



Lithernet - Casambi Gateway v1.71

System Manual
Stand: 13.04.2021

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1. Hardware



The device has only one connection for network (RJ45). The supply takes place via POE.

The gateway uses one address in the Casambi network.

On the front there are 4 LEDs for status display.

1.1. LED-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 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

Hardware Revision 1:

Development Device for early testing of the functions



Hardware Revision 2:

Final layout with final housing.



1.3. Watchdog

A watchdog runs in the gateway with a set time of 90s so that the device can be restarted automatically if necessary.

1.4. Conformity

EC declaration of conformity

Lichtmanufaktur Berlin GmbH hereby declares that the radio system type "Lithernet - Casambi Gateway" complies 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>

1.5. Bluetooth Module

**Attention!**

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>

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

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 compliant
	REACH	REACH compliant

1.6. Device Labeling

There are 2 labels on the back of the device.

Lithernet - Casambi Gateway



01-41/2020-00000001



Here you can see in the barcode:

01: Litehrnet - Casambi Gateway

41/2020: week and year of manufacture in this case week 41 in 2020

00000001: serial number of the device

The second label contains the information that must be available for the built-in CBM-002 module:

Contains FCC ID: 2ALA3 - CBM002A

Contains IC: 22496 - CBM002A

2. Areas of application

The Ethernet gateway can be used in different ways.

[3.1 Gateway to the Eutrac Netcomposer](#)

[3.2 Gateway to the Helvar Router System \(HelvarNet\)](#)

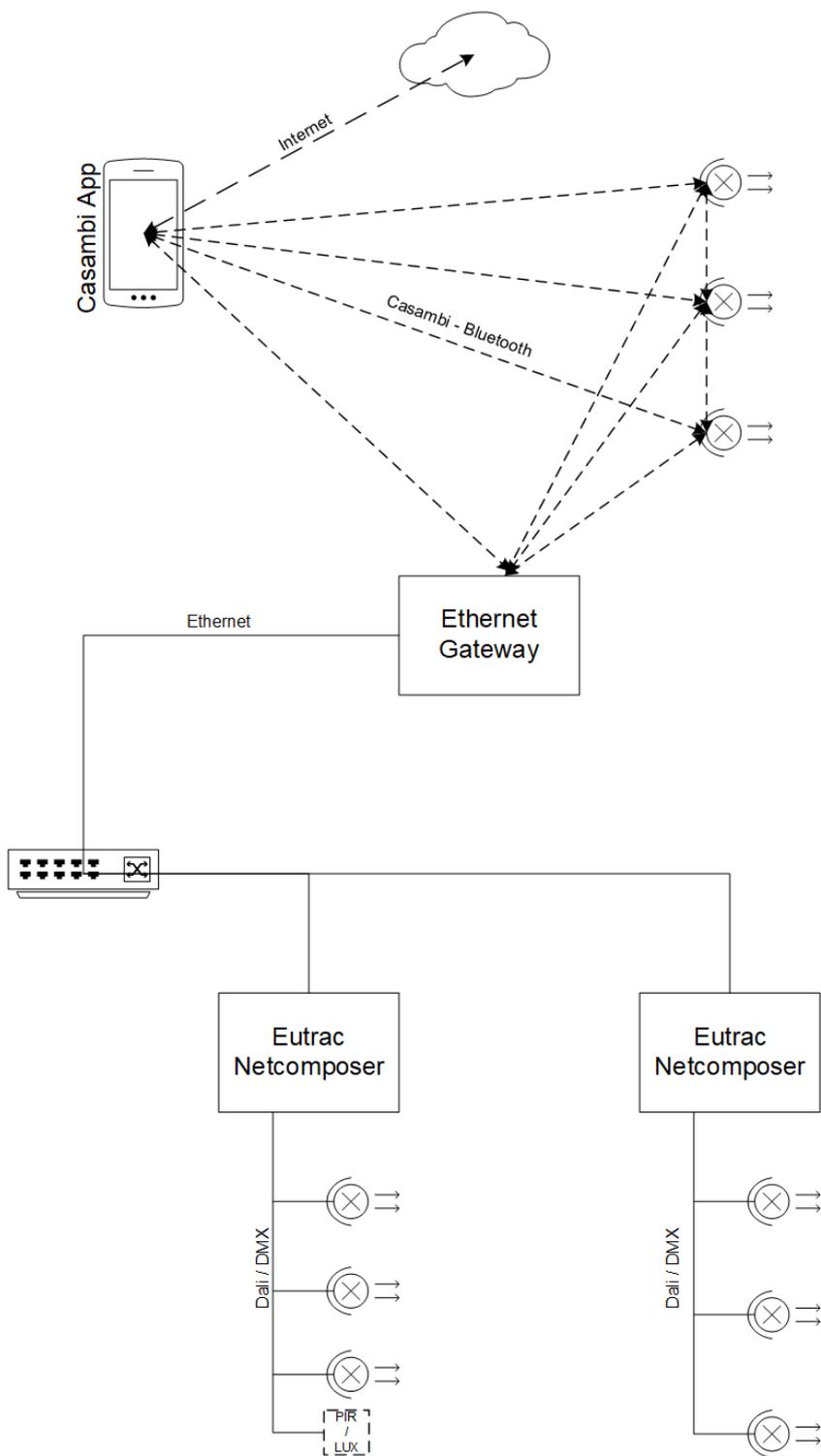
[3.3 Gateway to a system via UDP / TCP commands](#)

[3.4 Bridge between individual Casambi systems](#)

[3.5 Coupling to an existing BMS / visualization](#)

[3.6 ArtNet Gateway](#)

2.1. Gateway to the Eutrac Netcomposer



In this operating mode it is possible to establish a link to a system with the Eutrac netcomposers.

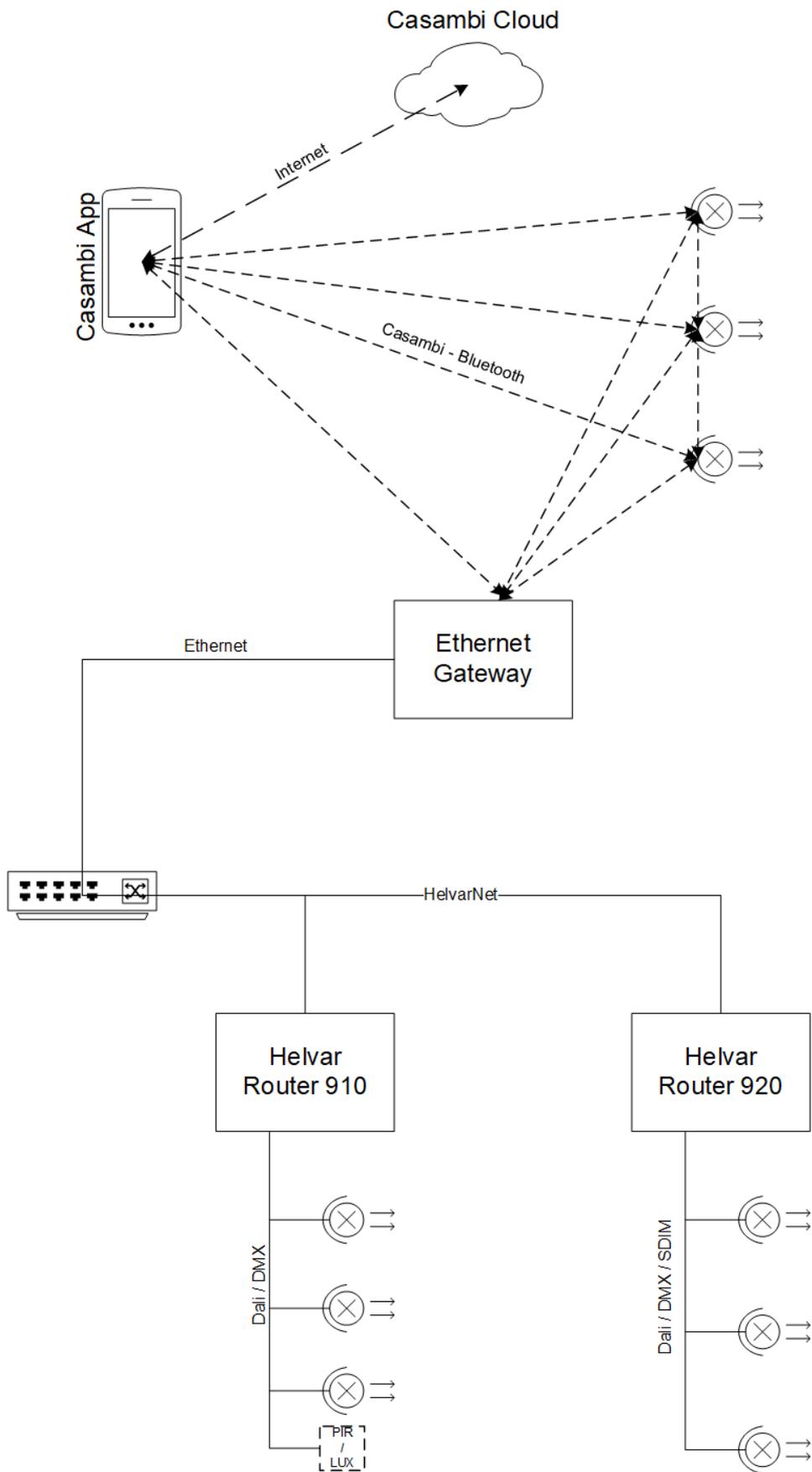
It is possible to communicate bidirectionally between the two systems. A total of 32 triggers can be set in each direction for each gateway.

The programming uses a wizard that simplifies the creation of commands.

The operating mode to be selected here would be "[Netcomposer](#)".

Video: <https://youtu.be/fxEkgmlicBc>

2.2. Gateway to the Helvar Router System (HelvarNet)



In this operating mode it is possible to establish a link 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 for each gateway.

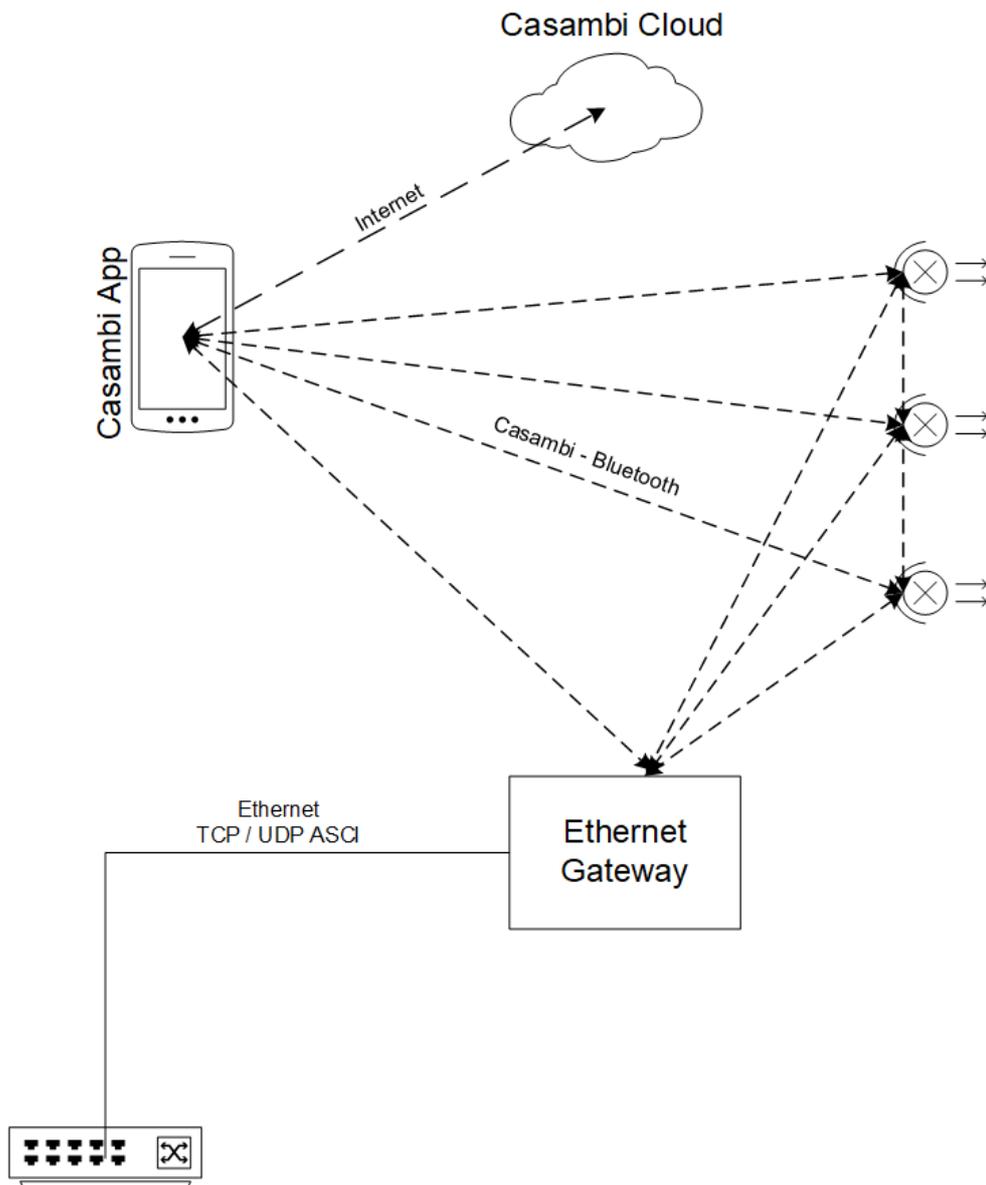
The programming uses a wizard that simplifies the creation of commands.

An IP address of a router must be specified as the destination of the connection.

The operating mode to be selected here would be "[HelvarNet \(TCP\)](#)".

Video: <https://youtu.be/Uu9n5WTbBqI>

2.3. Gateway to a system via UDP / TCP commands



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

This could e.g. Media controls (Crestron, ...) or KNX systems with which this integration via the network is possible.

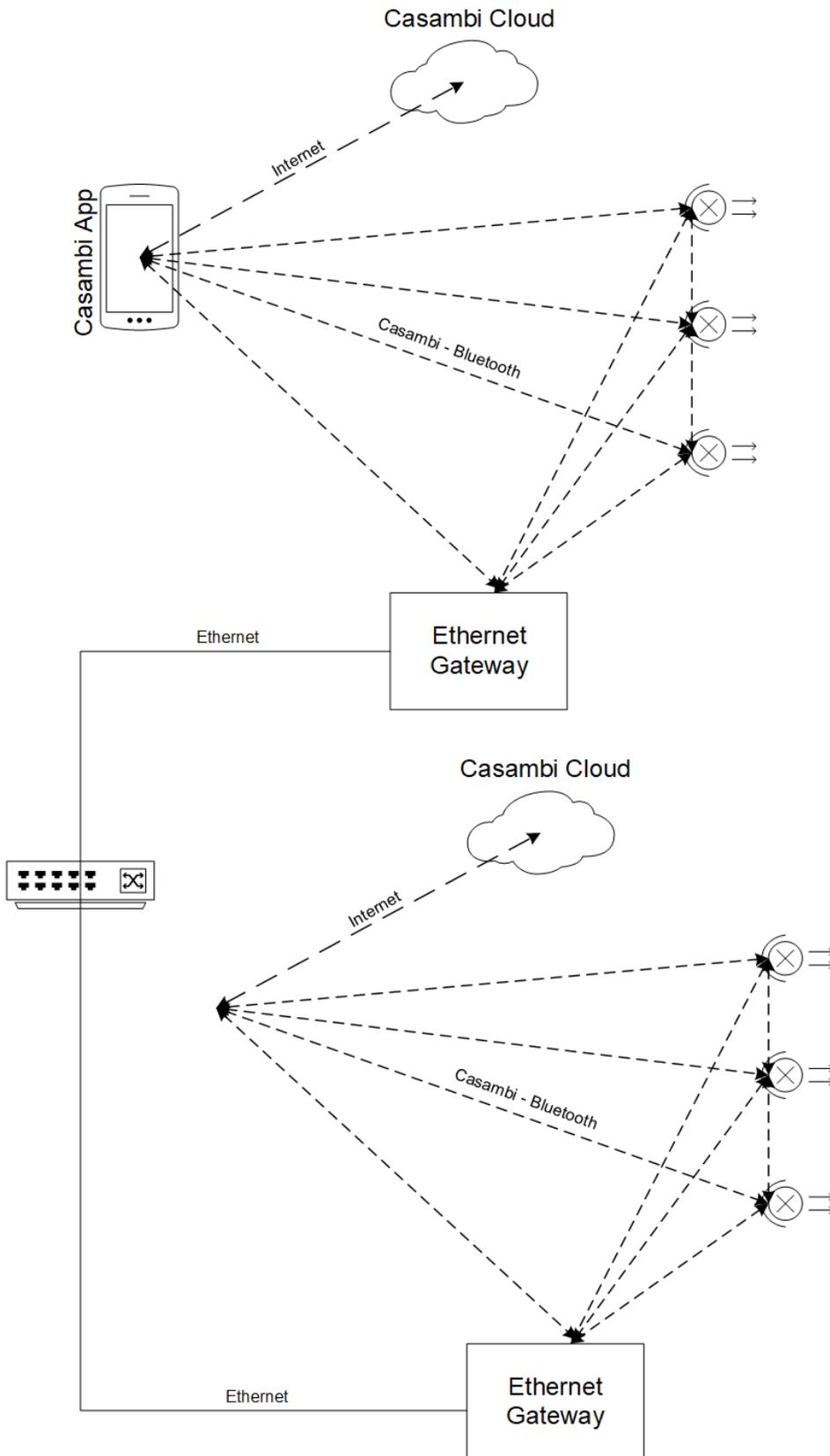
It is possible to communicate bidirectionally between the two systems. A total of 32 triggers can be set in each direction for each gateway.

The operating mode to be selected here would be "[UDP Free Messages](#)" or "[TCP Free Messages](#)".

Video - Crestron: <https://youtu.be/gpAQnBhzsz8>

Video - KNX / Loxone: <https://youtu.be/04bY2onxfj4>

2.4. Bridge between individual Casambi systems



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

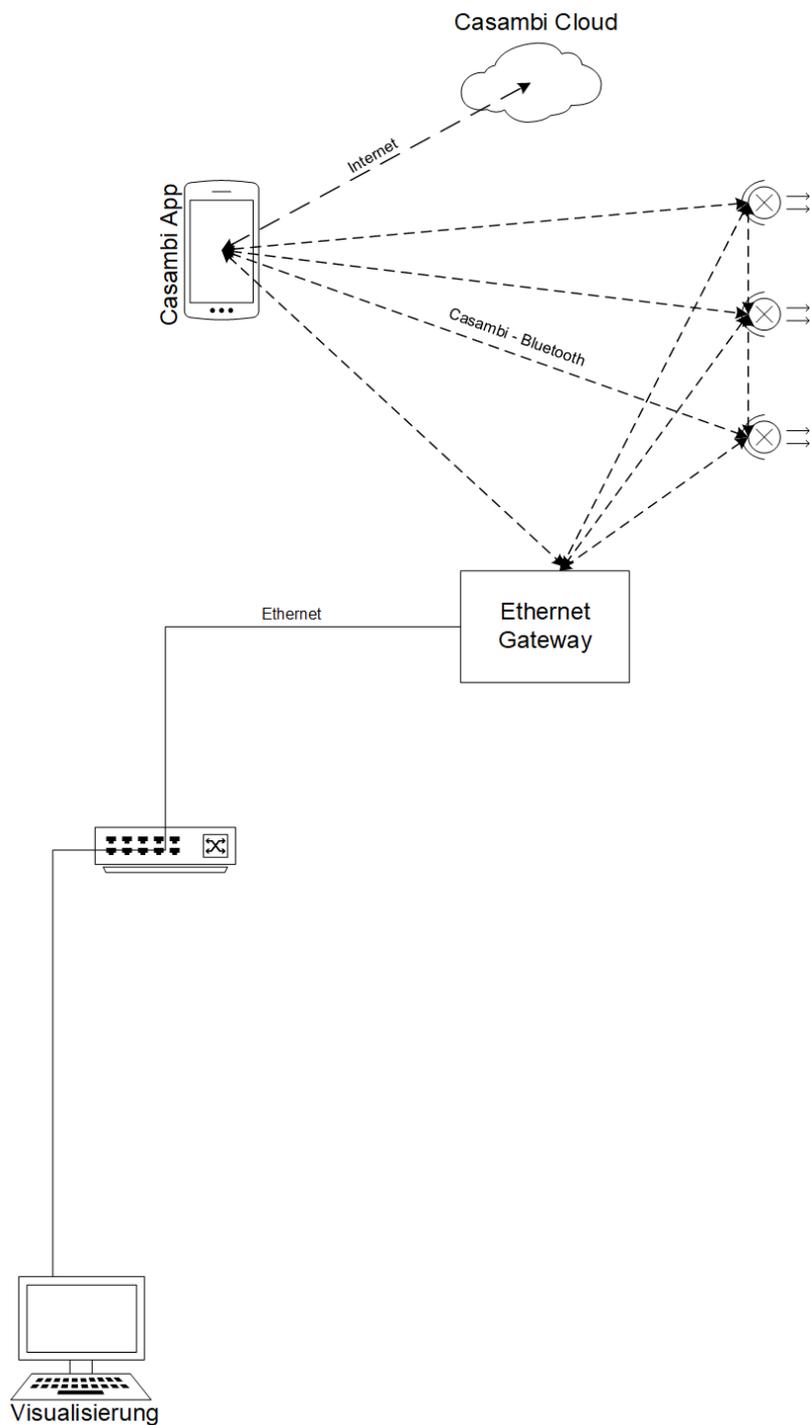
It is possible to communicate bidirectionally between the two systems. A total of 32 triggers can be set in each direction for each gateway.

Of course, several gateways can react to the same commands.

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

The operating mode to be selected here would be "[UDP Casambi Bridge](#)".

2.5. Coupling to an existing BMS / visualization



In this operating mode it is possible to use a gateway directly. 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 for each gateway.

Of course, several gateways can react to the same commands.

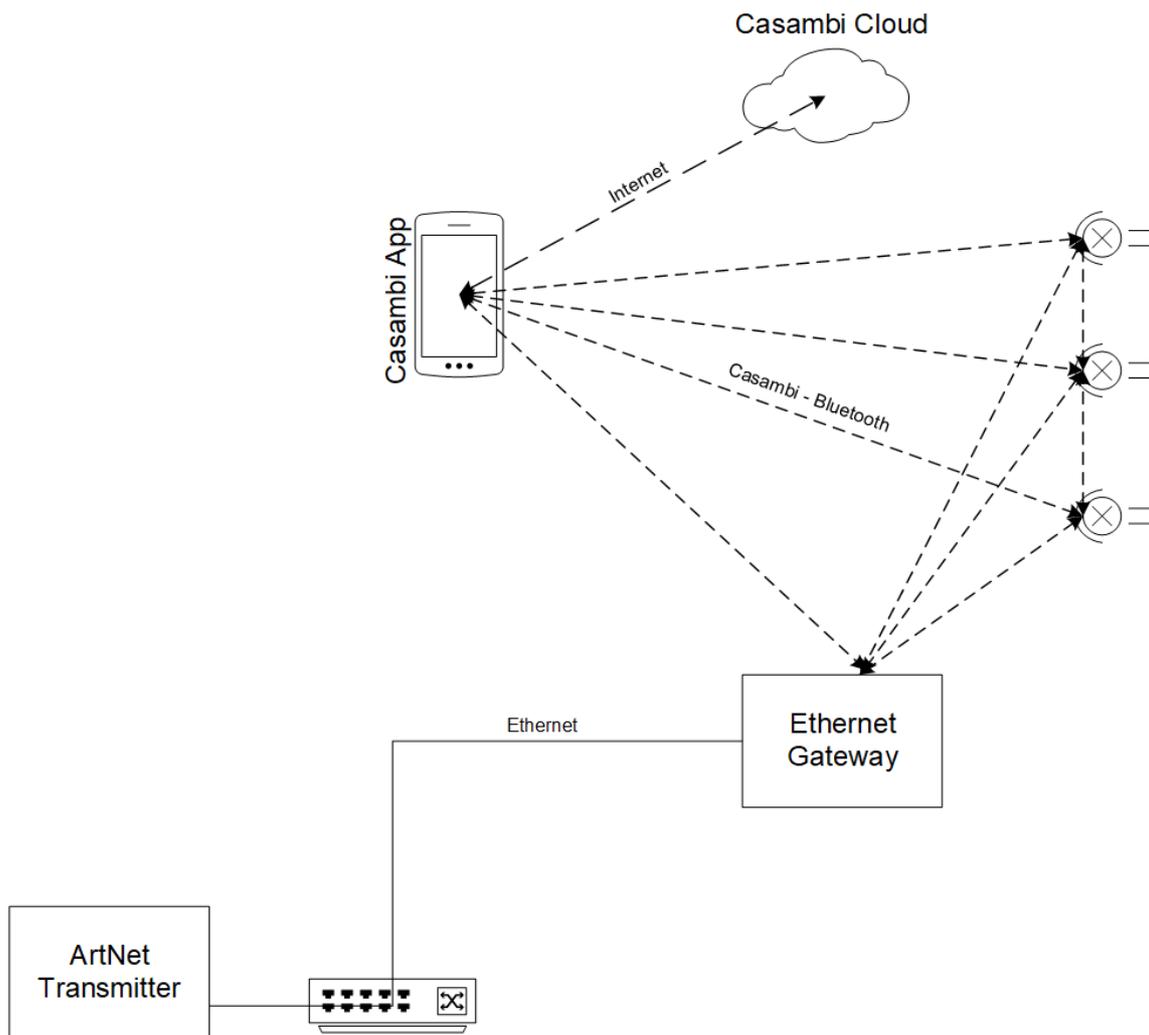
The gateways communicate with each other via UDP broadcast commands on a freely adjustable port.

The operating mode to be selected here would be "[UDP Casambi Command](#)".

The command structure in "[UDP Casambi Command](#)" mode is also explained in this manual.

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 32 Casambi commands (scenes, groups ...) using ArtNet
For level-based commands, the level is sent from the ArtNet to the Casambi system.
For commands that are not level-based, a value above 128 is the trigger for execution.

The operating mode to be selected here would be "[ArtNet \(Input Only\)](#)".

Video: <https://youtu.be/WNfn9LiD4Cw>

2.7. BacNet/IP Gateway

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

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

The commands are set via BacNet / Ip and started with a "run" value.

The Casambi system also reports back which scene was currently called.

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

The BacNet Vendor ID is: 1287.



Attention!

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

The operating mode to be selected here would be [BacNet/IP](#).

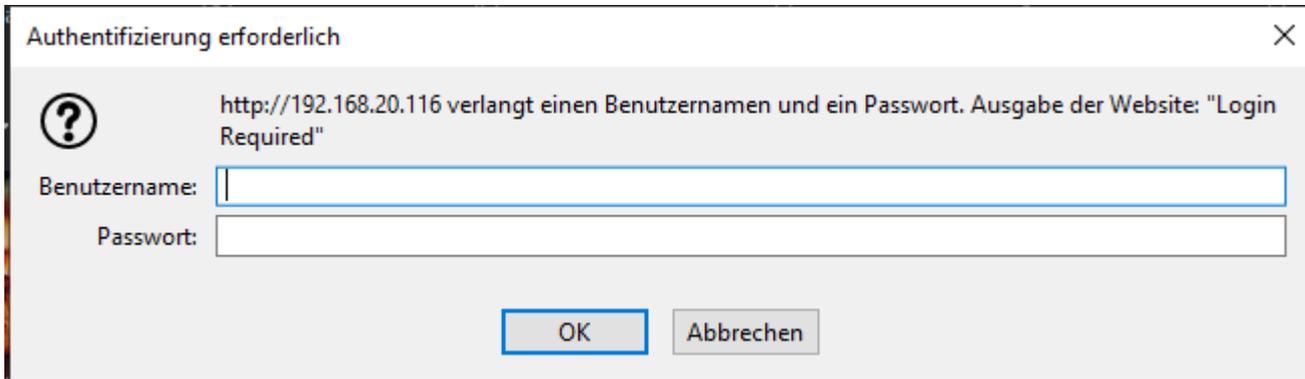
The connection via BacNet / IP is explained here: [Command structure in BacNet / IP mode](#)

3. Settings in the gateway

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

The gateway is supplied with the address 192.168.1.90.

With a web browser you can now go to <http://192.168.1.90> and come to the corresponding start page.



Authentifizierung erforderlich

http://192.168.20.116 verlangt einen Benutzernamen und ein Passwort. Ausgabe der Website: "Login Required"

Benutzername:

Passwort:

OK Abbrechen

Here you have to enter the username and password.

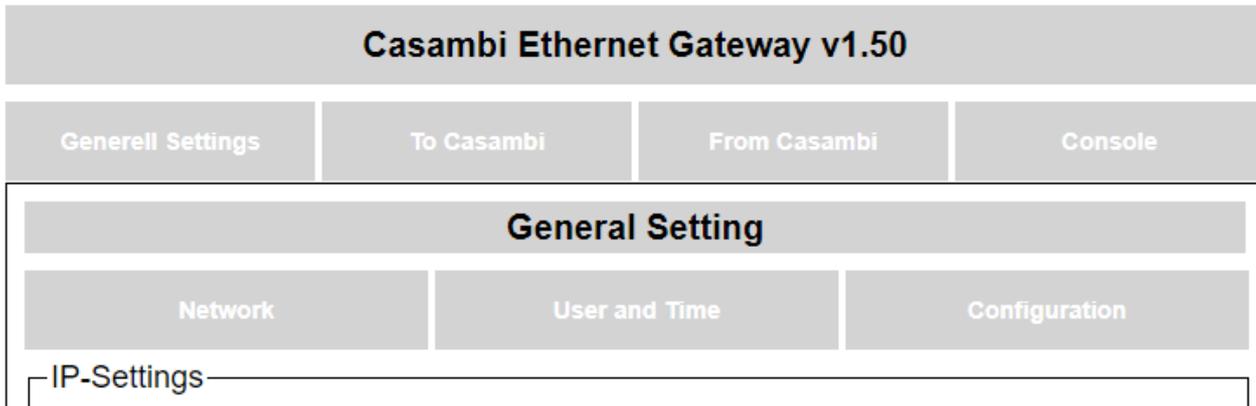
Delivery settings are:

Username: admin

Password: password

3.1. General Setting

The basic settings can be made on this settings page.



There are 3 subcategories. Network, user and time, configuration.

3.1.1. Network

Casambi Ethernet Gateway v1.50			
Generell Settings	To Casambi	From Casambi	Console
General Setting			
Network	User and Time	Configuration	
IP-Settings			
DHCP	<input type="text" value="active"/>		
Hostname	<input type="text" value="casambi_gateway"/>		
IP-Adress	<input type="text" value="192.168.20.112"/>		
Subnet	<input type="text" value="255.255.255.0"/>		
Gateway	<input type="text" value="192.168.20.2"/>		
Namserver 1	<input type="text" value="192.168.20.200"/>		
Namserver 2	<input type="text" value="192.168.20.2"/>		
<input type="button" value="Save"/>			
NTP-Client			
NTP-Client	<input type="text" value="inactive"/>		
NTP-Server	<input type="text" value="pool.ntp.org"/>		
gmtOffset in sec	<input type="text" value="0"/>		
daylightOffset in sec	<input type="text" value="3600"/>		
<input type="button" value="Save"/>			
Restart Gateway			
<input type="button" value="Reboot"/>			

3.1.1.1. 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	<input type="text" value="active"/>
Hostname	<input type="text" value="casambi_gateway"/>
IP-Adress	<input type="text" value="192.168.20.112"/>
Subnet	<input type="text" value="255.255.255.0"/>
Gateway	<input type="text" value="192.168.20.2"/>
Namserver 1	<input type="text" value="192.168.20.200"/>
Namserver 2	<input type="text" value="192.168.20.2"/>

DHCP: DHCP active or inactive

Hostname: hostname 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

With "Save" these are adopted.

After the takeover, the device must be restarted once.

3.1.1.2. NTP-Client

NTP-Client

NTP-Client	<input type="text" value="inactive"/>
NTP-Server	<input type="text" value="pool.ntp.org"/>
gmtOffset in sec	<input type="text" value="0"/>
daylightOffset in sec	<input type="text" value="3600"/>

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 starting, as well as when querying 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 it can also be a local address for a fixed IP assignment.

gmtOffset is the time zone in seconds.

daylightOffset is the indication of the time shifted by the summer time in seconds.

3.1.1.3. Restart Gateway



With this the gateway can be restarted.

3.1.2. User and Time

Casambi Ethernet Gateway v1.50					
Generell Settings	To Casambi	From Casambi	Console		
General Setting					
Network	User and Time	Configuration			
User Management					
Username <input type="text" value="admin"/>					
Password <input type="text" value="password"/>					
<input type="button" value="Change Login"/>					
Date and Time					
Date	<input type="text" value="12"/>	.	<input type="text" value="6"/>	.	<input type="text" value="2020"/>
Time	<input type="text" value="14"/>	:	<input type="text" value="0"/>	:	<input type="text" value="30"/>
<input type="button" value="Get Date and Time from Casambi"/>					
<input type="button" value="Get Date and Time from NTP"/>					
<input type="button" value="Send Date and Time to Casambi"/>					
<input type="button" value="Refresh"/>					

3.1.2.1. User Management

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

Only one user can be created.

User Management

Username

Password

The "Change Login" button transfers the user name and password.

3.1.2.2. Date and Time

Date and Time

Date	<input type="text" value="30"/>	.	<input type="text" value="4"/>	.	<input type="text" value="2020"/>
Time	<input type="text" value="12"/>	:	<input type="text" value="8"/>	:	<input type="text" value="19"/>

The current time at which the gateway is set is always displayed.

With "Get Date and Time from Casambi" you can get the current time from the Casambi network. Since Casambi needs sometime to send the data, the page can be reloaded with the refresh button. The time from the Casambi System will then be shown.

The current time of the set NTP server is queried using "Get Date and Time from NTP" and is accordingly adopted and displayed in the gateway.

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

3.1.3. Configuration

Casambi Ethernet Gateway - v1.65 - REV1

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

General Setting

Network	User and Time	Configuration
---------	---------------	---------------

Control System
Type Netcomposer
UDP-Port 10009
State UDP Listening on IP: 192.168.1.90 Port: 10009

LED Settings
LED

Update Firmware
 Keine ausgewählt

Configuration

 Keine ausgewählt

System Memory
Slide for Reset OFF

3.1.3.1. Control System Wizard

Control System

Type	UDP Casambi Command
Net ID	0
UDP-Port	10010
State	UDP Listening on IP: 192.168.20.112 Port: 10010

Wizard

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

The settings dialog is called up via the Wizard button.

Control System Wizard

Type	HelvarNet (TCP) <input type="button" value="next step"/>
------	--

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

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

- [Netcomposer](#)
- [ArtNet](#)
- [Free commands over UDP](#)
- [HelvarNet \(TCP\)](#)
- [Free commands over TCP](#)
- [UDP Casambi Command](#)
- [UDP Casambi Bridge](#)

With the button "next step" you can switch 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	<input type="text" value="10010"/>
Delimiter (ASCII DEC)	<input type="text" value="37"/>

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

3.1.3.1.1. Netcomposer System

Control System Wizard

Type	Netcomposer
UDP-Port	10009

step back

reboot..

The Eutrac netcomposer system broadcasts its data on port 10009.

These values are also permanently stored in the profile.

3.1.3.1.2. Art-Net

Control System Wizard

Type	Artnet (Input Only)
UDP-Port	6454
Universe	<input type="text" value="0"/>

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 Licence Holdings Ltd"

3.1.3.1.3. Free commands over UDP

Control System Wizard

Type	UDP Free Messages
UDP-Port	<input type="text" value="10010"/>
Delimiter (ASCII DEC)	<input type="text" value="37"/>

Here commands are broadcast to the specified port.

3.1.3.1.4. HelvarNet (TCP)

Control System Wizard

Type	HelvarNet (TCP)
TCP-Port	50000
Delimiter	#
Router IP	<input type="text" value="10.254.1.1"/>

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.

3.1.3.1.5. Free commands over TCP

Control System Wizard

Type	TCP Free Messages
TCP-Port	<input type="text" value="50000"/>
Delimiter (ASCII DEC)	<input type="text" value="35"/>
System IP	<input type="text" value="10.254.1.1"/>

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

3.1.3.1.6. UDP Casambi Command

Control System Wizard

Type	UDP Casambi Command
Net ID	<input type="text" value="0"/>
UDP-Port	<input type="text" value="6454"/>

The "Net ID" parameter is required to identify which bridge the command comes from. It can be selected from 0 - 255.

The UDP port parameter is used to select which port is to be listened to and sent on.

3.1.3.1.7. UDP Casambi Bridge

Control System Wizard

Type	UDP Casambi Bridge
Bridge ID	<input type="text" value="0"/>
UDP-Port	<input type="text" value="6454"/>

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

The UDP port parameter is used to select which port should be listened to and sent.

3.1.3.1.8. BacNet/IP

Control System Wizard

Type	BacnetIP
Local Device ID	<input type="text" value="400001"/>
UDP-Port	<input type="text" value="47808"/>

The port for communication can be adjusted here. As well as the local device ID.

3.1.3.2. LED Settings

LED Settings

LED

Save

Identify Device for 10s



Various features of the LED can be deactivated or activated here.

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

With the button Identify the 3 upper LEDs of the device start to go up and down.

3.1.3.3. Update Firmware

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

Update Firmware

Keine ausgewählt

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 home page after a short time.

3.1.3.4. Import / Export

Configuration

Export Configuration

Keine ausgewählt

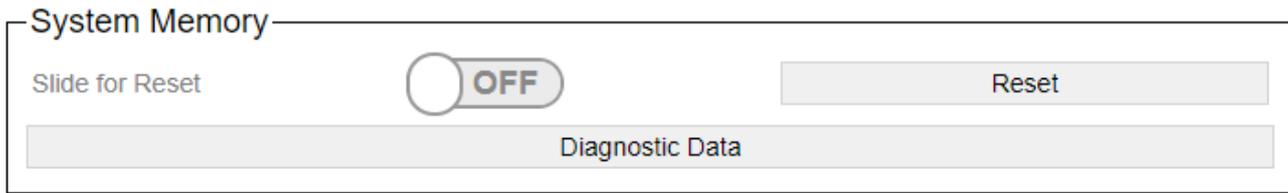
The Export button generates a file with the format "* .ceg". This file is downloaded and can then be saved as a backup.

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

Such an * .ceg file can be selected and imported again via Import.

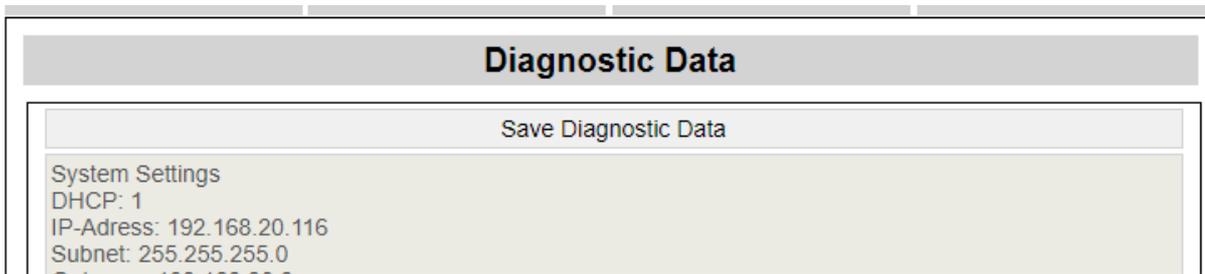
All settings are read from the file and saved in the gateway. After completion, the gateway restarts.

3.1.3.5. System Memory



With the "Reset" button, the system can be reset to the factory settings. For this, the slider "Slide for Reset" must be set to "On".

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

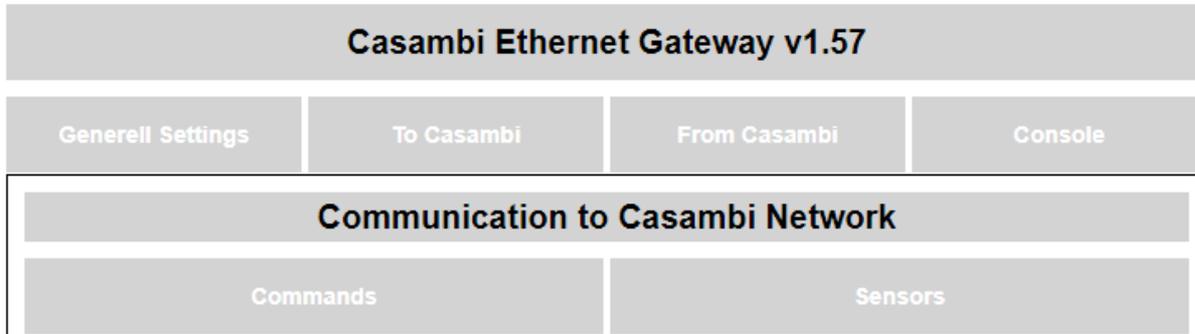


With a click on "Save Diagnostic Data" a file with the name "Casambi_GW_ [IP address] _DD.txt" is created and automatically downloaded from the browser.

3.2. 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.

Depending on the system, you either go directly to the "[Commands](#)" page.



With the HelvarNet and Netcomposer control system, the "[Sensors](#)" page can also be selected from a then visible submenu.

3.2.1. Commands

Here you can set which actions the device should perform 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			
<div style="border: 1px solid black; padding: 5px;">10 ▼ Load...</div>			
Trigger			
<div style="border: 1px solid black; padding: 5px;">Trigger Wizard</div>			
Action			
<div style="border: 1px solid black; padding: 5px;">Command none</div>			
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">Wizard</div>			
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">Save</div>			
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">Test</div>			

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

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

3.2.1.1. Select storage space

The first step is to select a storage location on which the action should be saved:

Memory Slot

0	▼	Load...
---	---	---------

The storage space can be selected using the dropdown list and the content can be displayed on the website with the "Load ..." button.

3.2.1.2. Trigger

Trigger

Trigger

The command to which the gateway should react is entered in the text field. For the already installed protocols (HelvarNet, NetComposer) there are wizards with which an easy creation is possible.

If one of the built-in protocols is selected, the trigger area looks like this:

Trigger

Trigger

At Art-Net the DMX address is entered instead of the trigger command. Attention, the DMX address is 1 based here.

Trigger

DMX-
Address

3.2.1.2.1. Netcomposer Command Builder

Command Builder

NCR Address

Command

The wizard supports the creation of commands to which the Casambi system should react.

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

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

- [Device Level](#)
- [Scene](#)
- [Group with Scene](#)
- [Group with Level](#)
- [Sequence](#)

With the button "next step" you can switch to the next step in the wizard. The button "step back" allows you to take a step back.

Result

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 on the corresponding slot.

3.2.1.2.1.1. Device Level

Command Builder

NCR Address	255
Command	Device Level
Device	<input type="text" value="0"/>
Level	<input type="range" value="0"/>
Fading	<input type="text" value="0"/>
Ignore Fading	<input type="checkbox"/> OFF

With Device, the device address of the target is specified.

The desired brightness is specified for Level.

The corresponding fade time for fading.

"Ignore Fading" ignores the fade time in the call.

3.2.1.2.1.2. Scene

Command Builder

NCR Address	255
Command	Scene
Scene	<input type="text" value="0"/>
Fading	<input type="text" value="0"/>
Ignore Fading	<input type="checkbox"/> OFF

The desired scene is specified under Scene.

The corresponding fade time for fading.

"Ignore Fading" ignores the fade time in the call.

3.2.1.2.1.3. Group with Scene

Command Builder

NCR Address	255
Command	Group with Scene
Group	<input type="text" value="0"/>
Scene	<input type="text" value="0"/>
Fading	<input type="text" value="0"/>
Ignore Fading	<input type="checkbox"/> OFF

With Group the group number of the destination is given.

The desired scene is specified under Scene.

The corresponding fade time for fading.

"Ignore Fading" ignores the fade time in the call.

3.2.1.2.1.4. Group with Level

Command Builder

NCR Address	255
Command	Group with Level
Group	<input type="text" value="0"/>
Level	<input type="range" value="0"/> <input type="text" value="0"/>
Fading	<input type="text" value="0"/>
Ignore Fading	<input type="checkbox"/> OFF

With Device, the device address of the target is specified.

The desired brightness is specified for Level.

The corresponding fade time for fading.

"Ignore Fading" ignores the fade time in the call.

3.2.1.2.1.5. Sequence

Command Builder

NCR Address	255
Command	Sequence
Sequence	<input type="text" value="0"/>
State	<input style="border-bottom: 1px solid black;" type="text" value="stoped"/>

"Sequence" is the sequence number.

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

3.2.1.2.2. HelvarNet Command Builder

Command Builder

Command 

The wizard supports the creation of commands to which the Casambi system should react.

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

- [Recall Scene \(Group\)](#)
- [Recall Scene \(Device\)](#)
- [Direct Level \(Group\)](#)
- [Direct Level \(Device\)](#)

With the button "next step" you can switch to the next step in the wizard. The button "step back" allows you to take a step back.

Result

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 on the corresponding slot.



Attention

Addresses must be determined with the designer software!

3.2.1.2.2.1. Recall Scene (Group)

Command Builder

Command	Recall Scene (Group)
Address	<input type="text"/>
Block	<input type="text" value="1"/>
Scene	<input type="text" value="1"/>
Constant Light	<input type="checkbox"/> OFF
Fade Time	<input type="text" value="0,0"/>
Ignore Fading	<input type="checkbox"/> OFF

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

"Block" and "Scene" indicate which scene is 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" specifies the fade time to be used. Specification in seconds.

Ignore Fading specifies that the fade time sent should be ignored when the call is made.

3.2.1.2.2.2. Recall Scene (Device)

Command Builder

Command	Recall Scene (Device)
Address	<input type="text"/>
Block	<input type="text" value="1"/>
Scene	<input type="text" value="1"/>
Fade Time	<input type="text" value="0,0"/>
Ignore Fading	<input type="checkbox"/> OFF

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

"Block" and "Scene" indicate which scene is called.

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

Ignore Fading specifies that the fade time sent should be ignored when the call is made.

3.2.1.2.2.3. Direct Level (Group)

Command Builder

Command	Direct Level (Group)
Address	<input type="text"/>
Level	<input type="range"/>
Fade Time	<input type="text" value="0,0"/>
Ignore Fading	<input type="checkbox"/> OFF

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

Level specifies the brightness in (0-254).

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

Ignore Fading specifies that the fade time sent should be ignored when the call is made.

3.2.1.2.2.4. Direct Level (Device)

Command Builder

Command	Direct Level (Device)
Address	<input type="text"/>
Level	<input type="range"/>
Fade Time	<input type="text" value="0,0"/>
Ignore Fading	<input type="checkbox"/> OFF

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

Level specifies the brightness in (0-254).

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

Ignore Fading specifies that the fade time sent should be ignored when the call is made.

3.2.1.3. Action

Action

Command none

Wizard

With the button Wizard, the dialog for setting the action is called. A new page then opens:

Action Builder

Command none

next step

With the button "next step" you can switch to the next step in the wizard. The button "step back" allows you to take a step back.

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.

3.2.1.3.1. Ping



Sends a "ping" signal to the Casambi system.

In Art-Net operating mode, the command is triggered; if the DMX level is above 128, the command is triggered.

3.2.1.3.2. Set Level

Action Builder

Command SetLevel

Level 0

Duration

Sets the entire Casambi system to the specified level in the specified time.

In Art-Net mode, the level and duration are ignored. The level is taken from the DMX signal, the duration is always 0.

When connecting via HelvarNet or to a Netcomposer system, the window looks like this:

Action Builder

Command SetLevel

Level 0

Level from Network OFF

Duration

Here you can switch on via "Level from Network" that the level signal what it gets from the other system should be adopted.

For this, of course, a command with a level must also be set as a trigger.

3.2.1.3.3. Push Button Pressed

Action Builder

Command PushButtonPressed

Button

Transmits the "Button pressed" status to the Casambi system, which then carries out the corresponding action.

In Art-Net operating mode, the command is triggered; if the DMX level is above 128, the command is triggered.

3.2.1.3.4. Push Button Released

Action Builder

Command PushButtonReleased

Button

Transmits the status "button released" to the Casambi system, which then carries out the stored action.

In Art-Net operating mode, the command is triggered; if the DMX level is above 128, the command is triggered.

3.2.1.3.5. Set Presence

Action Builder

Command SetPresence

Presence ▼

Transmits to the Casambi system whether a movement has been detected or not.

In Art-Net operating mode, the command is triggered; if the DMX level is above 128, the command is triggered.

3.2.1.3.6. Set Scene Level

The screenshot shows a window titled "Action Builder" with the command "SetSceneLevel". It contains three input fields: "Scene" with the value "0", "Level" with a slider set to "0", and "Duration" with the value "0". At the bottom, there are two buttons: "step back" and "next step".

Calls up a scene in the Casambi system.

A scene number must be entered for the scene. The level indicates the dimming level at which the scene should be called up. Duration determines the fade time.

In Art-Net mode, the level and duration are ignored. The level is taken from the DMX signal, the duration is always 0.

When connecting via HelvarNet or to a Netcomposer system, the window looks like this:

This screenshot shows the "Action Builder" window for "SetSceneLevel" with an additional option. It includes the same "Scene" (0), "Level" (0), and "Duration" (0) fields as the previous image. A new "Level from Network" toggle switch is present, currently set to "OFF". The "step back" and "next step" buttons are also visible at the bottom.

Here you can switch on via "Level from Network" that the level signal what it gets from the other system should be adopted.

For this, of course, a command with a level must also be set as a trigger.

3.2.1.3.7. Set Group Level

Action Builder

Command SetGroupLevel

Group

Level

Duration

With this action a group can be set to a certain level. Duration again specifies the fade time.

In Art-Net mode, the level and duration are ignored. The level is taken from the DMX signal, the duration is always 0.

When connecting via HelvarNet or to a Netcomposer system, the window looks like this:

Action Builder

Command SetGroupLevel

Group

Level

Level from Network OFF

Duration

Here you can switch on via "Level from Network" that the level signal what it gets from the other system should be adopted.

For this, of course, a command with a level must also be set as a trigger.

3.2.1.3.8. Set Push Button Level

The screenshot shows the 'Action Builder' interface for the command 'SetPushButtonLevel'. It features a 'Button' dropdown menu set to '0' and a 'Level' slider with a blue knob at the far left and a numerical input field on the right also set to '0'. At the bottom, there are two buttons: 'step back' and 'next step'.

Sets the level of the device that is specified as the target of the button in the Casambi app.

In Art-Net mode, the level and duration are ignored. The level is taken from the DMX signal, the duration is always 1.

When connecting via HelvarNet or to a Netcomposer system, the window looks like this:

This screenshot shows the 'Action Builder' interface for 'SetPushButtonLevel' with an additional 'Level from Network' toggle. The 'Button' dropdown is '0', the 'Level' slider is at the left with an input field of '0', and the 'Level from Network' toggle is currently 'OFF'. The 'step back' and 'next step' buttons are at the bottom.

Here you can switch on via "Level from Network" that the level signal what it gets from the other system should be adopted.

For this, of course, a command with a level must also be set as a trigger.

3.2.1.3.9. Set Lux Sensor

Action Builder

Command SetLuxSensor

Lux Level

Displays the lux value to be sent.

In Art-Net operating mode, the command is triggered; if the DMX level is above 128, the command is triggered.

3.2.2. Sensors

A sensor can be specified here that is actively queried by the gateway. The values that the sensor delivers are then transferred to the Casambi system as light values.

Casambi Ethernet Gateway v1.57

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

Communication to Casambi Network

Commands	Sensors
----------	---------

Lightsensor

Lightsensor	<input type="text" value="active"/>
Address	<input type="text" value="20.75.2.63.4"/>
Raw Value	38
Factor	<input type="text" value="1,00"/>
Value	38

3.2.2.1. HelvarNet

Casambi Ethernet Gateway v1.57

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

Communication to Casambi Network

Commands	Sensors
----------	---------

Lightsensor

Lightsensor	<input type="text" value="active"/>
Address	<input type="text" value="20.75.2.63.4"/>
Raw Value	38
Factor	<input type="text" value="1,00"/>
Value	38

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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 DropDown menu Lightsensor. The sensor is only queried if HelvarNet has been selected as the system and the function is activated.

The address is given in 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. 4 can be used as a sub-device for the multisensors.

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

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

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

3.2.2.2. Netcomposer



Attention!

The feature is still in progress and will be added in a later firmware.

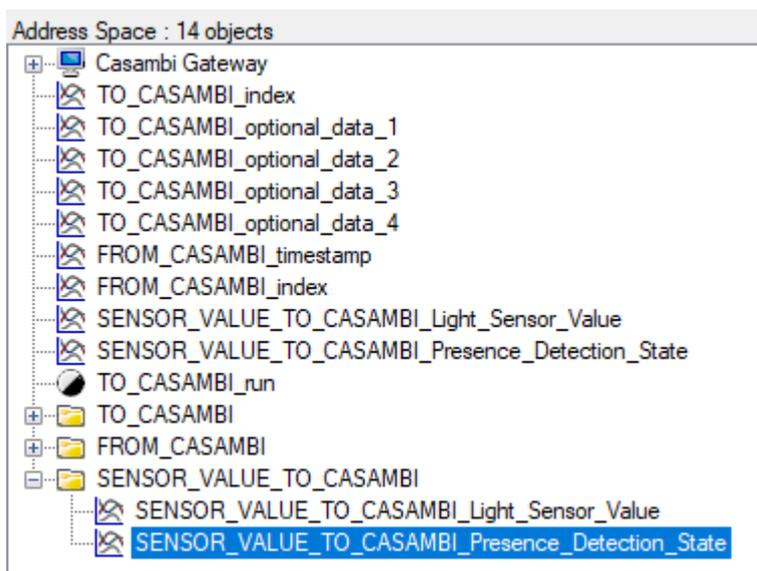
3.2.2.3. BacNet/IP

Communication to Casambi Network	
Commands	Sensors
Lightsensor	
Lightsensor	<input type="text" value="inactive"/>
Raw Value	0
Factor	<input type="text" value="1,00"/>
Value	0
<input type="button" value="Save"/>	

Presence	
Presence Detection	<input type="text" value="inactive"/>
State	inactive
<input type="button" value="Save"/>	

The parameters for setting sensor messages can be set here.

This looks like this in the BacNet:



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 at Present Value.

For the part motion detector:

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

3.2.2.3.1. Lightsensor

Lightsensor

Lightsensor	<input type="text" value="inactive"/>
Raw Value	0
Factor	<input type="text" value="1,00"/>
Value	0

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 is displayed which is transferred to the Casambi system. 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.

3.2.2.3.2. Presence

Presence

Presence Detection

State inactive

Save

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

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

3.3. From Casambi

Here you can set what the gateway should send on the network as soon as it 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			
<input style="width: 200px;" type="text" value="0"/> <input style="width: 100px;" type="button" value="Load..."/>			
Trigger			
Bit_1 <input type="checkbox"/> OFF			
Bit_2 <input type="checkbox"/> OFF			
Bit_3 <input type="checkbox"/> OFF			
Bit_4 <input type="checkbox"/> OFF			
Bit_5 <input type="checkbox"/> OFF			
Bit_6 <input type="checkbox"/> OFF			
Bit_7 <input type="checkbox"/> OFF			
Bit_8 <input type="checkbox"/> OFF			
Action			
<input style="width: 200px;" type="text"/> <input style="width: 50px;" type="button" value="Wizard"/>			
<input style="width: 100%; height: 20px;" type="button" value="Save"/>			
<input style="width: 100%; height: 20px;" type="button" value="Test"/>			

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

The "Test" button executes 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.

3.3.1. Select storage space

The first step is to select a storage location on which the action should be saved:

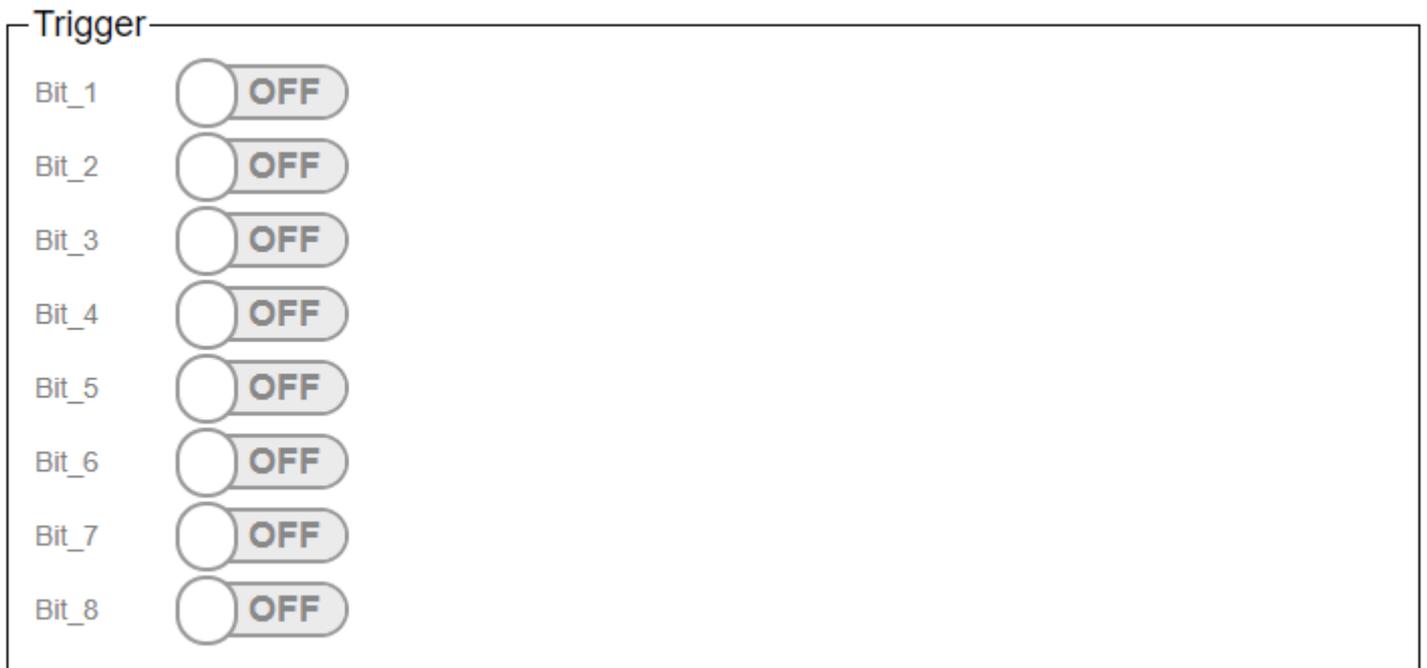
Memory Slot

0	▼	Load...
---	---	---------

The storage space can be selected using the dropdown list and the content can be displayed on the website with the "Load ..." button.

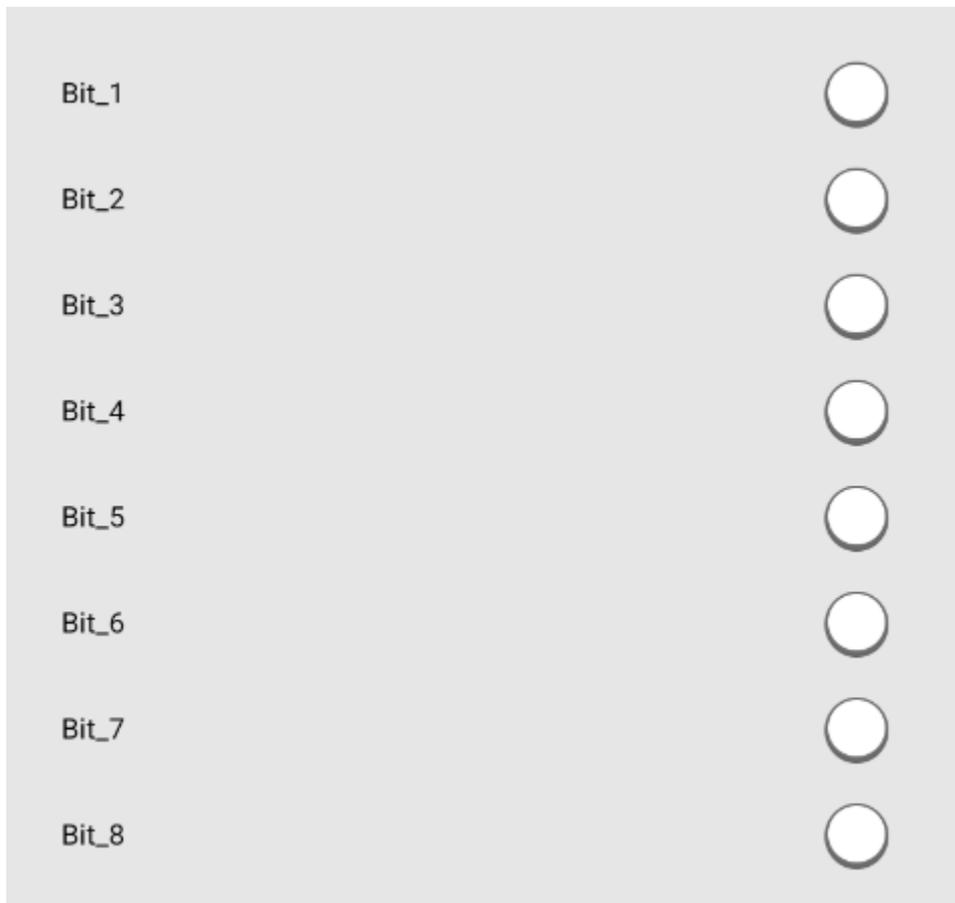
3.3.2. Trigger

The trigger specifies when an action should be triggered.



The triggers are used to set at which scene call in Casambi the command filed under "Action" should be sent on the network.

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



The entered button is saved with the Submit button.

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

3.3.3. Action

Action

The command that the gateway should send is entered in the text field. For the already installed protocols (HelvarNet, NetComposer, Lithernet) there are wizards with which an easy creation is possible.

If one of the built-in protocols is selected, the action area looks as follows:

Action

3.3.3.1. Netcomposer Command Builder

Command Builder

NCR Address

Command

The wizard supports the creation of commands to which the Casambi system should react.

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

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

- [Device Level](#)
- [Scene](#)
- [Group with Scene](#)
- [Group with Level](#)
- [Sequence](#)

With the button "next step" you can switch to the next step in the wizard. The button "step back" allows you to take a step back.

Result

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 on the corresponding slot.

3.3.3.2. HelvarNet Command Builder

Command Builder

Command 

The wizard supports the creation of commands to which the Casambi system should react.

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

- [Recall Scene \(Group\)](#)
- [Recall Scene \(Device\)](#)
- [Direct Level \(Group\)](#)
- [Direct Level \(Device\)](#)

With the button "next step" you can switch to the next step in the wizard. The button "step back" allows you to take a step back.

Result

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 on the corresponding slot.



Attention

Addresses must be determined with the designer software!

3.3.3.3. Bridge Mode Command Builder

Command Builder

NCR Address	<input type="text" value="15"/>
Slot-ID	<input type="text" value="10"/>

With the button "next step" you can switch to the next step in the wizard. The button "step back" allows you to take a step back.

Result

<input type="text" value="f.a"/>	
<input type="button" value="step back"/>	<input type="button" value="Test"/>
<input type="button" value="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.

3.4. 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

3.4.1. Console

A display of the last commands 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
```


In the text line, a command can be sent directly to the Casambi system. 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

3.4.2. Parameter

With the parameter area a parameter can be shown values that were previously defined in the Casambi app.

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

The "Get Parameter" button sends the query to the Casambi module. This page must then be updated once with "Refresh".

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 get out which ID is hidden behind this in order to use them in the calls.

4. Settings in the Casambi app

On the Casambi network side, the system behaves like a normal light / button / sensor.

It can be found in the Casambi software as a Bluetooth device and can be added.

It then appears on the one hand in the luminaire overview, but also as a sensor and switch.

4.1. Behavior as a lamp

You can pack the gateway into scenes or groups as normal.

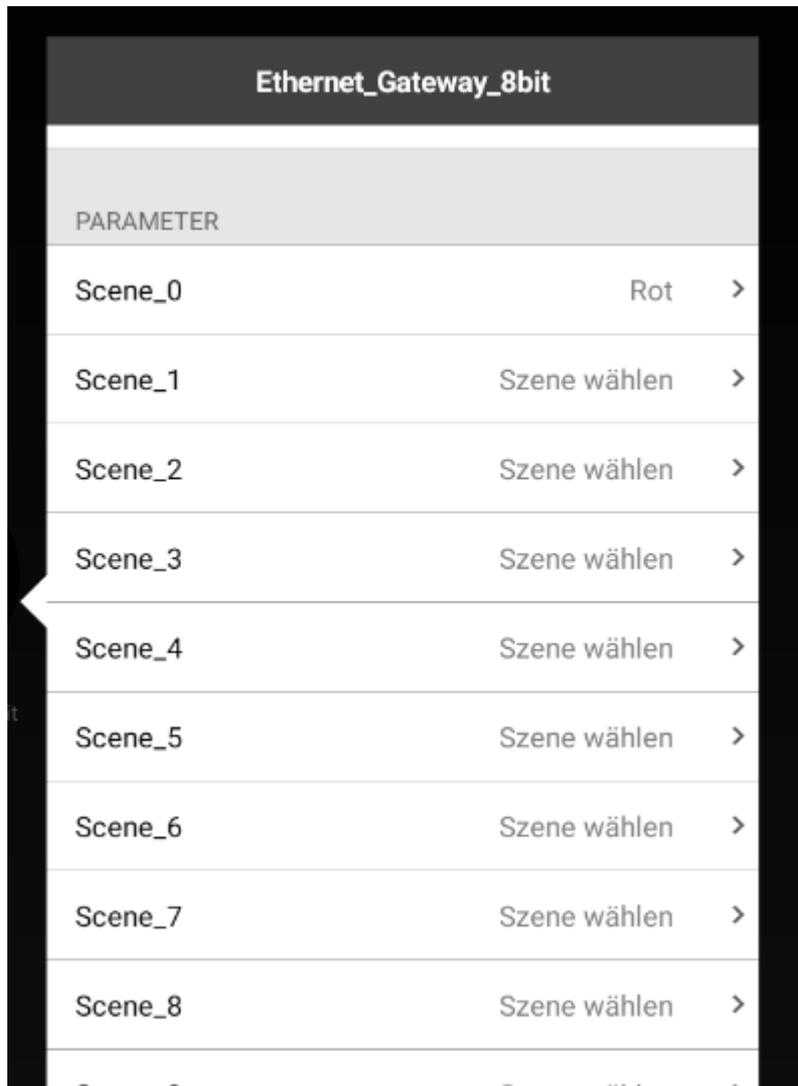
Instead of a level, it has 8 switches. With these you can perform the actions within the gateway.

Depending on the status of the switches, a saved trigger can be executed.



4.2. Settings as a lamp

The parameters can then also be set on the settings page of the lamp, e.g. Get group addresses or scene addresses.



The screenshot shows a mobile application interface for an 'Ethernet_Gateway_8bit'. It features a table with a header 'PARAMETER' and several rows representing scene settings. The first row shows 'Scene_0' with the value 'Rot' and a right-pointing arrow. The subsequent rows show 'Scene_1' through 'Scene_8', each with the value 'Szene wählen' and a right-pointing arrow. A white callout bubble points to the 'Scene_3' row.

Ethernet_Gateway_8bit		
PARAMETER		
Scene_0	Rot	>
Scene_1	Szene wählen	>
Scene_2	Szene wählen	>
Scene_3	Szene wählen	>
Scene_4	Szene wählen	>
Scene_5	Szene wählen	>
Scene_6	Szene wählen	>
Scene_7	Szene wählen	>
Scene_8	Szene wählen	>
Scene_9	Szene wählen	>

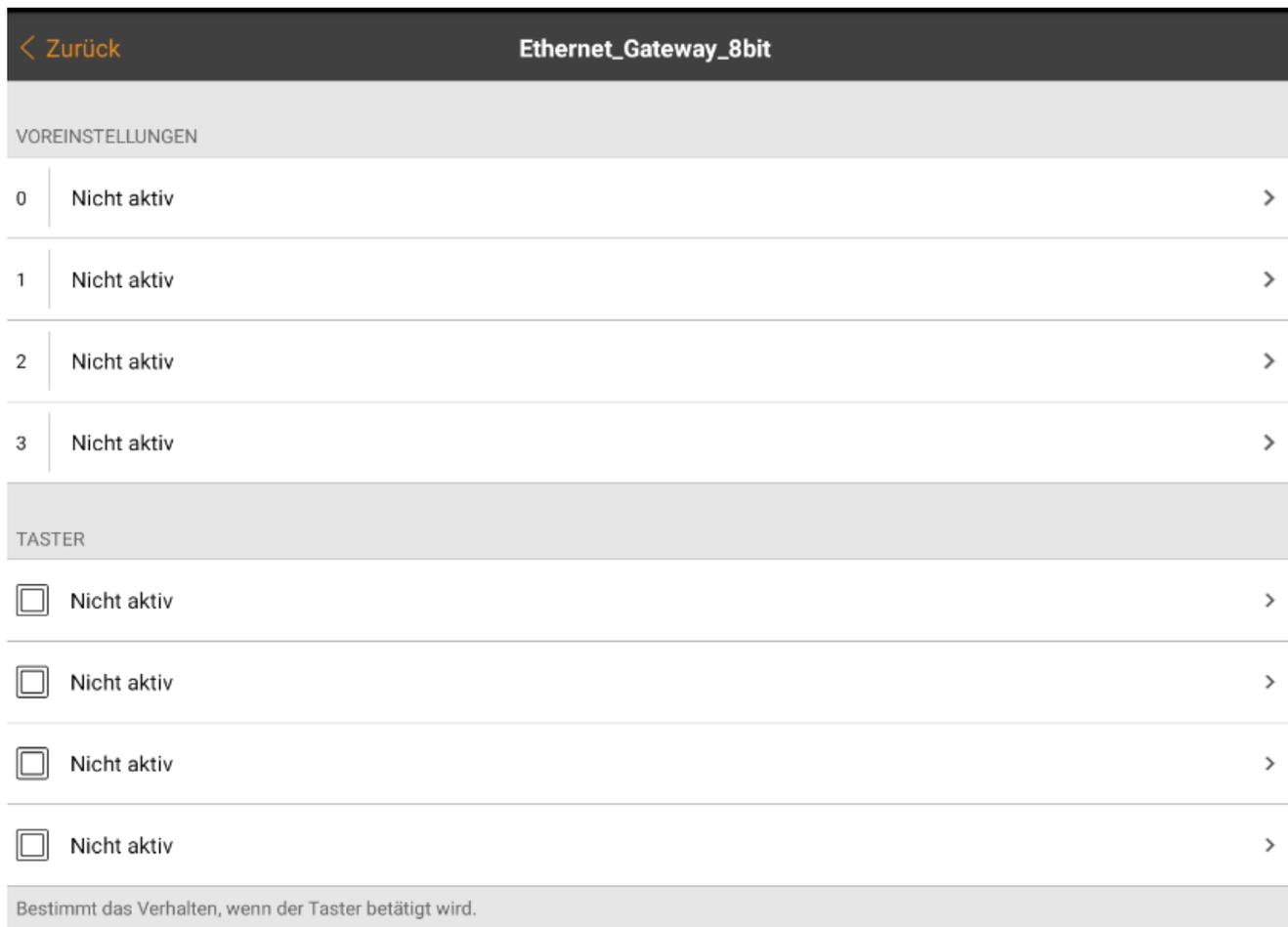
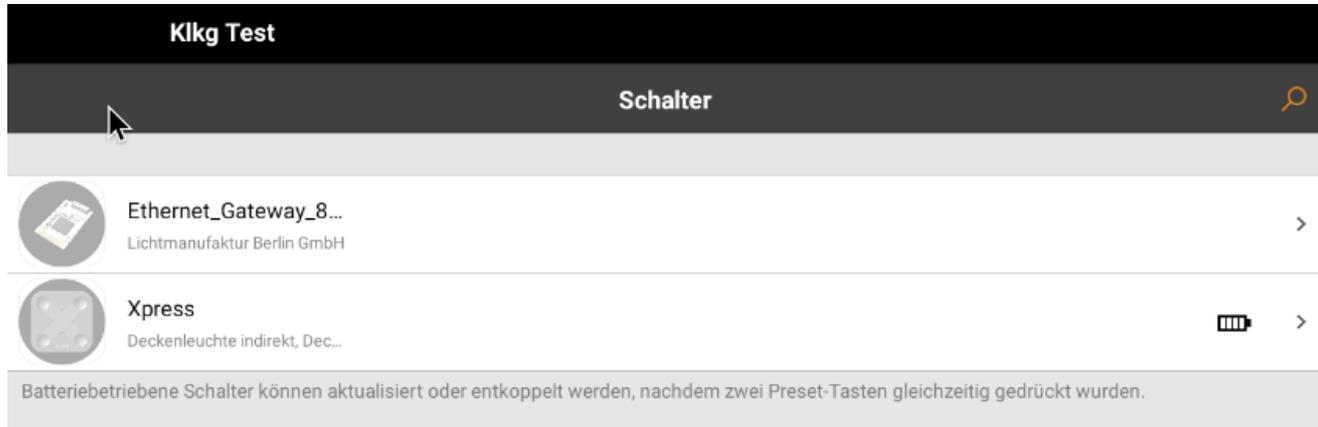
Ethernet_Gateway_8bit

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	>

4.3. Settings as a button

In the Casambi software, the gateway can be selected in the button area on the settings page.

Four buttons can now be defined here.



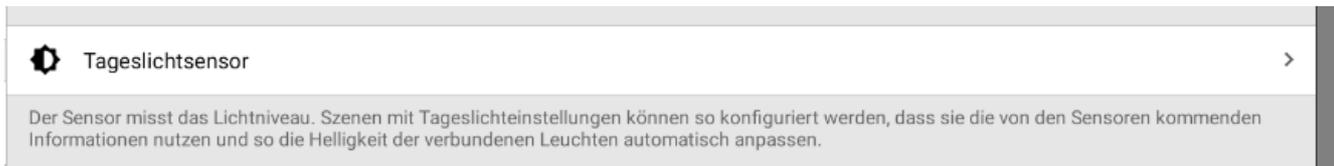
4.4. Settings as a PIR sensor

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.



4.5. Settings as 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 area of the daylight sensor.



5. Command structure in UDP Casambi Command mode

Description of the structure of the commands that the gateway sends in "UDP Casambi Command" mode

5.1. General structure of the commands

The structure of the telegrams is fixed. The transfer takes place 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 it (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).

If you want to send the 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

Let us now take a closer look at the 0x_Casambi_Data [1..X]:

Such a data packet always consists of the same parts:

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

Packets with length 0 are ignored by the Casambi system.

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

Packages with an opcode that is known to you should simply be ignored.

A list of opcodes is given in 5.2 and 5.3.

5.2. Commands from the Casambi system

When a package comes from the Casambi system, the part is 0x_Command_Direction 0x70.

We only consider the part 0x_Casambi_Data [1 ... X] from the general data frame from 5.1

[5.2.1\) 0x28 - Receive time from the Casambi network](#)

[5.2.2\) 0x0D - Scene called](#)

[5.2.3\) 0x39 - Node Status](#)

[5.2.4\) 0x3A - Notify Node removed](#)

5.2.1. 0x28 - Receive time from the Casambi network

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

Length: 0x08

Opcode: 0x28

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

5.2.2. 0x0D - Scene called

The gateway must be added to the corresponding scene. Using the slide switches Bit_1 to Bit_8, up to 255 different scenes can be encoded.

Each time the scene is called, the command is sent to the network accordingly.

Length: 0x09

Opcode: 0x0D

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.0.0.0.0.0.0d/r/n

5.2.3. 0x39 - Node Status

Details of the current status of a node are transmitted. The answers can come as a burst.

Length: 0x6

Opcode: 0x39

0x_Unit_ID.0x_Scene.0x_Priority_Node_Type.0x_Condition.0x_Online

0x_Scene

the currently active scene ID

0x_Priority_Node_Type => Priority

(0..15, the 6 lower 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 highest 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

5.2.4. 0x3A - Notify Node removed

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

Length: 0x2

Opcode: 0x3A

0x_Unit_ID

Example: 2.3a.1

5.3. Commands to the Casambi system

If a package comes from the Casambi system, the part is 0x_Command_Direction 0x72.

We only consider the part 0x_Casambi_Data [1 ... X] from the general data frame from 5.1

[5.3.1\) 0x10 - Push Button Pressed](#)

[5.3.2\) 0x11 - Push Button Released](#)

[5.3.3\) 0x1E - Set the level of a scene](#)

[5.3.4\) 0x1F - Set the level of a group](#)

[5.3.5\) 0x20 - Set level of all devices](#)

[5.3.6\) 0x21 - Set the level of the target of a button](#)

[5.3.7\) 0x28 - Request time from the Casambi network](#)

[5.3.8\) 0x28 - Set time in the Casambi network](#)

[5.3.9\) 0x2B - Set presence sensor](#)

[5.3.10\) 0x2C - Set light sensor](#)

[5.3.11\) 0x39 - Node Status](#)

5.3.1. 0x10 - Push Button Pressed

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

Length: 0x02
Opcode: 0x10

0x_Button_Number

Example: 0.72.2.10.0/r/n

5.3.2. 0x11 - Push Button Released

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

Length: 0x02

Opcode: 0x11

0x_Button_Number

Example: 0.72.2.11.0/r/n

5.3.3. 0x1E - Set the level of a scene

Set all Casambi lights of a scene to one value.

Length: 0x05

Opcode: 0x1E

0x_Scene.0x_Level.0x_Duration_low.0x_Duration_high

Example: 0.72.5.1e.0.ff.0.10/r/n

5.3.4. 0x1F - Set the level of a group

Set all Casambi lights in a group to one value.

Length: 0x05

Opcode: 0x1F

0x_Group.0x_Level.0x_Duration_low.0x_Duration_high

Example: 0.72.5.1f.0.ff.0.10/r/n

5.3.5. 0x20 - Set level of all devices

Alle Casambi Leuchten eines Netzes auf einen Wert setzen.

Length: 0x04
Opcode: 0x20

0x_Level.0x_Duration_low.0x_Duration_high

Example: 0.72.4.20.ff.0.10/r/n

5.3.6. 0x21 - Set the level of the target of a button

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

Length: 0x03

Opcode: 0x21

0x_Button_Number.0x_Level

Example: 0.72.3.21.0.ff/r/n

5.3.7. 0x28 - Request time from the Casambi network

Requests the Casambi network to send its current time.

Length: 0x01

Opcode: 0x28

Beispiel: 0.72.1.28/r/n

Example: [0x28 - Zeit aus dem Casambi Netz empfangen](#)

5.3.8. 0x28 - Set time in the Casambi network

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

Length: 0x08

Opcode: 0x28

0x_year_high.0x_year_low.0x_month.0x_day.0x_hour.0x_minute.0x_second

Example: 0.72.8.28.7.e4.3.5.e.13.1d/r/n

5.3.9. 0x2B - Set presence sensor

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

Length: 0x02

Opcode: 0x2B

0x_sensor_state

Example: 0.72.2.2B.0/r/n

5.3.10. 0x2C - Set light sensor

Sets the device's light sensor to a value.

Length: 0x03

Opcode: 0x2C

0x_Sensor_Value_low.0x_Sensor_Value_high

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

5.3.11. 0x39 - Node Status

Queries the state of a node. Attention only works with Evolution firmware.

The request can be:

0x00: Deactivate automatic notification of the change of state

0x01 - 0xFB: Query of a unit based on 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 in succession and always a single unit, otherwise the system may be overloaded.

If there is no device on the requested ID, one is answered with 0x3A. This enables IDs to be recognized even without knowledge of the device which devices are available are checked.

Length: 0x02

Opcode: 0x39

0x_Request

Example: 0.72.2.39.1/r/n

Possible answers:

[0x39 - Node Status](#)

[0x3A - Notify Node removed](#)

5.4. Demo programs

At the following URL we offer 2 test programs (including source code) that show how you can speak to the gateway in UDP mode using the UDP Casambi Command.

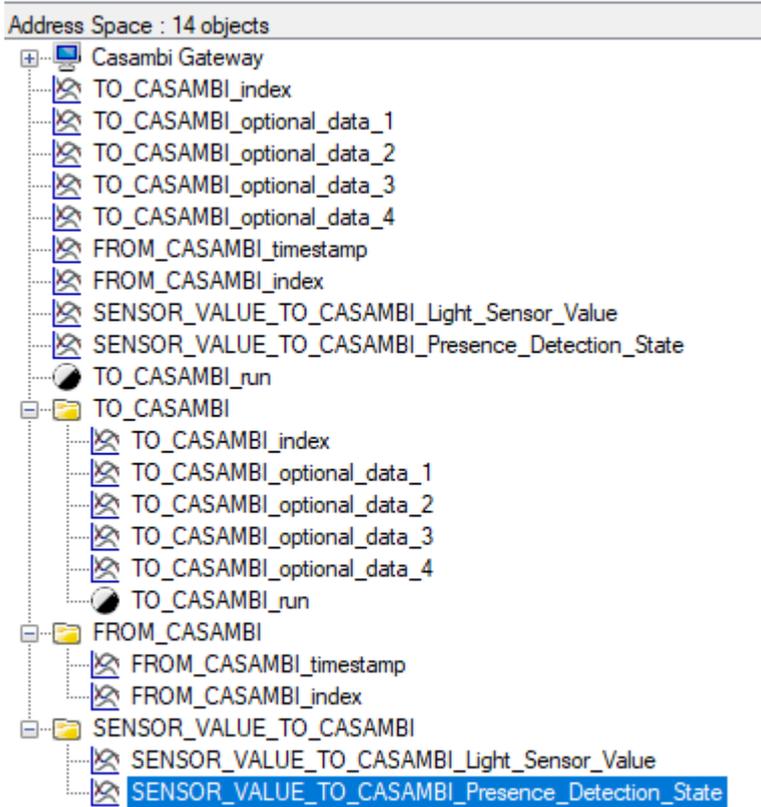
https://github.com/KLKG/Casambi_Gateway_API_Test

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. Commands other than just the cyclical query can also be sent here.

Both are demonstration programs and only show what is possible.

6. Command structure in BacNet / IP mode



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 their own parameters.

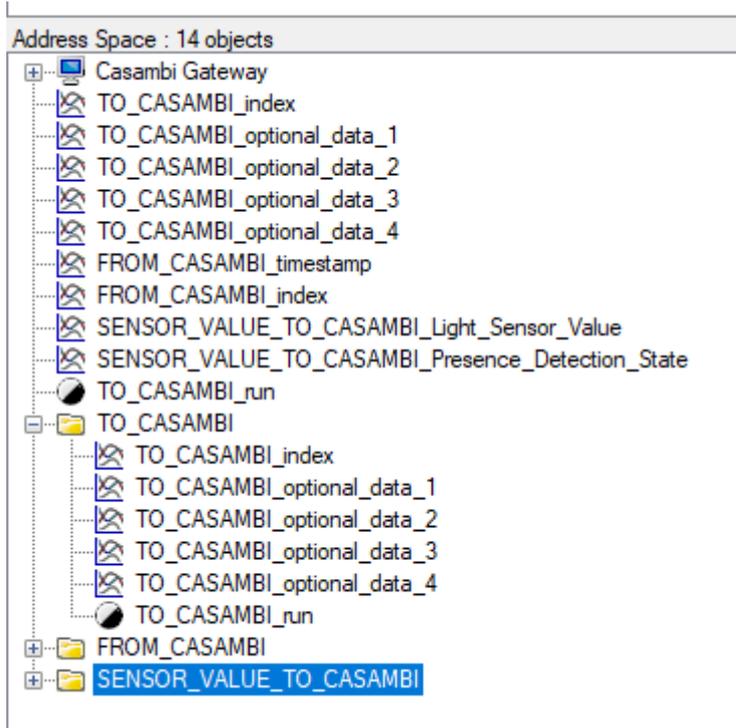
"[To Casambi](#)" is responsible for the communication BacNet / IP -> Casambi.

"[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 currently serve to simplify the assignment of the variables. Unfortunately not all BacNet programs support this. Therefore, the values are all listed again individually.

6.1. 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.

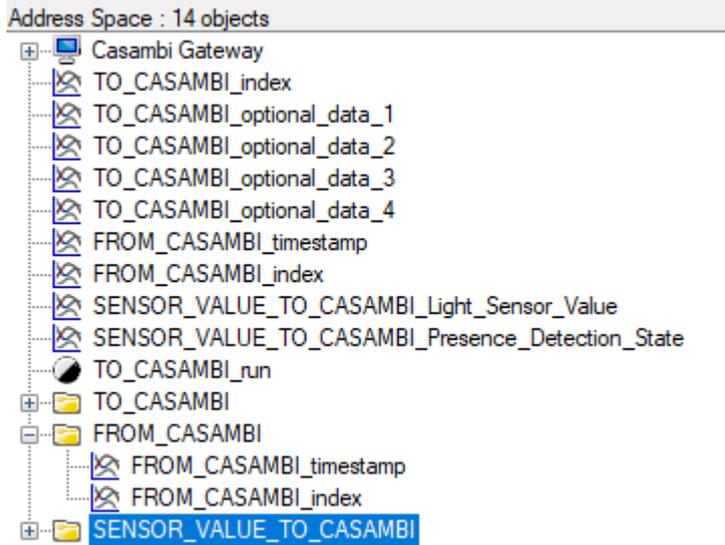
Index defines the command that is to be executed, in Optional Data 1-4 different parameters can then be transferred depending on the command.

More details can be found in the following table.

Befehl	index	Optional Data 1	Optional Data 2	Optional Data 3	Optional Data 4
nothing	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	---	---

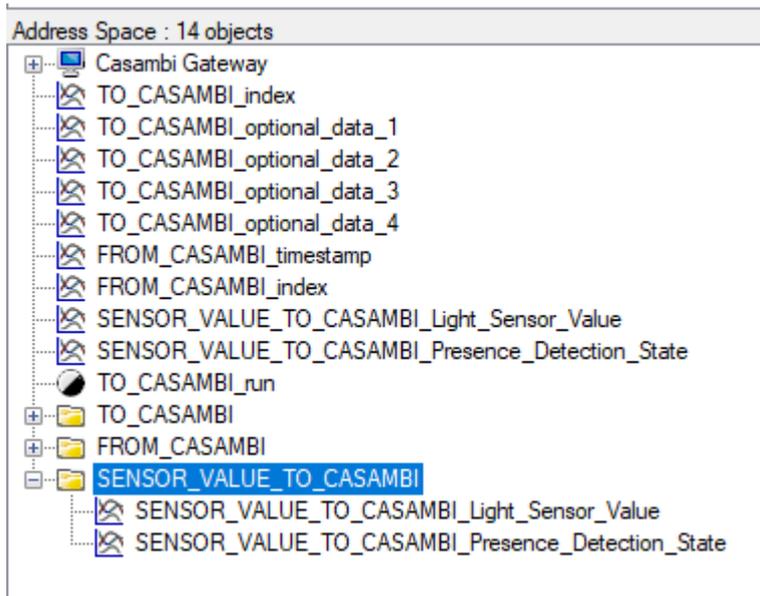
Duration: Wert ist in 10ms angegeben. 0 Bedeutet das er den Wert aus dem Leuchten-Modul benutzt.

6.2. From 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 can be used to identify whether the value is new or old. If the value range overflows, the timer starts again at 0.

6.3. Sensor Value To Casambi



For the light sensor part:

BacnetProperty	
Object Identifier	OBJECT_ANALOG_VALUE:12
Object Name	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 at Present Value.

For the part motion detector:

BacnetProperty	
Object Identifier	OBJECT_ANALOG_VALUE:13
Object Name	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

However, the transfer of the values must also be activated in the [gateway](#).

7. Changelog Firmware

Overview of the changes to the firmware in the individual versions.

7.1. Firmwareversion 1.00

- Installation of the wizards for HelvarNet
- Installation of wizards for Netcomposer

7.2. Firmwareversion 1.10

- Introduction of sliders in the surface
- Set time and read out from the Casambi system
- Error pages revised
- UI elements adjusted / adjusted

7.3. Firmwareversion 1.15

- Installation "UDP Casambi Command" mode
- minor bug fixes
- Redirect built in after changing IP settings and control system
- "UDP Casambi Command" mode switched to completely hexadecimal

7.4. Firmwareversion 1.16

- Added NTP client
- Adjusted time settings

7.5. Firmwareversion 1.25

- New wizards
- ArtNet client

7.6. Firmwareversion 1.50



Attention!

If the firmware is updated from a version lower than 1.50, all settings are deleted. We recommend saving the previous settings once via [System Memory](#) and re-entering them later.

- Increase to 32 possible entries
- Internal storage layout change
- Graphical bug fixes
- Subdivision of the settings page with sub-pages
- Installation of the possibility to export the programming and subsequently import it again
- Wizard for setting the ControlSystem
- Delimiter for UDP packets can be set
- Status message for connection to ControlSystem installed
- ArtNet fading standard of 30ms to reduce flickering
- ArtNet Live DMX-Value display on the "ToCasambi page"
- Netcomposer protocol now automatically takes the zero-based values into account. The user can enter the data from the Netcomposer operating software
- Automatic saving of the commands after "Apply" in the wizzards

7.7. Firmwareversion 1.51

- Dedicated bridge mode with its own wizard

7.8. Firmwareversion 1.55

- Apply values (level) from Eutrac Netcomposer
- Take values (level) from HelvarNet system
- Bugfix when receiving multiple UDP packets
- Automatic connection establishment for TCP / UDP connections every 60s
- Fixed "From Casambi" that the triggers could not be deleted

7.9. Firmwareversion 1.5.7

- Console revised
- Light sensor values can be taken from the Helvar system
- "To Casambi" page equipped with a submenu for the sensors
- "Open points" removed from the manual

7.10. Firmwareversion 1.65

- Hardware revision 1 completed
- Manual adapted accordingly to revisions
- Revision 1 LED settings in the surface

7.11. Firmwareversion 1.69

Firmware version 1.69 only exists for REV1, as there have been no changes for REV0.

- Fixed problems with the LEDs in REV1

7.12. Firmwareversion 1.70 beta

Firmware 1.70 exists for REV1 and REV0

- Bacnet / IP added as a system
- Watchdog introduced

7.13. Firmwareversion 1.71

- Bacnet out of beta state
- Fixed an problem settign an year bigger then 2020
- Fixed the Documentation on the API call off Node State

Lithernet - Casambi Gateway

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10963 Berlin
Germany

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

