

# Manual

## inVision

Firmware version: 0.1.0



INVISION

# Inhoud

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## Connect to webpage

1. Connect to the SSID of the InVision display:
  - a. The network name consists of "INV\_" + "Serial number"
  - b. Contact your supplier for the password



2. Open an webpage and go to **192.168.1.1**

incosa<sup>1</sup> SOLUTIONS

**HOME**

General Settings

Brightness: 25 %

Flip screen (180°)

Unit: None

Color: Multi-color

Show Gradient bar  
Max. load value: 10000

Show Limit switches

Alert language: English

Configuration Settings

ID	Device	Protocol	Actions
11	I-C4C	Wifi, CAN	

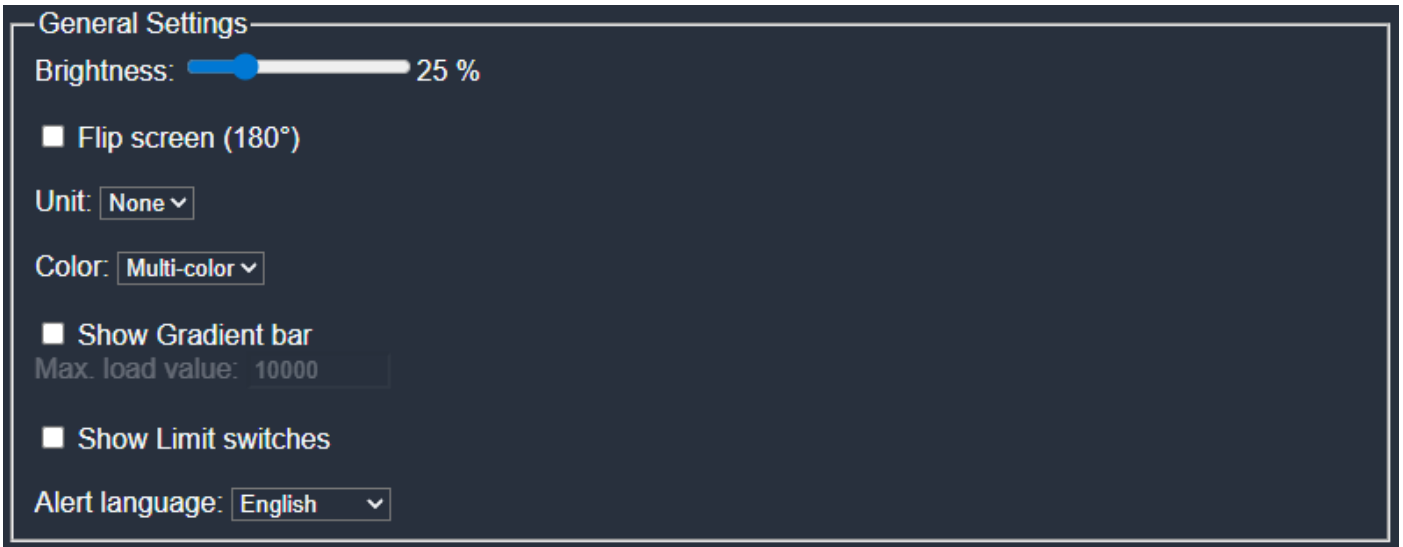
Add Device (Max. 10 devices)

Application: Solo hoist

Function	Device ID	Variable	Action
Load	11	Analog 5	
Overload	11	Relay 5 (INV)	
Slackrope	11	Relay 6	
Prealarm	11	Relay 7	

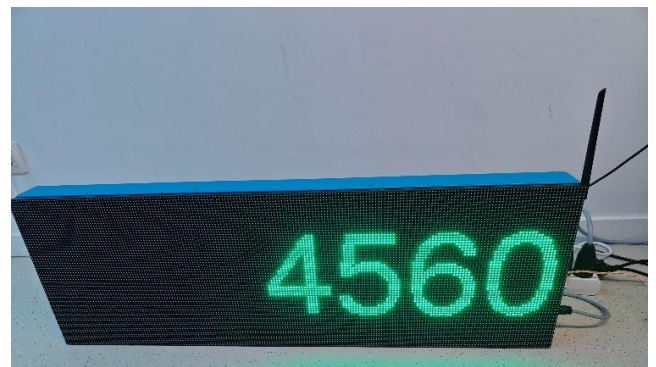
Connected User v0.1.0

# General Settings



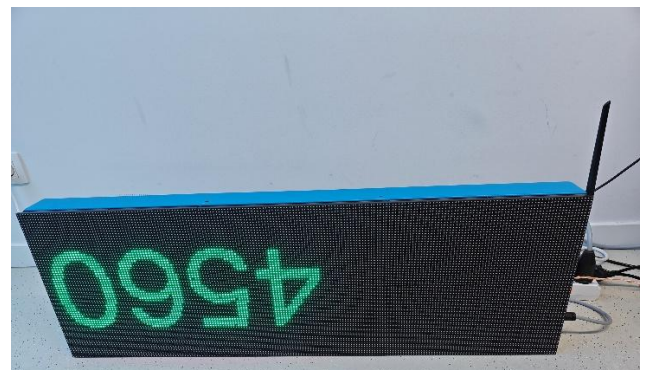
## Brightness

Move the slider to increase/decrease the brightness of the LEDs.



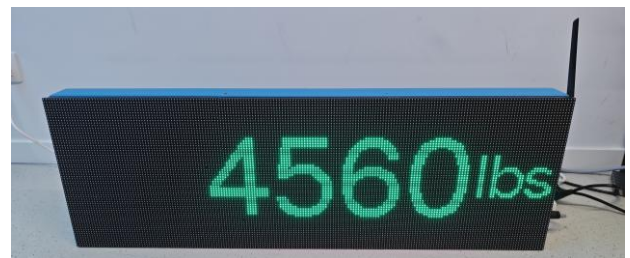
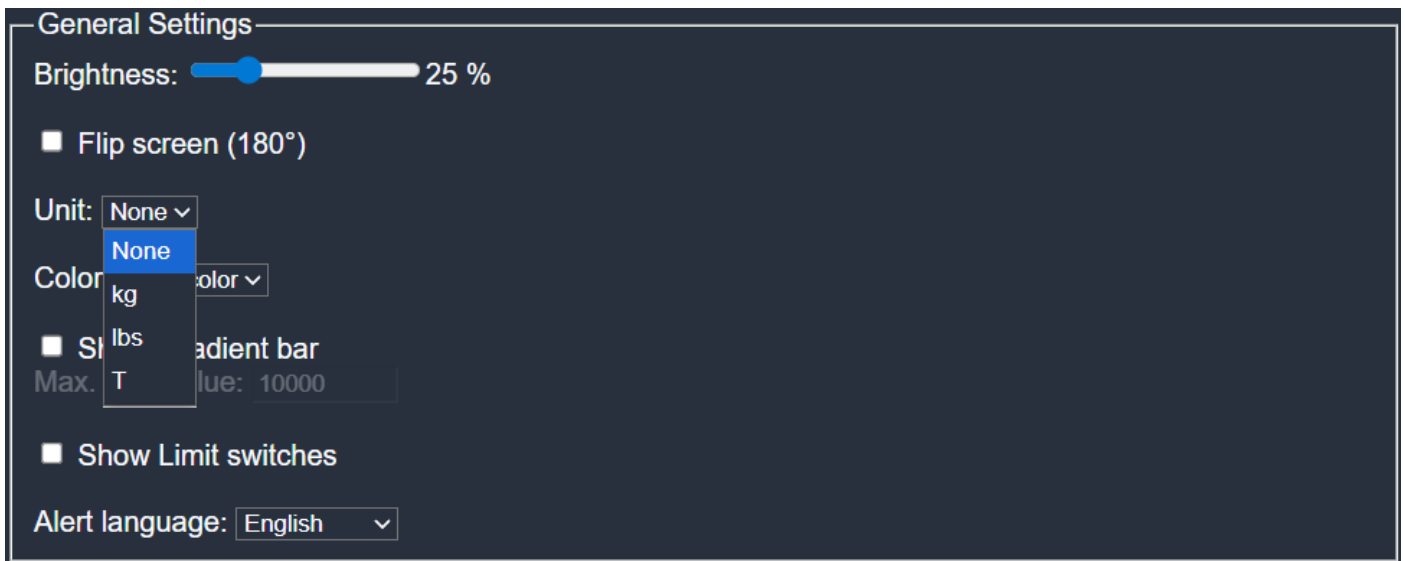
## Flip screen (180°)

Activate/deactivate the selection box to flip the content on the display 180°. This can be useful whenever a display, for practical reasons, needs to be mounted upside down.



## Unit

Use the dropdown menu to display the unit next to the load. It does not convert the load to the unit. It only adds the reference next to the load.

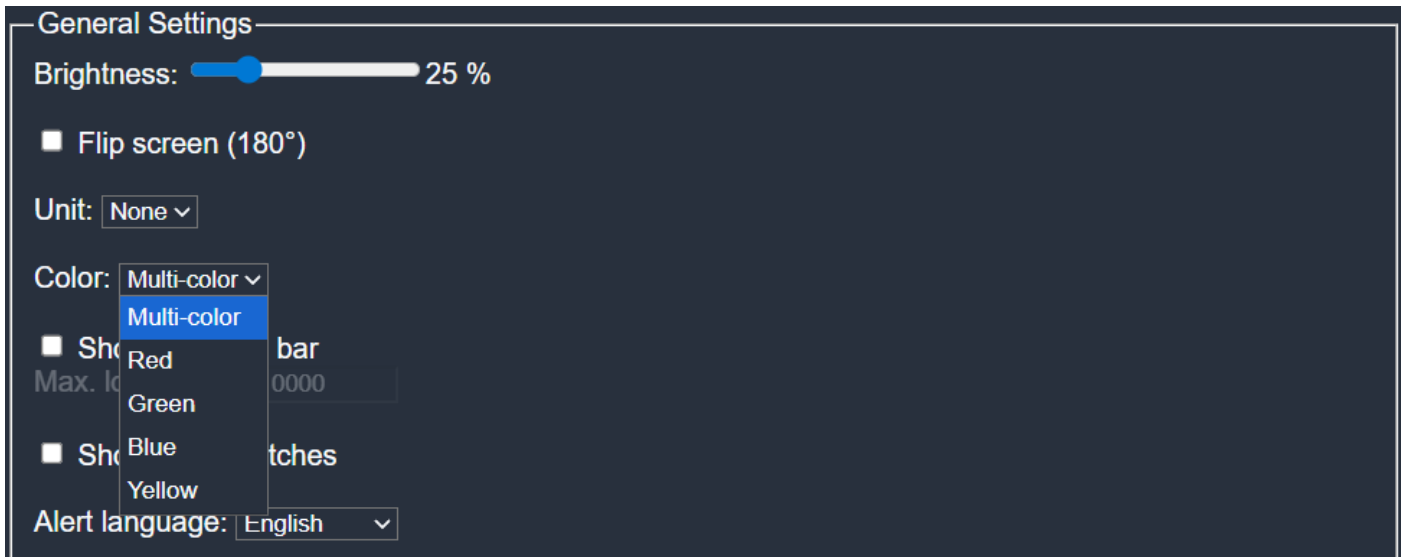


## Color

The inVision display uses by default multi-color to show different states:

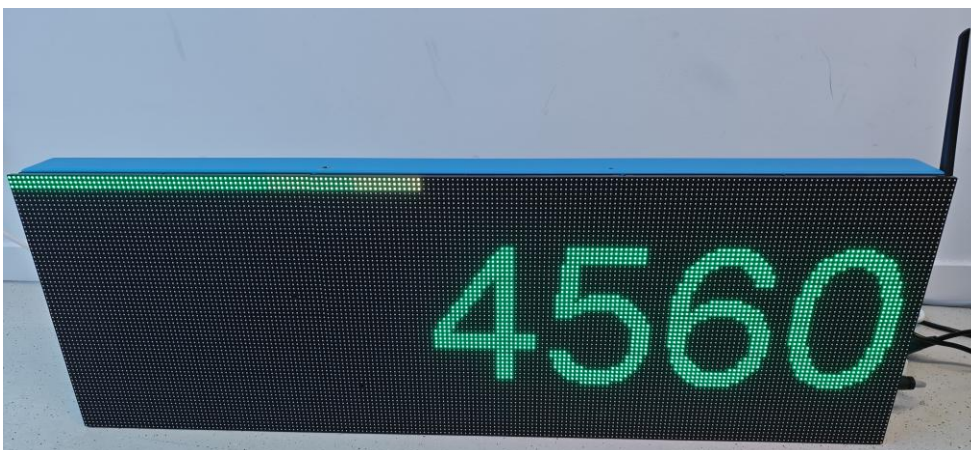
- Yellow: Slackrope / prealarm
- Green: Normal
- Red: Overload

By changing this menu to a specific color, the load will be handled in that color only.



## Show Gradient bar

Add a gradient bar on top of the screen. The max load value, scales the gradient bar depending on the lifted load. E.g. If the max load value is set to 10000, the gradient bar will be full when 10000 load is shown on the display.



## Show Limit switches

Show/hide the limit switch states for hoist, trolley and crane movement. The limit switches are represented by multi-color arrows:

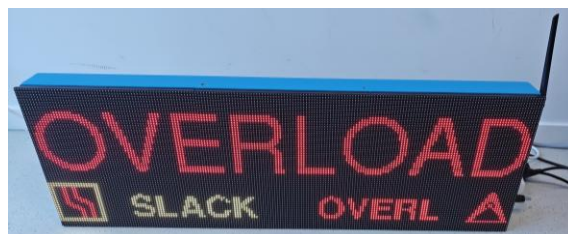
- Blue: both speeds enabled
- Yellow: high speed disabled
- Red: both speeds disabled



## Alert language

In this drop down menu the alert languages can be chosen. When slackrope or overload occurs it is represented in the chosen language:

Language	Solo		Dual - Hoists		Dual - Sum
<b>Deutsch (German)</b>	SCHLAFF SEIL	UBERLAST	SCHLAFF	UBERL	UBERLAST
<b>English</b>	SLACKROPE	OVERLOAD	SLACK	OVERL	OVERLOAD
<b>Español (Spanish)</b>	CABLE FLOJO	SOBRECARGA	FLOJO	CARGA	SO.CARGA
<b>Français (French)</b>	CABLE MOU	SURCHARGE	MOU	SURCH	SURCHRG
<b>Nederlands (Dutch)</b>	SLAP KABEL	OVERLAST	SLAP	OVERL	OVERLAST
<b>Português (Portuguese)</b>	CABOFROUXO	SOBRECARGA	FROUXO	CARGA	SO.CARGA



## Configuration Settings

This menu is divided into tables, a device table and an application table. The device table contains all the devices that will provide data to the display, and the way these devices communicate with the inVision display. Each device has a unique identifier (e.g. CAN id).

### Configuration Settings

ID	Device	Protocol	Actions
11	I-C4C	Wifi, CAN	

[Add Device](#) (Max. 10 devices)

Application: Solo hoist ▾

Function	Device ID	Variable	Action
Load	11	Analog 5	
Overload	11	Relay 5 (INV)	
Slackrope	11	Relay 6	
Prealarm	11	Relay 7	

## Modify Device

Select the gear-icon next to the device. Change the device type using the dropdown menu. Choose the required data protocol(s) through which it will communicate. Click on **Save** to confirm your new settings. You cannot modify the id of a device. Create a new device, if necessary. **Always cycle power after modifying existing devices.**

### EDIT DEVICE

ID (1-255):  
11

Device:  
I-C4C ▾

Protocol:  
 Wifi  
 CAN  
 Ethernet

[Save](#) [Cancel](#)

### EDIT DEVICE

ID (1-255):  
11

Device:  
I-C4C ▾  
I-C4C  
I-C4C GO  
.....

CAN  
 Ethernet

[Save](#) [Cancel](#)

### EDIT DEVICE

ID (1-255):  
11

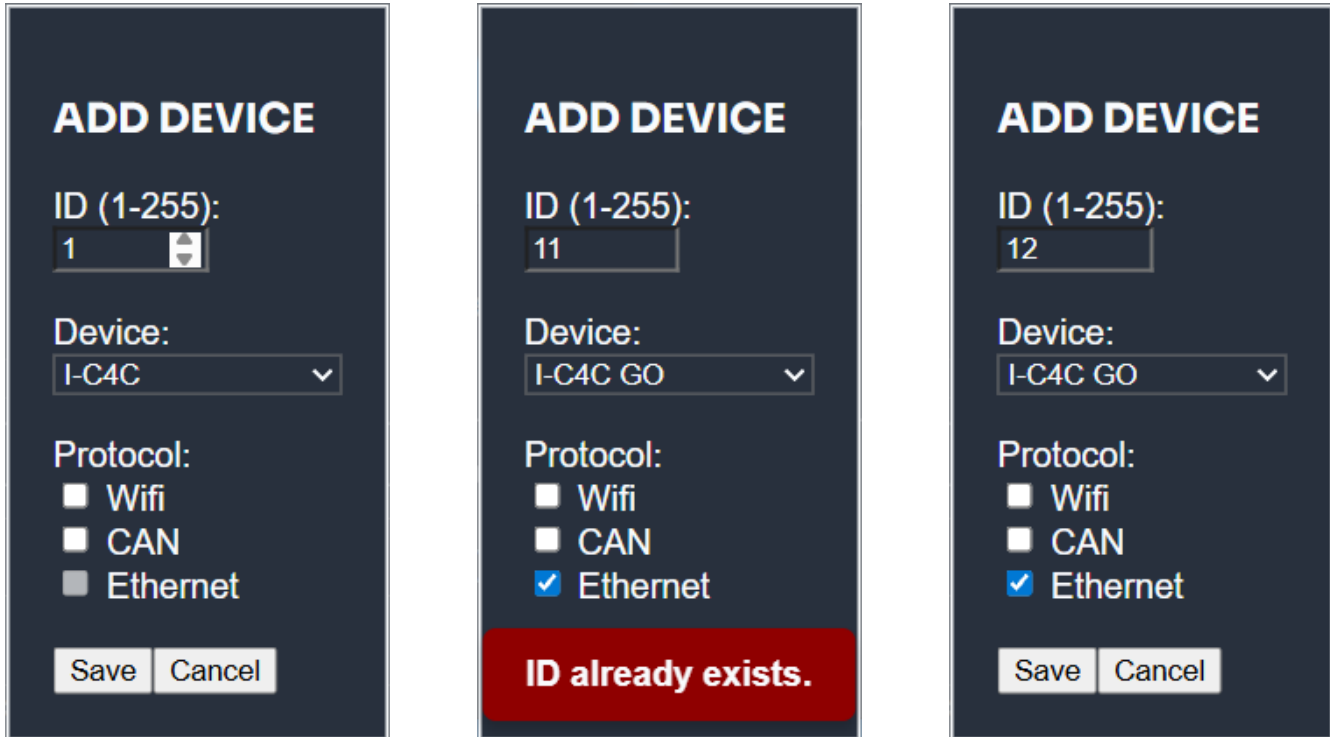
Device:  
I-C4C GO ▾

Protocol:  
 Wifi  
 CAN  
 Ethernet

[Save](#) [Cancel](#)

## Add Device

Click on **Add Device** to create an additional device which will communicate with the inVision display. Select the unique (CAN) ID of the new device. Select the device type (I-C4C / I-C4C GO) and the protocol(s) it will use. **Remark:** ethernet is only available for the I-C4C GO Pro version. For communication through wifi/ethernet, the display might needs some additional settings. Look at the description of the **Network**-menu for more information.



## Remove Device

If a device is no longer used, it can be removed using the recycle-Bin-icon next to the device. This can only be done if the device id is not used in the active application table. E.g. id 12 is in use for Overload.

Configuration Settings

ID	Device	Protocol	Actions
11	I-C4C	Wifi, CAN	
12	I-C4C GO	Ethernet	

Add Device (Max. 10 devices)

Application: Solo hoist

Function	Device ID	Variable	Action
Load	11	Analog 5	
Overload	12	Relay 5 (INV)	
Slackrope	11	Relay 6	
Prealarm	11	Relay 7	

**Cannot delete device 12 because it is in use in the current application.**

## Select Application

Use the dropdown-menu to select the active application. At the moment that is **Solo hoist** (1 crane, 1 hoist) or **Dual hoist** (1 crane, 2 hoists). The solo hoist application can as well be used to represent load depending on the hoist selection. E.g. *Hoist 1 selected, load hoist 1 shown. Hoist 2 selected, load Hoist 2 shown. Hoist 1 + 2 selected, load sum shown.*

### Solo hoist

Application:

Function	Device ID	Variable	Action
Load	11	Analog 5	
Overload	11	Relay 5 (INV)	
Slackrope	11	Relay 6	
Prealarm	11	Relay 7	



### Dual hoist

Application:

Function	Device ID	Variable	Action
Load hoist 1	11	Analog 5	
Load hoist 2	11	Analog 6	
Load sum	11	Analog 3	
Overload hoist 1	11	Relay 6 (INV)	
Overload hoist 2	11	Relay 7 (INV)	
Overload sum	11	Relay 8 (INV)	
Slackrope hoist 1	11	Relay 2	
Slackrope hoist 2	11	Relay 4	
Prealarm hoist 1	11	Relay 9	
Prealarm hoist 2	11	Relay 10	
Prealarm sum	11	Relay 11	



## Modify application parameters

Click on the gear-icon next to the parameter to modify the settings. Select the id of the device of which the data will be used. Select the analog variable for the load, or the digital variable, inputs and relays for overload, slackrope, prealarm and limit switch states. For load parameters, a decimal point can be set. Digital states can be inverted. **By default the digital states are disabled, so that the inVision only shows loads.**

- Analog application parameters: loads
  - Decimal point position
- Digital application parameters: overload, slackrope, prealarm, limitswitch states
  - Inverted state
  - Enable/disable parameter

### EDIT FUNCTION

Device ID:  
 ▾

Variable:  
 ▾

Decimal point:

Save
Cancel

### EDIT FUNCTION

Device ID:  
 ▾

Variable:  
 ▾  Invert

Enabled

Save
Cancel

Application:  ▾

Function	Device ID	Variable	Action
Load	11	Analog 5	
Overload	12	Relay 5 (INV)	
Slackrope	11	Relay 6	
Prealarm	11	Relay 7	

# Network

Go to the Network menu. The current network settings can be found under INTERFACE – STATUS.

The screenshot shows a web browser window with the URL 192.168.1.1. The page title is 'Incosa INVISION'. The main content area is titled 'NETWORK' and contains three sections: 'DEVICE INFO', 'INTERFACE - STATUS', and 'INTERFACE - CONFIGURATION'. A left sidebar menu lists 'Home', 'Network', 'Firmware', 'Device Info', 'Task Monitor', and 'File System'. The 'INTERFACE - STATUS' section is expanded to show details for 'Wi-Fi: Access Point Mode' and 'Ethernet'. The status bar at the bottom indicates 'Connected' and 'User'.

**incosa<sup>1</sup> SOLUTIONS**

- Home
- Network**
- Firmware
- Device Info
- Task Monitor
- File System

## NETWORK

### DEVICE INFO

INVISION

Serial Number: 027200022890  
Host Name:

### INTERFACE - STATUS

Wi-Fi: Access Point Mode

SSID: INV\_027200022890

IP Address: 192.168.1.1  
Subnet Mask: 255.255.255.0  
Gateway: 192.168.1.1

Clients: 1

Ethernet

IP Assignment: dhcp\_client

IP Address: 0.0.0.0  
Subnet Mask: 0.0.0.0  
Gateway: 0.0.0.0

### INTERFACE - CONFIGURATION

Wi-Fi: Client Mode

Connected User v0.1.0

## Connect to device through Wi-Fi

1. Scroll down to the INTERFACE – CONFIGURATION
2. Under Wi-Fi: Client Mode, Click on **Scan**
3. Click on **Copy SSID** next to the network you would like to link
4. Enter the **password** for the I-C4C network
5. Click on **Connect** to link the inVision through Wifi with the device

The screenshot shows the Incosa INVISION web interface in a browser window. The address bar shows the URL 192.168.1.1. The page title is "INTERFACE - CONFIGURATION". On the left, there is a navigation menu with options: Home, Network, Firmware, Device Info, Task Monitor, and File System. The main content area is titled "Wi-Fi: Client Mode" and contains a "Scan" button and a table of detected Wi-Fi networks. The table has columns for SSID, RSSI, Channel, and Action. The first row is selected, and the SSID "IC4C98548387" is entered into the "SSID:" field. The "Password:" field is filled with dots. The "Show Password:" checkbox is unchecked. A "Connect" button is visible below the fields. Below the Wi-Fi section, there is an "Ethernet" section with an "IP Assignment:" dropdown menu set to "DHCP (Client)" and a "Save" button. The bottom status bar shows "Connected", "User", and "v0.1.0".

SSID	RSSI	Channel	Action
IC4C98548387	-16	1	Copy SSID
Internet 2396A	-59	6	Copy SSID
WiFi-2.4-GIGAB	-82	11	Copy SSID
Proxima Public Wi-Fi	-83	11	Copy SSID
Internet 2396A	-88	11	Copy SSID

- The link with the I-C4C can be checked by reopening the network menu under INTERFACE - STATUS

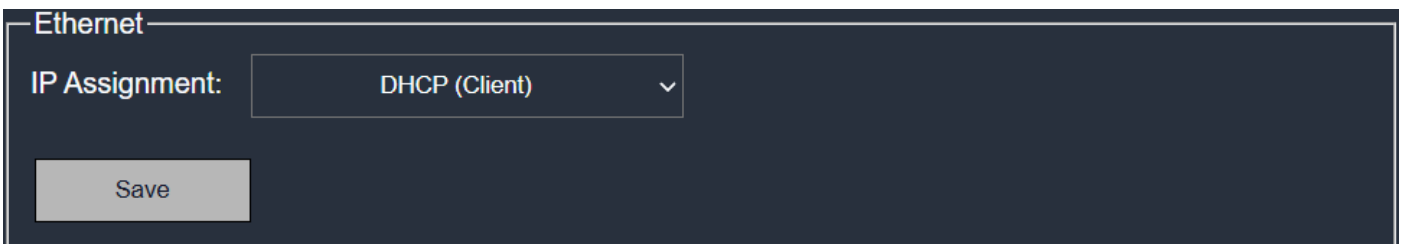


## Connect to device through Ethernet

The inVision is by default setup as an Ethernet DHCP client. This means that it by default works fine if it is connected by Ethernet cable to a DHCP server. However, if needed it can be setup as a client with a static IP address.

### DHCP-client

Under INTERFACE – CONFIGURATION, set Ethernet to **DHCP (Client)** (Default setting). Connect an Ethernet cable to the DHCP server (I-C4C GO Pro). Refresh your window and look for the connection under INTERFACE – STATUS.



### Static-client

Under INTERFACE – CONFIGURATION, set Ethernet to **Static**. Set a unique IP-address, the subnetmask and the gateway in the same range as the other devices within the network. Connect an Ethernet cable to the network (I-C4C GO Pro). Refresh your window and look for the connection under INTERFACE – STATUS.

Ethernet

IP Assignment:	Static
IP Address:	192.168.2.20
Subnet Mask:	255.255.255.0
Gateway:	192.168.2.1

Save

Ethernet

IP Assignment:	static
IP Address:	192.168.2.20
Subnet Mask:	255.255.255.0
Gateway:	192.168.2.1

## Connect to device through CAN

The inVision is a passive CANOpen device. This means that it does not send CAN-data except for an initial handshake to check the vendor and product id. If a device is setup to communicate through CAN, it will work as long as it is selected in the device table.

The inVision has its own end-resistor (120  $\Omega$ ), which is always active. The baudrate rate is set to 250kb/s. (These settings are currently fixed, but will be adjustable in future releases.)

# Firmware

In the firmware menu, new software can be uploaded. Further it contain information about the current active software.

The screenshot shows a web browser window with the Incosa INVISION interface. The browser's address bar shows the URL 192.168.1.1. The interface has a dark blue background with the 'incosa SOLUTIONS' logo at the top. On the left, a navigation menu lists: Home, Network, Firmware (selected), Device Info, Task Monitor, and File System. The main content area is titled 'FIRMWARE' and contains three sections: 'UPLOAD FIRMWARE' with buttons for 'Select File', 'Upload', 'Reboot', and 'Validate Upload'; 'UPLOAD WEBSITE' with buttons for 'Select Website', 'Upload Website', and 'Refresh'; and 'SWITCH BETWEEN PARTITIONS' with a dropdown menu set to 'ota\_0'. Below this is a 'PARTITIONS INFO' section with a table showing 'ota\_0' as the boot partition. A status bar at the bottom indicates 'Connected', 'Incosa', and 'v0.1.0'.

Boot partition	ota_0

## Device Info

This menu contains some general information about the inVISION and the current firmware and software versions. As well as when the software was created.

Serial Number	027200022890
Project Name	Invision
Project Version	v0.0.0
FW Version	v0.1.0
IDF Version	v5.4.1
Build Date	Jan 26 2026
Build Time	09:25:13
Boot Partition	ota_0
Run Partition	ota_0

# Task Monitor

This is a monitoring tool, mostly for development purposes. It gives an overview of all task running on the inVision display, similar to Windows task manager.

incosa SOLUTIONS

Home  
Network  
Firmware  
Device Info  
Task Monitor  
File System

## TASK MONITOR

Heap

Total heap free size: 291968  
Current heap free size: 97800(33.47%)  
Minimum Heap free size: 69656(23.86%)

Time

Total RunTime: 2063  
System UpTime: 2063

Tasks

Task Name	State	Core	Number	Priority	Stack	Runtime (s)	Runtime (%)
IDLE0	Ready	0	5	0	508	2016.35	97.73
wifi	Blocked	0	12	23	3968	20.97	1.02
ipc0	Suspended	0	1	24	444	6.43	0.31
esp_timer	Suspended	0	3	22	2716	3.51	0.17
udp_server	Blocked	0	14	9	2680	2.71	0.13
iorouter	Blocked	0	16	7	1788	2.43	0.12
httpd	Running	0	10	5	7860	2.12	0.10
udp_parser	Blocked	0	15	8	3216	1.34	0.06
CanReceive	Blocked	0	17	10	2020	0.90	0.04
sys_evt	Blocked	0	9	20	388	0.09	0.00
CanCtrl	Blocked	0	18	11	3244	0.00	0.00
IDLE1	Ready	1	6	0	516	1773.77	85.97
visual_incosa	Blocked	1	11	1	1528	285.05	13.82
#iT	Blocked	Any	8	18	2248	6.04	0.29

Connected Incosa v0.1.0

# File System

An overview of all the data files on the inVision.

The screenshot shows a web browser window with the URL 192.168.1.1. The page title is 'incosa SOLUTIONS'. The main content area is titled 'FILE SYSTEM' and is divided into two sections: 'Status' and 'Files'. The 'Status' section displays the following information:

Partition Label:	incosa_fs
Partition Size:	5120.00KB
Filesystem Size:	300.00KB

The 'Files' section displays a list of files and folders:

- IC4C-GO
- data (0.77KB)
- gif (53.47KB)
- img (8.70KB)
- site (51.21KB)
- foo.txt (0.02KB)

The bottom status bar shows 'Connected', 'Incosa', and 'v0.1.0'.