

BAFANG

EN



USER MANUAL

DP C10.UART

CONTENT

Important Notice.....	4
For your safety.....	5
Note.....	6
Overview of Product	7
1 Specifications and Parameter of the Display.....	7
2 Appearance and Dimensions.....	7
3 Function Overview and Key Definitions.....	8
4 Normal Operation.....	10
5 Parameter Setting.....	12
6 Error Code Definitions.....	19
Service and Warranty Policy.....	20

IMPORTANT NOTICE

•This product conforms to <<The Technical Specification and Standard of design for BAFANG's electrical component>> and is based on << BAFANG Communication Protocol-V5.6>>;The matching kits also should be compatible with above mentioned protocol and other BAFANG's compatible protocol.

Make sure you have read this Dealer Manual carefully in order to use the product properly.

NOTE

- Plugging or unplugging the HMI with power on is forbidden.

Please contact the seller for help when any error codes show on the HMI or any failure come .

Please use this product in the given circumstance indicated in the manual.

OVERVIEW OF PRODUCT

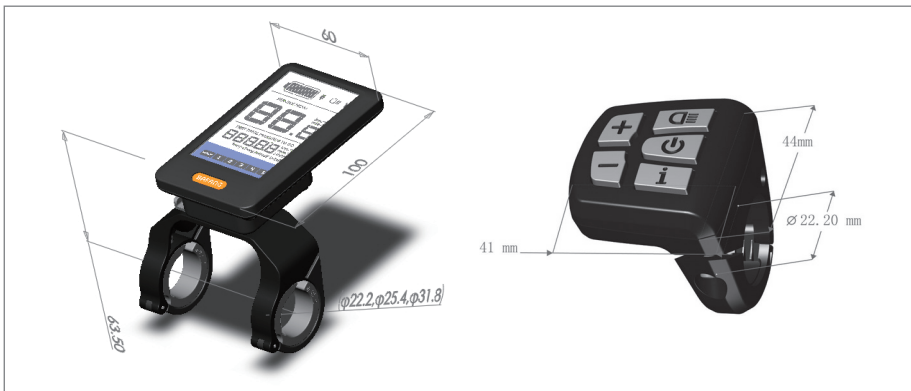
1 Specifications and Parameters of the Display

- 24V / 36V / 43V / 48V Power Supply
- Rated Current: 10mA
- Maximum Operating Current: 30mA
- Power-off Leakage Current: < 1uA
- Operating Current Supplied to the Controller: 50 mA
- OperationTemperature: -20 ℃ — +60 ℃
- Storage Temperature: -20 ℃ — +60 ℃
- Waterproof Grade: IP65
- Storage Humidity: 30 % – 70 %
- This product conforms to <<The Technical Specification and Standard of design for BAFANG's electrical component>> and is based on << BAFANG Communication Protocol-V5.6>>
- The matching kits also should be compatible with above mentioned protocol and other BAFANG's mpatible protocol.

2 Appearance and Dimensions

2.1 Materials and Dimensions

- The shell is made of PC.
- The liquid crystal display is made of hardened PMMA.

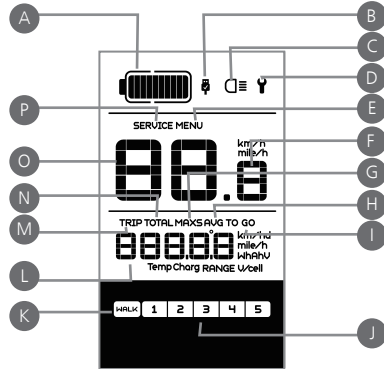




3 Function Overview and Key Definitions

3.1 Function Overview

- Use of a two-way serial communication protocol, simple operation of the display via the external 5-key keypad.
- Speed display: displaying the real-time speed as SPEED, the maximum speed as MAXS, the average speed as AVG, remaining range TO GO, Power W, Calory C .
- km or mile: The user can choose between km and mile.
- Intelligent battery level indication: With an optimization algorithm, a stable display of the battery level is ensured, and the problem of fluctuant battery level indication common with other displays is avoided.
- Automatic light-sensitive lights: The headlight, taillight and display light will be automatically turned on/ off depending on lighting conditions.
- 5 levels off display backlighting: Different levels
- 5-Level-Support: setting power Levels 1 to 5
- Trip distance indication: The maximum distance displayed is 99999. Single-trip distances TRIP or the total distance TOTAL can be displayed.
- Display of error messages
- Walk assistance
- Settings: Various parameters, e.g. mode, wheel diameter, speed limit etc., can be set on the computer via a communication cable. See the setting
- Maintenance warning (this function can be deactivated): Maintenance warning information is displayed based on battery charge cycles and riding distance. The display automatically estimates the battery life and gives warnings when the number of charge cycles exceeds the set value. A warning will also be displayed when the accumulated total riding distance exceeds the set value.

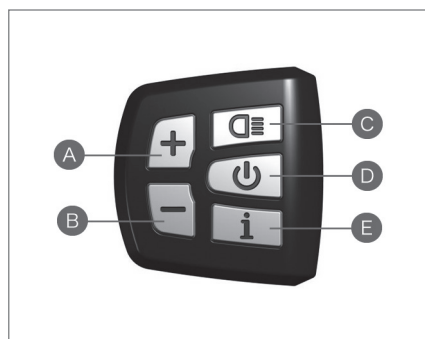
3.2 Information on the Display



- A Battery level: 10-segment battery indication; the voltage that each segment represents can be customized
- B USB charge
- C Headlight indication: only shows when headlight or backlight are on
- D Error display: When a fault is detected the symbol  will be displayed.
- E Menu
- F Speed display: display of the speed, km/h or mph
- G Max speed
- H Avg speed
- I Remaining mileage
- J Level indication: The chosen level 1–5 will be displayed; if there is no numeric display, it means that there is no assistance (by the motor). If the rider is walking and pushing the e-bike,  will be displayed.

- K Walk assistance
- L Distance indication: display of the distance depending on the setting.
- M Distance mode: display of the single-trip distance TRIP and the total distance TOTAL
- N Total mileage
- O Speed mode: average speed (AVG km/h), maximum speed (MAXS km/h)
- P Maintenance warning: When there is a need for maintenance the symbol **SERVICE** will be displayed (riding distance or the number of battery charge cycles exceed the set value, function can be deactivated)



3.3 Key Definitions





- A up
- B down
- C headlight
- D on/off
- E mode

4 Normal Operation

4.1 On/Off Switch

Turn on the device. Press and hold  for 2 seconds to power on the display. Press and hold  again for 2 seconds to power off the display. If the bike is not used, after 5 minutes (time can be set) the display will be automatically turned off.


4.2 Assist Mode Selection

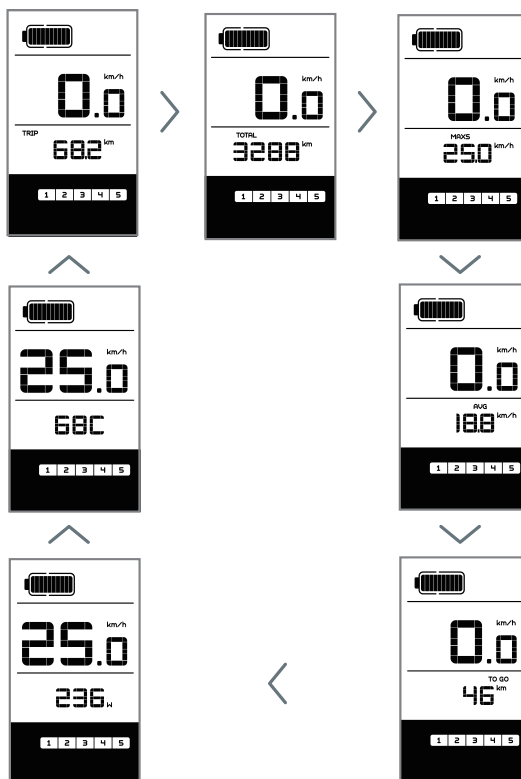
In the manual gearshift mode, press the  or  to choose the desired level of support by the motor. The lowest level is Level 1, the highest Level 5. When the display is on, the default mode is Level 1. When there is no numeric mode display, there is no power assistance.



Selecting the level for motor assistance



4.3 Switch between Distance Mode and Speed Mode

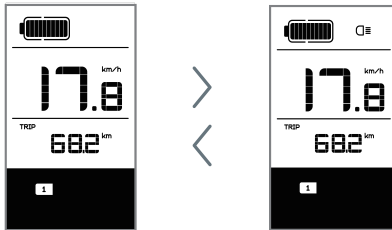
Briefly press  to switch between distance and speed. Single-trip distance (TRIP km) → total distance (TOTAL km) → maximum speed (MAXS km/h) → average riding speed (AVG km/h) → Remaining range (TO GO km) → Power(w) → Calory (c) are displayed in successive order.



Switching between displays

4.4 Headlight/ Display Backlight Switch



Press  for 2 seconds. The backlight of the display as well as the headlight and taillight will be turned on. Press  again for 2 seconds to power off the display backlight/headlight/taillight. (If the display is turned on in a dark environment, the display backlight/headlight/taillight will be turned on automatically. If the display backlight/headlight/taillight are turned off manually, they also need to be turned on manually afterwards).

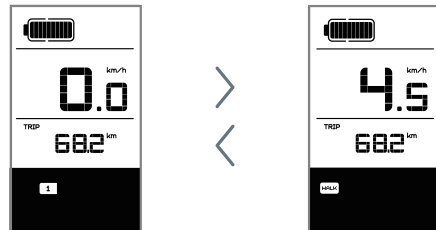


Display backlight, headlight and taillight

There are 5 levels of backlight brightness that can be selected by the user.

4.5 Walk Assistance

Press  for 2 seconds. The e-bike enters the walk assistance mode, and the symbol WALK is displayed. Once the key  is released, the e-bike will exit the walk assistance mode.



Switch between power assistance and walk assistance mode

4.6 Battery Status Indication

When the battery status is normal, a certain number of the battery LCD segments as well as the border light up according to the actual quantity of charge. If all of the 10 segments will black out with the border blinking, the battery needs to be charged immediately.



Battery status indication

Number of Segments	Charge in Percentage	Number of Segments	Charge in Percentage	Number of Segments	Charge in Percentage
10	$\geq 90\%$	6	$40\% \leq C < 50\%$	2	$8\% \leq C < 10\%$
9	$75\% \leq C < 90\%$	5	$30\% \leq C < 40\%$	1	$5\% \leq C < 8\%$
8	$60\% \leq C < 75\%$	4	$20\% \leq C < 30\%$	border blinking	$C < 5\%$
7	$50\% \leq C < 60\%$	3	$10\% \leq C < 20\%$		

4.7 USB Charging

When the HMI is off, please just plug the USB cable to HMI charging port and then switch on HMI for charging; and when the HMI is on, please just plug the USB cable to HMI charging port for charging. The maximum charging current is 500mA.





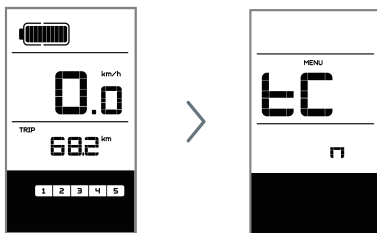
5 Advanced User

5.1 Items to be Set:





- 1 > Data reset
- 2 > km/mile
- 3 > Light sensitivity
- 4 > Display backlight brightness
- 5 > Automatic off time
- 6 > Maintenance warning settings
- 7 > Wheel size indication
- 8 > Speed limit indication
- 9 > Battery communication indication
- 10 > Error code record indication

5.2 Setting Preparation

When the display is active, press  twice (interval < 0.3 seconds). The system will enter the MENU parameter setting state, in which the display parameters can be set. Press  twice again (interval < 0.3 seconds) to return to the main menu.






Menu for entering the parameter settings

In the parameter setting state, when the parameter you want to set begins to flash, press  /  to adjust the parameter value. Briefly press  to switch between the parameters to be set. Press  twice (interval < 0.3 seconds) to exit the submenu.

If no operation is performed for 10 seconds, the display will return to the normal riding display.

5.3 Data Reset

Press  twice (interval < 0.3 seconds) – the display enters the MENU state. In the speed field tC is displayed. If you press , a y is also displayed. Now all temporary data, e.g. maximum speed (MAXS), average speed (AVG) and single-trip distance (RIP) can be cleared. Briefly press  (< 0.3 seconds) to enter the km/mile setting interface.

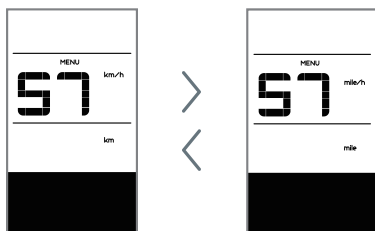
If the user does not reset the data, the single trip distance and the accumulated total riding time will be automatically cleared when the accumulated total riding time exceeds 99 hours and 59 minutes.



The data will not be cleared when the display's light-sensing function is set to 0 or when it is switched off.

5.4 km/mile

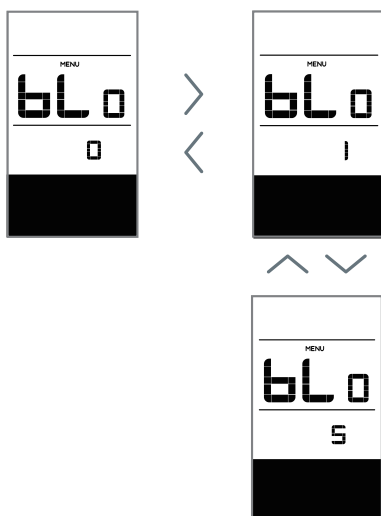
When the speed field displays S7, press **+**/**-** to switch between km/h and mph, or to set km or mile. After this setting, briefly press **i** (< 0.3 seconds) to enter the setting interface of light sensitivity.



5.5 Light Sensitivity

When the speed field displays bL0, use **+**/**-** to choose a figure between 0 and 5. The higher the chosen figure, the higher the light sensitivity.

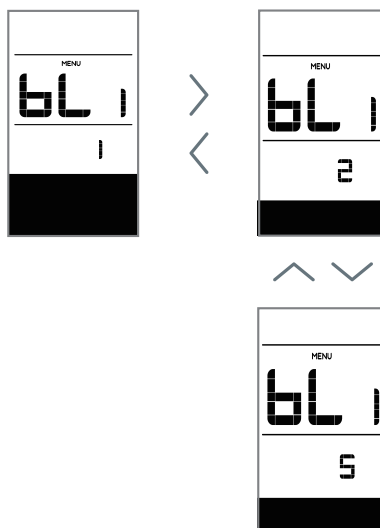
After this setting, briefly press **i** (< 0.3 seconds) to enter the setting interface of backlight brightness.



5.6 Display Backlight Brightness

When the speed field displays bL1, press **+**/**-** to choose a figure between 1 and 5. The figure 1 represents the lowest brightness while 5 indicates the highest display backlight brightness.

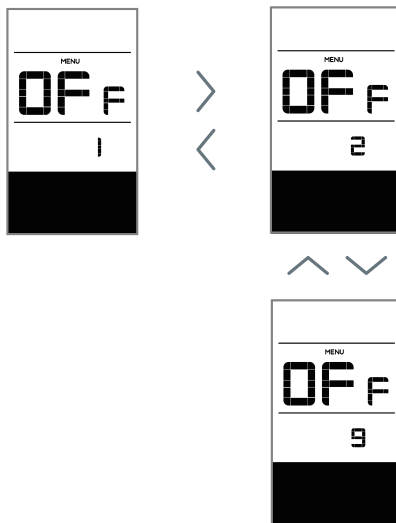
After this setting, briefly press **i** (< 0.3 seconds) to enter the setting interface of automatic off time.



5.7 Automatic Off Time

When the speed field displays OFF, press to choose a figure between 1 and 9. The figures indicate the minutes that it takes to automatically shut down the display.

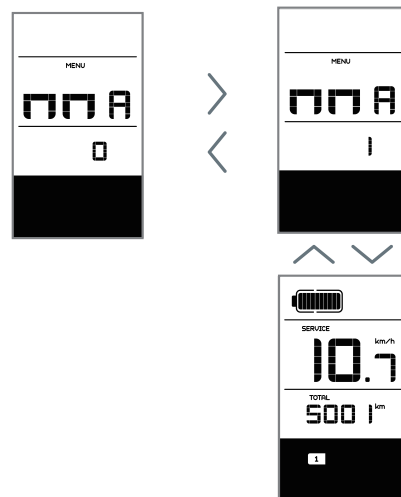
After this setting, briefly press (< 0.3 seconds) to enter the setting interface of maintenance warning.



5.8 Maintenance Warning (can be deactivated)

When the speed field displays nnA, press to choose either 0 or 1. 0 disables the function while 1 enables it.

After this setting, briefly press (< 0.3 seconds) to enter the setting interface of password input.



Maintenance Warning Setting

The display will prompt maintenance necessity based on such information as the accumulated riding distance and the battery charge cycles.

- When the accumulated total riding distance exceeds 5,000 km (can be customized by the manufacturer), the display will show the symbol **SERVICE**. When the display is started up, the sign for accumulated riding distance will flash for 4 seconds, indicating that maintenance is necessary.
- When the number of battery charge cycles exceeds 100 (can be customized by the manufacturer), the display will the symbol **SERVICE**. When the display is started up, the sign for


battery will flash for 4 seconds, indicating that maintenance is necessary.

- The maintenance alert function can be disabled: settings → maintenance alert (MA) → maintenance alert (MA) → 0. (Please log in BESST and follow the instruction to clear the maintenance).

5.9


Wheel size indication

When the speed position displays Wd, you can check the wheel size in the default. The measurements are in inches. A wrong wheel diameter can lead to speed anomalies.

After this setting, briefly press  (< 0.3 seconds) to enter the setting interface of speed limit. If resetting the wheel size is needed, please log in BESST and follow the instruction to set.





5.10 Speed indication

When the speed field displays SPL, the distance field displays the value of the speed limit. Press  (< 0.3 seconds) to enter the menu of battery communication. If resetting the speed limit is needed, please log in BESST and follow the instruction to set.



5.11 Battery Communication

The speed field displays b01 and the distance field displays the speed limit. Press  (< 0.3 seconds) to see the other information in sequence. After this setting, press  twice (< 0.3 seconds) to exit the menu.

- Only when communication has been established between the battery and the controller the following information will be displayed, otherwise the display will only show "- - -".



5.12 Information on the battery menu


Information Displayed in the Speed Field	Explanation	Unit
b01	current temperature	°C
b04	total voltage	V
b06	average current	A
b07	remaining capacity	Ah
b08	full capacity	Ah
b09	relative state of charge	
b10	absolute state of charge	
b11	charge/discharge cycle	
b12	longest period without charge	h
b13	period since last charge	h
d00	cells amount	
d01	voltage cell 1	V
d02	voltage cell 1	V
.....	
dn	voltage cell n	V

5.13 Error code record

E00-E09 indicate the error codes stored, and the maximum up to 10 screen shots and E00 present the latest error.



6 Error Code Definitions

The DP C10.UART can show e-bike faults. When a fault is detected, the icon  will be displayed. In the speed field one of the following error codes will be displayed:

Error Code	Error Description	Error-shooting Method
"03"	Brake enabled	Check whether a brake cable is stuck
"04"	The throttle has not returned home	Check if throttle has returned home
"05"	Throttle fault	Check the throttle
"06"	Low voltage protection	Check the battery voltage
"07"	Overvoltage protection	Check the battery voltage
"08"	Motor hall signal cable fault	Check the motor module
"09"	Motor phase cable fault	Check the motor module
"10"	The motor temperature has reached the threshold.	Stop the bicycle until the error code "10" disappears from the screen.
"11"	Controller temperature sensor failure	Check the controller
"12"	Current sensor failure	Check the controller
"13"	Battery temperature fault	Check the battery
"21"	Speed sensor fault	Check installation position of speed sensor
"22"	BMS communication fault	Replace the battery
"30"	Communication fault	Check the controller connection



Error display

Note: Error Code 10 will probably appear on the display when the e-bike is climbing for a long time. This indicates that the motor temperature has reached the protection value, in which case the user needs to stop the e-bike for a rest. If the user continues to run the e-bike, the motor will automatically cut off the power.

SERVICE AND WARRANTY POLICY

Suzhou Bafang Motor Science-Technology Co., Ltd (hereinafter referred to as the BAFANG) guarantees: During the warranty period, BAFANG gives warranty *for products bought from BAFANG or dealers, as long as the reclamation concerns quality defects caused by the material or manufacture.* (This only applies to BAFANG complete drive systems; BAFANG component parts are not covered by the warranty.)

Warranty Period and Scope

The warranty period starts from the date of leaving factory. It is 30 months for motors, and 18 months for controllers, displays, sensors and other electrical components.

The following faults are not covered by the warranty:

- Damage, failure and/or loss caused by refitting, neglect or improper maintenance, use for competition or commercial purposes; incorrect or improper use or accidents
- Damage, failure and/or loss due to transport by the purchaser
- Damage, failure and/or loss on/of the product caused by improper installation, adjustment or repair
- Damage, failure and/or loss not caused by the material or manufacture, but by incorrect use by the purchaser
- Damage, failure and/or loss to the exterior of the product that does not affect its function
- Damage, failure and/or loss caused by repair or installation undertaken by repair bases or dealers unauthorized by BAFANG
- Damage, failure or loss caused by normal wear and tear

BAFANG reserves the right to repair or replace faulty components, and is only obliged to repair or replace them.

If bike manufacturers or dealers encounter quality issues when using or selling BAFANG products, they can report the purchase order number and serial number of the product to BAFANG service department. who will check whether the products are under warranty or not. For products under warranty, BAFANG will provide free repair or give a replacement. If a repair is necessary after the expiry of the warranty period, BAFANG will invoice component parts, labor cost and shipping. If the BAFANG system needs repairing on a bike, please contact the bike manufacturer or dealer directly.

If this warranty statement is against a current law at the place of business of the dealer, the legislation currently in force shall prevail. BAFANG reserves the right to modify the terms without prior announcement.

For more information, please visit the company website: www.szbf.com

The BAFANG logo consists of the word "BAFANG" in white, uppercase, sans-serif font, centered within an orange rounded rectangle.

BAFANG

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