

7 DEALER MANUAL FOR DP C190.CAN



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7.1 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 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 is not included due to wear and normal use and aging.

7.2 INTRODUCTION OF DISPLAY

- Model: DP C190.CAN
- The housing material is PC and ABS, the window is high hardness glass, as following:
- The label marking is as follow:



-  **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

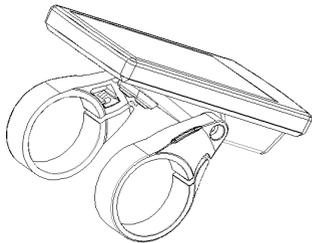
- Operating temperature: -20 °C~45 °C
- Storage temperature: -20 °C~60 °C
- Waterproof: IP65
- Bearing humidity: 30%-70% RH

7.3.2 Functional Overview

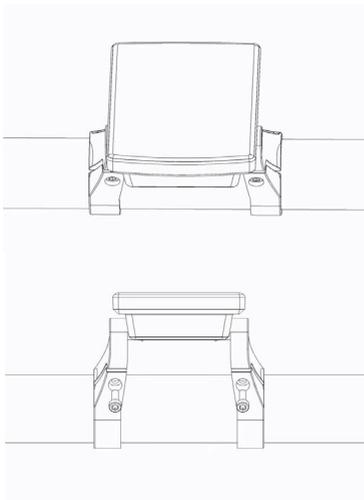
- CAN. communication protocol.
- Speed indication (including the real-time speed, max. speed and average speed).
- Unit switching between km and mile.
- Battery capacity indicator.
- Automatic sensors explanation of the lighting system.
- Brightness setting for backlight.
- Selection of 3 sorts of support level
- Mileage indication (including single-trip distance TRIP and total distance ODO).
- Walk assistance.
- Intelligent indication (including motor output power, output current, remaining distance, consumption of energy CALORIES and so on)
- Power-on password setting.
- Parameter setting (default support level, wheel diameter, limit speed and so on).
- Six languages are available for users to choose (EN, DE, NL, FR, IT, CZ).

7.4 DISPLAY INSTALLATION

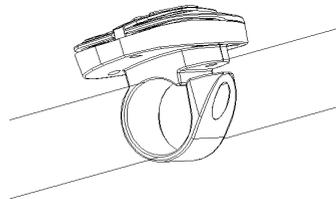
1. According to the diameter of the handlebar you can choose whether to need a rubber ring (applicable to the handlebar: Φ 22.2, Φ 25.4 or Φ 31.8). If the rubber ring is required, insert it into the correct position of the handlebar.



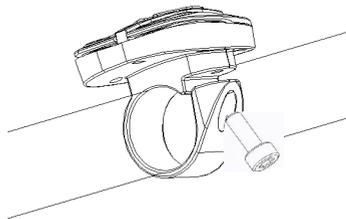
2. Open the clamps of display and mount on the rubber rings. Place the display on to the handlebar in the correct position. Use two M3*10 screws and M2.5 internal hex wrench to tighten the display. Torque requirement: 1N.m.



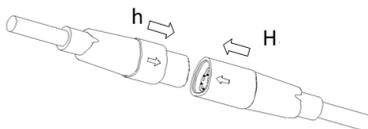
3. Open the clamp on the control pad and place it in the correct position.



4. Use one M3*10 screw and M2.5 internal hex wrench to tighten the control pad onto the handlebar. Torque requirement: 1N.m.



5. Please link the male connector h at the display with the female connector H at the EB-BUS.



7.5 DISPLAY INFORMATION



- 1 Time indicator.
- 2 Headlight indicator.
- 3 Error message indicator.
- 4 USB charging indicator will show, if an external USB device is connected to the display.
- 5 Indication for the capacity of battery in real time.
- 6 Speed indicator and numerical value.
- 7 Power indicator and real-time value.
- 8 Single-trip kilometers/ Service indicator.
- 9 Support level/ Walk assistance indicator .
- 10 Different modes: single-trip kilometers (TRIP) - total kilometers (ODO) - Maximum speed (MAX) - Average speed (AVG) - Range (RANGE) - Energy consumption (CALORIES) - Travel time (TIME) - cycle.

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 Selection Mode

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

Single-trip kilometers (TRIP) - total kilometers (ODO) - Maximum speed (MAX) - Average speed (AVG) - Range (RANGE) - Energy consumption (CALORIES) (only with torque sensor fitted) - Travel time (Time) - cycle.



7.7.4 Headlights / backlighting

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

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.



7.7.5 Walk Assistance

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 less than 6 km/h. After releasing the  button, the  symbol will stop flashing. If there isn't operation within 5S, motor stops automatically and switches back to level 0.



7.7.6 Service indication

The pedelec can switch to the riding mode, and display will remind to SERVICE according to the total mileage and battery charging times. If the total mileage is more than 5000 km and the function of SERVICE is switched on, the position of "TRIP" will display and flash the "SERVICE" indicator 5S when display is on. (The function of Service can be on or off in the Setting interface.)



7.8 SETTINGS

After the display is turned on, double press the **i** button to access the “Setting” menu. By pressing the **+** or **-** button (<0.5S), you can select: Display Setting, Information, Language, Themes or EXIT. Then press the **i** (<0.5S) button to confirm your selected option.

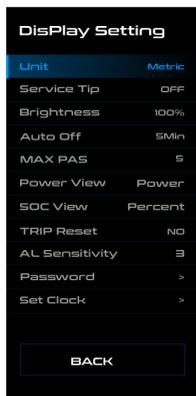
If no button is pressed within 20 seconds, the display will automatically return to the main screen and no data will be saved.

selection, press the **i** (<0.5S) button to save.



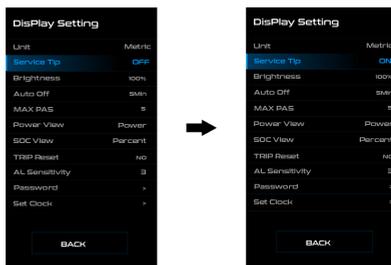
7.8.1 setting”

In “Setting” interface, briefly press the **+** or **-** (<0.5S) button to select Display Setting, and then briefly press the **i** (<0.5S) button to access the following selections.



7.8.1.2 “Service Tip” Switching the notification on and off

Press the **+** or **-** (<0.5S) button to highlight “Service Tip” in the Display setting menu, and then press **i** (<0.5S) to select. Then with the **+** or **-** button to choose between “ON” or “OFF”. Once you have chosen your desired selection, press the **i** (<0.5S) button to save.

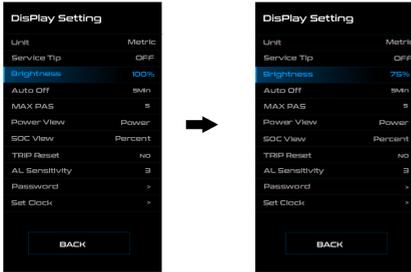


7.8.1.1 “Unit” Selections in km/Miles

Press the **+** or **-** (<0.5S) button to highlight “Unit” in the Display setting menu, and then press the **i** (<0.5S) button to select. Then with the **+** or **-** button to choose between “Metric” (kilometer) or “Imperial” (Miles). Once you have chosen your desired

7.8.1.3 “Brightness” Display brightness

Press the **+** or **-** (<0.5S) button to highlight “Brightness” in the Display setting menu. Then press **i** (<0.5S) to select. Then with the **+** or **-** button to choose between “25%” / “50%” / “75%” / “100%”. Once you have chosen your desired selection, press the **i** (<0.5S) button to save.



7.8.1.4 "Auto Off" Set Automatic system switch off time

Press the **+** or **-** (<0.5s) button to highlight "Auto Off" in the Display setting menu, and then press **i** (<0.5s) to select. Then with the **+** or **-** button to choose the automatic Off time as "Off" / "1Min" - "10Min", OFF means don't turn off. Once you have chosen your desired selection, press the **i** (<0.5s) button to save.

7.8.1.6 "Power View" Output Indication

Press the **+** or **-** (<0.5s) button to highlight "Power View" in the Display setting menu, and then press **i** (<0.5s) to select. Then with the **+** or **-** button to switch "Power" or "Current". Once you have chosen your desired selection, press the **i** (<0.5s) button to save.



7.8.1.5 "MAX PAS" Support level

Press the **+** or **-** (<0.5s) button to highlight "MAX PAS" in the Display setting menu, and then press **i** (<0.5s) to select. Then with the **+** or **-** button to switch the maximum support level. Once you have chosen your desired selection, press the **i** (<0.5s) button to save.

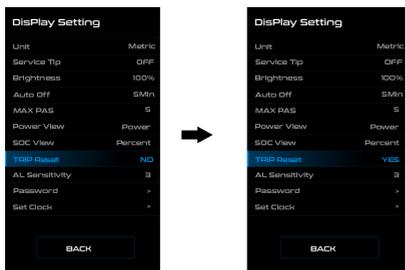
7.8.1.7 "SOC View" Battery Indication

Press the **+** or **-** (<0.5s) button to highlight "SOC View" in the Display setting menu, and then press **i** (<0.5s) to select. Then with the **+** or **-** button to switch the display mode of battery indication "Percent"/ "Voltage". Once you have chosen your desired selection, press the **i** (<0.5s) button to save.



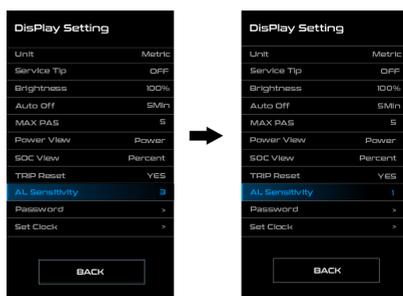
7.8.1.8 "TRIP Reset" Reset mileage

Press the **+** or **-** (<0.5S) button to highlight "TRIP Reset" in the Display setting menu, and then press **i** (<0.5S) to select. Then with the **+** or **-** to select "YES" to reset or "NO" don't to reset, which includes the maximum speed (MAX), average speed (AVG), single-trip distance (TRIP) will be to clear. Then press the **i** (<0.5S) button to save.



7.8.1.9 "AL Sensitivity" Set light sensitivity

Press the **+** or **-** (<0.5S) button to highlight "AL Sensitivity" in the Display setting menu. Then press **i** (<0.5S) to select. Then with the **+** or **-** button to select the level of the light sensitivity as "0"/"1"/"2"/"3"/"4"/"5"/"OFF". Once you have chosen your desired selection, press the **i** (<0.5S) button to save.



7.8.1.10 "Password"

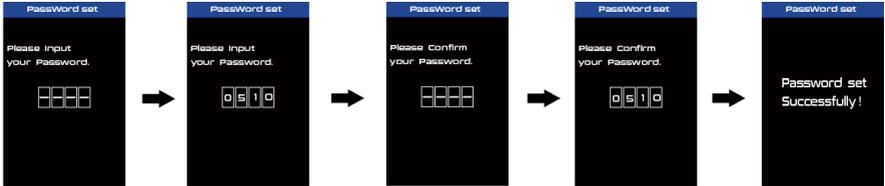
Press the **+** or **-** (<0.5S) button to highlight "Password" in the Display setting menu. Then by briefly pressing **i** (<0.5S) to enter the password selection. Now again with the **+** or **-** (<0.5S) buttons highlight "Start Password" and press the **i** (<0.5S) button to confirm. Now again using the **+** or **-** (<0.5S) Button choose between "ON" or "OFF" and press the **i** (<0.5S) button to confirm.

Starting password:

Select "ON" in "Start PassWord" interface, then briefly pressing **i** (<0.5S) to confirm. Now you can input your 4-digit pin code. By using the **+** or **-** (<0.5S) button choose numbers between "0-9". By briefly pressing the **i** (<0.5S) button you can move on to the next number.

After entering your desired 4-digit code, you must re-enter the 4-digits you chose, to ensure the code is correct. Then the interface exit back automatically to original interface within two seconds.

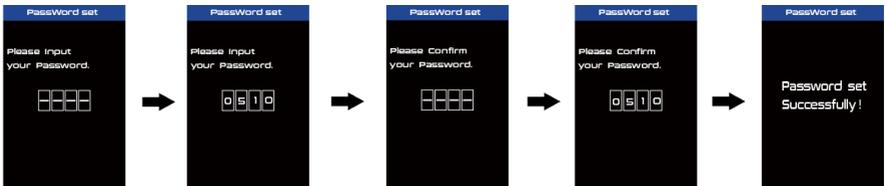
After selecting a password, the next time you turn on the system it will ask you to input your password. Press the **+** or **-** (<0.5S) button to select the numbers, Then press briefly **i** (<0.5S) to confirm.



Changing the password:

Press the **+** or **-** (<0.5S) button to choose Password in the menu. Then by briefly pressing **i** (<0.5S) to enter the password section. Now again with the **+** or **-** (<0.5S) button highlight "Reset Password" and press the **i** (<0.5S) button to confirm. Now with the **+** or **-** (<0.5S) buttons and highlight "Reset Password" and with the **i** (<0.5S) button to confirm.

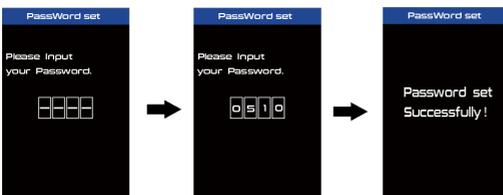
By entering your old password once, followed by inputting the new password twice, then your password will be changed.



Deactivating the password:

In the "Password" interface, with the **+** or **-** (<0.5S) buttons to highlight "Start Password" and press the **i** (<0.5S) button to confirm. Then use the **+** or **-** (<0.5S) Button to choose "OFF" and press the **i** (<0.5S) button to confirm.

Now enter your password, to deactivate it. (After 10 wrong password, the display will power-off automatically.)

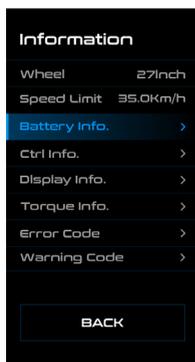


7.8.1.11 "Set Clock"

Press the **+** or **-** (<0.5S) Button to highlight "Set Clock" in the Display setting menu. Then briefly press the **i** (<0.5S) button to confirm selection. Now press the **+** or **-** (<0.5S) button and input the correct number (time) and press the **i** (<0.5S) button to move to the next number. After entering the correct time, press the **i** (<0.5S) button to confirm and save.

7.8.2 "Information"

Once the system is turned on, double press the **i** button to access the "Setting" menu. Now by pressing the **+** or **-** (<0.5S) button to highlight the "information", and press the **i** (<0.5S) button to confirm.



7.8.2.1 Wheel Size and Speed Limit

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



7.8.2.2 Battery Information

Press the **+** or **-** (<0.5S) button to access the "Battery Info" menu, and then press the **i** (<0.5S) button to confirm. Now press the **+** or **-** (<0.5S) button to select "Back" or "Next Page", now you can view all the battery information.

Content	Explanation
TEMP	Current temperature in degrees (°C)
TotalVolt	Voltage (V)
Current	Discharge (A)
Res Cap	Remaining Capacity (Ah)
Full Cap	Total Capacity (Ah)
RelChargeState	Default Loader Status (%)
AbsChargeState	Instant charge (%)
Cycle Times	Charging cycles (number)
Max Uncharge Time	Maximum time in which no charge was made (Hr)
Last Uncharge Time	Last Uncharge Time (Hr)
Total Cell	Number (individual)
Cell Voltage 1	Cell Voltage 1 (mV)
Cell Voltage 2	Cell Voltage 2 (mV)
Cell Voltage n	Cell Voltage n (mV)
HW.	Hardware Version
SW.	Software Version

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

7.8.2.3 Controller Information

Press the **+** or **-** (<0.5S) button and select "Ctrl Info", and then press the **i** (<0.5S) button to read the software and hardware data of the controller. To exit, press the **i** (<0.5S) button, or select "Back" to return to the information interface.



7.8.2.5 Torque Information

Press the **+** or **-** (<0.5S) button and select "Torque info", then press the **i** (<0.5S) button to read the software and hardware data of the torque. To exit, press the **⏻** (<0.5S) button, or select "Back" to return to the information interface.



7.8.2.4 Display Information

Press the **+** or **-** (<0.5S) button and select "Display Info", then press the **i** (<0.5S) button to read the software and hardware data of the display. To exit, press the **i** (<0.5S) button, or select "Back" to return to the information interface.



7.8.2.6 Error Code

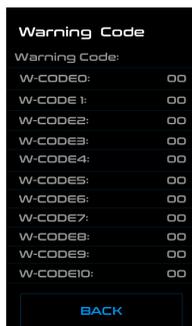
Press the **+** or **-** (<0.5S) button and select "Error Code", and then press the **i** (<0.5S) button to confirm. It shows error information for the last ten errors of the pedelec. Error code "00" means that there is no error. To exit, press the **i** (<0.5S) button, or select "Back" to return to the information interface.

Press the **+** or **-** (<0.5S) button and select "Error Code", and then press the **i** (<0.5S) button to confirm. Press and hold **+**, **-** and **⏻** together (>2S) to clear away the error code.

7.8.2.7 Warning Code

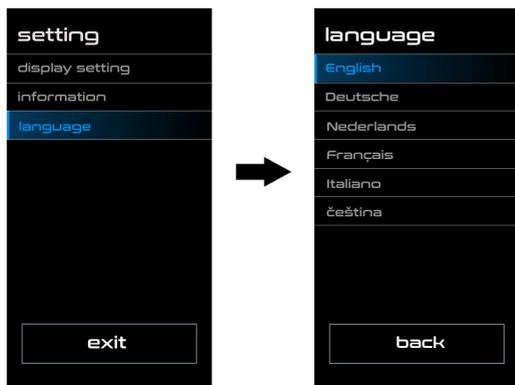
Press the **+** or **-** (<0.5S) button and select "Warning Code", and then press the **i** (<0.5S) button to confirm. It shows warning information for the last ten warning codes of the pedelec. Warning code "00" means that there is no warning. To exit, press the **i** (<0.5S) button, or select "Back" to return to the information interface.

Press the **+** or **-** (<0.5S) button and select "Warning Code", and then press the **i** (<0.5S) button to confirm. Press and hold **+**, **-** and **⏻** together (>2S) to clear away the error code.



7.8.3 "Language"

Once the system is turned on, double press the **i** button to access the "Setting" menu. Now by pressing the **+** or **-** (<0.5S) button to highlight the "Language", and press the **i** (<0.5S) button to confirm. Now press the **+** or **-** (<0.5S) button to select "English", "Deutsche", "Nederlands", "Français", "Italiano" or "Cestina", Once you have chosen your desired selection, press the **i** (<0.5S) button to save, then select "Back" to return to the setting interface.



7.9 ERROR CODE DEFINITION



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

Note: Please read carefully the description of the error code. When the error code appears, please first restart the system. If the problem is not eliminated, please contact your dealer or technical personnel.

Error	Declaration	Troubleshooting
04	The throttle has 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 still no function please change the throttle.
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">1. Remove and re-insert the battery to see if it resolves the problem.2. Using the BESST tool update the controller.3. Change the battery to resolve the problem.
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 phase's	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 Pedelec to cool down.2. If the problem still occurs, please change the motor.
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"> 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 pedelec 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 pedelec 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 pedelec 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 pedelec 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.

Error	Declaration	Troubleshooting
26	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 pedelec to the BESST system to see if 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	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 pedelec 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, re-update 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. <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 pedelec 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.

7.10 WARNING CODE DEFINITION

Warning	Declaration	Troubleshooting
28	Torque sensor w-code 0	Restart the system and please not to step on the crank hard when restarting.