

DP C15.UART



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INTRODUCTION

- Name: Intelligent display
- Model: DP C15.UART
- Scope: EN15194 electrically power assisted cycles
- Appearance: (as figure)



- Numbering on the back of display
Number in the middle of display back, number is divided into two lines (as shown in the figure):



A. First line (as below)

DP C15.U 1.1

- ① DP C15.U : BAFANG display model
- ② 1.1: Hardware version number

B. Second line (as below)

602P1R3230002

① 602: Wire length and connector type
850 M5.2

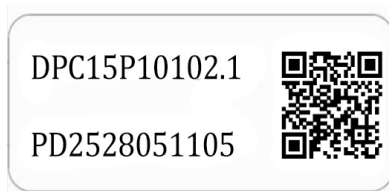
② P1: Internal identify number

③ R3230002: Production date is 23th

Mar. 2017, the series number is 0002.

- Label number rule:

Number in the middle of P type cable label, number is divided into two lines and QR code is at right side (as figure):



- ① First line:

DPC15P10102.1 - Software version

- ② Second line:

PD2528051105 - Parameter code

- ③ Content of QR code:

DPC15P10102.1

PD2528051105

DPC15.U 1.1

602P1R3230002

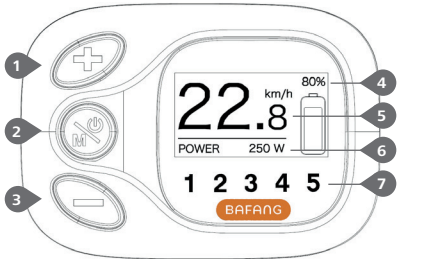
SPECIFICATIONS

- Rated voltage: 36V /43V /48DC
- Rated current: 10mA
- Maximum operating current: 30mA
- Power-off leakage current: $\leq 1\mu\text{A}$
- Operating current which supplied to controller: 50mA
- Operation temperature: $-20^{\circ}\text{C} \sim 45^{\circ}\text{C}$
- Storage temperature: $-30^{\circ}\text{C} \sim 70^{\circ}\text{C}$
- IP level: IP65
- Storage ambient humidity: 30%-70%

FUNCTIONS OVERVIEW

- Intelligent battery capacity indication.
- Indication of power assistance level.
- Speed indication (including maximum speed and average speed, unit switching between km and mile).
- Motor output power indication.
- Time indication for single riding.
- Trip indication (including single-trip distance, total distance and remaining distance).
- Control and indication for push assistance.
- Control and indication for the headlight.
- Check the battery's information.
- Record and indication for the error information.
- Indication for consumption of energy CALORIES. (Note: If the display has this function)
- Indication for the remaining distance. (Note: it needs the display supports this function)

NORMAL INDICATION AREA



- 1 Up
- 2 ON/OFF/Mode
- 3 Down
- 4 Intelligent battery capacity indication
- 5 Real-time speed indication
- 6 Multiple function indication area
- 7 Power assistance level indication

- Real-time speed indication: Indicate real-time speed unit km/h or MPH.
- Intelligent battery capacity indication: Show the percentage of remaining battery capacity which accounts for total battery capacity.
- Multiply function indication: It consists of single-trip distance TRIP, total distance ODO, remaining distance RANGE, output power POWER, energy consumption Cal, riding time TIME. (Note: Within ten seconds, the display will detect the pedal sensor type, if torque sensor, then the display will show the interface of the calorie, if display get remaining range data, the display will show the interface of the remaining distance, otherwise the display will not show the two interface)
- Assistance level indication: Indicate the current level from level 1~ level 5, If no number is displayed, it means no power assistance.

BUTTON DEFINITION

- i** There are three buttons for C15, including ON-OFF/Mode, Up and Down .

NORMAL OPERATION

- i** “press and hold” means press and hold for more than two seconds, briefly press means press for less than 0.5 second.

- **ON/OFF**

Press and hold power button, the display starts working. Press and the power button again, then it turns off. When it is off, the display doesn't consume the power, the leakage current is less than 1uA.

- **Turn on the headlight /turn off the headlight**

Turn on the light: When the headlight is off and press and hold the button “+”, the luminance of the display backlight will decrease and the icon of the headlight will be showed.

Turn off the light: When the headlight is on and press and hold the button “+”, the luminance of the display backlight will increase and the icon of headlight will disappear.



(The interface: headlight has been turned on)

- **6KM/H push assistance**

Press and hold the “-”, display will show the icon  and the E-bike enter into the mode of push assistance, release the “-” button, the icon disappear from the display and the E-bike exit the mode of push assistance.



(The interface: mode of push assistance)

• Multiple functions interface

After starting up, the default interface is "TRIP" (single trip distance). Press "Mode" briefly circularly, it can circularly switch as "TRIP" (single trip distance) → "ODO"(total distance) → "MAX"(maximum riding speed) → "AVG"(average riding speed) → "RANGE"(remaining distance) → "CALORIES/CAL"(KCal) → "TIME"(riding time) → "POWER"(output power) → "TRIP"(single trip distance).



• Error code indication

When the failure occurs, the display will show the error code and the display will flicker at the same time. See the detailed definition shown in the table of the Annex1. Only when the failure is solved, it can exit the error code interface. When failure happens, the rider shall stop riding immediately.

Error 30

(The interface: error code)

FUNCTIONS SETTING

- i** Press and hold “+”button & “-”button at the same time to enter into the menu list (“Display Setting”, “Information”, “EXIT”). Briefly press “+”button or “-”button to select “Display Setting”, “Information” or “EXIT”, and then briefly press the “ON/OFF” to select it.

Display Setting
Information
Exit

(Interface for the functions selection)

- Trip Reset - Unit - Brightness - Auto Off	- Back
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(Interfaces for “Display Setting” selection)

- Wheel Size
- Speed Limit
- Battery Info
- Error Code
- Back

(Interfaces for “Information” selection)

• Reset single-trip distance

Enter into “Display Setting” menu and briefly press “+” or “-” to select “TRIP Reset” and briefly press “ON/OFF”. And then, briefly press “+” or “-” to select “NO”/ “YES” (“YES” means reset, “NO” means no reset). Briefly press “ON/OFF” to save the setting and exit back to the “TRIP Reset”. Press and hold “+” & “-” at the same to save and exit back to main interface or select “BACK” → “EXIT” to exit back to main interface. (Note: after setting, pressing and holding “+” and “-” at the same time means saving setting and exiting back to main interface). When resetting the

single-trip distance, it resets the riding time, average speed, maximum speed at the same time.

Trip Reset No	Trip Reset Yes
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(“YES” means resetting, “NO” means no resetting)

• Unit switch between Metric and Imperial

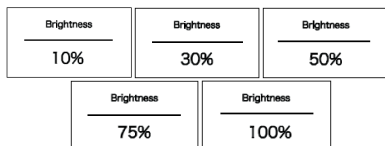
Enter into “Display Setting” menu and briefly press “+” or “-” to select “Unit”, and then briefly press “power” to confirm selection. Briefly press “+” or “-” to select “Metric”/ “Imperial” and then briefly press “power” to save the setting and exit back to “Unit”. Press and hold “+” & “-” at the same time to exit back main interface or select “BACK” → “EXIT” to exit main interface. (Note: If selecting the metric interface, the all information will be metric; if selecting the imperial, the all information will be imperial.)

Unit Metric	Unit Imperial
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(“Metric”unit / “Imperial”unit)

• Backlight luminance setting

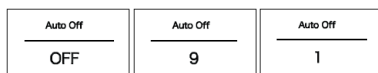
Enter into “Display Setting” interface and briefly press “+” or “-” to select “Brightness” and then briefly press “power” to confirm selection. Briefly press “+” or “-” to select as “100%”/ “75%”/ “50%”/ “30%”/ “10%”. After selection, briefly press “power” to save the setting and exit back to the “Brightness” interface. Press and hold “+” and “-” at the same time to exit back to main interface or select to “BACK” → “EXIT” to exit back to main interface.



(Backlight luminance level display interface)

• “Auto Off” time setting

Enter into “Display Setting” interface and briefly press “+” or “-” to select “Auto Off” and then briefly press “power” to confirm selection. Briefly press “+” or “-” to select as “OFF”/“9”/“8”/“7”/“6”/“5”/“4”/“3”/“2”/“1”. After selection, briefly press “power” to save the setting and exit back to “Auto Off” interface. Press and hold “+” and “-” at the same time to exit back to main interface or select “BACK” → “EXIT” to exit back to main interface.

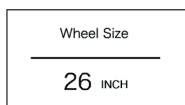


(“Auto Off” time setting interface)

• Check wheel size

Enter into “Information” interface and briefly press “+” or “-” to select “Wheel Size” and then briefly press “power” to check the wheel size.

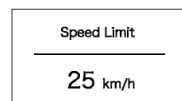
Briefly press “power” to exit back to “Information” interface. Press and hold “+” and “-” at the same time to exit back to main interface or select “BACK” → “EXIT” to exit back main interface.



(Wheel size indication interface)

• Check speed limit

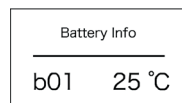
Enter into “Information” interface and briefly press “+” or “-” to select “Speed Limit” and briefly press “power” to check the speed limit. Briefly press “power” again to exit back to “Information” interface. Press and hold “+” and “-” to exit back to main interface or select “BACK” → “EXIT” to exit back main interface.



(Speed limit indication interface)

• Check battery information

Enter into “Information” interface and briefly press “+” or “-” to select “Battery Info.” And briefly press “power” to confirm selection. Briefly press “+”, it display in turn b01 → b04 → b06 → b07 → b08 → b09 → b10 → b11 → b12 → b13 → d00 → d01 → d02 → ... → dn. briefly press “power” to exit back to “Battery Info.” Press and hold “+” and “-” to exit back main interface or select “BACK” → “EXIT” to exit back to main interface.

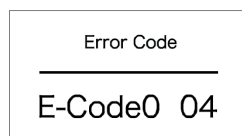


(Battery information indication interface)

Information code	Definition	Unit
b01	Current temperature	℃
b04	Total voltage	mV
b06	Average current	mA
b07	Remaining capacity	mAh
b08	Full capacity	mAh
b09	Relative state of charge	%
b10	Absolute state of charge	%
b11	Cycle	times
b12	Maximum not charging time	h
b13	Recently not charging time	h
d00	Number of battery cell	
d01	Voltage of cell 1	mV
d02	Voltage of cell 2	mV
.....		mV
dn	Voltage of cell n	mV

• Check history of error codes

Enter into “Information” interface and briefly press “+” or “-” to select “Error Code” and briefly press “power” to check history. Briefly press “+” to circularly display history of error code for latest ten times from “E-Code0” to “E-Code9”. Briefly press “power” to exit back to “Information” interface or press and hold “+” and “-” to exit back to main interface.



(Display interface for record of error code)

ERROR CODE DEFINITION

 This HMI DP C15.UART can indicate all errors occurring on the pedelec.

Error	Explanation	Troubleshooting
03	Brakes enabled	Check whether a brake cable is stuck.
07	High voltage protection	Bring your Pedelec to your dealer or to a specialist to have the error fixed.
08	Fault with motor hall sensor inside	Bring your Pedelec to your dealer or to a specialist to have the error fixed.
10	The motor temperature reaches to the max protection value	Stop the e-bike for a rest.
12	Fault with current sensor inside controller	Bring your Pedelec to your dealer or to a specialist to have the error fixed.
13	Fault with temperature sensor inside battery	Bring your Pedelec to your dealer or to a specialist to have the error fixed.
21	Fault with wheel speed detecting sensor	Bring your Pedelec to your dealer or to a specialist to have the error fixed.
22	BMS communication fault	Bring your Pedelec to your dealer or to a specialist to have the error fixed.
25	Torque sensor torque signal fault	Bring your Pedelec to your dealer or to a specialist to have the error fixed.
26	Torque sensor speed signal fault	Bring your Pedelec to your dealer or to a specialist to have the error fixed.
30	Communication fault	Bring your Pedelec to your dealer or to a specialist to have the error fixed.

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.

NOTES
