Technical Manual: OT200 Compact Ceiling Hoist

OpeMed (Europe) Ltd
www.opemed.net
+44 (0)1252 758858

1 About this Manual

The aim of this user manual is to enable qualified personnel to operate the OT200 and to instruct them on how to carry out small (preventive) maintenance jobs.
This manual deals with the following aspects related to operating the OT200 and OT400:

- Parts description
- Working principle description
- Step-by-step lifting instructions
- Maintenance of the OT200/ OT400; to be carried out by the carer

In addition to this manual the following documentation is available on the OT200:

- User manual. The user manual is developed for day to day use and guidance.
- Installation manual. This manual can be used during the installation of the systems:
  - installation of rail and supports
  - installation of a gate (transition from fixed to mobile rails)
  - installation of turntable
  - part lists with order numbers of all components of the rail system.
- Quick Reference. The Quick Reference guide deals with the main safety and operating aspects relating to the OT200.

1.1 Symbols


Attention


Read the manual before operating the hoist


Attention, High Voltage


The producer of the product


With this, the OT200 meets the European Standard, ISO 10535 and the GQ-quality mark T-02, cluster UTT.

2 The OT200 Ceiling Hoist

The OT200/OT400 is a ceiling hoist for passive transfers of patient/users. The patient/user can be lifted and transferred with the OT200 and it is possible to transfer the patient/user by means of a rail that is attached to the ceiling. The OT200 is delivered with a 2 point spreader bar, but can be delivered with a mechanical (balanced) or powered hanger cradle bar. The OT200 can also be equipped with an electrical horizontal drive for transportation along the rail (4FB)
The OT200/OT400 can be used for the following transfers:

- From a (wheel)chair to a bed and vice-versa.
- From a (wheel)chair to a toilet and vice-versa.
- From a (wheel)chair to a shower-bath-toilet chair and vice-versa.
- From the floor to a (wheel)chair or bed.

The OT200/OT400 cannot be used to help patient/users with standing up or walking unless specifically for Gait Training in a Physiotherapy environment (usually an active hoist like the James will be used for these purposes).

The OT200 /OT400 complies with the following standards (by KBOH):

- The user can be lifted from a sitting or lying position and will hang in a (semi) sitting position. After transfer using the hoist, the user can be placed back on the supporting element in a sitting or lying position.
- The hoist can be used in combination with wheelchairs, without having to remove foot, leg or arm supports.
- The hoist can be used in combination with an accessible bed, shower window or dressing table at working height. Next to this the hoist can be used for transfers to and from the floor.

With this the OT200 also complies to the demands set by the European Standards, ISO 10535 and the GQ-quality mark T-02, cluster UTT.

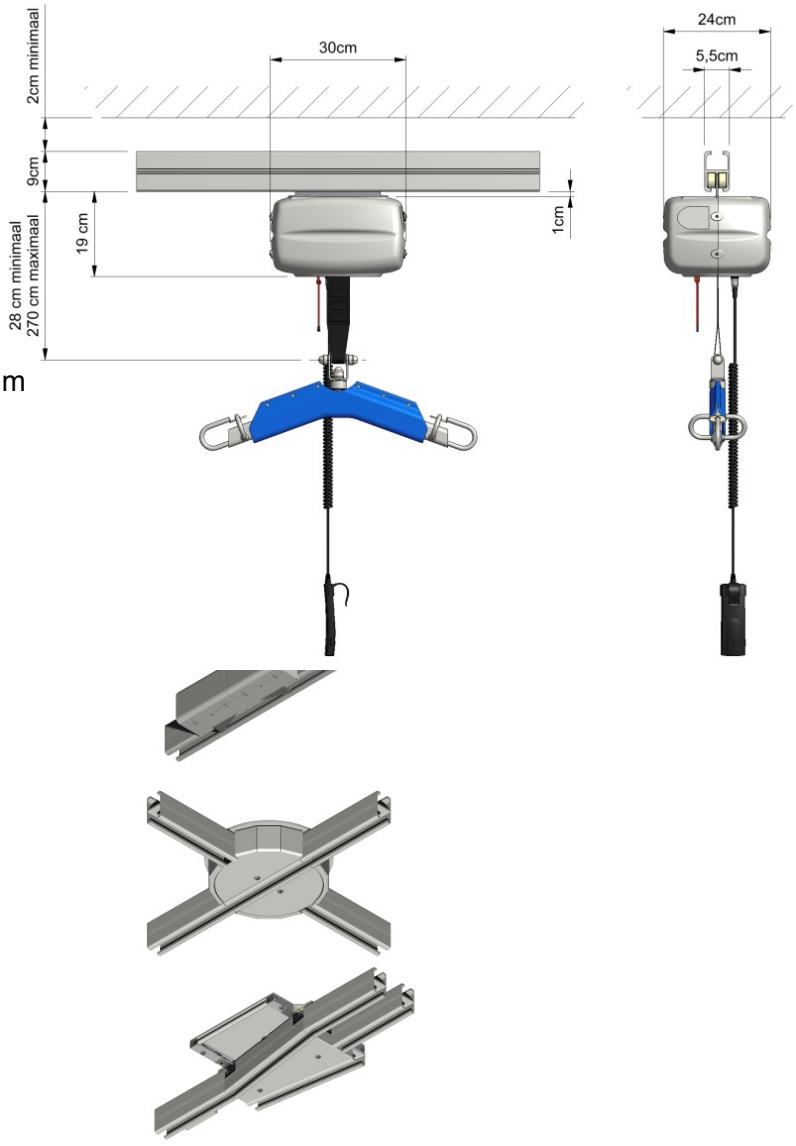
Under normal conditions, and with the exception of slings and batteries, the expected life span of the hoist is 10 years (100.000 transfers), provided the hoist is maintained as instructed.

- Special circumstances, like using the OT200 in humid environments or environments with aggressive vapours can shorten the life time of the hoist.

2.1 Points of Attention

- The OT200 is designed to lift and transfer patient/users weighing less than the Safe Working Load (SWL) in combination with an appropriate sling rated same or higher, the OT200 can only be used for this purpose. Any other form of use is not allowed.
- It is not allowed to lift more than 200kg (440lbs) with the OT200, unless otherwise stated on the lift (refer to the SWL stickers on the hoist and track, the lower should always be used as the SWL – Safe Working Load). The OT400 can lift 200kg (standard), 250kg or 400kg depending on model.
- It is not allowed to lift any object (e.g. a chair or wheelchair) together with the patient.
- Special caution needs to be taken when the loops or clips of a sling are attached to the hanger bar correctly, incorrectly attaching these clips can cause a fall of the patient/user and lead to severe injuries.
- Always make sure sufficient space is available above the patient/user before lifting.
- Only use the OT200/OT400 in combination with a sling that is delivered or approved by OpeMed. Always contact OpeMed before using alternative slings.
- Treat the lift with care and always make sure the working environment is neat and clean. Working with the hoist is only allowed to authorized personnel.
- The OT200/OT400 needs at least once a year a periodical inspection by a qualified personnel. 6 monthly if LOLER applies (as in the UK)
- Service and maintenance of the hoist is only allowed to be carried out by authorized personnel.
- Only use original parts (supplied by OpeMed) for repairs or replacements.
- Replacing hanger bars or other constructive parts of the hoist is only allowed by authorized personnel.
- Charging the battery always needs to be done in well ventilated, dry rooms. Battery chargers need to be connected according to the installation demands.
- Battery chargers need a periodical inspection at least once a year.
- Never lift the patient/user higher than necessary.
- When deformations occur to the hoist due to incorrect usage or transport, the hoist should not be used anymore, and will have to be sent back to the supplier.
- Avoid collision into end stops at full speed. Move the hoist carefully in order to prevent excessive movements of the patient/user.
- Never leave the hoist unattended while loaded. In energy saving mode (after 10 minutes) the load will be lowered slowly.
- Do not use the hand-held control or the hanger bar wires as towing-lines to move the patient/user as this will damage the wiring.

1.1. Technical Data



OT200 Ceiling Hoist Motor

IP rating	54
Duty cycle	10%
Hoist motor	24Vdc 9,5 A max
Drive motor	24Vdc 2.1A max
2x Battery	2x 12V 5AH
Manual control	6 functions - IP65

Electrical hanger bar 24Vdc - 5.5 A maximum

Batteries

Switching power supply energy efficient

Primary	240V AC 50/60Hz
Secondary	27.6 Vdc - 1.5 A maximum.
IP62,	EN60601-1

Gate

Sound Level	58dB (A)
IP rating	54
Duty cycle	10%

Operating voltage 24 Vdc

Turntable

Sound pressure level 60 dB (A)

IP rating	54
Duty cycle	10%

Operating voltage 24 Vdc

Interchange Junction

Sound Level	55dB (A)
IP rating	54
Duty cycle	10%

Operating voltage 24 Vdc

The expected life of the OT200s, in normal use under normal conditions and apart from slings, slings and batteries, is 10 years (100,000 transfers) for maintenance according to specifications.

Use of the OT200 in a humid environment or in an environment with aggressive vapours are not “normal circumstances” and can shorten the life of components. If the motor is used in such environment please ask for our Humid Environment Upgrade.

2.2 Summary of Parts

The 'OT200' ceiling hoist system consists of a number of components that are discussed in this handbook. In Figure 1 shows the main components. These are described in a separate section.

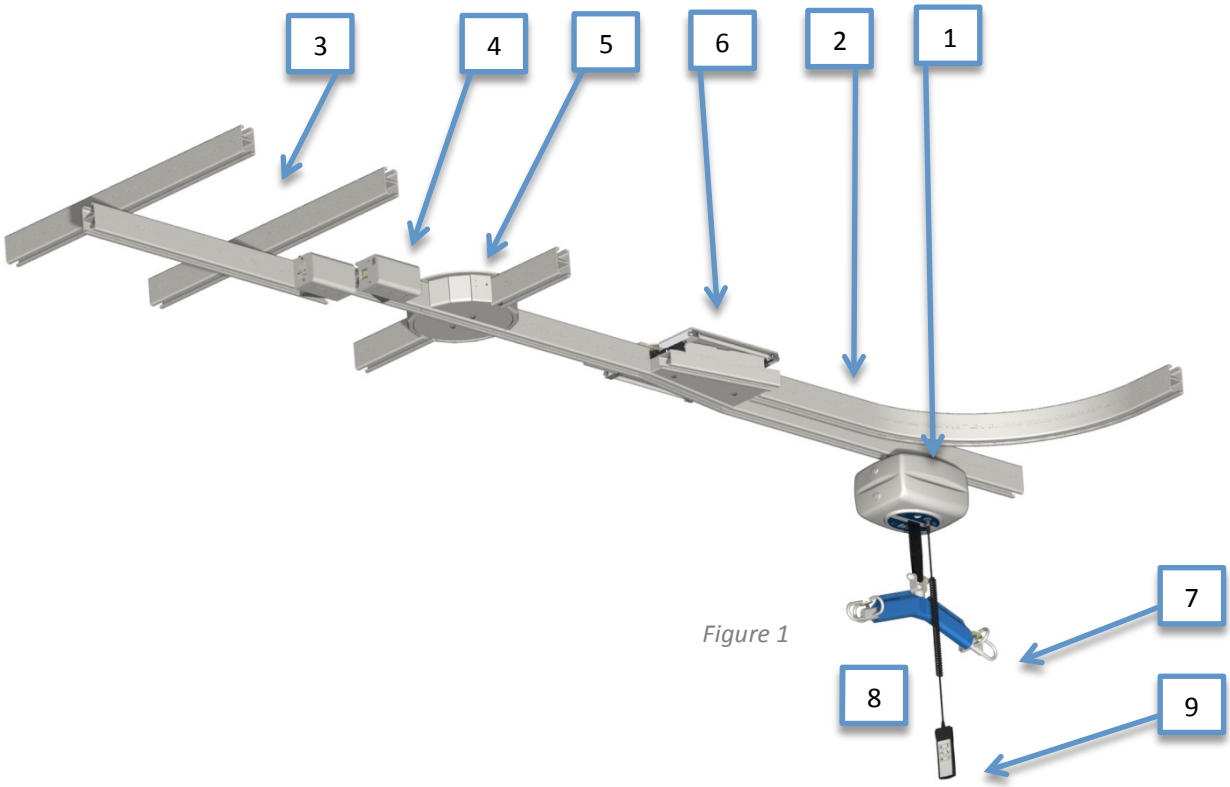


Figure 1

Figure 1

1 OT200 Motor Cassette .....Page 15
2 Rail System .....Page 10
3 X-Y System.....Page 10
4 Gate System.....Page 10
5 Turntable .....Page 10
6 Exchange Junction .....Page 10
7 Spreader Bar .....Page 11
8 Slings.....Page 12
9 Hand Control .....Page 9

Figure 2

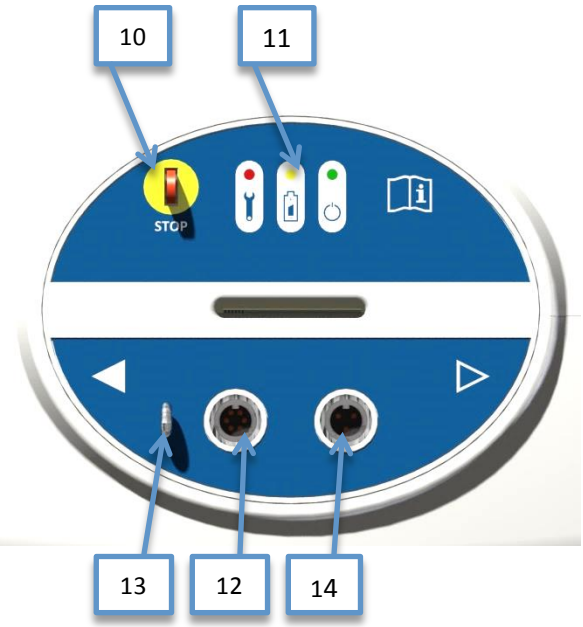


Figure 2

10 Emergency Stop and Lowering
11 Control LED. Green = Hoist in use.
Orange Flashing = Needs charging.
Orange Constant = On charge.
Orange Off = Battery charged.
Red Spanner = Fault
12 Connection point for handcontrol
13 Handcontrol security hook
14 Powered cradle connection point

2.3 LED indicator Lights

2.3.1 Green indicator (On-off)_ -

The green indicator will light up when the cassette is activated. The cassette will automatically deactivate when it has not been used for 10 minutes. The green indicator will dim. The cassette will automatically reactivate when the hand-held control is being used.

2.3.2 Orange battery indicator –

The orange/yellow light on the display lights up when charging and turns off when the batteries are full. The light flashes when the battery is low. When the light starts flashing, there is enough power to complete the transfer. When the hoist is being lowered while loaded, the battery will charge and therefore the orange indicator will light up.

2.3.3 Red failure indicator

When the red indicator lights up there is a potential service issue inside the cassette. Immediately alarm the technical service department.

2.4 Emergency Stop and Lower

On the OT200 hoist is a red emergency stop cord. This cord is only for emergencies. When you pull you break the power to the PCB and the cassette will stop sharply. To emergency lower pull and keep hold of the chord at the lowered position. To reset the switch (by a separate action) press the metal button back up.

2.5 Charging OT200

The batteries of the cassette are charged at a fixed spot on the rail that is marked with a sticker. The display on the OT200 is the battery status. The orange/yellow light on the display lights up when charging and turns off when the batteries are full. The light flashes when the battery is low. When the light starts flashing, there is enough power to complete the transfer. Put the hoist after the transfer to the charger. The charger of the cassette is a fast and energy efficient charger.

2.6 Handset

Do not use the hand-held control as a towing line! Stand behind the patient/user and steadily push him or her along the rail. The hanger bar can be used as a handle for transfers.

The OT200 is operated with either a hand-held control or the optional infra-red hand control. This control is used to:

- Move the hoist up or down.
- Bring the hanger bar from a lying position into a sitting position (only with powered hanger bar).
- Move the cassette along the rail (only with powered drive of the cassette).

3 Using the Rail System

The OT200 is designed to run on the OpeMed or approved other supplier's track. The track or rail should always be inspected according to local legislation (e.g. in UK LOLER and EN ISO 10535 inspected every 6 months).

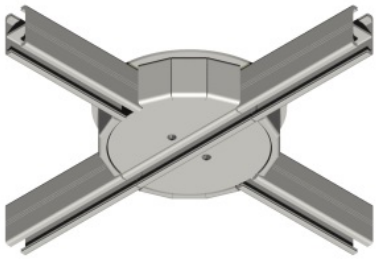
For installation of track please refer to separate Installation Manual.

3.1 XY or H System for Room Coverage

An XY rail system is a system where two rails are put, where a movable rail angles below will be hung from the ceiling. The OT200 will charge at the end of the moving rail and the moving rail needs pushing normally to the end of the fixed rail for charging to commence.

3.2 Turntable

The system you have chosen might be supplied with a turntable, creating the possibility of running a cassette along more than one rail. A turntable operates automatically and makes a quarter-turn to the left or the right. A full turn is not possible.
Controlling the turntable is simple:



- Place the cassette in the middle of the turntable.
- After approx. 2 seconds the turntable will beep will turn 90 degrees.
- Drive the cassette out of the turntable.
- If you do not want to make a turn but simply pass the turntable,

you should not stop the cassette in the turntable.

3.3 Gate (with X-Y Systems for room-room continuous track)

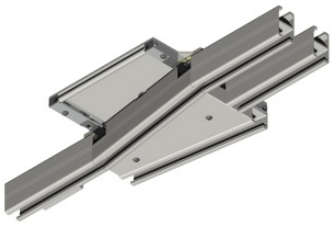
If your system uses a X-Y system with a transition to a fixed rail (room to room) then a "gate" is placed where the rails join. This gate makes sure that the cassette cannot slide out of the rail when the joints are not aligned. The gate automatically connects the rails and enables a smooth transition from a mobile to a fixed rail. The OpeMed gate is very safe with an electrical and mechanical security system.
Travelling from fixed rail to X-Y system:

- Move the cassette through the gate toward the mobile rail.
- The rail will de-attach and can be moved.

Travelling from X-Y or H system to a fixed rail:

- Place the cassette in front of the gate.
- Place the rail with the cassette opposite to the other gate. (keep moving slightly)
- The rails will connect and cannot be moved anymore. The guard will open and the cassette can be moved through the gate.

3.4 Exchanger or Junction



This is a more cost effective solution to the turntable if only 3 exits are required (or the track splits). Similar to the turntable the exchanger will operate automatically if you pause the motor in the Exchanger for 2 seconds or more. A sound will bleep and the exchanger junction will move to the other track.
If you want to continue the OT200 without changing tracks simply do not stop when passing through the Exchanger.

4 Hanger Bar Options

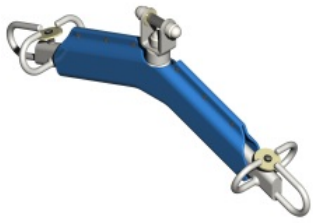
4.1 Hanger Bar

The OT200 is provided with a hanger bar. The hanger bar is a construction to which the sling (in which the patient/user will take place) can be attached. Several types of hanger bars are available, of which the balanced and the powered hanger bar are the most important types. Both hanger bars create the possibility of transporting the patient/user in a sitting or a lying position. The way this is done is described below.

It is very important only approved clip slings are used with the Manual or Powered Cradle. Loop slings CANNOT be used with these spreader bars and should ONLY be used on the standard 2 point Spreader Bar.

4.1.1 Standard – 2 Point Spreader Bar

For use with loop slings (OpeMed and approved competitors). To operate this please ensure the sling strap (shoulder and leg) are individually placed on the hook with the sprung disc preventing the strap from coming off. An extra hip tape can be used on the 3rd hook on the end of the Spreader Bar if required.

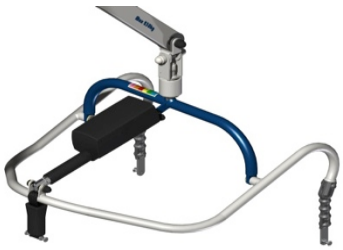


4.1.2 Optional – Manual Cradle (Clip Slings only)

The patient/user can bring himself/herself into a sitting or a lying position with simple movements. The balanced hanger bar is most efficient when used with patient/users who have sufficient stability in the hip-joint and sufficient body balance. This unique expanding cradle keeps the patient at the centre of gravity and expands and changes shape with the patient as he/she lies down/sits up providing a safe and comfortable transfer.

4.1.3 Optional - Powered Cradle (Clip Slings only)

The powered hanger bar is moved from a sitting to a lying position by means of an actuator on the hanger bar. This enables automatic positioning of the patient/user into the desired position, which has high benefits for patient/users with a low hip-stability. The powered hanger bar is controlled by two buttons on the hand-held control.



4.1.4 OT400 Hanger Bar

This is a different hanger bar for the OT400 and is re-enforced for the extra capacity.
WARNING. Do not use the OT200 hanger bar on the OT400.
Do not use the hanger bar cord as a towing line! This might damage the wiring.
Stand behind the patient/user and steadily push him or her along the rail. The hanger bar can be used as a handle for transfers.

5 Slings

5.1 Sling Attachment

- Read the sling guidelines carefully before using the sling. It is ESSENTIAL that you fully understand how to attach the sling in the correct way. Always check the sling for signs of wear or damage before use.
- Always complete a risk assessment and check the capacity of the sling as well as the hoist. The lower SWL between the hoist and sling should be the one adhered to.
- Never use a loop sling on the Manual Cradle (4.1.2) or the Powered Cradle (4.1.3). These are designed for Clip Slings Only.
- Never use a Clip sling on the Standard 2 point Spreader Bar. These are designed for approved Loop Slings Only.

5.1.1 Loop Slings

- Attach the loop over the hook, taking care that the same length of loop is attached on either side.
- Ensure thee sling is past the safety spring disc and the spring disc is clicked in place to prevent the sling coming off.
- Ensure both leg and shoulder loops are attached (min of 4 loops on any sling).
- Always refer to the sling user guide.
- Always check the weight capacity of the sling and ensure it is not more than the OT200.

5.1.2 Clip Slings (depends on clip sling used – please refer to sling instructions)

- Hold on to the strip on the clip with one hand and pull the large hole in the clip over the attachment point. Check whether the belt on which the sling is hanging is not turned or twisted.
- Take the belt under the clip and pull this down until the clip falls into the secure position.
- The attachment point is now locked into the hole in the top side of the clip.
- Attach all clips in the same way before lifting.

6 Using the OT200 Ceiling Hoist

6.1.1 Before Use Checks

Check the OT200 on the following points before use:

- Check that status of the batteries on the cassette´s display
- Is the emergency stop de-activated?
- Check whether the used sling fits the purpose and the transfer
- Check the condition of the sling and the clips and whether the whalebones are placed
- Carefully place the sling on the spreader bar
- Is the patient/user able and comfortable to be lifted?
- The cassette will automatically activate when any button on the hand-held control is pushed
- When using a standard sling, always place the arms of the patient/user inside the sling on the patient/users' lap.
- When using a toilet sling always make sure the arms of the patient/user are outside the sling so that the upper slips with clips pass beneath the arms!
- Always work in a neat and clean environment.
- The OT200 is now ready to be used according to the instructions in this manual.

- Always make clear to the patient/user what is happening with every step of the process!
- Pay attention to the danger of getting entangled between the hinging points of the hanger bar.

6.1.2 Lifting From a Chair

- Place the sling behind the back of the patient/user down to the seat. Let the patient/user sit slightly forward during this handling. Make sure the sling is placed with the washing instructions facing to the outside.
- Pull the leg slips slightly forward, this way the patient/user already sits 'inside' the sling.
- Lift one of the patient/user's legs and bring one leg slip of the sling to the inside of the leg. Use the same method to apply the other leg slip.
- If necessary, pull the head side of the sling up to the correct height. The sling will now fit around the patient/user like a 'tank chair'.
- When using a toilet sling apply the circular belt (leg-side) like a belt around the waist of the patient/user. Put the arms of the patient/user through loops on the head-side of the sling.

Toilet slings can only be used with patient/users with sufficient shoulder functioning and body stability.

6.1.3 Lifting From a Bed

- Roll-up one slide of the sling for about half the total width of the sling.
- Roll the patient/user over on one side, facing the carer.
- Put the sling with the rolled-up side against the back of the patient/user.
- Make sure the sling is placed with the washing instructions facing to the outside (currently the down side).
- Roll the patient/user over the sling onto his/her other side.
- The rolled-up part of the sling will now be on the side of the carer.
- Unroll the rolled-up part of the sling and pull this to the correct position.
- Roll the patient/user back on his or her back, making sure he or she is now lying on the sling.
- Lift one of the patient/user's legs and bring one leg slip of the sling to the inside of the leg.
- Do the same with the other leg slip.
- If necessary straighten the sling in order to make sure the patient/user will lie stable during lifting.

6.1.4 Moving the Patient

Do not use the hand-held control as a towing line! This might damage the wiring. Stand behind the patient/user and steadily push him or her along the rail. The hanger bar can be used as a handle for transfers.

- Lift the patient by means of the hand-held control.
- While moving, walk with the lift. Stay as close to the patient/user as possible.
- Approach the bed, chair or toilet and then determine the required height for bringing the patient/user to the final position.
- Never lift the patient higher than absolutely necessary during a transfer.

6.1.5 Step 1a Lifting Towards a Bed

- Bring the patient/user into a lying position. Position the patient as good as possible above the bed.
- Lower the patient/user onto the bed until he or she completely lies flat on the bed.
- Undo the clips of the sling from the hanger bar and remove the hoist.
- Always use a special bath sling when lifting towards a bath.

6.1.6 Lifting Towards a (Wheel) Chair

- Make sure the brake of the wheelchair is applied.
- Lower the patient into the chair at low speed.
- Make sure the patient is properly positioned into the back of the chair.
- Undo the clips of the sling from the hanger bar and remove the hoist.

6.1.7 Lifting Towards a Toilet

- Follow the same instructions as when lifting to a chair.
- Always us a toilet sling when lifting to a toilet.
- Lower the patient/user's pants to the knees before placing the patient/user on the toilet. Further lower the pants after placing the patient/user on the toilet.
- Undo the toilet sling from the attachment points of the hanger bar while using the toilet.
- Raise the patient/users pants after the toilet use again to the knees, lift the patient/user and fully raise the pants.

Toilet slings can only be used with patient/users with sufficient shoulder functioning and body stability.

7 Maintaining the OT200 Ceiling Hoist

If any doubt occurs about the condition or functioning of the OT200 always contact the technical service department before use.
OpeMed hoists should **ONLY** be serviced by an authorised OpeMed partner or OpeMed themselves. Failure to do this will invalid the warranty.

7.1 Installation Sign Off / Certificate off Installation

Ensure only trained, competant and certified installers install, test and sign off the OT200 installation according to manufacturers instructions (copies available on request).

OpeMed (Europe) Ltd
1 The Clockhouse, Dogflud Way,
Farnham, Surrey. GU9 7UD. UK
T: +44 (0)1252 758858
F: +44 (0)870 1619681
E: info@opemed.net

CERTIFICATE OF INSTALLATION & LOLER TESTING

Date: _____ / _____ / _____ Engineer: _____

Site Address: _____

Town: _____ Postcode: _____ / _____

Site Contact: _____ Tel: _____

New Install ☐ LOLER Inspection ☐ Service Callout ☐

Model	Serial Number	Location	Date of Manufacture	SWL (KG)	Safe to Use (Y/N)	Load Tested (Y/N)

Installation Detail: _____

_____

Materials Used: _____

_____

Further Actions:_____

_____

Engineer Signature: _____ Engineer Name: _____

Customer Acceptance

Name: _____ Signature: _____

Date of Next LOLER Testing (as per LOLER and ISO 10535): _____ / _____ / _____

7.2 Cleaning Instructions

Cassette and hanger bar-	The best way to clean the OT200/OT400 is with a moist cloth. Use normal (house) cleaning detergents.
Slings -	Always see washing instructions attached to sling. Do not use aggressive solvents when cleaning the hoist or the slings.

7.3 Daily/Weekly Maintenance

Pay attention to the following points daily in order to prevent or recognise problems in time.

Action	**Remark**
Clean the hoist:	See cleaning instructions paragraph 7.1
Wash the slings:	See washing instructions on sling.
Charge the batteries regularly:	Make sure the cassette is in the charger when the hoist is not being used.
Check whether the hoist operates smooth:	Alarm the technical service department in order to let them grease or change parts that hinder smooth operation.
Check for irregular sounds:	Alarm the technical service department

7.4 6 Monthly Checks

Maintenance list that must be carried out every six months to the OT200, according to manufacturer's instructions, LOLER and ISO10535. This is to be carried out by an approved, trained and competent technician, documented and recorded.

Failure to complete, document and record these tests voids the warranty and liability of the manufacturer (UK only). See Section 12 for Documenting Servicing to ensure warranty is validated.

- Check for damage to hoist, rail and fixings.
- Check the wiring on the handset, charge rand inside the motor housing for any visible damage
- Check that the OT200 runs smoothly along the rail
- Check the OT200 wheels turn freely and are not damaged.
- Check the operation of the emergency stop by pulling the chord whilst the hoist is in up/down motion.
- Test the emergency-down operation
- Clean the contact springs of the charger (gate) and the contact surfaces on top of the cartridge with a contact cleaner (without lubricant)
- Set the OT200 on the charger and charge goes to the yellow light
- Make sure mounting bolts are tight (OT200, spreader bar, rail system, gate, turntable, ..)
- Check rail system for damage or deformation.
- Clean the rail clean with a detergent and a lightly damp cloth
- Check the lifting tape for any visible signs of fraying, discolouring or wear. If so replace lifting tape with a genuine OpeMed lifting tape.
- Check the slings visually for signs of fraying, loose seams, stitching - tire damage, and also clips of the sling, to damage it should be disapproved the band
- Check no other manufacturer accessories have been fitted onto the OT200 (different spreader bar, weigh scale etc).

- Make sure the tape rolls up and down fully
- Check the micro switch of the belt slack security, by loosening the belt byt lifting the spreader bar whilst lowering the hoist.
- Check the micro switches of the tape at the top of the cycle, and the switches operate without the spanner light coming on.

When the lift does not meet one or more of the above points, it should be put out of operation with immediate effect and take immediate action.

7.5 Annual Inspection and Maintenance

The hoist needs to be checked once a year according to the local-guidelines (UK LOLER every 6 months). This needs to be done by OpeMed or another OpeMed authorized institution. OpeMed offers you the possibility of an annual inspection by means of a Service Agreement.

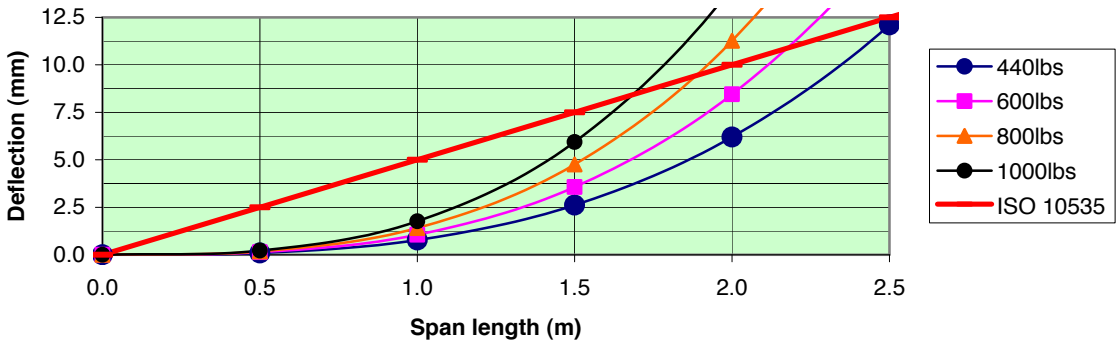
Failure to complete, document and record these annual tests voids the warranty and liability of the manufacturer (worldwide). See Section 12 for Documenting Servicing

If maintained by an authorised person the OT200 hoist should have a sticker that indicates when the hoist is due for inspection. For more information about inspections you can always contact OpeMed.

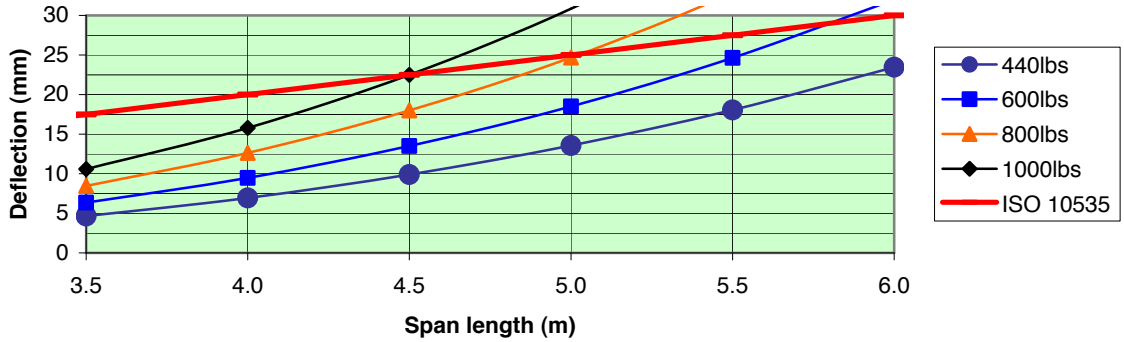
- Each 12 months a full weight tested inspection should be completed and monitored and the date of the next service should be marked on the motor.
- Every 12months the 6 monthly inspection should be completed (see above).

7.5.1 Measuring Deflection

- In addition a full weight testing of the track by placing a portable trolley in the track and measuring the deflection with weights of the maximum capacity +5% (% may depend on local country guidelines)
  - ✓ The deflection between fixings should not exceed the graphs below according to LOLER 10535.
  - ✓ OpeMed recommend the deflection between fixings be monitored in a service report.
  - ✓ Deflection maximum for 90mm Rail



  - ✓ 180mm Rail



✓ Only certified OpeMed trained engineers should complete the technical service.

7.6 Preventative Maintenance

In addition to the mandatory annual inspection:

- The batteries need to be replaced every 2-3 years (to avoid performance problems)
- A sling is recommended to be replaced every 2-3 years (sooner if any signs of wearing or the label becomes unreadable) as per ISO10535.
- The lifting of the cassette tape and the sling should be checked every year and in the UK every 6 months according to LOLER.

7.7 If the OT200 Does Not Function

- Check whether the emergency cord is pulled out
- Check whether the batteries are sufficiently charged.
- Check whether the plug of the hand-held control is connected correctly.
- Check whether the plug of the hanger bar control is connected correctly.
- Check whether the belt is slack, if necessary tighten it.
- Check whether the belt has been pulled up too much, the hoist will only go down.
- Check whether the belt has been rolled out too much, the hoist will only go up.
- If the hoist is still not working, alarm the check technical service department.

In addition please refer to the Troubleshooting Guide

7.8 Disposal

- For disposal the OT200 can be returned to OpeMed. This is also possible with batteries, chargers, slings etc. If you choose to dispose the batteries yourself, be aware of the fact that these batteries are chemical waste.

8 TroubleShooting

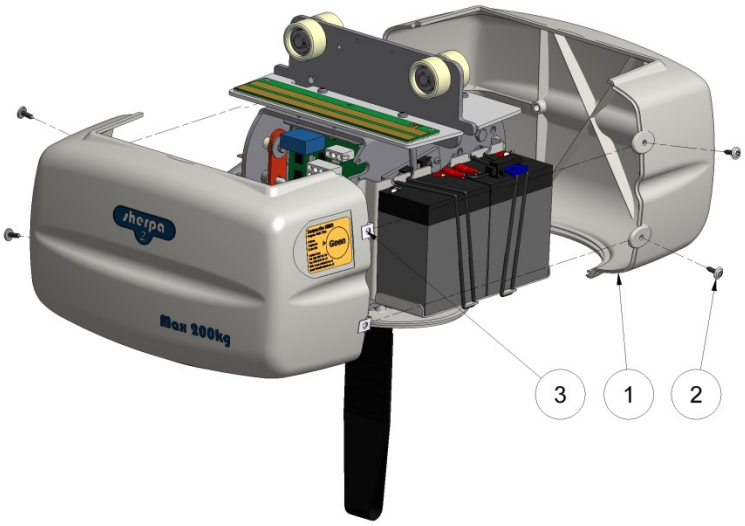
Any service or maintenance work should be carried out by qualified, certified and technical persons only.

PROBLEM	SUGGESTED SOLUTION
Hoist is not working. Green light comes on for a few moment and the yellow light flashes. Cannot get the hoist to operate although it will lower but do nothing else.	1: Make sure hoist is parked on charge point. 2: Make sure handset plug has not pulled out. 3: Make sure charge is switched on at the mains there should be a green light to indicate
The charge box has a Red light on - customer is saying this is stopping the hoist from charging	Place the hoist back onto the charge point and ensure the light changes to orange. Ensure the emergency stop switch is pushed fully in.
Cannot shut off service light	1: Put into service mode (press button on the PCB) 2: Simultaneously press the following buttons on the hand set: Top Left Button, Middle Button, Bottom Right Button
OT200 Lifting Belt descends down with little or no weight applied.	To prevent that the OT200 (with weight) slowly descending, a small current is applied to the motor. When the current is not enough and the spreader bar is still going down, the current can be increased:- 1) Remove the covers of the OT200/OT200 (see below) 2) Push on the service button (B) on the pcb. Release the button. ***The display on the pcb (A) shows [service menu]*** 3) Push again on the service button (B) and keep pushing it in. 4) Together with the service button, push in the left hangebar button on the handset. 5) Let go of al the buttons ***The display on the pcb (A) shows [tegenstroom pwm]*** 6) The current value is standard set on 10. Increase or decrease this value by pushing the hangebar button on the handcontrol (normally an increase of 1 unit is enough) Push on the service button (B) to save the settings

9 Service Procedures

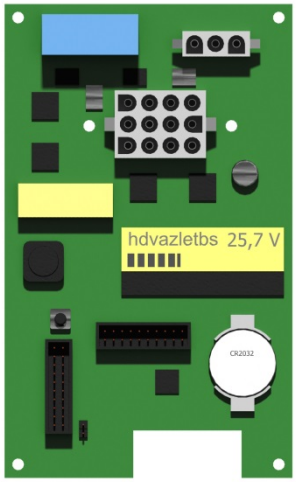
9.1 Removing the Cover

The caps (Figure 10, item 1) of the OT200 have to be removed for an inspection, maintenance or repair. Remove the 2 screws (Fig.10, item 2) on the side of the cassette to loosen (Torx20) you can remove the caps from each other. Remove both caps at the same time to prevent one side drops out of location.



Mind hands while operating the elevator without caps. No holding hands in or near the moving parts! This can cause serious injury!

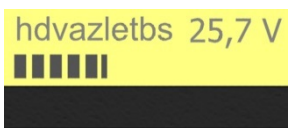
9.2 PCB Board and Diagnosis Screen



When the cover of the OT200 has been removed, you can see the PCB control board.
On this PCB there is a LC display and on which the letters correspond to the control functions of the cassette. Each letter stands for a function. When the function switches it will change the letter of the corresponding function in a case (see Figure 11). So you can check for a malfunction which features work and which do not.
Also state the voltage of the batteries indicated on the screen.

Capitalized on the display means that the function is enabled.
The meaning of the letters is as follows.

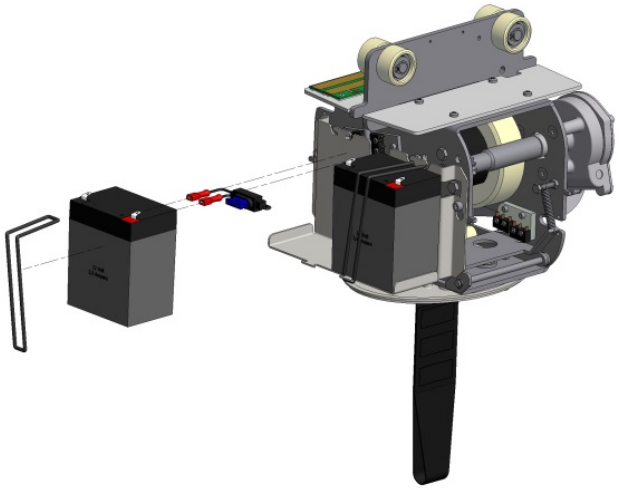
h (H) up manual operation
d (D) down manual
v (V) forward drive manual
a (A) reverse manual
z (Z) is state spreader bar manual
l (L) lying position spreader bar manual
e (E) first lift-and-end-stop (micro switch with yellow cable)
T (T) second lift-end-stop (micro switch with orange cable)
b (B) slack tape micro switch (micro switch with green cable)
s (not in use)



When operating the hoist a scrollbar becomes visible that shows the ampere consumption on the display. Each block is approximately 1 ampere.

9.3 Replacing the Battery

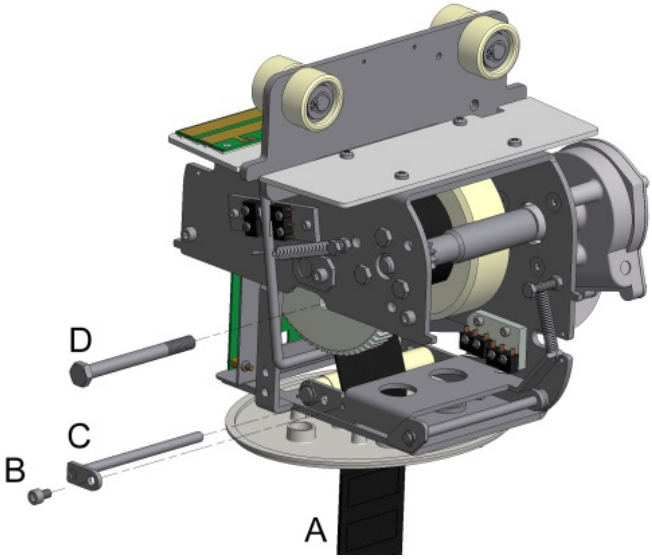
To prevent failure of the hoist it is recommended to replace the batteries every two years. The exchange must be done by authorized persons who are familiar with the product. Use only original OpeMed batteries. Below is a description of how the batteries must be exchanged.



1. Remove the covers (see above)
2. Remove all wires from the battery cover (also the fuse)
3. Remove the rubber bands so the batteries can be removed
4. Grasp both batteries from the battery holder
5. Insert the new battery with the contacts on the same side
6. Put the batteries in place with the rubber bands
7. Connect the fuse on the inner ends of the batteries (black on red +)
8. Connect the outer cables (red + brown wire, blue wire to black)
9. Turn on by pressing the emergency stop. The tape goes on immediately. If this is not so sure that you have the batteries connected
10. Replace the caps to the cassette

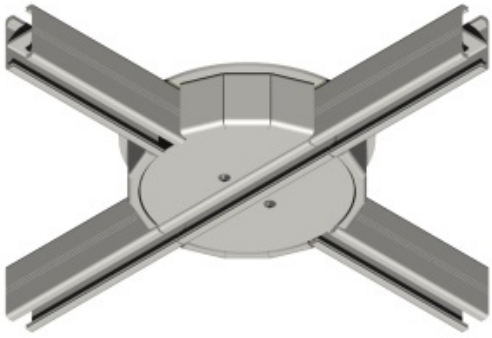
Disconnect always in repair of the power source to prevent short circuits or uncontrolled movement. Disconnect the battery and turn off the tape from the charger.
The cassette should always first time with new batteries are fully charged. Reading the LCD on the PCB will show the status of the battery. It may be that the lights after the battery exchange do not respond. After the first full charge this will start to work, this is normal.

9.4 Lifting Belt Replacement



1. Remove the covers (see above)
2. Release the tape (A) completely down, until the tape is completely unwound. Keep the tape if needed hand tight. Mounting bolt D is now at the bottom.
3. Turn the drum with the emergency down
4. Remove the battery pack (see above)
5. Remove bolt B and pull the stopper rod C out.
6. Remove bolt D from the tape reel and remove the tape.
7. Insert the new tape through the rollers and replace bolts B, C & D to the tape reel. Please be aware that the lifting strap on the right side of rod E is applied. The rod should be pulled free by the band of the micro switch. If incorrectly fitted the lift is not working.
8. Always check deposits pliers C reinstalled correctly, as this is essential for proper functioning of the safety of the cassette.
9. Replace the Battery Pack, make sure the wiring is connected correctly.
10. Wind up the tape to the end and settle and check both end stops are operating correctly.
11. Replace the covers back into the cassette.

9.5 Gate or Turntable or Exchanger Maintenance



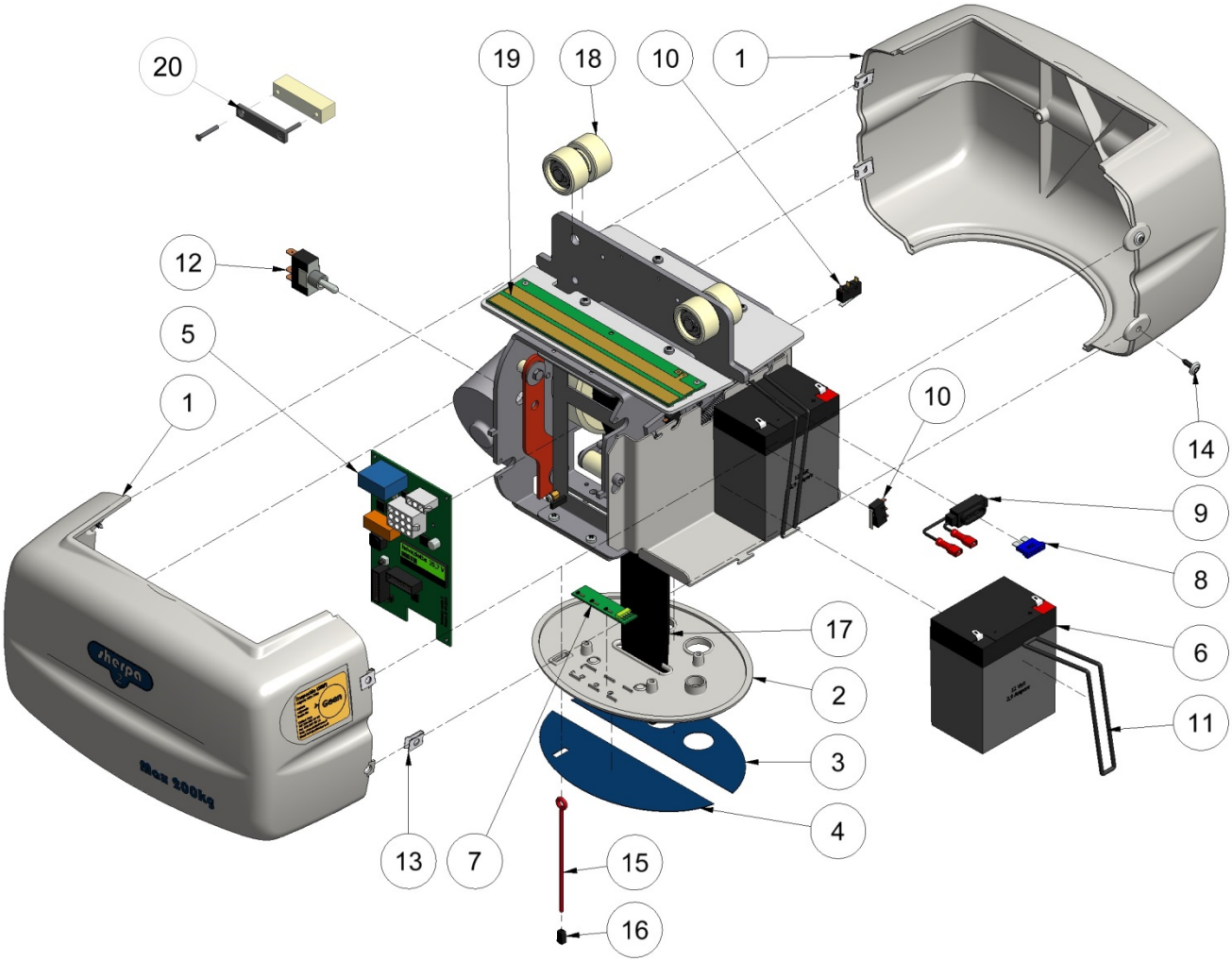
Always check the Gate, Turntable and Exchange if it were open to the following points:

- ✓ Make sure all parts run smoothly and move by operating the gate/turntable/exchanger in both directions.
- ✓ Check there has be no movement in any of the fixings (particularly with the gate)
- ✓ Check all the microswitches on operation
- ✓ Check the safety switches on their operation
- ✓ Clean the contact surfaces and ensure free of dust
- ✓ Remind the user on correct operation.

TIP - These parts are operated with a magnet switch that operates when the OT200 motor is in the vicinity. The magnetic sensor is on the outside of the rail (in a turntable inside the rotatable middle rail).

PAY ATTENTION! Do not place your hands and fingers in or near an opened mechanism related rotating and moving parts. Think of gears and pinch points. This can result in serious injury.

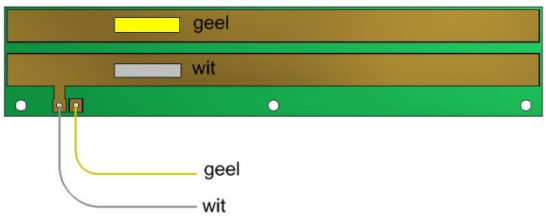
10 Parts List OT200



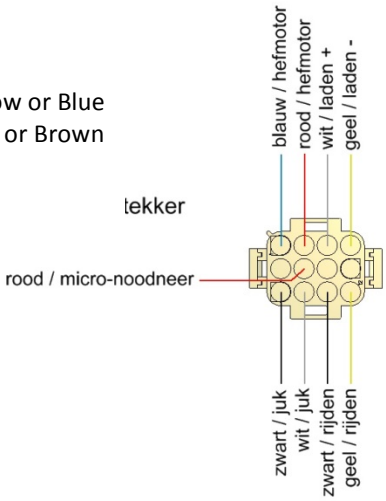
pos	art.nr.	naam
1	17107190	Cover OT200 II
2	17107200	Bottom Cover OT200 II
3	17107210	Bottom Cover Sticker
4	17107220	Bottom Cover Sticker LED
5	17105481	PCB OT200 II
6	31101170	Battery 12V-2,9A (x2 required per unit)
7	17106100	Led PCB
8	32100121	Fuse 15A
9	32102281	Fuse Holder
10	10100290	Micro switch

pos	art.nr.	naam
11	17107290	Battery Securing band
12	17105130	Toggle switch for emergency stop/lower
13	17107300	Cover plate 4mm
14	17107320	Bolt for cover 4mm
15	17105380	Emergency lower chord 10cm
16	17106460	Plastic end Emergency Lower
17	17106270	Lifting Tape
18	17400950 174?????	Wheel Set OT200 Drive Wheels (4 function only)
19	17203220	Contact Strip
20	17107000	Magnet (for turntable or gate)

Charging Strip on top of Hoist



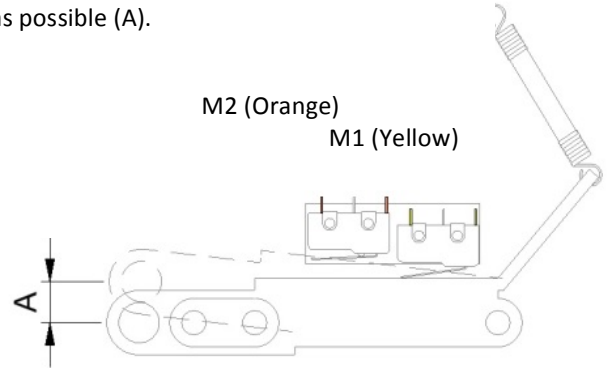
Geel/Yellow or Blue
Wit/White or Brown



Aansluiting LED print

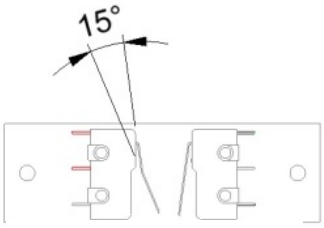
Up Limit Microswitches

The distance between 1 and 2 should be as large as possible (A).



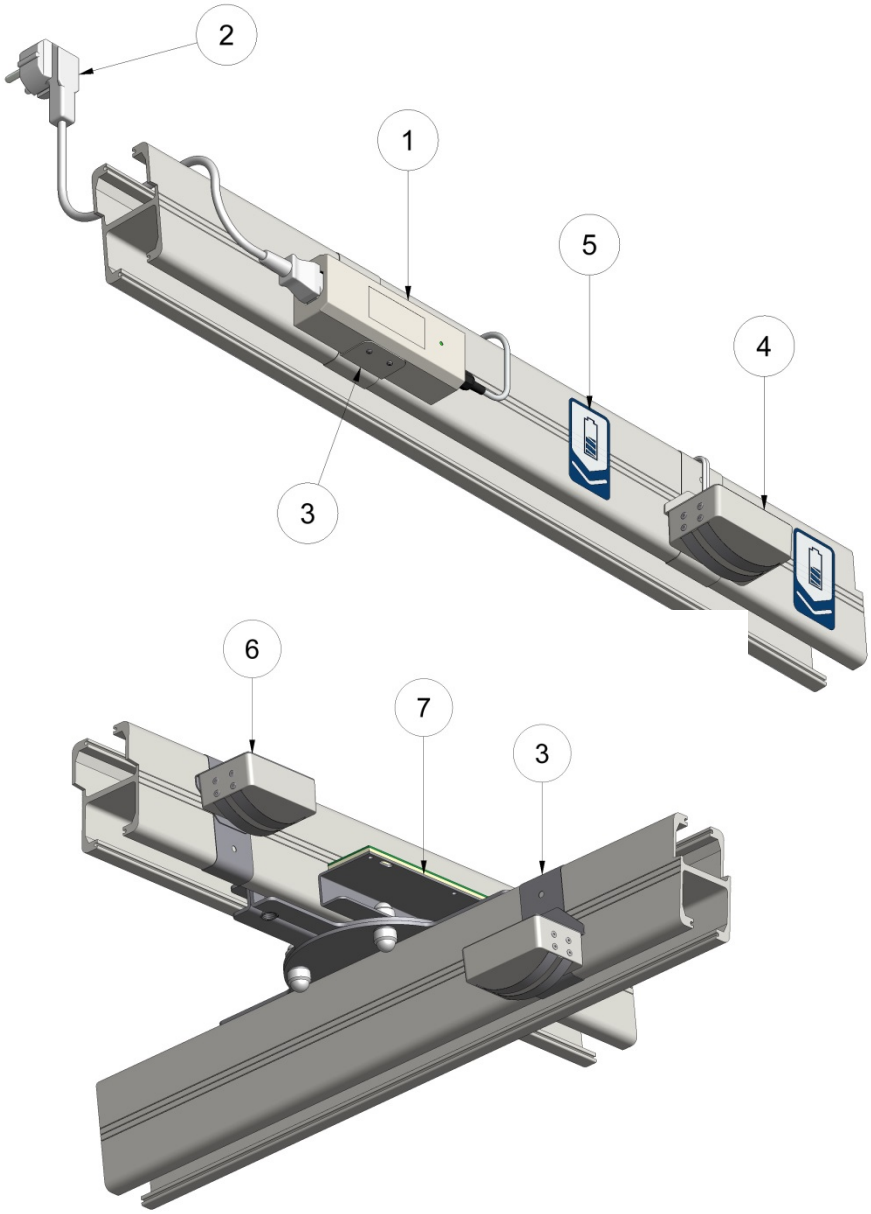
Slack Tape & Anti Rewind Switches

M3 (Red) = Anti Rewind Switches
M4 (Green) = Slack Tape Switch



M3 (Red)
M4 (Green)

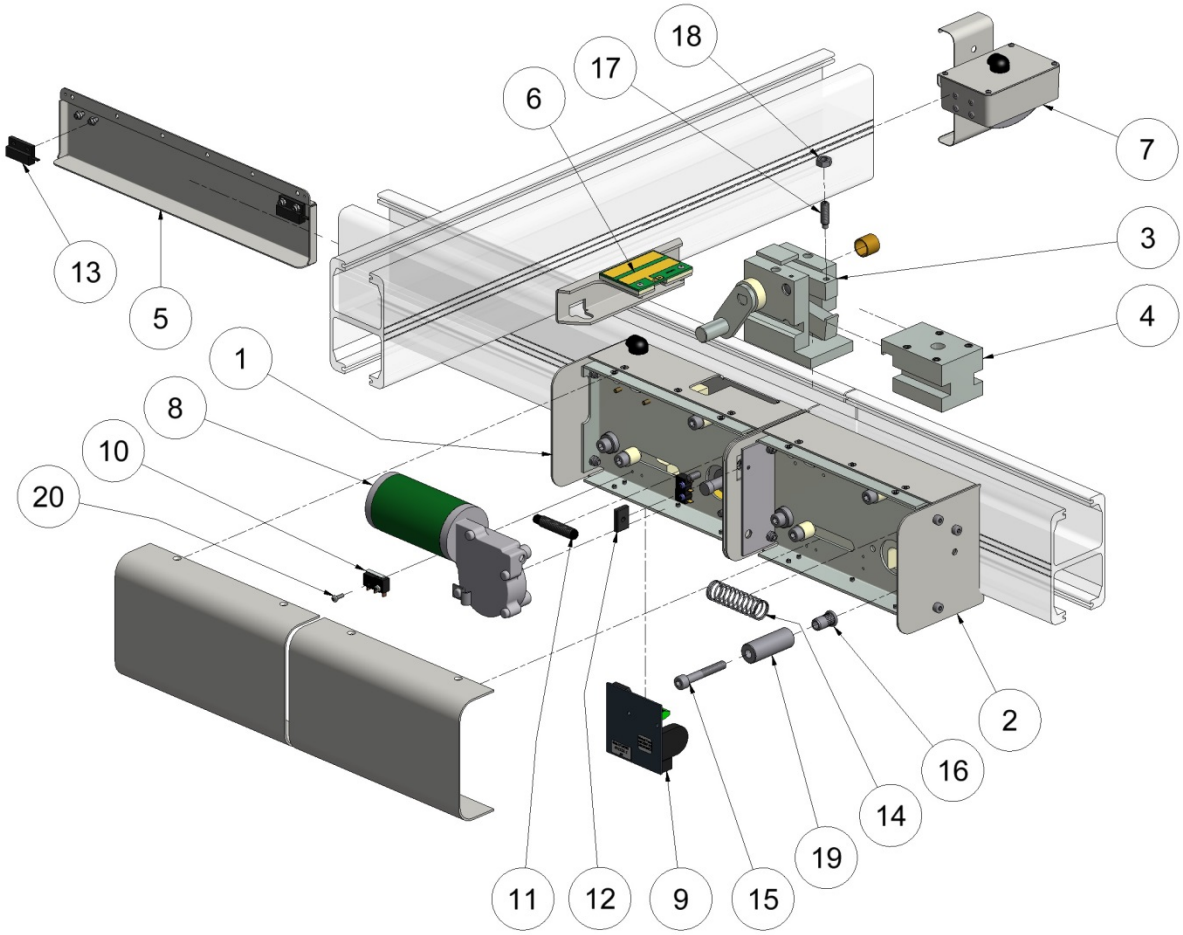
10.1 Charging System Parts List



pos	art.nr.	Name
1	17106990	Charger
2	17106700-E 17106700-U	Plug (Europa) Plug (UK)
3 & 4	17400200	Charging Station

pos	art.nr.	Name
5	17106740	Sticker ‘charging position’
6	17400210	Interface sensor
7	17400220	Contact Strip interface

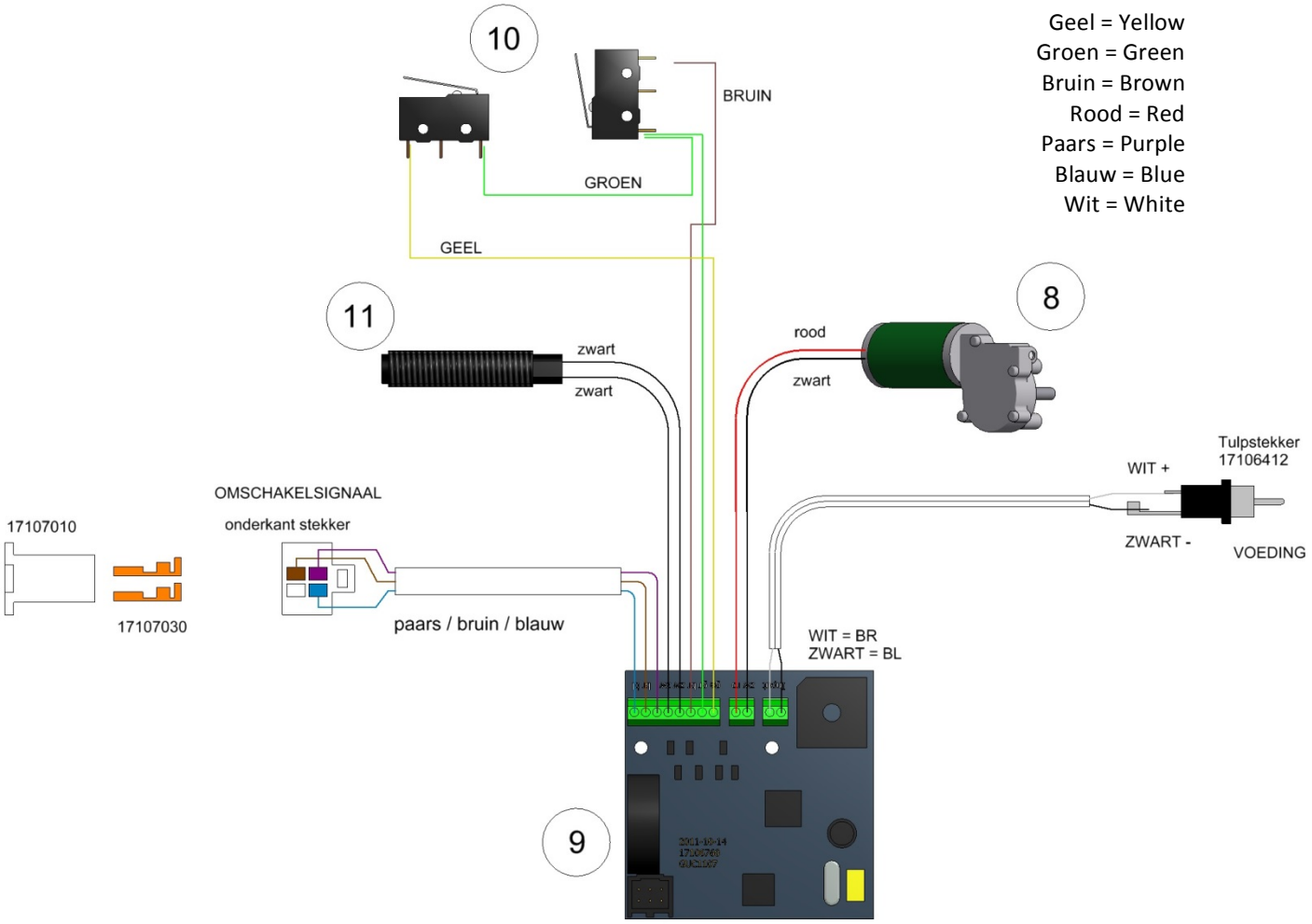
10.2 Parts List: Gate

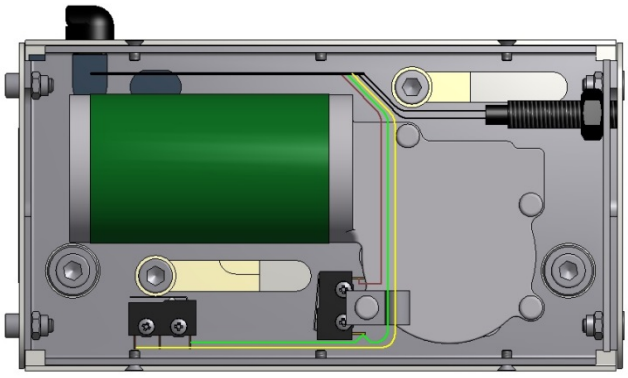


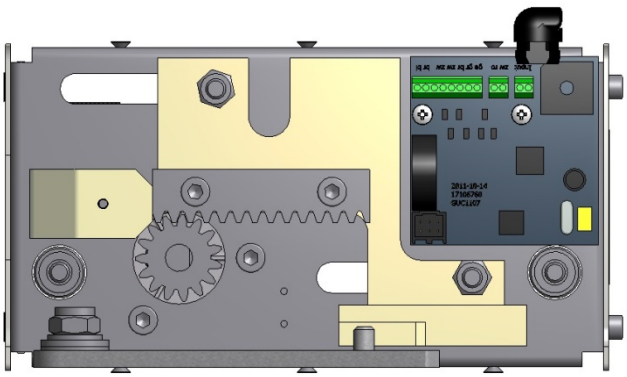
pos	art.nr.	naam
1	17400680	Electrical moving gate kit
2	17400690	Mechanical gate kit
3	17400700	Moving “male” block
4	17203400	Receiving “female” block
5	17400330	Magnet sensor to operate
6	17400221	Gate interface
7	17400210	Interface sensor
8	17104250	Gate gear motor
9	17106761	Print gate S7
10	10100290	Micro switch

pos	art.nr.	naam
11	17104190	Magnetic switch for gate
12	17104180	Magnet slide
13	17106990	Magnet switch receiver
14	17104151	Sleeve
15	17100070	Allen Screw M6x40
16	13100320	Rivet Nut M6
17	17100221	Set Screw M6x16
18	10100710	Set Screw Nut M5
19	17203160	Sleeve
20	17104370	Metal screw M2,5x12 (micro)

10.2.1 Electric Schematic Gate

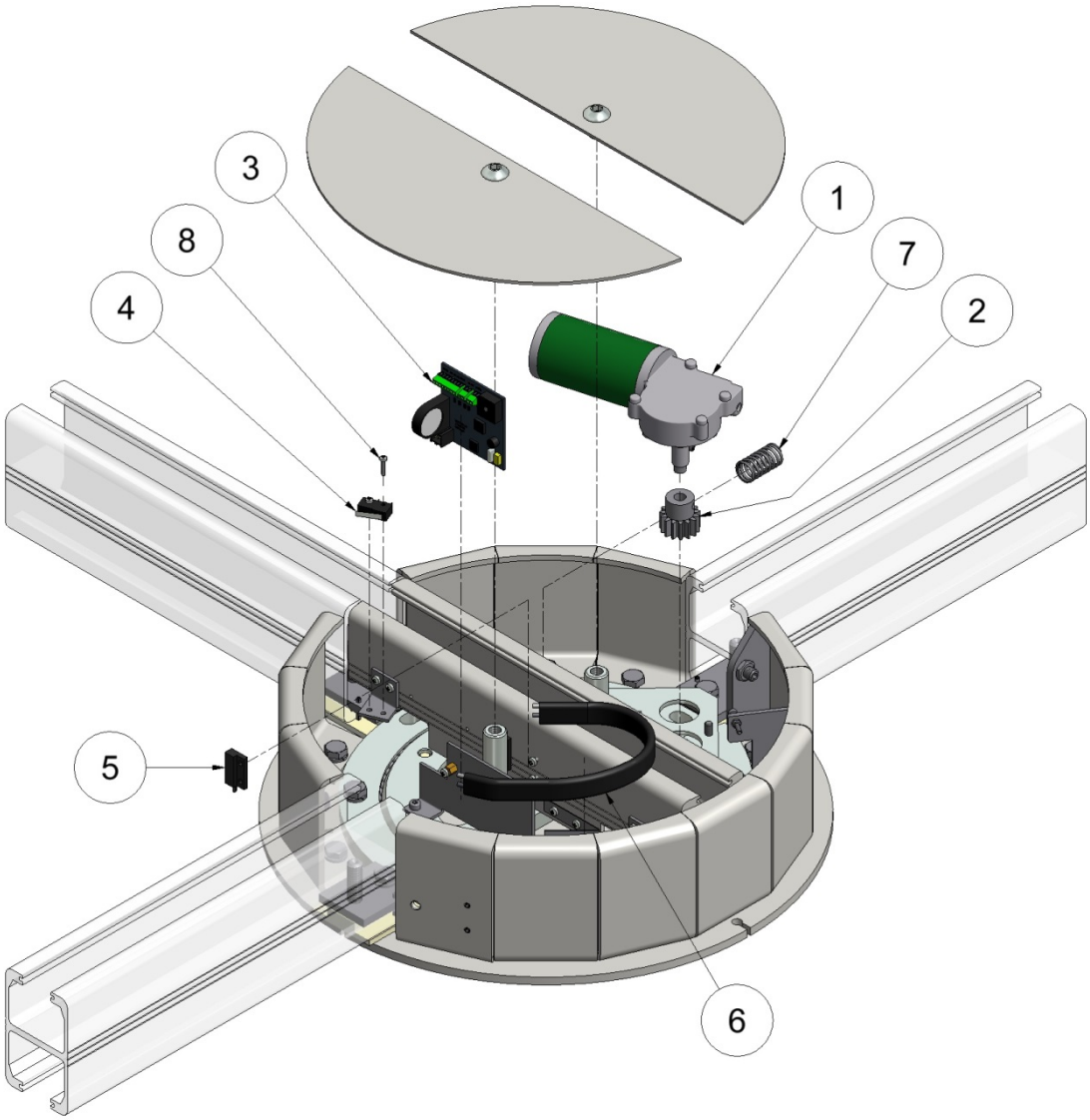






Switch Open Switch Close

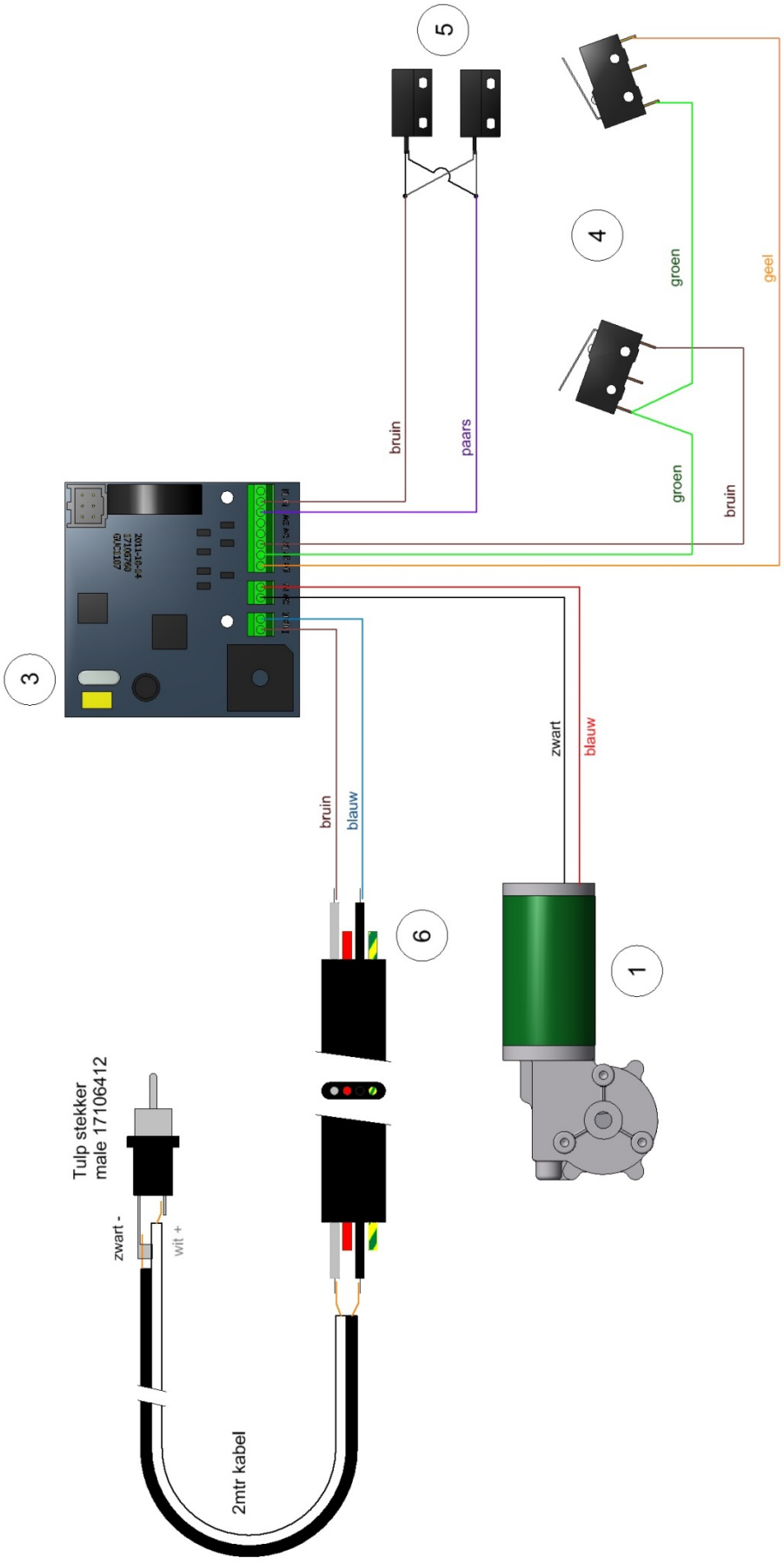
10.3 Parts List: Turntable



pos	art.nr.	naam
1	17104250	Gearmotor
2	17104260	Gear
3	17106762	Turntable PCB
4	10100290	Micro switch Turntable

pos	art.nr.	naam
5	17106990	Magnet switch
6	17104981	Flat cable
7	17106210	Spring
8	17104370	Metal Screw M2,5x12

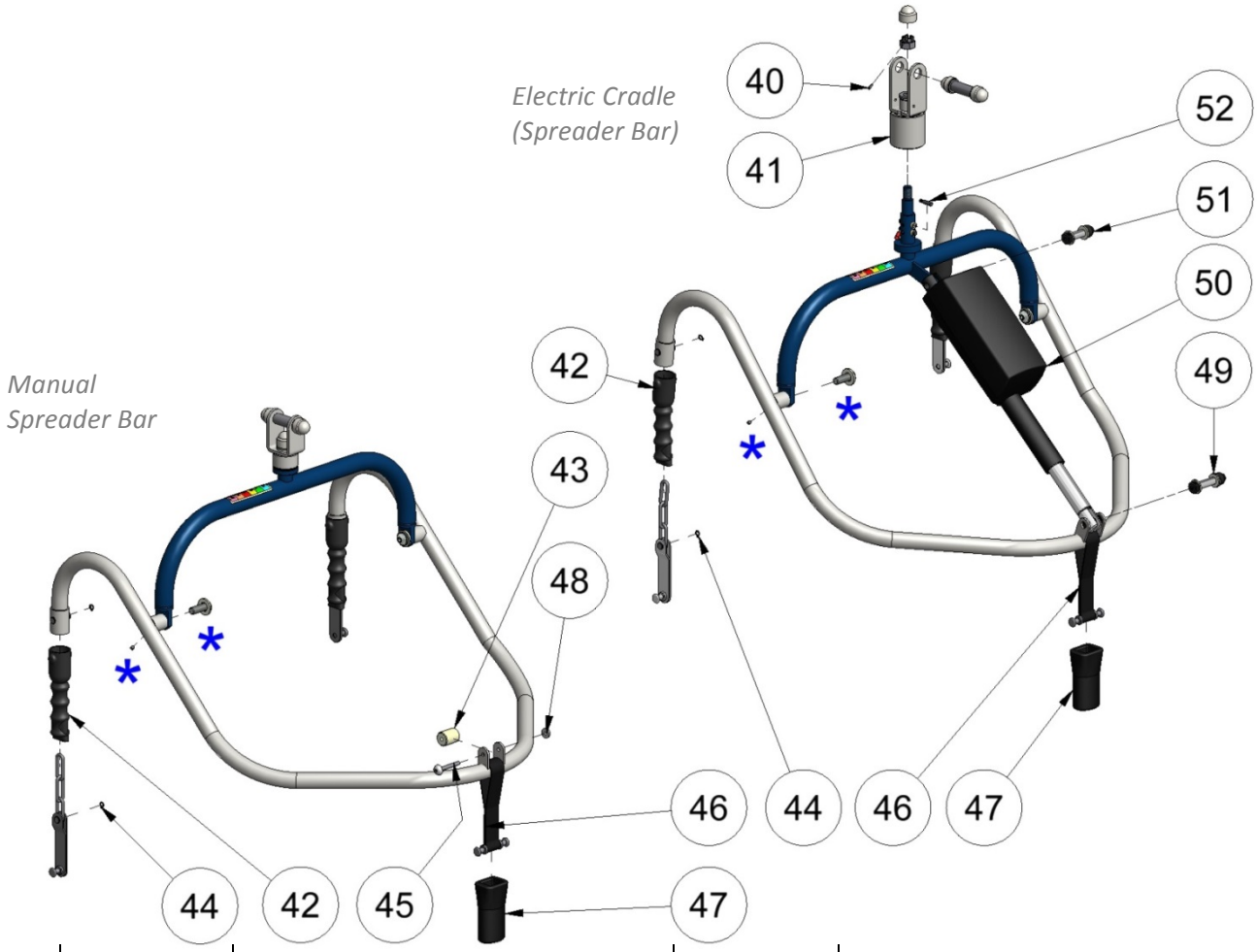
10.3.1 Wiring Schematic Turntable



Geel = Yellow
Groen = Green
Bruin = Brown
Rood = Red
Paars = Purple
Blauw = Blue
Wit = White

10.4 Parts List: Spreader Bars and Cradles

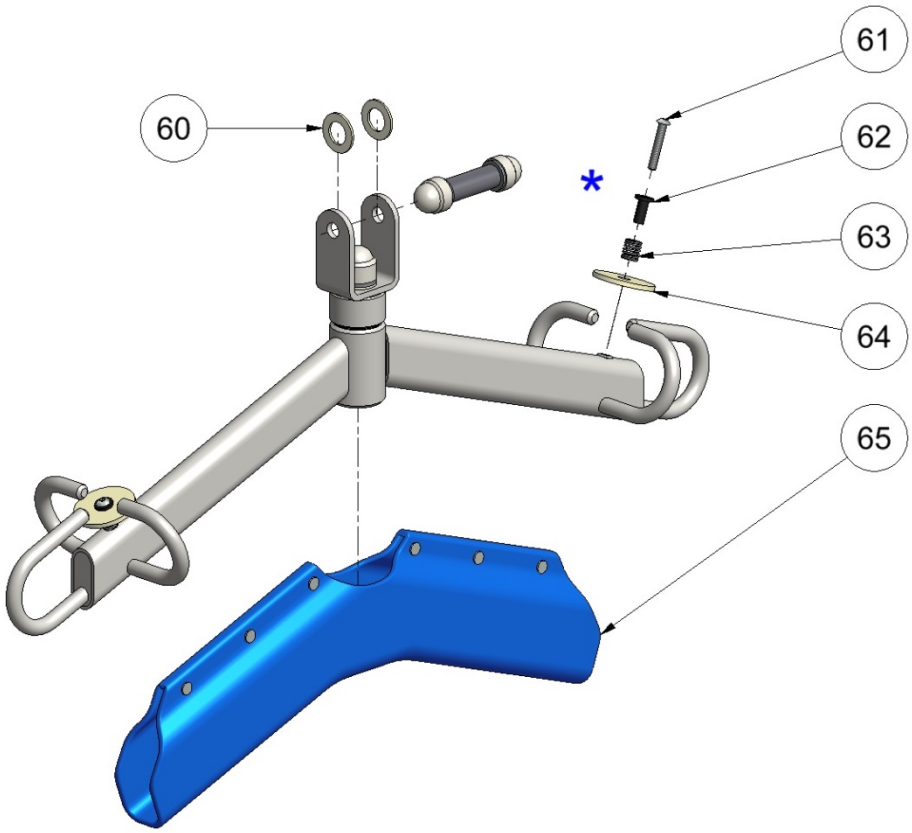
10.4.1 Electric and Manual Cradle Option



pos	art.nr.		pos	art.nr.	
40	11100620	Bolt 3x16	47	32200790	Foam protector
41	32300450	Powered Cradle Bracket	48	32101920	Nut 5mm
42	32201400	Rubber sleeve	49	11400430	Shaft set 34
43	32200830	Sleeve	50	32100200	Motor La28 for Pivoting Bar
44	32101740	Retaining Ring 6mm	51	11400390	Bolt set 26
45	32200910	Band pen	52	32100720	Carbon Brush
46	32300170	Flexible clip strap hook			

- Threading Locking Compound 11101110

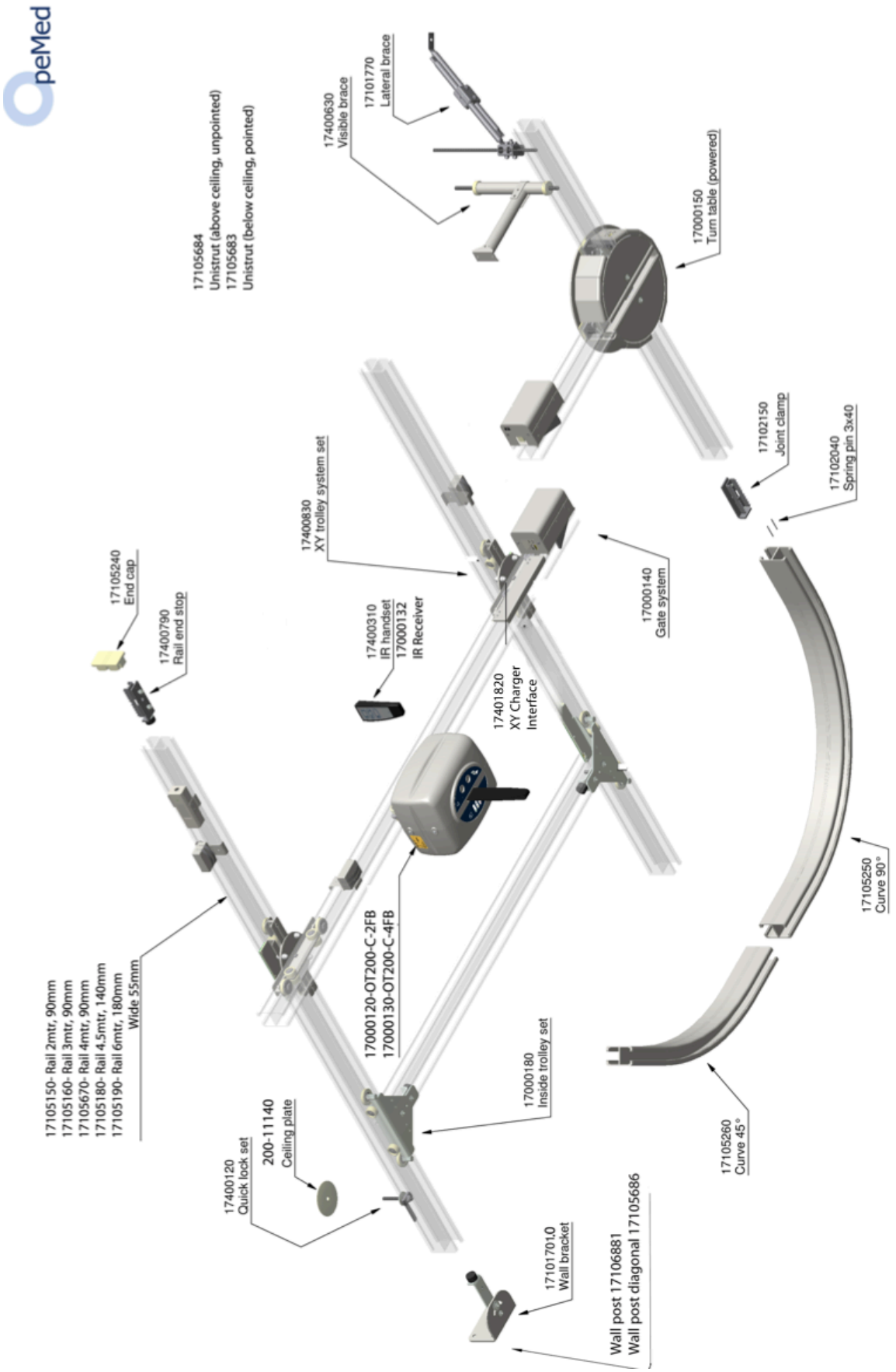
10.4.2 Parts List: 2 Point Spreader Bar (Standard on OT200)



pos	art.nr.	
60	11101410	Washers
61	32106600	Pin for Sling Security System
62	32106560	Sleeve

pos	art.nr.	
63	32106580	Spring
64	32106570	Sling Locking Disc
65	32106890	Spreader Bar Cover

10.5 Parts List: Track



11 Warranty statements

- OpeMed gives a 1 year warranty on the OT200/OT400. OpeMed does not give warranty on any parts that are exposed to wear, such as wheels, slings, hoisting belts or batteries.
- This warranty does not apply to damage or failure of the OT200/OT400 which is caused by improper or un-professional use or repairs done by others than OpeMed. The judgement on this part lies with OpeMed or an by OpeMed appointed representative.
- The Warranty is invalid if the OT200 has been serviced by a non-authorised OpeMed body or if the correct servicing has not been undertaken and documented (6 monthly in UK as per LOLER and 12 monthly in rest of the world as per ISO 10535).
- OpeMed is free to change the product in any way, also not according to this manual.

12 Documentation of Servicing

- The OT200 should be serviced as per the manufacturer's guidelines (see Section 7). Failure to service and document in the table below as per Section 7 may invalidate the manufacturer's warranty.

Complete Hoist S/N and Dates of 6 monthly or 12 monthly Services and Weight Tests to ensure Warranty is Valid					
Hoist S/N: -		Hoist S/N:-		Hoist S/N	
6 Monthly Test (UK) Date	12 Monthly Test (Worldwide) Date	6 Monthly Test (UK) Date	12 Monthly Test (Worldwide) Date	6 Monthly Test (UK) Date	12 Monthly Test (Worldwide) Date

13 About OpeMed

Transferring and lifting patient/users in the health care sector asks a lot of energy and high professionalism from several parties and especially from carers. OpeMed delivers services and products for people who are involved daily with these transfers. The mobility of the patient/user is our starting point: together with the patient/users and carers, we develop solutions to improve or maintain the patient/user's mobility.
By taking into account and using the moving possibilities of the patient/user we aim at delivering an optimal quality of care and an improvement of labour conditions for the carer.
OpeMed can deliver the following products/services:

- Hoists
- Standing aids
- Bed hoists
- Ceiling hoists
- Accessories for transfer aids
- High-low baths
- Toilet and shower chairs
- Shower trolleys
- Other transfer aids
- Training and advise

The vision, services and products of OpeMed make OpeMed the perfect partner for carers

and patient/users.

13.1.1 Contact Details

OpeMed (Europe) Ltd
Dogflud Way
Farnham, Surrey
GU9 7UD
United Kingdom

T: +44 (0)1252 758858
F: +44 (0)870 1619681

sales@opemed.net

www.opemed.net

14 EG - Statement of Conformity

We:
OpeMed (Europe) Ltd
Dogflud Way
Farnham, Surrey
GU9 7UD

Hereby declare under our own responsibility that the:

The OT200/ OT400 ceiling hoist system and all attached parts
to which this declaration relates and which fall within Class I of the European Medical Devices Directive, in accordance with the provisions of the following directive:

Guideline 93/42/EEG
and also complies with the following standards or normative documents:

ISO/DIS 14971
EN 10535
NEN-EN-60601-1
NEN-EN-60601-1-2 (EMC)
pr EN 980
BS 12182

On behalf of OpeMed Ltd,
Place and date : Farnham, Surrey, June 31st 2014

Name and function : N. Kent, director

Signature :

CE