTT IP | 10.254.1.1 |
| Net ID | 8 |
| Authentication | inactive |
| User | admin |
| Password | |
| Use Broadcast | true |
| Start Device | 1 |
| Device Count | 250 |
| Start Group | 1 |
| Group Count | 50 |
| Start Scene | 1 |
| Scene Count | 50 |

step back

reboot..

The port and the IP address can be specified here.

Net ID is a unique number (0-255) with which the gateway can be identified on the MQTT side.

Authentication switches the authentication with user and password on and off.

For Device Count, Group Count, Scene Count a 0 means that this value is inactive and not used.

**Use Brodcast**: Activates the request for the broadcast value when set to 1.
**Start Device / Device Count (0 to 250)**: From the start device as many devices are queried as DeviceCount is large.
**Start Group / Group Count (0 to 255)**: From the start group as many groups are queried as the Group Count is large.
**Start Scene / Scene Count (0 to 255)**: From the start scene, as many scenes are queried as the Scene Count is large.

## 4.3.2. Casambi Settings

```
┌─Casambi Settings──────────────────────────────────────────┐
│                                                            │
│  Casambi Version    37.82                                  │
│                                                            │
│  Profile            Ethernet_Gateway_REV1                  │
│                                                            │
│  Casambi Network    paired                                 │
│                                                            │
│  Polling Method     ┌──────────────────────────────────┐  │
│                     │ passive_37_80                  ⌄ │  │
│                     └──────────────────────────────────┘  │
│  ┌──────────────────────────────────────────────────────┐ │
│  │                      Save                            │ │
│  └──────────────────────────────────────────────────────┘ │
│  ┌──────────────────────────────────────────────────────┐ │
│  │                Refresh Casambi Info                  │ │
│  └──────────────────────────────────────────────────────┘ │
└────────────────────────────────────────────────────────────┘
```

The Casambi firmware version of the device is displayed under "Casambi Version".

Profile shows the name of the profile selected in the Casambi software.

There are the variants:
"Ethernet_Gateway_REV[X]": 16 scenes, 16 groups on the console side
"Ethernet_Gateway_REV[X]_EVO": 32 scenes, 32 groups on the console side
"Ethernet_Gateway_REV[X]_EVO_Groups": 64 groups on the console side
"Ethernet_Gateway_REV[X]_EVO_Scenes": 64 scenes on the console side

"Casambi Network" shows whether the device is connected to a network or has no connection.

Under polling Method you can set how the polling of the operating data works.

"inactive": No polling takes place.

"active": The Casambi devices are polled cyclically. This can cause somewhat slow status messages.
However, the query is very stable.

"passive": The Casambi participants (devices) report their status change via notification and are then queried for their current values.
current values. This results in somewhat faster status changes.
Scenes and groups are still queried cyclically, as there are no notifications for these in Casambi.

"passive_37_80": The Casambi participants (devices) report their status change via notification and are then queried for their current values.
In times when there are no notifications, the devices are queried cyclically one after the other.
Scenes and groups continue to be queried cyclically, as there are no notifications for these in Casambi.

"passive_37_90": The Casambi participants (devices) report their status via notification and are no longer actively queried.
Scenes and groups are still queried cyclically, as there are no notifications for them in Casambi.

"passive_39_52": The Casambi participants (devices) report their status via notification and are no longer actively queried.
Scenes and groups are still queried cyclically, as there are no notifications for these in Casambi.
Some new notifications have been added.

Queries that are not based on the notifications pass a value every 300ms.

### 4.3.3. LED settings

```
┌─LED Settings──────────────────────────────────────┐
│  LED        active                              ▼  │
│  ┌─────────────────────────────────────────────┐  │
│  │                  Save                        │  │
│  ├─────────────────────────────────────────────┤  │
│  │          Identify Device for 10s            │  │
│  └─────────────────────────────────────────────┘  │
└───────────────────────────────────────────────────┘
```

Various LED features can be deactivated or activated here.

LED on inactive means that the LEDs have no function. They are always out.

With the Identify button, the 3 upper LEDs of the device start to go up and down in ascending and descending order.

## 4.3.4. Date and time



With System Date and System Time the current time in which the gateway is running is always displayed.

The System Time serves as an intermediate buffer between the different systems.

With Casambi Date and Time the current time of the Casambi system is retrieved.

With NTP Date and Time the time of the NTP server is displayed.

With "Get Date and Time from Casambi" the current time can be fetched from the Casambi network. Because Casambi needs some time to send the data,
the page can be reloaded with the Refresh button. This time is then taken over from the Casambi system into the system time.

With "Get Date and Time from NTP" the current time of the set NTP server is queried and accordingly taken over and displayed in the gateway.
This time is then taken over into the system time.

With "Send Date and Time" the displayed system time can be sent to the Casambi network.

## 4.3.5. Automation

```
┌─Automation─────────────────────────────────────────────┐
│  Auto Time Update    │0                                    │ │
│                                                          │
│                        Save                              │
└──────────────────────────────────────────────────────────┘
```

Here a time span can be specified in hours. Always after X hours the current time is fetched either with activated NTP from the NTP server or fetched from the Casambi system and taken over into the system time.
The time from the NTP server is then also sent to the Casambi system every X hours.

A time span of 0 disables the automatic time update.

## 4.3.6. Restart gateway

```
┌─Restart Gateway──────────────────────────────────────────────┐
│                              Reboot                           │
└───────────────────────────────────────────────────────────────┘
```

This can be used to restart the gateway.

## 4.4. Memory

**Casambi Ethernet Gateway - 3.10 - REV1**

| Generell Settings | To Casambi | From Casambi | Console |
|---|---|---|---|

### General Setting

| Network | System | Memory |
|---|---|---|

**Update Firmware**

| Datei auswählen | Keine ausgewählt | Update |

**Configuration**

Export Configuration

| Datei auswählen | Keine ausgewählt | Import |

**System Memory**

Slide for Reset  [ OFF ]   Reset

Diagnostic Data

**Debug Settings**

Debug Port Active  [ OFF ]   Save

## 4.4.1. Update firmware

A firmware update of the gateway can be carried out here.

Update Firmware

| Datei auswählen | Keine ausgewählt | Update |

The firmware file is selected with "Select file". The update button then transfers it.

If the update was successful, you will be redirected to the start page after a short time.

## 4.4.2. Import / Export

```
┌─Configuration────────────────────────────────────────────────────┐
│                                                                   │
│  ┌─────────────────────── Export Configuration ──────────────────┐│
│  └───────────────────────────────────────────────────────────────┘│
│                                                                   │
│  ┌─────────────┬────────────────────┐              ┌────────────┐ │
│  │ Datei auswählen │ Keine ausgewählt │              │   Import   │ │
│  └─────────────┴────────────────────┘              └────────────┘ │
│                                                                   │
└───────────────────────────────────────────────────────────────────┘
```

The Export button generates a file with the format "* .ceg". This file is downloaded and can then be saved as a backup.

The filename of the file is always automatically "export_ [IP address with _ instead of.]. Ceg

Such a * .ceg file can be selected and re-imported via import.

All settings are read from the file and saved in the gateway. When done, the gateway restarts.

> ⚠️ The backup files of the main versions are not compatible with each other. In case of an update, the device must be set up again.
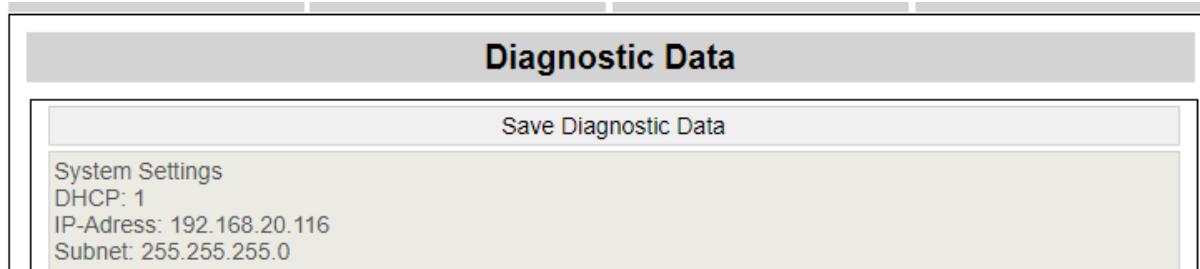
## 4.4.3. System memory
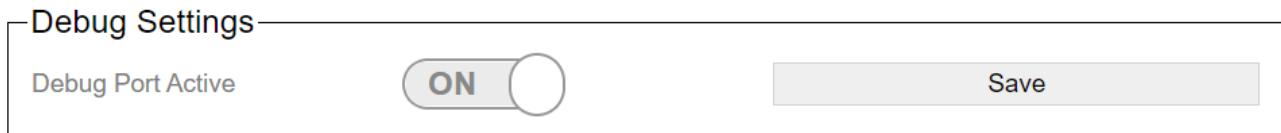


The system can be reset to the factory settings with the "Reset" button. To do this, the "Slide for Reset" slider must be set to "On".

With the "Diagnostic Data" button, a website is displayed in which the currently available parameterization of the gateway is displayed. This can then be saved as a file.



Clicking on "Save Diagnostic Data" creates a file with the name "Casambi_GW_ [IP address] _DD.txt" and automatically downloads it from the browser.

## 4.4.4. UDP Debug Port



A debug port can be opened here. This can only send data, not receive data.

It runs on port 10006 and sends everything via UDP broadcast.

```
17.01.2022 15:23:26                    Connected to 192.168.1.100:10006
17.01.2022 15:23:28    192.168.1.90:10006    local:10006    Casambi Output: 2.70.0
17.01.2022 15:23:28    192.168.1.90:10006    local:10006    Casambi Input: 5.46.0.0.ff.7f
17.01.2022 15:23:29    192.168.1.90:10006    local:10006    Casambi Output: 2.70.0
17.01.2022 15:23:29    192.168.1.90:10006    local:10006    Casambi Input: 5.46.0.0.ff.7f
17.01.2022 15:23:32    192.168.1.90:10006    local:10006    Casambi Output: 2.70.0
17.01.2022 15:23:33    192.168.1.90:10006    local:10006    Casambi Input: 5.46.0.0.ff.7f
17.01.2022 15:23:34    192.168.1.90:10006    local:10006    System: ------------------------
17.01.2022 15:23:34    192.168.1.90:10006    local:10006    System: Free Memory:
17.01.2022 15:23:34    192.168.1.90:10006    local:10006    System: Time: 06:09:32
17.01.2022 15:23:34    192.168.1.90:10006    local:10006    System: Free heap: 189348
17.01.2022 15:23:34    192.168.1.90:10006    local:10006    System: Startup: 717
17.01.2022 15:23:34    192.168.1.90:10006    local:10006    System: ------------------------
17.01.2022 15:23:35    192.168.1.90:10006    local:10006    Casambi Output: 2.70.0
17.01.2022 15:23:35    192.168.1.90:10006    local:10006    Casambi Input: 5.46.0.0.ff.7f
17.01.2022 15:23:38    192.168.1.90:10006    local:10006    Casambi Output: 2.70.0
17.01.2022 15:23:39    192.168.1.90:10006    local:10006    Casambi Input: 5.46.0.0.ff.7f
17.01.2022 15:23:41    192.168.1.90:10006    local:10006    Casambi Output: 2.70.0
17.01.2022 15:23:41    192.168.1.90:10006    local:10006    Casambi Input: 5.46.0.0.ff.7f
17.01.2022 15:23:44    192.168.1.90:10006    local:10006    Casambi Output: 2.70.0
17.01.2022 15:23:45    192.168.1.90:10006    local:10006    Casambi Input: 5.46.0.0.ff.7f
17.01.2022 15:23:47    192.168.1.90:10006    local:10006    Casambi Output: 2.70.0
17.01.2022 15:23:47    192.168.1.90:10006    local:10006    Casambi Input: 5.46.0.0.ff.7f
17.01.2022 15:23:50    192.168.1.90:10006    local:10006    Casambi Output: 2.70.0
17.01.2022 15:23:51    192.168.1.90:10006    local:10006    Casambi Input: 5.46.0.0.ff.7f
17.01.2022 15:23:54    192.168.1.90:10006    local:10006    Casambi Output: 2.70.0
17.01.2022 15:23:54    192.168.1.90:10006    local:10006    Casambi Input: 5.46.0.0.ff.7f
17.01.2022 15:23:56    192.168.1.90:10006    local:10006    Casambi Output: 2.70.0
17.01.2022 15:23:57    192.168.1.90:10006    local:10006    Casambi Input: 5.46.0.0.ff.7f
17.01.2022 15:24:00    192.168.1.90:10006    local:10006    Casambi Output: 2.70.0
17.01.2022 15:24:00    192.168.1.90:10006    local:10006    Casambi Input: 5.46.0.0.ff.7f
17.01.2022 15:24:02    192.168.1.90:10006    local:10006    Casambi Output: 1.68
17.01.2022 15:24:02    192.168.1.90:10006    local:10006    Casambi Input: 13.44.90.37.4c.a8.20.82.25.6a.64.d5.22.99.69.49.0.0.0.22
17.01.2022 15:24:02    192.168.1.90:10006    local:10006    Casambi Output: 2.70.0
17.01.2022 15:24:02    192.168.1.90:10006    local:10006    Casambi Input: 5.46.0.0.ff.7f
17.01.2022 15:24:04    192.168.1.90:10006    local:10006    System: ------------------------
17.01.2022 15:24:04    192.168.1.90:10006    local:10006    System: Free Memory:
17.01.2022 15:24:04    192.168.1.90:10006    local:10006    System: Time: 06:10:02
17.01.2022 15:24:04    192.168.1.90:10006    local:10006    System: Free heap: 189348
17.01.2022 15:24:04    192.168.1.90:10006    local:10006    System: Startup: 717
17.01.2022 15:24:04    192.168.1.90:10006    local:10006    System: ------------------------
17.01.2022 15:24:06    192.168.1.90:10006    local:10006    Casambi Output: 2.70.0
```

Using an appropriate program, more information can now be recorded here for diagnostic purposes.
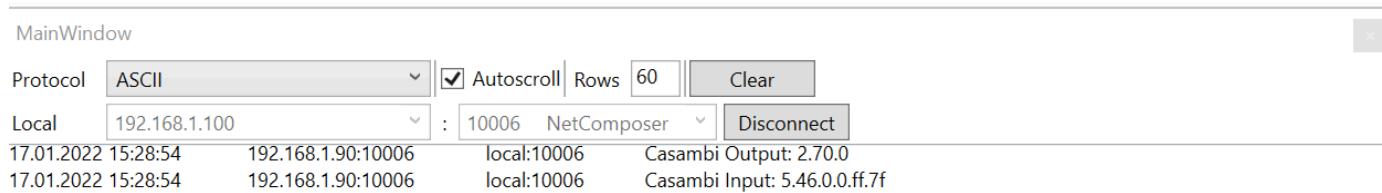
The device also remembers that this option has been activated and activates it again after a restart if it was active before.

A reset or switching off deactivates the function again.

A possible tool to display the console is the LanLog.exe tool, which we also provide.

## 4.4.4.1. LanLog.exe

The tool can be found at the following URL: https://archiv.intelligent-lighting.de/index.php/s/V6uglwZDel3HR3V

| MainWindow | | | | | | ☒ |
|---|---|---|---|---|---|---|
| Protocol | ASCII ⌄ | ☑ Autoscroll | Rows | 60 | Clear | |
| Local | 192.168.1.100 ⌄ | : | 10006 | NetComposer ⌄ | Disconnect | |

17.01.2022 15:28:54     192.168.1.90:10006     local:10006     Casambi Output: 2.70.0
17.01.2022 15:28:54     192.168.1.90:10006     local:10006     Casambi Input: 5.46.0.0.ff.7f
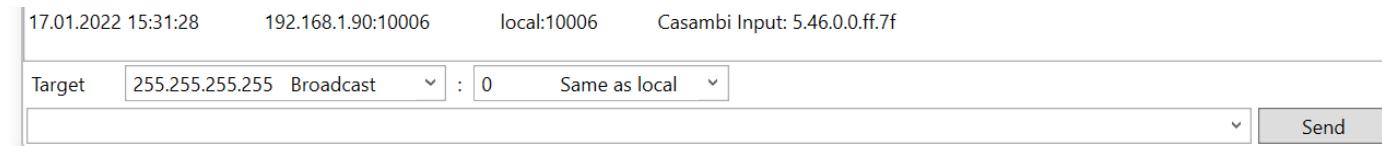
After starting, "ASCII" must be selected as the protocol.

Under Local, select the appropriate network interface based on the IP address and enter 10006 for the port.

Then you connect with connect and see the first entries.

The lower area is not functional here because the gateway does not receive any commands on port 10006:

17.01.2022 15:31:28     192.168.1.90:10006     local:10006     Casambi Input: 5.46.0.0.ff.7f

| Target | 255.255.255.255 Broadcast ⌄ | : | 0 | Same as local ⌄ | | |
|---|---|---|---|---|---|---|
| | ⌄ | | | | | Send |
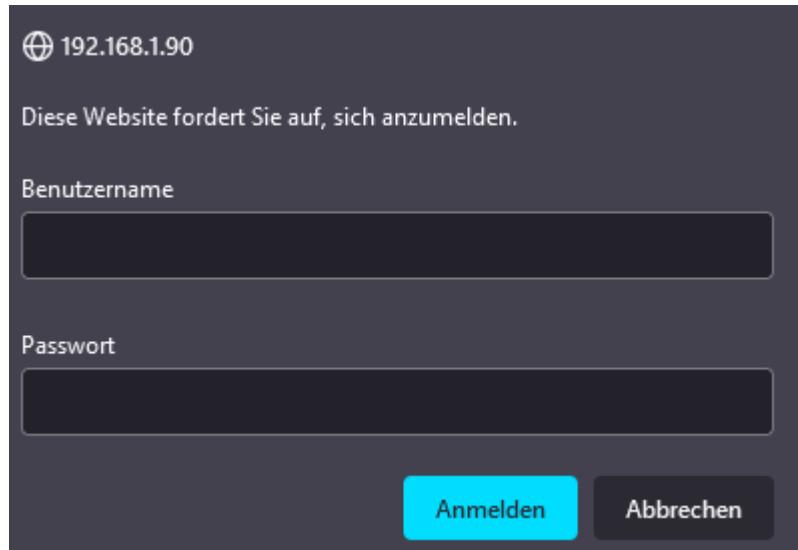
## 4.5. Reset device

For devices from the date of manufacture 3/2022, a reset of the device can be initiated via an internal button.

More information under 1.4 Reset button.

From firmware 2.11 it is possible to reset the entire memory of the device under the URL "/reset_full_flash".

After the call you will (if not already logged in) be greeted with the login screen.



If known, login is possible with the username/password used in the facility. If this is no longer known, the MAC address of the device can also be used as login and password for this page.

As an example (must be the address of the actual gateway):
Users: 4C:75:25:5C:E1:E7
Password: 4C:75:25:5C:E1:E7

This login only works for this URL.

After logging in, you can reset the device.



Confirm with the slide switch that the reset is desired and then carry out the reset with a click on the button.

Please note that the entire memory will then be deleted and reset to the factory settings.

This reset can last between 30 and 180s. During this time, the device is no longer accessible.

# 5. Protocol-specific settings

The settings that are possible for the respective control system are described here.

These refer to the two tabs "To Casambi" and "From Casambi".

| Generell Settings | To Casambi | From Casambi | Console |
|---|---|---|---|

**Communication to Casambi Network**

These two points can be found under the respective protocol and explain the settings in this.

If the protocol has additional settings, these are also explained in the corresponding chapter.

Possible protocols:
- Artnet
- BacNet/IP
- Free commands over TCP
- Free commands over UDP
- HelvarNet
- MQTT
- Netcomposer
- UDP Casambi Command
- TCP Casambi Command
- UDP Casambi Bridge

## 5.1. ArtNet

In this operating mode, various actions can be carried out on the Casambi in an ArtNet universe.

All 512 channels are available in total.

Our ESTA ID is: 0x02F1
Our Artistic License OEM Code: 0x2AB4

Once it has been set up on ArtNet, the gateway can also be configured on the network side via ArtNet. So e.g. the IP address as well as the subnet and the port can be set using the ArtIp command.

The gateway also reacts to ArtPoll requests, e.g. to be found better in media controls.

## 5.1.1. To Casambi

The DMX address range can be selected in the upper area of the page. 50 channels are displayed per page.



page
0: address 1 - 25
1: address 26 - 50
..
20: address 501-512
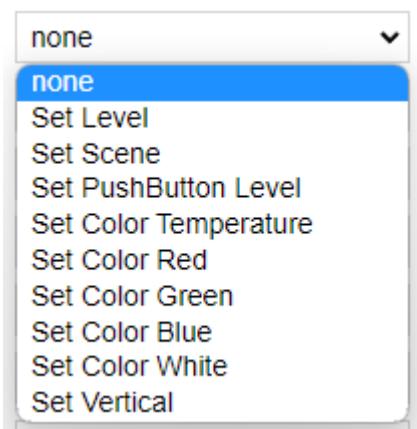
The channels and their functions are then listed below this page.
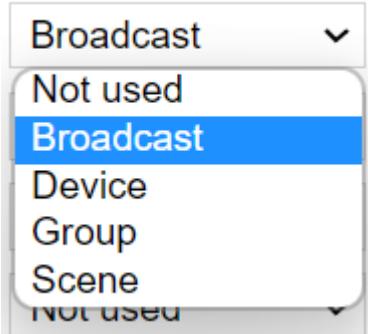
## DMX-Address 1 - 25

| DMX-Address | DMX-Value | Command | Typ | Address | |
|---|---|---|---|---|---|
| 1 | 0 | Set Level | Broadcast | 0 | Save |
| 2 | 0 | none | Not used | 0 | Save |
| 3 | 0 | Set Scene | Not used | 1 | Save |
| 4 | 0 | Set Scene | Not used | 2 | Save |
| 5 | 0 | Set Scene | Not used | 3 | Save |
| 6 | 0 | Set Scene | Not used | 13 | Save |
| 7 | 0 | Set Scene | Not used | 14 | Save |
| 8 | 0 | Set Scene | Not used | 15 | Save |
| 9 | 0 | none | Not used | 0 | Save |
| 10 | 0 | Set Level | Device | 18 | Save |
| 11 | 0 | Set Color Red | Device | 18 | Save |
| 12 | 0 | Set Color Green | Device | 18 | Save |
| 13 | 0 | Set Color Blue | Device | 18 | Save |
| 14 | 0 | Set Color White | Device | 18 | Save |

The following functions are available:

```
none                    ⌄
none
Set Level
Set Scene
Set PushButton Level
Set Color Temperature
Set Color Red
Set Color Green
Set Color Blue
Set Color White
Set Vertical
```

After the command the type must be selected. Here are available for selection:

and in the connection still another address must be indicated.

1) none => No function
2) Set Level => type and address needed, DMX level is transmitted to Casambi (0 - 255)
3) Set Scene => Address 1 - 255 specify the scene address in the Casambi, type is ignored, DMX level is transmitted to Casambi (0 - 255)
4) Set PushButton Level => Address1 - 4 specify the button input on which the command should act, type is ignored, DMX level is transmitted to Casambi (0 - 255)
5) Set Color Temperature => type and address required, DMX level is transmitted to Casambi as Tc (0 = warm white - 255 = cool white)
6) Set Color Red=> type and address needed, DMX level is transmitted as Red to Casambi
7) Set Color Green=> type and address needed, DMX level will be send as Green to Casambi
8) Set Color Blue=> type and address needed, DMX level will be transmitted to Casambi as Blue
9) Set Color White=> Type and Address needed, DMX Level will be transmitted as White to Casambi
10) Set Vertical => Type and Address needed, DMX Level is transmitted as Vertical to Casambi

Address and Type are composed as follows:

1) Not used => Nothing additional is needed.
2) Broadcast => Nothing additional is needed
3) Device => Address 1-250 specify the devices the command should affect
4) Group => Address 0 controls all ungrouped Casambi modules, address 1-255 control the groups
5) Scene => Address 1-255 control the scenes

With the Save button behind each line the entry is saved.

## 5.1.2. From Casambi

**Communication from Casambi Network**

Warning!
This settings are not used in "ArtNet" mode.

This page is not used under ArtNet.

## 5.2. BacNet/IP
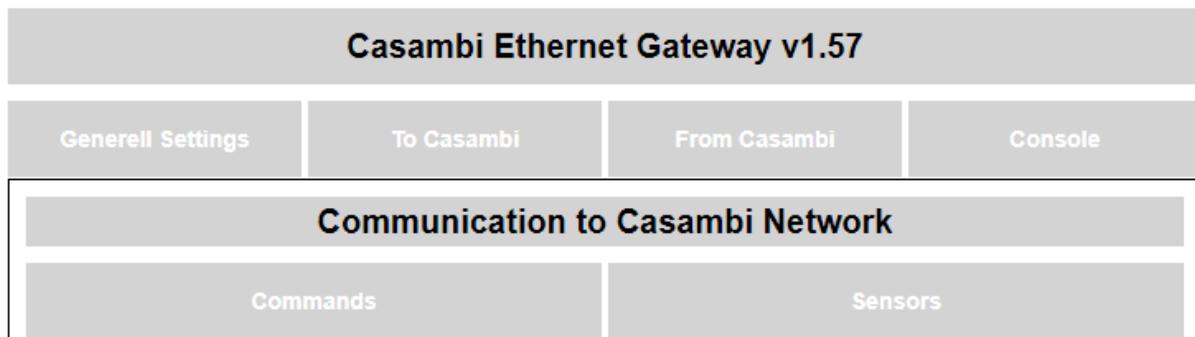
In this operating mode, the gateway can be addressed via BacNet / IP and also accepts control commands.

## 5.2.1. View in the gateway

Settings of the gateway via the internal website.

## 5.2.1.1. To Casambi

Here you can set which actions the device should carry out in the Casambi system when a command comes to the gateway via the network.

| Casambi Ethernet Gateway v1.57 | | | |
|---|---|---|---|
| Generell Settings | To Casambi | From Casambi | Console |
| **Communication to Casambi Network** | | | |
| Commands | | Sensors | |

### 5.2.1.1.1. Commands

┌─ Warning! ─────────────────────────────────────────────────────────────┐
│ This "Command" settings are not used in "Bacnet" mode. Please Refer to the Manual. │
└────────────────────────────────────────────────────────────────────────┘

These settings are not used in the BacNet / IP operating mode.

## 5.2.1.1.2. Sensors

### Communication to Casambi Network

| Commands | Sensors |
|---|---|

**Lightsensor**

| | |
|---|---|
| Lightsensor | inactive ▼ |
| Raw Value | 0 |
| Factor | 1,00 |
| Value | 0 |

Save

**Presence**

| | |
|---|---|
| Presence Detection | inactive ▼ |
| State | inactive |

Save

The parameters for setting sensor messages can be set here.

This looks like this in the BacNet:

Address Space : 14 objects
- Casambi Gateway
  - TO_CASAMBI_index
  - TO_CASAMBI_optional_data_1
  - TO_CASAMBI_optional_data_2
  - TO_CASAMBI_optional_data_3
  - TO_CASAMBI_optional_data_4
  - FROM_CASAMBI_timestamp
  - FROM_CASAMBI_index
  - SENSOR_VALUE_TO_CASAMBI_Light_Sensor_Value
  - SENSOR_VALUE_TO_CASAMBI_Presence_Detection_State
  - TO_CASAMBI_run
  - TO_CASAMBI
  - FROM_CASAMBI
  - SENSOR_VALUE_TO_CASAMBI
    - SENSOR_VALUE_TO_CASAMBI_Light_Sensor_Value
    - SENSOR_VALUE_TO_CASAMBI_Presence_Detection_State

For the light sensor part:

Properties

| BacnetProperty | |
| --- | --- |
| Object Identifier | OBJECT_ANALOG_VALUE:12 |
| Object Name | SENSOR_VALUE_TO_CASAMBI_Light_Sensor_Value |
| Object Type | 2 : Object Analog Value |
| Present Value | 0 |
| Property List | 85 |

Here, the value for the value of the light sensor can simply be transferred for Present Value.

For the motion detector part:

Properties

| BacnetProperty | |
| --- | --- |
| Object Identifier | OBJECT_ANALOG_VALUE:13 |
| Object Name | SENSOR_VALUE_TO_CASAMBI_Presence_Detection_State |
| Object Type | 2 : Object Analog Value |
| Present Value | 0 |
| Property List | 85 |

Here, the value for the presence sensor can simply be transferred for Present Value.
0 = no presence detected
1 = presence detected

## 5.2.1.1.2.1. Lightsensor



Mit der Dropdown Liste "Lightsensor" kann die übernahme der Lichtsensordaten in das Casambi System gestartet werden.

Bei "Raw Value" wird einem der Wert der per BacNet/IP übertragen wird angezeigt.

Der Wert Faktor kann benutzt werden um den Wert der über BacNet/IP geliefert wird anzupassen.

Bei Value wird einem der Wert angezeigt der an das Casambi System übertragen wird. Er wird mti der Formel: Value = Raw Value * Faktor berechnet.

Jeder geänderte Wert per BacNet/IP wird an das Casambi System weitergegeben wenn "Lightsensor" auf aktiv steht.

## 5.2.1.1.2.2. Presence



Mit der Dropdown Liste "Presence Detection" kann die weitergabe eines Wertes als Präsenzerkennung gestartet werden.

Bei State wird einem inactive oder active angezeigt. Je nach Parameter der per BacNet/IP übertragen wird.

0 = inactive
1 = active

## 5.2.1.2. From Casambi

Warning!

This settings are not used in "BacNet" mode. The Values are stored in The BacNet Objects: "From Casambi" in "index" and "timestamp".

This page is not used in the BacNet / IP operating mode.

## 5.2.2. View in BacNet



Address Space : 14 objects
- Casambi Gateway
  - TO_CASAMBI_index
  - TO_CASAMBI_optional_data_1
  - TO_CASAMBI_optional_data_2
  - TO_CASAMBI_optional_data_3
  - TO_CASAMBI_optional_data_4
  - FROM_CASAMBI_timestamp
  - FROM_CASAMBI_index
  - SENSOR_VALUE_TO_CASAMBI_Light_Sensor_Value
  - SENSOR_VALUE_TO_CASAMBI_Presence_Detection_State
  - TO_CASAMBI_run
  - TO_CASAMBI
    - TO_CASAMBI_index
    - TO_CASAMBI_optional_data_1
    - TO_CASAMBI_optional_data_2
    - TO_CASAMBI_optional_data_3
    - TO_CASAMBI_optional_data_4
    - TO_CASAMBI_run
  - FROM_CASAMBI
    - FROM_CASAMBI_timestamp
    - FROM_CASAMBI_index
  - SENSOR_VALUE_TO_CASAMBI
    - SENSOR_VALUE_TO_CASAMBI_Light_Sensor_Value
    - SENSOR_VALUE_TO_CASAMBI_Presence_Detection_State

Properties

| BacnetProperty | |
|---|---|
| Apdu Timeout | 3000 |
| Application Software Version | 1.70 |
| Description | Casambi Ethernet Gateway |
| Firmware Revision | 1.70 |
| Max Apdu Length Accepted | 1472 |
| Model Name | Lithernet Casambi Gateway |
| Number Of Apdu Retries | 3 |
| Object Identifier | OBJECT_DEVICE:400001 |
| Object Name | Casambi Gateway |
| Object Type | 8 : Object Device |
| Property List | Object[] Array |
| Protocol Revision | 14 |
| Protocol Version | 1 |
| Segmentation Supported | 3 : None |
| Segmentation Supported | 3 : None |
| System Status | 1 : Operational Readonly |
| Vendor Identifier | 1287 |
| Vendor Name | LichtManufaktur Berlin GmbH |

The device can be found in the network via BacNet / IP.

The port and the local device ID can be freely set.

The device has three structured views, each with its own parameters.

"[To Casambi](#)" is responsible for the communication BacNet / IP -> Casambi.

"[From Casambi](#)" is responsible for feedback from the Casambi system.

"[Sensor Value To Casambi](#)" is used to pass on light sensor values and presence reports from the BacNet a Casambi.

The Structured_Views are currently used to simplify the assignment of the variables. Unfortunately not all BacNet programs support this. Therefore, the values are all listed again individually.

With software version 2.0 we have introduced 6 possible further structured views.

[Broadcast](#) directly controls all existing lights in the system via level or Tc with adjustable fad time.
[Device](#) directly controls a single device in Level or Tc with adjustable fad time.
[Ungrouped](#) controls all ungrouped lights in Level or Tc with adjustable fad time.
[Groups](#) controls all ungrouped lights in Level or Tc with an adjustable fade time.
[Scenes](#) controls all scenes in level or Tc with adjustable fad time.
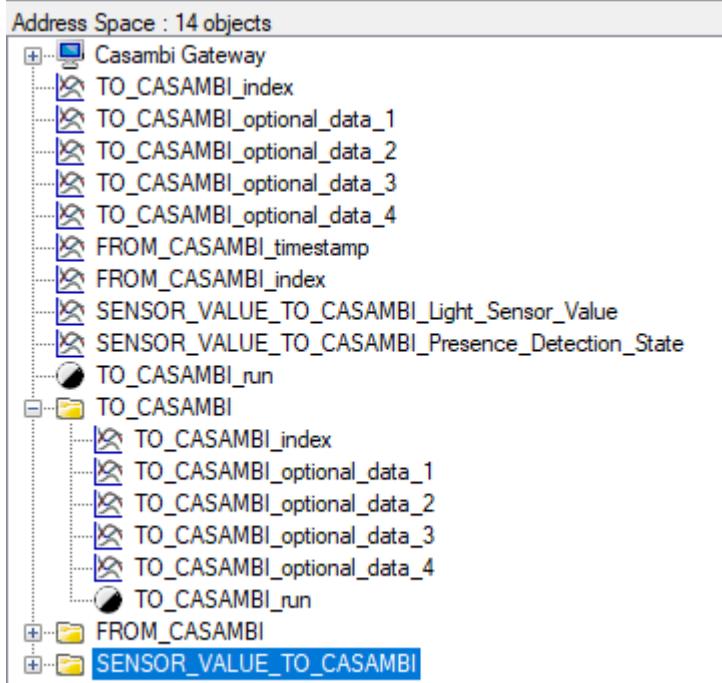
With software version 3.0, color control is added.

## 5.2.2.1. To Casambi

> ℹ️ These settings are the same as in version 1 and are still available for reasons of compatibility. These also work with Evolution firmware lower than 33.22.

```
Address Space : 14 objects
  ⊞ 🖥 Casambi Gateway
  ⌁ TO_CASAMBI_index
  ⌁ TO_CASAMBI_optional_data_1
  ⌁ TO_CASAMBI_optional_data_2
  ⌁ TO_CASAMBI_optional_data_3
  ⌁ TO_CASAMBI_optional_data_4
  ⌁ FROM_CASAMBI_timestamp
  ⌁ FROM_CASAMBI_index
  ⌁ SENSOR_VALUE_TO_CASAMBI_Light_Sensor_Value
  ⌁ SENSOR_VALUE_TO_CASAMBI_Presence_Detection_State
  ◕ TO_CASAMBI_run
  ⊟ 📁 TO_CASAMBI
      ⌁ TO_CASAMBI_index
      ⌁ TO_CASAMBI_optional_data_1
      ⌁ TO_CASAMBI_optional_data_2
      ⌁ TO_CASAMBI_optional_data_3
      ⌁ TO_CASAMBI_optional_data_4
      ◕ TO_CASAMBI_run
  ⊞ 📁 FROM_CASAMBI
  ⊞ 📁 SENSOR_VALUE_TO_CASAMBI
```

In this operating mode, the values index and optional data 1 - 4 are set first. As soon as this is done, the value "run" can be set to 1 / true and the command is transferred to the Casambi system.
After the transfer, the values index and optional data 1 - 4 remain at the previously transferred values. Only run is set to 0 / false again immediately after execution.
Only a restart of the device resets the values index and optional data 1- 4 to 0.

Index defines the command to be executed; in Optional Data 1-4, different parameters can then be transferred depending on the command.
More details can be found in the following table.
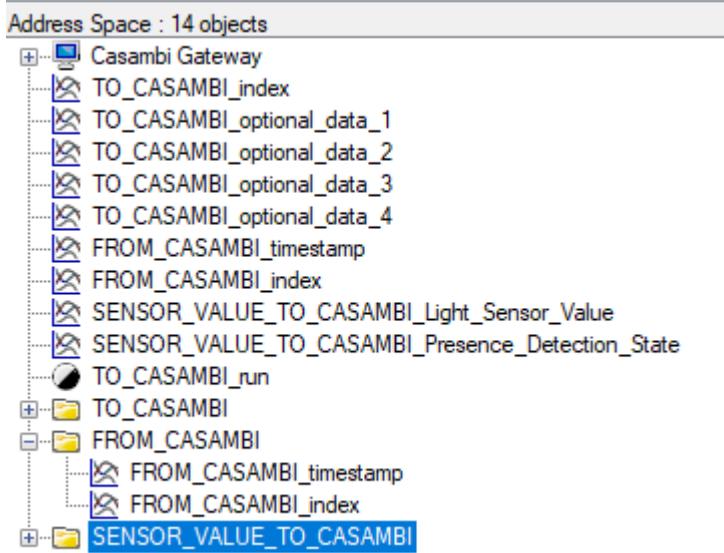
| Befehl | index | Optional Data 1 | Optional Data 2 | Optional Data 3 | Optional Data 4 |
|---|---|---|---|---|---|
| nichts | 0 | --- | --- | --- | --- |
| Set Level | 1 | Level | Duration_high_byte | Duration low_byte | --- |
| Set Push Button Pressed | 2 | Button | --- | --- | --- |
| Set Push Button Released | 3 | Button | --- | --- | --- |
| Set Scene Level | 4 | Scene | Level | Duration_high_byte | Duration low_byte |
| Set Group Level | 5 | Group | Level | Duration_high_byte | Duration low_byte |
| Set Push Button Level | 6 | Button | Level | --- | --- |

Duration: value is given in 10ms. 0 Means that he uses the value from the luminaire module.

## 5.2.2.2. From Casambi

> ℹ️ These settings are the same as in version 1 and are still available for reasons of compatibility. These also work with Evolution firmware lower than 33.22.

```
Address Space : 14 objects
⊞ 🖥 Casambi Gateway
   ▨ TO_CASAMBI_index
   ▨ TO_CASAMBI_optional_data_1
   ▨ TO_CASAMBI_optional_data_2
   ▨ TO_CASAMBI_optional_data_3
   ▨ TO_CASAMBI_optional_data_4
   ▨ FROM_CASAMBI_timestamp
   ▨ FROM_CASAMBI_index
   ▨ SENSOR_VALUE_TO_CASAMBI_Light_Sensor_Value
   ▨ SENSOR_VALUE_TO_CASAMBI_Presence_Detection_State
   ◐ TO_CASAMBI_run
⊞ 📁 TO_CASAMBI
⊟ 📁 FROM_CASAMBI
      ▨ FROM_CASAMBI_timestamp
      ▨ FROM_CASAMBI_index
⊞ 📁 SENSOR_VALUE_TO_CASAMBI
```
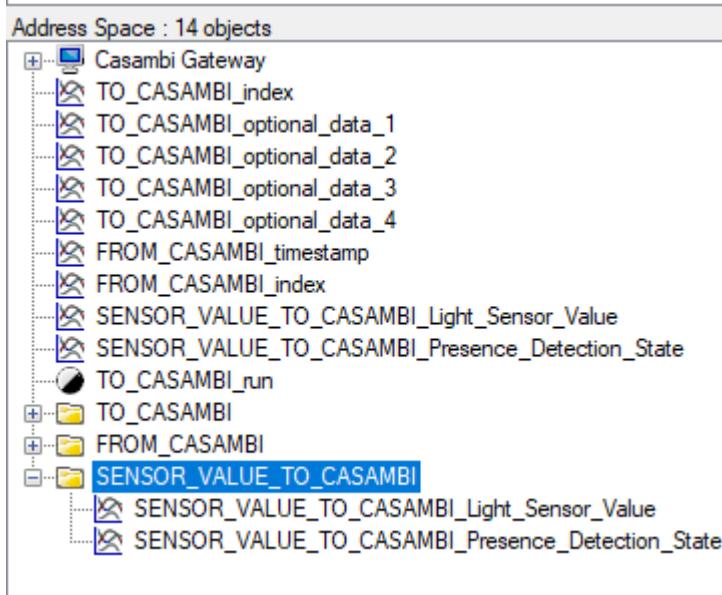
If the gateway is added to a scene in the Casambi system, a binary number can be set using the gateway's 8 sliders. This number is then returned when the scene is called via the value index. With timestamp, the time in seconds that the gateway runs is set. This shows whether it is a new or an old value.
If the value range overflows, the timer starts again at 0.

## 5.2.2.3. Sensor Value To Casambi

> ℹ️ These settings are the same as in version 1 and are still available for reasons of compatibility. These also work with Evolution firmware lower than 33.22.



For the light sensor part:



Here, the value for the value of the light sensor can simply be transferred for Present Value.

For the motion detector part:



Here, the value for the presence sensor can simply be transferred for Present Value.
0 = no presence detected
1 = presence detected

However, the transfer of the values must also be set to active in the gateway.
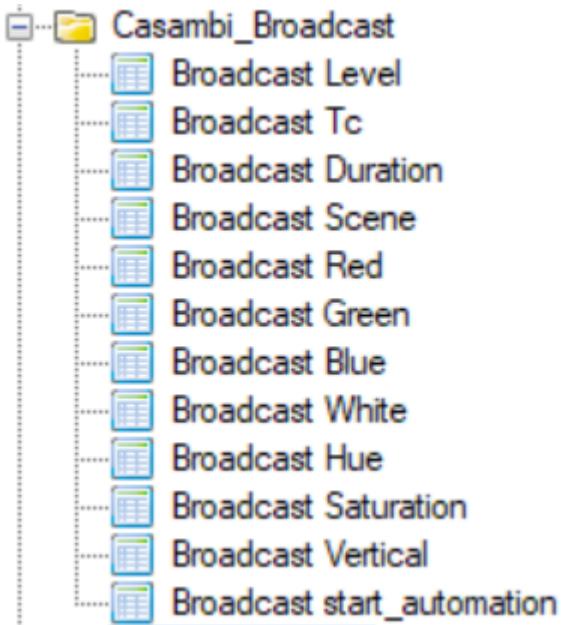
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## 5.2.2.4. Broadcast

⚠️ These settings only work with Evolution firmware greater than or equal to 33.22.

Red, Green, Blue, White, Sat and Hue from Evolution firmware greater than or equal to 34.50.

Vertical from Evolution firmware greater or equal 37.00.

start_automation from Evolution firmware greater or equal 37.80.



The fade time is set with Broadcast Duration. The value is taken internally in Casambi * 10ms.

0 = default
1 = 0s
100 = 1s

The values to be called up are entered in Level, Tc, Red, Green, Blue, White, Hue and Sat.

Red, Gree, Blue, White, Level are necessary for the RGBW control.
Hue, Sat, White, Level for the Hue/Sat control.

For Hue applies:
0x0000 - 0xFFFF = Color

The following applies to Tc:

| Tc | Kommentar |
| --- | --- |
| 0x400 - 0x4000 | Value in Kelvin (1000K - 16000K) |
| 0x00-0xFF | normalized value for min Tc and max Tc, respectively |
| 0x00 | warmest possible value |

If a value is specified in the two variables, it is called with the fade time set under Duration.

start_automation starts automation for all nodes in the network as soon as the value is greater than or equal to 1.

## 5.2.2.5. Device
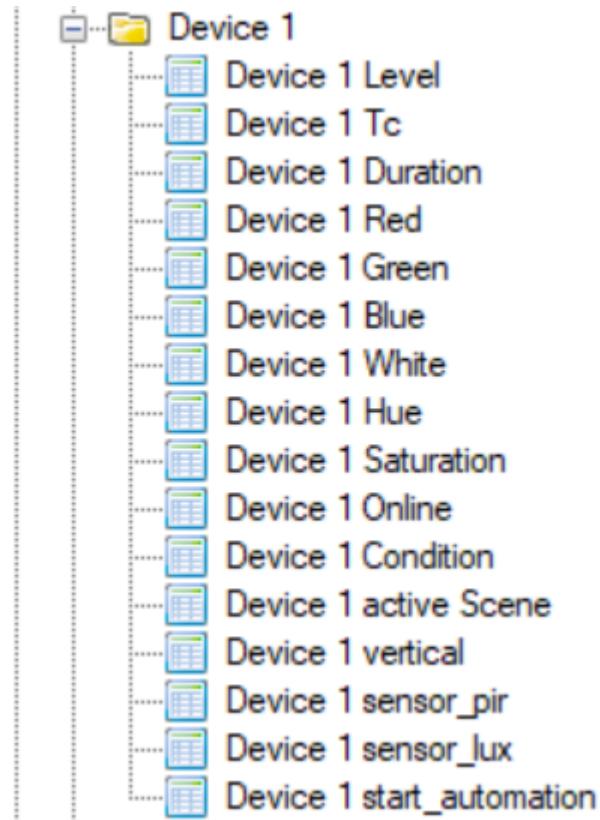
⚠️ These settings only work with Evolution firmware greater than or equal to 33.22.

Red, Green, Blue, White, Sat and Hue from Evolution firmware greater than or equal to 34.50.

Vertical from Evolution firmware greater or equal 37.00.

start_automation, sensor_lux, sensor_pir from Evolution firmware greater or equal 37.80.

```
□ 📁 Device 1
    ├ 🗔 Device 1 Level
    ├ 🗔 Device 1 Tc
    ├ 🗔 Device 1 Duration
    ├ 🗔 Device 1 Red
    ├ 🗔 Device 1 Green
    ├ 🗔 Device 1 Blue
    ├ 🗔 Device 1 White
    ├ 🗔 Device 1 Hue
    ├ 🗔 Device 1 Saturation
    ├ 🗔 Device 1 Online
    ├ 🗔 Device 1 Condition
    ├ 🗔 Device 1 active Scene
    ├ 🗔 Device 1 vertical
    ├ 🗔 Device 1 sensor_pir
    ├ 🗔 Device 1 sensor_lux
    └ 🗔 Device 1 start_automation
```

The fade time is set with Duration. The value is taken internally in Casambi * 10ms.

0 = default
1 = 0s
100 = 1s

The values to be called up are entered in Level, Tc, Red, Green, Blue, White, Hue and Sat.

Red, Gree, Blue, White, Level are necessary for the RGBW control.
Hue, Sat, White, Level for the Hue/Sat control.

For Hue applies:
0x0000 - 0xFFFF = Color

The following applies to Tc:

| Tc | Kommentar |
|---|---|
| 0x400 - 0x4000 | Value in Kelvin (1000K - 16000K) |
| 0x00-0xFF | normalized value for min Tc and max Tc, respectively |
| 0x00 | warmest possible value |

If a value is specified in the two variables, it is called with the fade time set under Duration.

Online indicates whether the fixture was found in the system or is currently not in the system.

Condition indicates the state of the device:
0x00, 0x80, 0xA0: ok
0x01: "overheated
0x09: "overload" (current limit)
0x81: "thermal_overload
0x82: "lamp_failure
0x83: "driver_failure
0x85: "incompatible_hw"
0x86: "hw_not_found"
0x87: "configuration_failed

Active Scene" shows which scene is currently active in the participant.

Sensor_pir as well as sensor_lux show the values of a Casambi sensor, if the participant is one, or if it is assigned with the corresponding information in the profiles.

start_automation starts the automation for exactly this participant as soon as the value is greater than or equal to 1.

## 5.2.2.6. Ungouped

> ⚠ These settings only work with Evolution firmware greater than or equal to 33.22.
>
> Red, Green, Blue, White, Sat and Hue from Evolution firmware greater than or equal to 34.50.
>
> Vertical from Evolution firmware greater or equal 37.00.
>
> start_automation from Evolution firmware greater or equal 37.80.

```
☐ 🗁 Casambi_Ungrouped
    ├─ 🔲 Ungrouped Level
    ├─ 🔲 Ungrouped Tc
    ├─ 🔲 Ungrouped Duration
    ├─ 🔲 Ungrouped Red
    ├─ 🔲 Ungrouped Green
    ├─ 🔲 Ungrouped Blue
    ├─ 🔲 Ungrouped White
    ├─ 🔲 Ungrouped Hue
    ├─ 🔲 Ungrouped Saturation
    ├─ 🔲 Ungrouped vertical
    └─ 🔲 Ungrouped start_automation
```

The fade time is set with Duration. The value is taken internally in Casambi * 10ms.

0 = default
1 = 0s
100 = 1s

The values to be called up are entered in Level, Tc, Red, Green, Blue, White, Hue and Sat.

Red, Gree, Blue, White, Level are necessary for the RGBW control.
Hue, Sat, White, Level for the Hue/Sat control.

For Hue applies:
0x0000 - 0xFFFF = Color

The following applies to Tc:

| Tc | Kommentar |
|---|---|
| 0x400 - 0x4000 | Value in Kelvin (1000K - 16000K) |
| 0x00-0xFF | normalized value for min Tc and max Tc, respectively |
| 0x00 | warmest possible value |

If a value is specified in the two variables, it is called with the fade time set under Duration.

start_automation starts automation for all ungrouped participants as soon as the value is greater than or equal to 1.

## 5.2.2.7. Group

> ⚠️ These settings only work with Evolution firmware greater than or equal to 33.22.
>
> Red, Green, Blue, White, Sat and Hue from Evolution firmware greater than or equal to 34.50.
>
> Vertical from Evolution firmware greater or equal 37.00.
>
> start_automation from Evolution firmware greater or equal 37.80.

```
⊟ 📂 Group 1
    ▦ Group 1 Level
    ▦ Group 1 Tc
    ▦ Group 1 Duration
    ▦ Group 1 Red
    ▦ Group 1 Green
    ▦ Group 1 Blue
    ▦ Group 1 White
    ▦ Group 1 Hue
    ▦ Group 1 Saturation
    ▦ Group 1 vertical
    ▦ Group 1 start_automation
```

The fade time is set with Duration. The value is taken internally in Casambi * 10ms.

0 = default
1 = 0s
100 = 1s

The values to be called up are entered in Level, Tc, Red, Green, Blue, White, Hue and Sat.

Red, Gree, Blue, White, Level are necessary for the RGBW control.
Hue, Sat, White, Level for the Hue/Sat control.

For Hue applies:
0x0000 - 0xFFFF = Color

The following applies to Tc:

| Tc | Kommentar |
|---|---|
| 0x400 - 0x4000 | Value in Kelvin (1000K - 16000K) |
| 0x00-0xFF | normalized value for min Tc and max Tc, respectively |
| 0x00 | warmest possible value |

If a value is specified in the two variables, it is called with the fade time set under Duration.

start_automation starts automation for all participants in the group as soon as the value is greater than or equal to 1.
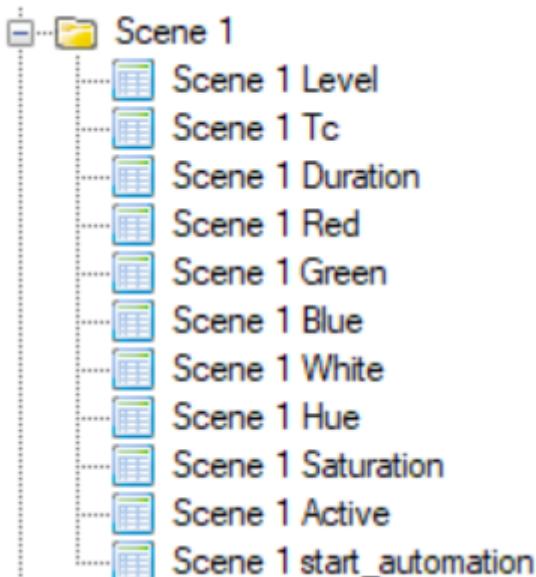
## 5.2.2.8. Scene

> ⚠️ These settings only work with Evolution firmware greater than or equal to 33.22.
>
> Red, Green, Blue, White, Sat and Hue from Evolution firmware greater than or equal to 34.50.
>
> start_automation from Evolution firmware greater or equal 37.80.

```
⊟ 📁 Scene 1
    ├ ▦ Scene 1 Level
    ├ ▦ Scene 1 Tc
    ├ ▦ Scene 1 Duration
    ├ ▦ Scene 1 Red
    ├ ▦ Scene 1 Green
    ├ ▦ Scene 1 Blue
    ├ ▦ Scene 1 White
    ├ ▦ Scene 1 Hue
    ├ ▦ Scene 1 Saturation
    ├ ▦ Scene 1 Active
    └ ▦ Scene 1 start_automation
```

The fade time is set with Duration. The value is taken internally in Casambi * 10ms.

0 = default
1 = 0s
100 = 1s

The values to be called up are entered in Level, Tc, Red, Green, Blue, White, Hue and Sat.

Red, Gree, Blue, White, Level are necessary for the RGBW control.
Hue, Sat, White, Level for the Hue/Sat control.

For Hue applies:
0x0000 - 0xFFFF = Color

The following applies to Tc:

| Tc | Kommentar |
|---|---|
| 0x400 - 0x4000 | Value in Kelvin (1000K - 16000K) |
| 0x00-0xFF | normalized value for min Tc and max Tc, respectively |
| 0x00 | warmest possible value |

If a value is specified in the two variables, it is called with the fade time set under Duration.

Scene Active stores whether the scene is called or not.

start_automation starts automation for all participants in the scene as soon as the value is greater than or equal to 1.

## 5.2.3. Polling

In this operating mode, certain values are queried and the variables are automatically adjusted.

Polled are:

- The level of the scenes and whether they are active. If not active then the level is 0
- The level of a group
- The level of the broadcast entry
- If the device is reachable (online) and how its state is
- Red, Green, Blue, White, Hue, Sat of a device
- Red, Green, Blue, White, Hue, Sat of a group
- Red, Green, Blue, White, Hue, Sat of Broadcast
- Red, Green, Blue, White, Hue, Sat of ungrouped fixtures
- Sensor_pir of a device
- Sensor_lux of a device

The method of polling the data can be customized under the [system ](#)settings.

## 5.3. Free commands over TCP

In this operating mode, the gateway can connect to a TCP server and exchange ASCII-based texts with it.

## 5.3.1. To Casambi

Here you can set which actions the device should carry out in the Casambi system when a command comes to the gateway via the network.

**Casambi Ethernet Gateway v1.25**

| Generell Settings | To Casambi | From Casambi | Console |
|---|---|---|---|
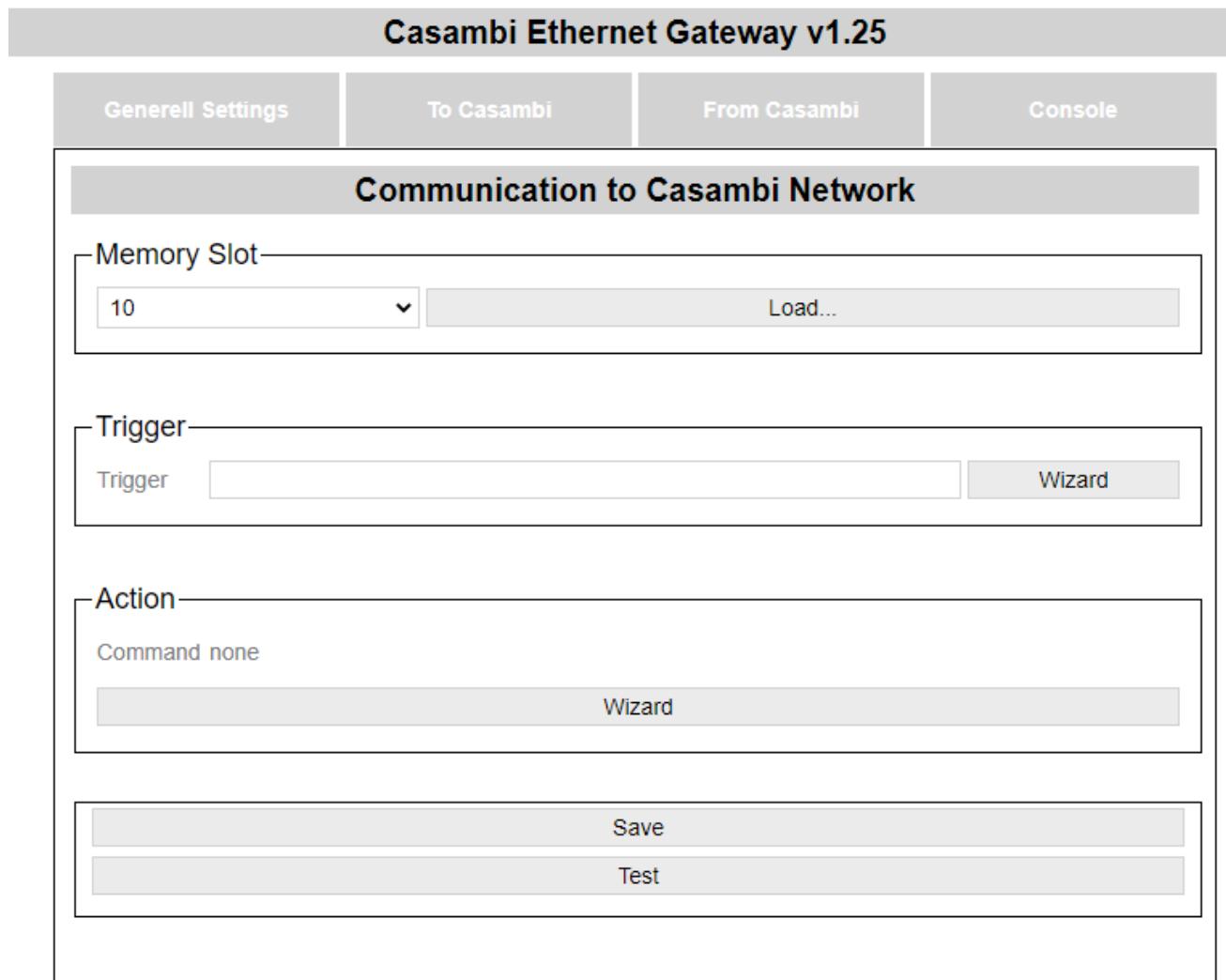
**Communication to Casambi Network**

Memory Slot

| 10 | ⌄ | Load... |
|---|---|---|

Trigger

| Trigger | | Wizard |
|---|---|---|

Action

Command none

| Wizard |
|---|

| Save |
|---|
| Test |

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The "Save" button saves the entry in the selected slot.

The "Test" button carries out the action in order to be able to check whether the correct action has been selected.

## 5.3.1.1. Select storage location

As a first step, a memory location must be selected on which the action is to be saved:



The storage location can be selected using the drop-down list and the content can be displayed on the website with the "Load ..." button.

## 5.3.1.2. Trigger

```
┌─Trigger────────────────────────────────────────────┐
│  Trigger    [                                     ] │
└─────────────────────────────────────────────────────┘
```

The command to which the gateway should react is entered in the text field.

## 5.3.1.3. Action



With the button wizard, the dialog for setting the action is called. A new page will then open:



The "next step" button switches to the next step in the wizard. The button "step Back" allows you to take a step back.

Descriptions of the commands in the wizard are available here: "Protokoll/Casambi"



After setting the action-specific settings, the generated command is displayed. You can try it out with a test and apply it with Apply.

## 5.3.2. From Casambi

Here you can set what the gateway should send on the network as soon as e.g. Scene calls from the Casambi world are available.



The "Save" button saves the entry in the selected slot.

The "Test" button carries out the action in order to be able to check whether the correct action has been selected.

## 5.3.2.1. Select storage location

As a first step, a memory location must be selected on which the action is to be saved:

| 0 ▾ | Load... |

The storage location can be selected using the drop-down list and the content can be displayed on the website with the "Load ..." button.

## 5.3.2.2. Trigger

The trigger specifies when an action should be triggered.

```
┌─Trigger─────────────────────────────────────────────────────┐
│                                                              │
│  Bit_1      ( ) OFF                                           │
│                                                              │
│  Bit_2      ( ) OFF                                           │
│                                                              │
│  Bit_3      ( ) OFF                                           │
│                                                              │
│  Bit_4      ( ) OFF                                           │
│                                                              │
│  Bit_5      ( ) OFF                                           │
│                                                              │
│  Bit_6      ( ) OFF                                           │
│                                                              │
│  Bit_7      ( ) OFF                                           │
│                                                              │
│  Bit_8      ( ) OFF                                           │
│                                                              │
└──────────────────────────────────────────────────────────────┘
```

The triggers are used to set at which scene recall in the Casambi the command stored under "Action" is to be sent on the network.

In the Casambi system you can choose which bits are active in the trigger for a scene. (Picture below)

Bit_1                                              ◯

Bit_2                                              ◯

Bit_3                                              ◯

Bit_4                                              ◯

Bit_5                                              ◯

Bit_6                                              ◯

Bit_7                                              ◯

Bit_8                                              ◯

With the Submit button the entered is saved.

With the test button you can check whether the entered action is the right one.

## 5.3.2.3. Action

Action

The command that the gateway should send is entered in the text field.

## 5.4. Free commands over UDP

In this operating mode, the gateway sends out defined ASCII strings via UDP broadcast or reacts to them and triggers corresponding actions in the Casambi system.

## 5.4.1. To Casambi

Here you can set which actions the device should carry out in the Casambi system when a command comes to the gateway via the network.
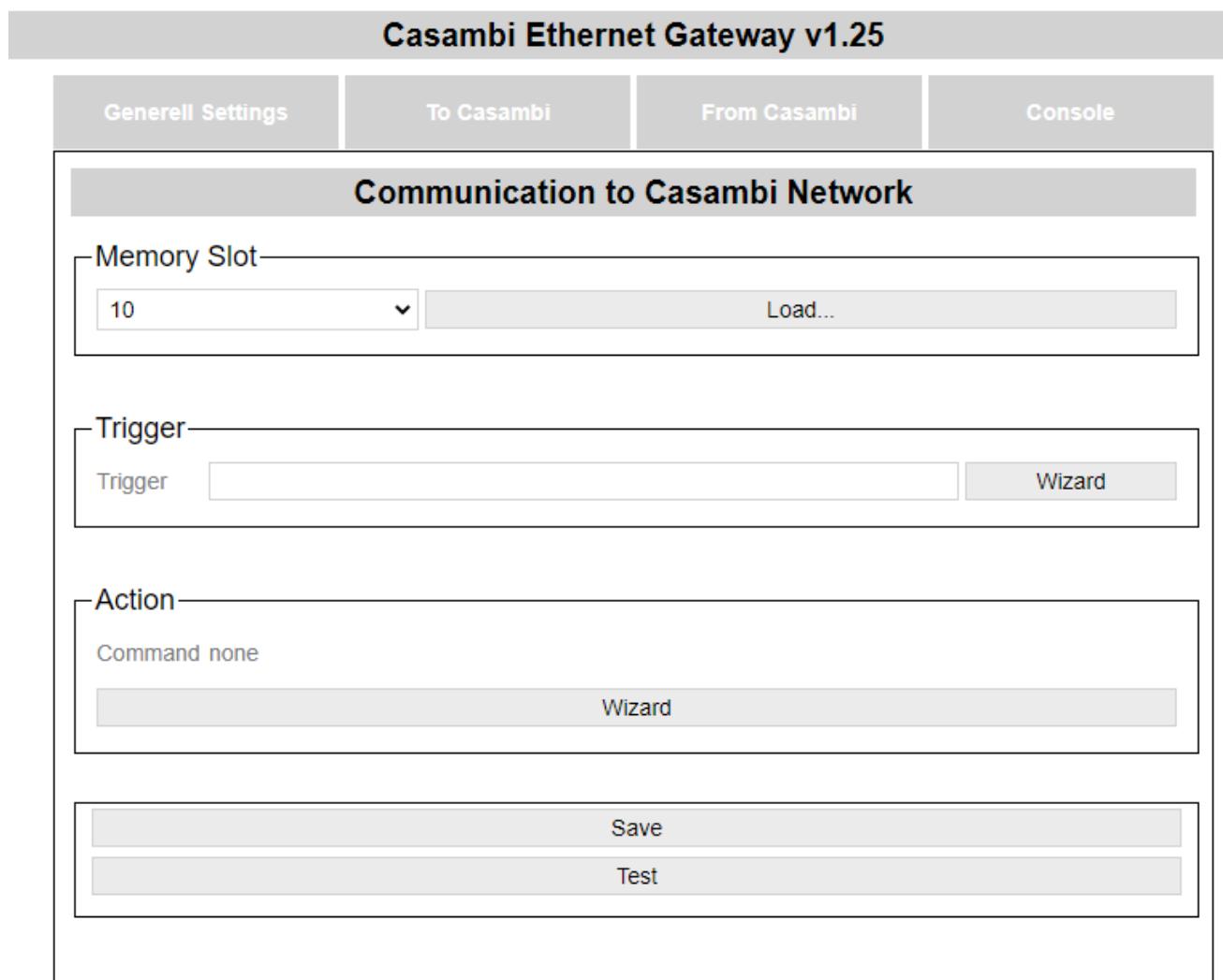


The "Save" button saves the entry in the selected slot.

The "Test" button carries out the action in order to be able to check whether the correct action has been selected.

## 5.4.1.1. Select storage location

As a first step, a memory location must be selected on which the action is to be saved:



The storage location can be selected using the drop-down list and the content can be displayed on the website with the "Load ..." button.

### 5.4.1.2. Trigger

Trigger

Trigger [                                                                    ]

The command to which the gateway should react is entered in the text field.

## 5.4.1.3. Action

```
┌─Action────────────────────────────────────────────────────────────┐
│                                                                    │
│  Command  none                                                     │
│                                                                    │
│  ┌──────────────────────────────────────────────────────────────┐ │
│  │                         Wizard                               │ │
│  └──────────────────────────────────────────────────────────────┘ │
│                                                                    │
└────────────────────────────────────────────────────────────────────┘
```

With the button wizard, the dialog for setting the action is called. A new page will then open:

```
┌─Action Builder────────────────────────────────────────────────────┐
│                                                                    │
│  Command  │ none                                                ▾│ │
│                                                                    │
│                      ┌─────────────────────────────────────────┐  │
│                      │              next step                  │  │
│                      └─────────────────────────────────────────┘  │
└────────────────────────────────────────────────────────────────────┘
```

The "next step" button switches to the next step in the wizard. The button "step Back" allows you to take a step back.

Descriptions of the commands in the wizard are available here: ["Protokoll/Casambi"](#)

```
┌─Action Builder────────────────────────────────────────────────────┐
│                                                                    │
│  Command                            none                          │
│                                                                    │
│  ┌──────────────────────────┐    ┌──────────────────────────────┐ │
│  │        step back         │    │            Test              │ │
│  └──────────────────────────┘    └──────────────────────────────┘ │
│  ┌──────────────────────────────────────────────────────────────┐ │
│  │                         Apply                                │ │
│  └──────────────────────────────────────────────────────────────┘ │
└────────────────────────────────────────────────────────────────────┘
```

After setting the action-specific settings, the generated command is displayed. You can try it out with a test and apply it with Apply.

## 5.4.2. From Casambi

Here you can set what the gateway should send on the network as soon as e.g. Scene calls from the Casambi world are available.



The "Save" button saves the entry in the selected slot.

The "Test" button carries out the action in order to be able to check whether the correct action has been selected.

## 5.4.2.1. Select storage location

As a first step, a memory location must be selected on which the action is to be saved:

| 0 ▼ | Load... |

The storage location can be selected using the drop-down list and the content can be displayed on the website with the "Load ..." button.

## 5.4.2.2. Trigger

The trigger specifies when an action should be triggered.

Trigger

| | |
|---|---|
| Bit_1 | OFF |
| Bit_2 | OFF |
| Bit_3 | OFF |
| Bit_4 | OFF |
| Bit_5 | OFF |
| Bit_6 | OFF |
| Bit_7 | OFF |
| Bit_8 | OFF |

The triggers are used to set at which scene recall in the Casambi the command stored under "Action" is to be sent on the network.

In the Casambi system you can choose which bits are active in the trigger for a scene. (Picture below)

| | |
|---|---|
| Bit_1 | O |
| Bit_2 | O |
| Bit_3 | O |
| Bit_4 | O |
| Bit_5 | O |
| Bit_6 | O |
| Bit_7 | O |
| Bit_8 | O |

With the Submit button the entered is saved.

With the test button you can check whether the entered action is the right one.

### 5.4.2.3. Action

**Action**

The command that the gateway should send is entered in the text field.
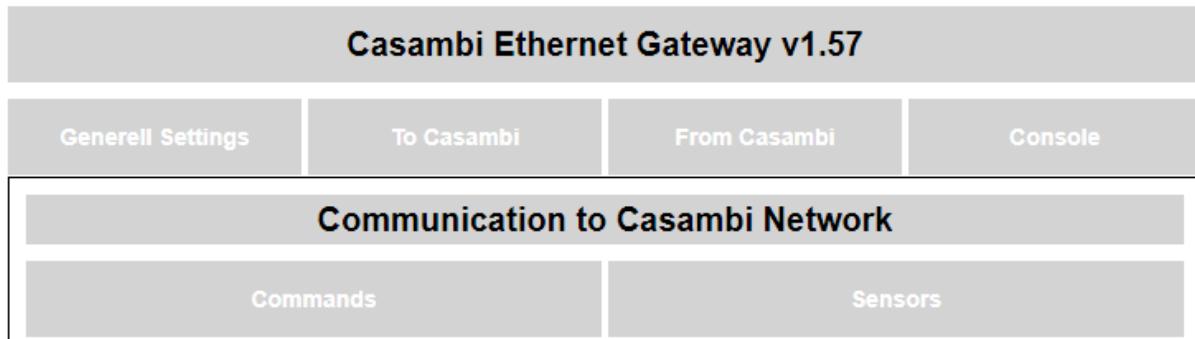
## 5.5. HelvarNet (TCP)

Bei dieser Betriebsart, sendet das Gateway definierte HelvarNet Befehle an ein Imagine Router System der Firma Helver. Ebenso kann es auf Befehle aus diesem reagieren.

## 5.5.1. To Casambi

Here you can set which actions the device should carry out in the Casambi system when a command comes to the gateway via the network.

Depending on the system, you can either go directly to the "Commands" page.

| Casambi Ethernet Gateway v1.57 | | | |
|---|---|---|---|
| Generell Settings | To Casambi | From Casambi | Console |
| Communication to Casambi Network | | | |
| Commands | | Sensors | |

In the case of the HelvarNet control system, the "Sensors" page can also be selected from a submenu that is then visible.

## 5.5.1.1. Commands

Here you can set which actions the device should carry out in the Casambi system when a command comes to the gateway via the network.



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The "Save" button saves the entry in the selected slot.

The "Test" button carries out the action in order to be able to check whether the correct action has been selected.

## 5.5.1.1.1. Select storage location

As a first step, a memory location must be selected on which the action is to be saved:

```
┌─Memory Slot────────────────────────────────137──────────────────────────────┐
│  ┌──────────────────────────┬──┐ ┌──────────────────────────────────────────┐ │
│  │ 0                        │ ▼│ │                  Load...                  │ │
│  └──────────────────────────┴──┘ └──────────────────────────────────────────┘ │
└──────────────────────────────────────────────────────────────────────────────┘
```

The storage location can be selected using the drop-down list and the content can be displayed on the website with the "Load ..." button.

## 5.5.1.1.2. Trigger

The command to which the gateway should react is entered in the text field.

Descriptions of the commands in the wizard are available here: "Wizard/HelvarNet"

### 5.5.1.1.3. Action

```
┌─Action──────────────────────────────────────────────────────────┐
│                                                                  │
│  Command none                                                    │
│                                                                  │
│  ┌────────────────────────────────────────────────────────────┐ │
│  │                        Wizard                              │ │
│  └────────────────────────────────────────────────────────────┘ │
│                                                                  │
└──────────────────────────────────────────────────────────────────┘
```

With the button wizard, the dialog for setting the action is called. A new page will then open:

```
┌─Action Builder──────────────────────────────────────────────────┐
│                                                                  │
│  Command  │ none                                            ▼ │  │
│                                                                  │
│                        ┌──────────────────────────────────────┐ │
│                        │            next step                 │ │
│                        └──────────────────────────────────────┘ │
│                                                                  │
└──────────────────────────────────────────────────────────────────┘
```

The "next step" button switches to the next step in the wizard. The button "step Back" allows you to take a step back.

Descriptions of the commands in the wizard are available here: "Protokoll/Casambi"

```
┌─Action Builder──────────────────────────────────────────────────┐
│                                                                  │
│  Command                          none                           │
│                                                                  │
│  ┌────────────────────────┐      ┌────────────────────────────┐ │
│  │      step back         │      │            Test            │ │
│  └────────────────────────┘      └────────────────────────────┘ │
│  ┌────────────────────────────────────────────────────────────┐ │
│  │                        Apply                               │ │
│  └────────────────────────────────────────────────────────────┘ │
│                                                                  │
└──────────────────────────────────────────────────────────────────┘
```

After setting the action-specific settings, the generated command is displayed. You can try it out with a test and apply it with Apply.

## 5.5.1.2. Sensors



A sensor can be specified on this page, which is then queried cyclically every 30s for its current measured value. If a new value is received from the sensor, it is processed and then transferred to the Casambi system.

This function can be activated and deactivated with the Lightsensor drop-down menu. The sensor is only queried if HelvarNet has been selected as the system and the function is activated.

In the case of address, the address is given in the HelvarNet.

[Cluster]. [Router]. [Subnet]. [Device]. [Subdevice]

The cluster and the router ID can be determined from the IP address of the router 192.168.Cluster.Router. The subnet is the Dali line and the device is the device address. The 4 can be used as a sub-device for the multi-sensors.

With "Raw Value" the measured value of the sensor is displayed. This goes from 0 - 200.

This value can then be scaled using a factor. The factor can be set from 0 in steps of 0.01.

The value that is transmitted to the Casambi system is then in Value. This then takes the entered factor into account.

## 5.5.2. From Casambi

Here you can set what the gateway should send on the network as soon as e.g. Scene calls from the Casambi world are available.



The "Save" button saves the entry in the selected slot.

The "Test" button carries out the action in order to be able to check whether the correct action has been selected.

With certain operating modes (UDP Casambi Command, Art-Net) it is not possible to set anything on this page.

## 5.5.2.1. Select storage location

As a first step, a memory location must be selected on which the action is to be saved:



The storage location can be selected using the drop-down list and the content can be displayed on the website with the "Load ..." button.

## 5.5.2.2. Trigger

The trigger specifies when an action should be triggered.

```
┌─Trigger──────────────────────────────────────────────────────────┐
│                                                                   │
│   Bit_1      ( ) OFF                                              │
│                                                                   │
│   Bit_2      ( ) OFF                                              │
│                                                                   │
│   Bit_3      ( ) OFF                                              │
│                                                                   │
│   Bit_4      ( ) OFF                                              │
│                                                                   │
│   Bit_5      ( ) OFF                                              │
│                                                                   │
│   Bit_6      ( ) OFF                                              │
│                                                                   │
│   Bit_7      ( ) OFF                                              │
│                                                                   │
│   Bit_8      ( ) OFF                                              │
│                                                                   │
└───────────────────────────────────────────────────────────────────┘
```

The triggers are used to set at which scene recall in the Casambi the command stored under "Action" is to be sent on the network.

In the Casambi system you can choose which bits are active in the trigger for a scene. (Picture below)

| Bit_1 | ○ |
| Bit_2 | ○ |
| Bit_3 | ○ |
| Bit_4 | ○ |
| Bit_5 | ○ |
| Bit_6 | ○ |
| Bit_7 | ○ |
| Bit_8 | ○ |

With the Submit button the entered is saved.

With the test button you can check whether the entered action is the right one.

## 5.5.2.3. Action

The command that the gateway should send is entered in the text field.

## 5.5.3. HelvarNet Command Builder



The wizard supports you in creating the commands to which the Casambi system should react.

With "Command, various commands are available that can be reacted to.

- Recall Scene (Group)
- Recall Scene (Device)
- Direct Level (Group)
- Direct Level (Device)
- Dimm (Group)
- Dimm (Device)

The "next step" button switches to the next step in the wizard. The button "step Back" allows you to take a step back.



After setting the command-specific settings, the generated command is displayed. You can try it out with a test and apply it with Apply.

After accepting with "Apply", the command is automatically saved in the corresponding slot.

> Addresses must be determined with the designer software!

## 5.5.3.1. Recall Scene (Group)



The group number from the Designer software is entered in the "Address" field

"Block" and "Scene" indicate which scenes are called.

When the "Constant Light" slide switch is set to On, the scene is called up in the constant light control of the Helvar system.

"FadeTime" indicates the fade time to be used. Specification in seconds.

Ignore Fading indicates that the fade time sent with the call should be ignored.

## 5.5.3.2. Recall Scene (Device)

Command Builder

| | |
|---|---|
| Command | Recall Scene (Device) |
| Address | |
| Block | 1 |
| Scene | 1 |
| Fade Time | 0,0 |
| Ignore Fading | OFF |

| step back | next step |
|---|---|

The device number from the Designer software is entered in the "Address" field

"Block" and "Scene" indicate which scenes are called.

"FadeTime" indicates the fade time to be used. Specification in seconds.
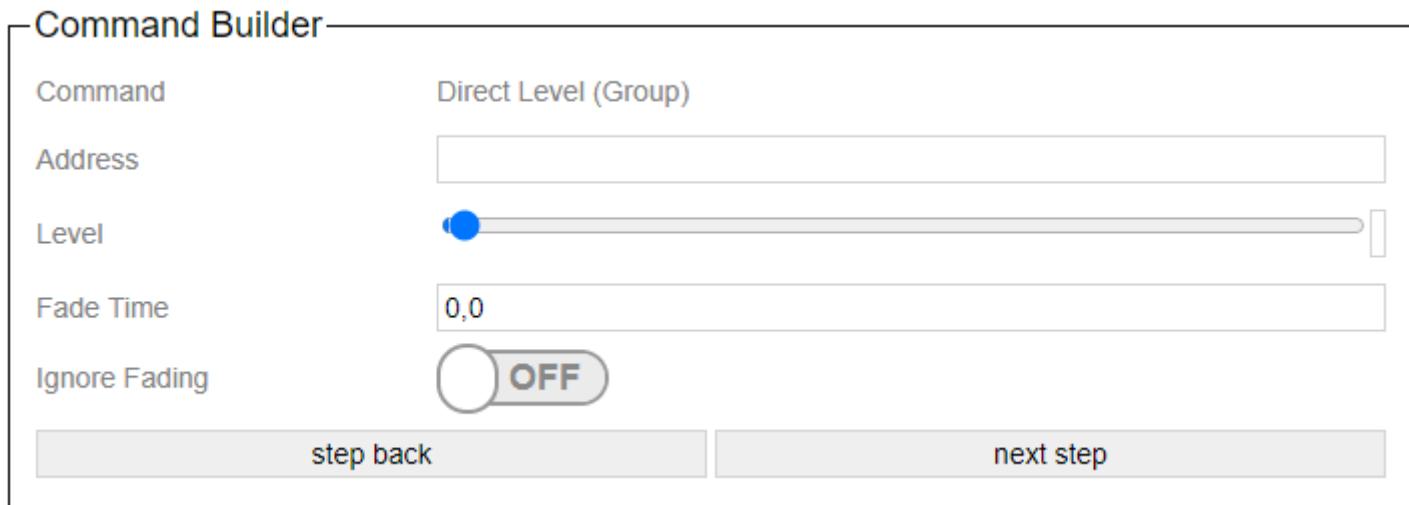
Ignore Fading indicates that the fade time sent with the call should be ignored.

## 5.5.3.3. Direct Level (Group)



The group number from the Designer software is entered in the "Address" field

Level indicates the brightness in (0-254).

"FadeTime" indicates the fade time to be used. Specification in seconds.

Ignore Fading indicates that the fade time sent with the call should be ignored.

## 5.5.3.4. Direct Level (Device)

```
┌─Command Builder────────────────────────────────────────────────┐
│                                                                 │
│  Command           Direct Level (Device)                        │
│                                                                 │
│  Address           ┌─────────────────────────────────────────┐ │
│                    └─────────────────────────────────────────┘ │
│                                                                 │
│  Level             ●──────────────────────────────────────────  │
│                                                                 │
│  Fade Time         ┌─────────────────────────────────────────┐ │
│                    │ 0,0                                      │ │
│                    └─────────────────────────────────────────┘ │
│                                                                 │
│  Ignore Fading     (  ) OFF                                     │
│                                                                 │
│  ┌────────────────────────┐  ┌────────────────────────────┐    │
│  │       step back        │  │        next step           │    │
│  └────────────────────────┘  └────────────────────────────┘    │
└─────────────────────────────────────────────────────────────────┘
```

The device number from the Designer software is entered in the "Address" field

Level indicates the brightness in (0-254).

"FadeTime" indicates the fade time to be used. Specification in seconds.

Ignore Fading indicates that the fade time sent with the call should be ignored.

## 5.5.3.5. Dimm (Group)

```
┌─Command Builder──────────────────────────────────────────────┐
│                                                              │
│  Command            Dimm (Group)                             │
│                                                              │
│  Group              ┌──────────────────────────────────────┐ │
│                     │ 1                                    │ │
│                     └──────────────────────────────────────┘ │
│                                                              │
│                                                              │
│  Fade Time          ┌──────────────────────────────────────┐ │
│                     │ 0,0                                  │ │
│                     └──────────────────────────────────────┘ │
│  Ignore Fading         (○) OFF                               │
│  ┌─────────────────────────────┐┌─────────────────────────────┐│
│  │        step back            ││        next step            ││
│  └─────────────────────────────┘└─────────────────────────────┘│
└──────────────────────────────────────────────────────────────┘
```

The group number from the Designer software is entered in the "Address" field.

"FadeTime" specifies the fade time to be used. Specified in seconds.

Ignore Fading specifies that the fade time sent with the call is to be ignored.

For dimming it is best to set Ignore Fading to On.

## 5.5.3.6. Dimm (Device)

Command Builder

| | |
|---|---|
| Command | Dimm (Device) |
| Device | 1 |
| Fade Time | 0,0 |
| Ignore Fading | OFF |

| step back | next step |
|---|---|

The device number from the Designer software is entered in the "Address" field.

"FadeTime" specifies the fade time to be used. Specified in seconds.

Ignore Fading specifies that the fade time sent with the call is to be ignored.

For dimming it is best to set Ignore Fading to On.

## 5.6. MQTT
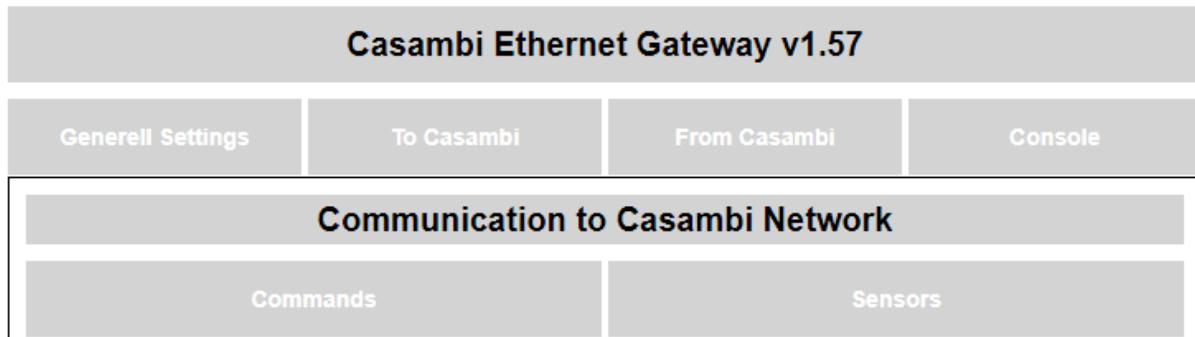
In this operating mode, the gateway can be addressed via MQTT and also accepts control commands.

## 5.6.1. View in the gateway

Settings of the gateway via the internal website.

## 5.6.1.1. To Casambi

Here you can set which actions the device should carry out in the Casambi system when a command comes to the gateway via the network.

### 5.6.1.1.1. Commands

Warning!
This "Command" settings are not used in "MQTT" mode.

These settings are not used in the MQTT operating mode.

## 5.6.1.1.2. Sensors MQTT

**Communication to Casambi Network**

| Commands | Sensors |
|---|---|

**Lightsensor**

| | |
|---|---|
| Lightsensor | inactive ⌄ |
| Raw Value | 0 |
| Factor | 1,00 |
| Value | 0 |

Save

**Presence**

| | |
|---|---|
| Presence Detection | inactive ⌄ |
| State | inactive |

Save

The parameters for setting sensor messages can be set here.

## 5.6.1.1.2.1. Lightsensor



With the drop-down list "Lightsensor" the transfer of the light sensor data into the Casambi system can be started.

With "Raw Value" the value that is transmitted via BacNet / IP is displayed.

The value factor can be used to adjust the value that is delivered via BacNet / IP.

With Value, the value that is transferred to the Casambi system is displayed. It is calculated using the formula: Value = Raw Value * Factor.

Every changed value via BacNet is passed on to the Casambi system if "Lightsensor" is active.

## 5.6.1.1.2.2. Presence



The transfer of a value as presence detection can be started with the drop-down list "Presence Detection".

In the case of State, an inactive or active is displayed. Depending on the parameters that are transmitted via BacNet / IP.

0 = inactive
1 = active

## 5.6.1.2. From Casambi

Warning!
This settings are not used in "MQTT" mode.

This page is not used under MQTT.

## 5.6.2. View in MQTT

Description of the commands and options in MQTT.

All values are transferred as a JSON structure.

[id] must be replaced by the ID of the number set as NET ID in the settings.

## 5.6.2.1. MQTT data received

## 5.6.2.1.1. Gateway

**Return call of a scene**

For this purpose, the gateway is added to the scene in the Casambi software.
By means of the 8 sliders a unique number (binary) can now be generated,
which is returned accordingly with a call of the scene over this value.

```
casambi/[id]/get/scene_call
{
  "scene":2
}
```

## 5.6.2.1.2. Broadcast

**Return values that are retrieved internally for the whole network**
level = average value of the luminaires
last_level = last level something was called with
cct_level = color temperature value
vertical = direct/indirect proportion
last_change = time in s at which the last change was made

```
casambi/[id]/get/poll_broadcast
{
  "level": 0,
  "last_level": 255,
  "cct_level": 127,
  "vertical": 130,
  "last_change": 79712
}
```

## 5.6.2.1.3. Device

**Notification when a fixture has been removed**
device = address of the device that was removed

```
casambi/[id]/get/node_deleted
{
  "device":1
}
```

> ⚠ The following commands require Casambi Evolution 37.90 or higher.

**Return settings retrieved for a device.**
A description of the parameters can be found [here](#).
last_change = time in s at which the last change was made

[device_address] = address of the device (1 - 250)

```
casambi/[id]/get/poll_device/[device_address]/propertys
{
  "online": 1,
  "node_type": 0,
  "priority": 18,
  "scene_type": 0,
  "color_selector": 0,
  "color_balance": 0,
  "condition": 0,
  "ambient_temperatur": 0,
  "battery_level": 0,
  "overheating": 0,
  "general_failure": 0,
  "last_change": 75136
}
```

**Return values retrieved for a device.**
A description of the parameters can be found [here](#).
last_change = time in s at which the last change was made

[device_address] = address of the device (1 - 250)

```
casambi/[id]/get/poll_device/[device_address]/values
{
  "scene": 27,
  "level": 255,
  "last_level": 0,
  "cct_level": 0,
  "red": 0,
  "green": 0,
  "blue": 0,
  "white": 0,
  "hue": 0,
  "sat": 0,
  "x": 0,
```

```
  "y": 0,
  "level_xy": 0,
  "vertical": 127,
  "last_change": 76808
}
```

## Return dimmers that have been changed for a device

last_change = time in s at which the last change was made

[device_address] = address of the device (1 - 250)

```
casambi/[id]/get/poll_devicet/[device_address]/element_dimmer
{
 "dimmer_1": 255,
 "dimmer_2": 0,
 "dimmer_3": 0,
 "dimmer_4": 0,
 "last_change": 76868
}
```

## Return sliders that have been changed for a device

last_change = time in s at which the last change was made

[device_address] = address of the device (1 - 250)

```
casambi/[id]/get/poll_devicet/[device_address]/element_slider
{
 "slider_1": 0,
 "slider_2": 0,
 "slider_3": 0,
 "slider_4": 0,
 "slider_5": 0,
 "slider_6": 0,
 "slider_7": 0,
 "slider_8": 0,
 "last_change": 76928
}
```

## Return On/Off toggles that have been changed for a device

last_change = time in s at which the last change was made

[device_address] = address of the device (1 - 250)

```
casambi/[id]/get/poll_devicet/[device_address]/element_onoff
{
 "onoff_1": 0,
 "onoff_2": 1,
 "onoff_3": 1,
 "onoff_4": 0,
 "onoff_5": 0,
 "onoff_6": 0,
 "onoff_7": 0,
 "onoff_8": 0,
 "last_change": 76988
}
```

**Return buttons that have been changed for a device**

last_change = time in s at which the last change was made

[device_address] = address of the device (1 - 250)

```
casambi/[id]/get/poll_devicet/[device_address]/element_button
{
  "button_1": 0,
  "button_2": 0,
  "button_3": 0,
  "button_4": 0,
  "button_5": 0,
  "button_6": 0,
  "button_7": 0,
  "button_8": 0,
  "last_change": 77048
}
```

**Return sensor values that have been changed for a device**

last_change = time in s at which the last change was made

[device_address] = address of the device (1 - 250)
sens_pir = 0 (no presence), 1 (presence)

```
casambi/[id]/get/poll_devicet/[device_address]/sensors
{
  "sens_pir": 0,
  "sens_lux": 1218,
  "last_change": 77124
}
```

## 5.6.2.1.4. ungrouped

**Return values that were retrieved internally for ungrouped.**
A description of the parameters can be found here.
last_change = time in s at which the last change was made

```
casambi/[id]/get/poll_ungrouped
{
 "level": 0,
 "last_level": 255,
 "cct_level": 127,
 "vertical": 130,
 "last_change": 79872
}
```

## 5.6.2.1.5. Groups

**Return values that were retrieved internally for a group.**
A description of the parameters can be found [here](#).
last_change = time in s at which the last change was made

[group] = group (1 - 255)

```
casambi/[id]/get/poll_group/[group]
{
  "level": 0,
  "last_level": 255,
  "cct_level": 127,
  "vertical": 127,
  "last_change": 79925
}
```

## 5.6.2.1.6. Scenes

**<u>Return values that were retrieved internally for a scene.</u>**
A description of the parameters can be found [here](#).
last_change = time in s at which the last change was made

[scene] = scene (1 - 255)

```
casambi/[id]/get/poll_scene/[scene]
{
  "active": 0,
  "level": 255,
  "last_change": 79925
}
```

## 5.6.2.1.7. Button

**Return button presses that come as a message from the system**
last_change = Time in s at which the last change was made

[device_address] = address of the device (1 - 250)
button_type = 0 (push_button), 1 (battery powered device), 2 (rotary button)
button_state = 2 (short_press), 9 (long_press start), 12 (long_press stop)

```
casambi/[id]/get/poll_button/[device_address]
{
  "button_type": 0,
  "button_state_1": 0,
  "button_state_2": 0,
  "button_state_3": 0,
  "button_state_4": 0,
  "button_state_5": 0,
  "button_state_6": 0,
  "button_state_7": 0,
  "button_state_8": 0,
  "last_change": 77048
}
```

## 5.6.2.2. Send MQTT data

> ℹ️ As of Casambi Evolution firmware 34.50 up to 8 buttons are prepared.

**Set the light sensor value that the gateway can supply**

```
casambi/[id]/set/light_sensor
{
  "lux_level":10
}
```

**Set the PIR status that the gateway can provide**
1 = Sensor presence detected
0 = Sensor no presence

```
casambi/[id]/set/pir_sensor
{
  "pir_sensor":1
}
```

**Set the push button status that the gateway can deliver.**
Button can be 0-3 or 0-7 depending on the version. 0-7 requires _EVO firmware.

```
casambi/[id]/set/push_button_pressed
{
  "button":1
}
```

```
casambi/[id]/set/push_button_released
{
  "button":1
}
```

**Brodcast Level Set**

```
casambi/[id]/set/level
{
  "level":171,
  "duration":1
}
```

**Call scene with level**

```
casambi/[id]/set/scene_level
{
  "level":165,
  "scene":2,
  "duration":2
}
```

**Call group with level**

172

```
casambi/[id]/set/groups_level
{
  "group":2,
  "duration":2,
  "level":254
}
```

## PushButton Call target with level

```
casambi/[id]/set/push_button_level
{
  "level":185,
  "button":1
}
```

> ⚠️ The following commands require Casambi Evolution 33.22 or higher.

## Set target to level
A description of the parameters can be found [here](here).

```
casambi/[id]/set/target_level
{
  "level":171,
  "duration":1,
  "targetid":1,
  "targettype":1
}
```

## Set target to Tc
A description of the parameters can be found [here](here).

```
casambi/[id]/set/target_tc
{
  "tc":171,
  "duration":1,
  "targetid":1,
  "targettype":1
}
```

> ⚠️ The following commands require Casambi Evolution 34.50 or higher.

## Set target to RGBW
A description of the parameters can be found [here](here).

```
casambi/[id]/set/target_rgbw
{
  "red":171,
  "green":1,
  "blue":1,
  "white":255,
  "targetid":1,
```

173

```
    "targettype":1,
    "level":255
  }
```

## Set target to Hue/Sat
A description of the parameters can be found [here](#).

```
  casambi/[id]/set/target_huesat
  {
   "hue":65000,
   "sat":254,
   "white":255,
   "targetid":1,
   "targettype":1,
   "level":255
  }
```

⚠️  The following commands require Casambi Evolution 37.00 or higher.

## Set target to vertical
A description of the parameters can be found [here](#).

```
  casambi/[id]/set/target_vertical
  {
   "vertrical":127,
   "duration":1,
   "targetid":1,
   "targettype":1
  }
```

⚠️  The following commands require Casambi Evolution 37.80 or higher.

## Target start_automation
A description of the parameters can be found [here](#).

```
  casambi/[id]/set/execute_automation
  {
   "targetid":1,
   "targettype":1
  }
```

⚠️  The following commands require Casambi Evolution 37.90 or higher.

## Set Target Dimmer
A description of the parameters can be found [here](#).

```
casambi/[id]/set/target_dimmers
{
  "dimmer_index":0,
  "dimmer_value":1,
  "duration":1,
  "targetid":1,
  "targettype":1
}
```

## Set Target Elements

A description of the parameters can be found [here](here).

```
casambi/[id]/set/target_elements
{
  "element_index":0,
  "element_value":1,
  "duration":1,
  "targetid":1,
  "targettype":1
}
```

## 5.6.3. Poling

In this operating mode, certain values are queried cyclically and the variables are automatically adjusted.

Polled cyclically:

- The level of the scenes and whether they are active. If not active then the level is 0
- The level of a group
- The level of the broadcast entry
- Whether the device is reachable (online) and what its state is.
- Red, Green, Blue, White, Hue, Sat of a device
- Red, Green, Blue, White, Hue, Sat of a group
- Red, Green, Blue, White, Hue, Sat of Broadcast
- Red, Green, Blue, White, Hue, Sat of ungrouped fixtures
- Sensor values PIR
- Sensor values LUX

## 5.7. Netcomposer

In this operating mode, the gateway sends defined Netcomposer commands to a Netcomposer system from Eutrac. It can also react to commands from this.

## 5.7.1. To Casambi

Here you can set which actions the device should carry out in the Casambi system when a command comes to the gateway via the network.



### Casambi Ethernet Gateway v1.25

| Generell Settings | To Casambi | From Casambi | Console |
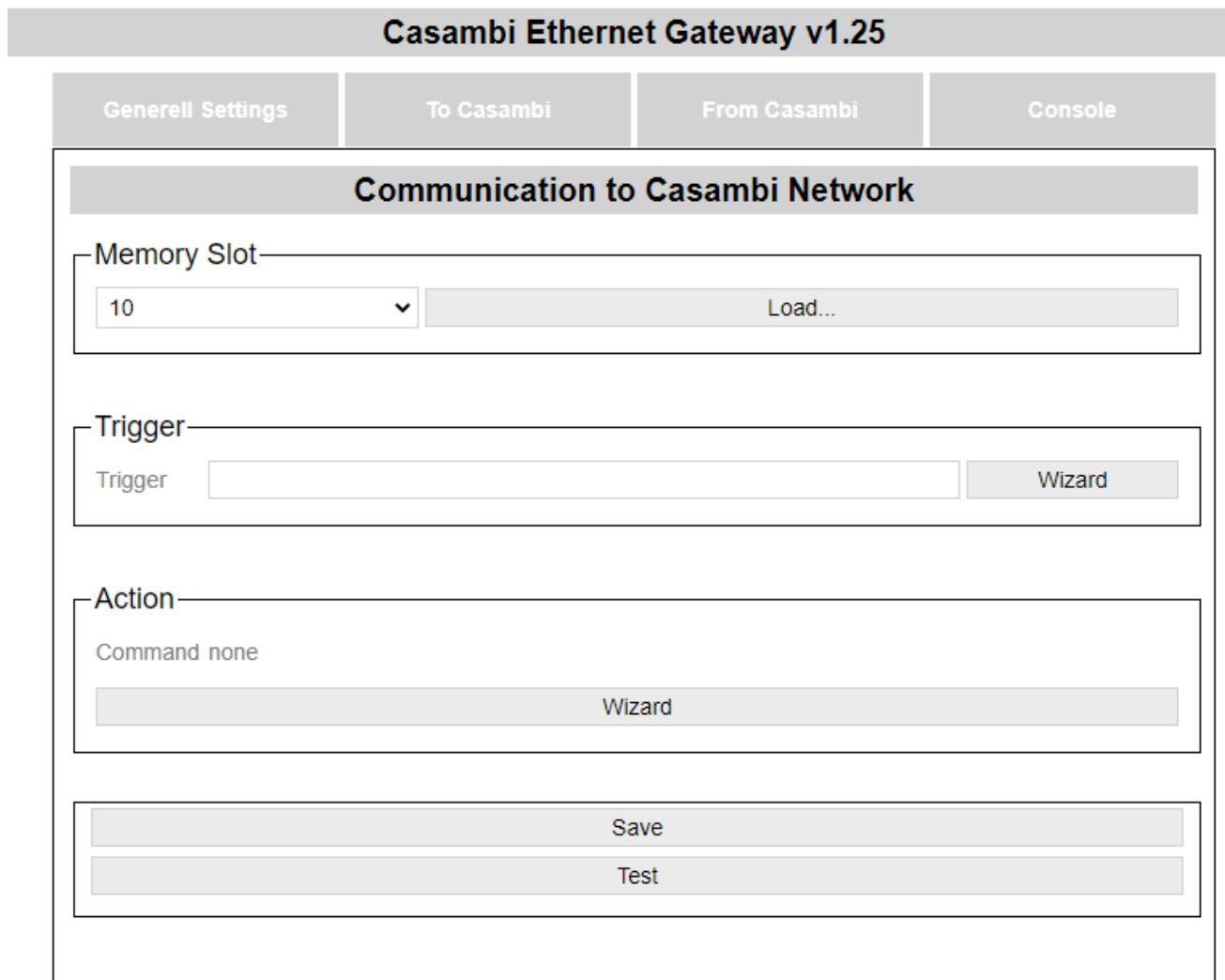
**Communication to Casambi Network**

Memory Slot
10 | Load...

Trigger
Trigger | | Wizard

Action
Command none
Wizard

Save
Test

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The "Save" button saves the entry in the selected slot.

The "Test" button carries out the action in order to be able to check whether the correct action has been selected.

## 5.7.1.1. Select storage location

As a first step, a memory location must be selected on which the action is to be saved:

Memory Slot

| 0 | ▼ | Load... |

The storage location can be selected using the drop-down list and the content can be displayed on the website with the "Load ..." button.

## 5.7.1.2. Trigger

The command to which the gateway should react is entered in the text field.

## 5.7.1.3. Action

```
┌─Action──────────────────────────────────────────────────────────┐
│                                                                  │
│ Command  none                                                    │
│                                                                  │
│ ┌──────────────────────────────────────────────────────────────┐│
│ │                        Wizard                                 ││
│ └──────────────────────────────────────────────────────────────┘│
│                                                                  │
└──────────────────────────────────────────────────────────────────┘
```

With the button wizard, the dialog for setting the action is called. A new page will then open:

```
┌─Action Builder──────────────────────────────────────────────────┐
│                                                                  │
│ Command  ┌──────────────────────────────────────────────────┐ ▼ │
│          │ none                                             │    │
│          └──────────────────────────────────────────────────┘    │
│                        ┌─────────────────────────────────────────┐│
│                        │             next step                   ││
│                        └─────────────────────────────────────────┘│
└──────────────────────────────────────────────────────────────────┘
```

The "next step" button switches to the next step in the wizard. The button "step Back" allows you to take a step back.

Descriptions of the commands in the wizard are available here: "Protokoll/Casambi"

```
┌─Action Builder──────────────────────────────────────────────────┐
│                                                                  │
│ Command                         none                             │
│ ┌──────────────────────────────┐ ┌──────────────────────────────┐│
│ │         step back            │ │            Test              ││
│ └──────────────────────────────┘ └──────────────────────────────┘│
│ ┌──────────────────────────────────────────────────────────────┐│
│ │                        Apply                                  ││
│ └──────────────────────────────────────────────────────────────┘│
└──────────────────────────────────────────────────────────────────┘
```

After setting the action-specific settings, the generated command is displayed. You can try it out with a test and apply it with Apply.

## 5.7.2. From Casambi

Here you can set what the gateway should send on the network as soon as e.g. Scene calls from the Casambi world are available.



The "Save" button saves the entry in the selected slot.

The "Test" button carries out the action in order to be able to check whether the correct action has been selected.

## 5.7.2.1. Select storage location

As a first step, a memory location must be selected on which the action is to be saved:



The storage location can be selected using the drop-down list and the content can be displayed on the website with the "Load ..." button.

## 5.7.2.2. Trigger

The trigger specifies when an action should be triggered.

```
┌─Trigger──────────────────────────────────────────────────┐
│                                                           │
│  Bit_1      ( ) OFF                                        │
│                                                           │
│  Bit_2      ( ) OFF                                        │
│                                                           │
│  Bit_3      ( ) OFF                                        │
│                                                           │
│  Bit_4      ( ) OFF                                        │
│                                                           │
│  Bit_5      ( ) OFF                                        │
│                                                           │
│  Bit_6      ( ) OFF                                        │
│                                                           │
│  Bit_7      ( ) OFF                                        │
│                                                           │
│  Bit_8      ( ) OFF                                        │
│                                                           │
└───────────────────────────────────────────────────────────┘
```

The triggers are used to set at which scene recall in the Casambi the command stored under "Action" is to be sent on the network.

In the Casambi system you can choose which bits are active in the trigger for a scene. (Picture below)

Bit_1                                          ◯

Bit_2                                          ◯

Bit_3                                          ◯

Bit_4                                          ◯

Bit_5                                          ◯

Bit_6                                          ◯

Bit_7                                          ◯

Bit_8                                          ◯

With the Submit button the entered is saved.

With the test button you can check whether the entered action is the right one.

## 5.7.2.3. Action

The command that the gateway should send is entered in the text field.

## 5.7.3. Netcomposer Command Builder

```
┌─Command Builder──────────────────────────────────────────┐
│  NCR Address        255                                   │
│  Command            None                              ▼   │
│                     ┌──────────────────────────────────┐  │
│                     │          next step               │  │
│                     └──────────────────────────────────┘  │
└───────────────────────────────────────────────────────────┘
```

The wizard supports you in creating the commands to which the Casambi system should react.

The "NCR Address" specifies which NCR address is to be responded to. 255 is "all".

With "Command" various commands are available which can be reacted to.

- Device Level
- Scene
- Group with Scene
- Group with Level
- Sequence

The "next step" button switches to the next step in the wizard. The button "step Back" allows you to take a step back.

```
┌─Result───────────────────────────────────────────────────┐
│  ┌──────────────────────────────────────────────────────┐ │
│  │                                                      │ │
│  └──────────────────────────────────────────────────────┘ │
│  ┌──────────────────────────┐ ┌─────────────────────────┐ │
│  │       step back          │ │         Test            │ │
│  └──────────────────────────┘ └─────────────────────────┘ │
│  ┌──────────────────────────────────────────────────────┐ │
│  │                    Apply                             │ │
│  └──────────────────────────────────────────────────────┘ │
└───────────────────────────────────────────────────────────┘
```

After setting the command-specific settings, the generated command is displayed. You can try it out with a test and apply it with Apply.

After accepting with "Apply", the command is automatically saved in the corresponding slot.

## 5.7.3.1. Device Level

```
┌─ Command Builder ────────────────────────────────────────────────┐
│                                                                    │
│  NCR Address              255                                      │
│                                                                    │
│  Command                  Device Level                             │
│                                                                    │
│  Device                   [0                              ]        │
│                                                                    │
│  Level                    [●────────────────────────]  [0 ]       │
│                                                                    │
│  Fading                   [0                              ]        │
│                                                                    │
│  Ignore Fading            ( ◯ OFF )                               │
│                                                                    │
│  [      step back      ]     [      next step      ]              │
│                                                                    │
└────────────────────────────────────────────────────────────────────┘
```

The device address of the destination is specified for Device.

The desired brightness is specified under Level.

In the case of fading, the corresponding fade time.

"Ignore Fading" lets you ignore the fade time in the call.

## 5.7.3.2. Scene

```
┌─Command Builder─────────────────────────────────────┐
│                                                      │
│  NCR Address          255                            │
│                                                      │
│  Command              Scene                          │
│                                                      │
│  Scene              ┌──────────────────────────────┐ │
│                     │ 0                            │ │
│                     └──────────────────────────────┘ │
│  Fading             ┌──────────────────────────────┐ │
│                     │ 0                            │ │
│                     └──────────────────────────────┘ │
│  Ignore Fading        (○ OFF )                       │
│                                                      │
│  ┌────────────────────────┐┌────────────────────────┐│
│  │      step back         ││      next step         ││
│  └────────────────────────┘└────────────────────────┘│
└──────────────────────────────────────────────────────┘
```

The desired scene is specified for Scene.

In the case of fading, the corresponding fade time.

"Ignore Fading" lets you ignore the fade time in the call.

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## 5.7.3.3. Group with Scene

```
┌─Command Builder─────────────────────────────────────────────┐
│  NCR Address            255                                  │
│                                                              │
│  Command                Group with Scene                     │
│                                                              │
│  Group              ┌──────────────────────────────────────┐│
│                     │ 0                                    ││
│                     └──────────────────────────────────────┘│
│  Scene              ┌──────────────────────────────────────┐│
│                     │ 0                                    ││
│                     └──────────────────────────────────────┘│
│  Fading             ┌──────────────────────────────────────┐│
│                     │ 0                                    ││
│                     └──────────────────────────────────────┘│
│  Ignore Fading          (  OFF  )                            │
│  ┌────────────────────────┐  ┌────────────────────────────┐ │
│  │      step back         │  │       next step            │ │
│  └────────────────────────┘  └────────────────────────────┘ │
└──────────────────────────────────────────────────────────────┘
```

For Group, the group number of the destination is specified.

The desired scene is specified for Scene.

In the case of fading, the corresponding fade time.

"Ignore Fading" lets you ignore the fade time in the call.

## 5.7.3.4. Group with Level

```
┌─Command Builder─────────────────────────────────────────────────┐
│  NCR Address          255                                        │
│                                                                  │
│  Command              Group with Level                           │
│                                                                  │
│  Group                [ 0                                     ]  │
│                                                                  │
│  Level                [●──────────────────────────────○] [ 0 ]  │
│                                                                  │
│  Fading               [ 0                                     ]  │
│                                                                  │
│  Ignore Fading        ( ◯ OFF )                                  │
│                                                                  │
│  [        step back        ]  [        next step        ]       │
└──────────────────────────────────────────────────────────────────┘
```

The device address of the destination is specified for Device.

The desired brightness is specified under Level.

In the case of fading, the corresponding fade time.

"Ignore Fading" lets you ignore the fade time in the call.

## 5.7.3.5. Sequence

```
┌─Command Builder──────────────────────────────────────────────┐
│                                                              │
│  NCR Address              255                                │
│                                                              │
│  Command                  Sequence                           │
│                                                              │
│  Sequence            [ 0                                   ] │
│                                                              │
│  State               [ stoped                            ▾ ] │
│  ┌──────────────────────────┬─────────────────────────────┐ │
│  │        step back         │        next step            │ │
│  └──────────────────────────┴─────────────────────────────┘ │
└──────────────────────────────────────────────────────────────┘
```

"Sequence" is the sequence number.

"State" indicates whether the sequence is started or stopped.

## 5.8. UDP Casambi Command

In this operating mode, an external control, for example a visualization or a central control device, can connect to the gateway and carry out actions there or react to scene calls / status changes.

## 5.8.1. View in the gateway

Settings of the gateway via the internal website.

## 5.8.1.1. To Casambi

**Communication to Casambi Network**

Warning!

This settings are not used in "UDP Casambi Command" mode.

This page is not used in this mode.

## 5.8.1.2. From Casambi

### Communication to Casambi Network

**Warning!**
This settings are not used in "UDP Casambi Command" mode.

This page is not used in this mode.

## 5.8.2. Control in the network

The structure of the telegrams is fixed. The transmission is byte by byte.

The first byte is the previously assigned "Net ID" in the General Setting dialog.
The second byte indicates whether it is a command from the Casambi system (0x70) or one to this (0x72).

Now comes the part of the command that is to be sent to the Casambi network.

A command is always terminated with /r (0x0D) and /n (0x0A).

Data transmission 1 "hex with dot":

If you want to send Commando 1.40 to the Casambi Bridge with Net ID 1, this would be:
1.72.1.28/r/n

So overall

0x_Net_ID.0x_Command_Direction.0x_Casambi_Data[1...X]/r/n

Data transfer 2 "dec with hash":

If you want to send Commando 1.40 to the Casambi Bridge with Net ID 1, this would be:
1#114#1#40/r/n

So overall

Net_ID#Command_Direction#0x_Casambi_Data[1...X]/r/n

Let's take a closer look at the Casambi_Data[1..X]:

Such a data package always consists of the same parts:

struct packet {
uint8_t length; //length (opcode + arguments)
uint8_t opcode;
uint8_t arguments[length-1];
}

The lengths given for the commands in the manual are the maximum length. The length can change if e.g. optional components such as the fade time should not be specified.
It can also change if the operating mode "dec with hash" is used and commands larger than one byte are combined.
Color temperature or lux values for the brightness sensor could be mentioned here as examples.

Packets with a length of 0 are ignored by the Casambi system.

The length is currently limited to a maximum of 17 bytes and cannot be increased. However, Casambi reserves the right to extend the maximum length in the future.

Packets with an unknown opcode specified should simply be ignored.

A list of the opcodes is given in 5.8.2.1 and 5.8.2.2.

If "Send Ack" has been activated, then a confirmation is sent on the network that the command has been sent. For this the arrived command is sent back with the addition "Ack".

Data transmission 1 "hex with dot": 0x_Net_ID.0x70.0x_Casambi_Data[1...X].ACK/r/n

Data transmission 2 "dec with hash": Net_ID#112#0x_Casambi_Data[1...X]#ACK/r/n

To make a request to all gateways, the ID 255 / 0xFF can be used.

## 5.8.2.1. Commands from the Casambi system

If a packet comes from the Casambi system, the part 0x_Command_Direction is 0x70 or 112.

We only consider the part Casambi_Data [1 ... X] from the general data frame from 5.1

## 5.8.2.1.1. 0x0D - scene called

The gateway must be added to the corresponding scene. Via the slide switches Bit_1 to Bit_8 up to 255 different scenes can be encoded.
Each time the scene is called up, the corresponding command is sent to the network.

Length: 9
Opcode: 0x0D or 13

Data transmission 1 "hex with dot":

Casambi_Data[1...X]: 0x_Bit_1.0x_Bit_2.0x_Bit_3.0x_Bit_4.0x_Bit_5.0x_Bit_6.0x_Bit_7.0x_Bit_8

Example: 0.70.9.d.ff.0.0.0.0.0.0.0d/r/n

Data transfer 2 "dec with hash":

Casambi_Data[1...X]: Bit_1#Bit_2#Bit_3#Bit_4#Bit_5Bit_6#Bit_7#Bit_8

Example: 000#112#009#013#255#000#000#000#000#000#000#000d/r/n

## 5.8.2.1.2. 0x1A - SetParameterValue

Transfer of a parameter from the Casambi system. Response to GetParameterValue.

Length: 0x03
Opcode: 0x1B or 26

Data transmission 1 "hex with dot":

Casambi_Data[1...X]: 0x_Paramter_Number.0x_Paramter_Value

Data transmission 2 "dec with hash":

Casambi_Data[1...X]: Paramter_Number#Paramter_Value

## 5.8.2.1.3. 0x1B - ParametersComplete

Indication that the parameter transfer is completely finished. Response to GetParameterValue.

Length: 0x01
Opcode: 0x1B or 27

No further data.

## 5.8.2.1.4. 0x28 - time received from the Casambi network

Response of the Casambi system to the request to send the current time.

Length: 8
Opcode: 0x28 or 40

Data transmission 1 "hex with dot":

Casambi_Data[1...X]: 0x_year_high.0x_year_low.0x_month.0x_day.0x_hour.0x_minute.0x_second

Example: 0.70.8.28.7.e4.3.5.e.13.1d/r/n

Data transfer 2 "dec with hash":

Casambi_Data[1...X]: year_high#year_low#month#day#hour#minute#second

Example: 000#112#008#040#007#228#003#005#014#019#029/r/n

## 5.8.2.1.5. 0x39 - node status

Details about the current status of a node are transmitted. Responses may come in a burst.

Length: 6
Opcode: 0x39 or 57

Data transmission 1 "hex with dot":

Casambi_Data[1...X]: 0x_Unit_ID.0x_Scene.0x_Priority_Node_Type.0x_Condition.0x_Online

Data transfer 2 "dec with hash":

Casambi_Data[1...X]: Unit_ID#Scene#Priority_Node_Type#Condition#Online

**0x_Scene**
the currently active scene ID

**0x_Priority_Node_Type => Priority**
(0..15, the 6 low-order bits)

1 = emergency
2 = BMS override
3 = manual control
4..14 = Automation priorities
4 [Classic FW] = any automation
8 = Presence
11 = Date timer
12 = clock timer (daily / weekly)
15 = startup

**0x_Priority_Node_Type => Node Type**
(0..3, the 2 most significant bits)

0 and 1 = Active nodes (lights, sensors, push buttons)
2 = switch (passive)
3 = sensor (passive)

**0x_Condition**
0x00, 0x80, 0xA0: ok
0x01: "overheated"
0x09: "overload" (current limit)
0x81: "thermal_overload"
0x82: "lamp_failure"
0x83: "driver_failure"
0x85: "incompatible_hw"
0x86: "hw_not_found"
0x87: "configuration_failed"

**0x_Online**
monitored online status

## 5.8.2.1.6. 0x3A - notify node removed

Notification that a device has been removed from the network. This response can also come when a status of a Nodes was queried that does not exist.

Length: 0x2
Opcode: 0x3A or 58

Data transmission 1 "hex with dot":

Casambi_Data[1...X]: 0x_Unit_ID

> Example: 2.3a.1/r/n

Data transfer 2 "dec with hash":

Casambi_Data[1...X]: Unit_ID

> Example: 002#058#001/r/n

## 5.8.2.1.7. 0x45 - scene status

Details about the current status of a scene are transmitted.

Length: 4
Opcode: 0x45 or 69

Data transmission 1 "hex with dot":

Casambi_Data[1...X]: 0x_Scene.0x_Active.0x_Level

Data transfer 2 "dec with hash":

Casambi_Data[1...X]: Scene#Active#Level

**0x_Scene**
the currently active scene ID

**0x_Active**
(bit 0 all other bits are ignored)

0 = scene inactive
1 = scene active

**0x_Level**
The last known level of the scene.

## 5.8.2.1.8. 0x46 - target status

⚠️ VerticalRatio was added from Evolution firmware greater than 36.70.

Details about the current status of a target are transmitted.

Length: 0x6
Opcode: 0x46 or 70

Data transmission 1 "hex with dot":

Casambi_Data[1...X]: 0x_Target_ID.0x_level.0x_last_level.0x_cct_level.0x_Target_Type

Data transfer 2 "dec with hash":

Casambi_Data[1...X]: Target_ID#level#last_level#cct_level#Target_Type

**0x_Level**
average level of the lights in the group.

**0x_last_Level**
The last "one" level of lights.

**0x_cct_Level**
The last "Tc" level of the lights.

## 5.8.2.1.9. 0x49 - Target Color

⚠️ Only works with Evolution firmware greater than 36.70.

Details about the current color of a target are transmitted.

Length: 0x15 or as requested in the query.
Opcode: 0x49 or 73

Data transmission 1 "hex with dot":

Casambi_Data[1...X]:
0x_Target_Type.0x_Target_ID.0x_level.0x_R.0x_G.0x_B.0x_W.
0x_Hue_h.0x_Hue_l.0x_Sat.0x_X_h.0x_X_l.0x_Y_h.0x_Y_l.0x_level_xy

Data transmission 2 "dec with hash":

Casambi_Data[1...X]: Target_Type#Target_ID#level#R#G#B#W#Hue#Sat#X#Y#level_xy

## 5.8.2.1.10. 0x4B - NotifyControlValues Responses

⚠️ Attention only works with Evolution firmware greater than 37.90

Länge: variable
Opcode: 0x4B or 75

Response messages contain Unit ID and list of controls values as (Type, Value),
where value can be 1 byte for Presence, 2 bytes (u16 value, little-endian) for Lux (Daylight) sensor,
etc. (see the Control types IDs table).

Size of Value is type-dependent if not specified explicitly with (ID, TAG, LEN) header. "Long" variable-size form of value report is indicated with the 0x80 bit in TYPE ID; e.g. LEN=0 can be used for 0 value or 1 byte for [0..255]

Client must be able to consume at least 64 bytes of single message if requesting data updates and ignore any unsupported contents
within notifications.
Longer sets of updates can be split into parts, multiple messages for the same target ID.

Data transmission 1 "hex with dot":

Casambi_Data[1...X]:
0x_Target_ID.0x_type_A.0x_Value_A[1..4]
...
.0x_type_B.0x_Value_B[1..4]
...
.0x_type_C.0x_element_C.0x_length_C.0x_Value_C[1..4]

Data transmission 2 "dec with hash":

Casambi_Data[1...X]:
Target_ID#TYP_A#Value_A[1..4]
...
#Type_B#Value_B[1..4]
...
#Type_C#Element_C#Length_C#Value_C[1..4]

**Typen:**

| Type | Size bytes / Layout | Description |
|---|---|---|
| **1 / 129** | 1 | Dimmer channel; single channels are reported in the short form (TYPE=0x01:VALUE), and indexed controls are reported the the long form with explicit length, see also "Slider" type (15)<br>TYPE=0x81 : {0..7} : LEN={0..2} : VALUE — length 0/1/2 must be supported |
| **2** | 1 | Color Temperature |
| **3** | 3[2:1] | Color Hue/Sat as 16-bits (Hue) and 8-bit (Saturation) levels |
| **4** | 4[2:2] | XY colour: pair of (X:Y) 16-bit values representing [0.; 1.0] range |
| **5** | 1 | Color Source Selector - for fixtures with a mix of TW / Color fields sets TW vs. Color option<br>TW=0, RGB=1, XY=2. In some fixture modes the fields are not mutually exclusive (no effect) |

| | | |
|---|---|---|
| **6** | 1 | Device Temperature [C˚], low-resolution value [1..255] of measured reading (0 ~ undefined) |
| **7** | 1 | Battery level [1..100%]; 0 ~ undefined |
| **8** | 1 | Overheating indicatore [bool] |
| **9** | 1 | General failure indicator |
| **10** | 1 | "Vertical" control; depending on fixture type it can be either mixer of dimmers, or TW and colours, or direct/indirect light parts of the device. |
| **11** | 1 | "White" channel control: typically additional output for RGB colours or extra/secondary/ exclusive dimmer level in other modes. |
| **12** | - | not used / reserved |
| **13** | - | not used / reserved |
| **14 / 142** | 1-4 | Sensor field: generic sensor field (requires INDEX detail for interpretation) |
| **15 / 143** | 2 | Slider (custom element); indexed dimmers are reported in the long form (3/4/5 bytes)<br>TYPE=0x8F: INDEX={0..7} : LEN={0..2} : VALUE[length]<br>Note that 0 and 1 length is possible in the long form: for 00 (empty) or 1-byte (00..FF) values |
| **16 / 144** | 1 | On/Off toggle (custom element) |
| **17 / 145** | 1 | Button (custom element) |
| **18 / 146** | 1 | PushButton (custom element) |
| **19** | 1 | White / Color Balance |
| **20** | 2 | Light sensor value in lux units (or whatever the sensor can report) |
| **21** | 1 | Presence sensor state: values 0 / 1 / 2 correspond to Inactive / Active / Hold(linger)-time states |

# 5.8.2.1.11. 0x4B - NotifyButtonEvent Responses

⚠️ Attention only works with Evolution firmware greater than 39.50

Length: 5
Opcode: 0x51 or 81

Response messages contain the device ID and the type of button.

The number of the button is then also sent. This can be 0 - 7 and then corresponds to the buttons on the buttons. An event that matches the button is also transmitted.

Data transmission 1 "hex with dot":

Casambi_Data[1...X]:
0x_Unit_ID.0x_Source.0x_Button.0x_Event

Data transmission 2 "dec with hash":

Casambi_Data[1...X]:
Target_ID#TYP_A#Value_A[1..4]

**Events:**

| Typ | Beschreibung |
| --- | --- |
| 2 | Short Press |
| 9 | Long Press Start |
| 12 | Long Press End |

There are other events that are not yet exported. Events may therefore still be added.

## 5.8.2.2. Commands to the Casambi system

If a packet comes from the Casambi system, the part 0x_Command_Direction is 0x72 or 114.

We only consider the part Casambi_Data [1 ... X] from the general data frame.

## 5.8.2.2.1. 0x10 - Push Button Pressed

Set the state of a Button[0..3] to pressed.

Length: 2
Opcode: 0x10 or 16

Data transmission 1 "hex with dot":

Casambi_Data[1...X]: 0x_Button_Number

Example: 0.72.2.10.0/r/n

Data transfer 2 "dec with hash":

Casambi_Data[1...X]: Button_Number

Example: 0#114#2#16#0/r/n

## 5.8.2.2.2. 0x11 - Push Button Released

Set the state of a Button[0..3] to released.

Length: 2
Opcode: 0x11 or 17

Data transmission 1 "hex with dot":

Casambi_Data[1...X]: 0x_Button_Number

> Example: 0.72.2.11.0/r/n

Data transfer 2 "dec with hash":

Casambi_Data[1...X]: Button_Number

> Example: 0#114#2#17#0/r/n

## 5.8.2.2.3. 0x1D - GetParameterValue

Read out scenes + group parameters currently stored in the Casambi app for the gateway.

Length: 0x01
Opcode: 0x1D or 29

Is called without further parameters.

The individual parameters and a parameter complete package are then sent in response.

## 5.8.2.2.4. 0x1E - Set the level of a scene

Set all Casambi lights in a scene to a value.

Length: 5
Opcode: 0x1E or 30

Fadetime = Value* 10ms

Data transmission 1 "hex with dot":

The fade time value is optional and does not need to be sent. However, the length must then be reduced accordingly to 3.

Casambi_Data[1...X]: 0x_Scene.0x_Level.0x_Duration_low.0x_Duration_high

Example: 0.72.5.1e.1.ff.10.0/r/n

Data transfer 2 "dec with hash":

In this variant, the fade time is transmitted as a value. Therefore, the length here is reduced to 4.
Here, too, the fade time is optional and can be omitted entirely.
However, it can also be transmitted as 2 values (high/low byte). Then the length would also be 5.

Casambi_Data[1...X]: Scene#Level#Duration

Example: 0#114#4#30#1#255#1000/r/n

## 5.8.2.2.5. 0x1F - Set level of a group

Set all Casambi lights in a group to a value.

Length: 5
Opcode: 0x1F or 31

Fadetime = Value* 10ms

Data transmission 1 "hex with dot":

The fade time value is optional and does not need to be sent. However, the length must then be reduced accordingly to 3.

Casambi_Data[1...X]: 0x_Group.0x_Level.0x_Duration_high.0x_Duration_low

> Example: 0.72.5.1f.1.ff.10.0/r/n

Data transfer 2 "dec with hash":

In this variant, the fade time is transmitted as a value. Therefore, the length here is reduced to 4.
Here, too, the fade time is optional and can be omitted entirely.
However, it can also be transmitted as 2 values (high/low byte). Then the length would also be 5.

Casambi_Data[1...X]: Group#Level#Duration_low#Duration_high

> Example: 0#114#4#31#1#255#1000/r/n

## 5.8.2.2.6. 0x20 - Set the level of a target

Set all Casambi lights in a network to one value.

Length: 6
Opcode: 0x20 or 32

Fadetime = Value* 10ms

Data transmission 1 "hex with dot":

The fade time value is optional and does not need to be sent. However, the length must then be reduced accordingly to 4.

Casambi_Data[1...X]: 0x_Level.0x_Duration_low.0x_Duration_high.0x_Target_Type.0x_Target_ID

> Example: 0.72.6.20.ff.10.0.0.0/r/n

Data transfer 2 "dec with hash":

In this variant, the fade time is transmitted as a value. Therefore, the length here is reduced to 5.
Here, too, the fade time is optional and can be omitted entirely.
However, it can also be transmitted as 2 values (high/low byte). Then the length would also be 6.

Casambi_Data[1...X]: Level#Duration#Target_Type#Target_ID

> Example: 0#114#6#32#255#1000#0#0/r/n

**Target_Type and Target_ID:**

| Target_Type | Target_ID | comment |
|---|---|---|
| 0 | 0 | broadcast |
| 1 | 1-250 | device |
| 2 | 0 | ungrouped |
| 2 | 1-255 | group |
| 3 | 1-255 | scene (only currently active lights) |
| 4 | 1-255 | Scenes (all lights) |
| 5 | 0-255 | all lights with the same manufacturer ID |

## 5.8.2.2.7. 0x21 - Set the level of a button's target

Set the target of a Button[0..3] to an absolute level.

Length: 3
Opcode: 0x21or 33

Data transmission 1 "hex with dot":

Casambi_Data[1...X]: 0x_Button_Number.0x_Level

Example: 0.72.3.21.0.ff/r/n

Data transfer 2 "dec with hash":

Casambi_Data[1...X]: Button_Number#Level

Example: 0#114#3#33#0#255/r/n

## 5.8.2.2.8. 0x28 - Request time from the Casambi network

Requests the Casambi network to send its current time.

Length: 1
Opcode: 0x28 or 50

Data transmission 1 "hex with dot":

> Example: 0.72.1.28/r/n

Data transfer 2 "dec with hash":

> Example: 0#114#1#50/r/n

**Answer:**
0x28 - time received from the Casambi network

## 5.8.2.2.9. 0x28 - Set time in the Casambi network

Sets the time in the Casambi network to the specified values.

Length: 8
Opcode: 0x28 or 50

<u>Data transmission 1 "hex with dot":</u>

Casambi_Data[1...X]: 0x_year_high.0x_year_low.0x_month.0x_day.0x_hour.0x_minute.0x_second

<u>Data transfer 2 "dec with hash":</u>

Casambi_Data[1...X]: year_high#year_low#month#day#hour#minute#second

## 5.8.2.2.10. 0x2B - Set presence sensor

Sets the device's presence sensor to 0 = no presence or 1 = presence.

Length: 2
Opcode: 0x2B or 43

Data transmission 1 "hex with dot":

Casambi_Data[1...X]: 0x_sensor_state

> Example: 0.72.2.2B.0/r/n

Data transfer 2 "dec with hash":

Casambi_Data[1...X]: sensor_state

> Example: 0#114#2#43#0/r/n

## 5.8.2.2.11. 0x2C - Set light sensor

Sets the device's light sensor to a value.

Length: 3
Opcode: 0x2C or 44

Data transmission 1 "hex with dot":

Casambi_Data[1...X]: 0x_Sensor_Value_low.0x_Sensor_Value_high

Example: 0.72.3.2C.ff.0/r/n

Data transfer 2 "dec with hash":

Casambi_Data: Sensor_Value

Example: 0#114#3#44#2000/r/n

## 5.8.2.2.12. 0x2F - Set color via RGBW

Set the color of different targets.

Length: 7
Opcode: 0x2F or 47

The values for R,G,B go from 0-254 respectively.
The value for W goes from 0-254, 255 means ignore.
The value for Level goes from 0-254, 255 means ignore.

Data transmission 1 "hex with dot":

Casambi_Data[1...X]: 0x_R.0x_G.0x_B.0x_W.0x_Target_Type.0x_Target_ID.0x_Level

Example: 0.72.7.2f.ff.0.0.ff.1.1.ff/r/n

Data transfer 2 "dec with hash":

Casambi_Data[1...X]: R#G#B#W#Target_Type#Target_ID#Level

Beispiel: 0#114#7#47#255#0#0#255#1#1#255/r/n

**Target_Type und Target_ID:**

| Target_Type | Target_ID | Kommentar |
|---|---|---|
| 0 | 0 | Broadcast |
| 1 | 1-250 | Device |
| 2 | 0 | ungrouped |
| 2 | 1-255 | group |
| 3 | 1-255 | scene(nur aktuell aktive Leuchten) |
| 4 | 1-255 | scene(alle Leuchten) |
| 5 | 0-255 | all devices with same manufacturer id |

## 5.8.2.2.13. 0x31 - SetTargetVerticalRatio

Set the vertical ratio of a target.

Length: 6
Opcode: 0x31 or 49

Fade time = value * 10ms

Data transmission 1 "hex with dot":

The value for the fadetime is optional and does not have to be sent. However, the length must then also be reduced to 4 accordingly.

Casambi_Data[1...X]: 0x_Ratio.0x_Duration_low.0x_Duration_high.0x_TargetType.0x_TargetID

Data transmission 2 "dec with hash":

In this variant the fade time is transmitted as one value. Therefore the length here is reduced to 5.
The fade time is also optional here, however, and can be omitted completely.
However, it can also be transmitted as 2 values (high/lowbyte). Then the length would also be 6.

Casambi_Data[1...X]: Ratio#Duration#TargetType#TargetID

**Target_Type und Target_ID:**

| Target_Type | Target_ID | Kommentar |
|---|---|---|
| 0 | 0 | Broadcast |
| 1 | 1-250 | Device |
| 2 | 0 | ungrouped |
| 2 | 1-255 | group |
| 3 | 1-255 | scene(nur aktuell aktive Leuchten) |
| 4 | 1-255 | scene(alle Leuchten) |
| 5 | 0-255 | all devices with same manufacturer id |

## 5.8.2.2.14. 0x38 - SetColor X/Y

Set the color of different targets.

Length: 8
Opcode: 0x38 or 56

The value for X goes from 0-65,535.
The value for Y goes from 0-65.535.
The value for Level goes from 0-254, 255 means ignore.

Data transmission 1 "hex with dot":

Casambi_Data[1...X]: 0x_X_h.0x_X_l.0x_Y_h.0x_Y_l.0x_Target_Type.0x_Target_ID.0x_Level

Data transfer 2 "dec with hash":

Casambi_Data[1...X]: X#Y#Target_Type#Target_ID#Level

**Target_Type und Target_ID:**

| Target_Type | Target_ID | Kommentar |
|---|---|---|
| 0 | 0 | Broadcast |
| 1 | 1-250 | Device |
| 2 | 0 | ungrouped |
| 2 | 1-255 | group |
| 3 | 1-255 | scene(nur aktuell aktive Leuchten) |
| 4 | 1-255 | scene(alle Leuchten) |
| 5 | 0-255 | all devices with same manufacturer id |

## 5.8.2.2.15. 0x39 - Node state

Queries the state of a node. Attention only works with Evolution firmware.

The request can be:
0x00: Disable automatic state change notification
0x01 - 0xFB: Query a unit using its ID
0xFE: activate automatic notification when all nodes change status
0xFF: automatic notification when the status of your own node changes

Do not send the query command too quickly and always send a single unit, otherwise the system may be overloaded.

If there is no device on the queried ID, a 0x3A is returned. In this way, even without knowing the device IDs Check which devices are available.

Length: 2
Opcode: 0x39 or 57

Data transmission 1 "hex with dot":

Casambi_Data[1...X]: 0x_Request

> Example: 0.72.2.39.1/r/n

Data transfer 2 "dec with hash":

Casambi_Data[1...X]: 0x_Request

> Example: 0#114#2#57#1/r/n

**Answer:**
0x39 - Node Status
0x3A - Notify Node removed

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## 5.8.2.2.16. 0x3D - Set Color via Hue / Sat

Set the color of different targets.

Length: 7
Opcode: 0x3D or 61

The value for Hue goes from 0-65,535.
The value for Sat goes from 0-255.
The value for W goes from 0-254, 255 means ignore.
The value for Level goes from 0-254, 255 means ignore.

Data transmission 1 "hex with dot":

Casambi_Data[1...X]: 0x_Hue_h.0x_Hue_l.0x_Sat.0x_W.0x_Target_Type.0x_Target_ID.0x_Level

> Example: 0.72.7.3D.ff.fe.ff.1.1.ff/r/n

Data transfer 2 "dec with hash":

Casambi_Data[1...X]: Hue#Sat#W#Target_Type#Target_ID#Level

> Beispiel: 0#114#7#61#65000#254#255#1#1#255/r/n

**Target_Type und Target_ID:**

| Target_Type | Target_ID | Kommentar |
|---|---|---|
| 0 | 0 | Broadcast |
| 1 | 1-250 | Device |
| 2 | 0 | ungrouped |
| 2 | 1-255 | group |
| 3 | 1-255 | scene(nur aktuell aktive Leuchten) |
| 4 | 1-255 | scene(alle Leuchten) |
| 5 | 0-255 | all devices with same manufacturer id |

## 5.8.2.2.17. 0x3E - SetTargetDimmers

Set dimmer of a target. There is a maximum of 4 dimmers per device (0-3).

Length: varies according to the number of dimmers - minimum 7
Opcode: 0x3E or 62

Fade time = value * 10ms
Fade time = 0 => Default value from the app is used

Index and value can be specified for one dimmer, but also several can be transferred at once.
To do this, the first pair of values is followed by the next. Maximum 4 dimmers per device.

Data transmission 1 "hex with dot":

Casambi_Data[1...X]: 0x_TargetType.0x_TargetID.0x_Duration_low.0x_Duration_high.
[0x_Index(0-3).0x_Value(0-3)]

Data transfer 2 "dec with hash":

In this variant the fade time is transmitted as one value. The length is then reduced by 1.
However, it can also be transmitted as 2 values (high/lowbyte). Then the length would be as above with "hex with dot".

Casambi_Data[1...X]: TargetType#TargetID#Duration#.[Index(0-3)#0x_Value(0-3)]

**Target_Type und Target_ID:**

| Target_Type | Target_ID | Kommentar |
|---|---|---|
| 0 | 0 | Broadcast |
| 1 | 1-250 | Device |
| 2 | 0 | ungrouped |
| 2 | 1-255 | group |
| 3 | 1-255 | scene(nur aktuell aktive Leuchten) |
| 4 | 1-255 | scene(alle Leuchten) |
| 5 | 0-255 | all devices with same manufacturer id |

## 5.8.2.2.18. 0x3F - SetTargetElements

Set custom elements of a target. There is a maximum of 8 elements per device (0-7).

Length: varies according to the number of elements - minimum 7.
Opcode: 0x3E or 62

Fade time = value * 10ms
Fade time = 0 => Default value from the app is used

Index and value can be specified for one dimmer, but also several can be transferred at once.
To do this, the first pair of values is followed by the next. Maximum 4 dimmers per device.

Data transmission 1 "hex with dot":

Casambi_Data[1...X]: 0x_TargetType.0x_TargetID.0x_Duration_low.0x_Duration_high.
[0x_Index(0-3).0x_Value(0-3)]

Data transfer 2 "dec with hash":

In this variant the fade time is transmitted as one value. The length is then reduced by 1.
However, it can also be transmitted as 2 values (high/lowbyte). Then the length would be as above with "hex with dot".

Casambi_Data[1...X]: TargetType#TargetID#Duration#.[Index(0-3)#0x_Value(0-3)]

**Target_Type und Target_ID:**

| Target_Type | Target_ID | Kommentar |
|---|---|---|
| 0 | 0 | Broadcast |
| 1 | 1-250 | Device |
| 2 | 0 | ungrouped |
| 2 | 1-255 | group |
| 3 | 1-255 | scene(nur aktuell aktive Leuchten) |
| 4 | 1-255 | scene(alle Leuchten) |
| 5 | 0-255 | all devices with same manufacturer id |

## 5.8.2.2.19. 0x45 - Scene state

Queries the state of a scene. Attention only works with Evolution firmware higher than 33.22.

Length: 2
Opcode: 0x45 or 69

Data transmission 1 "hex with dot":

Casambi_Data[1...X]: 0x_Scene_ID

Example: 0.72.2.45.1/r/n

Data transfer 2 "dec with hash":

Casambi_Data[1...X]: Scene_ID

Example: 0#114#2#69#1/r/n

**Answer:**
0x45 - Scene Status

## 5.8.2.2.20. 0x46 - Target Status

Queries the status of a target. Attention only works with Evolution firmware higher than 34.50.

Length: 3
Opcode: 0x46 or 70

Data transmission 1 "hex with dot":

Casambi_Data[1...X]:  0x_Target_ID.0x_Target_Type

> Example: 0.72.2.46.1.0/r/n

Data transfer 2 "dec with hash":

Casambi_Data[1...X]: Target_ID#Target_Type

> Example: 0#114#2#70#1#0/r/n

**Answer:**
0x46 - Target Status

## 5.8.2.2.21. 0x48 - Set color temperature

Set the color temperature of different targets.

Length: 7
Opcode: 0x48 or 72

Data transmission 1 "hex with dot":

The value for the fade time is not optional and must be sent.

Casambi_Data[1...X]: 0x_Tc_high.0x_Tc_low.0x_Duration_low.0x_Duration_high.0x_Target_Type.0x_Target_ID

> Example: 0.72.7.48.0.ff.0.10.0.0/r/n

Data transfer 2 "dec with hash":

In this variant, the fade time is transmitted as a value. Therefore the length here is reduced to 5.
The fade time value is not optional and must be sent.

Casambi_Data[1...X]: Tc#Duration#Target_Type#Target_ID

> Example: 0#114#7#72#16000#1000#0#0/r/n

**Target_Type and Target_ID:**

| Target_Type | Target_ID | comment |
|---|---|---|
| 0 | 0 | broadcast |
| 1 | 1-250 | device |
| 2 | 0 | ungrouped |
| 2 | 1-255 | group |
| 3 | 1-255 | scene (only currently active lights) |
| 4 | 1-255 | Scenes (all lights) |
| 5 | 0-255 | all lights with the same manufacturer ID |

**Colourtemperatur (Tc):**

| Tc | comment |
|---|---|
| 0x400 - 0x4000 | Value in Kelvin (1000K - 16000K) |
| 0x00-0xFF | normalized value for min Tc and max Tc, respectively |
| 0x00 | warmest possible value |

### 5.8.2.2.22. 0x49 - Target Color

⚠️     Only works with Evolution firmware greater than 36.70.

Queries the color of a target.

Length: 4
Opcode: 0x49 or 73

Data transmission 1 "hex with dot":

Casambi_Data[1...X]: 0x_Target_Type.0x_Target_ID.0x_ResponseSize

> Example: 0.72.4.49.0.15/r/n

Data transmission 2 "dec with hash":

Casambi_Data[1...X]: Scene_ID

> Example: 0#114#2#69#1/r/n

**Target_Type and Target_ID:**

| Target_Type | Target_ID | comment |
|---|---|---|
| 0 | 0 | broadcast |
| 1 | 1-250 | device |
| 2 | 0 | ungrouped |
| 2 | 1-255 | group |

**Response Size:**
Number of bytes to be returned in the response. For all data this is 15.

**Response:**
0x49 - Target Color

## 5.8.2.2.23. 0x4A - Resume Automation

⚠️ Attention only works with Evolution firmware greater than 37.80

Resume automatic sequence.

Length: 0x3
Opcode: 0x4A or 74

Data transmission 1 "hex with dot":

Casambi_Data[1...X]: 0x_Target_Type.0x_Target_ID

Example: 3.4A.1.1/r/n

Data transmission 2 "dec with hash":

Casambi_Data[1...X]: Target_Type#Target_ID

Example: 003#074#001#001/r/n

**Target_Type and Target_ID:**

| Target_Type | Target_ID | comment |
|---|---|---|
| 0 | 0 | broadcast |
| 1 | 1-250 | device |
| 2 | 0 | ungrouped |
| 2 | 1-255 | group |

## 5.8.2.2.24. 0x4B - NotifyControlValues

⚠️ Attention only works with Evolution firmware greater than 37.80

Details of the current control values can be retrieved or subscribed.

Length: 4 or 8 for SetDefaultMask.
Opcode: 0x4B or 75

Basically SetDefaultMask should be set first.
Then either values are requested automatically via Subscribe or read via Read.

Data transmission 1 "hex with dot":

Casambi_Data[1...X] - SetDefaultMask:
3.0.0.FF.FF.FF.FF

Casambi_Data[1...X] - Unsubscribe, Subscribe:
0x_Request.0x_Target_ID_min.0x_Target_ID_max


Data transmission 2 "dec with hash":

Casambi_Data[1...X] - SetDefaultMask:
3#0#0#255#255#255#255

Casambi_Data[1...X] - Unsubscribe, Subscribe, Read:
Request#Target_ID_min#Target_ID_max


**Request**
0 = Unsubscribe
1 = Subscrib
2 = Read
3 = SetDefaultMask

**Target_ID**
0 = All devices
1-250 = Devices

**Response:**
Targeted queries (ID > 0) always have response, which may be empty, having no data, just the Target ID, if there is no such unit or it has no matching data to provide.

0x4B - Notify Control Response

## 5.8.2.2.25. 0x50 - NotifyButtonEvent

⚠️    Attention only works with Evolution firmware greater than 39.50

Button presses in the system can be set as notifications.

Length: 2
Opcode: 0x50 or 80

Data transmission 1 "hex with dot":

0x_Request

Data transmission 2 "dec with hash":

Request


**Request**
0 = Disable Button Notifications
253 (0xFD) = Enable Button Notifications

0x4B - Notify Control Response

## 5.8.2.3. Demo programs

At the following URL we offer 2 test programs (including source code) that show how you can talk to the gateway in the operating mode "UDP Casambi Command" using UDP.

https://github.com/KLKG/Casambi_Gateway_API_Test

There is a program (UDP_Test) that cyclically queries all Casambi participants in a command line. Source code in C ++.

The other program (UDP_WPF) is a C # application with a graphical user interface. Other commands can also be sent here than just the cyclical query.

Both are demonstration programs and only show what is possible.

## 5.9. TCP Casambi Command

In this operating mode, an external control, for example a visualization or a central control device, can connect to the gateway and carry out actions there or react to scene calls / status changes.

## 5.9.1. View in the gateway

Settings of the gateway via the internal website.

## 5.9.1.1. To Casambi

**Communication to Casambi Network**

Warning!

This settings are not used in "TCP Casambi Command" mode.

This page is not used in this mode.

## 5.9.1.2. From Casambi

**Communication to Casambi Network**

Warning!

This settings are not used in "TCP Casambi Command" mode.

This page is not used in this mode.

## 5.9.2. Control in the network

The structure of the telegrams is the same as in the "UDP Casambi Command" mode.

The description is in .

## 5.10. UDP Casambi Bridge

In this operating mode, several gateways can exchange information and actions directly with one another.

## 5.10.1. Bridge Mode Command Builder



The "next step" button switches to the next step in the wizard. The button "step Back" allows you to take a step back.



After setting the command-specific settings, the generated command is displayed. You can try it out with a test and apply it with Apply.

## 5.10.2. To Casambi

Here you can set which actions the device should carry out in the Casambi system when a command comes to the gateway via the network.



The "Save" button saves the entry in the selected slot.

The "Test" button carries out the action in order to be able to check whether the correct action has been selected.

## 5.10.2.1. Select storage location

As a first step, a memory location must be selected on which the action is to be saved:



The storage location can be selected using the drop-down list and the content can be displayed on the website with the "Load ..." button.

## 5.10.2.2. Action



With the button wizard, the dialog for setting the action is called. A new page will then open:



The "next step" button switches to the next step in the wizard. The button "step Back" allows you to take a step back.

Descriptions of the commands in the wizard are available here: "Protokoll/Casambi"



After setting the action-specific settings, the generated command is displayed. You can try it out with a test and apply it with Apply.

## 5.10.3. From Casambi

Here you can set what the gateway should send on the network as soon as e.g. Scene calls from the Casambi world are available.

**Casambi Ethernet Gateway v1.10**

| Generell Settings | To Casambi | From Casambi | Console |
|---|---|---|---|

**Communication from Casambi Network**

Memory Slot

| 0 ▼ | Load... |

Trigger

Bit_1  OFF
Bit_2  OFF
Bit_3  OFF
Bit_4  OFF
Bit_5  OFF
Bit_6  OFF
Bit_7  OFF
Bit_8  OFF
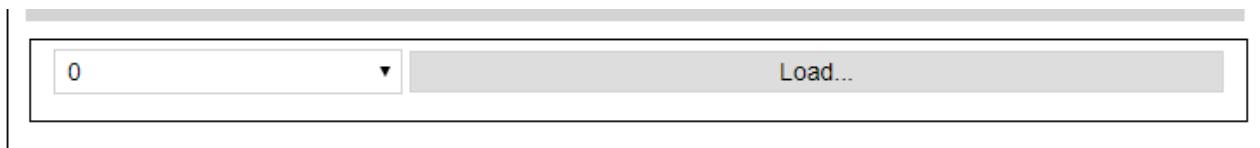
Action

| | Wizard |

| Save |
| Test |

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The "Save" button saves the entry in the selected slot.

The "Test" button carries out the action in order to be able to check whether the correct action has been selected.

## 5.10.3.1. Select storage location
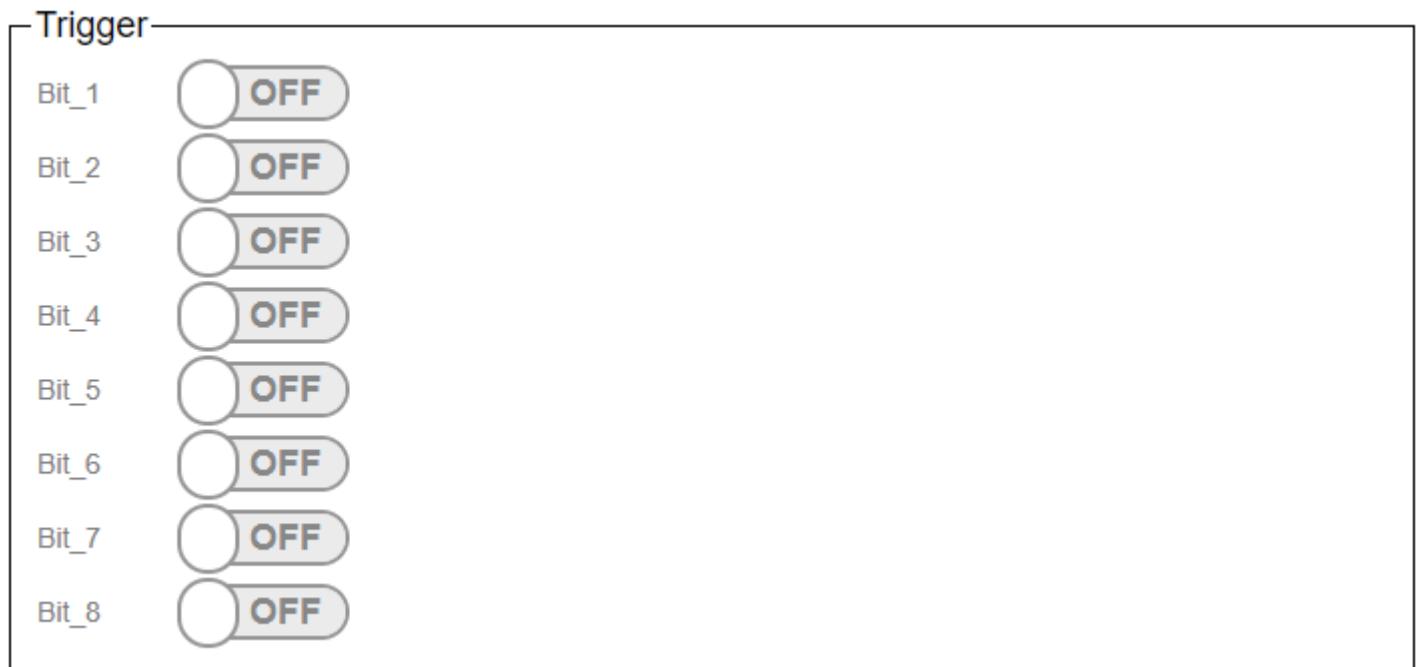
As a first step, a memory location must be selected on which the action is to be saved:



The storage location can be selected using the drop-down list and the content can be displayed on the website with the "Load ..." button.

## 5.10.3.2. Trigger

The trigger specifies when an action should be triggered.

```
┌─Trigger─────────────────────────────────────────────────────┐
│                                                               │
│   Bit_1        ( )  OFF                                        │
│                                                               │
│   Bit_2        ( )  OFF                                        │
│                                                               │
│   Bit_3        ( )  OFF                                        │
│                                                               │
│   Bit_4        ( )  OFF                                        │
│                                                               │
│   Bit_5        ( )  OFF                                        │
│                                                               │
│   Bit_6        ( )  OFF                                        │
│                                                               │
│   Bit_7        ( )  OFF                                        │
│                                                               │
│   Bit_8        ( )  OFF                                        │
│                                                               │
└───────────────────────────────────────────────────────────────┘
```

The triggers are used to set at which scene recall in the Casambi the command stored under "Action" is to be sent on the network.

In the Casambi system you can choose which bits are active in the trigger for a scene. (Picture below)

```
┌───────────────────────────────────────────────────────────────┐
│                                                                 │
│   Bit_1                                                  ( )     │
│                                                                 │
│   Bit_2                                                  ( )     │
│                                                                 │
│   Bit_3                                                  ( )     │
│                                                                 │
│   Bit_4                                                  ( )     │
│                                                                 │
│   Bit_5                                                  ( )     │
│                                                                 │
│   Bit_6                                                  ( )     │
│                                                                 │
│   Bit_7                                                  ( )     │
│                                                                 │
│   Bit_8                                                  ( )     │
│                                                                 │
└───────────────────────────────────────────────────────────────┘
```

With the Submit button the entered is saved.

With the test button you can check whether the entered action is the right one.

### 5.10.3.3. Action

The command that the gateway should send is entered in the text field.

## 5.11. Casambi

Description of the commands possible via the Casambi Wizard.

## 5.11.1. Ping

```
┌─Action Builder─────────────────────────────────────────────┐
│                                                             │
│  Command Ping                                               │
│                                                             │
│  ┌──────────────────────┐    ┌──────────────────────────┐  │
│  │      step back       │    │        next step         │  │
│  └──────────────────────┘    └──────────────────────────┘  │
│                                                             │
└─────────────────────────────────────────────────────────────┘
```

Sends a "ping" signal to the Casambi system.

In the Art-Net operating mode, the command is triggered. If the DMX level is above 128, the command is triggered.

## 5.11.2. Set Level



Sets the device that is defined via the target type and the target address to the set value.

| Target_Type | Target_ID | comment |
|---|---|---|
| 0 | 0 | broadcast |
| 1 | 1-250 | device |
| 2 | 0 | ungrouped |
| 2 | 1-255 | group |
| 3 | 1-255 | scene (only currently active lights) |
| 4 | 1-255 | Scenes (all lights) |
| 5 | 0-255 | all lights with the same manufacturer ID |

In the case of a connection via HelvarNet or to a Netcomposer system, the window looks like this:



Here, "Level from Network" can be used to switch on the level signal that it receives from the other system. To do this, of course, a command with a level must also be set as a trigger.

If Dimm Group or Dimm Device is selected in HelvarNet, then dimming is automatically applied to the Mode SetLevel, SetSceneLevel, SetGroupLevel, SetRGBW and SetHue/Sat to the level.

## 5.11.3. Push Button Pressed

> **ℹ** From Casambi Evolution firmware 34.50 up to 8 buttons are prepared.

**Action Builder**

Command PushButtonPressed

Button 0 ⌄

| step back | next step |

Transmits the status "button pressed" to the Casambi system, which then carries out the corresponding stored action.

## 5.11.4. Push Button Released

> **ℹ** From Casambi Evolution firmware 34.50 up to 8 buttons are prepared.

Action Builder

Command PushButtonReleased

Button    0    ⌄

| step back | next step |

Transmits the status "Button released" to the Casambi system, which then carries out the corresponding stored action.

## 5.11.5. Set Presence



Transmits to the Casambi system whether a movement has been detected or not.

## 5.11.6. Set Scene Level
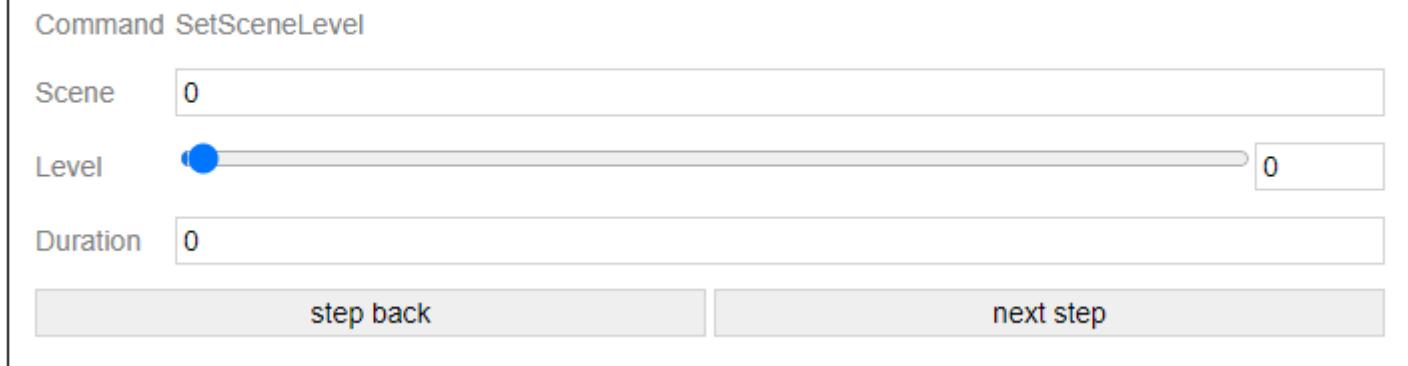


Calls up a scene in the Casambi system.

A scene number must be entered for the scene. The level indicates at which dimming level the scene should be called up. Duration determines the fade time.

In the case of a connection via HelvarNet or to a Netcomposer system, the window looks like this:



Here, "Level from Network" can be used to switch on the level signal that it receives from the other system. To do this, of course, a command with a level must also be set as a trigger.

If Dimm Group or Dimm Device is selected in HelvarNet, then dimming is automatically applied to the Mode SetLevel, SetSceneLevel, SetGroupLevel, SetRGBW and SetHue/Sat to the level.

## 5.11.7. Set Group Level
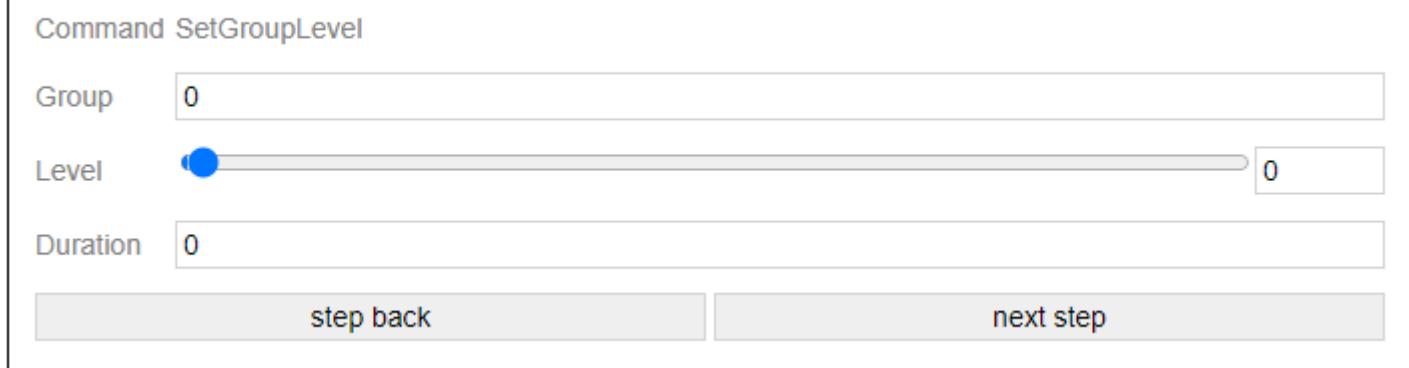


With this action a group can be set to a certain level. Duration defines the fade time again.

In the case of a connection via HelvarNet or to a Netcomposer system, the window looks like this:



Here, "Level from Network" can be used to switch on the level signal that it receives from the other system. To do this, of course, a command with a level must also be set as a trigger.

If Dimm Group or Dimm Device is selected in HelvarNet, then dimming is automatically applied to the Mode SetLevel, SetSceneLevel, SetGroupLevel, SetRGBW and SetHue/Sat to the level.

## 5.11.8. Set Push Button Level

| ⚠️ | **Achtung!** From Casambi Evolution firmware 34.50 up to 8 buttons are prepared. |
|---|---|

**Action Builder**

| Command | SetPushButtonLevel |
|---|---|
| Button | 0 |
| Level | 0 |

| step back | next step |
|---|---|

Sets the level of the device that is specified as the target of the button in the Casambi app.

In the case of a connection via HelvarNet or to a Netcomposer system, the window looks like this:

**Action Builder**
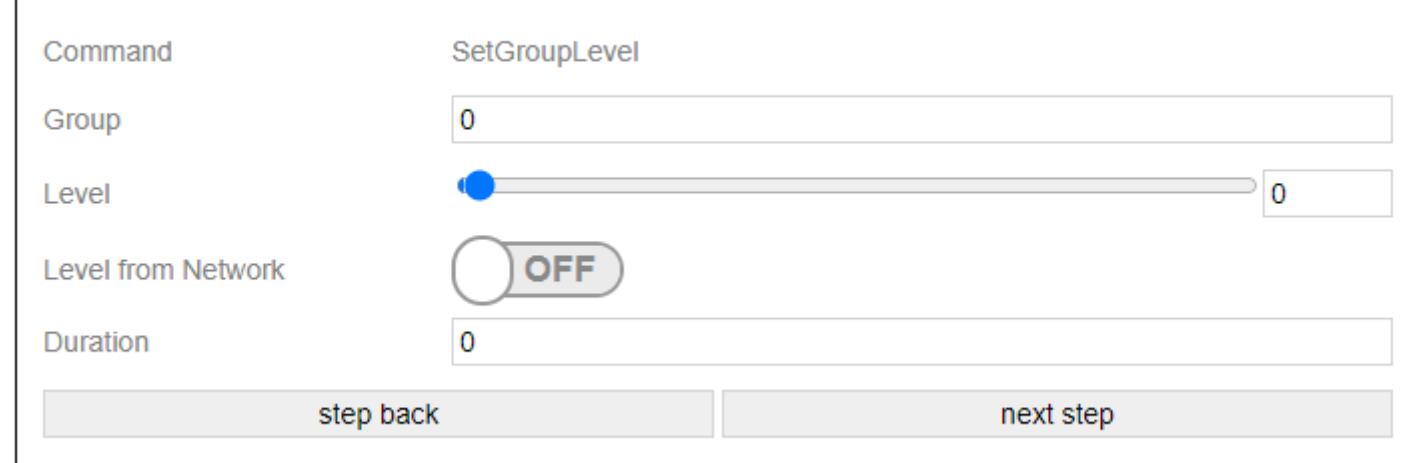
| Command | SetPushButtonLevel |
|---|---|
| Button | 0 |
| Level | 0 |
| Level from Network | OFF |

| step back | next step |
|---|---|

Here, "Level from Network" can be used to switch on the level signal that it receives from the other system. To do this, of course, a command with a level must also be set as a trigger.

## 5.11.9. Set Lux Sensor

```
┌Action Builder──────────────────────────────────────────────┐
│ Command  SetLuxSensor                                       │
│ Lux Level  [0                                           ]   │
│ ┌─────────────────────┐  ┌─────────────────────┐           │
│ │      step back      │  │      next step      │           │
│ └─────────────────────┘  └─────────────────────┘           │
└─────────────────────────────────────────────────────────────┘
```

Displays the lux value to be sent.

## 5.11.10. Set Tc



Sets the device that is defined via the target type and the target address to the set value. In the time entered under Duration.

| Target_Type | Target_ID | comment |
|---|---|---|
| 0 | 0 | broadcast |
| 1 | 1-250 | device |
| 2 | 0 | ungrouped |
| 2 | 1-255 | group |
| 3 | 1-255 | scene (only currently active lights) |
| 4 | 1-255 | Scenes (all lights) |
| 5 | 0-255 | all lights with the same manufacturer ID |

## 5.11.11. Set RGBW

```
┌─Action Builder──────────────────────────────────────────────────────┐
│                                                                      │
│  Command            SetTargetColorRGBW                               │
│                                                                      │
│  Red        ●──────────────────────────────────────────   54        │
│                                                                      │
│  Green      ─────────────────●──────────────────────────   137       │
│                                                                      │
│  Blue       ───●────────────────────────────────────────   49        │
│                                                                      │
│  White      ──────────────────────────────────────────●    255       │
│                                                                      │
│  Level      ──────────────────────────────────────────●    255       │
│                                                                      │
│  Target Type        Broadcast                              ▼         │
│                                                                      │
│  Target Address     0                                                │
│                                                                      │
│  ┌──────── step back ────────┐ ┌──────── next step ────────┐         │
│  └───────────────────────────┘ └───────────────────────────┘         │
│                                                                      │
└──────────────────────────────────────────────────────────────────────┘
```

Set the target to the set color values. White and Level to 255 means that the values are ignored.

| Target_Type | Target_ID | Kommentar |
|---|---|---|
| 0 | 0 | Broadcast |
| 1 | 1-250 | Device |
| 2 | 0 | ungrouped |
| 2 | 1-255 | group |
| 3 | 1-255 | scene(nur aktuell aktive Leuchten) |
| 4 | 1-255 | scene(alle Leuchten) |
| 5 | 0-255 | all devices with same manufacturer id |

If Dimm Group or Dimm Device is selected in HelvarNet, then dimming is automatically applied to the Mode SetLevel, SetSceneLevel, SetGroupLevel, SetRGBW and SetHue/Sat to the level.

## 5.11.12. Set Hue / Sat



Set the target to the set color values. White and Level to 255 means that the values are ignored.

| Target_Type | Target_ID | Kommentar |
| --- | --- | --- |
| 0 | 0 | Broadcast |
| 1 | 1-250 | Device |
| 2 | 0 | ungrouped |
| 2 | 1-255 | group |
| 3 | 1-255 | scene(nur aktuell aktive Leuchten) |
| 4 | 1-255 | scene(alle Leuchten) |
| 5 | 0-255 | all devices with same manufacturer id |

If Dimm Group or Dimm Device is selected in HelvarNet, then dimming is automatically applied to the Mode SetLevel, SetSceneLevel, SetGroupLevel, SetRGBW and SetHue/Sat to the level.

## 5.11.13. Set Vertical

**Action Builder**

| | |
|---|---|
| Command | SetTargetVertical |
| Vertical | [slider] 127 |
| Target Type | none ▾ |
| Target Address | 0 |

| step back | next step |

Set the target to the set vertical.

| Target_Type | Target_ID | Kommentar |
|---|---|---|
| 0 | 0 | Broadcast |
| 1 | 1-250 | Device |
| 2 | 0 | ungrouped |
| 2 | 1-255 | group |
| 3 | 1-255 | scene(nur aktuell aktive Leuchten) |
| 4 | 1-255 | scene(alle Leuchten) |
| 5 | 0-255 | all devices with same manufacturer id |

## 5.11.14. Start Automation

The automatic mode is activated for the target.

| Target_Type | Target_ID | Kommentar |
|---|---|---|
| 0 | 0 | Broadcast |
| 1 | 1-250 | Device |
| 2 | 0 | ungrouped |
| 2 | 1-255 | group |
| 3 | 1-255 | scene(nur aktuell aktive Leuchten) |
| 4 | 1-255 | scene(alle Leuchten) |
| 5 | 0-255 | all devices with same manufacturer id |

## 5.11.15. SetTargetDimmers

With dimmer he dimming channel of the luminaire is selected. Up to 4 channels per device are possible. These are defined by the manufacturer of the profile.

Duration = Value * 10ms

```
┌─Action Builder──────────────────────────────────────────────────┐
│                                                                  │
│  Command              SetTargetDimmers                           │
│                                                                  │
│  Dimmer               ┌──────────────────────────────────────┐   │
│                       │ 0                                    │   │
│                       └──────────────────────────────────────┘   │
│  Value                ●─────────────────────────○    ┌─────┐     │
│                                                      │ 0   │     │
│                                                      └─────┘     │
│  Duration             ┌──────────────────────────────────────┐   │
│                       │ 0                                    │   │
│                       └──────────────────────────────────────┘   │
│  Target Type          ┌──────────────────────────────────────┐   │
│                       │ none                              ⌄  │   │
│                       └──────────────────────────────────────┘   │
│  Target Address       ┌──────────────────────────────────────┐   │
│                       │ 0                                    │   │
│                       └──────────────────────────────────────┘   │
│  ┌──────────────────────────┐  ┌──────────────────────────┐      │
│  │       step back          │  │       next step          │      │
│  └──────────────────────────┘  └──────────────────────────┘      │
└──────────────────────────────────────────────────────────────────┘
```

| Target_Type | Target_ID | Kommentar |
|---|---|---|
| 0 | 0 | Broadcast |
| 1 | 1-250 | Device |
| 2 | 0 | ungrouped |
| 2 | 1-255 | group |
| 3 | 1-255 | scene(nur aktuell aktive Leuchten) |
| 4 | 1-255 | scene(alle Leuchten) |
| 5 | 0-255 | all devices with same manufacturer id |

## 5.11.16. SetTargetElements

With Custom Elements the control element of the luminaire is selected. Up to 8 elements per device are possible. These are defined by the manufacturer of the profile.

Duration = Value * 10ms

| Action Builder | |
|---|---|
| Command | SetTargetElements |
| Custom Elements | 0 |
| Value | 0 |
| Duration | 0 |
| Target Type | none |
| Target Address | 0 |
| step back | next step |

| Target_Type | Target_ID | Kommentar |
|---|---|---|
| 0 | 0 | Broadcast |
| 1 | 1-250 | Device |
| 2 | 0 | ungrouped |
| 2 | 1-255 | group |
| 3 | 1-255 | scene(nur aktuell aktive Leuchten) |
| 4 | 1-255 | scene(alle Leuchten) |
| 5 | 0-255 | all devices with same manufacturer id |

# 6. Console

# Casambi Ethernet Gateway v1.10

| Generell Settings | To Casambi | From Casambi | Console |
|---|---|---|---|

## Console

### Console

---

| | Submit |
|---|---|

| Refresh |
|---|

### Parameter

| Scene_0 | 0 | | Group_0 | 0 |
|---|---|---|---|---|
| Scene_1 | 0 | | Group_1 | 0 |
| Scene_2 | 0 | | Group_2 | 0 |
| Scene_3 | 0 | | Group_3 | 0 |
| Scene_4 | 0 | | Group_4 | 0 |
| Scene_5 | 0 | | Group_5 | 0 |
| Scene_6 | 0 | | Group_6 | 0 |
| Scene_7 | 0 | | Group_7 | 0 |
| Scene_8 | 0 | | Group_8 | 0 |
| Scene_9 | 0 | | Group_9 | 0 |
| Scene_10 | 0 | | Group_10 | 0 |
| Scene_11 | 0 | | Group_11 | 0 |
| Scene_12 | 0 | | Group_12 | 0 |
| Scene_13 | 0 | | Group_13 | 0 |
| Scene_14 | 0 | | Group_14 | 0 |
| Scene_15 | 0 | | Group_15 | 0 |

Warning: 0 = no value set in Casambi Software

| Get Parameter |
|---|
| Refresh |

## 6.1. console

A display of the last commands that were exchanged between the Casambi system and the network.

```
Console
Casambi Input: 1.40
Casambi Output: 8.28.7.e4.6.13.e.1.28
Network Input: 255.62.F2.1.16
Casambi Input: 5.30.1.0.0.0
Network Input: 255.62.F2.0.16
Casambi Input: 5.30.1.254.0.0




                                                           Submit

                         Refresh
```

A command can be sent directly to the Casambi system in the text line. The submit button transmits the command.

The Refresh button updates the display.

"Casambi Input" = commands that are sent to the Casambi system
"Casambi Output" = commands / responses received from the Casambi system
"Network Input" = commands received from the network
"Network Output" = commands that are sent to the network

## 6.2. Parameter

The Parameters area can be used to display parameter values that were previously defined in the Casambi app.

Depending on the selected profile, the display may look different here.

The Standard and _EVO profiles have 16 groups / 16 scenes.
The _Groups profile has 64 groups.
The _Scenes profile has 64 scenes.

```
┌─Parameter──────────────────────────────────────────────────────────────┐
│                                                                          │
│  Scene_0         0                          Group_0          0           │
│                                                                          │
│  Scene_1         0                          Group_1          0           │
│                                                                          │
│  Scene_2         0                          Group_2          0           │
│                                                                          │
│  Scene_3         0                          Group_3          0           │
│                                                                          │
│  Scene_4         0                          Group_4          0           │
│                                                                          │
│  Scene_5         0                          Group_5          0           │
│                                                                          │
│  Scene_6         0                          Group_6          0           │
│                                                                          │
│  Scene_7         0                          Group_7          0           │
│                                                                          │
│  Scene_8         0                          Group_8          0           │
│                                                                          │
│  Scene_9         0                          Group_9          0           │
│                                                                          │
│  Scene_10        0                          Group_10         0           │
│                                                                          │
│  Scene_11        0                          Group_11         0           │
│                                                                          │
│  Scene_12        0                          Group_12         0           │
│                                                                          │
│  Scene_13        0                          Group_13         0           │
│                                                                          │
│  Scene_14        0                          Group_14         0           │
│                                                                          │
│  Scene_15        0                          Group_15         0           │
│                                                                          │
│  Warning: 0 = no value set in Casambi Software                           │
│  ┌────────────────────────────────────────────────────────────────┐     │
│  │                      Get Parameter                               │     │
│  ├────────────────────────────────────────────────────────────────┤     │
│  │                        Refresh                                   │     │
│  └────────────────────────────────────────────────────────────────┘     │
└──────────────────────────────────────────────────────────────────────────┘
```

With the button "Get Parameter" the query is sent to the Casambi module. With "Refresh" this page must then be updated once afterwards.

This information is important for scenes or group calls. Here you can assign the scenes and groups to the corresponding parameters within the Casambi app and then find out which ID is hidden behind this in order to use it in the calls.

## 7. Settings in the Casambi app
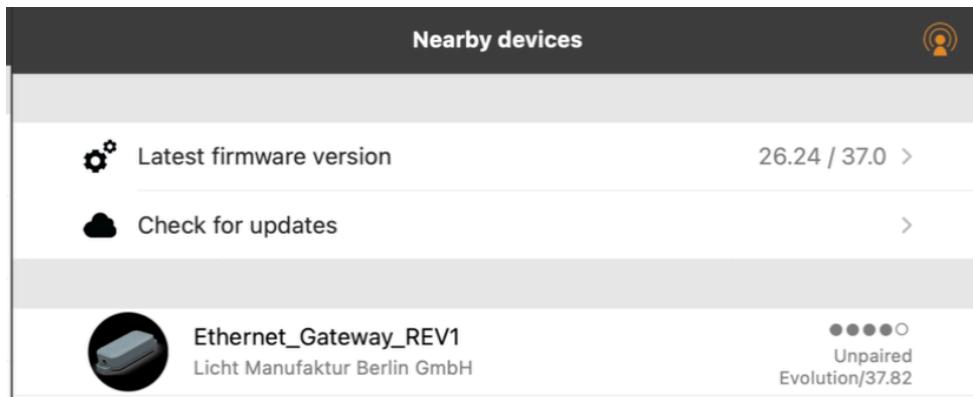
On the part of the Casambi network, the system behaves like a normal lamp / button / sensor.

You can find it in the Casambi software as a Bluetooth device and add it.

It then appears on the one hand in the luminaire overview, but also as a sensor and switch.
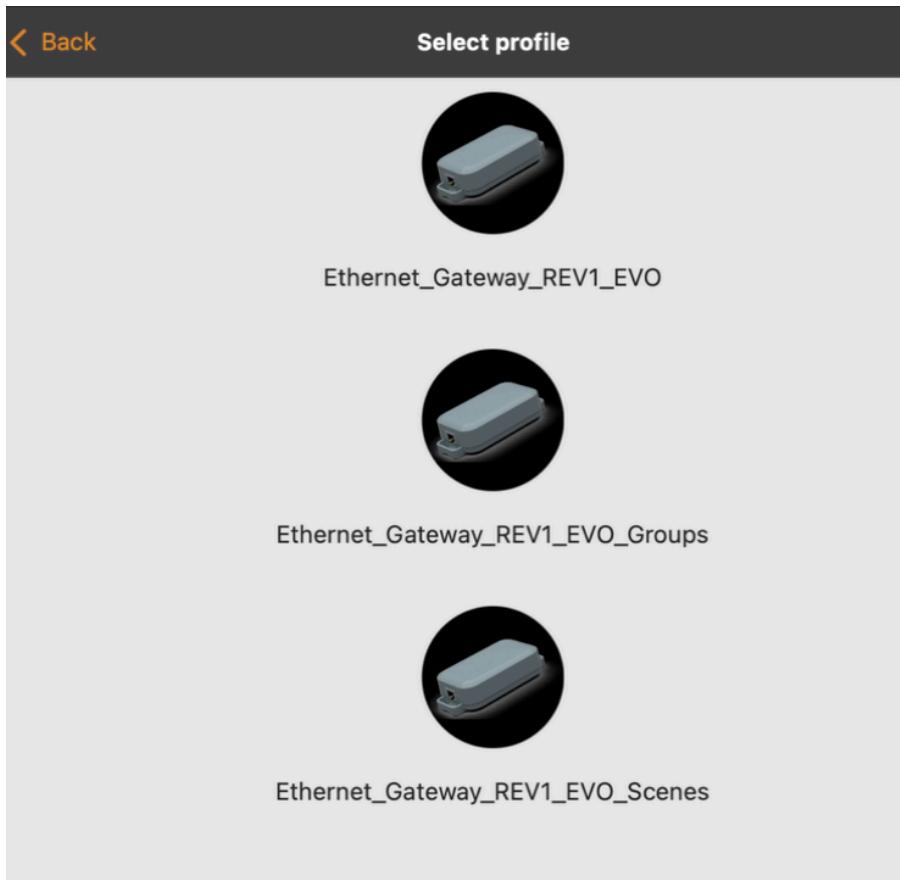
## 7.1. Profile selection

In the selection list for devices in the vicinity, the profiles can be changed for unpaired devices



The profile without "_EVO" can also be used in Classic networks.

=> 4 buttons, 16 groups and 16 scenes as parameters



The programs that include "_EVO" are intended for Evolution mode.

_EVO = 32 groups + 32 scenes as parameters, 8 keys possible
_EVO_Groups = 64 groups, 8 keys
_EVO_Scenes = 64 scenes, 8 keys

With devices of the second hardware generation there is REV2 instead of REV1.

## 7.2. Behave as a lamp

You can pack the gateway into scenes or groups in the normal way.

Instead of one level, it has 8 switches. These can be used to carry out the actions within the gateway.

Depending on the state of the switches, a stored trigger can be executed.

| | |
|---|---|
| Bit_1 | ◯ |
| Bit_2 | ◯ |
| Bit_3 | ◯ |
| Bit_4 | ◯ |
| Bit_5 | ◯ |
| Bit_6 | ◯ |
| Bit_7 | ◯ |
| Bit_8 | ◯ |
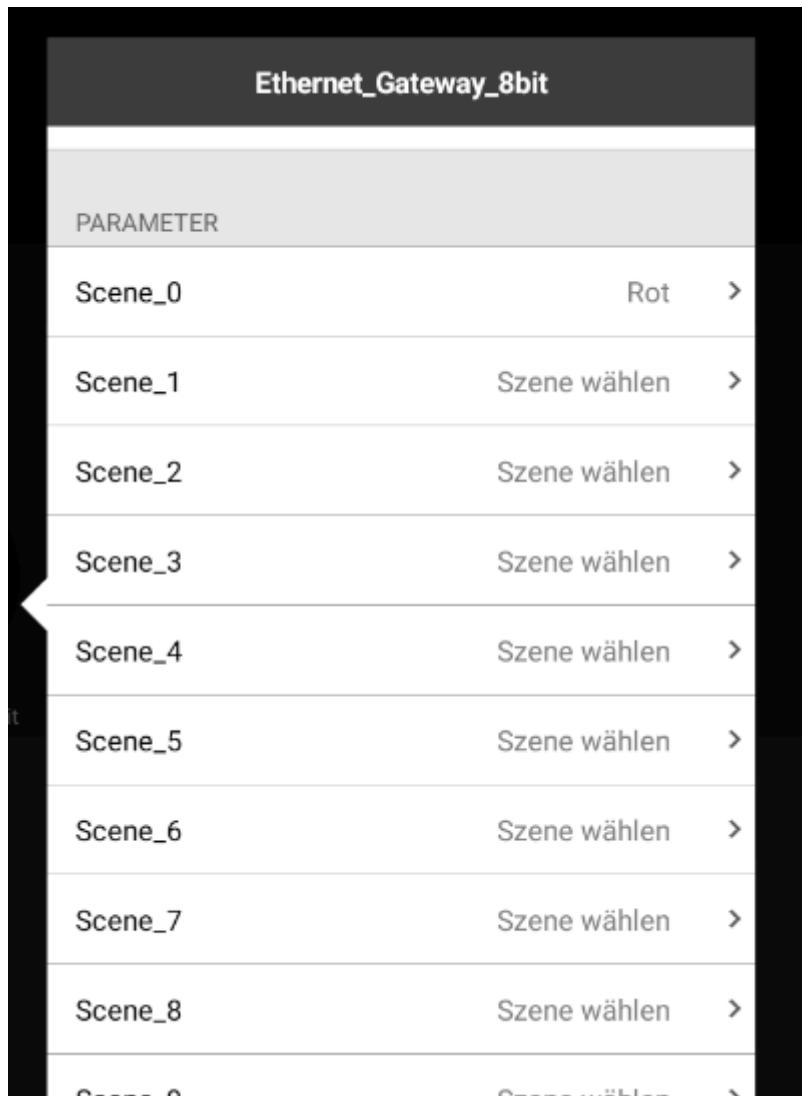
## 7.3. Settings as a lamp

On the settings page of the luminaire, the parameters can then also be set, e.g. to have group addresses or scene addresses output.

Depending on the profile either
- 16 groups + 16 scenes
- 32 groups + 32 scenes
- 64 groups
- 64 scenes
are displayed.

## Ethernet_Gateway_8bit

| Group_0 | Gruppe wählen | › |
| Group_1 | Gruppe wählen | › |
| Group_2 | Gruppe wählen | › |
| Group_3 | Gruppe wählen | › |
| Group_4 | Gruppe wählen | › |
| Group_5 | Gruppe wählen | › |
| Group_6 | Gruppe wählen | › |
| Group_7 | Gruppe wählen | › |
| Group_8 | Gruppe wählen | › |
| Group_9 | Gruppe wählen | › |
| Group_10 | Gruppe wählen | › |

## 7.4. Settings as a button

In the Casambi software, the gateway can be selected in the button area on the settings page.

Here, depending on the profile, 4 or, for profiles with "_EVO", 8 buttons can now be defined.
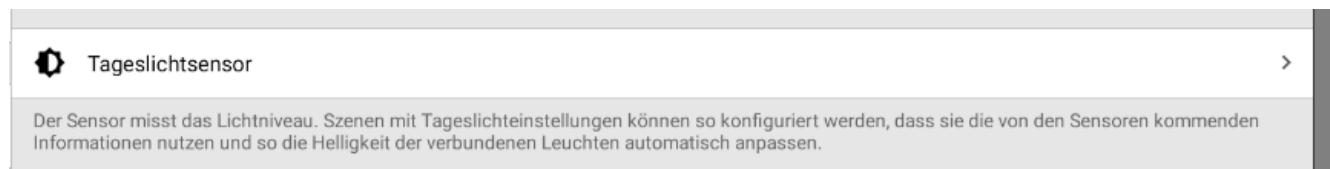
## 7.5. Settings as a PIR sensor

In the Casambi software, the gateway can be selected in the Sensor area on the settings page. This can now be set in the motion detector area.

BEWEGUNGSMELDER

Nicht aktiv                                                                    >

Bestimmt, was geschieht, wenn Bewegung/keine Bewegung erkannt wird.

## 7.6. Settings as a lux sensor

In the Casambi software, the gateway can be selected in the Sensor area on the settings page. This can now be set in the task light sensor area.



Der Sensor misst das Lichtniveau. Szenen mit Tageslichteinstellungen können so konfiguriert werden, dass sie die von den Sensoren kommenden Informationen nutzen und so die Helligkeit der verbundenen Leuchten automatisch anpassen.

## 7.7. Identify

It is now possible to identify the gateway when inserting the device into the wireless network.

As long as the identification via the app is activated, the device behaves as if you press the identify button on the website.

# 8. Changelog Firmware

> ⚠️ The backup files of version 2 are not compatible with those of version 3. In case of an update, the device must be set up again.

> ❗ The hardware button is currently still without function due to a hardware error and will be fixed from devices with manufacturing date > 03/2022.

Overview of the changes to the firmware in the individual versions.

The changelog can be found online at: https://changelog.lithernet.de/

## 9. Support

We offer support via e-mail. Simply send an e-mail to support@lithernet.de. We will get back to you as soon as possible.

A ticket can also be created online on the website [https://support.lithernet.de/](https://support.lithernet.de/). For this purpose, however, an account must be registered.
With this account you can also access previously written support requests.

A knowledgebase is under construction and can be reached at [https://support.lithernet.de/help/en-gb](https://support.lithernet.de/help/en-gb).