

ELECTRIC POWER WHEELCHAIR

↑ EZee Life®

Model: CH4066

The Power Wheelchair is a chair equipped with wheels, it is a means of transportation for the disabled, the sick and the infirm. It is mainly composed of frame, wheel, seatrest, armrest, battery, motor and controller. The Power Wheelchair is a chair equipped with wheels, it is a means of transportation for the disabled, the sick and the infirm. It is mainly composed of frame, wheel, seatrest, armrest, battery, motor and controller.



Indications and Usage

To be used for the disabled, the sick and the old and infirm who have difficulty in moving.

SPECIFICATIO	
Weight	≤30kg
Max Load	160 kgs
Max Forward Speed	≤6 km/h
Braking Distance	1 m
Min Turning Radius	≤ 1200 mm
Static Stability	Up: 9°, Down: 9°, Side: 9°
Dynamic Stability	6°
Obstacle Height	50 mm
Front Tire	200X50/PU Solid Tire
Rear Tire	12-1/2" X 2-1/4"/Rubber
Motor	DC 24V; 250W X 2
Battery	DC 24V; 10AH Lithium Battery
Charger (Input)	AC100 - 240V; 50-60Hz; 3A
Charger (Output)	DC24V; 3A

Wheelchair Unfolding Method

Hold the backrest with one hand, and press and hold the seat cushion with the other hand to push it away, as shown in Figure. 1. After fully unfolding, the buckle plate under the backrest should be fastened, as shown in Figure. 2 (Before using the wheelchair, make sure that the gusset plate is pressed in place, otherwise there is danger of folding during use!)



Figure 1



Figure 2

Wheelchair Folding Method

Wheelchair folding: First pull the buckle plate under the backrest apart, as shown in Figure. 3, hold the backrest with one hand and pull up the seat cushion with the other hand to close it, as shown in Figure. 4.



Installation and Adjustment of Joystick

Take joystick out of the bag, fix it on the armrest with the quick clamp screw, as shown in Figure. 5, then connect the plug with one end of the connecting wire and tighten it, as shown in Figure. 6.



Note: When connecting the plug, it must be inserted in alignment with the notch, otherwise the plug insertion pin can be bent and damaged and cannot be used!

Battery Installation and Replacement

Insert the power plug into the battery and tighten it, as shown in Figure. 7. If the battery needs to be replaced, loosen and pull out the plug. As shown in Figure. 8, pull open the fixed switch under the battery by hand and pull out the battery.



If the battery capacity needs to be increased, batteries with the same capacity can be connected in parallel. As shown in Figure. 9, there are two socket holes on the battery that can be inserted into either of them in parallel to increase the capacity.



Up and Down Adjustment of Backrest

Release the fixing knob behind the backrest, as shown in Figure. 10, and adjust the backrest up and down to a suitable height, as shown in Figure. 11. Finally, tighten the knob to fix the backrest.



Armrest Flip Function

Turn the armrest locking knob upward, as shown in Figure. 12, and then lift the armrest upward, as shown in Figure. 13. To fix the armrest, press the armrest downward and turn the knob downward, as shown in Figure. 14.



Footrest Flip Function

The footrest can be pulled up or down, as shown in Figure. 15.



Electric and Manual Function

When the red handle of the motor is pulled back, it is in the electric operation mode, and when it is pressed forward, it is in the manual pushing mode, as shown in Figure. 16.



Note: The handle must be pulled up in the electric mode, otherwise the controller will give an alarm and cannot start. In manual mode, the power supply should be turned off, otherwise the push resistance will be very large.

Use of Seat Belt

Press the red button on the safety belt with your hand to open the safety belt, as shown in Figure. 17. Adjust the appropriate length of the safety belt after seating in the wheelchair, and buckle the safety belt, as shown in Figure. 18.



Splitting Wheelchair into two segments for easy lifting

Fold the wheelchair and make the wheelchair stand straight, open the hook plate frame with one hand, and lift the upper frame with the other hand, as shown in Figure 19. The upper and lower frames are separated.

When connecting the two segments, first let the lower frame stand upright, lift the upper frame on the lower frame, and then let the black bushing of the upper frame slide into the chute of the lower frame, as shown in Figure 20, until the hook plate of the frame fastens the screw rod.



First Operation of Wheelchairs

After the preparatory work is completed, the wheelchair will be operated for the first time. Note: Users must turn off the power and be accompanied before sitting firmly in the wheelchair. As shown in Figure 21



Function description of joystick:
as shown in Figure below

- Joystick knob: Push the joystick knob to control the direction and speed of the wheelchair and release the joystick knob to stop.
- Power switch: press the Power switch button to turn on/off the power;
- Speed increase button: Press to increase the maximum speed;
- Speed decrease button: Press to decrease the maximum speed;
- Horn: Sounds when the user presses the button;
- Speed lever indicator: All lights on indicate that the maximum speed has been set.
- Power indicator: display current battery power;



After the user is seated firmly, turn on the power switch and push the joystick knob forward to speed up slowly. If you want to stop, put down joystick knob in your hand and stop. The direction in which joystick knob pushes is the direction in which the wheelchair travels.

Note: This process requires users to practice repeatedly before they can master it skillfully, as shown in Figure 22.

Battery Charging

Take out the charger from the bag, as shown in Figure. 24, align the charger plug and insert it into the socket under joystick, as shown in Figure.25, the other end of the charger is connected to the power grid to start charging.

Note: The charger will heat up during charging. The charger should be placed in a ventilated and dry place for charging, otherwise it may cause charger damage, burn human body and even cause fire.



When the charger indicator is green, it indicates that the power grid is connected or full, and when it is yellow, it indicates that it is charging, as shown in Figure 26.

Note: At this time, the power supply of the controller is turned on, and the power indicator lights flash one by one to indicate that wheelchairs cannot be used during charging, as shown in Figure 27.



Power Indication

4.12.1 As shown in Figure. 23, the power indicator lights are all on to indicate full power. With the consumption of electric quantity, the indicator light goes out one by one. When only one light is on, it indicates that the electric quantity is less than 20% and needs to be charged as soon as possible.

4.12.2 When the power is running out, in order to protect the battery from excessive discharge, the controller and the battery itself will automatically turn off .

Note: Please do not cross the road when there is insufficient power, so as not to put users in danger when power is cut off in the middle of the road.

Storage and Transportation of Wheelchairs

4.13.1 The wheelchair is folded and erected in a ventilated and dry place, as shown in Figure. 28.

Note: If you do not use wheelchairs for a long time, you should charge them every 3 months to avoid permanent damage to the battery.

4.13.2 Fold the wheelchair and lift it by hand for short distance transportation, as shown in Figure 31. Note: Do not pull the wires or handrails during handling, which may cause the wires to break and slide down.



The wheelchair can be folded and placed in the trunk of the car, as shown in Figure. 29. Note: The temperature in the trunk of the car may exceed 50 °C in high temperature weather in summer. At this time, the wheelchair should be taken out in time, otherwise there is a risk of bursting and burning.



When taking public transportation (such as planes, high-speed trains, public buses, etc.), all the batteries on the vehicle should be taken out. As shown in Figure. 30, the wheelchair should be folded and packed for shipment, while the batteries should be carried with you.

Note: Protective measures should be taken when packing wheelchairs to avoid damage during consignment, and the batteries carried should avoid falling, impact, extrusion, etc.

Precaution and Warning

1. Don't operate the motorized wheelchair until you have read the instructions.
2. The total weight of people and things shall not exceed the maximum allowable load (see nameplate).
 3. Don't exceed the maximum allowable gradient.
4. Don't go uphill or downhill at maximum speed, otherwise there is danger of rolling over.
5. Don't drive on very smooth or soft surfaces, such as smooth tiles, mud, sand, grass, etc.
 6. Don't drive on slopes without guardrails.
 7. Don't drive on the motorway.
8. Don't turn or drive sideways on ramps, otherwise there is danger of overturning.
9. Don't turn or drive laterally on the ramp, or you may roll over. Do not reverse on the ramp, or you may roll over.
 10. Don't climb above the maximum permissible barrier height.
 11. Don't drag the goods.
 12. Please fasten your seat belt when using the power wheelchair.
 13. Keep your feet and hands on the pedals and armrests at all times.
14. For the first time, please practice the wheelchair in the open before you can go on the road.
15. Please pay attention and don't be distracted when the wheelchair is driving. 16. Please use the crosswalk when crossing the street.
 17. Please pay attention to the power display during wheelchair driving.
 18. Don't cross the road when the power is low, so as not to run out of power halfway.
19. If the wheelchair is not used for a long time, it should be folded and stored in a dry and ventilated place.
20. The wheelchairs should not be stored in high temperature and humidity.

Guidance and Manufacturer's Declaration

Cable	Max Cable Length	Shielded/ Unshielded	Number	Cable Classification
AC Power Line	1.5m	Unshielded	1 Set	AC Power
DC Power Line	1.5m	Unshielded	1 Set	DC Power

Important information regarding Electro Magnetic Compatibility (EMC)

This electrical medical equipment needs special precautions regarding EMC and put into service according to the EMC information provided in the user manual; The equipment conforms to this IEC 60601-1-2:2014 standard for both immunity and emissions. Nevertheless, special precautions need to be observed: The equipment without ESSENTIAL PERFORMANCE 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".

The 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.

WARNING: Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the A06L/A08L, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result."

WARNING: If the use location is near (e.g. less than 1.5 km from) AM, FM or TV broadcast antennas, before using this equipment, it should be observed to verify that it is operating normally to assure that the equipment remains safe with regard to electromagnetic disturbances throughout the expected service life.

STATEMENT: For the purpose of its operation, the equipment has wireless communication function, it includes RF transmitter and receiver, 2.4GHz, Pulse modulation.

STATEMENT: The equipment is a large, permanently-installed system. According to chapter 8.6 of IEC 60601-1-2:2014, the test was only performed at some discrete frequencies.

- a) An exemption has been used and that the equipment has not been tested for radiated RF immunity over the entire frequency range 80 MHz to 6 000 MHz;
- b) WARNING: This equipment has been tested for radiated RF immunity only at selected frequencies, and use nearby of emitters at other frequencies could result in improper operation”; and
- c) Following frequencies and modulations are used to test the immunity of the equipment.

Selected Frequency (MHz)	Emitter	Frequency Range	Modulation
103.7	Radio	Business Radio Band	FM
433.92	Remote Controller	ISM frequency	FM
446	Walkie-Talkie	walkie-talkie	FM
915	Mobile Phone	GSM900	Pulse
2400	Wireless Router	WIFI	Pulse
5000	Wireless Router	WIFI	Pulse

STATEMENT: The equipment is designed compatible with high frequency surgical equipment; the condition includes working or standby in close proximity to high frequency surgical equipment.

When the AC input voltage is interrupted, the equipment will stop battery charging and if the power supply restored, it could be recovered automatically, this degradation could be accepted because it will not lead to unacceptable risks and it will not result in the loss of basic safety or essential performance

Following degradation caused by Electrostatic Discharge or Electrical fast transients/burst could be accepted because it will not lead to unacceptable risks and it will not result in the loss of basic safety or essential performance:

During all immunity tests, a digital tachometer was used to monitor the rotating speed of wheel and a clamp meter was used to monitor the output current of battery charger to verify the performance of EUT.

EMI Compliance Table (Table 1)

Phenomenon	Compliance	Electromagnetic Environment
RF emissions	CISPR 11 Group 1, Class B	Home Healthcare Environment
Harmonic distortion	IEC 61000-3-2 Class A	Home Healthcare Environment
Voltage fluctuations and flicker	IEC 61000-3-2 Compliance	Home Healthcare Environment

EMS Compliance Table (Table 2-5)

Phenomenon	Basic EMC Standard	Immunity Test Level (Home Healthcare Environment)
Electrostatic Discharge	IEC 61000-4-2	±8 kV 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 RF 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	Band (MHz)	Immunity test Levels (Home Healthcare Environment)
385	380-390	Pulse modulation 18Hz, 27V/m
450	430-470	FM, ±5kHz deviation, 1kHz sine, 28V/m
710	704-787	Pulse modulation 217Hz, 9V/m
745 and 780	704-787	Pulse modulation 217Hz, 9V/m
810, 870 and 930	800-960	Pulse modulation 18Hz, 28V/m
1720,1845 and 1970	1700-1990	Pulse modulation 217Hz, 28V/m
2450	2400-2570	Pulse modulation 217Hz, 28V/m
5240, 5500, 5785	5100-5800	Pulse modulation 217Hz, 9V/m

Table 4 – Input a.c. power Port

Phenomenon	Basic EMC Standard	Immunity Test Level (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	<p>0% UT; 0.5 cycle At 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315°</p> <hr style="border-top: 1px dashed black;"/> <p>0% UT; 1 cycle and 70% UT; 25/30 cycles Single phase: at 0°</p>
Voltage interruptions	IEC 61000-4-11	0% UT; 250/300 cycles

Signal input/output parts Port

Phenomenon	Basic EMC standard	Immunity test levels
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

Maintenance

- Periodically (weekly or monthly depending on the frequency of use) check the frame connection parts such as screws, nuts, etc., for loosening, peeling, rust, etc.;
- Periodically check the folding activity joint site for card resistance, wear, shedding, etc.
- Check tyres regularly to see if there is aging, cracking, wear and tear and other phenomena;
- Wheelchair use process in case of rain or wet weather, wipe clean as soon as possible to avoid rust of moisture;
- Wheelchairs should try to avoid high temperature weather exposure;

Troubleshooting

Fault	Exclusion Method
Press Power Switch but cannot power on	<ol style="list-style-type: none"> 1. Check whether the controller is connected to the battery; 2. Check whether the joystick and controller are connected;
The battery cannot be charged	<ol style="list-style-type: none"> 1. The battery is not connected to the controller; 2. The battery is full and no need to be charged. 3. The battery bulges and is scrapped. Please contact the manufacturer to replace the battery.
Wheelchair speed is too low	<ol style="list-style-type: none"> 1. The battery is short of power, please charge. 2. The speed limit is too low, adjust the speed limit button.
Endurance mileage of wheelchair is insufficient	<ol style="list-style-type: none"> 1. The battery is short of power, please charge. 2. The battery is aging, please contact the manufacturer to replace the battery .
The universal wheel shakes during running.	<ol style="list-style-type: none"> 1. The bearing wear or damage, please contact the manufacturer to replace the bearing, ; 2. Screw is loose, please tighten the screw;
The motor is too noisy	<ol style="list-style-type: none"> 1. The gear is worn and please contact the manufacturer to replaced with the gear box. 2. The bearing wears, please contact the manufacturer to replace the bearing;
The startup speed indicator flashes	See 5.2.2 for details