Quirumed®

Power Wheelchair User Manual

PE0204



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Before using an electric wheelchair for the first time, be sure to read the product manual and follow the instructions. If you do not understand the product description or need additional service, please contact our local authorized dealer.

The symbols below are used to identify warnings and precautions throughout the user manual and are very important! You have to read them carefully and understand them deeply.

~ ~ ~ ~ ~ ~ ~~ ~

Warn!

Failure to heed the warnings in the manual may result in personal injury.

Attention! Failure to pay attention to the precautions in the manual may result in damage to the electric wheelchair.

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1 overview

1.1 Product Overview

This manual is the operating manual and technical manual of this electric wheelchair. It contains an important introduction on how to safely use and maintain this range of electric wheelchairs. Please read carefully before use to ensure you understand all instructions and remember the safety warnings. Please keep this manual in a safe place so that you can refer to and refer to it at any time.

Description and Intended Purpose: This electric wheelchair is a Class I Medical Device specifically designed to compensate for mobility impairments in individuals with walking difficulties.

Indications: Suitable for individuals with reduced mobility due to functional, neurological, or physical causes.

Contraindications: Not suitable for individuals with severe visual impairments, cognitive impairments that prevent safe operation of the joystick, or users exceeding the maximum weight limit.

Usage Environment: Suitable for indoor and outdoor use (firm, level ground). Use in extremely humid conditions or on unstable terrain is not guaranteed.

I believe that this series of electric wheelchairs will definitely bring you a comfortable and safe driving experience, making your life more convenient and happy!

1.2 Matters needing attention

1）**SLOPES:** Never exceed the maximum slope of [15]°. Risk of falling.

2）**EXTERNAL FACTORS:** Do not use the chair in heavy rain, snow, or on flooded surfaces. Electronic components may be permanently damaged.

3) **OVERLOAD:** Do not exceed the load capacity of [100] kg. Overloading affects braking and structural integrity.

4) **TECHNICAL CONDITION:** Do not use the chair if you detect unusual noises, vibrations, or if the control unit does not respond accurately.

Contraindications: It is forbidden to drive on the motorized lane.

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【Possibility of use】An electric wheelchair is a chair equipped with wheels and is a means of transportation for the disabled, sick, and infirm.

【Indications】It is used for the disabled, the sick, and the elderly and infirm with limited mobility.

Contraindications: Upper limb retardation, senile dementia, mental patients, people with physiological functions who are unable to take care of themselves, or doctors who require that they cannot use this product.

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2 Precautions for safe use

2.1 Special instructions for safe use

1）In case of abnormal situations such as sudden movement of the electric wheelchair, loss of control direction, brake failure, etc., please turn off the power immediately, otherwise unknown major risks may occur. Please determine whether it is interfered with by electromagnetic wave signals, and contact after-sales service if necessary;

2) Do not test drive without reading this instruction manual and without guidance; Do not drive an electric wheelchair in violation of local traffic laws; Special attention should be paid to not carrying passengers, not overloading (100kg), not towing, and not driving on motorable roads.

3) Do not move the joystick in the power-off state or when the power-on state is not completed (it will take about 3 seconds to turn on the machine); Do not press the switch button during driving, otherwise it may cause the electromagnetic brake to malfunction or damage the controller;

4) Do not drive vertically or obviously inclined in the direction of the slope: when going up and down the slope, you should try to drive in the direction of the slope, otherwise there is a risk of overturning. Do not turn or turn in circles on slopes; Never park your electric wheelchair on a ramp;

5) Do not place the electric wheelchair in the open air for a long time, even in harsh environments such as rain and snow, to prevent aging or moisture failure;

6) Avoid driving in bad road conditions such as mud slopes, gravel and grass; Avoid driving at night in poor lighting conditions;

7) Continuous climbing on roads with slopes greater than 13° should be avoided; Avoid crossing obstacles larger than 4 cm and avoid crossing ravines with a width of more than 10 cm.

2.2 Precautions

Precautions are as follows:

1) It is suitable for short life trips for people with reduced mobility or infirmity who weigh less than 100 kg.

2) Physically accessible materials or components that may pose an unacceptable risk: None.

3) The ambient temperature of the wheelchair is 5°C~35°C, the relative humidity is 20%~80%, and the atmospheric pressure of the working environment is applicable: ≥80kPa. If used beyond this condition, it may cause the wheelchair to become dysfunctional and cause accidental injury to the user.

4) Please read the special instructions and safety instructions carefully before use, try to choose open and flat non-motorized roads, and do not easily try to drive in steep, uneven, high-level, ravine, slippery and other bad road conditions, otherwise it may cause the wheelchair to roll over or backwards, causing accidental damage.

5) The product may not be modified without permission. Do not replace the battery without adequate training. Improper replacement may result in unacceptable risks, such as overheating, fire, or explosion. Do not use third-party controllers to connect haphazardly. Controller mismatch can lead to loss of control, failure, or unpredictable risk. It is not allowed to use equipment or tools such as third-party programmers to arbitrarily modify the controller setting parameters, otherwise it may cause unacceptable risks and consequences. Components must not be replaced without permission, as this may result in unacceptable risks such as usage hazards, energy hazards, etc. Only professionally trained maintenance personnel should use these tools to replace batteries. For more information on battery precautions, refer to the label on the wheelchair battery compartment.

6) The power plug used as a disconnection measure, i.e. the plug of the power adapter (charger), should not be placed in a place where it is difficult to operate the disconnection device while charging. It is important to note that AC220V 50Hz mains (matching the input voltage on the charger) should be used when charging, otherwise there may be an unacceptable risk. This product is a non-permanently installed ME device and does not require a power switch, so the mains disconnection measures are obvious: unplug the power adapter (charger) on both sides of the plug/connector.

7) People with mental disorders, unresponsiveness, and difficulty learning to operate need to be supervised by an adult, and it

is forbidden to drive an electric wheelchair alone.

3 Product performance and structure

3.1 Product name

Product Name: Electric wheelchair.

3.2 Application Description:

In order to achieve the mobility function of the wheelchair, physical contact with the patient must be made during normal use. i.e. parts such as the frame seat and the upper controller.

3.3 Schematic diagram of the circuit

The schematic of the circuit is shown in Figure 3.1.

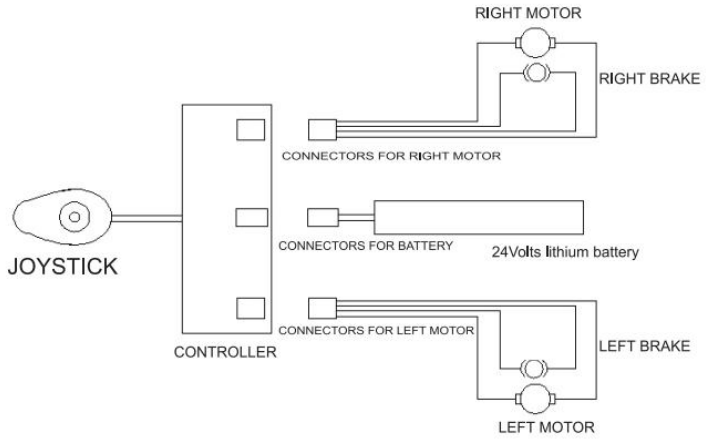


Figure 3.1 Wiring diagram

3.4 Power Description

Charging method: AC100~240V 50/60Hz mains power supply (matching the input voltage on the charger), charge the internal power supply (battery) through the power adapter (charger). During charging, the internal power supply (battery) cannot be discharged.

Operation mode: The internal power supply (battery) supplies power to the electronic control system, and the electric wheelchair operates normally.

3.5 Product composition:

Electric wheelchair products include front wheels, drive wheels, frames, controllers, motors, armrests, push-rods, chargers, backrests, lithium batteries, electromagnetic brakes, seat cushions and pedals. Its structure diagram is shown in Figure 3.2.



Figure 3.2 Schematic diagram of the structure

3. 6 How it works

An electric wheelchair is a type of electric wheelchair that is powered by a battery and controlled by an electronic device. The user can self-drive the wheelchair through the control device.

3. 7 Dimensions and weight

Electric wheelchair dimensions：580mm*960mm*830mm, and the gross weight is about 16.42kg; Size of electric wheelchair after unfolding 960mm*580mm*830mm, and the net weight is approximately 14.64kg.

3. 8 Load-carrying weight

Maximum load: 100 kg.

3. 9 Transportation and storage

After packing, the wheelchair should be stored in a room with a temperature of -10 °C ~ + 50 °C, a relative humidity of no more than 80%, an atmospheric pressure of 560 ~ 1060 hPa, no harmful gases sufficient to cause corrosion, good ventilation, and no stacking under heavy pressure.

3. 10 Configuration and Performance:

Easy-to-remove foldable aluminum alloy frame, maintenance-free rear drive motor, maintenance-free lithium battery, integrated digital controller, stable and reliable electromagnetic braking system, equipped with anti-tilt device and seat belt, removable seat cushion that is easy to remove and clean.

3. 11 Packing lists

Table 3.1 Packing List

	name	quantity	remark
1	Electric wheelchairs	1	
2	Backrest cushions	1	
3	Instructions	1	

4 Installation, folding and commissioning

4. 1 Installation

1) Take the wheelchair out of the box, place it on the ground, and remove the protective pad;

2) First, untie the strap between the backrest tube and the cushion tube (see Figure 4.1), then hold the middle of the tube fitting in front of the seat frame with one hand, hold the tube above the backrest with the other hand and gently pull it apart (see Figure 4.2), make sure that the folding buckle is inserted into the pin position (see Figure 4.3), and then flip the armrest forward to the fixed position;

3) After unfolding the wheelchair, insert the control into the controller bracket, tighten the quick-release screws, and finally connect and tighten the controller cable (see Figure 4.4）;

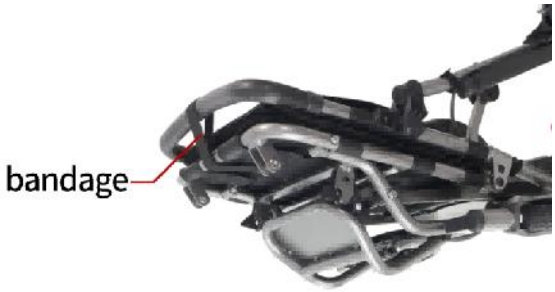


Figure 4.1



Figure 4.2



Figure 4.3



Figure 4.4

4. 2 fold

When the wheelchair needs to be folded, the steps are as follows:

1) Place the wheelchair flat on the ground and turn off the power;

2) Pinch the folded transverse tube upwards with one hand, then use the other hand to hold the middle tube above the backrest and push forward (see Fig. 4.5);

3) When the wheelchair starts to reverse, hold the middle pipe fitting in front of the seat frame and the upper middle pipe fitting in both hands, close to the backrest, and turn the handrail downward to keep it standing (see Figure 4.6);

4) See Figure 4.7 for an overall shape effect of folding and storing.

Note: During the folding process, the footrest needs to be stored at the last step, and if it is stored in advance, there is a risk of causing the wheelchair to fold the card owner.



Figure 4.5



Figure 4.6





Figure 4.7

4. 3 Debugging

4.3.1 Adjust the driver

The controller can be adjusted to a more comfortable position according to the driver's specific situation. Once the position is confirmed, the handle nut needs to be tightened to secure the telescoping of the controller bracket (as shown in Figure 4.8).



Figure 4.8 Drive Bracket

4.3.2 Brake lever adjustment

A set of brake lever devices is attached to the drive motor. When the brake lever is pulled to the A position, the wheelchair is in electric mode, and the wheelchair can only be driven by electricity and cannot be pushed by hand; When the brake lever is pulled to the B position, the wheelchair is in manual mode and can only be driven by hand, (as shown in Figure 4.9) shown.



Figure 4.9 Brake lever

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Warn!

Do not use manual mode without a guardian, as this may result in personal injury;

Warn!

Do not place the wheelchair on a ramp in manual mode as the wheelchair may lose control and roll off, causing personal injury.

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4.3.3 Handrail adjustment

In order to facilitate getting on and off the car, the handrail of this product can be lifted, and you can sit down when the handrail on either side is lifted (see Figure 4.10).



Figure 4.10

5 Directions for use

5. 1 use

5. 1. 1 controller

The controller is the electronic device that controls the motor drive (see Figure 5.1). The controller is usually mounted on the right armrest and connected to the power supply along with the motor and battery.



Figure 5.1 Controller Interface

1) Power switch. It is a switch that supplies power to the control system, which after the switch supplies power to the

motor of the wheelchair. Do not use the switch button to stop the wheelchair unless it is an emergency, as this may shorten the life of the wheelchair drive assembly;

2) Rocker. The main function of the joystick is to control the speed and direction of the wheelchair. The farther you push the joystick away from the center, the faster the wheelchair moves, and when you release the joystick, it automatically resets and brakes automatically.

3) Speaker button. When this button is pressed, the horn will sound;

4) Acceleration button and deceleration button. When the display displays the current speed, each time the increase or decrease button is pressed, a grid will be increased or decreased, The speed also slows down or speeds up accordingly, and the number of grids displayed represents the current maximum speed, and the range can be adjusted by the user.

5) Warn! If your wheelchair moves unexpectedly, release the lever immediately and the wheelchair will stop on its own (see Figure 5.2).

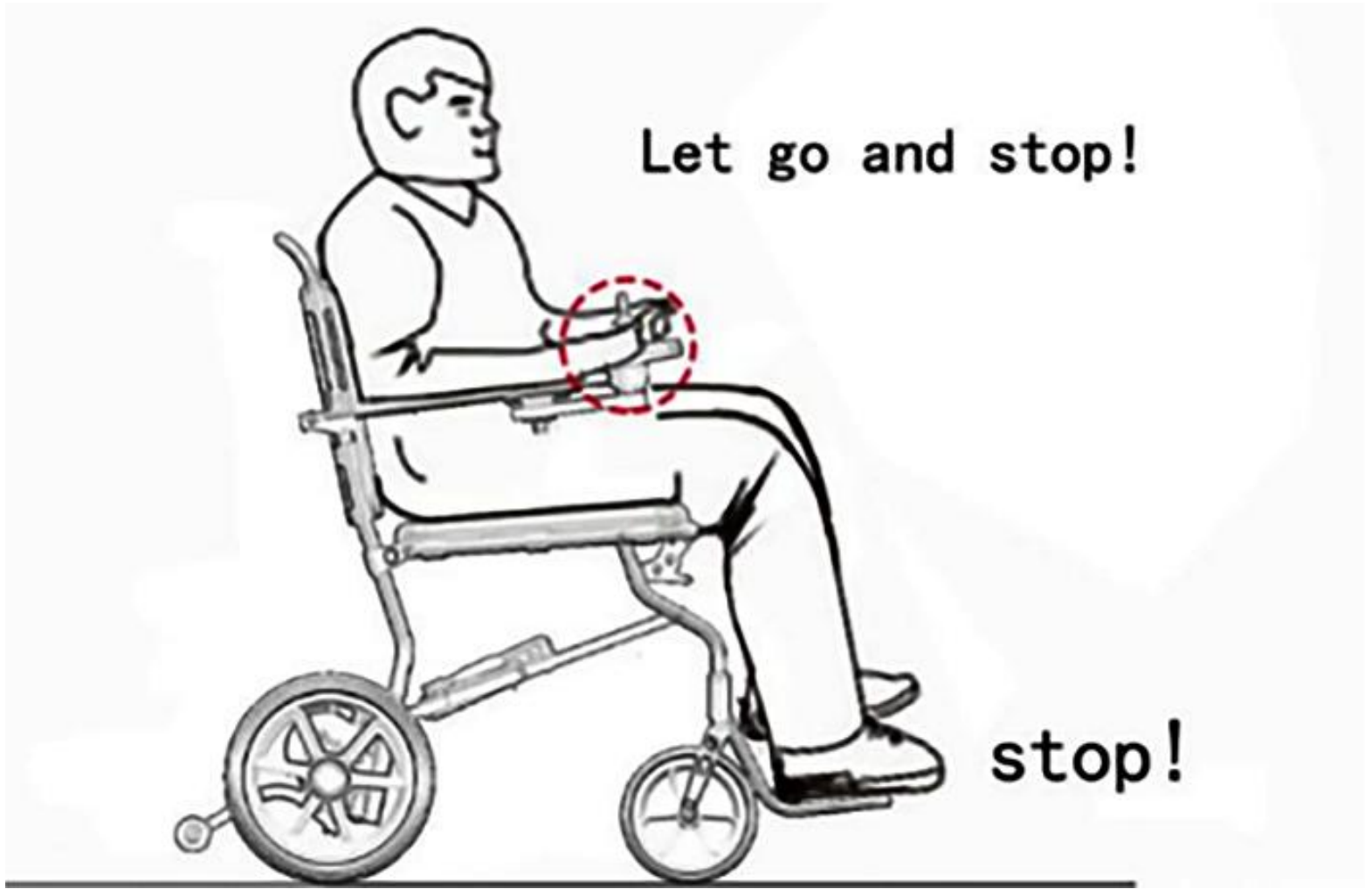


Figure 5.2

6) Charger socket. This socket is only used to charge wheelchairs. This outlet should not be used in the power supply of any other electrical equipment. If other electrical equipment is connected, it may damage the E.M.C. (Electromagnetic Wave Tolerance) performance of the control system or wheelchair.

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Note!

If any device other than the battery charger supplied with the wheelchair is connected to this outlet, causing damage to the control system, the warranty will naturally be voided.

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5. 1. 2 Battery usage

Before first use, please fully charge the new battery, which can improve the battery performance to 90% of the peak: after each use, the battery is charged for 8 hours ~ 14 hours, and then the wheelchair is used once, and the battery charge can now reach more than 90% of the total charge; After four to five charges, the battery utilization reaches 100%, which can extend battery life. When a battery fails, be sure to purchase a new one and replace it as required. Replace the old battery because of environmental pollution and must be returned to the supplier.

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Attention!

Do not use a wheelchair when the ambient temperature is below -25°C or above 50°C (see Figure 5.3).

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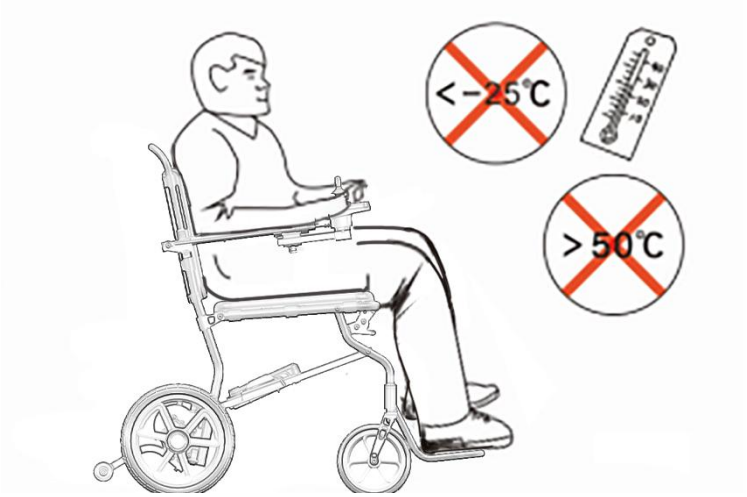


Figure 5.3

Table 6.2 Battery Parameters

Battery parameters for this type of wheelchair	
type	lithium battery
size	179 mm * 231.5 mm * 45 mm
voltage	24V
capacity	10Ah*1

5. 1. 3 Use a charger

The battery charger is an important part of the wheelchair, and it is easy and fast to charge the wheelchair with the charger to make the wheelchair in the best condition.

The battery charging method is as follows:

1) Confirm that the controller is turned off; Confirm that the wheelchair is not in manual mode;
2) Connect the three-pin metal plug of the charger to the controller's three-pin connector (see Figure 5.4);
3) At this time, the charging sign on the monitor lights up, The battery progress bar is full when the battery is fully charged, (see Figure 5.5);
4) We recommend charging the battery for 6 hours ~ 8 hours;
5) Once the battery is fully charged, unplug the power cord and charger and place it in the back pocket of the seat.



Figure 5.4



Figure 5.5

Warn!

Never let the battery get cold and never charge a frozen battery. Charging a frozen battery may result in personal injury and battery damage.

5. 1. 4 Overload protection and undervoltage protector

This part is designed for the safety of wheelchairs, and the protection function is achieved by a protective plate installed in a lithium battery, which can immediately cut off the power supply if the motor is overloaded or the voltage is too low. Motors and electrical components are not protected.

Damaged. To restore protector function, use the charger to charge the wheelchair or reinsert the battery connector (see Figure 5.4).

5. 1. 5 safety belt

To avoid driving accidents, you must wear a seatbelt when using the wheelchair (Fig. 5.6) When your electric wheelchair is out of power, you can use the manual mode to push the wheelchair forward. (See Figure 4.9).



Figure 5.6

5. 2 Driving practice and explanation of common functions

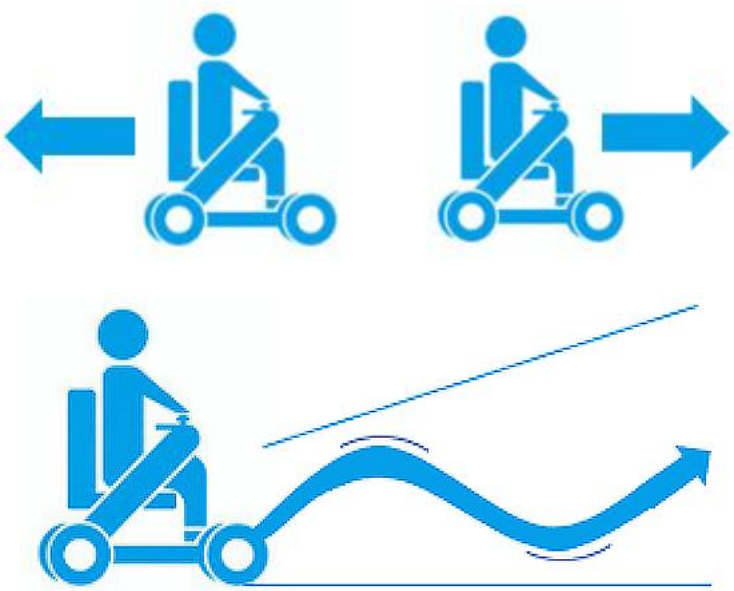
1) Find an open place to practice, since the patient is the intended operator, it is best to have a helper to ensure that the user can safely navigate the wheelchair, and believe that they can quickly become familiar with the operation;

2) Make sure the power is turned off. Please put the brake lever on the motor in the meshing state and keep the joystick in place, otherwise there will be a fault sound after the power is turned on, and it needs to be restarted;

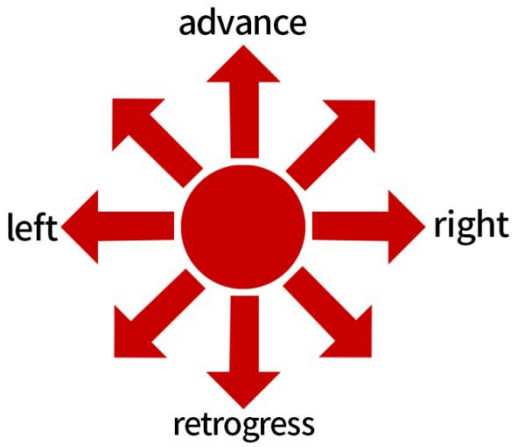
3) Sitting in a wheelchair. Please do not step on the pedals when getting on and off the wheelchair, as this may cause the wheelchair to lean forward and lose balance. People with reduced mobility should be held by a caregiver or moved to a wheelchair seat with the help of an aid such as a lift. People who are self-caring should sit in their seats first and then put their feet on the footrests. Please fasten your seatbelt when you sit down. Do not step on the footpegs when getting out of the car. Put your feet down before you get up.

4) In order to familiarize the driver with the riding experience in advance, the brake lever on the motor can be changed to the disengaged state, and the assistant can complete a series of operations such as forward, backward, turning, and parking. Then go back to the grid.

①Tap the toggle button and the indicator or display will light up after about 3 seconds with a beep to start the operation. We recommend that you set the speed gear to the lowest level first, and then practice using the joystick forward, backward, and S-shaped steering.



②The universal joystick can control both direction and speed at the same time. Push the joystick in the direction you want to travel, and the wheelchair reacts and starts moving; Increasing the stick thrust range can speed up, otherwise it will slow down. To be on the safe side, the backward rate should be slower than the forward speed. In addition, it is necessary and normal for the controller to sound an alarm when reversing.

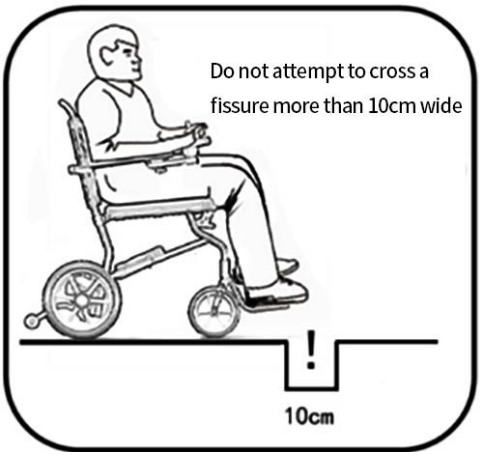


③If you need to stop, simply release and reset the joystick to brake; In the forward state, if the joystick is pushed in reverse and the recovery position is released, the wheelchair will come to a rapid stop with a small braking distance.

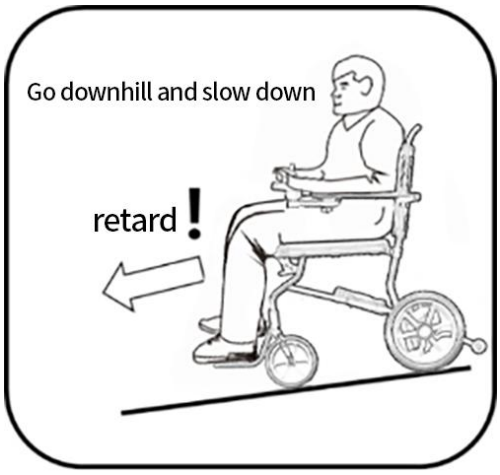
5) Once you're familiar with the operation and get used to the feedback, you can adjust the speed gear to the extent you want;

6) Illustrative examples of outdoor driving conditions.









6 Failure analysis and troubleshooting

Electric wheelchairs have been tested before leaving the factory, and the failures encountered during use may be mainly related to the electronic control.

Fault phenomenon	Cause analysis	Exclusion	remark
Nothing happens when the ON key is pressed	The battery connector is loose	Plug-ins	Self-test
	The controller connector is loose	Open the control box cover and tighten the plug	Self-test
	The battery is dead.	Charge in time	Self-test
There is a fault sound after the device is powered on	The brake lever is not in place	Switch the motor brake lever to engage	Self-test
	The joystick is not in place	Do not touch the joystick before and during start-up	Self-test
Inability to start or move irregularly	The charger plug is not unplugged	Unplug the charger	Self-test
	There is a faulty motor or controller	Contact your dealer	repair

The battery cannot be charged	Faulty charger	Contact your dealer	repair
	The AC power supply is abnormal	Check the power supply. Uses 220V AC power supply	Self-test
	Battery failure	Battery replacement	repair

7 Maintenance and repair

7.1 Maintenance and Cleaning

Note: The battery connector must be unplugged to cut off the power supply before maintenance work.

If you need to adjust and replace wear parts, please find professional maintenance personnel, contact information see 9. Enterprise information; Customers do not need to adjust and replace parts by themselves.

Please check the following sections regularly and in a timely manner:

Check the cycle	Every day	weekly	Monthly	Every three months	Every six months
battery	√				
Power cord		√			
Battery terminals			√		
Connecting cables			√		
The outer surface of the frame				√	
Lubricate the part				√	
Clean the seat cushion					√
bearing					√
tyre					√
Electromagnetic braking					√

1) Disinfection and sterilization: wipe the frame with 75% medical alcohol with a clean, soft cloth and let it dry naturally in a ventilated place;

2) Control handles, armrests and seat cushions: Wipe with a soft cloth diluted with warm water with detergent, then wipe with water, and place in a ventilated place to dry naturally. Try not to accumulate residual liquid on the body;

3) Lubrication and general maintenance: Parts that need to be lubricated are maintained with lubricants, but the amount should not be too much to avoid oil contamination of the floor. In addition, we should always check whether the screws are loose and tighten them in time;

4) Wipe other parts with a dry cloth at all times, avoid placing the wheelchair in a wet place, and pay attention to protecting the joystick from accidental impact and the operating handle from liquid contamination;

5) Maintenance Operations: The maintenance operations described in this section can be performed, but battery replacement operations are generally not permitted. Wheelchair components that should not be maintained or serviced include: motors, tires, controllers;

6) Maintenance Warning when using a wheelchair: Please follow the recommendations of the above maintenance measures and do not use tap water or other detergents that may be corrosive with acids and alkalis.

7.2 Notice of Warranty

1) Vehicle warranty: One year from the date of purchase. During the warranty period, due to manufacturing defects caused by

faults found and found during use, our company provides vehicle repair and parts replacement services to the original buyer;

2) During the warranty period, you must provide genuine purchase records and warranty certificates, otherwise you will not enjoy the warranty service.

3) Unauthorized inspection and maintenance shall not be permitted; Any unauthorized modification of the wheelchair's electrical system is strictly prohibited. Installing batteries, power supplies, or additional electrical accessories not supplied or certified by the manufacturer will automatically void the product warranty and CE marking.

4) The following are not covered by the warranty:

① No warranty certificate;
② The product model and part number recorded on the warranty certificate are inconsistent with the model of the wheelchair to be repaired or modified;
③ improper use or other accidental and man-made damage;
④ Non-company technical personnel do not have a special person to change or replace and repair the parts of the product, and the non-original parts are not entitled to warranty service. The Company shall not be liable for any damages arising therefrom.
⑤ Losses from unpredictable natural disasters.

5) Vehicle life: Wheelchair frame 3 years; Motor, controller etc 1year.

In the use of products beyond the warranty period, our company is still willing to provide you with high-quality paid maintenance services;

6) After the electric wheelchair is scrapped, it needs to be disposed of according to the municipal waste disposal method.

7) Minimum qualification requirements for maintenance personnel: proficient in the use of this series of products, familiar with the basic structure and composition of this series of products, and have certain knowledge of electrical safety.

8 Electromagnetic Compatibility Description

For this equipment, special precautions regarding electromagnetic compatibility (EMC) need to be taken, and installation and use must be carried out in accordance with the electromagnetic compatibility information specified in this manual.

This equipment may be affected by portable and mobile RF communication devices.

The following (cable information for EMC reference only) meets the requirements for electromagnetic emissions and immunity to interference:

Vendor name	The name of the cable	Model	Length (m)
Jiangsu Province Kunshan Zhengbai Electromechanical Co., Ltd	Power cord	ZB2402ML	1.3
	Charger output cable		1.0
Jiangsu Province Kunshan Zhengbai Electromechanical Co., Ltd	Power cord	ZB2403QS	1.4
	Charger output cable		1.05
Suzhou Zhilai Electrical Technology Co., Ltd	Power cord	24V20Ah	1.25
	Charger output cable		0.65

Warning:

The use of accessories and cables other than specified may result in increased emissions or reduced immunity of the device or system, except for cables sold by the manufacturer of the device or system as spare parts for internal components.

Warning:

Electromagnetic interference can occur in a variety of ways in the environment in which the electric wheelchair is used, and interfere with the control system of the electric wheelchair. In the event of intermittent interference (except for mobile phones, electronic product security systems), special care should be taken to continue using the electric wheelchair to prevent accidental movement or redirection of the wheelchair and cause injury.

Table 1 Electromagnetic Emission - Wheelchair Drive System (Driving State)

Emission tests	compliance	Electromagnetic Environment – A Guide
Radio frequency transmission GB 4824	1 group	Devices use RF energy only for their internal functions, and as a result, its RF emissions are low and there is little potential for interference with nearby electronic devices.
Radio frequency transmission GB 4824	Category B	The equipment is suitable for use in all facilities, including domestic and direct connection to the residential public low-voltage power supply network for domestic use.
Harmonic radiation GB 17625.1	not applicable	Powered by an internal power supply
Voltage fluctuation/flicker emission GB/T 17625.2	not applicable	

Table 2 Electromagnetic Immunity - Wheelchair Drive System (Driving State)

Immunity test	GB/T 18029.21-2012 Test level	Conform to the level	Electromagnetic Environment – A Guide
Electrostatic Discharge (ESD) GB/T17626.2	±6kV contact discharge ±8kV air discharge	± 6kV contact ± 8kV air	The floor should be wooden, concrete or tile, and if the floor is covered with synthetic material, the relative humidity should be at least 30%
Power Frequency Magnetic Field (50/60Hz) GB/T 17626.8	30 A/m	30 A/m	The power frequency magnetic field should have the horizontal characteristics of the power frequency magnetic field typical of a typical place in a typical commercial or hospital environment

Guidelines and Manufacturer's Declarations – Electromagnetic Immunity The equipment is intended for use in the electromagnetic environment specified below, and the purchaser or user shall warrant that it is used in such electromagnetic environment:

<table>
<tr><td>Immunity test</td><td>GB/T 18029.21-2012
Test level</td><td>Conform to the level</td><td>Electromagnetic Environment – A Guide</td></tr>
<tr><td>Radio frequency radiation
GB/T 17626.3</td><td>20 V/m
26MHz - 2.5GHz</td><td>20 V/m</td><td>Portable and mobile RF communication devices should not be used closer to any part of the device, including cables, than the recommended isolation distance. This distance is calculated by a formula corresponding to the transmitter frequency

Recommended isolation distance
d = 0.18 26MHz~800 MHz$\sqrt{(P)}$
d= 0.35 $\sqrt{(P)}$800MHz~2.5 GHz
where:
P - the maximum rated output power of the transmitter according to the transmitter manufacturer, in watts (W);
d – is the recommended isolation distance in meters (m).
The field strength of a fixed RF transmitter is determined by surveying the electromagnetic site a, which should be lower than the coincidence level b at each frequency range.
Interference may occur near devices marked with the following symbols.
  </td></tr>
<tr><td colspan="4">The field strength of fixed transmitters, such as base stations of wireless (cellular/cordless) telephones and terrestrial mobile radios, amateur radios, AM and FM radio broadcasts, and television broadcasts, cannot be accurately predicted in theory. In order to assess the electromagnetic environment of a fixed RF transmitter, the survey of the electromagnetic site should be considered. If the field strength of the measured equipment is higher than the applicable RF compliance level above, the equipment to verify that it can operate normally. If abnormal performance is observed, supplemental actions may be necessary, such as reorienting or repositioning the equipment. b In the whole frequency range of 150kHz-80MHz, the field strength should be less than 3V/m.</td></tr>
<tr><td colspan="4">Recommended isolation distance between portable and mobile RF communication devices and equipment
Equipment is intended for use in an electromagnetic environment where RF emissions disturbance is controlled. Depending on the maximum rated output power of the telecommunications equipment, the purchaser or user can prevent electromagnetic interference by maintaining the minimum distance between portable and mobile RF telecommunications equipment (transmitters) and equipment recommended below.</td></tr>
<tr><td rowspan="2">The maximum rated output power of the transmitter</td><td colspan="3">Corresponding to the isolation distance of the transmitter at different frequencies/m</td></tr>
<tr><td>26MHz - 800MHz
d = 0.18$\sqrt{(P)}$</td><td colspan="2">800MHz – 2.5GHz
d = 0.35$\sqrt{(P)}$</td></tr>
</table>

In		
0.01	0.018	0.035
0.1	0.058	0.11
1	0.18	0.35
10	0.57	1.1
100	18	35
For the maximum rated output power of the transmitter not listed in the table above, the recommended isolation distance d, in meters (m), can be determined by the formula in the corresponding transmitter frequency column, where P is the maximum rated output power of the transmitter provided by the transmitter manufacturer. Measured in watts (W). Note 1: At the 80 MHz and 800 MHz frequency points, the formula for the higher frequency band is used. NOTE 2: These guidelines may not be suitable for all situations, and electromagnetic propagation is affected by absorption and reflection by buildings, objects, and the human body.		

Table 3 Electromagnetic Emission - Battery Charger for Non-Vehicle and On-Board Batteries (Charging State of External Power Supply)

Guidelines and Manufacturer's Statement – Electromagnetic Emission The equipment is intended for use in the electromagnetic environment specified below, and the purchaser or user shall warrant that it is used in such electromagnetic environment:		
Emission tests	compliance	Electromagnetic Environment – A Guide
Radio frequency transmission GB 4824	1 group	Devices use RF energy only for their internal functions, and as a result, its RF emissions are low and there is little potential for interference with nearby electronic devices
Radio frequency transmission GB 4824	Category B	The equipment is suitable for use in all facilities, including domestic and direct connection to the residential public low-voltage power supply network for domestic use.
Harmonic radiation GB 17625.1	Category A	
Voltage fluctuation/flicker emission GB/T 17625.2	accord with	

Table 4 Electromagnetic immunity – for non-vehicle and vehicle-carried battery chargers (external power supply state of charge)

Guidelines and Manufacturer's Declarations – Electromagnetic Immunity The equipment is intended for use in the electromagnetic environment specified below, and the purchaser or user shall warrant that it is used in such electromagnetic environment:			
Immunity test	GB/T 18029.21-2012 Test level	Conform to the level	Electromagnetic Environment – A Guide
Electrostatic Discharge (ESD) GB/T 17626.2	±6kV contact discharge ±8kV air discharge	± 6kV contact ± 8kV air	The floor should be wooden, concrete or tile, and if the floor is covered with synthetic material, the relative humidity should be at least 30%
Electrically fast transient bursts GB/T 17626.4	± 1kV to power cords ±0.5kVOn the input/output line	± 1kV to power cords ± not applicable	The grid power supply should be of the quality typical of a commercial or hospital environment.
Surge GB/T 17626.5	± 0.5kV wire-to-wire ± 1.0kV line-to-	± 0.5kV wire-to-wire not applicable	The grid power supply should be of the quality typical of a commercial or

	ground		hospital environment.
Voltage sags, short interruptions, and voltage changes on the power input line GB/T 17626.11	100% UT for 0.5 cycles 100% UT for 1 cycle 30% UT for 25 cycles	100% UT for 0.5 cycles 100% UT for 1 cycle 30% UT for 25 cycles	The grid power supply should be of the quality typical of a commercial or hospital environment. If the user of the device needs continuous operation during a power outage, it is recommended that the device be powered by an uninterruptible power supply or battery
Note: UT refers to the AC network voltage before the test voltage is applied.			

Guidelines and Manufacturer's Declarations – Electromagnetic Immunity The equipment is intended for use in the electromagnetic environment specified below, and the purchaser or user shall warrant that it is used in such electromagnetic environment:			
Immunity test	GB/T 18029.21-2012 Test level	Conform to the level	Electromagnetic Environment – A Guide
Radio frequency conduction GB/T 17626.6 Radio frequency radiation GB/T 17626.3	3V (RMS) 150kHz - 80MHz 3V/m 80MHZ – 1.0GHz	3V (RMS) 150kHz - 80MHz 3V/m 80MHZ – 1.0GHz	Portable and mobile RF communication devices should not be used closer to any part of the device, including cables, than the recommended isolation distance. This distance is calculated by a formula corresponding to the transmitter frequency Recommended isolation distance $d = 1.2\sqrt{(P)}$ 150kHz-80MHz $d = 1.2\sqrt{(P)}$ 80MHz-800MHz $d = 2.3\sqrt{(P)}$ 800MHz-1.0GHz where: P - the maximum rated output power of the transmitter according to the transmitter manufacturer, in watts (W); d – is the recommended isolation distance in meters (m). The field strength of a fixed RF transmitter is determined by surveying the electromagnetic site a, which should be lower than the coincidence level b at each frequency range. Interference may occur near devices marked with the following symbols. 
Note 1: For 80MHz and 800MHz frequencies, the formula for the higher frequency band is used.			

NOTE 2: These guidelines may not be suitable for all situations, and electromagnetic propagation is affected by absorption and reflection by buildings, objects, and the human body.

The field strength of fixed transmitters, such as base stations of wireless (cellular/cordless) telephones and terrestrial mobile radios, amateur radios, AM and FM radio broadcasts, and television broadcasts, cannot be accurately predicted in theory. In order to assess the electromagnetic environment of a fixed RF transmitter, the survey of the electromagnetic site should be considered. If the field strength of the measured equipment is higher than the applicable RF compliance level above, the equipment to verify that it can operate normally. If abnormal performance is observed, supplemental measures may be necessary, such as reorienting or repositioning the device (JYD-B-W001). b In the entire frequency range of 150kHz-80MHz, the field strength should be less than 3V/m.

Recommended isolation distance between portable and mobile RF communication devices and equipment. Equipment is intended for use in an electromagnetic environment where RF emissions disturbance is controlled. Depending on the maximum rated output power of the communication equipment, the purchaser or user can maintain portable and mobile RF communication equipment (transmitters) and equipment recommended below minimum distance between them to prevent electromagnetic interference.

The maximum rated output power of the transmitter In	Corresponding to the isolation distance of the transmitter at different frequencies/m		
	150kHz - 80MHz $d = 1.2\sqrt{(P)}$	80MHz - 800MHz $d = 1.2\sqrt{(P)}$	800MHz – 1.0GHz $d = 2.3\sqrt{(P)}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For the maximum rated output power of the transmitter not listed in the table above, the recommended isolation distance d, in meters (m), can be determined by the formula in the corresponding transmitter frequency column, where P is the maximum rated output power of the transmitter provided by the transmitter manufacturer. Measured in watts (W).

Note 1: At the 80 MHz and 800 MHz frequency points, the formula for the higher frequency band is used.

NOTE 2: These guidelines may not be suitable for all situations, and electromagnetic propagation is affected by absorption and reflection by buildings, objects, and the human body.

Note!

Our electric wheelchair products have unique identification of the model number or other information of the wheelchair and

battery charger.

Our company's wheelchair and battery chargers meet the requirements of EN ISO 7176-21:2009 "Electromagnetic compatibility requirements and test methods for electric wheelchairs, electric scooters and battery chargers" and EN IEC 60601-1-2:2007 "Medical electrical equipment Part 1-2: General requirements for basic safety and basic performance Parallel standard: Electromagnetic compatibility requirements and tests".

9 Identifier Description

Symbol	Introductions	Symbol	Introductions
CE	CE Symbol	MD	Medical Device
	Name and Address of Manufacturer	EC REP	Name and Address of European Union Authorized Representative
	Date of Manufacture	UDI	Unique Device Identifier
SN	Serial Number		Importer
	Caution		Consult Instructions for Use
	Keep Away From Sunlight		Keep Dry
	Do not dispose of with household waste		Operating temperature: 0°C to 40°C

【Manufacturer】



Company: Tianjin Promoting Medical Technology Co., LTD
Address: Xiyingmen Street, Xiqing District, Tianjin, China.

【European Union Authorized Representative】

EC REP

Humiss Beratung GmbH
Gneisenaustraße 8. 40477, Düesseldorf, Deutschland

【Importer】



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