Instructions for control units

WARNING:

Read these instructions carefully before using this product!

Manufacturer of MTF e-bikes
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Instructions for operating control units

Models: KD59E; KD58C; KD218; DP C18; DP C10

Content

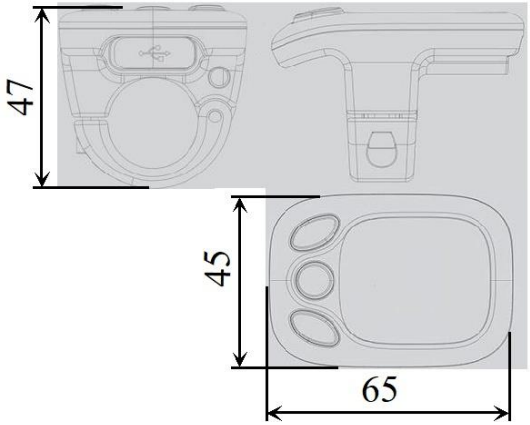
KD59E - OPERATING INSTRUCTIONS FOR USE OF THE CONTROL UNIT

Specifications

- Power Supply: 36 V
- Rated working current: 10 mA
- The maximum working current: 30 mA
- Off leakage current: <1 μA
- The supply controller working current: 50 mA
- Working temperature: -20 ~ 60 °C (-4 ~ 140 °F)
- Storage temperature: -30 ~ 70 °C (-22 ~ 158 °F)
- Degree of protection: IP65

Appearance and Size

Display appearance and dimension figure (unit: mm)



Control

◆ Function Summary

KD59E can provide a lot of functions to fit the users' need. The indicating contents are as following:

- Smart battery indicator
- Assistance-level indicator
- The push-assistance function
- The Lighting On/Off (optional)

◆ Button Definition

There are three buttons (, ,), on the KD59E display that represented by the following functions respectively **MODE**, **„+“** a **„-“**.

◆ Switching the eBike System On/Off

To switch on the eBike system, hold the **MODE** button for 2s.
In the same way to hold the MODE button for 2s again, the eBike system will be switched off.
When switching off the eBike system the leakage current is less than 1 uA.

When parking the eBike for more than 10 minutes, the eBike system will switches off automatically.

◆ Switching the Lighting On/Off

To switch on the display headlight of the eBike, hold the button for 2s. The battery indicator light and power assistant level indicator light became faint at the same time.
In the same way to hold the button for 2s again, the headlight will be switched off.

If the front or rear light is not connected, the button can only be used to switch the display backlight on / off.

◆ Switching Push-assistance mode On/Off

To access the push-assistance mode, hold the button always, the eBike will go on at a uniform speed of 6 Km/h (3.7 mph). Three power-assistance level indicator lights flash at the same time.
The push-assistance function switches off as soon as you release the button.

Push-assistance function may only be used when pushing the eBike. Danger of injury when the wheels of the eBike do not have ground contact while using the push-assistance function.

◆ PAS Level Selection

Assistance level indicates the output power of the motor. The default value is level "1".
Press the or button to select power assistant level, the default power ranges from level "0" to level "5". The output power is zero on Level "0". Level "1" is the minimum power. Level "5" is the maximum power.

◆ Battery Indicator

The five battery bars represent the capacity of the battery. The four green lamps are lighting when the battery is in high voltage. When the battery is in low voltage, the left lamps will be red to notice that the battery needs to be recharged immediately.

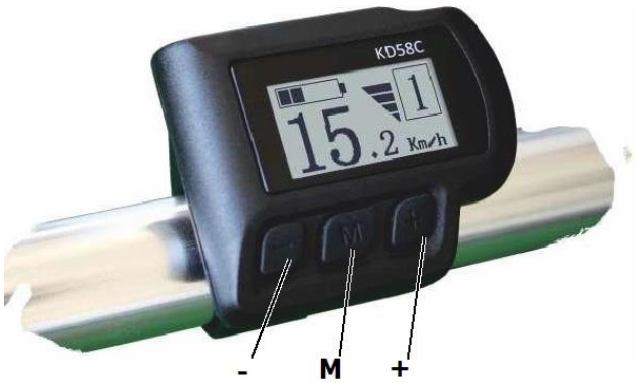
Beware of safe use. Do not attempt to loosen or reconnect the connector while charging the battery or while the battery power is on.
Avoid the risk of electric shock.
Do not subject the display to shocks.
Do not modify system parameters to avoid parameter mismatch.

KD58C - OPERATING INSTRUCTIONS FOR USE OF THE CONTROL UNIT

Specifications

- Power Supply: 36 V
- Rated current: 10 mA
- The maximum working current: 30 mA
- Off leakage current: <1 μA
- The supply controller working current: 50 mA
- Working temperature: -20 ~ 60 °C (-4 ~ 140 °F)
- Storage temperature: - 30 ~ 70 °C (-22 ~ 158 °F)
- Degree of protection: IP65

Appearance



Control

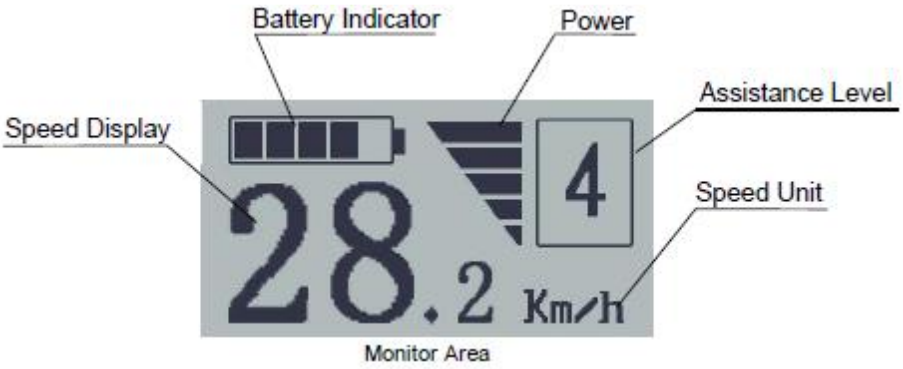
◆ Function Summary

- KD58C can provide a lot of functions to fit the users' needs. The indicating contents are as following:
- Smart Battery indicator
- ●Assistance-level indication
- ●Speed indication (incl. running speed, max speed and average speed)
- ●Motor-output indicator
- ●Trip time indication
- ●Trip distance and Total distance
- ●The push-assistance function
- ●The Lighting On/Off
- ●Error Code indication
- ●Various Parameters Settings (e.g., wheel size, speed-limited, battery level bar, PAS level, password enable, controller limited current etc .)
- ●Recover Default Setting

◆ Button Definition

There are three buttons (, ,) on the KD58C display that represented by the following functions respectively: **MODE**, **„+“** a **„-“**.

◆ Display description



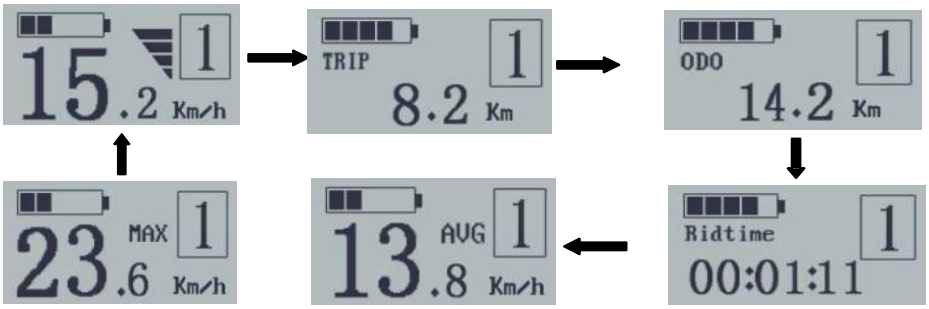
◆ Switching the eBike On/Off

To switch on the eBike system, hold the **MODE** button for 2 s.
In the same way to hold the **MODE** button for 2 s again, the eBike system will be switched off.
When switching off the eBike system the leakage current is less than 1 uA.

When parking eBike for more than 10 minutes, the eBike system switches off automatically.

◆ Display Interface

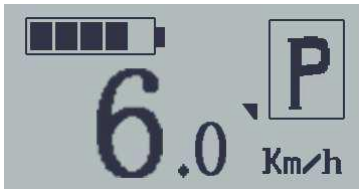
After switching on the eBike system, the display shows Running Speed. On the condition of riding, to change the indicated information, press **MODE**. to show in turn as below: Running Speed (Km/h) → Trip Distance (Km) →Trip Time (Hour) → Average Speed (Km/h) → Max Speed (Km/h). Each state will display for 2 seconds and then automatically returns to the Running Speed interface. On the condition that the speed is 0 km/h, Total Distance will be added to the circulation interface.



The circulation interface of the condition that the speed is 0 km/h

◆ Switching Push-assistance mode On/Off

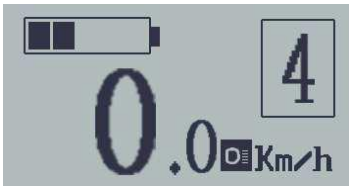
To access the push-assistance mode, hold the button for 2 s, the eBike will go on at a uniform speed of 6 Km/h (3.7 mph), “P” is showed on the screen at the same time. The push-assistance function switches off as soon as you release the button.



Push-assistance function may only be used when pushing the eBike. Danger of injury when the wheels of the eBike do not have ground contact while use the push-assistance function.

◆ Switching the Lighting On/Off

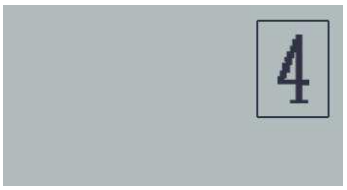
To switch on headlight of the eBike, hold the button for 2 s. In the same way to hold the button for 2 s again, the headlight will be switched off.



If the front or rear light is not connected, the button can only be used to switch the display backlight on / off.

◆ Assistance Level Selection

Assistance levels indicate the output power of the motor. The default value is level “1”. The default power ranges from level “0” to level “5”.
The output power is zero on Level “0”. Level “1” is the minimum power. Level “5” is the maximum power.
a je "1".

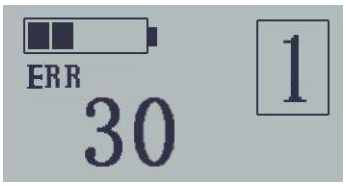


◆ Power Indicator

The out power of the motor can be indicated by the display

◆ Error code Indication

If there are errors about the electronic control system, the error code will appear automatically.



Offer the display to a Service Center when an error code appears.

Error code definition

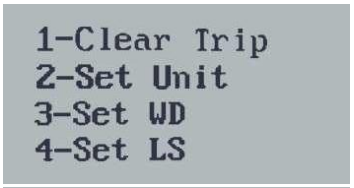
Error Code	Definition
21	Current Abnormality
22	Throttle Abnormality
23	Motor Abnormality
24	Motor Hall Abnormality
25	Brake Abnormality
30	Communication Abnormality

Settings

All settings are made with the e-bike parked.

General Settings

After the eBike system is switched on, to access general settings menu, hold both the + and − button for 2 s. Press the + or − button to select the content, press M to confirm the corresponding settings.



◆ Trip Distance Clearance

Clear Trip means single trip distance clearance. Press the + or − button to choose YES or NO to clear the trip distance. The default value is NO. If you choose YES and press the M button to confirm the option, the display will show OK and return to the general selection settings interface. Otherwise the display will return to the general selection settings interface directly.

◆ Unit Mi/KM Conversion

Set Unit represents unit settings.
To convert unit, press ⊞ or ⊟, to increase or decrease until the desired setting is displayed.
To store a changed setting, press the ⚙. button to access trip distance clearance settings and the display will show OK then returns to general selection settings interface. The default value is Metric.

◆ Wheel Diameter Settings

Set WD represents wheel diameter settings. Electable values are 16, 18, 20, 22, 24, 26, 700C and 28. The default value is 26 inch.
To change basic settings, press ⊞ or ⊟ to increase or decrease until the desired value is displayed.
To store a changed setting, press the ⚙ button and the display will show OK then returns to general selection settings interface.

◆ Speed-limit Settings

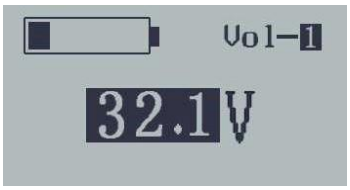
„ **Set LS** represents limit speed settings. When the running speed is faster than limit speed, the eBike system will switch off automatically. Limit speed range is 12 km/h to 40 km/h (7.5 - 24.8 mph). The default value is 20 mph.

In the user settings, this function is disabled and the settings are password protected. Adjustments may only be made by an authorized service center.

By default, the speed limit is set to 20 mph so that it is in accordance with the applicable legislation for the operation of e-bikes on roads. If the maximum speed limit is set to a value higher than 20 mph, the e-bike no longer complies with the relevant laws and may not be used for road use!

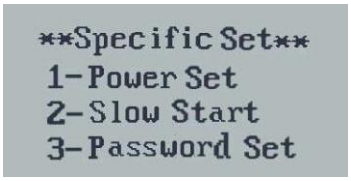
◆ Battery Power bar Settings

VOL represents voltage settings. Each bar represents a voltage value. 5 bars voltage values must be entered one by one. For example, VOL 1 is the first bar voltage value, the default value is 31.5V.
To set battery power bar, press ⊞ or ⊟ to increase or decrease the number. To store a changed setting and access the second bar, press the ⚙ button.
By analogy, after 5 bars voltage values is entered, hold ⚙ for 2 s to confirm and return to the previous menu.



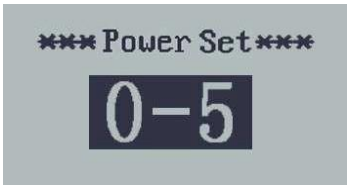
◆ Personalized Parameter Settings

Personalized Parameter Settings can match various requirements in use. T
Hold the ⊞ and ⊟ button for 2 s to enter general settings, then use the same manner to enter personalized parameter settings selection interface. Press the ⊞ or ⊟ button to choose the personalized parameter settings items, then press the ⚙ button to enter the corresponding settings interface.



◆ Power Assistant Level option

In assistance level settings, there are 8 modes to select: 0-3, 1-3, 0-5, 1-5, 0-7, 1-7, 1-9. The default value is 0-5.
To select the mode of assistance level, press ⊞/⊟, to increase or decrease until the desired setting is displayed.
To store the changed setting and access the PAS ratio settings page, press the ⚙ button.



◆ Power-on Password Settings

P2:0000 represents power-on password settings. The default value is 1212.

To access the power-on password settings, press + / − to modify the value and then press M to confirm digit one by one until the correct 4-digit password is completed, and then press M to access power-on password enable settings interface, otherwise stay on the password input state.

◆ Power-on Password Enable/Disable

Press the M button to enter power-on password modify interface. Press the + or − button to select Disable or Enable and press the M. button to confirm. The default value is Enable. If you choose Enable, press the M button to enter Power-on Password Modify interface, otherwise exit the power-on password settings interface.

◆ Power-on Password Modify

When the display shows "Password Set, P3", press the − button to modify the value and then press the M button to confirm digit one by one until the new 4-digit password is completed.

To store the new power-on password, hold the M button for 2 s and then exit settings.

When switching the eBike system on next time, the display will show P1,0000, please input the new password to power on.

◆ Exit settings

In the settings state, press the M button to confirm the input. Hold the M button for 2 s to save the settings and then exit the current settings. Hold the − button for 2 s to cancel the operating but not saving the settings data, and then return to previous menu.

If there is not any operations in one minute, display will exit the settings state automatically.

◆ Recover default settings

dEF means recover default settings. Press both the + and M button for 2 s to enter recover default settings. Press the + or − button to choose Y or N. Y means that recovers default settings. N means that do not recover default settings. When it is Y, hold the M button for 2 s to recover default settings, the display shows dEF-00 at the same time, and then return to general display state. The default value is N.

Beware of safe use. Do not attempt to loosen or reconnect the connector while charging the battery or while the battery power is on.
Avoid the risk of electric shock.
Do not subject the display to shocks.
Do not modify system parameters to avoid parameter mismatch.
If an error code is displayed, have the display repaired.

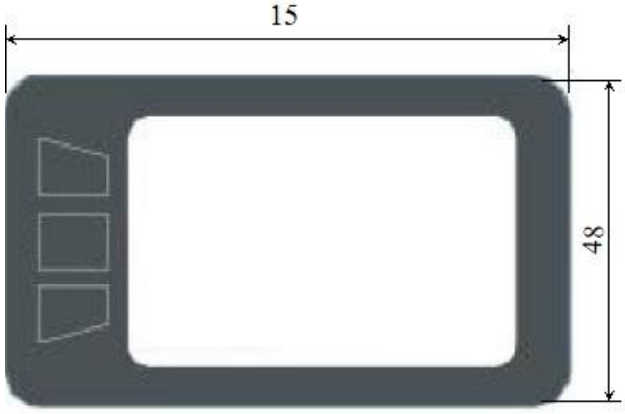
KD218 - OPERATING INSTRUCTIONS FOR USE OF THE CONTROL UNIT

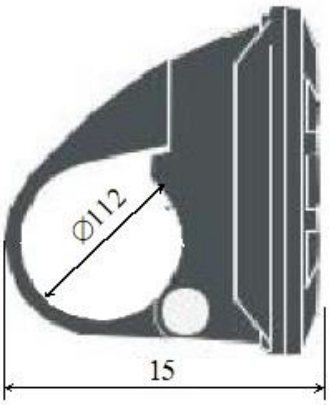
Specifications

- Power Supply: 24 V / 36 V / 48 V DC
- Rated working current: 10 mA
- The maximum working current: 30 mA
- Off-state leakage current: <1 μA
- The supply controller working current: 50 mA
- Operating temperature: -20 - 60 °C (-4 ~ 140 °F)
- Storage temperature: - 30 - 70 °C (-22 ~ 158 °F)
- Degree of protection: IP65

Appearance and Size

Product appearance and dimensional drawing (unit: mm)





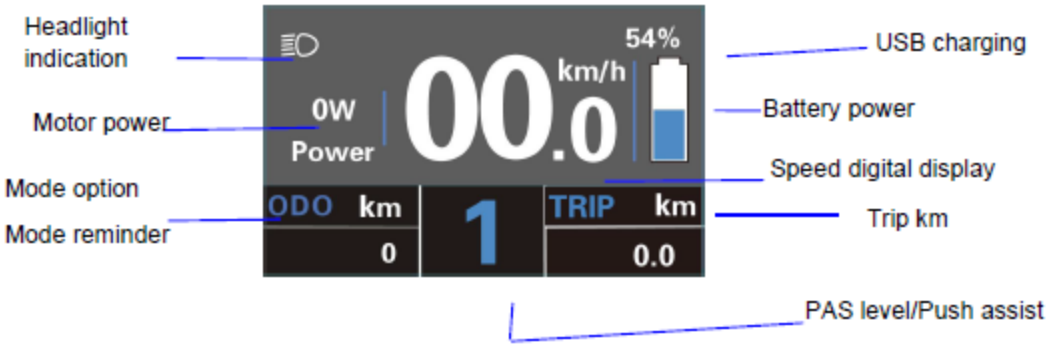
Control

Function Summary

KD218 has many functions to meet the Users' needs. The indicating contents are as follows:

- ●Battery and battery percentage
- ●Motor Power
- ●assist-level
- ●Speed indication (incl. current speed, Max. speed and Ave. speed)
- ●ODO and trip distance
- ●The push-assist function
- ●Trip time
- ●Backlight On/Off
- ●Error code indication
- ●Pedaling frequency indication (optional)
- ●USB connection indicator (optional)
- ●The remaining range indication (optional)
- ●Various Parameters Settings (e.g., wheel size, speed-limited, battery level bar, assist level, controller limited current, password enable, etc.)
- ●Recover Default Settings

Functional Area Distribution:



General Operations

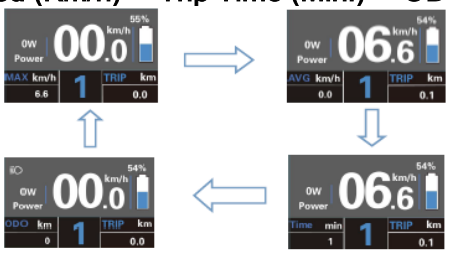
◆ Switching the E-bike System On/Off

Press the button to switch on E-bike system and provide the power supply for the controller. Likewise, hold the button for 2s again, the E-bike system will be switched off .The E-bike system no longer uses the battery power.
When the E-bike system is switched off, the leakage current is less than 1 μA.

■When E-bike is parked for more than 10 minutes, the E-bike system will be switched off automatically.

◆ Display Interface

After switching on the E-bike system, the display will show Current Speed and Trip Distance by default.
Press the "ON/OFF" button will show more riding data shown below:
Max. Speed (Km/h) → Avg. Speed (Km/h) →Trip Time (Min.) →ODO (km) →Max. Speed (Km/h)



◆ Switching Push-assist Mode On/Off

To activate the push-assist function, keep holding ▬ button. After 2 seconds, E-bike is activated to go at a uniform speed of 6 Km/h (3.7 mph) while the screen displays 🚲.
The push-assist function is switched off as soon as you release the ▬ button. The E-bike system stops the power output immediately.

Push-assist function may only be used when pushing the E-bike. Be aware of danger of injury when bike wheels do not have ground contact while using the push-assist function.

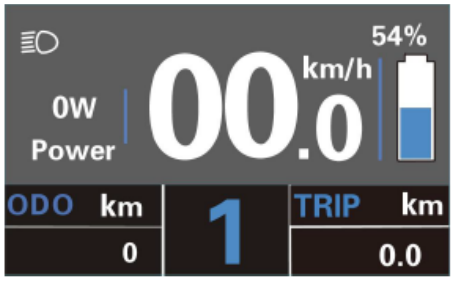
◆ Switching the Lighting On/Off

To switch on E-bike headlight, hold the ✚ button for 2s. The backlight brightness is automatically reduced. Likewise, press the ✚ button for 2s, the bike light can be switched off.

If the front or rear light is not connected, the button can only be used to switch the display backlight on / off.

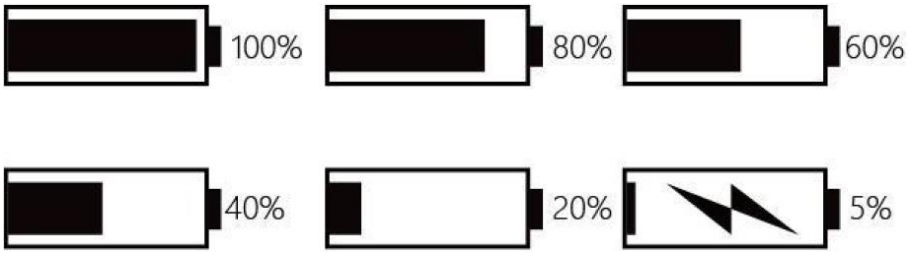
◆ Assist Level Options

Press ✚ or ▬. button to switch the E-bike system assist level, change the motor output power, The default assist level ranges from level “0”to level “5”, The output power is zero on Level “0”. Level “1” is the minimum power. Level “5” is the maximum power. When you reach “5”, press the ✚ button again, the interface still shows “5”, and blinks at“5”to indicate the power highest. After the power downshift reaches “0”, press the ▬ button again, the interface still shows “0”and blinks at “0” to indicate the power minimum. The default value is level “1”.



◆ Battery Power Indicator

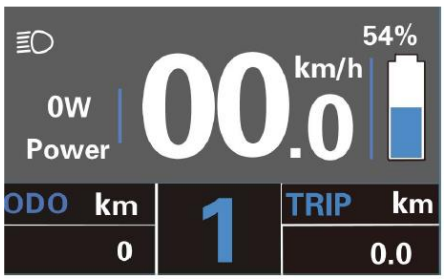
The five battery bars represent the capacity of the battery. The five battery bars bright when the battery is in full voltage. When the battery is in low voltage, battery frame will flash at the frequency of 1HZ to give a notice that the battery needs to be recharged immediately.



◆ Motor Power Indicator

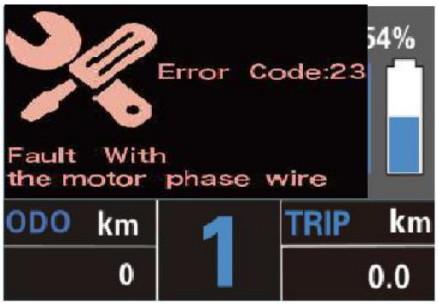
The power of the motor is shown via digital display.

Note: The displayed value of the motor power corresponds to its current load and in some cases the peak motor power is displayed.



◆ Error Code Indication

The components of the E-bike system are continuously and automatically monitored. When an error is detected, the respective error code is indicated in text indication area. Here is the detail message of the error code.



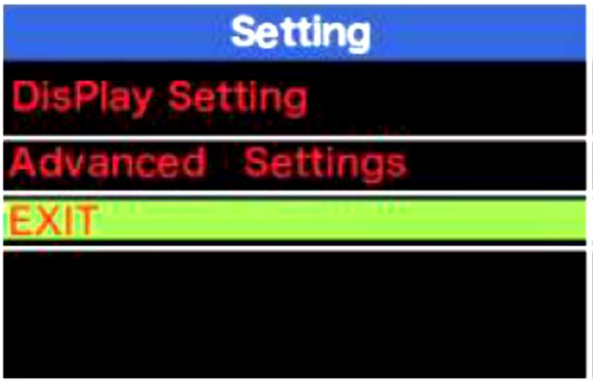
If an error code is displayed, have the problem corrected. Otherwise, you will not be able to ride the e-bike normally. Always contact an authorized bicycle dealer.

Error code definition

Error Code	Definition
21	Current Abnormality
22	Throttle Abnormality
23	Motor Phase Abnormality
24	Motor Hall Signal Abnormality
25	Brake Abnormality
30	Communication Abnormality

Settings

Press the power button to switch on the display.
To access general settings (DisPlay Setting), hold both the + and − button simultaneously for 2s.



Setting interface

All the Settings are operated in the case of a parked E-bike.

◆ Trip Distance Clearance

Trip Reset represents trip distance clearance setting. To clear trip distance, press + or − button to select Yes or No. Yes, represents clearing a single ride distance. No represents not clearing a single ride distance.
To store a changed setting, press button.

Trip Distance Clearance Settings Interface

◆ **Unit km/mile Conversion**

Toggle Unit represents unit settings.

To convert unit, press the ⊞ or ⊟ button to choose the desired setting item, and then press the ⊠ . button to confirm.

To store a changed setting, press the ⊠ button and move to other setting items. The default value is “Metric (km)”.

Mile and km Conversion Settings Interface.

◆ **Wheel Diameter Settings**

Wheel represents wheel diameter settings. To change basic settings, press the ⊞ or the ⊟ button to increase or decrease until the desired value is displayed. The default value is 26 inches. To store a changed setting, press the ⊠ button to confirm, display "OK" words prompt operation is completed. Then access the General Settings interface.

Wheel diameter settings interface

◆ **Speed-limit Settings**

The default value is 20 mph.

Speed Limit represents the limit speed settings. When the current speed is faster than speed limit, the E-bike system will be switched off automatically. Speed limit range is 12 km/h to 40 km/h (7.5 - 24.8 mph).

In the user settings, this function is disabled, and the settings are password protected. Adjustments may only be made by an authorized service center.

Speed limit settings interface

By default, the speed limit is set to 20 mph so that it is in accordance with the applicable legislation for the operation of e-bikes on roads. If the maximum speed limit is set to a value higher than 20 mph, the e-bike no longer complies with the relevant laws and may not be used for road use!

◆ Battery Power Bar Settings

Set Voltage represents voltage value settings. Each bar represents a voltage value. 5 bars voltage values must be entered one by one. For example, VOL 1 is first bar voltage value. The default value is 31.5V.

To set battery power bar, press the + or the − button to increase or decrease the number. To store a changed setting and access the second bar, press button. In the same manner, after 5 bars voltage values are entered, hold the button to confirm and then return to the previous menu.

Battery bar settings interface

◆ AL sensitivity

Sensitivity represents Ambient Light Sensor settings. The sensitivity value ranges from 1 to 5. The default value is 3. It can help with adjusting the screen brightness as per the ambient light conditions automatically. When you ride the bike at night or in a place where there is a lack of light, the display backlight and bike headlight will be turned on automatically.

Press Sensitivity and press +/− button to choose the desired sensitivity value.

Sensitivity settings interface

Advanced Settings

After General Settings (DisPlay Setting) is done, Press Back to return Setting page.

Press + or − button to choose Advanced Settings and press button to enter Advanced Settings page.

◆ Controller Over-current Cut Settings

In the user settings, this function is disabled, and the settings are password protected. Adjustments may only be made by an authorized service center.

Current Limit settings interface.

◆ Power Assistant Sensor Settings

Assistant Num represents PAS sensitivity settings. The sensitivity value is “5” to “24”.

To change the sensitivity of PAS settings, press + or − button to choose the desired sensitivity values. To store a changed setting, press the button.

PAS sensitivity settings interface

◆ **Speed Sensor**

Speed Sensor represents speed sensor settings. The default value is 1

To change speed sensor settings, press the ⊞ or the ⊟ button to select the quantity of magnet heads (the range is from 1 to 15).

To store a changed setting, hold the button and then return to previous menu.

Speed sensor settings interface

◆ **Backlight Brightness Settings**

LCD Luminance represents backlight brightness. 100% is the highest brightness.

The less the percentage is, the lower the backlight brightness is.

To modify the backlight brightness, press the ⊞ button or the ⊟ button to choose the desired percentage.

To store a changed setting, press the button or long press button and exit the advanced settings.

Backlight Brightness Settings Interface

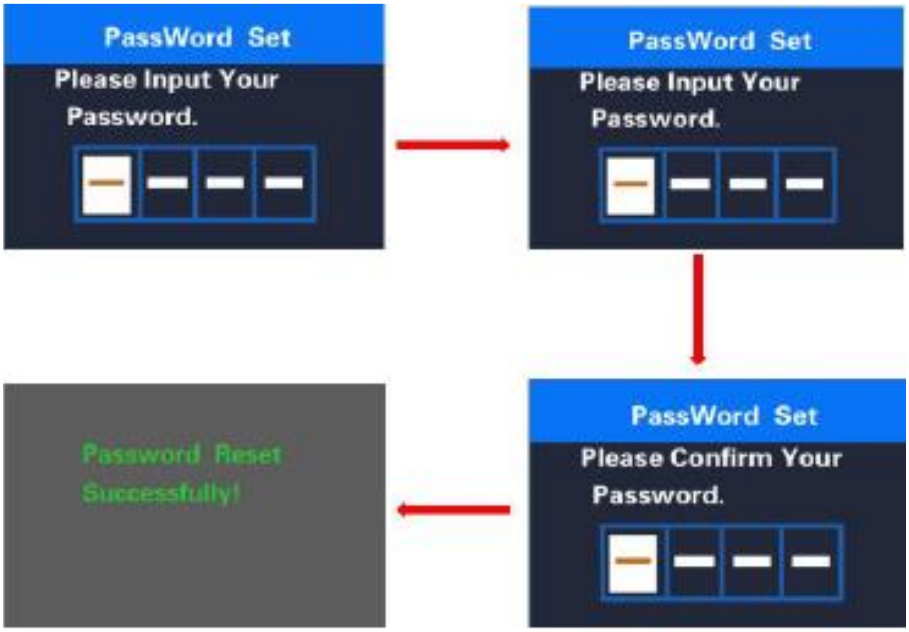
◆ **Power-on password settings:**

Press ⊞ or ⊟ button to choose 'Password' and press to confirm. Meanwhile press ⊞/⊟ button to choose 'Start Password' and press . to confirm. Press ⊞/⊟ to shift from 'OFF' to 'ON'. Refer to below steps to toggle ON and OFF.

Power-on password input settings interface

◆ **Power-on password enable/disable**

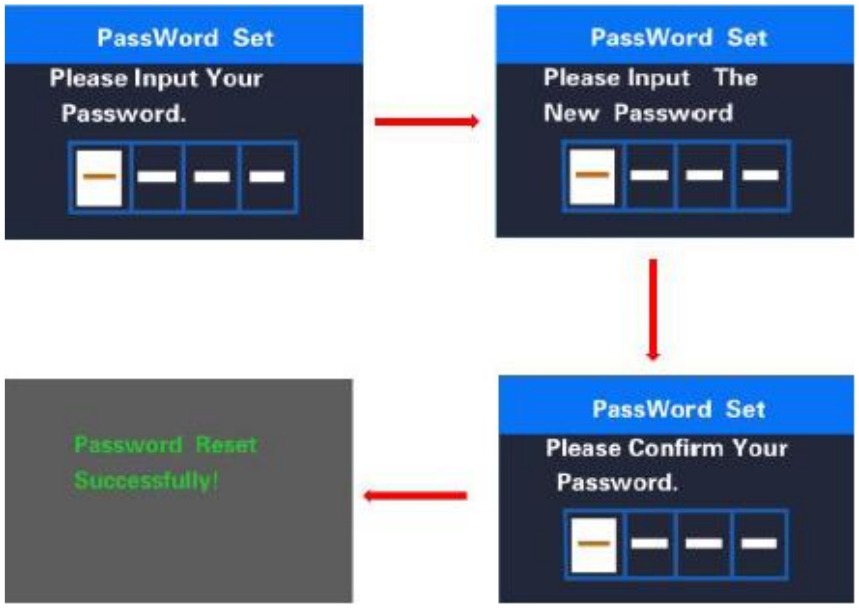
In “Start PassWord” interface, choose ‘ON’ and short press(less than 0.5S) to confirm. Meanwhile, display interface prompts for a password. Press + or − button to shift numbers from 0 to 9 and press ON/OFF to confirm and input the next digit. After the input is done, the interface will prompt for entering the password again. If two inputs are consistent, the system prompts that the password is set successfully. If two inputs are inconsistent, the first input is to be repeated and confirm the new password again. The interface will be redirected to original settings page 2 seconds after the password is set successfully. Hold button for more than 2 seconds to exit to the main page or by route’ BACK’ →’EXIT’. The operation steps are as follows:



Password enable/disable confirmation interface

◆ **Password Reset**

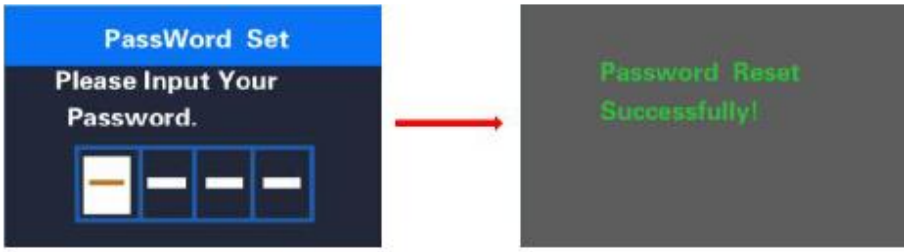
When password is enabled, ‘Reset password’ will add to Password interface. Press(less than 0.5s) +/− button to choose ‘Reset Password’ and press(less than 0.5s) to confirm. Meanwhile, the interface prompts for current password input. The display will be powered off automatically when the password is entered incorrectly after 10 inputs. When a correct password is input, the interface prompts for a new password. Then follow the operations of setting a new password. The interface will be redirected to original settings page 2 seconds after the password is reset successfully. Hold button for more than 2 seconds to exit to the main page or by route’ BACK’ →’EXIT’. The operation steps are as follows:



Password reset interface

◆ **Password Disable**

In “Start PassWord” interface, choose ‘OFF’ and short press (less than 0.5s) to confirm. Meanwhile, display interface prompts for a password. The display will be powered off automatically when the same password is entered incorrectly after 10 inputs. When a correct password is input, the display will give a prompt of ‘password function disabled’. After 2 seconds, the interface will be redirected to original settings page. Hold button for more than 2 seconds to exit to the main page or by route’ BACK’ →’EXIT’. The operation steps are as follows:



■ **If there is no operations in one minute; the display will exit the settings state.**

Beware of safe use. Do not attempt to loosen or reconnect the connector while charging the battery or while the battery power is on.
Avoid the risk of electric shock.
Do not subject the display to shocks.
Do not modify system parameters to avoid parameter mismatch.
If an error code is displayed, have the display repaired.

THIS VERSION OF THE OPERATING INSTRUCTIONS IS INTENDED FOR UNIVERSAL USE FOR KD218 DISPLAYS. SOME VERSIONS OF THE DISPLAY SOFTWARE WILL DIFFERENT DEPENDING ON THE SPECIFICATIONS. ALWAYS USE THE CURRENT VERSION.

DP C18 - OPERATING INSTRUCTIONS FOR USE OF THE CONTROL UNIT

Specifications

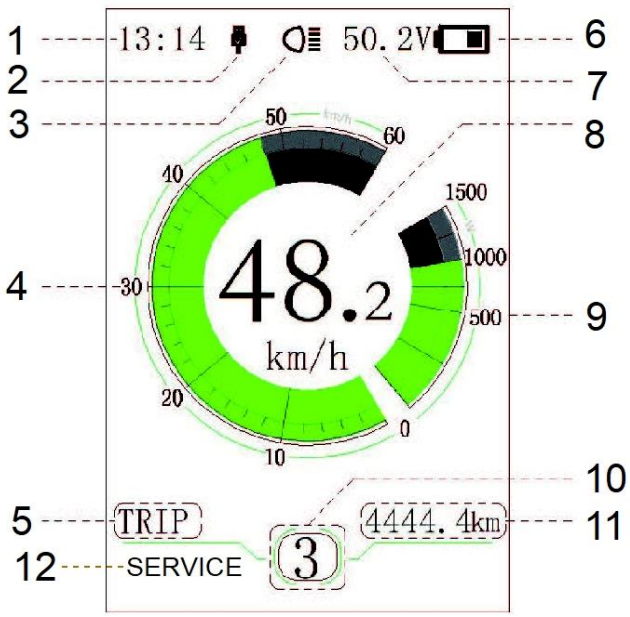
- Power Supply: 36 V / 43 V / 48 V DC
- Operating temperature: -20 ~ 45 °C (-4 ~ 113 °F)
- Storage temperature: - 20 ~ 50 °C (-4 ~ 122 °F)
- Degree of protection: IP65
- Bearing humidity: 30% - 70%

Control

◆ 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 output power and output current indicator.
- Kilometer stand (including single-trip distance, total distance and remaining distance).
- Walk assistance.
- Setting the support levels.
- Energy consumption indicator CALORIES (Note: If the display has this function).
- Display for the remaining distance. (Depends on your riding style)
- Setting password.

◆ Display



1. Time
2. USB charging indicator displays the icon , if an external USB device is connected to the display.
3. The display shows this symbol, if the light is on.
4. Speed Graphics
5. Trip: Daily kilometers (TRIP) - Total kilometers (ODO) - Top speed (MAX) - Average speed (AVG) - Range (RANGE) - Energy Consumption (CALORIES(only with torque sensor fitted)) - Travel time (TIME).
6. Display of battery capacity in real time.
7. Voltage indicator in voltage or in percent.
8. Digital speed display.
9. Power indicator in watts / amperes.
10. Support level/ Walking assistance
11. Data: Display data, which corresponds to the current mode.
12. Service: Please see the service section

◆ Key definition

NORMAL OPERATION

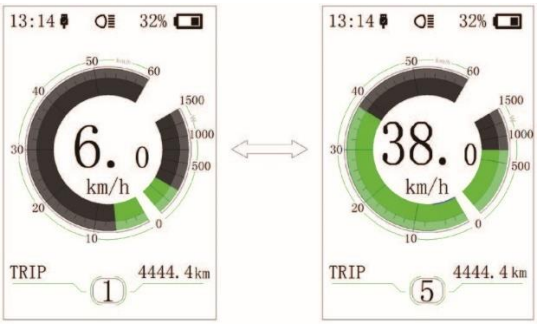
◆ Switching the System ON/OFF

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.

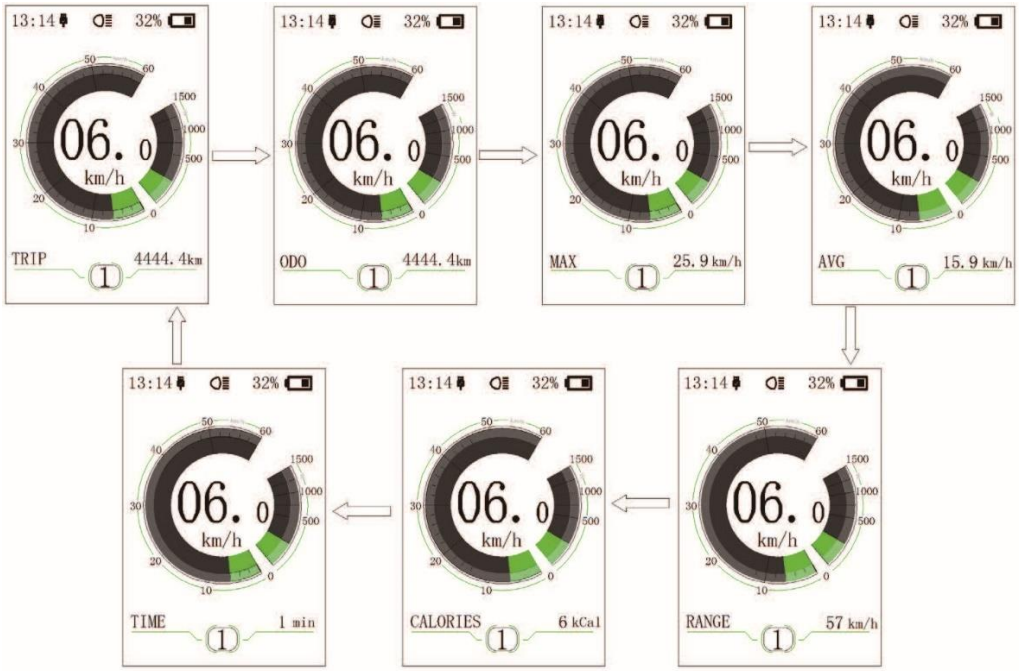
◆ Selection of Support Levels

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.



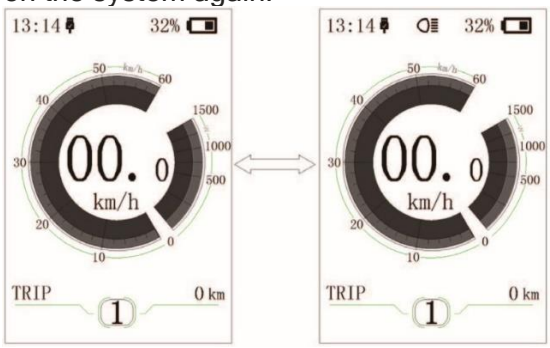
◆ Selection Mode

Briefly press the ℹ (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)) - Travel time (TIME).



◆ Headlights / backlighting

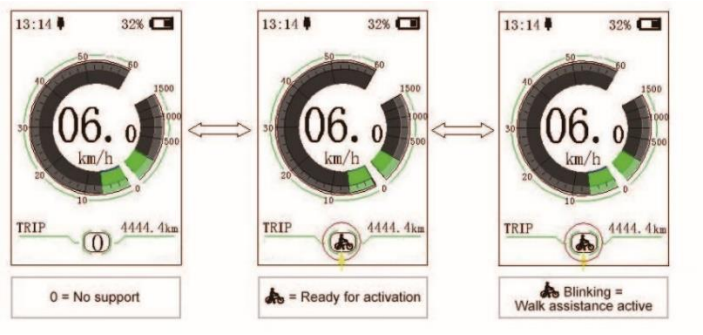
Hold the (>2s) button to activate the headlight and taillights. Hold the (>2s) button again to turn off the headlight. The brightness of the backlight can be set in the display settings "Brightness". If the display /Pedelec is switched on in a dark environment, the display backlight/headlight will automatically 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.



If the front or rear light is not connected, the button can only be used to switch the display backlight on / off.

◆ 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 approx. 6 km/h (3.7 mph). After releasing the button, the motor stops automatically and switches back to level 0.



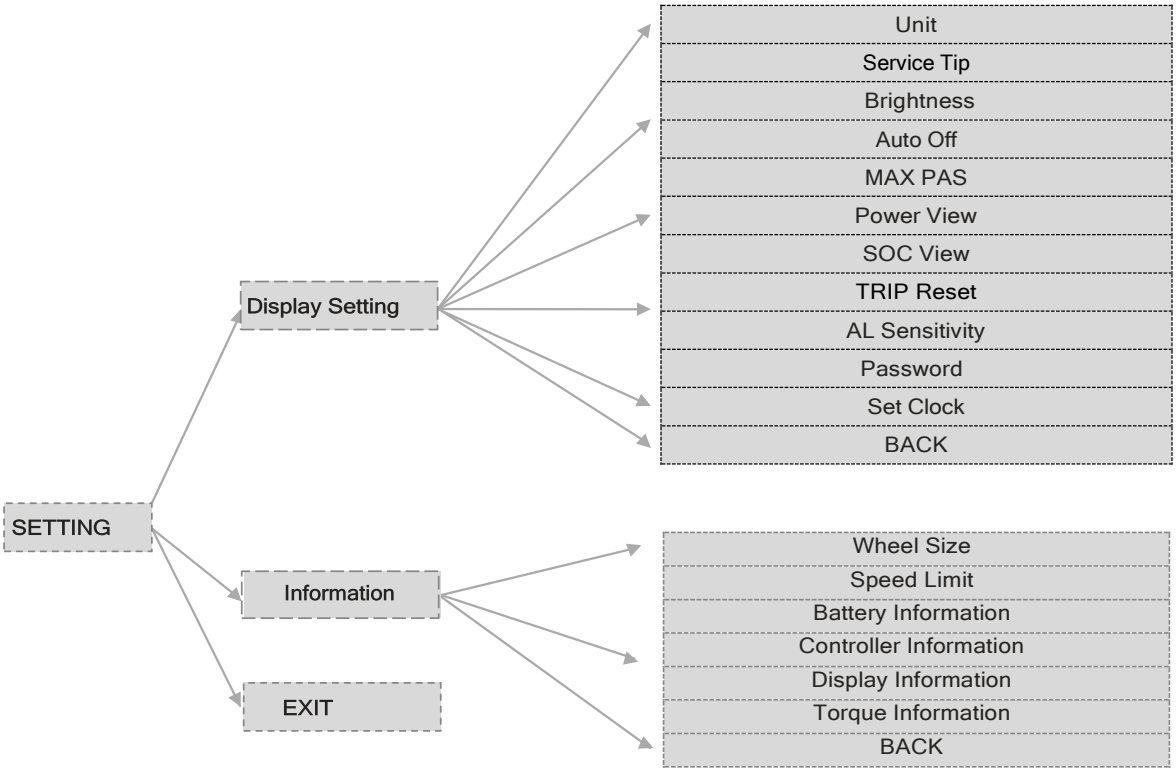
The walking assistant function can only be used when pushing the bike.
Attention! There is a risk of injury if the rear wheel does not come into contact with the ground when using the Walk Assist.

◆ 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 (3100 mi) (or 100 charge cycles), the “Service" function is displayed on the display. Every 5000 km (3100 mi) the display "SERVICE" is displayed every time. This function can be set in the display settings.

Settings

◆ Interface setup procedure



Enter the settings interface

All settings are made with the e-bike parked.

After the display is turned on, quickly press the ℹ button twice, to access the “SETTINGS” menu. By pressing the ➕ or ➖ (<0.5s) button, you can select: Display Settings, Information or EXIT. Then press the ℹ (<0.5s) button to confirm your selected option. Or select "EXIT" and press the ℹ (<0.5s) button to return to the main menu or select "BACK" and press the ℹ (<0.5s) button 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.

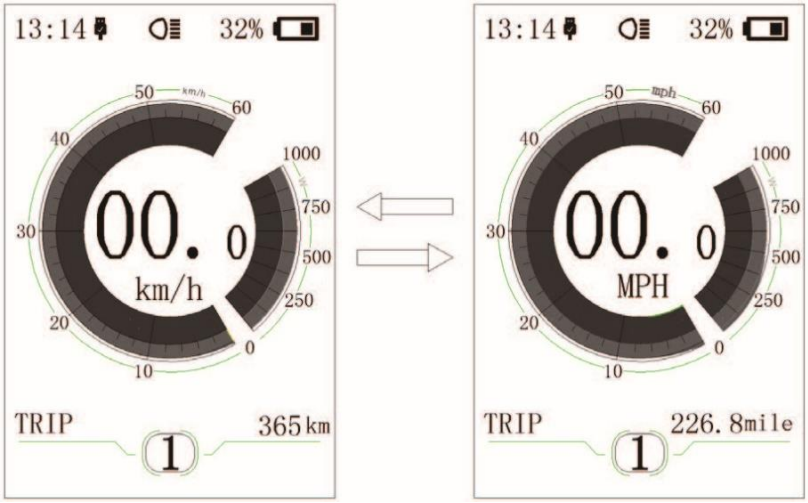
You can quickly press the ℹ (<0.5s) button twice at any time, to return to the main screen.

◆ Display setting

Press the ➕ or ➖ (<0.5s) button to select Display Settings, and then briefly press the ℹ (<0.5s) button to access the following selections.

◆ “Unit” Selections in km/Miles

Press the ➕ or ➖ (<0.5s) button to high- light “Unit” in the Display settings menu, and then press the ℹ (<0.5s) button to select. Then with the ➕ or ➖ button choose between “Metric” (kilometer) or “Imperial” (Miles). Once you have chosen your desired selection, press the ℹ (<0.5s) button to save and exit to the "Display setting" interface.



◆ “Service Tip” Switching the notification on and

Press the ➕ or ➖ (<0.5s) button to highlight “Service tip” in the Display settings menu, and then press ℹ (<0.5s) to select. Then with the ➕ or ➖ button choose between “ON” or “OFF”. Once you have chosen your desired selection, press the ℹ (<0.5s) button to save and exit to the "Display setting" interface.

◆ “Brightness” Display brightness

Press the ➕ or ➖ (<0.5s) button to high- light “Brightness” in the Display settings menu. Then press ℹ (<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 ℹ (<0.5s) button to save and exit to the "Display setting" interface.

◆ “Auto Off” Set Automatic system switch off time

Press the ➕ or ➖ (<0.5s) button to highlight “Auto Off” in the Display settings menu, and then press ℹ (<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 de- sired selection, press the ℹ (<0.5s) button to save and exit to the "Display setting" interface.

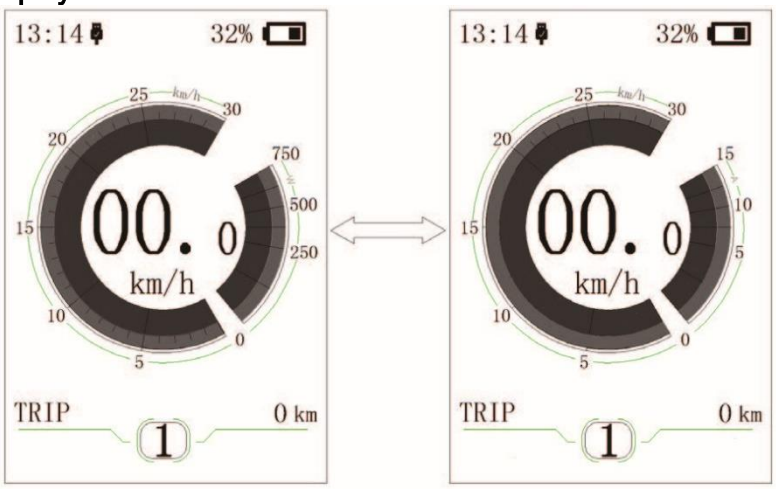
◆ “MAX PAS” Support level

Press the ➕ or ➖ (<0.5s) button to highlight “Max Pass” in the Display settings menu, and then press ℹ (<0.5s) to select. Then with the ➕ or ➖ button choose between “3/5/9” (the amount of support levels). Once you have chosen your desired selection, press the ℹ (<0.5s) button to save and exit to the "Display setting"

◆ “Power View” Setting the power

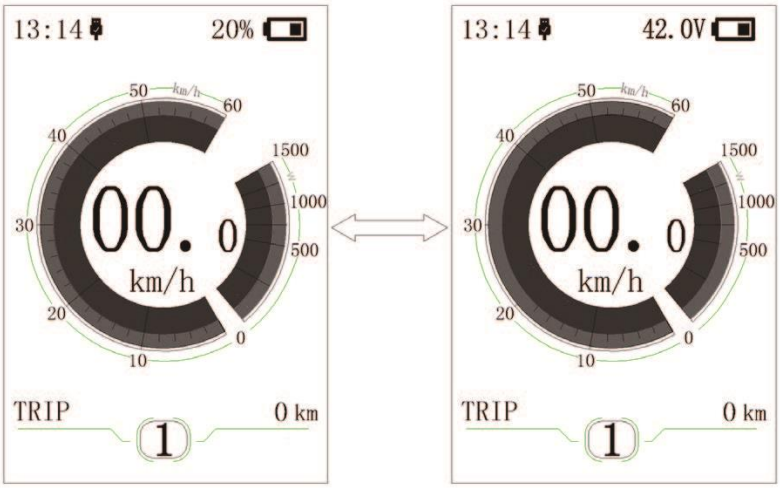
Press the ➕ or ➖ (<0.5s) button to high- light “Power View” in the Display settings menu, and then press ℹ (<0.5s) to select. Then with the ➕ or ➖ button choose between “Power” or “Current”. Once you have chosen your desired selection, press the ℹ (<0.5s) button to save and exit to the "Display setting" interface.

Note: The displayed value of the motor power corresponds to its current load and in some cases the peak motor power is displayed.



◆ “SOC View” Battery view in volt percent

Press the ➕ or ➖ (<0.5s) button to highlight “SOC View” in the Display settings menu, and then press ℹ (<0.5s) to select. Then with the ➕ or ➖ button choose between “percent” or “voltage“. Once you have chosen your desired selection, press the ℹ (<0.5s) button to save and exit to the "Display setting"



◆ “TRIP Reset” Reset mileage

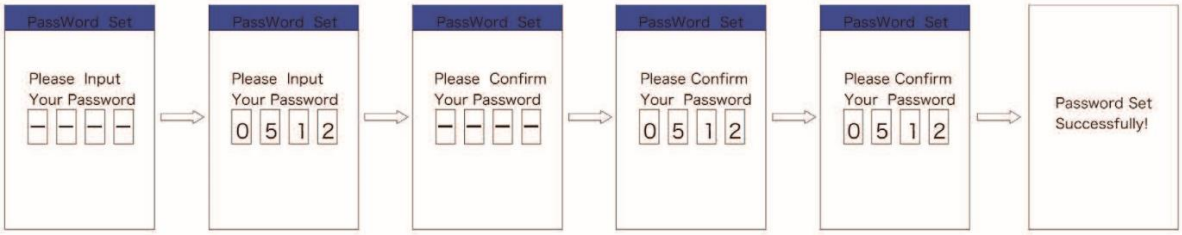
Press the ➕ or ➖ (<0.5s) button to high- light “TRIP Reset” in the Display settings menu, and then press ℹ (<0.5s) to select. Then with the ➕ or ➖ button choose between “YES” or “NO”. Once you have chosen your desired selection, press the ℹ (<0.5s) button to save and exit to the "Display setting".

◆ **“AL Sensitivity” Automatic headlight sensitivity**

Press the ⊞ or ⊟ (<0.5s) button to high- light “AL-Sensetivity” in the Display settings menu, and then press ℹ (<0.5s) to select. Then with the ⊞ or ⊟ button choose between "0" / "1" / "2"/ "3" / "4"/ "5"/ "OFF”. Once you have chosen your desired selection
, press the ℹ (<0.5s) button to save and exit to the "Display setting".

◆ **“Password”**

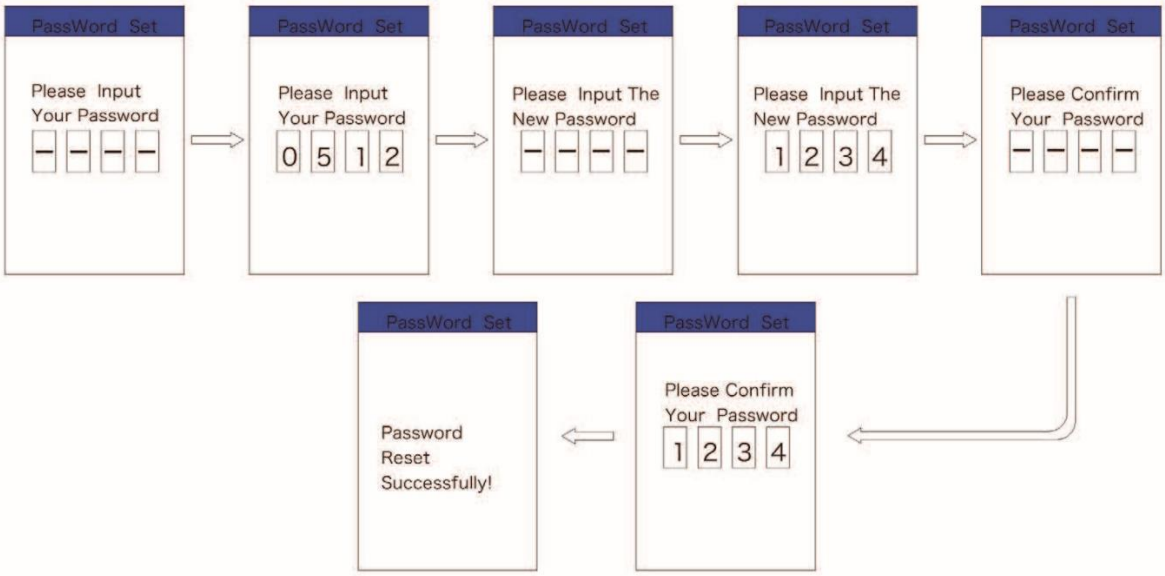
Press the ⊞ or ⊟ (<0.5s) button to choose Password in the menu. Then by briefly pressing ℹ (<0.5s) to enter the password selection. Now again with the ⊞ or ⊟ (<0.5s) buttons highlight “Start Password" and press the ℹ (<0.5s) button to confirm. Now again using the ⊞ or ⊟ (<0.5s) Button choose between “ON” or “OFF” and press the ℹ (<0.5s) button to confirm.
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.
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.
After entering the wrong number three times, the system switches off. If you have forgotten the password, please contact your retailer.



◆ **Changing the password:**

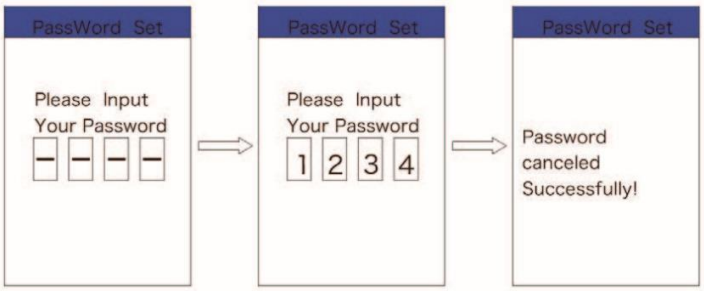
Press the ⊞ or ⊟ (<0.5s) button to choose Password in the menu. Then by briefly pressing ℹ (<0.5s) to enter the password selection. Now again with the ⊞ or ⊟ (<0.5s) buttons highlight “Password set" and press the ℹ (<0.5s) button to confirm. Now with the ⊞ or ⊟. (<0.5s) buttons and highlight “Reset Password” 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:**

To deactivate the password, use the ⊞ or ⊟ buttons to get to the menu point “Password” and press the ℹ (<0.5s) button to highlight your selection. Press the ⊞ or ⊟ (<0.5s) button until is shows “OFF”. Then press briefly ℹ (<0.5s) to select. Now enter your password, to deactivate it.



◆ “Set Clock”

Press the ⊞ or ⊟ (<0.5s) Button to access the “Set Clock” 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.

◆ “Information”

Once the system is turned on, quickly Press the ℹ (<0.5s) button twice to access the "SET-TINGS" menu. Press ⊞ or ⊟ (<0.5s) button to select "Information", and then press the ℹ (<0.5s) button to confirm your selection.
Or select the point "EXIT" by confirming with the ℹ (<0.5s) button to return to the main menu.

◆ Wheel Size and Speed Limit

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

By default, the speed limit is set to 20 mph so that it is in accordance with the applicable legislation for the operation of e-bikes on roads. If the maximum speed limit is set to a value higher than 20 mph, the e-bike no longer complies with the relevant laws and may not be used for road use!

◆ Battery Information

Press the ⊞ or ⊟ (<0.5s) button to access the Battery Info menu, and then press the ℹ (<0.5s) button to select confirm. Now press the ⊞ or ⊟ (<0.5s) button and select "Back” or “Next Page". Then press the ℹ (<0.5s) button to confirm, now you can read 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 time in which no charge was made (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.

◆ Controller Information

Press the ⊞ or ⊟ (<0.5s) button and select "CTRL Info", and then press the ℹ (<0.5s) button to confirm. Now you can read the controller information. To Exit press the ℹ (<0.5s) button, once “EXIT” is highlighted to return to the information settings.

◆ Display Information

Press the ⊞ or ⊟ (<0.5s) button and select Display Info, then press the ℹ (<0.5s) but- ton to read the software and hardware data in the display. To Exit press the ℹ (<0.5s) button, once “EXIT” is highlighted to return to the information settings.

◆ Torque Information

Press the ⊞ or ⊟ (<0.5s) button and select “Torque info”, then press the (<0.5s) ℹ button to read the software and hardware data in the display. To Exit press the ℹ (<0.5s) button, once “EXIT” is highlighted to return to the information settings.

◆ 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 return to the menu press the ℹ (<0.5s) button, once "BACK" is highlighted to return to the information settings.

◆ ERROR CODE DEFINITION

The display can show the errors of a pedelec. If an error is detected, the wrench icon appears on the display and one of the following error codes will be displayed. 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
10	The temperature inside the engine has reached its maximum protection value.	Turn off the system and allow the Pedelec to cool down.
14	The temperature inside the controller has reached its maximum protection value.	Turn off the system and allow the Pedelec to cool down.
21	Speed sensor Error	Restart the system 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. Check that the speed sensor connector is connected correctly. If the error persists, please contact your retailer.

If an error code is displayed, have the problem corrected. Otherwise you will not be able to ride the e-bike normally. Always contact an authorized bicycle dealer.

Beware of safe use. Do not attempt to loosen or reconnect the connector while charging the battery or while the battery power is on.
Avoid the risk of electric shock.
Do not subject the display to shocks.
Do not modify system parameters to avoid parameter mismatch.

DP C10 - OPERATING INSTRUCTIONS FOR USE OF THE CONTROL UNIT

Specifications

- Power Supply: 36 V / 43 V / 48 V DC
- Operating temperature: -20 ~ 45 °C (-4 ~ 113 °F)
- Storage temperature: -20 ~ 50 °C (-4 ~ 122 °F)
- Bearing humidity: 30% - 70%
- Degree of protection: IP65

Important notice

- 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.
- Do not use thinners or other solvents to clean the display. Such substances can damage the surfaces.

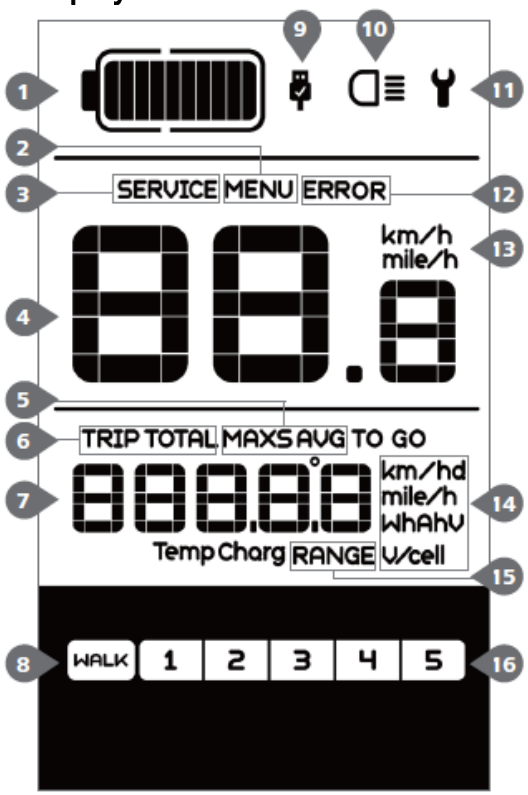
Control

◆ Functional Overview

- Speed display (including speed in real time (SPEED), top speed (MAXS) and average speed (AVG), switching between km and miles)
- Switching between km and miles
- Battery capacity indicator
- Automatic sensors explanation of the lighting system
- Brightness setting for backlight
- Indication of performance support
- Walk assistance
- Kilometer stand (including single-trip distance, total distance)
- Display for the remaining distance.(Depends on your riding style)
- Motor output power indicator
- Energy consumption indicator CALORIES (Note: If the display has this function)
- Error message's view
- Service
- USB charge function

By default, the speed limit is set to 20 mph so that it is in accordance with the applicable legislation for the operation of e-bikes on roads. If the maximum speed limit is reset to a value higher than 20 mph, the e-bike no longer complies with the relevant laws and may not be used for driving on public roads!

◆ Display



1. Display of battery capacity in real time.
2. Menu.
3. Service: please see the service section.
4. Digital speed display.
5. Speed mode , top speed (MAXS) - Average speed (AVG).
6. Kilometer stand, Daily kilometers (TRIP) - Total kilometers (ODO).
7. Data: Display data, which corresponds to the current mode.
8. Walking assistance WALK .
9. USB charging indicator displays the icon , if an external USB device is connected to the display.
10. The display shows this symbol if the light is on.
11. Error indicator .
12. Error code indicator.
13. Speed unit.
14. Unit indicator.
15. Remaining distance (RANGE).
16. Support level

◆ Key definition

Normal operation

◆ Switching the System ON/OFF

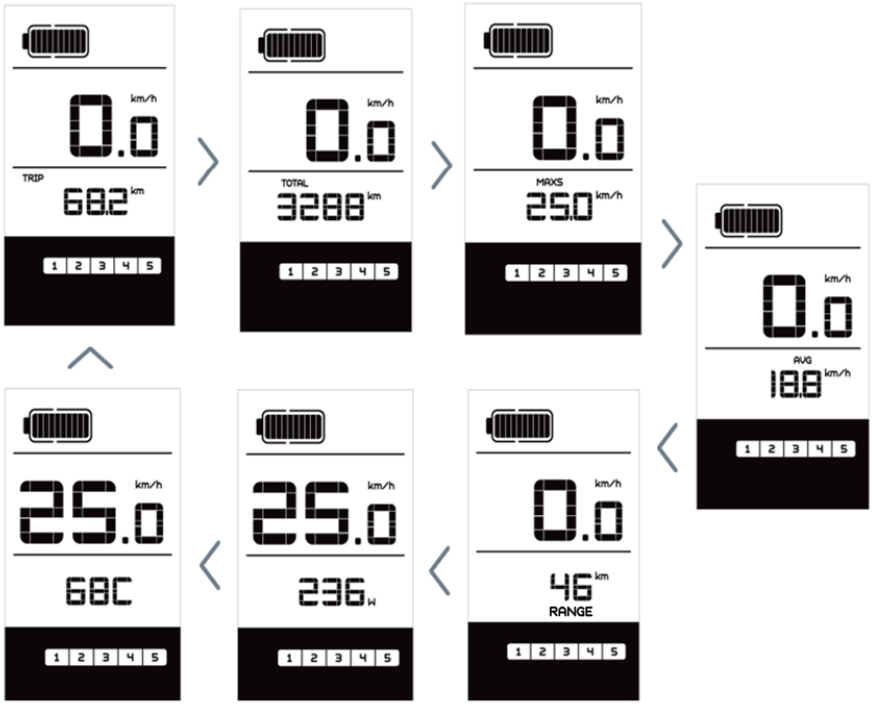
Press and hold (>2s) ⏻ on the display to turn on the system. Press and hold (>2s) ⏻ again to turn off the system.
If the "automatic shutdown time" is set to 5 minutes (it can be set with the "Auto Off" function, see "Auto Off"), the display will automatically be turned off within the desired time when it is not in operation.

◆ Selection of Support Levels

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

◆ Selection mode

Briefly press (<0.5s) the ℹ button to see the different trip modes. Trip: daily kilometers (TRIP) - total kilometers (ODO) - Maximum speed (MAX) - Average speed (AVG) - Remaining distance (RANGE)
- Output power (POWER) - Energy consumption (C (only with torque sensor fitted)).



◆ Headlights / backlighting

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

If the front or rear light is not connected, the button can only be used to switch the display backlight on / off.

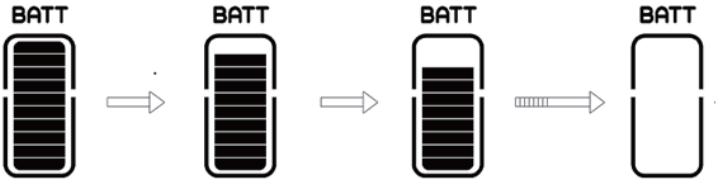
◆ Walk Assistance

Activation: Briefly press (<0.5s) the button until to level null, and then press (<0.5s) the button, the WALK symbol is displayed. Now hold down the button and the Walk assistance will activate. The WALK symbol will flashes and the pedelec moves approx. 6 km/h (3.7 mph). After releasing the button, the motor stops automatically and switches back to level null (if no option is activated in 5 second). If no speed signal is detected, it shows 2.5 km/h (1.5 mph).

The Walk assistance can only be activated with a standing pedelec.
Attention! There is a risk of injury when using the Walk Assist if the rear wheel does not come into contact with the ground.

◆ Battery capacity indication

The battery capacity is showed in ten bars. Each full bar represents a remaining capacity of the battery in a percentage, if the frame of indicator blinks that means to charge. (as shown in the figure below):



◆ USB charge function

If an external USB device is connected to the display, the icon appears, the device will be charged. The maximum charging voltage is 5 V and the maximum charging current is 500 mA.

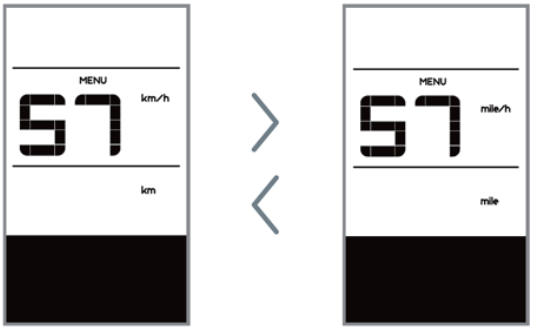
Settings

◆ Enter the settings interface

All settings are made with the e-bike parked.

After the display is turned on, quickly press (<0.3s) the button twice to access the “MENU” interface. pressing the or button, you can select and reset the options. Then press (<0.3s) the button twice to confirm your selected option and to return to the main screen. If no button is pressed within 10 seconds in “MENU” interface, the display will automatically return to the main screen and no data will be saved.

The individual MENU items are sorted below in the order in which they appear on the screen.

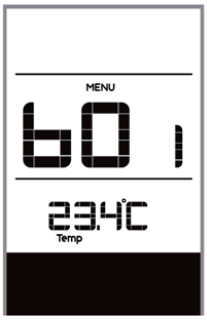
Reset mileage „tC“ Now using the ⊞ or ⊟ button, choose between “y”(YES) or “n”(NO). If choose “y”, the Daily kilometers (TRIP), Maximum speed (MAX) and Average speed (AVG) will be reset. NOTE: If the daily kilometers accumulate 99999km, the daily kilometers will be reset automatically.	
Selection of unit in km/Miles „S7“ Now using the ⊞ or ⊟ button, choose between “km/h” or “mile/h	
Set light sensitivity „bL0“ Now using the ⊞ to increase or ⊟ to reduce (light sensitivity for 0-5). Chose 0 means turn off the light sensitivity.	
Set display brightness „bL1“ Now using the ⊞ to increase or ⊟ to reduce (brightness for 1-5).	

Set Auto Off „OFF“ Now using the ⊞ to increase or ⊟ to reduce (brightness for 1-9minute).	
Service Tip „nnA“ Now using the ⊞ or ⊟ to choose between “0” or “1”. Chose 0 means turn off the notification. NOTE: If the “Service" function switch on, every 5000 km (3100 mi) (the mileage of more than 5000 km) the indicator "SERVICE" is displayed every time at switch on.	

The following setting items are informative and cannot be changed.
NOTE: Some information is not displayed unless a torque sensor is installed.

Wheel Size „LUd“ Speed Limit „SPL“	
Controller hardware info „CHc“ (Controller Hardware Check) Controller software info „CSc“ (Controller Software Check) Display hardware info „dHc“ (Display Hardware Check) Display software info „dSc“ (Display Software Check)	
BMS hardware info „bHc“ (BMS Hardware Check) BMS software info „bSc“ (BMS Software Check) Sensor hardware info „SHc“ (Sensor Hardware Check) Sensor software info „SSc“ (Sensor Software Check)	

Battery Information „b01“



When the system is on, quickly press (<0.3S) the ℹ button twice to access the “MENU” interface, repetitively press the ℹ button until the “b01” appears on the display (as shown below). You can briefly press ℹ (0.3s) to view all information of the
NOTE: If no data is detected, "--" is displayed.

Content	Explanation
b01	Current temperature (°C)
b04	Voltage (V)
b06	Discharge (A)
b07	Remaining Capacity (Ah)
b08	Total Capacity (Ah)
b09	Relative SOC (%)
b10	Absolute SOC (%)
b11	Charging cycles (number)
b12	Maximum not charging time (Hr)
b13	Recently not charging time (Hr)
d00	Number of battery cell
d01	Voltage of cell 1 (mV)
d02	Voltage of cell 2 (mV)
dn	Voltage of cell n (mV)

Message of Error Code „E00“

press ℹ (0.3s) to view last ten Error Code “EO0” to “EO9”. Error code "00" means that there is no error.

If an error code is displayed, have the problem corrected. Otherwise you will not be able to ride the e-bike normally. Always contact an authorized bicycle dealer.

◆ ERROR CODE DEFINITION

The display can show the errors of a pedelec. If an error is detected, the wrench icon 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. Always make sure that the connectors are inserted correctly. If a code that is not in the table appears, contact your dealer.

Error	Declaration	Troubleshooting
07	Overvoltage protection	Remove the battery. Re-Insert the battery. If the problem persists, please contact your retailer.
10	The temperature inside the engine has reached its maximum protection value	Turn off the system and allow the Pedelec to cool down. If the problem persists, please contact your retailer.
14	The protection temperature inside the controller has reached its maxi- mum protection value	Turn off the system and allow the Pedelec to cool down. If the problem persists, please contact your retailer.
21	Speed sensor Error	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. If the error persists, please contact your retailer.

Beware of safe use. Do not attempt to loosen or reconnect the connector while charging the battery or while the battery power is on.
Avoid the risk of electric shock.
Do not subject the display to shocks.
Do not modify system parameters to avoid parameter mismatch.

We wish you many happy kilometers (miles) riding your new e-bike!

Your MOUNTFIELD team

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