METRICI

RGB128X64 DISPLAY

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1. Introduction

Metrici RGB128X64 LED Display comes as a line up upgrade in terms of dimensions to the smaller Metrici RGBARR Display.

This edition keeps the Multi-Color LEDs, capable of +16M colors for a total of 8192 independent LEDs, that offer a 128x64 resolution in a 65.5x33.5 cm format size.

Besides larger dimensions, the display also comes with a more powerful controller. Meaning quad-core 1.5Ghz processor, 4 GB of LPDDR4 RAM memory, Gigabit Ethernet and 2.4Ghz/5GHz Wireless capabilities.

The display offers a IP65 protection grade for the front and a IP67 protection grade for the case and as such it can be used both indoor and outdoor. The panel is

capable of brightness levels bigger than 5000 nits, offering it ample viewing angles: horizontal viewing angle up to 150° and vertical viewing angle up to 90°.

2.Technical Data

No. of Pixels	8192
Resolution	128x64 (pixel)
Pixel Pitch	5 (mm)
Brightness Proportion Ratio	R: G: B = 30%:60%:10%(adjustable)
Color Temperature	3,500° — 9,500° K(adjustable)
Lifetime	100 000 (hours)
Operating Temperature	-20° to +50° Celsius
Screen Operation Mode	1/8 (scan/static)
LED Screen Protection Grade	IP65 Certificate
Case Protection Grade	IP67 Certificate

3. Characteristics

The Display comes fully integrated to Metrici database from where it can retrieve info.

The system can display any information wanted by the beneficiary extracted from the Metrici Web Interface, for example:

- free /busy/total parking spaces of a parking lot/section/row/group/zone;
- number of cars;
- the weight of a car if integrated with a weight station;
- the speed of a vehicle, if it is linked to Metrici Observer Radar.
- indication for the drivers
- can also show detected number plates

The display can output text on one, two or three lines.

On one line it can have:

- 6 capital letters
- 7 small letters
- 7 numbers

On two lines it can have:

- 6 capital letters/per line
- 8 small letters/per line
- 8 numbers/per line

On three lines it can have:

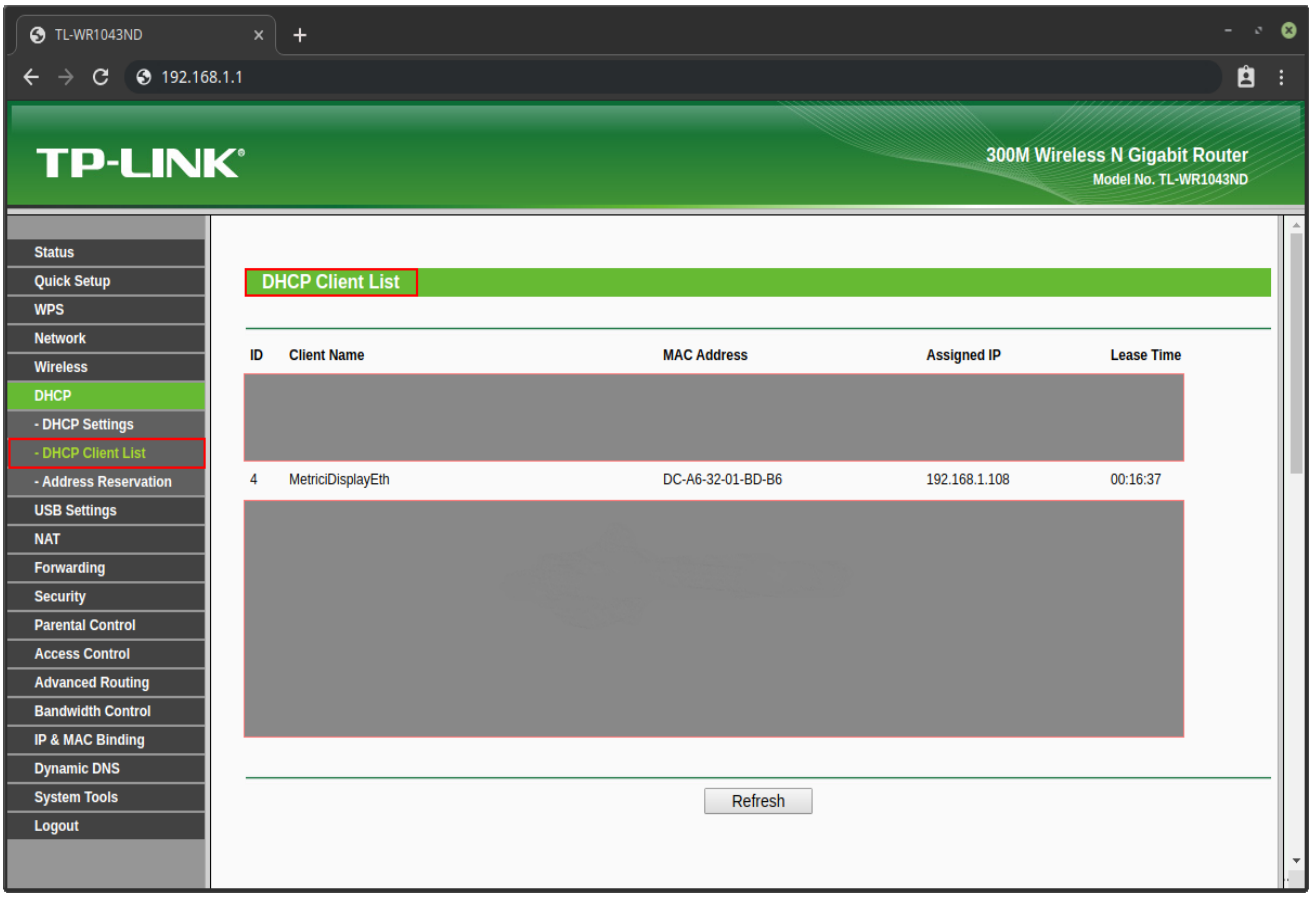
- 9 capital letters/per line
- 12 small letters/per line
- 10 numbers/per line

4. Installation

The display features a custom-made firmware with wireless and Ethernet access and easy-to-use custom made web-pages and installation.

You can make the configuration via wireless or cabled using your preferred device, be it a smartphone, a tablet or a laptop/PC, running on any OS. The display comes with a setting where one can choose Static IP or DHCP IP.

For your first set-up you will have to use an Ethernet cable. Simply plug in the display to 220V power source and connect a network cable. Then go to your Access Point's home page, usually found at http://192.168.1.1 and search for DHCP List. There you will find the display under the name MetriciDisplayEth and next to it the IP of the display.

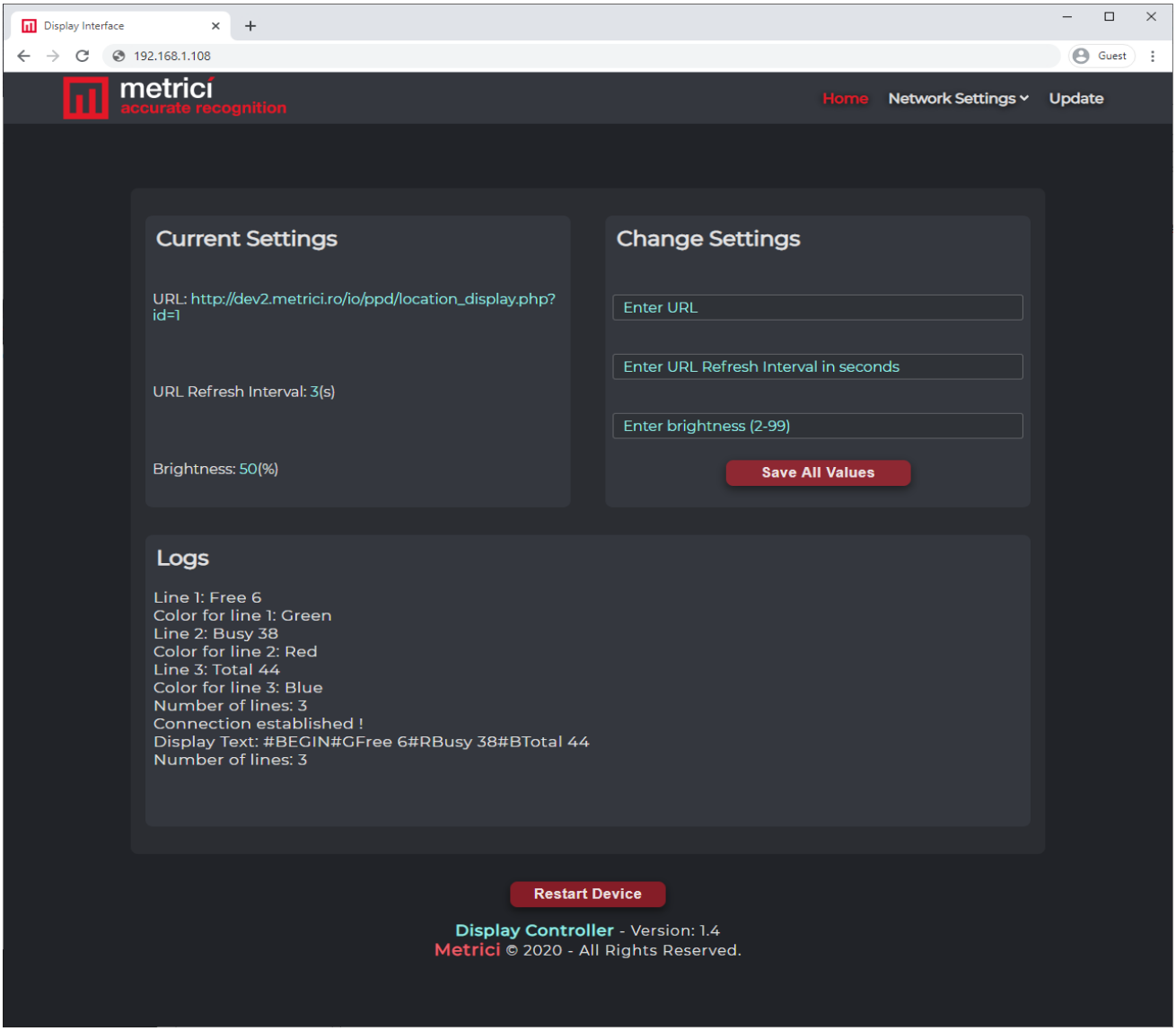


NOTE!

“MetriciDisplayEth” is the client name for the display when you’re using an Ethernet DHCP IP. If you were to be using Wireless DHCP, then the display’s client name would be “MetriciDisplayWiFi”.

Copy the IP of the display and paste it/write it into a web-browser. Hit enter and access the display’s custom web interface developed by Metrici.

5. Home Page & Settings

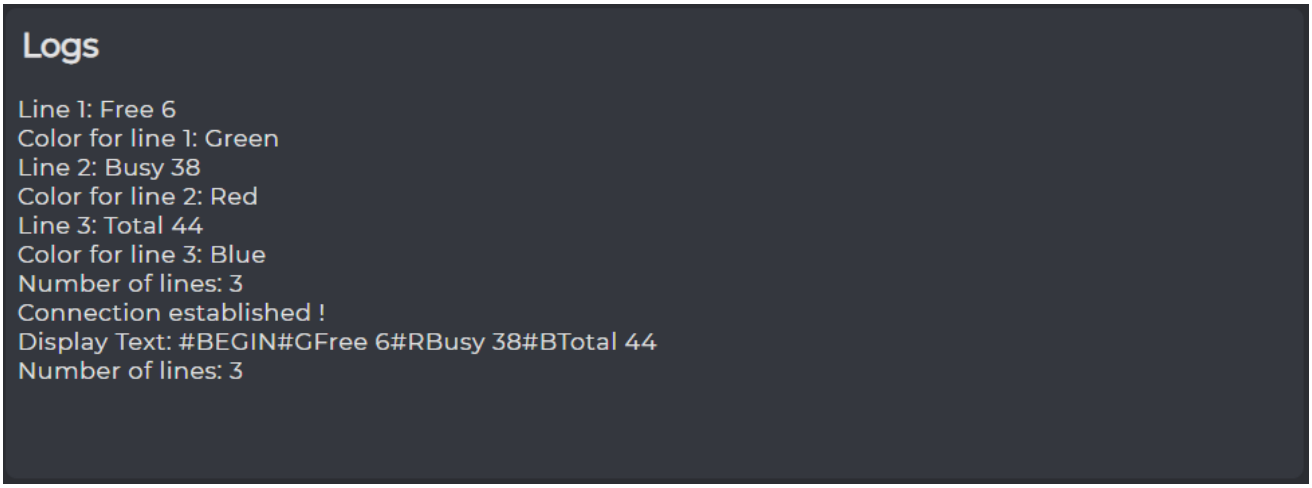


The first page you access is where you set up the display. It will let you introduce or change the URL, customize the URL Refresh Rate and the the brightness for the display. The URL is the address the display accesses to show information. This URL is to be found in Metrici WEB Interface. For each functionality or position in database you will have a different URL: no matter we are talking about showing free places for a parking lot, a section, the speed of a vehicle and its number plate, the weight, indications for the driver etc.

By default the URL Refresh Rate is set at 3 seconds and the Brightness is set to 50%.

To modify the values, in **Change Settings** tab, write the new values and press "**Save All Values**" button or press "Enter" on the keyboard.

On the bottom of the page one can see a logs menu, where you can see displays' activity and communication.



6. Display integration with the Metrici Interface

As we explained, the display can show any information retrieved from Metrici database. For a better understanding please consult Metrici user guides for the engines you are interested in to get display information. We will note down some examples here.

In Metrici WEB Interface, you can access the menu and see what URL to copy in the display settings to show information.

NOTE!

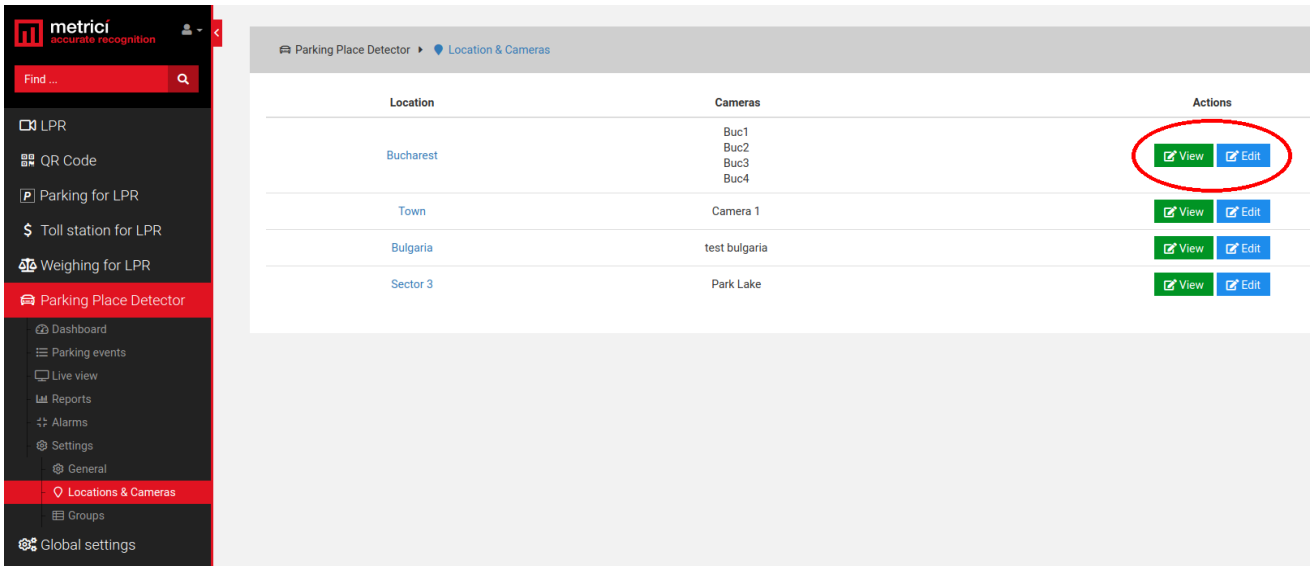
In order for the system to properly work you need to both fill some data in Metrici WEB Interface, as well as in the display's settings menu.

6.1 METRICI PPD Integration display

Let's say you want to display number of free and busy parking places for a location managed with Metrici Parking Place Detector.

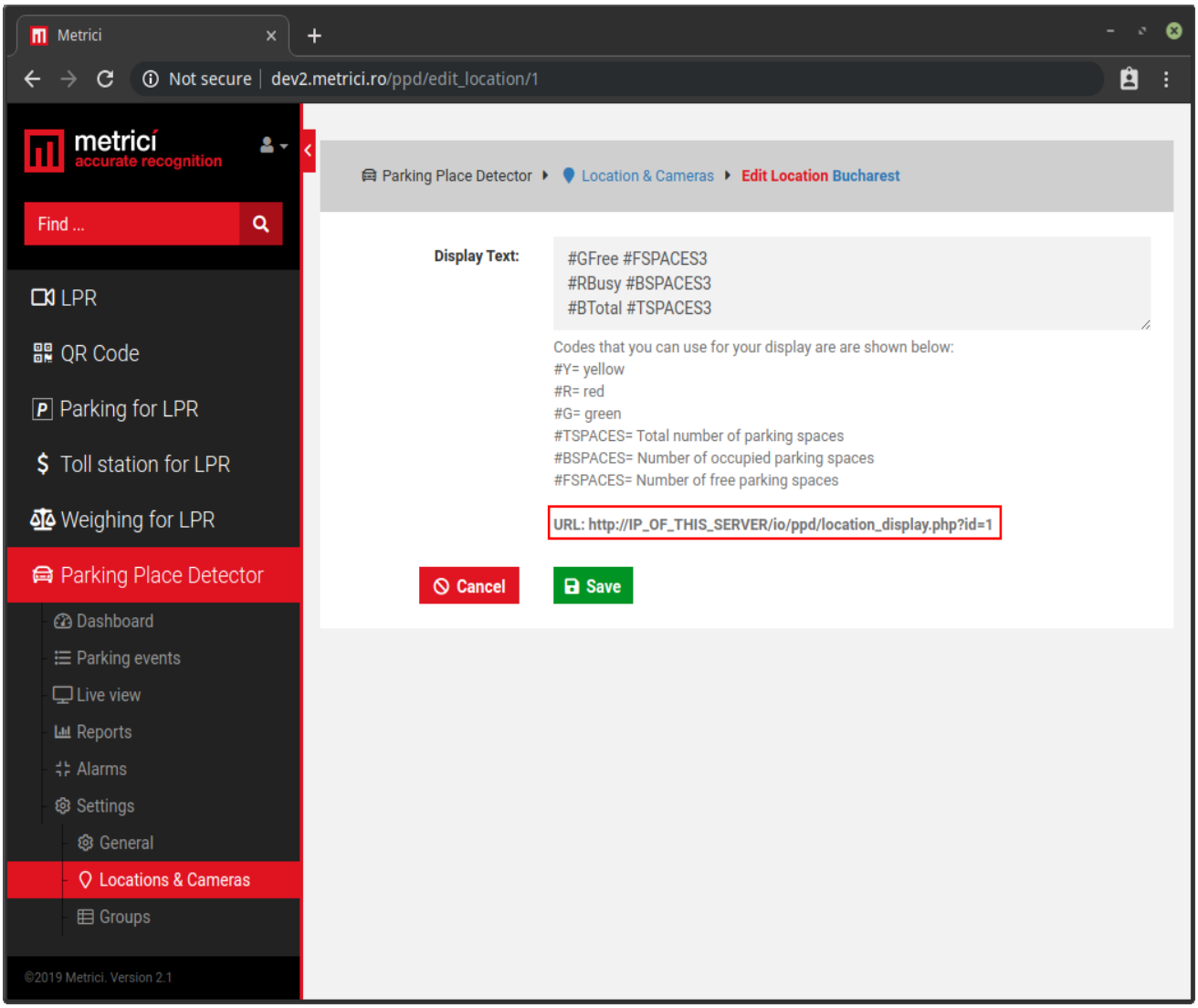
Go to Metrici WEB Interface, **Parking Place Detector** tab, **Locations and Camera** menu.

From the list of locations you manage, choose the one for which you want to display information and click on Edit blue button.



After press on the **Edit** button you will get a page in which you can enter some code lines for the display to know what information and how it should be displayed.

On the bottom of the page you will notice the URL to be copied in Display's settings page.



The Display Text has 1 to 3 lines of code. The codes always begin with hashtag sign(#) followed by the desired color. For example: code #R tells the display that a line begins and that the text will be red colored. Following this combination you can enter the text that you will want to be displayed, like #RBusy that will output the text “Busy” in red color. You can use the codes that Metrici Interface makes available, like #R#BSPACES , that will output the number of occupied parking spaces in red color. The last character is how many numerals to use to display the information. For example #FSPACES3 will show number of free spaces up to 999.

To add a second or a third line you simply begin another line with a hashtag sign(#) and the desired color for that line.

Here is a possible combination for text on two lines:

#GFree #FSPACES2

#RBusy #BSPACES2

This will display, for example, on the first line “Free 20” in green color and on the second line “Busy 10” in red color, assuming that the number of free parking spaces in that moment is 20 and that the number of occupied parking spaces is 10.

Here is a possible combination for text on three lines:

#GFree #FSPACES2

#RBusy #BSPACES2

#BTotal #TSPACES2

As explained before, assuming we will have the same number of parking spaces, this Display will show

Free 22 in green color,

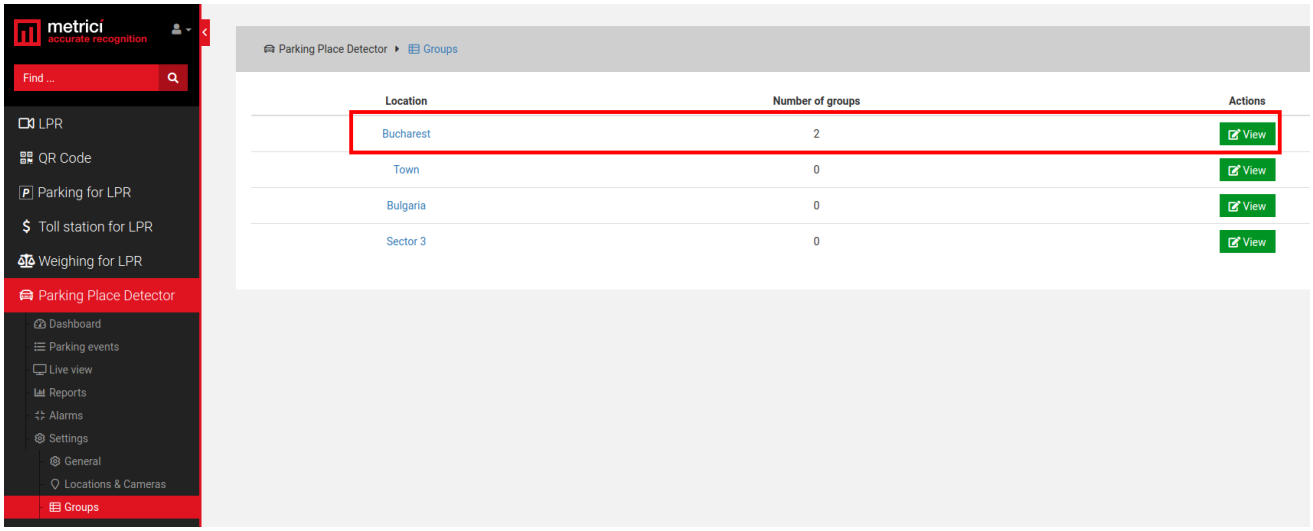
Busy 8 in red color on second line

Total 30 in blue color on last line.

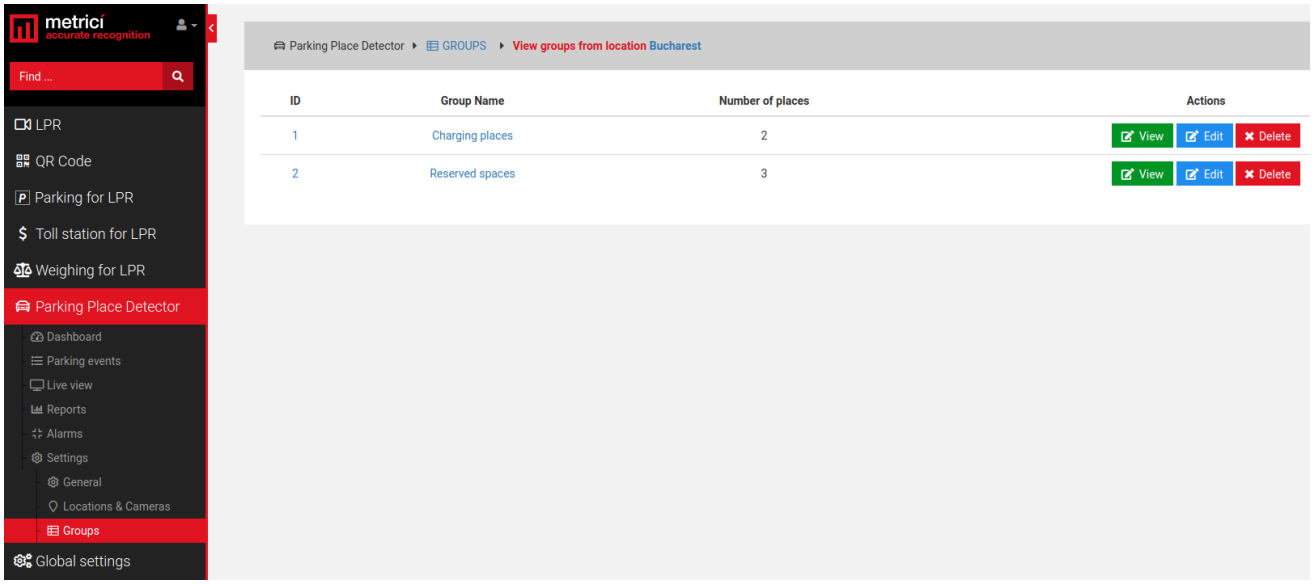
REMEMBER!

- Every new line begins with the hashtag sign(#) and the first letter of the color to be used for the text;
- the color code is always followed by the text to be displayed, for example FREE, BUSY, TOTAL, LEFT, ABOVE, FLOOR 1 etc
- the letter used for the color must be a Capital letter;
- Available colors for the display are **Red**, **Orange**, **Yellow**, **Green**, **Blue**, **Indigo**, **Violet** and **White**.
- The code for each color is the first letter of the word: R for red, O for Orange, Y for yellow, G for green, B for Blue, I for Indigo, V for violet, W for white

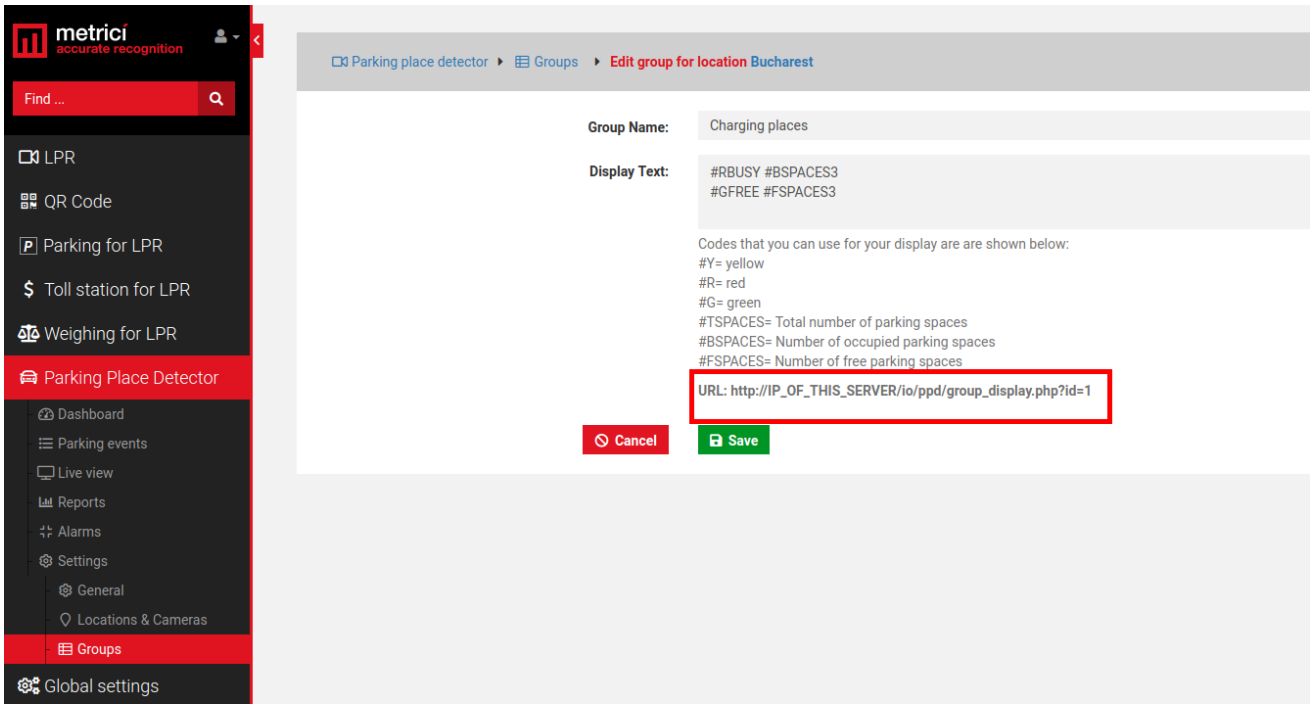
If your parking lot has groups defined and you want to display information about a group, go to **Parking Place Detecto**r tab, choose **Settings**/ **Groups**. You will see a list with all the locations you manage and number of groups defined in each location.



Click on location's name or on View green button. In the next page, press the **Edit** blue button for the group you want to show information on display.



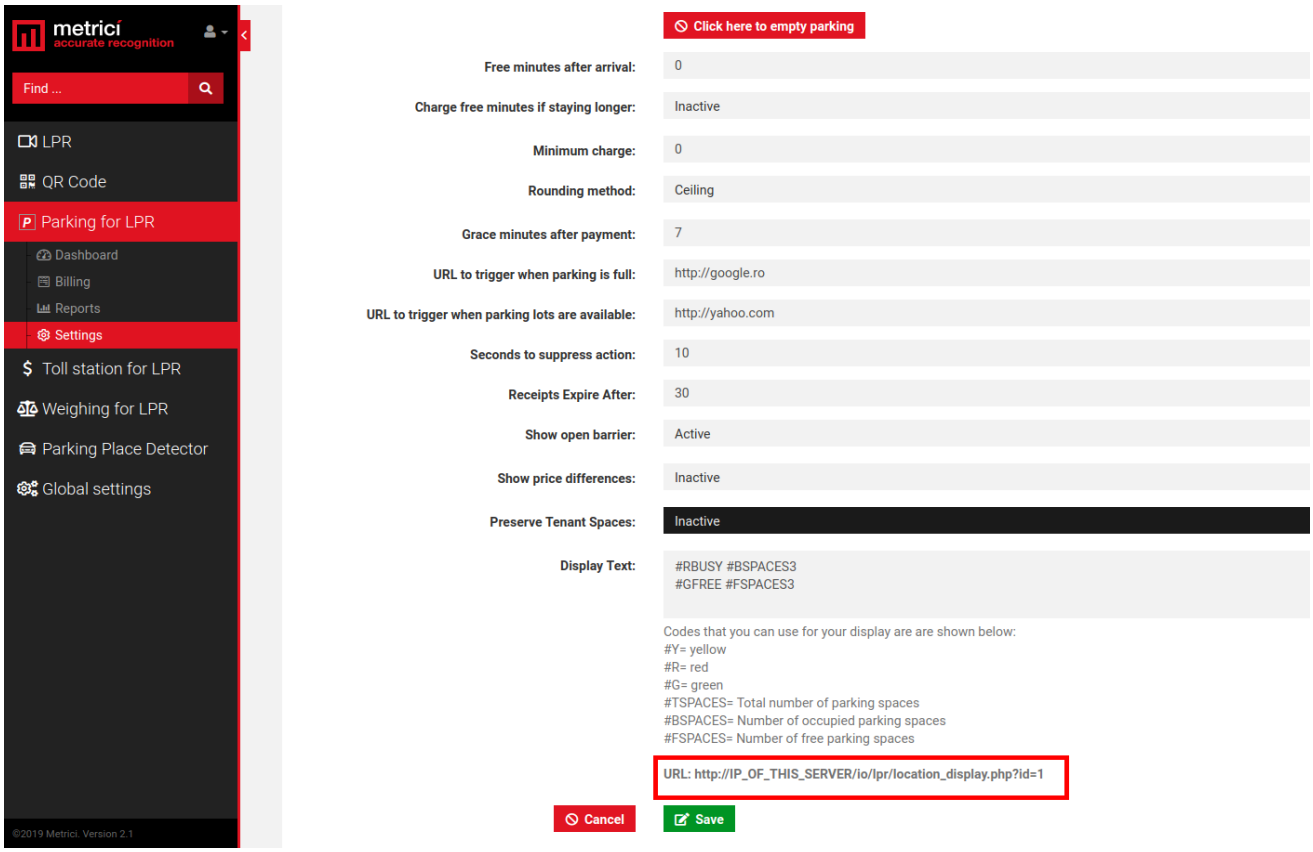
On the page it opens you will notice at the bottom the URL you have to copy on display's settings to show information about that particular group on the display.



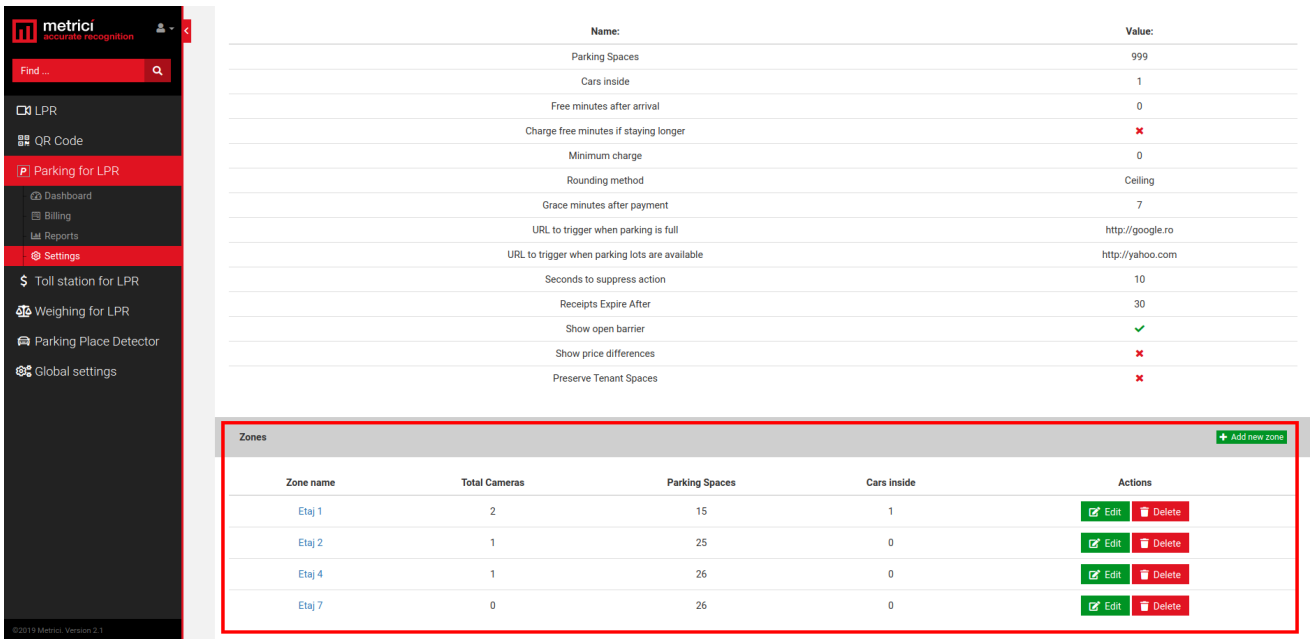
6.2 METRICI LPR Display integration

For Metrici LPR Parking Module integration with display, go to Parking for LPR tab, choose Settings and click on the location's name you want the display to retrieve data from. On the next menu press the green button **Edit parking settings for this location**.

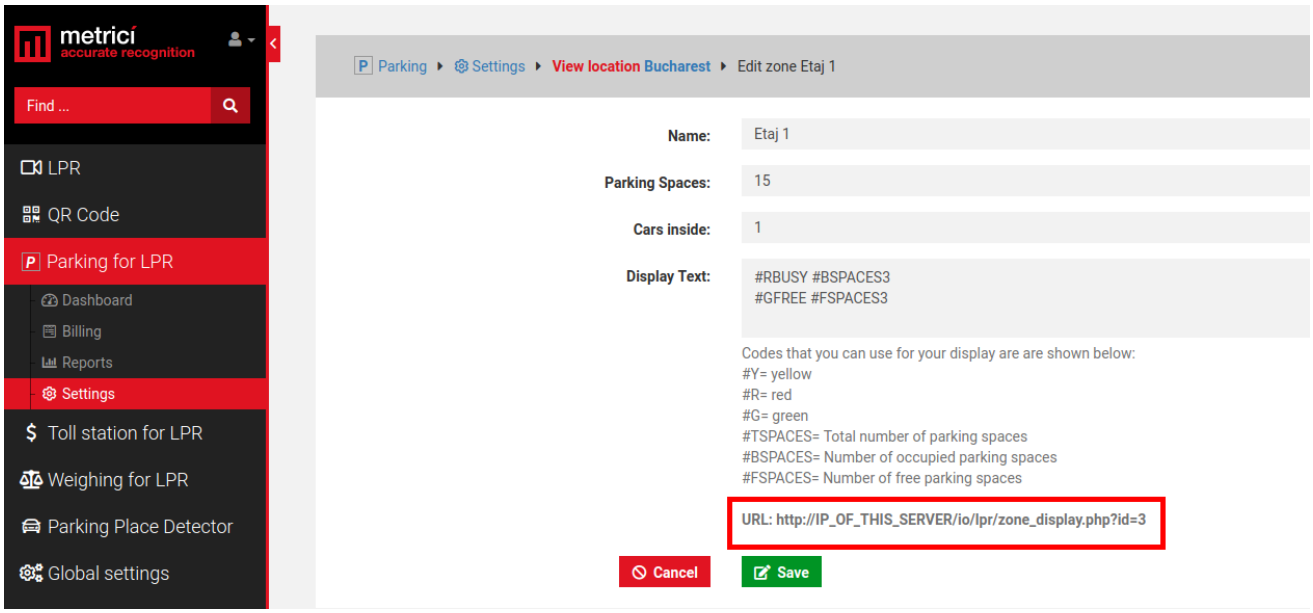
On the page it opens, at the bottom you will notice the URL to be copied in display to show the information for this location.



If your parking lot is divided into zones and each one has its own display which shows information about free places, go to **Parking for LPR**- **Settings**, choose the location and see what each zone's URL is in **Zone** tab menu. For this press the Edit button to access each zone's URL.



Each zone, section, or group of a parking lot for example, no matter what it's managed with, LPR or PPD, will have its own URL. Please consult the Metrici Guides to see how zones, sections or groups are created and where you can see information about what URL each one has, as in the next image.



6.3 METRICI LPR Display integration with radar

If your installation has also a Metrici Observer Radar and you want to display last detected plate number alongside the speed, you will fill in the next address in the display's settings menu.

https://IP_of_THE_SERVER/io/lpr/speed_display.php?id=1 so the address could be similar to this https://metrici.ro/io/lpr/speed_display.php?id=1 or https://192.168.1.209/io/lpr/speed_display.php?id=1 for example where the server IP is where the Metrici interface is based.

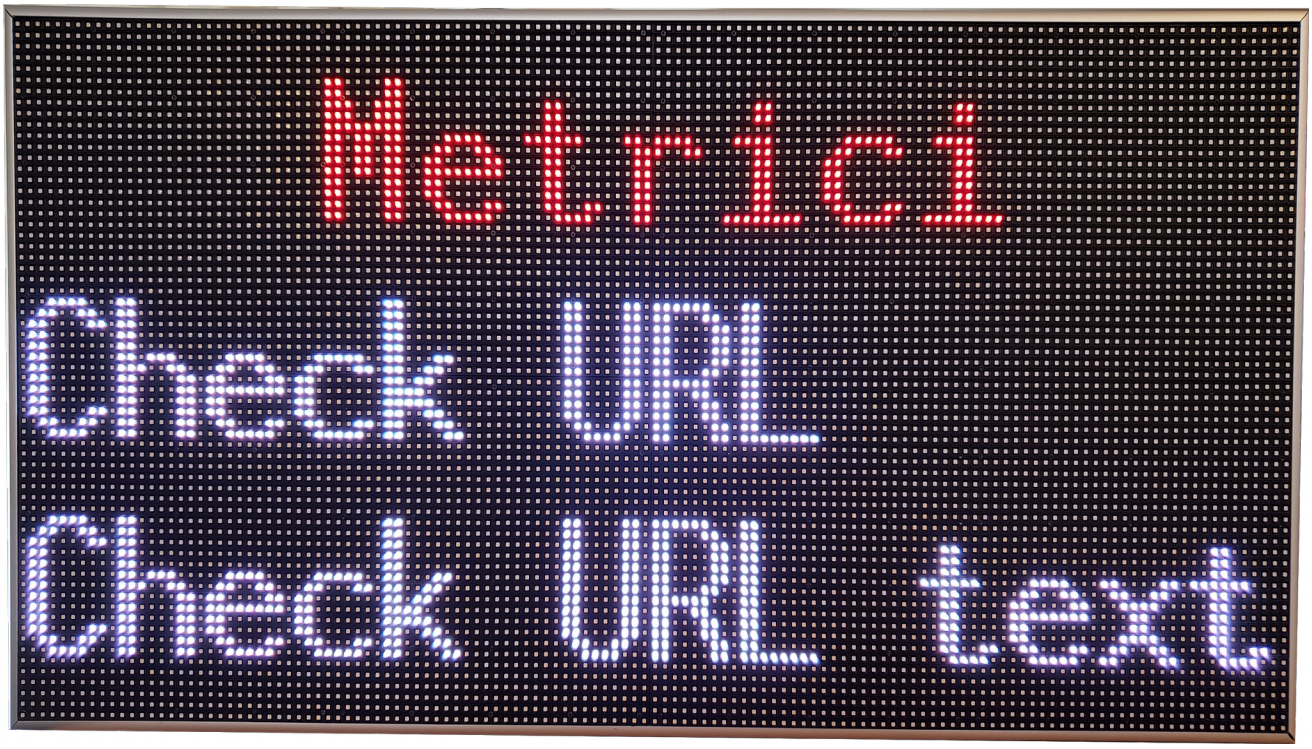
7. Error messages

The display has some built-in error codes for when is not properly configured or it doesn't work as was supposed to. These error codes make easier to fix the problem.

There are two types of errors:

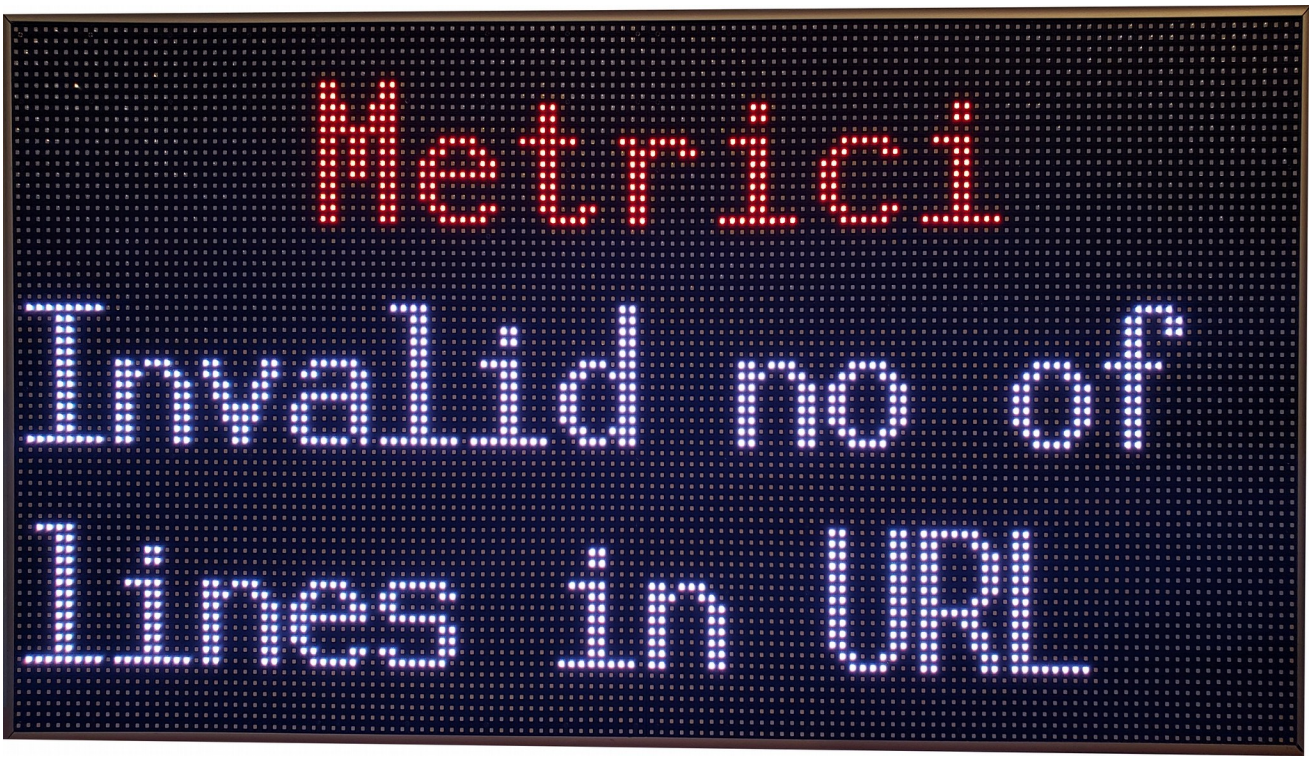
- Check URL ; Check URL Text
- Invalid number of lines

7.1 Check URL. Check URL text



The first error: “Check URL; Check URL Text” will appear if the entered URL is invalid, incomplete, misspelled or if the Display Text in Metrici interface does not follow the rules. To start fixing this please make sure that the specified URL is a valid Metrici URL copied from the Interface and that if you access it it will return a text that starts with “#BEGIN” and continues with what you have written in Display Text in the Metrici’s Interface.

7. 2 Invalid number of lines



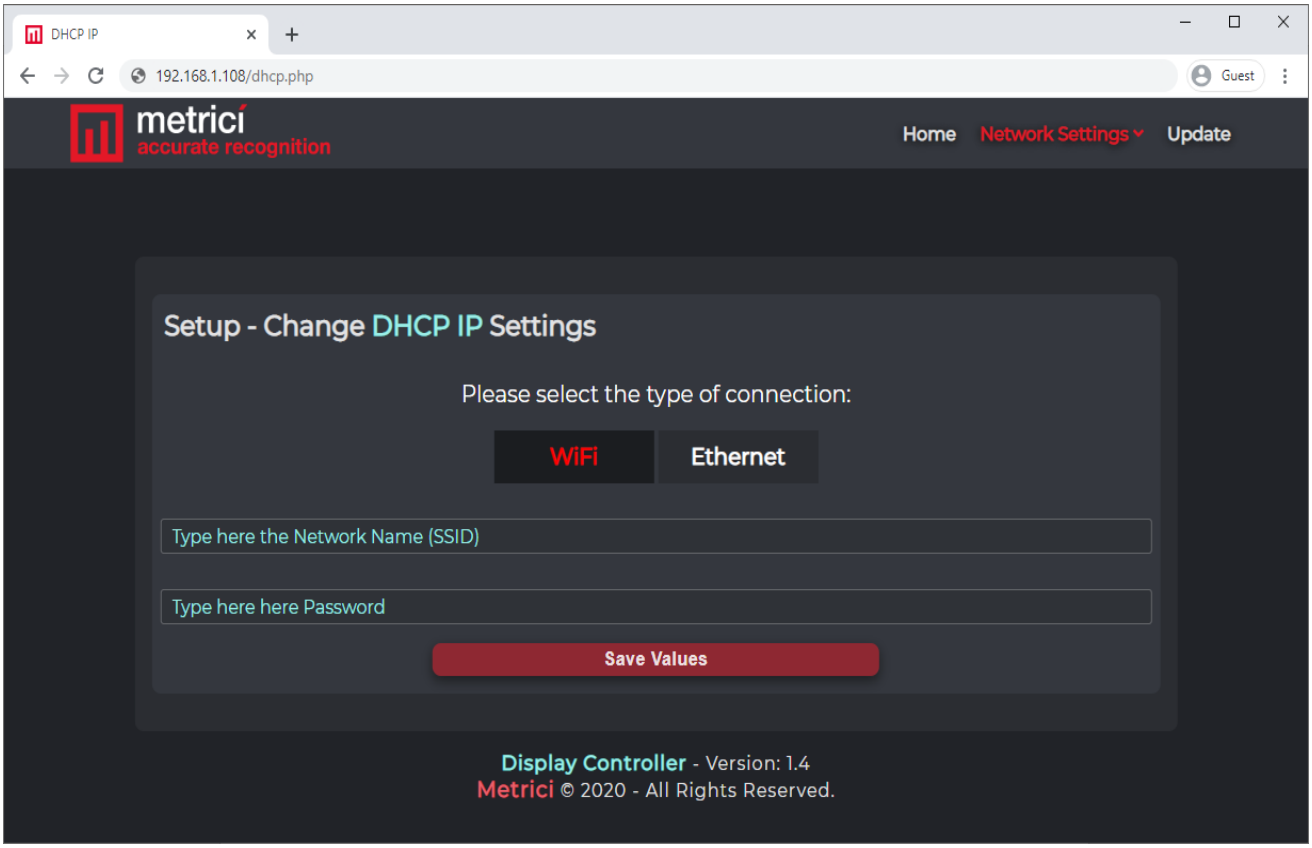
The second error- “Invalid number of lines” will appear if the Display Text contains less than 1 and more than 3 combinations of the hashtag sign(#) and capital letter code for color, because the display interprets the number of combinations as number of lines and the display can’t have less than 1 or more than 3 lines. This error can also occur when the URL is invalid or it doesn’t return a text that starts with “#BEGIN”. To fix this please make sure that you have entered the correct amount of lines in the Display Text. Also check that if you access the URL you will get a text that starts with “#BEGIN”. If not check all the above mentioned parameters.

8. Network Settings

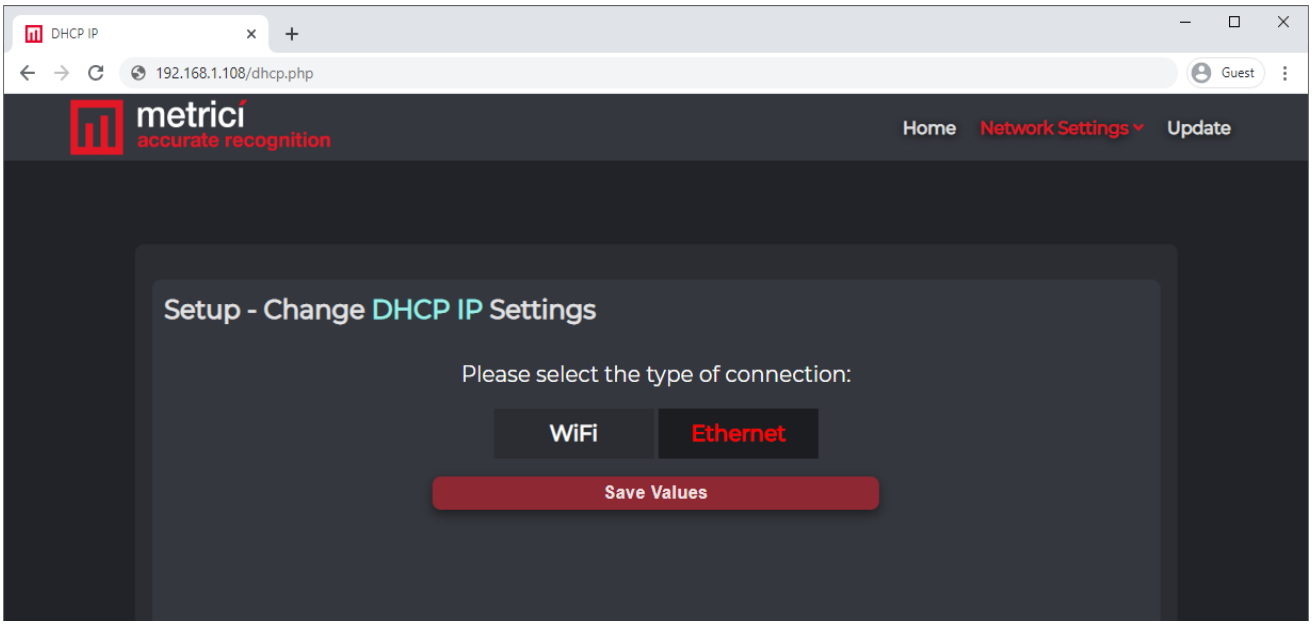
As we mentioned earlier, on the first boot, the Display starts with a DHCP IP. But you have the possibility to change this. It can be done by hovering or pressing on the Network Settings button that’s found on the navigation bar and then choosing from the dropdown menu whichever option you need. The available options are DHCP IP and Static IP. Obviously, each one of these settings also contain the choice of using the Display in Wireless or with an Ethernet cable.

8.1 DHCP IP option

If you click on Wireless and decide that that is the best mode for you, you will have to enter the SSID and Password of the Access Point/Router/Modem of your network and press “Save Values” button.



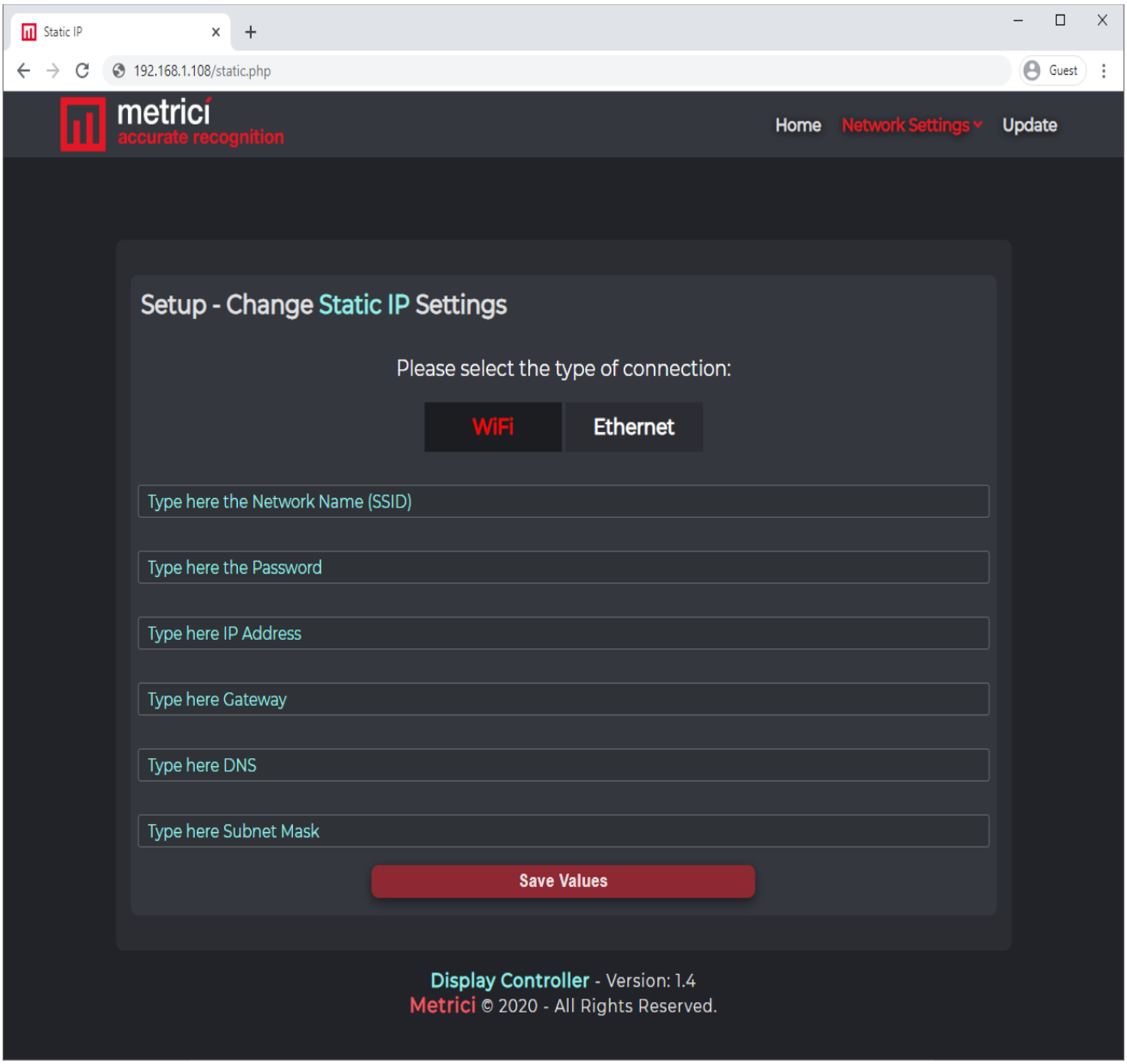
If you choose to use it in Ethernet mode all you have to do is stick a network cable in the display and then press “Save Values” button.



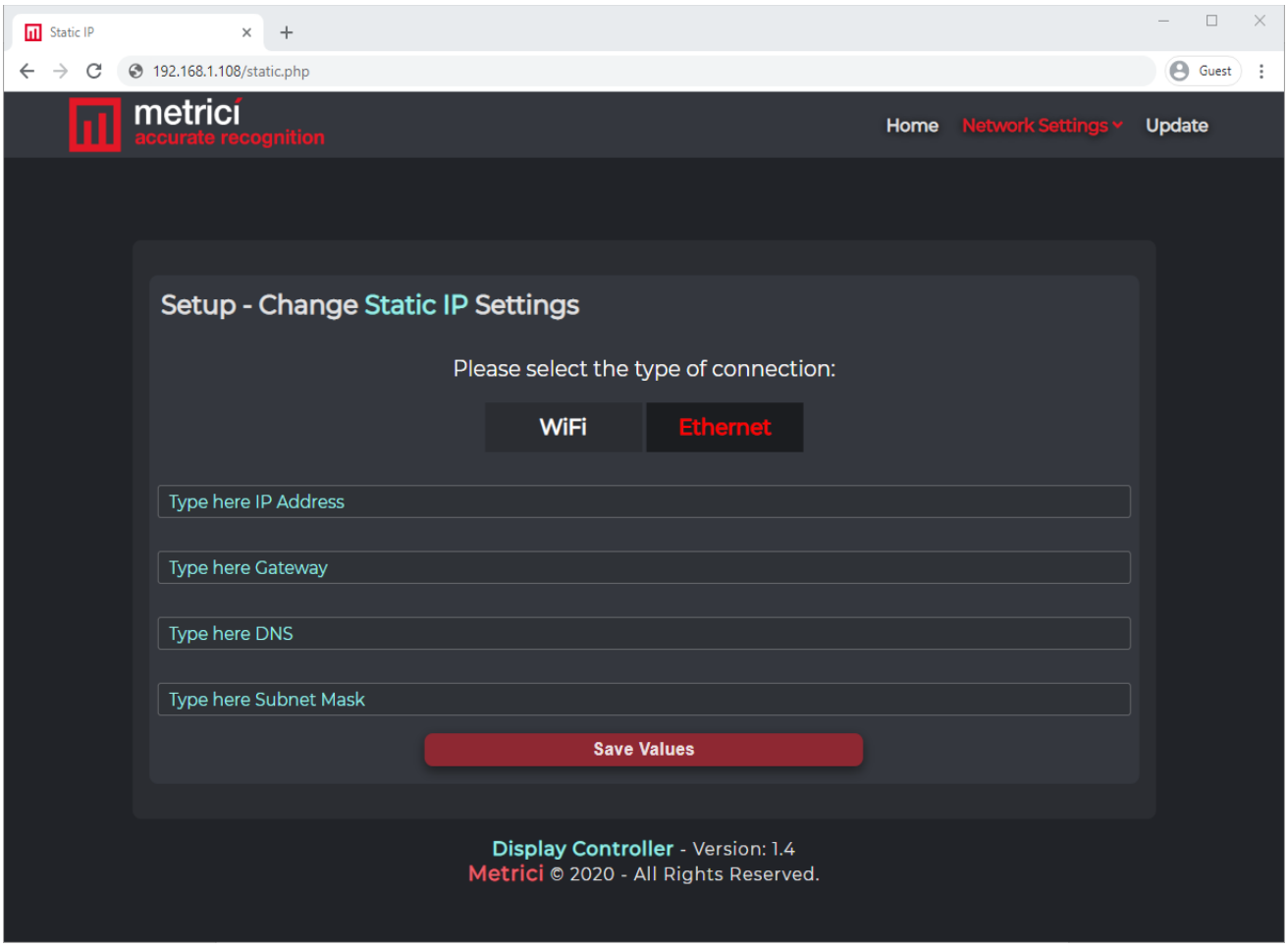
8.2 Static IP configuration

On this page you will encounter the same two choices as before: Wireless and Ethernet. Both modes will prompt you to enter an IP ADDRESS, GATEWAY, DNS and SUBNET MASK.

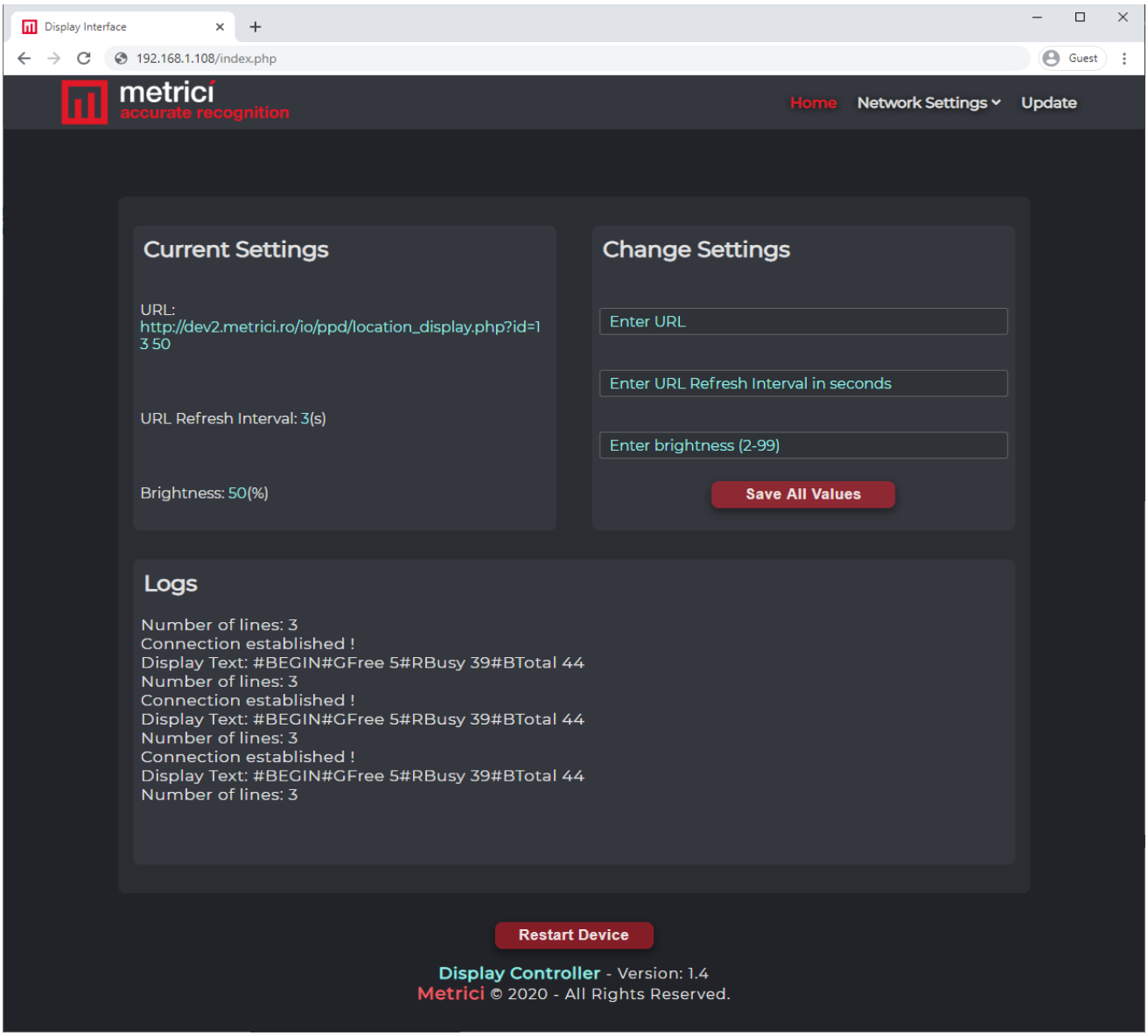
If you've chosen Wireless work mode for the display, two more input fields will appear on the page and will ask for the SSID and Password of the Access Point/Router/Modem.



If you choose Ethernet, the fields you have to fill in are the IP ADDRESS, GATEWAY, DNS and SUBNET MASK.



If you followed the instructions correctly and fill in the data properly you will have a result similar to this one:



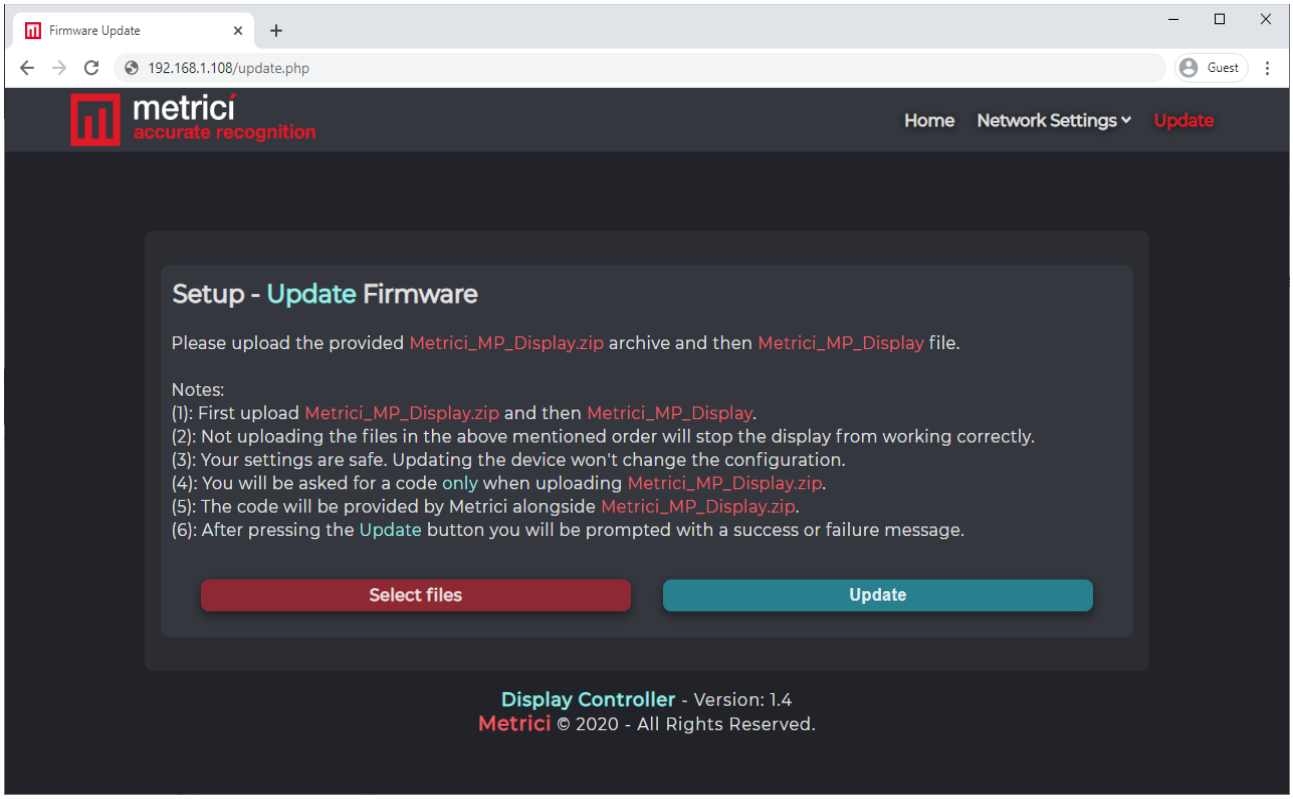
The logs in the above photo refer to the a Parking Place Detector Integration and they will look differently for other Metrici engines.

9. Update Operation

The Update option let the user bring the display to the latest firmware developed by Metrici and the latest features.

To access the update page, you have to press or click on the Update button on the navigation bar, upper right.

A new page will open just as in the next image.



As part of the update you will download or receive from Metrici two files. First, you will have to upload “Metrici_MP_Display.zip” (archive) and then “Metrici_MP_Display” (file). If you attempt to upload “Metrici_MP_Display” first you will be prompted with the following error: “Invalid file. Please upload a valid Metrici_MP_Display file !” . Please respect the given order, otherwise the update will not work.

You will upload the files one at a time.

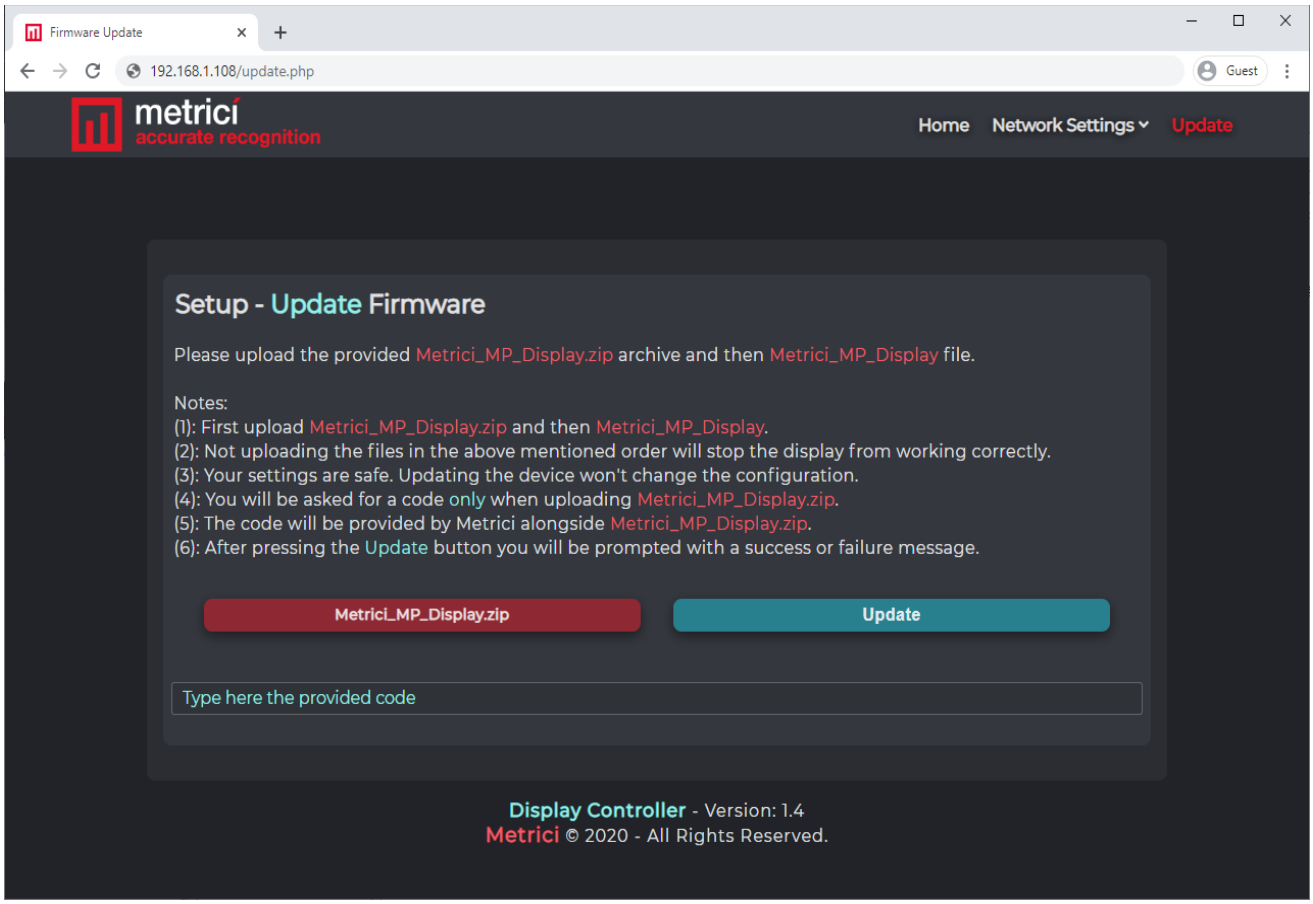
Alongside the two files used for an update we will also provide a 32 character code. The code is only needed in combination with the first file: “Metrici_MP_Display.zip”.

For the upload, follow the next steps:

- Click on **Select files** red button and choose the appropriate file

- First select “Metrici_MP_Display.zip” from your computer/device

- Enter code in the required field



- Press “Update” button

- A prompt message will appear: “File successfully uploaded. Webserver was updated !”

- Click “Ok”

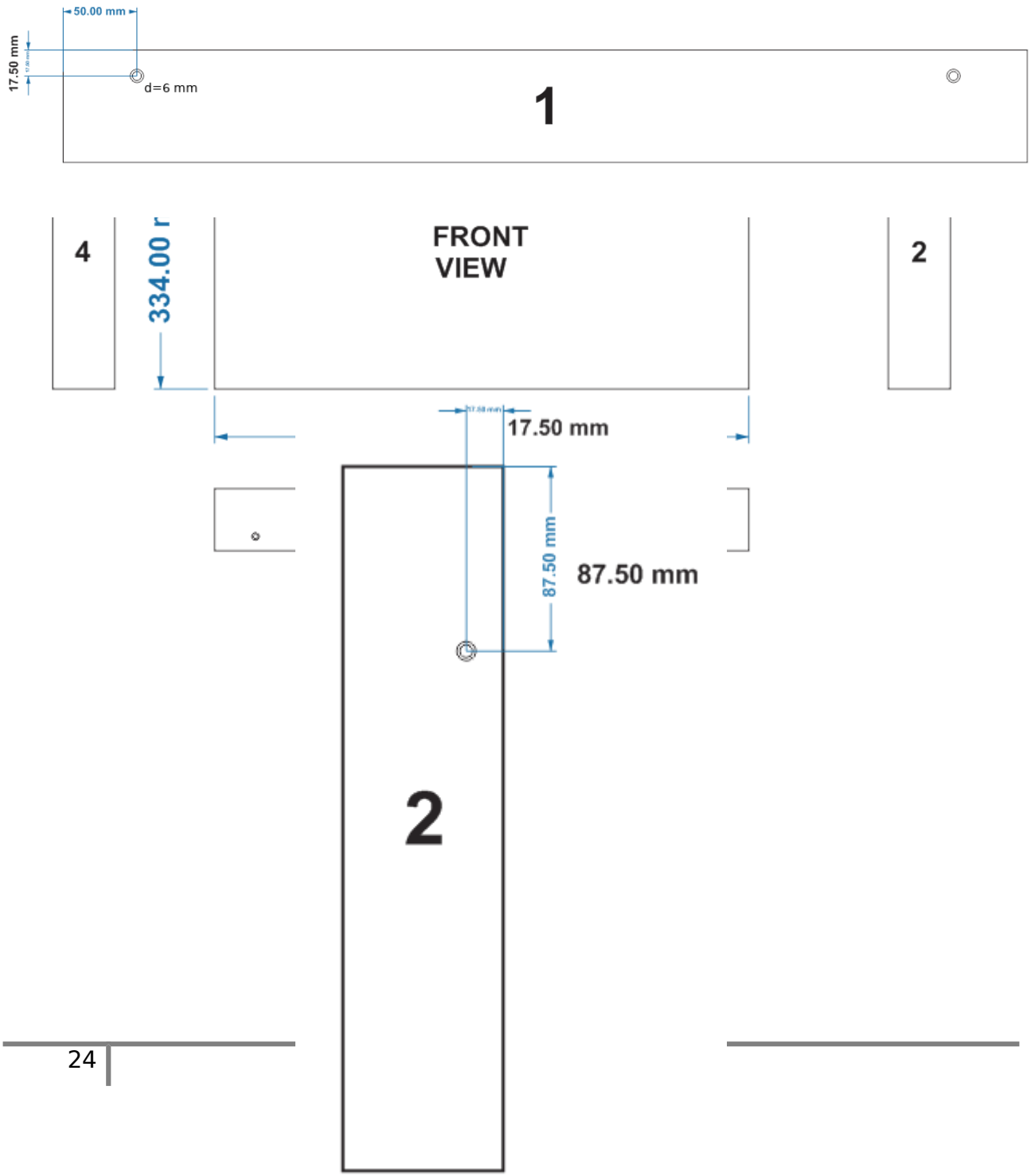
- Repeat the first step and select “Metrici_MP_Display” from your computer/device

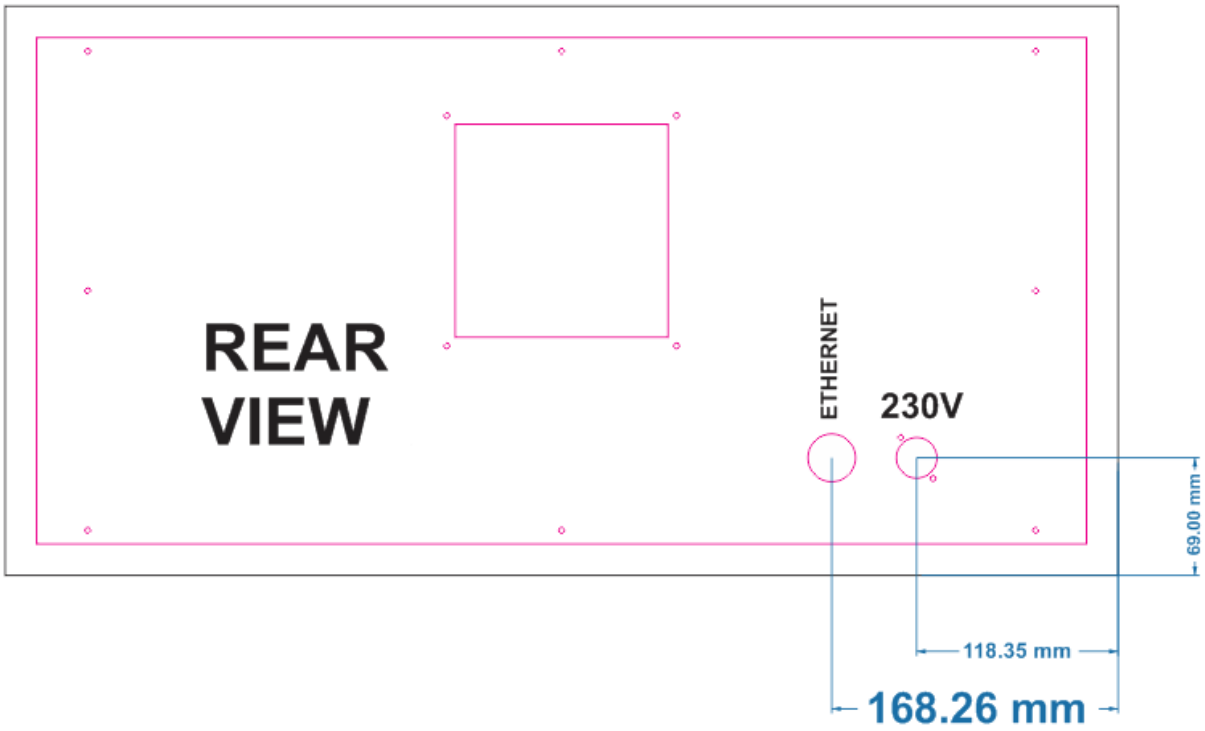
- Click on “Update” button

- A message will appear: "File successfully uploaded. Firmware was updated !"

- Press “Ok”

10. Product Dimensions




REAR
VIEW
ETHERNET
230V
69.00 mm
118.35 mm
168.26 mm