Bluetooth App

Version 1.1.21

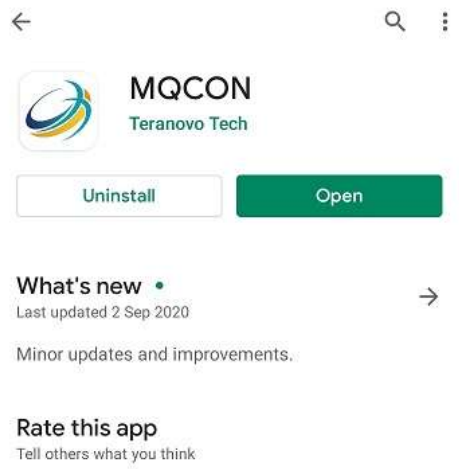
Prepared by Zero Singapore

Content

1. App installation

1.1 Andriod Phone User

Type in [MQCON] in your Google Play Store search bar. Click on the install button



1.2 Apple Phone User

Go into your App Store and search for [MQCON] and install

1.3 Launching the app.

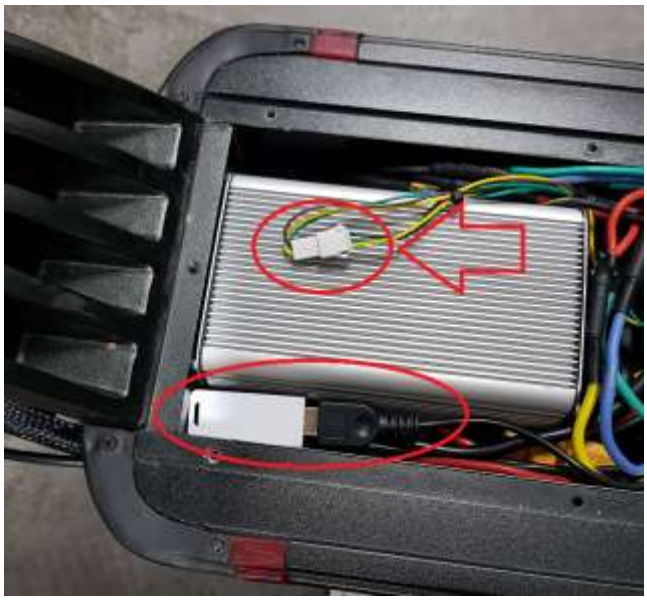
Launch the MQCON App from your home screen.

Important! : Make sure Bluetooth is enabled.

2. Connecting to Bluetooth device and Language setting

Loosen up the deck screws and remove the deck to reveal the MQCON controller.

Ensure **Bluetooth Dongle** is **plugged in** and the **Programming Cable** is **unplugged**. Connect only 1 Bluetooth dongle at a time.



Important !

To connect to the MQCON app

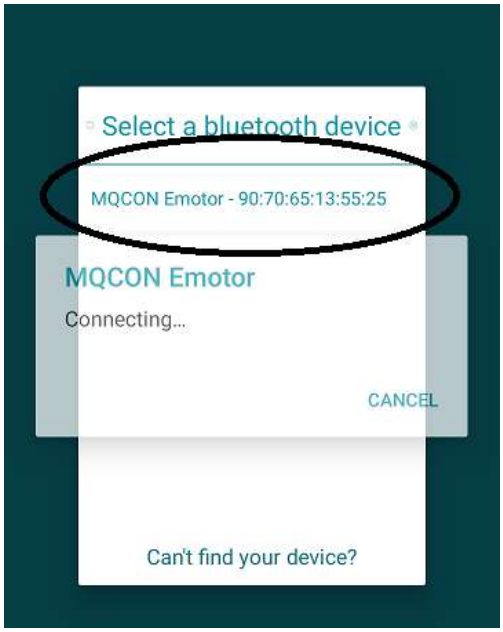
Bluetooth Dongle = Plugged in

Programming Cable = Unplugged

Do not plug in two Bluetooth dongle at the same time.

There are two languages to choose from, English and Chinese.

To connect your phone to the Bluetooth module, click on the [Not Connected] button on the bottom of your screen



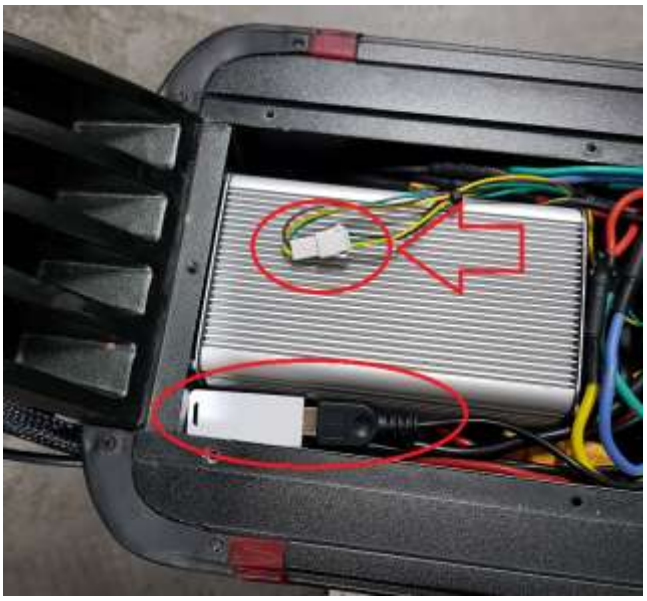
Select the first Bluetooth option you see.
The name of the device should appear as
[MQCON Emotor XX:XX:XX:XX:XX:XX]

Debugging

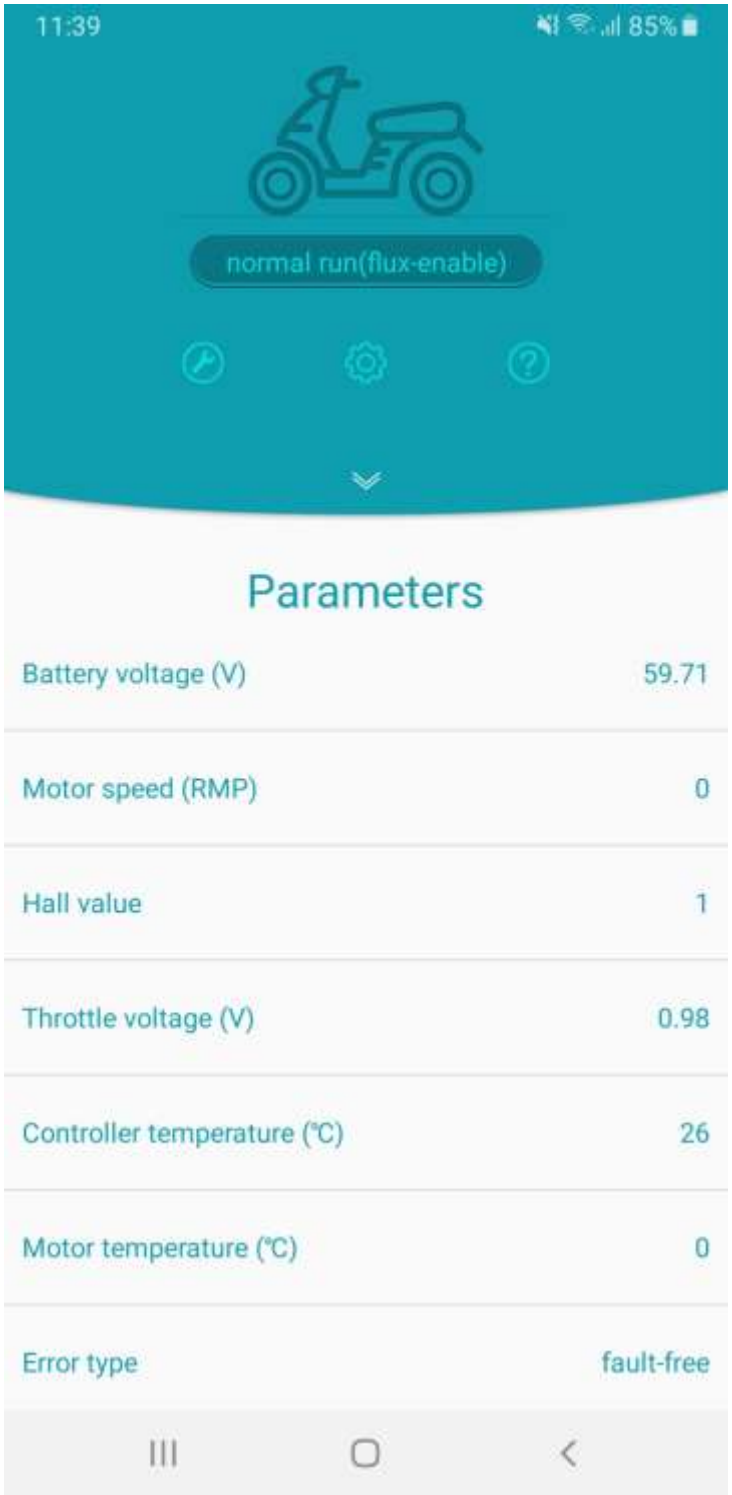
If you do not see MQCON Emotor XX:XX:XX:XX:XX:XX, please check to see if your Bluetooth module is plugged into the scooter.

Check to see if the programming cable is plugged out

Check to see if your scooter is turned on.



3. Configuration and Settings



Homepage (Parameter)

Battery Voltage(V): Voltage of the battery

Motor Speed: Revolution per minute.

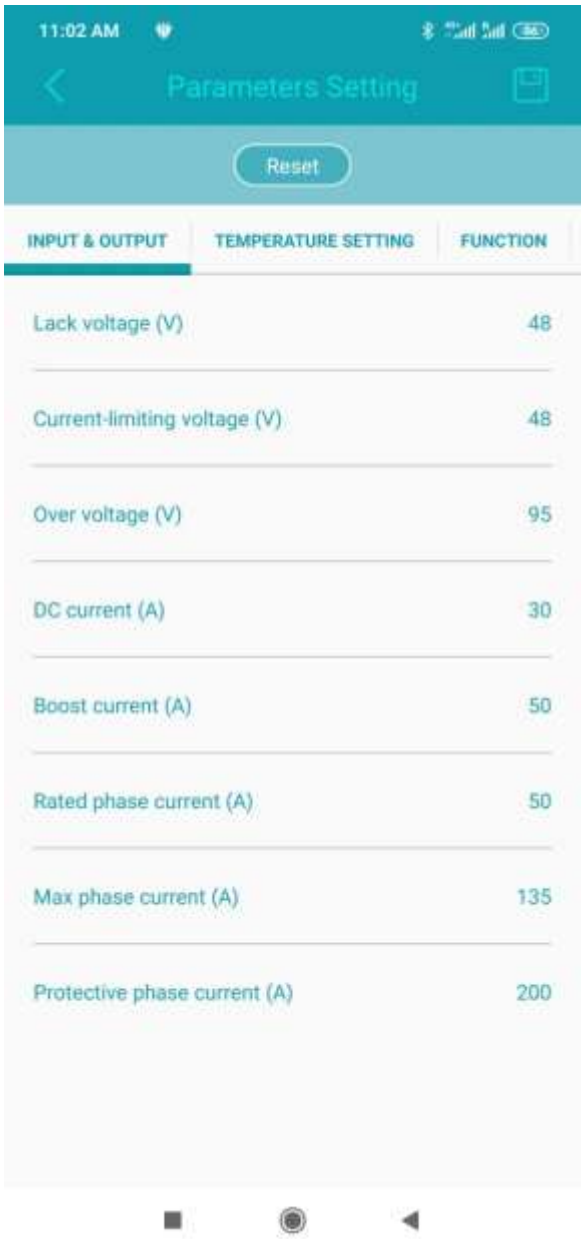
Hall Value: 1 to 5

Throttle Voltage(V): When throttle lever is fully depress

Controller Temperature(°C): Temperature of the controller in Degree Celsius

Motor Temperature(°C): Temperature of the motor in Degrees Celsius

Error Type: If there is any fault detected on the controller.



Parameters Setting (Input & Output

Lack Voltage (V): 48

Current-limiting voltage(V): 48

Over Voltage(V): 95

DC Current(A): 30

Boost Current(A): 50

Rated Phase Current(A): 50

Max Phase Current(A): 135

Protective Phase Current(A): 200

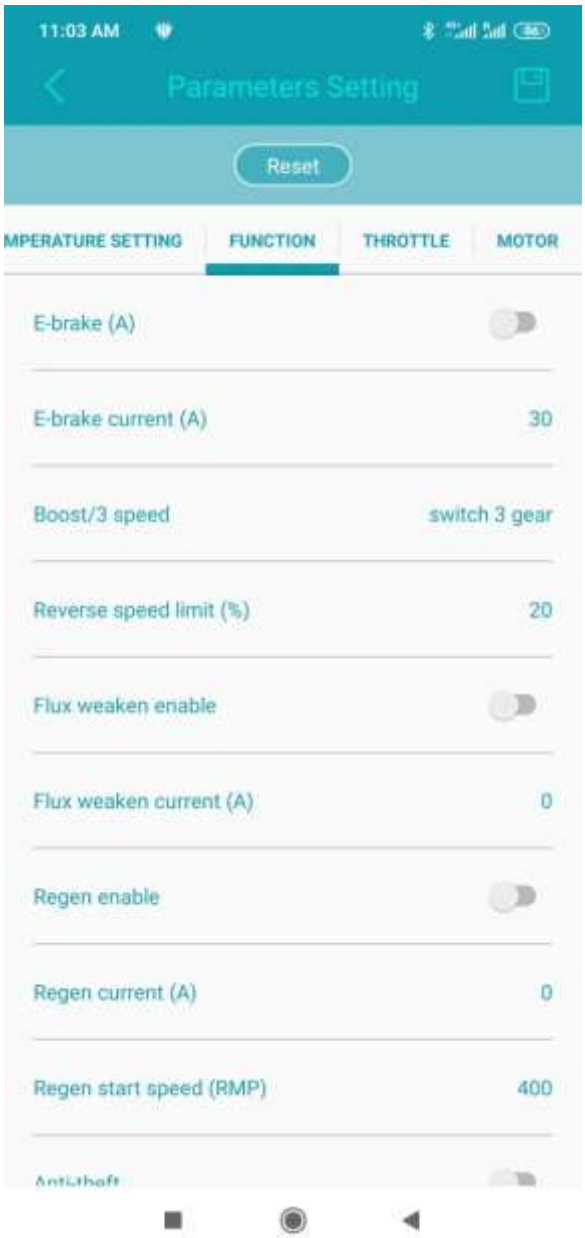
Important:
DC Current(A): 30

Parameters Setting (Temperature Setting)

Stop output temperature: 90°C

Recover output temperature: 80°C

Current-limiting output temperature: 70°C



Parameters Setting (Function)

E-brake(A): off

E-brake Current(A): 30

Boost/3 speed: Switch 3 gear

Reverse Speed limit (%): 20

Flux weaken enable: Off

Flux weaken current(A): 0

Regen enable: Off

Regen current(A): 0

Regen start speed(RPM): 400

Anti-theft: On

IMPORTANT:

Flux weaken enable: Off
Flux weaken current(A): 0

Parameters Setting (Throttle)

Throttle min voltage(V): 1.30

Throttle max voltage(V): 4.40

Accelerate(ms): 100

Decelerate(ms): 300

Throttle mid voltage(V): 2.60

Throttle mid current(A): 70

IMPORTANT:
Throttle mid voltage(V): 2.60

Parameters Setting (Motor)

Motor rotate direction: 1

Motor poles pair: 15

Speed limit mode: no limit

Internal speed limit(%): 45

Low speed limit(%): 45

Mid speed limit(%): 85

How to Save the Setting

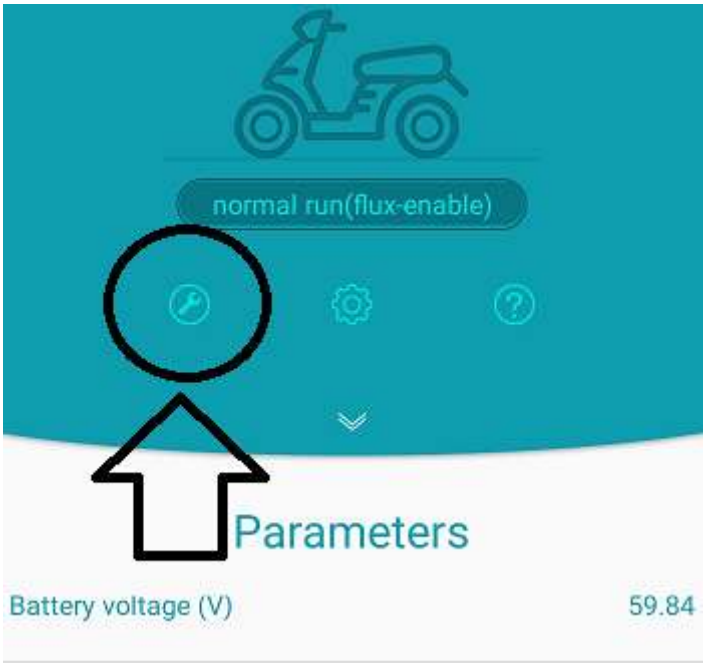
Locate the floppy disc logo on the top-right hand side of the screen. Click on that button and the setting will be saved.

4. Motor Hall Calibration Test

Prerequisite

Scooter has to be placed on a stool or bench and the motor has to be able to spin freely with no obstruction on it.

Motor Hall Calibration test is a test to check for abnormalities on the motor/controller. You will only need to do this step every time you replace the motor or the controller.



In the [Parameter homepage] screen click on the [wrench] tool located on the left to access the testing page.

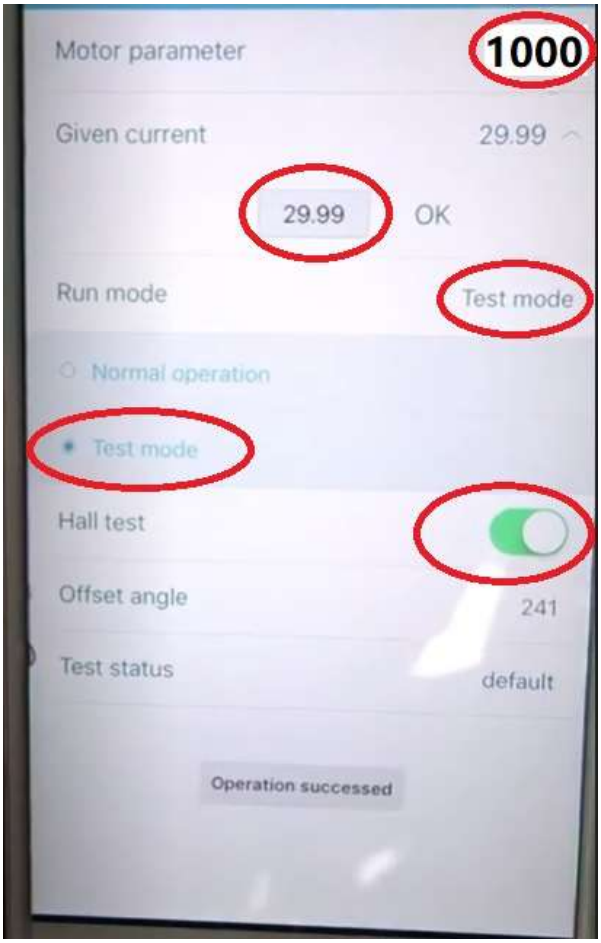
Key in the figures to do the hall test;

Motor Parameter: 1000

Given Current: 29.99

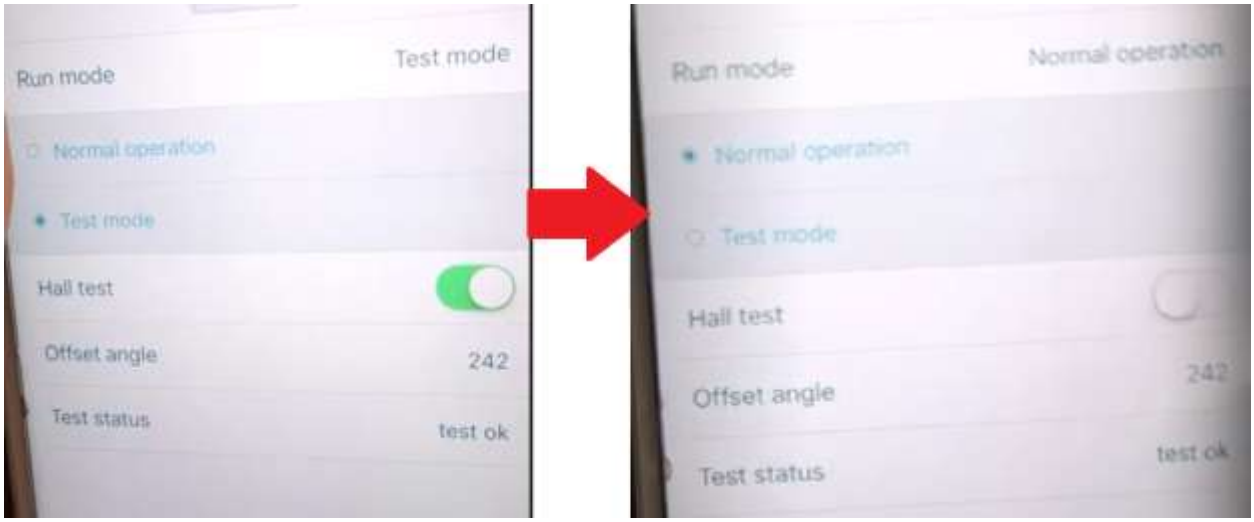
Run mode: [Select] Test mode

Hall test: [Slide to right]



You should see a (Operation Successed) notification at the bottom of the screen.

You will notice the motor start spinning slowly. It will take about 2mins to run the test.



After you are done with the test, the test status will show [test ok].

<u>Important Step !</u>

Slide [Hall Test] to left to turn off the test.

Under [Run mode], select [Normal operation]

Missing out on this step will cause error to happen in the app.

Repeat motor hall calibration test step for the other motor to complete the full motor hall calibration testing.

5. Detecting Error in App

If you encounter a red system error in the app, do head over to the homepage and look at the last line named [Error Type]

Locate the error message and refer to below table to see what the error message means.

No fault/Error Detected

Error/Fault Detected

Some of faults remarks are as following：

Error	Fault	Remark
1	Mosfet fault	Hardware fault
2	overVolt	Battery over volt fault
3	lacVolt	Battery lack volt fault
4	resvd	Reserved
5	mtOverTemp	Motor temp is higher than set temperature
6	ctOverTemp	Temp controller temperature is higher than set
8	overCurrent	phase current is higher than over protected ph
9	overload	The timer that phase current is higher than rated phase current exceed the set time
11	Store error	The setting parameter store failed fault
12	HALL test fault	Motor hall fault when matching
13	HALL fault	Motor hall fault
18	overSpeed	The tasks of controller are too many to calculate
20	Block Protect	The block current
21	unInitEeprom	The eeprom of controller is not initialized

6. Final checks before test riding the scooter.

Motor Parameter: 1000	Page 15
DC direct current 30A	Page 9
Flux weaken enable: Off	Page 11
Flux weaken current(A): 0	Page 11
Throttle mid voltage = 2.6V	Page 12
Save your setting	Page 13
Check for any Error message	Page 17
Disconnect the Bluetooth App	
Plug in the programming cable, move the Bluetooth dongle to the other USB port and repeat the same steps for the other controller	
After completing the above steps, disconnect the Bluetooth app. Plug in the final programming cable and ensure wires will not be clamp when closing the Zero scooter deck.	
Ensure both front and rear programming cable is plugged back up.	
Close up the scooter deck	

-End of Manual-