

User manual

Powered Wheel Chair

P-Compact



POWER **STAND**

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INTRODUCTION

You have just acquired a PowerStand brand P-eStand wheelchair, and we hope you will be completely satisfied with it.

Before any use, it is essential to read this leaflet in every detail. You will find many tips on use and maintenance to guarantee you better safety.

PowerStand electric vertical chairs are designed to improve the mobility and health of people weighing up to 120kg.

PowerStand cannot be held responsible for any material and/or bodily damage resulting from misuse of one of its electric chairs. PowerStand also declines all responsibility for material and/or bodily damage resulting from non-compliance with the instructions and recommendations set out in this user manual.

If you have a problem with your powered stand-up wheelchair that you are unable to resolve by following the instructions and recommendation in this manual, please contact your PowerStand dealer. You will find the name of the model as well as the serial number of your chair, on the chassis to the right of the rudder under the seat.

Reminder of the safety and maintenance points to be respected imperatively:

1) Security

The stand-up of the chair is practiced exclusively on a flat floor, far from any staircase, access ramp or slope.

2) Settings

This wheelchair must NECESSARILY be adjusted by the dealer who will be able to make the adjustments adapted to your morphology. Under no circumstances should you attempt to settle it on your own.

3) Annual maintenance

For it to give you satisfaction for a long time an annual review with an authorized dealer is essential in order to control the safety devices.

4) Physiological benefits of multi-daily Stand-up.

The use of this chair must be done only on medical prescription.

A progressive rehabilitation at the standing position with your Physiotherapist is strongly recommended before the daily use of a vertical chair.

The benefit of standing will be mainly derived from the frequent alternation of "sit-stand-sit" positions.

This alternation reduces the risk of bedsores. Verticalization, frequently repeated during the day to perform the gestures of daily life, gradually regulates intestinal and urinary function, and participates in the improvement of the articular, bone and blood condition.

5) Warranty

We thank you for returning the Warranty card (located at the end of the booklet) as soon as possible so that we can intervene in case of necessity...

We are at your disposal for any comments or suggestions and remain at your disposal for any further information.

If you suffer from a visual disability, you can find this user manual in PDF version on our website 4power4-powerstand.com.

Chapter I – SAFETY

1.1 – SAFETY INSTRUCTION :

Before any use of the chair, it is essential to read the instructions for use.

It is mandatory to comply with the following security measures to ensure the safety of users:

- Do not take a slope of more than 6 ° when the chair is in a standing position (otherwise, a safety will bring the chair to its sitting position).
- Do not circulate with the backrest completely lowered.
- Do not stand-up the wheelchair when the backrest is lowered.
- Store the charging cable in the space provided for this purpose, before using the chair.
- Do not carry and/or tow loads other than the user.
- Do not circulate with several on the wheelchair.
- The chair is not a lifting system, handling objects.
- Make sure no one is behind the chair while returning to the sitting position.
- The surface temperature of your chair is likely to increase when exposed to a heat source such as the sun.
- Use the chair only when the ambient temperature is -10°C and 50°C
- Avoid using your chair on a slippery surface (ice, wet tiles, etc....)
- Do not use your chair under the influence of alcohol, narcotics and/or medicaments
- The cushions meet the requirements of the standard NF EN 1021, nothing less it is recommended to avoid putting any part of the chair in contact with a heat source to cause ignition.
- Avoid physical contact with wheelchair motors, this can cause burns.
- Do not smoke when using the wheelchair. Risk of serious injury or death in the event of a fire, if the occupant of the chair is not able to move quickly away from the source of the fire.
- Avoid using or storing your wheelchair near an open flame or combustible products

1.2 – GETTING IN AND OUT OF THE WHEELCHAIR :

Your doctor and/or therapist will tell you how to transfer based on your lifestyle and health status.

1.3 – CROSSING OF STEPS OR STAIRS :

Whatever the obstacle, always approach it slowly and preferably in the presence of a third person. Never overcome obstacles greater than 8 cm.

1.4 – GOING UP OR DOWN A SLOPE :

When climbing, always lean forward and avoid any sudden change of direction.

When descending, always lean backwards. In addition, it is essential to control your speed.

In any case, to limit the risk of falling, do not take slopes that are too steep (maximum slope of 8 degrees), too long (risk of runaway) or upside down (risk of overturning).

1.5 – ATTACHMENT NODE :

For your safety check the fastening node of the seat belt (or harness) which must be double.
The loop must pass TWICE through the ring as shown on figure 1 :

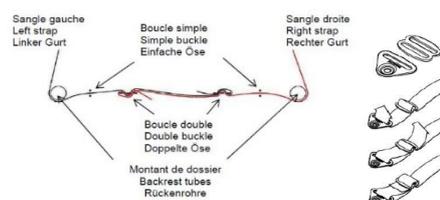


Figure 1 : seat belt

1.6 – TRANSPORT OF THE CHAIR BY CAR:

The wheelchair can only be transported when it is empty. It shall be securely secured to the vehicle by means of the 4 anchorage points on the chassis and rudder (see figure 2 & 3).

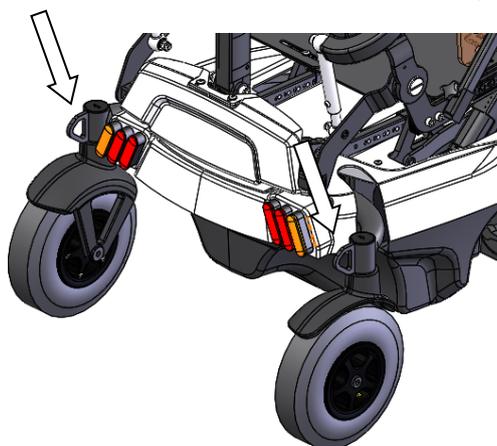


Figure 2 : rocking lever anchor ring

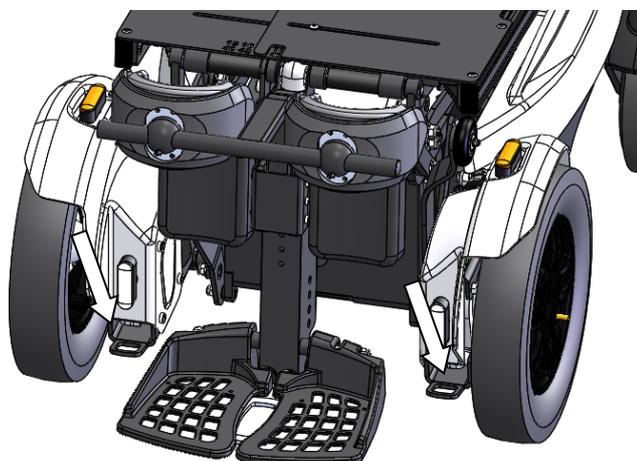


Figure 3 : front motorization ring

To transport the chair in a vehicle, the footprint can be reduced by folding down the backrest and footrest pallet (see chapitre II).

 **Warning**

After each reassembly of the chair, it is imperative to check the correct locking of the elements, before any new use.

 **Warning**

The chair can in no case be used as a vehicle seat



Chapitre II – PUTTING INTO SERVICE

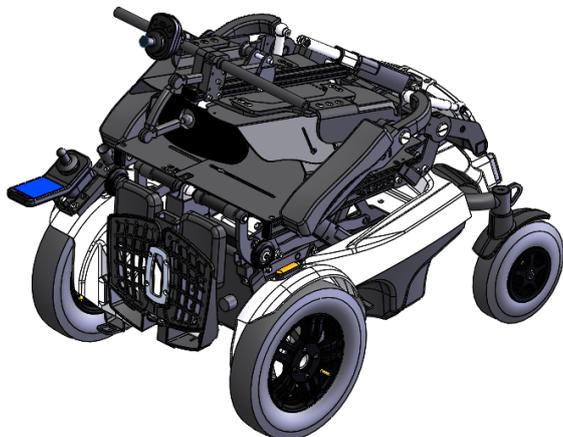


Figure 4 : wheelchair out of box

In order to avoid lifting a load that is too heavy, it is advisable to open the carton from the front and not from above.

Then roll the chair forward, without lifting it.

2.2 – BACKREST MOUNTING

For ease of transport, the chair comes with its folded backrest, pallet rest raised, anti-rockers, holding balls and detached clothing protectors.

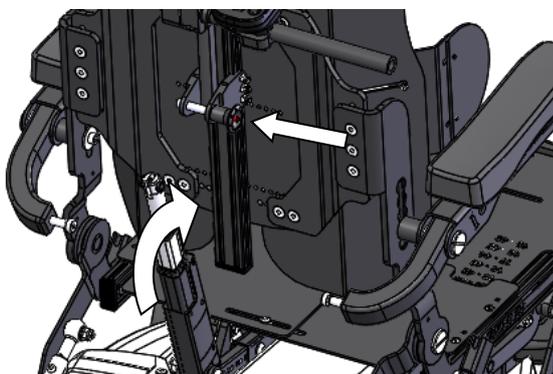


Figure 5 : fixing the backrest

Straightening the backrest.

Insert the quick attachment of the cylinder by pressing the red button on it. (Take care to pass through the cylinder stem).
(See figure 5)

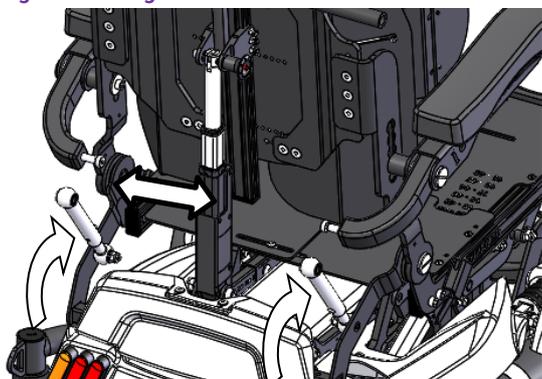


Figure 6 : Fixing the armrests

Using a 6-sided hexagonal wrench size 5 mm, reattach the armrest connecting rods.
(See figure 6)

2.3 – ENGAGE & DISENGAGE OF ENGINES

Your chair can operate in both "electromotor mode" or "free wheels mode" to allow a third party to move the chair without using the motorization.

The engagement levers are located on the top of the engines, on either side of the chair.

2.3.1 - Engage : electric propulsion mode

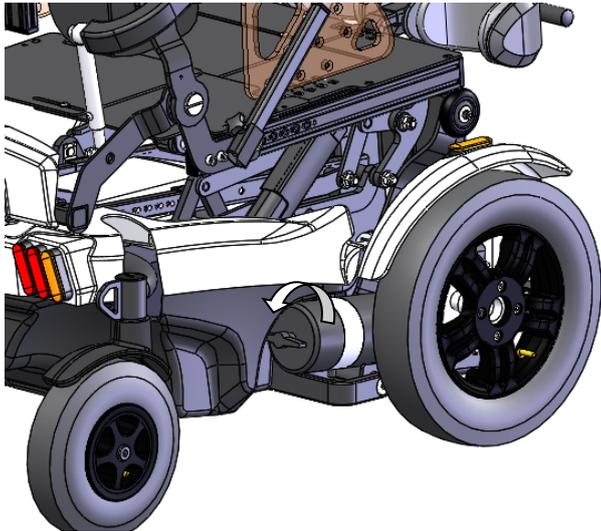


Figure 7 : brake locking

Turn the two levers counterclockwise.
The wheels are connected to the motors for electric propulsion.
(See figure 7)

2.3.2 - Walkout : mode « free wheel »

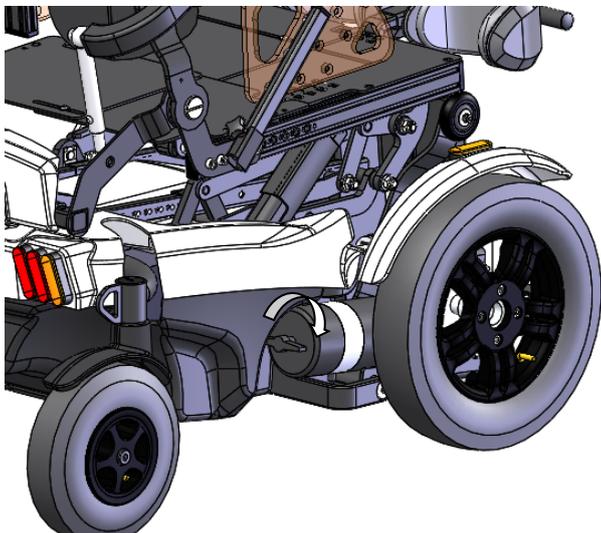


Figure 8 : release the brake

Turn both levers clockwise.
The wheels are free to push the chair.
(See figure 8)

Chapter III – SETTINGS

Adjustments to be made by the dealer in relation to the morphology of the user to ensure the best possible verticalization:

3.1 IN A SITTING POSITION.

3.1.1 – Seat depth

Depth adjustment from 40 to 50 cm, modulo 2cm.

For optimal comfort and extended verticalization, the seat must be adapted to the user's thigh length. The right seating depth is achieved when the patient has his back in contact with the backrest and there is a set of 4 to 5 cm between the front edge of the seat cushion and the popliteal hollow at the back of the user's leg (behind the knee.).

A graduated marking on each side of the chair and on each adjustable bar indicates the depth of seating. The edge of the coin juxtaposing the number allows a clear reading (in red below). (see figure 9).

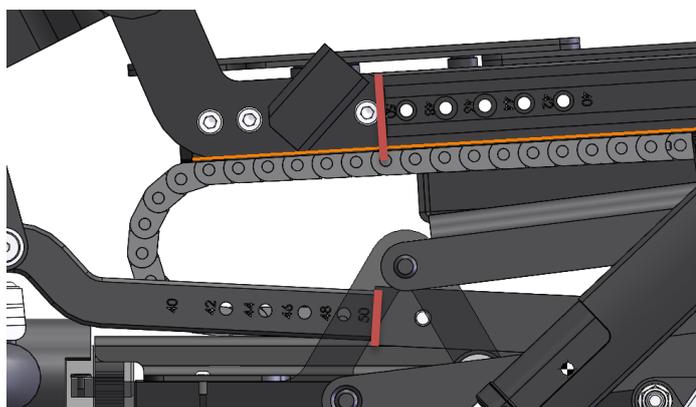


Figure 9 : seat depth

Pour effectuer ce réglage :

- Remove the three screws from the upper seat pivot (see Figure 10) *on both sides of the chair*
- Position the seat pivots on the number (50 to 40) indicating the desired seat depth.
- Replace the three screws on both sides of the chair

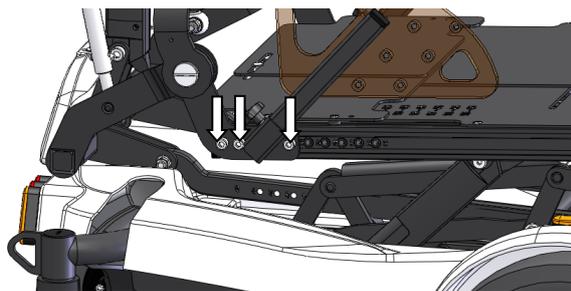


Figure 10 : seat septh adjustment sup.

- Remove the two screws from the bottom seat bar (see Figure 11) on both sides of the chair.
- Set the bottom seat bar to **the same depth figure as before** (for the seat pivot)
- Replace the two screws on both sides of the chair

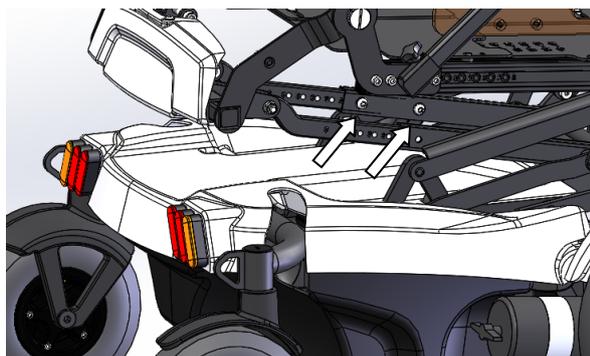


Figure 11 : adjustment depth arm inf. of seat

Loosen the two screws on the back seat plates. (See Figure 12)

Move the back plates to the desired position

Tighten the two screws of the back seat plates.

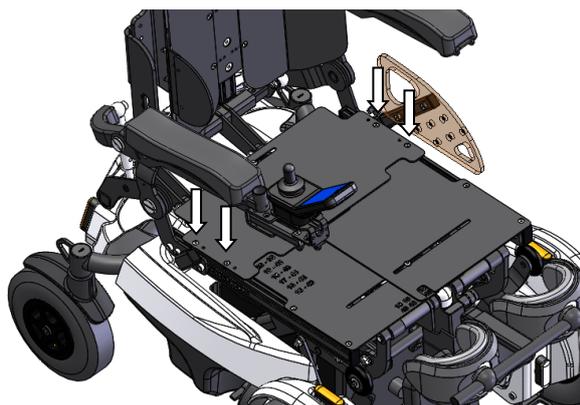


Figure 12 : adjustment depth seat sheets

Warning

*A bad adjustment of the seat will lead to serious and irreversible damage to the chair!
It is essential to check that the seat markings are all on the same number !*

Note

*The adjustment maneuver is easier for two people!
Adjusting the lower seat bars is easier when the seat is slightly raised.*

3.1.2 – Seat width

Adjustment in width from 40 to 50 cm modulo 2cm.

Put the chair in a verticalized position

Perform the adjustment in two steps, one on each side of the chair.

- Using a 4 mm hexagonal 6-sided wrench, remove the four seat width adjustment screws (on one side) (see figure 13)



Figure 13 : Seat width adjustment

- Using a 5 mm hexagonal 6-sided wrench, loosen the four armrest width adjustment screws on the same side as before. (See figure 14)

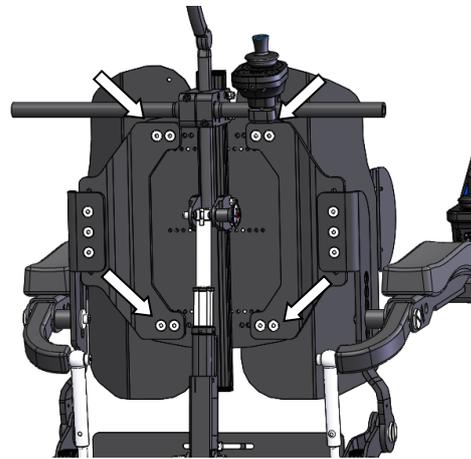


Figure 14 : adjustment width backrest & armrests

- Adjust to the desired seat width (using the graduation at the front edge of the seat see figure 15)

Replace the 2 seat width adjustment screws and the four armrest width adjustment screws

Repeat the operation on the other side and control the width using the tick mark

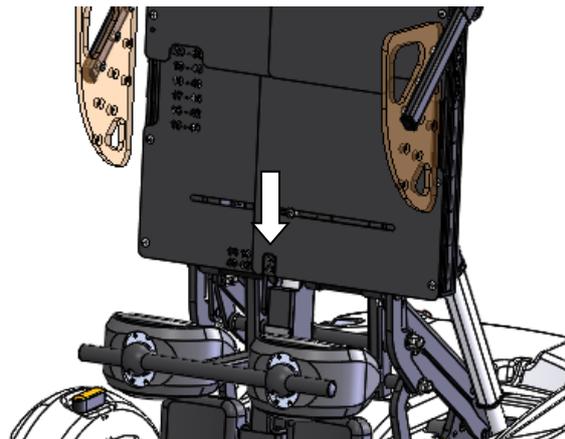


Figure 15 : read seat width

3.1.3 – Armrests

Height adjustment (5 height positions possible).

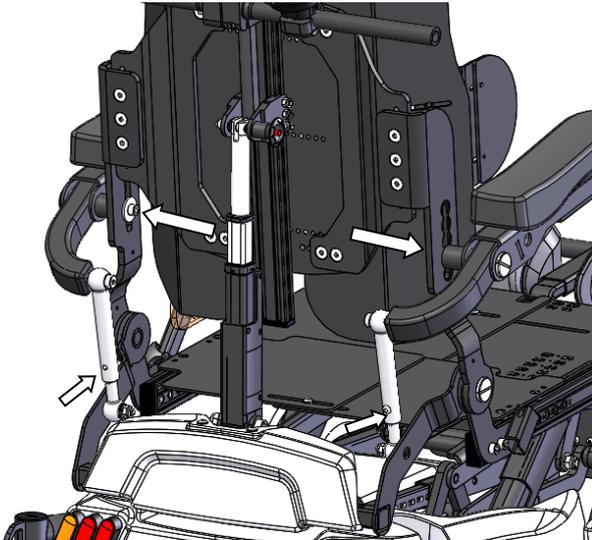


Figure 16 : Armrest height adjustment

Remove the screw and attachment washer from the armrest.
Move the armrest to the desired position.
Replace the screw and the armrest fixing washer.
Remove the adjustment screw from the armrest connecting rod
Adjust the armrest connecting rod so that the armrest is horizontal again.
(there must be the same number of free slots below the connecting rod adjustment screw as below the armrest axis),
(See figure 16)

Armrest retract



Figure 17 : raise the armrest

To facilitate lateral transfers, the chair is equipped with armrests that can be raised. (See figure 17)

3.1.4 – Footrest

Adjustment of the height of the pallets according to the length of the user's leg.
4 possible positions for a total stroke of 80mm.

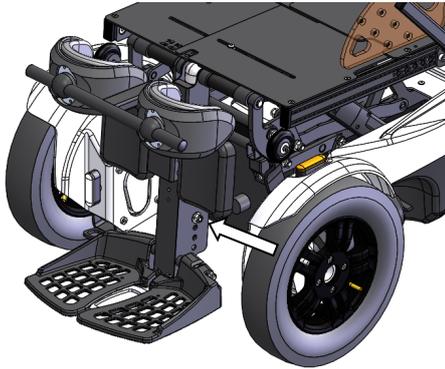


Figure 18 : Legrest length

Remove the bolt (screws/washers/nut) located on the lower rectangular tube of the hamstring.
Position the hamstring to the desired length
Put the bolt back in place.
(Be sure to put the bolt through the cylinder stem in the hamstring)
(See figure 18)



Note

A good adjustment allows an optimal distribution of the pressure under the thighs

Tilt adjustment

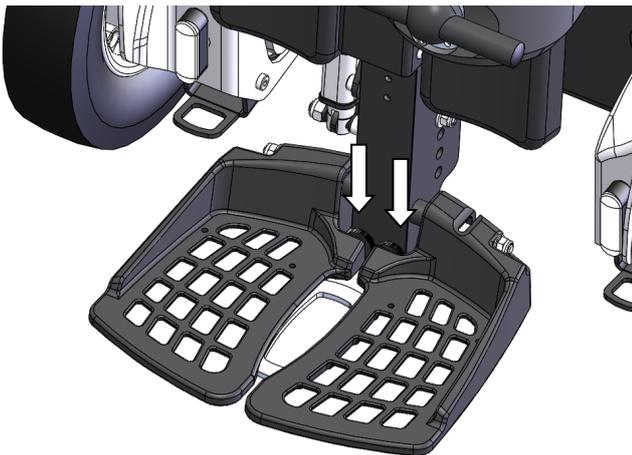


Figure 19 : tilt footplates

By screwing the shock absorbers inserted at the back of each pallet the angle of inclination decreases and the paddles will be more flat.
The opposite effect occurs when unscrewing.
The action must be symmetrical on both sides.
(See figure 19)

3.1.5 – Knee braces assembly

Consists of a central mast, supported by a sheath.

Before any verticalization, it is necessary to position the knee pad in height and depth and also adjust the spacing of the knee pads.

Deep adjustment

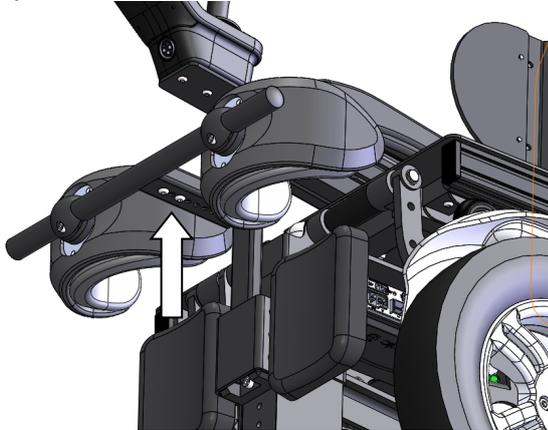


Figure 21 : knee depth adjustment

Remove the 2 screws located under the knee support
Adjust to desired depth
Put the 2 screws back under the knee pad support
Keep a set of 3 to 4 cm between the user's knee and the knee pad.
(See figure 21)



Figure 22 : knee height adjustment

The ideal position is:

- 2 fingers under the tibial process
 - 1 finger between the tibia and the knee pad foam
- (See figure 22)

Tilt adjustment

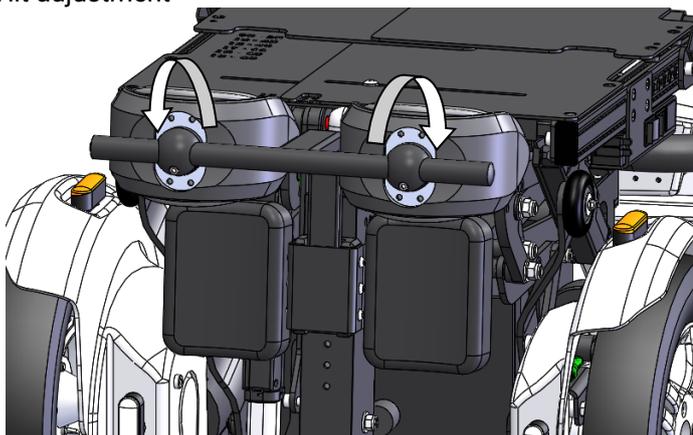


Figure 23 : knee tilt

Loosen the knee-tightening screws and adjust the inclination according to the morphology of the user.
Once the fit is found, tighten the screws.
(See figure 23)

Spacing adjustment

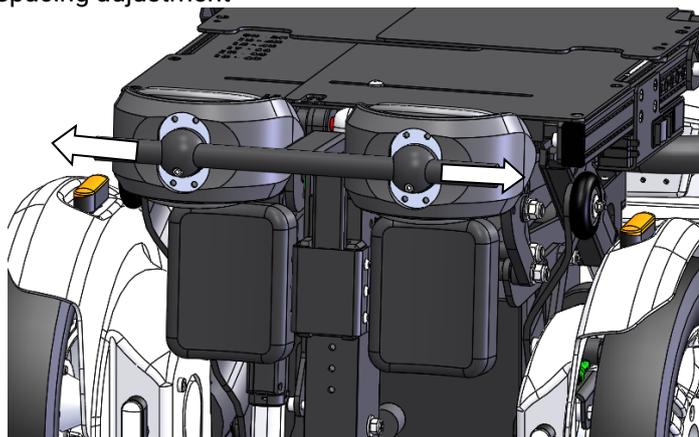


Figure 24 : knee spacing

Loosen the knee pad screws and adjust in width (from left to right) within the limit of the end of the tube. Once the fit is found, tighten the screws. (See figure 24)

Warning

These first adjustments must be refined after a phase of progressive verticalization to control the absence of too much pressure on the knee and a good alignment of the user's joints.

3.1.6 – Side clothing protectors:

Amovibles pour les transferts, les protèges vêtement évitent les salissures et/ou déchirures des vêtements par contact avec les roues.

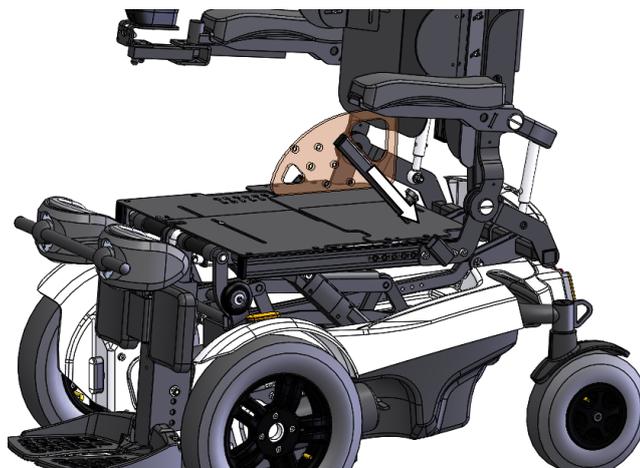


Figure 25 : installation protects clothing

Insert the garment protector into its support located on the side of the seat. (See figure 25)

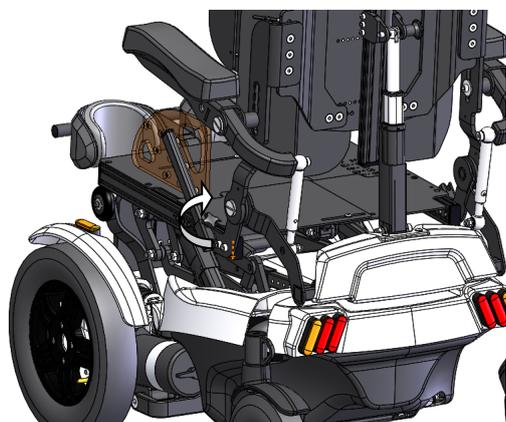


Figure 26 : fixing protects clothes

Once inserted, hold the garment protector in this position and then tighten the screw. (See figure 26)

3.1.7 – Anti-faintly.

The faintly is a phenomenon of free wheel beat that appears naturally from a certain speed. To suppress the phenomenon there is an anti-faintly system integrated into the fasteners of the front wheels.

To adjust the anti-faintly it is necessary to remove the cap on the rudder and tighten the nut with a 16mm socket so that the fork can not turn unique when pushing by hand (See figure 28 & 29).

(If the fork turns alone, not tighten enough = faintly)

(If the fork does not rotate = steering lock)

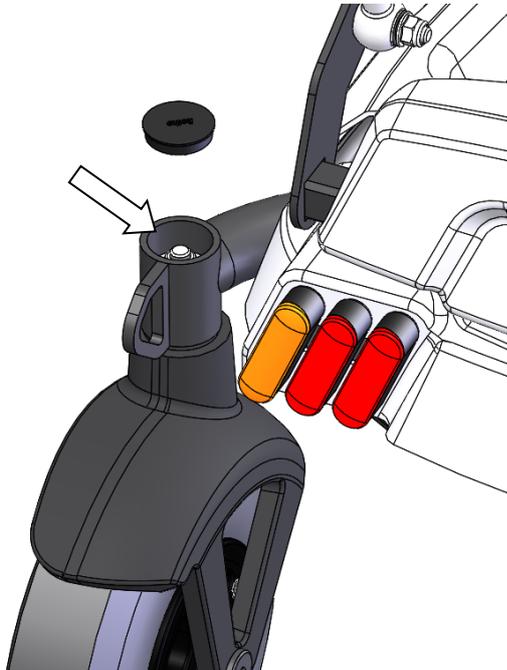


Figure 27 : access ti the anti-faintly setting

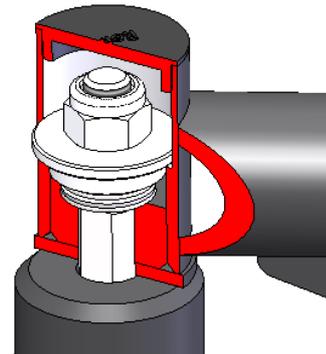


Figure 28 : détail anti-faitly

3.2 – IN A STANDING POSITION

Preparing for verticalization: making sure you're on a flat surface.

For obvious safety reasons, it is therefore formally forbidden to verticalize on slopes or near strong differences in levels (eg stairs, ramps, etc...).

The electronics prohibit verticalization if the slope of the front (in the direction of traffic) has an inclination of more than 6°. Warning; the lateral stability upside down is less than from the front. It is therefore strictly forbidden to verticalize when the chair is leaning to the side.

Si par erreur le patient s'aventurait en position debout dans une pente de plus de 6°, le fauteuil reviendra automatiquement en position assise. Néanmoins le risque de chute existe car le retour à la position assise est progressif.

When the stability of the chair is no longer assured, the screen of the A400 manipulator displays an exclamation mark (insert photo). As soon as this information is displayed, the speed of progress is greatly reduced

3.2.1– Knee pad placement

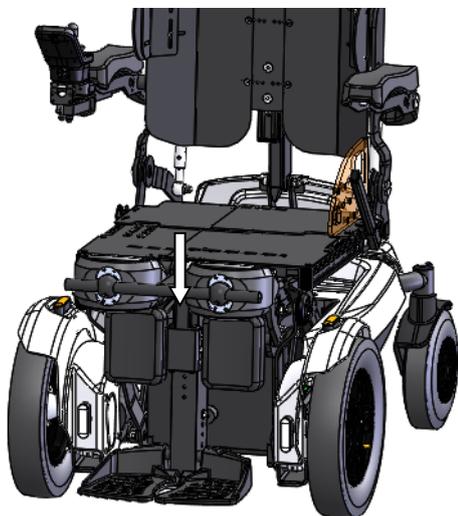


Figure 29 : knee pad placement

Position the knee pad support in the square sheath provided for this purpose located at the level of the hamstring.
(See figure 29)

3.2.2 – Installation of armrests in horizontal position

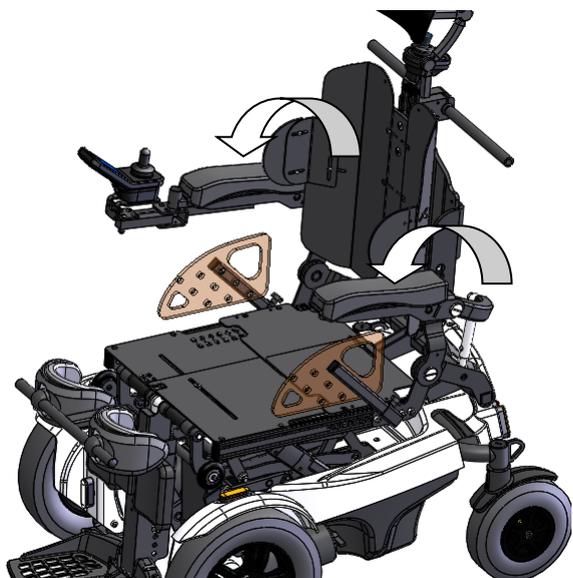


Figure 30 : lower the armrests

Fold the armrests in a horizontal position in order to obtain a good lateral support during verticalization.
(See figure 30)

3.2.3 – Setting up the bust strap



Figure 31 : bust strap position

Attach the strap above the armrest to the back tube.

CAUTION: Under no circumstances should these belts be used as a seat belt in a vehicle.

(See figure 31 & 32)

Safety, the buckle made by the strap must always be attached to the back tube above the armrest and in accordance with the following diagram:

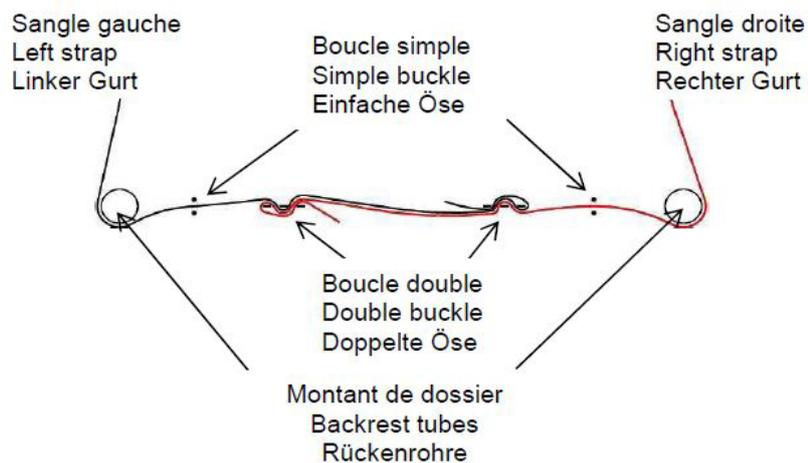


Figure 32 : Detail bust strap

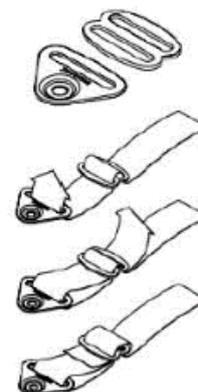


Figure 33 : Node detail

Chapter IV –GETTING STARTED

Depending on the country, the P-eStand chair can be either equipped with LinX A200 or A400 Dynamic Control electronics..

4.1 – MANIPULATOR

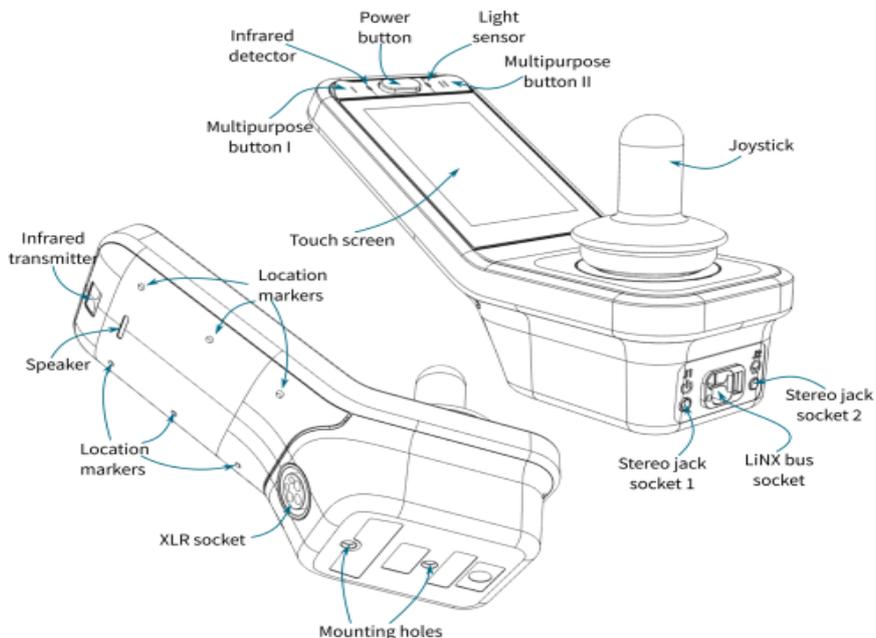


Figure 34 : Manipulator

Table 2 : manipulative description

Item	Purpose
Power button	Use to power up and down the system; includes a built-in status indicator.
Infrared detector [‡]	Used for learning infrared.
Light sensor	Used for detecting ambient light.
Multipurpose buttons I & II	These buttons can be configured to perform common operations, based on the user's needs.
Touch screen	3.5" colour capacitive touch screen with customisable contextual menus. Use swipe or tap actions to navigate through drive, seating, utility and connectivity cards.
Stereo jack sockets	2 x stereo jack sockets that can connect to an external power switch (J1 tip only) and other multi-way switches.
LiNX bus socket	A single cable connects to the LiNX bus for both communication and power.
Joystick	A user input to control the speed and direction of driving and seating motions.
Infrared transmitter [‡]	Use in place of a remote control for consumer goods such as a television.
Speaker	Horn.
Location markers	Three location markers are placed on either side of the REM400's back plate to guide the user's hand.
XLR socket	The XLR socket can be connected to a battery charger or the LiNX Access Key.
Mounting holes	Standard-spaced LiNX mounting holes.

4.2 – POWERING UP & DOWN

Press the Power key: the manipulator diodes are displayed.

Note

In the unlikely event that the wheelchair is in a runaway situation, the user can press the power button on the remote module to perform an EMERGENCY STOP. See section 2.3.2 Execution of an emergency judgment



Figure 35 : OFF

Pour allumer le module de commande REM400 LiNX, appuyez sur le bouton d'alimentation (voir figure 35)

If there is no failure with the system, the touchscreen displays the power start screen (see Figure 36), the status LED (via the power button) lights up green, and a function card is displayed with the status and battery bars.



Figure 36 : ON

If there is a fault with the system during power-on, the status indicator displays the fault with a series of red flashes (see the LiNX system manual for more information on the fault indication). (See figure 37)



Figure 37 : Default

To turn off the system, press the power button; the touchscreen displays the power off screen - see Figure 34 - the system turns off and the status indicator turns off.

The power button is also used to perform an EMERGENCY STOP – see section 4.9 Performing an emergency stop.



Figure 38 : Power screen



Figure 39 : Power off screen

Warning

A power button can power down a system only if its status light is active (green or flashing red). If a power button's status light is not active (that is, the power button's status light is off), the power button cannot be used to power down the system. Similarly, control I/O power buttons, including toggles, can power down a system only if the status light on the module that they are connected to is active. If the status light on the module that they are connected to is not active, the control I/O power buttons, including toggles, cannot be used to power down the system.

Warning

Before operating a user input, such as the joystick or head array, the user should check which user function is selected and what that function's speed is set to, to prevent unexpected operation.

4.3 – UNDERSTANDING THE TOUCH SCREEN

The REM400 remote modules allow the user to interact with the wheelchair via the touch screen. The touch screen provides the user with useful real-time information about the system as well as the ability to control certain aspects of the wheelchair for driving, using seat functions and lighting.

System information and commands are presented to the user via a number of different displays, such as splash screens (Figure 40), function cards (Figure 41), and overlays (Figure 42).



Figure 40 : écran mise sous tension



Figure 41 : Carte de fonction



Figure 42 : Superposition

Splash screens are temporary, provide only information, and require no user intervention. Function cards provide the means to interact with the wheelchair, such as controlling the speed of the wheelchair or turning on the indicator lights. Overlays, which are often placed on a function map, provide information or instructions that may require further action by the user, depending on their purpose. When an overlay is displayed, the touchscreen cannot be used. Faults and other system information are displayed with the status indicator (an LED under the power button) and status bar.

4.3.1 – Interacting with the touch screen :

The user can interact with the touch screen in two ways:

Swipe and tap mode (see figure 43)

Tap only mode (see figure 44).

In swipe and tap mode, the user can use drag actions as well as tap actions to navigate and select options. In simple keystroke mode, the touchscreen provides areas and buttons that the user can tap (rather than swipe) to navigate and select options.



Figure 43 : Interaction Mode swipe & tap



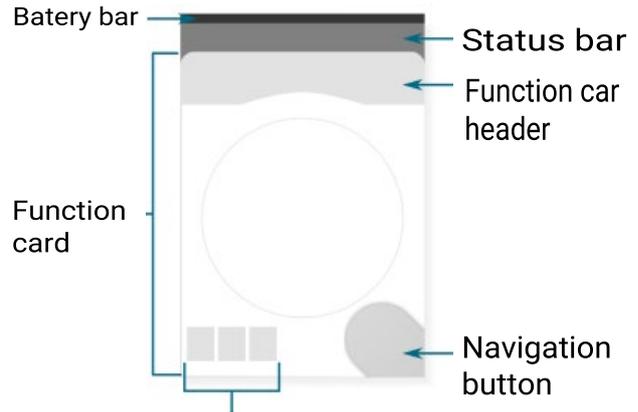
Figure 44 : Interaction Mode tap only

4.3.2 – Touch screen components :

Typically, the user interacts with the REM400 and REM500 through a function card (see figure 45). With a function card active, the touch screen includes the following components:

1. Battery bar
2. Status bar
3. function car (with header)
4. Navigation button
5. Function Information

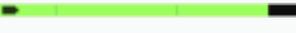
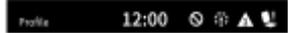
These components are described in more detail in the table 3.



Functions Information fonctions

Figure 45 : Composants d'écran typiques

Table 3: Typical screen components

Component	Function	Further information
	Battery bar provides information about the state of charge if the battery..	See 4.3.3 battery bar
	Affichage statuts : Current profile name Time icons indicating driving and seat status information	See 4.3.4 Status bar
	Bouton de navigation : Affiche le mode d'interaction actuel ; Ouvre l'aperçu de la carte de fonction (appui court) Ouvre le menu d'état et de paramètres (appui long)	See 4.3.5 Navigation button
	Header display function: Function: green for driving, orange for seat functions, blue for connectivity, purple for commercial vehicles Main Input Indicator Function card name	See 4.3.6 Function card header
	Function maps provide the user with the means to observe and interact with the system. There are four types available: driving, seat function, utility vehicles and connectivity.	See 4.5 driving card, see 5 seat card, see 6 connectivity card
	Function information displays relative icons: Gyro status Latched driving status Ignore drive lockout.	See 4.3.8 Function informations.

4.3.3 – Battery bar :

The battery bar provides a graphical display of the current state of charge of the battery and the state of charge when a battery charger is connected. Battery statuses are shown in the table 4.

Table 4: Battery state of charge

Battery bar	Load status
	Displays in green when the state of charge is between 60 and 100%. This level is defined by the Batt Gauge Maximum parameter. See the LiNX system manual for more information.
	Displays in orange when the state of charge is between 20 and 59%.
	Appears in red when the state of charge is less than 20%. This level is defined by the Batt Gauge Minimum parameter. See the LiNX system manual for more information.
	Charging. See 7.1 Charging the battery.

More information about the battery charge status is displayed in the status bar. See 4.3.4 Status bar for more information.

4.3.4 – Status bar

The status bar can be divided into three sections :

Profile name

Hour

Status information



Figure 46 : la barre d'état

Profil name

The profile name is defined with a LiNX Access programming and diagnostic tool using Functions | Profile name.

The time is displayed in 12 or 24 hour format. It is set using Coordinated Universal Time (UTC) and an offset based on the user's location (country). UTC is automatically acquired when a system is connected to a programming and diagnostic tool. The country-specific offset is set by the user via the remote module configuration screen.

Status information displays the current status of the LiNX system with status icons. Icons include: flash codes; Bluetooth disabled; slowing down driving; locking /inhibiting the drive; seat locking. These status icons are explained in Table 5 & 6.

Table 5 Status information icons

Status icon	Meaning
	Drive lockout – This notifies the user that a drive lock-out is active. A drive lock-out is a state that prevents the wheelchair being driven.
	Drive slowdown – This notifies the user that a drive slow-down is active. A drive slow-down is a state that prevents the wheelchair being driven at the standard speed for safety reasons. Instead, the wheelchair is allowed to drive at a reduced speed for the duration of the active drive slowdown.
	Flash code – This notifies the user that an error is active. The flash code is a value between 1 and 7 (see the LiNX Systems Manual for more information about errors and flash codes) – this flash code is flashed on the status indicator at the same time.
	Seating lockout – This notifies the user that a seating lock-out is active. A seating lock-out is a state that prevents the wheelchair's seating being operated.
	Bluetooth disabled – This notifies the user that Bluetooth connectivity is disabled. See section 2.3.6 Disabling Bluetooth for more information about disabling Bluetooth.

Three battery conditions are shown on the right-hand side of the status bar. These are:

- high voltage
- low voltage
- cut-off voltage

Table 6 Battery conditions shown on the status bar

Battery tension	Description
	High voltage – this is displayed when the battery voltage goes above the <i>Batt Gauge High Voltage Warning</i> set-point.
	Low voltage – this is displayed when the battery voltage falls below the <i>Batt Gauge Low Voltage Warning</i> set-point.
	Cut-off voltage – this is displayed when the battery voltage falls below the voltage set by <i>Cut Off Voltage</i> . This indicates that the battery is empty and battery damage will occur if the battery is discharged any further. The horn also sounds once every ten seconds for the duration that the deep discharge status is active.

4.3.5 – Navigation button



Figure 47: Navigation button

The navigation button (see Figure 4-7) has two important functions. First, with the use of different colors and icons, it provides a visual indication (or reminder) of the configured interaction mode: drag and touch, or touch only - see Table 7.

Second, when activated (typed by the user's finger), it performs a navigation function, depending on the context and duration of activation:

- A short press causes the preview of the function card to appear.

A long press causes the status and settings menu to appear.



Note

The STATUS and Settings menu of the REM400 is not accessible when connected to a programming tool (PC or iOS), i.e. the status and settings menu is not displayed with a long press of the navigation button.

The appearance of the navigation button varies depending on the interaction mode configured (drag and touch only) and its status. In drag-and-touch mode, an icon with one finger and three arrows is displayed; in simple keystroke mode, an icon with a finger and a circle is displayed. These icons change color from gray to blue when enabled. This is summarized in Table 7: Variants navigation button

Tableau 7 : Variantes bouton navigation

Inactive navigation button	Indication	Active navigation button	Indication
	Swipe & tap mode		Responding to a swip-and-tap action.
	tap only mode		Responding to a tap only action.
	Screen lock active		

4.3.6 – Function card header

The type of function card is identified by the color of the function card header: green indicates a reader card (See figure 48), orange for the seat (See Figure 50), blue for connectivity (See Figure 49) and purple for the utility card (See figure 51).



Figure 48 : Exemple entête conduite



Figure 50 : Exemple entête siège



Figure 49 : Exemple entête connectivité



Figure 51 : exemple Entête commande accessoire

The text in the middle of the header is programmable and used to identify the function.

L'icône à gauche de l'en-tête indique le type d'entrée principale affectée à la fonction sélectionnée. These are shown in the following table.

Table 8 : Primary input indicators

icône	Description	icône	Description
	REM400		REM2xx CR400
	Input module or third-party interface		Head array
	Attendant control unit		User Switch
	Sip and puff	-	-

4.3.7 – Function cards

Function cards are the main user interface with the LiNX system.

There are four types that can be added to a profile:

Driving card (see Figure 52)

Seat card (see Figure 53)

Connectivity card (see figure 54)



Figure 52 : example driving card



Figure 53 : example seat card

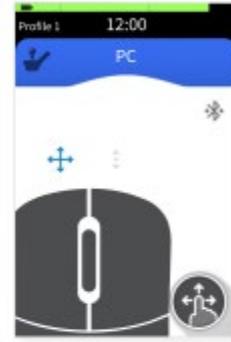


Figure 54 : connectivity card example

A driving card is selected when the user wants to drive the wheelchair, control the speed of the wheelchair, operate the lights and sound the horn.

A seat card is selected when the user wants to reposition the seat.

A connectivity card is selected when the user wants to communicate with an external device, such as moving the cursor on a computer with the mouse move function.

A utility board is selected to easily control lighting, horn and other control outputs using the 4Q and 3Q primary inputs.

4.3.8 –Function informations

To provide the user with additional function-specific information, the area at the bottom left of the function map may display indicators related to :

Gyro status / Latched driving status / Ignore drive lockout

- Gyro status



Gyro enable



Gyro disable

The gyro status indicates whether the gyro module is on or off for the current function. No indicator is displayed if a gyro is not installed or connected.

Latched driving status



If the function operates in a locked driving mode, the locked driving status indicator reminds the user which type of locked driving has been selected. No indicator is displayed if the locked pipe is not activated for the selected function. See Table 15 for all indicators.

Ignore drive lockout



Si la conduite fonctionne avec la fonction "Drive LockOut ignored" activée, l'indicateur Ignorer le verrouillage du lecteur s'affiche pour rappeler à l'utilisateur qu'un verrouillage du lecteur ne se produit pas dans cette fonction.

4.4 – STEERING

The joystick controls the direction and speed of the driving and seating functions (See Figure 55). It can be configured to operate in proportional or discrete mode.



Figure 55 : joystick

Steering control - driving

By default, when the joystick is deviated from the neutral position, the wheelchair moves in the same direction as the joystick. However, this default behavior can be changed by configuring the joystick rotation angle, swapping the joystick axes, or reassigning the joystick quadrants. See the LiNX Systems Installation Manual for details.

Steering control - seat

For seating functions, the direction of the seat movement (extension/retraction) depends on the configuration of the input control. See the LiNX Systems Installation Manual for details.

Speed Control – proportional mode

In proportional mode, the speed of the drive or seat function is proportional to the deviation of the joystick, so the farther the joystick is from the neutral position, the faster the training or sitting function moves.

Speed Control – discrete mode

In discrete mode, the speed of the drive or seat function is fixed and is activated when the joystick is deflected beyond a configurable threshold - see Joystick Switch Threshold in the LiNX system installation manual.

Stopping

In general, to stop driving or to stop a seating movement, bring the joystick back to the neutral position or release the joystick and it will automatically return to the neutral position. However, this operation does not work for locked driving modes. For a locked pipe, refer to the LiNX Systems Installation Manual.



Warning

When the joystick is tilted, the size of the space between the joystick skirt and the upper body of the module decreases. This can be a risk of pinching. The user must release the joystick if a part of the body is pinched.

4.5 – DRIVING CARD

A driving card is selected to drive the wheelchair.

The training card includes a speed dial, speed slider and speedometer/odometer (see Figure 56) to view and control the wheelchair speed while driving.

The driving cards also provide access to the lights (see 4.7 Lighting control and dashboard) and the horn (see 4.8 Sound the horn).



Figure 56 : Driving map showing speedometer/odometer, speed dial and speed slider

Note

The speedometer/odometer must be calibrated before use, as its accuracy will differ depending on the models of wheelchairs and their variations. See the LiNX system installation manual for more information on speedometer/odometer calibration.

4.6 – CONTROLLING AND VIWE SPEED

The speed Dial:

The speed dial displays the speed parameters of the user and the wheelchair (see Figure 57). It is divided into ten segments, representing the speed range of the wheelchair. Each segment can display one of three colors: green, yellow, and gray.

The green area (1 in 4.5) shows the speed range of the drive function, which is set by the user with the position of the speed slider - see the next section The speed slider.

The yellow area (2 in 4.5) shows the maximum possible range available to the user in this training function.

The gray area (3 in 4.5) shows the maximum range of the wheelchair; no gray area is available for this training function.



Figure 57 : Driving Card – not driving

The speed slider

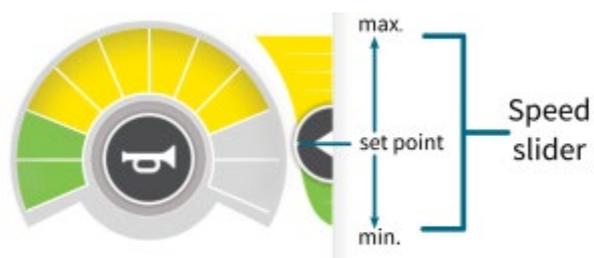


Figure 58 : speed slider

The speed slider is adjusted by the user to reduce the maximum speed of the selected drive function. The proportion of green and yellow zones (1 and 2 in 4.5) is the position of this cursor. Move the slider down to reduce the available speed. When the available speed decreases, the green zone decreases and the yellow zone increases (Figure 59).

Move the slider up to increase the available speed. As the available speed increases, the green zone increases and the yellow zone decreases. (Figure 59).



Figure 59 : Using the speed slider (minimum setting, left and maximum setting, right)

To set the speed slider to drag-and-touch mode, press and hold the speed slider and drag it up or down. Release the cursor to the desired set point (see Figure 60).

To set the speed slider to simple keystroke mode, press at the top of the speed slider to increase the set point, and press at the bottom of the speed slider to reduce the set point. In simple keystroke mode, the plus and minus symbols are displayed on the speed slider to indicate where to press (see Figure 61).

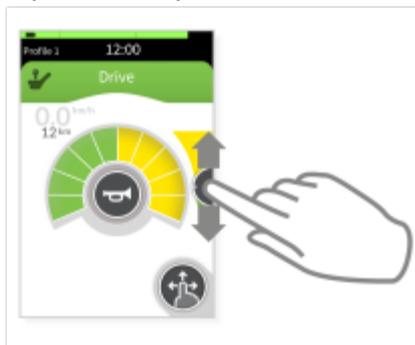


Figure 60 : Adjusting the speed slider in swipe-and-tap mode

The speedometer and odometer (odometer) The speedometer and odometer on the driving map (see Figure 62), while driving.

The speedometer displays the current speed of the wheelchair and the odometer displays the distance the wheelchair has travelled since it was last reset or reversed to zero

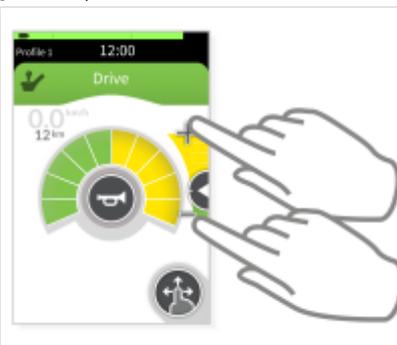


Figure 61 : Adjusting the speed slider in mode tap-only



Figure 62 : Drive card – in driving



Note

The odometer can display up to a maximum distance of 9999 km or miles, after which it returns to zero.



Note

When there is a training request, the navigation button and speed slider are removed from the training map to reduce visual clutter - see 2.5 - they return when the training request is removed.

Speedometer/odometer units can be set by the user in metric or imperial: Changing display settings and Resetting the odometer and changing units.

4.7 – LIGHTING & DASHBOARD

For systems with lighting, the lighting control button and the lighting dashboard are displayed. The lighting control button at the top of the board opens and closes the lighting button panel. The lighting dashboard, which appears under the horn button, shows the four lights (left and right turn signals, hazard and position lights) that light up when active. Figure 63 shows the difference between the reader cards for a system without lighting (left image) and a system with lighting (right image).



Figure 63 : Driving card with and without lighting

To control the wheelchair lighting, press the lighting control button to display the lighting control panel. Press any lighting button to turn the lights on or off. Press the lighting control button to close the lighting control panel. The activated lamps are displayed using the tell-tale indicators (left and right turn signals, hazard and position lights) on the lighting dashboard (see figure 64).



Figure 64 : Controlling lights

4.8 – SOUDUNG THE HORN



Figure 65 : Location of the Horn button

The horn button appears in the center of the speedometer of the training card. Press to sound the horn. The horn sounds for as long as the horn button is activated. (See figure 65)

4.9 – EMERGENCY SHUTDOWN

If the user needs to quickly stop the wheelchair or quickly stop a seating movement, the power button can be pressed to perform an EMERGENCY STOP. If you are driving, the wheelchair stops quickly; the speed at which it stops is defined by the Emergency Deceleration parameter.

Chapter V – POSITIONS & STAND-UP

Warning
 Always remember to put the backrest in an upright position before verticalizing.
 To stop the movement, release the joystick.
 It is possible to stop at any intermediate position.

Note
 In case of contracture during verticalization, proceed in stages, with intermediate release times.

5.1 – SEAT CARD

A seat card is selected by the user to use a seat function. (See figure 68)

- Typically, a seat card includes :
- Seating card name
- One or more seating functions
- The quadrant ring
- One or more motions

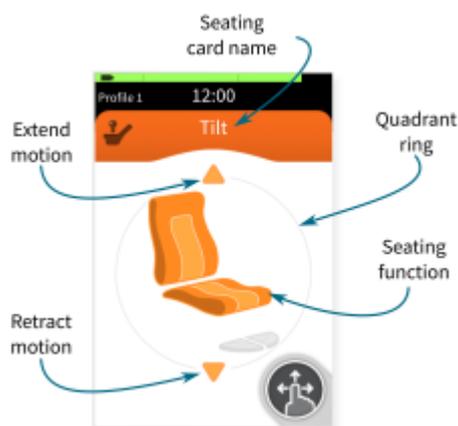


Figure 67 : Example seat card

The name of the seat card is located at the top of the board and is defined using the programming and diagnostic tools.

A seat card can be dedicated to a single seat function (Figure 67) or can offer several seating functions (Figure 69). Seat images identify the function(s) performed with the seat card; the full range is displayed in Table 10.



Figure 68 : Example seating card – two quadrants



Figure 69 : Example seat card Four quadrants

For each seating function, a number of movements are available that the user can select and control. The movements are displayed as arrows on or near the circular dial (Figure 69): an arrow pointing up means "extending"; an arrow pointing down means "retracting". An arrow with a bar indicates that the movement is locking. A scratched movement indicates that the movement is inhibited.

Table 9 : Seat motions – extension and retraction

Seating action	Display	Seating action	Display
Stand		Seat	
Stand-up		Seating	
Extend inhibited		retract inhibited	

Table 10 : Seat motions — latched extend & retract

Seating Action	Display	Seating action	Display
extend latched		retract latched	
Extend latched active		retract latched active	
extend latched inhibited		retract latched inhibited	



To show the user which movements are available and how to use them, the movements are displayed in one of the four dials (front, back, left and right) of the circular dial.

Un utilisateur actionne un mouvement en activant l'entrée configurée (joystick ou bouton de commande) dans le sens indiqué par la position du mouvement sur le cadran circulaire.

Figure 70 : Quadrant ring

For example, in Figure 70, the seat card shows a two-dial seat function with two movements :

- Extend (the orange arrow pointing up in the forward quadrant) and
- Retract (the orange arrow pointing down in the reverse quadrant).

To operate the motion to verticalize, the user must enable user input configured for a forward operation, such as the joystick forward deviation. To sit, the user must enable user input configured for the reverse operation, such as deflecting the joystick backwards.

Similarly, in (See Figure 72), the seat card shows four dials with four motions :

1. Incliner prolonger (forward quadrant) ;
2. Both legs retract-latched (reverse quadrant) ;
3. Tilt retract (left quadrant) ;
4. Elevate extend-latched (right quadrant) ;

In this example, to operate the elevation and lock motion, the user must enable user input configured for a correct operation, such as deflecting the joystick to the right.

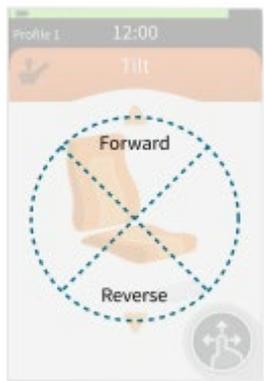


Figure 71 : Seat card – 2 quadrants

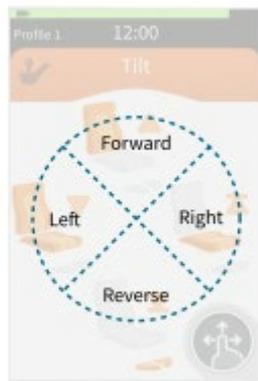


Figure 72 : Seat card – 4 quadrants

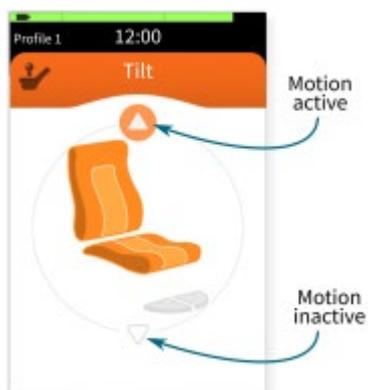


Figure 73 : Active and inactive motion display

When performing a gesture, the navigation button is removed from the screen for the duration of the operation. At the same time, the arrows of the movements change according to the user input – see 5.1 et Table 9 & 10.

5.2 – STAND-UP

To stand up – Verticalized

Select the "Stand Up" card



Stand-Up icon

Push the joystick in the direction of the arrow indicating verticalization (upwards)



To sit

Sélectionner la carte verticalisation



Stand-Up icon

Poussez le joystick dans le sens de la flèche indiquant la position assise (vers le bas)



Attention

When the seat has exceeded 6° of inclination, a warning light will be displayed on the touch screen and the chair will only be able to move at 10% of its maximum speed.



Once back in a sitting position, the indicator will automatically turn off and the chair will return to its nominal capabilities.

5.3 – TILT BACKREST

To Adjust the Tilt of the Backrest

Select backrest card



Icone dossier

Push the joystick in the direction of the up arrow to tilt the backrest forward.



Push the joystick in the direction of the down arrow, to tilt the backrest back.



Note

If the joystick is not held in the position of the arrow the movement stops

5.4 – TILT BACKREST

To Adjust the Tilt of the Backrest

Select folder card



Tilt backrest icon

Push the joystick in the direction of the up arrow to tilt the backrest forward



Push the joystick in the direction of the down arrow, to tilt the backrest back.



Note

If the joystick is not held in the position of the arrow the movement stops

5.5 – TILT LEGREST

To Adjust tilt legrest



Select legrest card

Legrest icon

Push the joystick in the direction of the up arrow to tilt the backrest forward



Push the joystick in the direction of the down arrow, to tilt the backrest back



Note

If the joystick is not held in the position of the arrow the movement stops.

Chapter VI – CONNECTIVITY

6.1 – CONNECTIVITY

Connectivity cards allow the user to interact wirelessly with external devices. Two connectivity functions are available: Mouse Movement and Switch Control.

Mouse motions

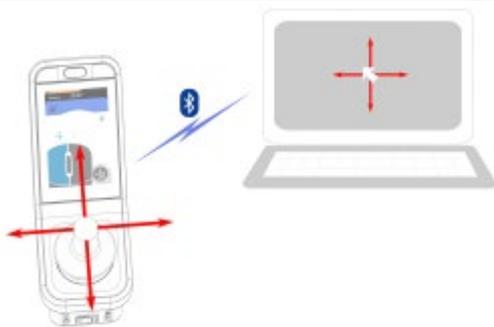


Figure 74 : Mouse motions

Moving the mouse allows the user to control the cursor on the screen of a PC or laptop from a user input on the wheelchair, such as the joystick on the remote module, the buttons on the touch screen or the buttons connected via the control inputs.

Switch control



Figure 75 : Switch control

Button CONTROL is an accessibility feature that allows the user to navigate and select items on their iOS or Android device using any main input, control inputs or the TOUCH SCREEN OF THE REM400.

A connectivity card, which has a blue header, usually includes :

- Connectivity card name
- Bluetooth connection status

The name is used to uniquely identify the purpose of the card. For example, a PC to connect and control the cursor on a computer.

The Bluetooth connection status indicator indicates when the Bluetooth connection between the LiNX system and the user's device is :

- * Disconnected
- * Connection
- * Connected

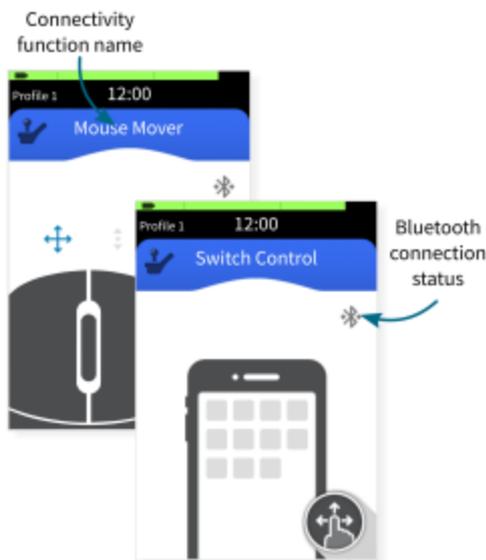


Figure 76 : Connectivity card example

6.1.1 – Set up a connectivity card

The following configuration procedure assumes that a connectivity adapter is available and selectable in one or more profiles. It also assumes that the user's device (PC, laptop, iOS or Android), to which the LiNX system connects, has an active Bluetooth connection.

Before you can use a connectivity card, you must :

- **Pair** the LiNX system with the user's device, and
- **Link** the connectivity card with the user's device.

These actions are described in more detail below.

Note

Typically, you only need to pair a device once (unless you voluntarily forget it – see "Forget devices" on page 49), while a device can be linked to multiple functions..

6.1.1.1 – Associate the LiNX manipulator with the user's device

To associate the LiNX system with the user's device (PC, laptop, iOS or Android), open the connectivity settings menu. To open this menu, tap and hold it :

Navigation button

Until the status and settings screen appears, then tap :

Setting | Connectivity



Figure 77 : Opening the connectivity settings menu

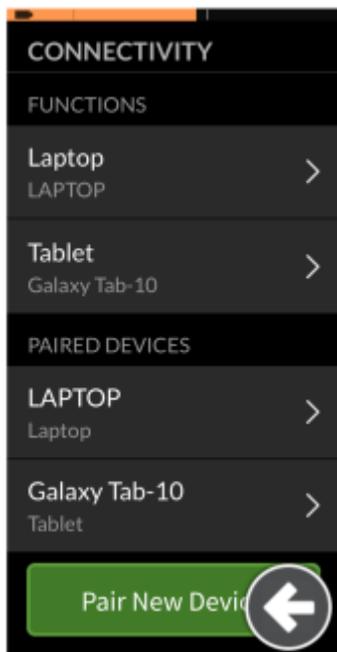


Figure 78 : Connectivity menu

The connectivity settings menu displays. This menu is split into two sections:

(See figure 78) :

- Functions (top section)
- Paired devices (bottom section)

At the bottom of this menu, tap on the Pair New Device button. The pairing passkey displays on the touch screen with the name of your LiNX device to pair with – for example: REM-J16130951 (See figure 79).

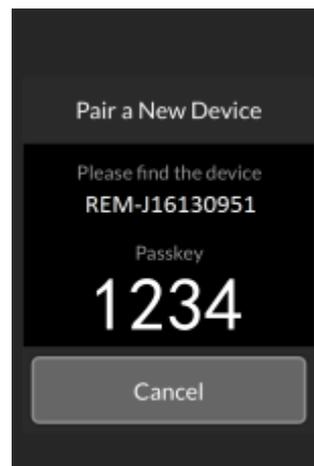


Figure 79 : Pair new device

Depending on your device, follow one of the three pairing instructions below :

- Pair with a PC or laptop
- Pair with an iOS device
- Pair with an Android device

Pair with a PC or laptop

Dans la boîte de dialogue Pc ou ordinateur portable Windows, ouvrez la boîte de dialogue Périphériques et imprimantes. Il existe un certain nombre de façons de le faire :

Start -> Devices & Printers, or

Start -> Control Panel->Devices & Printers, or

Icon tray -> click on the bluetooth device icons

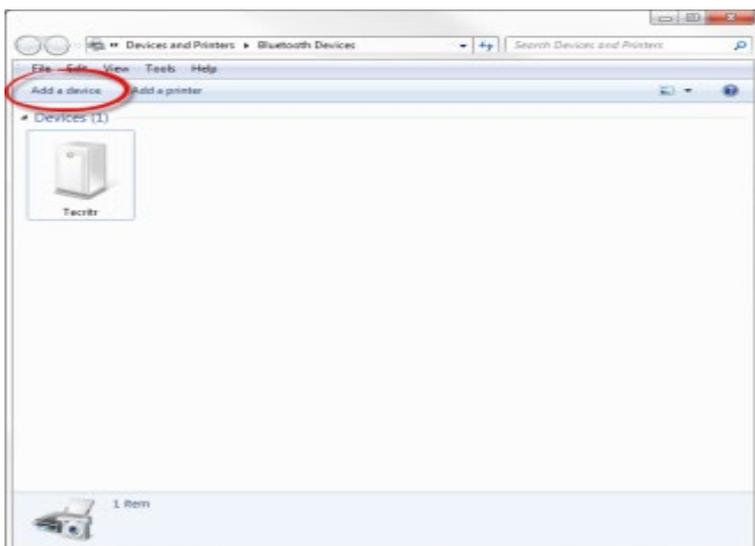


Figure 80 : Add a device

In the **Devices and Printers** dialog box, click on the **Add Device** button. Locate the name of the LiNX device that appears on the touchscreen (e.g., REM-J16130951). Click **Next**.

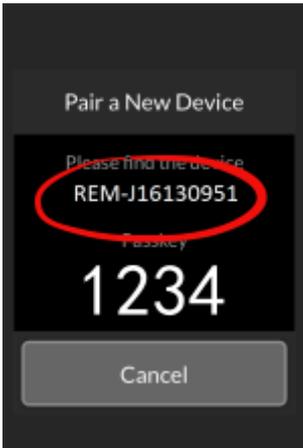


Figure 81 : Pair a new device



Figure 82 : Selecting a device to add

Wait for the device to connect.
Click **Next**

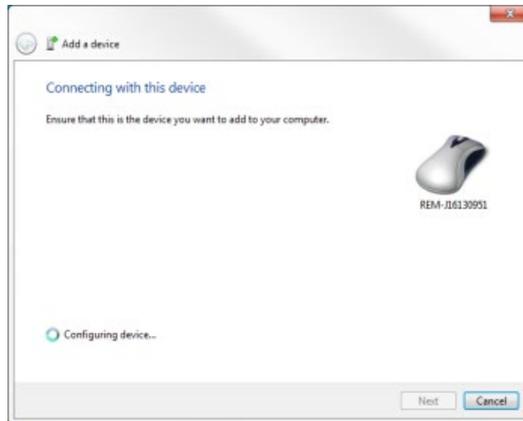


Figure 83 : Device Configuration

Click the **Close** button to complete the **Add Device** action.

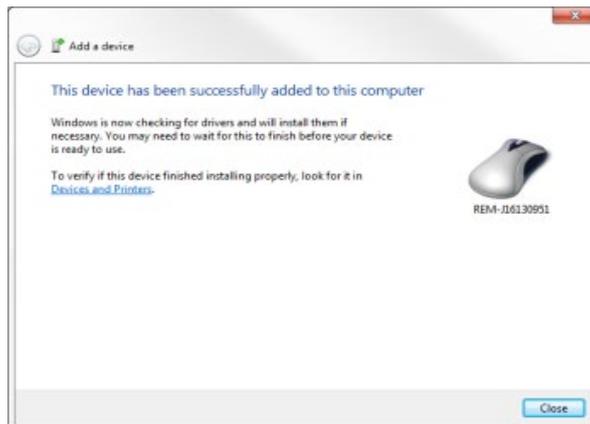


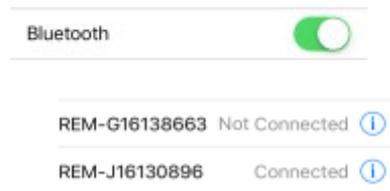
Figure 84 : Close Add Device

Pair with an iOS device

On your iOS device, go to the Bluetooth menu :

Settings | Bluetooth

If Bluetooth is not enabled, then turn it on now.



From the list of Bluetooth devices displayed on your iOS device, locate and tap on the name of the LiNX device that you wish to pair with (e.g. REM-J16130951) – the Bluetooth status of the selected LiNX device changes to "Connecting" while attempting to pair.

Pair with an Android device

On your Android device, open the Bluetooth menu :

Settings | Bluetooth

If Bluetooth is not enabled, then turn it on now.



From the list of Bluetooth devices displayed on your Android device, locate and tap the name of the LiNX device you want to pair with (e.g., REM-G16138663) – the Bluetooth status of the selected LiNX device changes to "Connection" while trying to.



If the device marries successfully, a confirmation screen appears on the remote module. Press the OK button to proceed. (See Figure 85)

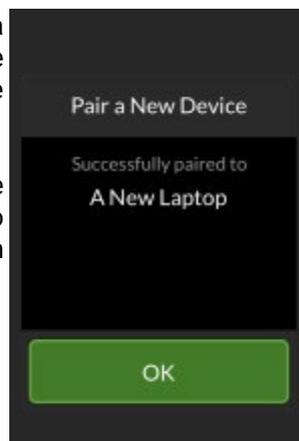


Figure 85 : Successfully paired

If no devices are paired within the game timeout period, a message appears, "No devices have been paired." Press the OK button to proceed. (See Figure 86)

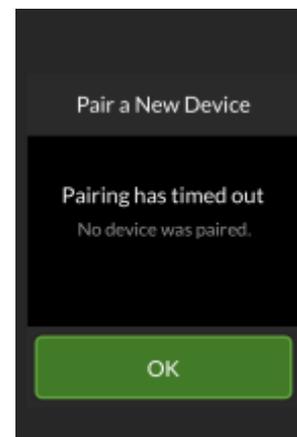


Figure 86 : Time out



Note

The LiNX system allows up to 10 devices to be paired at the same time. If you've reached this limit and need to add more devices, consider "forgetting" devices that have already been paired – see 6.6 Forget a device.

6.1.1.2 – Link the connection card with the user device

Connectivity cards must be linked to a paired device. To link a connectivity card to a device, open the connectivity settings menu and then tap and hold the :

Navigation button

And then tap on:

Settings | Connectivity settings

The Connection Settings menu appears. This menu is divided into two sections (see Figure 87):

- Functions
- Paired devices

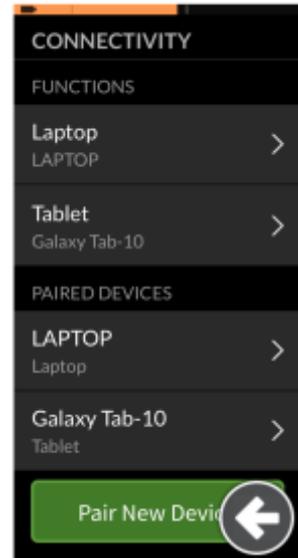


Figure 87 : Connectivity menu

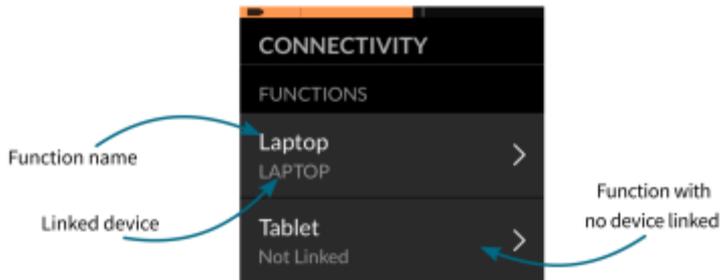


Figure 88 : Linked Functions & Devices

The names of the connectivity cards are displayed in the Functions section (top section of the menu).

For each menu item, the name of the connectivity card is displayed at the top and the user's device, if any, is displayed at the bottom. If the connectivity card does not have a device linked to it, then "Unlinked" is displayed. (See figure 88)

For connectivity cards that have not been linked, tap the appropriate menu item.

Press the "Unlinked" button and select one of the paired devices from the list, or press the "Pair New Device" button to add a new device. (See figure 89)



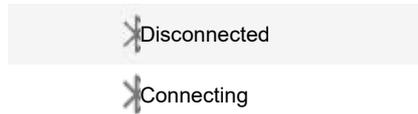
Figure 89 : Pair a device

6.2 – CONNECTIVITY DEVICES



To connect to a device, select the appropriate connectivity function from a profile. If the connectivity function is paired to a device, and the device is linked to the function, then it attempts to connect to the device via Bluetooth.

The Bluetooth connection status indicator shows when the Bluetooth connection between the LiNX system and the user's device is:



If the Bluetooth fails to connect, the status reverts to disconnected. To attempt to connect again, reselect the connectivity function from the profile (that is: deselect it, and then reselect it).

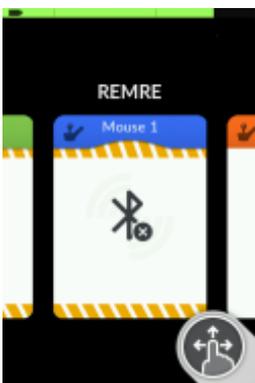


Figure 90 : Select a mouse mover connectivity card from a profile

If a connectivity card in the profile has not been configured fully, or is subject to an error, it is classed as inoperable. An inoperable card is identified by an orange chevron-like border, with an error icon indicating the type of error. (See figure 92)

There are a number of reasons that a connectivity card is inoperable. These are:
 the function's primary input is missing
 there are hardware errors from the Bluetooth module;
 there is no device linked;
 Bluetooth has been disabled.

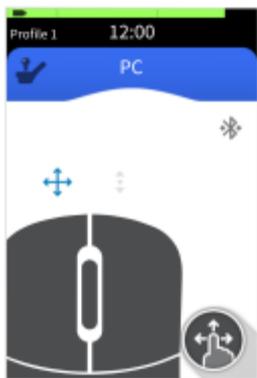


Figure 91 : Operable function

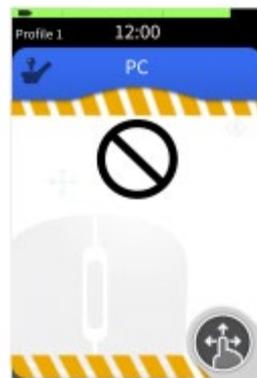


Figure 92 : Imperable function

6.3 – CONFIGURING AND OPERATING MOUSE MOVER

6.3.1 – Configuring

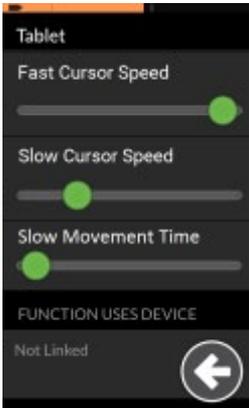


Figure 93 : Cursor speed setting

Cursor speed settings are configured according to individual needs (See figure 93). These settings can be found in the connection function menu. To view these settings, tap and hold :

Navigation button

Et puis appuyez sur :

Settings | Connectivity settings | [Function name]

For each mouse movement function, the following cursor settings are :

- . Fast cursor speed**
- . Slow cursor speed**

Slow movement speed

Fast Cursor Speed: Sets the speed at which the mouse cursor ramps up after the slow motion time expires. However, during the hour of slow motion, the speed of the mouse cursor moves at the speed defined by the speed of the slow cursor (see Figure 94). The fast speed of the cursor is set so that the user can move the cursor quickly over large distances. The fast speed of the cursor must be set to or greater than the speed of the slow cursor.

Slow Cursor Speed: Sets the speed at which the mouse cursor moves when it is first deflected. It remains at this speed for the duration set by the slow movement time (see Figure 94). The speed of the slow cursor is set so that the user can move the cursor slowly over small distances, which is useful for small adjustments, especially when moving between screen elements that are close to each other. The slow speed of the cursor must be set to or less than the fast speed of the cursor.

Slow motion time: Defines how long the mouse moves at the speed of the slow cursor before increasing at the fast speed of the cursor. The ramp time, between the end of the slow cursor speed and the beginning of the fast cursor speed, is equal to the time defined by this parameter (see figure 94).

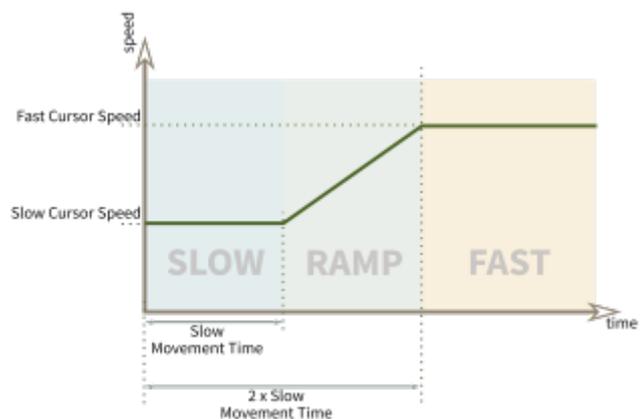


Figure 94 : Slow to fast ramp time

6.3.2 – Operating

The following operation description assumes that a connectivity card with a mouse movement function has been configured as described in the previous sections.

6.3.2.1 – Operating indication

Mouse movement allows the user to control a mouse cursor on a PC or laptop connected to Bluetooth. This includes moving the cursor as well as typical left- and right-click actions, such as selecting items and displaying the context menu (see figure 95).

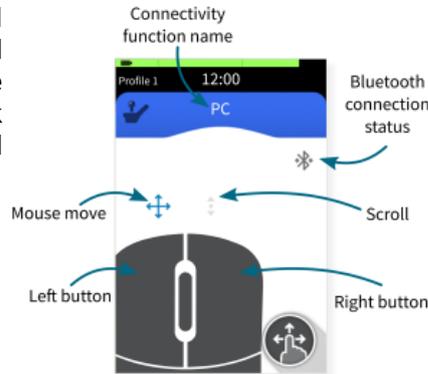


Figure 95 : Mouse mover components

Mouse movement indicator



The mouse movement indicator changes from gray to blue when it is active, that is, when user input controls the cursor of the connected device.

Scroll indicator



The scroll indicator changes from gray to blue when the scrolling feature is enabled.

Left and right mouse buttons



Press the left and right mouse buttons on the touchscreen to perform left and right mouse clicks.

6.3.2.2 – Moving the cursor

The cursor moves on the user's device in the direction that is mapped to the input. As indicated in section 6.3. 1, the cursor speed is slow initially, which is ideal for close or fine movements, then accelerates after a short period of time (defined by slow motion delay) to allow the cursor to move to a greater distance in a shorter time

6.3.2.3 – Left / right click

To click left or right:

Press the corresponding button on the touch screen, or
Use external buttons configured through control inputs for
right and left clicks.

When a button is tapped, it changes color from gray to blue (see figure 96)

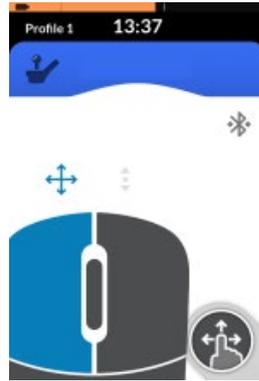


Figure 96 : example left click

6.4 – CONFIGURING AND OPERATION SWITCH CONTROL

6.4.1 – Configuring

Before you can use the button control, you must identify the buttons that you will use, and then assign an action to each button. For example, if you want your device to return to its **home** screen when you press the REM400's touch screen, you'll need to identify the REM400 touch screen as the button input and then assign the action of that button to the **Home** menu.

6.4.1.1 – Assign actions to switches – iOS Devices

Identify and assign actions to switches :
Open the device switch control menu iOS:

Setting | General | Accessibility | Switch Control

Tap on Switches

Tap on Add New Switch

Tap on External – you are prompted to activate your external switch.

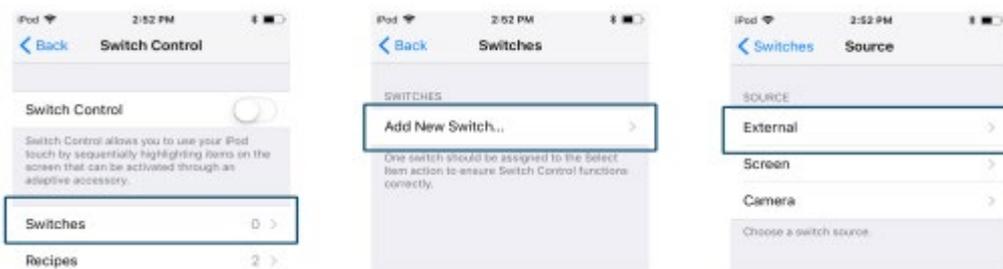


Figure 97 : Selecting external switch

Activate your external switch – for example, press the REM400's touchscreen or deflect the joystick in only one direction (forward, backward, left, or right) and then name the external switch – for example: Touchscreen – so you can identify it later.

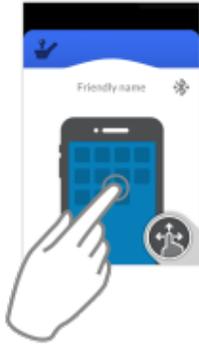


Figure 98 : Enable the external switch

Assign an action to the switch. From the **Actions** menu, choose a switch action, such as **home button** or **Select Item**.

If required, repeat the instructions above to add more switches.

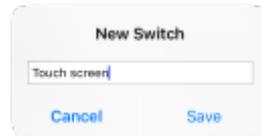


Figure 99 : Name the external switch

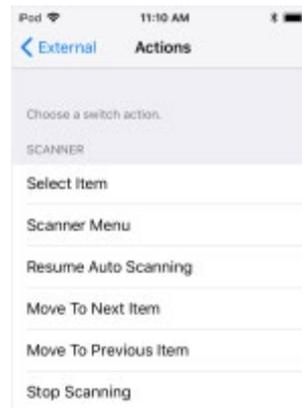


Figure 100 : Assigning actions to switches

6.4.1.2 – Turn on switch control



Figure 101 Turn on switch control

After you assigning switches to actions, turn on the switch control.

The following instructions are illustrative only. Switches can be assigned to many actions, the scope of which is beyond the scope of this manual.

6.4.1.3 – Assign actions to switches – Android Devices

 Note

To identify and assign actions to switch :
Open the Android device's Switch Access menu :
Settings | Accessibility | Switch Access

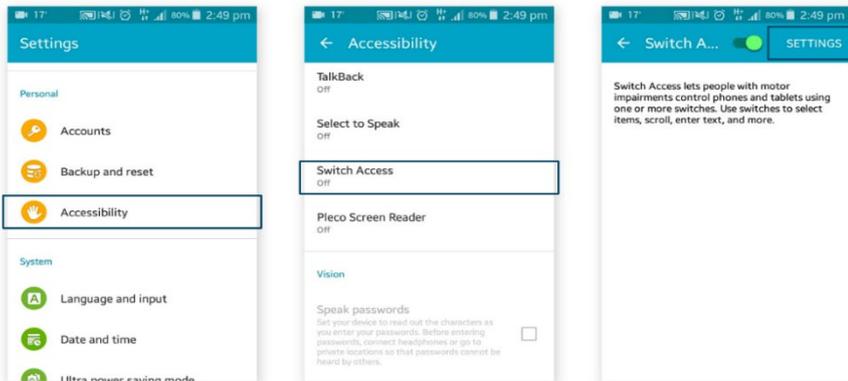


Figure 102 : Selecting switch Access

Tap on **Settings** (top right-hand corner).

 Note

Tap on Assign switches for scanning, or Assign switches to actions
Select one of the actions in the list. For example, tap on Select.
A notification displays asking you to:

Press a switch combination to add or remove it from the list.

At this point, activate the external switch (this could be a tap on the remote module's touch screen or a joystick movement in one of the four quadrant directions: forward, reverse, left and right). This assigns the switch to the selected action. Tap OK on the notification. Repeat for as many switches that need to be assigned.

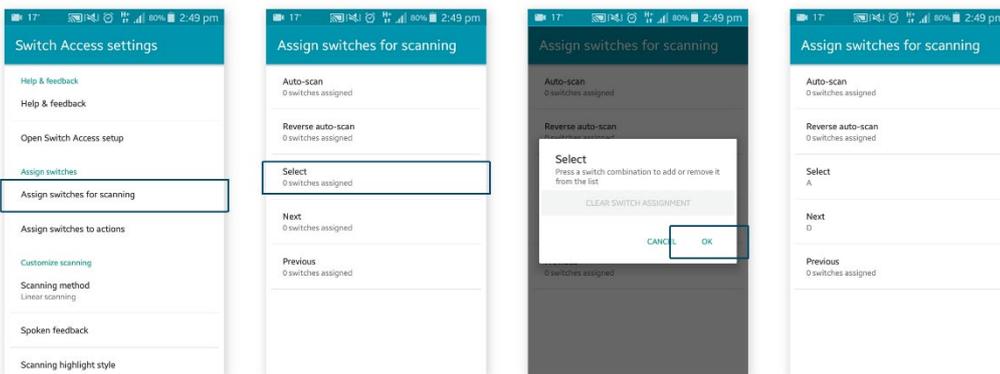


Figure 103 : Selecting external switches

6.4.1.4 – Turn on switch access

After assigning switches to actions, enable Switch Access. A notification displays "Use Switch Access?" – tap on OK



Figure 104 : Turn on switch control

6.4.2 – Operating

The following operation description assumes that a connectivity card with a switch control function has been set up as described in the previous sections

The switch control function allows the user to navigate and select items on their iOS or Android device.

The switch control indication varies depending on if a user's device is connected via Bluetooth and whether or not a switch control input is active – see below.

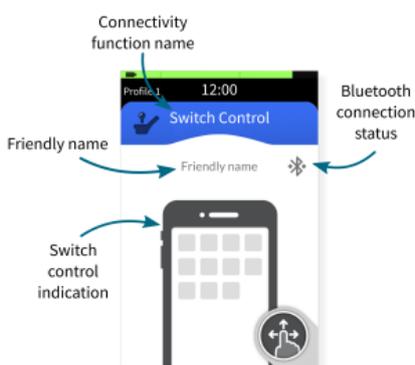


Figure 105 : Switch control components

Switch control indication – not connected.



This is shown when a switch control card is selected, but no user device is connected

Switch control indication – connected.



This is shown when a switch control card is selected, and a user device is connected

Switch control indication – active.



This is shown when a switch control card is selected, a user device is connected, and a switch is active.

To stop using a connectivity card, select a different function card from a profile. When the connectivity card is deselected, the Bluetooth connection disconnects

To forget a device, tap and hold on :
Navigation button

Then tap on:

Settings | Connectivity Settings

Select the paired device under PAIRED DEVICES.

Check the details on the next screen, and then tap **Forget this device**. Press the **Forget This Device** button again or the **Cancel** button to cancel this operation.

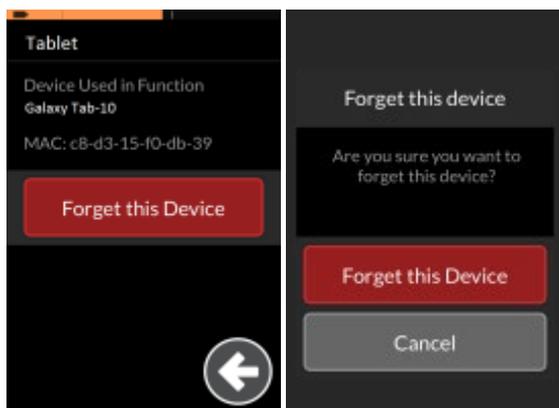


Figure 107 : Forgetting a device

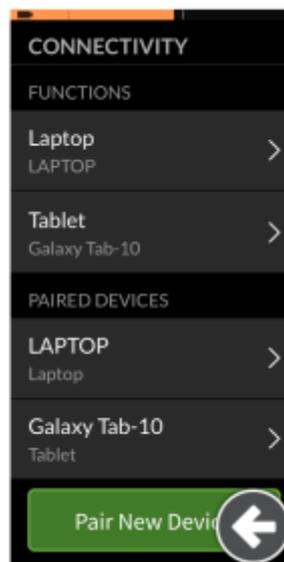


Figure 106 : Connectivity menu



Note

Forgetting a device will unte it from all the functions to which it is linked, as well as dissociate it from the system.

Chapter VII – MAINTENANCE

7.1 – BATTERIES & CHARGE

7.1.1 – Characteristic of Lithium batteries

Your chair is equipped as standard with a 24V 70Ah Lithium battery, waterproof and maintenance-free, Certified UN38.3 & IEC 62133:2017.

The number of charge cycles is about 1800.

Dimensions: length 300mm, width 171mm, height 220mm, weight 18.6kg

Rated voltage: 25.9V

Minimum voltage: 21V (voltage from which the chair will no longer work)

Charging voltage: 29.2V ~29.4V

Max. charging current: 35A

Charging temperature: -10°C ~ +45°C,



Warning

Do not charge a battery that is not at charging temperature

Use only a certified Lithium battery charger

Capacité nominale (25°C) : 70Ah (varie en fonction de la température de la batterie)

Les batteries Lithium ont une décharge non linéaire. C'est-à-dire qu'elle conserve une tension constante pendant une grande partie de leur utilisation, puis la tension chute brusquement.

Il est recommandé de ne pas utiliser votre fauteuil quand la jauge de charge de la batterie (sur le manipulateur) est en rouge. Vous devez impérativement recharger la batterie avant toute nouvelle utilisation.



Warning

The use of a discharged Lithium battery will cause irreversible damage to it



Tip

Keep your battery charged between 20% & 90%, to ensure optimal use for as long as possible

7.1.2 – Caractéristique des batteries AGM gel

Your chair can be equipped with two TRACTION AGM-gel batteries, waterproof and maintenance-free, compliant with DOT and IATA air transport standards, ADR road transport and maritime transport IMDG code, certified DIN 43534 & IEC8962 & BS6290-pt.4

The number of charge cycles is about 600.

Dimensions: length 226mm, width 135mm, height 214mm

Rated voltage: 12V

Charging voltage: 14.4V ~15.0V

Max. charging current: 16.5A

Charging temperature: -15°C ~ +40°C,

Rated capacity (25°C): 60Ah (varies depending on battery temperature)



Warning

To preserve the risks of accidental acids (burns, inhalation, etc.), malfunction, malevolence; the use of lead-acid batteries (car starter battery type) is strictly prohibited on this type of vehicle

Note

These batteries are specially designed for the traction of electric chairs:
"Traction" means that they are able to restore the stored energy for a long time, unlike starter batteries that provide a large amount of energy for only a few minutes.
"Waterproof" means clean, but also that no acid is likely to overflow during the load, nor to sink in case of overturning or falling of the chair. No emanation will be caused during charging.
"Maintenance-free" means that there is no need to monitor the electrolyte level of the battery:
The only precaution to take is to ensure proper unloading and loading.

7.1.3 – Battery charging

To recharge your wheelchair's battery, plug the appropriate battery charger (Lithium or AGM) equipped with a 5-pin XLR plug (see Figure 108) into the socket under the REM400 manipulator screen



Figure 108 : 5-pin XLR plug

The inhibition of the control module during charging is indicated with three visual elements on the REM400 (see figure 109)

C'est :

- The lock symbol of the control module in the status bar
- The inoperable function indication (orange chevron on the header and footer of the function)

The connected charger overlay



Figure 109 : Driving inhibit during charging

Battery charge – red when charging is <20%



Figure 110 : Battery charged less than 20%

Battery charge – orange when the charge is between 20 and 60 %



Figure 111 : Battery charged 20%-60%

Battery charge – green when the charge is between 60 and 100 %



Figure 112 : Battery charged 60-100%

Note

The LiNX system does not need to be powered on when charging the battery. However, if it is not turned on, the battery gauge will not display the state of charge.

7.1.4 – Recommendations for use batteries

Battery life depends on several factors:

- Manufacturing quality

Use only original batteries, which comply with the manufacturer's specifications.

Using lower quality batteries can lead to damage to electronics or malfunctions.

- Charge quality

A full charge lasts several hours. To preserve the longevity of the batteries it is essential to respect the **full charging times**. Otherwise, the partial loads will lead to a significant degradation of the autonomy and longevity of the batteries. Depending on the types of batteries and their number, a full charge can last more than 10 hours.

- Profondeur de décharge

The battery charge gauge of your manipulator gives you a **valuable indication**.

The more you use the batteries (the chairs) when the battery charge gauge is in *the red zone*, the more you deepen the battery discharge. Therefore, the longer the charging time required. But also it causes an alteration of the components of the battery, which can even lead to a failure and / or irreparably damage the life of the latter.

It is customary that a battery regularly discharged at more than 90% is a number of cycles reduced to less than half of its theoretical value announced by the manufacturer.

Example: a battery with 600 charge cycles, will perform only 250 if it is often discharged to more than 90%.

- The number of charge cycles

Batteries have a lifespan limited to their number of "charging" cycles. Every time you bank the charger of your chair you use a charging cycle, even if you do not fully charge the batterie.ne charge only wisely.

**Tip**

Plug in your charger only wisely.

Unplug your charger only when the battery charge is complete.

Hivernage ou stockage prolongé du fauteuil sans utilisation.

Mettre le fauteuil « hors tension », en fonction du model de fauteuil :

- removing the 60A fuse on the battery circuit
- by means of the home run on the front panel

In case of prolonged immobilization of the chair, it is advisable to recharge once a month, in order to maintain an optimal state of charge.

**Tip**

New AGM gel batteries require a break-in period of 5 to 10 charge/discharge cycles before reaching full capacity.

7.1.5 – Wheelchair range

The autonomy of the chair is estimated at about 30km in normal driving on flat and unobstructed pavement.

Autonomy is subject to the influence of many factors such as:

- Batteries: battery wear, number of charge/discharge cycles performed with batteries, battery temperature
- The environment: ambient temperatures, composition of the road, reliefs
- The total weight of the vehicle, which is the sum of the chair, the user, accessories, and any other elements that can increase the weight of the vehicle (push or tow another vehicle whatever it is, carry a second passenger, etc ...)
- Use: use of lighting, use of seat functions, tyre wear and pressure, maximum or progressive acceleration.

**Tip**

When using outdoors plan to leave with batteries charged to more than 90% to guarantee the return.

7.2 – WHEEL INFLATION

Bandage wheels require no maintenance.

Inflatable wheels require regular (monthly) control of their pressure.

Respect the pressure indicated on the sidewall of the tire.

Driving comfort and proper brake operation depend directly on proper tyre inflation.

To prevent the risk of punctures, you can opt for anti-puncture wheels (this will make riding the chair less flexible). You also have the option of installing inner tubes with a sealant. Finally, check the wear of your tires and make sure to replace it to avoid punctures.

In case of punctures, you can have your tire repaired by your PowerStand dealer or a bike shop.

You can also remove the wheel, removing the 4 M8 screws (with a 6-sided 6 mm wrench). Then, open the rim to recover the inner tube, removing the 5 M8 screws (with a 6-sided 6 mm key). Repair/or replace the inner tube. Put the slightly inflated inner tube back into the tire and close the rim tightly tightening the 5 M8 screws. Reassemble the wheel on the chair.



Warning

Before any interventions on the wheels of the chair, make sure that it is secure on the hold and in a sitting position.

7.3 – CLEANING AND SERVICING

7.3.1 – Cleaning:

For proper mechanical operation, regular cleaning of your chair is highly recommended.

Especially after use in the rain, dry it thoroughly.

- For painted parts: clean with slightly soapy water.
- For upholstery: use a soft and damp cloth.

For hygienic reasons it is recommended to clean and disinfect all parts of the chair in contact with the human body: seat, backrest, armrests, headrest, hamstring, joystick, etc....



Warning

Do not use rough, corrosive and/or pressure washer products.

Sand and seawater can damage ball bearings, some joints, motors and electronic boxes.

Use only controlled and recognized disinfectant products (spray + wiping allowed).

7.3.2 – Servicing :

Your electric chair must be subject to regular technical checks. You can do some of these checks yourself, but it is recommended that you have the chair checked annually by an authorized dealer. Parts replacement must be performed with PowerStand approved components to ensure chair performance. With proper care your chair should work perfectly throughout its lifespan.



Warning

Any unauthorized changes will void your warranty and may cause bodily injury.

Any intervention on the components of the chair by an unauthorized person will result in the cancellation of the warranty.

Any modifications not authorized by PowerStand constitute a remanufacturing of the wheelchair. The person or group who made the changes will be fully responsible for the wheelchair in accordance with the Therapeutic Goods Act (TGA.)

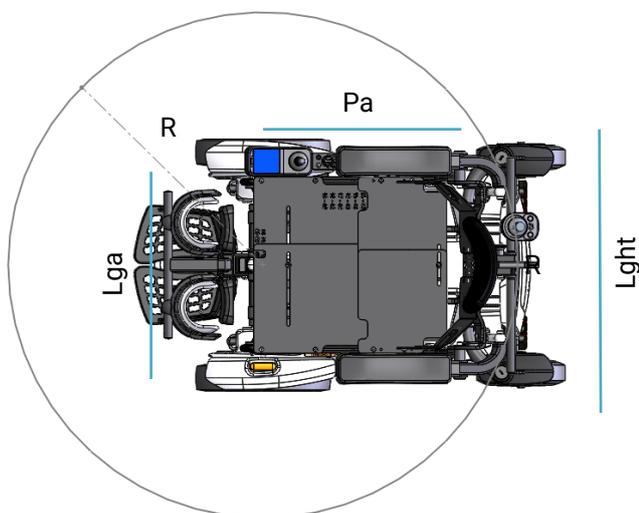
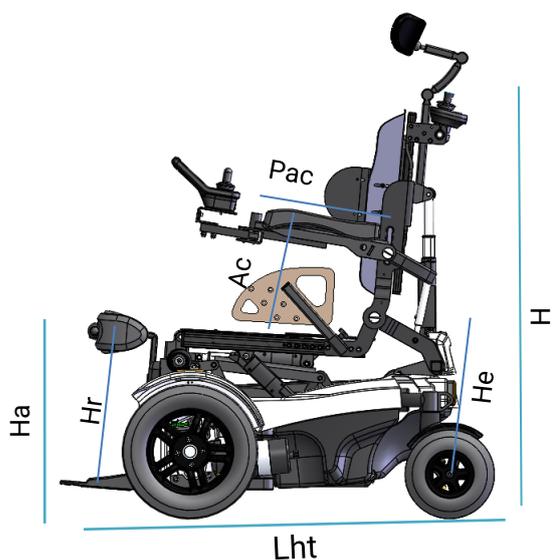
7.3.3 – Daily control:

To ensure the proper functioning of your chair and safe use, it is advisable to:

- Check the status of the joystick bellows (Replace in case of cracks and/or cracks).
- Check the status of the manipulator (screen and connection).
- Check the proper functioning of the brakes (Once the manipulator is in operation move the joystick slightly in each direction and then release it, make sure you hear the sound of the brakes coming into place).
- Check the proper functioning of the lamps (headlights, turn signals and position lamps)
- Check tire condition and inflation
- Contrôler l'état et le gonflage des pneus

Chapter VIII – TECHNICAL SPECIFICATION

Overall length raised footrest:	95 cm
Overall length lowered footrest Lht :	113 cm
Overall width Lght :	64 cm
Seated height Ha :	50 cm at the front, then slope of 3° towards the back.
Height foot rest Hr :	Adjustable from 33 to 41 cm
Axle height He :	30 cm
Backrest height H :	Adjustable from 85 to 95 cm
Armrest height Ac :	Adjustable from 28 to 38 cm
Armrest depth Pac :	Adjustable from 32 to 35 cm
Radius to turn R :	78 cm
Weight of the chair without battery:	100 kg
Weight of the chair a with battery Lithium :	120 kg
Poids du fauteuil avec 2 batteries AGM gel :	130 kg
Poids maxi utilisateur :	120 kg
Frame :	Rigid steel, epoxy paint.
Seat width Lga :	adjustable from 40 to 50 cm modulo 2 cm
Seat depth Pa :	adjustable from 40 to 50 cm modulo 2 cm
Reclining backrest in relation to the seat de -5° à 45°	
Front wheels:	Ø360 x 80 mm inflatable.
Rear wheels:	Ø200 x 50 mm with maintenance-free bandage.
Electrically tilting backrest :	electric actuator type LA 20-2500-100.
Electrically tilting legrest:	electric actuator type LA 20-2500-100.
Electrically compensated legrest:	vérin électrique type C35-2200-100
Electrical stand-up :	2 electric actuatorstype LA 20-2500-250.
Electric propulsion motorization :	2 Engines de 350 watts.
Speed	6 ou 10 km/h according to version.
Range (selon version)	> 20 km with 2 batterys GEL de 44 Ah. > 30 km with 1 Battery lithium de 70 Ah.
Charger:	1 charger 8 Ah / 24 volts.



8.1 – STABILITY

The P-Compact is a Class B electric wheelchair meeting the following stability criteria:

Static



Dynamic



8.2 – LIFESPAN

The P-Compact is an electric wheelchair designed to operate for 6 years, with normal use and respecting the instructions for maintenance and cleaning. The life of the batteries depends on the number of charges made see section 7.1

8.3 – IDENTIFICATION

You will find the trade description as well as the serial number of your chair on the front of the chassis behind the rudder

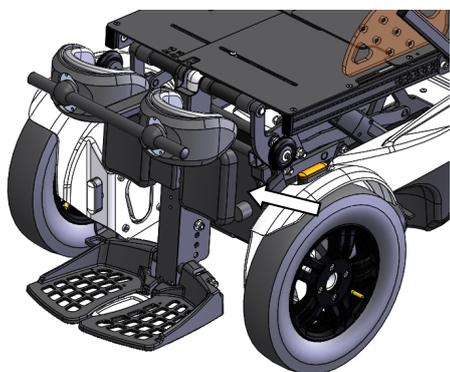


Figure 112 : identification label

Chapter IX : STANDARDS AND APPROVALS

9.1 – "CE" CONFORMITY MARK

The conformity of the apparatus with Annex I to Directive 93/42/EEC of the European Union is attested by the CE label.



The P-eStand has been tested according to international standards and meets all the requirements of a Class B medical device. This includes Article 16: Resistance to Inflammation. Information on the performance characteristics and results of the controlled tests of the motorised chair may be obtained from the manufacturer of the motorised chair. If you would like this information, please contact your PowerStand reseller..

9.2 – ELECTROMAGNETIC COMPATIBILITY

This chair has been tested according to European and international standards ISO 7176-21 and ANSI/RESNA WC vol 2. However in some cases there may be a risk of malfunction of the wheelchair subjected to electromagnetic fields:

Warning

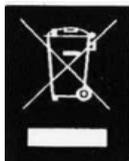
Electrical and electronic devices (TV, radio, mobile phone, industrial machines, electronic medical devices, etc.) can cause electromagnetic disturbances that can affect the proper functioning of the electric wheelchair. Avoid approaching it.

Warning

Take into account the risk of interference due to electromagnetic radiation if electrical parts or accessories are added to the electric wheelchair

9.3 – RECYCLING

Respect the environment and deposit your used batteries in a center recycling electrical and electronic equipment in accordance with Directive (WEEE) 2002/96/EC or simply drop it off at your dealer.



Warning

A battery contains substances that are harmful to the environment. At the end of its lifespan, do not throw it in the trash!

Chapter X - GUARANTEE

A- Guarantee: To be kept by the user.

The chair is guaranteed from the date of its delivery:

- TWO years against any mechanical manufacturing defect.
- ONE year against any manufacturing defect for the electrical parts (motor, cylinder, electronics ...).
- SIX months for batteries and charger.

§I: Scope of the Guarantee:

The warranty includes the total free labor and replacement supplies of parts recognized as defective after expertise carried out by us.

§II: Conditions for exercising the Guarantee:

The warranty granted only applies if the materials have been supplied by a PowerStand authorized reseller and are used under normal operating conditions.

The warranty does not apply to incidents originating from:

- in normal wear or fatigue (e.g. tyres, brakes, upholstery, battery);
- in an unusual or non-compliant operation (e.g. pinching or cutting the remote control cord, falling charger, etc.);
- in neglect of maintenance;
- in a modification beyond the control of the manufacturer.

Similarly, it does not apply to metal elements that have been modified by anyone since their delivery, either by transformation of the initial parts or by installation of new and not original parts.

Exchanges and refurbishments of parts made under the guarantee may not have the effect of prolonging the guarantee. PowerStand's liability is expressly limited, as stated above.

The manufacturer cannot be held responsible for any loss, damage or claim of third parties originating in any defect covered by the warranty.

In case of return from the factory, the transport to and from the factory is the responsibility of the customer.

B - Warranty certificate: To be cut, completed and returned to the manufacturer.

Name:Firstname :
 Adress :
 Phone : N° social security /...../...../...../...../...../...../...../...../...../.....
 Age :Size : Weight : Pathology :
 Wheelchair n° : Model
 Electric kit n° :Date purchase :
 Full reseller contact information :

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