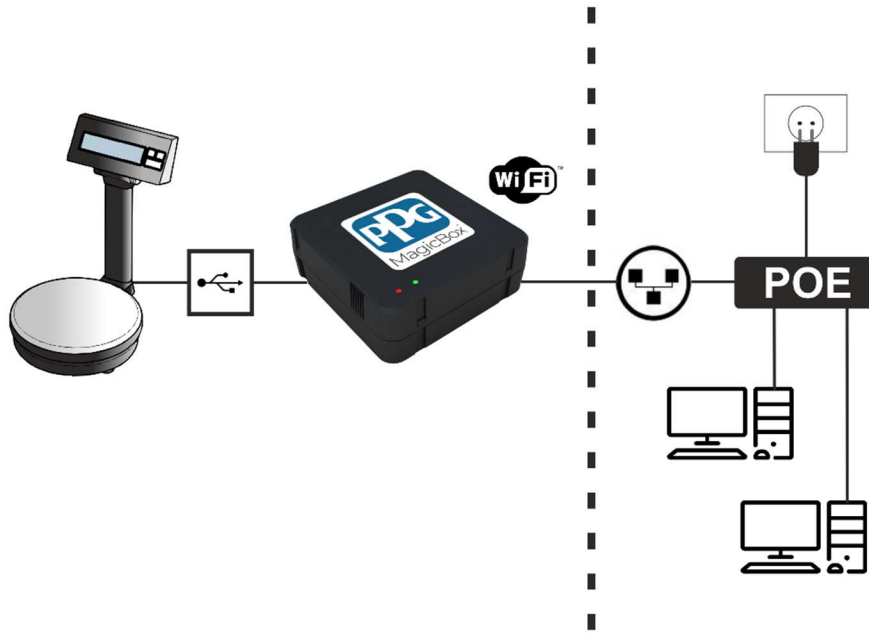


Quickstart Guide

Evaluation Unit



Preliminary
MagicBOX®

MagicBOX Firmware 0.4/21

QSG-MagicBOX-0.04
21/10/2021

Correct Disposal of This Product (Waste Electrical & Electronic Equipment)



Applicable in the European Union and other European countries with separate collection systems).

This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life.

To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Disposal

At the end of the device's working life, the user should deliver the device to the suitable disposal center with a separate collection system for electrical and electronic equipment. Otherwise the user can give the device back to the retailer in case he is going to buy a similar device.

Sanctions

The unauthorized disposal of the device causes the pursuance of the law and the consequent sanctions

GUIDELINES

Choose a correct place to install the **MagicBOX® Evaluation Unit** ; it should have a correct ventilation.



The equipment must be used indoors.



The equipment must not be exposed to extreme temperatures, air currents, heat radiation.



The equipment must not be exposed to humid environment.



The equipment must not be exposed to vibrations..

Be sure the cable length is suitable for the chosen place where the equipment will be installed.
Perform the installation and wiring only as described in this manual



If a peripheral unit needs to be connected to the **MagicBOX®** , it must have a type certification suitable for the area classification intended for use and it must have been allowed to be used with **MagicBOX®** unit by S&h.

The cables must be protected against corrosion and mechanical damages. Cables must not be kinked or bent at sharp angles.

AP mode

MagixBOX activates an AP Mode when no wireless connection is configured and/or the wireless/ethernet connection is not available.

By default MagicBOX search a wifi network of SSID “wifimagicbox” and password “wifimagicbox”

SSID in AP Mode	MB_<serialNumber>
Default SSID password	<no password required>
Default IP	192.168.4.1
mDNS name	magicbox.local

After connected to the MagicBOX wireless network (MB_<serialNumber>) with a Browser point to the setup page <http://192.168.4.1> or to <http://magicbox.local>

From there it is possible to download the CA certificate to be imported into the browser and then go to the embedded secure page: <https://magicbox.local>, use user/user as username/password.

This is the main configuration page where you can find info about software versions. Use Network tab to configure the Wireless network or the Ethernet.

The screenshot shows the MagicBox configuration web interface. At the top, there is a header with the PPG logo and the text "MagicBox™". Below the header, there is a navigation bar with links for "Home", "Network", "Device", "Security", and "Logout". The main content area displays a "Welcome!" message and a "Device Model" field showing "PPG_MAGICBOX/MB_DEV_GL". Below this, there are three status indicators: "WiFi" with a red "x", "Ethernet" with a green checkmark, and "Mqtt" with a green checkmark. Further down, there is a "Firmware" section showing "0.3 (build 206)/20". At the bottom, there is an "AP Mode" section with a red "x" and fields for "AP SSID" (containing "MB_DEV_GL"), "AP Key", and "mypassword".

Optionally, if more MBs are connected to the same LAN, it possible to configure a custom local ID in the configuration page, so that the mDNS name becomes magicbox[1-10].local

Note on security

MB has a self-signed SSL certificate for the names magicbox.local and magicbox[1-10].local.

At the first connection, it is necessary to install the certificate:

1. download the certificate from <http://magicbox.local:80>
2. install it into the browser (currently supported: Chrome and Edge)

At this point, the connection to <https://magicbox.local:443> is recognized as secure.

For devices that do not support mDNS, the configuration page is available through the IP address (i.e. <https://192.168.4.1> in AP mode, in any case shown on the scale display). It is necessary to add a secure exception to the browser.

MagicBOX LEDS

There are two leds: one RED and one BLUE

We can identify main states using leds:

- **BLUE Led:** Network activity states
- **RED Led:** Scale activity states

Blue Led blinking modes:

- **Led on and fast blink every 5 secs.** MB is connected to **Wifi** and Internet connection is available.
- **Led on and fast double blink every 5 secs.** MB is connected to **Ethernet** and Internet connection is available.
- **Slow blinking** (one sec on, one sec off). MB is connected to Wifi but no Internet connection is available.
- **Slow double blink** (one sec on, one sec off). MB is connected to Ethernet but no Internet connection is available.
- **One fast blink every 5 secs.** MB is in AP Mode.
- **Fast Blinking.** MB is trying to connect to the Network.
- **Three fast blinking every 5 secs.** MB is upgrading internal Firmware: DO NOT SWITCH OFF!
- **Switched off.** MB is starting up or in Fault state.

Red Led blinking modes:

- **Switched off.** A scale is connected and communication is available on USB channel.
- **Always on.** Scale not connected or not recognized .
- **Slow blinking.** Firmware update mode.
- **Fast blinking.** Fault state.

PowerUP phase

During powerup, after an internal diagnostic, the scale is turned on (USB power) and an infinite banner with T/H sensor values is displayed on scale display.

The user must press “OK” key to stop this banner. **Only in that moment (out of the banner) the scale is ready to receive Jobs**

JOB MANAGEMENT SITE

JOBs are managed by a page on an experimental server, so internet connection is needed.
To use this page, connect to the follow URL:

<https://linqcolorpoc.seh.it/index.html?url=https://magicbox.local:443>

The screenshot displays the PPG LINQ Color MagicBox web interface. At the top, there is a navigation bar with the PPG LINQ Color logo and links for Scale, Sensors, and Formula. The main content area is divided into two sections: Device List and Available Recipes.

Device List: This section shows a single device, MAGICBOX.local (https://magicbox.local:443), which is currently disconnected, indicated by a red dot. A Refresh button is present next to the device name. Below the device list, there is a field for manual addition to the device list, containing the URL https://magicbox.local:443, and a plus button to add it.

Available Recipes: This section shows a dropdown menu with the selected recipe (FIAT GREEN) FIAT GREEN. A Send to Scale button is located to the right of the dropdown. Below the dropdown, a large text area displays the recipe details in JSON format:

```
{
  "id": "001",
  "Header1": "FIAT GREEN",
  "Header2": "VERDE CHIARO: 333/B : PRIME",
  "JobID": "001",
  "Code": "FIA.333/B:19",
  "Name": "FIAT GREEN",
  "Variant": "FIAT GREEN",
  "Manufacturer": "FIAT",
  "Amount": "0.05 l",
  "Color": "FIAT GREEN",
  "Warnings": "Use undercoat G6 for best results",
  "Recipe": [
    {
      "Name": "FIAT GREEN",
      "Color": "FIAT GREEN",
      "Warnings": "Use undercoat G6 for best results",
      "Comp": [
        {
          "C": "T400",
          "D": "WHITE",
          "W": 35.5,
          "T": 0.1
        },
        {
          "C": "T422",
          "D": "YELLOW",
          "W": 13.8,
          "T": 0.1
        },
        {
          "C": "T411",
          "D": "BLUE",
          "W": 1.9,
          "T": 0.1
        },
        {
          "C": "T406",
          "D": "BLUE BLACK",
          "W": 1.4,
          "T": 0.1
        }
      ]
    }
  ]
}
```


JOB RESULTS

Job results are printed in JSON format

The screenshot displays the LINGColor web interface in a browser window. The address bar shows the URL `http://lingcolorpoc.seh.it/index.html?url=http://192.168.1.23:80&name=PPG_MAGICBOX.local`. The interface has a blue header with the LINGColor logo and navigation links for Scale and Sensors. Below the header, the 'Device Settings' section is visible, showing fields for Model/Manufacturer (EVO5Y1111-C/SARTORIUS), SW/Vers. (0039407630/00-56-02.04), Device ID, and Current Weighted (0.000000). The 'Jobs' section contains a table with columns for Id, Description, Start/Stop, and Delete. A single job with Id 002 is listed. The 'Results' section also contains a table with columns for Id, Description, Start/Stop, and Delete. A single result with Id 002 is listed, showing two time entries: 2022/06/01 16:54:42 and 2022/06/01 16:54:42. At the bottom of the interface, there are four buttons: Refresh Status, Retrieve Job, Retrieve Results, and Configure MagicBox.

Device Settings

Model/Manufacturer: EVO5Y1111-C/SARTORIUS

SW/Vers.: 0039407630/00-56-02.04

Device ID:

Current Weighted: 0.000000

Jobs

Id	Description	Start/Stop	Delete
002			Delete Show

Results

Id	Description	Start/Stop	Delete
002		2022/06/01 16:54:42 2022/06/01 16:54:42	Delete Show

Refresh Status Retrieve Job Retrieve Results Configure MagicBox

MagicBOX Internal Sensors values are printed only in the Sensors tab page

