Electric Wheelchair

Product name: Electric wheelchair
Manufacturer: Tianjin Hongpuda Medical Equipment Co., Ltd.
Production address: Liujie Village, Wangqingtuo Town, Wuqing District, Tianjin
Executive standard: GB/T12996-2012
Last revision date: January 1, 2019

Instruction manual

Please read the entire contents of the manual carefully before

use

Table Of Contents

1、 Intended use 2
2、 Model specifications and structure composition..... 2
2. 1.Product model and description..... 2
2. 2.The structure of the wheelchair..... 2
3、 Main performance indicators..... 2
4、 Main functions 3
5、 Working conditions..... 3
6、 Installation and debugging..... 3
7、 How to use 5
8、 Charging the battery..... 6
9、 Troubleshooting 6
10、 Routine maintenance..... 7
11、 Service life..... 7
12、 Safety precautions..... 7
13、 Contraindications..... 8
14、 Transportation and storage..... 8
15、 Quality assurance instructions..... 8
16、 List of key and vulnerable parts..... 8
17、 Electromagnetic compatibility statement..... 9
18、 Installation and debugging of wheelchairs..... 14

After-sales service card

19、 After-sales service card 18

Dealer:	
Cardholder: Contact number:	Model:
Address:	Date of manufacture:
Height: Weight: Controller location:	Serial number:

Quality warranty:
The product you purchased can enjoy the following maintenance services: 1. Motor, controller, push rod and frame warranty period One year: during the warranty period, free maintenance. 2. Maintenance services are provided for life, and on-site maintenance requires an additional on-site fee, which will be calculated separately based on the far and near costs

	Time	Content
Service record		

Note: 1: If your contact information changes, please notify us in time!
2: The replaced parts belong to our company;
3: Batteries, tires, handrails and other vulnerable parts are not covered by the warranty

Packing List

Products	Quantity
Wheelchair model:	1 set
Charger	1 piece
After-sales service card	1 serving
Battery box	1 PCS
Straddle	2 PCS

8. Climbing ability: ≧6.

9. Minimum turning radius: 1200mm.

10. Theoretical driving distance: ≧10km.

Fourth, The Main Function

NO.	Function	Explain
1	Stepless speed regulation	After programmed speed control, press 4 forward gears and 1 backward gear control.
2	Controller overvoltage protection	Protect the controller in case of battery overvoltage.
3	Motor stall protection	It can prevent overheating and damage caused by the motor blocking when the obstacle is crossed.
4	insulation	The applied part is connected to the live part, and the DC current between the two is less than 5mA
5	Circuit protection	It can protect the circuit from the overcurrent of itself and the external power supply.
6	Protection of non-insulated electrical parts	Ensure that users are not shocked or burned by touching non-insulating parts.
7	The armrest can be raised	It is convenient for users to get on and off the car.
8	Foldable body	Easy to transport and store
9	Anti-rolling wheel	Prevent the wheelchair from tipping over when driving on uneven roads.
10	Electromagnetic compatibility	It can be used normally in an electromagnetic environment and does not constitute electromagnetic disturbance to the environment.

Fifth. Working conditions

1. Ambient temperature: -10° C~40° C;

2. Relative humidity: 25%~95%:

3. Internal power supply: DC24V.

Sixth. Installation and commissioning

The electric wheelchair has been debugged before leaving the factory. According to the transportation requirements, some parts of the product are decomposed and packaged when they leave the factory, so users need to simply install them before use.

1. Open the packing box of the electric wheelchair and check whether there are any missing parts according to the contents of the packing list in the information bag.

2. Pull the driving frame to the left and right to make the width of the vehicle normal, and press down the seat so that the left and right side brackets are inserted into the groove (the vehicle equipped with the handle folding mechanism also needs to pay attention to the coordination of its interfaces).

3. Install the anti-rolling wheel, hold the two bumpers on the rear bracket with your hand, and insert the bracket tube diagonally upwards until the bumpers enter the corresponding holes and are fixed.

4. Install the left and right foot pedal components, insert them down onto the iron post and turn them forward until the positioning mechanism is locked; then loosen the screws at the bottom of the foot pedal components, adjust the height of the foot pedals to a suitable position, and tighten the screws again (See below).

② Manual mode to electric mode: rotate the left and right wheel clutch handles to make the limit block slide on the flat track and automatically pop into the groove (as shown in the figure).

8、靠背的折叠

Pull down the movable joint wrenches on both sides of the backrest (as shown in the picture)

The backrest is folded down. Hold the handle tube and lift up the sleeve. When you hear a "click" on both sides of the handle tube, fold the backrest.

Be sure to confirm whether the armrest and the body are firmly installed before use.

Controller panel

Function Description:

1Battery power display

2Wheelchair power start switch

3Deceleration adjustment switch

4 horn

5accelerometer

6Acceleration adjustment switch

Picture 6 schematic diagram of controller function keys

10、After the power is connected, pull the control lever slightly in any direction, and the electromagnetic clutch in the motor mechanism and the motor rotation sound can be heard. With the increase of the pulling range of the control lever, the speed of the motor also increases (the sound of the motor gradually increases): pull the control lever left and right, the speed of the left and right motors (i.e. the sound of the left and right motors) will change. Release the control lever, the electromagnetic clutch will release and make a sound, and the motor will stop running.

11、Close the clutch handle of the motor mechanism (make the handle parallel to the wheel), the

operator sits on the vehicle, turns on the power switch of the controller, and operates the vehicle. At this time, the vehicle moves along with the pulling direction of the controller control lever. The test run should be carried out in a flat and large space place to avoid the vehicle, goods and personnel damage caused by the operator's unskilled operation of the vehicle.

12、Press the rear tire by hand to check whether the air pressure is sufficient. If not, please inflate it immediately. The inflation feeling is moderate; do not over inflate to avoid tire burst (the inflation pressure is rated at 40 PASE).

Seventh、usage method

1、For the first time users, it is recommended to drive at low speed to avoid accidents due to unskilled operation.

2. Speed regulation: in front of the control lever is a speed regulating button, which can be adjusted by the operator according to his own conditions,

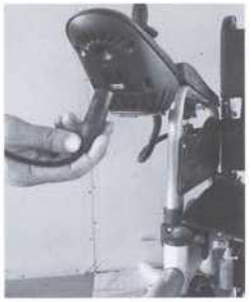
Eighteenth、Assembly and debugging of wheelchair

1. The product packing box contains a set of body, a battery, a pair of straddle feet and a charger.

2. Press down with both hands until the vehicle is fully opened (as shown in the figure).

3. Insert one end of the telescopic tube of the manual controller into the fixed tube at the lower end of the armrest on the right side of the vehicle, adjust the hand controller to a suitable position, and then lock the knob.Push the power cord back to achieve a straight line. (as shown in the picture)

4、Hang the battery box on the battery hanging rod of the vehicle, and plug in the power plug tightly (as shown in the picture)



Voice alarm status.

Voice status	Meaning	Handling tips
All LED lights are off and there is no sound	The power is off or in the standby state or the system is in sleep mode. The power cord is poorly connected, and the fuse has tripped or burned out.	Check whether the power cord and insurance tax are connected properly
All LED lights are on	The power has been up. The product can be used normally after the power-on self-check is passed	——
The battery indicator light is green	Indicates sufficient power	——
The battery indicator light is yellow	Indicates that more than half of the power consumption	Should consider forming not too far
The battery indicator light is red	Indicates that the battery is about to run out	The battery should be charged as soon as possible
Speed/first indicator flashes	Indicates that the left motor is faulty	The left motor has poor contact or the cable is disconnected
Speed/second indicator flashes	Indicates that the right motor is faulty	The right motor has poor contact or the cable is disconnected
Speed/Fourth indicator flashes	Indicates joystick failure	The joystick does not reset or breaks

Tenth. Routine maintenance

1. The vehicle is used in a normal temperature environment: it should not be exposed to rain to avoid electrical short circuit.

2. It should be wiped with a soft cloth frequently to keep the vehicle clean. If you need to clean, you can wipe the surface with a neutral detergent first.

Then use a soft cloth to wipe clean with water and dry it before use.

3. The controller and electric mechanism are the core components of the vehicle, so collisions and moisture should be avoided.

4. Regularly check whether the screws and nuts on the vehicle are tightened, whether the electrical connectors are off, and whether they are too close to the ground: If you have any questions, you should promptly ask your local dealer or call the after-hours service phone for consultation to ensure driving safety.

5. Pay attention to check whether the battery is sufficient before starting the vehicle, so as not to cause inconvenience to your activities.

6. Check the tire pressure frequently to ensure the normal use of the vehicle.

Eleven. Service life

The battery life is one year.

Twelfth. Safety precautions

1. It is strictly forbidden to pull the clutch handle when the motor is rotating during operation, so as to avoid serious wear of the motor components.

2. When manipulating the controller handle, the action should be gentle and avoid excessive force to avoid damage to the controller.

3. It is forbidden to use wheelchair vehicles beyond the scope, such as carrying heavy objects or towing other vehicles.

4. Do not disassemble the controller and electric mechanism at will. If there is any problem, please ask a professional for repair.

5. Wear a seat belt when using a wheelchair. Try to keep driving at a constant speed. Do not drive on a sloping road

to avoid rollover of the wheelchair.

5. 5、Wear a seat belt when using a wheelchair. Try to keep driving at a constant speed. Don't drive on a sloping road, so as not to cause the wheelchair to roll over.

6. Do not stand on the pedals during use to prevent the wheelchair from tipping over and causing danger.

7. Check the performance of the brake frequently to ensure its safety and reliability, and if necessary, entrust professional maintenance or adjustment.

Table 3: Guidelines and manufacturer's declaration-electromagnetic immunity for non-life-supporting ME equipment and ME system a fixed transmitter, such as:

Guidelines and manufacturer's declaration of electromagnetic immunity			
The electric wheelchair is expected to be used in the electromagnetic environment specified below, and the purchaser or user should ensure that it is used in this electromagnetic environment.			
Immunity test	GB 9706 test level	Compliance level	Electromagnetic Environment-Guide
Conducted radio frequency GB/T 17626.6	3 Vrms 150KHz~ 80MHz	3V	Portable and mobile radio frequency communication equipment should not be used closer to any part of the electric wheelchair than the recommended isolation distance, including cables. The distance should be calculated based on the formula corresponding to the transmitter frequency. Recommended isolation distance:d=1.2 150 kHz to 80MHz:d=1.2 80MHz to 800MHz;d=2.3 800 MHz to 2.5GHz In the formula. P is based on the maximum rated output power of the transmitter provided by the transmitter manufacturer, in watts (W); d—Recommended isolation distance, the unit is Meters (m). The field strength of the fixed radio frequency transmitter is determined by surveying the electromagnetic field a, and in each frequency range b should be lower than the compliance level. Interference may occur in the vicinity of
Axial radio frequency GB/T 17626.3	3 V/m 80 MHz ~ 2.5Ghz	3 V/m	
Note 1: At 80MH and 800MHz frequency points, the higher frequency band formula is used. Note 2: These guidelines may not be suitable for all situations. Electromagnetic propagation is affected by the absorption and reflection of buildings, objects and humans.			
a. Fixed transmitters, such as: wireless (cellular/cordless) telephones and ground mobile radio base stations, industry The field strength of other radio, AM and FM radio broadcasting and TV broadcasting, etc. cannot be accurate in theory. It is indeed foreseen that in order to assess the electromagnetic environment of fixed radio frequency transmitters, electromagnetic site surveys should be considered. If measured If the field strength of the equipment or system is higher than the above-mentioned radio frequency compliance level, the equipment or system should be observed To verify that it can operate normally. If abnormal performance is observed, supplementary measures may be necessary, such as Readjust the direction or position of the device or system. b. In the entire frequency range of 150kHz~80MHz, the field strength should be less than 3V/m.			

十七、Electromagnetic compatibility statement

This product has passed the electromagnetic compatibility test and meets the YY 0505 standard for medical equipment and equipment restrictions.

These limitations provide reasonable protection against harmful interference in a typical medical installation.

1、Product composition (electrical control system)

Serial number	Part Name	Model specification
1	DC	EC82N245325A
2	Battery	50A
3	Controller	50A

2、Product cable

Serial number	Cable name	specification	Whether to block
1	power cable	0.75mm2	No

3、EMC performance

This equipment may be subject to radio frequency interference caused by other medical equipment and radio communications. In order to prevent such interference, this product has been tested according to YY0505-2012 and meets its requirements. However, the company does not guarantee that there will be absolutely no interference in individual installation environments.

If it is found that this equipment is interfered (which can be determined by turning the equipment on and off), the user (or qualified maintenance personnel) should try to take one or more of the following measures to solve the interference problem:

a） Adjust the direction or position of the affected device:

b）Increase the distance between this equipment and the emitting device;

c） Use another power source (not the power source used to affect the device) to power this device:

d） Consult the supplier or service representative for other suggestions.

The manufacturer is not responsible for any interference caused by the following situations:

a）Use interconnect cables other than the recommended cables.

b） Unauthorized changes or modifications to this equipment may cause the user to lose the right to operate the equipment.

All types of electronic equipment may cause electromagnetic interference to other equipment through the air or other cables connected to it. The term EMC (Electromagnetic Compatibility) refers to the ability of a device to not be affected by electromagnetic interference generated by other devices, while not affecting other devices through similar electromagnetic radiation.In order to fully achieve the specified EMC performance, the user should install the product correctly according to the steps described in the manual. If there are problems related to EMC, please contact the maintenance personnel.

4、Precautions for product installation

5、1）Use the power cord provided or designated by our company. Products equipped with a power plug should be plugged into a fixed power outlet with protective grounding。

6. Do not use any type of adapter or converter (such as a "three-to-two" converter) to connect the power plug.

7. 2）Keep this device away from other electronic devices as much as possible.

3） Make sure to use the power cord provided or specified by our company.

4） Follow the steps to connect the power cord.

General notes

1）Develop a power cord that can be connected to this product.

Using the power cord provided by our company will not damage the EMC performance of this product. If an unspecified power cord is used, the EMC performance of this equipment may be significantly reduced.

2） Precautions for prohibiting user modification

The user must not modify this product, otherwise the EMC performance of this product may decrease.

The modification of the product includes the following changes:

a）Power cord (length, material and wiring, etc.);

b）Equipment installation/layout;

c） Equipment configuration/components;

d） Equipment protection parts (cover opening/closing and cover fixing parts).

3） All covers should be closed when operating the equipment. If the cover is not closed for some reason, make sure to shut down the system before starting/continuing the operation.

4） The operating system may affect the EMC performance of the system when the cover is open.

The electric wheelchair is expected to be used in the electromagnetic environment specified below, and the purchaser and user of the electric wheelchair should ensure that it is used in this electromagnetic environment.

Table 1

Guidelines and manufacturer's declaration electromagnetic emissions		
The electric wheelchair is expected to be used in the following electromagnetic environment, and the purchaser or user of the electric wheelchair should ensure that		
Launch test	Compliance	Electromagnetic environment guide
GB 4824 RF emission	1group	Electric wheelchairs use RF energy only for their internal functions. Therefore, its RF emission is
GB 4824 RF emission	B type	Electric wheelchairs are suitable for use in all facilities, including households and residential public low-voltage power supply networks directly connected to households.
GB 17625.1 Harmonic emission	A type	
GB 17625.1 Voltage fluctuation/Flash	meets the	

Table 2: guidelines and manufacturer's statement electromagnetic immunity - all me equipment and this system

Anti-interference	Gb9706 test level	Coincidence level	Electromagnetic environment - A
electrostatic discharge GB/T 17626.2	± 6KVContact discharge ± 8Kv air discharge	± 6KVContact discharge ± 8Kv air discharge	The floor shall be wood, concrete or ceramic tile, and if the floor is covered with synthetic materials, the relative
Electrical fast transient burstGB/T 17626.4	±2KVfor power line	± 2KVfor power line	The network power supply should have the quality used in a typical commercial or hospital environment
Surge GB/T 17626.5	± 1KVLine to line ± 2KV line to ground	± 1kV line to line Not applicable	The network power supply should have the quality used in a typical commercial or hospital environment
Voltage sag, short interruption and voltage variation on power input lineGB/T 17626. 1 1	< 5% ut. For 0.5 cycles (on UT, > 95% sag) 40% ut. For 5 weeks (60% sag on UT) 70% ut. For 25 cycles (30% sag on UT) < 5% ut. Lasting for 5 s (on UT, > 95% sag)	< 5% UT for 0.5 cycles (on UT, > 95% sag) 40% UT for 5 weeks (60% sag on UT) 70% UT for 25 cycles (30% sag on UT) < 5% UT, lasting for 5 s (on UT, > 95% sag）	The network power supply should have the quality used in a typical commercial or hospital environment
Power frequency magnetic field (50HZ/60HZ) GB/T 17626.8	3 A/m	3 A/m	The power frequency magnetic field should have the level characteristics of power frequency
Note: UT refers to the AC network voltage before the test voltage is applied			

8. This product is only allowed to carry one person, more than one person and the user whose weight is more than 100kg shall not be used.

9. If the wheelchair breaks down or is damaged, it must be repaired by professionals or sent back to the manufacturer for repair.

10. The batteries that cannot be used normally beyond the service life should be sent back to the manufacturer for treatment, or the old batteries should be returned when purchasing new batteries. It is strictly forbidden to dispose of them by themselves, so as to avoid environmental pollution.

11. Do not drive on the motorway.

12. It is forbidden to refit wheelchairs without permission.

Thirteenth、 Contraindications

1. Those whose corrected visual acuity is less than 0.6 are forbidden.

2. It is forbidden for patients with upper limb deformity and behavior disorder.

3. It is forbidden for children and pregnant women.

Fourteenth.Transportation and storage

The electric wheelchair should be stored in a dry and well ventilated environment with an ambient temperature of - 20 ℃ ~ + 55 ℃ and a relative humidity of no more than 90%. Strong sunlight should be avoided indoors and no corrosive substances should be around.

The packaged electric wheelchair can be transported by general transportation means. Rain, snow, splashing and mechanical collision shall be avoided during transportation, and shall not be mixed with corrosive articles.

Fifteenth、Quality assurance statement

1. Since the purchase of this product within one year, you can enjoy the company's free maintenance service.

2. One of the following conditions is not included in the scope of free maintenance:

a) Failure to use in accordance with the requirements of the manual, damage caused by improper maintenance and storage.

b) Failure or damage caused by self assembling, disassembling and repairing.

c) Other accidental or man-made damage.

3. Please show the purchase certificate and warranty card before repair. If the procedures are not complete, the company refuses to repair.

4. When the product exceeds the warranty period, our company will still provide free service for you, and only charge for replacement parts when repairing.

5. If required by users, the company can provide circuit diagram, component list and other data required for equipment maintenance, which can be used for reference by professionals when repairing equipment.

16、 List of key and vulnerable parts

Number	Name		Specification	Quantity
1	DC motor		24V、 250W	2
2	Controller		50A	1
3	Battery		12Ah	2
4	Fuse		0. 5A	1
5	Tyre	WT-100W	406mm；254mm	2
		WT-100WA	406mm；254mm	2
		WT-100WB	559mm；254mm	2

Table 4: Recommended isolation distances between portable and mobile radio frequency communication equipment and equipment or systems-for non-life support ME equipment and ME systems

Recommended isolation distance between portable and mobile radio frequency communication equipment and KD-901E high voltage potential therapy instrument			
Electric wheelchairs are expected to be used in an electromagnetic environment with controlled radio frequency radiation disturbance. According to the maximum rated output power of communication equipment, purchasers or users can maintain the minimum distance between portable and mobile radio frequency communication equipment and electric wheelchairs through the following recommended To prevent			
Maximum rated output power of the transmitter W	Corresponding to the isolation distance of the transmitter at different frequencies/ m		
	150 kHz to 80 MHz 1.2 √p	80 MHz to 800 MHz 1.2√p	800 MHz to 2. 5 Ghz 2.3 √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 above table, 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, in watt (W). Note 1: at the frequency points of 80MH and 800MHz, the formula of higher frequency band is adopted. Note 2: these guidelines may not be suitable for all cases where electromagnetic propagation is affected by absorption and emission from buildings, objects and human bodies.			

5.Functions identified as basic performance

No components were damaged.

Adjust and determine the speed. Press the left button (speed decrease button) to decelerate. Press the right button (speed increase button) to increase speed. Stop when the control lever returns to the middle position (see Fig. 7)

3、 When the vehicle is unable to drive electrically due to low electric power or

速度增加按钮

速度增加按钮

P7

速度/方向授例襟控杆

电源域

other faults,pull the control lever to the direction perpendicular to the wheel (the clutch is in the "off" position, and the vehicle can be pushed by hand.

4. The armrests on both sides of the vehicle can be turned up: that is, pulling the positioning handle at the front of the armrest can make the armrest turn up, so that the operator can get on and off the vehicle.

8、 Battery charging

（1）. The battery charging and power supply are interlocked. When charging, pull out the power supply plug of the battery, then the power supply of the battery to the control system will be cut off. Plug the charger plug into the battery power supply socket to charge.

（2）.24 V, 8A full-automatic charger should be used (it is recommended to use the charger produced by Chaowei power supply Co., Ltd.), and it will stop automatically after sufficient electricity. If the charging time is more than 8 hours, the charging indicator on the charger turns to green, indicating that the battery has reached its service life and needs to be replaced.

(3).Charging should be avoided in direct sunlight or high temperature environment as far as possible; if the battery temperature exceeds 40C, charging should be stopped immediately. It is better to charge the vehicle after each use. If the product is not used for a period of time, the battery should be taken out and stored separately. If it is not used for a long time, it should be replenished once a month. It is strictly prohibited to store the battery in the state of power loss.

9、 Troubleshooting

The product will alert the abnormal state of the vehicle through the LED light flashing on the controller and the horn cycle alarm sound. The first two high frequency sounds of the sound signal are the guide sound, and then the alarm sound. According to the number and length of the alarm sound, the fault can be judged and eliminated in time according to the following table. The following table describes the various types of battery power indicator and speed / fault indicator

5. Insert the straddle into the fixed chute of the frame (as shown in the picture)

6、Hold the wheelchair handle tube with both hands, lift it up until the backrest is fully unfolded, and confirm that the elastic pin is stuck in the hole of the handle lower tube (as shown in the figure) to ensure safe use.

se of clutch

When the electric wheelchair fails or the battery is exhausted and cannot drive normally, the wheelchair must be switched to manual mode and pushed to a safe area. The specific operations are as follows: ①Switch from electric mode to manual mode: pull out the left and right wheel clutch handles and rotate the handle to make the limit block stuck on the flat track (as shown in the figure), release the handle to enter the manual mode.

9、Press the "power on button" to turn on the power of the controller, and at the same time the "battery power indicator light" and "speed grade display" lights are lit. The "battery power display" light is on to indicate that the

5. Insert the controller with the mounting bracket backwards into the square tube of the armrest face, and tighten the screws after the front-to-back distance is adjusted properly (see Figure 3).

6. Unscrew the screws on the outside of the battery box and read the battery connection diagram on the inner wall of the battery box cover. There are two cables in the battery box, blue and black cables in the battery box on the one side, and red and black cables in the battery box on the other side. There are blue and red lines on the battery.

The wiring method of the blue and black cables in the battery box is:

The blue cable is connected to the blue post and the black cable is connected to the red post.

The wiring method of the red and black cables in the battery box is:

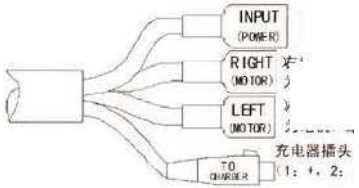
The red cable is connected to the red post and the black cable is connected to the blue post.

7. Check the position of the clutch handle of the electric mechanism, that is, the position of "off" (manual position) when the handle is perpendicular to the wheel; otherwise, the position of "close" (electric position) (see Figure 4)

置；反之为“合”（电动位）的位置（见图4）。

图 4

8. Observe the cables located in the lower part of the vehicle; if you find the cables are hanging to the ground, please bundle them with the attached cable ties and keep them at a certain height from the ground (see Figure 5)



wheelchair is powered on. The more the light is on, the more sufficient the power is; the “speed gear display” light has 5 levels, all on indicate the highest speed, and the less light, the lower the speed limit (see figure) 6).