

User Manual

M4 Powered Wheelchair (Mobility Robot)

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Please read the manual carefully before use and keep it properly.

CATALOG

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Brief Introduction

The M4/M4-H/M4-B is an innovative equipment that provides a smarter, more intelligent and more convenient way to travel for people with mobility difficulties. Compared to the traditional electric powered wheelchair, the M4/M4-H/M4-B 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/M4-H/M4-B enables users to easily adjust the seat height according to their personal needs to adapt to different use 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/M4-H/M4-B aims to help people with mobility difficulties to achieve a more independent and convenient travel experience.

The intended use of M4/M4-H/M4-B is to provide convenient and comfortable travel solutions for those with mobility difficulties. Whether it is individuals with slightly inconvenient mobility due to slight illness, or users with limited mobility due to age, disease and other factors, the M4/M4-H/M4-B can help them easily cope with the challenges of short-distance travel with the function of seat height adjustment and seat recline adjustment, as well as a number of other practical designs.

1 Icons and Instructions for Use

1.1 Symbols Explanations



WARNING — Relating to personal safety



NOTICE — May cause minor injury to user or damage to the machine

***** — Annotations

1.2 Notices Before Use

Safety instructions for wheelchairs:

The maximum load of this vehicle is 115 kg. Please do not overload it to avoid danger.

Please do not change, change or remove any parts of the product (anti roll wheel, armrest, seat, car shell, etc.) to avoid injury to the wheelchair or personnel.

The wheelchairs only should only be used indoors. Do not use outdoors.

The following are dangerous conditions. Please try to avoid or need help from others:

Narrow roads, bumps, etc.

Rainy days, water, snow, haze, strong wind. Deep sand road, muddy ground, gravel ground, pebble pavement, too long turf, frozen road, stairs and steps etc. Please do not drive.

In case of depression with a large distance or full water on

the road, please do not drive directly. You should take a detour.

The M4/M4-H/M4-B should be kept from being stored adjacent to other equipment. If such use is necessary, the M4/M4-H/M4-B and the other equipment should be observed to verify that they are operating normally.

The M4/M4-H/M4-B has a number of functions, requiring the user to be conscious and have a normal thinking ability.

Users should read this manual before using, and the elderly should clearly understand the use of the M4/M4-H/M4-B under the guidance of families.





The M4/M4-H/M4-B is not suitable for people with mental disabilities.

The user must be familiar with the usage and operation mode before driving the wheelchair, so please remember this chapter of the manual.

Before driving, please assess the personal health status of the user. It is not suitable to drive under the following conditions: the sick or the physically ill, the visually impaired, the upper limbs unsound, the persons with intellectual disabilities, the people who are unconscious or slow in consciousness.

This manual applies to both M4/M4-H/M4-B.

1.3 Labels Explanations

 A black square icon with a yellow warning triangle containing an exclamation mark on the left. To the right, a white hand is shown with its index finger pointing towards two horizontal white bars. An arrow points down above the top bar, and another arrow points up below the bottom bar, indicating a clamping action.	Pay attention to prevent hand clamping
 A black square icon with a yellow triangular warning symbol. Inside the triangle is a black U-shaped magnet with two small black rectangles representing fingers or objects being attracted to it, with double parentheses on either side.	Pay attention to electromagnetic interference
 A black square icon with a yellow circle and a diagonal slash through it. Inside the circle is a white outline of a 3D cube, representing a storage box.	Prohibition of Storage
 A black square icon with a white vertical rectangle. Inside the rectangle, there are two white arrows pointing in opposite directions (one up, one down). Each arrow has a black padlock symbol on it, indicating locking and unlocking actions.	Unlock and lock the electromagnetic brake (see section details 3.10electromagnetic brake)

2 About the Equipment

2.1 Packing List

M4/M4-H/M4-B	Battery
Operation instructions	Charger (1.5M)
Key	Hexagon spanner
Safety belt	

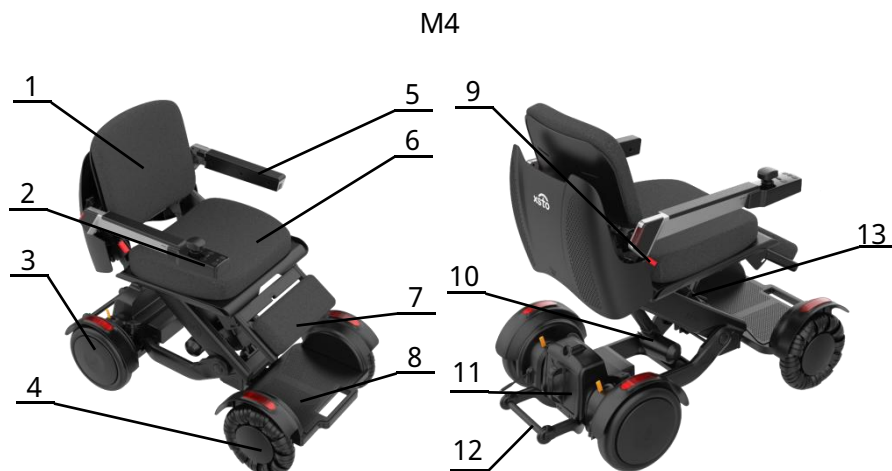
2.2 Optional Accessories

				
Mobile phone holder	The M4-H/M4-B backrest section	Side bag	Ventilation cushion	Inflatable cushion
				
Umbrella & umbrella holder	Flashlight & flashlight holder	Rear Cover (8 color options)	Battery (24V, 10.4A H)	The M4 backrest section



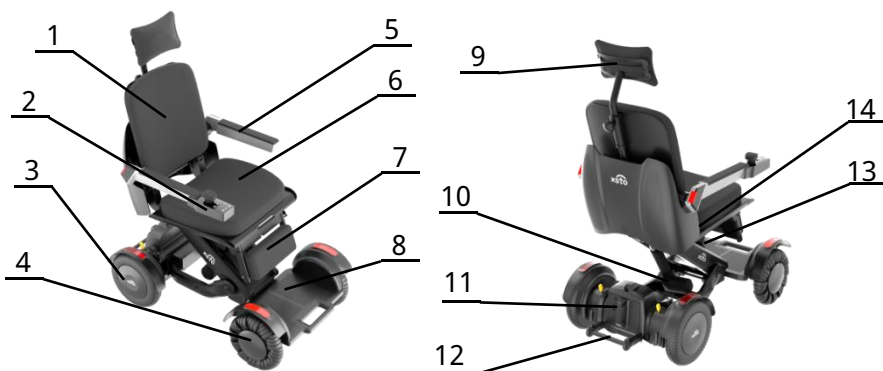
WARNING—Use of accessories, transducers and cables other than those specified or provided by the manufacturer of this equipment could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and improper operation.

2.3 Product Structure



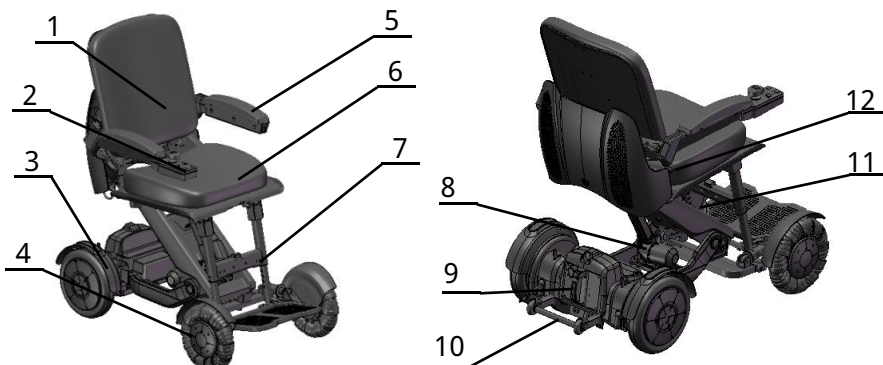
1: backrest 2: hand-held controller 3: rear wheel
4: front wheel 5: armrest 6: seat cushion 7: leg-rest 8: pedal
9: safety-belt 10: rear actuator 11: battery
12: anti-tipping wheel 13: front actuator

M4-H



- 1: backrest 2: hand-held controller 3: rear wheel
 4: front wheel 5: armrest 6: seat cushion 7: leg-rest 8: pedal
 9: headrest 10: rear actuator 11: battery
 12: anti-tipping wheel 13: front actuator 14: safety-belt

M4-B



- 1: backrest 2: hand-held controller 3: rear wheel
 4: U-shaped front wheel 5: width-adjustable armrest
 6: seat cushion 7: quick detachable footrest 8: rear actuator
 9: battery 10: anti-tipping wheel 11: front actuator 12: safety-belt

2.4 Product Parameter

Technical Index		
Model	M4	M4-H
Standard position size	Height: 930 mm Width: 580 mm Length: 1035 mm	Height: 1266 mm Width: 580 mm Length: 1035 mm
Folded position size	Height: 570 mm Width: 580 mm Length: 1040 mm	Height: 570 mm Width: 580 mm Length: 1040 mm
Total weight	Device: 51.5kg Battery: 3kg	Device: 52kg Battery: 3kg
Pedal size (unit: mm)	410*580*305	410*580*305
Pedal weight	11kg	11kg
Seat size (unit:mm)	740*570*320	826*570*340
Seat weight	15.2kg	16kg
Chassis size (unit:mm)	745*580*350	745*580*350
Chassis weight	25kg	25kg
Battery size (unit:mm)	245*130*130	245*130*130
Rated load	115kg	115kg
Highest speed	6Km /h	6Km / h
Full charge range	15km	15km

Folding form	Complete machine folding (seat cushion needs to be removed)	Complete machine folding (seat cushion needs to be removed)
Tire size	10 Inch	10 Inch
Maximum Forward Obstacle Height	5cm	5cm
Maximum Reversing Obstacle Height	4cm	4cm
Maximum uphill angle (while full-loaded)	10°	10°
Minimum turning radius	820mm	820mm
Battery type	Lithium battery	Lithium battery
Battery parameters	25.55V 15.5Ah Nominal voltage 25.55V, Cut-off voltage:19.25V	25.55V 15.5Ah Nominal voltage25.55V, Cut-off voltage:19.25V
Charging parameters	Charger input: 100-240VAC,50/60Hz, 2.5A Max; Charger output: 29.4V $\overline{=}$,4.0A,117.6W	Charger input: 100-240VAC,50/60Hz, 2.5A Max; Charger output: 29.4V $\overline{=}$,4.0A,117.6W
Device storage / operation temperature range	0℃ to + 35℃ / + 5℃ to + 40℃	0℃ to + 35℃ / + 5℃ to + 40℃

Battery storage / operating temperature range	0℃ to + 45℃ / 0℃ to + 45℃	0℃ to + 45℃ / 0℃ to + 45℃
Noise level	<70dB	<70dB
Serial number tag	See the nameplate of the fuselage	See the nameplate of the fuselage
IP Rating	IPX4	IPX4

Technical Index	
Model	M4-B
Standard position size	Height: 1055 mm Width: 590 mm Length: 1050 mm
Folded position size	Height: 570 mm Width: 590 mm Length: 1040 mm
Total weight	Device: 55.5kg Battery: 3kg
Size of U-shaped front wheel (unit: mm)	375*590*275mm
Weight of U-shaped front wheel	7.4kg

Folded size of quick detachable footrest (unit: mm)	330*100*300mm
Weight of quick detachable footrest	4.9kg
Seat size (unit: mm)	Minimum:740*570*340mm Maximum:740*592*340mm
Seat weight	17.4kg
Chassis size (unit: mm)	745*580*350mm
Chassis weight	25kg
Battery size (unit: mm)	245*130*130mm

Equipment 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

Essential functions: Motor-Controlled Movement(including going forward, reverse, and steer); Motor brake function; Electric actuator Raising function; joystick reset and parking function; hand-held controller power ON/OFF function.

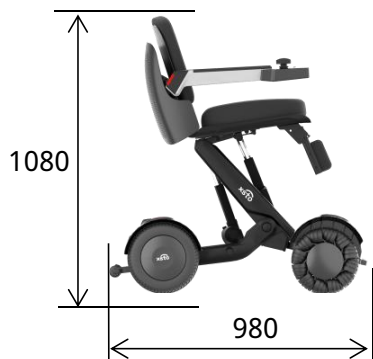
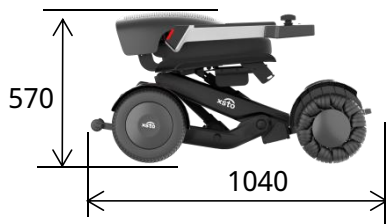
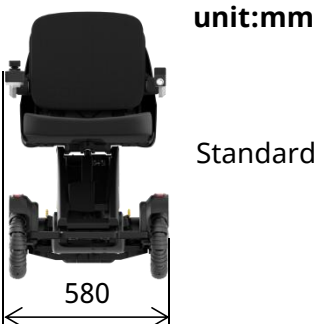
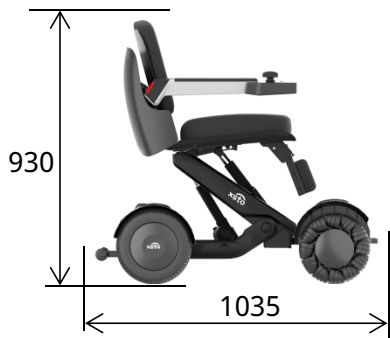
Note: This product is an indoor intelligent Powered Wheelchair (Mobility Robot). Due to manufacturing and assembly tolerances, the actual dimensions may vary from the listed values by ± 5 mm, and the weight may vary by ± 2 kg.



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

2.5 Product Overall Size

M4

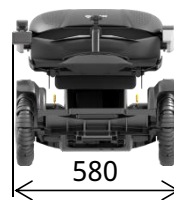
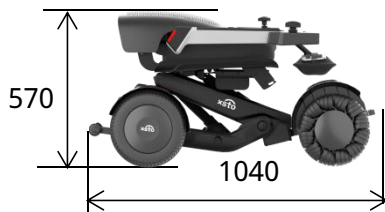


M4-H

unit:mm



Standard
state



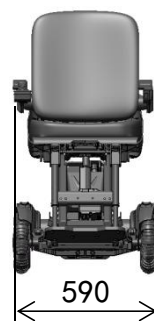
Folded
State



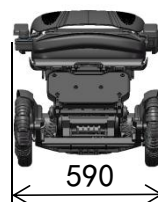
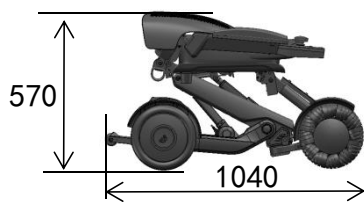
Lifted

M4-B

unit: mm



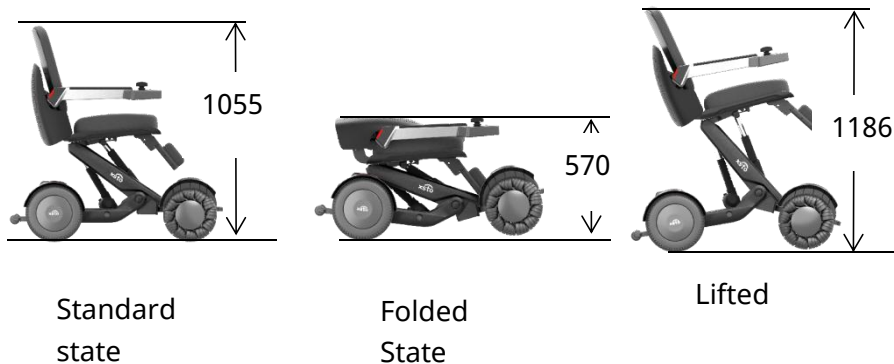
Standard



Folded



Lifted








2.6 Initialization

When the M4/M4-H/M4-B is shipped, the main unit and battery are stored separately.

If the seat, chassis, and pedal are stored separately, please assemble these three parts first. For details, see section 4.2: Assembly Method.

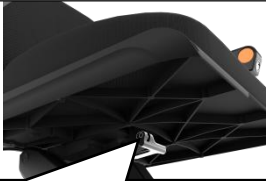


Insert the battery and make sure it is securely installed. Charge the battery before first-time use.

	<p>Press the power button of the hand-held controller .</p>
	<p>Press and hold the plus  and minus  buttons simultaneously for about 3 seconds to activate the one-touch unfolding function. The screen will display “U,” and the M4/M4-H/M4-B will reach its standard position.</p>

3 Operation



3.1 Check Before Use

 <div data-bbox="157 1290 566 1370"> <p>Quick-disassembly buckle</p> </div>	<p>Check and tighten the quick-disassembly buckle at the bottom of the seat. (For instructions on using the quick-disassembly wrench, see section 4: Assembly and Disassembly.)</p>
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	<p>Check the wear condition of the front and rear wheels. If there is abnormal vibration or serious localized damage, do not use it. If any of above adverse phenomenon occur, please contact the manufacturer.</p>
	<p>Check whether the battery is damaged or wet, and stop use if the above situation happens. If not installed correctly, it shall be used after correct installation. (see section 6 Battery Usage Instructions)</p>
	<p>Check and make sure the pedal is assembled firmly before use. (see section 4 Assembly and Disassembly)</p>
	<p>Check and make sure the electromagnetic brake is in a locked state before use. (see section 3.10 electromagnetic brake)</p>

3.2 Seating and Getting Up

3.2.1 Seating From the Front

	<p>After stepping on the pedal from the front, turn around backward to sit down.</p>
	<p>Adjust the seat height to the comfortable position. (see section 3.7 Raising and fold for details of seat height adjustment)</p>

3.2.2 Seating From the Side

	<p>Rotate the armrest upward until the position is as shown on the left.</p>
	<p>Sit on the seat cushion as shown on the left.</p>
	<p>Adjust the facing direction as shown on the left panel. Lower the armrest and adjust the seat height to a comfortable position. (see section 3.7 Raising and fold for details of seat height adjustment)</p>

3.3 Operation Instructions

3.3.1 Button Introductions



Power button: Turn on/off the equipment



Turtle button: lower the speed gear



Rabbit button: Increase the speed gear



Minus button: lower the seat height







Plus button: Increase the seat height



Horn button

3.3.2 Screen Display Instructions

	<p>The two-digit number represents the percentage of the battery: As shown in the figure, this indicates that the remaining battery power is 88%. When the battery level is below 20%, the two-digit battery indicator will flash red on both sides. Please charge the battery as soon as possible.</p>
	<p>The numbers 1-5 represent the speed gear. The figure represents the current speed gear is 1. There are 5 gears, and the speed increases from gear1 to 5. Each gear can be controlled stepless through the joystick.</p>
	<p>The character "U" represents the state of one-touch unfolding.</p>
	<p>The character "F" represents the state of one-touch folding.</p>

3.4 Leg-rest Adjustment



Press the button at the position indicated by the arrow to retract the side pistons, allowing the leg support to be converted into three different positions.




Notice — When folding the wheelchair, ensure that the Leg-rests are in the folded position, otherwise the machine may be damaged.





Leg-rest fold position.





Leg-rest low position.

	<p>Leg-rest high position.</p>
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3.5 Headrest(Optional Accessory) Adjustment

 <p>Plum bolt</p>	<p>Release the plum bolt to adjust the headrest.</p>
 <p>Headrest pole</p> <p>Headrest rod base</p>	<p>The headrest rod can be raised up to the level of the bottom its base</p>

	<p>As shown in the left figure, the headrest rod is already higher than the bottom of its base. Using the headrest in this position may result in danger. Please be cautious.</p>
	<p>If required, the headrest rod can be completely removed.</p>

3.6 Riding

3.6.1 Applicable Road Conditions

The M4/M4-H/M4-B is suitable for riding on the following surfaces:


Indoor pavement	Ceramic tile surface, wood board surface, underground garage, etc.
Urban road	Asphalt road, cement road, sidewalk, paving brick road, park lawn and so on.

The M4/M4-H/M4-B is not suitable for riding on the following surfaces:


Pebble pavement	The M4/M4-H/M4-B may not be turned around, so such surfaces should be avoided.
Sand, gravel and muddy roads	The M4/M4-H/M4-B may slip or sink, so such surfaces should be avoided.
* Stairs and steps	The M4/M4-H/M4-B may be stuck in the steps, or even roll over, so such surfaces should be avoided!

* The M4/M4-H/M4-B can ascend a single-step height of 5 cm when moving forward and a single-step height of 4 cm when moving backward. Please exercise caution when ascending steps..

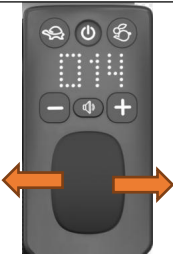
3.6.2 Going Forward

	<p>Push the joystick on the hand-held controller forward to move the M4/M4-H/M4-B forward.</p> <p>The joystick has a self-resetting feature; when being let go of, the joystick automatically returns to the neutral position, and the M4/M4-H/M4-B will stop. The joystick allows for stepless control: the greater it is offset, the greater the speed would be.</p>
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3.6.3 Retreat

 A hand-held controller with a joystick pulled back. An orange arrow points downwards from the joystick, indicating the retreat action.	<p>By pulling back the joystick on the hand-held controller, the M4/M4-H/M4-B will retreat. After letting go of the joystick, the M4/M4-H/M4-B will stop..</p> <p>The joystick allows for step-less control: the greater it is offset, the greater the speed would be.</p>
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3.6.4 Steering

 A hand-held controller with a joystick moved left and right. Two orange arrows point horizontally from the joystick, indicating the steering action.	<p>By moving the joystick on the hand-held controller left and right, the M4/M4-H/M4-B rotates left or right, and the M4/M4-H/M4-B 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/M4-H/M4-B to turn left or right.</p>
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3.6.5 Speed Adjustment

	<p>The driving speed of the M4/M4-H/M4-B has 5 gears, and the speed is increased from 1 to 5 gear, the gears are switched through the turtle and rabbit button   on the hand-held controller.</p> <p>Only the speeds for moving forward, backward, and turning can be adjusted; the self-adjustment speed for going uphill or downhill, as well as the seat Raising speed, cannot be adjusted.</p>
 	<p>N Mode: Normal mode, suitable for beginners, with a maximum speed(gear 5) of 4 km/h. In N mode, acceleration and deceleration are relatively smooth. If the seat angle changes instantaneously and exceeds the safety threshold, the M4/M4-H/M4-B will automatically reduce the speed gear.</p> <p>S Mode: Sport mode, suitable for skilled operators, with faster acceleration and deceleration. The maximum speed(gear 5) of S Mode is 6 km/h.</p> <p>Press  and  at the same time for about 3 seconds to switch between N and S mode.</p>

3.6.6 Seat Angle Adjustment


	<div data-bbox="530 159 647 216"></div> <p data-bbox="530 194 995 297">Press the two buttons at the same time, the seat gradually tilts forward.</p> <div data-bbox="530 301 658 357"></div> <p data-bbox="530 335 1000 439">Press the two buttons at the same time, the seat gradually reclines.</p> <p data-bbox="530 448 986 517">Seat angle adjustment range: 0-20 degrees.</p>
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NOTICE—When riding the M4/M4-H/M4-B, the seat angle cannot recline too much.

3.6.7 Going Uphill

The M4/M4-H/M4-B has the slope self-adjustment function.

	<p data-bbox="530 827 1012 1160">When going uphill, the M4/M4-H/M4-B will automatically adjust the rear actuator to make 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.</p> <p data-bbox="530 1169 1000 1310">After the automatic adjustment, if the slope is too steep and exceeds 15 degrees, the M4/M4-H/M4-B will stop and issue an alarm.</p>
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3.6.8 Going Downhill



When going downhill, the M4/M4-H/M4-B will automatically adjust the rear actuator to make 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/M4-H/M4-B will stop and issue an alarm.

3.6.9 Turn On /Off the Controller's Bluetooth Function





Turn On:



Press the  and  buttons simultaneously. The upper-left LED will stay on, indicating that Bluetooth is enabled.

Turn Off:



Press the  and  buttons again to turn off the function.

3.6.10 Turn On/Off the Seat Angle Abnormal Alarm Function

When the seat angle becomes too steep, the system will trigger the Seat Angle Abnormal Alarm. (Please refer to 3.9 E9 for more details). 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:



and



Press the buttons simultaneously. The upper-right LED will stay on, indicating that Bluetooth is enabled.

Turn Off:



and






Press the buttons again to turn off the function.

3.7 Raising and Folding

3.7.1 Raising

The M4/M4-H/M4-B 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.

 <p>The image shows a hand-held controller with a digital display showing '014', a power button, and minus/plus buttons. Below it are two views of the M4/M4-H/M4-B scooter: one with the seat in a standard position and one with the seat raised.</p>	<p>Raise or lower the height of the seat by manipulating the minus and plus buttons on the hand-held controller. Press and hold the plus button , the seat will rise, release the button to stop rising. Press and hold the minus button , the seat will be lower, release the button to stop being lower.</p>
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NOTICE—When riding the M4/M4-H/M4-B uphill and downhill, the seat should stay in the standard height position and should not rise to the highest state, otherwise there may be a danger of tipping.



If the M4/M4-H/M4-B is powered on in a non-standard position (the folded state does not count as a non-standard position), it may trigger an E9 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.

3.7.2 Folding

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



Press and hold the control button on the hand-held

controller   at the same time for about 3 seconds, and the M4/M4-H/M4-B will be automatically folded or unfolded.



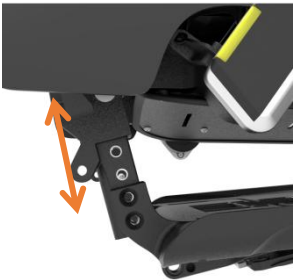

When folding the backrest, first remove the backrest cushion, then pull the buckle at the bottom of the backrest to fold it down.



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

3.8 Armrest Height Adjustment

	<p>Remove the seat cushion.</p>
	<p>Fold the backrest, and the default armrest position is on its lowest height.</p>
	<p>Remove the screws in the left figure</p>

	<p>Adjust the armrest to the needed height. Align the holes and reinstall the previously removed screws.</p>
	<p>Unfold the backrest, and reinstall the original back plate and put back the cushion.</p>

3.9 Protection Mechanism

The machine has the relevant protection mechanism, and the alarm code will be displayed on the screen of the hand-held controller.

(1) E0: The joystick does not appear at the origin position or the wire of joystick is broken. The joystick needs to be reset before operation or replaced.

(2) E1: Unable to communicate with the drive. When the fault occurs, the machine will stop and prohibit the related operation.

(3) E2: 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.

(4) E3: Left wheel hub warning. Check the wiring of the left motor,

or replace the left motor.

(5) E4: Right hub warning. Check the wiring of the right motor, or replace the right motor.

(6) E5: The rear actuator warning. Check the wiring of the rear actuator, or replace the rear actuator



(7) E6: The front actuator warning. Check the wiring of the front actuator, or replace the front actuator.

(8) E7: Abnormal electromagnetic brake. If the brake lever is not in the locked position, the alarm E7 will be displayed when the power is turned on. Pull the lever back is required to re-lock the rear wheel before starting driving. The alarm is eliminated when the brake is locked.

(9) E8: Temperature abnormal alarm. Stop the operation and wait for a while. After the temperature returns to normal, the fault will automatically clear.

(10) E9: The seat angle is too steep. When the angle of the seat is tilted too much (more than 15°), the alarm will indicate. At the same time, the actuators 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.

(11) 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/M4-H/M4-B is

turned off and on, the user need to push the joystick or press  or  to enter the seat automatic adjustment level function.

3.10 Electromagnetic Brake

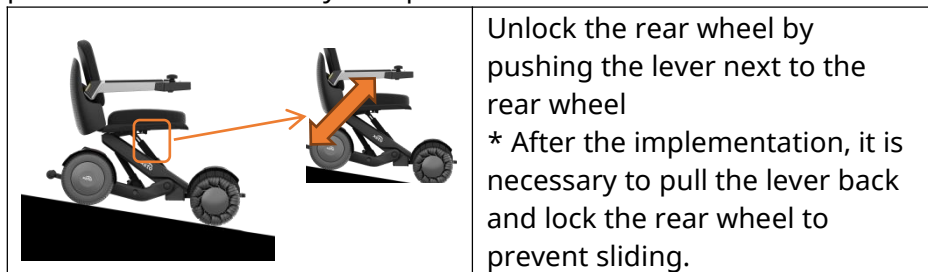
The wheelchair is equipped with two types of brake.

Automatic brake - The joystick has a self-resetting function. When the joystick is released, the joystick will automatically return to its original position and the wheelchair will stop traveling, at this time the rear wheels of the wheelchair are locked and can not be moved in any direction, and it has the function of parking brake.

Mechanical brake - Has parking brake function. Prevent slipping by pulling the mechanical brake switch and locking the rear wheels. See section 4.9 of this manual for specific description and operation.

The M4/M4-H/M4-B features a "release to stop" riding method. When the battery is depleted or the vehicle is powered off, the rear wheels remain locked.

To push the M4/M4-H/M4-B, the user should release the electromagnetic brake on the rear wheels, allowing the vehicle to be pushed when the battery is depleted.



* Pull back the lever to lock the rear wheel before starting riding the M4/M4-H/M4-B. If the lever is not in the locked position, the alarm code for E7 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, the user should ensure that the hand-held controller'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.

3.11 Key

3.11.1 Appearance of the Key

The appearance of the M4/M4-H/M4-B key is as shown in Figure 1. There are three buttons on the key: unlock button, power-on button and lock button.



Figure 1: Remote key appearance

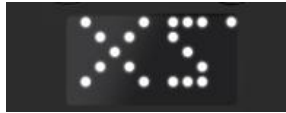
3.11.2 Operation of the Key

(1) Starting up

Before the operation, the screen on the hand-held controller will display the following states:

Before the M4/M4-H/M4-B is turned on, the screen does not display anything.

To turn on the M4/M4-H/M4-B, press the power-on button, and the screen will display the power-on welcome animation, as shown below. The power-on animation will slide from right to left, displaying the four letters "XSTO" and 6-digit serial number for Bluetooth connection.



power-on welcome animation

After the power-on animation, the screen will display the current speed gear, as shown in the following figure.



speed gear

Then it will continuously show the battery level of the machine, as shown by below picture, indicating that the startup is successful, and the M4/M4-H/M4-B can be operated through the hand-held controller.



Machine remaining power

(2) Locking

When the machine is being controlled by the hand-held controller mode or mobile phone app, press the lock button on the key to lock the machine. The machine will be locked and can not be

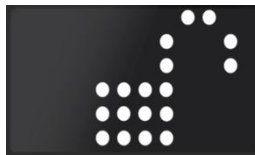
controlled through the hand-held controller or app. The screen display as shown in the following figure.



locked

(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 hand-held controller after being unlocked. The speed gear after unlocking is the same as before locking.



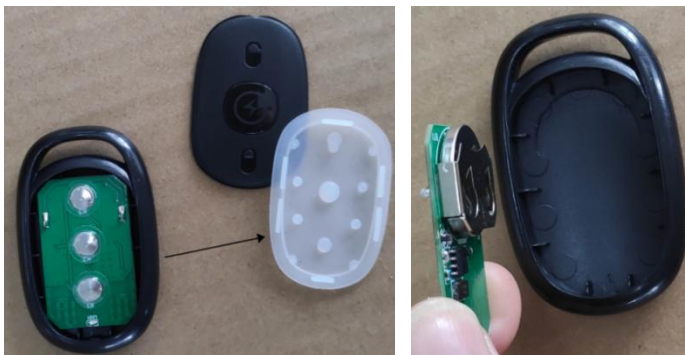
unlocking

3.11.3 Battery Replacement of the Key

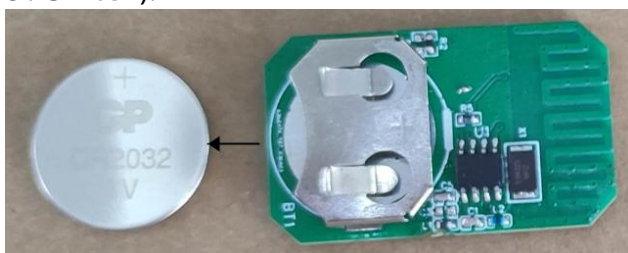
- (1) Use a slightly pointed tool to pry the lid open.



(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).



3.12 Armrest USB Charging Port



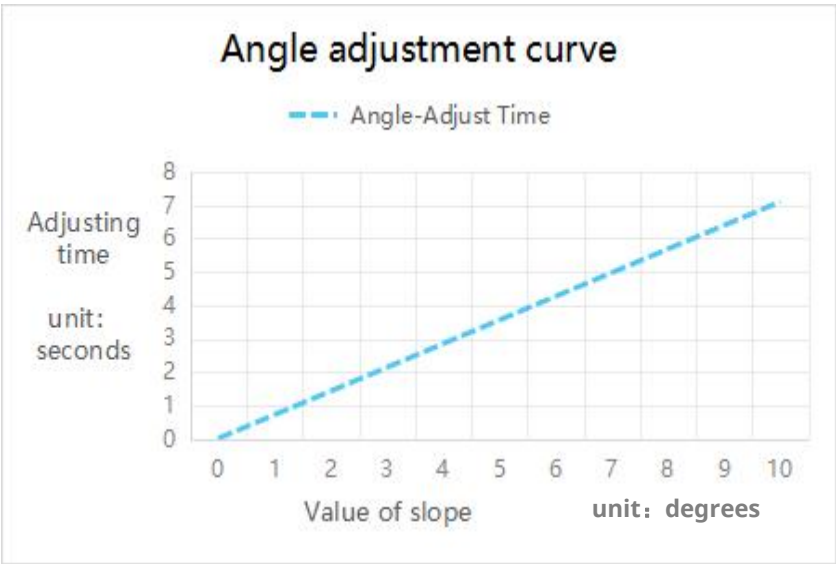
USB charging port

support protocol of the USB charging port: USB PD3.0 (PPS), Huawei SCP / FCP, Qualcomm QC4+/QC3.0, Apple2.4A, Samsung AFC, VIVO 9V2A twin engine, Lianfa PE2.0, one Plus VOOC, OPPO DASH. Maximum power is 36W.

3.13 Uphill/ Downhill Adjustment and Speed Protection

3.13.1 Uphill/ Downhill Adjustment

The M4/M4-H/M4-B features the function of automatic adjustment of uphill and downhill angle, and the corresponding curve of the adjustment function is as follows.



3.13.2 Speed Protection

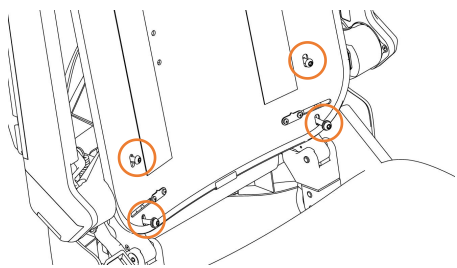
The M4/M4-H/M4-B is equipped with a speed protection mechanism.

When the body tilt angle exceeds 15°, the speed protection will be triggered. The system will automatically reduce the driving speed,

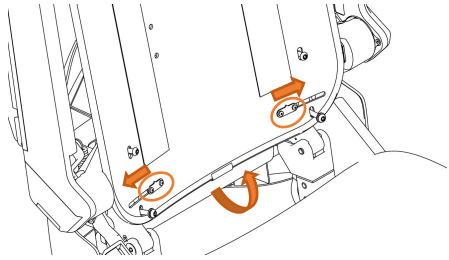
trigger the seat angle abnormal alarm (E9), and emit a “beep-beep” sound if the voice alarm function is enabled in the app. When the tilt angle is between 8° and 15°, the system will reduce the speed automatically, and emit a “beep-beep” voice alarm if enabled in the app to ensure the user's safety. If the tilt angle is less than 8°, the user can manually readjust the speed using the speed adjustment buttons.

3.14 Instructions for Adjustable Back Plate

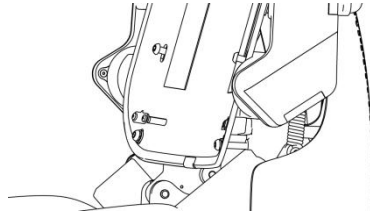
1. Remove the backrest cushion and loosen the four bolts that fix the back plate.
(Note: Loosen the screw just enough to allow adjustment; do not remove it completely.)



2. Place hand under back plate, lift to form larger angle between back plate and chair back frame. Slide the angle adjustment block to the desired setting (three marked positions: 95°, 100°, and 105°), then tighten the bolts, and reinstall the back cushion. (Note: If the screws for fixing the back plate are fully removed during adjustment, just align the holes and reinstall them after setting the angle.)

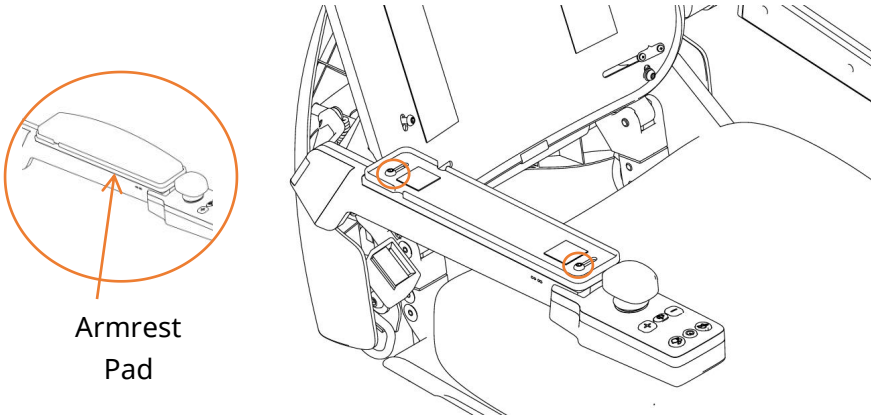


Adjust the back plate and the angle adjustment block



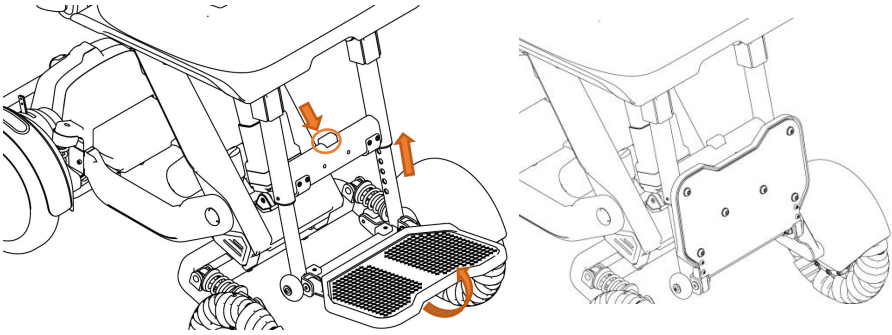
Adjust the angle adjustment block to the desired setting, then tighten the bolts

3.15 Instruction for Width-adjustable Armrest



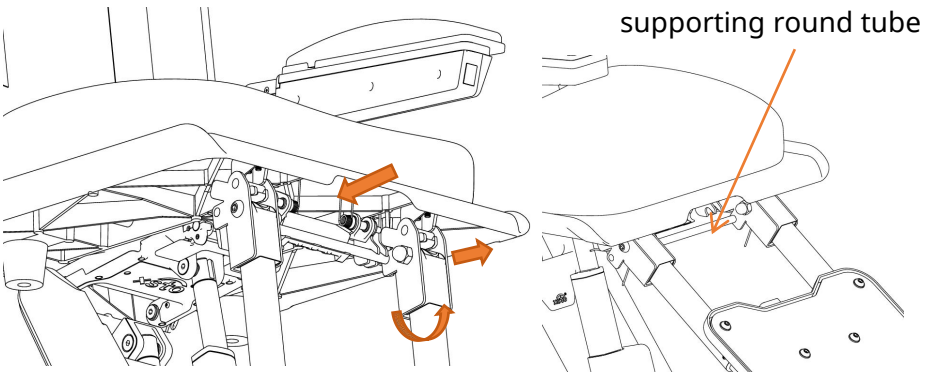
Remove the armrest pad and loosen the bolts(not necessary to remove them completely). Adjust the armrest to the desired width, then tighten the bolts and reinstall the armrest pad.(The same adjustment method applies to both left and right armrests.)

3.16 Instructions for Quick Detachable Footrest (M4-B)

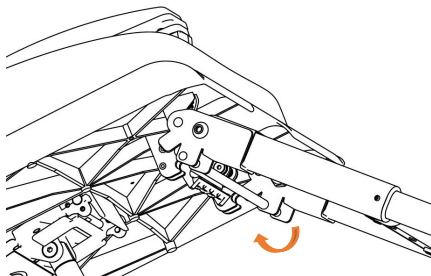
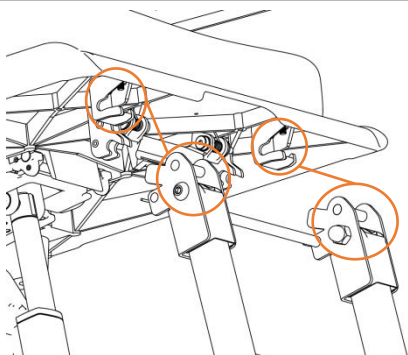


Usage: Hold the button and adjust the footrest to the desired height, then release the button and press the pedal (ensure it locks into the positioning hole) before use.

Note: The pedal can be folded upwards.

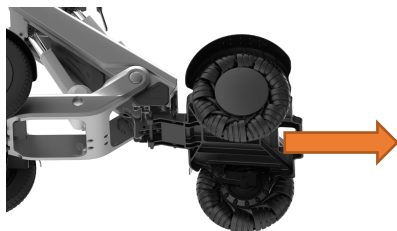


Disassembling: Release the latch, remove the support round tube from the slot and then pull it outward to disassemble.




Assembling: Locate the installation port and align the supporting round tube with it, then press down until the tube snapped into the slot.

3.17 U-shaped Front Wheel Assembly






Remove the M4 pedal assembly (referring to the steps in 4.3.2).

	<p>Assemble the U-shaped front wheel (referring to the steps in 4.2.1)</p>
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4 Assembly and Disassembly

4.1 Components Introductions

The M4/M4-H/M4-B can be quickly disassembled into four/five major components to facilitate handling and transportation.


	<p>Chassis (M4/M4-H/M4-B)</p>
<div> <div>  <p>M4/M4-H</p> </div> <div>  <p>M4-B</p> </div> </div>	<p>Pedal (M4/M4-H/M4-B)</p>

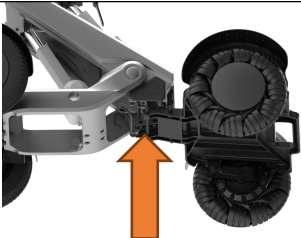

	Seat (M4/M4-H/M4-B)
	Battery (M4/M4-H/M4-B)
	Quick Detachable Footrest (M4-B)

4.2 Assembly Method


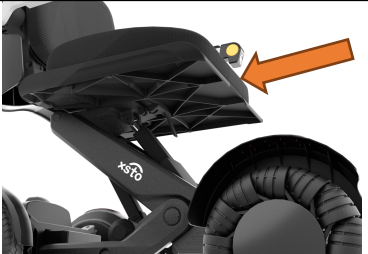
When assembling the M4/M4-H/M4-B, first install the pedal, then install the seat.

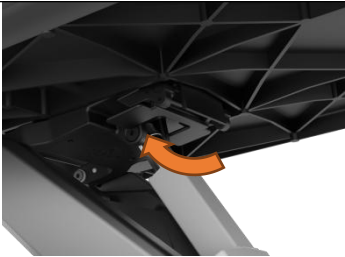

4.2.1 Assembling the Pedal

	Lift the front side of the chassis component.
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	<p>Insert the U-shaped opening of the pedal component into the connecting rod below the chassis component.</p>
	<p>Lower the chassis, and the pedal and chassis components will be locked together automatically.</p>

4.2.2 Assembling the Seat

	<p>Release the quick-disassembly wrench for the seat connector above the chassis component.</p>
	<p>Remove the seat component and place it to the seat connection position and push the seat component into the connection position. Pay attention to the electrical connection parts before connecting the seat with the chassis component.</p>


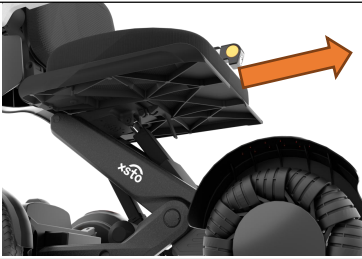
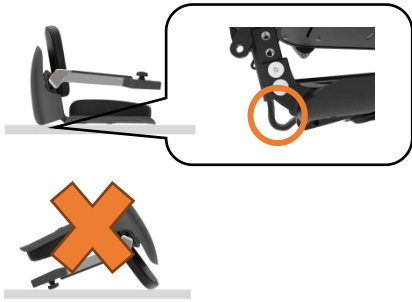
	<p>After confirming the seat is pushed in correctly, press the quick-disassembly wrench of the connecting position and check if the seat is loose.</p>
	<p>Unfold the backrest that will automatically lock up. * Check if the backrest and armrest is firmly fixed.</p>

4.3 Disassembly Method


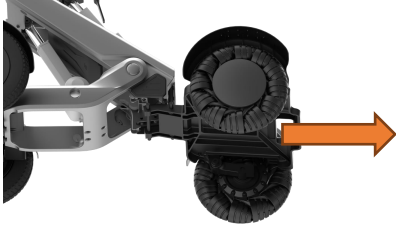
When disassemble the M4/M4-H/M4-B, the seat should be removed first, and then the pedal.

The M4/M4-H can be disassembled in any state, but the components will be at their most compact when disassembled after one-touch folding (the leg support must be removed before folding), see section 3.7.2 Folding


4.3.1 **Seat Removal**

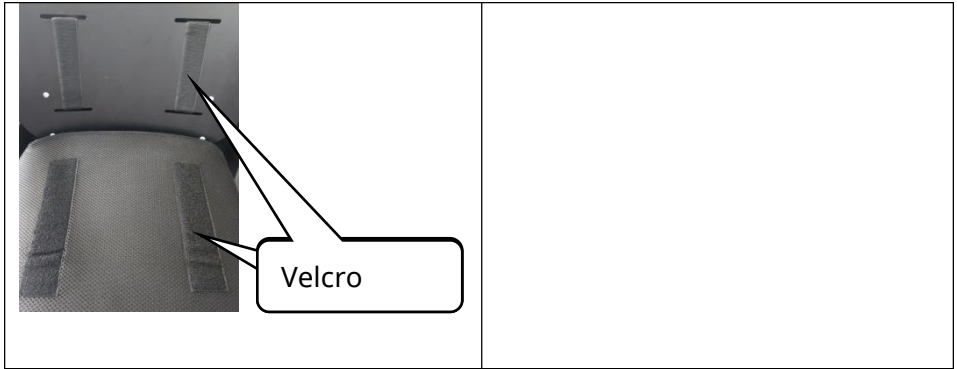
	<p>Release the quick-disassembly wrench for the seat.</p>
	<p>Slide the seat out.</p>
	<p>The removed seat should be placed on a horizontal level, and be careful not to squeeze the wires when placed.</p>

4.3.2 Pedal Removal

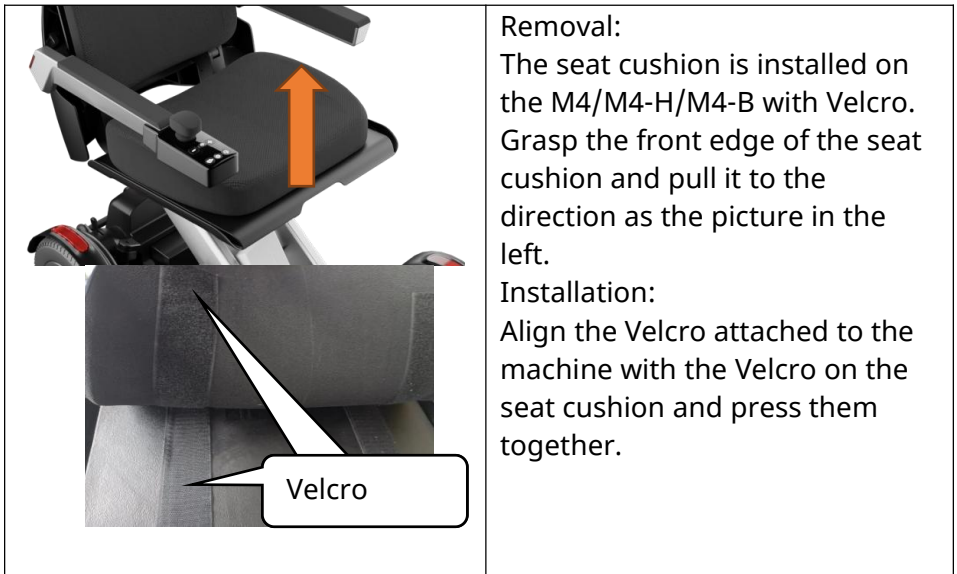
	<p>Pull the quick-disassembly wrench in front of the chassis and lift the chassis.</p>
	<p>Pull out of the pedal.</p>

4.3.3 Backrest Removal and Installation

	<p>Removal: The backrest is installed on the M4/M4-H/M4-B with Velcro, grab any edge of the backrest and pull it to the direction as the picture in the left.</p> <p>Installation: The Velcro tape fixed on the equipment and the Velcro tape on the backrest are aligned with each other and can be affixed.</p>
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4.3.4 Cushion Removal and Installation



5 Storage and Transportation

5.1 Storage

When the M4/M4-H/M4-B needs to be stored for a long time, remove the battery.

It should be stored in an indoor environment of 0°C to 35°C, and avoid the following environment:


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

5.2 Transportation

Before transporting the M4/M4-H/M4-B, turn off it or remove the battery.

It is recommended to disassemble the equipment into four components for transportation, see section 4.3 Disassembly method for details

5.2.1 Transporting the Complete Machine

 A photograph showing two men in light blue shirts and grey trousers lifting a black and silver motorized machine. One man is on the left, leaning forward to grasp the side of the machine's seat. The other man is on the right, standing upright and grasping the top of the seat. The machine has a large black battery pack at the base and a handlebar assembly.	<p>Short distance handling: two people can respectively grasp the two sides of the seat, and lift the complete machine to transport it.</p>
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5.2.2 Transporting the Chassis



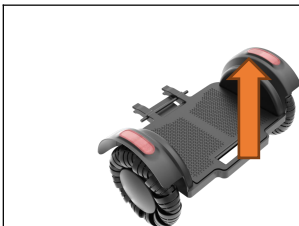
Hold the crossbeam behind the chassis to lift it up to transport.

5.2.3 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.

5.2.4 Transporting the Pedal



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

6 Battery Usage Instructions

6.1 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 equipment and place it in a dry and ventilated place and away from the strong magnetic environment. Charge the charger 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 for 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 transmission 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 attached 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 batteries 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.

6.2 Battery Charging



NOTICE——Please keep the socket interface of the charger and battery dry!



NOTICE——Please follow the operator manual to charge!



NOTICE——Complete out of power can degrade battery performance and shorten battery life!



NOTICE——After each use, please remember to charge!



Use the charger that comes with the equipment. Input voltage of the charger: 100-240VAC, 50 / 60Hz.

The output voltage is 29.4V 4A, (NOTICE: charging output port, 1 and 3 pin connected to the positive, 2 pin connected to the



negative.)



Open the dust cap on the battery charging port.



Plug the output plug of the charger into the charging connector of the battery.

Charge the battery only with the provided charger.

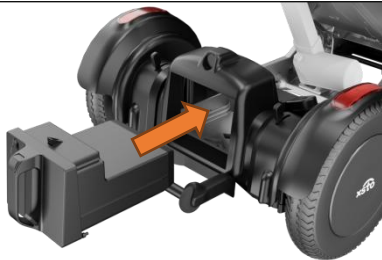
Do not operate the M4/M4-H/M4-B while charging. Otherwise, the battery will automatically disconnect the output to make the equipment power off.

When charging, the charger light is red, and it turns green when fully charged.

6.3 Battery Installation and Removal



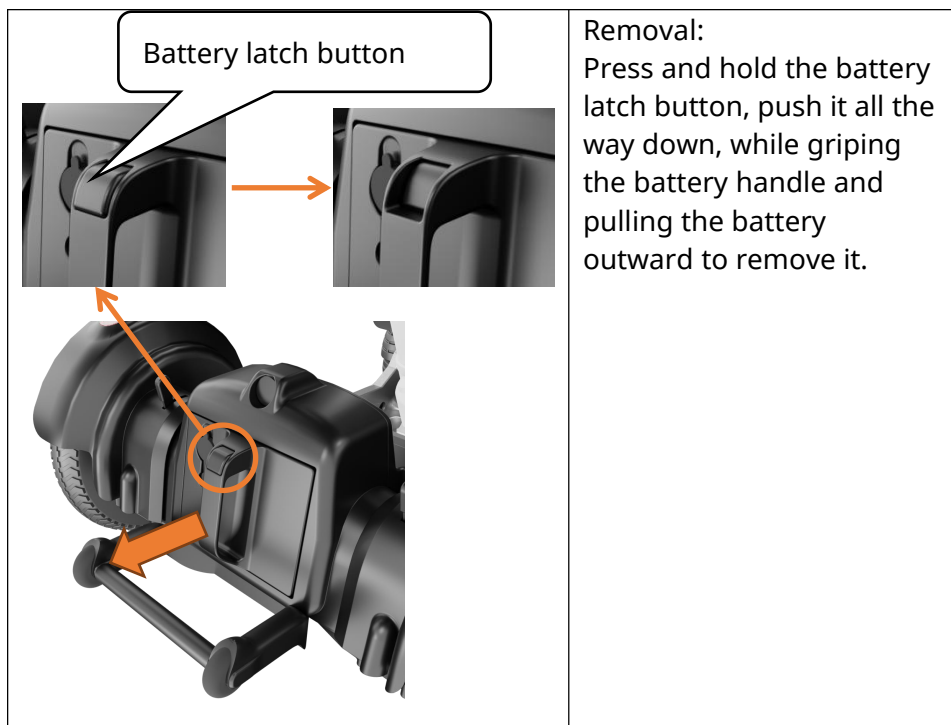
NOTICE — Please keep the socket interface dry!



Installation:
Install the battery in the direction as the arrow. After hearing the "tap" sound, the battery is installed in place. After the battery is placed, the battery switch will activate the power supply automatically without additional wiring.



Check whether the installation is in place, hold the grip of the battery to the left direction, making sure there is no loose.



6.4 Battery Storage



Please note that batteries should be removed during transportation and storage.

The M4/M4-H/M4-B shall be stored in an indoor environment of 0°C ~35°C and kept away from wet (with water), strong magnetic environment.



NOTICE — Please keep the M4/M4-H/M4-B away from the

wet environment! Please remember to charge the M4/M4-H/M4-B after each use, and it is essential to strictly follow the instructions in the manual during the charging process! Please keep the socket dry!



NOTICE — Please protect the charging and charging wires from oil, grease, detergent, diluent or anything that may be destructive!

7 Maintenance

7.1 User Maintenance and Testing

Please perform the following actions to keep the device clean.

- If there is a lot of dust on the surface of the M4/M4-H/M4-B, wipe it with a wet towel. Be careful when cleaning the M4/M4-H/M4-B with water.
- 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.



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.



NOTICE—— Do not insert sharp objects into the speaker hole. Otherwise, it may damage the hand-held controller.



NOTICE——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.



NOTICE——Do not use wet hands to operate the equipment!



NOTICE——Please keep the equipment away from the wet environment!



NOTICE——Please charge in time when the battery level is low!



NOTICE——Please remove the equipment from oil, grease, detergents, diluent or anything that may be damaging!



Warning——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——The M4/M4-H/M4-B should be turned off prior to sit on or get off it;



NOTICE—The M4/M4-H/M4-B may risk stopping suddenly at any time during operation;



NOTICE—The driving performance of the M4/M4-H/M4-B may be affected by electromagnetic fields, such as those generated by a generator or high-power source



NOTICE—The stopping distance on a slope is greater than that on flat ground.




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.

	<p>Check the screw to tighten the loose one if exist.</p>
---	---

The items above are recommended to be checked once every 6 months.

7.2 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 hand-held controller have a 14-month warranty.

Fabric support items such as cushions, backrests, and headrests are covered for 1 years.

The chassis frame is covered for 5 years.

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.

7.3 Liability Exemption

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

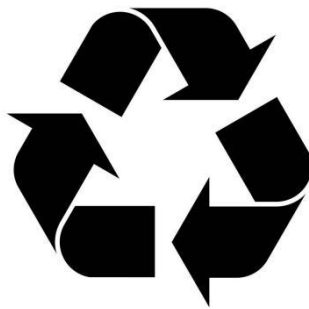
- Improper equipment operation;
- Repair, dismantle or otherwise operate the equipment without authorization;
- Did not operate according to the operation manual;
- Add the configurations other than the optional accessories of the equipment;
- Disassemble the configuration of the equipment at will;
- Operation under the overload condition;
- Operation in the case of low power supply.
- Operation in a situation that suits a warn stating that not to operate the equipment if it is behaving abnormally or erratically;
- Operation in a situation that suits an instruction stating that if a fault is indicated, the battery should be isolated for transport to service

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.

7.4 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.



8 Troubleshooting

8.1 Code



(Six red side lights at the bottom of the screen indicate faults. When multiple faults occur simultaneously, the screen displays them in a loop.)

Code	Indicator	Code Information
E0	1	Not detected Joystick connection
	2	X-axis not at origin
	1、 2	Y-axis not at origin
E1	1	Connection failure with driver
E2	1	Connection failure with angle module
E3 Left Wheel	1	Motor overcurrent
	3	Hall encoder data anomaly
	1、 3	Sampled motor current anomaly
E4 Right Wheel	2、 3	Hall sensor calibration anomaly

	1、 2、 3	Motor phase line abnormality
	1、 4	Motor phase line short circuit
	2、 4	Motor overvoltage
E5 Rear Actuator Rod	1	Motor overcurrent
	3	Motor Hall encoder data anomaly
	1、 3	Motor sampled current anomaly
E6 Front Actuator Rod	2、 3	Motor stall protection
	1、 2、 3	Motor Hall encoder AB phases reversed
	4	Motor phase line short circuit
E7	1	Left motor brake warning
	2	Right motor brake warning
E8	1	Left motor overtemperature
	2	Right motor overtemperature
	1、 2	Rear actuator rod overtemperature
	3	Front actuator rod overtemperature
E9	1	Angle data anomaly
	1、 2	Excessive forward tilt angle
	3	Excessive backward tilt angle
	1、 3	Excessive left tilt angle
	2、 3	Excessive right tilt angle

8.2 Common Troubleshooting

problem	Detection and solution
The device could not be turned on	<p>Check whether the battery display is normal. If the battery level is low, please charge.</p> <p>If the battery is charged, check whether the screen on the hand-held controller is on; if not, check the communication wire between the hand-held controller and the motor drive board;</p> <p>If other unknown warning occurs, please contact the supplier for handling.</p>
The battery cannot be charged	<p>Check whether the battery and charger is loose; for other unknown warning, please contact the supplier.</p>
E0 code	<p>When the joystick is not at the origin position, please release the it again; or if the joystick is broken, please replace a new one. This could leads to the replacement of the hand-held controller. For other unknown warning, please contact the supplier.</p>

E1 code	The communication fault between the hand-held controller and the motor drive board, and check whether the cable between the hand-held controller and the motor drive board is loose. If other unknown fault occurs, please contact the supplier.
E2 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.
E3 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.
E4 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.

E5 code	Check whether the cable wire and connector of the rear actuator is loose, or whether the rear actuator may be damaged and needs to be replaced. Please contact the supplier.
E6 code	Check whether the cable and connector of the front actuator is loose, or the front actuator may be damaged and needs to be replaced. Please contact the supplier.
E7 code	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 warning, please contact the supplier.
E8 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.
E9 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

	<p>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.</p>
The operation button is functionally abnormal	<p>If the buttons on the control panel is missing or inconsistent with the description, please contact the supplier.</p>
The motor appears abnormal sound	<p>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.</p>
The hand-held controller screen shows abnormal screen, chaotic spots or missing picture	<p>Shut down the machine and unplug the battery for 3 seconds; If the problem still exists, check whether the internal cable of the hand-held controller is damaged and the connector is loose; for other unknown warning, please contact the supplier.</p>

9 Mobile Phone App

9.1 Download

9.1.1 iOS System

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



Figure 9.1 Apple App Store search

9.1.2 Android System

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

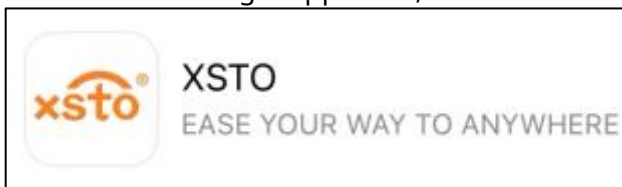


Figure 9.2 Google App Store search

2. Scan Figure 9.3 Android download QR code for download.




Figure 9.3 Download the QR code for Android


9.2 Registration and Login

9.2.1 Registration

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



✉ Please enter email number

🔒 Password (6~12 letters + numbers) 


Verification code login

Login


Account registration | Forgot password


☐ Read and agree [《The User Registration Agreement》](#) And [《Privacy Policy》](#)



Figure 9.4 Login interface



Email number Registration

 Please enter email number

 Verification code [Obtain verification code](#)

 Password (6-12 letters + numbers) 

[Register](#)


Have an account, go [Login](#)

☐ Read and agree [《The User Registration Agreement》](#) And [《Privacy Policy》](#)

Figure 9.5 Account registration

9.2.2 Login

Enter the registered email and password to log in.



1

Verification code login

Login

[Account registration](#) | [Forgot password](#)

☒ Read and agree [《The User Registration Agreement》](#) And [《Privacy Policy》](#)

Figure 9.6 input information

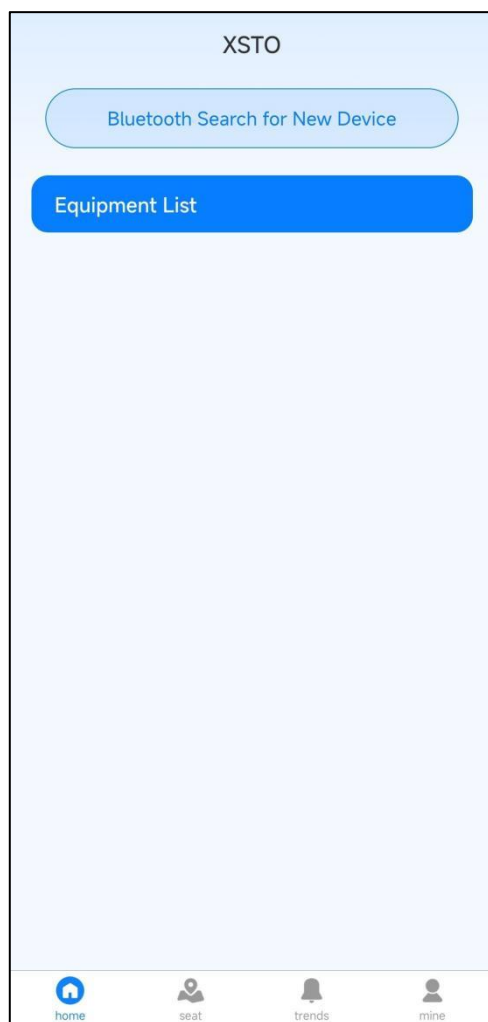


Figure 9.7 Success login interface

9.2.3 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.

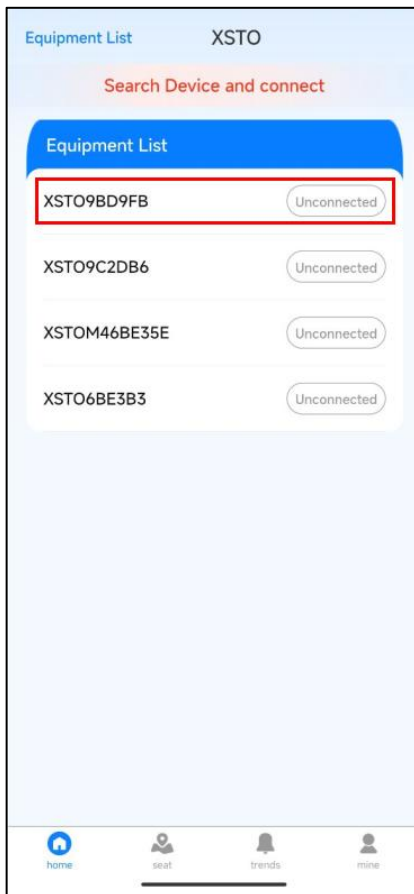


Figure 9.8 Bluetooth Search New Device Interface

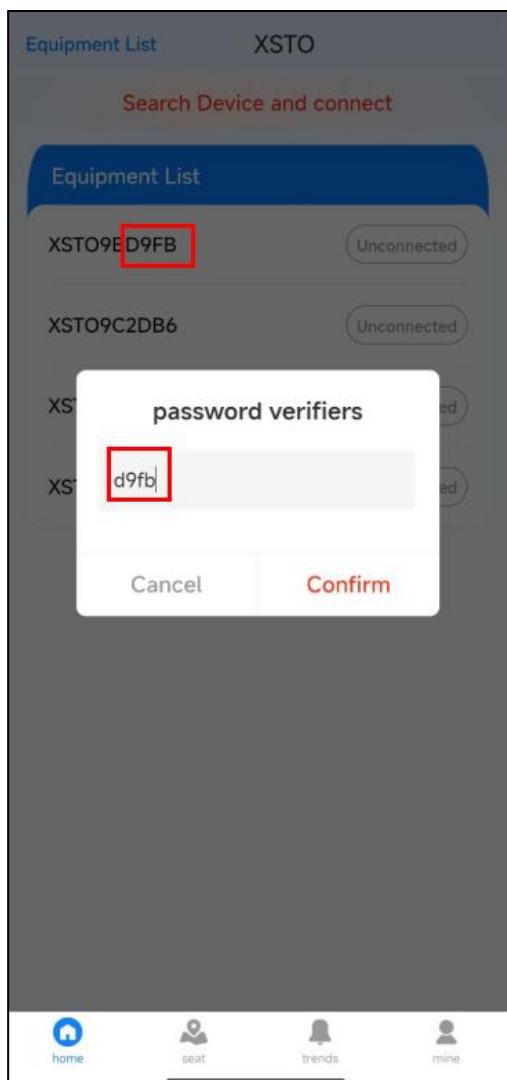


Figure 9.9 Password Verification Interface

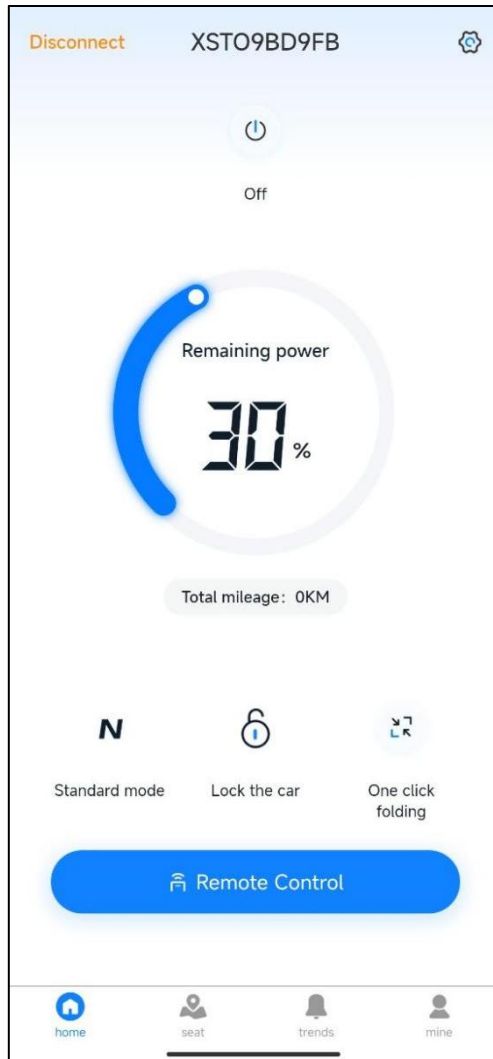


Figure 9.10 The Device is connected successfully

9.3 Control and Operation

9.3.1 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.

9.3.2 Remote Control

Click 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.

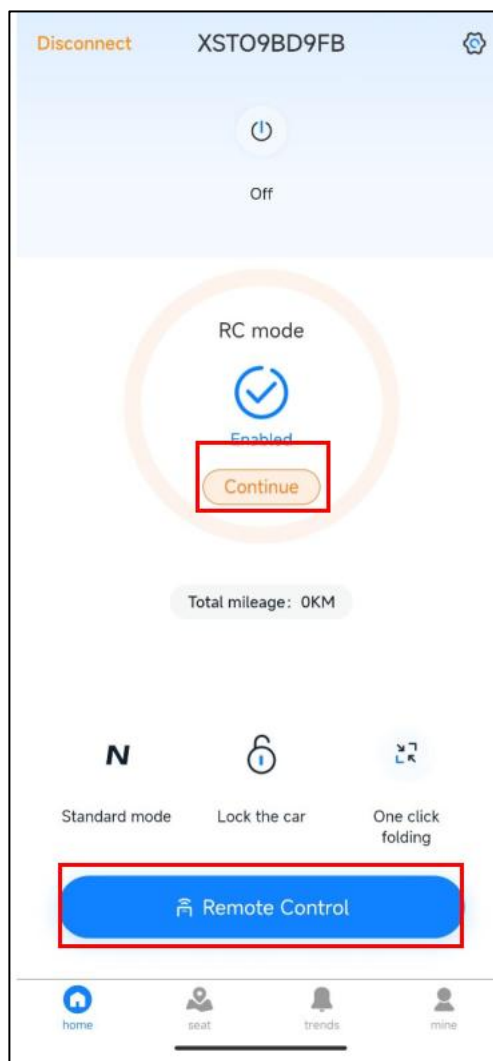


Figure 9.11 Enter remote control operation

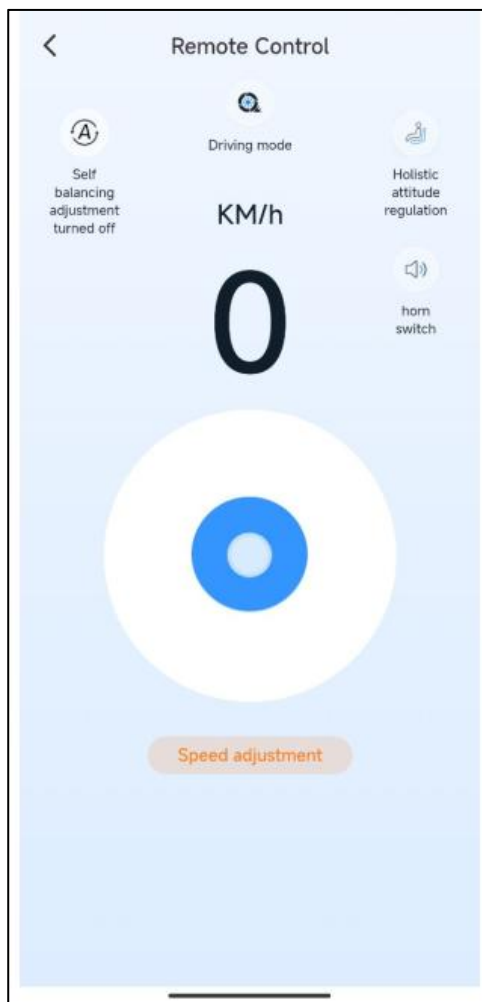


Figure 9.12 Remote Control Interface

9.3.2.1 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.

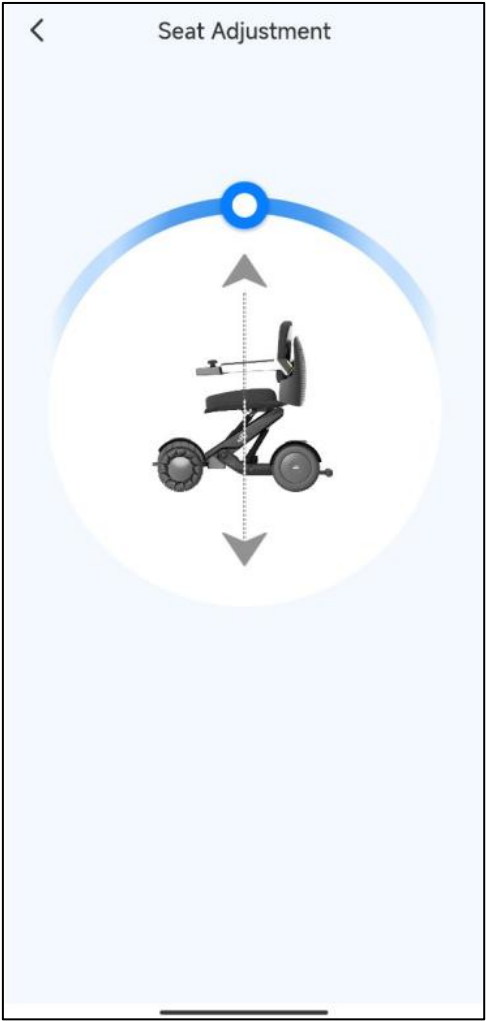


Figure 9.13 Seat Adjustment Interface

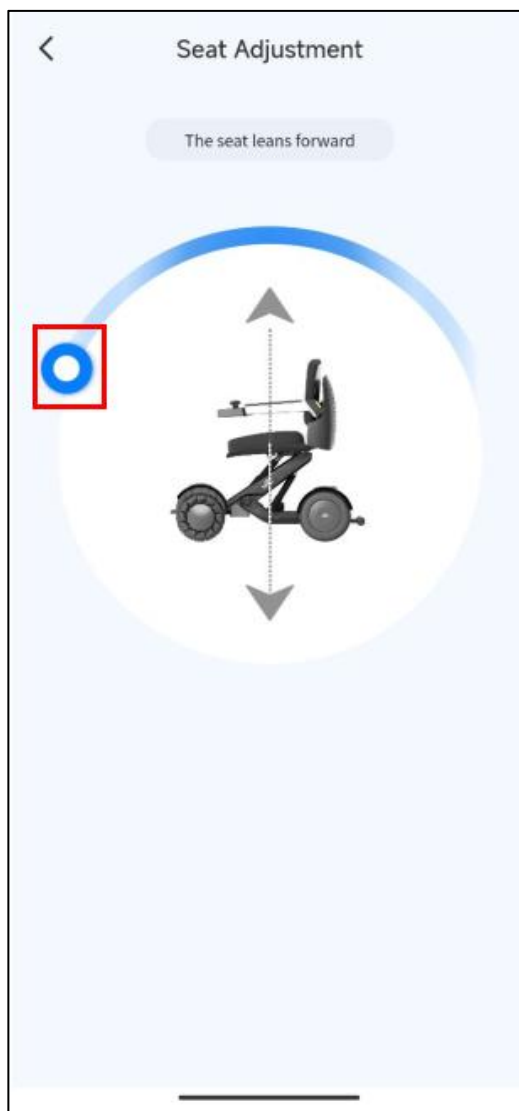


Figure 9.14 Seat leans Forward Adjustment

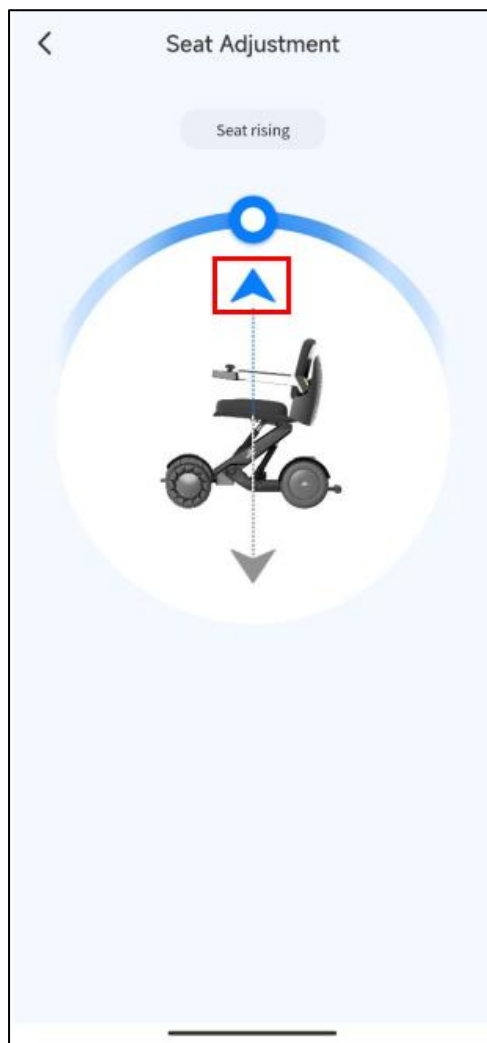


Figure 9.15 Seat up adjustment

9.3.3 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".

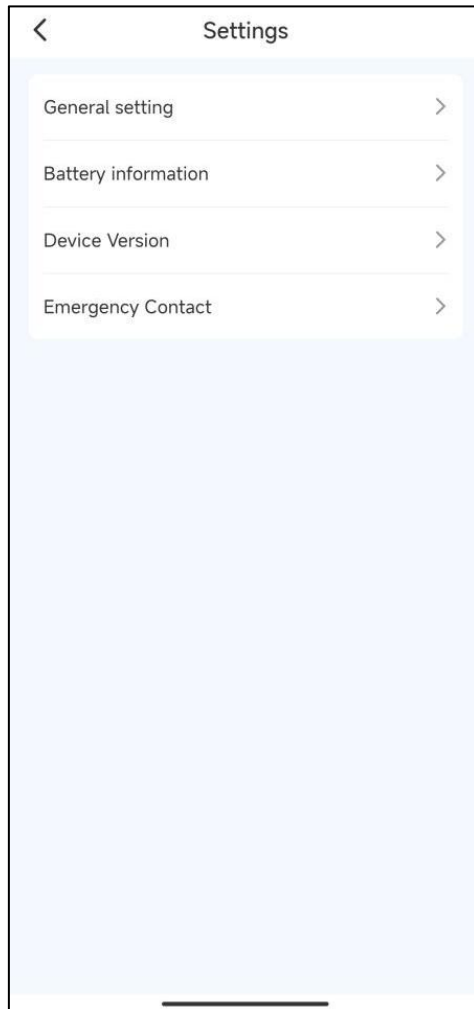


Figure 9.16 Setting Interface

10 Electromagnetic Compatibility Information



Note: Portable RF communications equipment should not be closer than 30 cm (12 inches) to any part of the device, including cables specified by the manufacturer.

- The M4/M4-H/M4-BH complies with IEC60601:2005+A1:2012+A2:2020, ISO7176-21:2009 standard electromagnetic compatibility requirements.
- Users should install and use the product in accordance with the EMC information provided in the accompanying documentation.
- The M4/M4-H/M4-B 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/M4-H/M4-B 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.



NOTICE: It is customer's responsibility to assure that this equipment and nearby equipment comply with the contents of IEC 60601-1-2 4th Edition.



NOTICE: 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 user is near the equipment. Operator has the responsibility to warn user or any others to comply with this rule.



NOTICE: Manufacturer will not be responsible for any unauthorized actions that cause interference.



NOTICE: The M4/M4-H/M4-B cannot be used together with HF surgical equipment.

Table 1

Guidance and Manufacture's Declaration - Electromagnetic Emission		
The M4/M4-H/M4-B 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/M4-H/M4-B 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/M4-H/M4-B 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/M4-H/M4-B 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 environment. UPS power is recommended if this device needs to be used continuously.
	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°	
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:134.2K Hz; 7.5A/m, Modulation: Pulse modulation, 50KHz Test frequency:13.56 MHz; 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/M4-H/M4-B 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/M4-H/M4-B, including cables specified by the manufacturer. Otherwise, degradation of
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	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	

	equipment (Refer to table 9 of IEC 60601-1- 2:2014+A1:2020)	communication equipment (Refer to table 9 of IEC 60601-1- 2:2014+A1:2020)	the performance of this equipment could result.
--	--	---	--

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)}
<p>^{a)} This test is applicable only to ME EQUIPMENT and ME SYSTEMS intended for use in the HOME HEALTHCARE ENVIRONMENT.</p> <p>^{b)} The carrier shall be modulated using a 50 % duty cycle square wave signal.</p> <p>^{c)} r.m.s., before modulation is applied.</p>		

EU Declaration of Conformity

according to the REGULATION (EU) 2017/745 OF THE EUROPEAN PARLIAMENT AND
OF THE COUNCIL

Doc. No.: XSTO-CE-T02-008-01

Manufacturer: XSTO CO., LTD.

Floor 1, Building C, 555 Plant, Ma'an Cun Rd, Cuiheng
New District, Zhongshan City, Guangdong Province,
China

**Single Registration
Number (SRN) of the
Manufacturer:** CN-MF-000018902

**Authorised
representative (AR):** Share Info GmbH

Address: Am Schulzentrum 12, 41564 Kaarst, Germany

**Single Registration
Number (SRN) of AR:** DE-AR-000005132

We, the manufacturer, declare under our sole responsibility that:

the medical device(s))	Product Name:	Powered wheelchair (mobility robot)
	Type/model, identification of product allowing traceability	M4, M4U
	(Where applicable):	
	EMDN Code:	Y122127
	Intended Purpose:	The Powered wheelchair (mobility robot) is a motor driven transportation suitable for medical institutions or families as people with mobility difficulties.
	Classificatio n:	
	(Annex VIII of the MDR)	Class I Medical Device according to rule 13
	Basic UDI-DI:	697505265M4YV
	Conformity assessment procedure:	EU Declaration of Conformity + Technical Documentation (Annex II)
	Applied harmonized standards and Common Specification:	Refer to the Appendix I for details.
	Notified Body:	--
	Address:	--
	Notified Body number:	--
	Certificate(s) number.:	--




Expire date of the	
Certificate:	--
Start of CE Marking:	--

The product concerned has been manufactured under a quality management system according to Annex IX of Regulation (EU) 2017/745.

The above-mentioned declaration of conformity was prepared by following the Annex IV of Regulation (EU) 2017/745 and is exclusively under the responsibility of the manufacturer.

XSTO CO., LTD.

Floor 1, Building C, 555 Plant, Ma'an Cun Rd, Cuiheng New District, Zhongshan City, Guangdong Province, China



Appendix I: Applied harmonized standards, standards and Common Specification

is/are in conformity with the relevant provisions and requirements of the Council and the parliament regulation (EU) 2017/745 for medical device and all applicable harmonized standards and Common Specification. All supporting documents are retained under the premises of the manufacturer.

Applied harmonized standards, standards and Common Specification:

EN ISO 14971: 2019 + A11: 2021
CEN ISO/TR 24971: 2020
EN ISO 13485: 2016 + AC: 2018
EN 20417: 2021
EN ISO 15223-1: 2021
EN ISO 10993-1: 2020
EN ISO 10993-5: 2009
EN ISO 10993-10: 2023
EN ISO 10993-23: 2021
EN 12184: 2022
EN 62133-2: 2017 + A1: 2021 + AC: 2022-01
EN 60601-1-2: 2015 + A1: 2021
EN 62304:2006 + A1: 2015
ISO 16840-10: 2021

This DoC is valid from 2025. 05. 29.

Authorized by

Signature (on behalf of the manufacturer)

Position: General Manager

Rev.: 2.1

Signed on: 2025. 05. 29.

Place: Zhongshan, China



Appendix II: Revision records


Effective Date	Revision	Revised Content	Notes
2024-02-04	V1.0	First issue	/
2024-05-15	V1.1	Update product name	/
2024-07-03	V2.0	Update the product name in the intended use	/
2025-05-09	V2.1	Update European Representative address	/



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