E-BIKE

CD15

USER MANUAL

www.rksmotor.eu

Thank you for sharing the space of your beautiful life with our electric bike. Owning, riding and sharing this bike is a pleasurable experience.

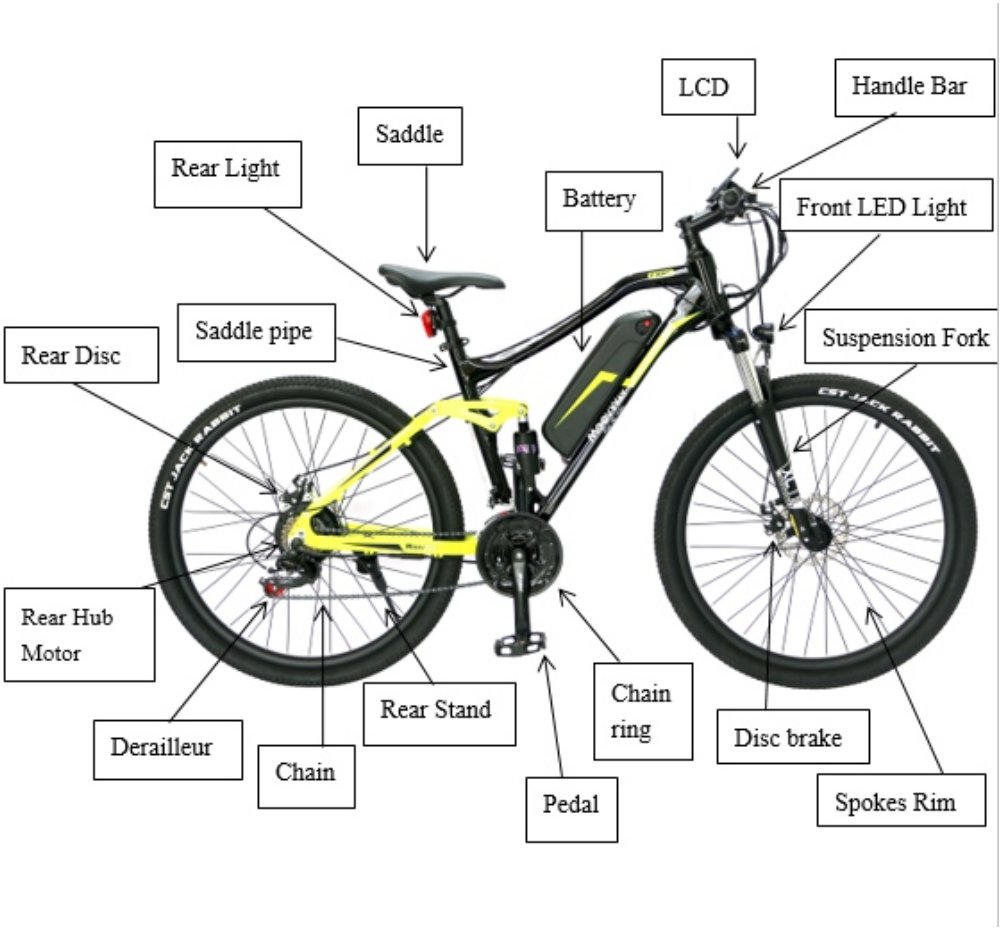
This E-bike is equipped with an electric pedal speed sensing system to enhance your cycling experience when you pedal. It means, while you are pedaling, you will find the movement effortless as the motors will rotate as per your pedaling speed. A more comfortable way of riding this bike would be by using the throttle. This means complete electric transmission and you can enjoy the ride as effortless as it can be and also enjoy the nature you pass by. You can ride to work, shop or just participate in leisure activities, go to a picnic or carry this behind your vehicle to trail the ranges of the peak next door. Perhaps you might not be very familiar with an E-bike, let's get to know it in a better fashion.

Safety is our prime concern so the bike comes with auto braking power cutoff system and is functional with key and a power button.

We wish you a pleasant ride and most importantly, do not forget to have fun!

CONTENTS

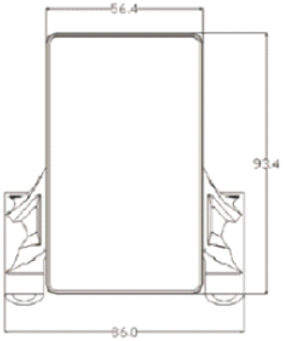
COMPONENTS


LCD
Handle Bar
Saddle
Rear Light
Battery
Front LED Light
Saddle pipe
Rear Disc
Suspension Fork
Rear Hub Motor
Derailleur
Chain
Rear Stand
Pedal
Chain ring
Disc brake
Spokes Rim

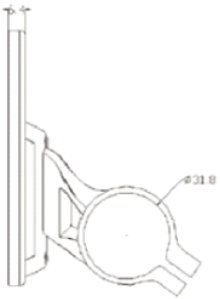
SPECIFICATIONS

- **Frame:**
- Aluminium 6061 – lifetime Rust free with Aluminium seat post and hyper cushion seat
- 20 inches support structure with folding option for easy carriage.
- **Brakes:**
- Front Disk - Mechanical
- Rear Disk - Mechanical
- **Modes:**
- 3 speed access (Throttle)
- Single mode Pedal Assistance (PAS)
- **Tires:**
- 20 inches diameter with 4 inches fat tyre with Magnesium spokes rim
- CST BFT Jack Rabbit Mountain trail heavy duty tyre for all surface road.
- Alloy Rims steel spokes with heavy duty grid lines avoiding punctures
- **Display:**
- LCD modes with odometer and trip function
- LED Flashlight in the front
- **Battery:**
- 36V 10.4Ah with 12 months warranty
- 5.5 hours charging time
- Consumption per charge - 1 Unit electricity (Rs.5-8/Charge)
- **Range:**
- 45-50km using complete throttle for 3 modes
- Upto 70km using Pedal Assistance (PAS)
- **Motor:**
- 36V 250Watt
- Rear hub motor

The outer shell of the display material is ABS, Liquid crystal transparent window material with synthetic acrylic is used to build the display.



Front View



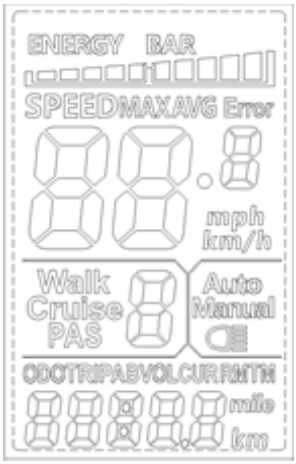
Side View

LCD Functions description

1. Display function - Speed display, power level display, power indicator, failure warning, total mileage, single mileage, headlight display, single driving time display.
2.Control, setting up functions - Power switch control, headlight switch control, 6Km/h point control, wheel diameter setting, maximum speed setting, idle automatic hibernation time setting, backlight brightness setting, voltage level setting

3.Communication protocol：UART

All the contents of the display screen (full display in boot 1S)



Content Introduction

3.1 Headlight - The instrument can be manually turned on and the brightness of the sensing environment is automatically turned on (light sensitivity support required for this function).

3.2 BATTERY Power Display

3.3 Multifunctional Display -

Total mileage - ODO

single mileage - TRIP A, single mileage - TRIP B

Battery current voltage - VOL

current operating current - CUR

remaining mileage - RM

Instrument boot time - TM

3.4 Vehicle Mode

Walk boost mode – Bicycle riding with 21 gears.

Cruise: constant speed cruise mode applied with throttle and pedal assistance

PAS: Power file position: 0 ~ 9 adjustable Pedal Assistance

3.5 Speed display

Maximum speed – MAX, Average Speed – AVG

Speed Measuring Unit – mph, km/h

The meter calculates the speed of the e-bike based on wheel rotation and data transmission from the speed sensor.

3.6 Vehicle Status Display

Vehicle status Code Descriptions

Status Code(Decimal)	**Actual State**	**Remarks**
0	Normal	
1	Reservation	
2	Brakes	
3	Power Sensor Fault (Riding Mark)	Not Realized Here
4	6KM/H cruise	
5	Real-time cruising	
6	Battery Under voltage, PCB overload	
7	Motor failure	
8	Turn malfunctioning	
9	Controller failure	
10	Communication reception failure	
11	Communication dispatch failure	
12	BMS communication failure	
13	Headlight failure	

5S Protocol State (Code with description)

Status Code(Decimal)	**State Meaning**	**Remarks**
33	Current anomaly	
34	Turn the anomaly	
35	Motor phase deficiency	
36	Motor Hall anomaly	
37	Brake anomaly.	
30	Communication anomaly	

3.7 Factory Settings

	Function	Data	Set ready
P01	bringhtness	1:2:3	2
P02	range unit	0:KM;1:MILE	0
P03	voltage	24V ;36V ;48V	36V
P04	sleeping time	0:off,1-60 min	10
P05	display mode	0:0-3 mode,1:0-5 mode	1
P06	wheel size	16-28 inch	27.5 inch
P07	speed measuring magnet	1-100	1
P08	speed limit	0-41km/h	25
P09	0 to start or not	0:on;1:off	0
P10	drive mode	0:PAS;1:throttle;2:PAS+throttle	0
P11	PAS sensitive	1--24	3
P12	PAS strength	1--5	3
P13	PAS magnet	5;8;12	12
P14	current limit	1-20A	15V
P15	undervoltage		29V
P16	ODO to 0	long press 5 seconds to 0 ODO	
P17	constant speed setting	0:off;1:on	0
P18	display speed ratio	50-150%	99%
P19	0 mode	0:on,1:off	0
P20	protocol	0:No.2:1:5S;2:NO; 3: NO	0

BATTERY

Samsung INR18650 Type A 10S4P Arrangement with under current and over voltage protection board.

Attention!

Be careful to the electrical shock, do not disassemble the charger by yourself.

Contact your dealer in case of any emergency.

Battery precautions! 

Batteries must not be burned but recycled.

Batteries should not be placed in environments with temperatures over 50 degrees Celsius.

Batteries and dry batteries should not be thrown in non-dedicated garbage bins.

Batteries should not be exposed to water or placed in water.

Avoid battery complete discharging (excessive or deep discharge), otherwise it will damage the battery life cycle (this is not within the scope of quality assurance).

Charge after each use and if the e-bike is not in use, charge the battery for at least four hours every month

Charging of battery

The e-Bike is equipped with lithium battery to power the motor of 36v match. Compared to other batteries, lithium battery has no "memory effect" and can be recharged even if the charge is not completely exhausted.

After several times of charging and discharging, the battery can achieve the best performance. It is better to charge fully for the first time. The charger will turn off automatically when the light of charger turns red to green as an indication of full charge.

Instructions

- Firstly, connected the charger with the battery. The charging port of lithium battery is located behind and below the battery cases' base, which is assembled with IP 67 water-proof cover and dust proof sealant.
- Insert the charger pin into power socket.
- During charging, the charging indicator of the charger is red, indicating that charging is in progress; when the charging indicator of the charger changes from red to green, the battery is fully charged.
- After charging, please unplug the charger from power socket first and then unplug the charger from the battery.

If the LED light does not turn on red, it is due to overheating of the battery, and the battery need to be cooled for a period of time before charging.

There is a state-of-charge indicator on the battery power display. Press the power button to check the battery state, and the LED lamp displays the battery state:

3 LED = battery 100% charging.

2 LED = battery 40～70% charging.

1 LED =battery 0～40% charging.

Calculations: The conventional lithium battery chargers are 2A chargers. If the battery capacity is 10AH, it will take at least 5.5 hours to be fully charged.

If the LED light is not on, it is indicated that battery should be charged for without electricity

Battery instruction

In order to avoid short circuit, do not let the positive and negative terminals of the battery come in contact.

The battery is waterproof to prevent rain from penetrating. The water- proof rating is IP64 (no harm caused by water splashing in any direction), so you can use your bicycle on rainy days. Because the waterproof level of the battery case is waterproof splashing, when the battery is exposed to water in rainy day, there is a danger of disconnection. It is necessary to avoid rain in time and strengthen the external water-tight measures of the battery case.

The battery causes no harm to environment since it use clean energy. However, it should be recycled after the complete life span.

Under ideal conditions, the battery can be charged about 550 times. With time and frequent usage, the current capacity of the battery will gradually decrease. This is called depreciation of cells. Finally the entire battery needs to be replaced.

Do not place the battery in a high temperature environment (> 50 °C), such as heating, direct sunlight and sources of ignition. Do not remove the battery. Please consult your dealer if you have any questions. Please store the battery in a cool and dry place in case you are not using it for a longer time and only use the charger provided by the manufacturer to charge the battery.

All specifications noted are valid for 25^{0}C – 35^{0}C usage temperatures.

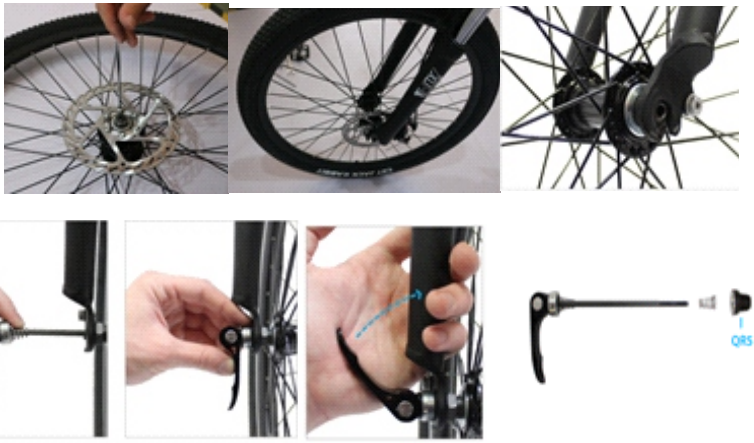
Note - Normally, the battery power supply capacity will be reduced by 1% for every

1 C temperature reduction.

ASSEMBLY ILLUSTRATION

1. After opening the box, put the front wheel and saddle beside the frame

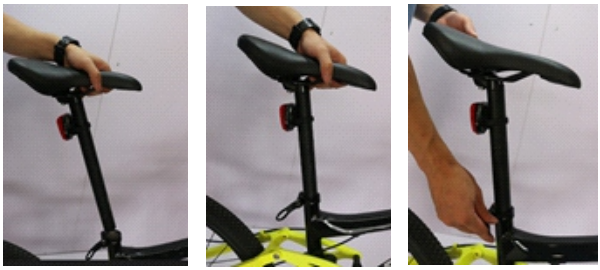
2. Installation of front wheel: Take out the disk brake, which is shown in the picture. Stuck the hub into the center of the end of front fork, along with the forward direction of the tire thread. Stuck the hub into the center of the end of front fork, along with the forward direction of the tire thread.Infix the quick-release lever from your right-hand side, adjust the front wheel to the center of the front fork, and tighten the nut, lock the quick-release handle from 90 degrees upwards.



3. Installation of handle bar with stem : Use the inner hexagon with no.4 wrench to remove the small four-point screw and aluminum cover of the stand pipe, adjust the angle of the handlebar, fix the small four-point screw and aluminum cover with 4MM hexagon socket wrench.

4. Installation of Pedal: After disassembling the pedal, you will see there are left and right signs on the pedal. The left side is marked L, the right side is marked R. Rotate and lock the left pedal in counterclockwise direction, and the right pedal in clockwise direction tighten as per standard. Do not over tighten, it may lead to wrecking of the internal threads.

5. Installation of Saddle/Seat: The saddle and seat pipe is combined as the finished product, you only need to open the middle tube quick release lever. Insert the saddle tube into the middle tube, adjust the height, do not lower the seat than the secure line, adjust as per required height. Lock the quick release to fix the saddle until you cannot twist the saddle with both of your hands.



6. Installation of battery: After opening the battery package, the direction of the keyhole is upward.The battery case is fixed on the lower tube. There is a card position moving up and down between the battery case and the base.Once you find the card position, stick the battery onto the base and squeeze in the downward direction.Lock the key in the direction of the "LOCK" and fix the battery case.

Unplug the key and keep it.

Indication on the battery pack: "O" is the OFF state, and "-" is the ON state.

7. Remove the battery: Use the key to insert the keyhole and rotate it to OPEN to unlock it. Use the battery case to pull the battery up and forward to remove the battery. Then hold the battery case with both hands and pull the battery upwards to remove the battery.




MAINTENANCE

We recommend you to visit the dealer after one month of purchase. It is advised to perform the first periodic maintenance after 1 month of initial use and a second maintenance after 2 months of usage and once in 2 months following. Regular inspections can avoid unnecessary damage and repair costs afterwards. Keep your e-bike in neat condition and avoid settling of dust, greasing the necessary parts are very important and do make sure, you never miss a periodic maintenance with your dealer. This will enhance the usability. Here are a few tips for your reference.

•Check if the hanger fixing screws are loose or they fell off. Check if the fixing screws of the battery cases' base are loose.

•Check if the battery is charged according to the correct procedure in the manual and stored in a place within the permissible temperature.

•Do not let the dirt enter the gap between sensor and bottom bracket (Middle of the Pedal arms). Clean it regularly.

PERIODIC MAINTENANCE

•Check the wires for looseness and wear. Use dishcloth and warm water to clean stains on meter, pedal sensors, battery boxes and wires.•Do not use high-pressure water guns to clean parts where connections are exposed. Please clean them with a normal brush and then dry the bicycle with a soft cloth.•Please clean the batter surface with wet dishcloth or use degreaser in case there is a deep cleaning required.•If any dirt is found around the sensor, it should be cleaned up in time to avoid sand and dust infiltration and abrasion of the sensor bearing. This leads to malfunction of coordination in the motor controller unit and other components.

WARNING

•Please read this manual carefully and follow the instructions.

•After using the electric bicycle, please turn off the meter power supply and turn off the main power switch on the battery to prevent the child from turning on the meter/missing the crank and rotating the electronic throttle. At this time, the e-bike will move forward suddenly and cause an accident.

•If you want to charge the battery, please use the charger provided with your e-bike during purchase.

•Do not use a high-pressure water gun to clean the bicycle. High pressure water guns can damage the electronic components of the bicycle. Such damage is not covered by the warranty.

•Improper use can be dangerous for you and others. In addition, damage caused by improper use is not covered by the warranty.

•When using another battery, you can only use the original battery supplied by Electro Motorad.

•Do not make the charger, battery and electronic components to come into contact with water or other liquids.

E-BIKE

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