USERS GUIDE

KM5S–LCD

CONTENTS

About the User Manual

Dear users,

To ensure the best performance of your e-bike, please read through the KM5S product introduction carefully before using it. We will detail all steps including: hardware installation, setting up software and normal operation of the display. The introduction will also help you to resolve the possible confusion or malfunctions.

Appearance and Size

Material and Colour

KM5S products are made of PC plastic. This material ensures normal operation & robust mechanical performance in the temperature range of -20℃ to 60℃. Real product and dimension figure (unit: mm)
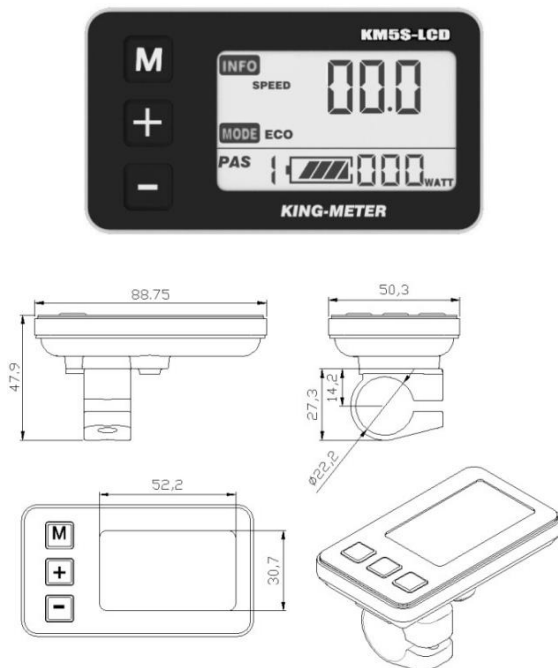
Function Summary and Button Definition

Function summary

KM5S provides a wide range of functions and indicators to fit the user's needs. The indicator contents are as follows.

◆Battery indicator

◆Motor power ratio

◆Speed display (including running speed, max speed and average speed)

◆Trip distance and total distance

◆Time display of single trip

◆Cruise control

◆Headlight on/off

◆Error code indicator

◆Various parameters setting (like：wheel size, speed -limiter, battery level bar, PAS level, controller limited current, max speed, password enable, ect...)

◆Recover default setting

Monitor Area
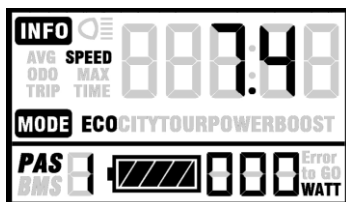
Monitor Area

Button definition

KM5S has three buttons. They are **M** **+** **−**. In the following introduction, **M** is named as "**MODE**". **+** is named as "**UP**" and **−** is named as "**DOWN**".

Operation Cautions

Take care to use safety. Don't attempt to release the connector when the battery is powered on.

Try to avoid hitting.

Don't remove the waterproof sticker to avoid affecting the waterproof performance.

Don't modify system parameters to avoid suboptimal performance.

Take the display to be repaired when the error code appears.

Installation Instruction

Fix the display onto the handlebar and adjust to an appropriate visual angle. Tighten all the screws & connectors.

Normal Operation

Power on/off

Long press **MODE** button (for 2 seconds) then the display & controller will. With the display on, long press **MODE** to turn off the power supply to the e-bike. When turning the display off, both the display & controller will shut down. The leakage current is less than 1 uA.

When parking the e-bike for more than 10 minutes, the display will shut down automatically.

Display interface

After starting up the display, the default display is running speed. Short press MODE to change the indicated information in sequence as follows: Running speed (Km/h) → Average speed (Km/h) → Max speed (Km/h) → Trip distance (km) → Total distance (km) → Travel time → Running speed (Km/h).

| Running speed | Average speed | Max speed |

| Trip time | Trip distance | Total distance |
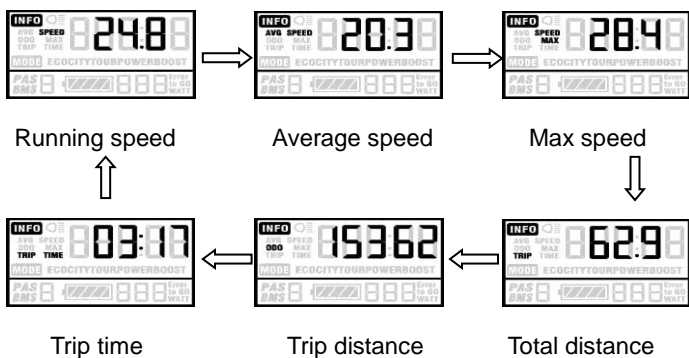
Push cruise control

Hold **DOWN** for 2 seconds to start power assistant walk. The e-bike will move at a uniform speed of 6 Km/h. PUS shows on the screen.
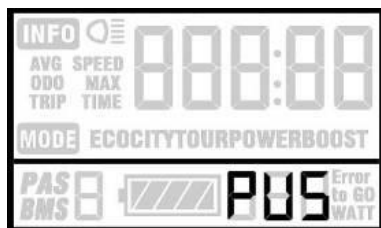
Push cruise control

⚠️ **6Km/h "Push Cruise Control" function should only be used while pushing the e-bike by hand. Please don't use this function when riding.**

Turn on/off backlight

Hold **UP** for 2 seconds to turn on the backlight of the display, the headlight (if installed) will be power on at the same time. Hold **UP** for 2 seconds again, to turn off the headlight and the backlight.

Turn on/off backlight

PAS level selection

Short press **UP/DOWN** to change the output power of the motor. The power ranges from level 1 to level 5. Level 1 being the minimum power & level 5 the maximum power. The default value is level 1.
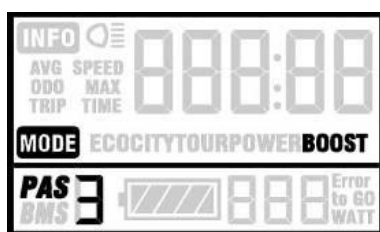
PAS level

Battery indicator

The 5 battery bars represent the capacity of the battery. When the battery has low voltage, battery frame will flash to indicate that the battery needs to be recharged immediately.

Low voltage flash
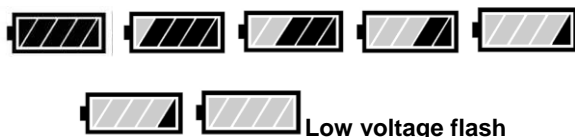
Battery indicator

Motor power monitor

Motor power showed as below:
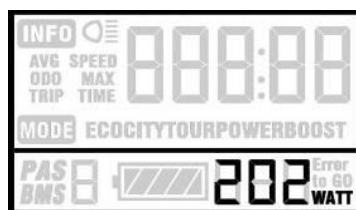
Error code information

If there is something wrong with the electronic control system, the error code will appear automatically. Detail information of the error codes can be found in Table 1.
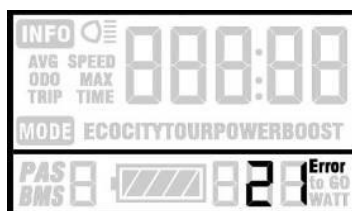
Error code

🔧 **Take the display to be repaired when error code appears.**

User Setting

Preparation before starting

Make sure all connectors are plugged in and the cables are without damage.

General setting

Long press the **MODE** button to start the display, and then hold both **UP** and **DOWN** for 2 seconds to enter the setting menu.

Trip distance and trip time clearance

TC means trip clearance. Press **UP** or **DOWN** to choose yes or no respectively to clear the trip information.

⚠️ **Trip distance and trip time will be cleared at the same time.**

Trip distance clearance

Backlight contrast

BL means backlight. Level 1 is the low brightness, level 2 is the middle brightness & level 3 is high brightness. The default level is 1. Bottom of the screen displays SET2.

Short press **UP** or **DOWN** to modify the backlight brightness. Long press **MODE** to confirm the modification and exit the general setting.
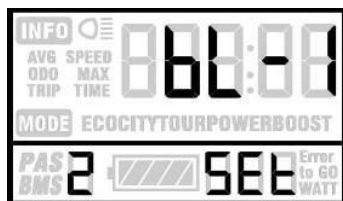
Backlight Brightness

Power-on password enable/disable

The character "-P-" on the bottom of the screen designates the password page. Hold both **UP** and **DOWN** for 2 seconds to enter normal settings and then hold both **UP** and **MODE** for another 2 seconds to enter the power-on password enable/disable page.

Press **UP/DOWN** to change the number & press **MODE** to enter digits one by one. After the correct 4-digit password is entered, press **MODE** to confirm then select password enable or disable.

Password entering page

Power-on password enable

Press **UP/DOWN** to select **Y** or **N**, and press **MODE** to confirm. Power-on password default is **N**.
Y = Power-on password enabled
N = Power-on password disabled
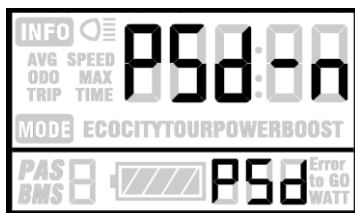
Password disable page

Power-on password modify

Use **UP** and **DOWN** to change the number, and short press **MODE** is to select the digits one by one, finally long press **MODE** to confirm the modification.

Password modify page

Normal parameter setting

Hold both **UP** and **DOWN** for 2 seconds to enter User settings. Then hold both **DOWN** and **MODE** for over 2 seconds & enter the password 0512 to modify the

current parameters

Use the same method described in the previous section to enter the password 0521.

Password inputting page

Wheel diameter setting

Press **UP** and **DOWN** to select the correct value to match the wheel diameter. Selectable values include: 16", 18", 20", 22", 24", 26", 700C, 28".Default diameter is 26inchs.

Ld means Wheel Diameter.
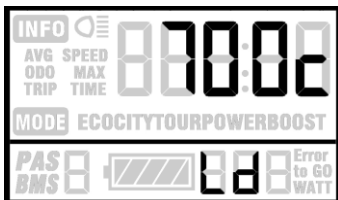
Wheel diameter setting page

Speed-limit setting

When the running speed exceeds the MAX SPEED, the controller will cut off the motor power. MAX SPEED default setting is 25Km/h (12Km/h to 40Km/h is selectable).LS means Limit Speed. Press **UP**/**DOWN** to select the desired value, and then long press **MODE (**over 2 seconds) to save and quit the settings mode.
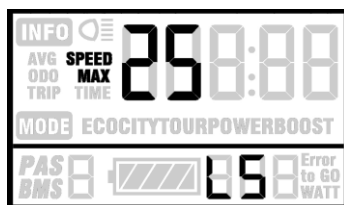
Limit speed setting page

Personalized Parameter Setting

Personalized parameter setting can be matched to the requirements of the user. Setting options are: Battery power bar setting, pedal assistant level setting, over-current cut, pedal assistant sensor setting, speed sensor setting and delay time setting. For the details, please see **Attached List 2** in the appendix.

Password to enter the personalized setting mode

Hold both **UP** and **DOWN** for over 2 seconds to enter normal settings, then hold both **UP** and **DOWN** again to setup personalized parameters, the password 2962 must be entered.

MODE is to confirm and enter the personalized parameter setting page, you can then select the desired option.

System parameter password input

Press **UP/DOWN** to select and press **MODE** to enter the corresponding setting page.

Option select page

Battery power bar setting

Select **VOL** to enter the battery power bar setting. Each bar represents a voltage value. 5 voltage values **MUST BE** entered one by one.

Press **MODE** to select the bar and **UP/DOWN** to select the value. Then long press **MODE** to save the modification.

VOL = voltage

Battery power bar setting

Pedal assistant level setting

Select **SCA** to enter the pedal assistant level setting.

Pedal assistant level select

In the pedal assistant level setting , there are 8 modes to select from：0-3, 1-3, 0-5, 1-5, 0-7, 1-7, 0-9, 1-9. Press **UP/DOWN** to select the mode, and press **MODE** to confirm & enter the next step of setting-- changing the ratio of each PAS level.
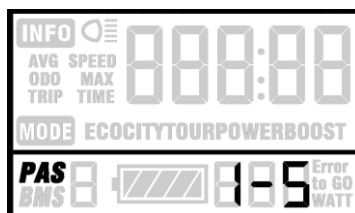
PAS Mode select page

0-3 or 1-3:	**PAS1** also shows ECO, **PAS3** also shows BOOST.	**PAS2** also shows TOUR,
0-5 or 1-5:	**PAS1** also shows ECO, **PAS3** also shows TOUR, **PAS5** also shows BOOST.	**PAS2** also shows CITY, **PAS4** also shows POWER,
0-7 or 1-7:	**PAS1** also shows ECO, **PAS3** also shows CITY, **PAS5** also shows TOUR, **PAS7** also shows BOOST.	**PAS2** also shows ECO, **PAS4** also shows CITY, **PAS6** also shows POWER,
0-9 or 1-9:	**PAS1** or **2** also shows ECO, **PAS5** or **6** also shows TOUR, **PAS9** also shows BOOST.	**PAS3** or **4** also shows CITY, **PAS7** or **8** also shows POWER,

PAS ratio modify

To modify the PAS ratio to meet different requirements:

Take the 1 level for example, "45-55 percent" is the range value, bottom value can be modified, and the default is 50 percent. Press **UP/DOWN** to change the percentage.   Short press of **MODE** is used to select and enter the controller over-current cut setting. After setting then short press **MODE** to go to the next PAS level ratio setting. After all PAS ratios are inputted, please hold **MODE** over 2 seconds to save the modification and return to personalized parameter setting page. For the details, please see **Attached List 4** in the appendix.
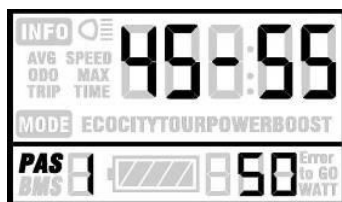
PAS ratio page

Controller over-current cut setting

CUR means current. CUR value can be changed from 7.0A to 22.0A. Press **UP/DOWN** to change the value of the current, and hold **MODE** to save the setting and return to personalized parameter setting page.15A is the default value of controller over-current cut.

> **Some controllers might not be capable of reaching 22A.**

CUR setting page

Pedal assistant sensor setting

Select the **PAS** to enter the pedal assistant sensor setting.

Direction of pedal assistant sensor setting

PAS means Pedal Assistant System, "run-F" means forward direction, "run-b" means backward direction. Press **UP/DOWN** to select F or b (The default direction is forward) and short press **MODE** to confirm and proceed to PAS sensitivity setting.

Direction of PAS sensor setting

Sensitivity of PAS setting

SCN means the sensitivity of PAS. It ranges from 2 to 9 where 2 is strongest & 9 is the weakest (SCN default value is 2). **UP/DOWN** is used to select the sensitivity value and short press **MODE** to save & proceed to magnet disk setting.
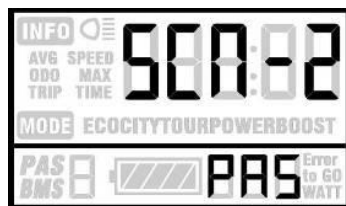
Sensitivity of PAS setting

Proportion parameter setting of PAS

N means the proportion parameter of PAS. Press **UP/DOWN** to select the parameter where the more power, the more PAS can be felt. Long press **MODE** to save the modification.
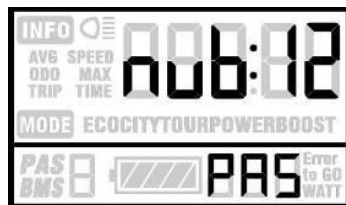
Proportion parameter of PAS

Speed sensor selection

Select **SPS** to enter the speed sensor selection.

SPS means speed sensor. Press **UP/DOWN** to select the quantity of magnet heads (the range is from 1 to 9, default value is 1) and long press **MODE** to save the modification.

Speed sensor selection

Throttle definition

Select **Hnd** to enter the throttle definition.

Throttle Enable/Disable

HL means throttle load, HL:N means function disable ,HL:Y means function enable .
When HL=Y, throttle can control the function. Press **UP/DOWN** to select Y, and long press **MODE** to save and return to the personalized parameter setting page. Otherwise select N to continue to throttle vector enable setting.
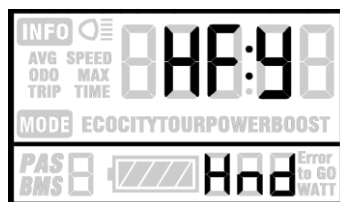HL default value is N.

Throttle enable/disable page

Throttle level enable/disable

HND means throttle. **HF：Y** means the throttle vector is enabled, **HF： N** means the throttle vector is disabled. Press **UP/DOWN** to select Y or N and long press **MODE** to save and quit the setting mode.

Throttle Level enable/disable page

System setting

Select the **SYS** to enter the system setting.

Delay time setting of battery power

DLY means delay time of battery power. Choose delay time 3/6/12s by pressing **UP/DOWN,** then shortly press **MODE** and enter the max speed limit**.** The default time is 3s.
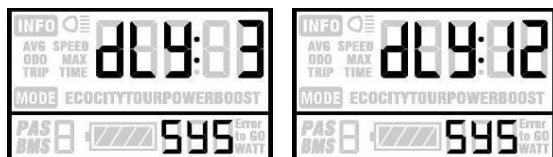
Delay time of battery power interface

Max speed limit

MAX SPD means max speed limit. Set the max speed by pressing **UP/DOWN** from 25-40 Km/h. Long press **MODE** to save and exit setting mode. The default is 40Km/h.

The standard speed limit setting is based on this setting, not more than this setting value. This setting is the priority version
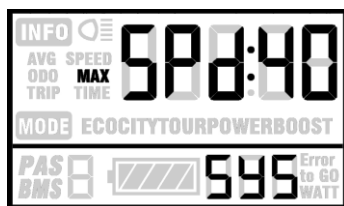
Interface of max speed limited setting

Button PUS setting

PUS means pushing. Press **UP/DOWN** to choose Y/N.

Short press **MODE**, Y means enable, N means disable.

Short press the **MODE** button to select and enter PAS speed setting. The default value is Y.

Interface of PAS pushing

PAS speed setting

Use the PAS speed setting to adjust push speed to meet the rider's requirements.

The scope is "20%-35%" selected by pressing **UP/DOWN,** short press **MODE** to enter into slowly start up. Default value is 25%.

Interface of PAS speed setting

Slowly start up setting

SSP means slowly start up. The scope is 1-4, 4 being the slowest. Press **UP/DOWN** to choose & long press **MODE** to save and exit setting mode. The default value is 1.

Interface of slowly setting up

Exit setting

In the setting state, short press **MODE** (less than 2s) to select but not save and enter the next step of settings or go back to the previous step of settings. Long press **MODE** (more than 2s) to save the setting and quit the setting state. Long press **DOWN** (more than 2s) to cancel the operating but not save setting data.

If there is no operation within one minute, the display will exit the setting state without saving the modification.

Recover Default Setting

DEF means recover default settings. Press both **UP+MODE** to enter recover default setting**.** Pressing **UP**,

DOWN to convert Y or N. N means do not need to recover default setting; Y means entering into password setting. Otherwise, display will exit. The default state is N.


Restore default setting interface

The password to recover default settings is 0368. Short press **MODE** to select the digit, **UP**/**DOWN** can increase or reduce the number. After inputting 4 digits, short press **MODE** to confirm. The interface is as below. When the display shows DEF:00 it means recovering default state completed, then exiting.

In the recovery default, battery power, ODO and trip cannot be recovered, but starting up password can be recovered.
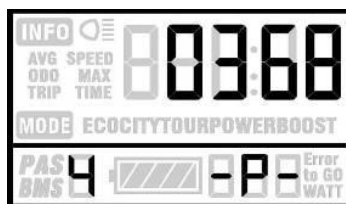
Input recovery password interface

Start   Complete
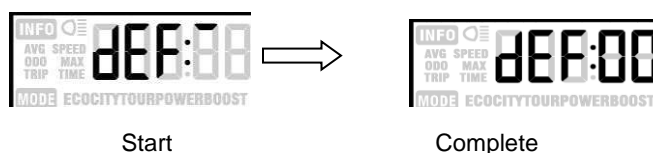
Recover default interface

FAQ

Q: Why is the display not able to start up?
A: Check the connector between display and controller.
Q: How to deal with the error code?
A: Take it to the maintenance place immediately.

Barcode

The barcode is built up as follows:

KM5S000001

12063101801

KM5S=Name
000001=Sequence No.
12=Year of production
06=Week of production
3=Battery voltage
1=Sample（0=Mass production）
01=Hardware version No.
801=Software version No.

Quality Assurance and Warranty Scope

Ⅰ、Warranty

1、For any quality problems during normal operation and during the guarantee period, King-meter will be responsible for the warranty.

2、The warranty period is 24 months from when the display leaves the factory.

Ⅱ、Other items

The following items fall outside the warranty scope.

1、It cannot be dismantled.

2、The damage is caused by incorrect installation or operation.

3、Casing is broken when display is out of the factory.

4、Wires are broken.

5、The fault or damage is caused by force majeure (such as fire, earthquake, etc…) or natural disasters like lighting, etc.

6、Beyond Warranty period.

Connection layout

Connector line sequence
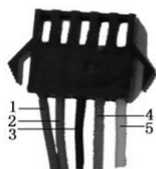
Display-side Connector   Male adapter   Female adapter

Line sequence table

Line sequence	Color	Function
1	Red（VCC）	+
2	Blue(K)	Lock
3	Black(GND)	-
4	Green(RX)	RX
5	Yellow(TX)	TX

Some wires use the water-proof connector, in such cases users are not able to see the inside colour.

Version History

This operating instruction is a general-purpose version（V1.0）. Some of the versions for the display software may vary from the specification, which will depend on current version.

Appendix

Attached list 1：Error code definition

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

Attached list 2： Password table

No	OSD	Password	Setting
1	日 ▨▨▨ ⊟P⊟	0512	Using parameter setting password(settled)
2	2 ▨▨▨ ⊟P⊟	**Default** 1234	Starting up password
3	3 ▨▨▨ ⊟P⊟	2962	Personalized setting password(settled)
4	4 ▨▨▨ ⊟P⊟	0368	Recovery setting password(settled)

Attached list 3： Personalized parameter setting

No	Setting	Display	Details
1	Battery power	UOL	Five battery power value 1 ▱◪UOL
2	Assistance	SCA	Power assist level option PAS BMS ▱▱ 1-5
			Assistance proportion PAS BMS 1 ▱▱ 50
3	Current-limiting	CUR	Limit current CUR 15.0
4	Power assist sensor	PAS	PAS direction rUn:-A
			PAS sensitivity SCN:-2
			PAS magnet No nUb:12
5	Speed sensor	SPS	Speed sensor magnet No SPS:-1
6	Throttle	Hnd	Throttle-changing HF:Y

7	System setting	5Y5	Throttle HL:Y
			Time of battery power delay dLY:3
			Max speed 5Pd:40

Attached list 4：Power assist table

Level / Level / Item	1	2	3	4	5	6	7	8	9
0-3/ 1-3	50%	74%	92%	—	—	—	—	—	—
0-5/ 1-5	50%	61%	73%	85%	96%	—	—	—	—
0-7/ 1-7	40%	50%	60%	70%	80%	90%	96%	—	—
0-9/ 1-9	25%	34%	43%	52%	61%	70%	79%	88%	96%

Attached list 5： symbol definition

No	Symbol	Definition
1	SEE	Setting
2	PSd/-P-	Password
3	dLY	Power delayed time
4	dEF	Recover default
5	tE	Trip and time to clear
6	bL	Backlight
7	HF	Throttle-changing
8	HL	Throttle power assist walk
9	LS	Speed limit
10	Ld	Wheel diameter
11	?	Question mark
12	b	Backward
13	F	Forward
14	Y	Yes
15	n	No

TBA