LEHNER
LIFTTECHNIK

LIFTBOY 5

INSTALLATION MANUAL

Installation manual

„Liftboy 5“

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1 INTRODUCTION

The Liftboy 5 is a vertical platform lift designed for the transportation of wheelchair drivers. The driving mechanism is a double scissor driven by 2 x 24V actuators and powered by 2 x 12V batteries which are continuously charged (as long as the main power switch is switched ON).

The standard version of the Liftboy 5 is delivered with a manual gate for the upper level including a shear wall and with an automatic access ramp on the platform. The standard platform size is 900x1400mm.

1.1 Technical specification

Loading capacity	300 kg
Lifting speed	25 mm/s
Net weight	270 kg
Drive mechanism	Double scissor
Motors	2 x 24 V actuators
Max power	300 VA
Power supply	2 x 12 V batteries
Power supply for battery charger	1 x 230 V
Folded down height	120 mm
Lifting travel	1180 mm
Total unfolded lifting height	1300 mm
Colour standard	RAL 7035
Remote controls in landings	Radio frequency controlled
Duty cycle	10%, 6 min/h
Standard lift size (outside dimension)	1150 x 1570 mm

Table 1.1 - Technical specification

1.2 Delivery

The unit is delivered preassembled in 2 main parts, packed on a wooden pallet:

- Folded platform (270 kg)
- Upper door wide shear wall (90 kg)

When unpacking the lift, check all parts for potential visible damage during transportation. If damage is visible, please immediately take pictures and send those later to Lehner Lifttechnik GmbH for potential warranty claims.

1.3 Safety

- Read all instructions in this manual before installing or operating the lift.
- Do not exceed the maximum payload capacity of 300 kg.
- This product is designed only for lifting people and wheelchairs only.
- Do not disable any safety equipment or switches supplied with this lift.
- Stay away from all drive train components while the lift is operating.

2 OVERVIEW – PLATFORM MECHANICS AND SWITCH POSITION

In the following various views of the Liftboy 5 are presented in order to provide an overview of the main functions and components.

With door on platform (manual or automatic)

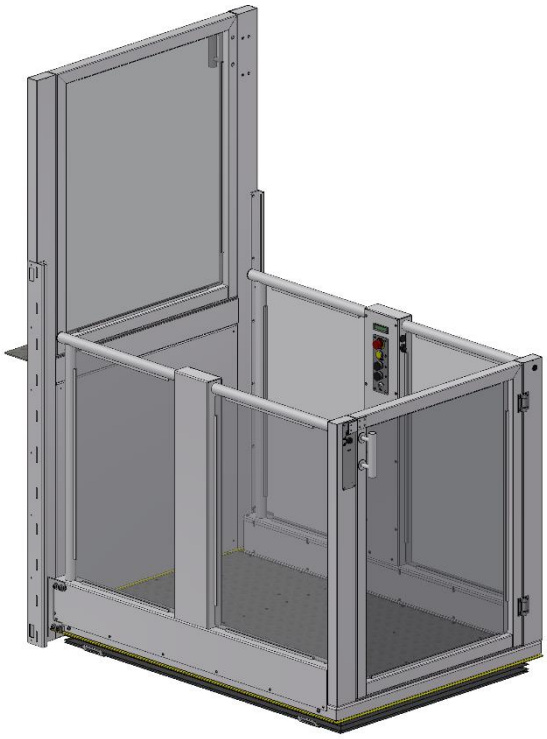


Fig. 2.1 - platform with door

With automatic access ramp on platform

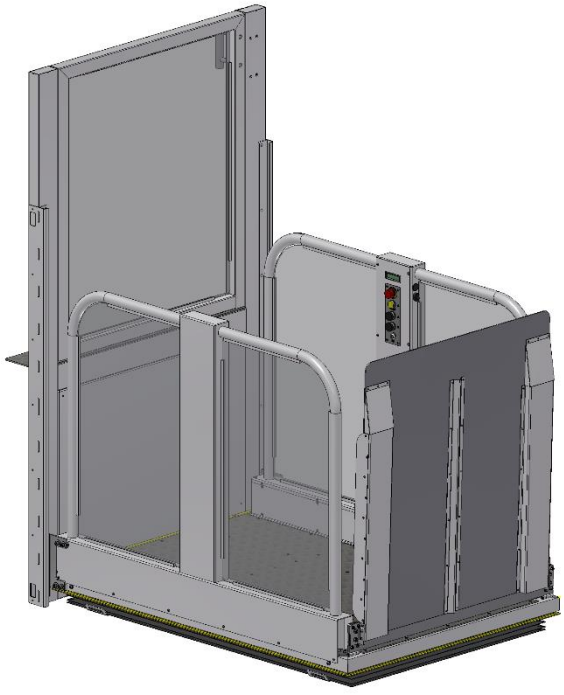


Fig. 2.2 – platform with access ramp

2.1 Platform controls

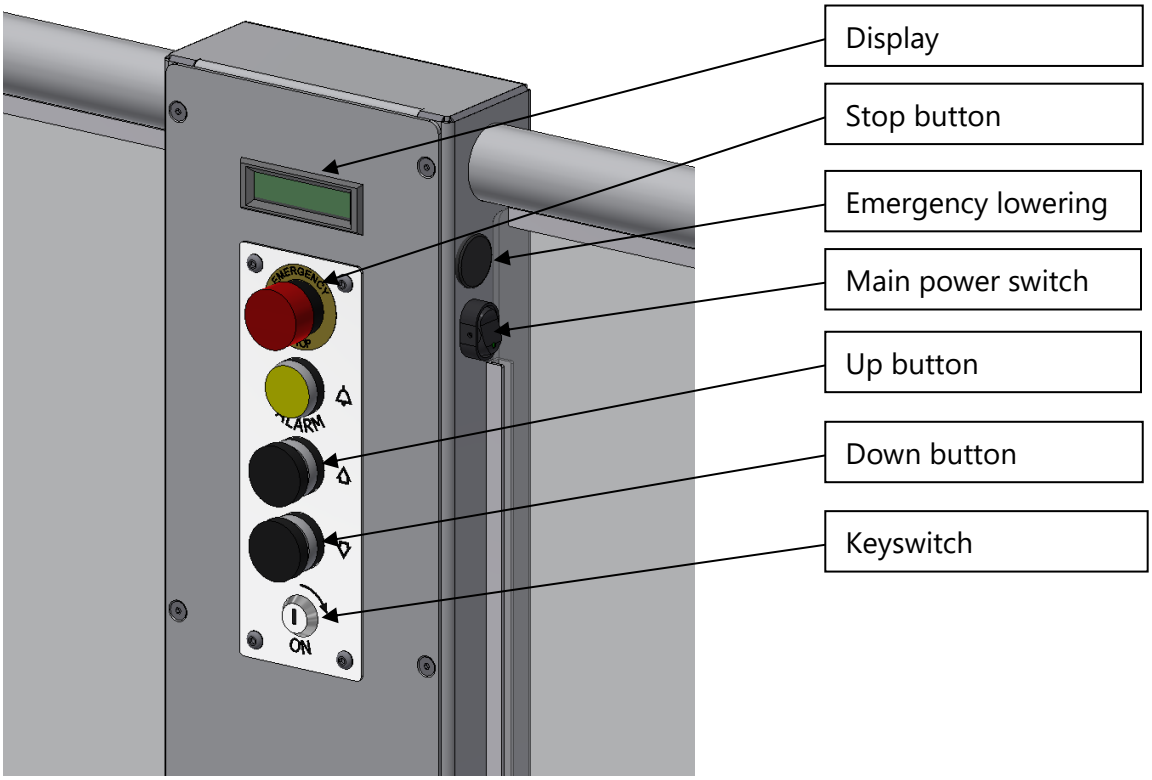


Fig. 2.3 – Platform controls

2.2 Upper gate door lock

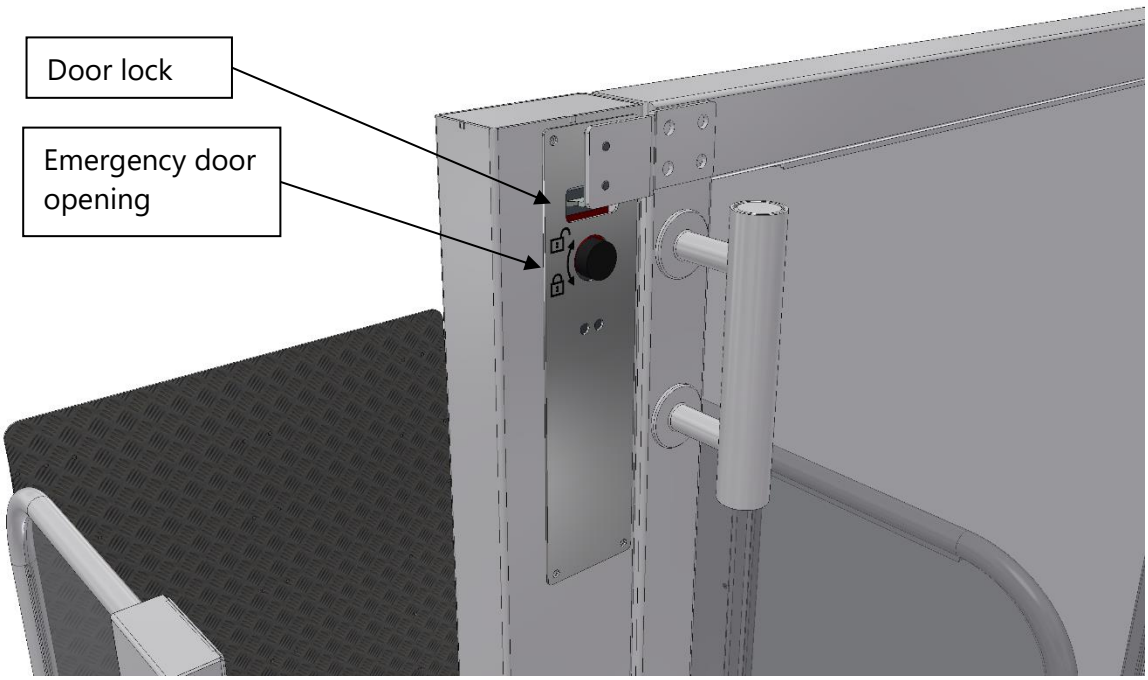


Fig. 2.4 – Upper gate door lock

2.3 Platform mechanics

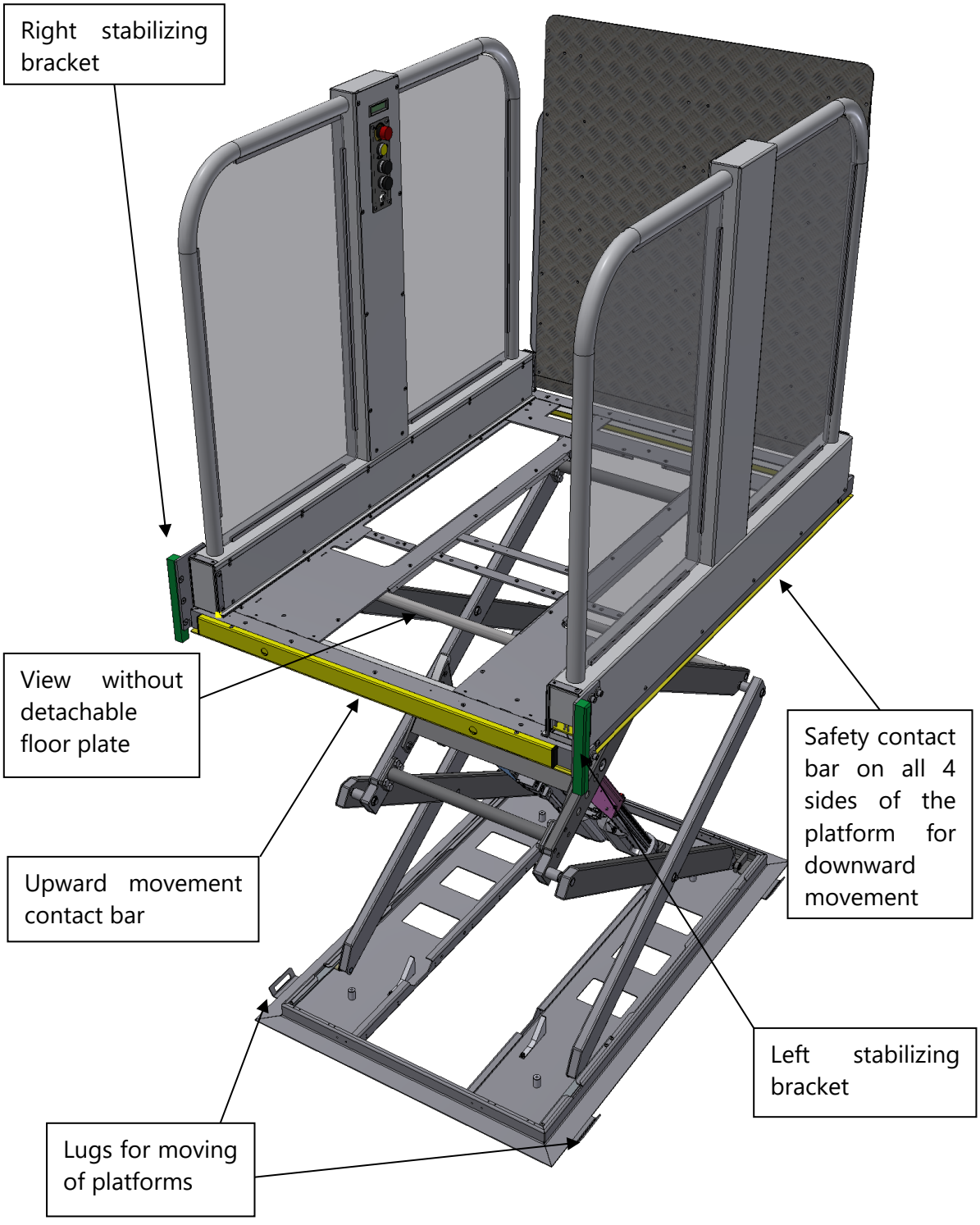


Fig. 2.5 – Platform mechanics

2.4 Side view of folded platform with battery and controller position

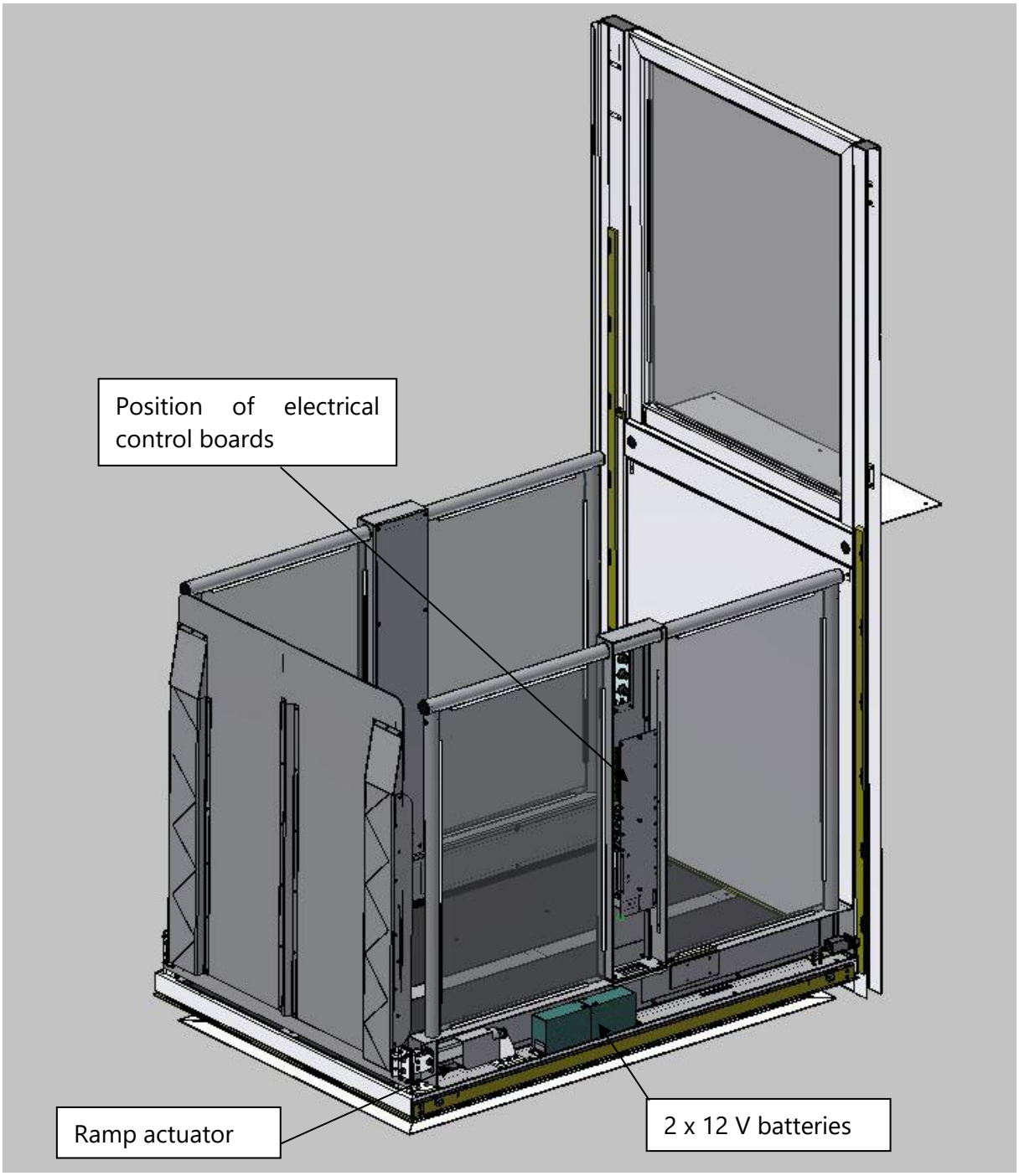


Fig. 2.6 - Side view of folded platform with battery and controller position

2.5 View of platform switch positions

Illustration of all limit switches on the platform. Limit switches are located directly below the floor, right next to the motors. Limit switch for lower stop on motor M1 on the left-hand side, limit switch for upper stop on motor M2 on the right-hand side.

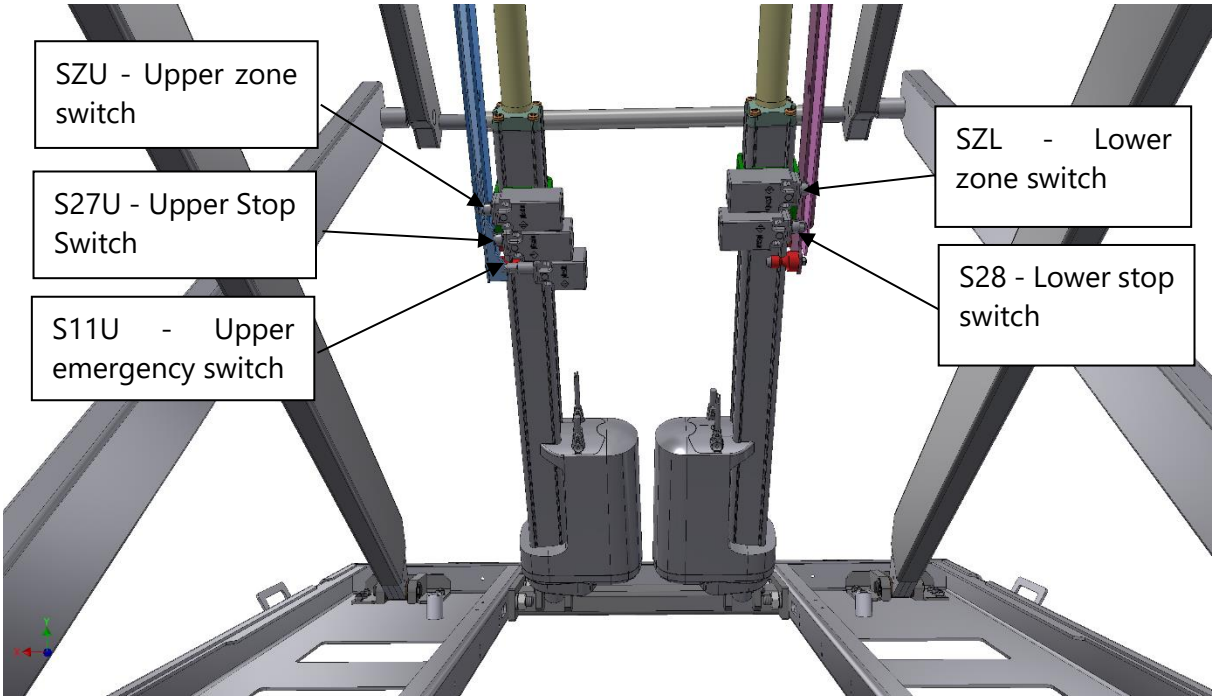


Fig. 2.7 - Illustration of the limit switches (bottom view)

2.6 Switch position – view from below

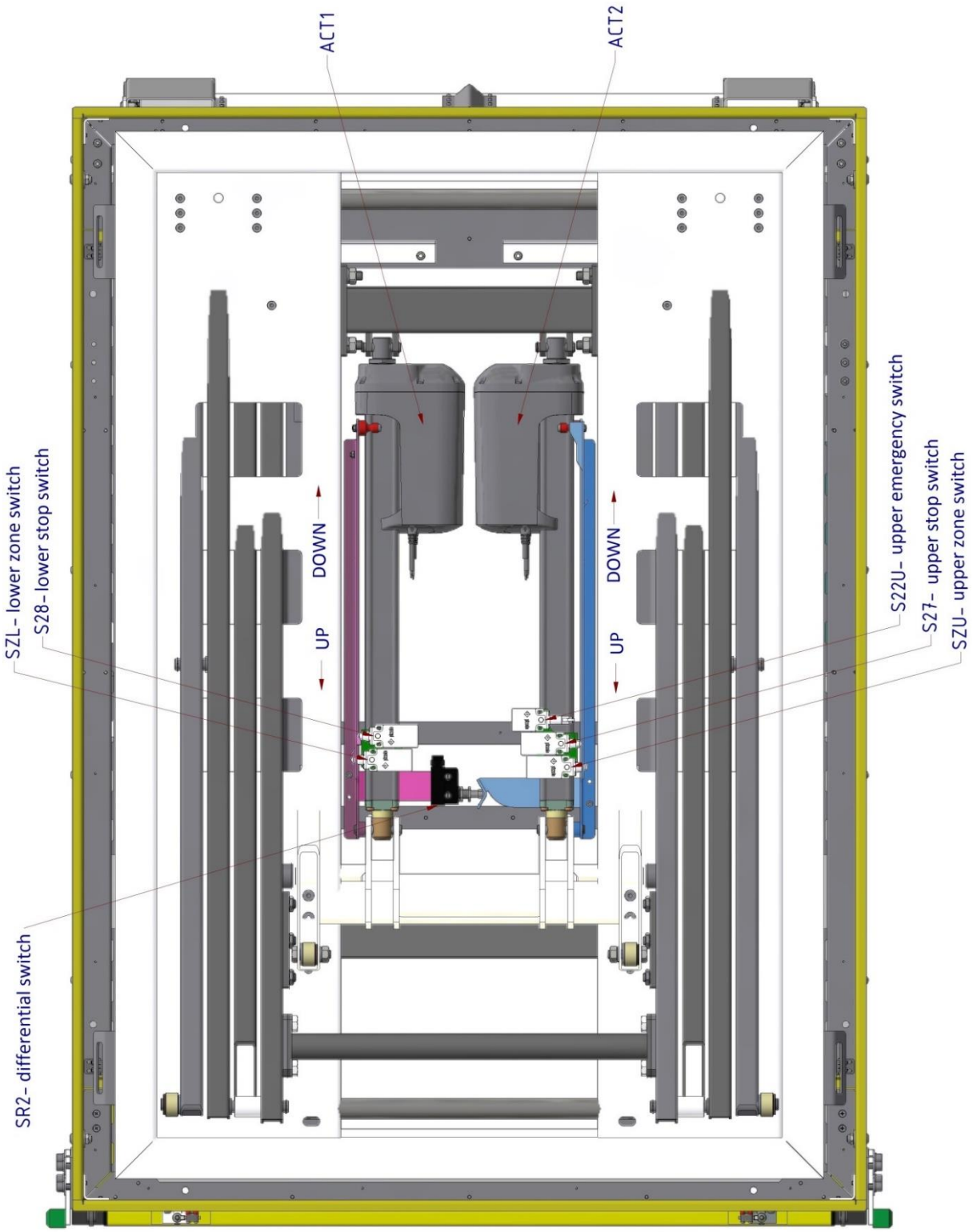


Fig. 2.8 – switch position – view from below

3 INSTALLATION

The folded platform has a net weight of 270kg. 4 people will be necessary to move the platform from the transport box to the installation location. Use belts that go under the whole structure to lift and move the platform.

Fig. 3.1 - Transport platform

There are 2 ways to install the platform on site:

3.1 Option 1

Bring the platform in the correct position while assuring that there is the necessary space in front of the platform for entering the upper gate with the shear wall. When the platform is in place enter the upper gate with shear wall from above and make sure not to damage the guide blocks on each side of the platform. When in place, fix the upper gate wall in place and run the platform up and down. If the run is smooth, then fix also the platform to the ground.

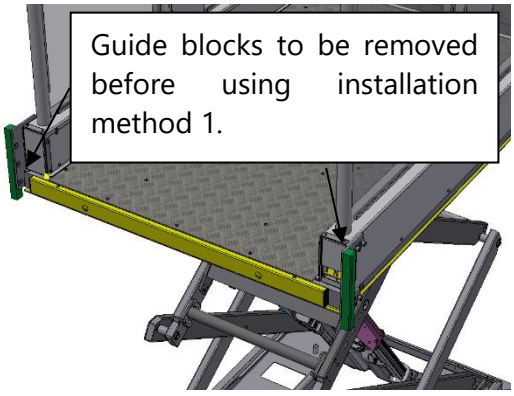


Fig. 3.2 – remove guide blocks

3.2 Option 2

First fix the upper gate with shear wall on the correct position on site. Then take off the guide blocks on both side of the platform. Move the platform in the correct position in front of the shear wall in such a way that the guide blocks can be put into the guide profile and fixed again on the platform sides. Run the platform up and down. If the run is smooth, then fix also the platform to the ground.

3.3 Putting into operation

The platform is put into operation by connecting a charging supply and switching on the main supply switch.

4 DESCRIPTION OF CONTROLS

4.1 Radio controls for landing stations

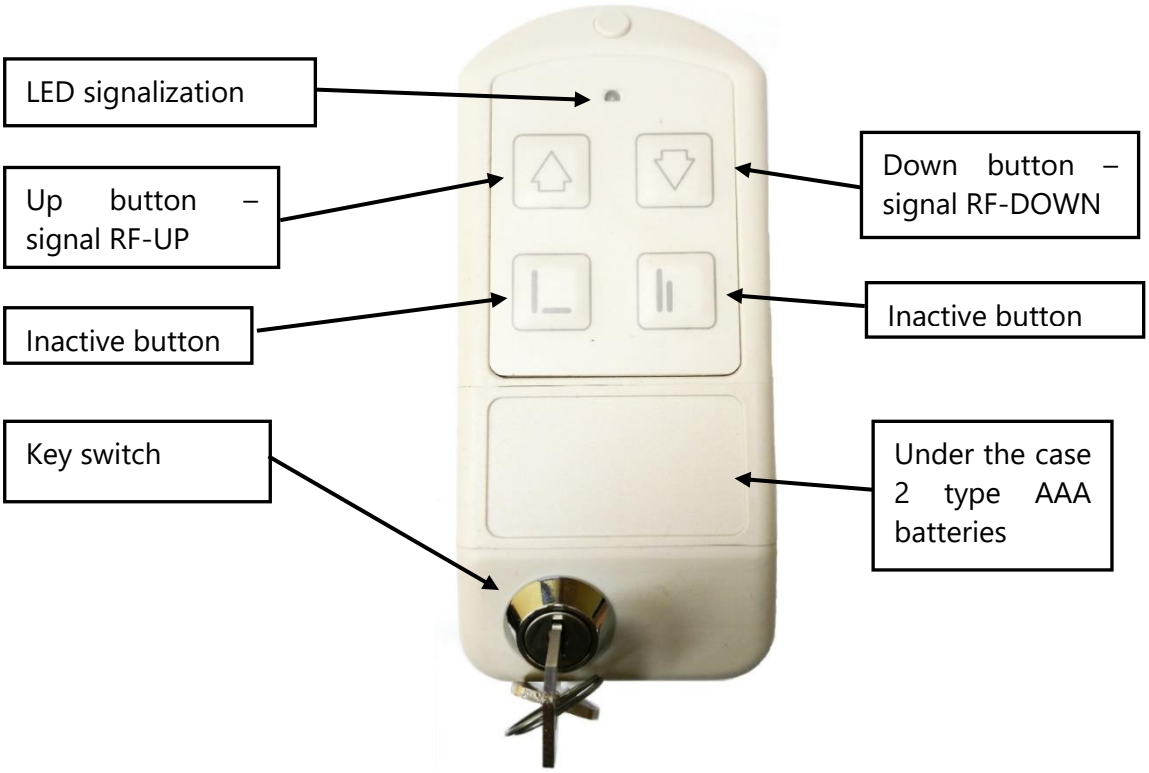


Fig. 4.1 – radio control

Operation via the external control can be set in the menu item 'Options' > 'Drive with permanently active buttons' so that the operating button for the respective direction must be held down while the platform is moving. As soon as it is released, the platform stops immediately by default.

Another option is available after selecting the 'Activated imp.' function. The operating button then only needs to be pressed briefly once for the platform to travel the entire distance in the selected direction to the end station. **This function is only available for platforms in a travel shaft.**

4.2 Overload control

While the motors are active, power consumption is monitored and if the set limit is exceeded, the motors are stopped.

If the platform's overload control is active and is triggered when leaving the lower stop (the display shows 'Overload Lift'), upward operation is immediately interrupted and only downward travel is possible. The platform must be moved back to the lower landing, where the ramp or lower door can be opened. This returns the platform to standard operation and upward movement is possible again.

The maximum motor current is set digitally in a menu. The setting range is between 1 and 15 A (the factory default setting is 13 A). The motor asymmetry is also set in the menu as a percentage of the overcurrent threshold.

4.3 Control description of automatic access ramp

The automatic ramp can be operated via the platform control or the radio control. Commands from the platform control have priority over all other controls.

The automatic ramp can only be opened at the lower stop (signalled by closing the lower zone switch of the ramp (SZ=1) or by activating the lower limit switches (S28-2=0 and S28-3=1)).

The movement of the ramp is blocked by any switch in the safety circuit, i.e. the power supply to relays KC1/K01 is interrupted.

The current consumption is monitored during actuator movement. If it exceeds the set limit value for longer than 0.3 seconds, the movement of the actuator is stopped. The overcurrent safety device thus functions as an electronic limit switch.

The maximum motor current can be set in the menu to a value between 0.5 and 6.9 A.

Exceeding this limit value is also shown on the display.

4.4 Control description of manual and automatic door

Doors can be manual or automatic, i.e. they are either equipped with an electric lock and must be opened/closed by hand, or they have an automatic door opener (usually NICE WALKY) in addition to the electric door lock.

4.4.1 Function description of manual door operation:

For manual doors, the value of the menu item ‘Config. door lock’ is set to 0 (i.e. no pulse for door opener). The duration for which the door lock is unlocked after arrival at the stop to allow manual opening of the door can be set in the menu item ‘Config. door lock’ > ‘Time open.DL’.

The corresponding door is also locked when the operating button for the opposite direction is pressed.

If the platform is operated via the wall-mounted/radio control, it is necessary to wait until the door lock release time has elapsed before down/up operation can be selected.

4.4.2 Automatic door opener function description:

The door opens automatically when the stop is reached. The duration for which the door remains unlocked and open can be set in the menu item ‘Config. door lock’ > ‘Time open.DL’. It is set to 30 seconds at the factory. This is also the minimum value for the NICE WALKY electric opener.

ATTENTION: If you wish to change this value, do not set it to less than 30 seconds. It must be at least 30 seconds.

The door remains open for the set time or until you press the down button on the platform control.

There are two settings to choose from for automatic door opening:

1. **Setting: 'Standard'** – factory default setting
   After opening, the door remains open for the set time or until you press the up or down button on the platform control. The platform can only be called or sent via the external control after the set time has elapsed, and the door has closed automatically.

2. **Setting: 'With blocking'** – with door blocking
   In this setting, the door can remain open permanently. This can be useful when the platform is used for loading goods.

   In this setting, the door can be locked in the open position by pressing the up button for at least three seconds after the door has opened completely. To remove the lock, you must press the up button again for at least three seconds. The door then returns to normal operation and closes after the set time or when you press the down button.

   If you want to use this setting, set the menu item 'Config. door lock' > 'Impulse for DO' to 1, set the unlocking time in the parameter 'Time open. DL' to at least 30 seconds and select the option 'With blocking' in the menu item 'Config. door lock' > 'Version DO'.

4.5 Manual unblocking of door lock and automatic door opener

Door lock is equipped with mechanic system, which enables to manually open the electric lock. This is necessary in emergency state, when you cannot unlock the lock electronically via controllers. In this case, proceed accordingly to following description and suggested error removal F 303.

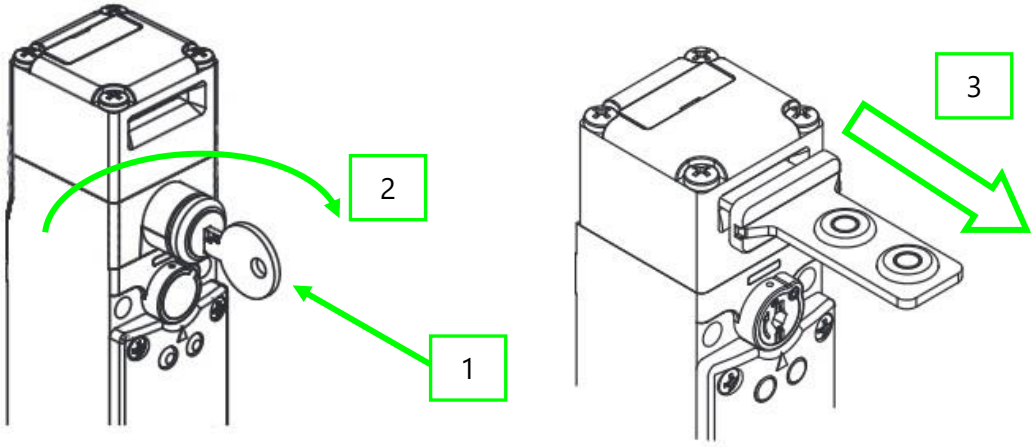


Fig. 4.2 – Manual unblocking

1. Insert the key into the lock of DL
2. Turn the key clockwise by 180°
3. By opening the door manually pull out the fork of the lock

Manual release of an automatic opener works on similar principle. If the platform has an opener NICE Walky, it is necessary to not only unlock the door lock, but also the opener (accordingly to the description below). This is necessary in emergency state, when the door lock or the door opener cannot be unblocked electronically via the controllers. See below description of how unlock the door opener.

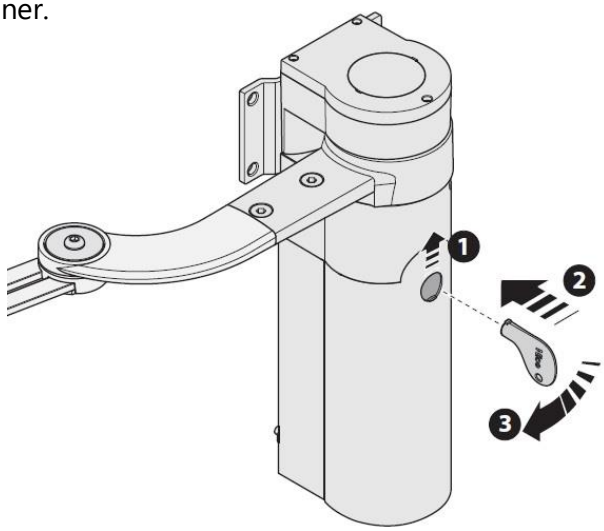


Fig. 4.3 – automatic door opener

After leaving the lift in the landing station close the door, manually lock the door lock with the key again and activate the automatic opener

4.6 Emergency opening of the automatic access ramp

In a case that electric opening of the ramp does not work, it can be opened manually in the lower stop in order to release a passenger.

Dismantle 2 screws M8x40 DIN912, secure the loosen ramp and slowly lower it down manually towards the ground.

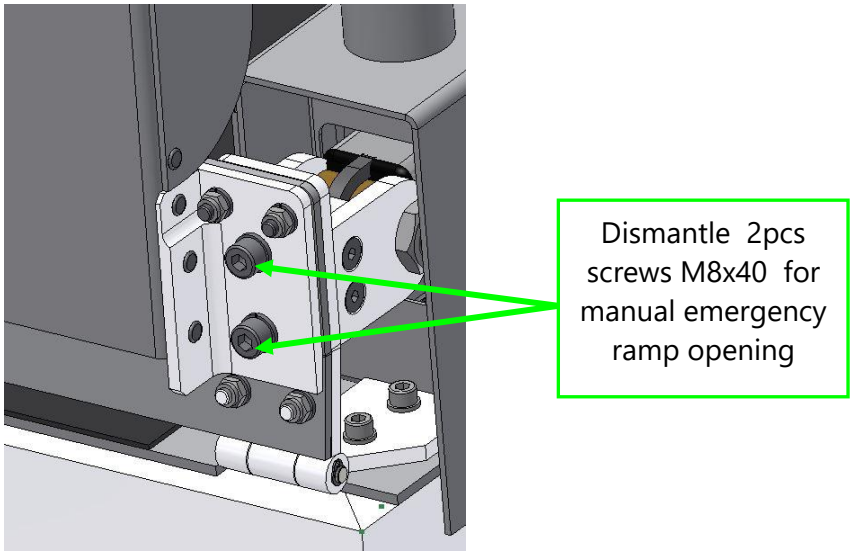


Fig. 4.4 – Emergency opening of the automatic access ramp

5 SWITCHES AND CONNECTORS ON THE CONTROL UNIT

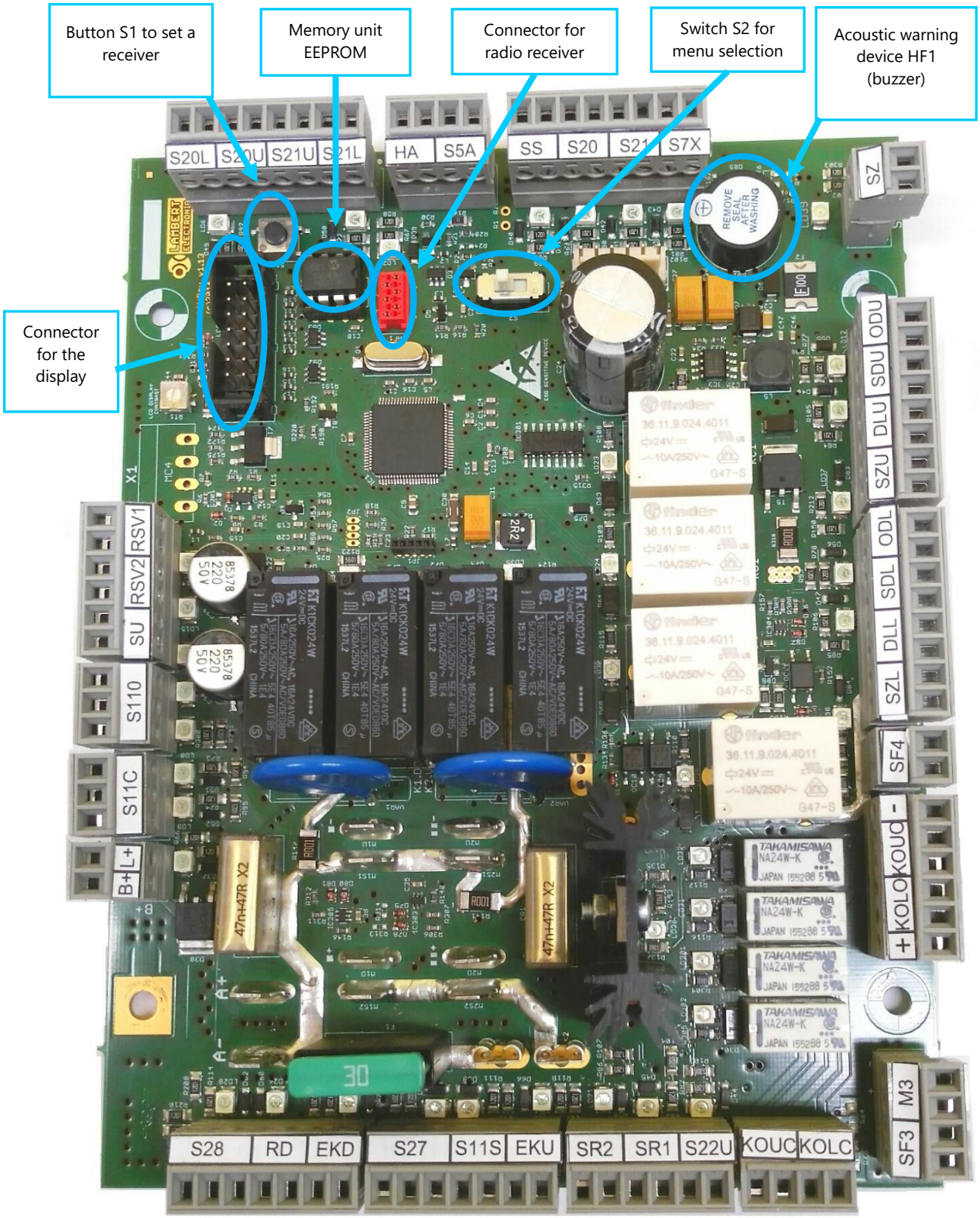


Fig. 4.1 – Switches and connectors on the control unit

5.1 Switch S2

This switch selects between user/service menu types.

User menu	Service menu

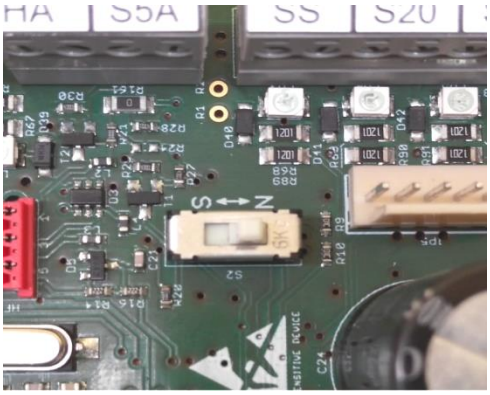
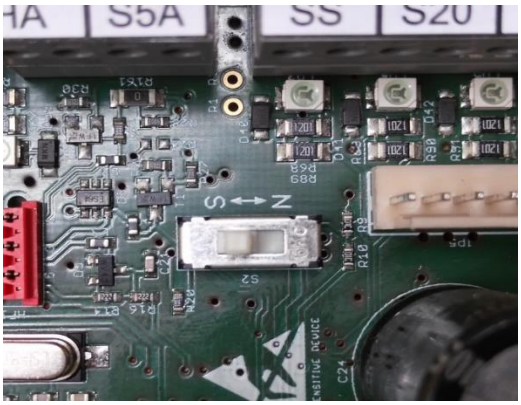

	

Fig. 5.2 - switch position user menu	*Fig. 5.3 - switch position service menu*

Table 5.1 - Detailed view of switch S2 on Liftboy control unit

WARNING: After the platform installation and setting all service menu parameters, push the switch S2 to the position for user menu!!!.

5.2 Button S1

This button serves for pairing/programming the attached RF receiver with the RF transmitters (RF wall-mount controllers). See overview of main board for button location.

6 LED SIGNALIZATION ON PLATFORMS CONTROL UNIT

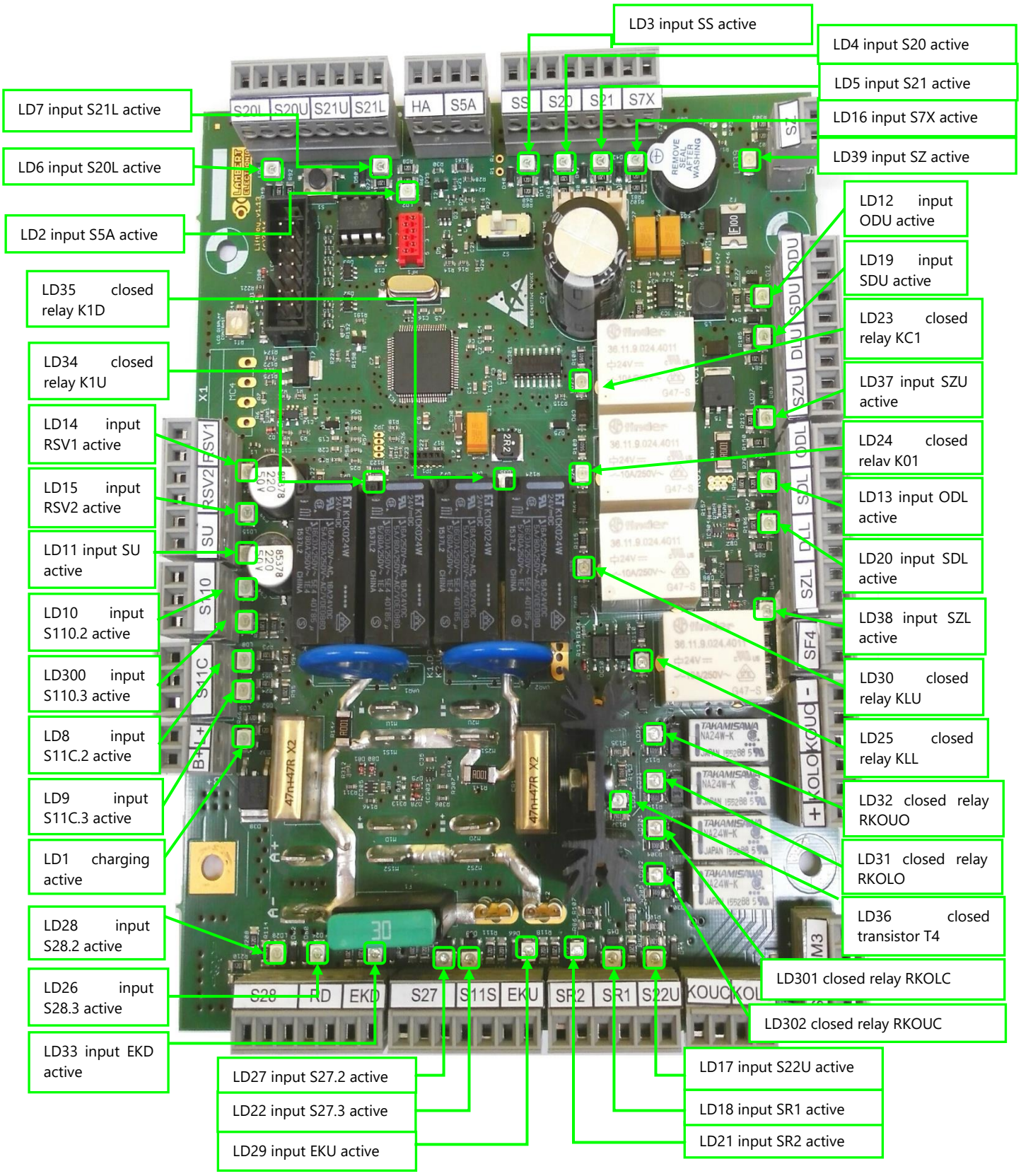


Fig. 6.1 - LED signalization on platform's control unit

6.1 Description of LED signalization of platform's control unit

Name	Colour	Function
LD1	green	Lights when battery charging is active
LD2	green	Lights when alarm input is activated
LD3	green	SS; Lights when the control key is active
LD4	green	S20; drive up button is pressed on the platform
LD5	green	S21; drive down button is pressed on the platform
LD6	green	S20L; drive up button is pressed on one of the wall mounted controllers
LD7	green	S21L; drive down button is pressed on one of the wall mounted controllers
LD8	green	S11C.2 reserve input for ramp
LD9	green	S11C.3; Lights when the ramp is fully closed
LD10	green	S110.2 reserve input for ramp
LD11	green	SU; Overload control (not used)
LD12	green	ODU; Lights if upper door is open
LD13	green	ODL; Lights if lower door is open
LD14	green	RSV1; reserve input of control unit
LD15	green	RSV2; reserve input of control unit
LD16	green	S7X; turns of after STOP-button is pressed
LD17	green	S22U; turns off when the upper emergency switch is activated
LD18	green	SR1; reserve input of an safety circuit
LD19	green	SDU; turns off if the upper door is open
LD20	green	SDL; turns off if the lower door is open
LD21	green	SR2; Turns off if the motor synchronization switch is activated
LD22	green	S27.3; Lights if the upper stop limit switch was activated
LD23	green	Relay KC1; Lights if the ramp is closing
LD24	green	Relay K01; Lights if the ramp is opening
LD25	green	Relay KLL; Lights if coil of the upper electronic lock is activated, that means lock is in the timing regime
LD26	green	S28.3 Lights if the lower stop limit switch was activated

Name	Colour	Function
LD27	green	S27.2; Lights if the platform is outside the upper stop
LD28	green	S28.2; Lights if the platform is outside the lower stop
LD29	green	EKU; Turns off when the upper safety bottom is activated (pressed)
LD30	green	Relay KLU; Lights if coil of the lower electronic lock is activated, that means lock is in the timing regime
LD31	green	Relay RKOLO; Lights if the relay, which sends impulses to the lower automatic door opener, is activated
LD32	green	Relay RKOUO; Lights if the relay, which sends impulses to the upper automatic door opener, is activated
LD33	green	EKD; Turns off when the lower safety bottom is activated (pressed)
LD34	green	Relay K1U; Light if the main drive up relays are activated
LD35	green	Relay K1D; Light if the main drive down relays are activated
LD36	green	T4; Light if the main control transistor T4 is activated
LD37	green	SZU; Lights if the upper limit switch is released (platform is in the upper zone)
LD38	green	SZL; Lights if the lower limit switch is released (platform is in the lower zone)
LD39	green	SZ; Lights if the lower limit switch is released (platform is in the lower zone)
LD300	green	S110.3; Lights if the ramp is fully opened
LD301	green	Relay RKOLC; spare relay for an opener
LD302	green	Relay RKOUC; spare relay for an opener

Table 6.1 - Description of LED signalization of platform's control unit

ATTENTION: If some of the above switches in the safety circuit (ultimately switches in the operating direction) are opened, not only do the corresponding LEDs go out, but also the LEDs for all other inputs.

6.2 Emergency drive control unit

The emergency operation control unit is optional equipment for the platform. This unit enables the user to move to the lower landing in the event of a failure of the main control unit or another unexpected fault.

If necessary, service personnel can change the direction of operation determined by the emergency stop button by swapping the ladders at the connections for the main motors (M1U/1 for M1D/1 and M2U/1 for M2D/1).

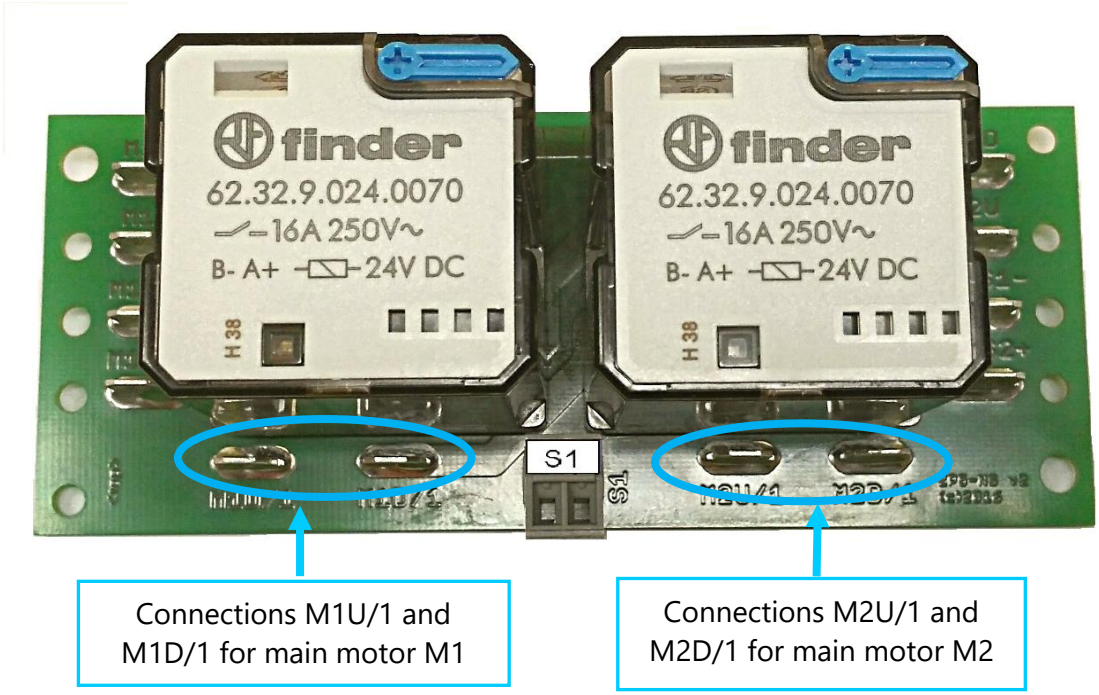


Fig. 6.2 – Emergency drive control unit

7 MENU

Following pictures show examples of standard information shown on a display in both USER and SERVICE modes.

User menu with help instructions when the ramp is fully open

Fig. 7.1 - Information on the display at the lower landing

Example of a user menu when the platform is outside the stops

Fig. 7.2 - Information on operating options in both directions on the display

Service menu with information on battery voltage and current consumption of active motors

Fig. 7.3 - Display during operation in service mode

7.1 General information

The menu can be used for error analysis, maintenance or system configuration. The individual functions are illustrated and described in the following chapters.

The menu has two areas of application:

1. The first is restricted (user menu) and is intended for end users and technical support. This user menu allows you to read the error list and make simple system settings.

2. The second area of application allows full view (service menu) and is reserved EXCLUSIVELY for technicians and service personnel. This service menu can be used to make advanced parameter, behavior and other settings.

7.2 Menu activation

You can enter the menu by pressing both buttons for drive up and drive down on a platform controller for time longer than 5 sec. Another way to enter the menu is by pressing the emergency STOP-button on a platform while at the same time pressing any drive button on a platform controller for time longer than 5 sec. To navigate between different menu items use drive up button (S20) on a platform controller, to enter an appropriate item use drive down button (S21) on a platform controller. To change the parameter of the item use the drive up button, to confirm the changed parameter and to exit from this parameter use drive down button (ENTER function). The active parameter is highlighted by an arrow on a display. To exit the menu it is necessary to select and confirm the parameter. (According to a position in the menu you might have to repeat this step few times).

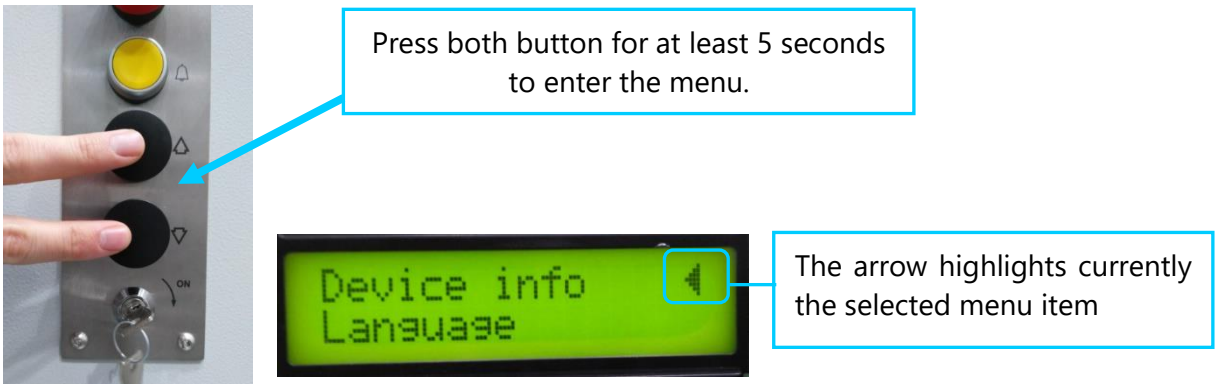


Fig. 7.4 – menu activation

INFO: The default display language is English. You can select a different language in the 'Language' menu. (see chapter **7.4.3 Language**)

ATTENTION: To access the service menu, switch S2 on the main control board to the correct position (to the left).

7.3 Menu structure

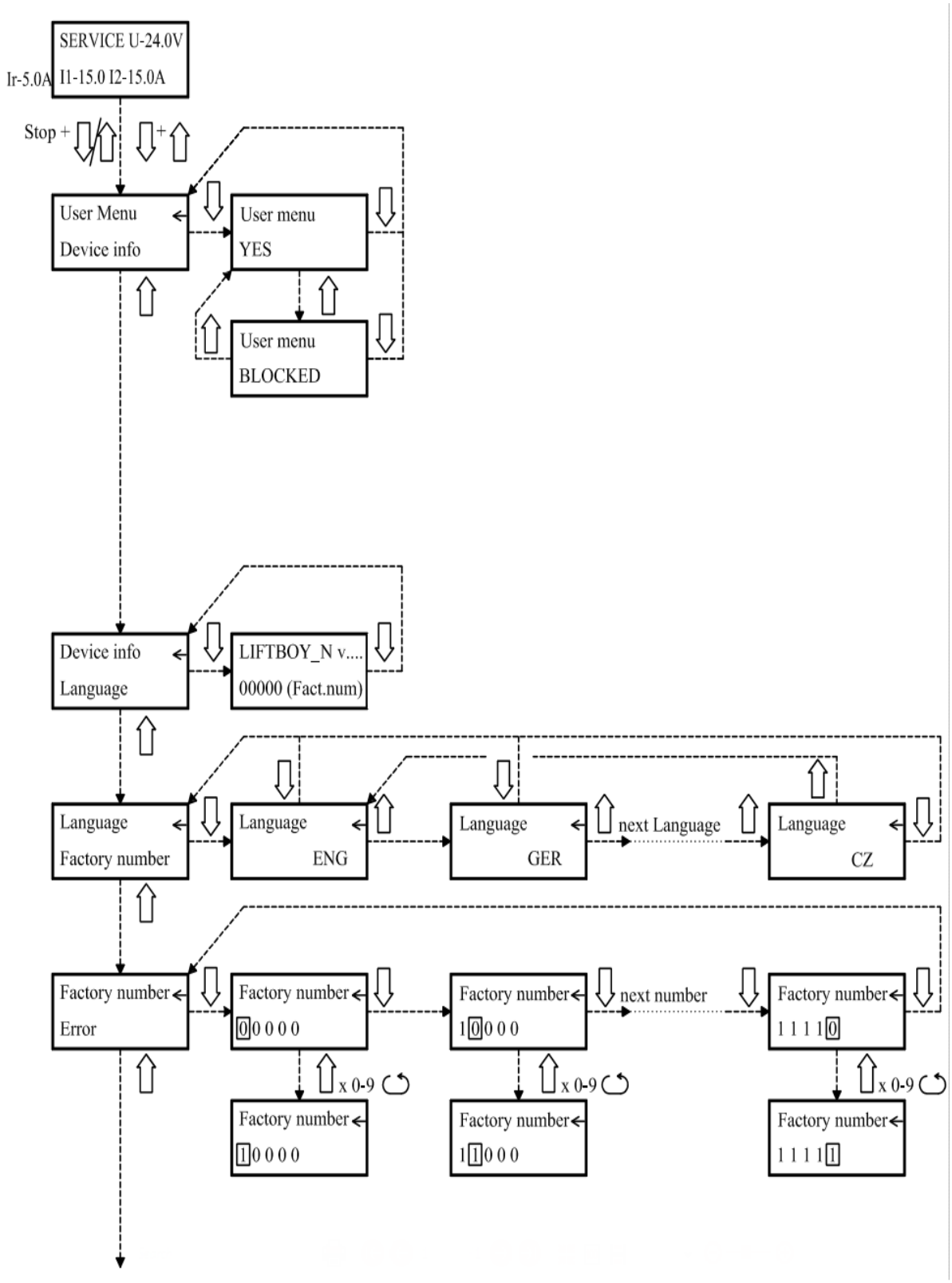
The menu consists of a rotating list of several items. The currently selected item is indicated by an arrow to its right. The active item is always displayed in the first line of the display. The next item is displayed in the second line.

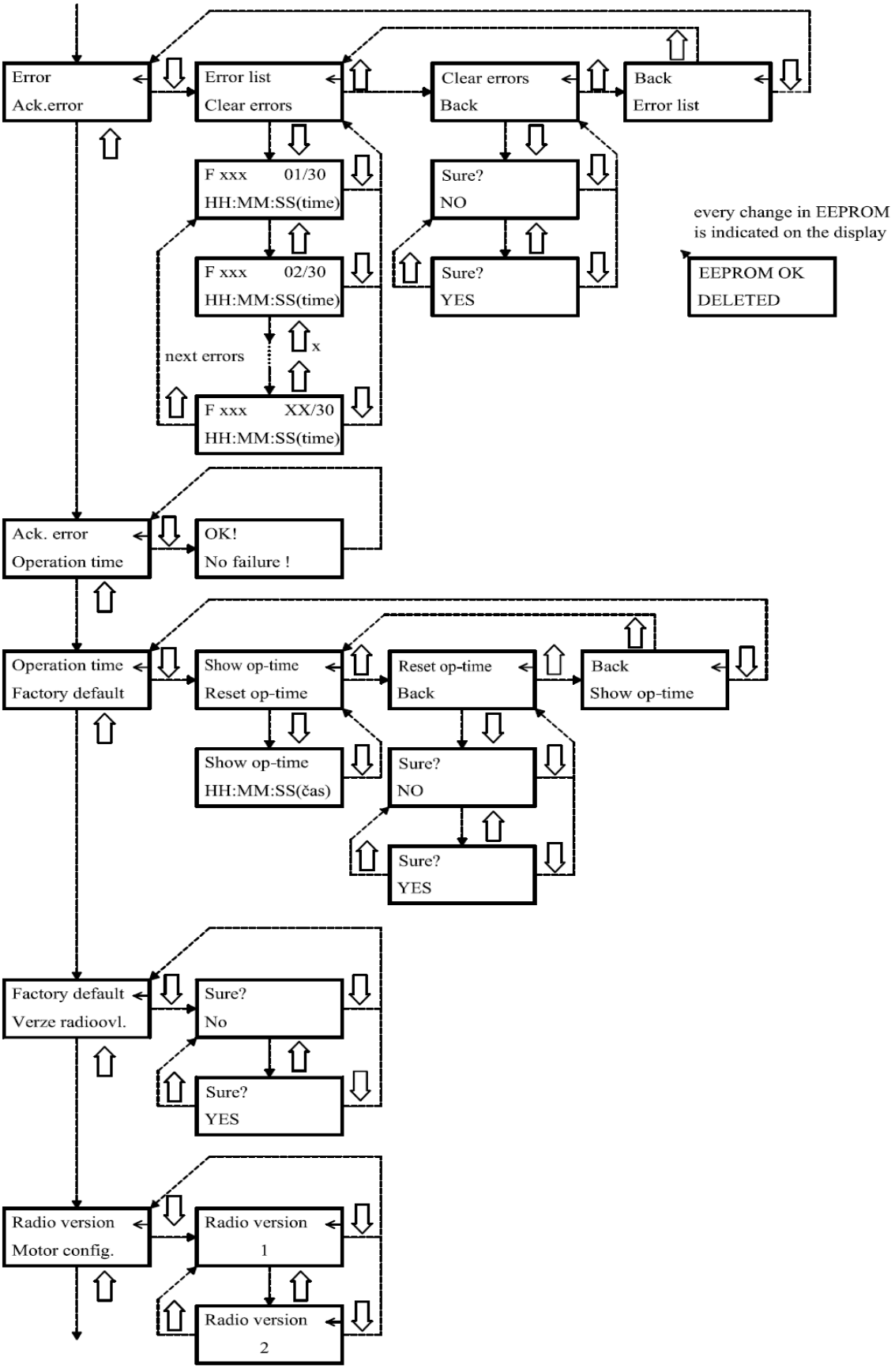
Use the up and down buttons on one of the platform controls to navigate through the menu and change parameters.

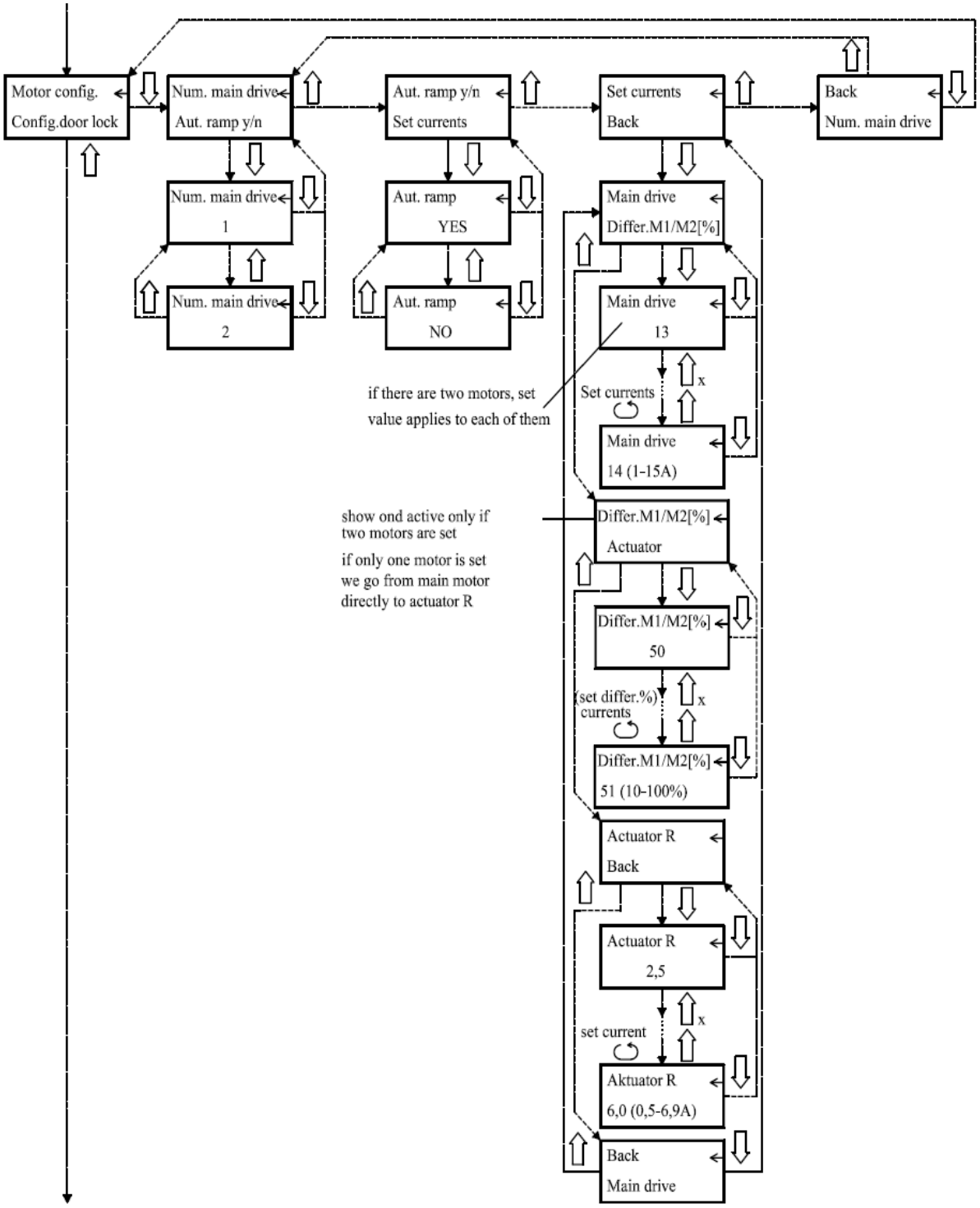
Use the up button to switch between different menu items. To activate the current menu item, press the down button once. After activation, depending on the selected menu item, you can change the parameter directly with the up button or switch to other items on this or a lower menu level.

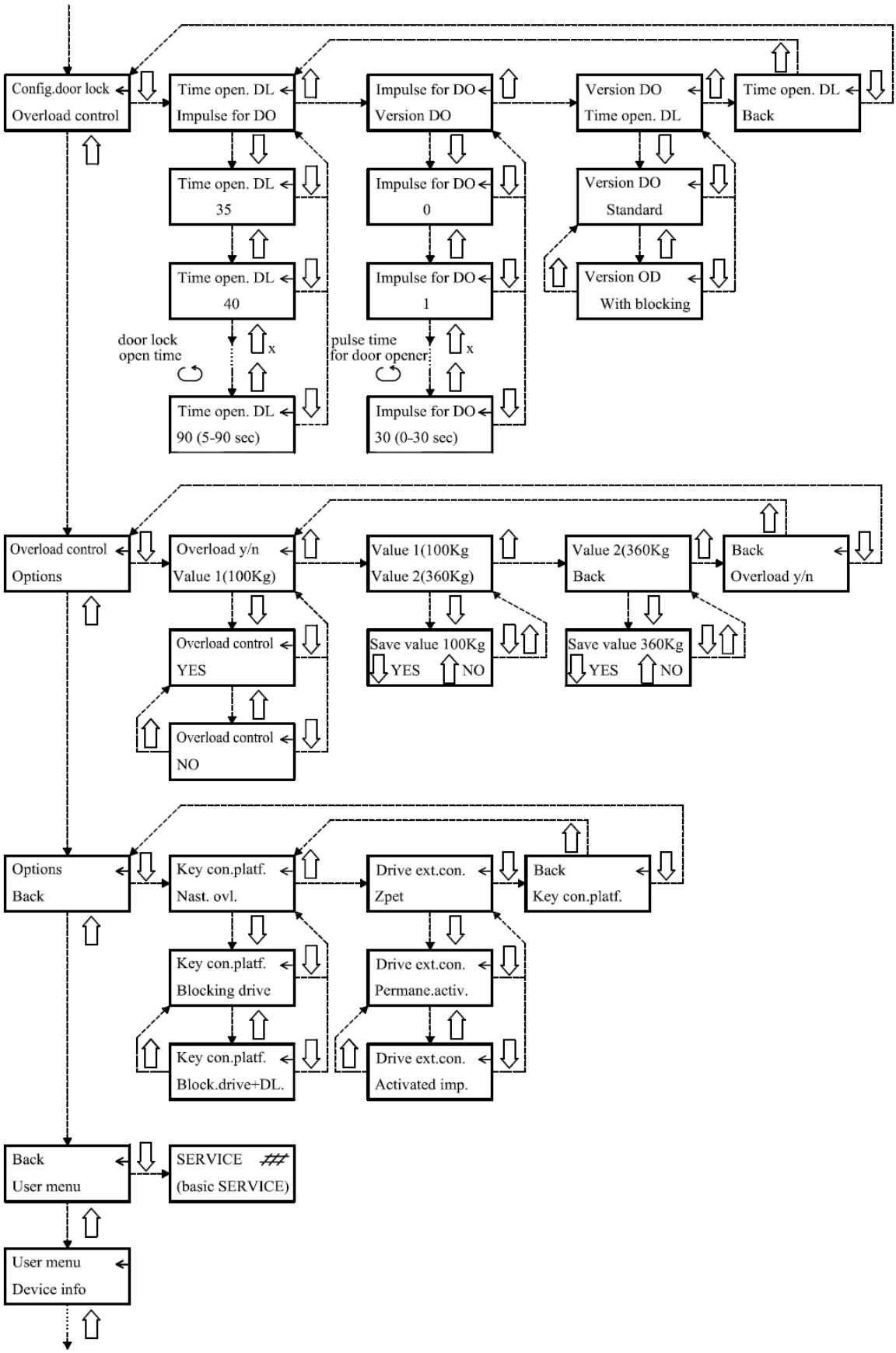
You can easily change the value of the parameter of a selected menu item using the up button. Once you have set the value as desired, you must confirm the change by pressing the down button, which also exits the menu item.

7.3.1 Service menu

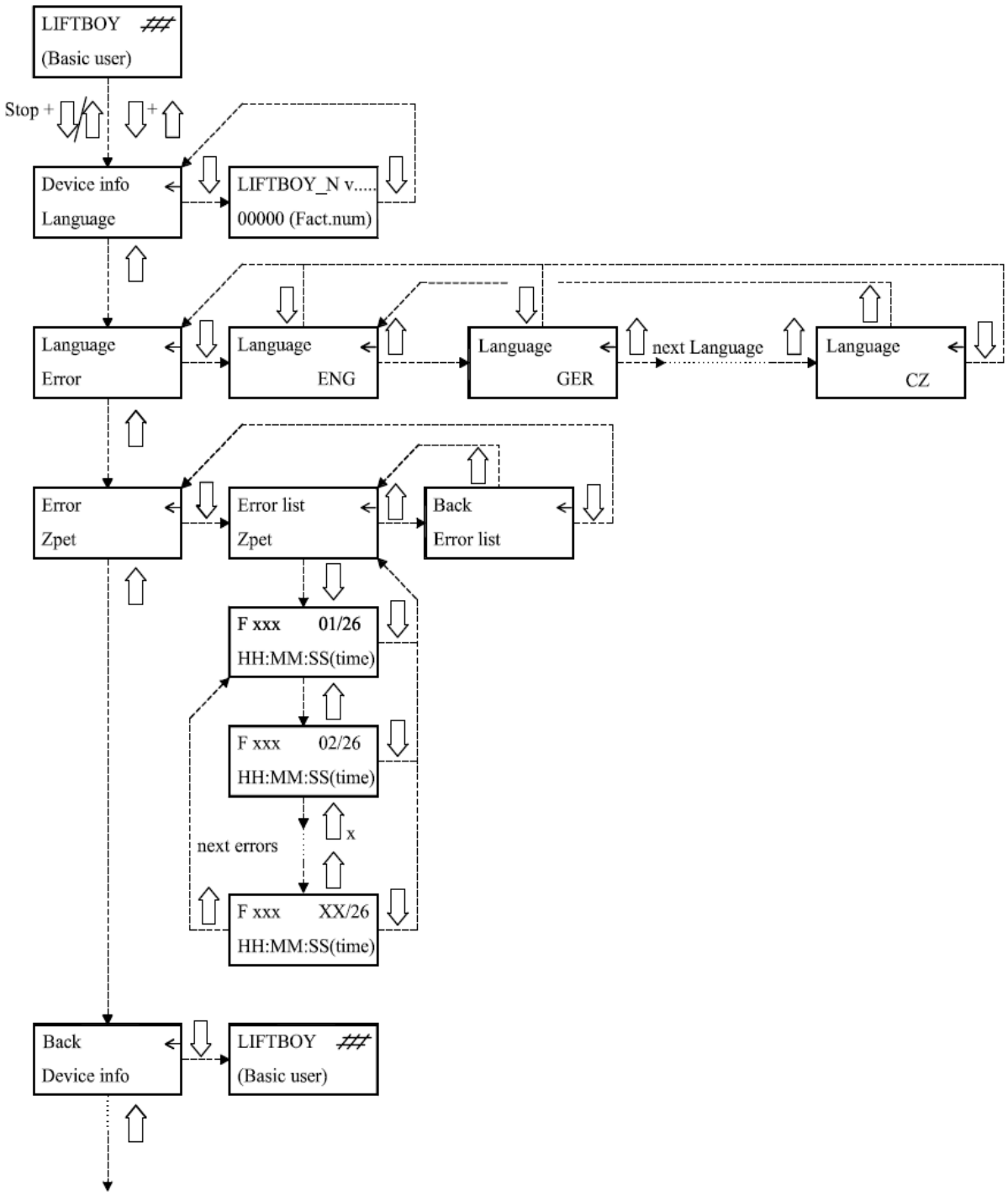



Error
Ack.error
Error list
Clear errors
Clear errors
Back
Back
Error list
F xxx 01/30
HH:MM:SS(time)
Sure?
NO
every change in EEPROM
is indicated on the display
F xxx 02/30
HH:MM:SS(time)
Sure?
YES
EEPROM OK
DELETED
next errors
x
F xxx XX/30
HH:MM:SS(time)
Ack. error
Operation time
OK!
No failure !
Operation time
Factory default
Show op-time
Reset op-time
Reset op-time
Back
Back
Show op-time
Show op-time
HH:MM:SS(čas)
Sure?
NO
Sure?
YES
Factory default
Verze radioovl.
Sure?
No
Sure?
YES
Radio version
Motor config.
Radio version
1
Radio version
2


Motor config.
Config.door lock
Num. main drive
Aut. ramp y/n
Aut. ramp y/n
Set currents
Set currents
Back
Back
Num. main drive
Num. main drive
1
Num. main drive
2
Aut. ramp
YES
Aut. ramp
NO
Main drive
Differ.M1/M2[%]
Main drive
13
Set currents
x
Main drive
14 (1-15A)
if there are two motors, set
value applies to each of them
show ond active only if
two motors are set
if only one motor is set
we go from main motor
directly to actuator R
Differ.M1/M2[%]
Actuator
Differ.M1/M2[%]
50
(set differ.%)
currents
x
Differ.M1/M2[%]
51 (10-100%)
Actuator R
Back
Actuator R
2,5
set current
x
Aktuator R
6,0 (0,5-6,9A)
Back
Main drive


Config.door lock
Overload control
Time open. DL
Impulse for DO
Impulse for DO
Version DO
Version DO
Time open. DL
Time open. DL
Back
Time open. DL
35
Impulse for DO
0
Version DO
Standard
Time open. DL
40
Impulse for DO
1
Version OD
With blocking
door lock
open time
x
pulse time
for door opener
x
Time open. DL
90 (5-90 sec)
Impulse for DO
30 (0-30 sec)
Overload control
Options
Overload y/n
Value 1(100Kg)
Value 1(100Kg
Value 2(360Kg)
Value 2(360Kg
Back
Back
Overload y/n
Overload control
YES
Save value 100Kg
YES
NO
Save value 360Kg
YES
NO
Overload control
NO
Options
Back
Key con.platf.
Nast. ovl.
Drive ext.con.
Zpet
Back
Key con.platf.
Key con.platf.
Blocking drive
Drive ext.con.
Permane.activ.
Key con.platf.
Block.drive+DL.
Drive ext.con.
Activated imp.
Back
User menu
SERVICE
(basic SERVICE)
User menu
Device info

7.3.2 User menu



7.4 Menu items

The following table lists all items in the main menu. It also indicates whether an item is located in the user menu or the service menu. The table also contains a brief description of the options available for the items in the main menu.

Menu item	User menu	Service menu	Description
User menu		X	In this item you can set, if you can enter the menu in user regime
Device info	X	X	This item shows basic device info – HW and SW version, serial number
Language	X	X	Display language can be set via this item
Factory number		X	This item can store custom factory number.
Error	X	X	Shows list of recorded errors, also allows to delete this list.
Ack. Error		X	If activated, this item acknowledges found errors.
Operation time		X	This item shows operation time and also allows to clear it.
Factory default		X	Activation of this item restores all parameters to factory default.
Radio version		X	Allows radio module version setting.
Motor config.		X	Allows to select the number of main motors if the platform has an automatic ramp and set the value of current of all motors
Config. door lock		X	Allows to set a time needed to open door lock and a version of an automatic opening
Overload control		X	Allows to activate/deactivate overload control, this item can also change basic overload setting
Options		X	Allows to set platform's special functions

Table 7.1 - menu items

The following paragraphs describe some of the menu items. The descriptions are organized according to the structure of the main menu. Factory settings are underlined in the following lists. These settings can be restored by resetting the system to the factory settings.

7.4.1 User menu

Menu item	Value	Name	Description
User menu	YES		Allows the user to enter the user menu
	Blocked		Blocks the user from entering the user menu

Table 7.2 - menu item user menu

7.4.2 Device info

First row shows the type of device LIFTBOY, the version of HW and SW of CU. Second row shows factory number.

7.4.3 Language

Menu item	Value	Name	Description
Language	CZE	Czech	One of these can be selected
	ENG	English	
	GER	German	
	ESP	Spanish	
	FRA	French	
	PL	Polish	

Table 7.3 - menu item language

7.4.4 Factory number

A factory or identification number can be set by this menu item (5 digits). Command for the movement up can change current digit. The currently edited digit is underlined. Command for the movement down can move onto the next digit.

7.4.5 Error

Menu item	Value	Name	Description
Error list	Fxxx n/30 h:m:s	-	Shows list of stored errors, saved in menu. First row shows code number of error Fxxx (see chapter **10 Error and operating messages on display**) and order of error item in the error list (max 30 items). Second row shows current operation time when error appeared.
Clear errors	Sure? YES	-	By activation and selecting YES all stored errors will be purged from the list. **CAUTION:** List of errors can be deleted by the authorized technician only.

Table 7.4 - menu item error

7.4.6 Acknowledge error

When this menu item is active, all errors that have occurred are acknowledged. This allows normal platform function to be restored when attempting to delete the incorrect error code. Errors that must be acknowledged are listed in the error table. Acknowledging an error does not remove the error entry from the error list. However, if you wish to do so, you must delete the entire list (see chapter **10 Error and operating messages on display**)

7.4.7 Operation time

Menu item	Value	Name	Description
Show op-time	h:m:s	-	This item shows current operation time in hrs:min:sec format
Reset op-time	Sure? YES	-	By activation and selecting YES operation time counter is cleared. **CAUTION:** Operation time counter can be cleared by the authorized technician only.

Table 7.5 - menu item operation time

7.4.8 Factory default

Activation of this item restores all parameters to factory default. Factory default settings are underlined in lists.

7.4.9 Radio controller version

Menu item	Value	Name	Description
Radio version	1	TX-OMDE-V-01 (Schmidiger)	Allows radio module version setting.
	2	Reserve for other type of radio controller	

Table 7.6 - menu item radio controller version

7.4.10 Motor configuration

Menu item		Value	Name	Description
Number of main motors				
	Number of main motors 1	1		Allows to set a number of main motors on exactly one motor. This is used on platforms ZP1 and ZP2
	Number of main motors 2	2		Allows to set a number of main motors on two motors. This is used on this platform ZP 5
El ramp				
	Aut. ramp	YES	Platform has an automatic ramp	If this parameter is active, platform has an automaticaly tilted ramp. You have to adjust wiring of the lower zone switch on the CU
	Aut. ramp	NO	Platform has a lower door	If this parameter is active, platform has a door in lower station. You have to adjust wiring of the lower zone switch on the CU
Current setting				
	Main drive	5-15 13	A	Sets the current setting of the main motor, if there are two motors, this value applies to each one.

Menu item		Value	Name	Description
				After exceeding this threshold, motor stops and „DRIVE MOTOR CURRENT LIMIT" error is shown on the display
	Differ. M1/M2	10-100% <u>50</u>	%	Determines a possible percentage difference in current taken by each motor. If the taken current on one of the mottors differs from the other by more than the set percentage, motors stop and a „LOAD DIFFERENCE M1/M2" error is shown on the display
	Actuator R	0,5-6,9 <u>2,5</u>	A	Sets overcurrent threshold for ramp motor. After exceeding this level, motor stops and an error message " CURRENT LIMIT ACT – RAMP" is shown on the display

Table 7.7 - menu item motor configuration

7.4.11 Door lock configuration

Menu item	Value	Name	Description
Time open. DL	5-90 <u>35</u>	sec.	Allows to set the necessary time to open the door. If an automatic door opener WALKY is in use, it is necessary to set this time to min 30 sec.
Impulse for DO	0-30 <u>0</u> (=manual openingt of the door)	sec.	Allows to set impulse length for an automatic door opener. Factory default 0 is used for manual opening of the door. If the platform has an automatic door opener WALKY, it is necessary to set this value on 1.
Version DO	<u>Standard</u>		Allows to set appropriate version of the door opener. For detailed description see chapter **4.4 Control description of manual and automatic door.**
	With blocking		

Table 7.8 - menu item door lock configuration

7.4.12 Overload control

Menu item	Value	Name	Description
Overload y/n	YES		Activation of this menu item and selecting YES activates platform´s overload watch
	NO		Activation of this menu item and selecting NO deactivates platform´s overload watch
Value 1 (100Kg)	Save value 100Kg YES NO		By activation of this menu item and selecting YES, we save a corresponding load of 100kg on a CU memory. This menu item is usually used for factory setting of a platform.
Value 2 (350Kg)	Save value 350Kg YES NO		By activation of this menu item and selecting YES, we save a corresponding load of 350kg on a CU memory. This menu item is usually used for factory setting of a platform.

Table 7.9 - menu item overload control

7.4.13 Options

Menu item	Value	Name	Description
Key con. platf.	Blocking drive		Activation of this menu item selects function of the key switch placed on platform´s control panel in off position. In this case, the platform cannot be moved up nor down by platform controller (S20/S21), but if the platform stays in the landing station, appropriate drive button on the platform can unlock the door lock and afterwards open the door, eventually open/close the ramp.
	Block. Drive+DL		Activation of this menu item selects function of the key switch placed on platform´s control panel in off position. In this case, platform can not drive up nor down and it is not possible to cause an action of door lock and ramp´s actuator(= drive buttons on the platform are blocked).
Drive ext. con.	Permane. activ.		Activation of this menu item selects function of directional buttons on external controllers. In this case, the drive button has to be permanently activated in order to move the platform

Menu item	Value	Name	Description
	Activated imp.		Activation of this menu item selects function of directional buttons on external controllers. In this case we can activate the motion of the platform by just pressing drive button. Then we can release it and platform drives to landing station. **WARNING:** this option can be activated only for platforms in the lift shaft.

Table 7.10 - menu item options

8 RADIO WALL MOUNTED CONTROLLERS

External wall mounted controllers communicate with the platform via radio signal. Standardly there is one in each station.

Each wall mounted RF controller is supplied by 2 pcs ob batteries type AAA.

Following table describes all used colours and blinking combinations of signalization on TX-OMDE-V-01 (Schmidiger) controller type :

State LED	Description
Blinks in green	Connection is established and control messages are passed to CU – normal condition.
Blinks in orange	Connection is lost. Keep button pressed – system will try to find not jammed signal and reconnect.
Blinks in red	Batteries in this controller are low. Replacing is necessary.
Lights in green	Radio transmitter was successfully connected to receiver during the programming
Lights in orange	Connection is established but the platform is not moving. Possible causes: ▪ Safety circuit is opened ▪ Error states e.i. motor overload, switch failure etc. Error messages are shown on the display.
Lights in red	Connection is established but there is no answer from the platform. Platform is operated either from the platform controller or other remote RF controller.

Table 8.1 - State LED

Pairing of Radio module Schmidiger: (if more or new radio controls have to be connected)

To start pairing press the button S1 on the main control board for at least 3 seconds and release it. LED is regularly blinking faster when the module is active for pairing.

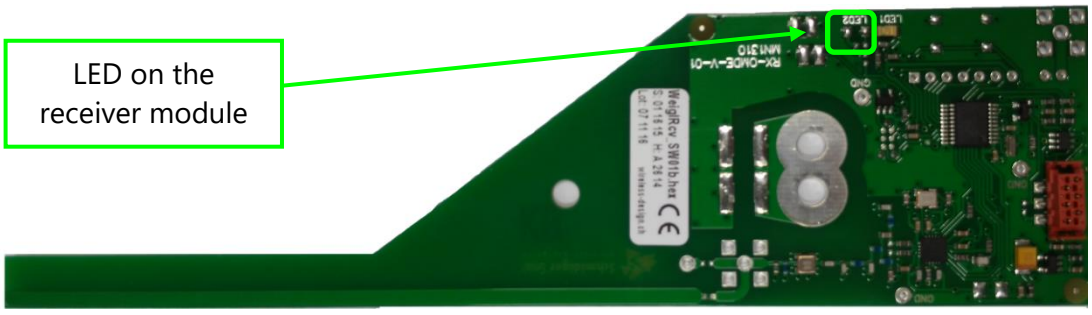


Fig. 8.1 - LED on the receiver module

The external control unit can then be programmed. To do this, press the up and down buttons simultaneously. The LED on the control unit will flash orange. After approximately two and a half seconds, the LED will stop flashing and turn green. The control unit is now programmed.

Program any other controllers in the same way. Otherwise, end the programming process. To end the programming process, press the S1 button again (for at least three seconds). To confirm, the LED on the radio module will flash rapidly and then return to flashing slowly at longer intervals.

9 EMERGENCY DRIVE

Emergency operation is an optional feature of the platform. This unit enables the user to travel to the lower stop in the event of a main circuit board failure or other unexpected fault.

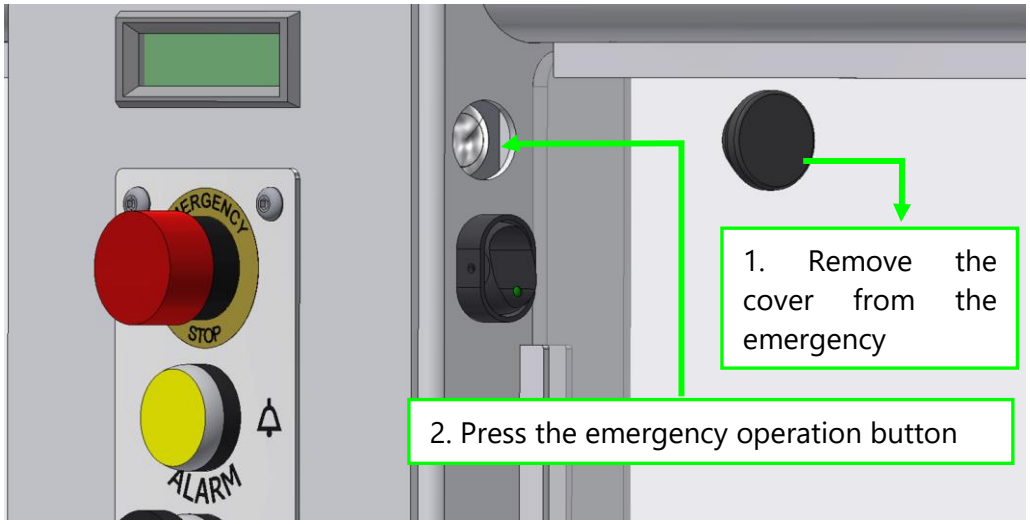


Fig. 9.1 – Emergency drive

Operation of the platform using the emergency button S1 is only permitted if the platform cannot be operated using any of the standard methods and the user must be freed. Button S1 must not be used for normal operation of the platform!

To use emergency operation, first remove the cover from button S1 (above the main switch) and then press button S1. The platform will then move downwards. During emergency operation, all safety and control systems are disabled.

Once the lower stop has been reached, the emergency operation button must be released and the door or platform ramp must be **opened manually**.

If necessary, service personnel can change the direction of travel of the platform determined by emergency mode by swapping the ladders on the connections for the main motors on the emergency mode control unit (M1U/1 for M1D/1 and M2U/1 for M2D/1). It is also necessary to replace the fuse at terminals K1 and K2 with a 30 A fuse.

1. Switch off main switch SK1.
2. Swap the connections on motors M1 and M2 as follows: M1U with M1SI and M1D with M1S2 (M1) or M2U with M2S1 and M2D with M2S2 (M2). The power supply to both motors must be changed!
3. Insert a 5 A fuse between connections K1 and K2.
4. Switch on main switch SK1. The platform will immediately move downwards.

For upward operation (for maintenance purposes), M1S1 must be swapped with M1S2 and M2S1 with M2S2 (motor M1: M1U with M1S2, M1D with M1S1/motor M2: M2U with M2S1, M2D with M2S2). Use a 30 A fuse. The power supply to both motors must be changed!

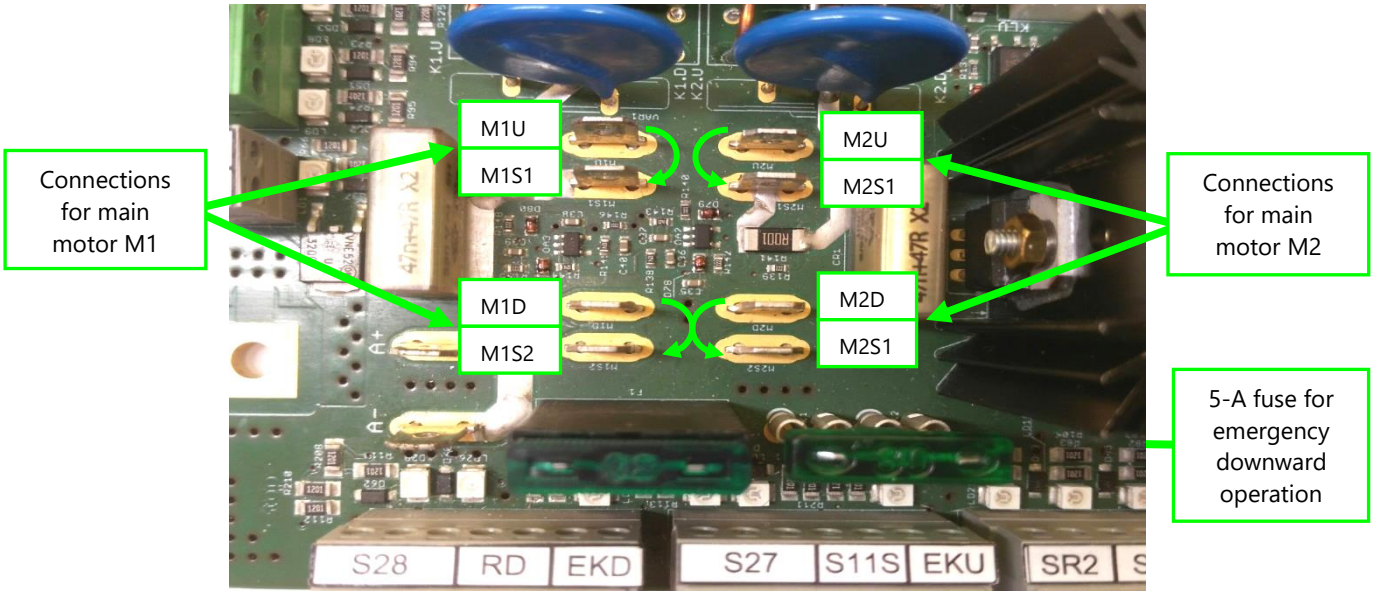


Fig. 9.2 - Switch on the circuit board - emergency operation

10 ERROR AND OPERATING MESSAGES ON DISPLAY

Error codes (F1xx) must be acknowledged (reset) after the cause has been rectified. This does not delete them. They must be deleted separately. If the error cannot be acknowledged, the cause has not been rectified and is still present.

The error codes (F1xx) shown below must be reset in the menu after they have been rectified. The reset can also be performed by switching off the main switch.

Code	Display Indication	Description	Remedy
F101	TRANSISTOR SHORT. T4	Faulty transistor– there is voltage on its output although it should not (faulty control, punctured transistor and so on)	Try to reset the error message by switching off (for at least 2 sec) and then turning on the main switch. Afterwards, give a command for movement and if this error shows up again, it is necessary to replace the whole CU
F102	TRANSISTOR FAILURE T4	Transistor failure – did not close (faulty control, transistor failure and so on)	Try to reset the error message by switching off (for at least 2 sec) and then turning on the main switch. Afterwards, give a command for movement and if this error shows up again, it is necessary to replace the whole CU
F103	LOAD DIFFERENCE M1/M2	Exceeding the set difference in current of main motors M1 and M2	Try to reset the error message by switching off (for at least 2 sec) and then turning on the main switch, remove uneven load on the platform, select drive up on any controller, motors should level it; manually level different height of motors, read the current taken by motors during the drive and check the setting of difference of main motors M1 and M2, and then check setting the difference in current taken
F104	ACTUATOR FAILURE M1	Motor M1 is not active (current on the motor M1= 0A)	Try to reset the error message by switching off (for at least 2 sec) and then turning on the main switch, measure the voltage on motors terminals, on directional relays of appropriate motor; check the cable connection between motor and CU, replace the CU, replace the motor

Code	Display Indication	Description	Remedy
F105	ACTUATOR FAILURE M2	Motor M2 is not active (current on the motor M2= 0A)	Try to reset the error message by switching off (for at least 2 sec) and then turning on the main switch, measure the voltage on motors terminals, on directional relays of appropriate motor; check the cable connection between motor and CU, replace the CU, replace the motor
F106	EEPROM FAILURE	Nonfunctional EEPROM memory	Try to reset the error message by switching off (for at least 2 sec) and then turning on the main switch. Afterwards, give a command for movement and if this error shows up again, it is necessary to replace the whole CU

Table 10.1 - errors on display

The following errors are logged in the EEPROM but do not block the operation of the platform – acknowledgement is not required. They are displayed as long as the error is present and/or the corresponding control buttons are activated.

Code	Display Indication	Description	Remedy
F201	EMERGENCY STOP SI: S7X	STOP button pressed, emergency input open S7X=0	Deactivate STOP button by turning it in the direction of arrows, if the STOP button is not pressed, Check NC-contact by STOP button, connecting cable towards the CU, emergency input S7X
F202	UP SAF.LIMIT SW SI: S22U	Active upper safety limit switch S22U=0	By movement of the platform with emergency drive in the direction down release the safety switch S22U, check the adjusting of the upper stop, limit switch S27 and safety limit switch S22U, stop element on a motor ACT2 has to firstly press the limit switch S27 and by doing so to stop the motion of the platform. If the emergency switch is not activated, check NC-contacts of the switch S22U, connecting cables towards CU, emergency input S22U
F203	RESERVE SAF.C.SW SI: SR1	Contact of the main safety circuit is open, emergency input SR1=0	Check the input bridge connection on terminals SR1 on CU
F204	ASYNCHR. ACTUAT. SI: SR2, M1, M2	asynchronous movement of main motors, contact SR2= 0 open. (standardly this switch is not used, emergency input SR2 has to be bridged)	If SR is used: check the even reaction of main motors, check the setting of differential switch SR 2; if the switch is not activated, check NC-contact of the switch SR2, connecting cables towards the CU, emergency input SR2
F205	FAILURE ZON. SW. SI: SZU, SZ/SZL	One or both zone switches are in incorrect position With no regard towards the setting in the menu El. ramp - YES/NO	In this error state, the drive is allowed in both directions if the platform is outside the station, after it reaches the station it is prevented from leaving and it is not allowed to automatically lower the ramp or to open the

Code	Display Indication	Description	Remedy
		SZU=1∧ SZL=1 ∨ SZU=1∧ SZ=1	door; check the setting of zone switches, if the platform is in one of the stops, the contacts of the zone switch has to be in closed position and contacts of the other one in permanently opened position; if the setting of the zone switches is correct, check NC-contact of the switches and connecting cables towards the CU on inputs SZU, ZL/SZ
F206	UNDEF.STATION SW SI: S27, S28	One of limit switches is in incorrect position (for example, both limit switches are active at the same time) (S27-2=0 ∧ S28-2=0) ∨ (S27-3=1 ∧ S28-3=1)	Check the setting of limit switches, check the mechanical function of limit switches, check inner wiring S27/S28, check cable connection of the switches with CU, check the wiring in CU
F301	STOP ∨DOWN SI: EKD, RD	Safety edges hit an obstacle in the drive direction down, this message shows up only in combination with the drive down command Ctrl DOWN=1 ∨ Wall ctrl DOWN=1 ∨ RF- DOWN=1 ∧ SENS EDGE DOWN= 0	Remove obstacle that prevents the platform from movement down, if necessary release the obstacle by driving up, check the setting of appropriate limit switches of lower safety edges; if the emergency switches are not active, check the NC-contacts of switches EKD 1 till 4 and their serial connection, check connecting cables on an input EKD and a bridge-connection on terminals RD
F302	STOP ∧UP SI: EKU, S11S	Safety edges hit an obstacle in the drive direction up, this message shows up only in combination with the drive up command Ctrl UP=1 ∨ Wall ctrl UP=1 ∨ RF-UP=1 ∧ SENS EDGE UP= 0	Remove the obstacle that prevents the platform from movement up, check the setting of appropriate limit switches of upper safety edges; if the emergency switches are not active, check the NC-contacts of switches EKU 1 and 2 and their serial connection, check the connecting cables on an input EKU and a bridge-connection on terminals S11S

Code	Display Indication	Description	Remedy
F303	FAILURE UP. LOCK SI: 0/SDU	While giving command for drive up in upper station, the activation of coil and unlocking of the door lock did not occur or control contacts of the lock did not switch -(ODU=1, SDU=0) Ctrl UP=1 ∨ Wall ctrl UP=1 ∨ RF-UP=1 for more than 1sec. ∧ S27-3=1 ∧ S27-2=0 ∧ SZU=1 ∧ (ODU=0 ∨ SDU=1)	Check the wiring and mechanical function of door lock, check the connection cables of the door lock, correct function of the coil of door lock DLU and appropriate contacts SDU,ODU **When this error is present on a platform with automatic door opener NICE WALKY, the impulse for door opener is not coming, the door has to be opened manually!**
F304	FAIL: UP.ZON./SW PRESS∨ SI:SZU/S27	Upper limit switch S27 is actuated, but upper zone switch SZU is open and drive up is selected (example: after reaching the upper stop, the zone switch SZU remains open) S27-3=1 ∧ S27-2=0 ∧ SZU=0 ∧ Ctrl UP=1 ∨ Wall ctrl UP=1 ∨ RF-UP=1	Check the setting of upper stop, stop element on motor ACT2 has to firstly release the zone switch SZU= 1 and then actuate the limit switch S27-3=1 and S27-2= 0, check the switching functionality of S27 and SZU, check contacts of switches S27 and SZU, connecting cables on inputs S27, SZU in the CU
F305	FAILURE UP. SW. PRESS∨ SI: S27	Contacts of the upper limit switch are not in its usual position (S27-3=0 ∧ S27-2=0) ∨ (S27-3=1 ∧ S27-2=1) Displays during drive up command, that is Ctrl UP=1 ∨ Wall ctrl UP=1 ∨ RF-UP=1	Check the function, setting and connection of the limit switch S27, check the contact system in this switch, check connecting cable on the input S27
F306	FAIL. LOWER LOCK SI: 0/SDL	While giving command for drive down in lower stop, the activation of coil and unlocking of the door lock did not occur, or contacts of the door lock did not switch (ODL=1, SDL=0) Ctrl DOWN=1 ∨ Wall ctrl DOWN=1 ∨ RF-DOWN=1	Check the wiring and mechanical function of door lock, check the connection cables of the door lock, correct function of the coil of door lock DLL and appropriate contacts SDL, ODL **When this error is present on a platform with automatic door opener NICE WALKY, the**

Code	Display Indication	Description	Remedy
		for more than 1sec. ∧S28-3=1 ∧ S28-2=0 ∧SZL=1 ∧ (ODL=0 ∨ SDL=1)	**impulse for door opener is not coming, the door has to be opened manually!**
F307	F.LOWER ZON/SP PRESS^ SI: SZL/S28	Lower limit switch S28 is actuated, but lower zone switch SZL is open and drive down is selected (example: after reaching the lower stop, the zone switch SZ remains open) S28-3=1 ∧ S28-2=0 ∧ SZL=0 ∧ Ctrl DOWN=1 ∨ Wall ctrl DOWN=1 ∨ RF- DOWN=1 while the setting in the menu is el. ramp – NO	Check the setting of the lower stop, stop element on the motor ACT1 has to firstly release the zone switch SZL= 1 and then actuate the limit switch S28-3=1 and S28-2= 0, check the switching functionality of S28 and SZL, check the contacts of switches S28 and SZL, connecting cables on inputs S28, SZL in the CU
F308	F.LOWER ZON/SP PRESS^ SI: SZ/S28	Lower limit switch S28 is actuated, lower zone switch SZ is open and drive down is selected (example: after reaching the lower stop, zone switch SZ did not open S28-3=1 ∧ S28-2=0 ∧ SZ=0 ∧ Ctrl DOWN=1 ∨ Wall ctrl DOWN=1 ∨ RF- DOWN=1 while the setting in the menu is el. ramp – YES	Check the setting of the lower stop, stop element on the motor ACT1 has to firstly release the zone switch SZ= 1 and then actuate the limit switch S28-3=1 and S28-2= 0, check the switching functionality of S28 and SZ, check the contacts of switches S28 and SZ, connecting cables on inputs S28, SZ in the CU
F309	FAILURE LOWER SW. PRESS^ SI: S28	Contacts of upper limit switch are not in its standard position (S28-3=0 ∧ S28-2=0) ∨ (S28-3=1 ∧ S28-2=1), Displays during drive down command, that is Ctrl DOWN=1 ∨ Wall ctrl DOWN=1 ∨ RF- DOWN=1	Check the function, setting and wiring of the limit switch S28, check the contact system in this switch, check connecting cable and on the input S28
F401	CURRENT LIMIT DRIVE MOTOR M1	Overcurrent of the main drive motor M1	Main motor M1 takes more current that is allowed (set), remove uneven load on platform, decrease the load, read the taken current of the motor during the

Code	Display Indication	Description	Remedy
			drive and compare it with set nominal current in menu item „Set currents" – „Main drive", check mechanical functions, replace CU, replace the motor
F402	CURRENT LIMIT DRIVE MOTOR M2	Overcurrent of the main drive motor M2	Main motor M2 takes more current that is allowed (set), remove uneven load on platform, decrease the load, read the taken current of the motor during the drive and compare it with set nominal current in menu item „Set currents" – „Main drive", check mechanical functions, replace CU, replace the motor
F403	CURRENT LIMIT ACT - RAMP	Overcurrent of the ramp´s actuator	Ramp´s actuator takes more current than is allowed (set), remove obstacle/load from the ramp, read the taken current of the motor during the closing of the platform ramp and compare them with set nominal current in „Set current" – „Actuator R", check mechanical functions, replace CU, replace the motor
F412	EMPTY BATTERY STOP	Voltage on the batteries dropped under 19,4V, the drive up is blocked	Reach the lower landing station and let the batteries to charge properly; if the batteries can not be fully charged, it is necessary to replace them, (note: all the batteries have to be replaced)
F413	OVERLOAD LIFT SI: SU, TENS. INPUT	CU evaluated overload of the platform via start-off current	Movement is allowed only in the down direction. After overload detection, it is necessary to drive to lower stop and reduce the load on the platform; if it does not exceed the allowed load, it is necessary to check mechanical functions and current taken by motors, or perform new overload calibration.

Table 10.2 - errors on display

The following errors are not logged in the list of error messages and therefore do not need to be reset in the menu. They are only displayed during operation via the platform or radio control.

Display Indication	Description	Remedy
DOOR OPEN FAULT OPENER	Message is shown after the third (last) automatic impulse for door opener and the door remains open. This means ODU = 1 v ODL = 1 Impulses are always sent after the time, that is set in parameter Time open. DL, if the door is not closed.	Remove obstacles that could obstruct door to close automatically. Check the wiring of el. opener and function of relay RKOUO or relay RKOLO on CU, release opener WALKY with a key and close the door manually, check if the fork on the door correctly falls into door lock, check the wiring of el. door lock and its connection to the CU, check if contacts (ODU, SDU) and (ODL, SDL) switched into a position allowing the movement (ODU=0 ∧ SDU=1 or ODL=0 SDL=1). The door has to be closed manually, see chap. **4.5 Manual unblocking of door lock and automatic door opener**
UP. DOOR OPEN CLO.DO/ v DOWN	<u>Manual opening of the door:</u> Message is shown in upper landing station if the door is open and any drive down button is activated. Serves as a warning that upper door is not closed and to enable drive down the door has to be closed and locked (secured?) Ctrl DOWN=1 v Wall ctrl DOWN=1v RF- DOWN=1 ∧ S27-3=1 ∧ S27-2=0 ∧ SZU=1 ∧ ODU=1 ∧ SDU=0	Manually close door, when the door is closed manually check if the fork on the door fits correctly into door lock, check the wiring of el.lock, its connection towards the CU. Check if contacts ODU and SDU switched into a position that allows movement (ODU= 0 ∧ SDU= 1)
	<u>Automatic opening of the door (both versions):</u> Message is shown in upper landing station if the door is not fully closed and drive down button is pressed. Ctrl DOWN=1 v Wall ctrl DOWN=1v RF- DOWN=1 ∧ S27-3=1 ∧ S27-2=0 ∧ SZU=1 ∧ ODU=1 ∧ SDU=0	If automatic door is not closing, it is necessary to wait for automatically generated impulse, which is sent max 3 times in a row, always with time delay that was set as „Time open. DL", if the door did not close even after the third (last) automatic impulse, proceed accordingly to description above.

Display Indication	Description	Remedy
LOWER DOOR OPEN CLO.DO/ ∧ UP	<u>Manual opening of the door:</u> Message is shown in lower landing station if the door is open and any drive up button is activated. Serves as a warning that lower door is not closed and to enable drive up the door has to be closed and locked. (secured?) Ctrl UP=1 ∨ Wall ctrl UP=1∨ RF- UP=1 ∧ S28-3=1 ∧ S28-2=0 ∧ SZL=1 ∧ ODL=1 ∧ SDL=0	Manually close door, when the door is closed manually check if the fork on the door fits correctly into door lock, check the wiring of el.lock, its connection towards the CU. Check if contacts ODL and SDL switched into a position that allows movement (ODL= 0 ∧ SDL= 1)
	<u>Automatic opening of the door (both versions):</u> Message is shown in lower landing station if the door is not fully closed and drive up button is pressed. Ctrl UP=1 ∨ Wall ctrl UP=1∨ RF- UP=1 ∧ S28-3=1 ∧ S28-2=0 ∧ SZL=1 ∧ ODL=1 ∧ SDL=0	If automatic door is not closing, it is necessary to wait for automatically generated impulses, which are sent max 3x in a row with a time delay that was set in Time open.DL. If the door did not close after the third impulse, proceed accordingly to description above.
UP. ST. LOCK - OPEN SI: S27, SZU/SDU	<u>Manual opening of the door</u>: Message is shown in upper landing station after selecting any drive up button. Serves as a warning that upper lock is unlocked and we can open the door. This message also shows up when the door is already open, in this case drive up button has no function. Ctrl UP=1 ∨ Wall ctrl UP=1∨ RF- UP=1 ∧ S27-3=1 ∧ S27-2=0 ∧ SZU=1 ∧ ODU=1 ∧ SDU=0	If the lock is not unlocked and the door can not be opened manually, check the wiring of el.lock, see Error F307
	<u>Automatic opening of the door, version 1 - Standard:</u> Message is shown in upper landing station after selecting	If the lock is not unlocked or if the door is not opening, check the wiring of el.lock (see Error F307) and check the circuit of automatic door opener control (see chapter **4.4 Control**

Display Indication	Description	Remedy
	any drive up button, door unlocks, automatic opening of the door is happening. For version 1 „Standard“: This message also shows up if the door is open, in this case drive up button has no function. Ctrl UP=1 ∨ Wall ctrl UP=1∨ RF-UP=1 ∧ S27-3=1 ∧ S27-2=0 ∧ SZU=1 ∧ ODU=1 ∧ SDU=0	**description of manual and automatic door**)
LO. ST. LOCK - OPEN SI:S28 SZL/SDL	<u>Manual opening of the door:</u> Message is shown in the lower landing station after selecting any drive down button. Serves as a warning that lower lock is unlocked and we can open the door. This message also shows up when the door in already open. In this case drive down button has no function. Ctrl down=1 ∨ Wall ctrl down=1∨ RF- down=1 ∧ S28-3=1 ∧ S28-2=0 ∧ SZL=1 ∧ ODL=1 ∧ SDL=0	If the lock is not unlocked and the door can not be opened manually, check the wiring of el.lock, see Error F307
	<u>Automatic opening of the door version 1 - Standard:</u> Message is shown in lower landing station after selecting any drive down button, the door lock unlocks and automatic opening of the door is happening. For version 1 „Standard“: This message also shows up if the door is open, in this case drive down button has no function. Ctrl UP=1 ∨ Wall ctrl UP=1∨ RF- UP=1 ∧ S27-3=1 ∧ S27-2=0 ∧ SZU=1 ∧ ODU=1 ∧ SDU=0	If the lock is not unlocked or if the door is not opening, check the wiring of el.lock (see Error F307) and check the circuit of automatic door opener control (see chapter **4.4 Control description of manual and automatic door**)

Display Indication	Description	Remedy
^CLOSED RAMP vCLOSED RAMP	Message that shows up outside the lower landing station and informs that actuator/ramp is not fully closed (Ramp closed act=1 ∧ ramp closed sig=1). When found out that ramp´s actuator is not fully closed, by pressing any drive button the ramp closes and by doing so the platform returns to its standard regime. S28-3=0 ∧ S28-2=1 ∧ Ramp closed act=1 ∧ ramp closed sig=0	Try to close the ramp by pressing any drive button. If the ramp does not close, check connecting cable towards the ramp´s actuator, its wiring into CU, switching contact of appropriate drive button and switching of relay KC1∧K01 If the ramp is in its closed position, check the setting and signal contacts of the actuator.

Table 10.3 - errors on display

NOTE: **SI: Sxxx** indicates switches that may be damaged or incorrectly set if the situation described in the first line (or in the error table above) has not occurred (e.g. IN THE LOWER STAT.). In these cases, it is necessary to check the setting of the corresponding position switch, the associated contact system, the connection cables and the connection to the corresponding terminal on the control unit. If the check is unsuccessful and the input in question is still not active, the corresponding inputs on the control unit must be checked. If necessary, the control unit must be replaced.

If more inputs of the safety circuit open in the order shown in the circuit diagram, the error displayed and stored is the first in the list.

10.1 List of operating messages – help instructions on the display

The following table lists all help instructions for users of the platform.

Display Indication	HELP
DRIVE DOWN EXTERNAL CONTROL	Signalization during the drive down from wall mounted controllers WALL CTRL DOWN, or radio controllers – signal RF-D.
DRIVE UP EXTERNAL CONTROL	Signalization during the drive up from wall mounted controllers WALL CTRL UP or radio controllers - signal RF-N.
∧DRIVE UP ∨DRIVE DOWN	Signalization on the display when the platform stands outside the stop; by pressing the drive-up resp. drive down button on any controller, it is possible to continue the movement in the selected direction.
LOW BATTERY	Signalization when the voltage on batteries drops below 20,4V; decrease in voltage is also signalized by quick interrupted acoustic signal.
BATERRY IS NOT CHARGING	There is no signal from the input of charging accumulator, charger is disconnected or damaged, this state is also signalized by interrupted acoustic signal. In this case it is necessary to immediately restore the charging of batteries or to switch off the main switch and make sure that the main switch is accessible afterwards. Otherwise the batteries would become fully de-charged and damaged.
∧UNLOCK DOOR ∨DRIVE DOWN	Message shown in upper landing station when the door is closed and locked (ODU=0 ∧ SDU=1), when KLU=0 and no drive button is activated. Serves as a hint for a possibility to unlock the door lock or in a case of automatic version to open the door by pressing the drive up button or by drive down button to leave the upper landing station. Ctrl up=0 ∧ Ctrl down = 0 ∧ Wall ctrl up=0 ∧ Wall ctrl down=0 ∧ RF-UP=0 ∧ RF down 0 ∧ S27-3=1 ∧ S27-2=0 ∧ SZU =1 ∧ ODU=0 ∧ SDU=1
∧DRIVE UP ∨UNLOCK DOOR	Message shown in lower landing station when the door is closed and locked (ODL=0 ∧ SDL=1), when KLL=0 and no drive button is activated. Serves as a hint for a possibility to unlock the door lock or in a case of automatic version to open the door by pressing the drive down button or by drive up button to leave the lower landing station. Ctrl up=0 ∧ Ctrl down = 0 ∧ Wall ctrl up=0 ∧ Wall ctrl down=0 ∧ RF-UP=0 ∧ RF down 0 ∧ S28-3=1 ∧ S28-2=0 ∧ SZL =1 ∧ODL=0 ∧ SDL=1
UP. DOOR OPEN SI: 0/SDU	Message shown in upper landing station when the door is open (ODU=1 ∧ SDU=0), relay KLU=0 which means that door lock is not active anymore and no drive button is pressed.

Display Indication	HELP
	In a case of manual version this serves as a warning that upper door is open. In a case of automatic version the door should automatically close, be fully opened or blocked by an obstacle. **If the automatic opener did not start to move with the door, check the functionality of relay KRKOUO and wiring of el. opener.** Ctrl up=0 ∧ Ctrl down = 0 ∧ Wall ctrl up=0 ∧ Wall ctrl down=0 ∧ RF-UP=0 ∧ RF down 0 ∧ S27-3=1 ∧ S27-2=0 ∧ SZU =1 ∧ ODU=1 ∧ SDU=0
LOW. DOOR OPEN SI: 0/SDL	Message shown in lower landing station when the door is open (ODL=1 ∧ SDL=0), relay KLL=0 which means that door lock is not active anymore and no drive button is pressed. In a case of manual version this serves as a warning that lower door is open. In a case of automatic version the door should automatically close, be fully opened or blocked by an obstacle.. **If the automatic opener did not start to move with the door, check the functionality of relay KRKOLO and wiring of el. opener.** Ctrl up=0 ∧ Ctrl down = 0 ∧ Wall ctrl up=0 ∧ Wall ctrl down=0 ∧ RF-UP=0 ∧ RF down 0 ∧ S28-3=1 ∧ S28-2=0 ∧ SZL =1 ∧ODL=1 ∧ SDL=0
UP. ST. LOCK-OPEN ∨DRIVE DOWN	Message shown in upper landing station when the door is closed (or in a case of automatic version the door is opening) ODU=1 ∧ SDU=0, relay KLU=1 which means door lock is unlocked and no drive command was given. In a case of manual version this serves as a warning that upper door is unlocked and we can open the door. In a case of automatic version 1 „Standard“ the door should automatically open or be fully opened. Serves as a hint for a possibility to speed up the closing of the door by pressing drive down button S21 on the platform. **If the automatic opener did not start to move with the door, check the functionality of relay KRKOUO and wiring of el. opener.** Ctrl up=0 ∧ Ctrl down = 0 ∧ Wall ctrl up=0 ∧ Wall ctrl down=0 ∧ RF-UP=0 ∧ RF down 0 ∧ S27-3=1 ∧ S27-2=0 ∧ SZU=1 ∧ ODU=1 ∧ SDU=0
LO. ST. LOCK-OPEN ∧DRIVE UP	Message shown in lower landing station when the door is closed (or in a case of automatic version the door is opening) ODL=1 ∧ SDL=0, relay KLL=1 which means door lock is unlocked and no drive command was given.

Display Indication	HELP
	In a case of manual version this serves as a warning that lower door is unlocked and we can open the door. In a case of automatic version 1 „Standard“ the door should automatically open or be fully opened. Serves as a hint for a possibility to speed up the closing of the door by pressing drive up button S20 on the platform. **If the automatic opener did not start to move with the door, check the functionality of relay KRKOLO and wiring of el. opener.** Ctrl up=0 ∧ Ctrl down = 0 ∧ Wall ctrl up=0 ∧ Wall ctrl down=0 ∧ RF-UP=0 ∧ RF down 0 ∧ S28-3=1 ∧ S28-2=0 ∧ SZL=1 ∧ ODL=1 ∧ SDL=0
LOWER STATION ∧DRIVE UP	Message shown in the lower stop if the ramp is fully open. Serves as a hint for a user to safely leave the platform or as an option for closing of the ramp by any drive up button. Ctrl UP=0 ∨ Wall ctrl UP=0∨ RF- UP=0 S28-3=1 ∧ S28-2=0 ∧ SZL=1 Ramp closed act=1 ∧ ramp closed sig=0 ∧ ramp open= 1
∧ DRIVE UP ∨ OPEN RAMP	Message shown in the lower stop. Serves as a hint for leaving the platform by opening the ramp via any drive down button or to drive up after selecting any drive up button. S28-3=1 ∧ S28-2=0 ∧ SZL=1 Ramp closed act=1 ∧ ramp closed sig=1 ∨ 0 Shown until the ramp is fully opened
∧BLOCK. DOOR ∨DRIVE DOWN	**Message shows only if the menu item „Version DO“ is set to „With blocking“.** Message shown in upper landing station when the door/lock is unlocked (ODU=1 ∧ SDU=0), relay KLU=1 and no drive command was given. Door should automatically open or be fully opened. Serves as a hint for a possibility to speed up the closing of the door by pressing drive down button S21 on the platform or to keep the door in its fully opened position by pressing drive up button S20 on the platform for time longer than 3 sec. For more see the process and message in help ∧ ACTIV. DOOR Ctrl up=0 ∧ Ctrl down = 0 ∧ Wall ctrl up=0 ∧ Wall ctrl down=0 ∧ RF-UP=0 ∧ RF down 0 ∧ S27-3=1 ∧ S27-2=0 ∧ SZU=1 ∧ ODU=1 ∧ SDU=0
∧ DRIVE UP ∨ BLOCK. DOOR	**Message shows only if the menu item „Version DO“ is set to „With blocking“.** Message shown in lower landing station when the door/lock is unlocked (ODL=1 ∧ SDL=0), relay KLL=1 and no drive command was given. Door should automatically open or be fully opened.

Display Indication	HELP
	Serves as a hint for a possibility to speed up the closing of the door by pressing drive up button S20 on the platform or to keep the door in its fully opened position by pressing drive down button S21 on the platform for time longer than 3 sec. For more see the process and message in help ∧ ACTIV. DOOR Ctrl up=0 ∧ Ctrl down = 0 ∧ Wall ctrl up=0 ∧ Wall ctrl down=0 ∧ RF-UP=0 ∧ RF down 0 ∧ S28-3=1 ∧ S28-2=0 ∧ SZL=1 ∧ ODL=1 ∧ SDL=0
^ ACTIVE DOOR	**Message shows only if the menu item „Version DO" is set to „With blocking".** If any of these three options is fulfilled: 1. After reaching upper landing station, during the opening of the door or if the door is open, drive up button S20 was activated for time longer than 3 sec and this blocked upper door in opened position (see description above ^BLOCK. DOOR) Unblocking followed by closing of the door is possible after pressing drive up button S20 on the platform for time longer than 3 sec. 2. By pressing drive down button S21 on the platform the unlocking of the door lock ended, this sped up the closing of the door. If during the closing of the door drive up button S20 was activated on the platform for time longer than 3 sec, the door starts to open again. Then after another press of the button it starts to close and so on. 3. After the time for opening of the door runs out and automatic command for closing of the door is given (function of the door opener switched into „Standard version") and the door did not close even after third automatically generated impulse, it is possible to try (if the opener´s CU is alright) to open/close the door by pressing drive up button S20 on the platform for time longer than 3 sec. During the time when the opener is in „Standard version", you also get corresponding messages on the display, such as UP. DOOR OPEN/SI: 0/SDU. Generally, this message serves as a hint for a possibility to activate the movement of the door in any direction and ,if the door is already moving, to change the direction of the movement. Note: if we choose the direction for the opening, the door stays in its fully opened position until next command from button S20 on the platform is given. Relay KLU=0 (not active) Ctrl up=0 ∨ Ctrl up=1 ∨ Ctrl down = 0 ∨ Wall ctrl up=0 ∨ Wall ctrl up=1 ∨ Wall ctrl down=0 ∨ RF- UP=0 ∨ RF- UP=1 ∨ RF down 0 ∧ S27-3=1 ∧ S27-2=0 ∧ SZU=1 ∧ ODU=1 ∧ SDU=0

Display Indication	HELP
∨ ACTIVE DOOR	**Message shows only if the menu item „Version DO“ is set to „With blocking“.** If any of these three options is fulfilled: 1. After reaching lower landing station, during the opening of the door or if the door is open, drive down button S21 was activated for time longer than 3 sec and this blocked lower door in opened position (see description above ∧BLOCK. DOOR) Unblocking followed by closing of the door is possible after pressing drive down button S21 on the platform for time longer than 3 sec. 2. By pressing drive up button S20 on the platform the unlocking of the door lock ended, this sped up the closing of the door. If during the closing of the door drive down button S21 was activated on the platform for time longer than 3 sec, the door starts to open again. Then after another press of the button it starts to close and so on. 3. After the time for opening of the door runs out and automatic command for closing of the door is given (function of the door opener switched into „Standard version“) and the door did not close even after third automatically generated impulse, it is possible to try (if the opener´s CU is alright) to open/close the door by pressing drive down button S21 on the platform for time longer than 3 sec. During the time when the opener is in „Standard version“, you also get corresponding messages on the display, such as UP. DOOR OPEN/SI: 0/SDU. Generally, this message serves as a hint for a possibility to activate the movement of the door in any direction and ,if the door is already moving, to change the direction of the movement. Note: if we choose the direction for the opening, the door stays in its fully opened position until next command from button S21 on the platform is given. Relay KLL=0 (not active Ctrl up=0 ∨ Ctrl down = 1 ∨ Ctrl down = 0 ∨ Wall ctrl up=0 ∨ Wall ctrl down=1 ∨ Wall ctrl down=0 ∨ RF- UP=0 ∨ RF down 1 ∨ RF down 0 ∧ S27-3=1 ∧ S27-2=0 ∧ SZU=1 ∧ ODU=1 ∧ SDU=0

Table 10.4 - List of operating messages

11 CIRCUIT DIAGRAMS

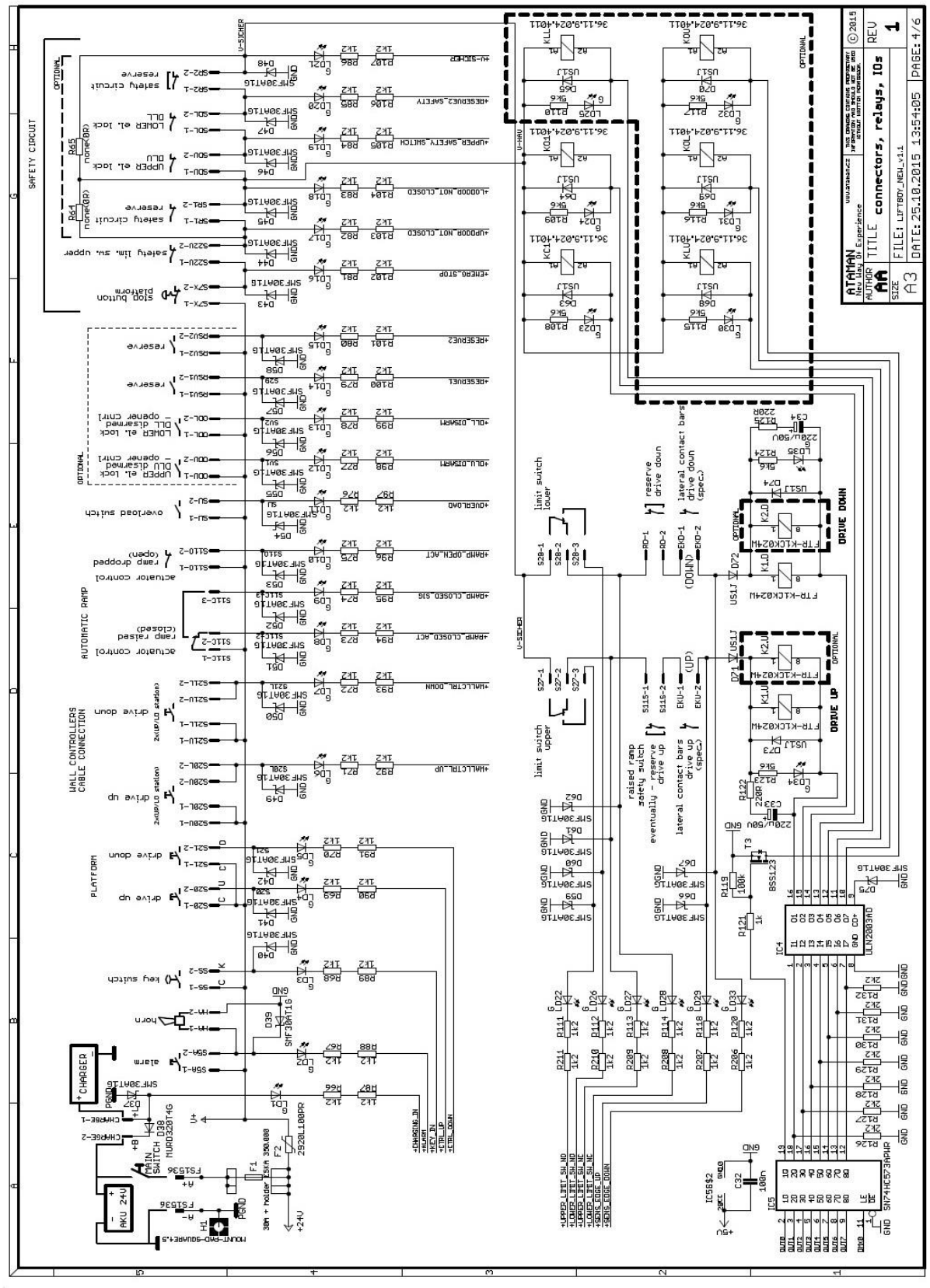


Fig. 10.1 – Circuit diagram relay

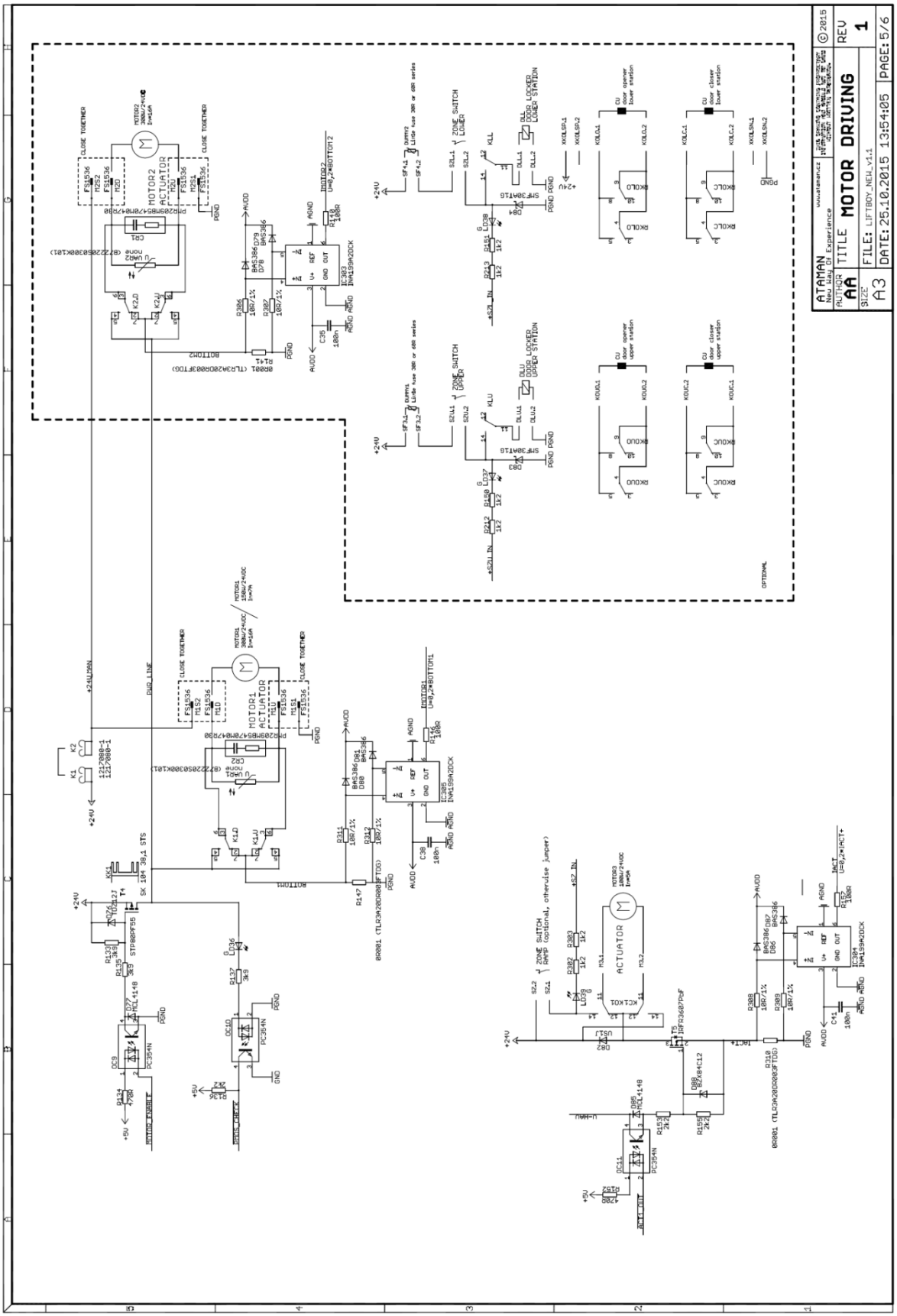


Fig. 11.2 - Circuit diagram main motor

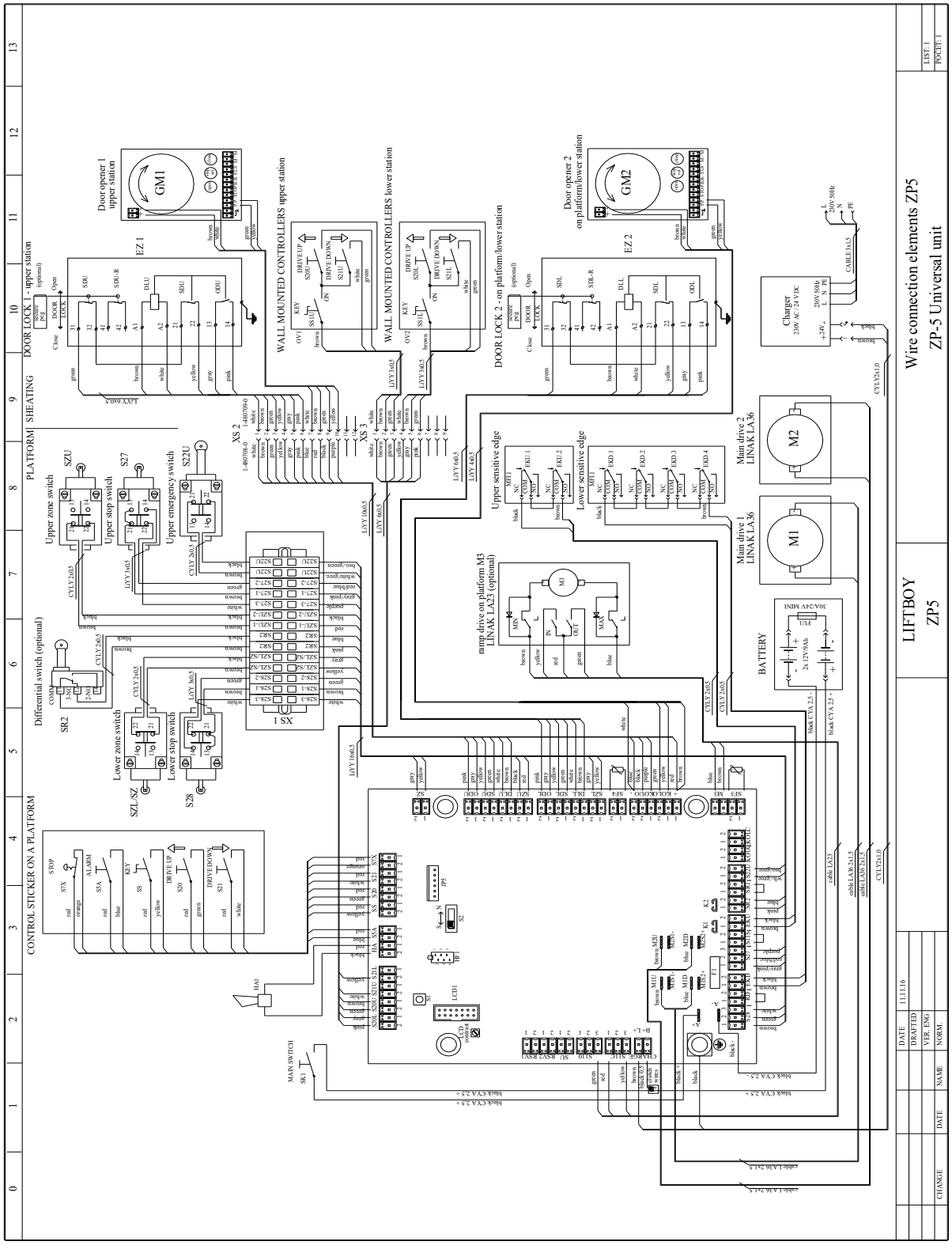


Fig. 11.3 - Circuit diagram without relay unit for emergency operation

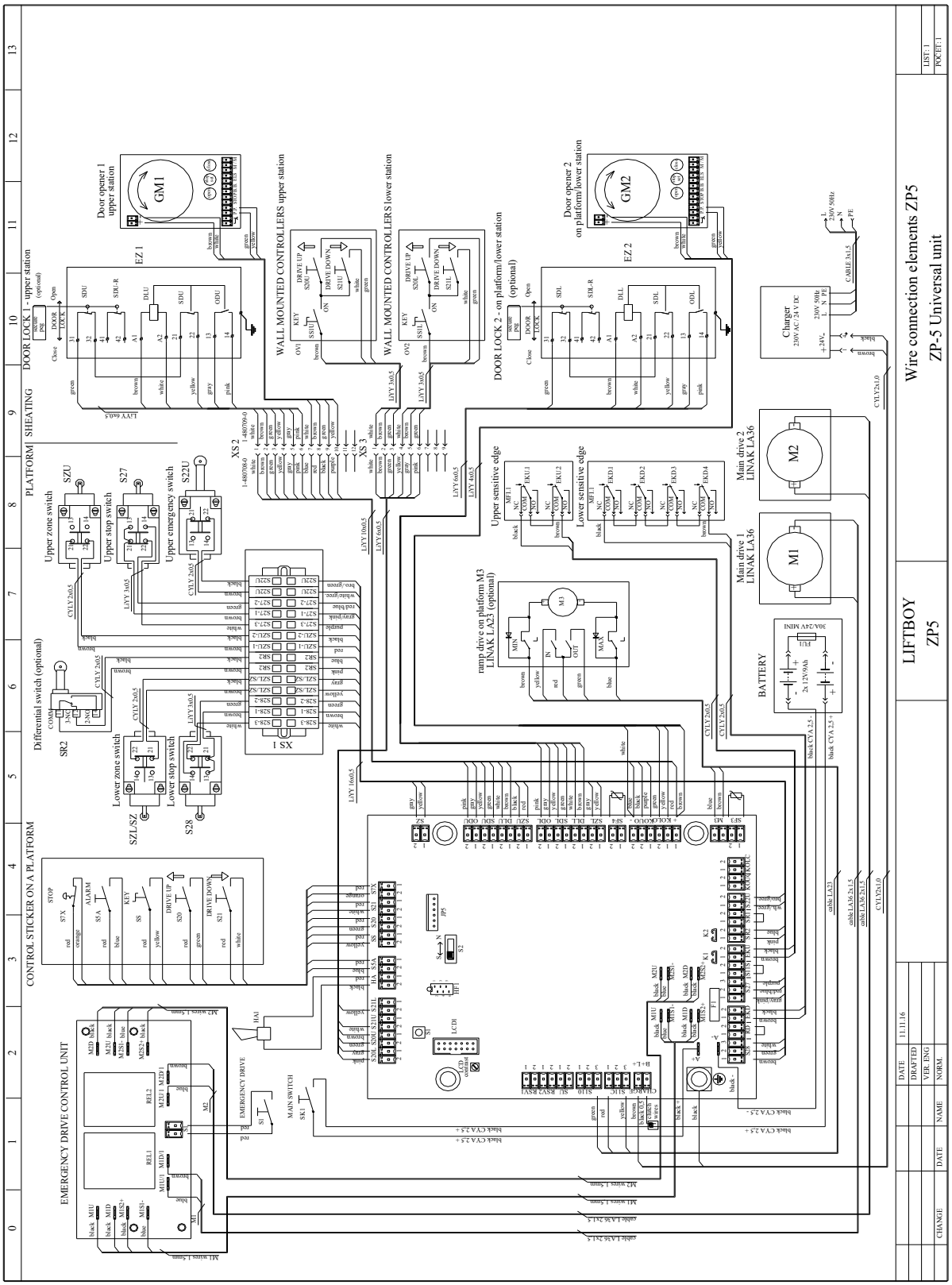


Fig. 11.4 - Circuit diagram with relay unit for emergency operation