



Brushless Electric Wheelchair



Brushless Electric Wheelchair PW-8F20 User's Guide

Version1.2

Golden Motor Technology Co.,Ltd

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Control of Documents

TIME	ACTION	EDITOR	EXAMINE AND REVISE	VERSION
2013. 3. 27	Draft	Carmen Gao		



PRECAUTIONS

Thank you for buying product from Golden Motor technology co., ltd. We sincerely hope that it could bring you a convenient life and spiritual enjoyment. Please read the instructions before using the chair in order to operate and maintain properly..Golden Motor assumes no responsibility for personal injury or property damage sustained by or through the use of this product.

Please pay attention to the followings:



Warning

The content with warning or warning signs in manual will lead to personal injury, accident or death if the user does not use as described.



Note

The content with note or note signs in manual will lead to personal injury or accident if the user does not use as described..



Ban

The content with ban or ban signs in manual will lead to personal injury or accident if the user does not use as described.



Nursing

The content with nursing or nursing signs in manual will lead to personal injury or accident if the user does not have nurses accompany.

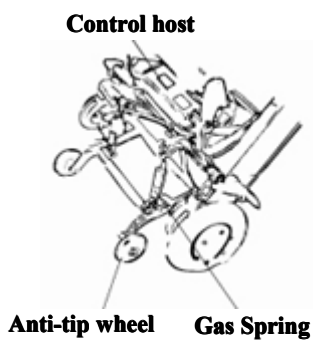
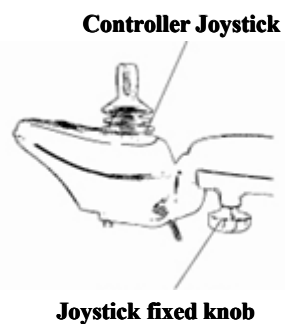
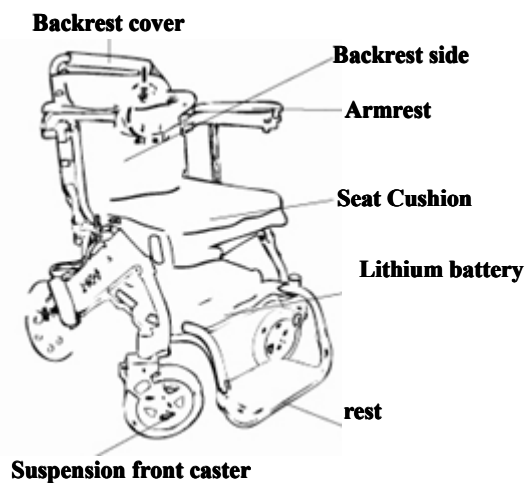
Main Point

The content with main point in manual icon prompts the user it is important to grasp correct use method. Otherwise, it may result in product damage or shorten product life.

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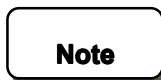
1 Product Structure



2 Safety note



- The user must be conscious and have judge and control ability.
- The user must read the manual before using the product.



- The user must understand the product features and repeated practice on open, flat and safe ground to manage the driving skills before normal use.
- The user must practice with nursing.



●Forward / Parking



Forward:lightly push joystick forward.

Parking: release joystick

●Backward /Retreat



Backward: lightly push back joystick. Meanwhile, the user needs to pay attention to back situation to avoid collision.

●Turn



Turn: lightly push joystick left or right to turn left or right. Meanwhile, the user needs to pay attention to left and right direction situation to avoid collision..

●Bend Driving



Lightly push joystick direction according to curve direction and practice speed control accordingly.

●Barrier Avoiding Practice



Lightly push joystick to avoid barrier and practice speed control accordingly.

●Fast Driving



Lightly push joystick straight along. Meanwhile, keep vigilant and pay attention to the front to avoid collision.

● Across Stairs



Slowly driving cross the stair. The step should not higher than 3cm.

● Uphill Driving



The body should be tilt forward to keep the center of gravity forward and drive slowly. The slope should be less than 8°.

● Enter & Exit Elevator



The user should pay attention to elevator door open and close interval to avoid a collision while enter or exit the elevator.

● Sidewalk Driving



Driving on sidewalk outside, do not enter motor vehicle lane.

● Crossing Crosswalk



Driving through road on crosswalk. Meanwhile, pay attention to the step on sidewalk.

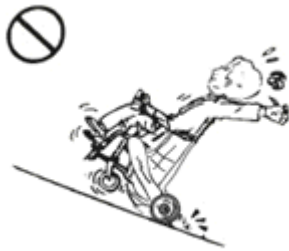


Warning

- Prohibiting cross the railway line by user only. Crossing too high step may lead to a rollover accident and endangering personal safety.
- Nursing person should be accompanied while the user is crossing the railway line.

Nursing





Warning

- Driving on too steep slope may lead to a rollover accident and endangering personal safety.
- Nursing person should be accompanied while the user is driving on slope.

Nursing



Warning

- Driving through too high step may lead to a rollover accident and endangering personal safety.
- Nursing person should be accompanied while the user is crossing the step.

Nursing



Warning

- Improper operation when the user goes to or gets out the bed may lead to slip accident and endangering personal safety.
- Nursing person should be accompanied while the user is going to or getting out the bed.

Nursing





Warning

- If the electromagnetic brake is not close, driving downhill will lead to slip accident and endangering personal safety.
- The electromagnetic brake must be closed.



Warning

- Pay attention to traffic light switching time when crossing the road. Otherwise, it may lead to endangering personal safety.
- Nursing person should be accompanied while the user is crossing the road.

Nursing



Warning

- Power chair may be out of power when crossing the road or on vehicle lane. It may lead to endangering personal safety.
- Nursing person should be accompanied while the user is crossing the road.

Nursing



Ban

- The user is prohibited to try to repair the product by yourself, it may cause the product permanent damage and even endanger personal safety
- The product should be repaired by a professional repair shop or maintenance service personnel.



Ban

- The user is prohibited to try to repair the product by yourself, it may cause the product permanent damage and even endanger personal safety
- The product should be repaired by a professional repair shop or maintenance service personnel.



Ban

- Don't lift battery case when moving or handing the passenger and wheelchair. Otherwise, it may cause the product damage and even endanger personal safety



Ban

- Directly flushing power chair will cause the product damage and even endanger personal safety.
- Wipe with damp cloth when necessary.



Ban



- Battery should avoid rain, moisture, otherwise it may cause a short circuit dangerous.
- Battery is prohibited to approach heat source or put into fire, otherwise, it may cause a fire or explosion.
- Battery is prohibited to short circuit positive and negative battery, otherwise, it may cause the arc to burn skin and even fire.



- Battery is prohibited to dismantling or violent impact, otherwise, it may cause battery burn and even fire.



- Battery is prohibited to use in heat or severe cold environment, otherwise, it will reduce battery performance and even damage.



- Battery is prohibited to put into sun baked sealed car, it may cause the battery burst burning



- If battery become hot, deformation, odor during using or charging, it should be immediately stopped using or charging. Otherwise, it may cause damage or a fire hazard.



- If battery has leakage, it should be away from open flame and heat source. Otherwise, it may cause a fire or explosion.



- Avoiding children to play with battery, the battery should be stored in the place where children could not touch.

- Charger and battery should not be covered by other items during charging. It should be

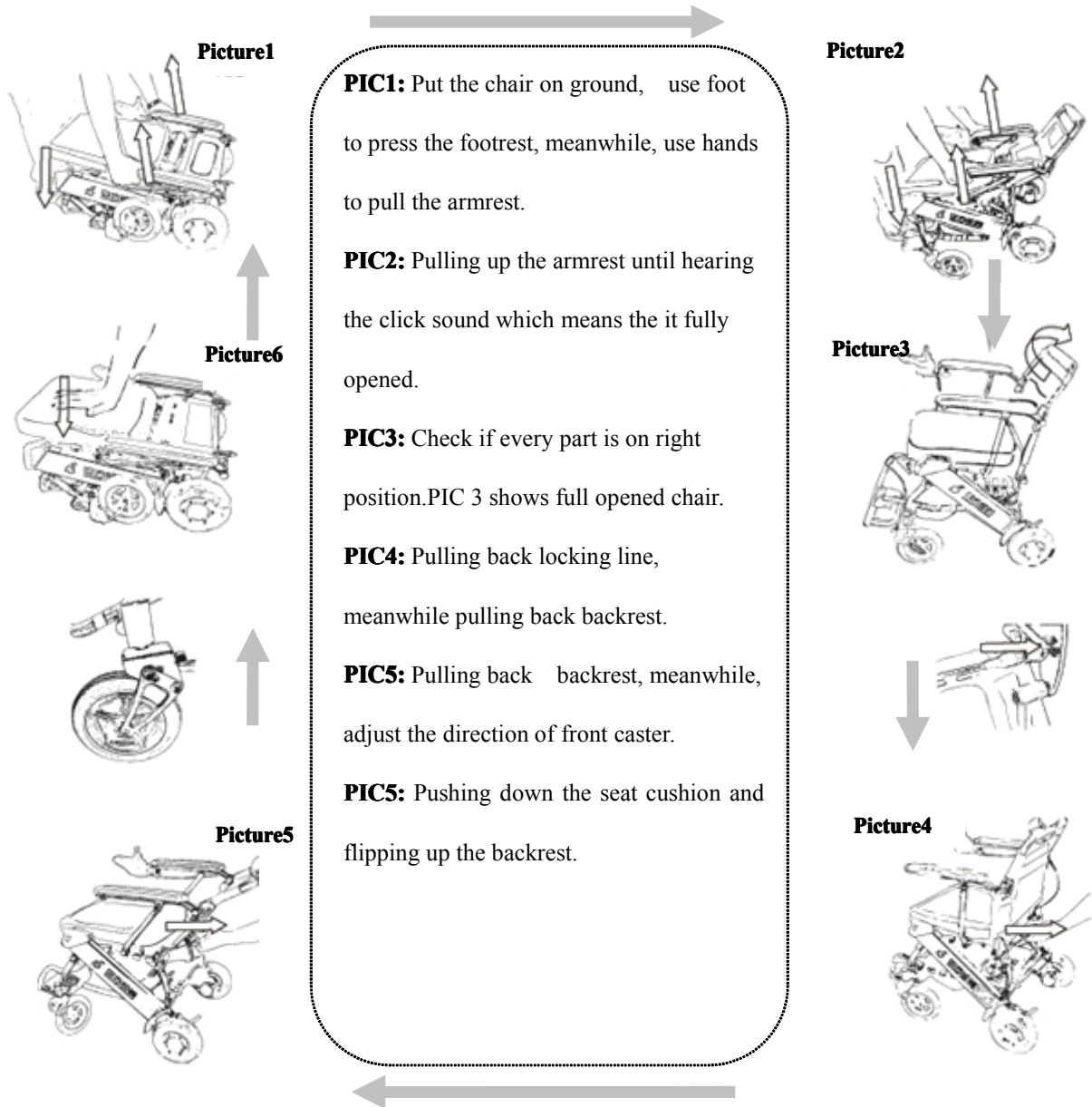
- .Charger and battery should be placed in a cool, dry and well ventilated place not be placed directly in sunlight

- Battery has self-discharge characteristic. It should be avoided storing at the loss electricity state. It will lead to excessive battery discharge damage.

- Battery should be fully charged in case of long-term placement. And, it needs to be charged once every three months, otherwise, it could lead to over-discharge damage.

- Lithium battery is recyclable, please do not thrown it away randomly

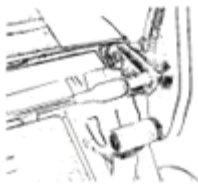
3 Wheelchair Open&Folding Method





Warning

- Assure the locking device is in right position after chair opened. Otherwise, the chair will fold when the user sits on chair. It may lead to a accident and endangering personal safety, even death.
- Pulling back rest to check if the chair will fold. If not, the locking device is in right position.



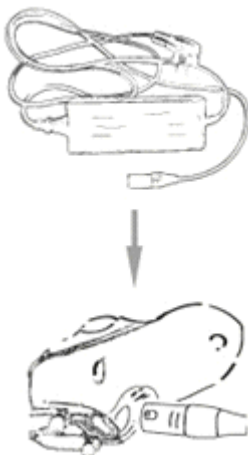
Main Points



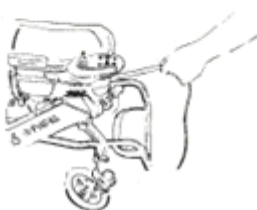
- Assure the caster position when folding the chair. If the caster position is not correct, the frame could not fold tightly.
- Before folding the chair, check the position of the caster.

4 Charging Instructions

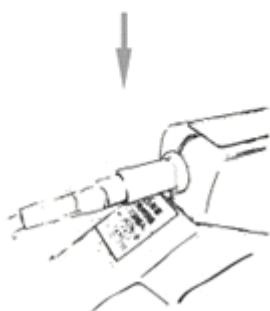
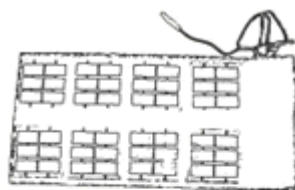
Charging Steps & Instruction



- Please use dedicated lithium battery charger.
- Plug one side microphone into the joystick socket, please pay attention to the insert position.
- The other side of the triangular plug into a power outlet, the charging light will be on.
- Red indicator light displays on charging; green indicator light display charging full.


Warning

- Prohibit turning on the controller power or using chair during charging period.
- Ensure the charger and battery is cooling during charging period. Otherwise, it may cause product damage or even fire.
- Charging time is generally 2-8hours. Please do not keep the charger plugged in for long time, pull out the plug after charging completed.
- Charger is avoided rain, moisture and impact.


Solar charging bag is not a free option. It should pay additional.

- Please use dedicated solar charging bag.
- Open solar charging bag and pick a four core plug.
- Put four probe plugs into the battery socket, please pay attention to the insert position.
- Keep the light-receiving surface of charging bag perpendicular to the sun ray direction.
- Solar charging is effected by the light intensity. 10am to 2pm is generally the best to charge.
- Solar charging bag is available on sunny day. It is unavailable without direct sunlight on rainy day.



Warning

- Solar charging plate is very fragile. Avoiding tread, press and bend.
- Prohibit turning on the controller power or using chair during charging period.
- Charging time is generally 4 hours. Pull out the plug after charging completed.
- Charger is avoided rain, moisture and impact. Meanwhile, please pay attention to the security in outside
- Solar charging bag board surface should keep clean, otherwise, it will affect the efficiency of energy conversion.

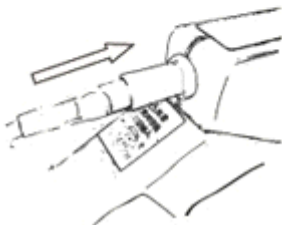


5 Driving&Operation Method

Install Controller Joystick

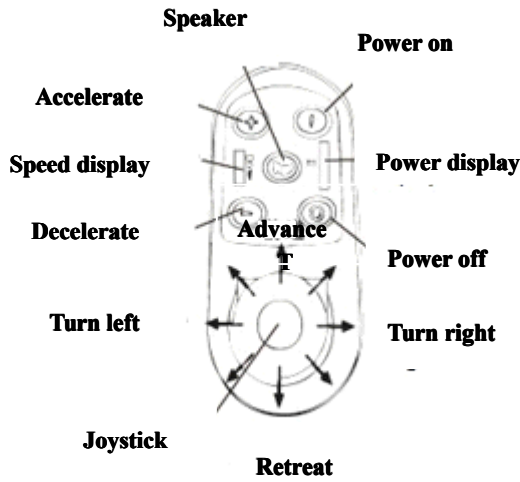


- Please insert the controller joystick into armrest tube and tighten the knob to fix.
- One side of controller joystick four probe plugs in the battery socket. Please pay attention to the insert position.



Warning

Joystick Function Keys



- **Joystick:** control chair direction and speed.
- **Power on:** press to turn on the power
- **Power off:** press to turn off the power
- **Power display:** There are red, yellow and green three colours LED lights. All light means battery is full.
- **Speaker:** horn sounded when press the button, mute when loose the button.
- **Accelerate Max. Speed:** press to adjust speed.
- **Decelerate Max. Speed:** press to adjust speed.
- **Speed display:** All lights on means max. speed. Meanwhile, it also has fault display function

Fault Display



- No.1 red light flash: low battery
- No.2 red light flash: Joystick has no communication signal
- No.3 red light flash: In charging
- No.4 red light flash: The motor is not connected.
- No.5 red light flash: Electromagnetic brake is not connected
- Problems excluding please refer page 20 “Troubleshooting”

Master Wheelchair Driving Operation Method

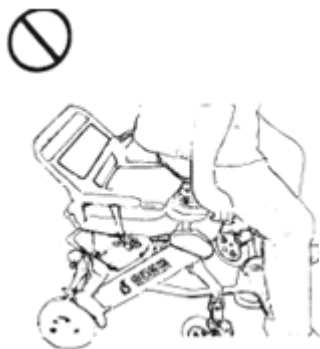


- After the user seat in the chair, turn on the power and push joystick. Pushing joystick forward to go forward, pulling joystick back to go back, pushing joystick left to turn left, pushing joystick right to turn right. The chair will go faster when the magnitude is greater.
- Release joystick to park the chair.
- Press the power off button to shut down the power.
- If you need to push the chair, please switch the clutch handle to separation position.
- More content please refer “Use Safety Note”.



Warning

- Prohibit directly hand pressure on joystick, please press on the armrest.
- Prohibit pull cable directly to remove four probe plug. Please hold the bottom of plug to pull out from the socket
- The cable should be a round in the armrest in order to avoiding pulling joystick and fall.
- Drunk operating the chair is prohibited in order to avoid improper control to cause injury accident.



6 Electric&Hand Push Range



- Press the clutch handle to keep the electromagnetic brake at separation position, nurse can push the chair.
- Lift the clutch handle to keep the electromagnetic brake at engaged state, the chair could be driven by electricity, could not be pushed manually.

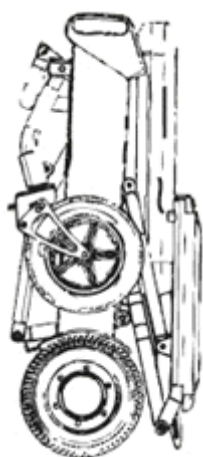


Warning



- If the user operates the chair independently, electromagnetic brake must be at engaged state. Otherwise, the chair will slip and endanger personal safety in case of power failure on the ramp
- Keep the electromagnetic brake at engaged state in order to keep safety during driving period.

7 Transport&Storage



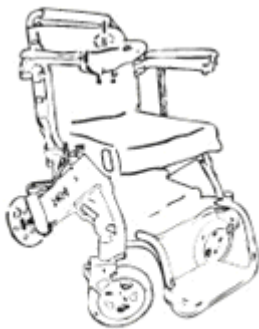
- Stand up the folded chair. One hand holds the seat cushion beneath tube to lift and transport the chair. Folding method please refer to “Chair Open & Folding Method”
- Folded chair could be stored in the car trunk.
- Battery should be fully charged and the chair should be placed in dry and ventilated place in case of the chair will long-term placement. And, the battery needs to be charged once every three months, otherwise, it could lead to over-discharge damage.

Main Points

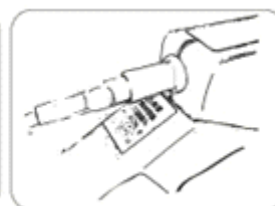
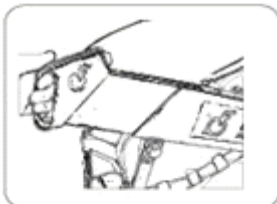


- Avoiding the chair placed in heat, cold or direct sunlight environments, otherwise, the rubber parts will be easy to age and shorten the service life. The battery is easy to burn in high temperature environment and it may cause fire accident.
- There are electronic components in the joystick. Avoid press it directly.
- There is/are a lithium battery/ lithium batteries at the side of the frame. Please avoid pressing on the battery. Otherwise, it will cause burn and a fire accident.

8 Maintenance and Test



- User should periodically check if the frame connector screws are loose every 6 months. If the screws are loose, please tighten them to ensure using safely.
- Check if the front and rear wheels are flexible. If there is significant resistance, please change the bearing.
- Check if the tires, armrest and other rubber and plastic parts are wearing or aging. If so, please replace them.
- Check if the battery connectors are oxidative. If so, please replace them.
- Checking if folding locking is valid. If it is loose or jamming, please replace it promptly.
- Check if anti-tip device is valid. If it is loose or jamming, please replace it promptly.
- Parts replacement should be done by professional repair shop or maintenance service personnel. Do not replace them by yourself.



9 Trouble Shooting

No.	Problem	Reason	Solution
1	Power can not be turned on	Controller host power is not connected.	Controller host power is not connected.
		Controller host and joystick are not connected.	Four core plug contacts with joystick.
		Battery power is not enough.	Charge the battery.
2	Fault display on controller plate	No.1 red light flash: low battery	Charge the battery.
		No.2 red light flash: Joystick is without communication signal	Four core plug contacts with joystick or replace the joystick.
		No.3 red light flash: In charging	Prohibit driving the chair during charging.
		No.4 red light flash: The motor is not connected.	Insert the motor cable and tighten the plug.
		No.5 red light flash: Electromagnetic brake is not connected	Insert the motor cable and tighten the plug.
3	Jetty and Noise exist while chair starts moving.	Limited max. speed is too low.	Adjust limited max. speed higher.
		The motor is lack of phase	Replace the motor.
4	Endurance mileage is shorten	At below 0°C environment	It is normal battery characteristic.
		Driving on uneven pavement or slope	Energy consumption will increase, it is normal.
		Battery capacity is declining	Replace the battery.
5	Battery Charging Faults	Charger light does not shine	Replace the charger.
		Charger green light always on	Four probes plug contacts with joystick or replace the battery.
		Charging time is shorten	Capacity is decreased, replace the battery.

10 Technical Paramters

Main Size & Structural Parameter

Dimension: Length 800mm

Width 570mm

Height 840mm

Wheelbase: 450mm

Tread: 550mm

Ground clearance: 100mm

Turning radius: 750mm

Weight: 23kg

Max. Load: 120kg

Front caster 7''X1-1/4'PU'

Rear rubber wheel 8''X2''

Tire: Free inflatable

Electrical Parameter

Motor: Brushless DCmotor

Rated Voltage : DC24V

Rated Power: 180WX2

Battery Model: EP-2410F

Charger power: AC220 V,50Hz

Rated Capacity : 10Ah

Rated : 24V

Max. Output Current: 2A

Controller Max. Output Current: 22A

Continuous Operation Current: 5A

Speed regulator: PWM infinitely variable

Voltage Indication: LED

Main Technical Performance Parameters

Max. Speed: 8km/h

Brake Performance: $\leq 1.0m$

Slope: 12%

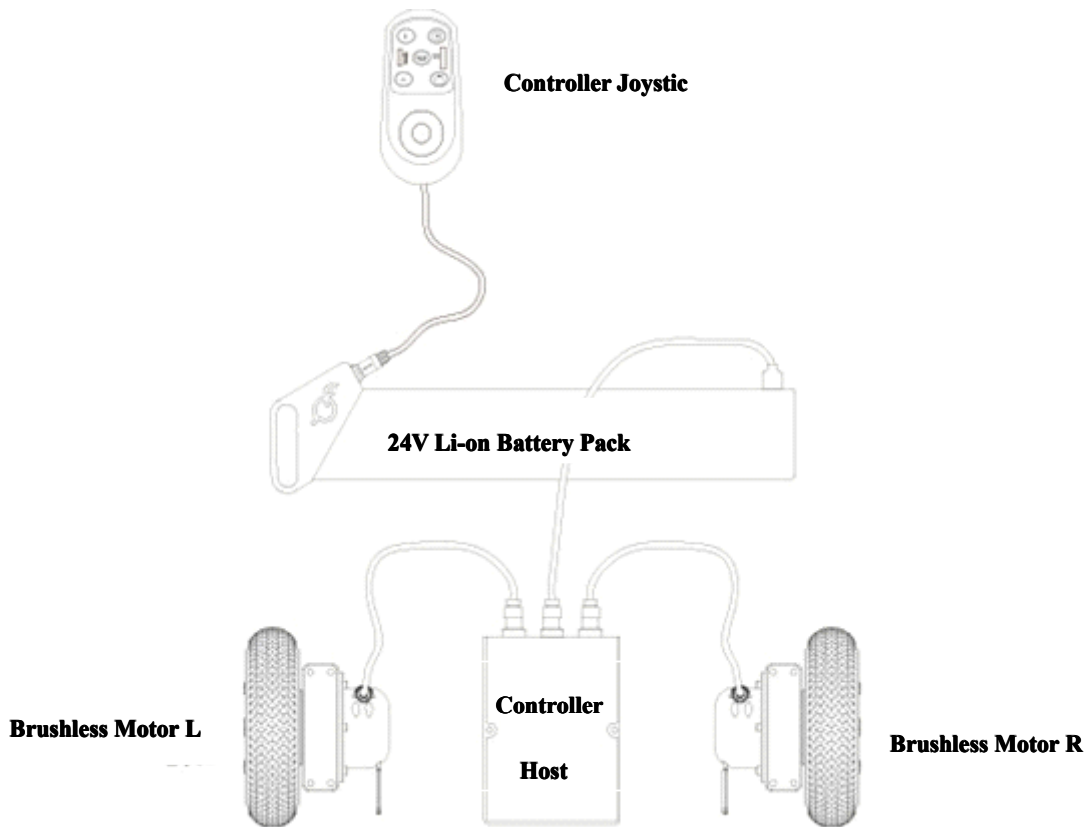
Power Consumption: 1.2kW·h/100 km

Longitudinal Stability: 20°

Lateral Stabilit: 15°

Single Charge Mileage: 15km for 1pc battery

11 PW-8F20 Power Chair Wiring Diagram





12 After-sales Service

Warranty coverage		Warranty period	Remark	
Frame		3 years	non-deliberate damage	
Motor		3 years	non-deliberate damage	
Lithium battery		2 years	non-deliberate damage	
Controller host		1 year	non-deliberate damage	
Joystick		1 year	non-deliberate damage	
Wearing parts		3 months	tire, seat and backrest cushion, armrest	
Warranty Bill				
customer information	customer name		Tel:	
	address			
product information	item		chair series no.	
	purchasing date		receipt no.	
dealer information	dealer name		dealer stamp	
	Telephone No.			
Maintenance date	Maintenance personnel	Maintenance record		

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