LEHNER
LIFTTECHNIK

STRATOS NG

INSTALLATION MANUAL

Installation manual

„Stratos NG“

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1 INTRODUCTION

Installation teams must have a general knowledge in:

- Working on electric controls
- Basic knowledge of mechanical installation and sufficient knowledge of installing rails and support pillars
- Reading and understanding circuit diagrams and wiring schematics

The following points are necessary for the installation:

- Have a complete tool kit on hand for mechanical and electrical works.
- Check beforehand what fixing materials (screws, anchor bolts, adhesives) are required for the proper fixing of the rails to the wall or the pillars to the floor. These materials are not included in the delivery! The installation company is responsible for the fixing of the rail to the wall or the pillars to the floor/steps!
- Check the packages for shipping damage and missing parts before bringing the lift to the site. Take pictures of damaged parts as soon as these are discovered to provide proof for warranty claims.
- A team of 2 qualified technicians is necessary to install the lift.

The following tools will be required to finish the installation successfully:

- A complete toolset for mechanical and electrical works
- Voltmeter
- Drilling machines
- Drills, thread cutter
- Fixing material
- Water lever with angle indication

Fig. 1.1 - complete toolset

2 FORCES ON RAILS, WALLS AND PILLARS

Fixing options:

- The stairlift can be mounted on pillars or directly on the wall.
- Choose an option that adequately supports the weight to be carried.
- Pillars can be attached in different ways:

  1. With a base plate that is fixed directly to the floor.
  2. With a base plate that is fixed directly to the floor and also to the wall.

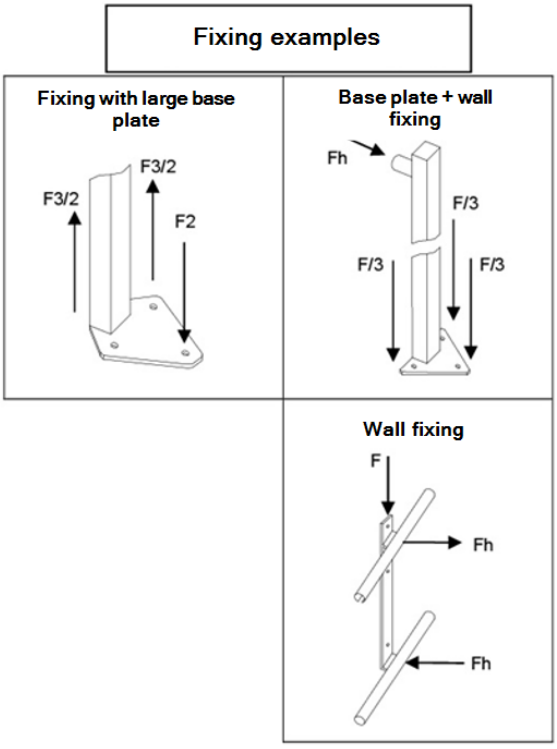


Fig. 2.1 - fixing examples

Weight to be transported

The weight of the lift to be carried is shown in the diagram below. Whether the structure can support this weight depends on the type of fixing option used. Some examples are described on the right.

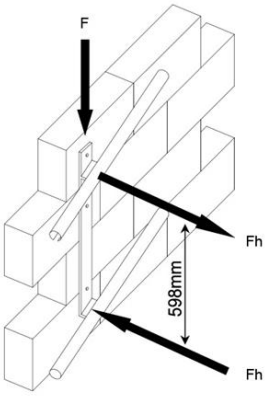


Fig. 2.4 - sketch

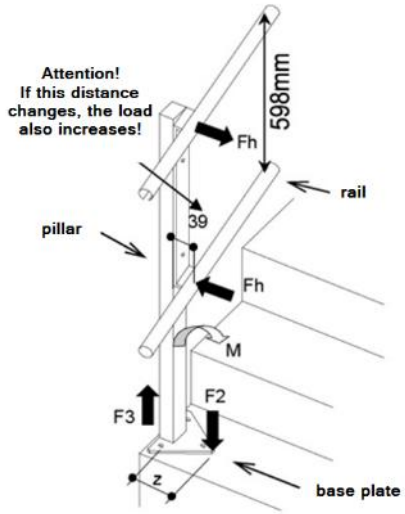


Fig. 2.2 - Description forces

Fixing

The fixing is selected according to the structural conditions. The requirements of the customer are also taken into account. Fixing options: normal, with square-head screws, with dowels, component adhesive or a combination of these.

with a loading capacity of max. 225 kg and a platform width of max. 800 mm, the following forces apply:
F = 3400N*1,5 Fh = 2456N*1,5 (1,5 = vibration factor)

F = 5100N
Fh = 3684N

calculation with pillars	z	F2	F3
standard base plate	115mm	/	/
big base plate	150mm	16013N	10913 N

3 INSTALLATION MATERIAL FOR FIXING OF THE RAIL

For walls:

Fig. 3.2 – Installation material for walls

For concrete walls:

Fig. 3.1 - Installation material for concrete walls

For concrete walls:

Fig. 3.4 - Installation material for concrete walls

For brick walls:

Fig. 3.3 - Installation material for brick walls

For brick walls: Adhesive 2 components glue for brick wall installation – injection pistol and adhesive

Fig. 3.6 – injection pistol

Fig. 3.5 – 2 components glue

4 INSTALLATION OF THE RAIL

Start the installation at the lower stop. The following dimensions must be checked again and again for the entire rail installation and compared with the installation plan:

W – Right-angled distance from the underside of the rail to the step nose

X – Distance from floor to lower edge of bracket (center of rail)

Y – Start of stairs to edge of bracket/pillar

Z – Distance from floor to underside of rail

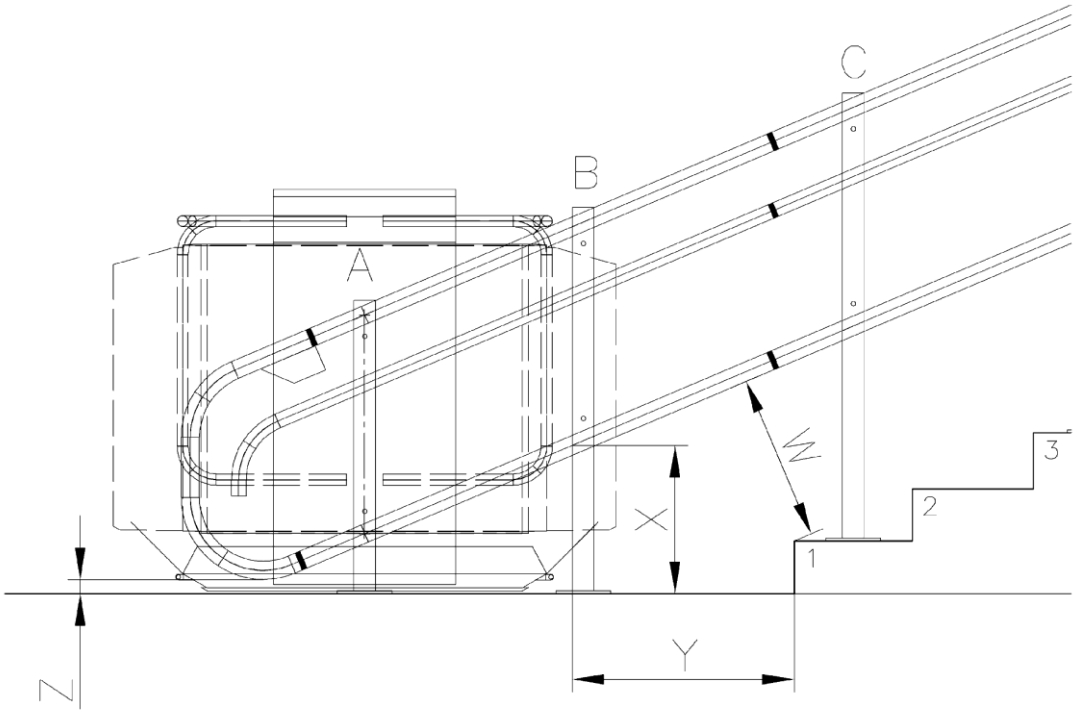


Fig. 4.1 – installation plan

- Pull the supplied 2-pin cable through the lower tube from the lower stop to each subsequent stop. We recommend using a pull-in spring.

- At the start of installation, drill as little as possible into the walls or steps so that the rail can be adjusted slightly later if necessary. (see **Fig. 4.2 – Drilling holes**)

- It is very helpful to use screw clamps and mounting clamps to position the rail. (see **Fig. 4.3 - screw clamps**)

- Check each connection point, clean it and apply a little grease to the rail joint before connecting and screwing it together. Secure the connection with the screws and nuts provided. (see **Fig. 4.4 - Clean the rail and Fig. 4.5 - Secure the rail connection**)

- Ensure that the correct dimensions specified in the installation plan are always adhered to.

- Inaccuracies may occur with long systems. These must then be compensated for along the rail.

- After installing the rail, check all screw connections again. When fixing the lift, compensate for any misalignments with washers behind the mounting struts.

- Clean the rail before attaching the platform.

Fig. 4.2 – Drilling holes

Fig. 4.3 - screw clamps

Fig. 4.4 - Clean the rail

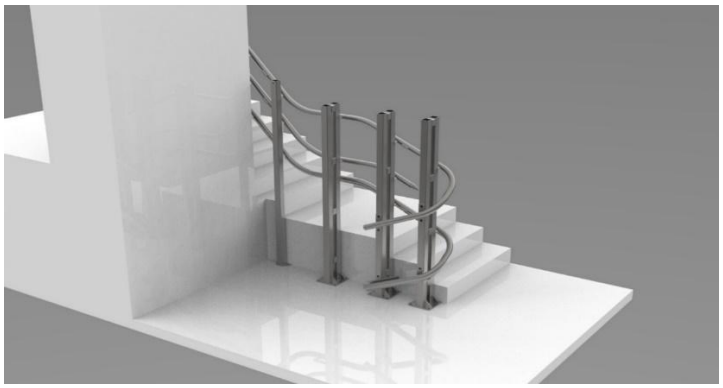


Fig. 4.6 - finished rail installation

Fig. 4.5 - Secure the rail connection

5 INSTALLATION OF THE PLATFORM

To install the platform, the first rail part must be removed again.

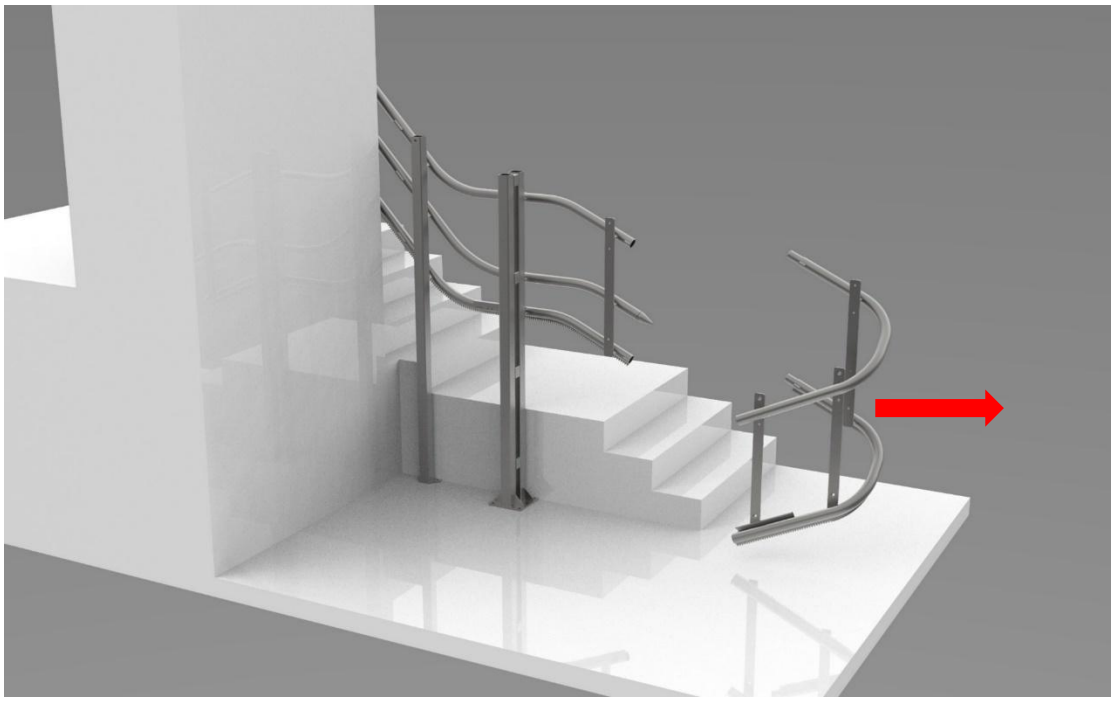


Fig. 5.1 - first step in platform assembly

To facilitate the insertion of the rail into the platform carriages, we recommend using the polyamide insertion device as an aid. This is only attached to the upper tube of the dismantled rail and serves as a guide and for aligning the upper carriage while inserting the rail into the two carriages.

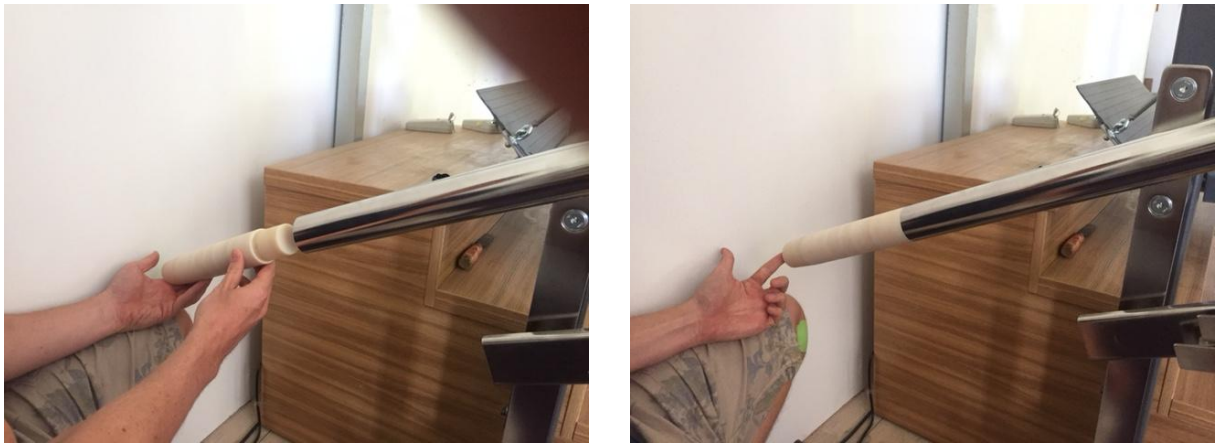


Fig. 5.2 - Polyamide plug-in device

Move the platform to the lower stop area.

Remove the cover (yellow) at the top rear of the platform and activate the emergency operation function. (blue switch – switch position 2)

Test whether the gear moves when the red or blue button is pressed.

ATTENTION: When emergency operation is activated, all safety devices are deactivated.

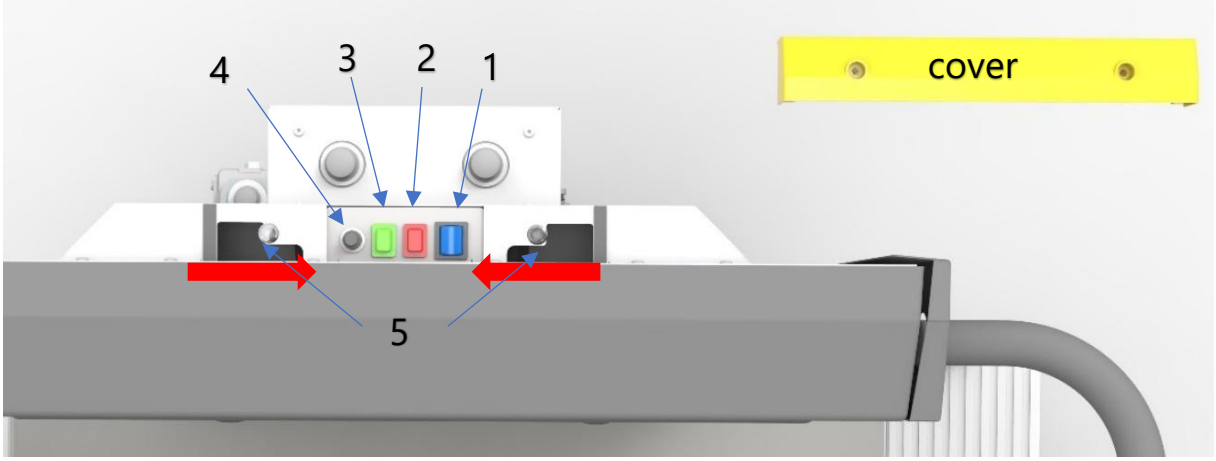


Fig. 5.3 - emergency functions

Blue (1): Toggle switch for operating mode
Position 1 = Normal operation „ON SDR"
Position 2 = Emergency operation „OFF EDR"
Middle position = Lift is switched off „OFF"
Red (2): Emergency operation up 'ESD'
Green (3): Emergency operation, downward movement 'ESU'
Grey (4): Emergency opening switch 'SMP'
Black (5): Emergency opening lever to unlock the barrier arm

Fig. 5.4 – emergency switch

One person holds the platform vertically. The second person inserts the first rail section into the running gear until the rack is flush with the gear wheel.

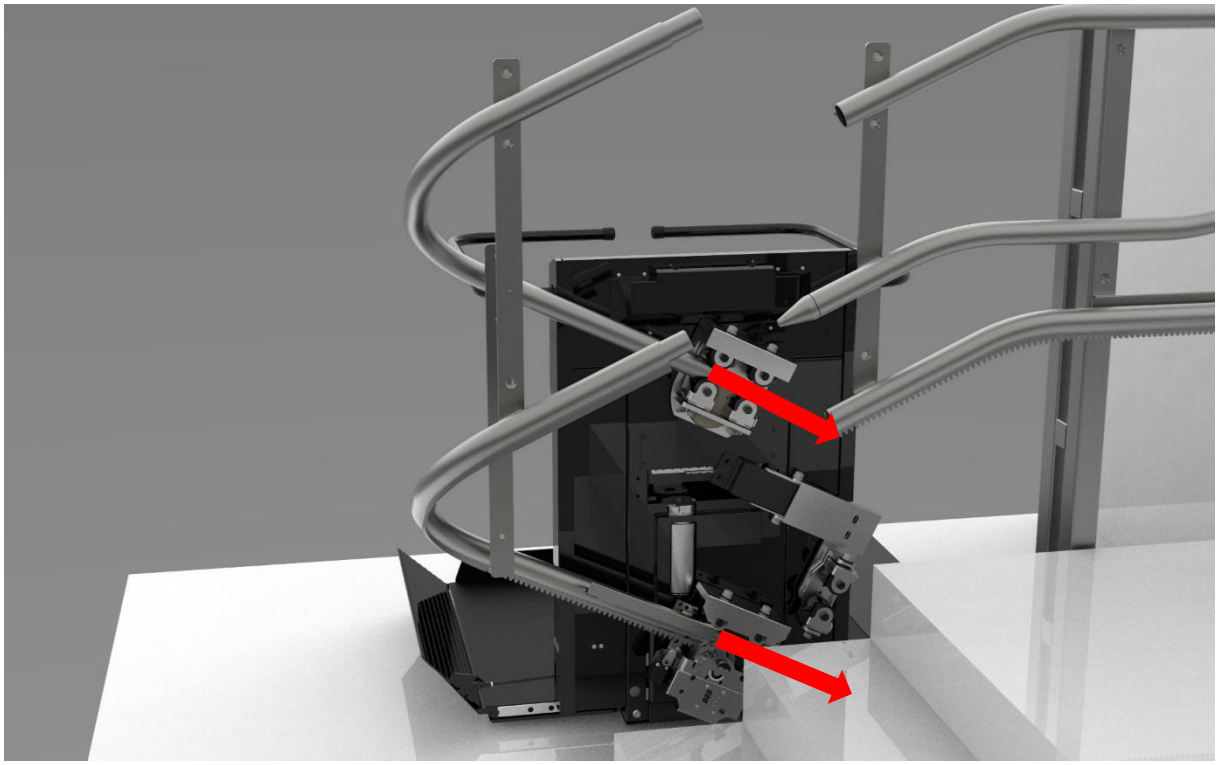


Fig. 5.5 - Raising the platform using the emergency operation function

With the help of the emergency operation function on the platform, the rail can now be moved further into the running gear.

Ensure that the gear wheel engages properly with the rack and that the rollers run onto the rail. Also make sure that the upper running gear does not tilt.

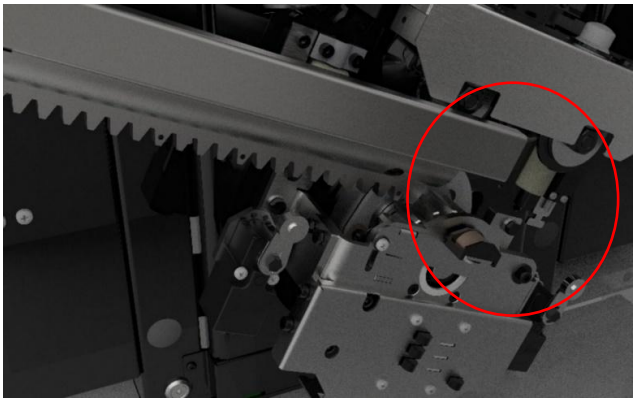


Fig. 5.7 - Gear wheel and rack

Fig. 5.6 – upper carriage

Once the platform has been inserted into the rail, this rail section must be connected to the second rail section. Use the M8 Allen screws supplied for this purpose.

The platform is then moved onto the second rail section to create more space and allow the first rail section and the supports to be correctly secured.

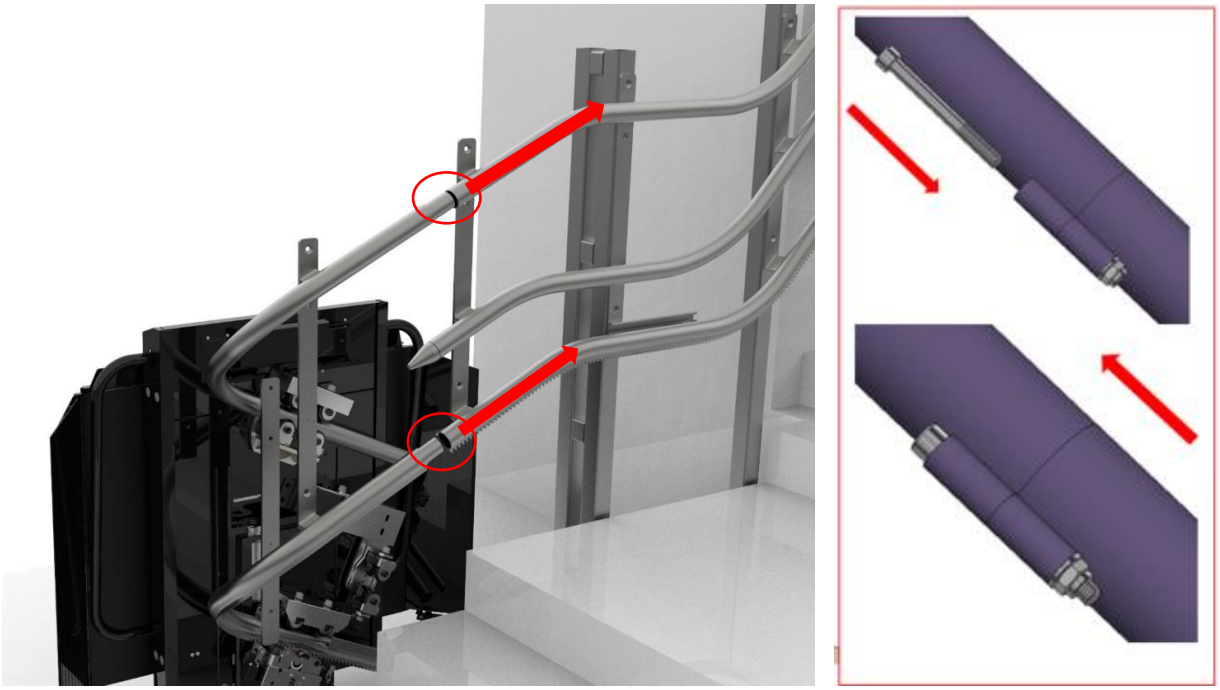


Fig. 5.9 - Connecting rail sections

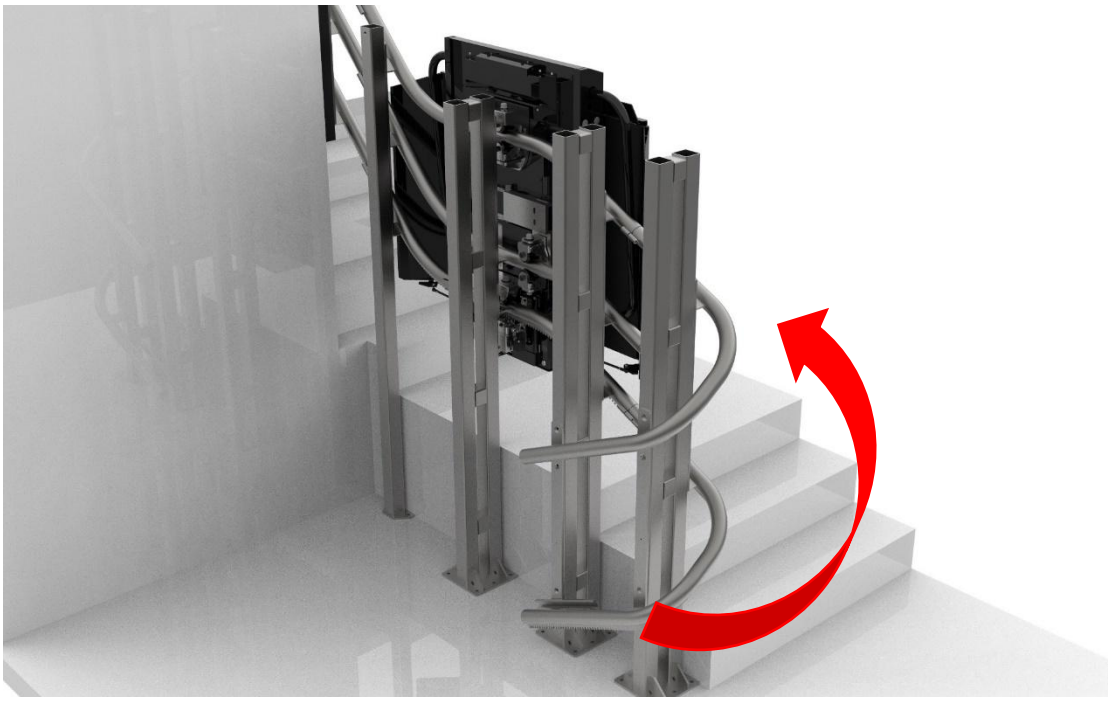


Fig. 5.8 - Move the platform onto the second rail section

Do not forget to switch the emergency switch back to the normal operating position. The lift can now be moved using the external controls, but **NOT** using the spiral cable or the permanently installed switches.

The lift can only be used via the push buttons or the spiral cable controls when the platform is open.

Opening the platform without installed stops is only possible with the radio external controls by pressing the loading lever and one of the two end stop switches.

ATTENTION: Do not press the loading lever down too far, otherwise the emergency limit switch will be activated and the platform cannot be opened.

5.1 Operating elements on the platform

The platform is equipped with the following controls on the side wall of the platform:

- Buttons for the UP and DOWN directions of travel
- Emergency stop button
- Button for acoustic alarm

The buttons are only used to move the open platform and to open and close the barriers at the stops.

Fig. 5.10 - Controls on the platform

Fig. 5.11 - Hand cassette

Alternatively, manual operation is possible, which can also include directional buttons for moving UP and DOWN, an emergency stop button and an audible alarm button. This allows for a more ergonomic sitting position when operating the platform.

5.2 Radio external controls at the stops

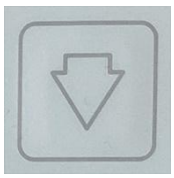
The radio external controls must be available at every stop. These must be activated with the key switch before operation.

The external controls are used for calling and sending as well as for opening and closing the platform.

A green light flashes when the radio signal is working. The radio remote controls are powered by 2 x AAA (1.5V) batteries as standard. The batteries have a service life of approx. 1 year.

Fig. 5.12 – radio control

Drive UP
The platform can only be sent upwards when it is closed.



Drive DOWN
The platform can only be sent downwards when it is closed.

OPENING the platform
This command only works if the platform is at the stop.

CLOSING the platform
This command also works if the platform is outside the stop.

Fig. 5.13 - Explanation of radio remote control

The status of the radio external control can be read off the LED:

LED-light	Description
Green light	Radio connection available and drive command active
Orange light	Radio connection is available, but lift does not move Possible reasons: ▪ e.g. The lift is already at the upper stop when the up button is still pressed. ▪ Safety circuit is interrupted.
Red light	Radio connection is available, but the lift is taken. The lift is operated from a stop or from the platform.
Green flashing	The radio transmitter has been successfully registered with the receiving device.
Orange flashing	Radio connection interrupted.
Red flashing	The battery of the radio transmitter is low and should be replaced.

Table 5.1 - LED status indicator

6 INSTALLTION OF THE CHARGING STATIONS

Check the charging stations to ensure that the limit switch is positioned correctly. Adjust them to the local situation as required. Further explanations of the switches can be found in chapter **10.2 Lower carriage.**

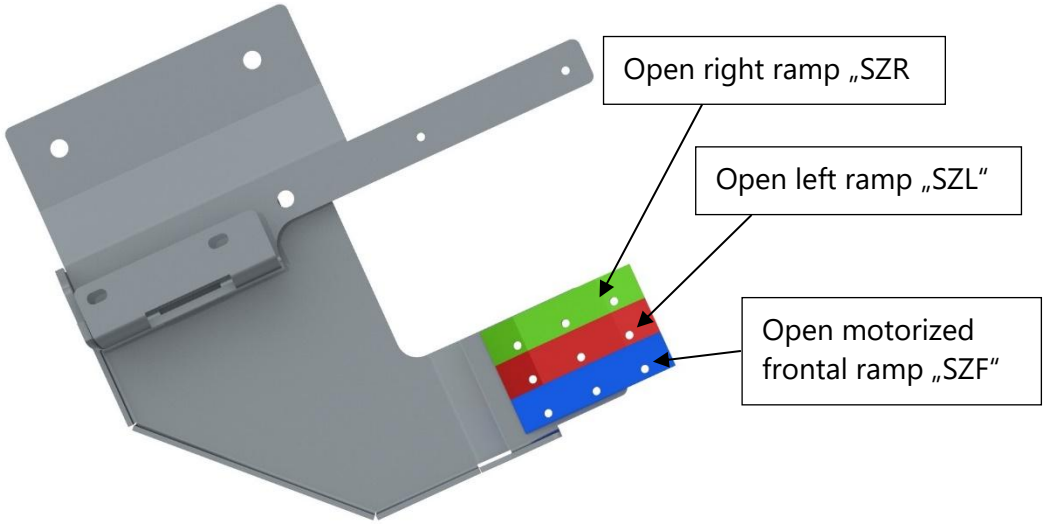


Fig. 6.1 - Ramp control plates

The end switches activate the corresponding switches of the charging station or the middle stop switch.

ATTENTION: Never install the upper and lower limit switch at the upper landing! Otherwise, both barriers will open and the passenger may fall off the platform.

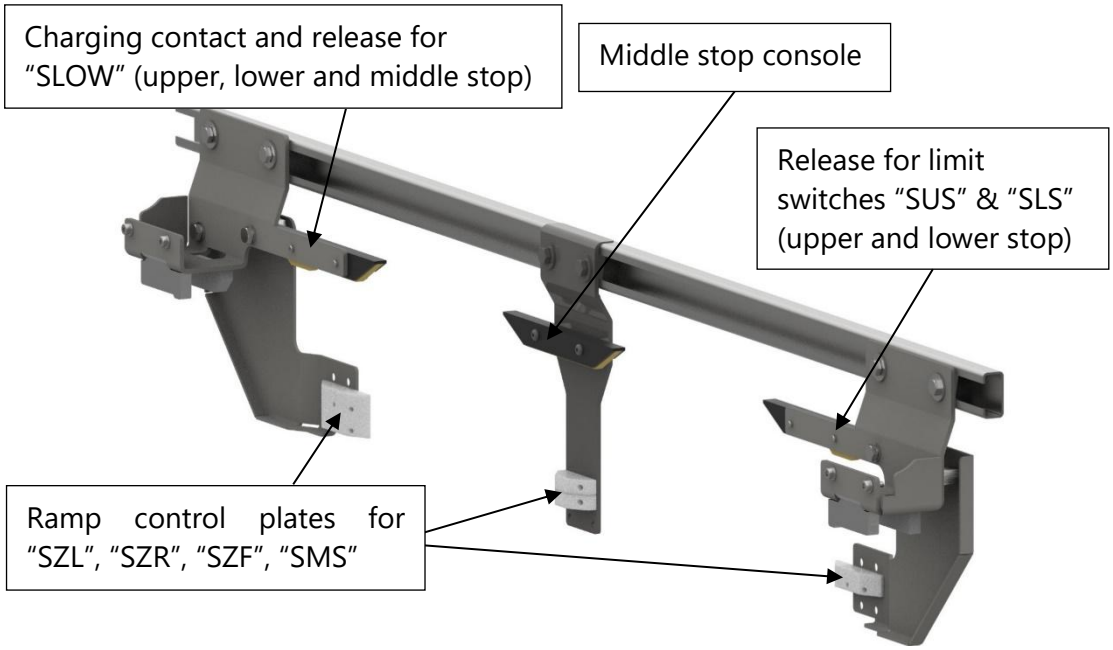


Fig. 6.2 - Explanation of ramp control plates

Open the platform. To do this, press one of the two limit switches and the loading lever.

ATTENTION: Do not press the loading lever down too far, as this will activate the emergency limit switch.

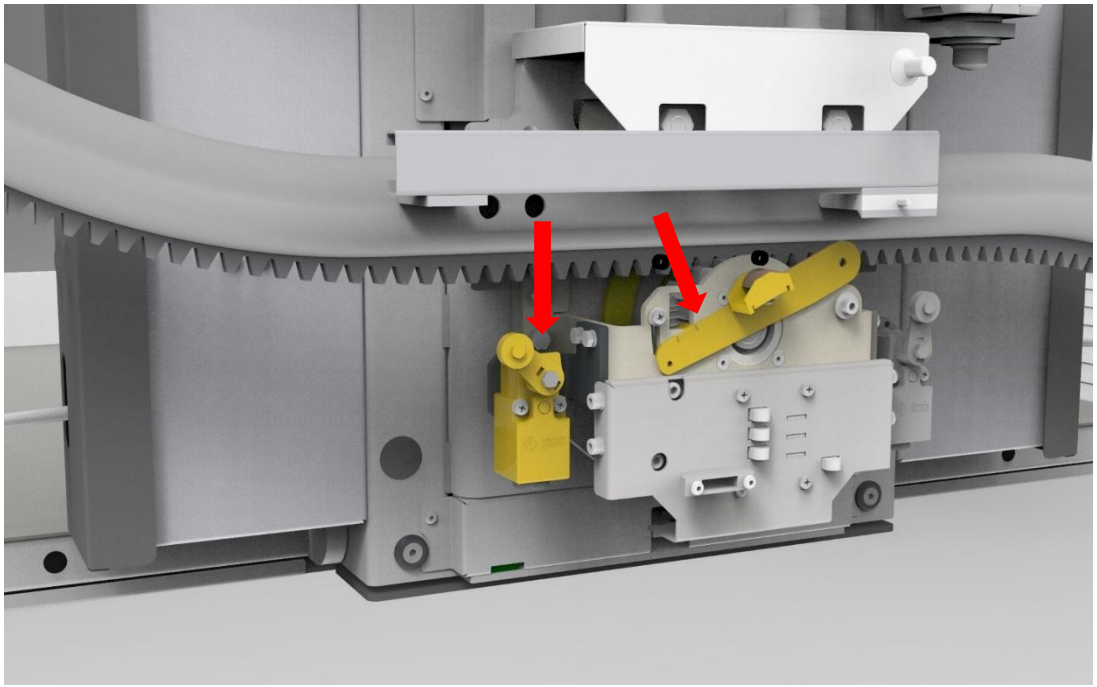


Fig. 6.3 - Charging lever and limit switch

To find the optimum setting at the stops, drive the platform into the respective stop with the ramp open. Set the lower stop 15 mm above the ground. At the middle stops and the upper stop, the open ramp should rest on the ground with an incline of approx. 2 degrees and a minimum of 30 mm.

Open the manual ramp release by pressing the lever for the manual ramp release. At the same time, push the barrier arm upwards. The ramp tilts to the desired stop and the correct position can be checked.

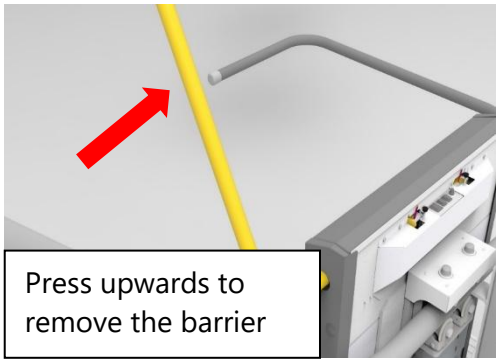


Fig. 6.5 - Push the barrier arm upwards

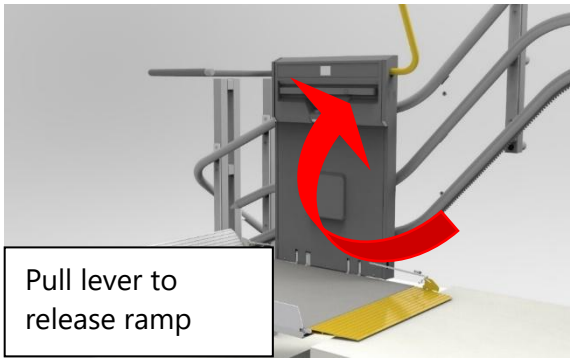


Fig. 6.4 - Pull lever to release ramp

Then slide the stop into position until the end or center stop switch is pressed.

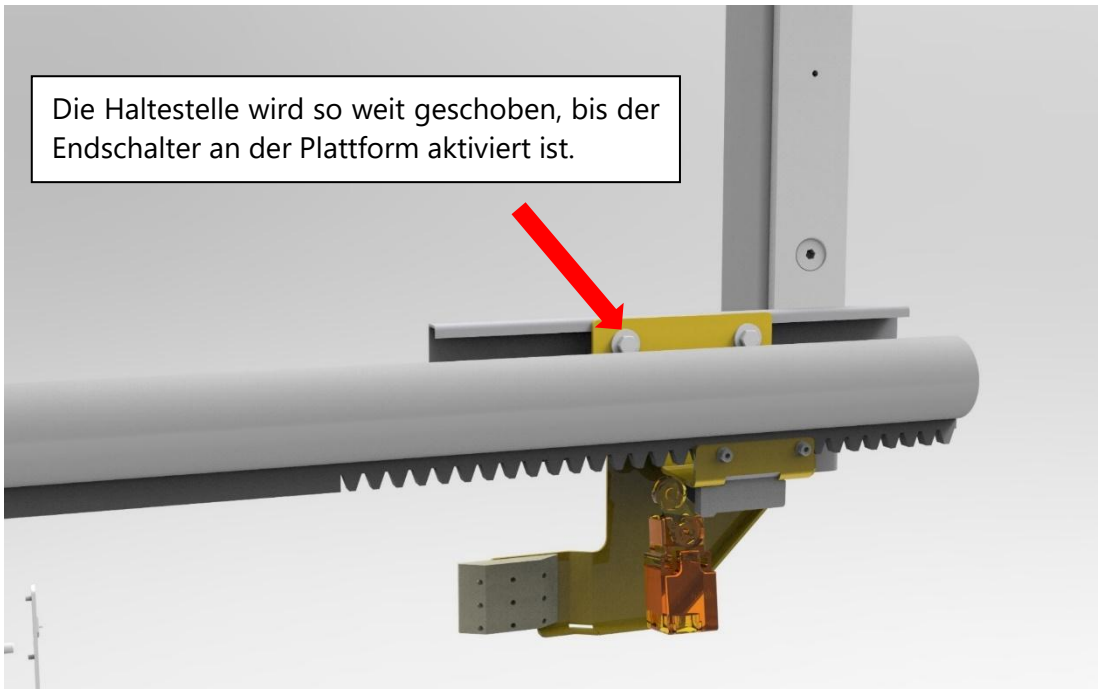


Fig. 6.6 - find the correct position of the stop

Now the stop can be fixed in place. Ensure that the T-nuts are rotated by 45 degrees and that the stop plate is aligned with the guide rail. If this is not the case, the emergency stop switch could be triggered when entering the stop.

IMPORTANT: Before reaching the respective stop, the speed switch 'SLOW', triggered by the loading curve, must always be reached. Otherwise, the error 'FEHL. ZON. SW' appears and the platform must be moved out of the stop using emergency operation in order to readjust it. The position of the loading ramp/stop must be set correctly so that the limit switch on the lower chassis is pressed exactly when the stop is reached.

In the final step, the mechanical emergency stop function is installed on the rail. This is necessary so that in an extreme emergency, if the limit switch and emergency limit switch fail, the drive gear is mechanically blocked and the platform cannot fall off the rail. It may be necessary to re-cut the M4 threads in the rack!

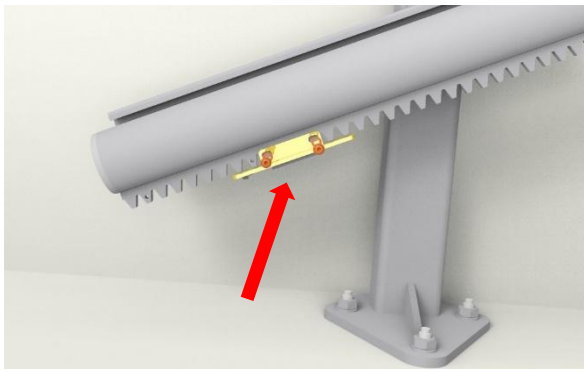


Fig. 6.7 - limit switch

7 CONNECTING THE CHARGER

Connect the stations as described in the circuit diagram. For wall mounting, it may be necessary to remove the stop again for space reasons. Before removing it, mark the previously set mounting position of the limit switch console.

The positive pole is connected to the loading ramp (copper surface).

The negative pole is connected to the rail.

Connect the upper, lower and, if available, middle stops with a 1-pole cable. It can be pulled into the lower rail profile.

1 24 VDC connection – connection to the stops

2 115 VAC–230 VAC connection

3 Status LED

- **Green = batteries fully charged or lift not in charging station**
- **Orange = batteries are charging**
- **Flashing green = charger malfunction, check the wiring**!

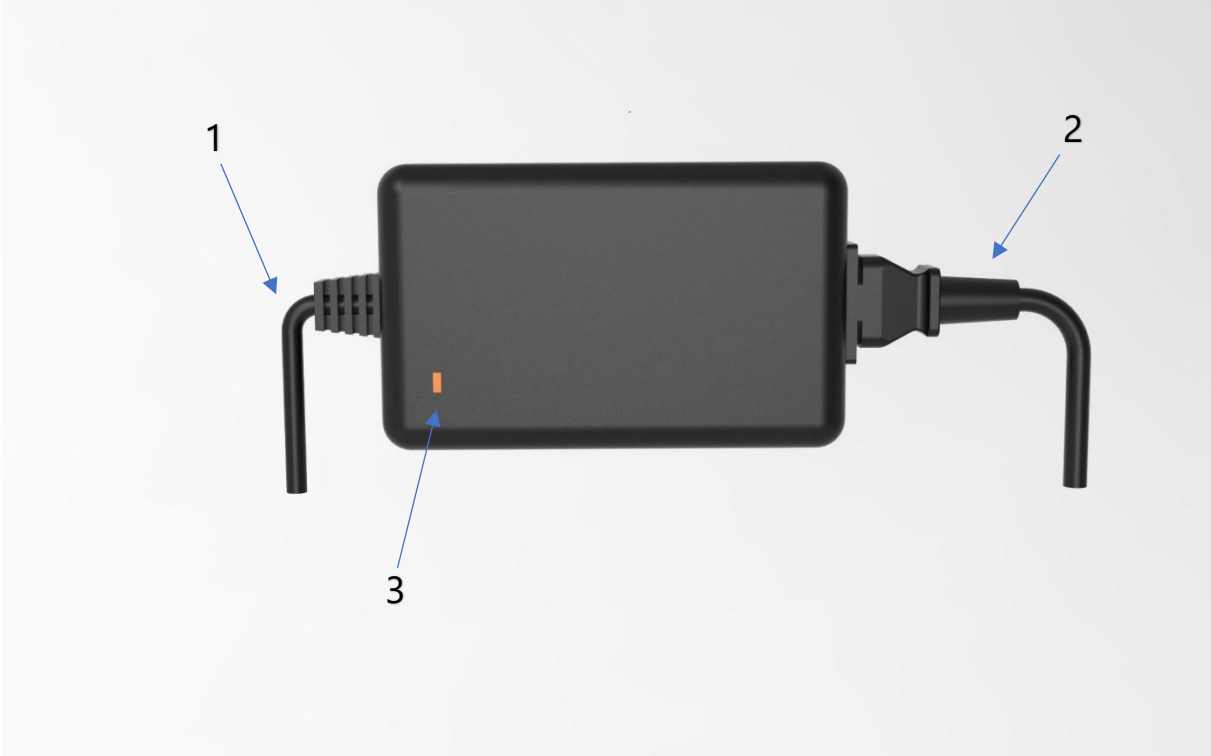


Fig. 7.1 - Charger labelling

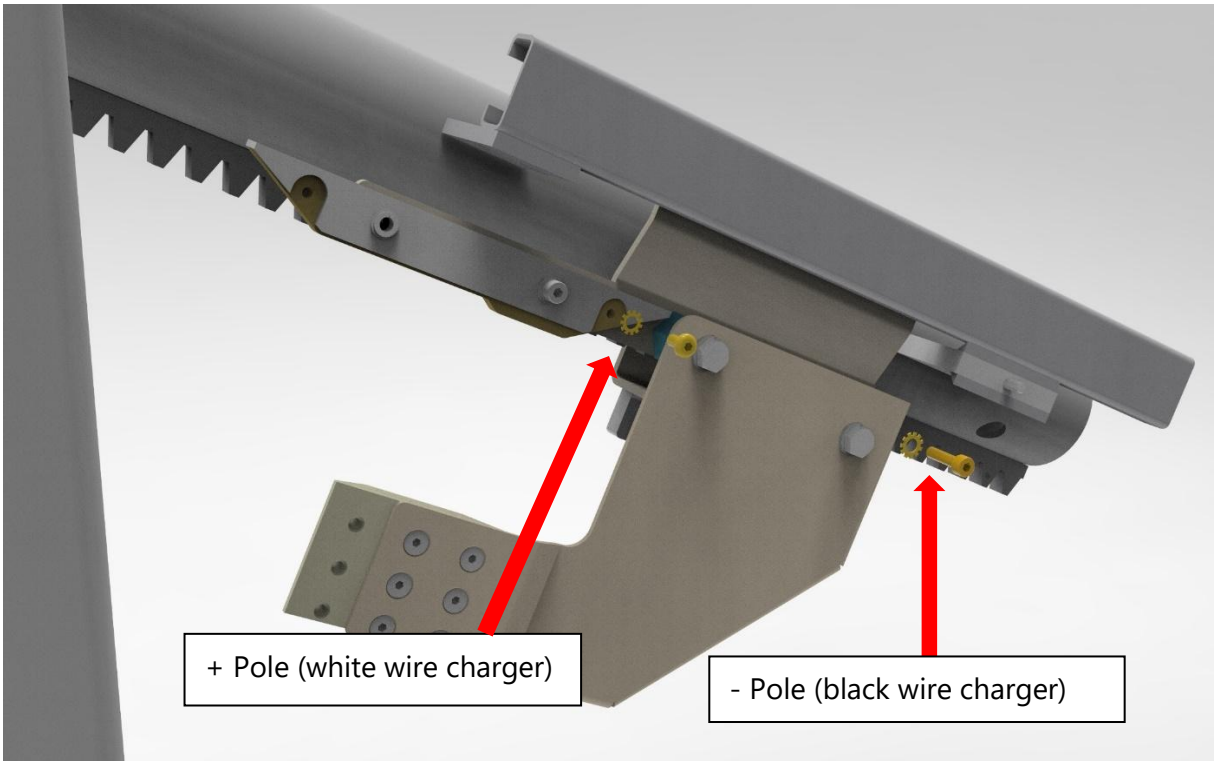


Fig. 7.2 - Checking the stops

Then check at each stop whether the batteries are being charged!

8 LAST CHECKS BEFORE USING THE UNIT

Before operating the lift, check all dimensions and fastenings again. Ensure that there is no risk of collision between the platform and the steps or other parts. Ensure that the correct distances to the drive unit and the platform are maintained.

OK	Not OK	Not available	To be checked
☐	☐	☐	Check that all fastening screws on the supports and track are tight and retighten if necessary.
☐	☐	☐	Clean the guide rail and platform thoroughly. *This can be done using various foam cleaners, cleaning cloths or similar.*
☐	☐	☐	Re-lubricate the rack if necessary. *Please use Teflon or dry lubricants.* *MoS2 oil and WD-40 spray are not suitable for lubrication.*
☐	☐	☐	Check the function of the upper and lower limit switches/emergency limit switches and, if applicable, the centre hold position switch (with and without load on the platform).
☐	☐	☐	Check the function of the deceleration switches (slow speed) at stops and on curves (for Stratos).
☐	☐	☐	Check the function of the side contact strips and ramp contact switches (in both directions/open and closed platform).
☐	☐	☐	Check the function of the contact switches in the contact floor/safety floor.
☐	☐	☐	Check the function of the emergency stop switch on the platform/hand-held control unit.
☐	☐	☐	Check the function of the platform controls (joystick, buttons or hand-held control unit).
☐	☐	☐	Check the function of the main switch and key switch.
☐	☐	☐	Function of the alarm signal (yellow button on platform/hand-held control unit)
☐	☐	☐	Function of the acoustic/visual signal (if ON/available)
☐	☐	☐	Check the function of the emergency operation using the emergency hand wheel (brake must be vented manually!).
☐	☐	☐	Check the function of the emergency release (open barriers and ramps manually – see user manual for details).
☐	☐	☐	Check the function of all call points (up/down/open/close)
☐	☐	☐	Check the function of the battery charge at each stop

Table 8.1 - Checklist before commissioning

ATTENTION: Do not use the system until all fasteners have been tightened. Once the loading ramps, limit switches and release cams have been correctly adjusted, move the drive unit to the upper stop and back again, checking that the correct distances are maintained. If the stop is uneven and the ramp does not rest correctly on the floor, readjust the ramp.

ATTENTION: The installation team is responsible for correct installation and commissioning. The system must be tested on site (environmental influences) to ensure safe and fault-free operation! The system must not be put into operation if there are deviations from the drawing, other influences or obvious defects. If malfunctions occur or adjustments need to be made, please read the following pages first.

9 MECHANICAL PLATFORM STRUCTURE

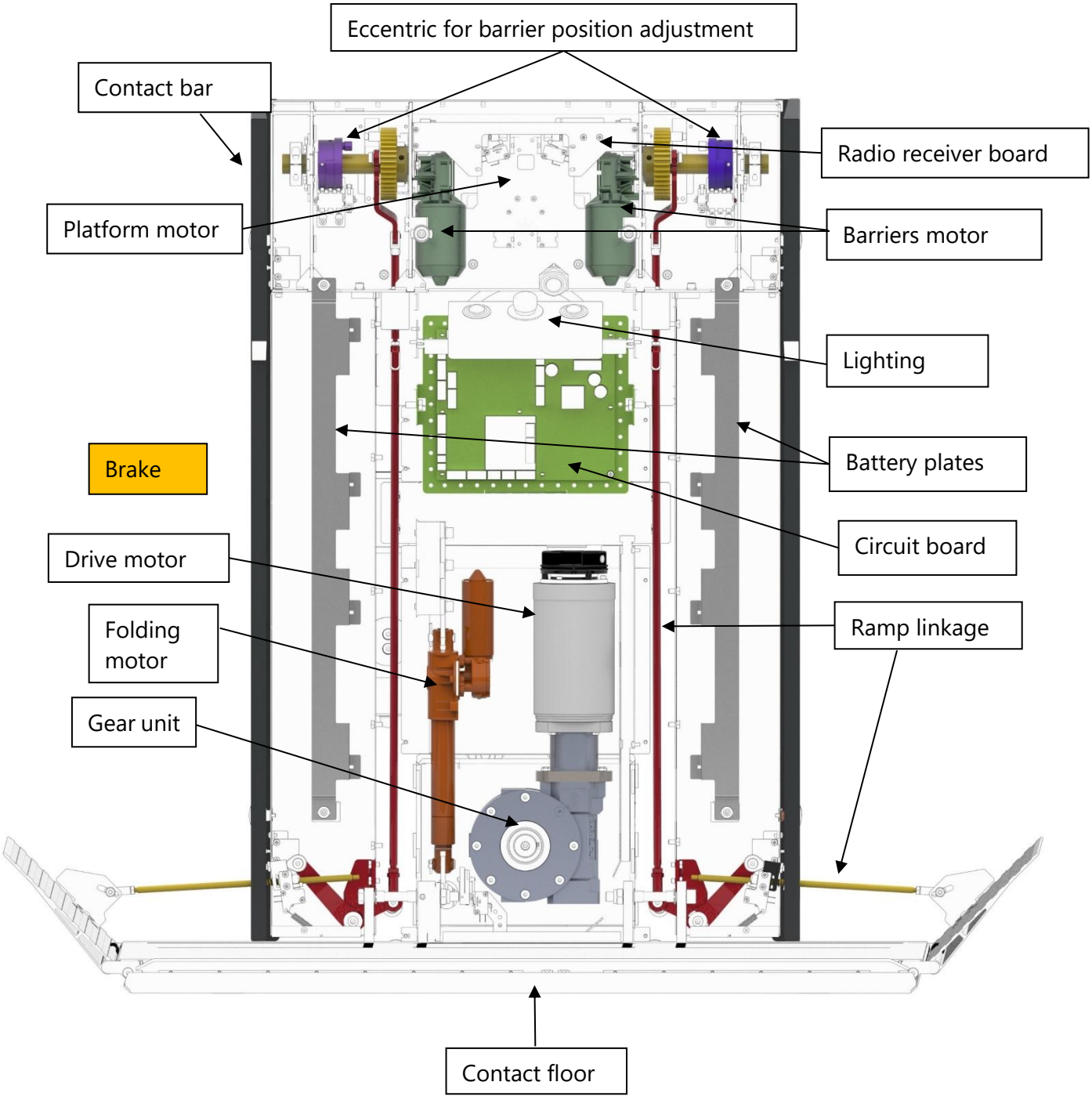


Fig. 9.1 - Mechanical platform structure

10 ELECTRICAL SWITCHES AND THEIR FUNCTION

10.1 Emergency opening of the platform

In case the lift has a malfunction and it is not possible to open the lift at the landing with the external control, there is an emergency opening function.

Therefore 2 external 12V batteries connected in series are required!

Fig. 10.1 - two 12 V batteries

Unscrew the emergency operation cover.

Fig. 10.2 – emergency switch

There are two wires labelled + and –.

Connect these to the external 24 V DC power supply.

Press the emergency release button.

The platform will now open.

ATTENTION: Release the button in good time as soon as the platform floor is open. Otherwise, there is a risk of damaging the motor.

10.2 Lower carriage

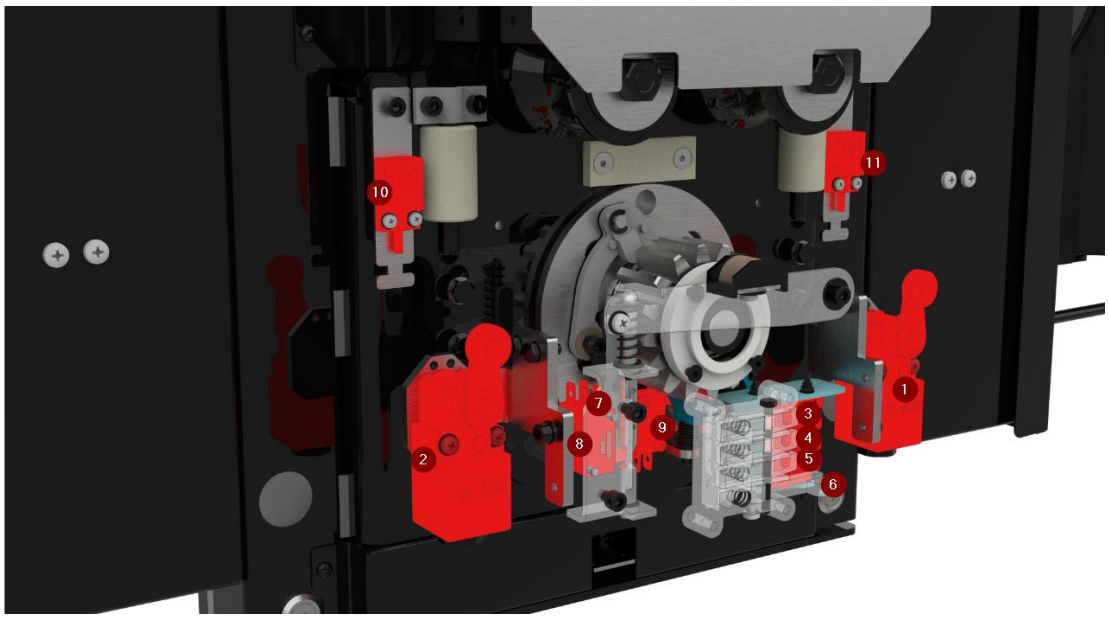


Fig. 10.3 - Description on lower carriage

Nr.	Name	Description
1	Upper limit switch 'SUS'	is triggered at the upper limit stop in the desired stop position
2	Lower limit switch 'SLS'	is triggered at the lower limit stop in the desired stop position
3	Zone switch for right ramp 'SZR'	Triggered when the lower/upper ramp is to be opened
4	Zone switch for left ramp "SZL"	Triggered when the upper/lower ramp is to be opened
5	Ramp switch for side motorized ramp 'SZF'	OPTIONAL: is triggered when the side motorized ramp is to be opened
6	Middle stop switch 'SMS'	is triggered when the middle stop is reached
7	Zone and speed switch 'SLOWS'	is triggered at every stop as soon as the loading lever is pressed down
8	Emergency stop switch 'SUL'	is activated as soon as the loading lever is pressed down too far from the end stop
9	Safety switch "SOSG"	is activated if the lift moves down too quickly
10	Speed sensor 'IN1'	is deactivated when the lift is on a curve. The control system then reduces the speed to the set value (%).
11	Speed sensor 'IN2'	is deactivated when the lift is on a curve. The control system then reduces the speed to the set value (%).

Table 10.1 - Description on lower carriage

10.3 Platform

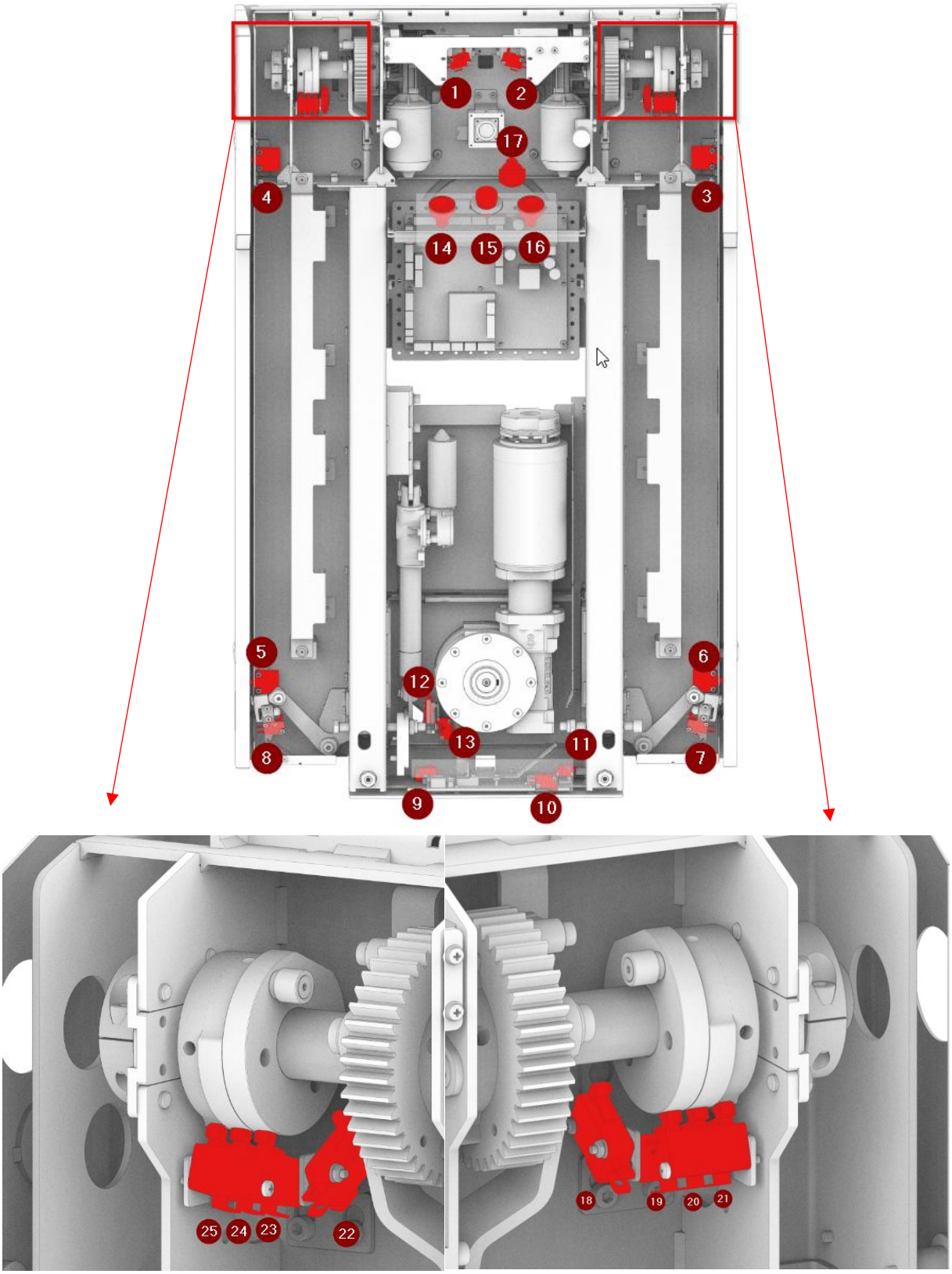


Fig. 10.4 - Platform labelling

Nr.	Name	Description
1	'SBLC' switch	for monitoring the magnetic switch of the left barrier. Deactivated when the left barrier arm is to be opened or the barrier arm is manually unlocked.
2	'SBRC' switch	for monitoring the magnetic switch of the right barrier. Deactivated when the right barrier arm is to open or the barrier arm is manually unlocked.
3	'EKR1' contact strip switch	If this switch is triggered, e.g. by an obstacle, the system stops in the direction in which the contact strip was triggered.
4	Contact strip switch 'EKL1'	If this switch is triggered, e.g. by an obstacle, the system stops in the direction where the contact strip was triggered.
5	Contact strip switch 'EKR2'	If this switch is triggered, e.g. by an obstacle, the system stops in the direction where the contact strip was triggered.
6	Contact strip switch 'EKL2'	If this switch is triggered, e.g. by an obstacle, the system stops in the direction where the contact strip was triggered.
7	Ramp monitoring 'SRR'	If the access ramp is blocked, the system stops in this direction.
8	Ramp monitoring 'SRL'	If the access ramp is blocked, the system stops in this direction.
9	Contact floor switch on the underside of the platform side wall 'EL-D1'	The platform stops if there is an obstacle underneath it.
10	Contact floor switch on the underside of the platform side wall 'EL-D2'	The platform stops if there is an obstacle underneath it.
11	Overload switch 'SOL'	Triggers if there is too much weight on the platform.
12	Platform open "SPO"	Triggers when the platform is in the horizontal driving position.
13	Platform closed 'SPC'	Triggers when the platform is fully folded.
14	Drive-on switch 'SU'	Allows the system to move upwards when the platform is open. (This switch can also be located on the hand-held cassette on the spiral cable.)
15	Emergency stop switch 'SE'	switches off the operation of the system when activated. (This switch can also be located on the hand-held cassette on the spiral cable.)
16	Descent switch 'SD'	causes the system to move downwards when the platform is open. (This switch can also be located on the hand-held cassette on the spiral cable.)
17	Alarm button "SHA"	When this button is pressed, an acoustic warning signal sounds.
18	Barrier switch 'SBRL'	Barrier on the right completely folded down.

Nr.	Name	Description
19	Barrier switch 'SBRD'	Barrier right horizontal = ready to drive.
20	Barrier switch 'SBRH'	Barrier on the right ready to open the barrier and ramp. (Magnetic switch position)
21	Barrier switch "SBRU"	Barrier and ramp on the right fully open.
22	Barrier switch 'SBLL'	Barrier on the left fully retracted.
23	Barrier switch 'SBLD'	Barrier on the left horizontal = ready to drive.
24	Barrier switch "SBLH"	Barrier on the left ready to open barrier and ramp. (Magnetic switch position)
25	Barrier switch 'SBLU'	Barrier and ramp on the left fully open.

Table 10.2 - Description platform

10.4 Platform floor

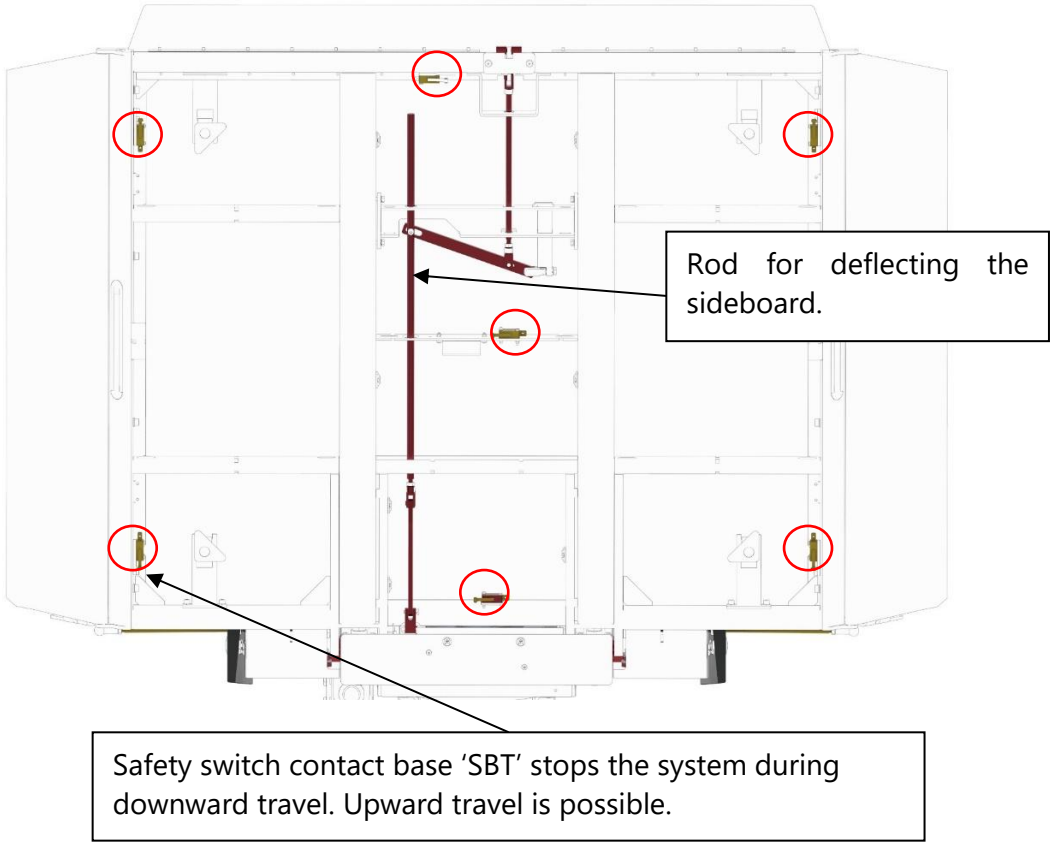
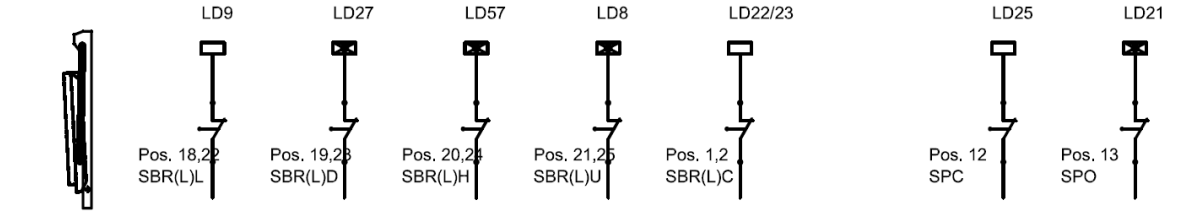


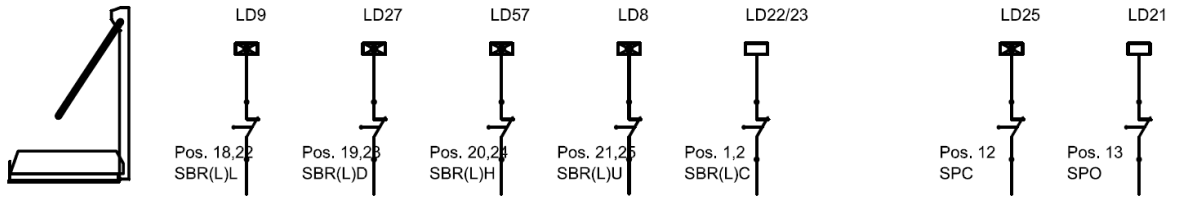
Fig. 10.5 – platform floor

10.5 Switch logic

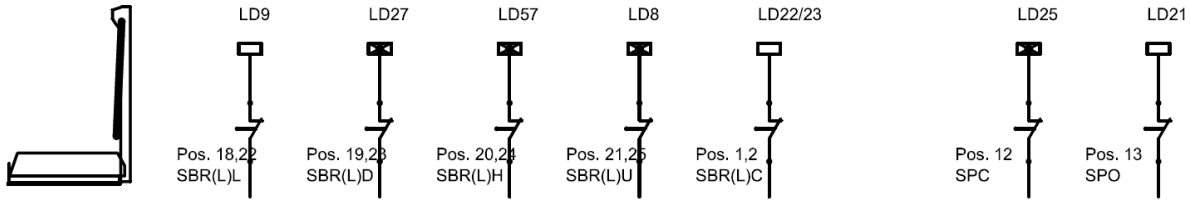
Platform closed



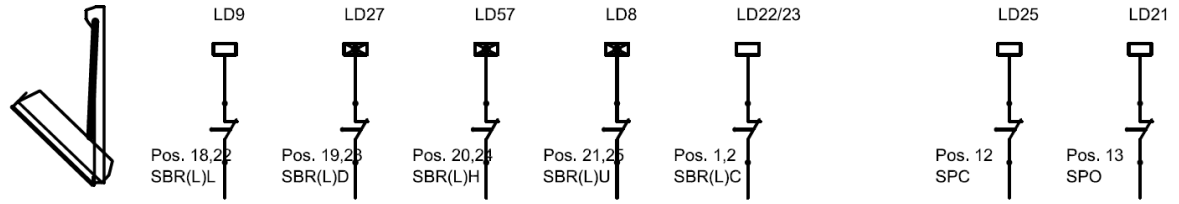
Platform closing



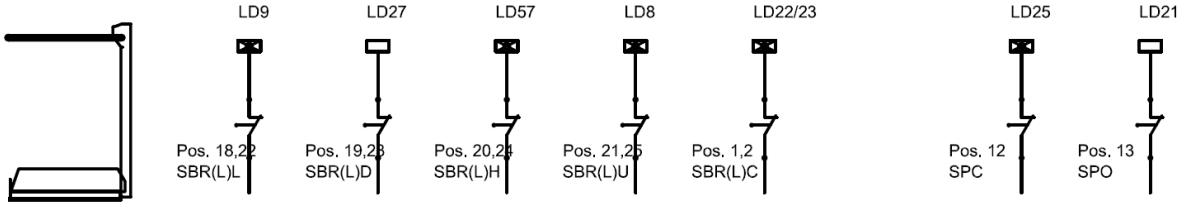
Platform closing



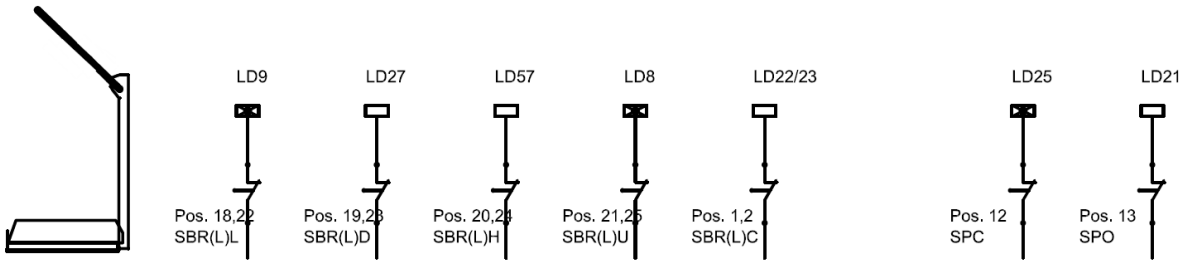
Platform closing



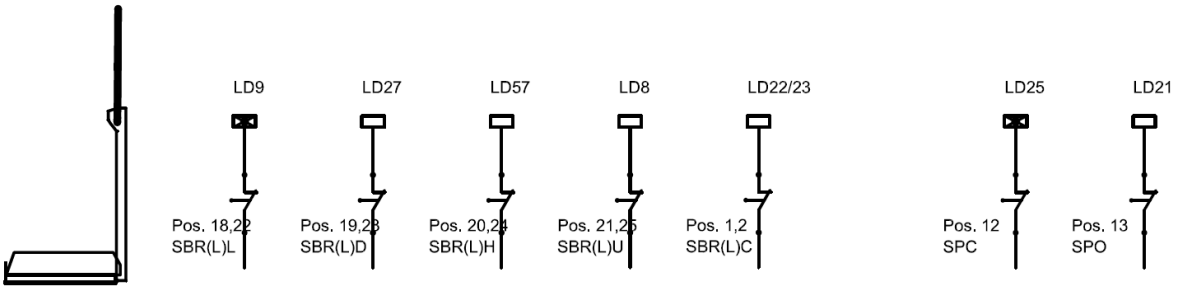
Platform open



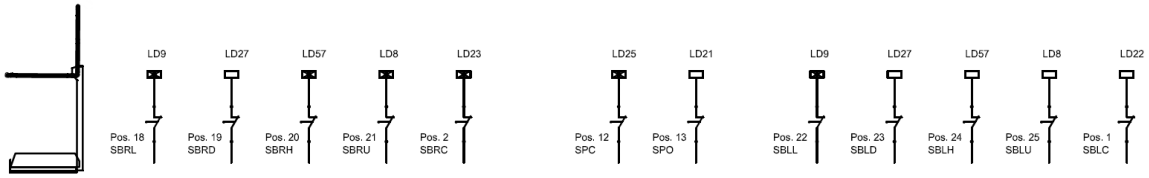
Platform opening



Platform open



Platform open in upper stop



11 CIRCUIT BOARD / CONTROL

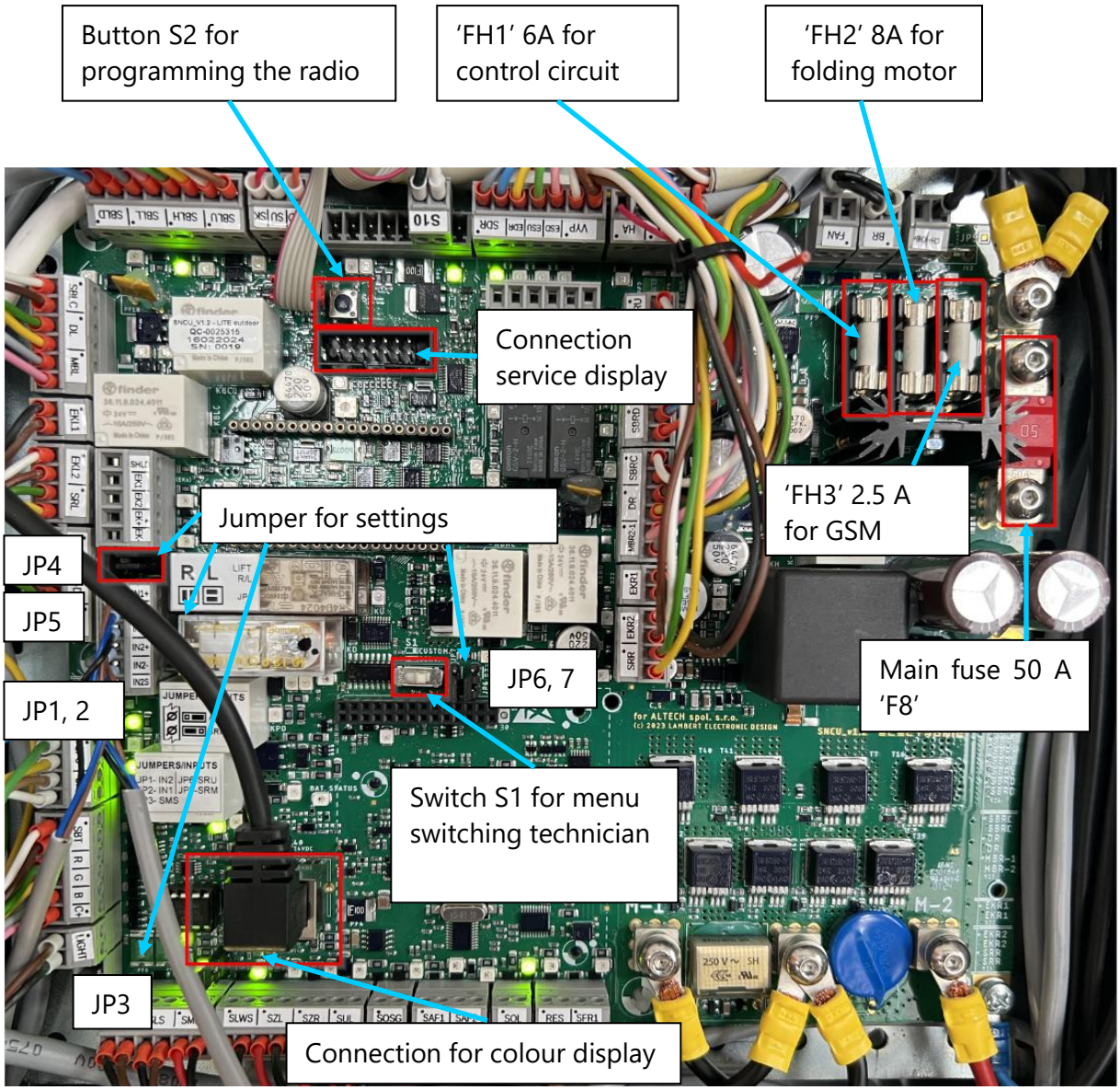


Fig. 11.1 – Circuit board / control

11.1 Switch S2

This switch plays an important role during installation, as it allows you to switch between the user menu and the service menu.

User menu	Service-menu

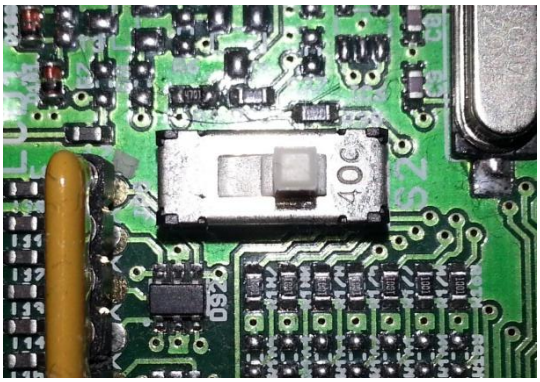
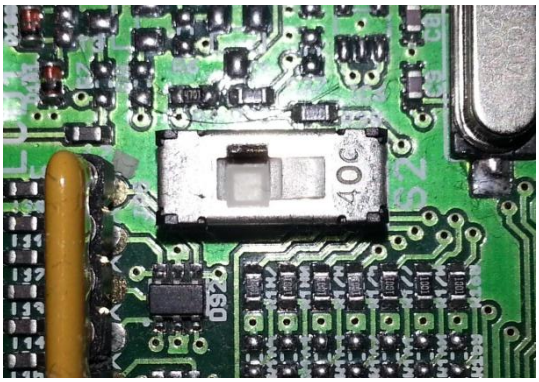

	

Fig. 11.2 user menu	*Fig. 11.3 - service menu*

Table 11.1 - Positions Switch S2

IMPORTANT: After installing and setting all parameters, switch S2 must be reset to the user menu.

11.2 Jumper JP1 and JP2

These jumpers are used to switch the IN1 and IN2 inductive sensors on or off. When switched off, no speed control is performed. When switched on, the speed is automatically reduced when cornering.

Without speed control	With speed control

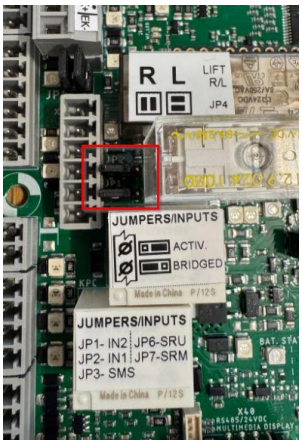
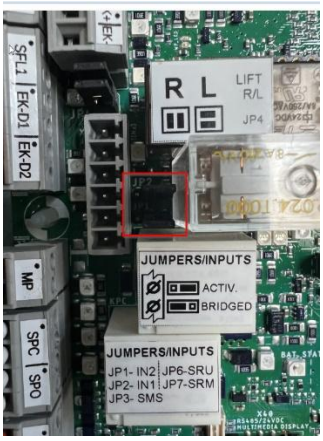

	

Fig. 11.4 - Without speed control	*Fig. 11.5 - With speed control*

Table 11.2 - Settings for jumpers JP1 and JP2

11.3 Jumper JP3

This jumper is used to activate the middle hold position switch 'SMS'.

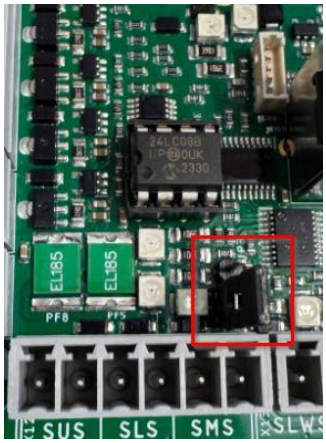
With intermediate stop	Without intermediate stop
	
Fig. 11.6 - With intermediate stop	*Fig. 11.7 - Without intermediate stop*

Table 11.3 - Setting jumper JP3

11.4 Jumper JP3 and JP4

Jumpers JP3 and JP4 must be inserted as specified on the lift installation page.

Horizontal - left unit	Vertical – right unit

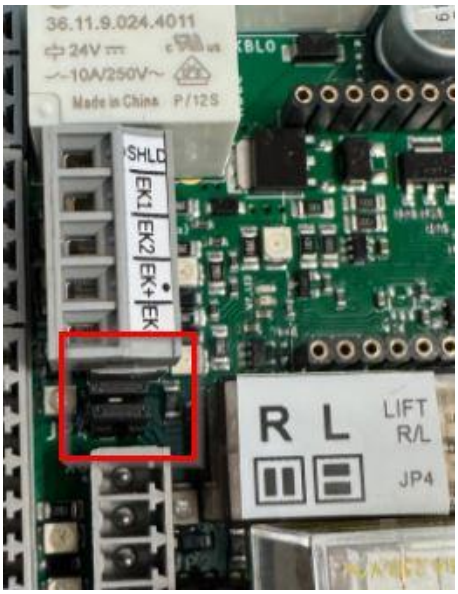
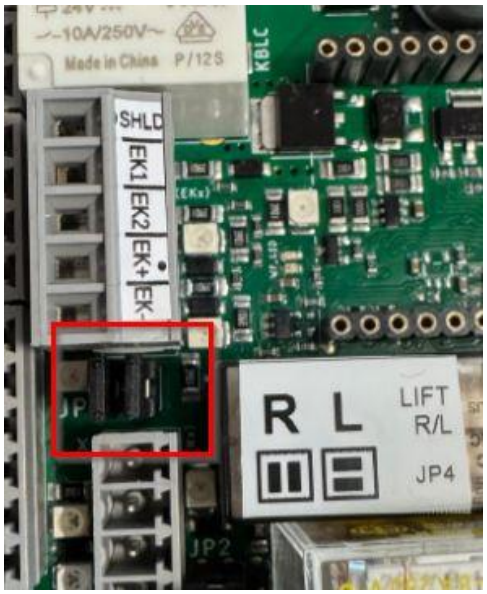

	

Fig. 11.8 - Position switch for left unit	*Fig. 11.9 - Position switch for right unit*

Table 11.4 - Setting jumpers JP3 and JP4

ATTENTION: It is important to position the jumpers correctly so that the safety devices can function properly in the direction of travel!

11.5 Jumper JP6 and JP7

If the electric side ramp is installed, these jumpers must be **removed**. The jumpers are located to the right of the service switch.

Without electric side ramp With jumper	With electric side ramp Without jumper
 Fig. 11.10 - without side ramp	 *Fig. 11.11 - with side ramp*

Table 11.5 - Setting jumpers JP6 and JP7

12 DISPLAY FUNCTION

On the one hand, the display allows the user to see the status of the lift at any time. On the other hand, the display can be used to read out status and error indications, as well as to change parameters.

You can switch between the service menu and the user menu. Parameters can only be changed in the service menu. The user menu must be set as soon as the system is handed over to the customer! This must not be forgotten!

12.1 Display in normal operation

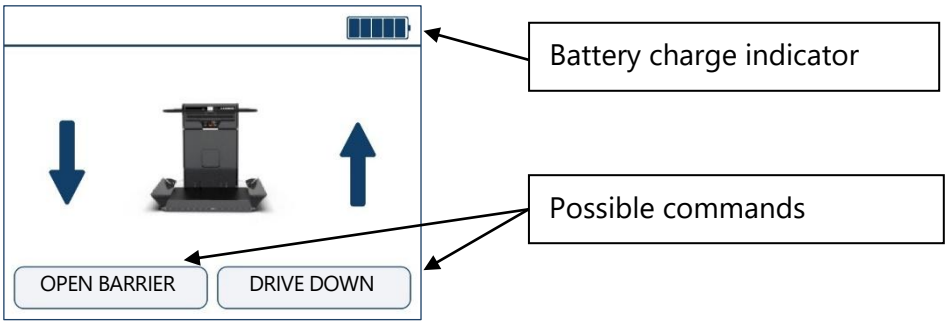


Fig. 12.1 - Display in normal operation

As soon as a command is executed, the display switches to the action display.

12.2 Information message

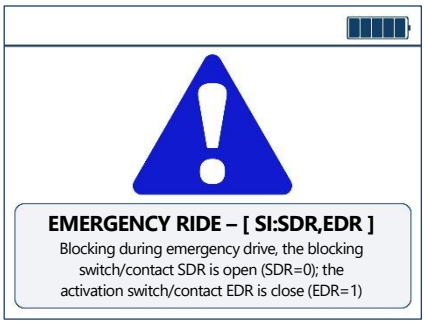


Fig. 12.2 - Display information message

Once the lift has completed the command, the information appears on the display, e.g. that the upper end position has been reached.

12.3 Warning message

Fig. 12.3 - Display warning message

This signal alerts the user to misalignment of the platform barriers or floor, as well as to a possible overcurrent in the platform motors.

12.4 Error message

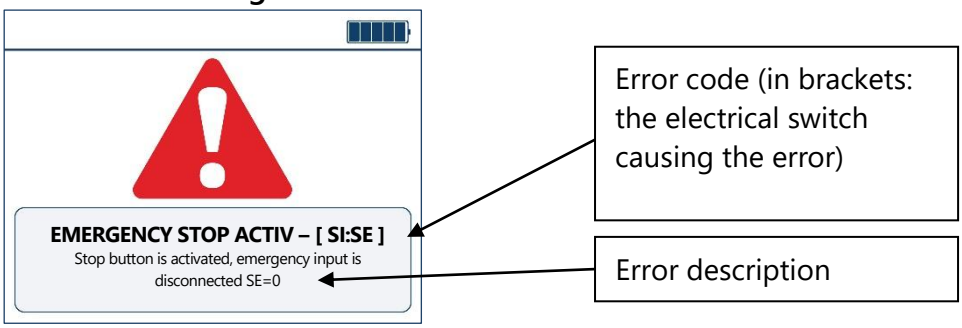


Fig. 12.4 - Display error message

The red signal indicates a fault in the platform function. This may affect the electrical system, the actuators or the stop button.

12.5 Maintenance view

To access the maintenance view, simply set the service switch to position 1. The display then provides real-time data on the voltage and currents of the individual consumers.

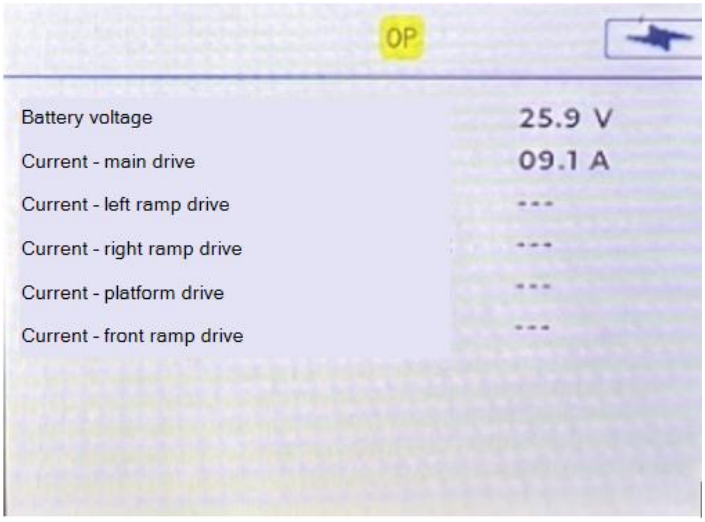


Fig. 12.5 - Display maintenance view

13 MENU ACTIVATION

If both the UP and DOWN buttons on the platform control cassette are pressed simultaneously for longer than approx. five seconds, the menu will open.

Alternatively, with the joystick version, you can also press the emergency stop button and simultaneously press the joystick in the UP or DOWN direction for at least 5 seconds.

Depending on the position of switch S1 on the circuit board, this will take you to the technical or user menu. (see chapter **11.1 Switch S2**)

In general, all settings are configured according to the order specifications upon delivery.

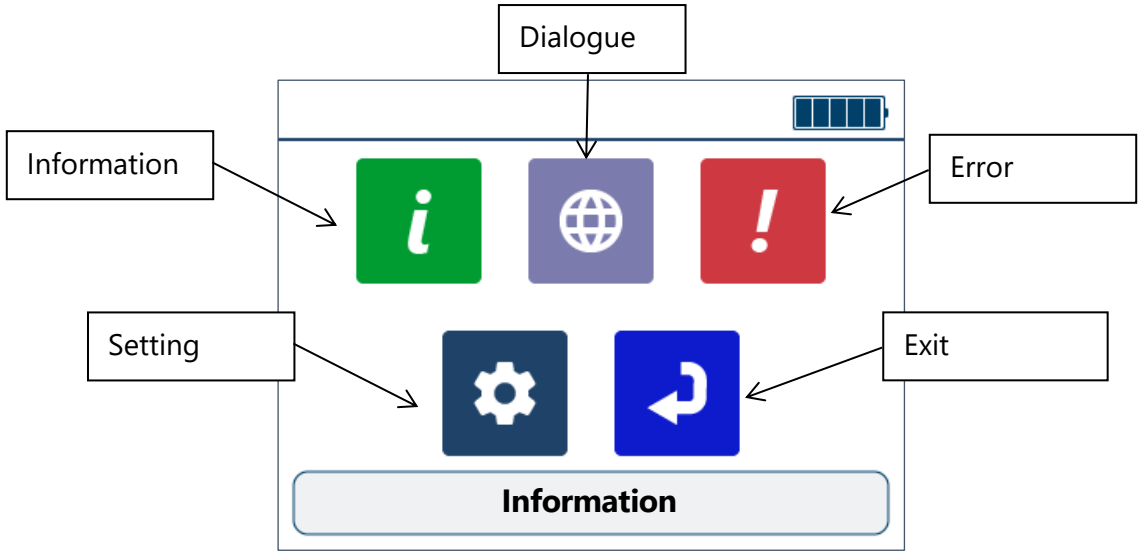


Fig. 13.1 – menu structure

13.1 Menu activation without switch S1

It is also possible to access the service menu from the user menu if you know the 4-digit code. This can be very useful if you want to make quick adjustments without having to remove the covers. The code can be set in the technician menu.

Default code: 1357

14 SERVICE MENU STRUCTURE

Menu item	Structure
Information	This item displays general information about the lift, such as the production number, version, etc.
Dialogue	This item allows you to select the menu language and configure the display settings. (For details, see chapter **14.1 Dialogue**)
Errors	Displays a list of all recorded errors; this list can be deleted. (For details, see chapter **14.2 Error**)
Settings	All essential system parameters can be set in this field. (For details, see chapter **14.3 Settings**)
Options	All technical options for the system can be configured in this item. (For details, see chapter **14.4 Options**)
Exit	Exits the menu structure.

Table 14.1 - Service menu structure

The following tables describe some of the main menu items in more detail.

Factory settings are underlined. All settings can be reset to factory settings.

14.1 Dialogue

Menu item	Value	Name	Description
Language	CZE	Czech	Here you can select the desired language.
	ENG	English	
	GER	German	
	SPA	Spanish	
	FRE	French	
	PL	Polish	

Menu item	Value	Name	Description
Multimedia module volume	5	1-9	The volume of the voice output can be adjusted here (option: loudspeaker must be available)
Multimedia module brightness	5	1-9	Here you can adjust the brightness of the display.
Multimedia module logo	Yes	Yes/ No	The logo on the display can be switched on or off.
Multimedia module text	Stratos	Delta/Stratos/ Empty/Optional	The product name can be customised or hidden.

Table 14.2 - Menu item Dialogue

14.2 Error

Menu item	Value	Name	Description
Error list	Fxxx h:m:s	-	Displays the last 26 errors The first column shows the error code Fxxx. The second column shows the current operating time at the time of the error. The second line shows the error with a description.
Delete errors	Are you sure? YES	-	Confirming with 'YES' will delete all stored errors. **ATTENTION**: The error list may only be deleted by authorised personnel.
Error confirmation	Are you sure? YES	-	Confirming with 'YES' will delete all stored errors **ATTENTION**: The error list may only be deleted by authorised personnel.

Table 14.3 - Menu item Error

14.3 Settings

Menu item	Value	Name	Description
Platform L/R	Left version/ Right version	Left version/ Right version	The installation side of the platform can be set (please note that this must correspond to the actual mechanical installation side)
Factory number	000000		A factory or identification number can be set here (10 characters). Pressing the joystick **up** changes the selected digit, which is highlighted. Pressing the joystick **down** moves to the next digit.
Operating time	□		Operating time submenu is selected
Display operating time	xxx:(h)		The current operating time is displayed. (The counter operates when the main motor is activated)
Reset operating time	Sure? YES		Confirming resets the operating time.
Service Check time	0	0/1-200 h	After the set time, the user is informed of a necessary service interval on the display. Value 0 = switched off
Reset Service check time	Sure? YES		The service time counter is reset.
Standby time	90	0-300 (s)	After the set time, the control system goes into standby mode and the display switches off.
Warning signal	□		Submenu for warning signal settings.
Signal ON/OFF	OFF	ON/OFF	This option can be used for a visual signal (output W+, W-) such as the LED light signal in the platform floor.
Frequency	1...9 3	1 → fast 8 → slow	This option allows you to set the frequency of the signal. The value applies to both the audio and visual signals. 1 → fast flashing/beeping 8 → slow flashing/beeping 9 → continuous light/sound

Menu item	Value	Name	Description
AS ON/OFF (audio signal)	OFF	ON - V1 ON – V1 ON – V2	OFF: Signal tone is switched off. ON-V1: Signal tone always on when travelling. ON-V2: Signal tone only when travelling with external control.
Radio version	□		The radio version can be set here.
	Schmidiger		Standard from LE51000 onwards for Delta NG/Stratos NG
	Reserve		Not in use.
Setting Drives	□		Select the submenu for drive settings.
Current settings	□		Select the submenu for the **current** settings of the drives.
Main motor	30	15-45 (A)	The maximum current of the main motor is set.
MP motor	6,5	1-7 (A)	The maximum current of the folding motor is set.
MLB motor			The maximum current of the left barrier is set.
MRB motor			The maximum current of the right barrier is set.
MFR motor			The maximum current of the motorised side ramp is set.
Speed settings	□		Submenu for speed settings is selected.
G. max. UP	50...100 100	% PWM	Setting of the maximum speed when moving UP.
G. max. DOWN	50...100 80	% PWM	Setting the maximum speed when travelling DOWN.
G. min. UP	10...60 50	% PWM	Setting the speed on the upper load curve.
G. min. DOWN	10...60 25	% PWM	Setting the speed on the lower load curve.

Menu item	Value	Name	Description
G. Curve UP	10...80 75	% PWM	Not used with Delta.
G. Curve DOWN	10...80 75	% PWM	Not used with Delta.
Acceleration delay	1	(s) 0,5-5	Delays the signal for the speed change of sensors IN1 and IN2. (If many speed changes are activated in the curve, it is advisable to increase the time.
Service menu Code	1357	Wert	The code for the service code can be set here, see also chapter **13.1 Menu activation without switch S1**
Factory settings	Sure? YES		If the factory settings are reset, all underlined values are set.

Table 14.4 - Menu item Settings

14.4 Options

Menu item	Value	Name	Description
1-Imp Open/Close	ON		If the value is set to 'ON', pressing the open or close button once is sufficient. If the value is set to 'OFF', the button must be pressed for the entire opening and closing process. **ATTENTION:** This option must not be activated in accordance with EN81-40!
	OFF		
Close platform	Always Only at stop		Platform can be closed anywhere. Platform can only be closed at the stop.
Send open	ON OFF		If Send open is set to 'ON', the platform can be moved in the open position by the external controls. **ATTENTION:** This option must not be activated in accordance with EN81-40! **ATTENTION:** This option may only be activated if the travel distance is visible from the external controls.

Menu item	Value	Name	Description
Auto platform close.	ON	Automatic closing ON	If this parameter is ON, the platform closes automatically at each stop if it has been left fully open and has been driven previously. **ATTENTION:** This option must not be activated in accordance with EN81-40! **ATTENTION**: This option must not be activated for manual platforms, as this may lead to malfunctions.
	OFF	Automatic closing OFF	
Auto close delay	20...600	seconds	Defines the time after which the platform should close automatically, but this is only effective if the menu item Auto close is set to ON.
Call open	ON	Fetch with platform open allowed	If this parameter is ON, the lift can be moved with the platform open using the external control boxes or radio control boxes (e.g. for load lifts). **ATTENTION:** This option may only be activated if the travel distance is visible from the external controls.
	OFF	Fetch with platform open not permitted	

Table 14.5 - Menu item Options

15 ERRORS AND ERROR DIAGNOSIS ON THE DISPLAY

Code	Display	Description	Error type
F201	EMERG. RIDE SI:SDR,EDR	Emergency mode 'SDR' is activated. Drive commands are only possible via the emergency mode buttons Up/Down.	INFO
F202	EMERGENCY STOP SI:SE	The emergency stop button has been pressed. Check the emergency stop switch and, if necessary, check the input for 'SE'.	ERROR
F203	OSG OVERSPEED SI:SOSG	The 'SOSG' safety switch has been triggered; re-engage the safety switch.	ERROR
F204	SAF. LIMIT SW. SI:SUL	The emergency stop switch 'SUL' has been activated. Move the platform approx. 50 cm away from the stop using the emergency operation buttons. Check that the stop is set correctly.	ERROR
F210	SLOWDOWN FAIL. SI:SLOWS	The slowing switch has not been activated at the stop.	ERROR
F211	BARRIERS BLOCK. SI:SU/L/MS,SLOWS	The limit switches SUS, SLS or the middle stop switch SMS do not work at the particular landing. Check that the stop is set correctly.	ERROR
F212	STOP DRIVE UP SI:SUS/SMS,SLOWS	The 'SUS' limit switch was triggered at the upper stop, although the delay switch 'SLOWS' was not activated. Set the stop correctly.	ERROR
F213	STOP DRIVE DOWN SI:SLS/SMS,SLOWS	The limit switch 'SLS' was triggered at the upper stop, although the delay switch 'SLOWS' was not activated. Set the stop correctly.	ERROR
F214	STOP MIDLE SI:SMS,SLOWS	The middle stop switch 'SMS' has triggered although the delay switch 'SLOWS' has not been activated. Set the stop correctly.	ERROR
F215	FAILURE ZON. SW SI:SZL/R/F,SLOWS	One of the ramp unlocking switches 'SZx' is activated although the platform is not in the landing.	ERROR
F216R	BARRIERS BLOCK SI:SZL/R/F,SLOWS	This error was preceded by F215. The error must be confirmed in the control unit to clear it or the control unit must be switched off	ERROR
F230			ERROR

Code	Display	Description	Error type
	UNDEF. FLOOR SW. SI:SPO/M/C	Undefined position of the position switches in the platform. → see chapter **10.5 Switch logic**	
F231	UNDEF. LBAR. SW. SI:SBLU/H/C/L/D	Undefined position of the switches on the left-hand barrier. → see chapter **10.5 Switch logic**	ERROR
F232	UNDEF. RBAR. SW SI:SBRU/H/C/L/D	Undefined position of the switches on the right-hand barrier. → see chapter **10.5 Switch logic**	ERROR
F233	UNDEF. FRAMP SW SI:SRU/M//L	Undefined position of the frontal ramp.	ERROR
F234R	SAF. CIRC V1/V2	Safety circuit is interrupted. This error must be confirmed in the control unit	ERROR
F235	EMERG. RIDE FAIL SI:SDR,EDR	The emergency mode switch has both signals (normal and emergency mode)	ERROR
F236	UNDEF. POSITION FLOOR,BARR.,RAMP	Undefined position of the position switches in the platform and the barriers. → see chapter **10.5 Switch logic**	ERROR
F237	UNDEF.STAT.DRIVE SI:SLUMS,SZ,SLOW	Undefined signals from the SLS, SUS, SMS, SZx switches while driving.	ERROR
F301	SENSITIVE BOTTOM SI:SBT	The contact floor 'SBT' has been pressed or the switch under the side wall of the platform has been pressed.	ERROR
F302	LEFT RAMP SI:SRL	The left-hand ramp has hit an obstacle. Check the free movement of the ramp and the 'SRL'switch.	ERROR
F303	LEFT SENS. PAD SI:EKL1,EKL2	The contact bar on the left-hand side has touched an obstacle. Check the free movement and, if necessary, the switch 'EKL1' or 'EKL2'	ERROR
F304	RIGHT RAMP SI:SRR	The right-hand ramp has hit an obstacle. Check the free movement of the ramp and the 'SRR' switch.	ERROR
F305			ERROR

Code	Display	Description	Error type
	RIGHT SENS. PAD SI:EKR1,EKR2	The contact bar on the right-hand side has touched an obstacle. Check the free movement and, if necessary, the switch 'EKR1' or 'EKR2'	
F306	LOWER SENS. PAD SI:EKD1,EKD2	There is an obstacle under the platform side wall, the 'EL-D1' or 'EL-D2' switch has been activated	ERROR
F401	OVERLOAD LIFT SI:SOL	The overload switch 'SOL' has tripped.	WARNING
F402	CURRENT LIMIT MAIN DRIVE	The main motor is overloaded. Check whether the motor brake opens.	WARNING
F403	OVERHEAT H-BRIDGE M.DRIVE	The motor has overheated and must cool down.	WARNING
F404	CURRENT LIMIT MP-FLOOR	The folding motor is overloaded or blocked.	WARNING
F405	CURRENT LIMIT MLB-LEFT BAR.	The left barrier is overloaded or blocked.	WARNING
F406	CURRENT LIMIT MRB-RIGHT BAR.	The right barrier is overloaded or blocked.	WARNING
F407	CURRENT LIMIT MFR-FRONT RAMP	The motorized side access ramp is overloaded or blocked.	WARNING
F408	MAIN MOTOR MALFUNCTION	Check the wiring to the motor.	WARNING
F410	EMPTY BATTERY STOP UP	The batteries are empty (below 20V), move the platform to the lower charging point.	WARNING
F411	PLATFORM LOADED/OCCUPIED	The platform was folded up when loaded	WARNING
F501			WARNING

Code	Display	Description	Error type
	EXCEED RUN TIME INTO STATION	The zone switch 'SlOWS' is still active, although the platform is far outside the landing.	
F502	FR. RAMP POS. SI:SRM,MFR	The position of the motorized side access ramp is not correct.	ERROR
F503	PLATF.NOT CLOSED SI:SPC	Platform is not closed, close platform in advance with the external control.	WARNING
F504	LEFT BAR. POS. SI:SBLD	The left-hand barrier is not in the travelling position.	WARNING
F505	RIGHT BAR. POS. SI:SBRD	The right-hand barrier is not in the travelling position.	WARNING
F506	FR. RAMP NOT CL. SI:SRU,MFR	The motorized side access ramp is not closed.	WARNING
F507	PLATF.NOT OPENED SI:SPO	The platform is not fully open. Open the platform completely. If the platform is not in the stop position, it must first be closed and then returned to the stop position.	WARNING
F508	L.BAR. UNLOCKED SI:SBLC,MBL,DL	The magnetic switch 'SBLC' is still unlocked.	ERROR
F509	R.BAR. UNLOCKED SI:SBRC,MBR,DR	The magnetic switch 'SBRC' is still unlocked.	ERROR
F510	L.BAR. RAISED SI:SBLH	The left-hand barrier is open 'SBLU'.	WARNING
F511	R.BAR. RAISED SI:SBRH	The right-hand barrier is open 'SBRU'.	WARNING
F512	PLATF. UNDEF.POS SI:SPM	Undefined position of the position switches of the platform and the barriers. → see chapter **10.5 Switch logic**	WARNING
F513			ERROR

Code	Display	Description	Error type
	LIFT IS NOT IN THE STATION	The platform cannot be opened with the external control as it is not in the landing.	
F519	L.BAR.BLOCKED SI:MBL,DL	The left-hand barrier is blocked, the magnetic switch has not opened.	ERROR
F520	R.BAR.BLOCKED SI:MBR,DR	The right-hand barrier is blocked, the magnetic switch has not opened.	ERROR
F601	IN UPPER STATION SI:SUS	The platform is in the upper landing.	INFO
F602	IN LOWER STATION SI:SLS	The platform is in the lower landing.	INFO
F603	IN MIDDLE STOP SI:SMS	The platform is in a middle landing.	INFO
F604	IN UPPER STATION SI:SUS	The platform is in the upper landing.	INFO
F605	IN LOWER STATION SI:SLS	The platform is in the lower landing.	INFO
F606	IN MIDDLE STOP SI:SMS	The platform is in a middle landing.	INFO
F607	SERVICE IS NECESSAYR	The set service time has been reached. Please carry out the service and reset the service time in the menu.	INFO
F608	SERVICE NECESS	The set service time has been reached. Please carry out the service and reset the service time in the menu.	INFO

Table 15.1 - Errors and error diagnosis

16 REPROGRAMMING THE REMOTE CONTROL

16.1 Add remote controls

Programming mode is started by pressing the S1 button on the main circuit board once. Press S1 for at least 1 second, but no longer than 6 seconds. The LED on the receiver circuit board will now flash more rapidly.

Fig. 16.1 – main circuit board

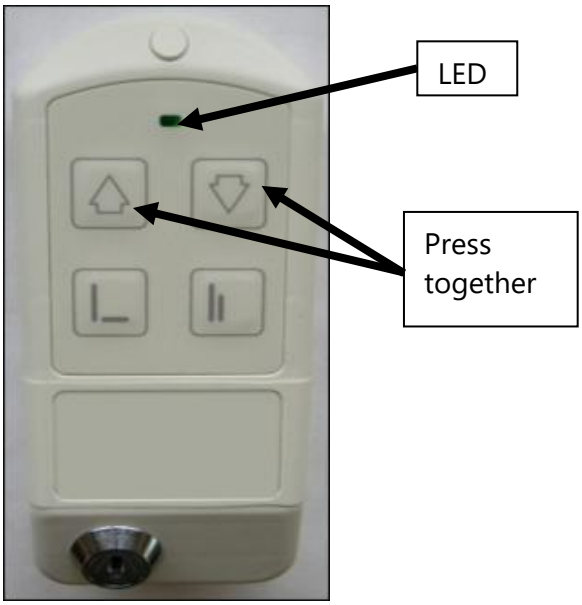


Fig. 16.2 – radio control

Then press the up and down buttons on the remote control **at the same time**. The LED should now flash orange and after 3 seconds remain lit orange. After another 3 seconds, the remote control is connected to the receiver and the LED should now flash green. Program additional remote controls in the same way.

Once all remote controls have been programmed, press S1 on the main circuit board again for approximately 3 seconds to exit programming mode.

16.2 Delete remote controls

To delete stored remote controls, press button S1 for at least 10 seconds until the green LED on the receiver board starts flashing very quickly.

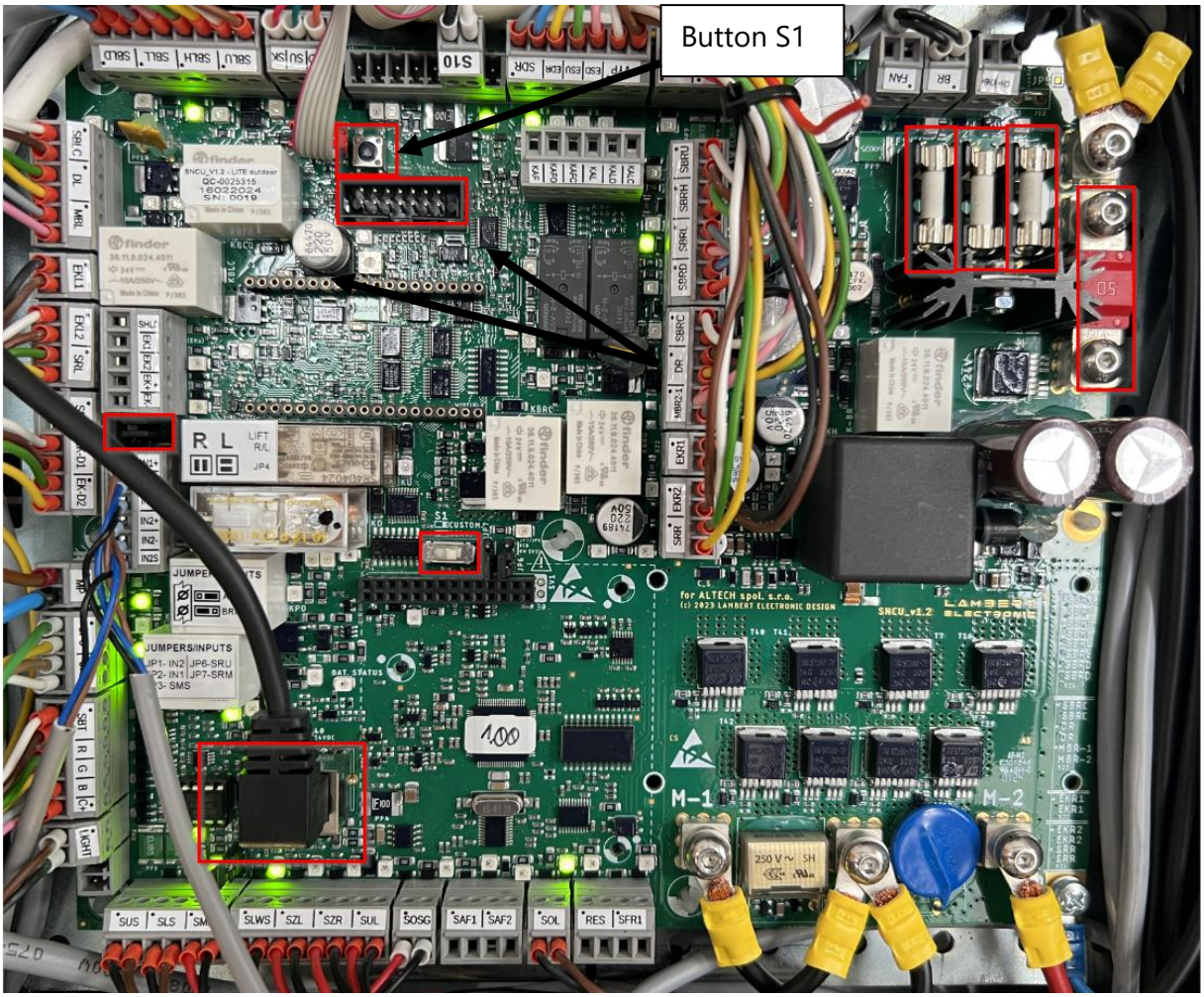


Fig. 16.3 - Details Motherboard