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Device Configuration Platform

Middleware




MADE IN ITALY

Manual – v.1.0

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1. INTRODUCTION

The purpose of this document is to provide an overview of the Tera Device Configuration Platform. This tool is a middleware that allows the user to take advantage of all the features of the device through a dedicated graphical interface. It is present on all Tera 's edge computers (BeetaBox, BeetaMoCo, BeetaReader and GloE).

This graphical interface can be accessed through any browser by connecting to the device IP address in a LAN.

TERA S.r.l.

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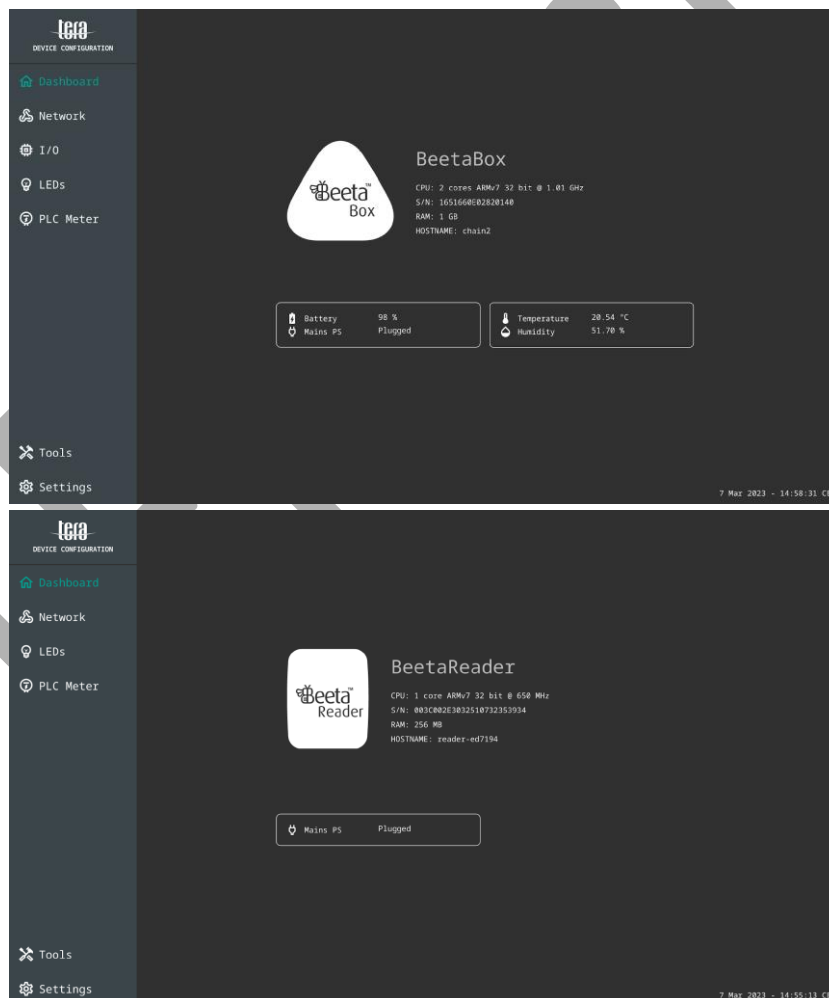
2. TERA DEVICE CONFIGURATION PLATFORM GRAPHICAL USER INTERFANCE LAYOUT


The main UI is composed of three elements:

1. Top left side top consists of a menu, listing the device available features
2. Bottom left consists of a menu for general purpose Settings and Tools
3. The main section of the UI displays the currently selected feature settings and info

2.1 Dashboard

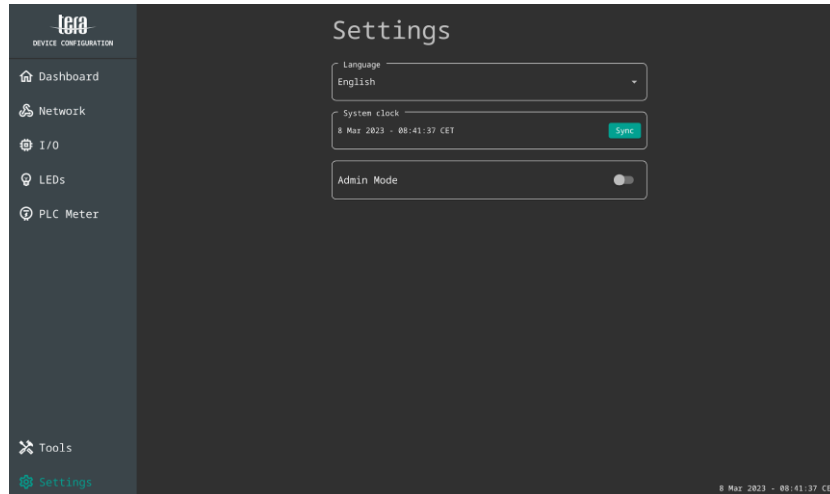
The dashboard page contains a recap of the device info and the live readings of its internal sensors (if any) as shown below.



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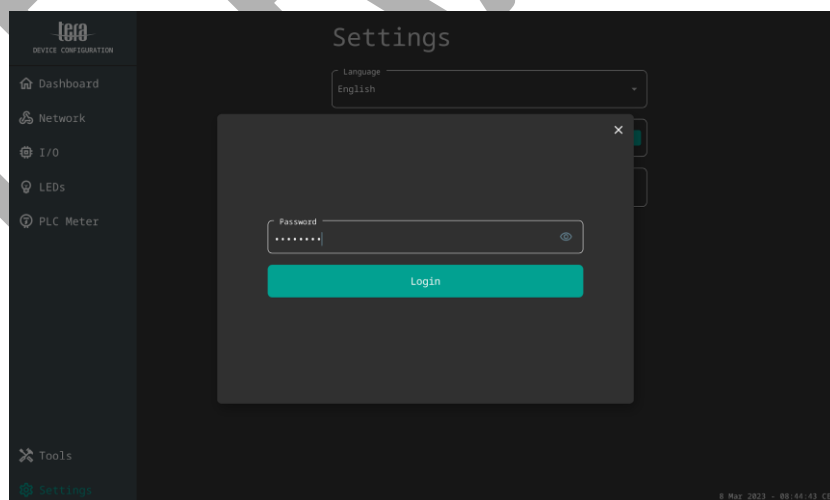
3. SETTINGS


In the settings tab the guest user can sync the device time and access the admin mode.



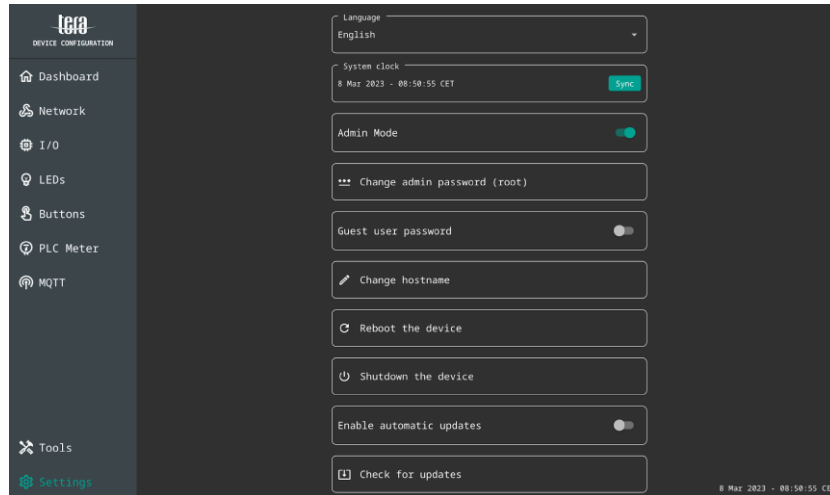
The device root password is required to enter the admin mode. By default it matches the name of the device in lowercase:

- **BeetaBox:** beetabox
- **BeetaMoCo:** beetamoco
- **BeetaReader:** beetareader
- **GloE:** gloe




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When admin mode is active all of the platform advanced features are available.



The features available in admin mode are as follows:

- Advanced networking settings
- Physical buttons management
- MQTT client
- Advanced general purpose settings:
 - change admin password
 - Guest password management
 - Change hostname
 - Power off / reboot options
 - Updates management

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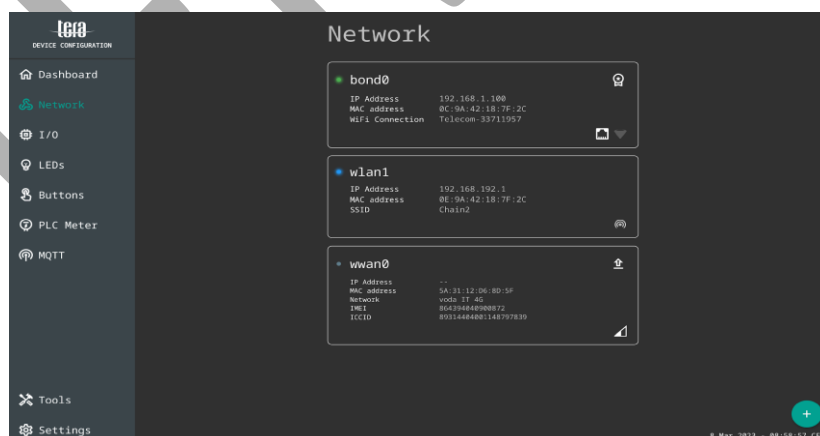
4. NETWORK

The network tab lists the currently configured networking interfaces with the summary of their main information.


Every network interface item displays:

- the **connection status**: the indicator at the top left is green when the interface has internet access, blue when it is routable and gray when it is offline.
- the **name** of the interface
- the **IP address**
- the **MAC address**
- if the interface is set as the **default for internet connection**
- additional information based on the type of interface:
 - **bond**: the currently active slave (in white)
 - **client wlan**: the current Wi-Fi network and its signal strength
 - **access point wlan**: the name of the network
 - **wwan**: the name of the network, the modem IMEI, the sim ICCID and the signal strength

When admin mode is active the user can create new network interfaces and choose which interface to use as default for internet connection as shown below.

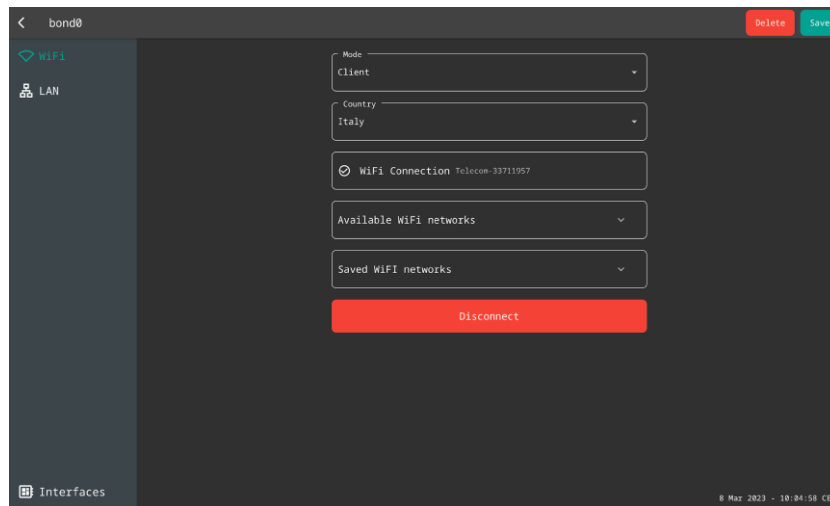


Based on the type of interface the detail page will have different settings.

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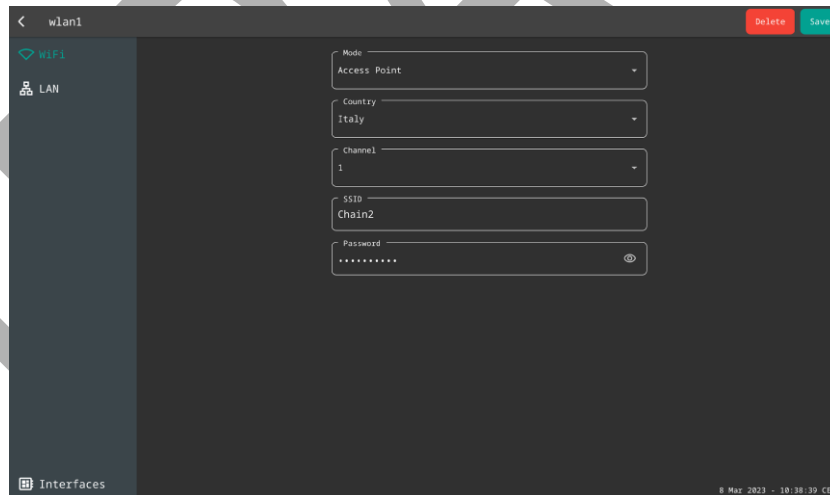
4.1 Client wlan settings


Set the interface country, see the current Wi-Fi connection, the available networks and manage the saved ones.



4.2 AP wlan settings

Set the interface country, channel, SSID and password.

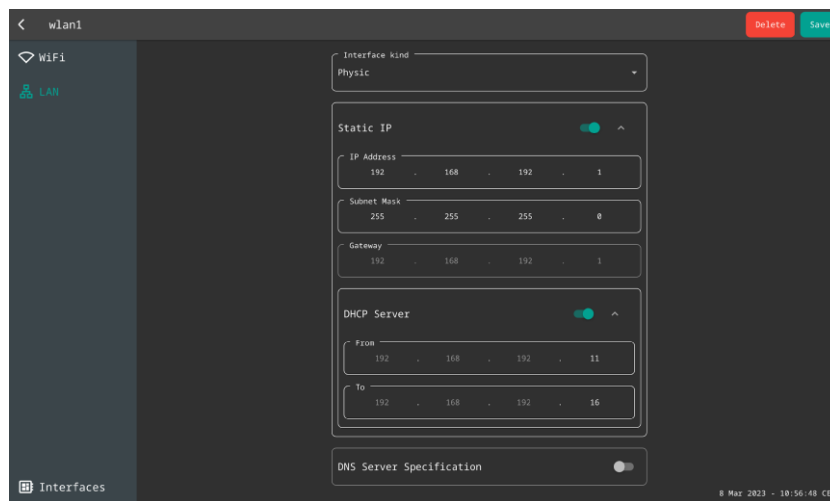


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4.3 LAN Settings

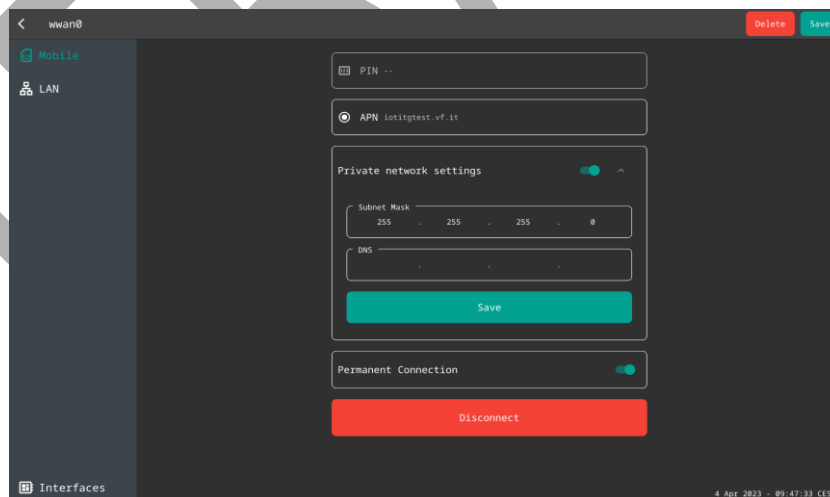
Set the interface kind: - Physic for a 1 to 1 interface mapping - Bond to create a bonded interface (many to 1). This logical interface exposes the device with a unique MAC address on the network, no matter which is the currently up active slave.


Specify a static IP, subnet mask, gateway, internal DHCP server and DNS servers.



4.4 Wwan settings

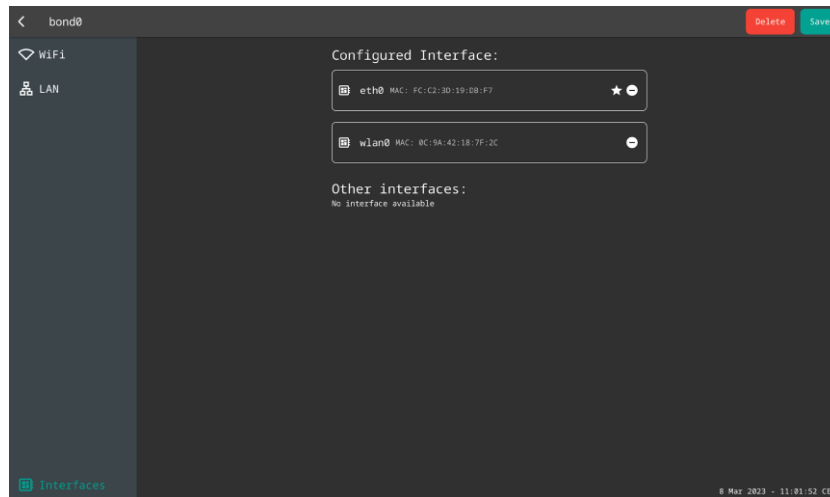
Set the SIM pin and APN, force a custom subnet mask and DNS and manage the connection.




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4.5 Interface Settings

Manage the physical interfaces attached to the configuration.

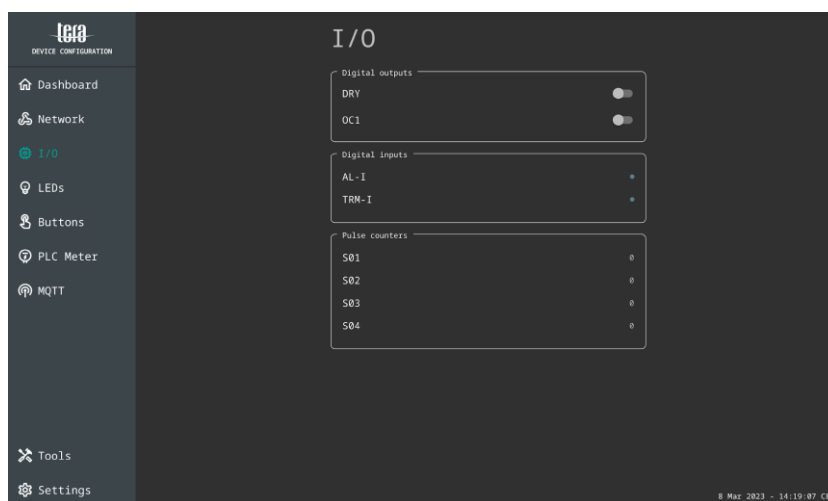


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5. I/O INTERFACES

The I/O tab is divided in the following sections (if available):


- **Digital outputs:** summary of the device digital output pins
- **Digital inputs:** summary of the device digital input pins
- **Pulse counters:** summary of the device pulse counter (S0) pins

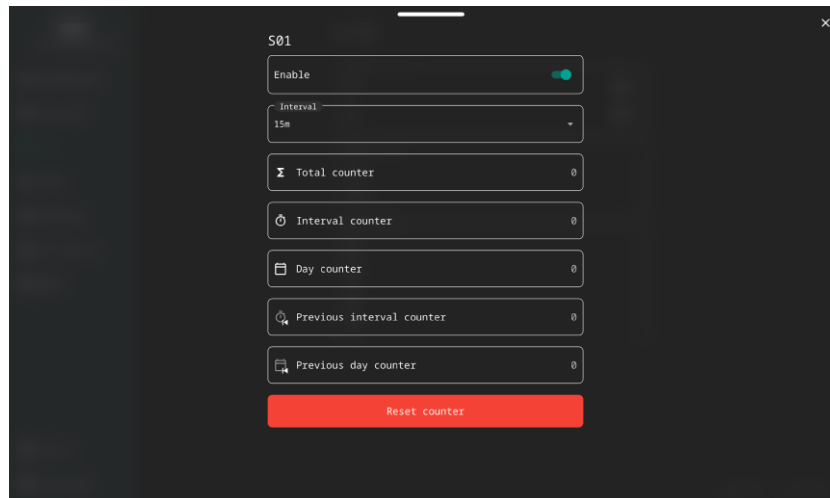


5.1 Pulse Counter Settings


The following S0 settings and infos are available by pressing a pulse counter item:

- **Enable:** if disabled the pulse counter pin will work as a standard digital input
- **Interval:** changes the reset interval of the counter
- **Total counter:** pulses counted since last reset
- **Interval counter:** current interval counter
- **Day counter:** current day counter
- **Previous interval counter:** previous interval counte
- **Previous day counter:** previous day counter
- **Reset counter:** resets all counters

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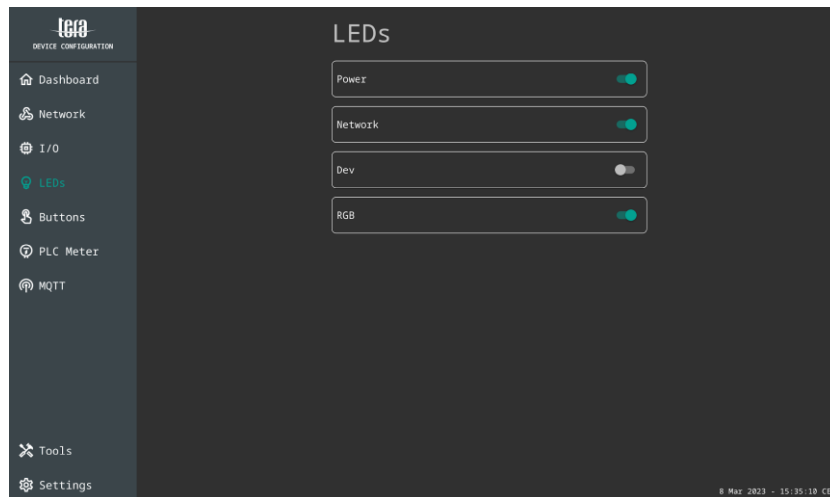


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6. LEDs

The LEDs tab shows the device leds, with quick access to the ON/OFF action.




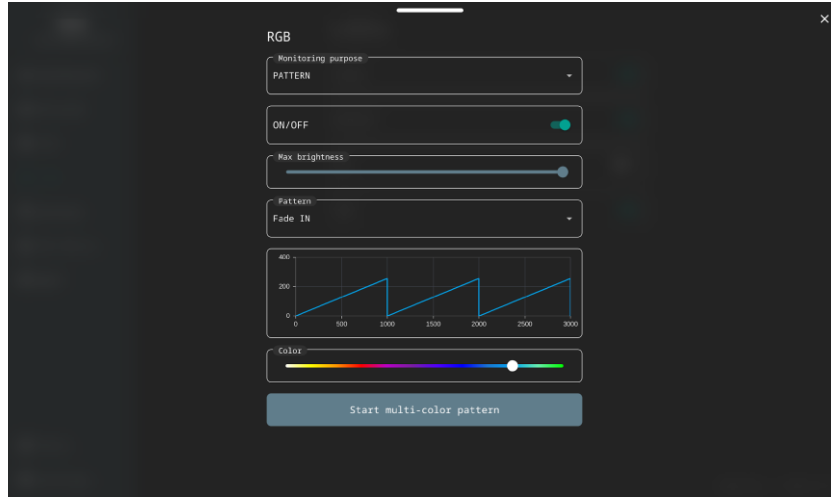
These are the available leds for each device:

- **BeetaBox:** Power, Network, Dev, RGB
- **BeetaMoCo:** Power, Network, RS485A, RS486B
- **BeetaReader:** Status
- **GloE:** Power, Network, Dev, RGB


The following advanced LED settings are available when the item is pressed:

- **Monitoring purpose**
- **ON/OFF** or **Brightness** slider (for dimmerable leds)
- **Max Brightness** slider (for dimmerable leds)
- **Pattern** selector (when **Monitoring purpose** is set to PATTERN)
- current **pattern graphic** (if any)
- **Color** slider (for multi-color leds)
- **Multi-color pattern** button (for multi-color leds)

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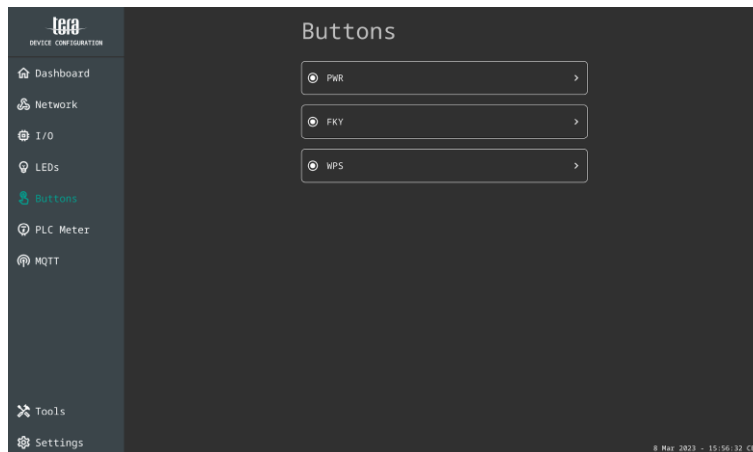


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7. BUTTONS

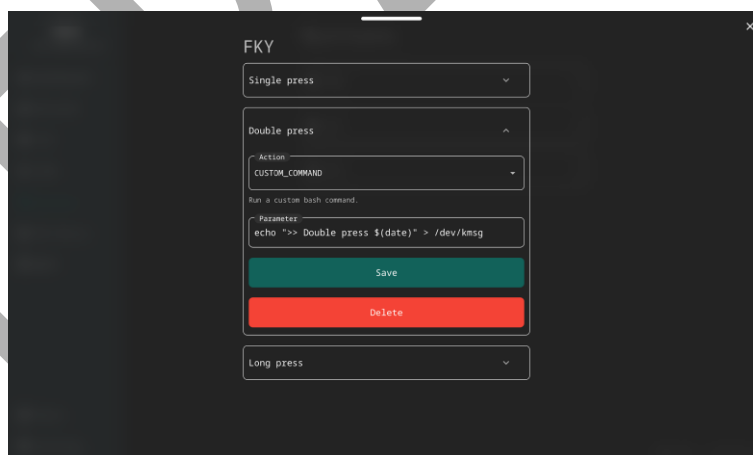
The Buttons tab contains the list of the device physical buttons.



These are the available physical buttons for each device:


- **BeetaBox:** PWR, FKY, WPS
- **BeetaMoCo:** PWR
- **BeetaReader:** PWR
- **GloE:** PWR, FKY, WPS

Single press, double press and long press actions can be configured by selecting the button item.



Each press type can be associated to:

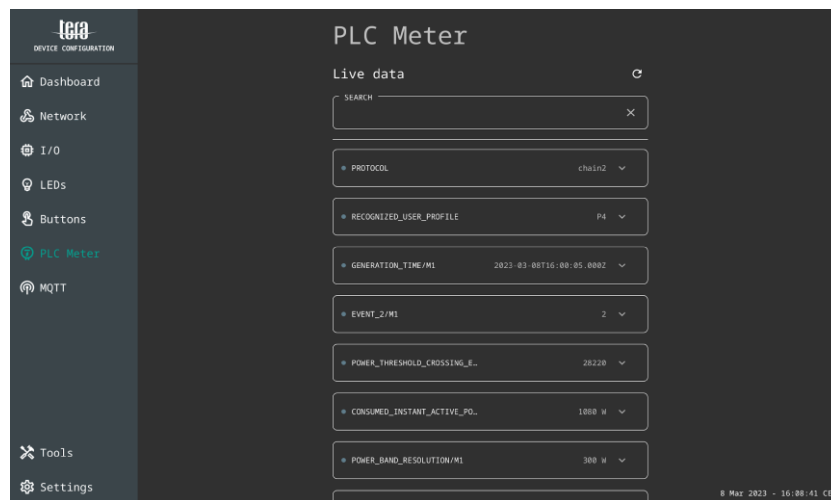
- Shutdown
- Reboot
- MQTT publish
- Custom bash command


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8. PLC

This is available only on BeetaReader or BeetaBox + BeetaPower setups.

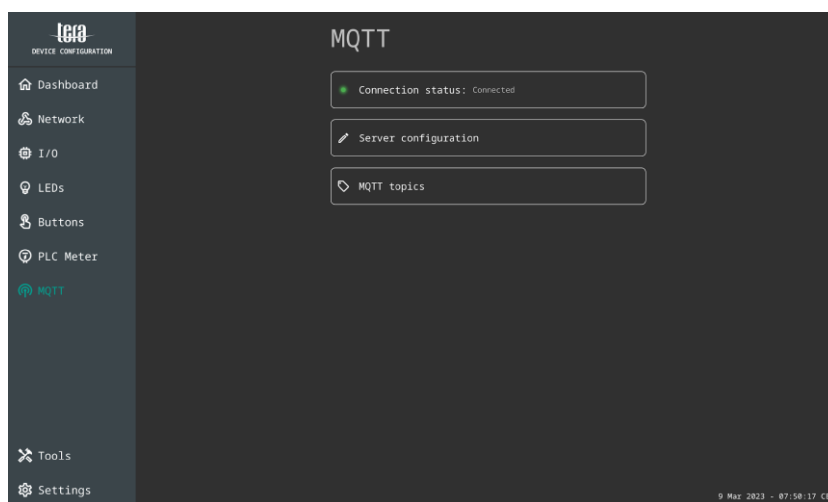
The PLC Meter tab shows the powerline data coming from a Chain 1 or Chain 2 enabled smart electricity meter.



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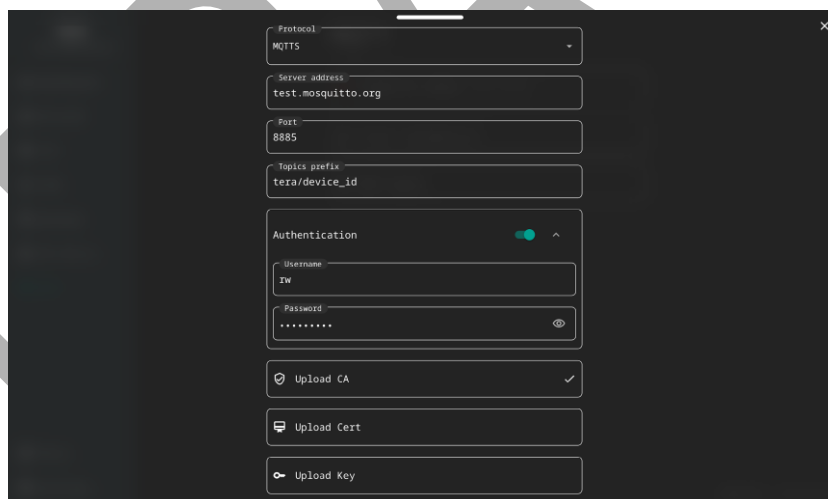
9. MQTT

The MQTT tab contains info about the current connection status (“Connected”, “Disconnected” or “No configuration saved”), the server configuration and the topics selection.




9.1 MQTT > Server configuration

The MQTT server can be configured by pressing the Server configuration item.



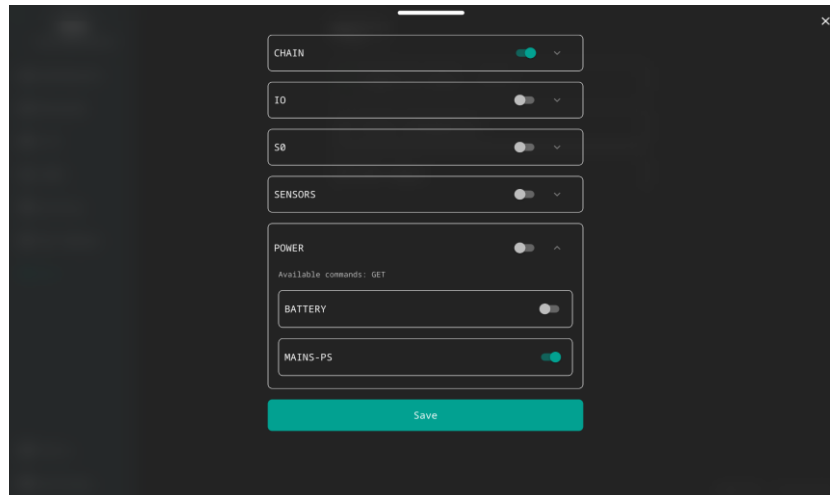
Server settings are as follows:


- **Protocol** selection (MQTT / MQTTS)
- **Server address**
- **Server port**
- **Authentication** section
- **Certificates** upload (for MQTTS)

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9.2 MQTT > Topics

Topics of data to be published can be selected in the MQTT topics section.



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10.Tools

The Tools tab contains a link to the API documentation and a network interfaces tester.

