FoMaSystems
Germany

CSS IP Box

USER MANUAL

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1 Disclaimer

Before using the product, be sure to read and understand all respective instructions.
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For product specification changes since this document was published, refer to the latest publications of FoMa data sheets or data books, etc., for the most up-to-date specifications.
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For Further Assistance

FoMa Systems GmbH
Oskar-Sembach-Ring 11
91207 Lauf
Germany

Commercial Register: HRB 30926
Registration court: Amtsgericht Nürnberg
Represented by:
Dr.-Ing. Roman Foltyn
Rainer Maertin

info@foma-systems.com
www.foma-systems.com

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3 About this Document

This operating manual is aimed at everyone involved in using the device. It provides directions on how to operate it safely and as intended. To ensure safe and correct use, all users must read the operating manual before using the device for the first time.
This operating manual is an essential part of the device. It must be easily accessible and in close proximity to the device so that users can use it as a reference anytime.
The separate user manual contains more detailed information about the features and functionalities of the device.
Please visit the website www.foma-systems.com to download the user manual.
Keep the operating manual, the user manual and all other operating and assembly instructions belonging to the device in a safe place for future reference and possible subsequent owners.
For useful information in addition to these manuals, please look at the on the FoMa website.
All directions are given from an operator's perspective.
For example, device right side refers to the right side of the device when standing behind the device and operating it in a normal fashion.
Connectors are written in all capital letters, for example "USB connector".
Buttons are written in italic typeface capital letters, for example "PLAY button".
Menu paths are written in italic typeface, with menu and home in capital letters, for example „MENU > Display Orientation > Normal".

4 Safety Instructions

This safety information is in addition to the specific operating instructions in general and must be strictly observed for safety reasons. Read and understand all safety and operating instructions before you operate or install the device. Retain all safety and operating instructions for future reference. Always follow the instructions in this and all documents supplied with the device to avoid injury to yourself or others and damage to the device or other objects.
Assembly and operation should only be carried out by trained staff familiar with the device.
Only use the tools, materials and procedures recommended in this document. For the correct use of other equipment, see the manufacturer's instructions.
These instructions use safety instructions, warning symbols and signal words to draw your attention to different levels of risk:

DANGER

DANGER indicates an imminent danger. If not avoided, death or serious injury will result.

Always follow the recommended measures to avoid this hazardous situation.

WARNING

WARNING indicates a possibly imminent danger. If not avoided death or serious injury may result.

Always follow the recommended measures to avoid this potentially hazardous situation.

CAUTION

CAUTION indicates a potentially imminent danger. If not avoided, slight or minor injuries may result.

Always follow the recommended measures to avoid this potentially hazardous situation.

NOTICE

NOTICE indicates a potentially harmful situation. If not avoided, the equipment or something in its surrounding may be damaged.

Always follow the recommended measures to avoid this situation.

HINT

Not relevant to safety, **HINT** provides additional information to clarify or simplify a procedure.

Warning Symbols and Product Labels

General warning sign

Warning of electrical voltage

Warning of hot surfaces

Warning of sharp element

Warning of the risk of crushing

Warning of obstacles on the ground

Please read all instructions carefully before using the product for the first time.

Direct Current symbol found on electronics requiring or producing DC power.

DANGER

Risk of Serious Injury through Crushing Body Parts

- During setup and throughout operation, make sure that no fingers or limbs get caught between the outer yoke and inner ring.
- Depending on the weight and length of the camera, a high kinetic force can occur between the outer and inner ring. Serious injuries can occur if you are not careful. If this should still happen, immediately disconnect the power supply and seek medical attention if necessary.
- Clearly mark the movement area of the device with a barrier or a clearly visible marking (e.g. signal tape) on the floor.

WARNING

Risk of Injury through High Torque and Unbalanced Load

Keep in mind that the CSS CSS CSS IP-BOX stabilized remote head is a fully stabilized Gimbal based device with a payload capacity of up to 30 kg / 66 lbs. The amount of available torque is very high.

- Always keep a safe distance between persons, objects and the assembled system. Protruding components (especially lenses) can cause injury or property damage due to shock or impact.
- Always balance the system components properly. During rotational movements, the system can become uncontrollable due to too much imbalance.

WARNING

Risk of Injury when Mounting or Removing a Component

Mounting or removing components poses a crushing hazard for fingers and/or hands.

- Always read the operating instructions provided by the manufacturer before you mount or remove a component.
- Always use the tools specified by the manufacturer.
- Always activate the tilt lock and the emergency stop before you mount or remove a component.

WARNING

Operation of the CSS CSS CSS IP-BOX in Case of Obvious Damage

Risk of electric shock and fire hazard caused by short circuit.

- Never use the device if electrical lines or housing are visibly damaged.
- Only use the type of power source indicated in the manual.
- Always grip the power plug to unplug the power cable.
- Do not lay cables over sharp edges (e.g. sheet metal, profile or other cut edges). Damaged cables can cause electric shock, short circuit or fire.
- Do not remove or deactivate any safety measures from the device (incl. warning stickers or paint marked screws).
- Do not try to repair the device. Repairs may only be carried out by an authorized FoMa Systems service center.

WARNING

Falling System Parts

Do not build up or assemble the CSS CSS CSS IP-BOX the wrong way. It can fall down and cause serious injuries and damage to the device or property.

- Installation and operation must only be carried out by approved persons who know the device.
- Obey the accident prevention regulations.
- Never put the device on a not stable trolley or hand truck, stand, tripod, bracket, table or any other not stable support device.
- Always place the device on dedicated support devices.
- Always use a suitable safety rope when you use the device above floor level (i.e. on cranes).
- Secure the device and its accessories against falling and tipping over. Obey the general and local safety regulations.

WARNING

Falling System Parts

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- Always use a suitable safety rope when you use the device above floor level (i.e. on cranes).
- Secure the device and its accessories against falling and tipping over. Obey the general and local safety regulations.

WARNING

Overloading the CSS CSS CSS IP-BOX by Persons or Objects

Risk of injury caused by the CSS CSS CSS IP-BOX tipping over.

- Do not lean on the device.
- Do not put any not approved objects on the device.
- Do not hang any not approved objects on the device.
- Use only accessories approved by FoMa Systems. The use of accessories not approved by FoMa Systems is at your own risk. Please obey all related safety guidelines.

WARNING

Connected Cable on the Floor

Risk of injury caused by tripping, falling or slipping over connected cables.

- Always properly secure cables connected to the device and accessories.
- Always install cables that they cannot be tripped over.
- If necessary, use a cable duct or secure the cables with adhesive tape.
- Always disconnect the cables from the device and accessories before moving.

CAUTION

Use of the CSS CSS CSS IP-BOX or CSS CSS CSS IP-BOX Accessories in a Humid Environment and with Condensation

When you move the device and the accessories from a cool to a warm location or when the device is used in a damp environment, condensation may form inside the device, and on internal or external electrical connections. Do not operate the device while condensation is present. It bears risk of electric shock and/or fire caused by a short circuit.

- Do not operate the device and accessories when condensation occurs.
- When you move the device and accessories from a cool to a warm environment, wait for some time for the components to warm up.
- Find a warmer storage location to decrease the risk of condensation.

CAUTION

Hot Surfaces on CSS CSS CSS IP-BOX and CSS CSS CSS IP-BOX Accessories

During extended operation, high data rates and/or operation at high ambient temperatures, the device's surface and the area around the fan outlet can get hot. Direct sunlight can result in device housing temperatures above 60° C (140° F).

- Do not put covers on, clog or block the fan in- or outlets while the device is powered.
- Do not put the device system near any heat sources during operation.
- At ambient temperatures above 25° C (77° F), prevent the device and accessories from being exposed to direct sunlight.

CAUTION

Unhealthy Posture or too much Physical Exertion During Operation

Improper handling of the CSS CSS CSS IP-BOX bears risk of permanent long term physical damage to the human locomotive system.

- Keep an ergonomic posture when operating and carrying the CSS CSS CSS IP-BOX.

CAUTION

Radio Radiation caused by External Radio Accessories

May cause physical impairments such as sleep disturbances and stress.

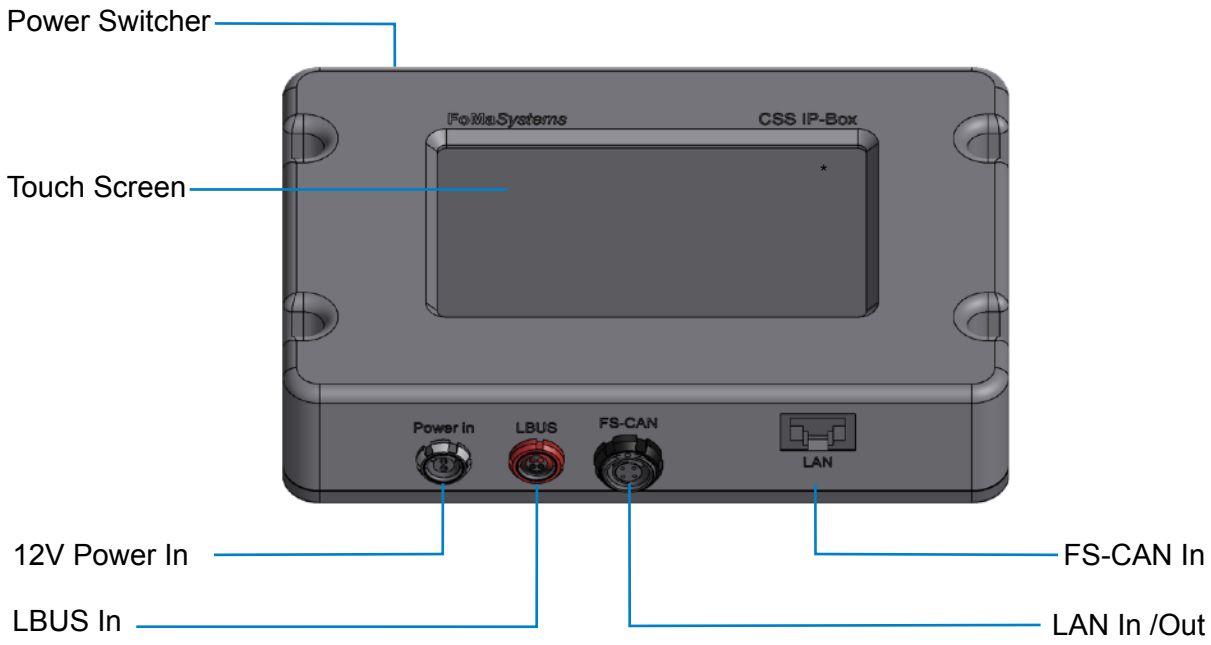
- Always follow the manufacturers instructions.
- Use only CSS CSS CSS IP-BOX components approved by FoMa Systems.
  The use of components not approved by FoMa Systems is at your own risk.
- Obey all relevant safety guidelines.

5.0 About this Product

The CSS IP Box allows TCP-IP communication between the stabilized remote heads:
- SRH 360
- 360 EVO
- TRINITY 2
- TRINITY 2 in combination with the TRINITY 2 Pan Module

and the corresponding remote controls panels:
- RCP-2
- RCP-2 EVO
- RCP-3

6.0 Overview



7.0 Interfaces / Specifications

Power supply: 7V - 36V / max. 7,5W

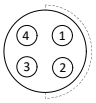
Interfaces:

Power In	Lemo 0B 2pin	12V / max. 3A
LBUS	Lemo 0B 4pin	24V / max. 4A
FS CAN	Fischer 4pin	12V / max. 3A
LAN	Ethernet RJ45	

12V Power In — LEMO ECG.0B.302.CLN

1 = GND
2 = 12V OUT

FS-CAN — Fischer DBP 103 A053 - 140



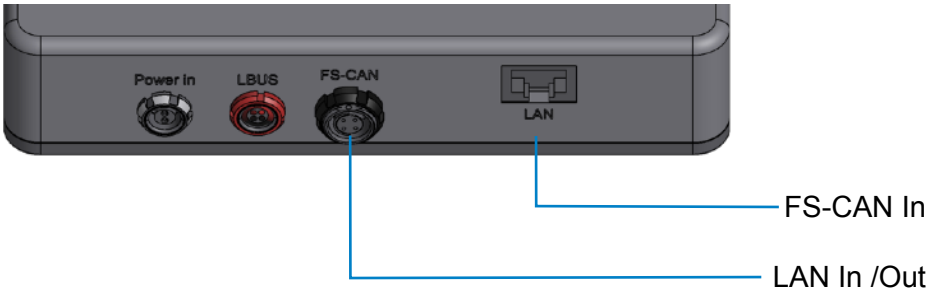
1 = GND
2 = CAN1 L
3 = CAN2 H
4 = 12V OUT

LBUS — LEMO ECG.0B.304.CLN

1 = GND
2 = CAN L
3 = 12V
4 = CAN H

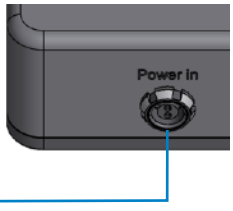
8.0 Wiring

First connect the FS-CAN and the LAN cable to the IP Box.

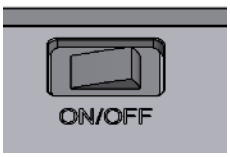


9.0 Power

Connect a D-Tap to Lemo 0B 2pin power cable to the power in socket first.



Then press the Power On/Off switch to switch on the CSS IP Box.

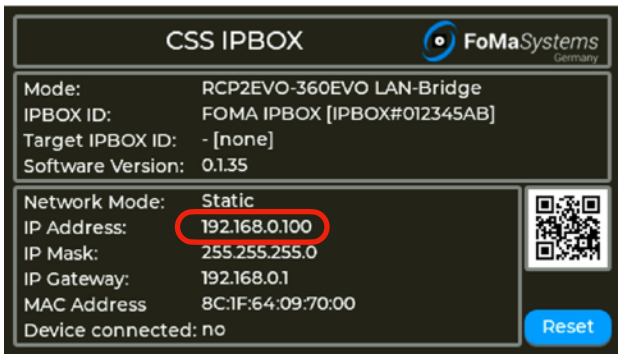


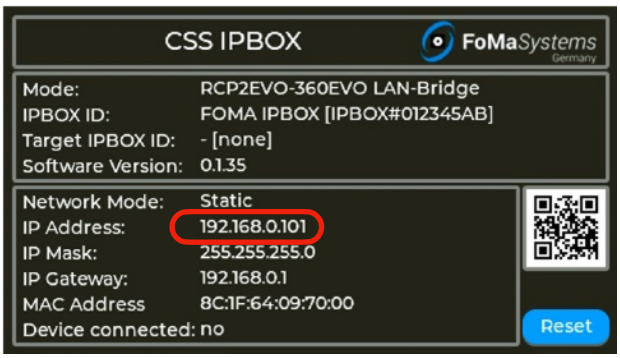
10.0 Display

11.0 Onboard Menu

11.1 Home Screens

After the initial start-up, the following information is displayed on both devices.
Both devices are set up to connect directly via a network cable.
The end devices can be connected and controlled on the boxes.





11.2 Modes

11.3 RCP2EVO-360EVO LAN-Bridge

This mode allows a 360 EVO to be connected to an RCP-2 EVO or a TRINITY 2 to an RCP-3 either directly point-to-point or via DHCP on a network.

11.4 RCP2EVO-360EVO Cloud-Bridge

This mode connects a 360 EVO to an RCP-2 EVO or a TRINITY 2 to an RCP-3 via two CSS IP-BOXes over the internet.

NOTE
The connection latency depends on the internet quality.

11.5 RCP2-SRH360 LAN Bridge

This mode allows a SRH 360 to be connected directly to an RCP-2 point-to-point or to be integrated into a network via DHCP.

11.6 RCP2-SRH360 Cloud-Bridge

This mode connects an SRH 360 and an RCP-2 via two IP boxes over the Internet.

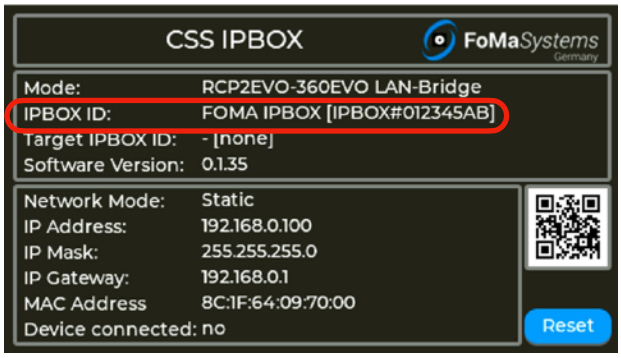
NOTE
The connection latency depends on the Internet quality.

12.0 ID / Address

12.1 IP-BOX ID

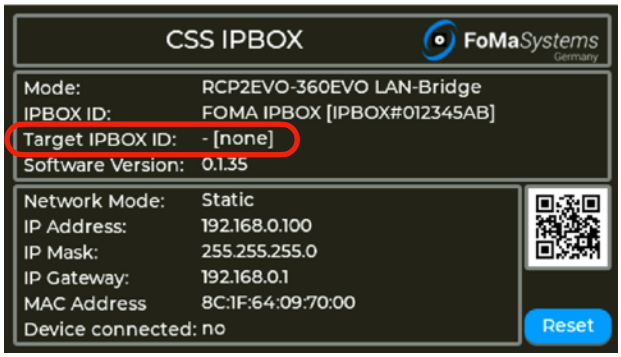
The CSS **IP-BOX ID** consists of the CSS IP-BOX name (can be set in the web browser) and the serial number.

It is used to identify the CSS IP-BOX in the network.



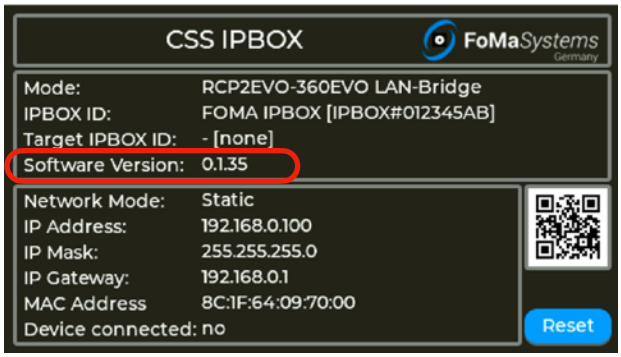
12.2 Target IP-BOX ID

The **Target IP-BOX ID** shows the target IP of the assigned CSS IP-BOX.



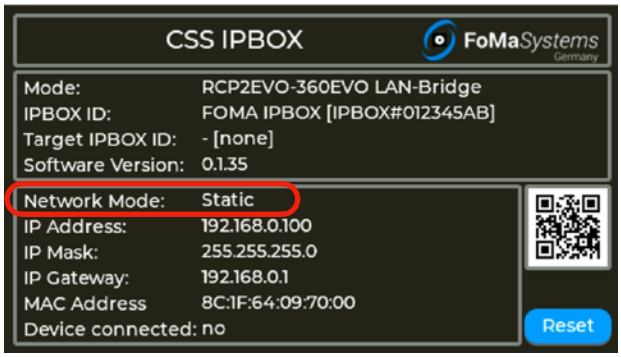
12.3 Software version

The installed software version is displayed here. (Software update possible in the web browser)



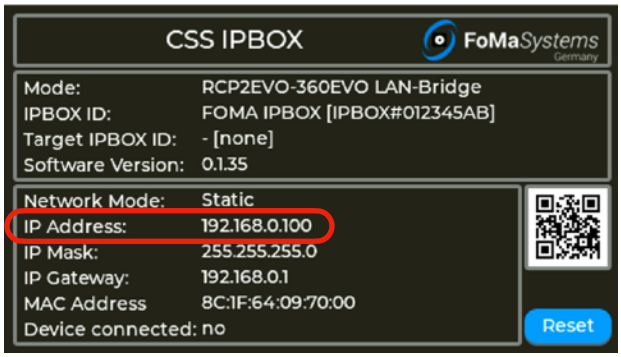
12.4 Network Mode

The network mode used is displayed here.



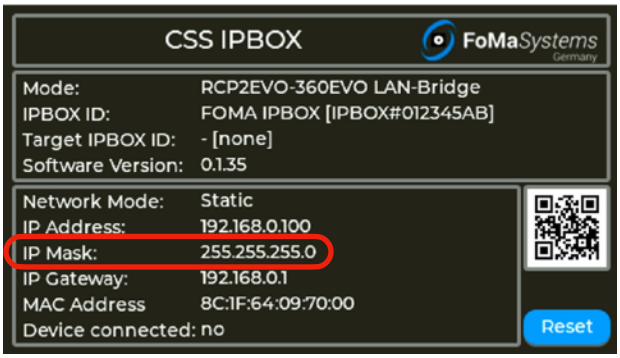
12.5 IP Address

The set IP address (static IP) or automatically assigned IP address (DHCP) is displayed here.



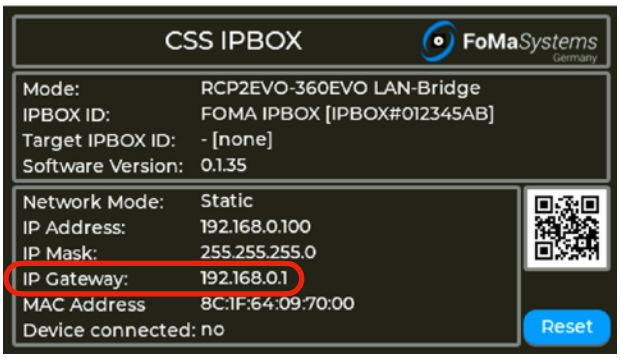
12.6 IP Mask

The set (static IP) or assigned (DHCP) subnet mask is displayed here.



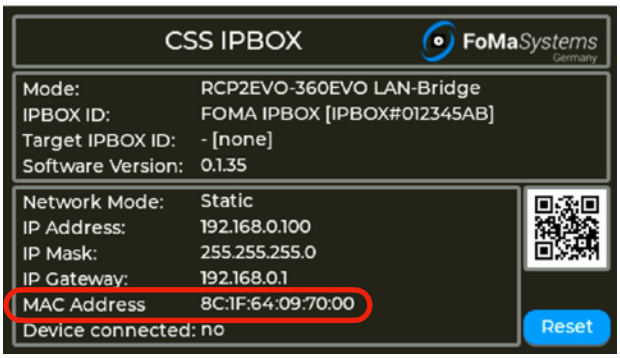
12.7 IP Gateway

The set (static IP) or assigned (DHCP) gateway is displayed here.



12.8 MAC Address

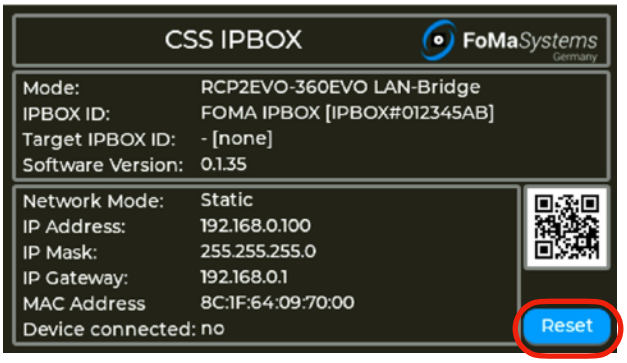
The MAC address of the device is displayed here.



12.9 Reset

The “Reset” field resets the CSS IP-Box to the factory settings, as shown.

After that, the CSS IP-BOX must be coupled with another CSS IP-BOX using a web browser.

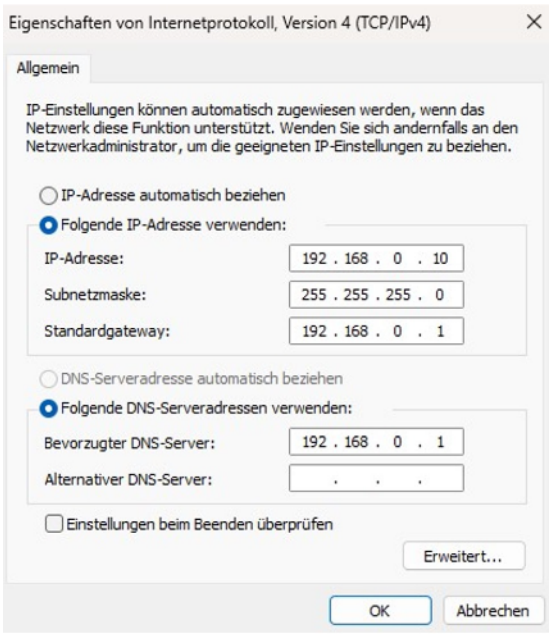


13.0 Web Browser Setting (Windows PC)

13.1 Connection requirements

NOTE
If the personal computer only has a single Ethernet connection, a network switch is required.

13.2 Connection Settings



To configure the CSS IP-BOX with a Windows PC, the network adapter in the Windows PC must first be set accordingly.

To achieve this, open the network adapter settings and configure it as shown.

Now both CSS IP-BOXes should be connected to the Ethernet switch and switched on.

Then open a web browser and enter the network address in the address bar.

After confirmation, the web browser should display the CSS IP-BOX Configurator, as shown.

13.3 Connecting CSS IP-Boxes (Static IP)

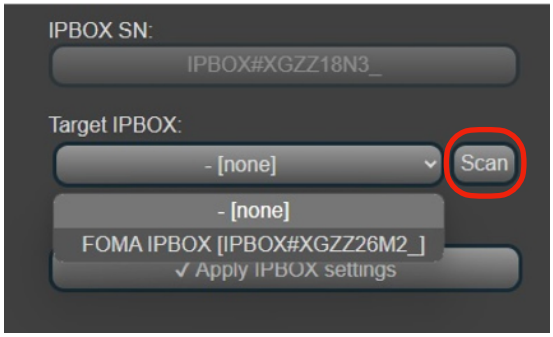
To connect both CSS IP-Boxes, switch to the **Connection Settings** tab, as shown.

In the I**P-BOX Settings** section, you can set the mode, the IP-BOX name and the IP-BOX to be connected.

In the “Network Settings” section, all the necessary network settings can be made.

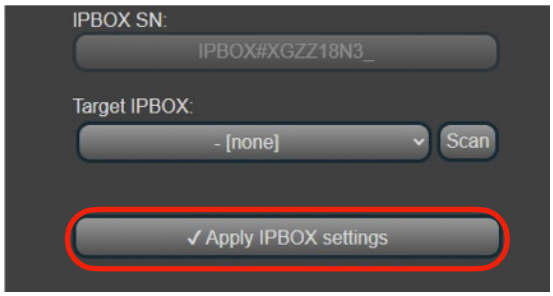
The IP-BOX name can be freely assigned, which will help to identify this IP-BOX later using the scan function.

Now the **Scan** field can be pressed, as can be seen. After clicking on the drop-down menu, as shown, the other CSS IP box connected to the switch or in the same network can be found and selected.



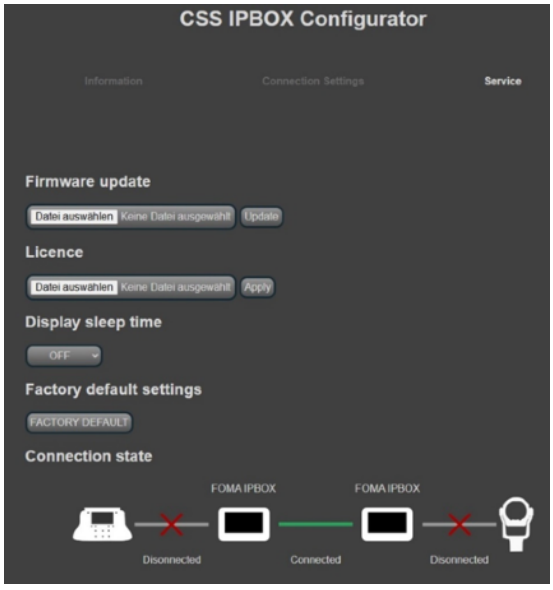
This step must also be performed with the other CSS IP-Box.

After the CSS IP box has been assigned, the settings must be saved as shown with **Apply IP-BOX Settings**.

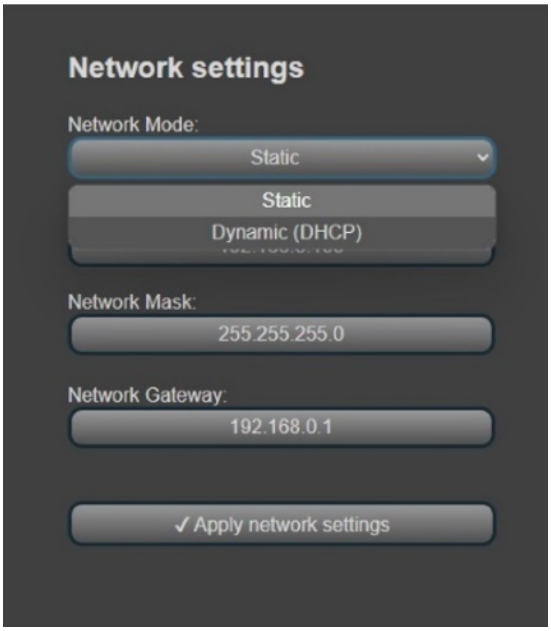


Now the successful connection can be checked in the Service tab, as shown. If the connection is successful, this is indicated by a green line.

Now the two boxes can be connected directly with an Ethernet cable and the corresponding end devices can be connected.



13.0 Connecting CSS IP-Boxes (DHCP)

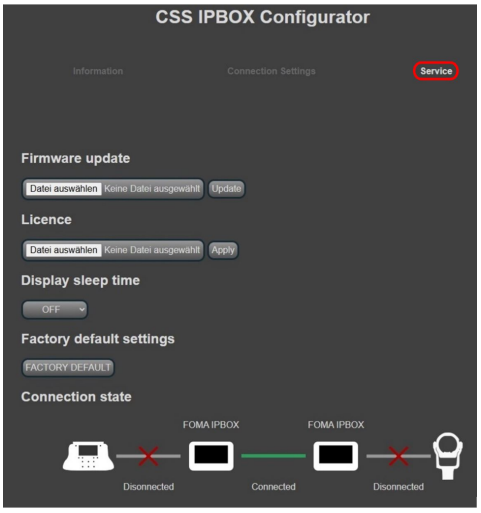


To connect the CSS IP-Boxes to an existing network in which IP addresses are automatically assigned, the CSS IP-Boxes must be switched to DHCP mode.

To do this, switch the **Network Mode** to DHCP in the **Connection Settings** in the web browser, as shown, and press **Apply Network Settings** to save this setting.
This setting must be repeated for both CSS IP-Boxes.

Now, both CSS IP-Boxes can be connected to a local network and they will connect automatically.
The assigned IP address is now visible on the display of the CSS IP-Box, as shown and can be entered again in a web browser to configure the CSS IP-Box.

NOTE
It is important that the PC or smartphone is integrated into the same network.



14.0 Service

The following functions are available in the **Service Tab** of the CSS IP-Box configurator:

14.1 Firmware update

The firmware of the box can be updated here.
To do this, the corresponding file is selected in the file browser using the **Select file** field, and then the update process is started using the **Update** field.

14.2 License

A purchased protocol license can be selected and installed on the CSS IP-Box to enable special communication protocols.

14.3 Display Sleep Timer

A certain time can be set here, after which the display switches off.
To turn it back on, touch the screen with your finger.

14.4 Factory Defaults

The factory settings of the IP box can be restored here. This function is secured by a query.

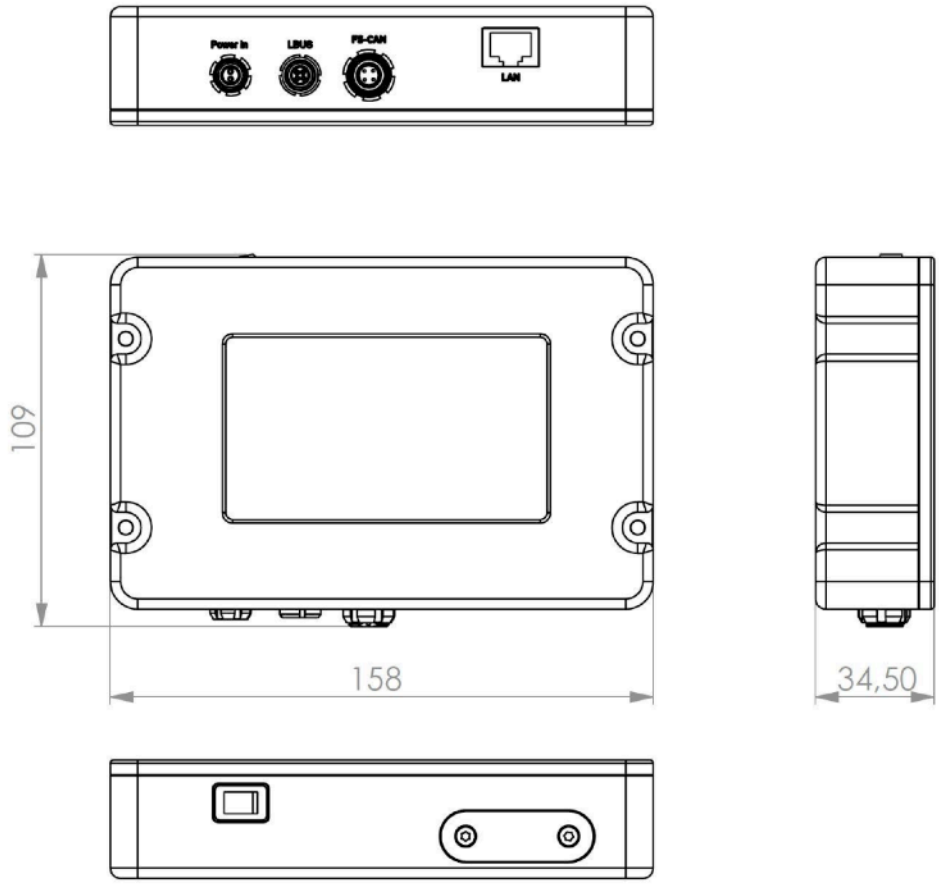
NOTE
It is important to note that a reset IP box will always have the IP address 192.168.0.100.

15.0 Dimensions / Specifications

Dimension: L 158 x B 109 x H 34,5mm / L 6,22 x B 4.29 x 1.35 inch

Weight: 0,22 kg / 0.48 lb

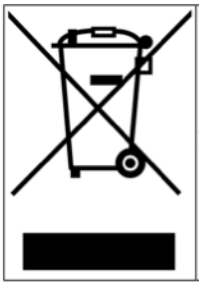
Operating temperature:
-20 to +45° C / -4 to 113° F



16.0 Disposal

NOTICE

You can return the product to the manufacturer, FoMa Systems for disposal.
When you dispose third-party accessories, please observe the instructions of the relevant



This product falls within the scope of Directive 2012/19 / EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of June 4, 2012 on waste electrical and electronic equipment (WEEE II).

Accordingly, this product must not be disposed of with household waste. There are the respective country-specific disposal rules that must be observed.

17.0 Transportation and Storage

NOTICE

Improper Packing and Transportation of the IP-Boxes.

Risk of damage to the product.
- Always follow the specified environmental conditions.
- Always transport the product and accessories in a suitable case.
- Always follow the instructions for transport and storage described in this section.

The product and its accessories can be damaged if not transported and stored properly.
Please take note of the following guidelines.
Transportation Guidelines:
- Remove all accessories from the product.
- Always attach protective caps where applicable.
- Always transport the product in a suitable case.
- Do not subject the product to severe shocks.

Storage Guidelines:
- Remove all the accessories.
- Disconnect all cables and power sources from the product.
- Always store the product in a suitable case.
- Do not store the product outside the specified ambient temperature range.
- Do not store the product in places where it may be subject to extreme temperatures, direct sunlight, high humidity, severe vibration, dust or strong magnetic fields.

18.0 FoMa Service Contact

FoMa Systems GmbH
Oskar-Sembach-Ring 11
91207 Lauf
Germany

info@foma-systems.com
www.foma-systems.com