



Setup & Installation

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1. Introduction

The following file contains information about setting up and running the single analog dobona board called DobaM. The DobaM is a small Wi-Fi enabled board that can read any industry standard analog signal, namely 0-5Vdc, 0-10Vdc, 0-20Ma or 4-20Ma, and send it over the internet to a server. A user downloaded application from either Apple store or Google play can remotely read/manage this analog signal online. Furthermore, the DobaM can have a limit setup that when exceeded will send an alarm email to the user to alert him of an abnormal analog signal level. Typical usage for the DobaM board could be for monitoring of any transducer sensor such as humidity, speed, current, voltage, level etc.. that has a continuous analog output signal. DobaM has a small form factor that can suit any space-constrained application. The DobaM should be powered by a regulated 12V/500mA supply (not provided). The exact terminal connections are drawn on the DobaM enclosure fascia.

2. Prerequisites

To install DobaM, the user must:

- Have basic information about installing electrical components, otherwise call an electrician to do the required wiring
- Own a DobaM board
- Have a Wi-Fi internet connection
- Download the “dobona” application from the Play Store (Android) or the Apple Store (iOS)

3. How to setup the board?

1. User installs DobaM at a suitable location, away from direct sunlight, excessive heat source or vibration. DobaM has to be covered by the Wi-Fi internet router. A certified electrician must be called in to do the electrical branching.
2. User downloads dobona app to his android or apple phone/tablet.
3. User makes sure that the jumper on his board is plugged in before powering up the DobaM for the first time. User should make sure he has a constant internet connection during all of the setup session.
4. User launches dobona app. the first screen that appears is the live_log screen with scrollable fifty lines, each for setting up a separate board. The red font with the downward thumb shows that no board has been setup so far (Fig.1).

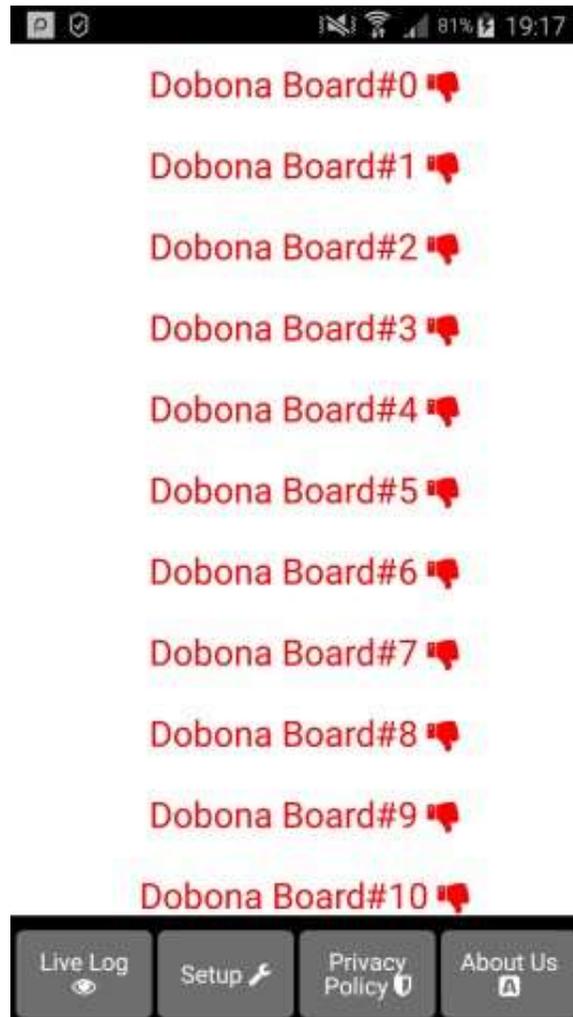


Fig 1.

5. Since no board has been setup yet, the user should press on the setup button on the bottom of the screen to move to the setup page, which looks similar the live_log page but with a beige background (Fig.2).

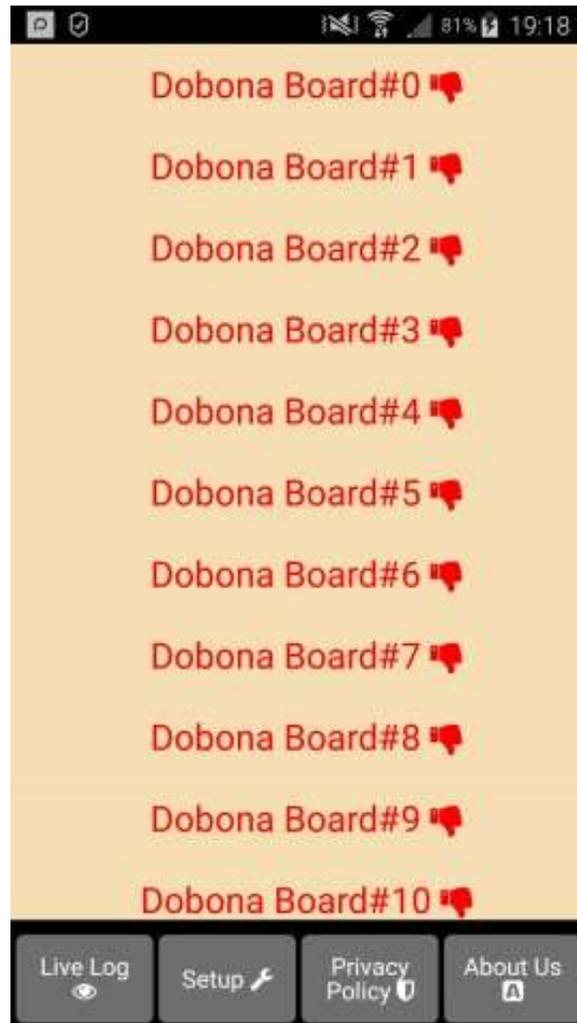


Fig 2.

6. In order to setup a board, the should press any of the red lines. Supposing he presses on the first line (Dobona board#0), after which he is presented with a popup screen to choose the board type (Fig.3). since we are interested in DobaM board only, the user should press the DobaM (analog).

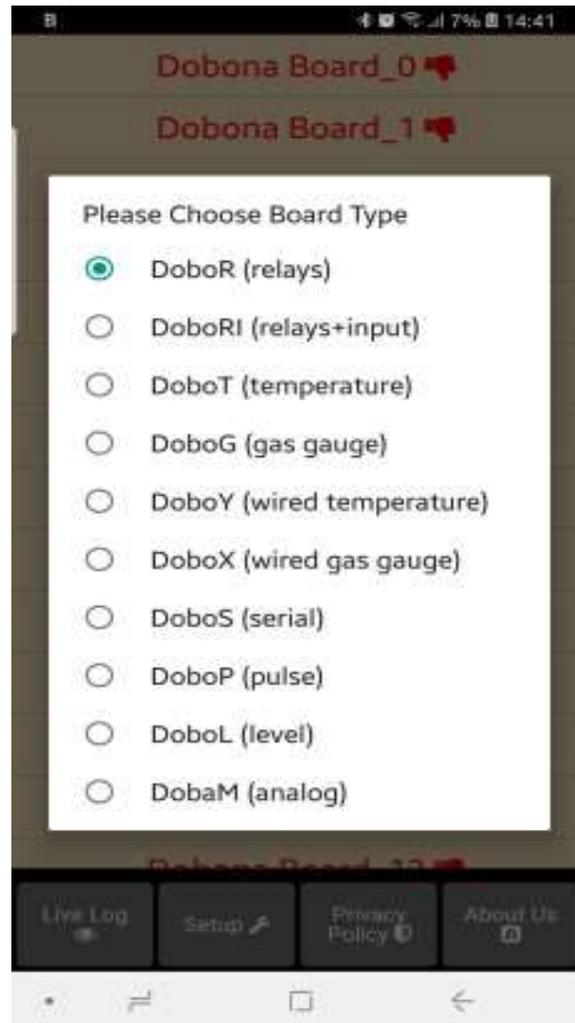


Fig 3.

7. User is then presented with the next screen where he is prompted to enter a name for the dobona board he chose (Fig.4). Supposing he writes “pump_current” as name and makes sure the phone/tablet has an internet connection, and presses on the next button, he is taken to a new screen to register the board on the server (Fig.5).

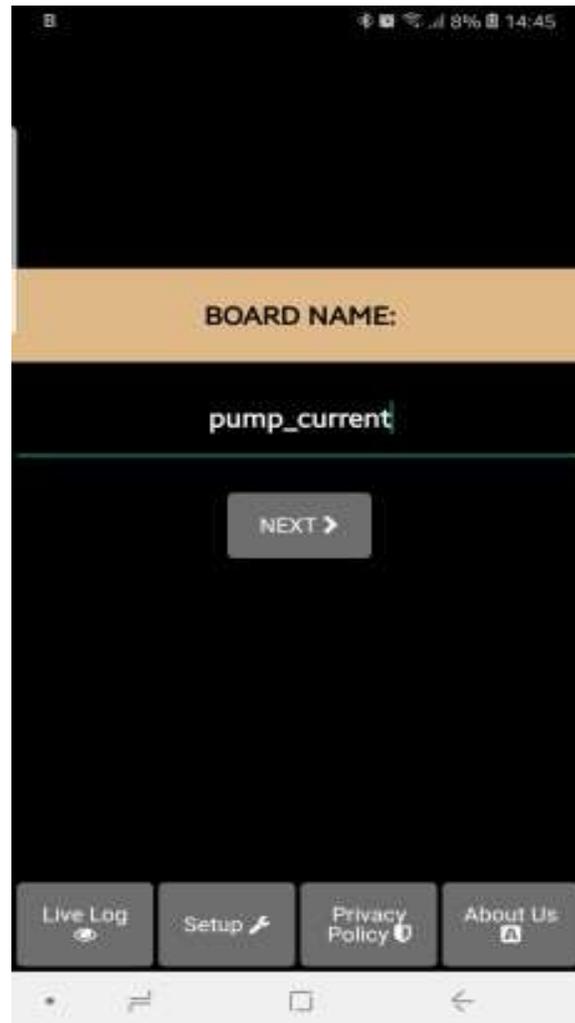


Fig 4.

8. User must enter the ssid and password of the internet enabled Wi-Fi network where the DobaM will be installed. The reg.key is automatically generated by the server. If the user wants to receive an email notification whenever a temperature level is exceeded, he should tick the “register phone for email notification”. A field to enter an email will appear on the screen where the user can enter his email. The alarm field must also be filled with the analog alarm limit, even if not used. If the user wishes to receive an email whenever the alarm is exceeded, then the option “email if above” should be ticked. If on the other hand, the user wishes to receive an email whenever the analog value drops below the alarm limit, then that option should be left unticked. After completion, the user presses on the save and register on server button to send the entered data to the server and move to the next screen. If the DobaM board has already been setup from a previous phone/tablet and the user



wants to enable his phone to control it, he should press on the pen thumbnail to enter the previously setup DobaM reg.key before pressing on the save and register on server button. If the reg.key, ssid and password are correct, then he will be directed to the live_log screen to read the temperature (in this case go directly to step 10).

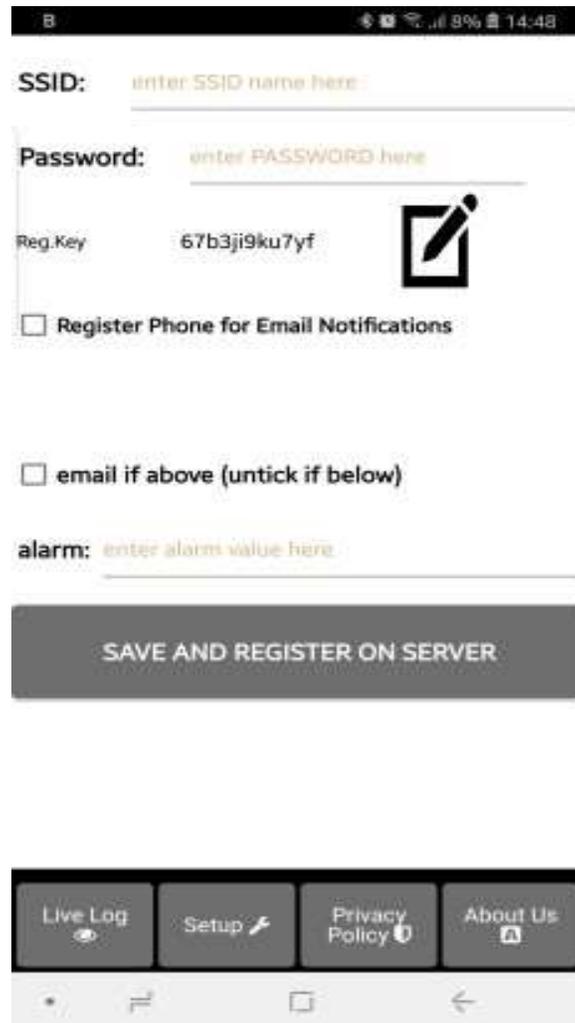


Fig 5.

9. On the next page (Fig.6) the user has to switch the phone/tablet Wi-Fi connection to the “Dobona_xxxx” network that should appear on the list of available Wi-Fi networks. That network requires no password. He can tick the high speed communication for the fastest communication between DobaM and the server, and the enable power up notification for receiving an email after each DobaM powering up. Pressing the send info to dobona will send the entered data to the DobaM. If the



connection was successful then the “dobona” network should disappear from the list of available networks on the phone/tablet and the live log screen (Fig.7) is shown. Please check section “4. How to run the board” in order to run the DobaM. If a successful connection between DobaM and server is established then pressing on the live log button on the button will take the user to the live log screen (Fig.7). He will notice that the Dobona board#0 label is now replaced with pump_current with green font and thumbs up to indicate that the board has been setup.

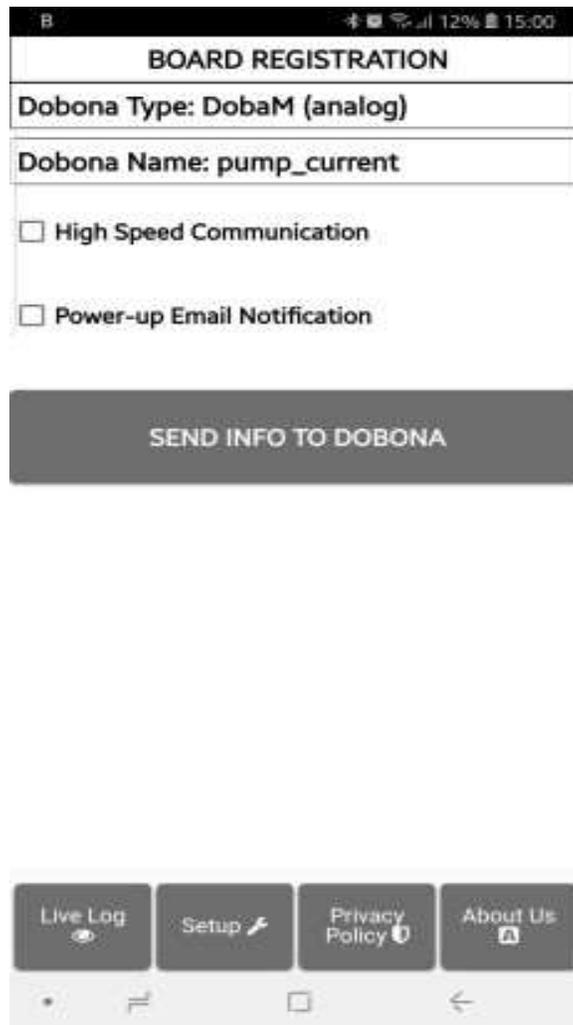


Fig 6.



Fig 7.

10. Now pressing on the pump_current line will display the live log screen related to the DobaM board that has been setup (Fig.8). The analog value is displayed on the screen together with the last time the DobaM board checked with the server. This information is important for the user to know if the DobaM and its internet connection are working. If for instance the screen displays an unusually long time, it could be an indication that the DobaM or its internet connection or router are facing issues.

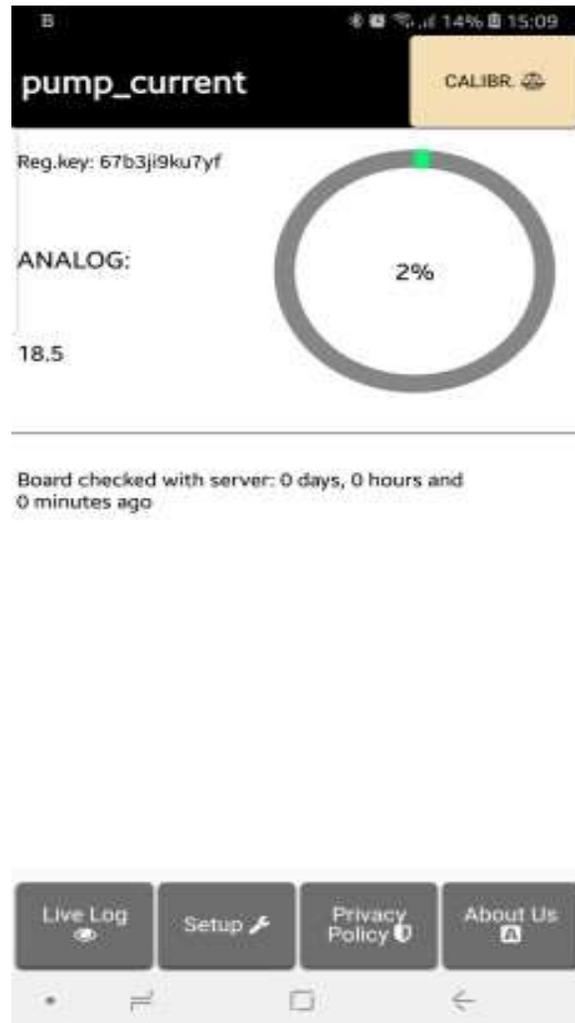


Fig 8.

11. Notice the “CALIBR.” button on the screen upper right corner. Pressing it will launch the default browser and display the individual board calibration html page (Fig.9). This page allows the user to change the displayed default raw analog signal range from 0..1023 to any other linear range that best suits his application and hardware. Also the Above or below alarm and the alarm threshold entered during setup are shown and can be modified in this page. For example, if a linear current transducer is used where 0 amperes is equivalent to 0 raw analog data and 1023 is equivalent to 100 amperes, then his should fill the data as shown in (Fig.9) before tapping the Save button. If he wishes to receive an email whenever the current exceeds 62.5 amperes, then A must be entered in Alarm above or below and 62.5 in alarm level input texts respectively. If all goes well, a “Successfully Updated” page message is displayed. Back to the live log screen, the new calibration data is reflected below the



Analog label as amperes and in the circular progress bar as percentage of the maximum current. For example a raw data of 333 sent by DobaM to the server will be displayed as shown in (Fig.10):

$32.56 = (333 \times 100) / 1023$, and as 33% out of 100 amperes etc..

Please note that if on some devices the Calibration page is not shown, then the user should enable JavaScript from the browser settings before loading the page again.

Please enter coordinates for two points, where x is the analog raw data remotely sent by DobaM board (between 0 and 1023) and y is the displayed one (between 0 and 99999) on the user app.

Point#1 x (must be positive integer, maximum 1023):
0

Point#1 y (must be positive integer):
0

Point#2 x (must be positive integer, maximum 1023):
1023

Point#2 y (must be positive integer):
100

Alarm when above or below (must be A or B):
A

Alarm level (must be positive numeric, i.e can be float):
62.5

Fig 9.



Fig 10.

4. How to run the board?

After successful setup, the user must:

- Power down the DobaM by removing the 12V supply
- Remove the jumper on the DobaM board
- House the DobaM back in its enclosure
- Place the enclosure in its final panel destination
- Power up the DobaM and it will now seek the user-entered router SSID and password to connect to the internet and send updates to the remote server. It should be noted that poor internet service or weak local router Wi-Fi coverage will impact DobaM performance.



5. How to delete the board setup?

In order to delete an already setup DobaM from the user phone/tablet, he must:

- Launch the dobona app
- Press on the Setup button on the bottom of the screen
- The user must make sure his phone/tablet is connected to the internet
- Press on the green line of the board name (pump_current in our case) □ The below screen is displayed (Fig.11)



Fig 11.



- Enter the board SSID in the input field and then press on the OK button. The app. will send info to the server to delete the “pump_current” board information and will also delete it from the phone if the server acknowledges that the entered SSID was correct.

6. Contact information

For more information or comments, please do not hesitate to contact the Dobona technical team by email at: info@iotsprint.com

We are available from 8:00AM (GMT+3) to 6:00PM (GMT+3).