



Pedestrian sliding door operator ***XSL-200***

Manual **E**

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2 General remarks

This manual is intended for qualified, authorised installers of the pedestrian sliding door operator XSL-200 (Logo: ).

The manual describes the correct installation and commissioning procedure.

The product is subject to technical modification. There can therefore be differences between the product and the manual.

Product designation: ***Automatic pedestrian sliding door operator***

Product name: ***XSL-200***

2.1 Symbols

Various symbols are used in this manual for simplification:



Note

Especially useful details concerning installation



Caution

Special details indispensable for satisfactory operation of the system



Danger

Details for the prevention of damage to persons and material

3 Safety instructions

The pedestrian sliding door operator **XSL-200** has been constructed in accordance with the latest state of the art and the recognised technical safety regulations, including limiting of forces and speeds. Nevertheless, danger can arise for the user if not used as intended.



Installation, maintenance and repairs to the **XSL-200** pedestrian sliding door operator must only be performed by qualified, trained and authorised personnel (technicians).

3.1 Use for the intended purpose

The pedestrian sliding door operator **XSL-200** is designed exclusively for normal service with automatic pedestrian sliding doors and must be installed in doors.

Any other application or use beyond this purpose is not considered to be the use for the intended purpose. The manufacturer bears no liability for any resulting damage; the installer and/or end user alone shall bear the responsibility.

Use for the intended purpose also includes observation of the operating conditions specified by the manufacturer, in addition to regular care, maintenance and repair.

Unauthorised modifications to the pedestrian sliding door operator and/or its installation exclude all liability of the manufacturer for resulting damage.

3.2 General safety and accident prevention regulations



No safety devices (sensors) may be dismantled or placed out of service.



No persons or objects must be present in the opening area/path of the sliding door, in order to avoid crushing and cutting.



The automatic pedestrian sliding door operator is **not** intended to be disconnected from the mains at night!

3.3 Safety and accident prevention instructions for installations in compliance with UL 325



Before applying the mains voltage to the power supply the installer has to ensure, that the mains voltage selector switch on the power supply NET XSL-200 is switched to the correct position (115V / 230V).



The mains power connection has to be done via the mains power cord, provided with the pedestrian sliding door operator. Proper grounding has to be applied. Only permanent wiring is allowed with this pedestrian sliding door operator.



Wherever **230V** only is mentioned throughout this manual, either 115V or 230V is meant, according to the applied mains voltage in the country it is to be installed.



If any electrical unit (light emitting barrier, radar, control unit, control switch,...) is not mounted within the existing construction of the automatic sliding door installation (e.g. on an adjacent wall) the installer shall protect the cabling from any damage and shall prevent any stress on their connections by proper means. The local installation codes have always to be followed.



WARNING : To avoid risk of electric shock, disconnect mains power (115 / 230V) before servicing.
The delivered red label with the above text has to be placed within the enclosure cover above the NET XSL-200 module in such a manner, that it be seen as soon as the cover is opened.



DANGER : The edges of the cut profiles may be sharp. Be careful so as to avoid injury.



WARNING : The installer shall minimize the sharp edges at each profile, especially at the end of the profiles, where the side covers are placed.



NOTE :The installer must visually inspect the pedestrian sliding door operator for sharp edges and eliminate them before completing the installation.



WARNING : Caution, the pedestrian sliding door operator contains moving parts. Be careful, after having opened the cover.



WARNING : to reduce risk of injury to persons, use this operator only with sliding pedestrian doors for residential, commercial or industrial use.



WARNING : Use copper conductors only for any wiring on the pedestrian sliding door operator installation.



WARNING : For continued protection against fire, replace any fuse only with the same type and rating.



If the pedestrian sliding door operator is used without a radar sensor to be opened, and a switch is used instead, the switch is to be installed in a location from which operation of the door can be observed by the person operating the switch.



The glazing material in both fixed and sliding panels of a sliding door shall comply with the requirements in the **Safety Performance Specifications and Methods of Test** within the standard

ANSI Z97.1-1984 Safety Glazing Material Used in Buildings. (chapter 29.5 of UL 325)



WARNING : The correct behaviour of the door according to the programmed parameters must be verified during commissioning.

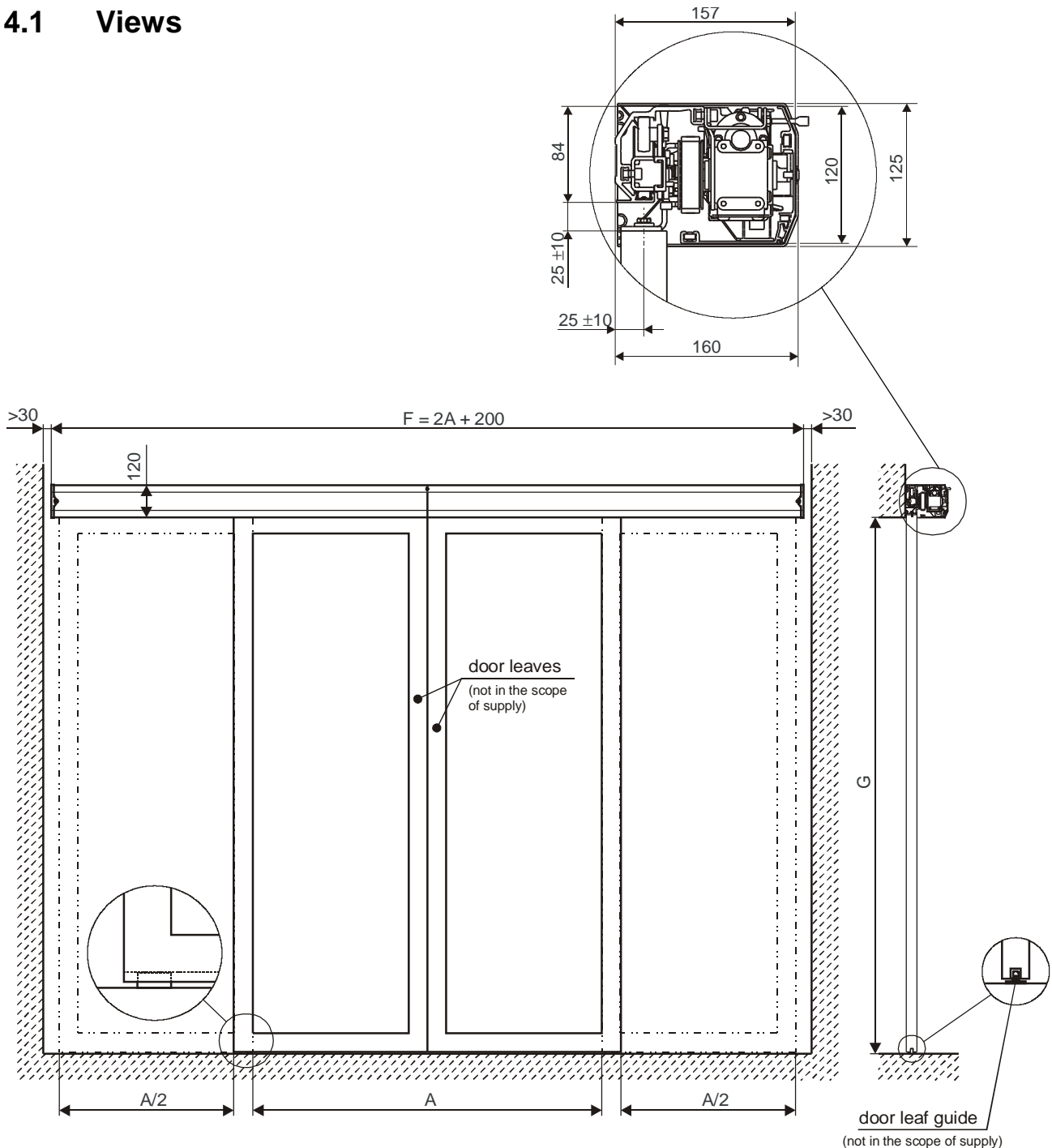
3.4 Final adjustments and tests on site for proper operation for compliance with UL325 :

1. Check that all tasks defined in chapter 5 *Installing the operator* have been carried out properly.
2. Check that the door may be opened manually without power applied to the unit.
3. Remove mains power supply and battery connection and check, that the door may be opened manually with a force not greater than 222.4N (50 lbf). (chapter 29.3.2 of UL 325)
4. Check that the door does not develop kinetic energy in excess of 9.49J (7 ft-lbf). (chapter 29.4.1 of UL 325)
5. Check that the door does not require a force greater than 133.4N (30 lbf) applied in either direction to prevent the door from closing. (chapter 29.4.1 of UL 325)
6. Check, that one photoelectric sensor is installed in a height between 150 and 300mm.
7. Check with a white vertical surface (305 by 152mm), that the photoelectric sensor is working correctly at a total of 5 different locations including a distance of 25.4mm from each end. (chapter 35.2 of UL 325)
8. Check that the mains power field wired connections are located inside the enclosure of the operator.

4 Technical data, operating conditions

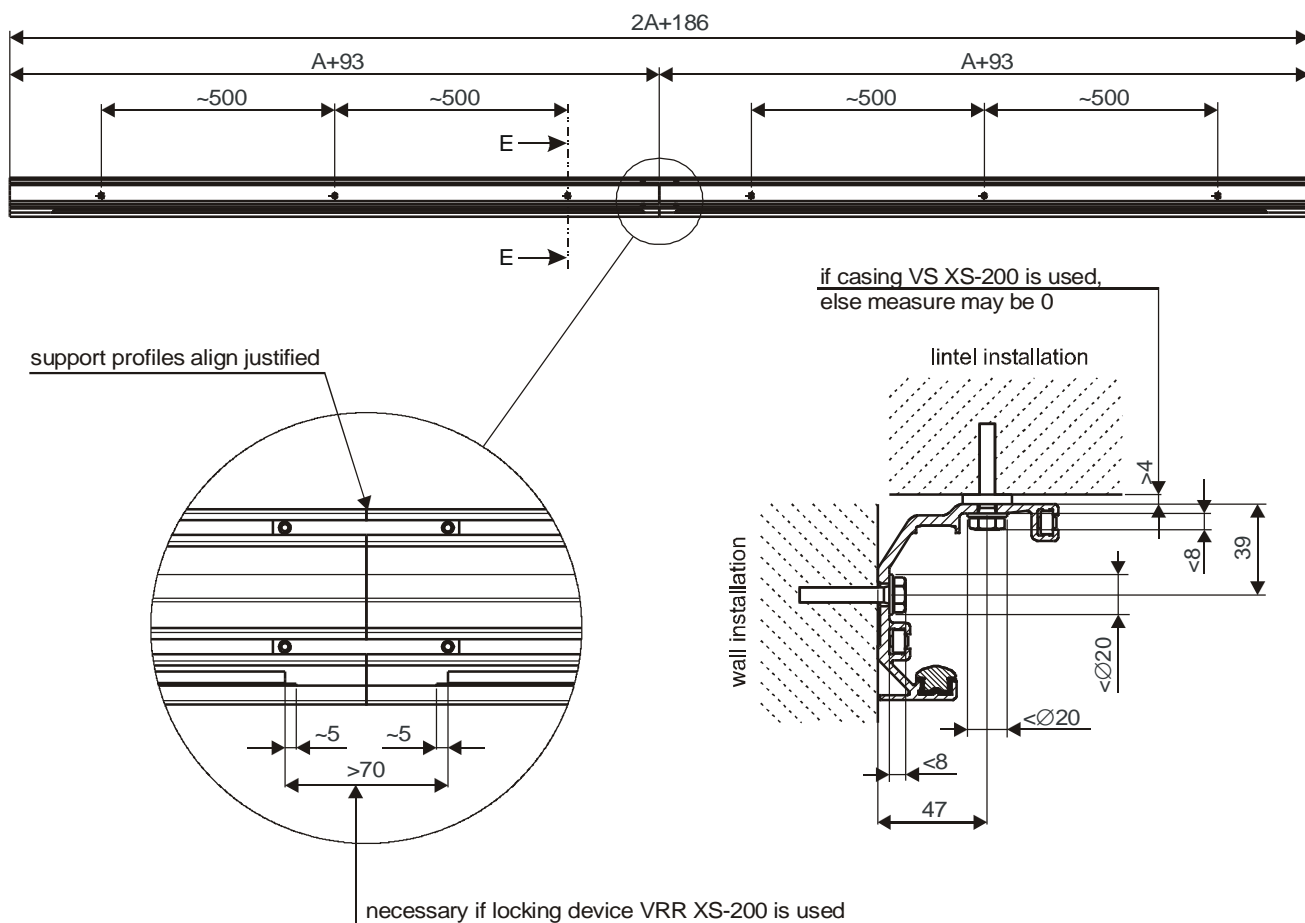
Double sliding door: opening width A	800 – 2000 mm
Single sliding door: opening width A	600 – 1000 mm
Clear passage height G	Max. 2500 mm
Total door leaf weight: double / single sliding door	Max. 2 x 75 kg / 1 x 100kg
Max. door opening speed	0.6 m opening width in 1.0 sec.
Power supply	(with mains voltage selector)
- Mains voltage / frequency	230 V / 50 Hz or 115 V / 60 Hz
- Power rating	100W
- Fuse rating	2.0A (slow acting)
Temperature range	-15° to +50° C
Humidity range	Up to 85% relative humidity, non-thawing

4.1 Views

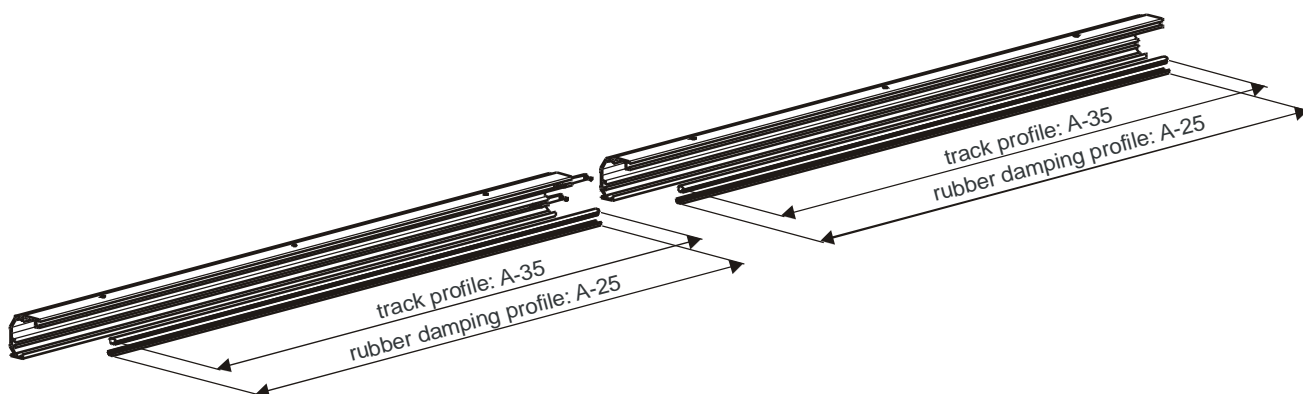


5 Installing the operator

5.1 Fixing the track support profiles

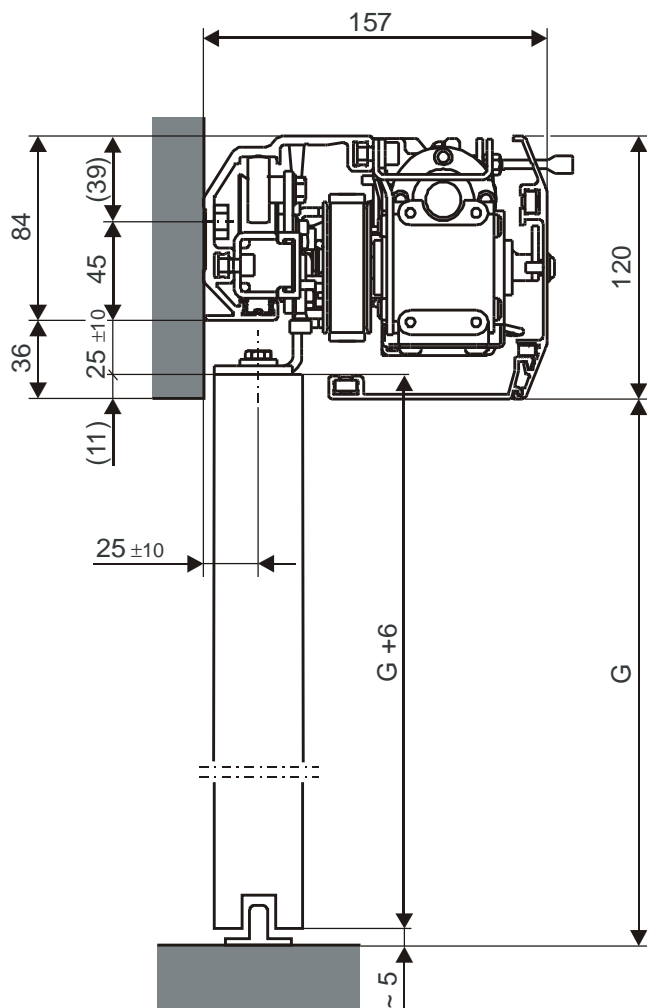


5.2 Inserting track profile

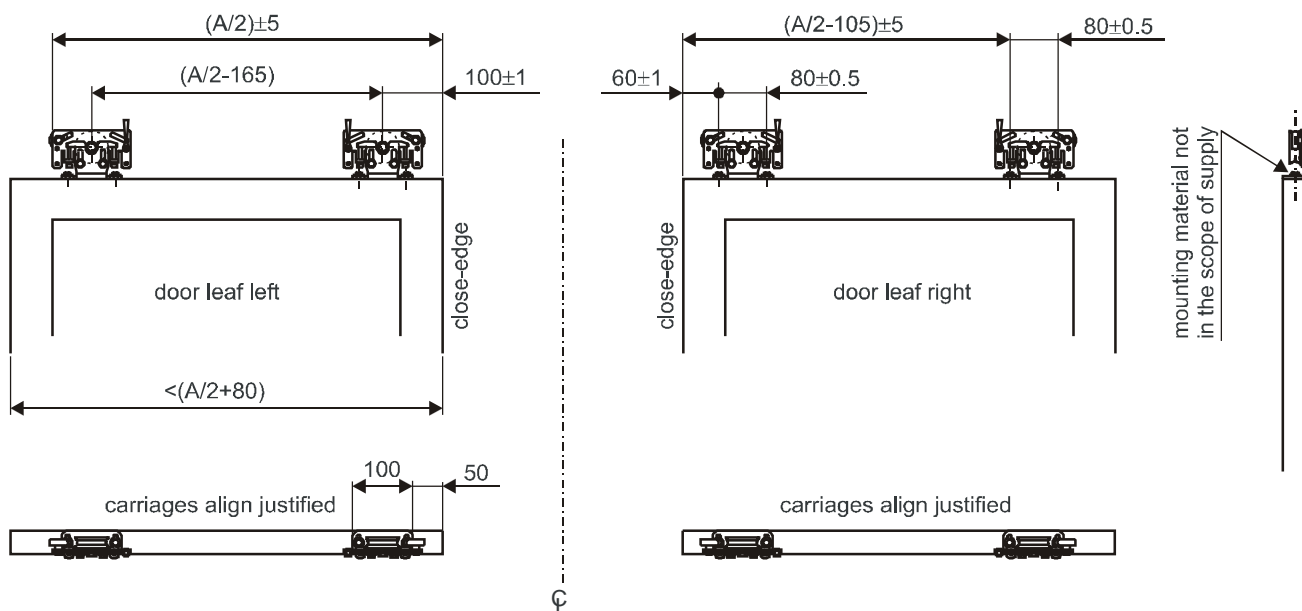


- Clean track support profile
- Clean running surface on track profile
- Spray a little soapy water in slot if necessary
- Insert rubber damping profile
- Spray soapy water again on rubber damping profile
- Place track profile on rubber damping profile and press into track support profile from the centre outwards

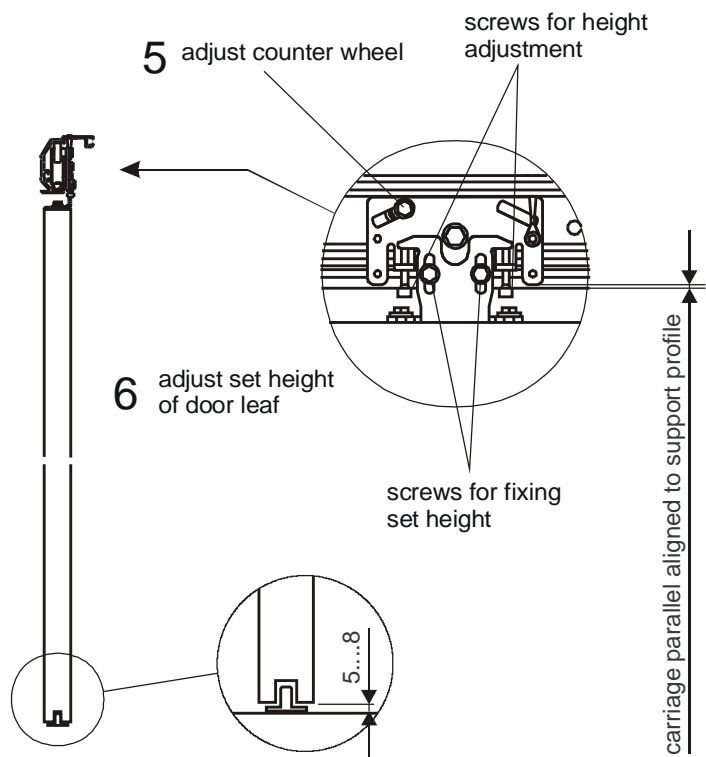
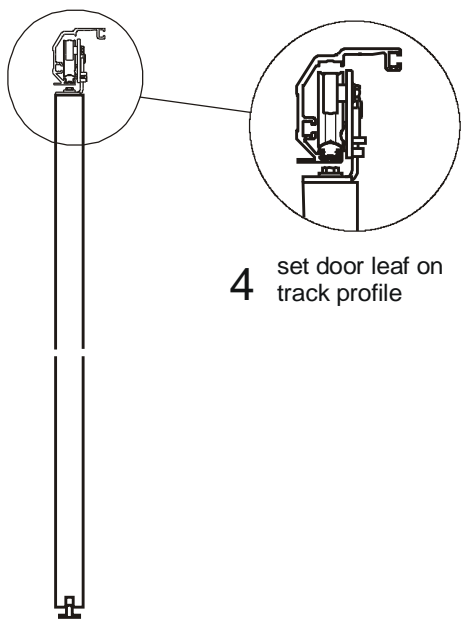
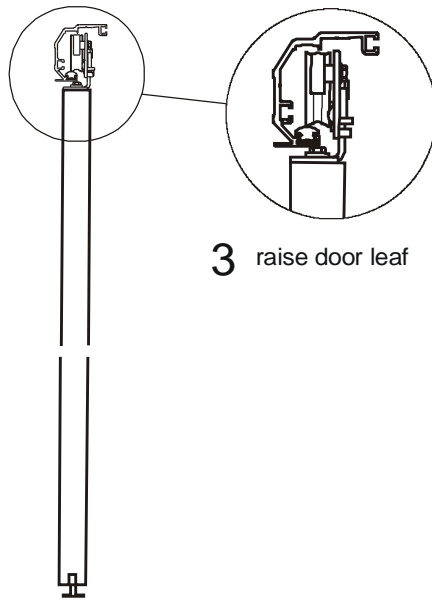
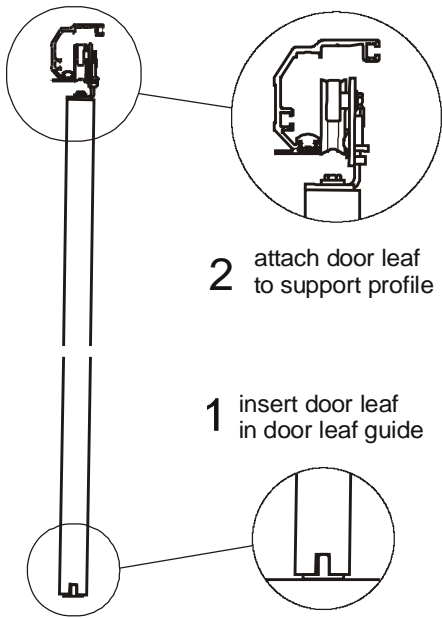
5.3 Sample to fix the operator



5.4 Fixing carriages on door leaves



5.5 Inserting door leaves



5.6 Attaching modules

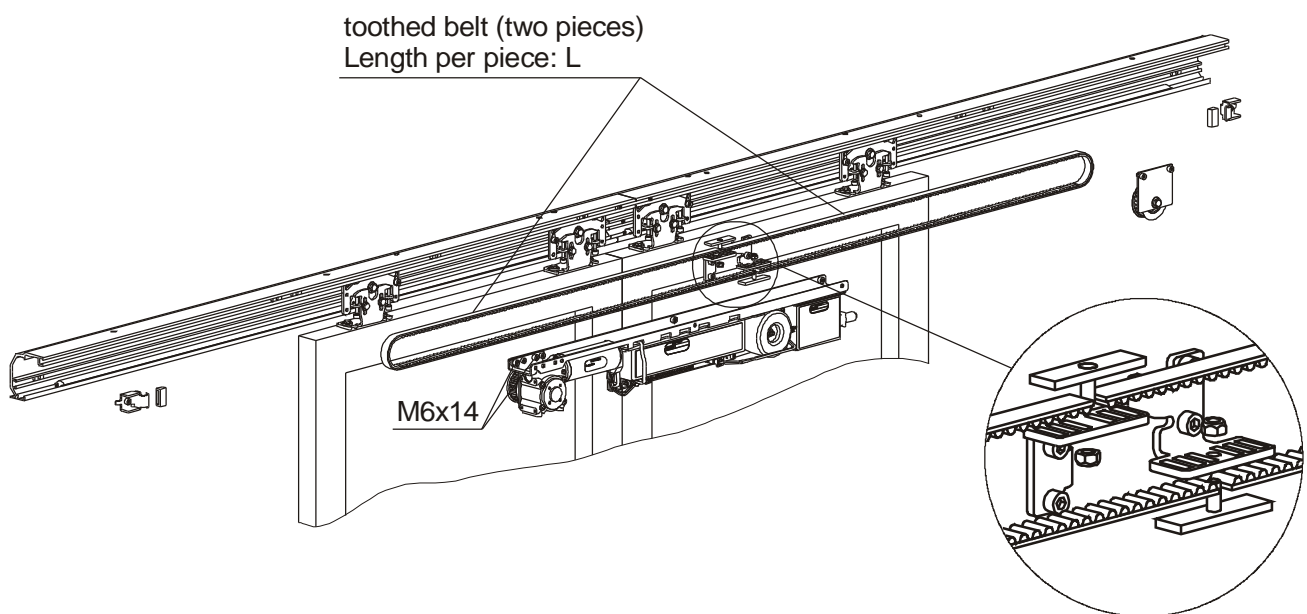
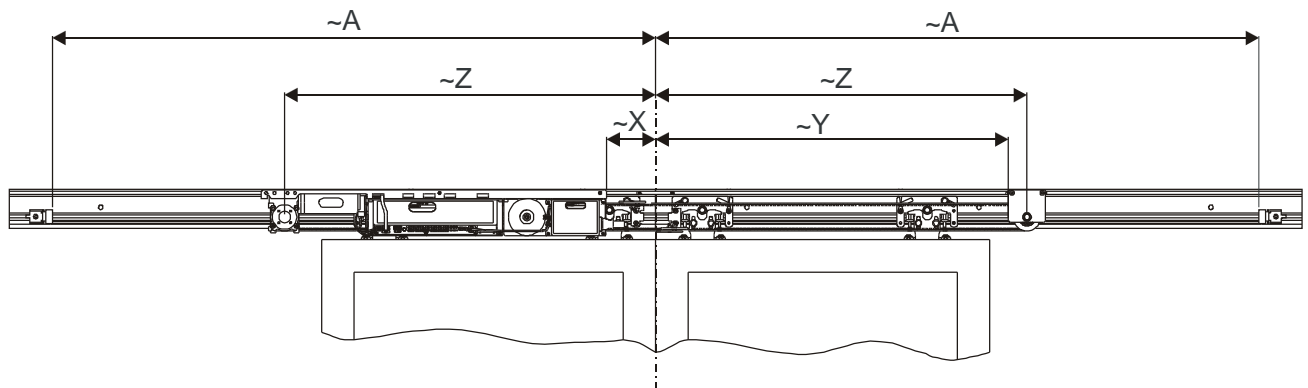
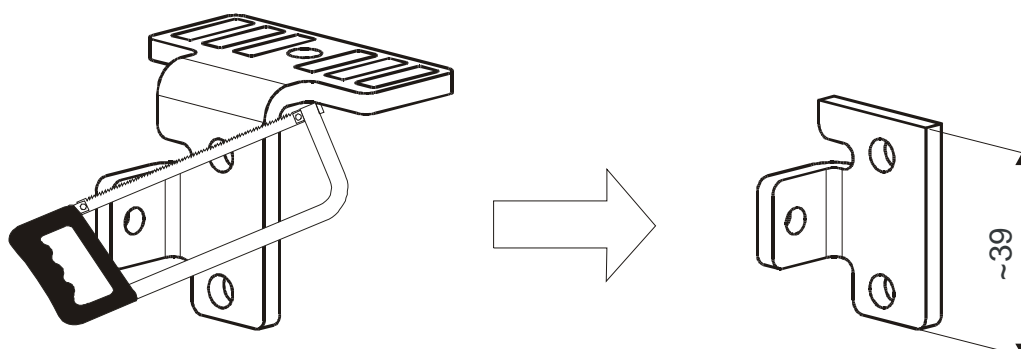


Table of length dimensions

Opening width A	L	X	Y	Z
800 – 1300 mm	1680	106	760	800
1300 – 2000 mm	A + 380	A/2 - 544	A/2 + 110	A/2 + 180

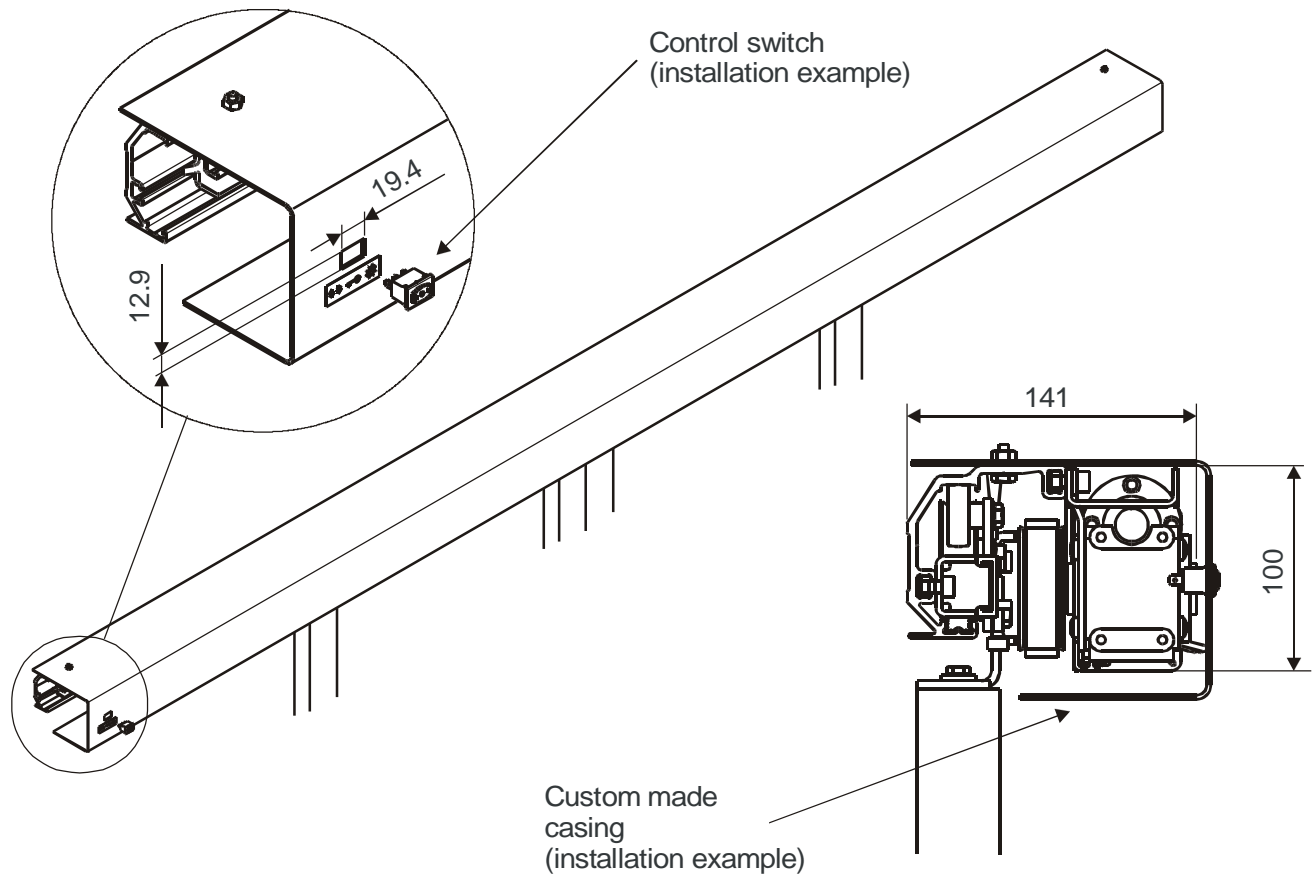
5.6.1 Prepare belt clamp for single sliding door

Saw off the belt clamp (only one piece)



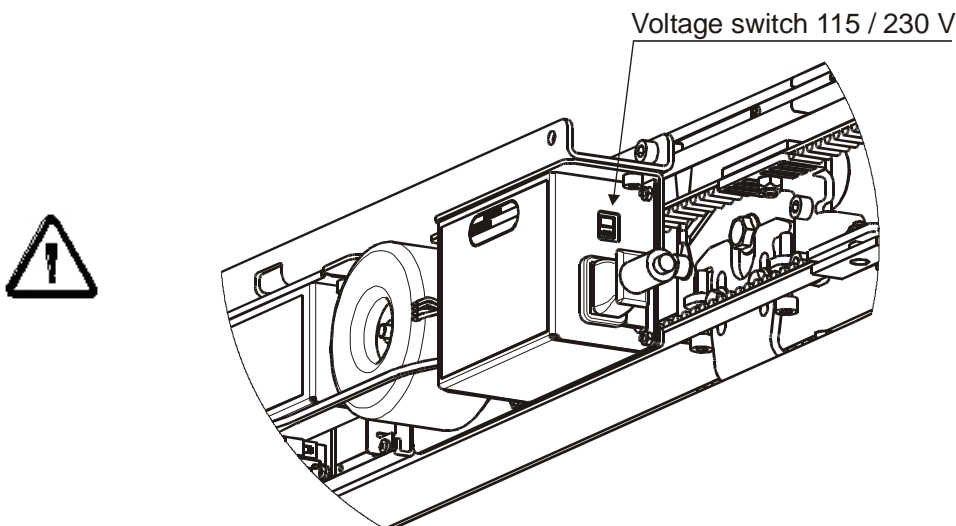
5.7 Control switch / casing

An original VS XS-200 casing or a custom made casing is mandatory to protect persons against moving parts!
 For the optional VS XS-200 casing see the separate assembly instructions in chapter 8 on page 17.



5.8 Connecting electrical units

- Connect control switch BDE-K XS-200 or BDE-M, light emitting barrier ELS, radar(s), mains power cord, etc. according to chapter 7 page 16 and fit cable cover.
- Before applying the mains voltage to the power supply NET XS-200, the installer has to ensure, that the mains voltage selector switch on the power supply is switched to the correct position (115V / 230V).



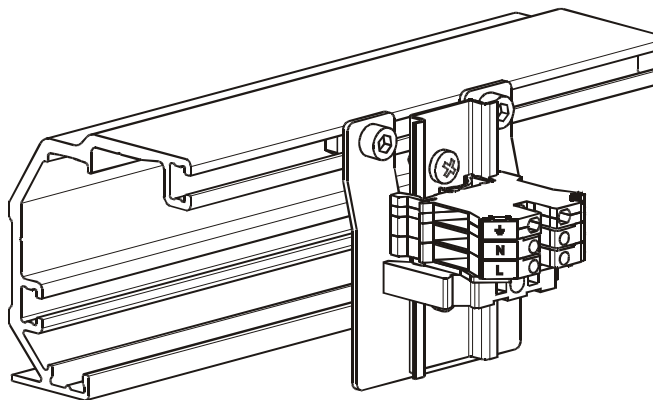
- The mains power connection has to be done via the mains cord supplied with the pedestrian sliding door operator (see also schematic chapter 7 page 16).
- The mains power connection cable has to be cut according to the size of the door in such a way, that the field wired connections are located inside the enclosure of the operator.
- Proper grounding has to be applied.
- Only permanent wiring is allowed with this pedestrian sliding door operator.
- The local installation regulations have always to be followed.

5.8.1 Field wiring terminal FWT for mains connection (accessories)

To connect the mains power connection cable in an user-friendly form, a mounting set of field wiring terminal is available (accessories, part number. : 130.005.000).






The local installation regulations have always to be followed (see also chapter 5.8 page 12).



6 Operating instructions

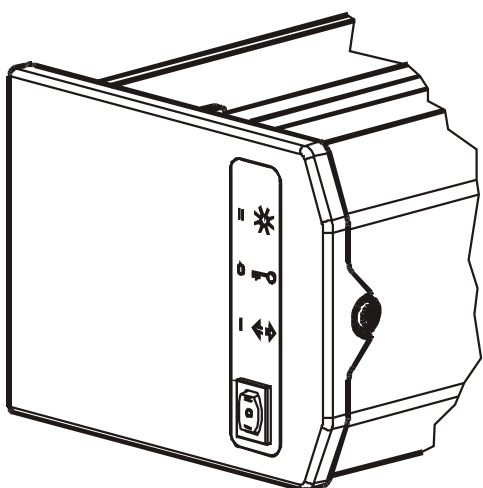
6.1 Functions of the standard control switch:

The standard control switch is a simple unit with a 3 position program switch.

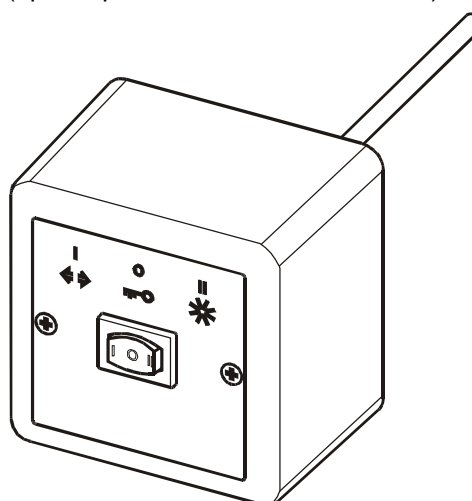
Operating mode		Logo	description
On (Automatic mode)	II		Terminal 14 is shorted to terminal 13 (+24V)
Hold open*	I		Terminal 15 is shorted to terminal 13 (+24V)
Off / Locked	0		Terminals 14 and 15 are opened

* If the door is open, it changes the operating mode to manual operation.

Control switch mounted on side cover of casing


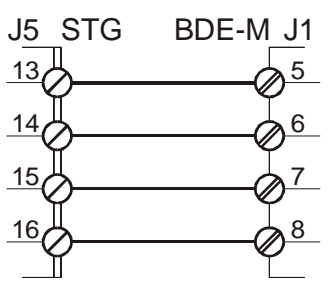





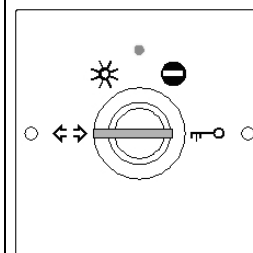
Control switch mounted on MS BDE-K XS-200 (option, part number. : 130.003.000)



6.2 Functions of mechanical BDE-M (accessories)

The mechanical control unit BDE-M is a simple input unit with a key-switch. The key can be withdrawn at any position.

Operating mode	Logo		
On (Automatic mode)		Terminal 14 is shorted to terminal 13 (+24V)	
Hold open*		Terminal 15 is shorted to terminal 13 (+24V)	
Off / Locked		Terminals 14 and 15 are opened	
One way		Terminals 14 and 15 are shorted to terminal 13 (+24V)	



Operating indication:

The LED lights when mains or battery voltage is present

Reset key:

This hidden key is operated with a paper clip approx. 25 mm long. A small hole is provided for this purpose below the keyhole. If this key is pressed at least 2 seconds, the control unit restarts.

6.3 General

The control unit STG XS-200 operates with active HIGH level input, i.e. an +24 V level must be applied to activate a function. The signal ground (0 V) is connected to protective earth.

Electromechanical lock functionality with a VRR XS-200 and battery powered options BAT XS-200 are available as option with a supplementary pc board MS ZLP1 XS-200.

6.3.1 Controls on STG XS-200:

Potentiometers:

Potentiometer	Function	Factory set	Range
P1	Opening speed	0.45m/s *	0.04 to 0.6 m/s *
P2	Closing speed	0.25m/s *	0.04 to 0.3 m/s *
P3	Door open time	1.5s	0 to 30s



* 0.3m/s is equivalent to 1ft/s

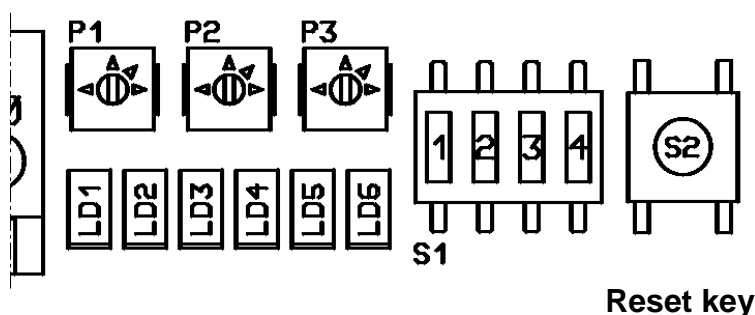
DIP switches:

DIP switch S1	Function	On / up	Off / down
S1-1	Not used	-----	-----
S1-2	Electric lock	On	Off
S1-3	Power failure *	Electric lock Fail secure (locked)	Electric lock Fail safe (unlocked)
S1-4	Power failure and Battery option *	Door is opened	Door is closed

* Factory set of power failure is S1-3 and S1-4 on → power failure: door is opened if not locked.

Reset key:

If this key is pressed at least 2 seconds, the control unit restarts.



Reset key

6.3.2 Status and fault signals:

LED's:

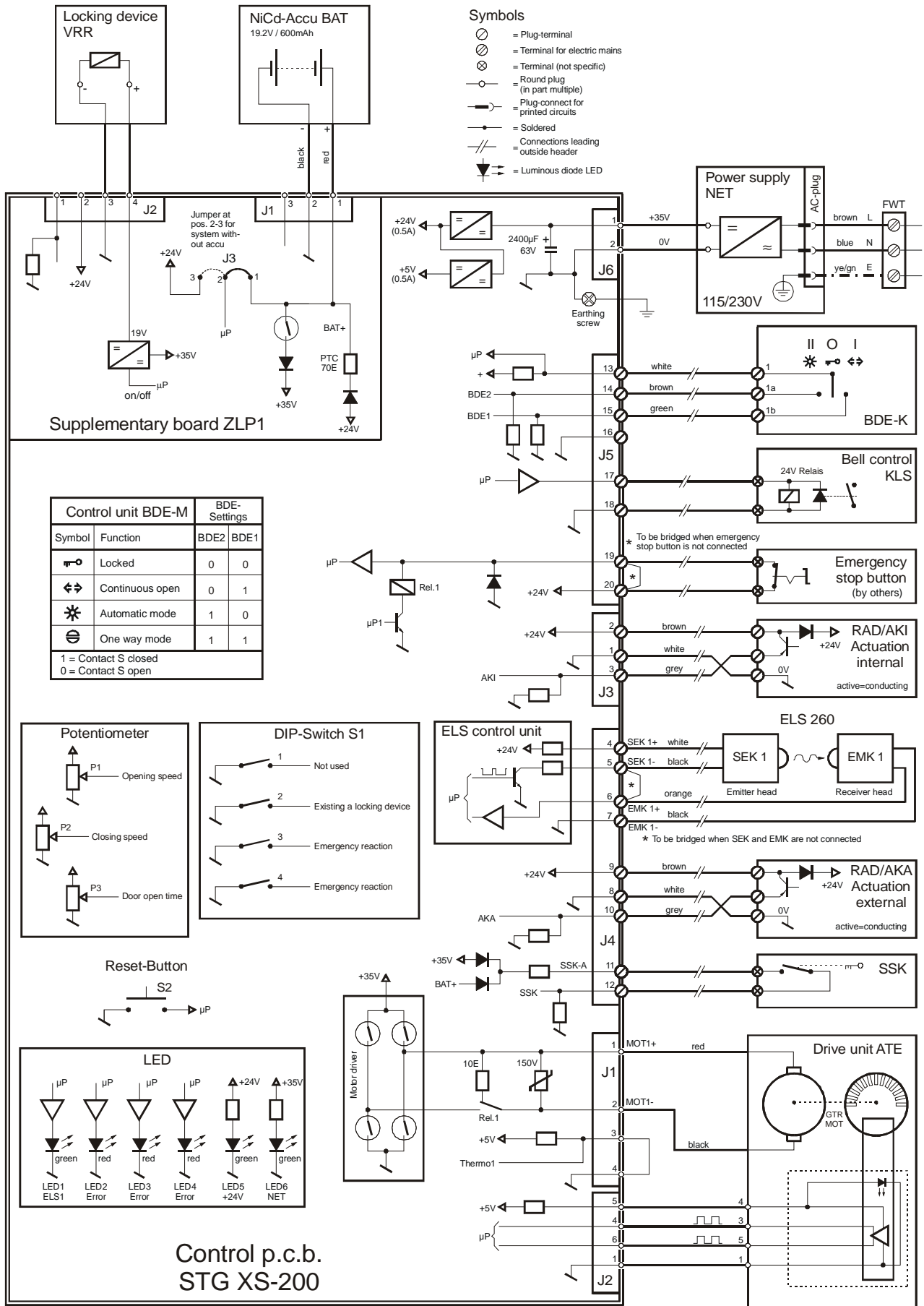
LED	Color	Function	Description
LD1	green	ELS (Photocell)	Lights on when obstruction present
LD2	red	Error no	See below
LD3	red	Error no	See below
LD4	red	Error no	See below
LD5	green	+24V	+24V: lights when main or battery voltage present
LD6	green	+35V	+35V: lights when main voltage present

Error no:

LD2	LD3	LD4	Error no.	Description
			0	No Error
L			1	One sensor active longer than 60s (Radar or Photocell)
	L		2	Battery error
L	L		3	Locking system error, locking or unlocking error
		L	4	not used
L		L	5	Motor overload or motor over temperature
	L	L	6	Motor current missing or incremental encoder error
L	L	L	7	Control unit defect
B			12	Emergency stop button operated
	B		13	Overload on +24V supply
		B	14	Power failure

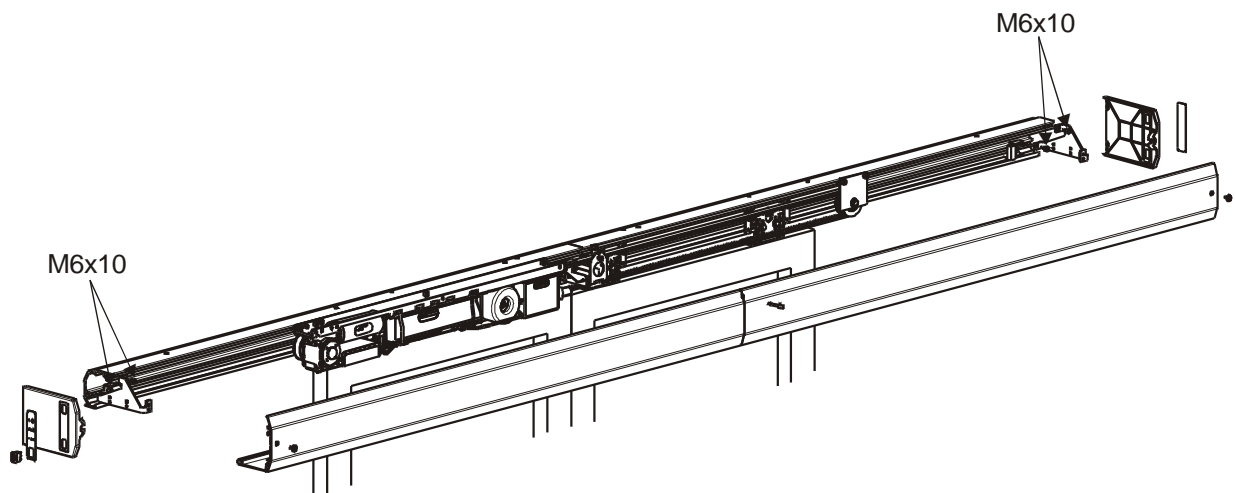
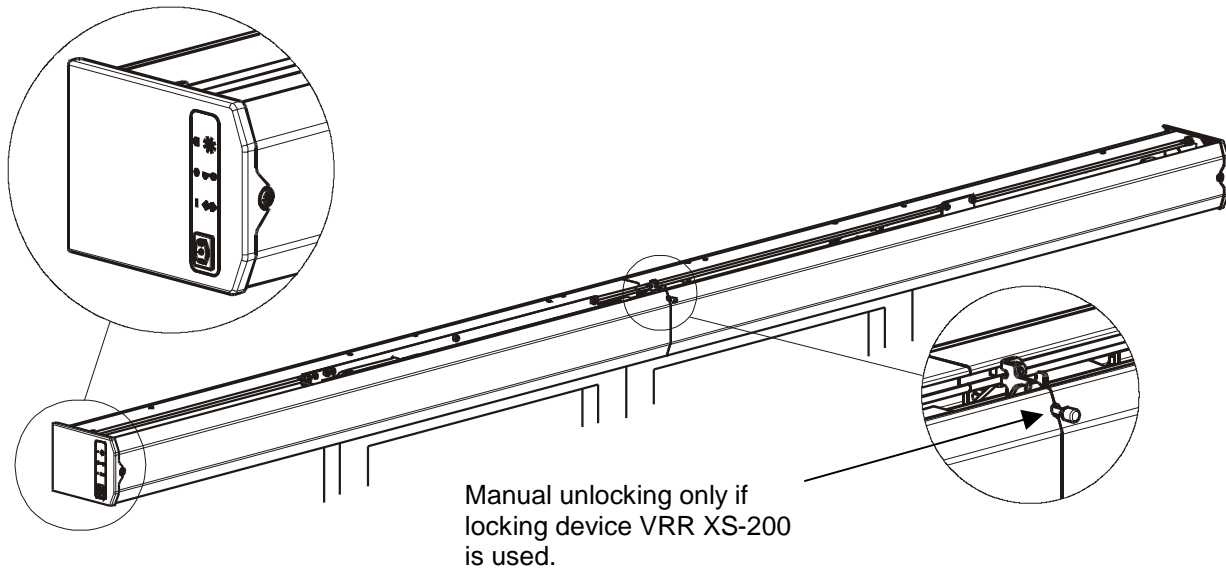
L: LED on B: LED flashes

7 Electrical wiring diagram



8 Casing VS XS-200

8.1 Views



8.2 Type of installation

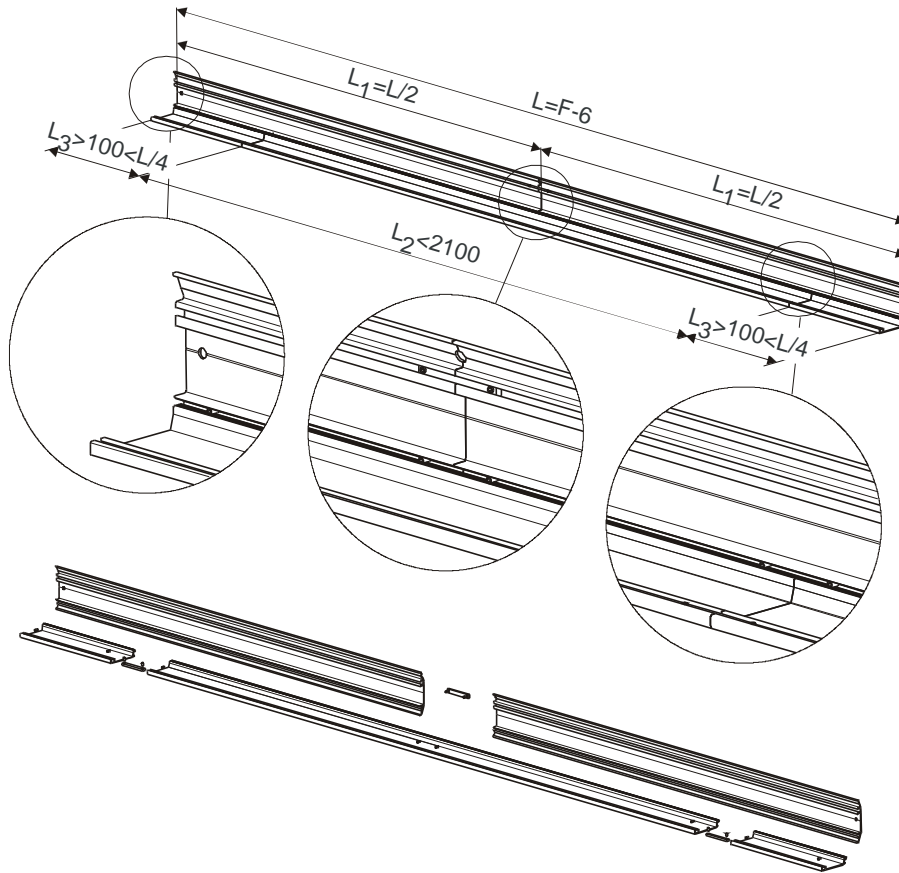
Depending on the length of the header (dimension F) or the clear opening width (dimension A) the assembly of the casing may change.

We propose to have only one parting line between the vertical profiles. The reason for doing it in this way is a higher stiffness and a good looking design. It's also possible to cover the parting line by a motion sensor or something else.

The following page will show some application examples.

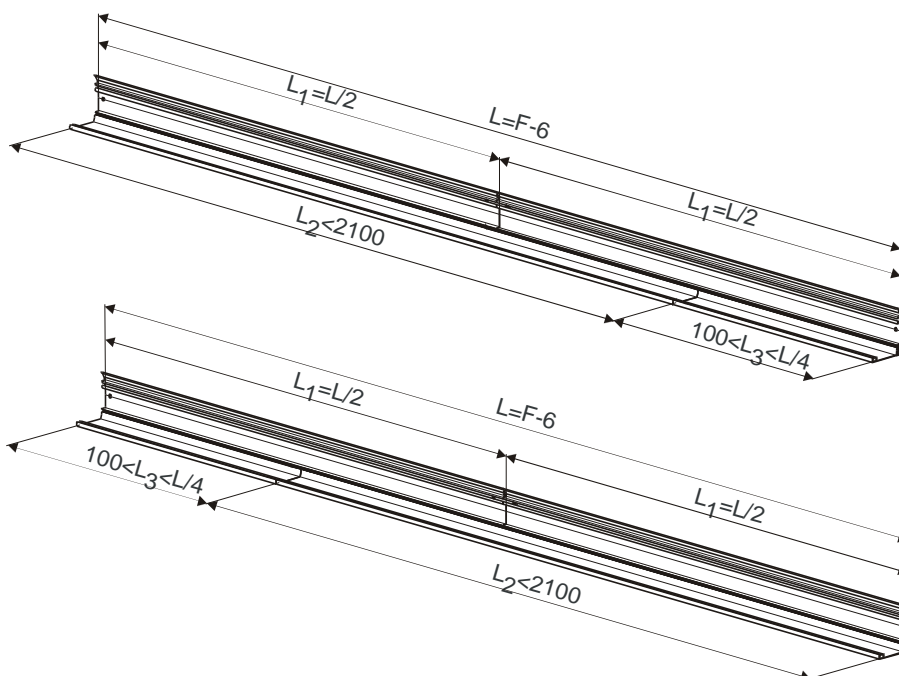
8.2.1 Length of the header **F: 2800 - 4200 mm**

(clear opening width **A: 1300 - 2000 mm**)



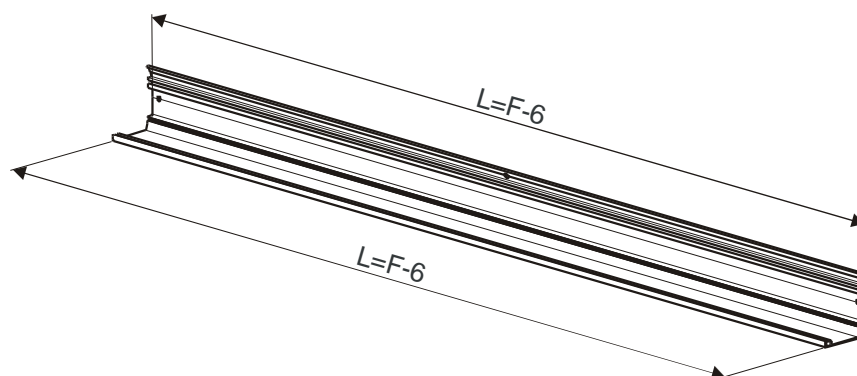
8.2.2 Length of the header **F: 2100 - 2800 mm**

(clear opening width **A: 950 - 1300 mm**)



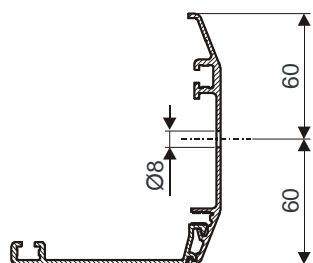
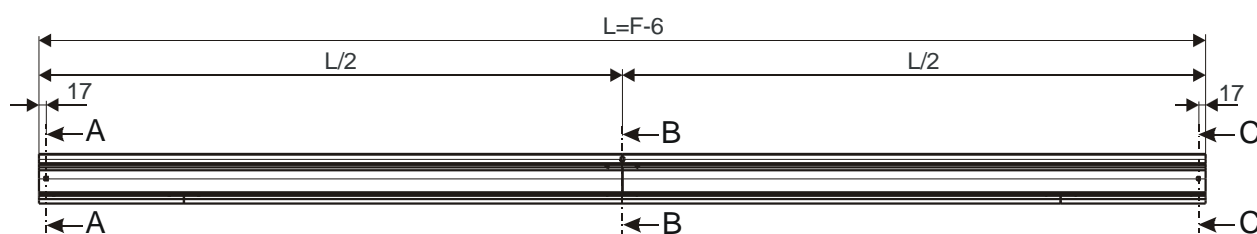
8.2.3 Length of the header $F < 2100$ mm

(clear opening width A : 800 - 950 mm)

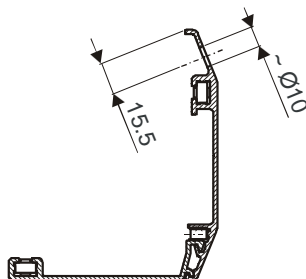


8.3 Prepare the profiles

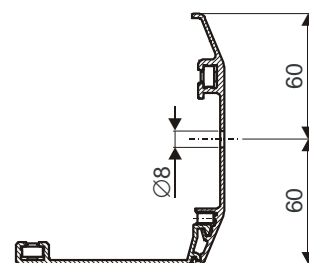
8.3.1 Double sliding door



A-A

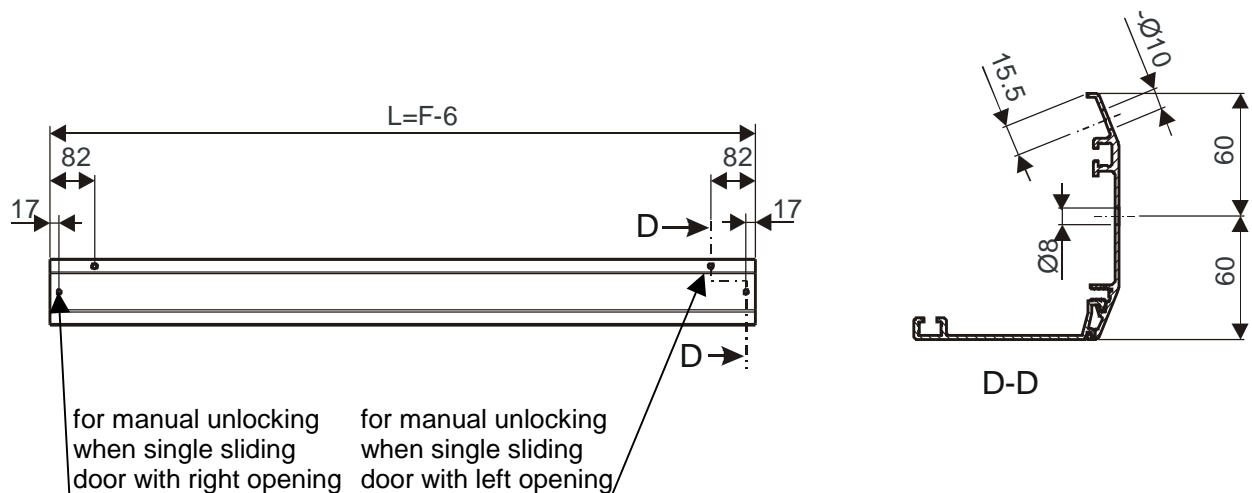


B-B



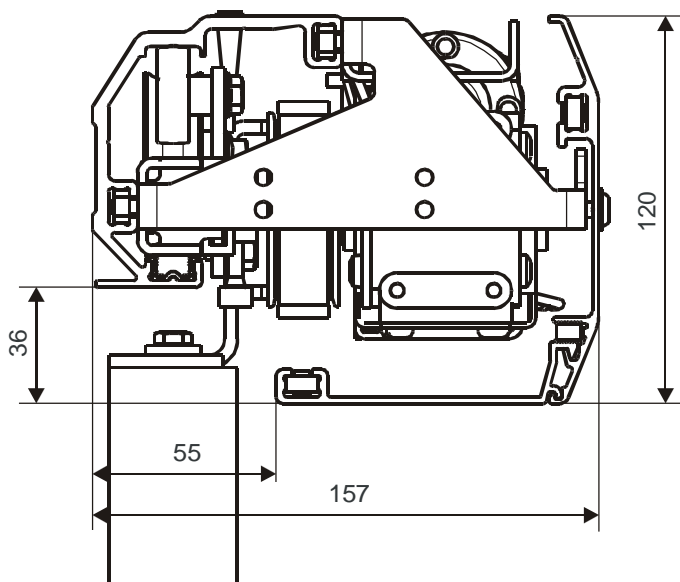
C-C

8.3.2 Single sliding door

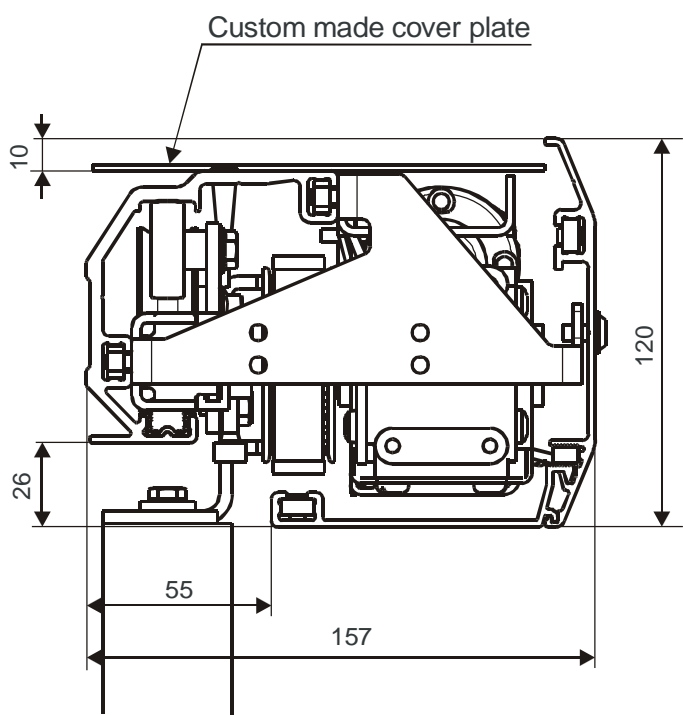


8.4 Installation versions

8.4.1 Version A (normal position)

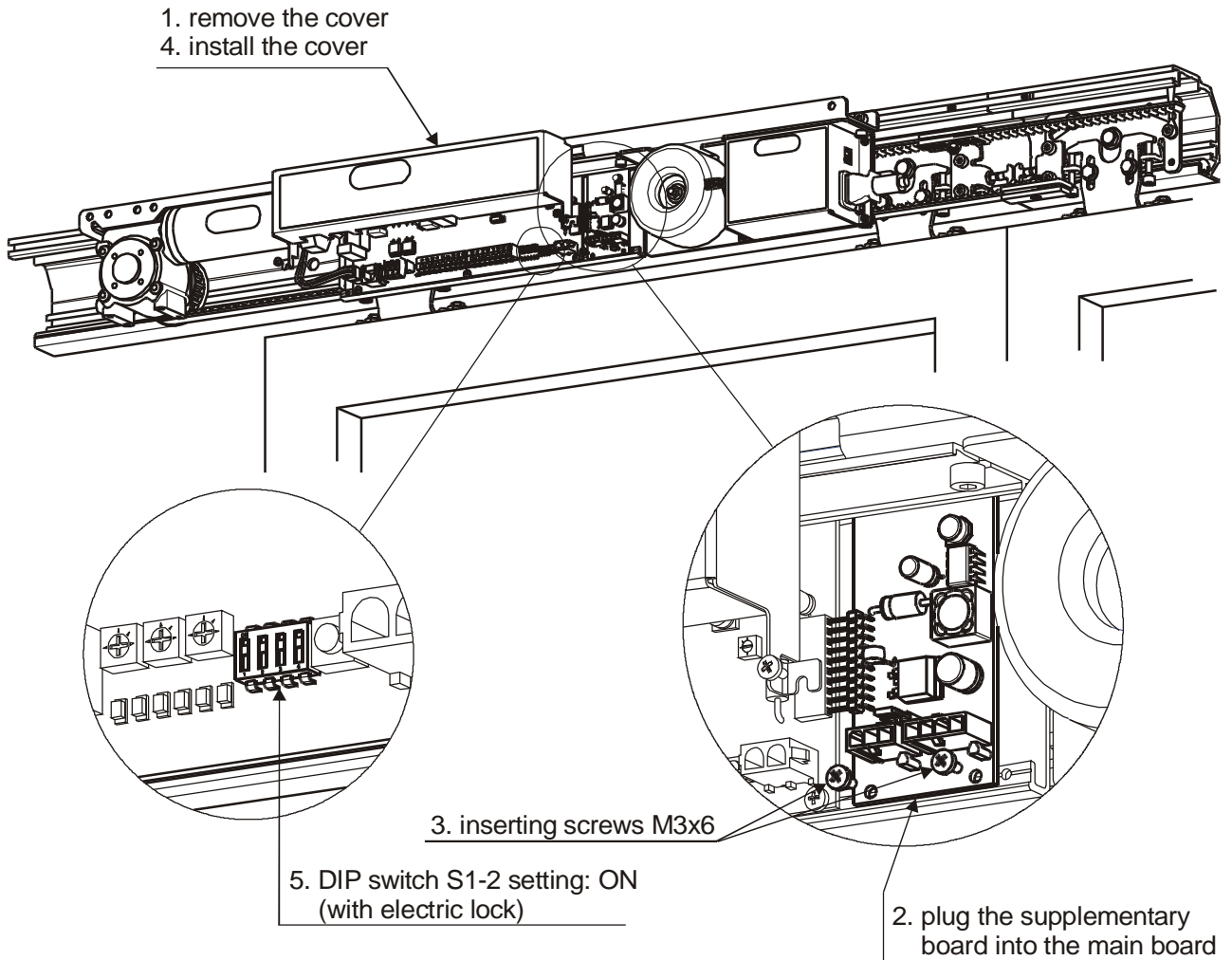


8.4.2 Version B (upper position)

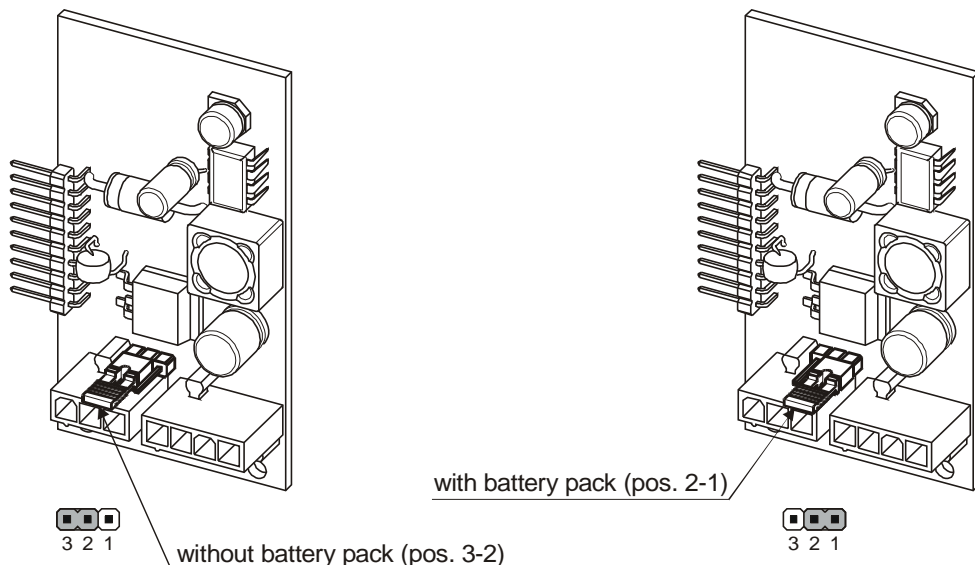


9 Preparations for electr. lock / battery

9.1 Inserting the supplementary board ZLP1 XS-200

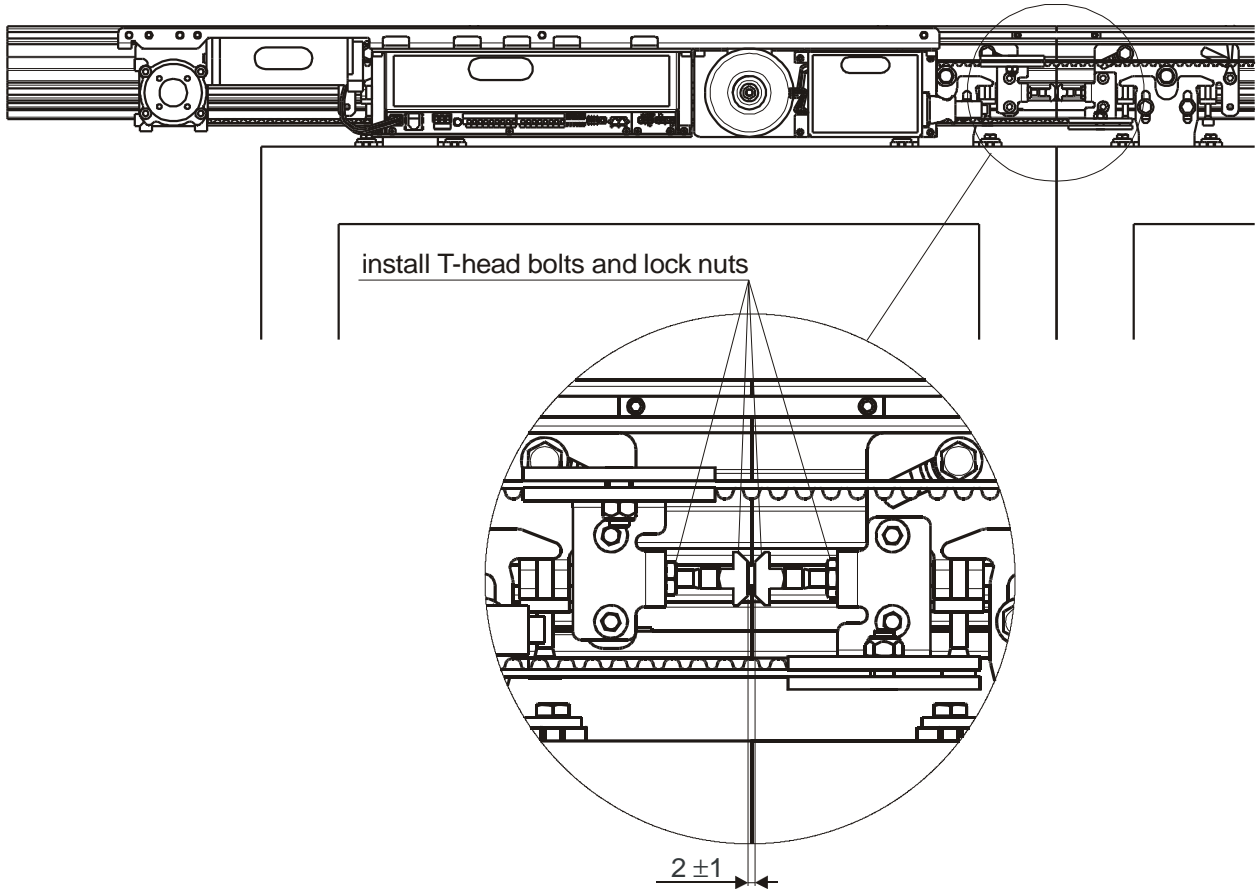


9.1.1 Jumper settings on supplementary board ZLP1 XS-200



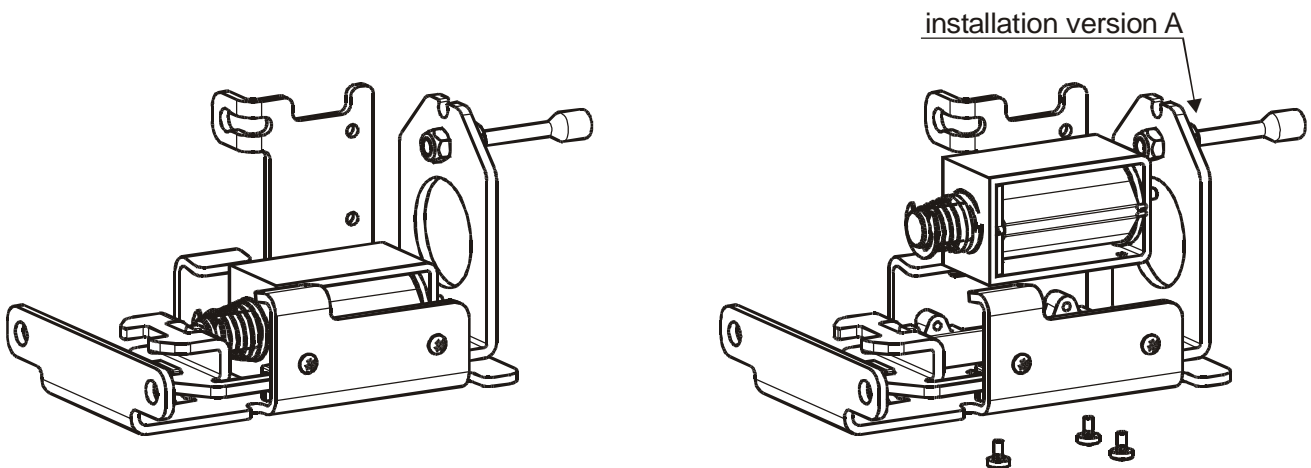
10 Electromechanical lock VRR XS-200

10.1 Installing accessories: VRR XS-200



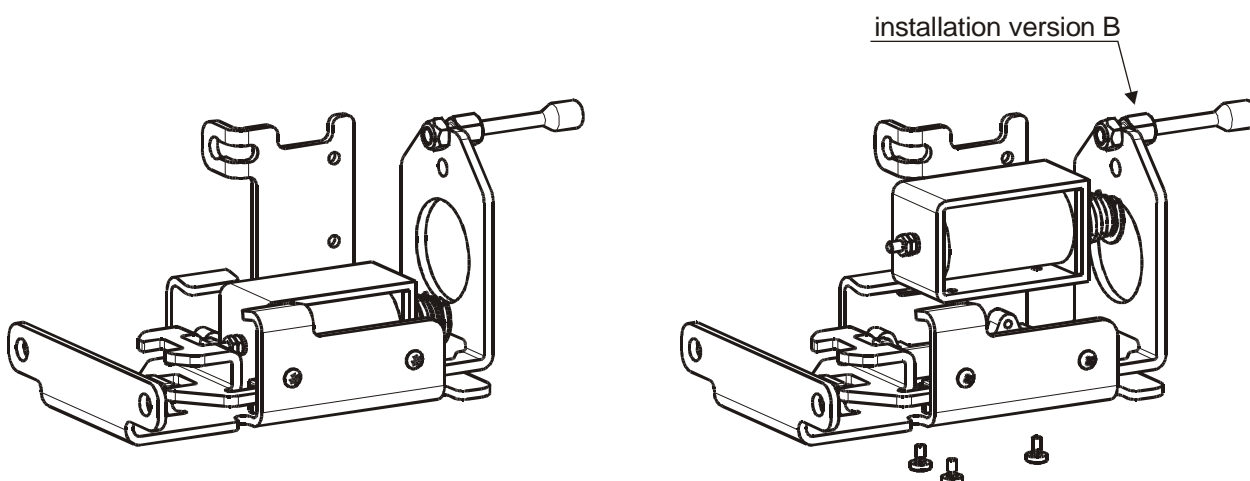
10.2 Adjust the mode of operation

Fail secure (normal **locked**, as delivered)



(see also chapter 8.4.1 page 20)

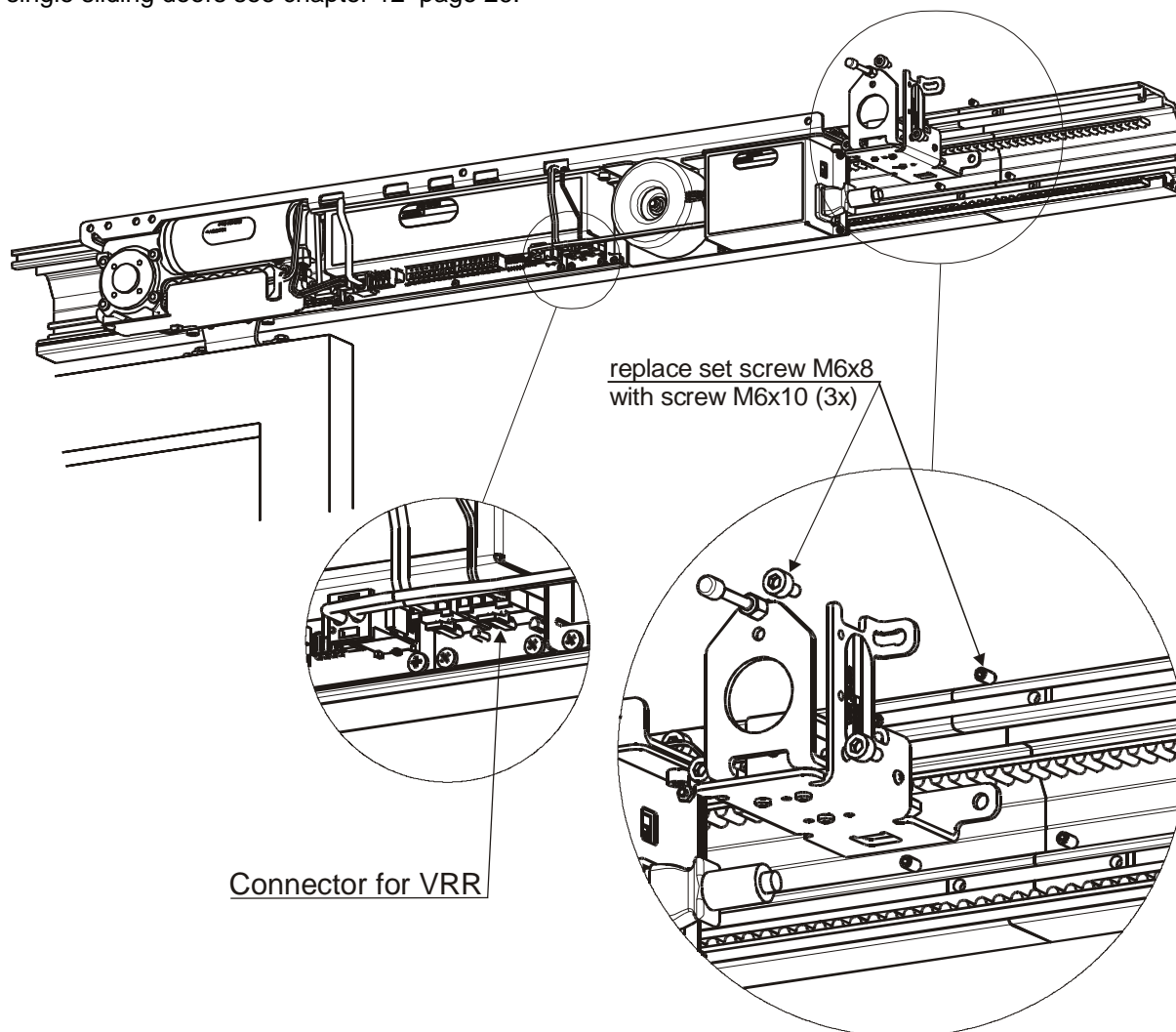
Fail safe (normal **unlocked**)



(see also chapter 8.4.2 page 20)

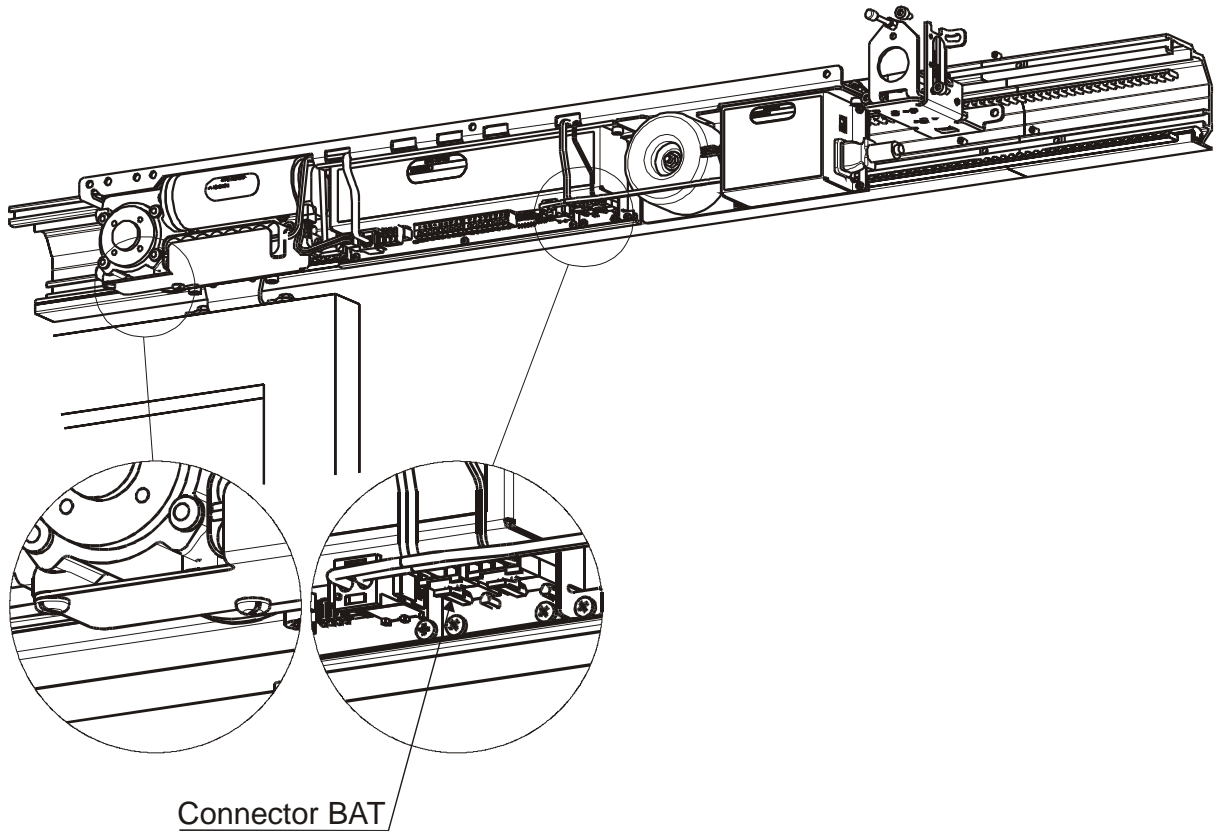
10.3 Attaching the electromechanical locking VRR XS-200

Execution only for double sliding doors (positioning in the middle)
For single sliding doors see chapter 12 page 26.



11 Battery pack BAT XS-200

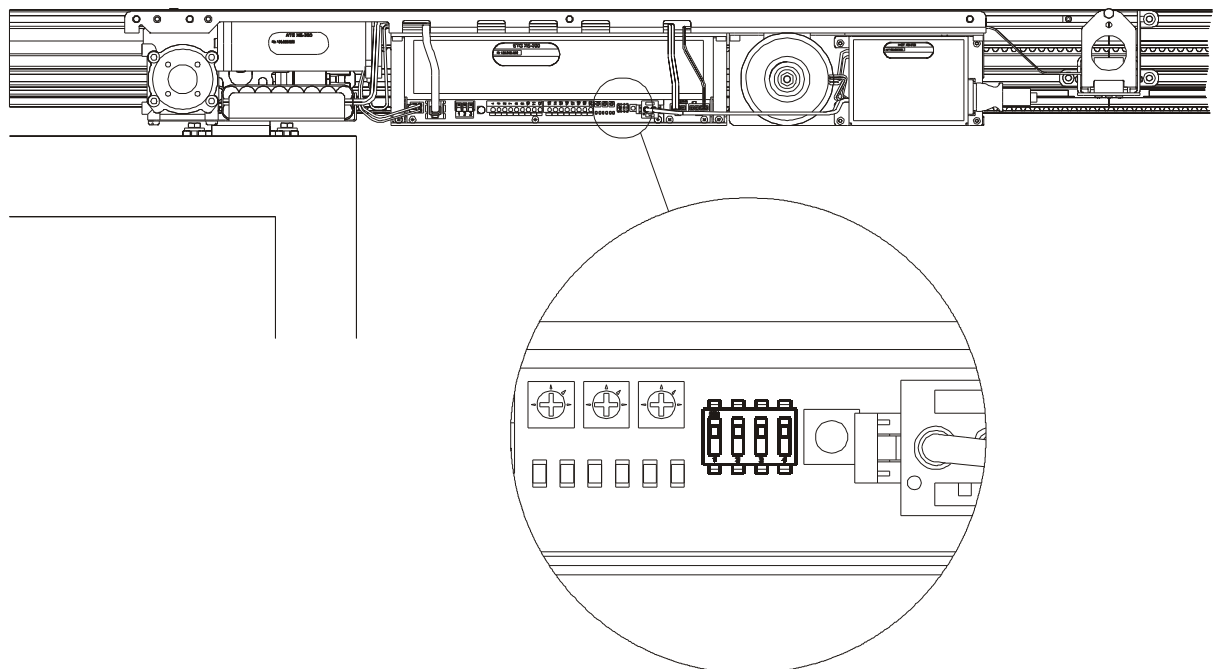
11.1 Attaching battery pack

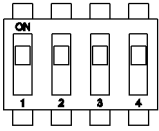
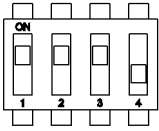
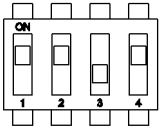
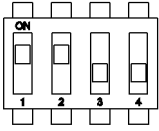


11.2 Power failure mode settings on control unit

Only available with installed battery pack!

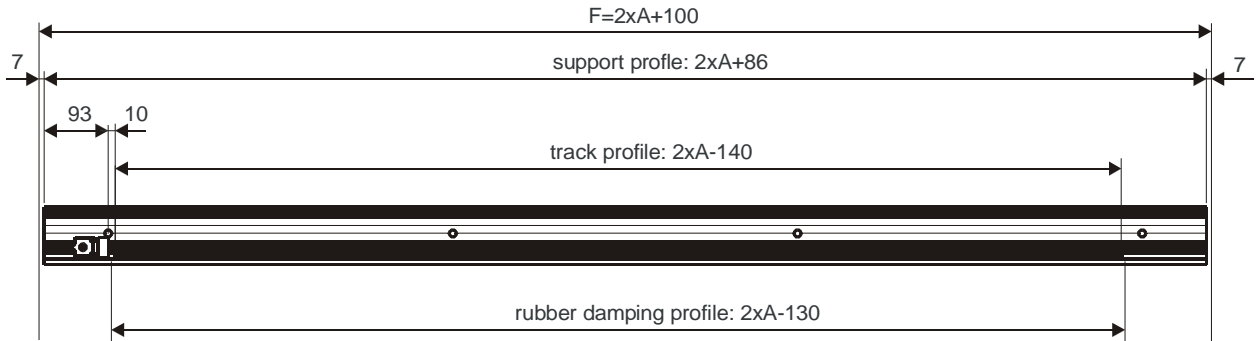
DIP switch settings on main board (see also chapter 6.3.1 page 15):



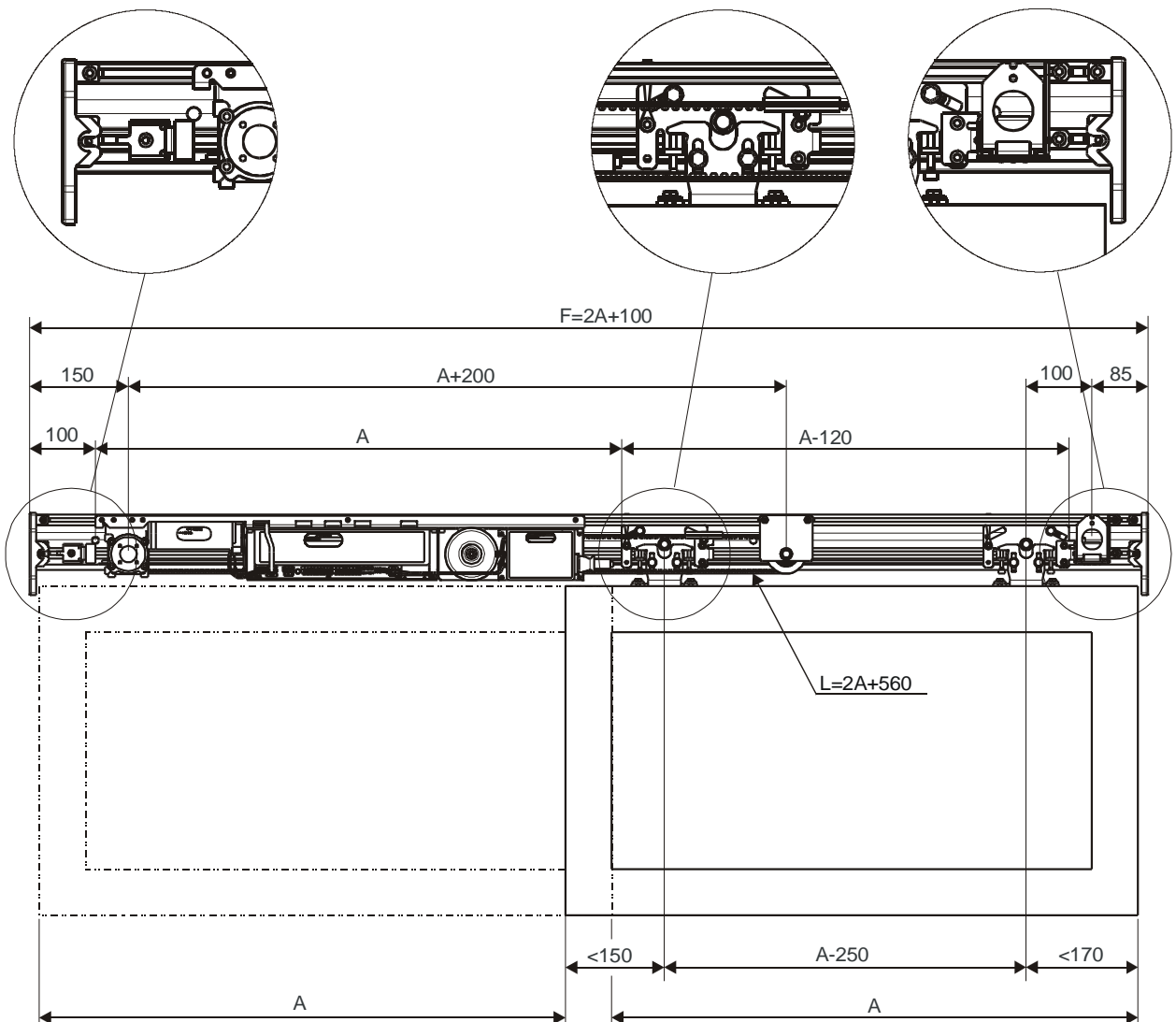
DIP switch S1	Function	Electric lock mode of operation
	Power failure → opened door if not locked	Fail secure (normally locked)
	Power failure → closed door	Fail secure (normally locked)
	Power failure → opened door	Fail safe (normally unlocked)
	Power failure → closed door	Fail safe (normally unlocked)

12 Preparations for single sliding doors

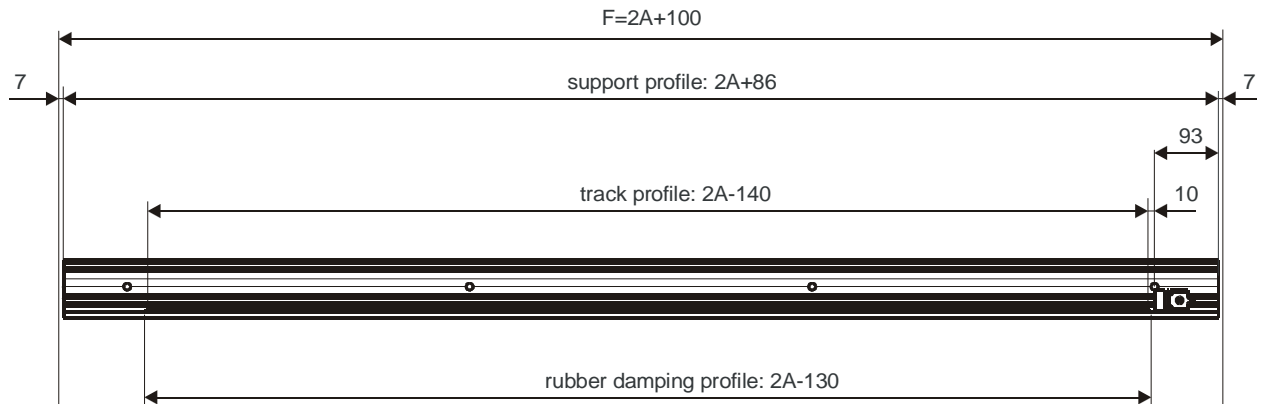
12.1 Profiles single sliding door left opening



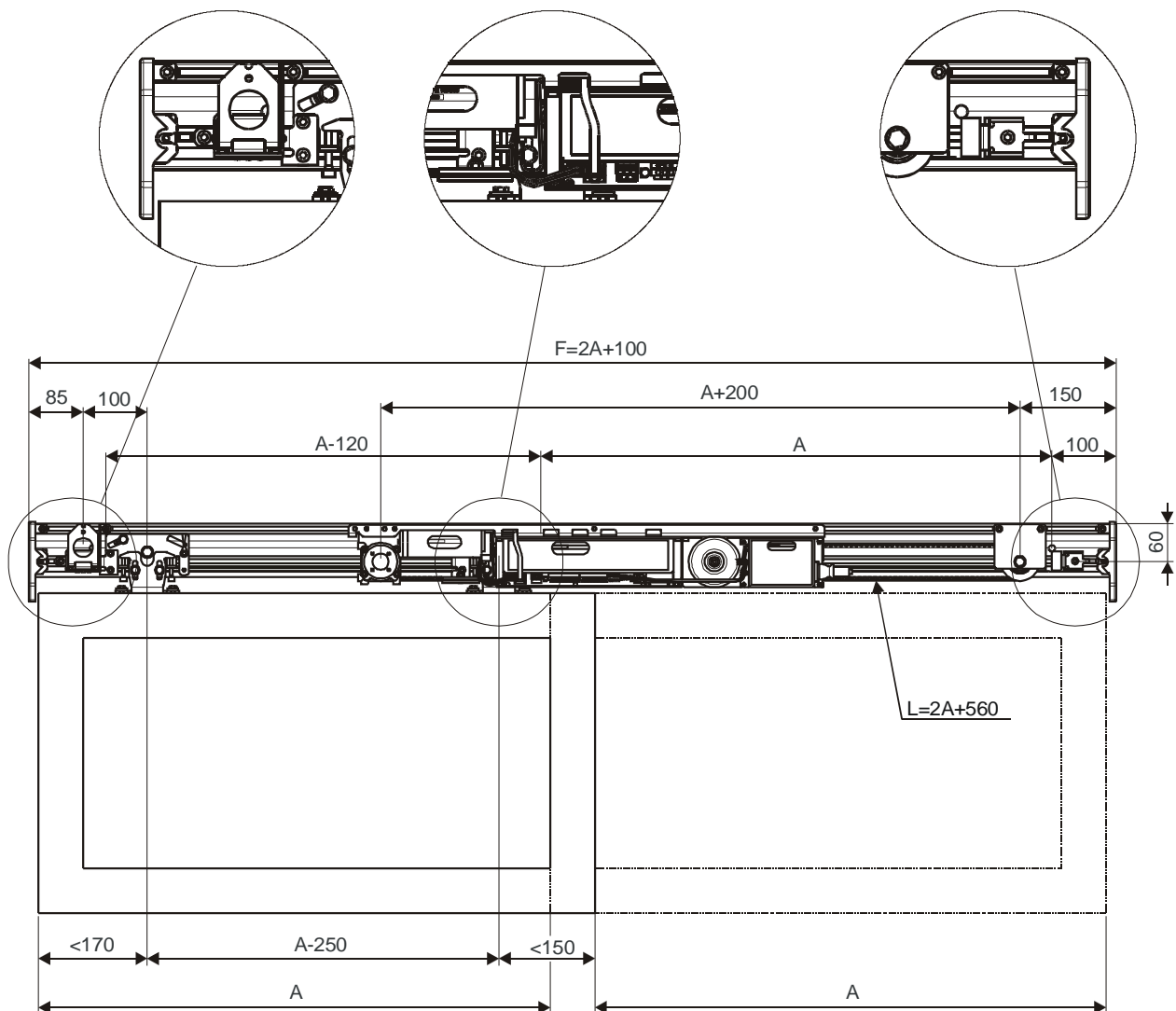
12.2 View single sliding door left opening



12.3 Profiles single sliding door right opening



12.4 View single sliding door right opening



13 Abbreviations

A	A	Width of passage	M	MOT	Motor
	AKA	Actuating contact „outside“		MP	General installation plan
	AKI	Actuating contact „inside“	N	NET	Power supply
	ATE	Drive unit	O	OUT	Output
	ATM	Drive module	R	RAD-A	Radar „outside“
B	BAT	Battery-pack		RAD-I	Radar „inside“
	BDE	Control unit	S	SEK	Transmitter head
	BDE-M	Control unit mechanical		SSK	Key-operated contact
	BDE-K	Control unit XS-200		STG	Control unit
C	CPU	Microprocessor		STP	Control unit pc board
E	EEPROM	Parameter storage	T	THS	Thermostatic switch
	ELS	Light barrier		TOZ	Door hold-open time
	EMK	Receiver head	U	UMR	Counter pulley
	EPROM	Program storage		µP	Microprocessor
	ES	Electrical connection diagram	V	VRR	Locking device
F	F	Length of header		VS	Casing
	FWT	Field wiring terminal	X	XSL-200	Double sliding door drive
G	G	Height of passage		XSL-100	Single sliding door drive
	GTR	Gearbox	Z	ZLP1	Supplementary printed circuit board for BAT and VRR
K	KA	Cable exit			
	KLS	Bell control output			
L	LED	Light-emitting diode			
	LS	Wiring diagram			

15 Addresses

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