

# 7 DEALER MANUAL FOR DP C231.CAN



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# 7.1 IMPORTANT NOTICE

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- 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 under 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/guarantee is not included due to wear and normal use and aging.

# 7.2 INTRODUCTION OF DISPLAY

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- Model: DP C231.CAN BUS
- The housing material is ABS and acrylic:
- The label marking is as follows:



BAFANG  
DPC231CK10202.0  
PD051305



- i** **Note:** Please keep the QR code label attached to the display cable. The information from the Label is used for a later possible software update.

## 7.3 PRODUCT DESCRIPTION

### 7.3.1 Specifications

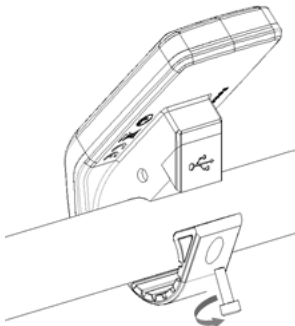
- Operating temperature: -20 °C~45 °C
- Storage temperature: -20 °C~50 °C
- Waterproof: IP65
- Bearing humidity: 30%-70% RH

### 7.3.2 Functional Overview

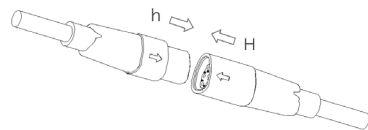
- Speed display (including top speed and average speed, switching between km and miles).
- Battery capacity indicator.
- Automatic sensors explanation of the lighting system.
- Brightness setting for backlight.
- Indication of performance support.
- Motor input power indicator.
- Kilometer stand (including single-trip distance, total distance and remaining distance).
- Walk assistance.
- Energy consumption indicator CALORIES (Note: If the display has this function).
- Display for the remaining distance. (Depends on your riding style)
- USB charging function.
- Maintenance reminder function
- "Error Code" indicator
- Bluetooth communication

## 7.4 DISPLAY INSTALLATION

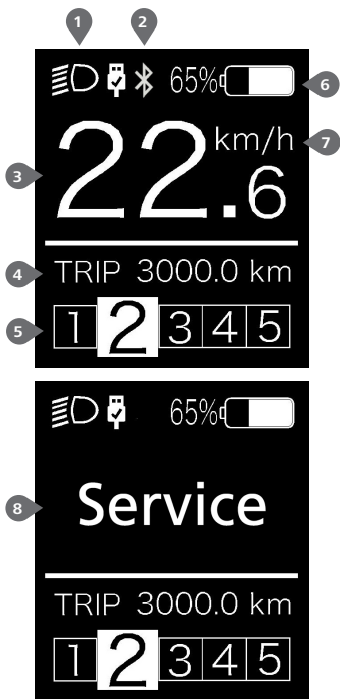
1. Open the clamps of display and place the display on to the handlebar in the correct position. Now with M3\*10 screws tighten the display into position. Torque requirement: 1 N.m. (it is suitable for handlebar:  $\varnothing$  22.2 cm)



2. Please link the display to the EB-BUS cable.



## 7.5 DISPLAY





- 1 The display shows this symbol, if the light is on. USB charging indicator displays the icon , if an external USB device is connected to the display.
- 2 The Bluetooth indicator displays when the Bluetooth device is connected.
- 3 Speed display in real time.
- 4 Trip: Daily kilometers (TRIP) - Total kilometers (ODO) - Top speed (MAX) - Average speed (AVG) - Range (RANGE) - Output power (POWER) - Energy Consumption (CALORIES) - Travel time (TIME).
- 5 Support level/ Walking assistance
- 6 Display of battery capacity in real time.
- 7 Unit switching between km and miles.
- 8 Service: Please see the service section

## 7.6 KEY DEFINITION





# 7.7 NORMAL OPERATION

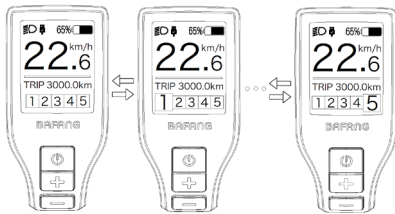
## 7.7.1 Switching the System ON/OFF

Press and hold  (>2S) on the display to turn on the system. Press and hold  (>2S) again to turn off the system.

If the "automatic shutdown time" is set to 5 minutes it can be set with the "Auto Off" function See **"Auto Off"**, the display will automatically be turned off within the desired time when it is not in operation. If the password function is enabled, you must enter the correct password to use the system.


## 7.7.2 Selection of Support Levels

When the display is turned on, press the  or  (<0.5S) button to switch to the support level, the lowest level is 0, the highest level is 5. When the system is switched on, the support level starts in level 1. There is no support at level 0.



## 7.7.3 Headlights / backlighting







Hold the  (>2S) button to activate the headlight and taillights.

Hold the  (>2S) button again to turn off the headlight. The brightness of the backlight can be set in the display settings **"Brightness"**. If the display /Pedelec is switched on in a dark environment, the display backlight/headlight will automatically be switched on. If the display backlight/headlight has been manually switched off, the automatic sensor function is deactivated. You can only turn on the light manually. After switching on the system again.



### 7.7.4 Walk Assistance

The Walk assistance can only be activated with a standing pedelec.

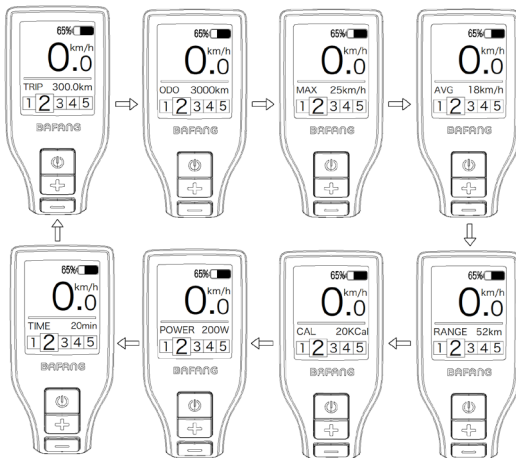
Activation: Press the  button until this symbol  appears. Next hold down the  button whilst the  symbol is displayed. Now the Walk assistance will activate. The symbol  will flashes and the pedelec moves approx. 6 km/h. After releasing the  button, the motor stops automatically and switches back to level 0.



### 7.7.5 Selection Mode

Briefly press the  (0.5s) button to see the different trip modes.

Trip: daily kilometers (TRIP) - total kilometers (ODO) - Maximum speed (MAX) - Average speed (AVG) - Range (RANGE) - Energy consumption (CALORIES(only with torque sensor fitted)) - Input power (POWER) - Travel time (TIME).




### 7.7.6 Display of battery capacity

The indicator displays the capacity in real time, when battery is fully charged, it shows 100%, if it is less than 5%, then the outline of indicator will flash, that means the battery needs to be charged immediately.



### 7.7.7 USB charging function

USB charging indicator displays the icon  and start to charge, if an external USB device is connected to the display. (max. Voltage is 5v, max. Current is 500 mA)



### 7.7.8 Bluetooth function

This display can be connected to the Bafang Go APP through Bluetooth.

This display can be connected to the SIGMA heartbeat band and shows it on display, and can also send data to the mobile phone.



### 7.7.9 SERVICE

The display shows "Service" as soon as a certain number of kilometers or battery charges has been reached. With a mileage of more than 5000 km (or 100 charge cycles), the "Service" function is displayed on the display. Every 5000 km the display "SERVICE" is displayed every time. This function can be set in the display settings.

# 7.8 SETTINGS

After the display is turned on, press the **+** and **-** button (>2S) synchronously, to access the "SETTINGS" menu. By pressing the **+** or **-** button (<0.5S), you can select: Setting, Information or EXIT. Then press the **⏻** button (<0.5S) to confirm your selected option.

Or select "EXIT" and press the **⏻** button (<0.5S) to return to the main menu, or select "BACK" and the **⏻** button (<0.5S) to return to the Settings interface.

If no button is pressed within 20 seconds, the display will automatically return to the main screen and no data will be saved.



You can synchronously press the **+** and **-** button (>2S) at any time, to return to the main screen.

By pressing the BACK button in the display or information menu you can get to Settings Selection Menu.

## 7.8.1 "Setting"

Press the **+** or **-** button (<0.5S) to select "Setting", and then briefly press the **⏻** button (<0.5S) to access the following selections.

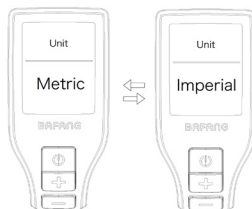


### 7.8.1.1 "TRIP Reset" Reset mileage

Press the **+** or **-** button (<0.5S) to highlight "TRIP Reset" in the Setting menu, and then press **⏻** (<0.5S) to select. Then with the **+** or **-** button choose between "YES" or "NO". Once you have chosen your desired selection, press the **⏻** button (<0.5S) to save and exit to the "Setting" interface.

### 7.8.1.2 "Unit" Selections in km/Miles

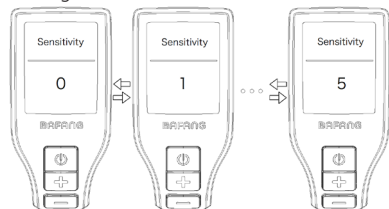
Press the **+** or **-** button (<0.5S) to highlight "Unit" in the Setting menu, and then press the **⏻** button (<0.5S) to select. Then with the **+** or **-** button choose between "Metric" (kilometer) or "Imperial" (Miles). Once you have chosen your desired selection, press the **⏻** button (<0.5S) to save and exit to the "Setting" interface.





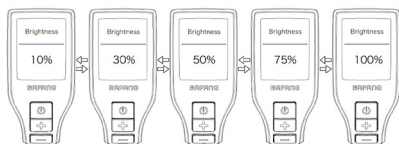
### 7.8.1.3 "Sensitivity" Automatic Headlight sensitivity

Press the **+** or **-** (<0.5S) button to highlight "Sensitivity" in the Setting menu, and then press **⏻** (<0.5S) to select. Then with the **+** or **-** button choose between "0" / "1" / "2" / "3" / "4" / "5". Once you have chosen your desired selection, press the **⏻** button (<0.5S) to save and exit to the "Setting" interface.



### 7.8.1.4 "Brightness" Display brightness

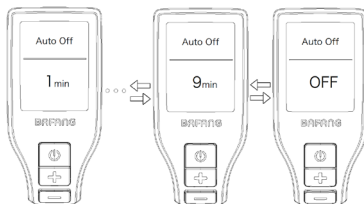
Press the **+** or **-** button (<0.5S) to highlight "Brightness" in the Setting menu. Then press **⏻** (<0.5S) to select. Then with the **+** or **-** button choose between "100%" / "75%" / "50%" / "30%" / "10%". Once you have chosen your desired selection, press the **⏻** button (<0.5S) to save and exit to the "Setting" interface.



### 7.8.1.5 "Auto Off" Set Automatic system switch off time

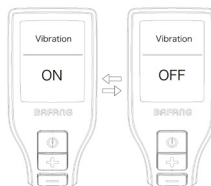
Press the **+** or **-** button (<0.5S) to highlight "Auto Off" in the Setting menu, and then press **⏻** (<0.5S) to select. Then with the **+** or **-** button choose between "OFF", "9"/"8"/"7"/"6"/"5"/"4"/"3"/"2"/"1", (The numbers are measured in minutes). Once you have chosen your desired selection,

press the **⏻** button (<0.5S) to save and exit to the "Setting" interface.



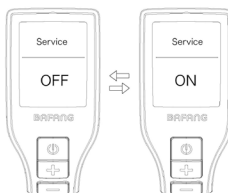
### 7.8.1.6 "Vibration" Selection vibration function

Press the **+** or **-** button (<0.5S) to highlight "Vibration" in the Setting menu, and then press **⏻** (<0.5S) to select. Then with the **+** or **-** button choose between "ON" and "OFF". Once you have chosen your desired selection, press the **⏻** button (<0.5S) to save and exit to the "Setting" interface.



### 7.8.1.7 "Service" Switching the notification on and off

Press the **+** or **-** button (<0.5S) to highlight "Service" in the Setting menu, and then press **⏻** (<0.5S) to select. Then with the **+** or **-** button choose between "ON" and "OFF". Once you have chosen your desired selection, press the **⏻** button (<0.5S) to save and exit to the "Setting" interface.



## 7.8.2 "Information"

Once the system is turned on, Press the **+** and **-** button (>2S) synchronously, to access the "SETTINGS" menu. Press **+** or **-** button (<0.5S) to select "Information", and then press the **⏻** button (<0.5S) to confirm your selection.



### 7.8.2.1 Wheel Size

Press the **+** or **-** button (<0.5S) to highlight "Wheel Size" in the Information menu, and then press **⏻** (<0.5S) to select. Then press the **⏻** button (<0.5S) to exit to the "Information" interface.

The "Wheel Size" cannot be changed, this information is here to be viewed only.



### 7.8.2.2 Speed Limit

Press the **+** or **-** button (<0.5S) to highlight "Speed Limit" in the Information menu, and then press **⏻** (<0.5S) to select. Then press the **⏻** button (<0.5S) to exit to the "Information" interface.

The "Speed Limit" cannot be changed, this information is here to be viewed only.



### 7.8.2.3 Battery Information

Press the **+** or **-** button (<0.5S) to highlight "Battery Info." in the Information menu, and then press **⏻** (<0.5S) to select. Press the **+** or **-** button (<0.5S) to view the battery info. Once you have viewed your desired information, press the **⏻** button (<0.5S) to exit to the "Information" interface.

Content	Explanation
b01	Current temperature in degrees (°C)
b04	Total Voltage (V)
b06	Discharge Current (A)
b07	Remaining Capacity (mAh)
b08	Full charged Capacity (mAh)
b09	Default Loader Status (%)
b10	Instant charge (%)
b11	Charging cycles (number)
b12	Maximum time in which no charge was made (Hr)
b13	Last Uncharged Time (Hr)
d00	Total Cell Number (individual)
d01 - d10	Cell Voltage 1 to 10 (mV)

Content	Explanation
HW	Hardware Version
SW	Software Version

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

### 7.8.2.4 Controller Information

Press the **+** or **-** button (<0.5S) to highlight "Ctrl Info", and then press the **⏻** button (<0.5S) to confirm. Once you have viewed your desired information press the **⏻** button (<0.5S) to exit to the "Information" interface.



### 7.8.2.5 Display Information

Press the **+** or **-** button (<0.5S) to highlight "Display Info", and then press the **⏻** button (<0.5S) to confirm. Once you have viewed your desired information press the **⏻** button (<0.5S) to exit to the "Information" interface.



### 7.8.2.6 Torque Information

Press the **+** or **-** button (<0.5S) to highlight "Torque Info", and then press the **⏻** button (<0.5S) to confirm. Once you have viewed your desired information press the **⏻** button (<0.5S) to exit to the "Information" interface.



### 7.8.2.7 Error Code

Press the **+** or **-** (<0.5S) button and select "Error Code", and then press the **⏻** button (<0.5S) to confirm. It shows error information for the last ten errors of the pedelec. Error code "00" means that there is no error. Once you have viewed your desired information press the **⏻** button (<0.5S) to exit to the "Information" interface.

**NOTE: delete the error message**

If you enter into the interface of error message, press and hold the button **⏻**, **+** and **-** at the same time, you can delete the error message.



# 7.9 ERROR CODE DEFINITION

**i** The display can show the errors of a pedelec. If an error is detected, the error code appears on the display and one of the following error codes will be displayed.

**Note:** Please read the description of the error code carefully. If you see the error code, restart the system first. If the problem is not resolved, please contact your dealer.

Error	Declaration	Troubleshooting
04	The throttle has fault.	<ol style="list-style-type: none"><li>1. Check the connector and cable of the throttle are not damaged and correctly connected.</li><li>2. Disconnect and reconnect the throttle, if still no function please change the throttle.</li></ol>
05	The throttle is not back in its correct position.	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"><li>1. Remove and re-Insert the battery to see if it resolves the problem.</li><li>2. Using the BESST tool update the controller.</li><li>3. Change the battery to resolve the problem.</li></ol>
08	Error with the hall sensor signal inside the motor	<ol style="list-style-type: none"><li>1. Check all connectors from the motor are correctly connected.</li><li>2. If the problem still occurs, please change the motor.</li></ol>
09	Error with the Engine phase's	Please change the motor.
10	The temperature inside the engine has reached its maximum protection value	<ol style="list-style-type: none"><li>1. Turn off the system and allow the Pedelec to cool down.</li><li>2. If the problem still occurs, please change the motor.</li></ol>
11	The temperature sensor inside the motor has an error	Please change the motor.
12	Error with the current sensor in the controller	Please change the controller or contact your supplier.

Error	Declaration	Troubleshooting
13	Error with the temperature sensor inside of the battery	<ol style="list-style-type: none"> <li>1. Check all connectors from the battery are correctly connected to the motor.</li> <li>2. If the problem still occurs, please change the Battery.</li> </ol>
14	The protection temperature inside the controller has reached its maximum protection value	<ol style="list-style-type: none"> <li>1. Allow the pedelec to cool down and restart the system.</li> <li>2. If the problem still occurs, please change the controller or contact your supplier.</li> </ol>
15	Error with the temperature sensor inside the controller	<ol style="list-style-type: none"> <li>1. Allow the pedelec to cool down and restart the system.</li> <li>2. If the problem still occurs, Please change the controller or contact your supplier.</li> </ol>
21	Speed sensor Error	<ol style="list-style-type: none"> <li>1. Restart the system</li> <li>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.</li> <li>3. Check that the speed sensor connector is connected correctly.</li> <li>4. Connect the pedelec to BESST, to see if there is a signal from the speed sensor.</li> <li>5. Using the BESST Tool- update the controller to see if it resolves the problem.</li> <li>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.</li> </ol>
25	Torque signal Error	<ol style="list-style-type: none"> <li>1. Check that all connections are connected correctly.</li> <li>2. Please connect the pedelec to the BESST system to see if torque can be read by the BESST tool.</li> <li>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.</li> </ol>

Error	Declaration	Troubleshooting
26	Speed signal of the torque sensor has an error	<ol style="list-style-type: none"> <li>1. Check that all connections are connected correctly.</li> <li>2. Please connect the pedelec to the BESST system to see if speed signal can be read by the BESST tool.</li> <li>3. Change the Display to see if the problem is solved.</li> <li>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.</li> </ol>
27	Overcurrent from controller	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"> <li>1. Check all connections on the pedelec are correctly connected.</li> <li>2. Using the BESST Tool run a diagnostics test, to see if it can pinpoint the problem.</li> <li>3. Change the display to see if the problem is solved.</li> <li>4. Change the EB-BUS cable to see if it resolves the problem.</li> <li>5. Using the BESST tool, re-update the controller software. If the problem still occurs please change the controller or contact your supplier.</li> </ol>
33	Brake signal has an error (If brake sensors are fitted)	<ol style="list-style-type: none"> <li>1. Check all connectors are correctly connected on the brakes.</li> <li>2. Change the brakes to see if the problem is solved.</li> </ol> <p>If problem continues Please change the controller or contact your supplier.</p>
35	Detection circuit for 15V has an error	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	Using the BESST tool update the controller to see if this resolves the problem. If not, please change the controller or contact your supplier.

Error	Declaration	Troubleshooting
37	WDT circuit is faulty	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	Please change the battery.
42	Total voltage from the battery is too low	Please Charge the battery. If the problem still occurs, please change the battery.
43	Total power from the battery cells is too high	Please change the battery.
44	Voltage of the single cell is too high	Please change the battery.
45	Temperature from the battery is too high	Please let the pedecec cool down. If problem still occurs, please change the battery.
46	The temperature of the battery is too low	Please bring the battery to room temperature. If the problem still occurs, please change the battery.
47	SOC of the battery is too high	Please change the battery.
48	SOC of the battery is too low	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.	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.
81	Bluetooth module has an error	Using the BESST tool, re-update the software onto the display to see if it resolves the problem. If not, Please change the display.

