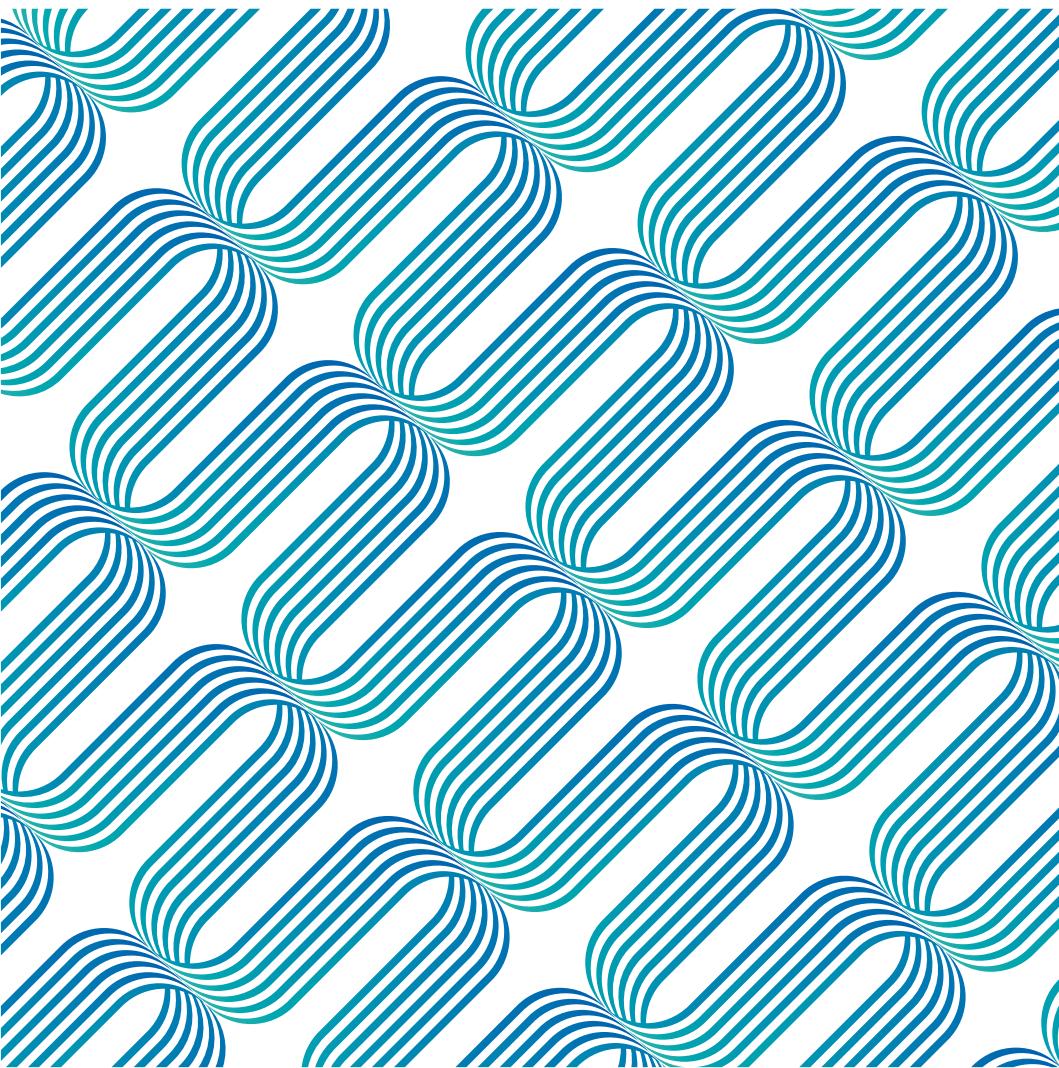


P RODUCT SPECIFICATION

Document No.:BBR-E-01
Version No: A



Preface

Dear customer:

Thank you for selecting Electric wheelchair

Product Manual is an important document, it provides Electric wheelchair's product information, operation methods and after-sales service information to you. Before use, please be sure to carefully read the Product Manual for correct operation and maintenance.



CONTENTS



1. Safety



2. Product Introduce



3. Technical Parameters



4. How to use



5. Maintenance
and troubleshooting



6. APP operation guide



7. Product service



8. Disclaimer

01 / Safety precautions

Please carefully read the Safety section before use and properly use the product as guided by the Manual.

The safety reminders help use the product safely and properly.

In order to differentiate various degrees of harm and damage, the possible damage brought by misuse is categorized into "warning" and "caution". The two are both critical reminders on safety and require strict compliance.

1.1 Signs



Warning

- Use of this sign indicates hazardous situations that may cause serious injury when neglected.



Attention

- Use of this sign indicates hazardous situations that may cause mild or moderate injury and material damage when neglected.

1.2 Indication

- This product is to help disabled, elderly and frail people who have difficulty walking to travel.

1.3 Contraindications



Warning

Contraindications: The patients with mental problems, including the users who temporarily or permanently lose attention or judgment, are not allowed to use this product.

1.4 Electrical safety



Attention

This Electric wheelchair has passed the test in accordance with ISO 7176-9 Climatic Test.

- This test can ensure that the users of the Electric wheelchair or attendants have sufficient time to move to safety place in a rainy day.
- DO NOT operate the Electric wheelchair under thunderstorm;
- DO NOT place this Electric wheelchair under rainstorm;
- DO NOT place this Electric wheelchair in a wet place for a long time;
- DO NOT spray, wash or wash the Electric wheelchair with an automatic car washer.

Direct exposure to rain, smoke, or humid air may cause electrical and mechanical failure of the Electric wheelchair and may also cause rust.

1.5 Conditions of use



Attention

- Ambient temperature: -10°C~50°C; Relative humidity: 20%~90%;
- Atmospheric pressure: 80kpa~1,23kpa; With no strong electromagnetic interference.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

1.6 Waste disposal



Attention

- According to local laws and regulations, your products should be treated separately from domestic waste. It should be put at the designated recycling point of local government. The classified collection and recycling of products help to save natural resources.

1.7 Attention

(1) Driving on slopes

This Electric wheelchair has passed the test requirements of climbing on a slope of not exceeding 10° with a load of 120kg. DO NOT try to climb the slopes exceeding 10°

During reversing on a slope, please be sure to slow down the Electric wheelchair. DO NOT reverse on a slope exceeding 10°, during reversing, please be extremely careful.

The ability of climbing slope and driving distance are affected by battery and following environment:

For example: The weight of the users; Topography (such as grass or gravel); Gradient of hill; Battery life and service life; Extreme temperature; Use and weight of the fittings, etc.

(2) Brake

When the Electric wheelchair brakes, please sit properly, steadily hold the handrail and lose controller rocker, the Electric wheelchair will stop in several seconds.

Note: Electromagnetic brake will not take effect immediately, it will take effect after the wheel rotates for 1/2 cycle.

(3) Emergency braking

In case of critical situation or unexpected movement, press the power switch key to make the Electric wheelchair stop (Although this emergency brake is effective, it must not be used under normal conditions).

Note: Frequent use of emergency brake may lead to the motor fault, which further causes that the Electric wheelchair cannot be operate normally.

(4) Use of mobile phone

During operating the Electric wheelchair, DO NOT use mobile phones or wireless devices.

Use of mobile phones or wireless devices will generate strong electromagnetic fields, the electronic system of the Electric wheelchair will be interfered. If the mobile phones or wireless devices have to be used, the Electric wheelchair has to be stopped and powered off in advance.

(5) About RF Emission

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Please follow the traffic rules.

(6) Information to user

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Please follow the traffic rules.



1.8 Warnings (please carefully read)

- DO NOT try to pick up objects by bending down when sitting on the Electric wheelchair, or, the Electric wheelchair or user may roll over or be damaged;
- DO NOT use the Electric wheelchair on escalators, which may increase the risk of being injured;
- DO NOT drive on vehicle lane or non sidewalks;
- DO NOT drive on the surface of water, oil, ice or other slippery objects. In case of violation, the Electric wheelchair may be out of control;
- DO NOT attempt to cross over obstacles and ditches exceeding 45mm, violation of this operation may cause personal injury;
- DO NOT sharply bend or move backwards under high speed;
- DO NOT carry passengers;
- DO NOT try to drag another Electric wheelchair;
- DO NOT operate the Electric wheelchair without checking the fasteners, connectors or detachable parts for correct connection and fastening. Please always pay attention to the surrounding environment;
- DO NOT repair the parts, accessories or adapters of the Electric wheelchair without authorization;
- DO NOT get on without braking;
- DO NOT connect other medical equipment (such as life support equipment and respirator, etc.) to the electronic system of the Electric wheelchair;
- DO NOT operate the Electric wheelchair when your judgement may be affected (such as drink, take drugs or take medicine);
- DO NOT operate the Electric wheelchair when you are suddenly out of sorts;
- DO NOT operate the Electric wheelchair when your sight is seriously weakened;
- For the injury accident caused by violation of local or international laws or regulations, we undertake no responsibility, hereby state;
- All the functions can only be operated after you correctly sit on the seat;
- DO NOT place your feet in any part out of the pedal;
- DO NOT stand on the seat of the Electric wheelchair;
- DO NOT try to go up and down the slope exceeding 10°;
- DO NOT reverse on a slope exceeding 10°;
- When driving on a slope, release the rocker of the controller, the Electric wheelchair may move back; When moving forward or backward, the Electric wheelchair will roll back about 30 cm before the brake function takes effect;
- Before use of the Electric wheelchair, please check the connection of all electric parts for safety and reliability;

- DO NOT disconnect, snip or modify the wiring harness parts which have been installed on the Electric wheelchair or connected to the Electric wheelchair under any condition.
- DO NOT use other unqualified batteries, for example, the lead acid batteries which cannot be recycled, etc.
- Before installation, please read the information related to batteries and battery charger.

In case of violation of the above requirements, there may be unexpected damages

1.9 Excerpts from EMC-related guidelines and statements in manufacturer's accompanying documents

EMI Compliance Table(Table 1)

Phenomenon	Compliance	Electromagnetic environment
RF emissions	CISPR 11 Group 1,Class B	Home healthcare environment
Harmonic distortion	IEC61000-3-2 Class A	Home healthcare environment
Voltage fluctuations and flicker	IEC61000-3-3 Compliance	Home healthcare environment

EMS Compliance Table (Table2-5)

Phenomenon	Basic EMC standard	Immunity test levels
		Home healthcare environment
Electrostatic Discharge	IEC 61000-4-2	±8kV contact ±2kV,±4kV,±8kV,±15kV air
Radiated RF EM field	IEC 61000-4-3	20V/m 26MHz-2.5GHz 80% AM at 1kHz 10V/m 80MHz-2.7GHz 80% AM at 1kHz
Proximity fields From RD Wireless communications equipment	IEC 61000-4-3	Refer to table 3
Rated power Frequency Magnetic fields	IEC 61000-4-8	30A/m 50Hz or 60Hz

Table 3 – Proximity fields from RF wireless communications equipment

Test Frequency (MHz)	Band (MHz)	Immunity test levels
		Home healthcare environment
385	380-390	Pulse modulation 18Hz, 27V/m
450	430-470	FM, ± 5 kHz deviation 18Hz sine, 28V/m
710	704-787	Pulse modulation 217 Hz sine, 28V/m
745		
780		
810	800-960	Pulse modulation 18Hz sine, 28V/m
870		
930		
1720	1700-1990	Pulse modulation 217Hz sine, 28V/m
1845		
1970		
5785		

Table 4 – input a.c. power port

	Standard	Home healthcare environment
Electrical fast Transients/burst	IEC 61000-4-4	± 2 kV 100kHz repetition frequency
Surges Line-to-line	IEC 61000-4-5	± 0.5 kV, ± 1 kV
Conducted Disturbances Induced by RF fields	IEC 61000-4-6	3V, 0.15MHz-80MHz 6V in ISM bands and amateur radio bands Between 0.15MHz and 80MHz 80%AM at 1kHz
Voltage dips	IEC 61000-4-11	0% U_i ; 0.5 cycle At 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315°
		0% U_i ; 1 cycle and 70% U_i ; 25/30 cycles Single phase: at 0°
Voltage interruptions	IEC 61000-4-11	0% U_i ; 25/30 cycles U_i =rated input Voltage

Table 5 – signal input/output parts port

Table 5-Input a.c power port (1 of 2)

Phenomenon	Basic EMC standard	Immunity test levels	
		Professional healthcare facility environment	Home HEALTCARE ENVIRONMENT
Electrical fast Transients / bursts ^{a))o)}	IEC 61000-4-4	$\pm 2\text{KV}$ 100kHz repetition frequency	
Surges ^{b))o)} Line-to-line	IEC 61000-4-5	$\pm 0.5\text{kV}, \pm 1\text{KV}$	
Surges ^{c))o)}	IEC 61000-4-5	$\pm 0.5\text{kV}, \pm 1\text{KV}, \pm 2\text{kV}$	
Line-to-ground			
Conducted disturbances Induced by field ^{c)d)o)}	IEC 61000-4-6	$3\text{V}^{(m)}$ 0.15 MHz-80MHz $6\text{V}^{(m)}$ in ISM bands Between 0,15MHz and 80MHz ⁽ⁿ⁾ 80% AM at 1KHz ^(e)	$3\text{V}^{(m)}$ 0.15 MHz-80MHz $6\text{V}^{(m)}$ in ISM and amateur Radio bands between 0,15 MHz and 80MHz ⁽ⁿ⁾ 80% AM at 1KHz ^(e)
Voltage dips ^{f)p)r)}	IEC 61000-4-11	0% U_T ; 0,5cycle ^(g) , At 0° , 45° , 90° , 135° , 180° , 225° , 270° , and 315° ^(g)	0% U_T ; 1 cycle And 70% U_T ; 25/30 cycles ^(h) Single phase :at 0°
Voltage interruptions ^{f)i)o)r)}	IEC 61000-4-11	0% U_T ; 250)300 cycle ^(h)	

Table 6-Cable information

Cable	Max. cable length, Shielded/unshielded	Number	Cable classification
AC Power Line	1.8M	Unshielded	1 Set
DC Power Line (USB Cable)	0.95M	Unshielded	1 Set

- a) The test may be performed at any one power input voltage within the ME EQUIPMENT or ME system RATED voltage range .If the ME EQUIPMENT or ME system is tested at one power input voltage, it is not necessary to re-test at additional voltage.
- b) All ME EQUIPMENT and ME SYSTEM cables are attached during the test.
- c) Calibration for current injection clamps shall be performed in a $150\ \Omega$ system
- d) If the frequency stepping skips over an ISM or amateur band, as applicable, an additional test frequency shall be used in the ISM and amateur radio band within the specified frequency range.
- e) Testing may be performed at other modulation frequencies identified by the RISK MANAGEMENT PROCESS.
- f) ME EQUIPMENT and ME SYSTEMS with a d.c. power input intended for use with a.c-to-d.c converters shall be tested using a converter that meets the specifications the MANUFACTURER of the ME EQUIPMENT or ME SYSTEM. The IMMUNITY TEST LEVEL are applied to the a.c power input of the converter.

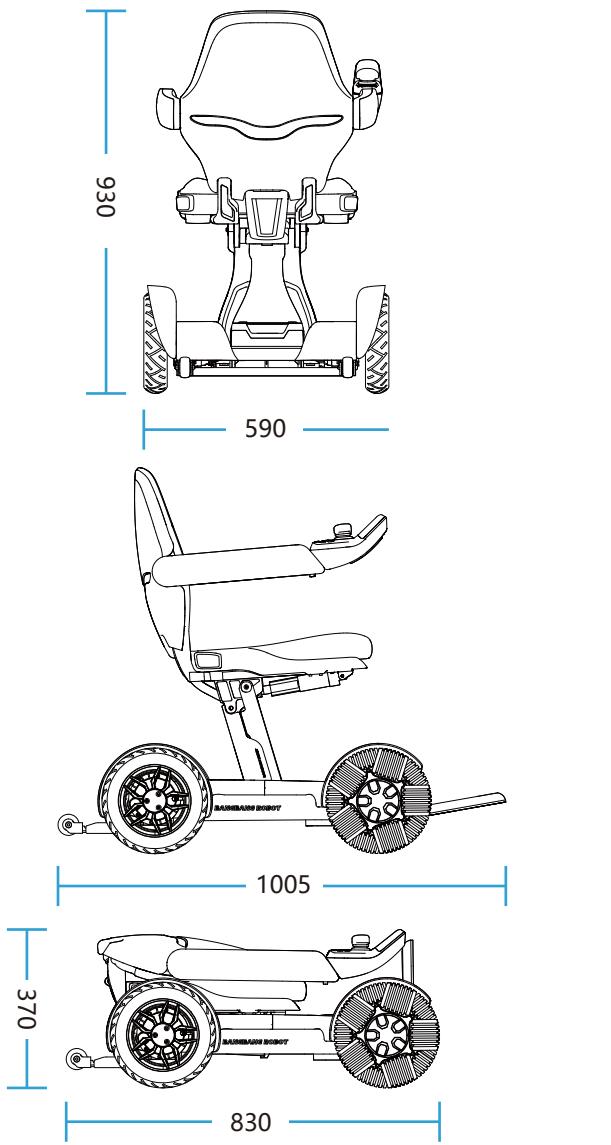
- g) Applicable only to ME EQUIPMENT and ME SYSTEMS connected to single-phase a.c mains.
- h) E.g 10/12 means 10 periods at 50 Hz or 12 periods at 60 Hz.
- i) Me EQUIPMENT and ME SYSTEMS with RATED input current greater than 10 A /phase shall be interrupted once for 250/300 cycles any angle and all phases at the same time (if applicable). ME equipment and ME SYSTEMS with battery backup shall resume line power operation after the test. For ME equipment and ME SYSTEMS with RATED input current not exceeding 18A , all phases shall be interrupted simultaneously.
- j) ME EQUIPMENT and ME SYSTEMS that to not have a surge protection device in the primary power circuit may be tested only at $\pm 2\text{kV}$ line(s) to earth and $\pm 1\text{kV}$ line(s) to line(s).
- k) Not applicable to Class II ME EQUIPMENT and ME SYSTEMS.
- l) Direct coupling shall be used.
- m) R.m.s before modulation is applied.
- n) The ISM (industrial scientific and medical) bands between 0,15 MHz to 80 MHz are 6.765 MHz to 6.795 MHz; 13.553 MHz to 13.567 MHz ; 26.957 MHz to 27.282 MHz ; and 40.66MHz to amateur radio bands between 0,15 MHz and 80 MHz are 1,8 MHz to 2.0 MHz, 3.5 MHz to 4.0 MHz ,5.3 MHz to 5.4MHz, 7 MHz to 7.3 MHz 10,1MHz
- o) Applicable to ME EQUIPMENT and ME SYSTEMS with RATED input current less than or equal to 16 A/phase and ME EQUIPMENT and ME systems with RATED input current greater than 16 A/phase.
- p) Applicable to ME EQUIPMENT and ME SYSTEMS with RATED input current less than or equal to A/phase.
- q) At some phase angles applying this test to ME EQUIPMENT with transformer mains power input might cause an overcurrent protection device to open. This can occur due to magnetic flux saturation of the transformer core after the voltage dip. If this occurs , the ME EQUIPMENT or ME SYSTEM shall provide BASIC SAFETY during and after the test.
- r) For ME EQUIPMENT and ME SYSTEMS that have multiple voltage settings or auto ranging voltage capability the test shall be performed at the minimum and maximum RATED input voltage. ME EQUIPMENT and ME SYSTEMS with a RSTED input voltage of less that 25% of the highest RATED input voltage shall be tested at one RATED input voltage within the range. See table 1 Note c) for examples calculations.
- s) Basic performance: The sample can maintain normal working condition when interference is applied during normal driving and folding.
- t) WARNING: Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.
- u) WARNING: Use of accessories, transducers and cables other than those specified or provided by the manufacturer of this equipment could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation.
- v) WARNING: Portable RF communication equipment (including peripheral devices, such as antenna cables and external antennas) can be used handheld if they are more than 5mm away from the human body.
- w) Essential performance: Electric wheelchair work normally.

02 / Product Introduction

2.1 Product features and functions

- The DC brush motor which is energy saving and efficient is the core part to drive the Electric wheelchair. The motor is featured for its large torque, high efficiency and power saving.
- DC brush motor has the advantages of high performance, long service life and low power consumption. The noise of the motor can be controlled within 65dB.
- Using lithium battery as the green energy of the Electric wheelchair has the advantages of high density energy, long life, energy saving and environmental protection.
- The intelligent control of motor is realized by using special controller with brush. The operation of independent rocker can realize the actions of forward, differential turning and low speed reversing, which makes the control of the walking vehicle easier.
- The frame structure uses patented technologies. Foldable four-bar linkage mechanism achieves quick and efficient folding and expanding actions. The Electric wheelchair is equipped with the function of electric folding or manual folding, and the Electric wheelchair has the advantages of being safe and reliable and simple to operate.
- The foldable frame structure has the advantages of portability, being compact and easy to carry (trunk and air transportation), and the Electric wheelchair does not occupy too much space.
- The function of posture detection by gyro achieves voice warning of bumpiness and slant. When the speed of the Electric wheelchair is lowered to gear 1, APP will alarm by popping up
- In case of no operation (no key, rocker or APP operation) within 30 minutes under power saving mode, the Electric wheelchair will power off automatically
- For cruise control mode, keep a long press of "speed +" key to enter cruise control mode, and push the rocker forward to start cruise control
- Wireless controller. The wireless controller may use rocker to achieve the front, rear, left and right movement control of the Electric wheelchair, and use key to control the electric folding and expanding of the Electric wheelchair.
- Novice mode

2.2 Structure of the product



2.3 Main technical indicators

Product model	BBR-LY-01-01
Type Classes	Class A
Folding mode	Electric
Speed range	≤7KM/h
Slope braking performance	12°
Barrier crossing height	45mm
Ditch width	100mm
Hill climbing performance	10°
Minimum radius of gyration	760mm
Total weight	42.1±2kg
Battery quantity	1
Battery weight	3.4±0.15kg
Front and rear wheel specifications	The front wheels are 10" omnidirectional wheel, and the rear wheels are 10" PU tire (2.4MPa~2.7MPa)
Motor parameters	DC motor rated voltage 24V, Rated power 200W*2
Lithium battery parameter	DC24V 20AH
Charger parameters	The entered voltage is 29.4V and the output current is 4A
Static stability	20° for longitudinal direction, and 15° for side direction
Dynamic stability	6° for upslope, and 6° for downslope
Brake on level road	100cm
Overall dimensions	1,075mm length, 628mm width, 930mm height
Stowage dimensions	895mm length, 628mm width, 395mm height
Seat wide	420±5mm
The height of handle	280±5mm
The largest user weight	120KG
The largest current of the controller output	30A

Theoretical driving distance	25 KM
Plane angle of the seat	-7±0.5°
Effective seat depth	420±5mm
Anti-tip device tipping angles	18°
Surface height of the front seat	510±5mm
Backrest angle	21°±1°
Backrest height	450±5mm
Distance from the plastic holder to the seat	423 + 5mm
Angle between leg and seat surface	0-10°
Horizontal shift of the shaft	81±5mm
Vertical shift of the shaft	328±5mm
Pivot width	1180mm
Reversing width	1180mm
Ground clearance	64mm
Required width of angled corridor	1000mm
Required doorway entry depth	1070mm
Required corridor width for side opening	1150mm

2.4 Storage conditions

- The packaged Electric wheelchair should be stored at a temperature of -40 ° C~60 ° C
- The relative humidity is no more than 95%
- Atmospheric pressure shall be 56~146kPa
- And the Electric wheelchair shall be stored in the room without the harmful gas which may cause corrosion and with good ventilation, and it is not allowed to press and pile up
- Under packed status, the maximum piling height is three layers.
- DO not make the product stored in the places which get close to high temperature source or direct sunlight for a long term.
- If you need to store for a long time, please turn off the power switch after full charge.
- If the product is stored exceeding one month, please fully charge, and then continue storing and using.

03 / Component introduction



Main structural composition of products: Motor, storage battery, control system, wheel, seat, handrail and pedal

Note: Refer to Product Package List for part list

04 / Use of Electric wheelchair

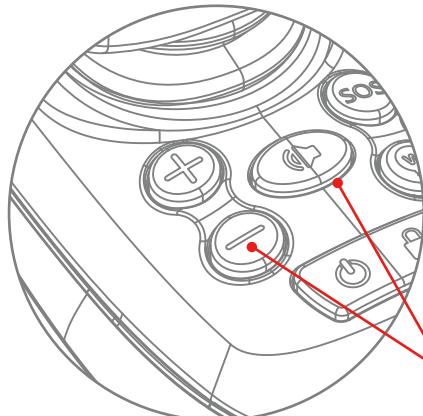
4.1 Notice

- When operating the Electric wheelchair for the first time, try to choose a flat and hard ground to ensure that there are no obstacles and pedestrians around you;
- The largest load of the Electric wheelchair is 120Kg, DO not drive under overload; Limited for 1 person;
- Ensure that the Electric wheelchair is under completed expanded status;
- Ensure that you have fastened the safety belt of the Electric wheelchair;
- Correctly sit on the Electric wheelchair, slightly push the rocker of the controller forwards, the Electric wheelchair will move forwards and backwards, and turn left or turn right; After release, the Electric wheelchair will stop. Please practice these basic functions, until you are proficient in operation;
- During steering, please clear the barriers nearby;
- DO NOT steer on pedestrians or during driving;
- When the Electric wheelchair operates under relatively bad environment (such as entering the door or steering), please slowly operate the Electric wheelchair. It is suggested that the speed of Electric wheelchair should be transferred to the lowest level in harsh environment;
- Check whether the conditions of the Electric wheelchair are good, such as whether the performance is normal;
- The Electric wheelchair will shut down automatically after standing for 30 minutes.

4.2 Expand and fold

In the process of folding or expanding, swing the rocker will stop folding or expanding. After the intermediate stop, the folding or expanding can be continued according to the operation of 1 and 2.

4.2.1 Folding of the Electric wheelchair

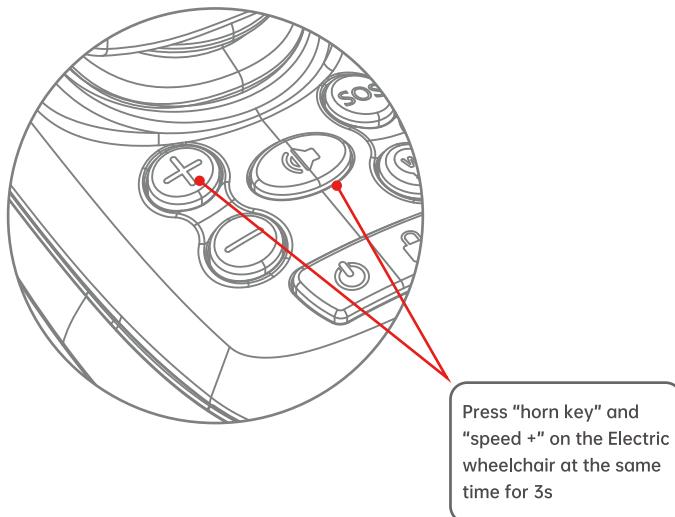


Press "horn key" and "speed -" on the Electric wheelchair at the same time for 3s



Folding Electric wheelchair, if there is no other command, it will stop automatically after folding

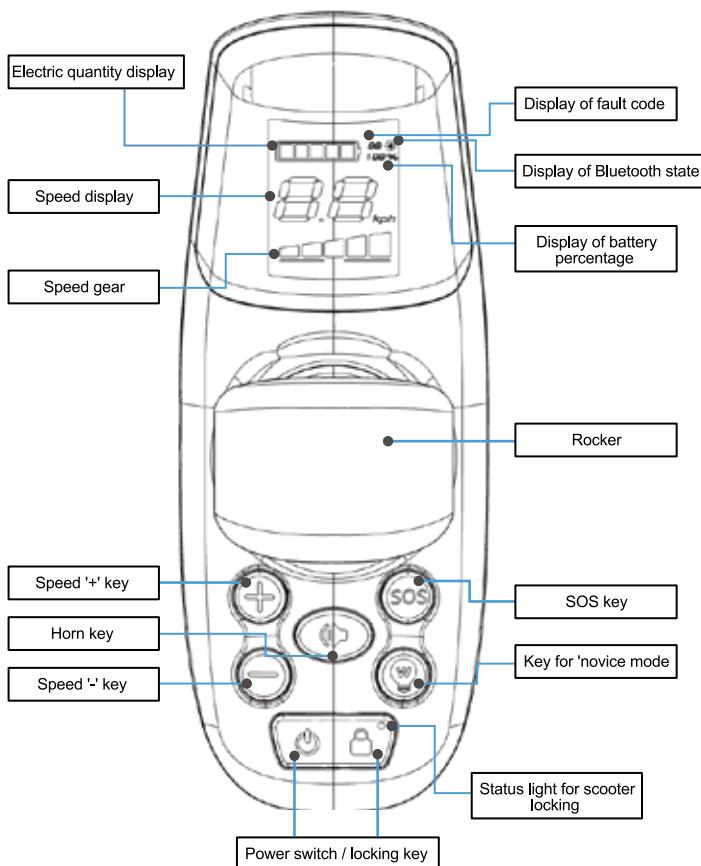
4. 2. 2 Expanding of the Electric wheelchair



Expanding Electric wheelchair, if there is no other command, it will stop automatically after unfolding

4.3 Controller

4.3.1 Introduction to controller



4. 3. 2 Instruction of controller

Rocker

By pushing the controller rocker, the direction and speed of the Electric wheelchair can be controlled;

Power switch / locking key

Long press for 2 seconds to turn on the power, long press for 2 seconds to turn off the power;

Press the power key, the locking indicator of the Electric wheelchair is off, the Electric wheelchair is unlocked

Press the power key, the locking indicator of the Electric wheelchair is on, the Electric wheelchair is locked

Speed '+' key

When it is pressed, the speed is up-regulated;

Keep a long press of "+" key to enter cruise control mode, and push the rocker forwards to start the machine

Speed '-' key

When it is pressed, the speed is down-regulated;

Horn key

Keep a short press of the hone key, the horn will ring for once; The horn complies with national noise standard;

Status light for Electric wheelchair locking

After powering on, the locking function will be entered in default; During use, locking mode can be entered under any control mode;

Under locking function, the rocker cannot control the chassis motor to move. After unlocking, the chassis motor can be controller to move.

Under locking mode, after the APP is connected, there will be a pop-up box to remind locking mode.

SOS key

Press the button for 3 seconds, the Walkman will sound the alarm.

Key for 'novice mode'

The driving parameters of the Electric wheelchair are automatically adjusted to gear and data suitable for novices to practice.

4. 3. 3 Instruction for LCD screen menu

Electric quantity display

The device controls the electric quantity display light, displays the electric quantity in real time, and displays it in 5 grids

Speed display

LCD screen displays the driving speed of the Electric wheelchair in km/h.
The precision of the displayed speed is $\pm 5\%$.

Speed gear

Press '+' key for once, the speed will be increased to the next gear, gear 5 is the highest.
Press '-' key for once, the speed will be decreased to the next gear, gear 1 is the lowest.
The above function can be achieved in APP.

Display of fault code

For the diagnostic code displayed by the built-in information diagnostor of the product, refer to 5.3 troubleshooting for the content.

Bluetooth status display

When Bluetooth is not connected, the Bluetooth indicator on the LCD screen is off ;
When Bluetooth is connected, the Bluetooth indicator on the LCD screen is on.

Percentage of Electric quantity displayed

The Electric quantity is displayed in percentage, and the above function can be achieved in APP.