Powered Wheelchair

M4 Pro (CLZP150D4A)

User Manual

File Number: D701000253 Version: A

Write Date: 2025-11 -20

Please read the manual carefully before using and keep it properly

CATALOG

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Preface

Product Model: M4 Pro (CLZP150D4LA)

Product Code: CLZP150D4LA-01

The M4 Pro (CLZP150D4LA) is an innovative equipment (hereinafter referred to as "**M4 Pro**") that provides a intelligent and convenient way to travel for users. Compared to the traditional electric wheelchair, the M4 Pro combines the ability of the seat height adjustment and the seat recline adjustment, as well as many other practical designs.

The seat height adjustment function of the M4 Pro enables users to easily adjust the seat height according to their personal needs to adapt to different scenarios and needs. The seat recline adjustment function further provides users with personalized adjustment of the seat angle and position to ensure a comfortable and supportive ride.

As an intelligent Powered Wheelchair (Mobility Robot) representing our company's research and development achievements and innovative spirit, the M4 Pro aims to help people with limited mobility to achieve a more independent and convenient travel experience.

Contraindications & Safety Warnings:

Structure Composition: Mainly composed of a frame, motors, controllers, a battery, and a seat.

Scope of Application: For disabled individuals or those with incomplete walking ability (excluding obesity) as a means of transportation.

- **Contraindications:** Prohibited for people with severe heart disease, visual impairment, intellectual disability, mental illness, loss of consciousness, or confusion. Do not operate in heavy rain, water accumulation, snow, icy roads, stairs, or steps.

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1 Icons and Instructions for Use

1.1 Symbols Explanations

Symbol	Explanation
 WARNING	Related to personal safety
 NOTICE	May cause minor injury to user or damage to the machine
*	Annotations

1.2 Notices Before Use

 WARNING

This electric wheelchair shall not be stacked with adjacent or other equipment, as this may lead to improper operation. Before use, please observe this wheelchair and other equipment to verify their proper operation.

This electric wheelchair is equipped with multiple functions, requiring the user to be fully conscious and possess normal cognitive abilities.

Users shall read these instructions before use. Elderly users shall clearly understand the operation method of the electric wheelchair under the guidance of family members.

This electric wheelchair is not suitable for individuals with intellectual disabilities.

- Do not use accessories, detachable parts, or materials other than those specified in these instructions.
- Do not connect the equipment to any other devices beyond those specified in these instructions.
- Do not modify this equipment without authorization.
- No maintenance or repair activities shall be performed while the electric wheelchair is in use.
- The patient is the intended operator. When the patient uses the wheelchair independently, do not insert hands into the mechanical moving parts. Equipment maintenance shall be conducted by professional after-sales personnel.
- Environmental Protection: To protect the environment, if any part of this product is damaged or scrapped, please return it to the manufacturer or hand it over to the competent authority specified by the state for proper disposal;

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do not discard it arbitrarily. Plastic parts, frames, and pipe components could be handled by professional recycling facilities as reaching their service life.

*This manual applies to M4 Pro.

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1.3 Labels Explanations

	Pay attention to prevent hand clamping
	Pay attention to electromagnetic interference
	Prohibition of Storage

	Unlock and lock the electromagnetic brake (see section details 4.10 ~~4.10~~ Electromagnetic Brake ~~Electromagnetic Brake~~)
	Warning label
	BF-type applied part
IPX4~~IP24~~	The entire vehicle's liquid ingress protection level is IPX4~~IP24~~.
	The package contains fragile items; handle with care during transportation.
	Keep the package vertically upward in accordance with the arrow direction during transportation or storage.
	The package is not rainproof; protect it from rain exposure during transportation or storage.
	The maximum stacking height for identical packages is 5 layers.
	Place the package stably during transportation and avoid rolling to prevent damage to the items.

	Follow the operation manual.

2 About the Equipment

2.1 Packing List

- M4 Pro Electric Wheelchair
- User Manual
- Key Fob
- Safety belt
- Battery
- Charger
- Hexagon spanner
- Multi-function cleaning brush

2.2 Optional Accessories

					
Phone holder	Adjustable headrest assembly	Side bag	Cooling cushion	Inflatable cushion	Rearview Mirror
					
Umbrella Set	Flashlight& holder	lateral trunk supports	Large/Medium/Small Backrest Cushion	Large/Medium/Small seat cushion	Accessible Ramp
 Control handle Mounting Plate	**WARNING** **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 improper operation.**				

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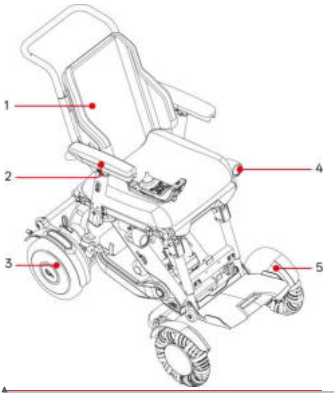
2.3 Product Structure



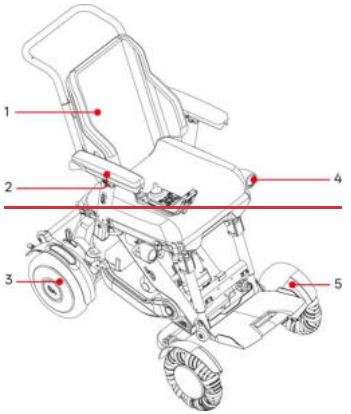
1: Backrest

2: Armrest

3: Rear wheel

4: Wheelchair headlight

5: Front Wheel



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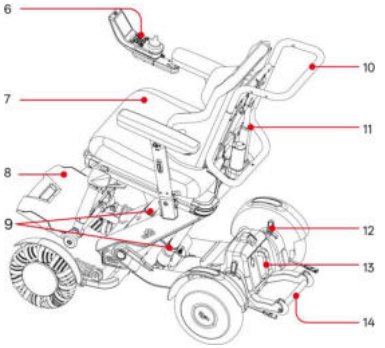

6: Control Handle

7: Seat Cushion

8: ~~Pedal~~footrest

9: Base Front and Rear Push Rod

10: Push handle

11: Backrest Push Rod

12: Brake

13: Battery

14: Anti-tip Roller

2.4 Product Parameter

Model	M4 Pro
Dimensions (L×W×H)	Standard：1020×592×1040mm Lifted：1120×592×1200 mm Folded：1040×592×770 mm
Overall Weight (wtih battery)	63.3 kg
Overall Weight (without battery)	60.1 kg
~~Pedal~~footrest Dimensions (L×W)	220×312mm
~~Pedal~~footrest Weight	2.8 kg
Chassis Dimensions	745×580×350 mm
Chassis Weight	25 kg
Effective Seat Depth	Min:420 mm, Max:560 mm
Effective Seat Width	Min:390 mm, Max:550 mm
Seat Component Weight	23 kg
Max Load Capacity	150 kg
Seat Independent Load Capacity	150 kg
Maximum Speed	6 km/h (3.7 mph)
Full-charge Range	26 km
Turning Diameter	1650 mm
Max Obstacle Height (Forward)	85mm
Max Obstacle Height(Backward)	50mm
Slope-Holding Performance	15°
Static Stability	15°
Dynamic Stability	15°
Obstacle Depth Capacity	50mm

<table>
<tr><th>Model</th><th colspan="3">M4 Pro</th></tr>
<tr><td colspan="2">Ditch Width Capacity</td><td colspan="3">100mm</td></tr>
<tr><td colspan="2">Max slope-climbing angle</td><td colspan="3">15°</td></tr>
<tr><td rowspan="2">Braking Performance</td><td>Level Road Braking</td><td>S mode</td><td>Gear</td><td>Braking Distance</td></tr>
<tr><td></td><td></td><td>1</td><td>100mm</td></tr>
<tr><td></td><td></td><td></td><td>2</td><td>200mm</td></tr>
<tr><td></td><td></td><td></td><td>3</td><td>400mm</td></tr>
<tr><td></td><td></td><td></td><td>4</td><td>500mm</td></tr>
<tr><td></td><td></td><td></td><td>5</td><td>700mm</td></tr>
<tr><td></td><td></td><td>N mode</td><td>Gear</td><td>Braking Distance</td></tr>
<tr><td></td><td></td><td></td><td>1</td><td>70mm</td></tr>
<tr><td></td><td></td><td></td><td>2</td><td>150mm</td></tr>
<tr><td></td><td></td><td></td><td>3</td><td>300mm</td></tr>
<tr><td></td><td></td><td></td><td>4</td><td>450mm</td></tr>
<tr><td></td><td></td><td></td><td>5</td><td>600mm</td></tr>
<tr><td></td><td>Maximum Safe Slope Braking</td><td>S mode</td><td>Gear</td><td>Braking Distance</td></tr>
<tr><td></td><td></td><td></td><td>1</td><td>250mm</td></tr>
<tr><td></td><td></td><td></td><td>2</td><td>500mm</td></tr>
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</table>

Model		M4 Pro
		N mode Gear / Braking Distance 1 / 150mm 2 / 400mm 3 / 550mm 4 / 700mm 5 / 950mm
Tires		Front Wheels: 2″×10″ (Solid Tires, Omnidirectional Wheels) Rear Wheels (Solid Tires): 2″×10″
Anti-tip Roller		20×50 mm
Motors		Brushless Motors; 220 W × 24 VDC × 2 pcs
Max Stable Angle		15°
Max Climbing Angle		15°
Drive System		Rear-wheel Drive
Brakes		Electromagnetic Brakes
Chassis Ground Clearance at Contact Points (Excluding Wheels, Footrest ~~Pedals~~, and anti-tipping wheel)		65 mm
Seat Ground Clearance		Min: 450 mm; Max: 730 mm
Battery Specification		Lithium Battery 25.2 VDC, 23.8 Ah
Battery Weight		3.2 kg
Battery Module Dimensions		245×130×130mm
Charger Specification		Input: 100-240VAC, 50/60 Hz, 2.5 A MAX; Output: 29.4 VDC/4 A
Backrest Angle		Min:90° , Max:135°
Distance between Footrest and Seat		Min:261 mm, Max: 534 mm

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Model	M4 Pro
Angle between Leg and Seat Surface	~~100°~~ 100°，110°，120°，130°
Distance between Seat and Armrest	Min: 255 mm; Max: 312 mm
Min Axle Ground Clearance	119 mm
Safe Slope/Maximum Slope	15°
Frame	Rigid Frame
Folding Mechanism	V type
Main Material	Aluminum Alloy
Device Storage/Operation Temperature Range	0℃ to +35℃/+5℃ to +40℃
Battery Storage/Operation Temperature Range	0℃ to +45℃/0℃ to +45℃
Noise level	<70 dB
Service Life	4 years
Serial number tag	See the nameplate of the fuselage

Speed Parameter			
S mode	Gear	Forward: km / h	Reverse: km / h
	1	0.99	0.33
	2	1.86	0.63
	3	3.32	1.12
	4	4.65	1.58
	5	5.98	2.03
N mode	Gear	Forward: km / h	Reverse: km / h
	1	0.99	0.33
	2	1.39	0.47
	3	1.86	0.63
	4	2.79	0.94
	5	3.78	1.28
Waterproof rating		IPX4	

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Note: During performance testing, the weight of the test dummy used is 150 kg.

(1) Operating Environment Conditions for the Electric Wheelchair:

- Ambient Temperature: 5℃ to 40℃
- Relative Humidity: <95%
- Atmospheric Pressure Range: 800 hPa to 1060 hPa
- When the ambient temperature is 20℃, the wheelchair requires 2 hours to reach normal operating condition from the minimum storage temperature or the maximum storage temperature.

(2) Storage and Transportation Environment Conditions for the Electric Wheelchair between Uses shall comply with the following requirements:

- Ambient Temperature: -20℃ to 55℃
- Relative Humidity: ≤95%
- Atmospheric Pressure Range: 800 hPa to 1060 hPa

~~Note:~~ Note:

Due to manufacturing and assembly tolerances, the actual dimensions may vary from the listed values by ±5 mm, and the weight may vary by ±2 kg.

NOTICE

The load should be reduced if it exceeds the rated load, otherwise there may be a danger of equipment damage or tipping.

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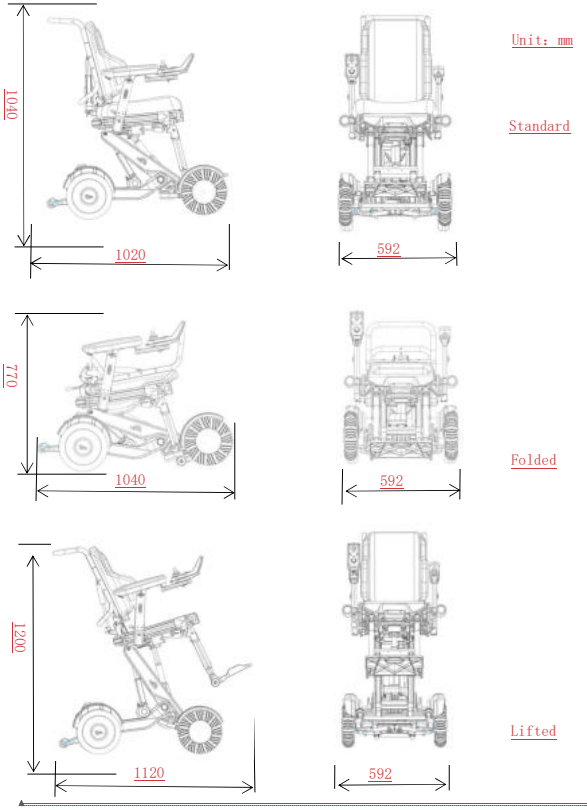
2.5 Product Overall Size



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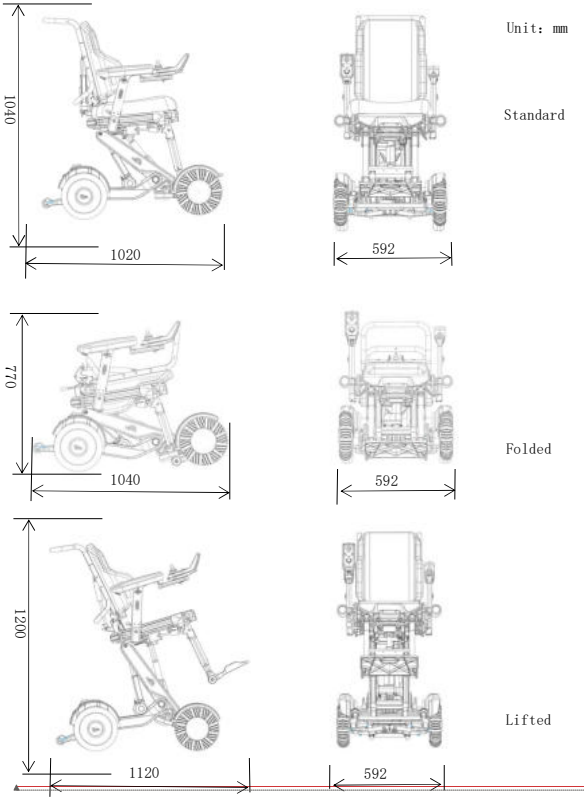
~~2.5 Product Overall Size~~



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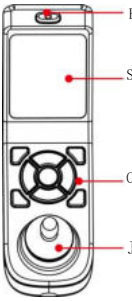
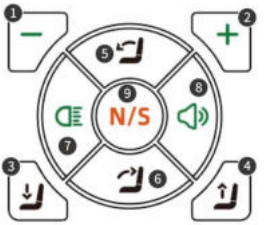
3 Control Handle

	The control handle comprises four components: a power button, status display, control buttons, and the joystick.

3.1 Description of Control Buttons

Figure 3-1 Button Diagram



Button	Name	Description
1	Speed Down	A short press decreases the drive speed of the device

Button	Name	Description
2	Speed Up	A short press increases the drive speed.
3	Seat Lower	A short press lowers the seat height.
4	Seat Rise	A short press raises the seat height.
5	Seat Forward Tilt	A short press tilts the seat forward
6	Seat Backward Tilt	A short press tilts the seat backward.
7	Light	A short press turns on/off the headlight.
8	Horn Button	Press this button to sound an alert, notifying people nearby and serving as a warning.
9	N/S Mode	**Short press this button to switch between N mode and S mode.** ● **N Mode (Normal Mode)**: Suitable for beginners. At gear 5, the maximum speed is 4 km/h. ● **S Mode (Sport Mode):** Suitable for experienced users. At gear 5, the maximum speed can reach 6 km/h. In S mode, acceleration and deceleration are faster. Whether in N mode or S mode, if the instantaneous change in seat angle or the seat lifting height exceeds the protection value, the wheelchair ~~robot~~ will automatically reduce the speed gear.
3+4	Seat Fold/Unfold	Long press buttons and simultaneously: Folds/Unfolds the

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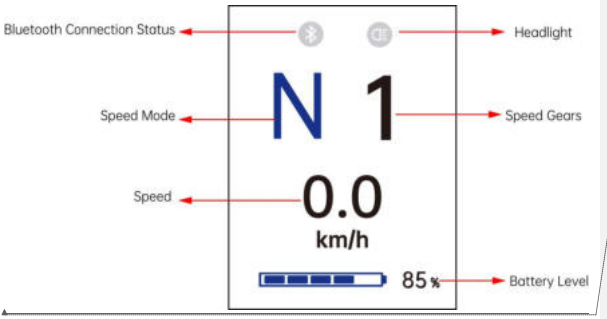
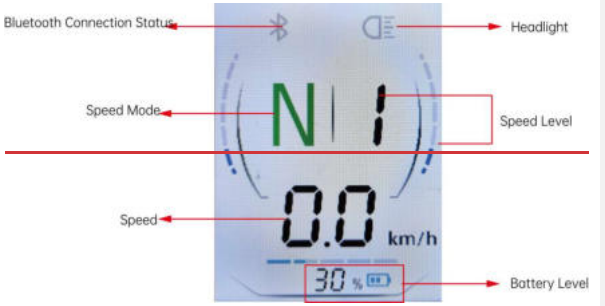
Button	Name	Description
		seat. NOTICECaution: Users must leave the seat when operating the fold or unfold functions. Do not place heavy objects on the seat during operation.
3+5	Angle Alarm	Long press buttons and simultaneously: Turning on/ off the 15-degree angle alarm.
4+5	Bluetooth	Long press buttons and simultaneously: Turning on/ off the Bluetooth.
1+4	Wireless Remote Pairing	Long press buttons − and simultaneously for 5 seconds: Initiates wireless remote pairing.
2+3	Wireless Remote Clear	Long press buttons + and simultaneously for 5 seconds: Clears wireless remote pairing.
6+9	Parameter Configuration Interface	Long press the combination buttons and N/S to enter/exit the Parameter Configuration Interface.

3.2 Display Description

Press the power button on the handle, and the system will first enter the initialization interface, then enter the main system interface.

Figure 3-2 Main System Interface





Name	Description
Bluetooth Connection Status	● Icon lit: Bluetooth connected ● Icon grayed out: Bluetooth not connected ● Icon hidden: Bluetooth turned off
Speed Mode	N/S Mode
Speed	Current travel speed of the device
Headlight On/Off	● Icon lit: Headlight on ● Icon grayed out: Headlight off

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Name	Description
Speed Gears	The numbers 1-5 represent the speed gear. There are 5 gears in total, with gear 1 being the slowest and gears 5 the fastest. The display indicates the current speed is gear 1 in N Mode. Each level allows for stepless speed control via the joystick.
Battery Level	Indicates the battery capacity as a percentage. As shown in the figure above, the remaining battery level is ~~30~~85%. When the battery level drops below 20%, the indicator turns orange as a prompt to recharge.

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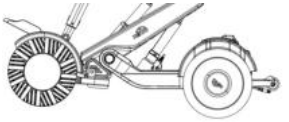
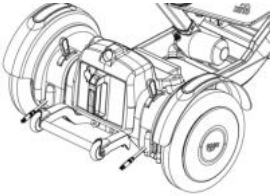
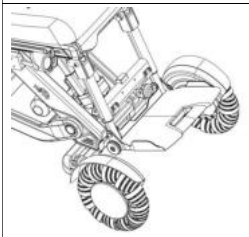
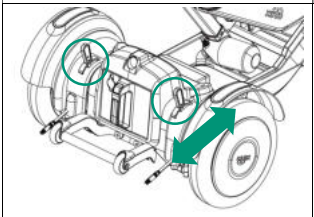
4 Operation Instructions

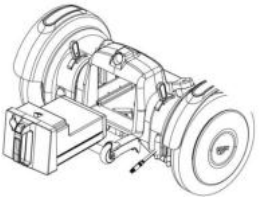
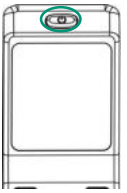
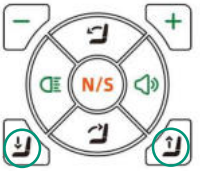
4.1 Check Before Use

	Check the wear condition of the front and rear wheels. If there is abnormal vibration during movement or serious localized damage, do not use it. If any of above adverse phenomenon occur, please contact the manufacturer or local distributor.
	Check the battery for any damage, moisture, or incorrect installation. If damage or moisture is found, discontinue use immediately. If installed incorrectly, use may only resume after proper installation has been completed. (Refer to **8 8** Battery Usage Instructions~~**Battery Usage**~~

	~~Instructions~~)
	Check and make sure the ~~pedal~~footrest is assembled firmly before use. (see section **6 6** Assembly and Disassembly**Assembly and Disassembly**)
	Check and make sure the electromagnetic brake is in a locked state. If not, adjust it to the locked state before using the electric wheelchair. (see section **4.10 4.10** Electromagnetic Brake **Electromagnetic Brake**)

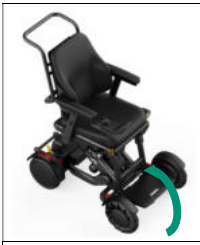
4.2 Initialization

When the M4 Pro components are stored separately, please assemble them first; see Section **6.2 6.2** Assembly Method**Assembly Method** Method for details. After the entire unit is fully assembled, perform the initialization procedure following the steps below.

	Insert the battery and make sure it is securely installed. Charge the battery before first-time use.
	Press the power button of the control handle.
	Press and hold the and buttons simultaneously for about 3 seconds to activate the one-touch unfolding function. and the M4 Pro will rise to its standard position.

4.3 Sitting and Getting Up

4.3.1 Sitting From the Front

	Grasp both sides of the ~~pedal~~footrest with both hands, fold and stow the ~~pedal~~footrest along its connecting shaft until it fits snugly against the leg rest, then take a seat.
	Unfold the ~~pedal~~footrest, place both feet on it, then adjust the seat height appropriately to a comfortable position. (see section **5 5** Adjustment~~Adjustment~~ for details of seat height adjustment)

4.3.2 Sitting From the Side

	Flip the armrest backward until it reaches the position shown in the left figure.
	Sit on the seat cushion as shown on the left figure.
	Adjust the sitting posture as shown on the left figure. Reset position of the armrest and adjust the seat height to a comfortable position. （see section 5 5Adjustment~~Adjustment~~ for details of seat height adjustment）

4.4 Driving

4.4.1 Applicable Road Conditions

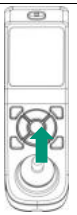
- **Applicable Scope**
  - ✧ Surfaces: Tiletile floor , wooden floors, asphalt roads, concrete roads, paved brick roads, etc.
  - ✧ Scenarios: Underground garages, sidewalks, park lawns, and other daily travel scenarios.
- **Not Recommended for Driving on the Following Surfaces**
  - ✧ Cobblestone roads: The electric wheelchair may fail to steer properly.
  - ✧ Gravel and muddy roads: The electric wheelchair may skid or sink.

WARNING
DO not use on stairs or steps, as the electric wheelchair may get stuck on steps or even tip over.

hat formatiert: Schriftart: Fett

* The M4 Pro is capable of moving forward over a single step up to 5 cm and backward over a single step up to 4 cm. Users should exercise caution when traversing steps..

4.4.2 Going Forward

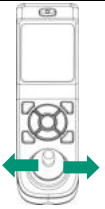
	Push the joystick on the control handle forward to move the M4 Pro forward. The joystick has a self-resetting feature; when being let go of, the joystick automatically returns to the neutral position, and the M4 Pro will stop. The joystick allows for stepless control: the greater it is offset, the greater the speed would be.

4.4.3 Reversing

	By pulling back the joystick on the control handle, the M4 Pro will reverse. After letting go of the joystick, the M4 Pro will stop.. The joystick allows for step-less control: the greater it is offset, the greater the speed would be.

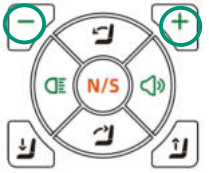
Formatierte Tabelle

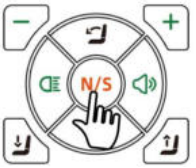
4.4.4 Steering

	By moving the joystick on the control handle left or right, the M4 Pro rotates left or right, and the M4 Pro will stop after letting go of the joystick. Steering can be operated in conjunction with moving forward or backward. While moving forward or backward, pushing the joystick to the left or right will allow the M4 Pro to turn left or right.

Formatierte Tabelle

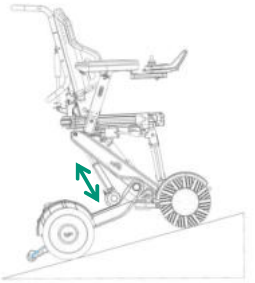
4.4.5 Speed Adjustment

	The driving speed of the M4 Pro has 5 gears, and the speed is increased from 1 to 5 gear, the gears are switched through the "−" and "+" button on the controller handle . Speed adjustment affects the speeds of forward movement, reversing, and steering to varying degrees, but does not apply to the adaptive speed for drving uphill/downhill or the seat lifting/lowering speed
	Short-press the N/S button to switch between N/S modes



4.4.6 Going Uphill

The M4 Pro has the slope self-balancing function.



When climbing slope, the M4 Pro will automatically adjust the rear push rod to keep the angle of the seat relative to the horizontal plane unchanged. This adjustment process may be accompanied by a decrease in speed, which is a normal phenomenon.

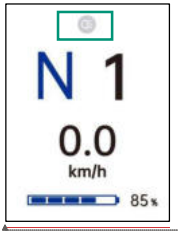
After the automatic adjustment, if the slope is too steep and exceeds 15 degrees, the M4 Pro will stop and issue an alarm.

4.4.7 Going Downhill

	When going downhill, the M4 Pro will automatically adjust the rear push rod to keep the angle of the seat relative to the horizontal plane unchanged. This adjustment process may be accompanied by a decrease in speed, which is a normal phenomenon. After the automatic adjustment, if the slope is too steep and exceeds 15 degrees, the M4 Pro will stop and issue an alarm.

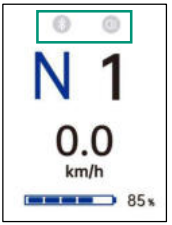
4.5 Turn On/ Off the Controller’s Bluetooth

Press the and buttons simultaneously to turn on the handle's Bluetooth function. The Bluetooth icon in the display area will remain steadily lit to indicate an active connection. At this state, press the and button combination again will turn off Bluetooth. The Bluetooth icon will then disappear from the display area.

	**Bluetooth Turned On** The Bluetooth icon will not appear in the controller's display area.

hat formatiert: Schriftart: 12 Pt.

hat formatiert: Schriftart: (Standard) KaiTi, 12 Pt.

	
	**Bluetooth Turned Off** The Bluetooth icon appears in a grayed-out state in the controller's display area.
	

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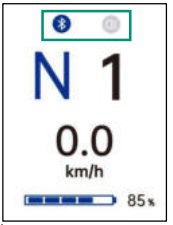
Formatierte Tabelle

	**Bluetooth Connected** The icon becomes highlighted, indicating a successful connection.
	

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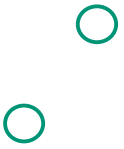
4.6 Turn On/ Off the Abnormal Seat Angle Alarm

When the seat angle is too steep, the system will trigger the Abnormal Seat Angle Alarm. (Please refer to 4.7 ~~4.7~~Protection Mechanism~~Protection Mechanism~~). To temporarily turn on/off this function, please press the and buttons simultaneously. The function will be enabled by default after the device is rebooted.

	**Turn On:** Press the and buttons simultaneously to activate the seat angle anomaly alarm function. **Turn Off:** To deactivate the alarm, press the and button combination again while it is active. The on/off status can be viewed in the

	parameter settings interface.

4.7 Protection Mechanism

The wheelchair has the relevant protection mechanism, and the alarm code will be displayed on the screen of the control handle.

(1) joy: The joystick does not appear at the origin position or the wire of joystick is disconnected. The joystick needs to be reset before operation or replaced.

(2) comm:

- Unable to communicate with the drive. When the fault occurs, the machine will stop and prohibit the related operation.
- If the connection wire between the angle module circuit and the driver is loose, or the circuit board of the angle module itself fails, it will also alarm.

(3) wh_l: Left wheel hub warning. Check the wiring of the left motor, or replace the left motor.

(4) wh_r: Right hub warning. Check the wiring of the right motor, or replace the right motor.

(5) seat: The front push rod warning. Check the wiring of the front push rod, or replace the front push rod

(6) push: The rear push rod warning. Check the wiring of the rear push rod, or replace the rear push rod.

(7) break: Abnormal electromagnetic brake. If the brake lever is not in the locked position, the “break” alarm will be displayed when the power is turned on. The lever must be pulled back to re-lock the rear wheel before starting driving. The alarm is eliminated when the brake is locked.

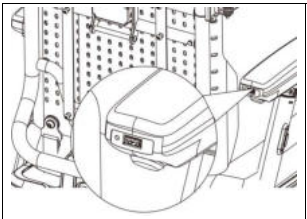
(8) temp: Temperature abnormal alarm. Stop the operation and wait for a while. After the temperature returns to normal, the fault will automatically clear.

(9) angle: The seat angle is too steep. When transitioning from flat ground to uphill/downhill, if the angle of the seat is tilted too much (more than 15°), the alarm will indicate. At the same time, the push rod of the seat will adjust automatically. The adjustment process may be accompanied by a decrease of speed. When the angle of the seat returns to the normal value （less than 15° ）, the code will disappear.

(10) Emergency shutdown: When any dangerous situation occurs, please press the power button of the controller to shut down, the machine will power off and stop, and the left and right motor brakes will automatically lock. When reopening the machine, press the power button of the controller to start up, and the user need to push the joystick to unlock the brake. Every time when the M4 Pro is turned off and on, the user need to push the joystick

or press or to enter the seat automatic adjustment level function.

4.8 Armrest USB Charging Port



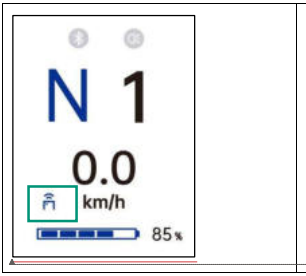
The maximum power of the USB port on he armrest is 18 W. Supports the following fixed charging parameter specifications(The USB port is for charging only. Not for any data transfer).

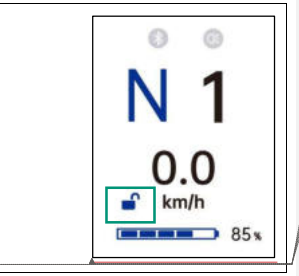
- 5V/3.4A
- 9V/2A
- 12V/1.5A

4.9 Wireless Remote Control Pairing and Unpairing

■ **Wireless Remote Control Pairing**

Press and hold and simultaneously for 5 seconds. Then, the device enters the wireless remote control pairing state, and the wireless remote control pairingicon is displayed. At this time, press and hold the unlock Key Fob on the wireless remote control to pairing a remote control. After successful pairing, an unlock sound will be emitted, and the unlock icon will be displayed.





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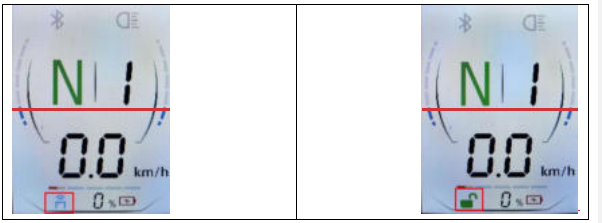
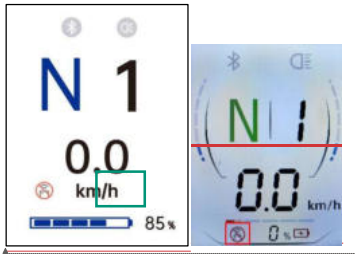
hat formatiert: Schriftart: (Standard) KaiTi



■ **Wireless Remote Control Unpairing**

Press and hold + and 🔔 simultaneously for 5 seconds. Then, the device enters the wireless remote control unpairing state, and the wireless remote control unpairing icon is displayed for 18 seconds. After unpairing, the paired wireless remote controls will no longer be able to operate the device.



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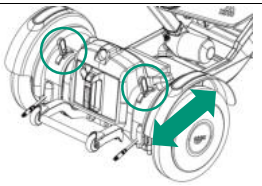
4.10 Electromagnetic Brake

The M4 Pro powered wheelchair features a "hands off and stop" driving mechanism. When the device is powered off or the battery is depleted, the rear wheels remain locked.

To manually push the wheelchair, simply release the electromagnetic brake on the rear wheels. This allows the wheelchair to be moved even when the battery has no charge.

	Unlock the rear wheel by pushing the lever next to the rear wheel * After the implementation, it is necessary to pull the lever back and lock the rear wheel to prevent sliding.

* Pull back the lever to lock the rear wheel before starting driving the M4 Pro. If the lever is not in the locked position, the alarm code for **break code** will be displayed. The alarm will be eliminated when the rear wheels are locked.

*If the electromagnetic brake is locked, and electrical power is restored, then the user should ensure that the control handle's screen displays normally with no warning messages, and that the horn button responds correctly when pressed. Otherwise, the wheelchair should still not be operated.

4.11 Key Fob

4.11.1 Appearance of the Key Fob

The appearance of the M4 Pro Key Fob is as shown in below figure. There are three buttons on the Key Fob: unlock button, power-on button and lock button.

Remote Key Fob appearance

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4.11.2 Operation of the Key Fob

(1) Starting up

Before the M4 Pro is turned on, the screen does not display anything.

Pressing the power-on button on the key fob triggers the startup welcome animation

on the handle's display.

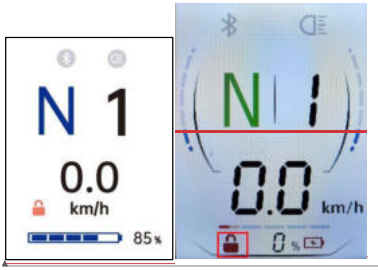
power-on welcome animation

hat formatiert: Schriftart: (Standard) KaiTi, 12 Pt.

hat formatiert: Schriftart: (Standard) OPPOSans R

(2) Locking

When the machine is being controlled by the control handle or mobile phone app, press the lock button on the Key Fob to lock the machine. The machine will be locked and can not be controlled through the control handle or app. The screen display as shown in the following figure.



Locked

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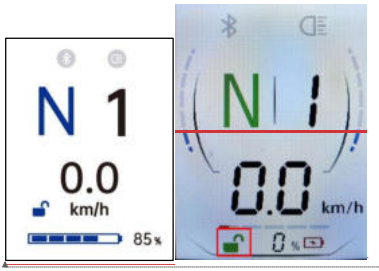
(3) Unlocking

After locking the machine, it can be unlocked by pressing the unlock button. The screen displays the unlock icon, and then displays the battery level of the equipment.

If the locking device was controlled by mobile phone app before being locked, the machine will turn to be controlled by the control handle after being unlocked. The speed gear after unlocking is the same as before locking.



unlocking

4.11.3 Battery Replacement of the Key Fob

(1) Use a slightly pointed tool to pry the lid open.

(2) Remove the white rubber shell, and please note that the rubber shell is embedded in the groove inside. Then remove the circuit board.

(3) Take out the button battery and replace new ones. (the battery model: CR2032).

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(4) Follow the replacement procedure to reassemble the cover in the order of (3) - (2) - (1).

4.12 Parameter Settings

Press and hold N/S and simultaneously to enter the parameter configuration interface. While in the parameter configuration interface, press and hold the same two buttons again to exit the interface. Operate the joystick to adjust parameters

Push the joystick up briefly	Navigate upward / Move selection up.
Push the joystick down briefly:	Navigate downward / Move selection down.
Push the joystick left briefly	Decrease value / Turn function OFF / Cancel or exit.
Push the joystick right briefly	Increase value / Turn function ON / Confirm.

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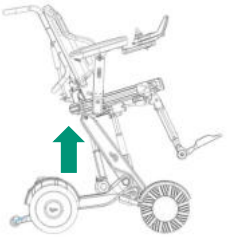
5 Adjustment

5.1 Seat Height Adjustment

The M4 Pro seat can be raised and lowered, designed to elevate the seat for users with limited mobility, allowing them to reach and place items located at a higher position.

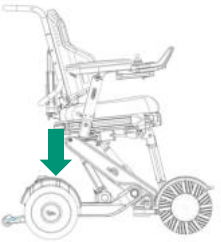
■ **Raising**

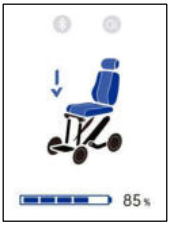
Press and hold the raise button , and the seat will rise with the rising status interface displayed on the screen simultaneously; release the button, and the raising will stop immediately.



■ **Lowering**

Press and hold the lower button , and the seat will lower with the lowering status interface displayed on the screen simultaneously; release the button, and the lowering will stop immediately.





NOTICE

When driving the M4 Pro uphill and downhill, the seat should stays in the standard height position and should not rise to the highest state, otherwise there may be a danger of tipping.

If the M4 Pro is powered on in a non-standard position (the folded state does not count as a non-standard position), it may trigger an “angle” warning. To clear the warning press the "⏶" or "⏷" button to adjust the seat height, or move the joystick left or right to return the machine to its normal position. The seat will automatically adjust to balance itself. The user should wait for the self-balancing adjustment to complete before sitting.

5.2 Seat Folding Adjustment

The M4 Pro can be folded and unfolded with one-touch.(The backrest needs to be folded manually.)

NOTICE

When using the folding/ unfolding function, the user needs to leave the seat. It is not allowed to place heavy objects on the seat.

■ **Unfolding**

Press and hold ⏶ and ⏷ simultaneously for approximately 3 seconds to activate the unfolding function; the electric wheelchair will be automatically unfolded. The display screen synchronously shows the interface below.

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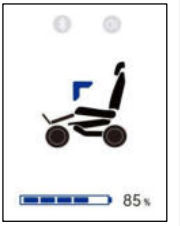
Formatiert: Abstand Vor: 0 Pt.

hat formatiert: Schriftart: (Standard) OPPOSans R, Nicht Fett

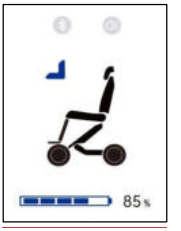
hat formatiert: Schriftart: Nicht Fett

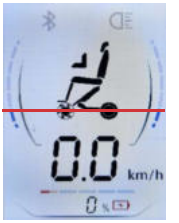

85%


0.0
km/h
0%

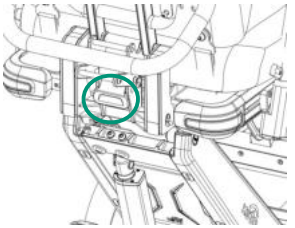
■ **Folding**

In the unfolded state, press and hold and simultaneously for approximately 3 seconds, and the electric wheelchair will automatically be folded. The screen synchronously displays the interface below.





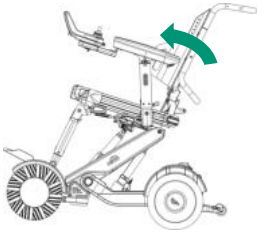
To fold the backrest: first remove the seat cushion and back cushion (see Section~~6.3 6.3~~Disassembly Method~~Disassembly Method~~ Method for detailed operation), then pull the buckle at the lower part of the backrest, and the backrest can be folded.



5.3 Seat Angle Adjustment

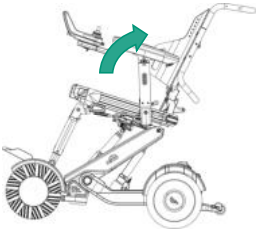
■ **Tilting Forward**

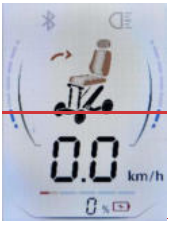
Press and hold this button to make the seat tilt forward. The display screen will show the tilting forward interface . Release the button at the desired position to lock it in place.



■ **Tilting Backward**

Press and hold this button to make the seat tilt backward. The display screen will show the tilting backward interface. Release the button at the desired position to lock it in place.

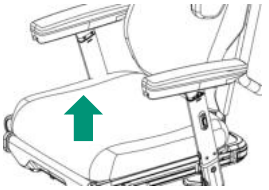
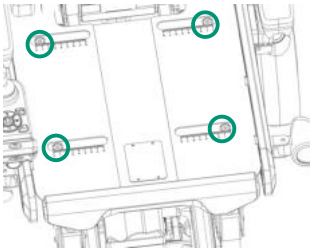
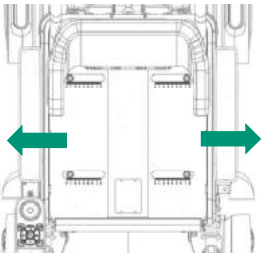




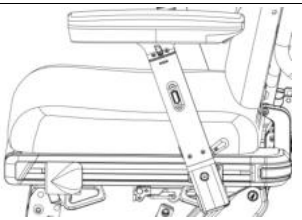
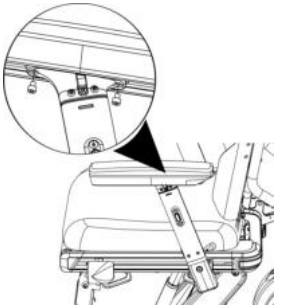
NOTICE

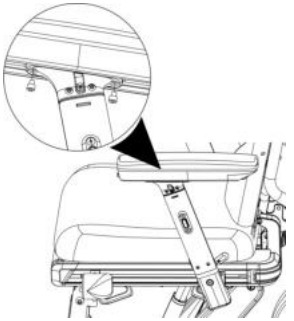
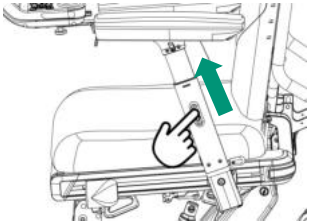
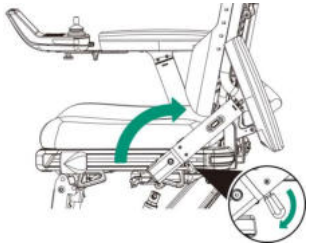
- Seat angle adjustment range: 0-20 degrees.
- When driving the M4 Pro, the seat should not tilt backward too much.

5.4 Seat Width Adjustment

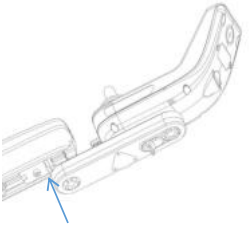
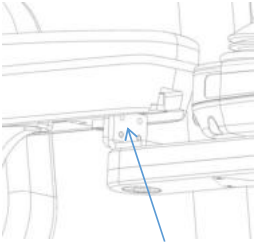
	Remove the seat cushion.
	Loosen the four screws at the bottom of the seat.
	1) Slowly pull out the seat components on both sides to an appropriate position. 2) Re-tighten the previously loosened screws, reinstall the seat cushion, and complete the adjustment.

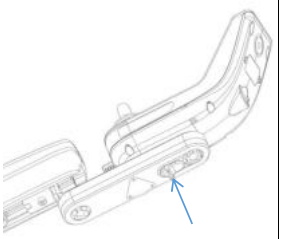
5.5 Armrest Adjustment

	Standard Armrest Position
	Forward Adjustment of Armrest 1) Unscrew the two fixing screws at the bottom of the armrest; 2) Slide the armrest forward to the desired position; 3) Refasten the armrest using the removed screws.

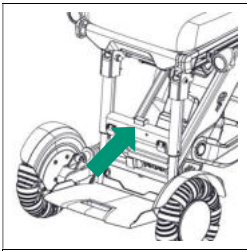
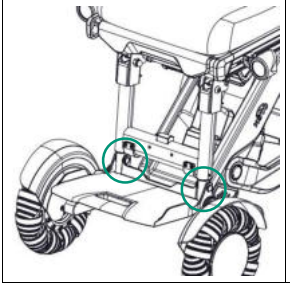
	**Armrest Backward Adjustment** 1) Unscrew the two fixing screws at the bottom of the armrest; 2) Slide the armrest backward to the desired position; 3) Refasten the armrest using the removed screws.
	**Armrest Height Adjustment** Press and hold the adjustment button while pulling the armrest upward to the suitable height; release the button to automatically lock the armrest at the current height.
	**Armrest Fold-back** PreRess and hold the unlock lever downward, then flip the armrest assembly backward to complete the operation.

5.6 Handle Adjustment

	**Standard Handle Position**
	**Adjusting the Handle Forward** 1) Loosen the fixing screw (M5); 2) Slide the handle to the appropriate position; 3) Tighten the fixing screw.
	**Adjusting the Handle Height** 1) Adjusting the fixing screw at the position indicated by the arrow in the left diagram; 2) Adjust the handle downward to the appropriate position; 3) Use the unscrewed screw to refasten the handle.

	**Folding the Handle** 1) Press the button switch at the bottom of the control handle; 2) Rotate the handle at the same time; 3) When the handle is pushed back to the folded position, the button switch will pop back and lock in place.

5.7 Leg-rest Adjustment

	Press the button at the location indicated by the arrow in the diagram to extend or retract the support legs on both sides of the footrest base. **NOTICE**: When folding the seat, the leg rest must be fully retracted to avoid potential damage to the device.
	Leg rest retracted position.

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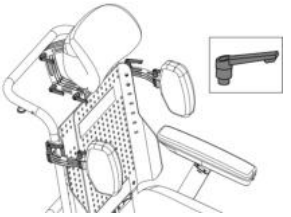
5.8 Headrest/Lateral Trunk Supports(Optional Accessory) Adjustment

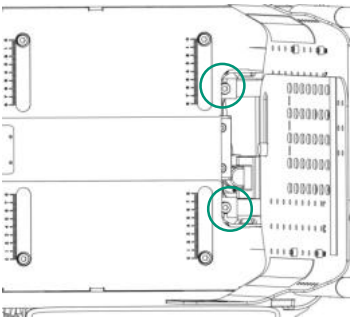
	The headrest and lateral trunk supports are equipped with adjustment knobs. Loosen the handle, adjust the headrest/lateral trunk support to the desired position, and then retighten the knobs to secure.

5.9 FAQ

Q1: Can the seat cushion be adjusted forward or backward?

A1: The seat cushion is secured with Velcro. After removal, simply adjust its position to fit properly. The operation steps are as follows:

1) Remove the seat cushion and locate the screws that fix the backrest assembly at the bottom of the seat;
2) Loosen the screws, then move the backrest assembly forward or backward to a suitable position;
3) Tighten the screws and reinstall the seat cushion.



Q2: Can the armrest itself be adjusted for tilt angle (e.g., upward or downward)?

A2: After being locked in place via the detent, the armrest maintains a fixed angle with the seat and does not support tilt angle adjustment.

Q3: Will the armrest itself change angle during forward/backward movement? For example, will it tilt upward or downward while moving?

A3: During forward/backward movement, the armrest itself maintains a constant angle. Its movement is along the internal sliding groove of the armrest, which is a linear motion.

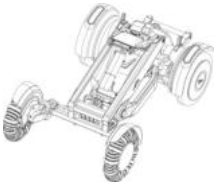
Q4: Can the armrest itself be extended or shortened?

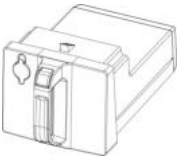
A4: The armrest itself does not support telescopic adjustment, but can be folded via rotation. After folding, the top of the handle does not exceed the top of the armrest.

6 Assembly and Disassembly

6.1 Component Introduction

The M4 Pro can be quickly disassembled into five major components to facilitate handling and transportation.

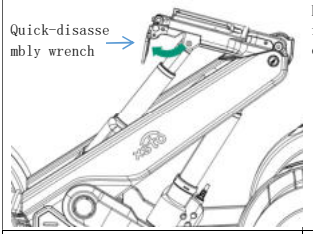
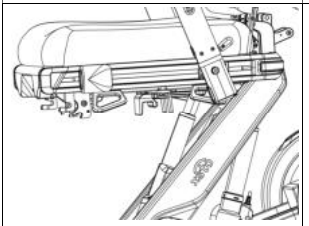
	Handle (including handle connecting cable)
	Chassis
	Footrest
	Seat

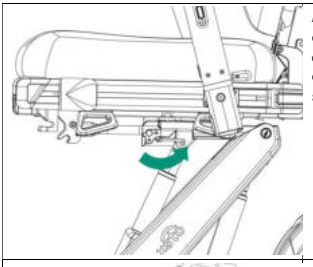
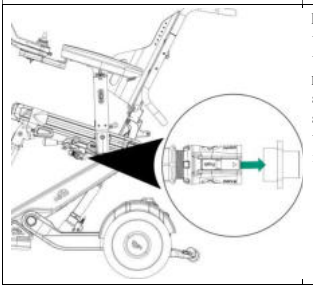
	Battery

6.2 Assembly Method

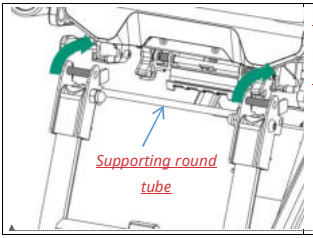
When assembling the M4 Pro, first install the seat , then install the footrest.

6.2.1 Assembling the Seat

	Release the quick-disassembly wrench for the seat connector above the chassis component.
	Lift the seat assembly and gently place it onto the chassis connection base, then push the assembly fully into the connected position. Notice: Before connecting the seat assembly to the chassis assembly, ensure the electrical connectors are not blocked by other debris

	After confirming the seat is pushed in correctly, press the quick-disassembly wrench of the connecting position and check if the seat is loose.
	Locate the aviation connector end of the connecting cable at the bottom of the seat, observe the foolproof positioning marks on the connector and socket, insert the connector into the socket smoothly along the direction of the marks until a "click" locking sound is heard—wiring is completed.

6.2.2 Assembling the Footrest

	Lift the footrest and hook its top connecting shaft onto the seat hook, then press down until the tube snapped into the slot.

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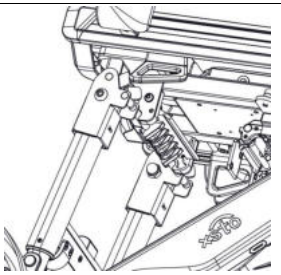
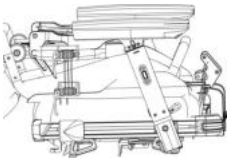
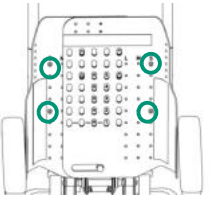
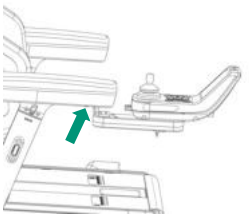
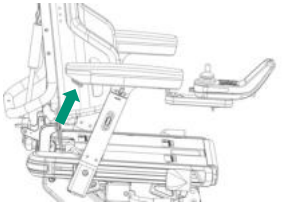
	Adjust the leg rest to a suitable position (for details, see Section 5. 7 ~~5. 7~~Leg-rest Adjustment~~Leg-rest Adjustment~~).

6.2.3 Assembling the Seat

	During shipment, the backrest panels are reversely installed on the seat. For assembly, first remove the backrest panels from the seat and then reinstall them.
	Position the two removed backrest panels with the shield side facing forward. Users can manually adjust both sides of the panels to a comfortable distance. Secure the panels symmetrically using four M5×10 hex socket flat round head screws.

6.2.4 Assembly the Handle

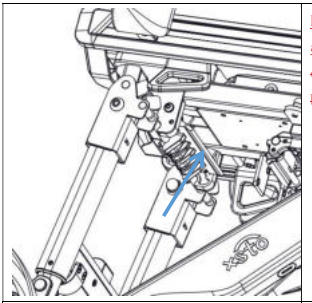
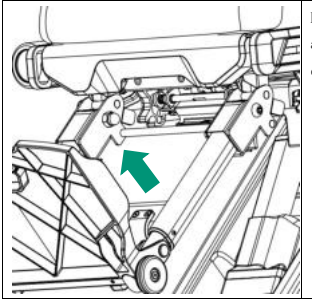
	Secure the handle to the slider inside one end of the telescopic connecting rod using M5x10 screws first.
	Locate the aviation connector end of the handle connection cable, align it with the corresponding interface on the armrest, insert it, and ensure a secure connection.

6.3 Disassembly Method

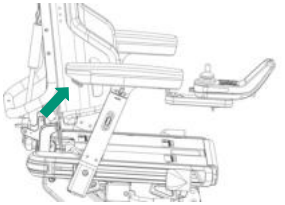
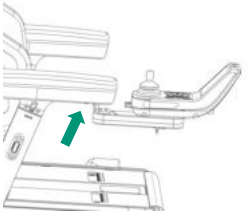
When disassembling the M4 Pro powered wheelchair, remove the footrests first, then remove the seat assembly.

If the wheelchair needs to be folded and separated into five main components, initiate the one-touch folding function first (the footrest assembly must be removed prior to one-touch folding). For details, refer to Section **5.2** ~~**5.2**~~Seat Folding Adjustment~~**Seat Folding Adjustment**~~

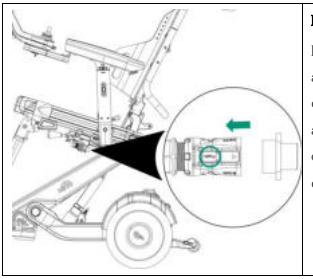
6.3.1 Removing the Footrests

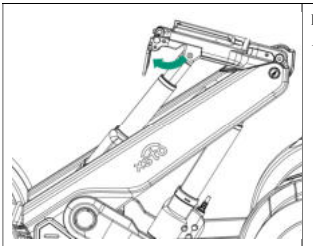
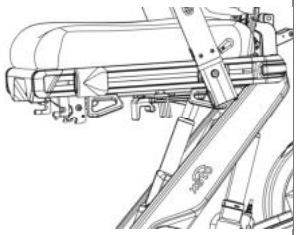
	Pull up the quick-disassembly wrench at the bottom of the seat. ~~Press down on the release handle located at the bottom of the seat.~~
	Lift the footrest assembly, tilt it at an angle, and then pull it out completely.

6.3.2 Removing the Handle

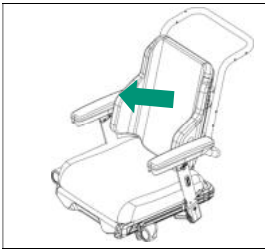
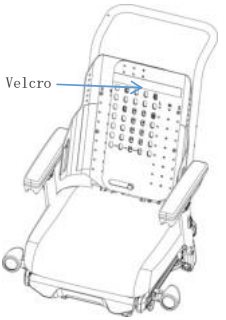
	Pull out the control handle's aviation connector cable
	Remove the handle fastening screws (M8x10) and remove the handle assembly.

6.3.3 Removing the Seat

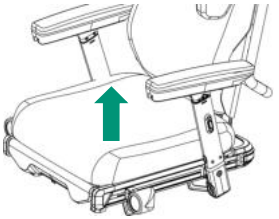
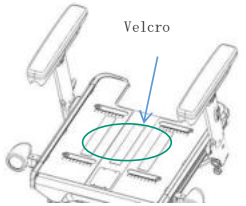
	**Disconnect the seat connecting cable** Locate the "PUSH" marking area on the aviation connector end of the seat connecting cable, press and hold this area, grasp the connector and pull it outwards until it completely disconnects from the socket.

	Release the quick-release wrench on the seat mounting base.
	Slide the seat forward to remove it.
	Place the removed seat assembly with the seating surface facing up.

6.3.4 Backrest Cushion Removal and Installation

	**Removal:** The backrest cushion is installed on the wheelchair with Velcro, grab any edge of the cushion and pull it to the direction as the picture in the left.
	**Installation:** The Velcro tape fixed on the panel and the Velcro tape on the backrest are aligned with each other and can be affixed.

6.3.5 Seat Cushion Removal and Installation

	Removal: The seat cushion is installed on the with Velcro. Grasp the front edge of the cushion and pull it to the direction as the picture in the left.
	Installation: Align the Velcro attached to the panel with the Velcro on the seat cushion and press them together.

7 Storage and Transportation

7.1 Storage

When the M4 Pro needs to be stored for a long time, remove the battery.

The storage environment must meet the following conditions:

- Ambient temperature: 0~35℃
- Relative humidity: ≤95%
- Atmospheric pressure range: 800–1060 hPa

Avoid the following environments:

- Direct sunlight or humid environment
- Extremely high or low temperatures

- Dusty environment

7.2 Transportation

Before transporting the M4 Pro, turn off it or remove the battery.

It is recommended to disassemble the equipment into three parts for transportation, see section **6.3 6.3** Disassembly Method**Disassembly Method** for details

7.2.1 Transporting the Complete wheelchair

	Short distance handling: two people can respectively grasp the two sides of the seat, and lift the complete machine to transport it.

7.2.2 Transporting the Chassis

	Hold the crossbeam behind the chassis to lift it up to transport.

7.2.3 Transporting the Seat

	Standing on one side of the seat, grasp the two recessed positions at the front and back of the seat to lift the seat.

7.2.4 Transporting the Footrest

	Hold the handle of the footrest and lift it up to transport.

8 Battery Usage Instructions

8.1 Battery Precautions

Instructions on the battery storage, transportation, maintenance, and precautions.

(1) Storage

＊When the battery needs to be stored for a long time, please charge the battery to about 50%, remove it from the wheelchair and place it in a dry and ventilated place and away from the strong magnetic environment. Charge the battery every 3 months.

＊ battery and charger should be stored in clean, dry and ventilated places, and should avoid contact with oil, detergent, thinner and other corrosive substances, and stay away from fire source and heat source.

＊ The recommended charging temperature range is 0-40 degrees Celsius, which can reduce battery performance and life in environments beyond this range.

(2) Transportation

The battery and charger shall be packaged before transportation, preventing violent vibration, shock or extrusion against the sun and rain.

(3) Maintenance

a) The battery should be stored in 40%～60% charge.

b) If the battery will not be used for a long time, it is recommended to fully charge and discharge once every three months, and then charge the battery to about 50% with the specified charger.

c) During maintenance, do not re-load the battery in the battery, otherwise the battery performance will decrease.

d) Do not replace any battery in the battery without authorization. It is strictly

prohibited to dissect the battery.

e) fault treatment

error	Cause	Debugging
The battery does not output	The battery output cable is not connected; The battery is out of power .	● Connect the output cable of battery according to the specification; ● check whether the fuse of the discharge fuse seat inside the battery is normal. ● Charge the battery.
The charger' s power indicator light is not on	The charger plug is not inserted correctly.	Insert the charger input plug into the mains socket according to the instruction
The battery cannot be charged	The charger output plug is loose; The battery is already fully charged.	Check whether the charger output plug is firmly connected to the battery ; the fuse of the battery charging seat is normal. The battery can be used normally.

f) Battery warranty time

The warranty time is 14 months from the date of delivery. Cycle life: 500 charge and discharge cycles, with 80% capacity.

g) Battery scrap treatment

If the battery capacity falls below 50%, consider replacing it. Battery disposal should comply with the laws and regulations of the respective country.

(4) Battery usage precautions

*Do not put the battery into the water, fruit juice, or other liquid, do not wet the battery!

*Do not charge the battery near fire source or under extremely hot conditions! Do not use or store the battery near the heat source (such as fire or heater), flammable and explosive items! If the battery leaks or smells, remove it from the open flame. Fully charge the battery before use for the first time!

*Do not connect the positive and negative poles backwards!

*Do not put the battery into the fire or heat the battery!

*Do not short-circuit the positive or negative electrodes of the battery with wires or other metal objects!

*Do not puncture the battery shell with nails or other sharp objects, do not hammer or step on the battery!

*Do not break down the battery and the battery in any way!

*Do not place battery in a microwave oven or pressure vessel!

*Do not use the batteries for other devices!

*Do not use the battery in series and parallel!

*Do not charge in the high temperature exposure of the outdoor, rainy day, wet environment!

*Do not charge the battery in the corridor, evacuation channel, safe entrance and exit, indoor residential!

*The battery shall be charged, used and stored in places away from static electricity.

*The battery should be charged during the day under supervised. When the person leaves, please unplug the charging plug. Charging overnight is prohibited.

*Note that the charging should be stopped if the charging is insufficient for a long time.

*The battery shall not be used if it smells, heat, deformation, discoloration or any other abnormal phenomenon; if such battery is in use or charging, it should be immediately removed from the used appliance or charger and stopped!

*Do not use battery in extremely hot environments, such as direct sunlight or hot cars. Otherwise, the battery will overheat, which will affect the performance and shorten the service life of the battery!

*Do not overcharge. The charger should be unplugged as soon as it indicates that the battery is full.

*If battery leakage occurs and the electrolyte enters the eyes, do not rub; immediately rinse with water and seek medical assistance. If not handled properly in time, the eyes will be hurt!

*If the above adverse phenomenon occurs, please contact the manufacturer. Do not disassemble the machine internally without authorization.

8.2 Battery Charging

NOTICE

- Please keep the socket interface of the charger and battery dry!
- Please follow the operator manual to charge!
- Complete out of power can degrade battery performance and shorten battery

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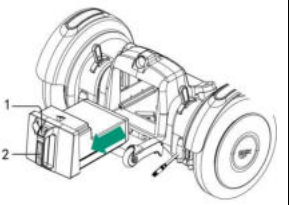
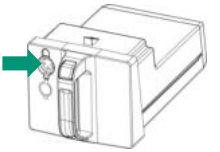
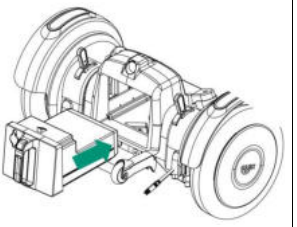
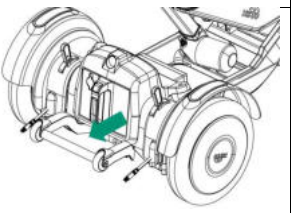
life!

- After each use, please remember to charge!

1) Make sure the device is powered off.	
2) Press the battery release button while pulling the battery handle outward to withdraw the battery.	 1: Battery release button 2: Battery handle
3) Charge the device using the included charger. (**NOTICE**: charging output port, 1 and 3 pin connected to the positive, 2 pin connected to the negative.) 	
4) Open the dust cover of the battery charging port, and connect the charger to the charging interface. During charging, the charger indicator will display an orange light.	

5) When the charger indicator shows a solid green light, disconnect the charger and close the dust cover of the battery charging port. 6) Install the battery into the wheelchair. Slide the battery assembly horizontally in the direction of the arrow until an audible "click" is heard, indicating proper engagement. The power supply will automatically activate upon insertion, requiring no additional wiring.	
7) To verify correct installation, pull outward on the battery handle. The battery is securely installed if there is no looseness or dislodgement.	

8.3 Battery Storage

The M4 Pro should be stored indoors at temperatures between 0° C and 35° C, and kept away from moisture and strong magnetic environments.

NOTICE

- Please keep the M4 Pro away from the wet environment! Please remember to charge the M4 Pro after each use, and it is essential to strictly follow

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the instructions in the manual during the charging process! Please keep the socket dry!

- Please protect the charging and charging wires from oil, grease, detergent, diluent or anything that may be destructive!
- Please note that batteries should be removed during transportation and storage.

9 Maintenance

9.1 User Maintenance and Testing

Please perform the following actions to keep the wheelchair clean.

- Wipe the exterior of the wheelchair , seat, armrests, and handles with a dry soft cloth to remove dust, stains, or residual debris (such as debris in the gaps of the seat cushion).
- Check the wheels for any entanglements (such as hair or ropes) and remove them promptly.
- If the dirt is difficult to remove, use a neutral detergent. Avoid using petroleum solvents.
- Do not use the high-pressure washer.

WARNING

- **Please only flush the wheels with water, do not flush the equipment or other components. Otherwise, there is a risk of failure due to electric shock, short circuit and corrosion.**
- **Except for seat cushion and backrest, if other parts are worn or need to be replaced, contact the dealer. Or the equipment may be damaged and inoperable.**

NOTICE

- Do not use paint thinner, benzene or other organic solvents for cleaning,

do not use a high pressure washer. Otherwise, the machine will have deformation, deterioration and damage.

- Do not insert sharp objects into the speaker hole. Otherwise, it may damage the control handle.
- Do not apply commercial lubricating oil or oil rust agent / wax to the moving parts or connections of the equipment. Otherwise, the viscosity of such substances may cause sand or other foreign objects to enter the equipment, resulting in equipment failure.
- Do not use wet hands to operate the equipment!
- Please keep the equipment away from the wet environment!
- Please charge in time when the battery level is low!
- Please remove the equipment from oil, grease, detergents, diluent or anything that may be damaging!
- The M4 Pro should be turned off prior to sit on or get off it;
- The M4 Pro may risk stopping suddenly at any time during operation;
- The driving performance of the M4 Pro may be affected by electromagnetic fields, such as those generated by a generator or high-power source
- The stopping distance on a slope is greater than that on flat ground.

The following components are recommended to be inspected every six months.

	Check for cracks and pits in the front and rear wheels. Check if the wheels become elliptical by wear. In case of cracks, pits, and severe wear, please contact the dealer for replacement.

	
	Check the anti-tipping wheel for cracks and contact the dealer for a replacement change if cracks occur.
	Check the screw to tighten the loose one if exist.

9.2 Warranty

During the warranty period, under normal usage conditions, all shell and wheel components not related to quality issues are not covered.

The motor, lithium battery, and control handle have a 14-month warranty.

Fabric support items such as cushions, backrests, and headrests have a 1-year warranty

The chassis frame has a 5-year warranty.

Damage or malfunctions caused by the following reasons are not covered under warranty:

- Damage caused by an overload of work;
- Damage caused by incorrect operation;
- Violent destruction;
- Natural wear and tear of casters, seat belts, etc.;
- Improper or inadequate maintenance;

- Unauthorized changes in structure, and improper use of equipment and accessories;
- Overweight use of the equipment;
- The battery is not charged properly.

If any of the following circumstances occur during the warranty period, material costs and service fees may be charged at our discretion.

- Damage caused by improper use, maintenance, or storage by the consumer.;
- Damage caused by disassembly by unauthorized parties.
- Lack of warranty certificate and valid invoice.
- Warranty certificate model does not match the model of the product being repaired or has been altered.
- Damage caused by force majeure is not covered under warranty.

For products that are not within the scope of maintenance and exceed the warranty period, we still serve you enthusiastically and only charge the materials cost.

9.3 Liability Exemption

The manufacturer shall not be responsible for any damage caused in the following circumstances.

- Improper equipment operation;
- Repair, dismantle or otherwise operate the equipment without authorization;
- Did not operate according to the operation manual;
- Add the configurations other than the optional accessories of the equipment;
- Disassemble the configuration of the equipment at will;
- Operation under the overload condition;
- Operation in the case of low power supply.

A notice to the operator: any serious incident that has occurred in relation to the equipment should be reported to the manufacturer and the competent authority of the Member State in which the user and/or patient is established;

The contents of this specification are subject to change in improving product quality or upgrading related technical parameters without notice. If the user need to know the latest product information, please contact the company.

9.4 Recycling

XSTO products have a long service life. However, if your XSTO product is close to the limit of use, the parts of the machine can be returned to our company or corporate agents for recycling.

10 Troubleshooting

10.1 Warning Code

Warning Type	Warning Code	Code Information
Handle	joy:data_value	Joystick value error
	joy:no_origin_x	X-axis not at origin
	joy:no_origin_y	Y-axis not at origin
Comm	comm:wheel_drv_ol	Connection failure with driver
	comm:angle_ol	Connection failure with angle module
Left Wheel	wh_l:over_current	Motor overcurrent
	wh_l:motor_temp	Motor overtemperature
	wh_l:over_tempwarn	overtemperature warning
	wh_l:hall_data	Hall encoder data anomaly
	wh_l:i_sample	Sampled motor current anomaly
	wh_l:hall_cal	Hall sensor calibration anomaly
	wh_l:phase_line	Motor phase line abnormality
	wh_l:brake	Brake holding error
	wh_l:phase_short	Motor phase line short circuit
	wh_l:ov/under_vol	Motor overvoltage/undervoltage
Right Wheel	wh_r:over_current	Motor overcurrent
	wh_r:motor_temp	Motor overtemperature
	wh_r:over_tempwarn	overtemperature warning
	wh_r:hall_data	Hall encoder data anomaly
	wh_r:i_sample	Sampled motor current anomaly
	wh_r:hall_cal	Hall sensor calibration anomaly

Warning Type	Warning Code	Code Information
	wh_r:phase_line	Motor phase line abnormality
	wh_r:brake	Brake holding error
	wh_r:phase_short	Motor phase line short circuit
	wh_r:ov/under_vol	Motor overvoltage/undervoltage
Support Push Rod	push:over_current	Motor overcurrent
	push:over_temp	Overtemperature
	push:over_tempwarn	Overtemperature warning
	push:hall_data	Motor Hall encoder data anomaly
	push:i_sample	Motor sampled current anomaly
	push:stuck	Motor stall protection
	push:hall_invert	Motor Hall encoder AB phases reversed
	push:phase_short	Motor phase line short circuit
Seat Actuator	seat:over_current	Motor overcurrent
	seat:over_temp	Overtemperature
	seat:over_tempwarn	Overtemperature warning
	seat:hall_data	Motor Hall encoder data anomaly
	seat:i_sample	Motor sampled current anomaly
	seat: stuck	Motor stall protection
	seat:hall_invert	Motor Hall encoder AB phases reversed
	seat:phase_short	Motor phase line short circuit
Brake	break:left_break	Left motor brake warning
	break:rightbreak	Right motor brake warning
Over-temperature	temp:left_wheel	Left motor overtemperature
	temp:right_wheel	Right motor overtemperature

Warning Type	Warning Code	Code Information
	temp:push_rob	Front actuator rod overtemperature
	temp:seat_rob	Seat Actuator rod Overtemperature
Tilt	angle:angle_data	Angle data anomaly
	angle:down_over	Excessive downward tilt angle
	angle:up_over	Excessive upward tilt angle
	angle:left_overl	Excessive left tilt angle
	angle:right_over	Excessive right tilt angle
	angle:pcb_angle	Excessive pcb angle
	angle: back_limit	Backrest Limitation / Unable to Control the Wheel Hub

10.2 Common Troubleshooting

problem	Detection and solution
The device could not be turned on	Check whether the battery display is normal. If the battery level is low, please charge. If the battery is charged, check whether the screen on the control handle is on; if not, check the communication wire between the control handle and the motor drive board; If other unknown warning occurs, please contact the supplier for handling.
The battery cannot be charged	Check whether the battery and charger is loose; for other unknown warning, please contact the supplier.
joy code	When the joystick is not at the origin position, please release it restart the device; or if the joystick is broken, please replace a new one. This could leads to the replacement of the control handle. For other unknown warning, please contact the supplier.
comm:wheel_drv_ol code	The communication fault between the control handle and the motor drive board, and check whether the cable between the control handle and the motor drive board is loose. If other unknown fault occurs, please contact the supplier.

problem	Detection and solution
comm:angle_ol code	The device obtains the wrong angle of the seat, check whether the connection wire between the angle module and the motor drive board is loose, or the angle module itself fails. If other unknown fault occurs, please contact the supplier.
wh_l code	Check whether the cable and connector of the left motor are loose, or the left motor may be damaged and needs to be replaced. Please contact the supplier.
wh_r code	Check whether the cable and connector of the right motor is loose, or the right motor may be damaged and needs to be replaced. Please contact the supplier.
seat code	Check whether the cable wire and connector of the front push rod is loose, or whether the front push rod may be damaged and needs to be replaced. Please contact the supplier.
push code	Check whether the cable and connector of the rear push rod is loose, or the rear push rod may be damaged and needs to be replaced. Please contact the supplier.
breakcode	Check whether cable wire and connector of left and right motor is loose; check whether brake lever of left and right motor is locked. If other unknown

problem	Detection and solution
	warning, please contact the supplier.
temp code	If the temperature is abnormal, stop the operation temporarily. The warning will resolve automatically once the temperature returns to normal. If the warning persists for an extended period, please contact the supplier.
Angle code	When the angle of the seat is tilted from the ground to the top and the hill (more than 15°), the alarm will be prompted. At the same time, actuators of the seat will be automatically adjusted. The adjustment process may be accompanied by a deceleration. When the angle of the seat returns to the normal value, the code will disappear, if the alarm still exists. Please contact the supplier.
The operation button is functionally abnormal	If the buttons on the control panel is missing or inconsistent with the description, please contact the supplier.
The motor appears abnormal sound	If the motor has any abnormal noise when operation, please test whether there is any abnormal noise without load. If the abnormal noise always exists, please contact the supplier.
The control handle screen shows abnormal screen, chaotic spots or missing picture	Shut down the machine and unplug the battery for 3 seconds; If the problem still exists, check whether the internal cable of the control handle is damaged and the connector is loose; for other unknown warning, please contact the supplier.

11 Mobile Phone App

11.1 Download

11.1.1 iOS System

Search for "XSTO" in Apple App Store, and download "XSTO" App.

Figure 11-11 Apple App Store search

11.1.2 Android System

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1. Search "XSTO" in Google App Store, download "XSTO" App.

Figure 11-22 Google App Store search

2. Scan the QR code below to download and install the "XSTO" app.

Figure 11-33 The QR code for Android Download

11.2 Registration and Login

11.2.1 Registration

Open the "XSTO" app, enter the login interface, click to account registration, and register an account via email.

Figure 11-44 Login interface

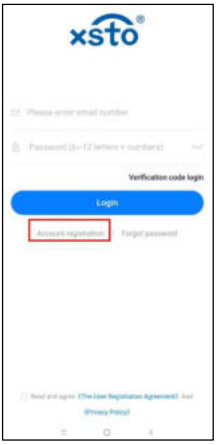
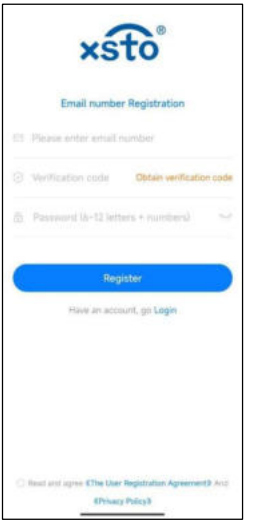


Figure 11-55 Account registration



11.2.2 Login

Enter the registered email and password to log in.

Before submission, carefully read the terms and conditions at the bottom of the display interface and click the check mark to agree the agreement.

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Figure 11-66 Input information

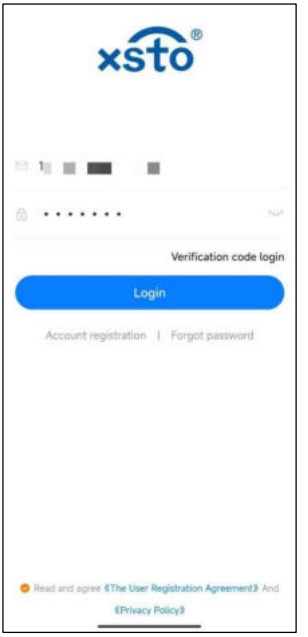
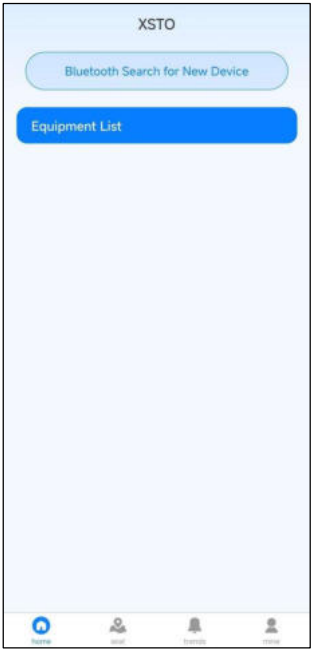


Figure 11-77 Success login interface



11.2.3 Connecting Device

Enable Bluetooth and location permissions on mobile phone, tap on the login success interface and select "Bluetooth Search for New Devices" to search for nearby devices, as shown in the following figure.

Tap on the device you want to connect to and enter the device name followed by

a 4-digit password verification. Click "Confirm" to connect to the device. After the device is successfully connected, the app automatically redirects to the device connection success interface.

Figure 11-88 Bluetooth search new device interface

Figure 11-99 Password verification interface

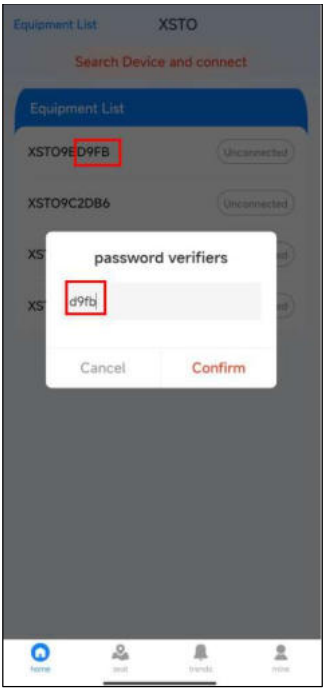
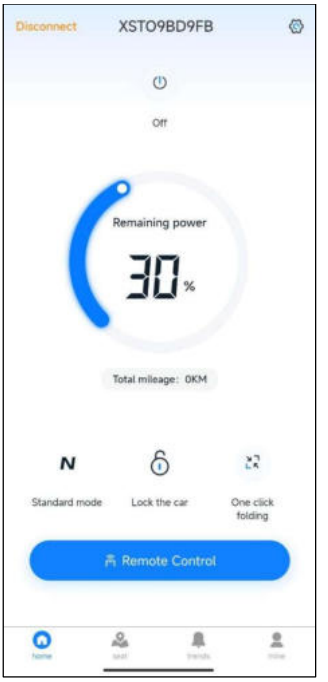


Figure 11-1010 The Device is connected successfully


Disconnect
XSTO9BD9FB
Off
Remaining power
30%
Total mileage: 0KM
N
Standard mode
Lock the car
One click folding
Remote Control

11.3 Control and Operation

11.3.1 Device Connection Succeed Interface

On the successful device connection interface, the user can do "disconnect", "shut down", "settings", "standard/sport mode" switching, "unlock/lock car", "one click folding/unfolding", and "remote control" operations.

11.3.2 Remote Control

Tap the "Remote Control" button, then click "Continue" to enter the remote control interface.

On the remote control interface, operations such as "horn switch", "Seat adjustment", "self balancing adjustment", "joystick", and "speed gear adjustment" can be performed.

Figure 11-1111 Enter remote control operation

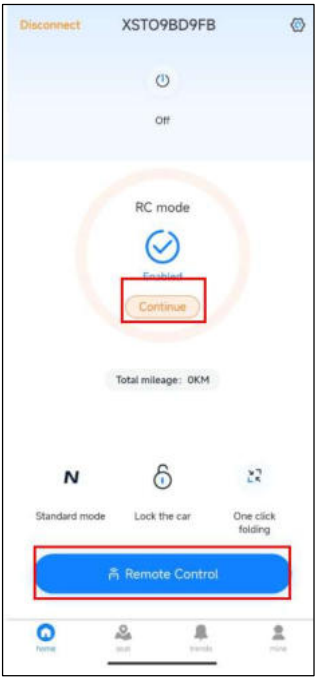
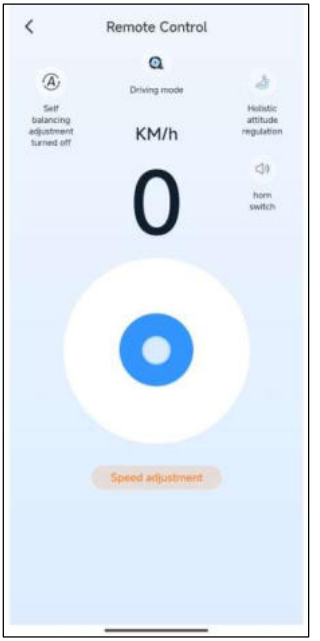


Figure 11-1212 Remote control interface



11.3.2.1 Seat Adjustment

Click the "Seat Adjustment" button to switch to the seat adjustment interface. Slide the blue circle left and right on the seat adjustment interface to adjust the seat tilt forward or backward. Long press the up and down arrows to adjust the seat up or down.

Figure 11-1313 Seat Adjustment Interface

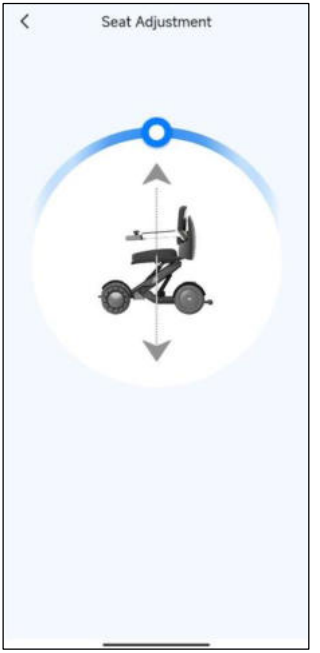


Figure 11-1414 Seat leans forward adjustment

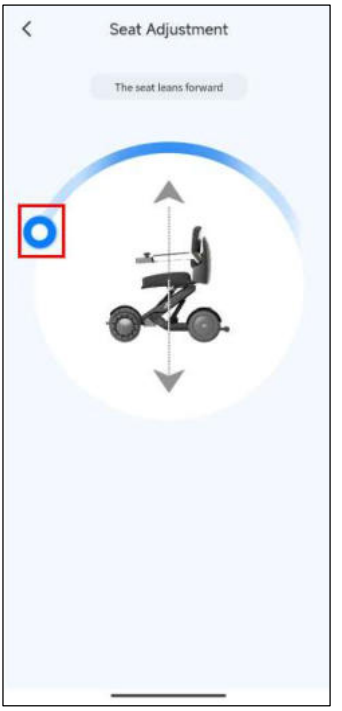
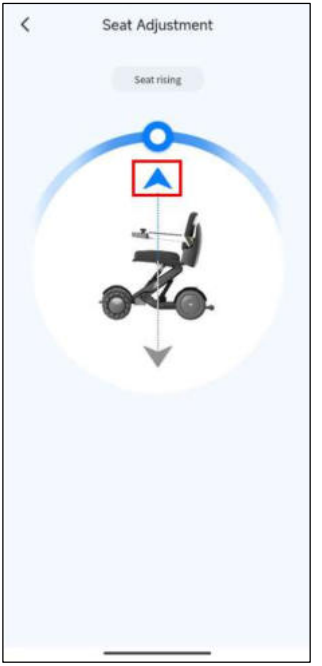

Seat Adjustment
The seat leans forward

Figure 11-~~15~~15 Seat up adjustment



11.3.3 Settings

Click on the "Settings" icon in the upper right corner of the device connection success interface to enter the device settings interface. There are four options to choose from in the settings interface, namely "General Settings", "Battery Information", "Device Version", and "Emergency Contact".

Figure 11-1616 Setting interface

12 Electromagnetic Compatibility Information

Note: Portable RF communications equipment should no closer than 30 cm (12 inches) to any part of the device, including cables specified by the manufacturer.

The M4 Pro complies with IEC60601-1-2:2014+A1:2020, EN60601-1-2:2015+A1:2021,ISO7176-21:2025 standard electromagnetic compatibility requirements.

Users should install and use the product in accordance with the EMC information provided in the accompanying documentation.

The M4 Pro generates, uses, and radiates radio frequency energy. The equipment may cause radio frequency interference to other medical or non-medical devices and to radio communications.

If this equipment is found to cause interference, which can be determined by turning on and off the equipment, the operator or qualified service personnel should take following actions:

- Reorient or relocate the affected device;
- Increase the distance between the equipment and the affected equipment;
- Power the equipment by another power source;
- Consult the service engineer for further suggestions.

NOTICE

- The M4 Pro should not be used close to or stacked with other equipment. If it must be used close to or stacked, it should be observed and verified that it can operate normally under the configuration it is used in.
- It is customer’s responsibility to assure that this equipment and nearby equipment comply with the contents of IEC 60601-1-2 4th Edition.
- Do not use any device that might send out RF signals, including cell phone, radio transceiver and radio control products, which might cause operation parameters beyond the standards. Please shutdown these devices when the

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user is near the equipment. Operator has the responsibility to warn user or any others to comply with this rule. ● Manufacturer will not be responsible for any unauthorized actions that cause interference. ● The M4 Pro cannot be used together with HF surgical equipment.

Table 1

Guidance and Manufacture' s Declaration - Electromagnetic Emission		
The M4 Pro is intended for use in the electromagnetic environment specified below. User should assure that it is used in such an environment.		
Emissions Test	**Compliance**	**Electromagnetic Environment - Guidance**
RF emissions CISPR 11	Group 1	The M4 Pro uses RF energy only for its internal function. Its RF emissions are very low and are not likely to cause any interference in nearby electronic.
RF emissions CISPR 11	Class B	The M4 Pro is suitable for direct connection to public low-voltage power supply networks.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/flicker emissions IEC 61000-3-3	/	

Table 2

Guidance and Manufacture’ s Declaration - Electromagnetic Immunity			
The M4 Pro is intended for use in the electromagnetic environment specified below. User should assure that it is used in such an environment.			
Immunity Test	**IEC60601 Test Level**	**Compliance Level**	**Electromagnetic Environment - Guidance**
Electrostatic discharge (ESD) IEC 61000-4-2	±8kV contact(elec.) ±2kV, ±4kV, ±8kV, ±15kV air	±8kV contact(elec.) ±2kV, ±4kV, ±8kV, ±15kV air	Floors should be wood, concrete or ceramic tile. Humidity should be at least 30% if it is synthetic materials.
Electrical fast transients/bursts (EFT) IEC 61000-4-4	±2kV 100kHz repetition frequency	±2kV 100kHz repetition frequency	Main power quality should be that of a typical commercial or hospital environment.
Surges IEC 61000-4-5	±0.5kV, ±1kV line-to-line ±0.5kV, ±1kV, ±2kV line-to-ground	±0.5kV, ±1kV line-to-line ±0.5kV, ±1kV, ±2kV line-to-ground	
Voltage dips IEC 61000-4-11	0 % UT; 0.5 cycle At 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315°	0 % UT; 0.5 cycle At 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315°	Mains power quality should be typical commercial or hospital

	0 % UT; 1 cycle and 70 % UT; 25/30 cycles Single phase: at 0°	0 % UT; 1 cycle and 70 % UT; 25/30 cycles Single phase: at 0°	environment. UPS power is recommended if this device needs to be used continuously.
Voltage interruptions IEC 61000-4-11	0% UT; 250/300 cycle	0% UT; 250/300 cycle	
RATED power frequency magnetic fields IEC 61000-4-8	30A/m 50Hz or 60Hz	30A/m 50Hz or 60Hz	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

IMMUNITY to proximity magnetic fields IEC 61000-4-39	65A/m, Modulation: Pulse modulation, 2.1KHz Test frequency:134.2KHz; 7.5A/m, Modulation: Pulse modulation, 50KHz Test frequency:13.56MHz; See Table 6	65A/m, Modulation: Pulse modulation, 2.1KHz Test frequency:134.2KHz; 7.5A/m, Modulation: Pulse modulation, 50KHz Test frequency:13.56MHz; See Table 6	--
Note: UT is the A.C. mains voltage prior to application of the test level.			

Table 3: Guidance & Declaration – electromagnetic immunity concerning Conducted RF & Radiated RF

Guidance & Declaration – Electromagnetic immunity			
The M4 Pro are intended for use in the electromagnetic environment specified below. The customer or the user should assure that they are used in such environments.			
Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment – guidance**

Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz 6 Vrms in ISM bands	3 Vrms 150 kHz to 80 MHz 6 Vrms in ISM & amateur radio bands	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 M4 Pro, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.
Radiated RF IEC 61000-4-3	10 V/m 80 MHz to 2.7 GHz 385MHz- 5785MHz Test specifications for ENCLOSURE PORT IMMUNITY to RF wireless communication equipment (Refer to table 9 of IEC 60601-1-2:2014+A1:2020)	20V/m 26MHz to 25GHz 10 V/m 80 MHz to 2.7 GHz 385MHz- 5785MHz Test specifications for ENCLOSURE PORT IMMUNITY to RF wireless communication equipment (Refer to table 9 of IEC 60601-1-2:2014+A1:2020)	

Table 4 -Test specifications for ENCLOSURE PORT IMMUNITY to RF wireless communications equipment

Test frequency (MHz)	Band [a] (MHz)	Service [a]	Modulation	IMMUNITY TEST LEVEL (V/m)
385	380 to 390	TETRA 400	Pulse modulation [b] 18 Hz	27
450	430 to 470	GMRS 460, FRS 460	FM [c] ± 5 kHz deviation 1 kHz sine	28
710	704 to 787	LTE Band 13, 17	Pulse modulation [b] 217 Hz	9
745				
780				
810	800 to 960	GSM 800/900, TETRA 800, iDEN 820, CDMA 850, LTE Band 5	Pulse modulation [b] 18 Hz	28
870				
930				
1 720	1 700 to 1 990	GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 1, 3, 4, 25; UMTS	Pulse modulation [b] 217 Hz	28
1 845				
1 970				
2 450	2 400 to 2 570	Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7	Pulse modulation [b] 217 Hz	28
5 240	5 100 to 5 800	WLAN 802.11 a/n	Pulse modulation [b] 217 Hz	9
5 500				
5 785				

If necessary to achieve the IMMUNITY TEST LEVEL, the distance between the transmitting antenna and the ME EQUIPMENT or ME SYSTEM may be reduced to 1 m. The 1 m test distance is permitted by IEC 61000-4-3.

[a] For some services, only the uplink frequencies are included.

[b] The carrier shall be modulated using a 50 % duty cycle square wave signal..

[c] As an alternative to FM modulation, the carrier may be pulse modulated using a 50 % duty cycle square wave signal at 18 Hz. While it does not represent actual modulation, it would be worst case.

Table 5 – Test specifications for ENCLOSURE PORT IMMUNITY to proximity magnetic fields

Test frequency	Modulation	IMMUNITY TEST LEVEL (A/m)
30 kHz [a]	CW	8
134,2 kHz	Pulse modulation [b] 2,1 kHz	65 [c]
13,56 MHz	Pulse modulation [b] 50 kHz	7,5 [c]

[a] This test is applicable only to ME EQUIPMENT and ME SYSTEMS intended for use in the HOME HEALTHCARE ENVIRONMENT.

[b] The carrier shall be modulated using a 50 % duty cycle square wave signal.

[c] r.m.s., before modulation is applied.

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