REID®

Display Manual
Sphinx II

Ananda D16

Table of Contents

Instructions for users

Pay attention to safety during use. DO NOT plug in or out when the instrument is power on.

This instrument shall be protected against collision as practical as possible. Send the faulty meter for repair as soon as possible.

1. About Users Guide

For better use of your electric bicycles, please read the instructions for this instrument before use carefully. We will tell you
everything about your use of this instrument in the most concise way,
form hardware installation & settings to normal use of instrument;
and meanwhile, we will help you eliminate all possible confusions
and troubles.

2. Material and overall dimension

2.1 Material:

This instrument is made of black PC + ABS plastic shell. It is free of sharp edges. Its appearance is of black leather texture. The shell materials allow normal use within the temperature range of - 20℃ and 60℃, and can assure the good mechanical performance.
The screen is 2.4'' TFT color dot matrix LCD. The key module is separated from the instrument display module. Level of protection is IP66. Strength conforms to the provision for thrust > 250 N. Vibration conforms to corresponding IEC provisions. Materials of parts meet the requirements for RoHS and REACH certifications. Tightening torque of locking screw is 1N.m.

2.2 Overall dimension (in mm)
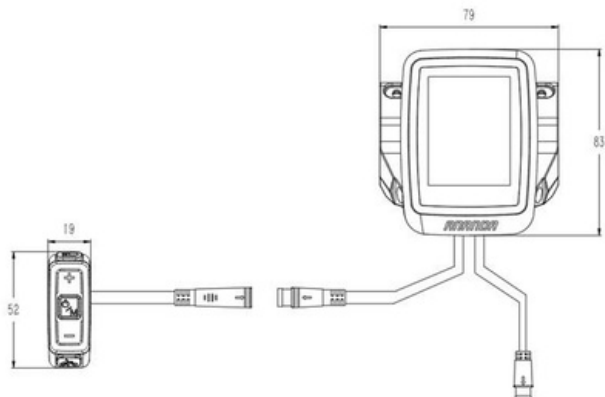
The instrument key module is connected to the bottom of theinstrument display module via cable.

Introduction to various keys:

◆[start/stop]key: key, substituted by word "start/stop";

◆[plus]key: + key,substitutedbyword"plus";

◆[minus]key: - key, substituted by word "minus";

◆[headlight]key: key, substituted by word "headlight";

◆[walk]key: key, substituted by word "walk".

## 3. Function Overview

The instrument displays the followings:

◆ Battery level display

◆ Real-time speed display

◆ Mileage data (total mileage, trip distance, trip time, max speed, average speed, average power consumption, instantaneous power consumption, motor power, cycling power and remaining mileage)

◆ Assist level display

◆ Headlight on and off

◆ 6 km/h assist walk function

◆ USB available for charging, output voltage/ max output
current: 5V/1A
◆ WiFi function
◆ Error code display
◆ Instrument is available for one-key battery wakeup.
◆ Setting function display: clearing, light sensing, speed unit, power consumption unit, language selection, factory reset, WiFi status and name, automatic shutdown time, and customized clipping function.
◆ Read-only information display:
Firmware & hardware version numbers and serial number of motor, total mileage;
Firmware & hardware version numbers, serial number, voltage, cycle count and SOH of battery;
Firmware & hardware version numbers, and serial number of the instrument
◆ Automatic control of backlight brightness (according to intensity of external ambient light)
◆ Automatic control of headlight on and off (according to intensity of external ambient light)
◆ Instrument conforms to EN 15194: 2017.
◆ WiFi meets RED certification requirements.
◆ Conform to CE certification requirements.
◆ Instrument supports ADST function (refer to the Instructions
for Use of Full Functions of ADST Programmer Box).
◆ Communication protocol: Ananda New European Standard Instrument Controller V11.0 Protocol_1.3.4 and version above (the latest version shall prevail, compatible with the previous versions)
◆ It may match with wide-voltage battery 24V/ 36V/48V
◆ Max working current is 50 mA.

4. Normal display areas
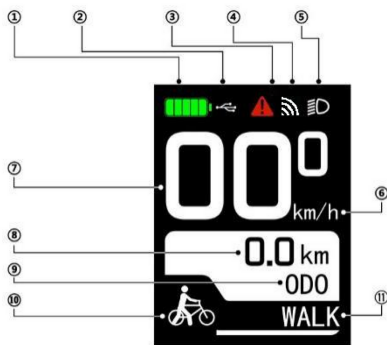
Area ① indicates the current remaining battery level. It is the
mode of battery display grid in the figure.
Area ② indicates USB charging.
Area ③ indicates the fault reminds.
Area ④ indicates WiFi.
Area ⑤ shows the headlight status indication,
including automatic mode   and manual mode   .
Area ⑥ indicates the speed 🔅 t.
Area ⑦ indicates the real time speed value.
Area ⑧ indicates the content of ODO mileage data.
Area ⑨ indicates the mode of ODO mileage.
Area ⑩ indicates the status of assist walk.
Area ⑪ indicates the current gear level.

5. Normal operation

5.1 Start/ stop
◆ The instrument has been turned on when the
battery has output. The battery will be closed by
keeping the battery button pressed and meanwhile,
the instrument will be shut off automatically and the
system will be turned off.

◆ The instrument has been turned on when the battery has output. The battery will be closed and the system will be turned off if the instrument is shut off before the battery.

◆ If the instrument has been turned on when the battery has output, the instrument will be shut off by keeping the instrument on-off key pressed for 2 seconds. If the instrument is not opened, the instrument will be opened by keeping the instrument on-off key pressed for 1 second.

◆ This instrument is such set that it will enter auto-sleep mode if the system has been idle for 5 consecutive minutes (specific time can be set via instrument parameter/ automatic shutdown time) and the instrument current is lower than 6 mA in the sleep mode, as factory default.

◆ The battery will be closed and the system will be turned off automatically if the system has been idle for 30 consecutive minutes.

◆ After startup, the instrument will firstly show the interface "ANANDA" and then enter into the main interface.
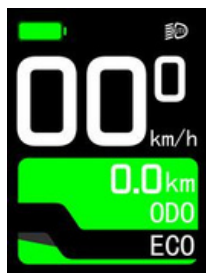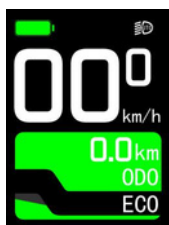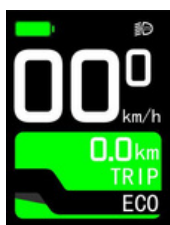
Startup interface   Main interface

5.2 Real-time speed/ mileage data display

In the main interface, current speed will be refreshed in a real time manner and meanwhile, mileage related data can be checked. It may switch the display of ODO mileage data by pressing the key "start/ stop", in the following sequence: Total mileage -> trip distance -> trip time -> average speed for single trip -> max speed for single trip -> motor power -> average power consumption of single trip -> instantaneous power consumption -> remaining mileage.

Total mileage display

Trip distance display
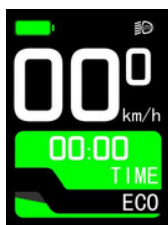
Trip time

Average speed

Max speed

Motor power

Average power consumption
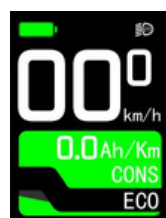
Instantaneous power consumption
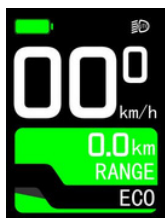
Remaining mileage

5.3 Automatic headlight on/ off mode

In the main interface, operations to realize the headlight function
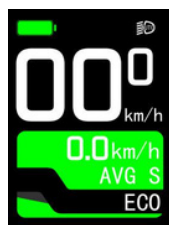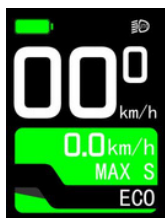can be done. When the headlight is off, it can be turned on by keeping the key "headlight" pressed manually; if the headlight is on, it can be turned off by keeping the key "headlight" pressed manually.

Status of automatic headlight turned on

5.4 Assist walk in 6 km/h

In the main interface, the operation to realize 6 km/h assist walk function can be done. By keeping the key "walk" pressed, it will light the assist walk sign and enter the interface of assist walk, which means that the assist walk mode is activated. Then, it can execute the function of assist walk in 6 km/h by pressing the key "walk" again and keeping the key "walk" pressed; this function will fail and it will exit the assist walk mode if the key "walk" is released.

Walk mode

5.5 Assist level adjustment

In the main interface, gear position operation can be realized. It may add the gear level by pressing the key "plus" and reduce the gear level by pressing the key "minus". Output power of motor can be changed by adding and reducing the assist level. Assist level of this instrument is 0~4, among which level 0 means that motor has no output power while level 4 means that motor has the max output power. When the instrument is started, it will enter gear level 1 by default. When gear levels 0~4 are chosen, it will display "OFF", "ECO", "SPORT", "SHIFT" and "BOOST" respectively. It will display "WALK" in the state of assist walk.
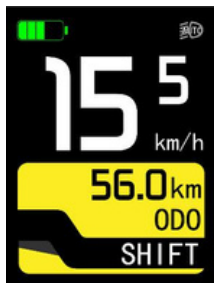
Level
OFF

Level
ECO

Level
BOOST

Level
SPORT

Level
SHIFT

5.6 Battery level display

In the main interface, battery level is displayed in the form of real-time refreshing. Battery level is displayed in two different cases. It will preferentially obtain battery level information from BMS and show the battery level in the form of pixel bar. If it fails to obtain information from BMS, battery level information will be. obtained from the controller and displayed in the form of energy grid, which can be divided into 1~5. When the battery level is high, the current battery level will be shown in green progress bar or green energy grid. When the battery level is insufficient, the current battery status will be displayed in the form of progress bar and it will indicate that the battery has been undervoltage and immediate charging is necessary.

Sufficient
battery level
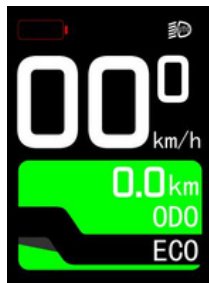
Battery
undervoltage

5.7 Error code display

In case of any failure of the electrical control system (controller and instrument), the instrument will automatically show the code of current latest fault on the main interface in real time manner and meanwhile, a red "⚠" sign will appear in the above column.

The fault code can be cleared only after eliminating the current code and meanwhile,"⚠" sign shown in the above column will disappear. (Main interface for an example of error code display is added.)In case of error code 30, it must be alarmed and displayed within 5 seconds after abnormal communication and meanwhile, the instrument will be automatically turned off 60 seconds later.

Fault error code display

Error Code	Definition	Solution
21	Abnormal current	Restart, inform the supplier if
22	Handle fault	Check the crank before system power on
23	Motor phase loss	Check whether the phase line is connected properly; Check whether the motor phase line is connected to the controller properly.
24	Abnormal motor hall signal	Test cable and inform the supplier if this fault still happens after reset

25	Brake fault	Check the crank before system power on
28	Other faults	Test and check whether the instrument connection is intact.
30	Abnormal communication	Check whether the connections are intact.
31	Start key is sticky when started.	Test the key and replace the instrument key if this fault still exists.
32	Abnormal operating pressure	Replace instruments
33	Self-check fault	Replace instruments
34	Assist walk key is sticky	Test the key and replace the instrument key if this fault still exists.

5.8 USB charging function display

USB charging on/ off function is activated via menu. It may enable/ disable USB voltage output function via menu options. It may also enable or disable USB charging function rapidly by keeping key + pressed.

USB charging indication

5.9 WiFi function display

When WiFi function is activated. After start, WiFi function sign will be lighted if it has been connected to WiFi. If wireless connection is off, WiFi sign will be off.

WiFi indication in case that wireless connection has been achieved.

6. Instrument parameter setting

In the information interface, it can enter the setting menu interface by keeping keys "plus" and "minus" pressed. In the setting menu, it will enter the menu of next level by pressing the key "start/ stop". In the final selection menu, confirm the current options by pressing the key "start/ stop". After choosing the option "return", return to the interface of previous level by pressing the key "start/ stop".

Setting menu interface can be divided into four levels for menu settings, as follows:

Level-I menu	Level-II menu	Level-III menu	Level-IV menu
Reset Trip	Yes	-	
	No	-	
Setting	Brightness	20%	-
		40%	-
		60%	-
		80%	-
		100%	-
		Auto	-
	Speed unit	km/h	-
		mph	-
	Consumption unit	Ah	-
		Wh	-
	Language	English	-
		French	
			-
	Factory reset	Yes	-
		No	-
	Bluetooth	Status	Enable
			Disable
		Name	text
	Auto-off	5min	-
		10min	-
		15min	-
		20min	-
		25min	-
		30min	-
	Available function	ODO/TRIP/TIME/AVG SPEED/MAX SPEED/AVG CONSUMPTION/INST CONSUMTION/M POWER/H POWER/RANGE	
	Smart	CITY	
		MTB	
Information	Motor I	Firmware version	value
		HW version	value
		Serial number	value
		ODO meter	value
	Battery	Firmware version	value
		HW version	value
		Serial number	value
		Battery voltage	value
		Cycle count	value
		SOH (%)	value
	Display	Firmware version	value
		HW version	value
		Serial number	value

Details about the setting options are
described as follows:

Enter setting
interface by
keeping keys
[+] and [-]
pressed.

Enter by
pressing the
key start.

After entering by
pressing the key
start Choose via
up and down
keys and confirm
via start/ stop
key
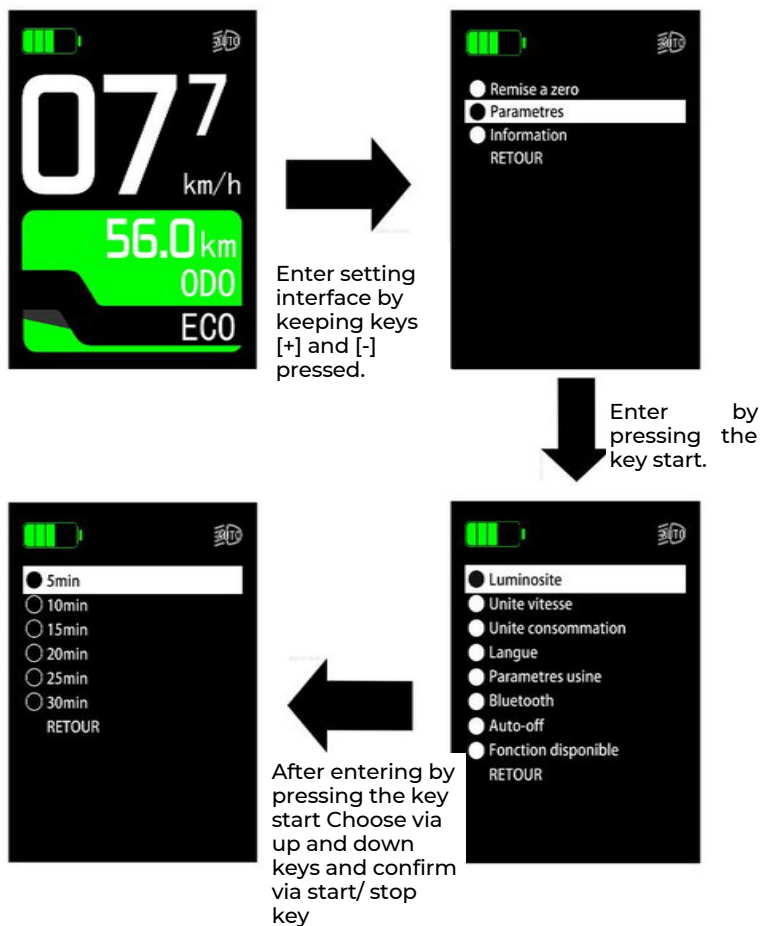
Basic operating process

6.1 Trip distance parameter reset

Display of trip distance parameter reset option
Switch and choose to clear options by pressing key "minus" or "plus". Choose the option "Yes" and press the key "OK", to clear related data of single trip. In the option "return", press the key "start/ stop" to return the interface of previous level. Return to the main interface by keeping the key "start/ stop" pressed.

6.2 Setting of light sensing parameters
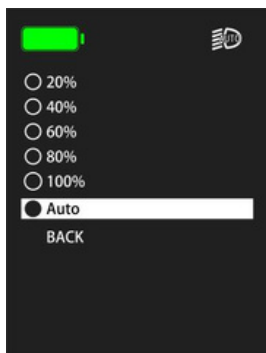
Light sensing option
Switch and choose the option of backlight level by pressing the key "minus" or "plus". Confirm the current backlight sensing level chosen by pressing the key "start/ stop". In the option "return", press the key "start/ stop" to return the interface of previous level. Return to the main interface by keeping the key "start/ stop" pressed. It is set to "80%" as factory default.
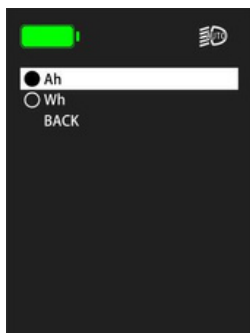
6.3 Setting of speed unit
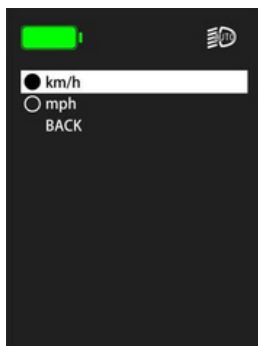
Options of speed unit
Switch and choose the option of speed unit by pressing the key "minus" or "plus". Confirm the current speed unit chosen by pressing the key "start/ stop". Return to the interface of previous level by pressing the key "start/ stop" in the option "return". Return to the main interface by keeping the key "start/ stop" pressed. It is set to km/h as factory default.

6.4 Setting of power consumption unit

Options of power consumption unit
Switch and choose the option of power consumption unit by pressing the key "minus" or "plus". Confirm the current power consumption unit chosen by pressing the key "start/ stop". In the option "return", press the key "start/ stop" to return the interface of previous level. Return to the main interface by keeping the key "start/ stop" pressed. It is set to Ah as factory default.
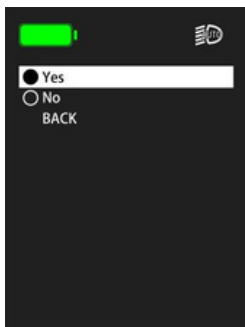
6.5 Language setting
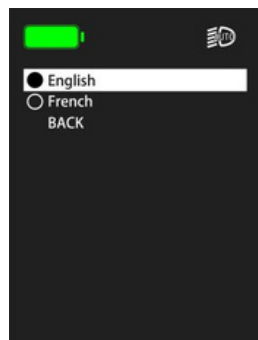
Language options
Switch and choose the language option by pressing the key "minus" or "plus". Confirm the current language chosen by pressing the key "start/ stop". In the option "return", press the key "start/ stop" to return the interface of previous level. Return to the main interface by keeping the key "start/ stop" pressed. It is set to Franch as factory default.

6.6 Setting of factory reset

Options of factory reset
Switch and choose the reset option by pressing the key "minus" or "plus". Choose option "Yes" and then press the key "start/ stop", to reset all data to factory default. In the option "return", press the key "start/ stop" to return the interface of previous level. Return to the main interface by keeping the key "start/ stop" pressed.

6.7 Setting of automatic shutdown time
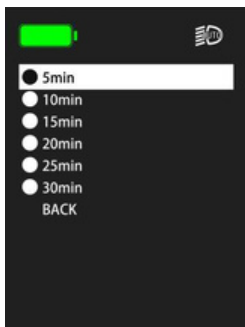
Options of automatic shutdown time
Switch and choose the option of automatic shutdown time by pressing the key "minus" or "plus". Confirm the current automatic shutdown time chosen by pressing the key "start/stop". In the option "return", press the key "start/ stop" to return the interface of previous level. Return to the main interface by keeping the key "start/ stop" pressed. It is set to 5 min as factory default.

6.8 Setting of function clipping

Options of function clipping
Switch and choose the option of clipping function required by pressing the key "minus" or "plus". After choosing the option to be clipped, press the key "start/ stop", to choose whether the current option will be clipped. It means that the current option function is revoked if the symbol before the clipping option is "○" and the function is chosen if the symbol is "●".
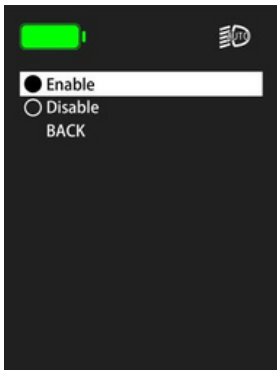
In the option "return", press the key "start/ stop" to return the interface of previous level. Return to the main interface by keeping the key "start/ stop" pressed.

6.9 WiFi settings
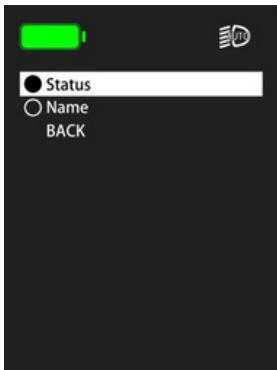
WiFi options
Switch and choose to check WiFi status option or WiFi name setting option by pressing the key "minus" or "plus". In the option of WiFi status, choose the option "Enable" and then press the key "start/ stop", to activate WiFi function. Choose the option "Disable" and then press the key "start/ stop", to deactivate WiFi function. After status change, it will be effective after restarting the instrument. Return to the interface of previous level by pressing the key "start/ stop" in the option "return". Return to the main interface by keeping the key "start/ stop" pressed. It is set to Enable as factory default.
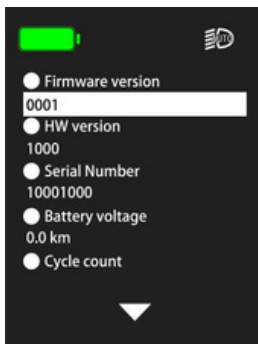
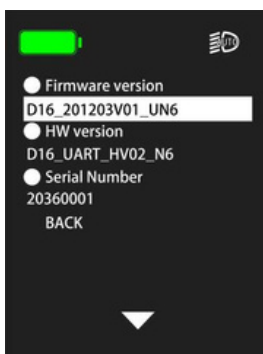### *6.10 Display of motor read-only information*

Content of motor read-only information. Switch and choose the option of motor read-only information to be checked by pressing the key "minus" or "plus". In the option "return", press the key "start/ stop" to return the interface of previous level. Return to the main interface by keeping the key "start/ stop" pressed.

Firmware version
10022
HW version
MC51
Serial Number
20120001
ODO
0.0 km
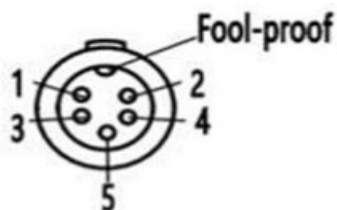BACK

6.11 Display of battery read-only information

Battery read-only information Switch and choose the option of battery read-only information to be checked by pressing the key "minus" or "plus". In the option "return", press the key "start/ stop" to return the interface of previous level. Return to the main interface by keeping the key "start/ stop" pressed.

Firmware version
0001
HW version
1000
Serial Number
10001000
Battery voltage
0.0 km
Cycle count

### *6.12 Display of instrument read-only information*

Content of instrument read-only information. Switch and choose the option of instrument read-only information to be checked by pressing the key "minus" or "plus". In the option "return", press the key "start/ stop" to return the interface of previous level. Return to the main interface by keeping the key "start/ stop" pressed.

Firmware version
D16_201203V01_UN6
HW version
D16_UART_HV02_N6
Serial Number
20360001
BACK

Fool-proof

1   2
3   4
   5

connector model	JULET JL-F-Z509AG				
Pin NO.	1	2	3	4	5
Color	Red	Blue	Black	Green	Yellow
Definition	VCC	LOCK	GND	RX	TX

JL-F39-Z508JG

Red P+   Blue SW
                Green CAN H
Black GND   Yellow CAN L
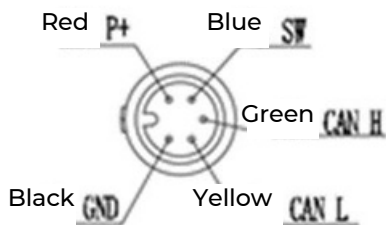
8 Instructions for Mobile APP Connection

1. According to the following website link, Android or IPhone may download and install mobile APP for product D16.
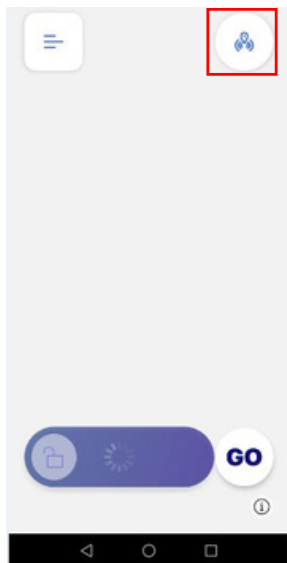
Latest version of APP:

IOS : https://app.bitrise.io/artifact/42180616/p/7bf11de
b1cf6495ff5c57b8ede7fe329https://app.bitrise.io/artifac
t/42180616/p/7bf11deb1cf6495ff5c57b8ede7fe329

Android : https://app.bitrise.io/artifact/42180612/p/32b9
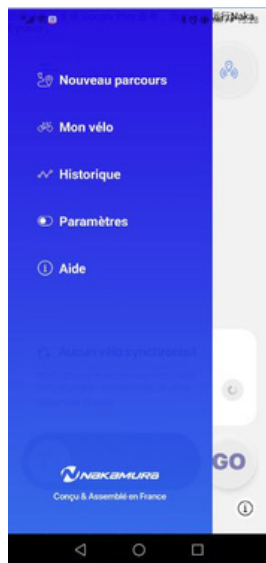c79bf38f8f6218d1dea8391515df

The mobile D16 APP
software icon is
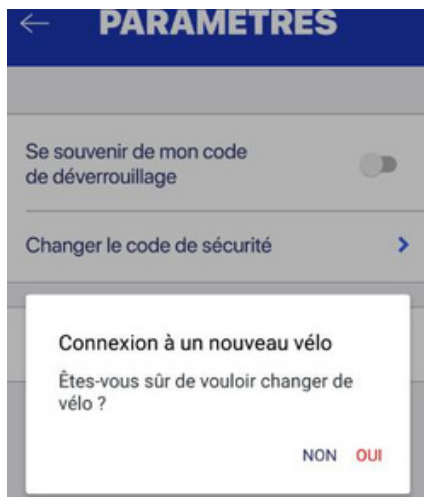
Open the D20 APP
software shown below:

Click the red box
once. The display
interface is as here:

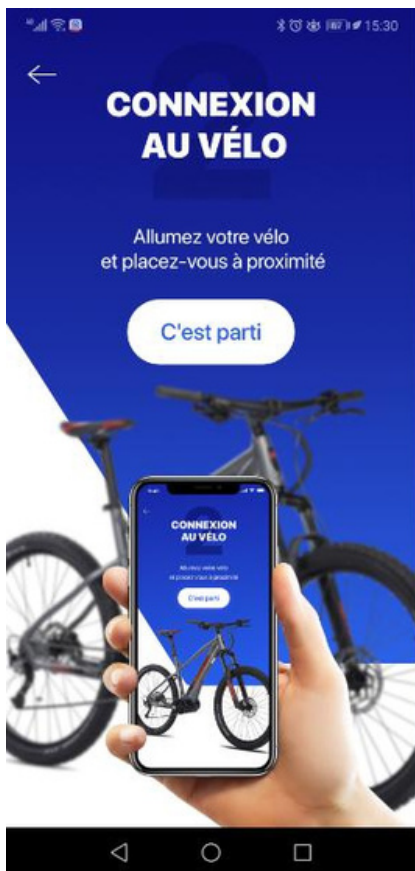Click the column "Parametres" once.
The display interface is as below:

Click the column "Connector un nouveau
velo" in the red box once. The display
interface is as below:

Click "OUI" in the red block once. The display interface is as below:

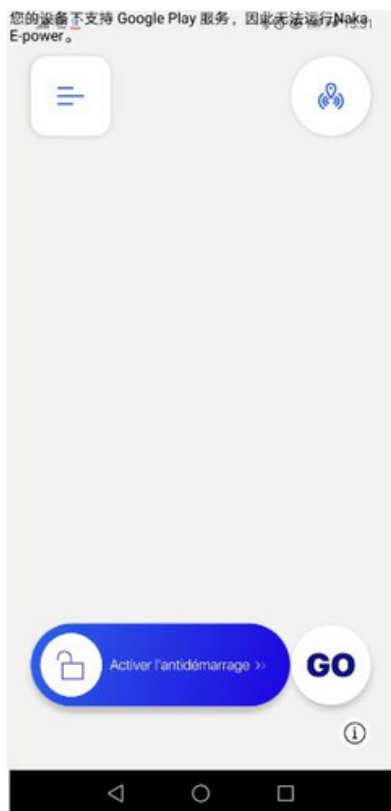Click "Valider" once. The display interface is as here

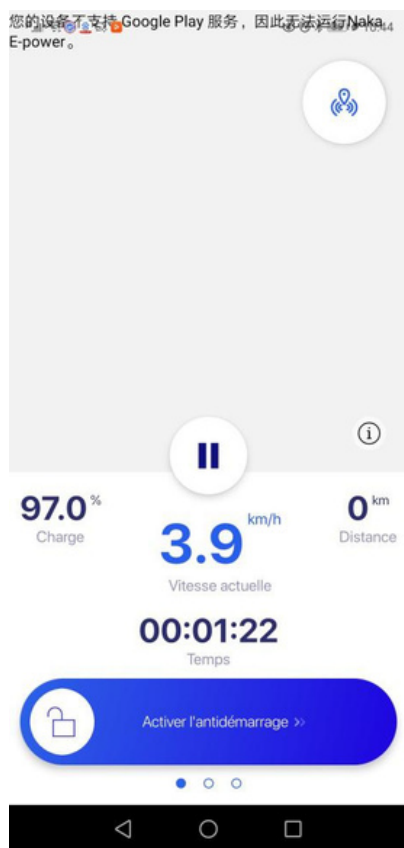Click "C`est parti" once. The display
interface is as below:

Choose "Naka_44774"
and click "Valider" once.
The display interface is
as here:

Click "Commencer" once. The display interface is as below:

您的设备不支持 Google Play 服务，因此无法运行 Naka E-power。

Activer l'antidémarrage >>

GO

Click "GO" once and enter APP control interface:

您的设备不支持 Google Play 服务，因此无法运行 Naka E-power。

97.0 %
Charge

3.9 km/h
Vitesse actuelle

0 km
Distance

00:01:22
Temps

Activer l'antidémarrage >>
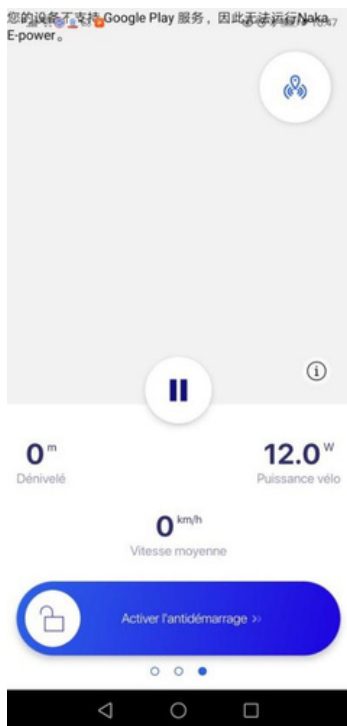
Keep mobile phone 10~15 meters away from D16 instrument; turn the crank. The interface will show batter level, average speed and corresponding information, indicate the normal communication between D16 instrument and mobile Bluetooth as well as the normal functions. Turn off the vehicle system and exit mobile APP software. Then, the test completes.

9. Q&A

Q: Why is the meter not turned on?
A: Check whether the harness of the meter is in reliable contact with the connector of the controller.

Q: What should I do if the meter shows a fault code?
A: First, find the corresponding problem according to the displayed error code. If you cannot solve the problem by yourself, send the meter to the electric bicycle service center for repair.

10. Quality Commitment and Warranty

Warranty:
1. Incase of any faults arising from the product quality in normal use, the company will provide the specified warranty services within the warranty period.
2. Warranty period of this product is within 30 months as from the date of purchase.
Exclusions: The following is not covered by the warranty:
1. Unauthorized disassembly and modification.
2. Failure or damage caused by the incorrect operation of the user or a third party or by incorrect installation and debugging.
3. Shell scratching or damage after delivery.
4. Scratching or breakage of the outgoing wire.
5. Failure or damage caused by force majeure (e.g. fire and earthquake) or natural disasters (e.g. lightning strikes).
6. Product subject to warranty expiration.

11. Version information

There may be differences between the meter software version used on a bicycle and the specification in this manual, so the actual product will prevail.