

Enrich Your Life!

Maintenance Manual

Model: PL 001 – B



Contents

I. General Features	2
II. Circuit Diagram.....	5
III. Operations.....	6
IV. Troubleshooting and Solutions.....	7
V. Maintenance Guide.....	9

.General Features



- | | | | |
|------------------|-------------------|---------------------------|---------------|
| ① Upper Backrest | ② Back Cushion | ③ Backrest Folding Button | ④ Armrest |
| ⑤ Control Panel | ⑥ Lithium Battery | ⑦ Positioning Waist Belt | ⑧ Seat Base |
| ⑨ Leg Guard | ⑩ Frame | ⑪ Splash Guard | ⑫ Motor Wheel |
| ⑬ Footrest | ⑭ Front Wheel | ⑮ Storage Basket | ⑯ Legrest |

.General Features



⑰ Folding Release Lever

⑱ Electromagnetic Brake Levers

㉑ Control Panel Cable Clip

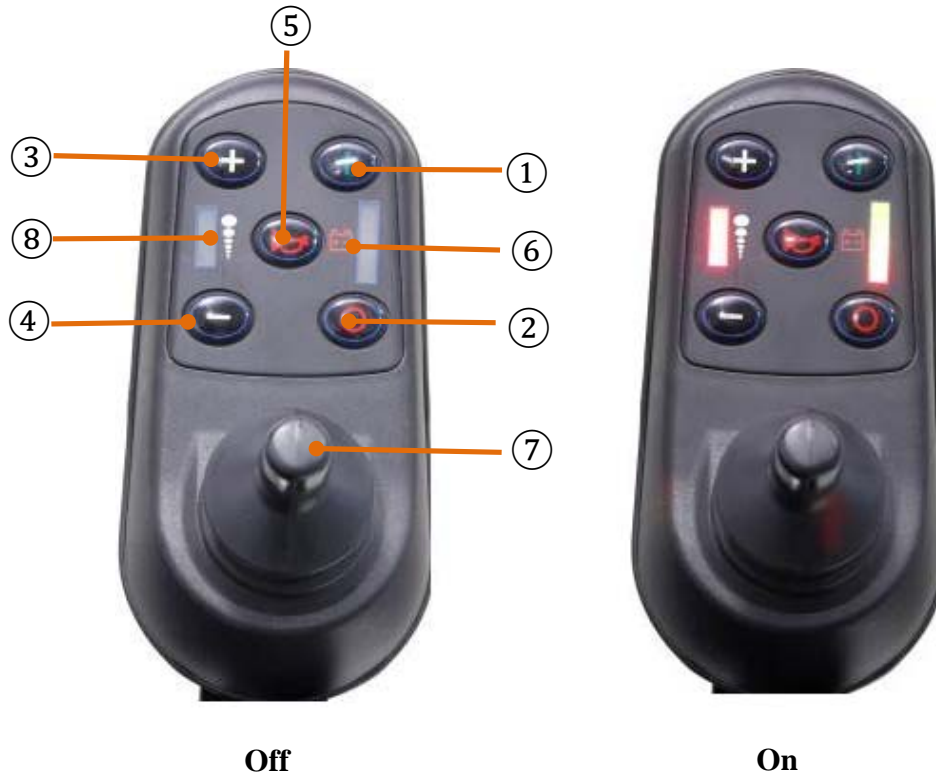
⑱ Anti-Tipping Wheels

㉒ Control Panel Connector

㉒ Serial Number

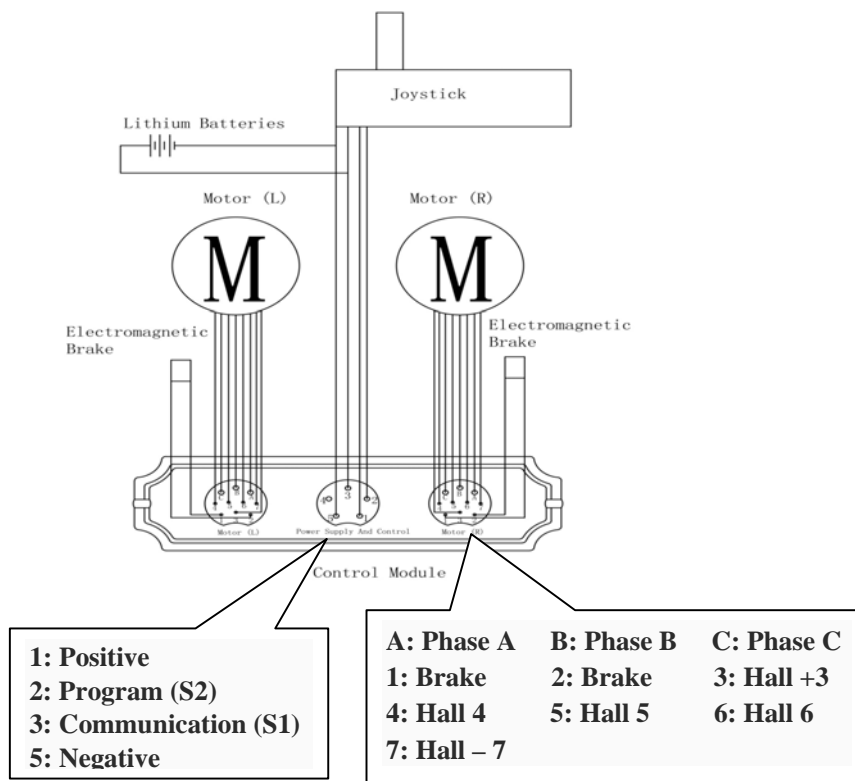
.General Features

Joystick Control Panel

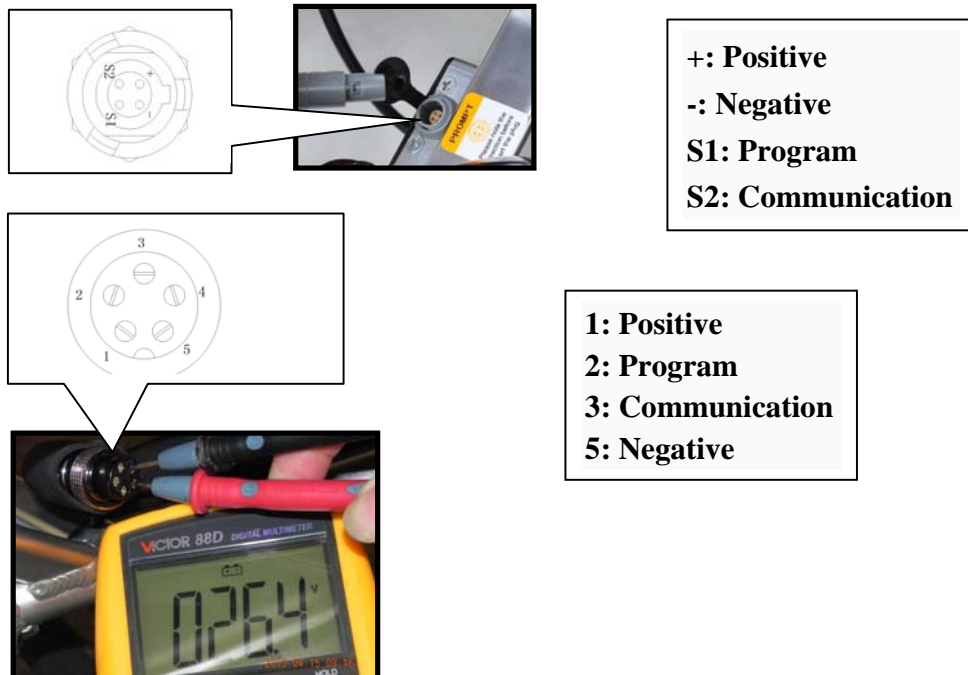


Number:	Function:	Description:
1	Power-On Button	Pressing this button will power on the chair.
2	Power-Off Button	Pressing this button will power off the chair.
3	Speed Button	Increase the speed of the chair, Max. speed: 6 km/hr (3.75 m/hr)
4	Speed Button	Decrease the speed of the chair.
5	Horn	Press horn to sound.
6	Battery Life Indicator	Indicate the battery level.
7	Control Joystick	Control the direction and speed of the chair. Push the joystick towards the desired direction.
8	Speed Indicator	With 5 LED lights on, the chair at its max speed. With 1 LED light on, the chair at its lowest speed.

Circuit Diagram

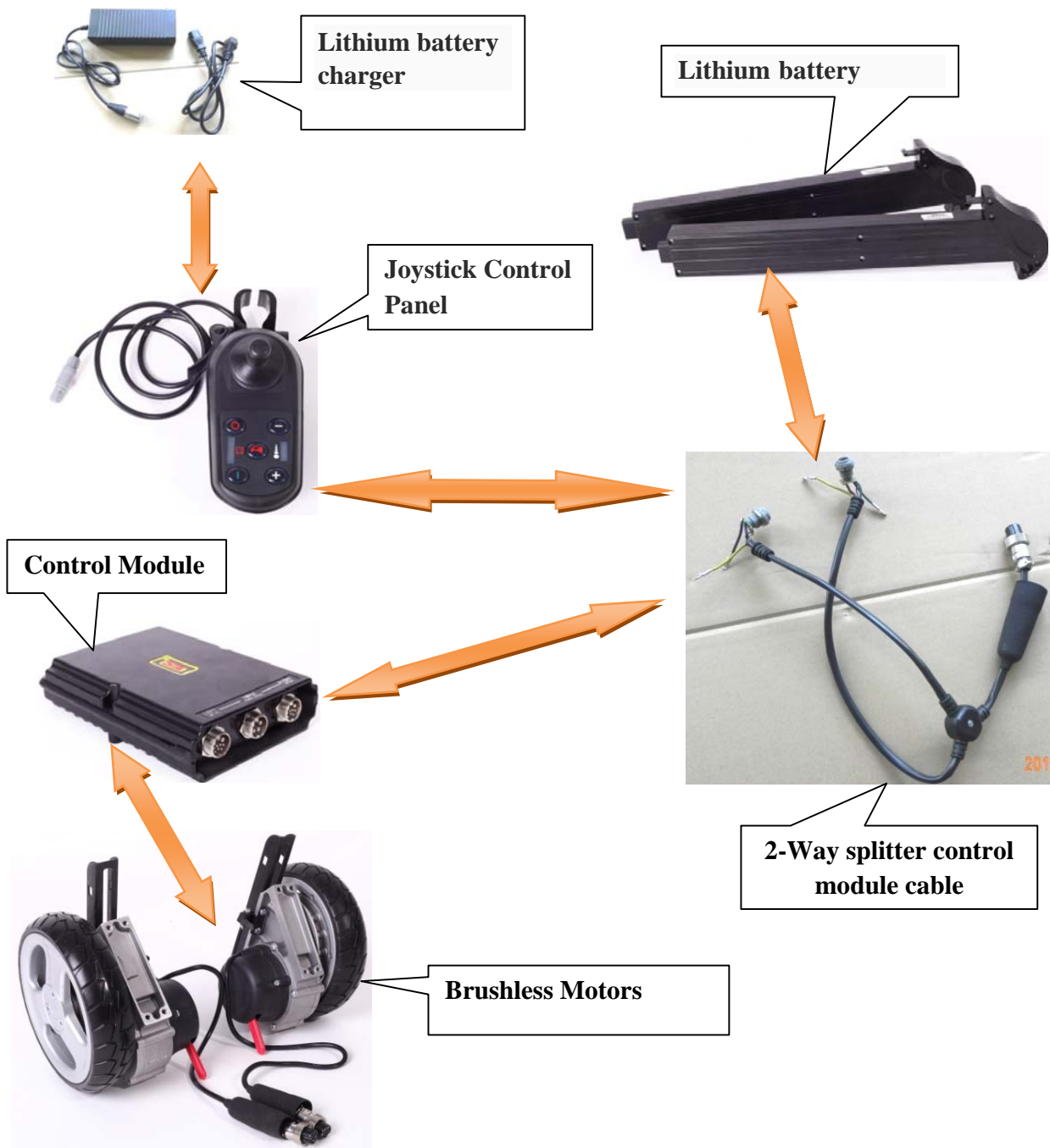


Faulty wiring diagnosis: 4 and 5 – pin connector



.Operations

PL001 comes with two Lithium batteries as the chairs power source. PL001 operates with the control module delivering all programmed commands to the brushless motors. The joystick control panel carries out directional commands as well as controlling the speed and power of PL001. The charging port for PL001 is located on the Joystick Control Panel.


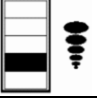





.Troubleshooting and Solutions

Power Supply Failure and Battery Failure

Problem	Solution
Lithium battery over-current protection cutting power supply off	Connect the battery charger to the joystick control panel to re-activate lithium battery
Poor battery connection	Pull out the batteries and re-insert the batteries until a click sound is heard
Faulty 5-pin connector	Use and set the multimeter to DC voltmeter mode, to measure the voltage of the 5 – pin connector. If the voltage reading is below the range of 23 volts, replace the 5-pin connector
Joystick Control Panel: Faulty 4-pin cable	Use and set a multimeter to Ω resistance mode and follow the circuit diagram. If open circuit or short circuit is found, replace the faulty 4-pin cable
Battery casing deformed and reduced battery life	Deformed casing of the Lithium battery is sign of the battery reaching the end of its service life. Failing to charge the battery regularly when the power is low will significantly reduce the battery life. Please replace batteries immediately



Joystick Control Panel Flashing LED light Diagnostic Indicator

Sign	Problem	Solution
	Battery is running low	Re-charge or replace both batteries immediately
	Joystick cannot deliver signals to the control module	Inspect all cables and ensure connectors are firmly connected or replace the joystick
	Batteries are being charged. An electronic drive locking device is engaged to prevent the chair from operating	Disconnect the 3-pin charger cable from the Joystick Control Panel
	Brushless motors fail to move	a) Inspect all control cables are firmly connected. b) Inspect all control cables to see if there are any open or short circuits by using a multimeter.
	Electromagnetic brakes disengaged	Push the electromagnetic brake lever to the “Lock” position



.Troubleshooting and Solutions

Faulty Folding Mechanism, Armrest and Wheels

Problem	Solution
Defective backrest folding arm joint	Follow below; unscrew the folding arm and replace with a new one by securely retightening the screws back on
	
Main frame fails to fold	Inspect and remove possible jammed objects within or on the frame's folding joints
Front caster wheels malfunction	Inspect wheel nuts to ensure that they are not loosened or that the wheel bearing is not damaged. Securely retighten loose nuts or replace the wheel bearing
Loosened rotating armrest	Follow below; dismantle backrest folding arm and then remove the arm rest. Securely retighten the loosened screws. Reinstall the armrest assembly
	
Anti-Tipping wheels cannot be retracted	Adjust locking screw to the appropriate position

Maintenance Guide

Electrical Troubleshooting – Use a Digital Multimeter

1. 5-pin XLR Plug voltage test
 - a. Follow below; set the multimeter to DC voltage mode. Follow below, to probe pin #1 and pin #5 of the 5-pin XLR plug. The voltage reading should fall within the specified range between 22V and 28V.



2. Motor's internal short circuit or open circuit test
 - a. Follow below; set the multimeter to Ω resistance mode with the appropriate resistance range, the red probe comes in contact with each pin hole of the 10-pin plug. The black probe touches the motor housing to detect short circuits or open circuits of the motor.



3. Battery test
 - a. Follow below; set the multimeter to DC mode with the appropriate voltage range.



4. 3-pin charging connector
 - a. Follow below; set the multimeter to Ω mode with the appropriate resistance range, to probe each pin hole for open circuit or short circuit.



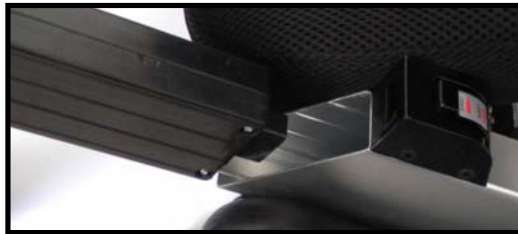
Maintenance Guide

5. Lithium battery replacement

- a. Follow below; press the button and hold the battery grip and pull the battery out of the battery holder.



- b. Hold the battery grip and plug in the battery with the battery bottom aligned to the mouth of the battery holder. Until a click sound is heard,.



6. Control module replacement

- a. Follow below; unplug the 3 control cables. Remove 2 sets of the bottom M5 screw nuts with a wrench; then install the new control module. Ensure all control cables are reconnected securely.



7. Brushless motor replacement

- a. Follow below; remove the four screws and ensure all cables are removed from the motor. Install the new motor and securely tighten the screws. (Note: the motor must be replaced in pairs)



Maintenance Guide

8. 4 – pin motor connector replacement

- a. Follow below; remove the four screws on the junction box. Loosen the nut to remove the 4 – pin socket. Disconnect the Anderson plug.



9. Cushion Replacement

a. Backrest

- i. Follow below; unstrap the backrest to replace the backrest cushion



b. Seat Cushion

- i. Follow below; remove the screws from the metal frame. Unscrew the battery locking boxes on both sides.



- ii. Remove all screws affixed to the bottom of the metal seat frame. Once replacing the cushion, ensure all screws are tightened.



Maintenance Guide

10. Leg guard replacement

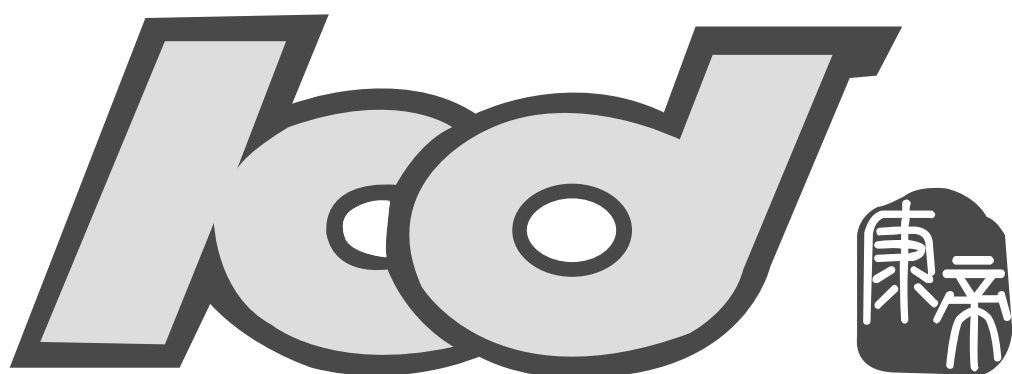
- a. Follow below; unscrew the leg guard knob and remove the nut to replace the leg guard and reassemble the leg guard by appropriately adjusting the tightness of the leg guard to allow free movement of the leg guard.



11. Armrest cushion replacement

- a. Follow below; unscrew as shown and replace with new armrest.





Manufacturer

Suzhou KD Medical Appliance Co., Ltd.

Address: 36 Gugang Road, Chengxiang Town, Taicang, Jiangsu, 215400

Phone Number: +86-512-53110088

Fax: +86-512-53110099

E-Mail: sales@kd-care.com.cn

Website: www.kd-care.com.cn