

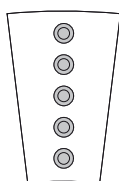
## 5. Indicators and error messages on the wheel

### 5.1 Charge status of the battery pack

The charge status of the two e-motion battery packs is indicated by the LEDs [1] attached to the wheel. Please note that because of different drive moments or possibly differently adjusted wheels the current consumption may also vary (see Chapter 6).

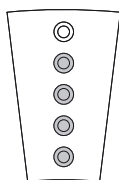
Each time when switching on a wheel and after each operation of the push rim, one or several LEDs come on (refer to the following table) and indicate the respective charge status of the battery pack. The LEDs go off after approx. 10 seconds and the top green LED (signal for the operational readiness of the wheel) flashes approx. every 2 seconds.

#### They mean:

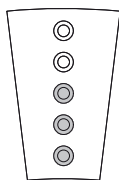


5 LEDs come on – Battery pack is charged 100 %.

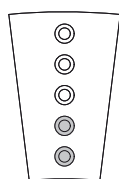
Avoid driving down slopes at high speeds because a forced shut-down of the wheel may occur due to the current return in the wheels and the risk of overvoltage in the battery pack.



4 LEDs come on – Battery pack is charged 80 %.

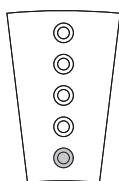


3 LEDs come on – Battery pack is charged 60 %.



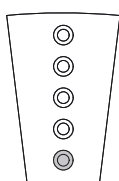
2 LEDs come on – Battery pack is charged 40 %.

We recommend not driving too far without charging the batteries first.



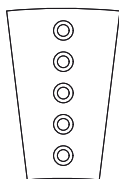
1 LED comes on – Battery pack is charged 20 %.

Charge the batteries before starting a ride.



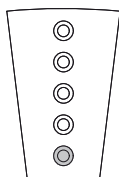
1 LED (red) flashes – Battery pack is charged 10 %.

Charge the batteries before starting a ride.

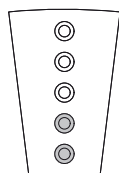


No LED comes on – Battery pack is empty.  
Driving without charging the battery pack is not possible.

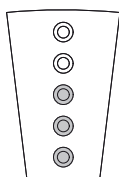
## 5.2 Display during charging of battery pack



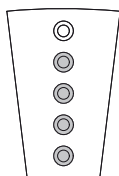
1 LED comes on – Battery pack is charged between 0 % and 25 %.



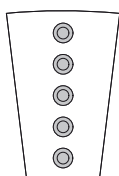
2 LEDs come on – Battery pack is charged between 25 % and 50 %.



3 LEDs come on – Battery pack is charged between 50 % and 75 %.



4 LEDs come on – Battery pack is charged between 75 % and 100 %.



5 LEDs come on – Battery pack is fully charged.



The e-motion wheel shuts off automatically if the charger plug [27] is pulled from the charger socket [3].



If a fault occurs during the charging process, all LEDs flash slowly and an acoustic warning tone sounds (refer to Chapter 5.3).

### 5.3 Acoustic error messages

The following table describes the errors occurring most frequently and are mainly due to faulty handling of the e-motion wheel. They mean:

- Short signal tone, duration approx. 0.2 seconds
- Long signal tone, duration approx. 0.8 seconds

Acoustic signal on the wheel	Repetition Acoustic signal	Error description	What to do
● ●	every 8 seconds	Overvoltage in the battery pack; a forced shut-down is immediately pending.	The error occurs especially when driving down slopes with fully charged battery pack. Drive at a slower speed.
● ●	every 10 seconds	Overvoltage of the battery pack, the drive was shut down by force.	The error occurs especially when driving down slopes with fully charged battery pack. Drive at a slower speed.
— ●	every 10 seconds	The charging process was terminated because the ambient temperature is below 0 °C or above 40 °C.	Charge the battery packs only at temperatures above 0 °C and below 40 °C.
● ● ●	every 5 minutes	Voltage of the battery pack < 20 % remaining capacity	Charge the battery pack as soon as possible.
● ● ●	every 60 seconds	Undervoltage of the battery pack (< 10 % remaining capacity), a forced shut-down is immediately pending.	Charge the battery pack immediately.
● ● ●	every 10 seconds	Undervoltage of the battery pack (< 5 % remaining capacity), a forced shut-down is immediately pending.	Complete a ride down a slope. Charge the battery pack immediately.
— ● ●	every 5 seconds	The charger plug is inserted in the charger socket but no charge current is flowing.	Check the operational readiness of the charger. Possible defect on the charger or wheel; repair is then required.
— — —	Each time when switching on the e-motion 1 time	The battery pack has less than 60 % capacity of a new battery.	The achievable range is significantly reduced. Replace the battery pack against a new one.
— ● ● ●	every 10 seconds	The battery pack was charged longer than 12 hours but is not completely charged.	The charger is defective if both battery packs are charged at the same time and the error messages is indicated for both battery packs. If both battery packs are charged at the same time and the error message is indicated for only one battery pack, this battery pack is defective. Repair is required in both cases.
● ● ● ● ●	every 10 seconds	The voltage in the battery pack is no longer sufficient for operation, the drive was shut down by force.	Charge the battery pack immediately.

## Acoustic error messages (continued)

Acoustic signal on the wheel	Repetition Acoustic signal	Error description	What to do
— ● ● ● ●	every 3 seconds	The charger plug is inserted in the charger socket; the wheel turns at the same time.	Pull the charger plug from the charger socket or stop the movement of the wheel.
— ● ● ● ●	every 10 seconds	The charge process was terminated because one battery pack is defective.	Repair is required.
— — — ● ●	every 10 seconds	Overtemperature of the motor.	Switch off the system and allow it to cool down; observe the ambient temperature.
— — — — ●	every 10 seconds	The signal coming from the push rim is applied longer than one wheel rotation.	A foreign object may have become wedged in the push rim. Remove this foreign object. Defect in the wheel, repair required.



**A serious fault of the system is present if other error messages than those shown in the list are signaled. The e-motion wheel is then no longer operational and must be sent to the Alber factory for inspection.**

## 6. Power stages and stored parameters

### 6.1 Power stages

Individual driving parameters can be assigned individually to each e-motion wheel to possibly adapt a wheel to an existing disease pattern of the wheelchair driver. With regards to this topic, please contact your specialist dealer.

The standard version of the e-motion is equipped with only one power stage. Both power stages can only be utilized with a remote control which is offered as optional accessory and can be retrofitted at any time.

#### Power stage 1 (factory setting)

A beep sounds when switching on the wheel, the motor output is 50 % of the maximum possible output of the e-motion.

This power stage is primarily recommended for driving indoors. This results in low current consumption, the battery packs are preserved and achieve a greater range per battery charge than in power stage 2.

#### Power stage 2 (factory settings, only in connection with optional remote control)

Two beeps sound when switching on the wheel, the motor output is 80 % of the maximum possible output of the e-motion.

This power stage is primarily recommended for driving outdoors. The current consumption is higher than in power stage 1 resulting in a correspondingly lower range per battery charge.

### 6.2 Power assistance

To start moving an e-motion wheel, the push rim mounted to it is moved forward (to drive forward) or backward (to drive backward). This movement requires a certain amount of force in the hands of the wheelchair driver.

The push rim of the e-motion wheel can now be set so that a comparatively small push is already sufficient to set the wheel in motion. Programming is done by the specialist dealer authorized by Alber who will also be glad to educate you on additional options of the individual adjustment of the e-motion.

### 6.3 Rollback delay (only with e-motion wheels with remote control)

If your e-motion is equipped with remote control, it will have a rollback delay that can be activated. This helps the wheelchair driver to drive up slopes and ramps by preventing the wheelchair from rolling back while repositioning the hands after a push motion.

### **Driving up slopes and down inclines with activated rollback delay.**

You can drive up and down slopes as usual whereby the motors move the e-motion wheels according to the power stage selected and the preprogrammed power assistance. The automatic rollback delay kicks in when the wheel electronics senses the wheel rolling back against the original direction of travel. This means that the wheels are slowed down by braking for 5 seconds thus being prevented from rolling back. This is followed by two short signal tones and the brake function is gradually cancelled. The wheel runs free after 5 seconds.

### **Activating / deactivating the rollback delay**

To activate the rollback delay, push the following buttons on the remote control:

- button 1 [23] (for activation in power stage 1), or
- button 2 [22] (for activation in power stage 2).

Push the buttons longer than 3 seconds. Activation is confirmed with a long signal tone.

If you want to switch off the rollback delay, push (depending on the selected power stage) button 1 or 2 again longer than 3 seconds. Deactivation is confirmed with a long signal sound.

Alternatively, you can also switch off the e-motion wheels. The rollback delay is deactivated if the e-motion is switched off and on again.

### **Safety notes**

- In case of especially steep slopes and/or very heavy wheelchair drivers, the rollback delay may possibly not be able to prevent a slow rolling back of the wheelchair.
- The rollback delay is not a parking brake but delays the wheelchair from rolling back only for a few seconds. Therefore secure your wheelchair with the parking brakes if you want to stop on a slope.
- Use the rollback delay only with sufficient battery capacity (if at least 2 LEDs are still on)!
- The rollback delay must be reactivated each time after the e-motion wheels have been switched off.

## **7. Automatic self switch-off**

To save energy, time periods have been assigned to the e-motion wheels and the remote control after which they are switched off automatically.

### **7.1 Automatic wheel self switch-off**

The value preset at the factory for the automatic self switch off is 30 minutes.

This value can be changed with the optional remote control. With regards to this topic, please contact your specialist dealer.

### **7.2 Remote control (optional) self switch-off**

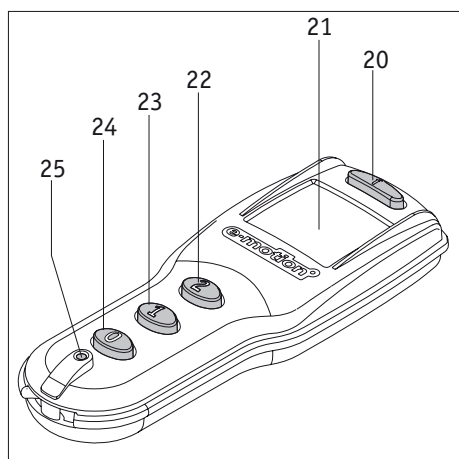
The value preset at the factory for the automatic self switch off of the remote control display is 5 minutes. This value can be changed by corresponding programming of the remote control. With regards to this topic, please contact your specialist dealer.

If the remote control does not find any wheel (for example, because the remote communication could not be established), it always switches off after 5 seconds. This value cannot be changed.

## **8. Fuse replacement**

As any electric or electronic device, your e-motion is equipped with fuse protection. The fuse responds in case of a defect and thereby protects the electronic components from lasting and expensive damages.

The fuse of the e-motion wheel is located in the electronic system inside the wheel hub. A possibly required fuse replacement, together with a complete diagnosis of the entire electronic system may only be carried out by the authorized specialist dealer.



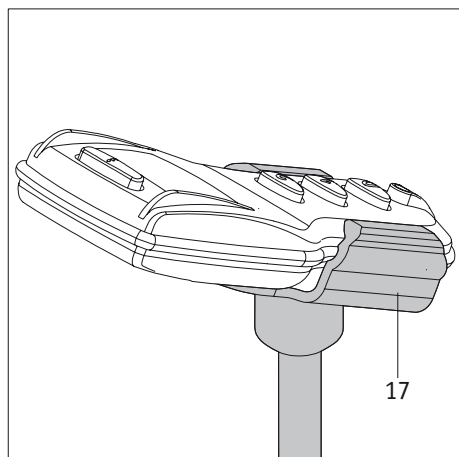
## 9. Remote control (optional)

### 9.1 Operating controls

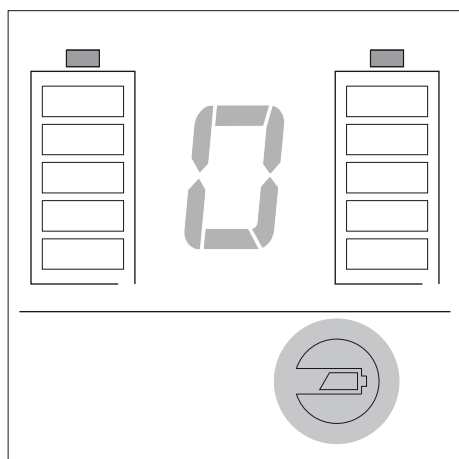
They mean:

- Information button [20] to retrieve the current operating status (with the wheels switched on).
- Display [21] for the optical indication
- Button 2 [22] to simultaneously switch on both e-motion wheels in power stage 2
- Button 1 [23] to simultaneously switch on both e-motion wheels in power stage 1
- Button 0 [24] to simultaneously switch off both e-motion wheels.
- RESET button [25] to program the wheels.

**Never push this button since the parameters stored in the software of the wheels may otherwise change requiring them to be reset by the specialist dealer.**



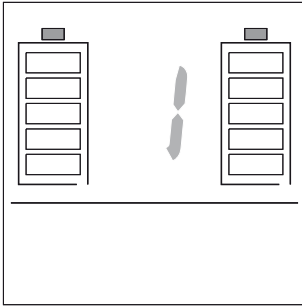
An optional bracket [17] is available to store the remote control on the wheelchair.



Based on an average daily use of the remote control, the life of the battery already inserted at the factory is roughly 5 years.

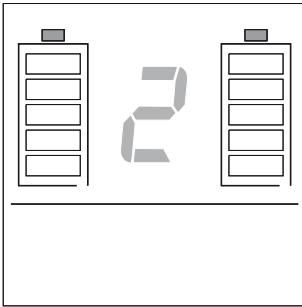
If the battery replacement becomes necessary, the battery symbol lights up at the lower right part of the display during all display situations.

The battery may only be replaced by the specialist dealer authorized by Alber.



## 9.2 Function display

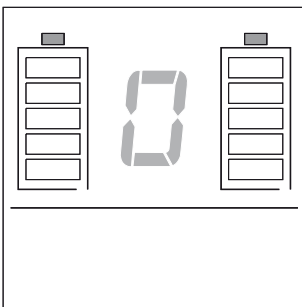
The remote control is activated after pushing any of the operating controls introduced in Chapter 9.1. All display elements light up hereby for approx. 1 second (refer to the adjacent graphic illustration).



Push the button [23] on the remote control to simultaneously switch on both e-motion wheels in power stage 1.

Power stage 1 and the charge status of both battery packs is indicated in the display.

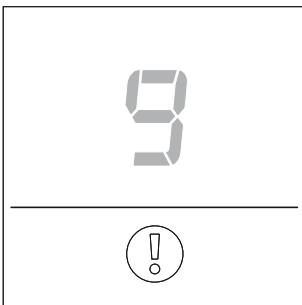
A beep sounds at the e-motion wheels. The LEDs [1] on the wheel hub also signal the charge status of the respective battery pack.



Push the button [22] on the remote control to simultaneously switch on both e-motion wheels in power stage 2.

Power stage 2 and the charge status of both battery packs is indicated in the display.

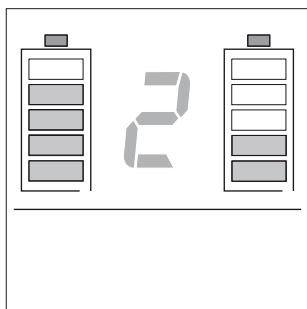
Two beeps sound at the e-motion wheels. The LEDs [1] on the wheel hub also signal the charge status of the respective battery pack.



Push the button [24] on the remote control to simultaneously switch off both e-motion wheels. A zero and the charge status of both battery packs is indicated in the display.

A beep sounds at the e-motion wheels.

If the remote control does not detect the two wheels (for example, due to a poor remote communication), the information message shown here appears on the display.



### 9.3 Display of the battery pack charge status

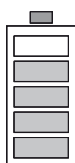
The charge status of the two e-motion battery packs is indicated in the upper half of the display [21]. Please note that because of different drive moments or possibly differently adjusted wheels the current consumption may also vary (see also Chapter 6).

The respective charge status of a battery pack is indicated as follows:

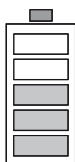


5 bars come on – Battery pack is charged 100 %.

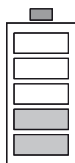
Avoid driving down slopes at high speeds because a forced shut-down of the wheel may occur due to the current return in the wheels and the risk of overvoltage in the battery pack.



4 bars come on – Battery pack is charged 80 %.



3 bars come on – Battery pack is charged 60 %.



2 bars come on – Battery pack is charged 40 %.

We recommend not driving too far without charging the batteries first.



1 bar comes on – Battery pack is charged 20 %.

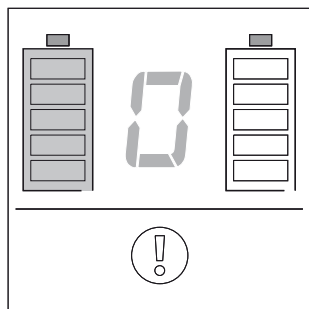
Charge the batteries before starting to drive.



No bars come on – Battery pack is empty.

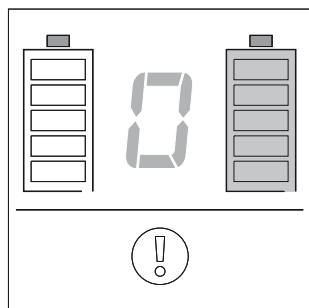
Driving without charging the battery pack is not possible.



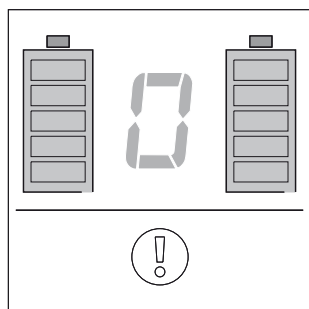


#### 9.4 Display of error messages

If an error is indicated according to the table on the following page and the left battery symbol flashes at the same time, the error indicated occurs only in the left wheel or in the battery pack of the left wheel.

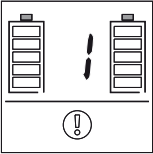

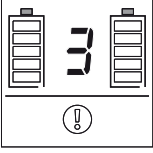
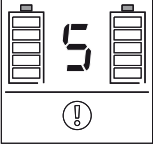
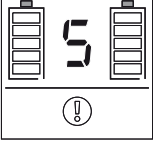
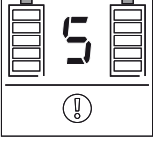
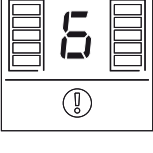
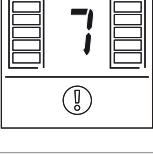
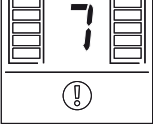


If an error is indicated according to the table on the following page and the right battery symbol flashes at the same time, the error indicated occurs only in the right wheel or in the battery pack of the right wheel.


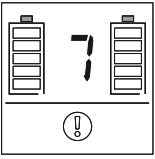

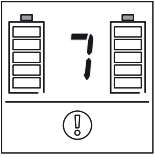


If an error is indicated according to the table on the following page and both battery symbols flash at the same time, the error indicated occurs in both wheels or in the battery packs of both wheels.

Table Error Messages

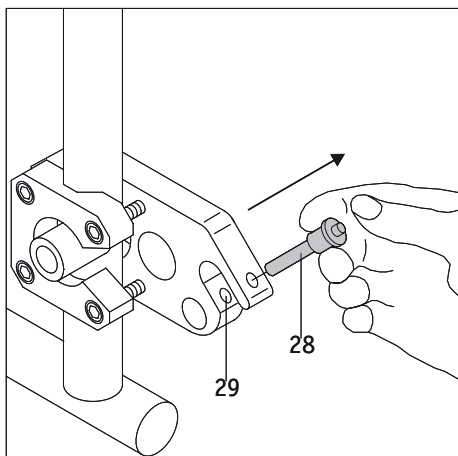
Indication in the display	Acoustic signal on the wheel	Repetition Acoustic signal	Error description	What to do
	— — — • •	every 10 seconds	Overtemperature of the motor.	Switch off the system and allow it to cool down; observe the ambient temperature.
	• •	every 8 seconds	Overvoltage in the battery pack; a forced shut-down is immediately pending.	The error occurs especially when driving down slopes with fully charged battery pack. Drive at a slower speed.
	• •	every 10 seconds	Overvoltage of the battery pack. The system is shut down by force.	The error occurs especially when driving down slopes with fully charged battery pack. Drive at a slower speed.
	• • •	every 60 seconds	Undervoltage of the battery pack (< 10 % remaining capacity), a forced shut-down is immediately pending.	Charge the battery pack immediately.
	• • •	every 10 seconds	Undervoltage of the battery pack (< 5 % remaining capacity), a forced shut-down is immediately pending.	Complete a ride down a slope. Charge the battery pack immediately.
	• • • • •	every 10 seconds	The voltage in the battery pack is no longer sufficient for operation, the drive was shut down by force.	Charge the battery pack immediately.
	— — — — •	every 10 seconds	The signal coming from the push rim is applied longer than one wheel rotation.	A foreign object may have become wedged in the push rim. Remove this foreign object. Defect in the wheel, repair required.
	— — —	1 time each time the e-motion is switched on	The battery pack has less than 60 % capacity of a new battery.	The achievable range is significantly reduced. Replace the battery pack against a new one.
	— • • • •	every 3 seconds	The charger plug is inserted in the charger socket; the wheel turns at the same time.	Pull the charger plug from the charger socket or stop the movement of the wheel.

**Table Error Messages (continued)**

Indication in the display	Acoustic signal on the wheel	Repetition Acoustic signal	Error description	What to do
	— • •	every 5 seconds	The charger plug is inserted in the charger socket but no charge current is flowing.	Check the operational readiness of the charger. Possible defect on the charger or wheel; repair is then required.
	— • • •	every 10 seconds	The battery pack was charged longer than 12 hours but is not completely charged.	The charger is defective if both battery packs are charged at the same time and the error message is indicated for both battery packs. If both battery packs are charged at the same time and the error message is indicated for only one battery pack, this battery pack is defective. Repair is required in both cases.
	— •	every 10 seconds	The charging process was terminated because the ambient temperature is below 0 °C or above 40 °C.	Charge the battery packs only at temperatures above 0 °C and below 40 °C.
	— • • • •	every 10 seconds	The charge process was terminated because one battery pack is defective.	Repair is required.



A serious fault of the overall system is present if other error messages than those listed in the display are shown or other signal tones that those listed sound on the wheels. Your e-motion is then no longer operational and must be sent to the Alber factory for inspection.



## 10. Anti-tippers (optional)

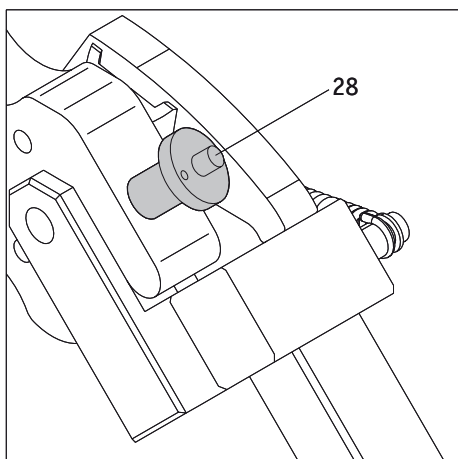
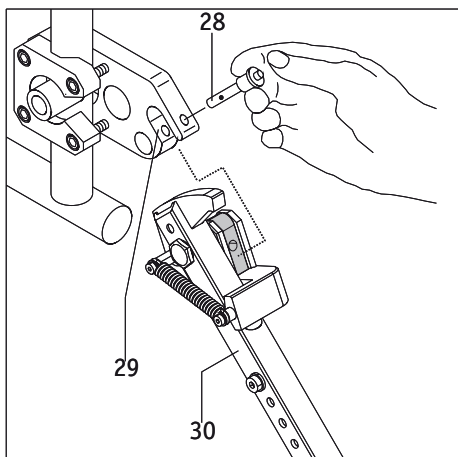
Because your wheelchair may already be equipped with anti-tippers, Alber anti-tippers are only offered as accessory. When using the original wheelchair anti-tippers, the instructions and safety information of the manufacturer apply to their usage.

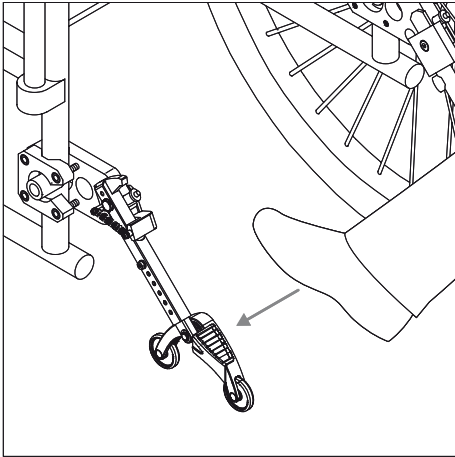
When using Alber anti-tippers, two additional brackets are attached to your wheelchair in which the anti-tippers are introduced. The following instructions and safety information applies.

### 10.1 Attaching and removing the Alber anti-tippers

- Pull the quickpin [28] out of the receiver fork of the bracket [29] by using your thumb to press on the pin and at the same time using your forefinger and middle finger to pull it out.
- Insert the clamping piece of the anti-tipper [31] into the receiver fork of the bracket [29].
- Lock the receiver fork of the bracket [29] with the quickpin [28]. Press on the pin with your thumb and then push it all the way against the stop into the bracket.
- Check the secure seat of the quickpin [28] in the receiver fork of the bracket [29]. It may not be pulled out again without pushing the unlocking mechanism.
- Attach the second anti-tipper.

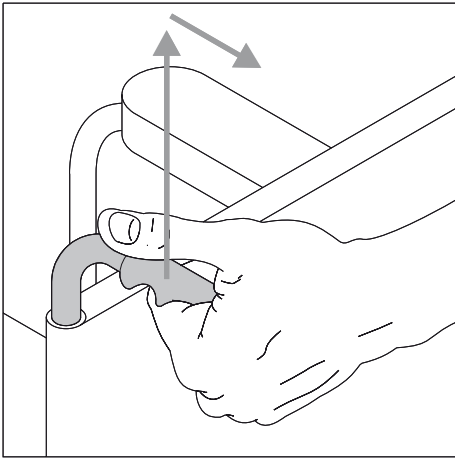
**Remove anti-tippers in the reverse order.**



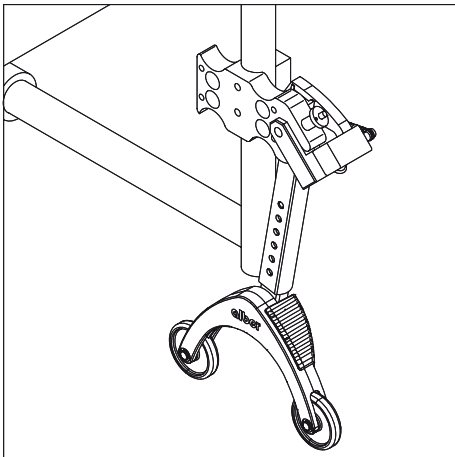


## 10.2 Using the Alber anti-tippers

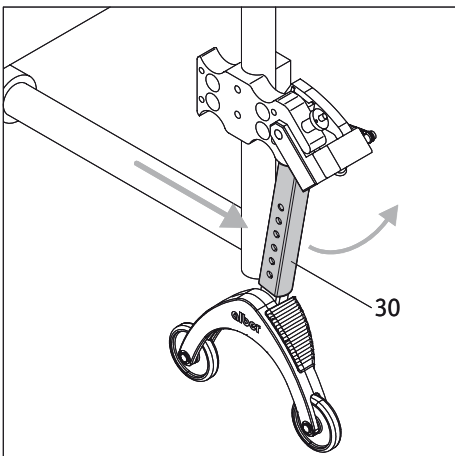
- Push with the foot against an anti-tipper as shown in the graphic illustration.



- At the same time, pull the wheelchair by its handles slightly to the top and rear until the wheelchair was raised and the anti-tippers engage in a fixed position.

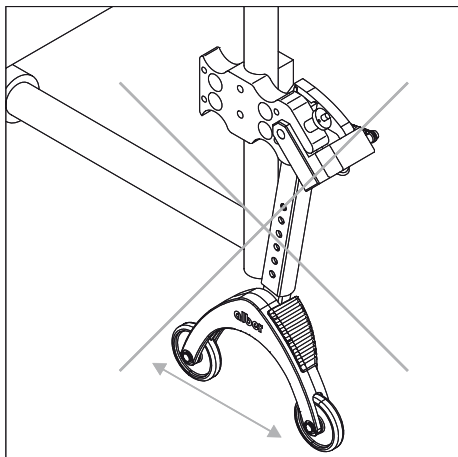


- You can not attach or remove a wheel. Repeat the process with the second anti-tipper on the other side of the wheelchair.



- Once the wheels have been attached, you can return the anti-tippers to the original position. To do so, push the wheelchair forward and the holding rod [30] back with the foot at the same time.

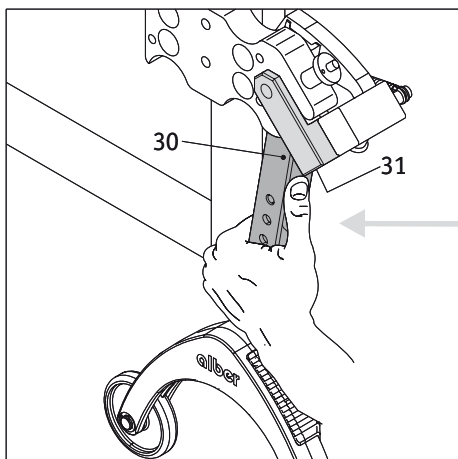
### 10.3 Important operating and safety information



**Jacking up the wheelchair while the driver is in it is not permitted!**



**Anti-tippers are no transfer rolls!  
Do not move the wheelchair while jacked up!**



**Careful when adjusting or folding the anti-tippers, especially when making the settings or operation with your hand. There is a risk of crushing due to the required high spring force between holding rod [30] and the clamping piece [31].**

## 11. Safety and hazard notes

For reasons of safety, apply the wheelchair brakes when you have stopped, especially on hills and slopes to avoid the wheelchair from rolling away unintentionally.

In order to ensure safe use of your e-motion, the following notes must be strictly observed.

### 11.1 Safety notes

In the (unlikely) event of overheating or fire of the battery pack it must not come into contact with water or any other liquids at any rate. The battery manufacturers recommend sand as the only useful means to extinguish the fire.

#### Before starting a ride/journey, observe the following:

- The e-motion may only be attached to wheelchairs with hand rims which have been approved by Ulrich Alber GmbH for this purpose.
- Therefore always mount the e-motion wheels according to their identification on the left and right side of your wheelchair, respectively. Incorrectly attached wheels may lead to accidents because of their different programming.
- The bracket for the e-motion may only be assembled and altered by Ulrich Alber GmbH or the medical supplies provider authorized by Alber.
- The wheelchair user manual must be followed when using the e-motion.
- The wheelchair may not be driven without the anti-tippers attached.
- Attach the original anti-tippers of the wheelchair manufacturer or the optionally available Alber anti-tippers to your wheelchair.
- Before each ride, check the condition of the e-motion wheels. The e-motion may no longer be operated once the tires have reached their wear limit (a tire thread can no longer be seen).
- Before each ride, check the function of the brakes of your wheelchair. You may not drive without functioning brakes.
- If your wheelchair has pneumatic tires:  
Check the tire pressure of the e-motion wheels at regular intervals. It must be between 6.0 bar (85 psi) and 10.0 bar (145 psi). Check the tire pressure of the steering wheels according to the notes and specifications of the wheelchair manufacturer. If the air pressure is too low, this can severely influence the driving behaviour and range.
- Check the correct seat of the e-motion wheels in the two wheel receivers on your wheelchair before each ride.

#### When riding with the e-motion, observe the following:

- Before driving the e-motion on slopes or hills, you should be able to safely master handling the device on flat terrain.
- The maximum permissible gradient specified by the wheelchair manufacturer must not be exceeded.
- Approach steps or steep drops with exceptional care.
- If the e-motion is switched on, each impulse on the push rims is converted into a drive command. When stopping or waiting at potential hazard spots (e.g. while waiting at a pedestrian crossing, on hills and slopes or on ramps of any type) remove your hands from the push rims and secure your wheelchair with the brakes.
- Never reach into the wheel while the e-motion is switched on.
- Never insert or throw any objects into an e-motion wheel that is switched on or off.
- Never attach any objects to the push rims! This could lead to undesirable drive movements.
- When driving on paths, keep a sufficient distance (if possible, at least a wheelchair's width) from the curbstone edge.
- Avoid travel on non-solid surfaces (e.g. on loose gravel, sand, mud, snow, ice or through deep puddles).
- Never leave the e-motion unattended, either switched off or on.
- The performance of the e-motion can be impaired by electromagnetic fields, for example, generated by mobile phones. The supplementary drive must therefore be switched off when mobile phones are used in direct proximity to the wheelchair.
- The e-motion can have a disruptive effect on other equipment, such as security panels in department stores.
- Escalators and motorized walkways may not be entered with the e-motion.
- While driving at the highest speed, never change the direction of travel suddenly to the left or right, as this may cause the wheelchair to tip over to the side.
- Reduce your speed when negotiating curves.
- If you intend to stop with your wheelchair on an incline or downhill slope, the wheelchair must be parked perpendicular to the slope or incline and the parking brake pulled.
- Pull the parking brakes of your wheelchair after each ride or when stopping the wheelchair to prevent unintentional rolling away!
- Never drive parallel along slopes.
- Never reach into the spokes of the e-motion wheels while driving or into the front wheels of your wheelchair.
- Brake the e-motion gently and according to your speed (not abruptly).
- While driving in vehicles, sit only on the seats installed there using the pertaining restraint systems. Disregarding these instructions bears the risk that both you and the other passengers could be injured in case of an accident.
- Secure your wheelchair and the e-motion wheels according to the respective applicable legal stipulations and rules when driving in vehicles.
- When driving on public roads and paths, observe the instructions of the Highway Code and the Federal Motor Safety Standards (StVZO).

- The e-motion is only intended for persons with limited mobility and may not be used for any other purpose, e.g. for playing children or to transport goods.
- Operating the e-motion in the vicinity of strong magnetic fields as they may be caused by magnetic clamps, transformers, tomography, etc. is not permitted.
- Avoid driving with the e-motion during adverse conditions, for example, during storm, hail and tall brushwood.

#### **Observe the following after completing the ride with your e-motion:**

- When not in operation, switch off the e-motion straightaway to avoid unintentionally triggering a drive movement through contact with the push rims and battery from self-discharging.
- Apply the parking brakes of the wheelchair at each stop.
- If possible, charge the battery pack on your e-motion after each ride.

#### **11.2 Safety note on using the e-motion in vehicles**

Wheelchairs or the combination of the e-motion wheels with a wheelchair are not approved in all states to be used as a seat in vehicles or transport vehicles for disabled persons.

If you plan such use, you are obligated to learn the regulations and laws applicable in your home country.

If the combination of the e-motion wheels with a wheelchair are approved in your country for use as a seat in vehicles or transport vehicles for disabled persons,

- the wheelchair and the e-motion wheels must be secured according to the applicable regulations and laws of your country.
- Suitable mechanical systems must be chosen which relieve the axles of the e-motion during this type of use and do not put additional strain on them. No additional forces may work on the stub axles of the e-motion wheels.

Ulrich Alber GmbH rejects any liability for accidents and their consequences or for damages to the wheelchair or the e-motion wheels due to

- non-compliance with the regulations and laws applying in your country
- and the use of prohibited or unsuitable safety systems.

#### **11.3 Obstacles**

Overcome obstacles (e.g. curbs) only while driving backward, if possible. The maximum permitted height of the obstacle is thereby 50 mm. Attention! When driving over obstacles in reverse, the full functionality of the Alber anti-tippers is not guaranteed! Therefore, drive slowly and carefully in reverse until the wheels of your e-motion touch the obstacle. Then, carefully drive over the obstacle. We recommend the assistance of an accompanying person.



### 11.4 Hazard points and hazardous situations

- The operator of the wheelchair makes an independent decision about the routes to be traveled based on his/her driving skills and physical capabilities.
- Before starting a ride, the user must check the e-motion wheels for run-down or damaged tires, as well as the charge status of the two battery packs and the proper functioning of the optical and acoustic signal devices on the wheel and the remote control.
- These safety checks as well as the personal driving skills of the user are particularly important at the following hazard points which are to be negotiated at the discretion of the e-motion driver:
  - Quays, landing places and moorings, paths and places near bodies of water, unsecured bridges and dikes
  - narrow paths, sloping paths (e.g. ramps and entrance ramps), narrow paths on a downhill slope, mountain paths
  - narrow and/or steep/sloping paths on main traffic routes and side streets or near steep drops
  - leaf and snow covered or icy tracks/roads
  - ramps and lifts on vehicles.



**When negotiating a curve or when turning on hills or sloping paths, there can be an increased inclination to tip to the side due to a shift in the center of gravity. For this reason, carry out this drive maneuver with increased caution and at a slower speed!**



**Utmost caution is called for when crossing roads, junctions and railway crossing points. Never cross rail tracks embedded in roads or at railway crossings parallel as the wheels could become jammed.**



**Utmost care is called for when traversing ramps and lifts on vehicles. The e-motion must be switched off while the ramp or lift is being raised or lowered. Likewise, the parking brakes must be applied on the wheelchair. Rolling away, e.g. due to unintentional drive commands, is hereby prevented.**



**When conditions are wet, the grip of the tires on the surface is reduced; there is an increased risk of slipping. Adjust your driving behaviour accordingly and never drive with run down tires.**

## 12. Care, safety checks (maintenance), reuse and disposal

### 12.1 Care

As already pointed out in other chapters, the battery pack principally remains in the e-motion wheel and is only removed for service situations or air transport. Cleaning is therefore usually only done on the surface of the wheel and not inside the wheel hub or on the bottom of the battery pack.

Neither damp nor wet cloths or liquid cleaning agents may be used for any cleaning procedure. This means, rub the wheel and the inside battery pack only with dry cloths.

Always make sure that neither liquids nor moisture enters the wheel hub or the battery pack.

### 12.2 Safety checks (maintenance)

Your e-motion is an exceptionally low-maintenance device. Nonetheless, check all attachment and accessory parts for a firm seat at regular intervals. Your e-motion shall be subjected to a professional safety inspection no later than every 2 years to examine the full functionality and safety. Especially damages due to system usage or wear and fatigue signs can be uncovered during this inspection that are not detectable from the outside. Please contact your specialist dealer, authorized by Alber, in this regard.

With the exception of the tires, no part of the drive is subject to any wear worth mentioning. The tires must not be used below their wear limit in order to safely transfer drive and braking force to your e-motion at all times.



**Service work and repairs to the e-motion may only be carried out by authorized specialist dealers or by Alber. If any errors occur, please contact your specialist dealer or the Alber Service Center as well.**

### 12.3 Re-use

If your e-motion has been made available to you by your health insurance company and you do not need it any longer, you should contact your health insurance company or your medical supplies provider. Your e-motion can be re-used easily and economically.

- Alber recommends conducting a safety inspection before each re-use depending on the condition of the device. However, your e-motion shall be subjected to a professional safety inspection no later than every 2 years to examine the full functionality and safety.
- The brackets with which the e-motion is secured to the wheelchair can be easily and quickly removed from the wheelchair by the authorized specialist dealer and attached to a new wheelchair.
- The system must be checked for corrosion.
- In addition to the cleaning instructions detailed in Chapter 12.1, the push rims and all plastic parts of the e-motion wheel accessible from the outside as well as the optional remote control must be disinfected before re-use. To do this, use cleaning agents suitable for disinfection by wiping according to the instructions of the corresponding manufacturer.

### 12.4 Disposal



This device, its battery pack and accessories are long-lasting products.

However, they may contain materials that prove to be hazardous for the environment if they are disposed of in places (e.g. landfills) that are not intended for this purpose according to the current applicable legislation in the respective country.

The symbol of the "crossed-out refuse bin" (in accordance with WEEE Directive 2002/96/EC) is placed on this product to remind you of your obligation to recycle.

Therefore please act in an environmentally-conscious manner and bring this product to your regional recycling centre at the end of its service life.

Please familiarize yourself with the applicable legislation in your country regarding disposal, because the WEEE Directive does not apply in all European States. For example, this product does not fall under the national implementation of WEEE in the Electrical and Electronic Equipment Act as means of transport.

These components are also alternatively taken back by Alber or Alber dealers for proper and environmentally sound disposal.

## 13. Guarantee, warranty and liability

### 13.1 Warranty for defects

Alber guarantees that the e-motion is free from defects at the time of transfer. These warranty claims expire 24 months after delivery of the e-motion.

### 13.2 Guarantee of durability

Alber provides a 24 month guarantee of durability for the e-motion (exception: the guarantee of durability for the battery pack is 12 months). The guarantee of durability does not include

- devices where the serial numbers have been altered, disfigured or removed
- wear parts such as tires or operating controls
- defects due to natural wear and tear, faulty handling, in particular defects due to non-compliance with this user manual, defects due to accidents, negligent damage, the effects of fire or water, force majeure and other events which lie outside the influence of Alber.
- any servicing work required due to daily use (e.g. replacing the tires)
- Checking the device without finding any fault

### 13.3 Liability

Ulrich Alber GmbH as the manufacturer of the e-motion is not responsible for its safety and reliability if:

- the e-motion is handled inappropriately
- the e-motion is not serviced by an authorized specialist dealer or by Ulrich Alber GmbH every 2 years
- the e-motion is operated contrary to instructions/notes in this user manual
- the e-motion is operated with insufficient battery charge
- repairs or other work is carried out by unauthorized persons
- foreign parts (parts not belonging to the system) are attached or connected to the e-motion
- parts of the e-motion are dismantled.

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Vostra rappresentanza Alber / Su representación Alber / Din Alber representant /  
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