

BAFANG

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DEALER MANUAL

MAX Drive System

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5 BATTERY (BT C01)

Precautions

- If any liquid leaking from the battery gets into your eyes, rinse immediately with clean water (e.g. tap water). Seek medical advice immediately; otherwise the battery liquid may damage your eyes.
- Do not recharge the battery in places with high humidity or outdoors. Doing so may result in electric shock.
- Do not insert the plug while it is wet. Plug and socket need to be dry, otherwise electric shocks may result.
- If the battery does not become fully charged after 6 hours, unplug the battery from the outlet immediately and stop charging. Not doing so may cause overheating, rupture, or ignition of the battery.
- Do not use the battery if it has any noticeable damage. Doing so may cause rupture, overheating or malfunction.
- The battery may only be used in the temperature ranges states below. Do not use the battery in temperatures outside these ranges. If the battery is used or stored in temperatures outside these ranges, fire, injury or malfunction may occur.
 1. Temperature for discharging: -10°C to 50°C
 2. Temperature for charging: 0°C to 40°C

Danger

- Do not deform, modify or disassemble the battery. Do not apply solder directly to the battery. Doing so may cause leakage, overheating, rupture or ignition of the battery.
- Do not leave the battery near sources of heat (e.g. heaters). Do not heat the battery or throw it into a fire. Doing so may cause rupture or ignition of the battery.
- Do not subject the battery to strong shocks or throw it. If this is not observed, overheating, rupture or ignition of the battery may occur.
- Do not immerse the battery into fresh water or seawater, and do not allow the battery terminals to get wet. Doing so may cause overheating, rupture or ignition of the battery.
- Only use the specified charger. Not doing so may cause overheating, bursting, or ignition of the battery. Observe the components during the specified charging conditions when charging the battery.
- Do not short-circuit the discharge port with metal, or else it may cause overheating, rupture or ignition of the battery.
- Do not leave the battery in a place exposed to direct sunlight, inside a vehicle on a hot day or in other hot places. Doing so may result in battery leakage.
- If any leaked fluid gets on your skin or clothes, wash it off immediately with clean water. The leaked fluid may damage your skin.
- Store the battery in a safe place out of the reach of children and pets.

5.1 Using the Battery Properly

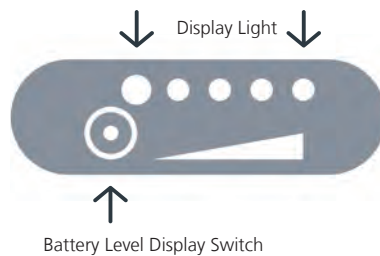
The battery can be charged at any time no matter how much power is left. However, in the following cases, the battery needs to be fully charged. Make sure you use the specified charger to charge the battery.

- The battery is usually not fully charged for the convenience of transport. Make sure the battery is fully charged before using the battery.
- If it is not intended to use the battery for a long time, make sure the e-bike battery is charged before storage and that is charged at least once every twelve months thereafter. Do not leave the battery completely discharged.
- Once you have begun to use the battery, please have it charged at least once every two weeks.


i If the battery is completely discharged, charge it as soon as possible. If you do not charge the battery, it will be damaged.







5.2 Charging the Battery

- When using the battery for the first time, check that the battery has not run low in transport or storage.
- If it not intended to use the battery for a long time, charge the battery regularly to avoid excessive battery discharge.
- Please charge the battery as soon as possible before it runs out; over-discharge can cause permanent damage to the battery.
- No matter how much power is left, the battery can be charged at any time. However, the specified charger must be used to avoid overcharge of the battery.




5.3 Battery Capacity Display

 Press the battery level display switch lightly. The lights indicating the remaining battery capacity will appear:

Battery Capacity Display	Remaining Battery Capacity
	< 10%
	11~30%
	31~50%
	51~70%
	71~90%
	91~100%

-  Light on
-  Light off

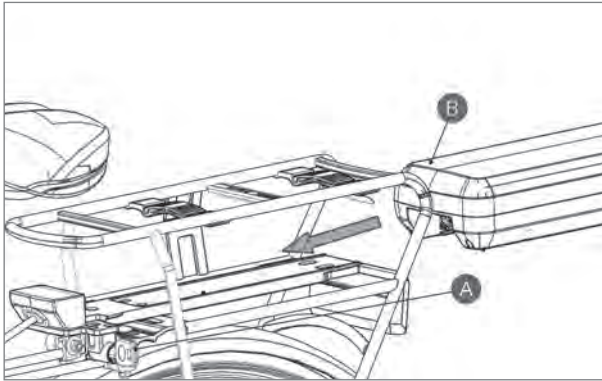
5.4 Battery Health Indication

 Press the battery level display switch for one second. The battery health will be indicated as follows:

Battery Health Indication	Battery Health Condition
	< 40%
	41~50%
	51~60%
	61~70%
	71~80%
	81~100%

-  Light on
-  Light off

5.5 Battery Installation



- A battery pack lock
- B battery

Insert the battery pack from the tail of the carrier onto the rail. Push it to the front until you hear it snap into place in the battery pack lock.

i Please make sure the battery pack is locked to prevent the battery from becoming detached while riding.

6 DISPLAY (DP C07.UART)

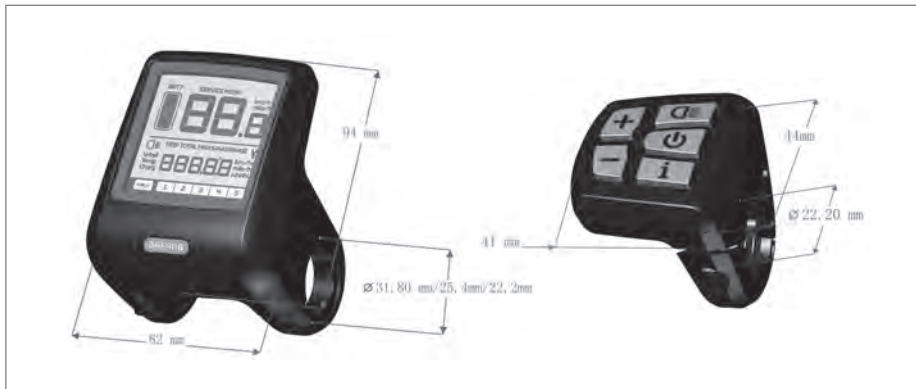
6.1 Specifications and Parameters of the Display

- 36V / 43V / 48V Power Supply;
- Rated Current: 10 mA
- Maximum Operating Current: 30 mA
- Power-off Leakage Current: <1uA
- Operating Current Supplied to the Controller: 50 mA
- Operation Temperature: -18 ~ 60 %
- Storage Temperature: -30~70 %
- Waterproof Grade: IP65
- Storage Humidity: 30 % – 70 %

6.2 Appearance and Dimensions

6.2.1 Materials and Dimensions

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

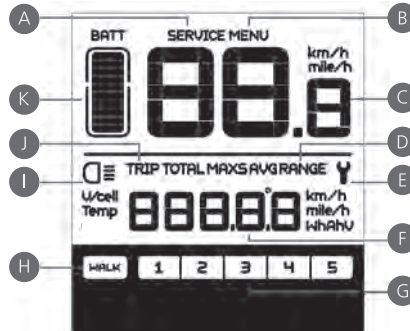


6.3 Function Overview and Key Definitions

6.3.1 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 and the average speed as AVG.
- 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.

6.3.2 Information on the Display



- A** 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)
- B** Menu
- C** Speed display: display of the speed, km/h or mph
- D** Speed mode: average speed (AVG km/h), maximum speed (MAXS km/h)
- E** Error display: When a fault is detected the symbol **Y** will be displayed.
- F** Distance indication: display of the distance depending on the setting.
- G** 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, **WALK** will be displayed.
- H** Walk assistance
- I** Headlight indication: only shows when headlight or backlight are on

- J Distance mode: display of the single-trip distance TRIP and the total distance TOTAL
- K Battery level: 10-segment battery indication; the voltage that each segment represents can be customized



6.3.3 Key Definitions





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

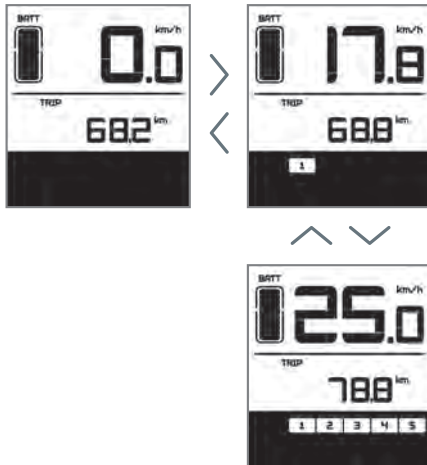
6.4 Normal Operation

6.4.1 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.


6.4.2 Assist Mode Selection

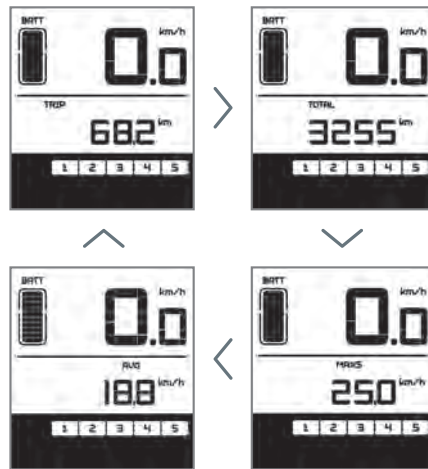
In the manual gearshift mode, press the  or  to choose the desired level of support by the motor. The lowest level is Level 1, the highest Level 5. When the display is on, the default mode is Level 1. When there is no numeric mode display, there is no power assistance.



Selecting the level for motor assistance



6.4.3 Switch between Distance Mode and Speed Mode

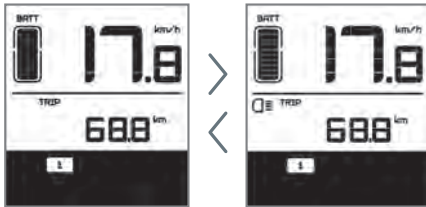
Briefly press  to switch between distance and speed. Single-trip distance ((TRIP km) → total distance (TOTAL km) → maximum speed (MAXS km/h) → average riding speed (AVG km/h) are displayed in successive order.



Switching between displays

6.4.4 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.

6.4.5 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

6.4.6 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	$50\% \leq C < 60\%$	2	$15\% \leq C < 25\%$
9	$80\% \leq C < 90\%$	5	$45\% \leq C < 50\%$	1	$5\% \leq C < 15\%$
8	$70\% \leq C < 80\%$	4	$35\% \leq C < 45\%$	border blinking	$C < 5\%$
7	$60\% \leq C < 70\%$	3	$25\% \leq C < 35\%$		

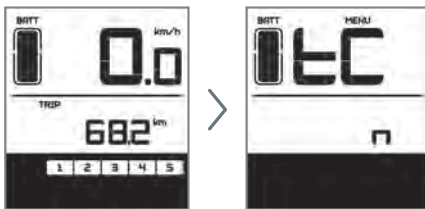
6.5 Parameter Setting

6.5.1 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 > Input of the password
- 8 > Wheel diameter selection
- 9 > Setting speed limit

6.5.2 Setting Preparation

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



Menu for entering the parameter settings

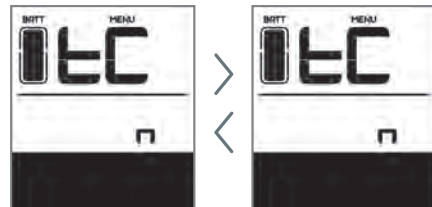
In the parameter setting state, when the parameter you want to set begins to flash, press **+**/**-** to adjust the parameter value. Briefly press **i** to switch between the parameters to be set. Press **i** twice (interval < 0.3 seconds) to exit the submenu.

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

6.5.3 Data Reset

Press **i** 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. temporary data, e.g. maximum speed (MAXS), average speed (AVG) and single-trip distance (TRIP) can be cleared. Briefly press **i** (< 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.

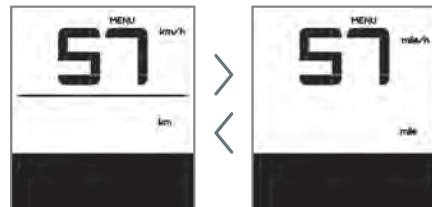


The data will not be cleared when the display's light-sensing function is set to 0 or when it is switched off.

6.5.4 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.



6.5.5 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.



6.5.6 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.



6.5.7 Automatic Off Time

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

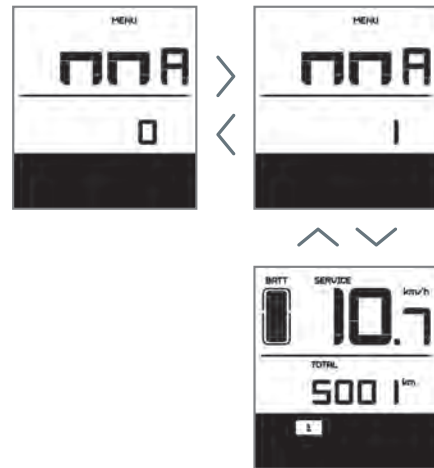
After this setting, briefly press **i** (< 0.3 seconds) to enter the setting interface of maintenance warning.



6.5.8 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 **i** (< 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. (Maintenance alert can also be set via a computer. This requires a USB connection. See also the parameter setting instructions).

6.6 Error Code Definitions

The MAX-C966 display 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
"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.