

VITUS



E-MYTHIQUE USER MANUAL



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Important notice

- If the error information from the display cannot be corrected according to the instructions, please contact your retailer
- The product is designed to be waterproof. It is highly recommended to avoid submerging the display in water
- Do not clean the display with a steam jet, high-pressure cleaner, or water hose
- Please use this product with care
- Do not use thinners or other solvents to clean the display. Such substances can damage the surfaces
- Warranty is not included due to wear and normal use and ageing

Introduction of display

Model: DP C244.CAN/ DP C245.CAN

The housing material is ABS; the LCD window is made of tempered glass:



The label marking is as follows:



Note: Please keep the QR code label attached to the display cable. The information from the label may be required for later software updates.

Product description

Specifications

- Operating temperature: -20°C - 45°C
- Storage temperature: -20°C - 60°C
- Waterproof: IP65
- Storage Humidity: 30% - 70% RH

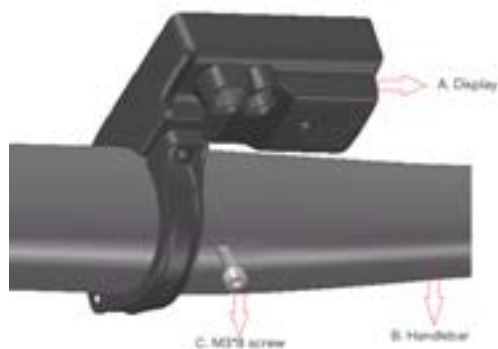
Functional overview

- CAN communication protocol
- Speed indication (including the real-time speed, max. speed and average speed)
- Unit switching between km and miles
- Battery capacity indication
- Automatic sensors explanation of the lighting system
- Brightness setting for backlight
- 6 power assist modes
- Mileage indication (including single-trip distance TRIP and total distance ODO, the highest mileage is 99999)
- Intelligent indication (including remaining distance RANGE and energy consumption CALORIE)
- Error code indication
- Walk assistance
- USB charge (5V and 500mA)
- Service indication
- Bluetooth function (only in DP C245.CAN)

Display and wiring installation

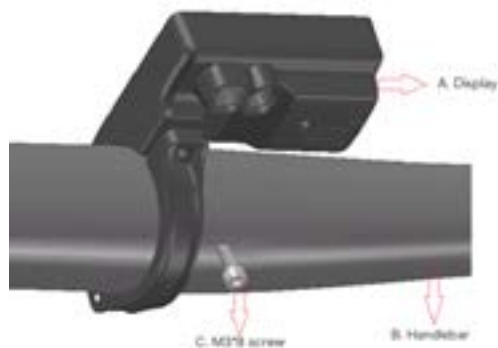
1. Open the clamp of the display and place the display on the handlebar in the correct position. Now with an M3*8 screw C, tighten the display. Torque requirement: 1Nm

Note: The diameter of the display clamp is \varnothing 35mm. According to the diameter of the handlebar, you can choose whether to need a rubber ring (\varnothing 22.2, \varnothing 25.4 or \varnothing 31.8).



2. Open the clamp of the control unit and place it on the handlebar in the correct position. Tighten the control unit with the M3*8 screw C. Torque requirement: 1Nm

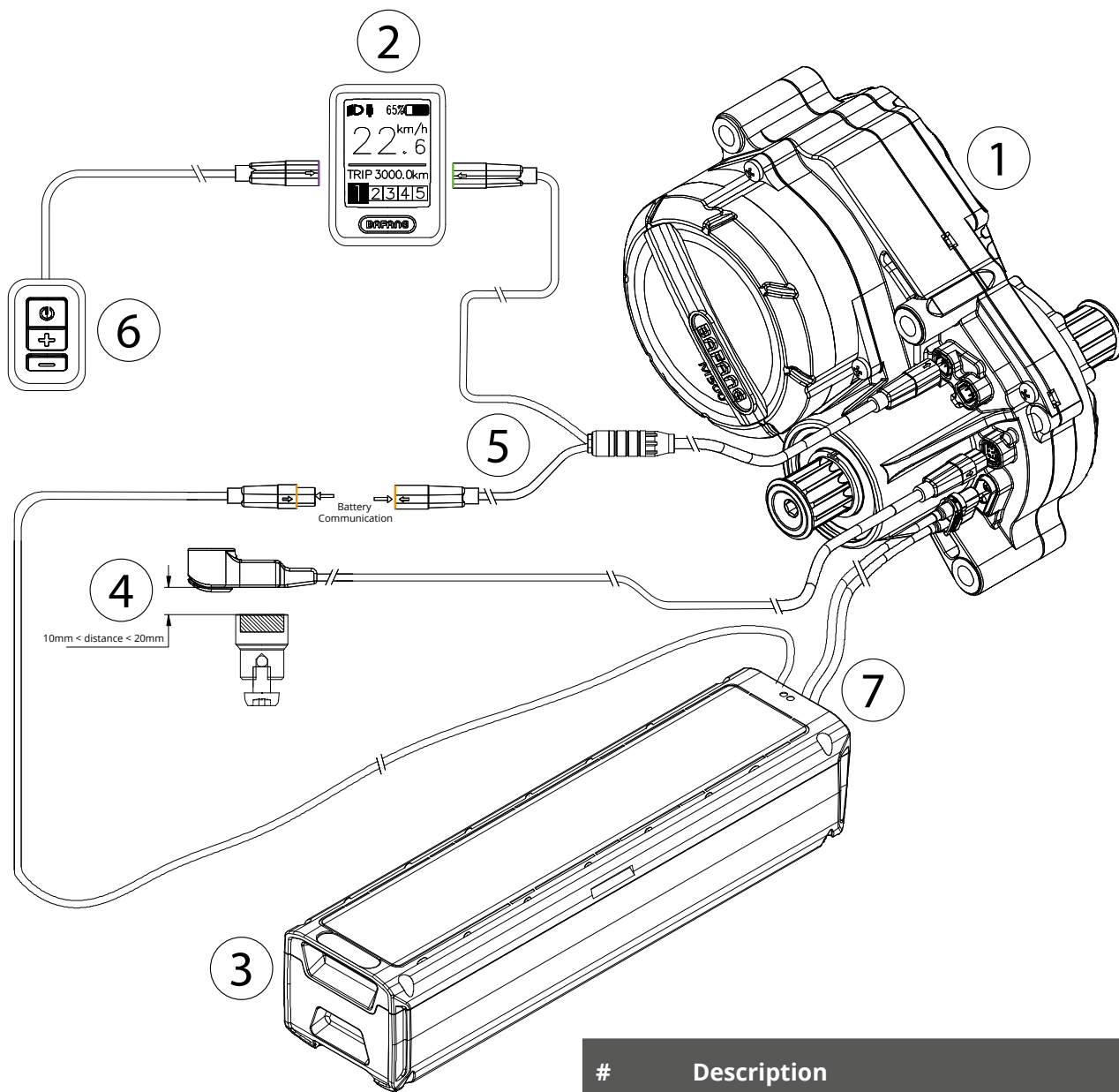
Note: The diameter of the control clamp is \varnothing 22.2mm.



3. Connect the 5-pin EB-BUS connector and 6-pin control unit connector with the display main body.

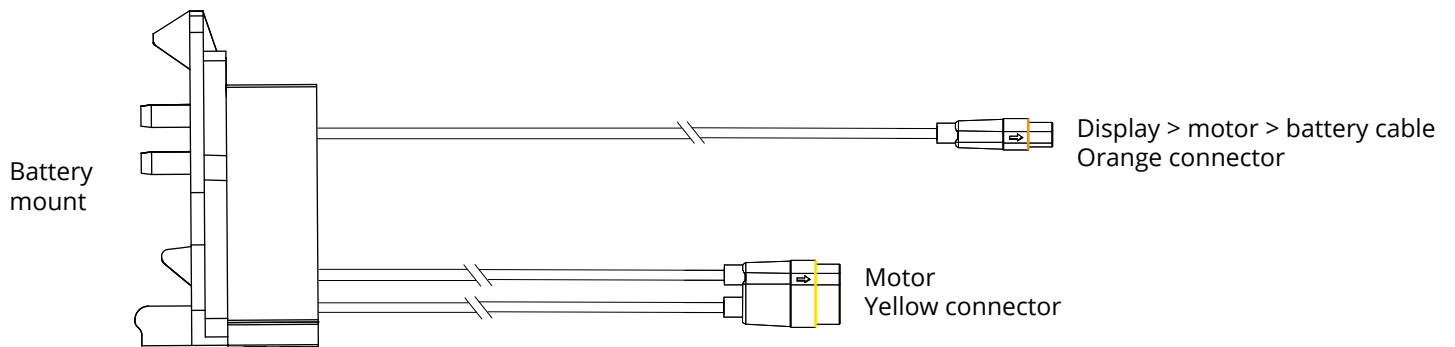


Wiring diagram

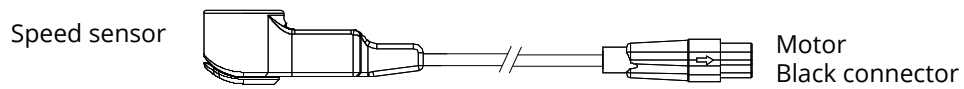


#	Description
#	Description
1	M510 Motor
2	Display
3	Battery
4	Speed Sensor
5	Display > Motor > Battery Cable
6	Remote
7	Lower Battery Mount and Connector

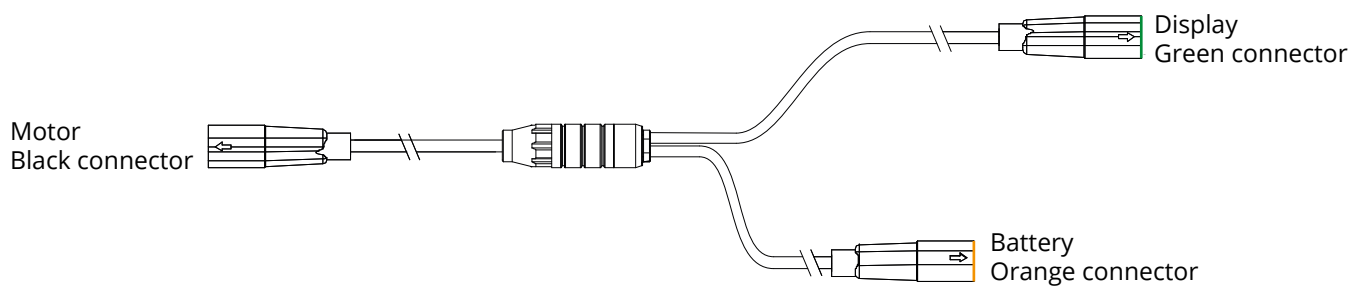
Lower battery mount / cable



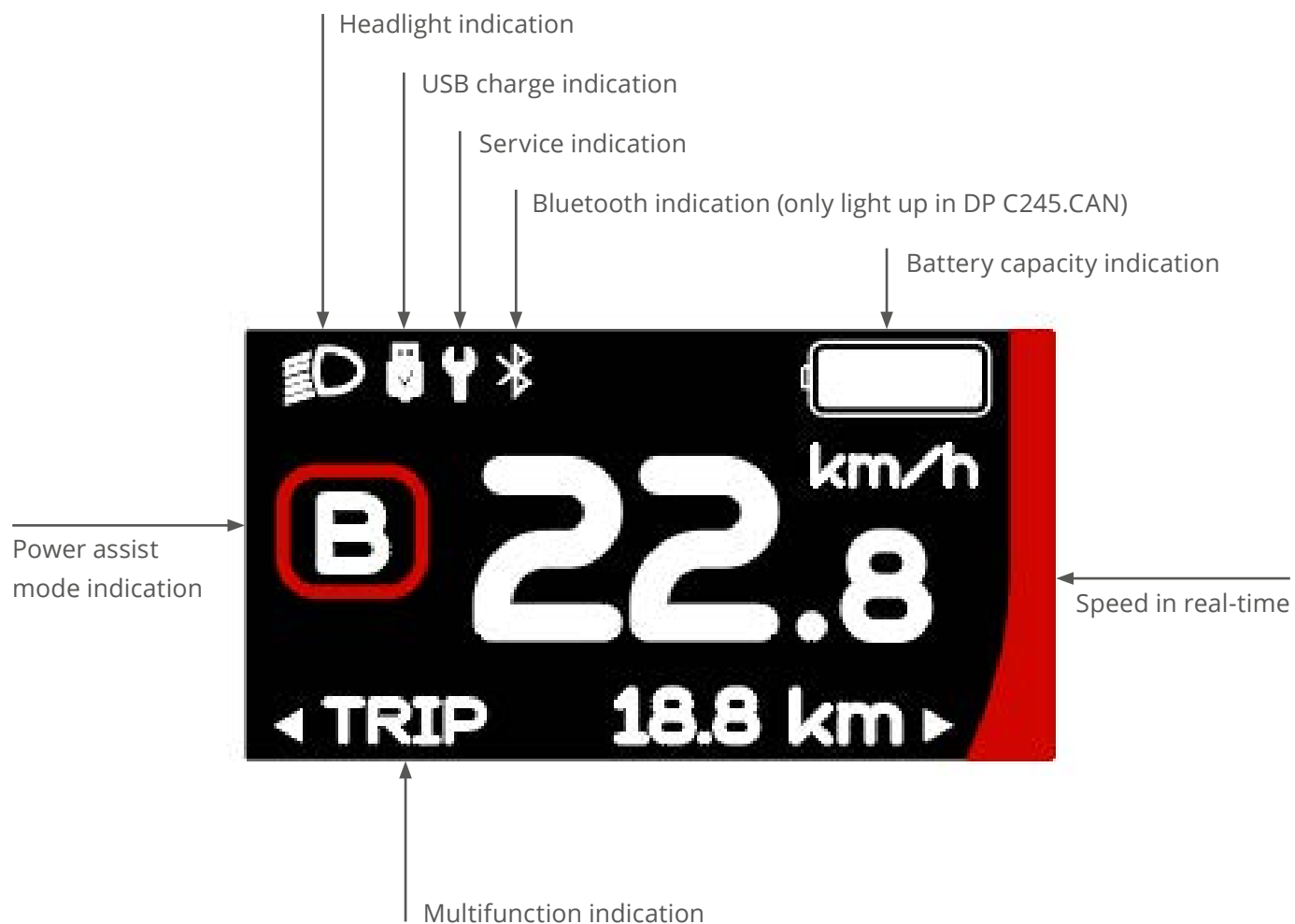
Speed sensor cable



Display - motor - battery cable



Display



Key definition



Normal operation



Power ON / OFF






Press  and hold (> 2 s) to power on the HMI, and the HMI begins to show the boot-up logo.

Press  and hold (> 2 s) again to power off the HMI.

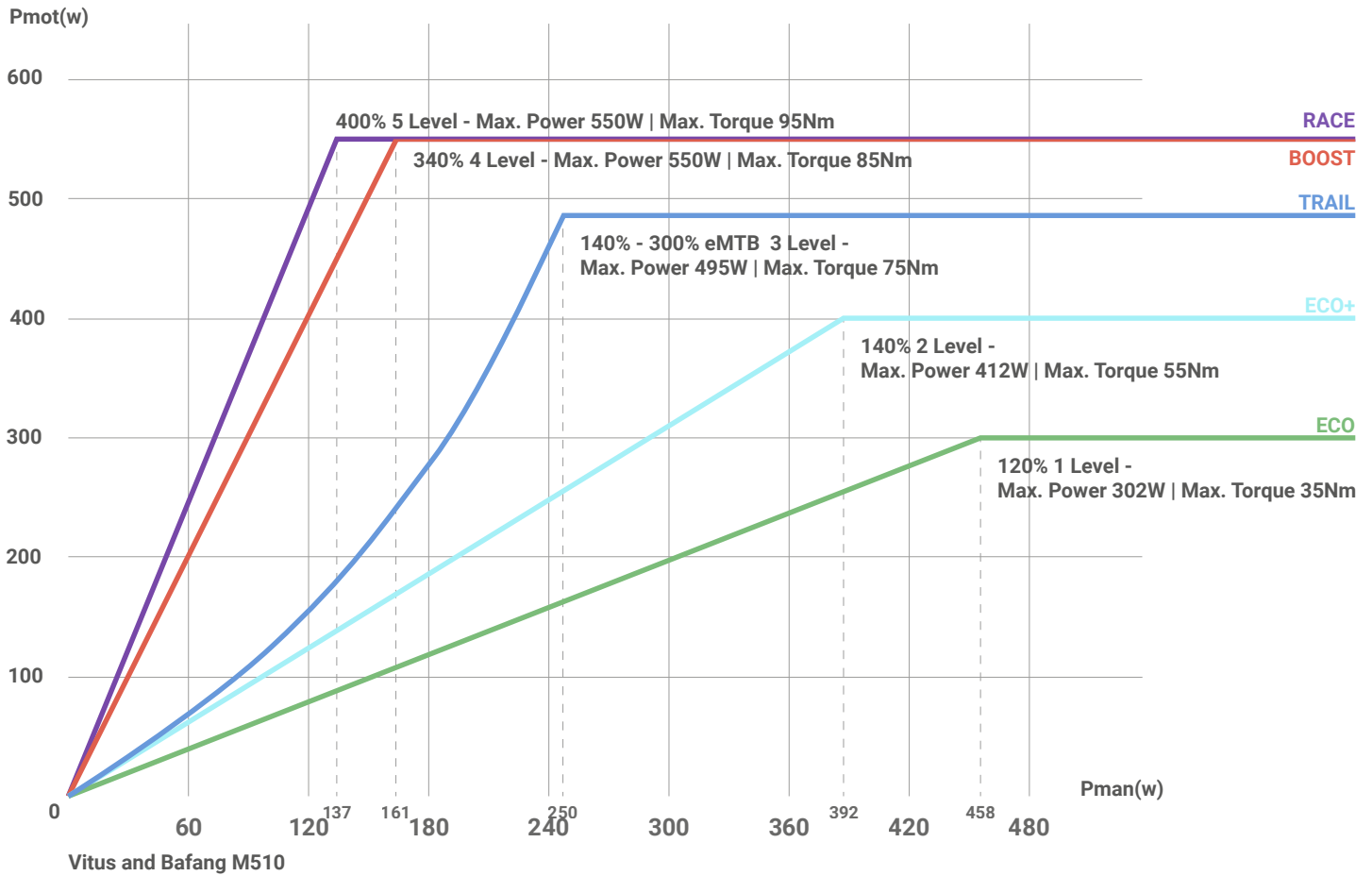
If the automatic shutdown time is set to 5 minutes (set in "Function" → "Auto Off"), the HMI will automatically turn off within this set time, when it is not operated.

Power assist mode selection

When HMI powers on, briefly press  or  to select the power assist mode and change the output power. The lowest mode is E, and the highest mode is R (which can be set). On the default mode E, "0" means there is no power assistance.

Mode	Colour	Definition
Eco	Green	 <ul style="list-style-type: none">• Assist ratio: 120%• Max torque: 35Nm• Max power: 55%• Assist start: Lv 4
Eco +	Teal	 <ul style="list-style-type: none">• Assist ratio: 140%• Max torque: 55Nm• Max power: 75%• Assist start: Lv 4
Trail	Blue	 <ul style="list-style-type: none">• Assist ratio: 140% - 300%• Max torque: 75Nm• Max power: 90%• Assist start: Lv 4
Boost	Red	 <ul style="list-style-type: none">• Assist ratio: 340%• Max torque: 85Nm• Max power: 100%• Assist start: Lv 4
Race	Purple	 <ul style="list-style-type: none">• Assist ratio: 400%• Max torque: 95Nm• Max power: 100%• Assist start: Lv 4

Bafang M510 - Vitus



Normal operation


Multifunction selection


Press  to switch between the different functions and information.

Cycle through showing single trip distance (TRIP,km) → total distance (ODO,km) → maximum speed (MAX,km/h) → average speed (AVG,km/h) → remaining distance (Range,km) → riding cadence (Cadence,rpm) → energy consumption (Cal,KCal) → riding time (TIME,min) → cycle.



Headlights / backlighting

Press and hold  (> 2 s) to turn on the headlight and reduce the backlight brightness.

Press and hold  (> 2 s) again to turn off the headlight and increase the backlight brightness. The brightness of the backlight can be set in "Function → Brightness" within 5 levels.




Note: External lights are not fitted as standard.



Normal operation

Walk assistance

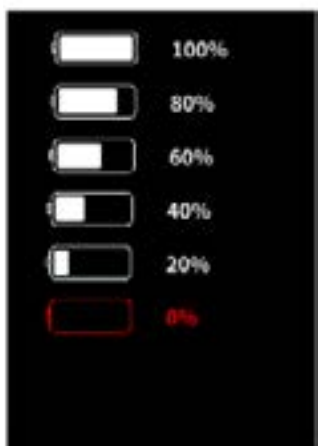
Note: The walk assistance can only be activated when a rider is off the bike.

Press ▼ button until this symbol  appears. Press and hold the ▼ button until the walk assistance is activated, and the  symbol is flashing. (If no speed signal is detected, the real-time speed is shown as 2.5km/h.) When the ▼ button is released, it will exit the walk assistance and the  symbol will stop flashing. If there is no operation within 5 seconds, the display will automatically return to 0 mode.



Battery capacity indication

The percentage of the current battery capacity and total capacity is displayed from 100% to 0% according to the actual capacity.



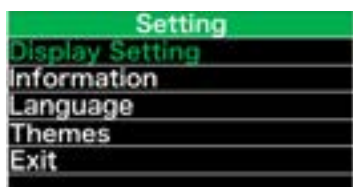
USB charge function

When the HMI is off, insert the USB device to the USB charging port on the HMI, and then turn on HMI to charge. When the HMI is on, it can direct charge for USB device. The maximum charging voltage is 5V and the maximum charging current is 500mA.



Settings

After the HMI powered on, press, and hold ▲ and ▼ button (at the same time) to enter into the setting interface. Press (< 0.5 s) the ▲ or ▼ buttons to select “Setting”, “Information” or “Exit”, then (< 0.5 s) press ⏻ button to confirm.



Setting Interface

After the HMI powered on, press and hold ▲ and ▼ button to enter into the setting interface. Press (< 0.5 s) ▲ and ▼ to select “Setting” and then press (< 0.5 s) ⏻ to confirm.



Unit Selections in km/Miles

Press ▲ or ▼ to select “Unit”, and press ⏻ to enter into the item. Then choose between “Metric” (kilometer) or “Imperial” (mile) with the ▲ or ▼ button.

Once you have chosen your desired selection, press the ⏻ button (< 0.5 s) to save and exit back to the “Setting” interface.

Note: If you choose “Metric”, all the data displayed on the HMI are metric.



Auto Off Set automatic Off time

Press ▲ or ▼ to select "Auto Off", and press ⏻ to enter.

Then select the automatic Off time as "OFF"/"1"/"2"/"3"/"4"/"5"/"6"/"7"/"8"/"9"/"10" with the ▲ or ▼ button.

Once you have chosen your desired selection, press the ⏻ button (< 0.5 s) to save and exit back to the "Setting" interface.



Note: "OFF" means the "Auto Off" function is off.

Brightness Display brightness

Press ▲ or ▼ to select "Brightness", and press ⏻ to enter into the item. Then select the percentage as "100%" / "75%" / "50%" / "25%" with the ▲ or ▼ button. Once you have chosen your desired selection, press the ⏻ button (< 0.5 s) to save and exit back to the "Setting" interface.



AL Sensitivity Set light sensitivity

Press ▲ or ▼ to select "AL Sensitivity", and press ⏻ to enter into the item. Then select the level of the light sensitivity as "OFF"/"1"/"2"/"3"/"4"/"5" with the ▲ or ▼ button. Once you have chosen your desired selection, press the ⏻ button (< 0.5 s) to save and exit back to the "Setting" interface.

Note: "OFF" means light sensor is off. Level 1 is the weakest sensitivity and level 5 is the strongest sensitivity.





TRIP Reset Set reset function for single-trip

Press ▲ or ▼ to select "TRIP Reset", and press ⏻ to enter into the item. Then select "NO" or "YES" ("YES" - to clear, "NO" - no operation) with the ▲ or ▼ button. Once you have chosen your desired selection, press the ⏻ button (< 0.5 s) to save and exit back to the "Setting" interface.

Note: The riding time (TIME), average speed (AVG) and maximum speed (MAXS) will be reset simultaneously when you reset TRIP.



Service Turn on/off the Service indication

Press ▲ or ▼ to select "Service", and press ⏻ to enter into the item. Then select "OFF"/"ON" ("ON" means Service indication is on; "OFF" means Service indication is off) with the ▲ or ▼ button. Once you have chosen your desired selection, press the ⏻ button (< 0.5 s) to save and exit back to the "Setting" interface.

Note: The default setting is OFF. If the ODO is more than 5000 km, the "Service" indication and mileage indication will flash for 4 s.



Information

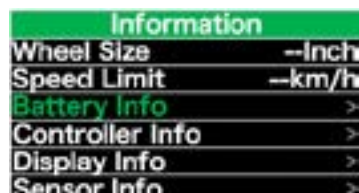
After the HMI powered on, press and hold ▲ and ▼ to enter into the setting function. Press (< 0.5 s) ▲ or ▼ to select "Information" and then press ⏻ (< 0.5 s) to confirm.

Note: All information here cannot be changed, it is to be viewed only.



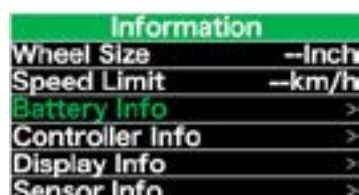
Wheel size

After entering the "Information" page, you can see "Wheel Size -- Inch" directly.



Speed limit

After entering the "Information" page, you can see "Speed Limit -- km/h" directly.

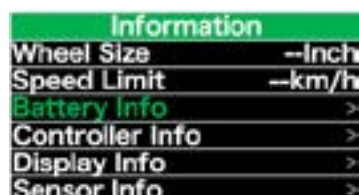


Battery info

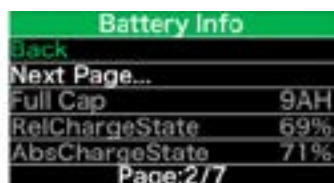
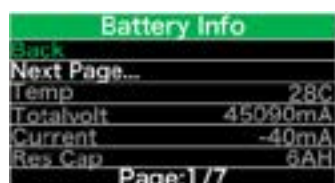
Press ▲ or ▼ to select "Battery Info", and press ⏻ to enter, then press ▲ or ▼ to view the battery data (b01 → b04 → b06 → b07 → b08 → b09 → b10 → b11 → b12 → b13 → d00 → d01 → d02 → ... → dn).

Press the ⏻ button (< 0.5 s) to exit back to the "Information" interface.

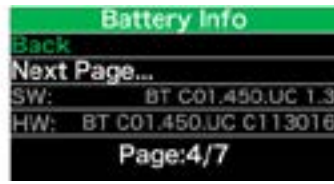
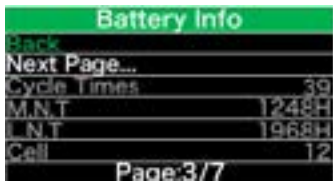
Note: If the battery doesn't have communication function, you won't see any data from battery.



View the battery information



View the hardware and software version of battery



Code	Code Definition	Unit
b01	Current temperature	°C
b04	Battery voltage	mV
b06	Current	mA
b07	Remaining battery capacity	mAh
b08	Battery capacity of full charge	mAh
b09	Relative SOC	%
b10	Absolute SOC	%
b11	Cycle times	times
b12	Max uncharge time	Hour
b12	Last uncharge time	Hour
d00	The number of cell	
d01	Voltage cell 1	mV
d02	Voltage cell 2	mV
dn	Voltage cell n	mV

Note: If no data is detected, "--" will be displayed.

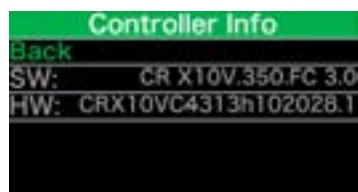
Display Info

Press ▲ or ▼ to select "Display Info", and press ⏻ to enter, press ▲ or ▼ to view "Hardware Ver" or "Software Ver". Press the ⏻ button (< 0.5 s) to exit back to the "Information" interface.



Ctrl Info

Press ▲ or ▼ to select "Ctrl Info", and press ⏻ to enter, press ▲ or ▼ to view "Hardware Ver" or "Software Ver". Press the ⏻ button (< 0.5 s) to exit back to the "Information" interface.



Sensor Info

Press ▲ or ▼ to select "Sensor Info", and press ⏻ to enter, press ▲ or ▼ to view "Hardware Ver" or "Software Ver". Press the ⏻ button (< 0.5 s) to exit back to the "Information" interface.

NOTE: If your bike doesn't have torque sensor, "--" will be displayed.



Error Code

Press ▲ or ▼ to select "Error Code", and then press ⏻ to enter, press ▲ or ▼ to view message of error for last ten times by "E-Code00" to "E-Code09". Press the ⏻ button (< 0.5 s) to exit back to the "Information" interface.



NOTE: If no data is detected, "--" will be displayed.

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Error code definition



The HMI can show the faults of bike. When a fault is detected, one of the following error codes will be indicated too.

Note: Please carefully read the description of the error code. When the error code appears, please first restart the system. If you encounter an error not listed below or if the problem is not eliminated through the following processes, please contact your dealer or technical personnel.

If these codes appear do the following check procedures as a first port of call to eliminate the issue:

- Remove and check all electrical connections for corrosion. Clean all connectors with contact cleaner or similar, and blow with an airline. Re-fit and ensure the connection is pushed to a firm stop.
- Ensure the speed sensor and magnet are the correct distance apart (10mm– 20mm).

Error	Declaration
08	Hall signal fault
21	Speed signal fault
30	Communication fault
25	Torque signal fault

Error code summary list

Error	Declaration	Troubleshooting
04	The throttle has a fault	<ol style="list-style-type: none"> 1. Check the connector and cable of the throttle are not damaged and correctly connected. 2. Disconnect and reconnect the throttle. If there is still no function, please change the throttle.
05	The throttle is not back in its correct position	<ol style="list-style-type: none"> 1. Check the connector from the throttle is correctly connected. If this does not solve the problem, please change the throttle.
07	Overvoltage protection	<ol style="list-style-type: none"> 1. Remove and re-insert the battery to see if it resolves the problem. 2. Using the BESST tool update the controller.
08	Error with the hall sensor signal inside the motor	<ol style="list-style-type: none"> 1. Check all connectors from the motor are correctly connected. 2. If the problem still occurs, please change the motor.
09	Error with the engine phases	<ol style="list-style-type: none"> 1. Please change the motor.
10	The temperature inside the engine has reached its maximum protection value	<ol style="list-style-type: none"> 1. Turn off the system and allow the bike to cool down. 2. If the problem still occurs, please change the motor.
11	The temperature sensor inside the motor has an error	<ol style="list-style-type: none"> 1. Please change the motor.
12	Error with the current sensor in the controller	<ol style="list-style-type: none"> 1. Please change the controller or contact your supplier.
13	Error with the temperature sensor inside of the battery	<ol style="list-style-type: none"> 1. Check all connectors from the battery are correctly connected to the motor. 2. If the problem still occurs, please change the battery.
14	The protection temperature inside the controller has reached its maximum protection value	<ol style="list-style-type: none"> 1. Allow the bike to cool down and restart the system. 2. If the problem still occurs, please change the controller, or contact your supplier.
15	Error with the temperature sensor inside the controller	<ol style="list-style-type: none"> 1. Allow the bike to cool down and restart the system. 2. If the problem still occurs, please change the controller or contact your supplier.

21	Speed sensor Error	<ol style="list-style-type: none"> 1. Restart the system. 2. Check that the magnet attached to the spoke is aligned with the speed sensor and that the distance is between 10 mm and 20 mm. 3. Check that the speed sensor connector is connected correctly. 4. Connect the bike to BESST, to see if there is a signal from the speed sensor. 5. Using the BESST Tool, update the controller to see if it resolves the problem. 6. Change the speed sensor to see if this eliminates the problem. If the problem still occurs, please change the controller, or contact your supplier.
25	Torque signal Error	<ol style="list-style-type: none"> 1. Check that all connections are connected correctly. 2. Please connect the bike to the BESST system to see if torque can be read by the BESST tool. 3. Using the BESST tool update the controller to see if it resolves the problem. If not, please change the torque sensor or contact your supplier.
26	The speed signal of the torque sensor has an error	<ol style="list-style-type: none"> 1. Check that all connections are connected correctly. 2. Please connect the bike to the BESST system to see if the speed signal can be read by the BESST tool. 3. Change the display to see if the problem is solved. 4. Using the BESST tool update the controller to see if it resolves the problem. If not, please change the torque sensor or contact your supplier.
27	Overcurrent from controller	<ol style="list-style-type: none"> 1. Using the BESST tool update the controller. If the problem still occurs, please change the controller, or contact your supplier.
30	Communication problem	<ol style="list-style-type: none"> 1. Check all connections on the bike are correctly connected. 2. Using the BESST tool run a diagnostics test, to see if it can pinpoint the problem. 3. Change the display to see if the problem is solved. 4. Change the EB-BUS cable to see if it resolves the problem. 5. Using the BESST tool, reupdate the controller software. If the problem still occurs, please change the controller, or contact your supplier.
33	Brake signal has an error (if brake sensors are fitted)	<ol style="list-style-type: none"> 1. Check all connectors are correctly connected on the brakes. 2. Change the brakes to see if the problem is solved. 3. If problem continues, please change the controller, or contact your supplier.
35	Detection circuit for 15V has an error	<ol style="list-style-type: none"> 1. Using the BESST tool update the controller to see if this resolves the problem. If not, please change the controller or contact your supplier.

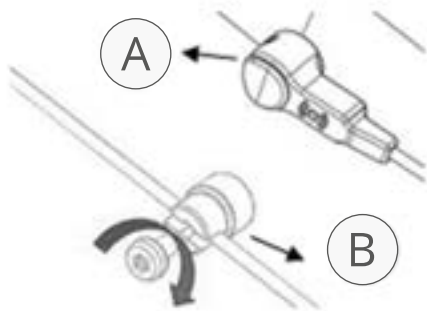
36	Detection circuit on the keypad has an error	1. Using the BESST tool update the controller to see if this resolves the problem. If not, please change the controller or contact your supplier.
37	WDT circuit is faulty	1. Using the BESST tool update the controller to see if this resolves the problem. If not, please change the controller or contact your supplier.
41	Total voltage from the battery is too high	1. Please change the battery.
42	Total voltage from the battery is too low	1. Please charge the battery. If the problem still occurs, please change the battery.
43	Total power from the battery cells is too high	1. Please change the battery.
44	Voltage of the single cell is too high	1. Please change the battery.
45	Temperature from the battery is too high	1. Please let the bike cool down. If problem still occurs, please change the battery.
46	The temperature of the battery is too low	1. Please bring the battery to room temperature. If the problem still occurs, please change the battery.
47	SOC of the battery is too high	1. Please change the battery.
48	SOC of the battery is too low	1. Please change the battery.
61	Switching detection defect	1. Check the gear shifter is not jammed. 2. Please change the gear shifter.
62	Electronic derailleur cannot release	1. Please change the derailleur.
71	Electronic lock is jammed	1. Using the BESST tool update the display to see if it resolves the problem. 2. Change the display if the problem still occurs, please change the electronic lock.
28	Torque sensor's initialization is abnormal	1. Restart the system and note not to step on the crank hard when restarting.

M510 Motor

External Speed Sensor Installation

A - Speed sensor

B - Magnet for the speed sensor



1. Fasten the mounting screws through the speed sensor with a cross head screwdriver.
2. Tighten the speed sensor onto the frame.
3. Place the rubber seal on the speed sensor hiding the screw. Torque requirement: 1.5Nm- 2Nm

Note: Please make sure the gap between the speed sensor and the magnetic unit is between 10mm and 20mm.

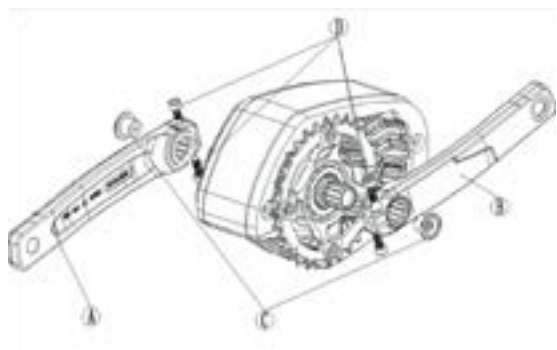
Crank Installation

A - Left crank

B - Right crank

C - Screw M16 (for the crank)

D - Hexagonal socket head cap screw M6*20



1. After mounting the right crank on the right shaft, fasten M16 screw on the shaft with the internal hex wrench
Torque is 1.5Nm.
2. Alternately fasten 2 M6 * 20 screws with an internal hex wrench. The torque for wrench is 15Nm.

Note: Do not fasten them from one side at a time.

3. Install the left crank in the same way.

Note: Please make sure two cranks are parallel.

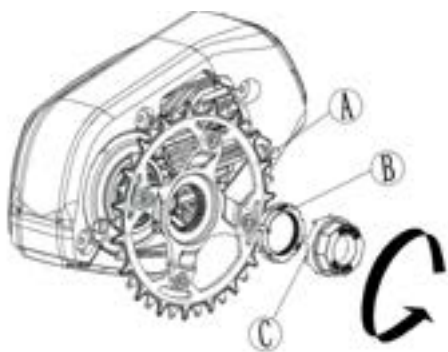
Note: Please make sure the gap between the speed sensor and the magnetic unit is between 10mm and 20mm.

Chainring Installation

A - Chainring (Chainring shall be made according to orders of the customers)

B - Lock ring

C - BAFANG tool



1. Put the chainring onto the spline shaft of the drive unit.
2. Use BAFANG tool to fasten the lock ring onto the spline shaft, with tightening torque at 35Nm.



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