

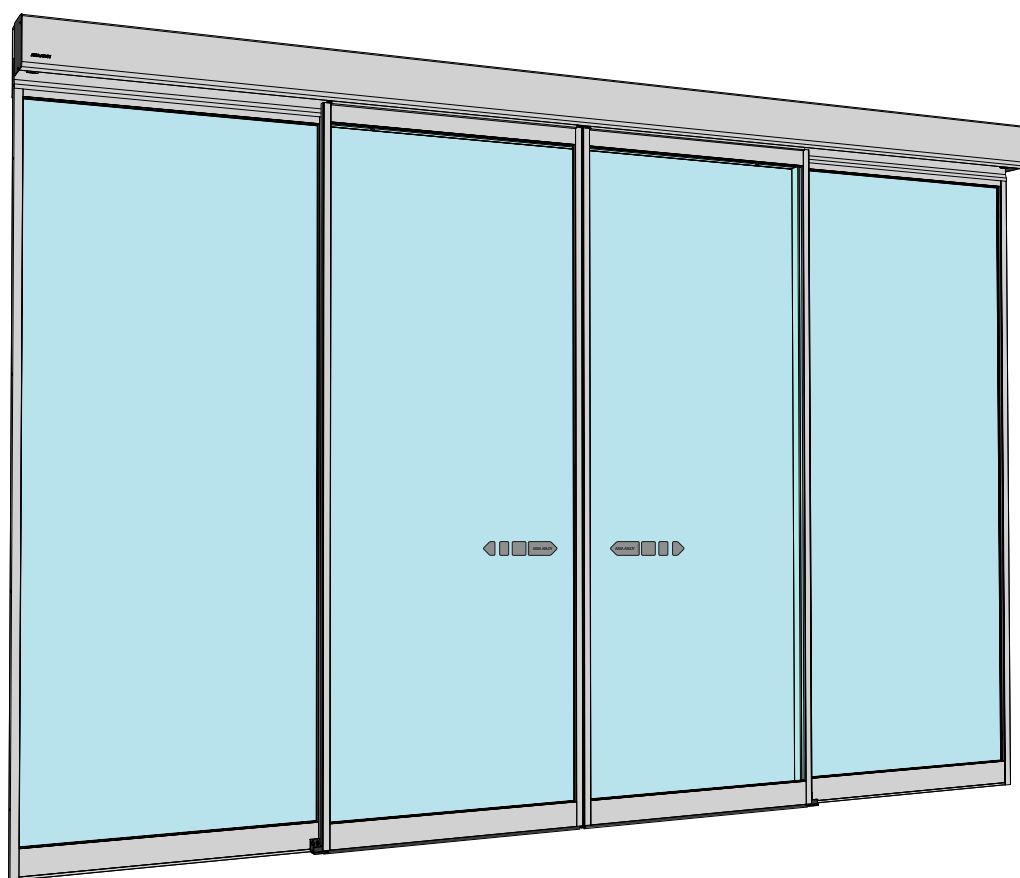
Installation and Service Manual

Sliding Door Operator

ASSA ABLOY SL500

ASSA ABLOY
Entrance Systems

Experience a safer
and more open world



Original instructions

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1 Revision

Following pages have been revised:

Page	Revision 16.0 → 17.0
39	Added tightening torque (Installing the door holders on the door adapter (frame doors by others)).
69	Added instruction (ELS400 NPN/LO (Normally Closed)).
70	Added instruction (ELS400 NPN/DO (Normally Open)).
100	Changed parameter description (4D).
100	Changed parameter description (4E).
103	Changed parameter description (65=02).
116	Added warning to not use IoT with two MCUs (Hardware configuration for interconnection).
119	Added warning to not use IoT with two MCUs (Synchronization).
156	Added warning to not use IoT with two MCUs (Connection).
157	Added instruction (ecoLOGIC).
173	Added troubleshooting step (Connection).

2 Presentation of notes and warning signs

Various symbols and texts are used in this manual for easier understanding and identification.

Note! When you see **Note!** it contains useful advice and information to ensure correct and compliant usage of the system.



Potential hazardous situation that can lead to either minor or severe injuries or death and cause either minor or substantial property damage.



Potential hazardous situation that could lead to danger of electric shock and cause serious injury or death.

3 WARNING: Important safety instructions. Follow all instructions since incorrect installation can lead to severe injury.



- Failure to observe the information in this manual may result in personal injury or damage to equipment.
- To reduce the risk of injury of persons - use this operator only with pedestrian doors.
- The mains power supply shall be installed with protection (fuse, circuit breaker) and an all-pole mains switch with isolating capability of Category III, shall be installed according to local regulations.
- Frequently examine the installation for imbalance where applicable and signs of wear or damage to cables, springs and mounting. Do not use if repair or adjustment is necessary.
- For indoor use only
- Make sure the ambient temperature is in the range specified on page [15](#).
- Before installing the drive, check that the driven part is in good mechanical condition, correctly balanced and opens and closes properly.
- After installation, ensure that the mechanism is properly adjusted and that the protection system and any manual release function correctly.
- Do not use the equipment if repair or adjustment is necessary.
- WARNING: the drive shall be disconnected from its power source during cleaning, maintenance and when replacing parts.
- The operator can be used by children over 8 years of age if they have been instructed by a person in charge of their safety concerning use of the appliance in a safe way and understand the hazards involved.
- The operator can be used by children 8 years of age or younger if they are supervised by a person responsible for their safety.

- The operator can be used by persons with impaired physical, sensory or mental capacity if they have been instructed by a person in charge of their safety concerning use of the appliance in a safe way and understand the hazards involved.
- Cleaning and user maintenance shall not be made by children.
- Do not let children or anyone climb on or play with the door or the fixed/remote controls.
- In all instances, where work is being done on the doorset, the area is to be secured from pedestrian traffic, and the power removed to prevent injury.
- Installer must properly ground door package! Improper grounding can lead to risk of personal injury.
- The mains connection must remain isolated until the wiring is completed. Then connect to the supply unit.
- The doorset can be operated automatically by sensors or manually by activators.
- Do not dash through a closing door.
- This appliance may contain batteries that are only replaceable by skilled persons.
 - The battery must be removed from the appliance before it is scrapped
 - The appliance must be disconnected from the supply mains when removing the battery.
 - The battery is to be disposed of safely.
- Ensure that controls that can be set for a locked position are only activated when there are no other persons in the room.
- Ensure that entrapment between the driven part and the surrounding fixed parts due to the opening movement of the driven part is avoided. The following distances are considered sufficient according to EN 16005 to avoid entrapments for the parts of the body identified;
 - for fingers, a distance greater than 25 mm or less than 8 mm
 - for feet, a distance greater than 50 mm
 - for heads, a distance greater than 200 mm^a
 - and for the whole body, a distance greater than 500 mm

^a To comply with EN 60335-2-103:2015 a distance greater than 300 mm is needed

- Danger points shall be safeguarded up to a height of 2.5 m from the floor level.
- The operator shall not be used with a doorset incorporating a wicket door.
- Lifting heavy parts can cause personal injuries. Always be sufficient persons when you lift and move the heavy parts. Refer to local regulations.

4 Important information

4.1 Intended use

The ASSA ABLOY SL500 is an automatic sliding door operator developed to facilitate entrances to buildings and within buildings.

The ASSA ABLOY SL500 is designed to be surface-mounted to the wall or a beam. It is easy to install for both new construction and retrofit application, and it can be adapted to a wide range of door requirements. It is to be installed indoors where it is suitable for almost all types of external and internal sliding doors.

The door is designed to offer continuous use, a high degree of safety and maximum lifetime. The system is self-adjusting to the effects caused by normal variations in the weather conditions and to minor friction changes caused by e.g. dust and dirt.

The operator can be configured to be used in escape route. For a list of directives and standards that the operator complies to, see the Declaration of Conformity.

See [Electrical Emergency Unit \(EEU\)](#) on page 141, [Mechanical Emergency Unit \(MEU\)](#) on page 141, [Break-out unit PSB](#) on page 138.

This manual contains the necessary details and instructions for the installation, maintenance and service of the Sliding Door Operator ASSA ABLOY SL500.

For use see User manual 1009216.

Save these instructions for future reference.

4.2 Safety precautions

Be sure to complete a risk assessment according to "Guide for installers of Powered Pedestrian Sliding Doors" (PRA-0004) and fill in the "Site Acceptance Test" (PRA-0005) before taking the door into operation.

To avoid bodily injury, material damage and malfunction of the product, the instructions contained in this manual must be strictly observed during installation, adjustment, repairs and service etc. Training is needed to carry out these tasks safely. Only technicians that are trained by an ASSA ABLOY Entrance Systems educated trainer should be allowed to carry out these operations.

4.3 Electronic equipment reception interference

The equipment may generate and use radio frequency energy and if not installed and used properly, it may cause interference to radio, television reception or other radio frequency type systems.

If other equipment does not fully comply with immunity requirements, interference may occur.

There is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient the receiving antenna.
- Relocate the receiver with respect to the equipment.
- Move the receiver away from the equipment.
- Plug the receiver into a different outlet so that equipment and receiver are on different branch circuits.
- Check that protective earth (PE) is connected.

If necessary, the user should consult the dealer or an experienced electronics technician for additional suggestions.

4.4 Environmental requirements

ASSA ABLOY Entrance Systems products are equipped with electronics and may also be equipped with batteries containing materials which are hazardous to the environment. Disconnect power before removing electronics and battery and make sure it is disposed of properly according to local regulations (how and where) as was done with the packaging material.

5 About this manual

This manual describes functions of the ASSA ABLOY SL500 Sliding Door Operator and for software release 8.0.

5.1 Software releases with included software versions

Release	Versions					
SW 3.0	MCB	MC	ER	IOU	OMS	
	7.4.9.2	8.4.9.2	1.1.9.2	3.5.9.2	4.2.9.2	
SW 3.1	MCB	MC	ER	IOU	OMS	
	8.4.12.2	9.4.12.2	1.1.12.2	4.5.12.2	4.2.9.2	
SW 3.1.1	MCB	MC	ER	IOU	OMS	
	9.4.14.2	10.4.14.2	1.1.14.2	5.5.14.2	4.2.9.2	
SW 3.2	MCB	MC	ER	IOU	OMS	
	10.4.16.2	11.4.16.2	1.1.16.2	6.5.16.3	5.2.16.2	
SW 4.0	MCB	MC	ER	IOU	OMS	
	11.4.17.2	12.4.17.2	1.1.17.2	7.5.17.2	6.2.17.2	
SW 5.0	MCB	MC	ER	IOU	OMS B	OMS S
	12.4.17.3	13.4.17.2	1.1.17.3	8.5.17.2	7.2.17.2	1.3.17.2, 1.4.17.2, 1.4.17.3
SW 5.1	MCB	MC	ER	IOU	OMS B	OMS S
	13.4.17.4	13.4.17.2	1.1.17.3	8.5.17.2	7.2.17.2	1.4.17.3, 1.4.17.4
SW 6.0	MCB	MC	ER	IOU	OMS B	OMS S
	14.4.17.2	14.4.17.2	1.1.17.4	9.5.17.2	7.2.17.2	1.4.17.5
SW 7.0	MCB	MC	ER	IOU	OMS B	OMS S
	15.4.17.2	14.4.17.2	1.1.17.4	9.5.17.3	7.2.17.2	1.4.17.6
SW 8.0	MCB	MC	ER	IOU	OMS B	OMS S
	16.4.17.2	15.4.17.2	1.1.17.5	10.5.17.2	7.2.17.2	1.4.17.7

6 Technical specification

Manufacturer:	ASSA ABLOY Entrance Systems AB
Address:	Lodjursgatan 10, SE-261 44 Landskrona, Sweden
Type:	ASSA ABLOY SL500
Mains power supply:	100 V AC -10% to 240 V AC +10%, 50/60 Hz, fuse 10 AT (building installation) Note! The mains power supply shall be installed with protection and an all-pole mains switch with isolating capability of Category III, at least 3 mm between contacts, shall be installed according to local regulations. These articles are not provided with the operator.
Power consumption:	Max. 250 W
Degree of protection:	IP20
Degree of protection, control actuators:	IP54
Auxiliary voltage:	24 V DC Standard performance 0.25 A High performance 0.64 A Exceptional performance 1 A
Recommended max. door weight:	Bi-parting without break-out: ASSA ABLOY SL500-2: 200 kg/leaf Single Slide without break-out: ASSA ABLOY SL500-R/L: 240 kg Bi-parting with break-out: ASSA ABLOY SL500-2: 100 kg/leaf Single Slide with break-out: ASSA ABLOY SL500-R/L: 100 kg/leaf For low energy movement: 150 kg/leaf
Clear opening:	Bi-parting: ASSA ABLOY SL500-2: 1000 - 3000 mm Single Slide: ASSA ABLOY SL500-R/L: 800 - 3000 mm
Opening and closing speed:	Variable up to approx. (ASSA ABLOY SL500-2): Standard performance 1.4 m/s High performance 1.4 m/s Exceptional performance 1.7 m/s
Hold open time:	0-60 s
Ambient temperature:	-20 °C to +50 °C
Relative humidity (non-condensing):	Max. 85%
Operator weight:	11 to 25 kg, dependent on configuration and clear opening width.
Approvals:	Third party approvals from established certification organizations valid for safety in use, see Declaration of Conformity.
For indoor use only	

6.1 Door weight in relation to performance level

Plastic wheels

Performance level	Main control	Sealing type	Door weight [kg]	
			Single	Bi-parting
Standard performance	Escape	Normal seal	1 x 50	2 x 40
		Tight seal	N/A	N/A
	Non-escape	Normal seal	1 x 75	2 x 40
		Tight seal	N/A	N/A
High performance	Escape	Normal seal	1 x 90	2 x 90
		Tight seal	1 x 75	2 x 75
	Non-escape	Normal seal	1 x 90	2 x 90
		Tight seal	1 x 90	2 x 90
Exceptional performance	Escape	Normal seal	1 x 90	2 x 90
		Tight seal	1 x 90	2 x 90
	Non-escape	Normal seal	1 x 90	2 x 90
		Tight seal	1 x 90	2 x 90

Steel wheels

Performance level	Main control	Sealing type	Door weight [kg]	
			Single	Bi-parting
Standard performance	Escape	Normal seal	1 x 75	2 x 65
		Tight seal	N/A	N/A
	Non-escape	Normal seal	1 x 75	2 x 65
		Tight seal	N/A	N/A
High performance	Escape	Normal seal	1 x 125	2 x 125
		Tight seal	1 x 75	2 x 120
	Non-escape	Normal seal	1 x 240	2 x 200
		Tight seal	1 x 225	2 x 150
Exceptional performance	Escape	Normal seal	1 x 240	2 x 150
		Tight seal	1 x 175	2 x 125
	Non-escape	Normal seal	1 x 240	2 x 200
		Tight seal	1 x 225	2 x 150

6.2 Classification to DIN 18650-1

Classification to DIN 18650-1							
Digit 1	Digit 2	Digit 3	Digit 4	Digit 5	Digit 6	Digit 7	Digit 8
2	3	2	0	1,2,3	1,2	1,2,4	4
Type of drive, digit 1.			2	sliding door drive			
Drive durability, digit 2.			3	1 000 000 test cycles, at 4 000 cycles/day			
Type of door leaf, digit 3.			2	sliding door			
Suitability for use as a fire protection door, digit. 4			0	not suitable for use as a fire protection door			
Drive safety devices, digit 5.			1	force limitation			
			2	connection for external safety systems			
			3	low energy			
Special requirements for drives/functions/ fittings, digit 6.			1	in escape routes with a break-out system			
			2	in escape routes without a break-out system			
Safety at door leaf or leaves, digit 7			1	with sufficiently dimensioned safety distances			
			2	with protection to prevent fingers being crushed, shorn off or drawn in			
			4	with presence sensor			
Ambient temperature, digit 8			4	temperature range as specified by the manufacturer			

7 Design and function description

7.1 Design

The sliding door operator ASSA ABLOY SL500 works electromechanically. The drive unit, control unit, transmission, and optional emergency unit and electromechanical locking device are all assembled in a support beam with an integrated cover. The drive unit transmits movement to the door leaves by means of a tooth belt. The door leaf is fitted to a door adapter/carriage wheel fitting and hangs on a sliding track. Movement of the bottom of the door leaf is controlled by the floor guides.

7.2 Function

Opening

When an OPENING IMPULSE is received by the control unit the motor starts and transmits movement to the door leaves, which move to the open position.

Closing

The closing starts when no OPENING IMPULSE is received and the HOLD OPEN TIME has run out.

7.3 Safety functions integrated in the operator

To permit safe passage between closing doors, the doors immediately reverse if an obstruction is detected, then resume their interrupted movement at low speed to check whether the obstruction has disappeared or not. If an obstruction is detected while the door is opening, the doors immediately stop and then close after a time delay.

7.4 Microprocessor for precise control

The microprocessor has a routine for self-monitoring, which detects any interference or faulty signals in door operation. If an input signal does not correspond to the preprogramming, the microprocessor automatically takes necessary actions to ensure safe door operation.

7.5 Emergency escape

The ASSA ABLOY SL500 can be combined with an emergency unit that automatically opens or closes the doors in the event of a power failure and can also be interfaced with the fire alarm or smoke detector. Safety can be further reinforced by incorporating a break-out fitting. This enables the doors and side screens to swing outwards in an emergency situation by applying a defined pressure at the front edge.

Doors used for emergency escape in buildings such as hospitals and homes for elderly people may not be locked or put in mode selection OFF.

7.6 Impulse descriptions

Impulses	Description
Inner impulse (MCU)	<p>The Inner impulse opens the door in operation mode selection EXIT, AUTO and AUTO PARTIAL.</p> <p>The Inner impulse is usually put on the side of the direction of the escape route.</p> <p>The Inner impulse keeps the door open:</p> <ul style="list-style-type: none">• During the Hold open time in operation mode selection EXIT and AUTO.• During the Partial hold open time in operation mode selection AUTO PARTIAL.
Inner impulse 2 (IOU)	<p>With a large COW there is a need for a second inner impulse. The Inner impulse 2 works in the same way as the Inner impulse.</p>

Impulses	Description
Outer impulse (MCU)	<p>The Outer impulse opens the door in operation mode selection AUTO and AUTO PARTIAL.</p> <p>The Outer impulse is usually put on the opposite side of the direction of the escape route.</p> <p>The Outer impulse keeps the door open:</p> <ul style="list-style-type: none"> During the Hold open time in operation mode selection AUTO. During the Partial hold open time in operation mode selection AUTO PARTIAL.
Key impulse (MCU)	<p>The Key impulse opens the door in all operation mode selections.</p> <p>The Key impulse can be installed on the outside and opens the door with a key impulse device.</p> <p>The Key impulse keeps the door open during the Key hold open time.</p> <p>The Key impulse opens the door to the Partial open position in operation mode selection OFF and AUTO PARTIAL.</p> <p>The Key impulse opens the door with help of battery if mains power is lost.</p>
Presence impulse (MCU)	<p>The Presence impulse is applicable in all operation mode selections.</p> <p>The Presence impulse is intended to protect people from the leading edge of the door.</p> <p>The Presence impulse is only applicable when the door is closing.</p> <p>When the impulse is active it keeps an open door open or re-opens a closing door.</p> <p>The Presence impulse keeps the door open during the Presence hold open time.</p>
Side presence impulse (MCU)	<p>The Side presence impulse is applicable in all operation mode selections.</p> <p>The Side presence impulse is intended to protect people from the trailing edge of the door.</p> <p>The impulse is only applicable while the door is opening. The impulse either slows down or stops the door, depending on the configuration.</p>
Stop impulse (MCU)	<p>The Stop impulse is applicable in all operation mode selections.</p> <p>The Stop impulse is usually used on breakout doors. When the door is broken out the Stop impulse is activated.</p> <p>When the Stop impulse is activated the motor power is shut off.</p> <p>If the parameter Active break on stop is configured to ON the door will be stopped with the motor during 1 s. When the Stop impulse is deactivated the motor power is restored after 5 s. The Hold open time is set to zero.</p> <p>When the Stop impulse is active only the Close impulse, the Emergency action, the Fire impulse and the Emergency open impulse can activate the door.</p>
Close impulse (IOU)	<p>The Close impulse closes an open or opening door in all operation mode selections.</p> <p>Only the Fire impulse or the Emergency open impulse can override the Close impulse.</p> <p>The door will not reopen on Jam.</p> <p>The door will lock the electromechanical lock when the door is closed.</p>
LDE down (IOU)	The LDE down must be used when an espagnolette lock is installed in the operator.
LDE up (IOU)	The LDE up must be used when an espagnolette lock is installed in the operator.
Nurse impulse (IOU)	<p>The Nurse impulse opens the door in operation mode selection EXIT, AUTO and AUTO PARTIAL.</p> <p>The door opens to the Partial open position.</p> <p>The Nurse impulse keeps the door open during the Partial hold open time.</p>
Interlock out (IOU)	The Interlock out sends a signal to the other operators that the door is not closed.
Interlock OFF (IOU)	The Interlock OFF or the Interlock disable impulse de-activates the interlock function when the interlock is done through the interconnection cable.
Interlock in (IOU)	An active Interlock in will keep the door closed if the Inner impulse and/or the Outer impulse is activated. The impulse will be remembered and opens the door when the Interlock in is de-activated. The door opens with a valid impulse for the different operation mode selections.
Emergency open impulse (IOU)	<p>The Emergency open impulse opens the door to fully open position in all operation mode selections.</p> <p>The Emergency open impulse always opens the door if the operator has power.</p> <p>The Emergency open impulse has no hold open time.</p>
Sustainable drive mode OFF (IOU)	When the parameter Sustainable drive mode is set to ON, the impulse Sustainable drive mode OFF will shut off the Sustainable drive mode. This can be wanted during high traffic situations, when the full power of the operator is needed.

Impulses	Description
Mode selector enable (IOU)	When the Mode selector enable is activated, the signal unlocks the Operation Mode Selector (OMS) and makes it possible to change the mode selection on the OMS. The IOU and PSK-6U operation mode selectors are not affected by this impulse.
Battery wake up (IOU)	The Battery wake up opens the door in all operation mode selections. The Battery wake up impulse can only open the door in power off with the help of a battery. The door can either open, or open and close dependent on how the configuration is done. When the door has reached its destination the battery power is disconnected. If the Battery wake up is activated when the operator has mains power, nothing will happen.
Reset (IOU)	Restarts the operator. The software starts up again.
Pharmacy impulse 1 (IOU)	The Pharmacy impulse 1 opens the door in operation mode selection OFF. The impulse opens the door to the Pharmacy open position 1 (configured by parameter 5C). The belt lock will lock when the door has reached the Pharmacy open position 1. The belt lock will continue to be locked during the full closing cycle or a new valid impulse is activated. The door will not reopen on jam.
Pharmacy impulse 2 (IOU)	The Pharmacy impulse 2 opens the door in operation mode selection OFF. The impulse opens the door to the Pharmacy open position 2 (configured by parameter 5D). The belt lock will lock when the door has reached the Pharmacy open position 2. The belt lock will continue to be locked during the full closing cycle or a new valid impulse is activated. The door will not reopen on jam.
Lock (IOU)	Must be used when a bi-stable or an espagnolette lock is installed in the operator.
Fire impulse (IOU)	The Fire impulse opens the door to the fully open position or closes the door depending on the parameter setting, in all the operation mode selections. When the Emergency action is configured for closing and the Fire impulse is activated, only the Emergency open impulse can open the door. When the Emergency action is configured for closing, the Fire impulse is activated and the door is closing, the door will not reopen on jam. When the door is closed with the Fire impulse, the electromechanical lock can be configured to lock, unlock or obey the mode selector.
Error/Status relay (IOU)	The Error/Status relay can be activated upon an error, status, or both. The default configuration for the status relay is to be activated on error and power OFF. The configuration for which event or events that shall activate the relay is done in SL Service Tool. For a list of events, refer to Status relay on page 147.
Mode selections	Description
Operation Mode Selector (OMS), OFF	The only applicable opening impulses are: <ul style="list-style-type: none"> • Key impulse (opens to the Partial open position) • Sync impulse (opens to the Partial open position) • Fire impulse (opens to the fully open or the closed position) • Pharmacy impulse 1 (opens to the Pharmacy open position 1) • Pharmacy impulse 2 (opens to the Pharmacy open position 2) • Emergency open impulse (opens to the fully open position). If an electromechanical lock is installed, the lock is locked.

Mode selections	Description
Operation Mode Selector (OMS), EXIT	<p>The door opens to the fully open position (unless otherwise stated). The only applicable opening impulses are:</p> <ul style="list-style-type: none"> • Inner impulse • Nurse impulse (opens to the Partial open position) • Open/close impulse • Key Impulse • Sync impulse • Fire impulse (opens to the fully open or the closed position) • Emergency open impulse. <p>If an electromechanical lock is installed and the parameter Exit lock is configured to ON, the lock is locked.</p>
Operation Mode Selector (OMS), AUTO	<p>The door opens to the fully open position (unless otherwise stated). The only applicable opening impulses are:</p> <ul style="list-style-type: none"> • Inner impulse • Outer impulse • Nurse impulse (opens to the Partial open position) • Open/close impulse • Key Impulse • Sync impulse • Fire impulse (opens to the fully open or the closed position) • Emergency open impulse.
Operation Mode Selector (OMS), AUTO PARTIAL	<p>The door opens to the Partial open position (unless otherwise stated). The only applicable opening impulses are:</p> <ul style="list-style-type: none"> • Inner impulse • Outer impulse • Nurse impulse • Open/close impulse • Key Impulse • Sync impulse • Fire impulse (opens to the fully open or the closed position) • Emergency open impulse (opens to the fully open position).
Operation Mode Selector (OMS), AUTO WIDTH	<p>The door opens to the Partial open position (unless otherwise stated). When the door has stand open Auto width activation time the door opens to fully open position. The only applicable opening impulses are:</p> <ul style="list-style-type: none"> • Inner impulse • Outer impulse • Nurse impulse • Open/close impulse • Key Impulse • Sync impulse • Fire impulse (opens to the fully open or the closed position) • Emergency open impulse (opens to the fully open position).

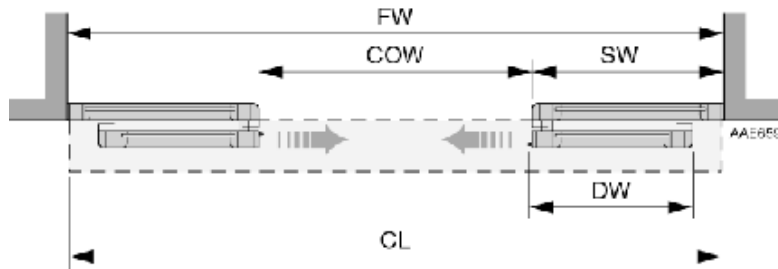
Mode selections	Description
Operation Mode Selector (OMS), OPEN	<p>The only applicable opening impulses are:</p> <ul style="list-style-type: none">• Fire impulse (opens to the fully open or the closed position)• Emergency open impulse. <p>The door opens to the fully open position and the motor releases the door.</p> <p>It is possible to move the door leaf by hand, to position the door to clean the glass panel.</p>
Others	Description
C-switch (MCU)	The C-switch is an open collector output that is activated when one door leaf has reached C-switch activation position.
Inner impulse monitoring (MCU) Outer impulse monitoring (MCU)	When the Inner impulse monitoring and/or the Outer impulse monitoring is selected the C-switch is reconfigured to monitoring of the Inner impulse or the Outer impulse.
Presence impulse monitoring (MCU)	The Presence impulse monitoring monitors the Presence impulse sensor and/or the Stop impulse sensor.
Side presence impulse monitoring (MCU)	The Side presence impulse monitoring monitors the Side presence impulse sensor.

8 Models

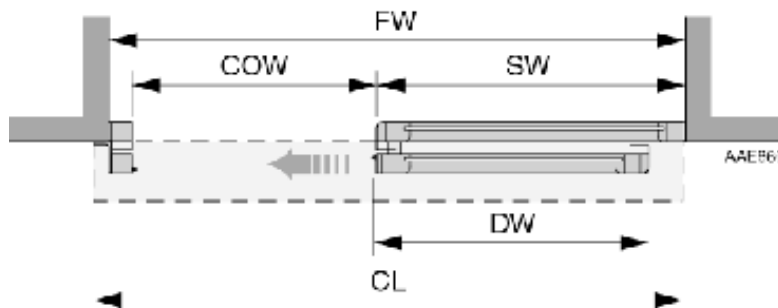
8.1 Two main models are available:

- **ASSA ABLOY SL500-2**; for bi-parting doors, consisting of a pair of door leaves which are sliding away from each other to form a common door opening.
- **ASSA ABLOY SL500-1**; for single sliding doors with one **right** or **left opening** door leaf.

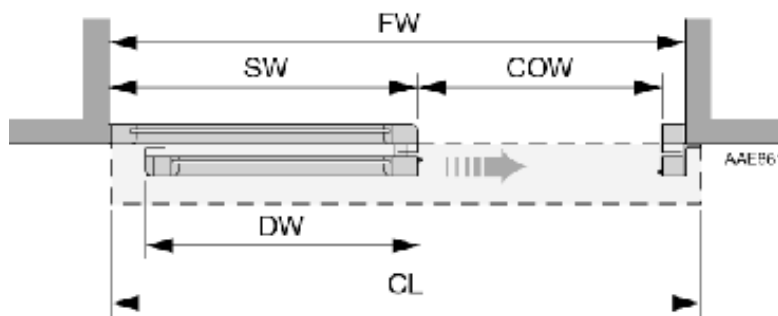
8.2 ASSA ABLOY SL500-2 (bi-parting)



8.3 ASSA ABLOY SL500-R (single sliding, right opening)



8.4 ASSA ABLOY SL500-L (single sliding, left opening)



FW = Frame width

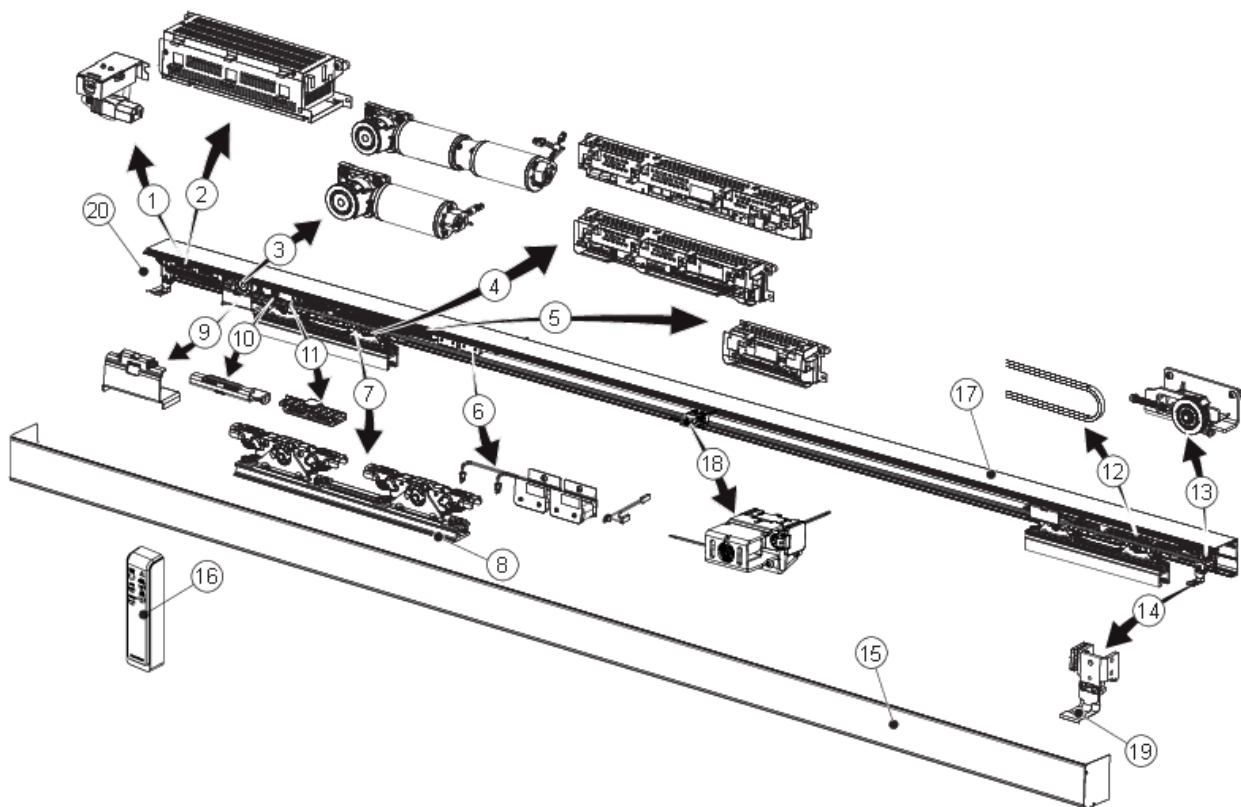
CL = Cover length (incl. end plates 2 x 2 mm and 2 x 2,5 mm screws)

COW = Clear opening width

SW = Side screen width

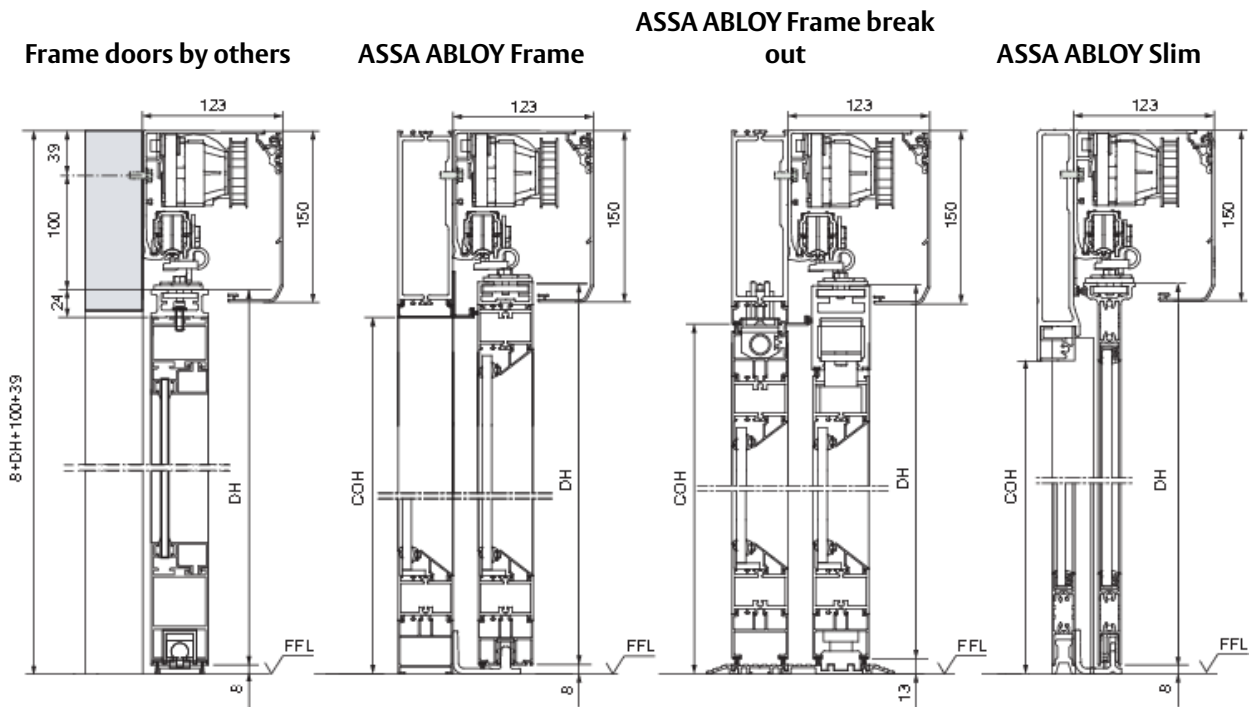
DW = Door leaf width

9 Part identification

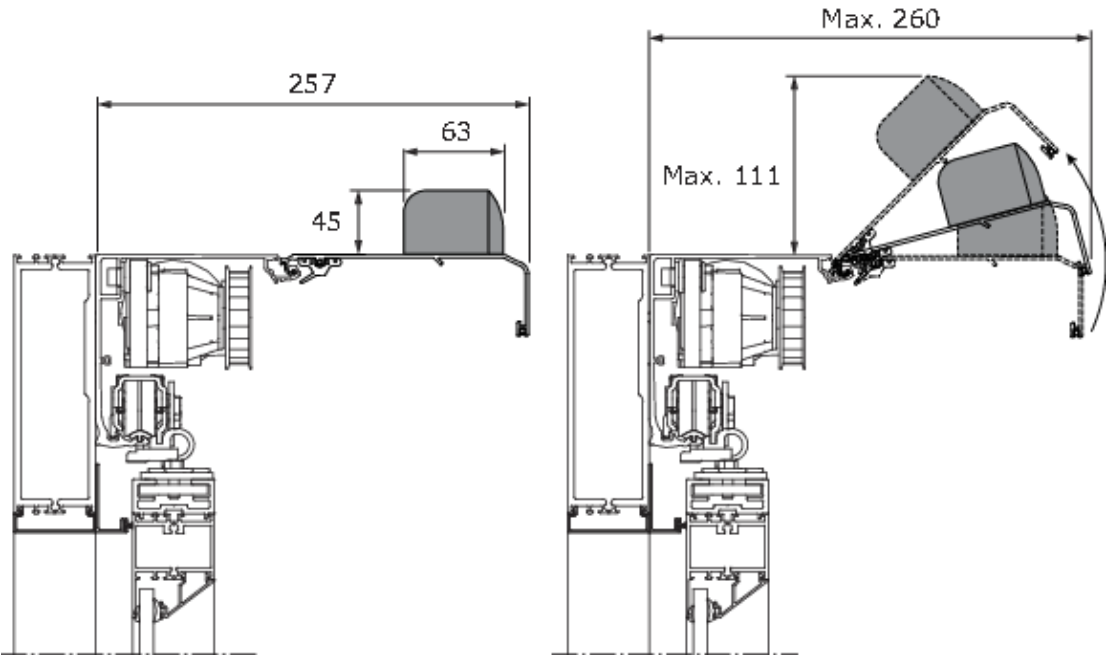


No.	Description	No.	Description
1	Mains connection	13	Tension wheel
2	Power supply unit (PSU 50/PSU 75/PSU 150)	14	Door stop
3	Drive unit (NDD/HDD/DD)	15	Cover
4	Main control unit (MCU/MCU-ER)	16	Operation mode selector (OMS)
5	I/O Unit (IOU)	17	Support beam
6	Battery (EEU 12/EEU 24)	18	Lock
7	Door carriage	19	Cover lock
8	Door adapter	20	Cable inlet
9	Transmission bracket (high)		
10	Transmission bracket (low)		
11	Belt clamp		
12	Tooth belt		

10 Space required



COH = Clear opening height
DH = Door height (incl. door adapter)
FFL = Finished floor level



11 Pre-installation

11.1 General tips/Safety concerns



In all instances, where work is being done, the area is to be secured from pedestrian traffic to prevent injury.



In all instances, where work is being done, the main power is to be removed to prevent injury.

- Make sure that the power is off before installing.
 - If there are sharp edges after drilling the cable outlets, chamfer the edges to avoid damage to the cables.
 - The cables must avoid sharp edges and moving parts. Attach the cable with cable ties along the cable routing.
 - For enhanced security and vandalism protection, always mount the operator access in the interior of a building whenever possible.
 - Make sure the ambient temperature is in the range specified on page [15](#).
 - Make sure that the door leaf and the wall are properly reinforced at the installation points.
 - Unpack the operator and make sure that all parts are delivered in accordance with the packing note and that the operator is in good mechanical condition.
 - Ensure proper material is being used for the door leaves and that there are no sharp edges. Projecting parts shall not create any potential hazards. If glass is used bare glass edges shall not come in contact with other glass. Toughened or laminated glass are suitable glasses.
 - For support beam length over 5 m, remove the wheel holders and motor, or two technicians are needed.
 - Ensure that entrapment between the driven part and the surrounding fixed parts due to the opening movement of the driven part is avoided. The following distances are considered sufficient according to EN 16005 to avoid entrapments for the parts of the body identified;
 - for fingers, a distance greater than 25 mm or less than 8 mm
 - for feet, a distance greater than 50 mm
 - for heads, a distance greater than 200 mm^a
 - and for the whole body, a distance greater than 500 mm
- ^a To comply with EN 60335-2-103:2015 a distance greater than 300 mm is needed
- Danger points shall be safeguarded up to a height of 2.5 m from the floor level.
 - The operator shall not be used with a doorset incorporating a wicket door.

Note! It is not possible to replace an ASSA ABLOY operator component with a component from a different brand.

12 Videos

Scan the QR-code with a QR-code reader, or click on the link (if the manual is digital).

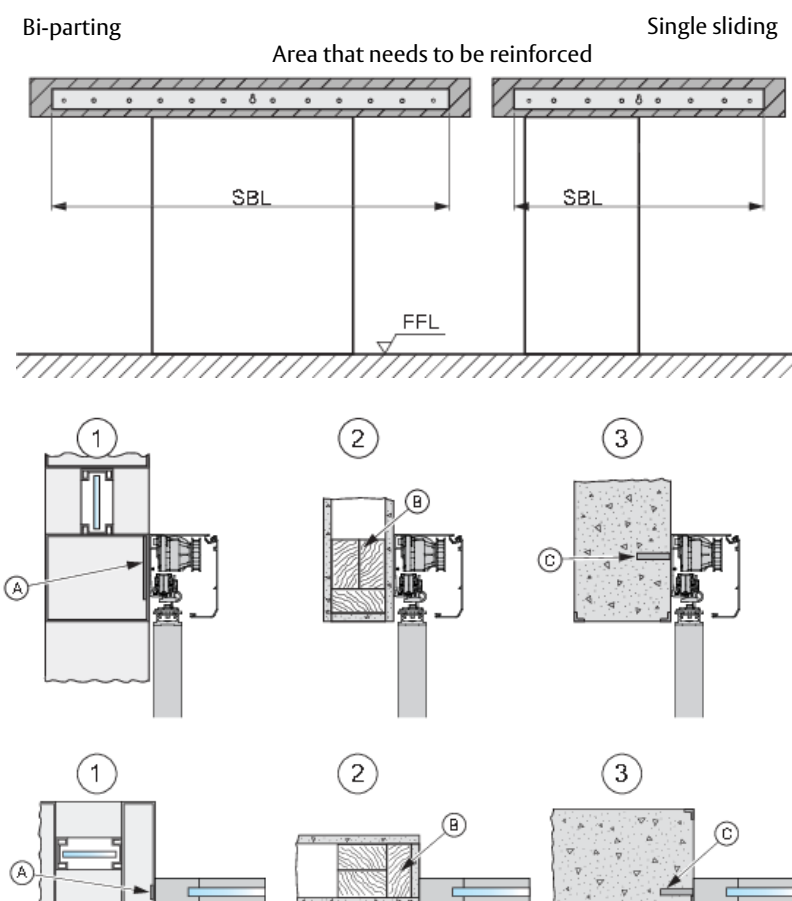
Page	Title	QR-code
28	Installation of SL500 (10:27) https://s3m.io/Btd7s 	
32	Installation of detachment guard (00:36) https://s3m.io/SQXml 	
37	Installation of plastic track, in detail (00:37) https://s3m.io/FIDJy 	
167	Replacement of plastic track (04:52) https://s3m.io/oRxAg 	

13 Mechanical installation

13.1 Checking

Check that the fixing material and the upper part of the door leaf have the necessary reinforcements and that the floor is level and smooth. Refer to the drawing 1025084 for a reinforcement guide for the customer.

The beam/wall used to fix the support beam must be flat and smooth. If necessary use ASSA ABLOY Entrance Systems mounting spacers behind the support beam to keep its straightness.



1 Aluminium profile system

2 Plasterboard wall

3 Reinforced concrete wall and brick wall

A Steel or aluminium reinforcement or rivet nut

B Wood reinforcement***

C Expansion-shell bolt (for brick wall min. M6x85, UPAT PSEA B10/25)

Base material	Minimum requirements of wall profile*
Steel	5 mm**
Aluminium	6 mm**
Reinforced concrete	min. 50 mm from the underside
Wood	50 mm
Brick wall	Expansion shell bolt, min. M6x85, UPAT PSEA B10/25 min. 50 mm from the underside

* ASSA ABLOY Entrance Systems minimum recommended requirements. Building Codes may give different specifications.

** Thinner wall profiles, not less than 2mm, must be reinforced with rivet nuts.

*** The fixing screw to the operator beam shall not go into the gap between the upper and lower wooden beam.

Tools required

- Set of metric box spanners and wrenches (2 x 10mm wrench)
- Spirit level
- Tape measuring tool
- Power drill and set of drill bits, Hammer drill
- Cone cutter drill (step drill)
- Screw driver Torx (T10, T20, T25 and T30)
- Small flat blade screw driver for wire connection
- Phillips screw driver
- Centre punch
- Wire stripper
- Side cutter (for wire cutting)
- Torque wrench
- Cable strap tightener
- Steel wire (for pulling cables)
- Pencil (for marking)
- Cloth or brush (for cleaning)

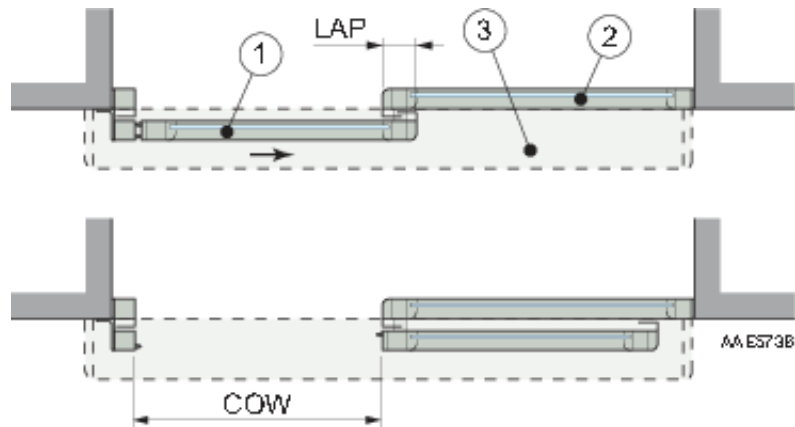
13.2 Installation examples to consider during installation

Note! See the local building regulations for each country, with regards to the permissible minimum opening width, that **shall** be followed.

Recommended installation (ASSA ABLOY door systems)

To reduce the risk for shearing of finger the jamb is used as door stop for closing and labyrinth sealings are used between door leaf (1) and fixed screen (2). The door leaf (1) can be opened fully and aligns with the fixed screen (2) if the side light is 100 mm wider than the door.

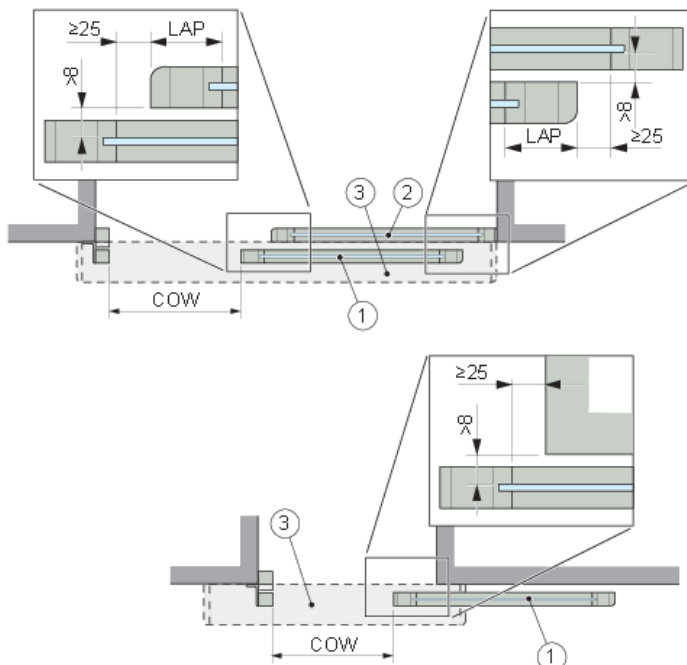
- 1 Door leaf
 - 2 Fixed screen
 - 3 Operator
- COW = Clear opening width
LAP = Overlap (profile width)



Alternative installation of door system (by others than ASSA ABLOY door systems)

The below distances are to comply with EN 16005.

The distance measured between the glass pane of the door leaf (1) and the profile of the fixed screen (2) shall not exceed 8 mm. If the distance is more than 8 mm the leading edge of the door leaf (1) must not pass the mullion of the fixed screen (2) but stop at least 25 mm before.

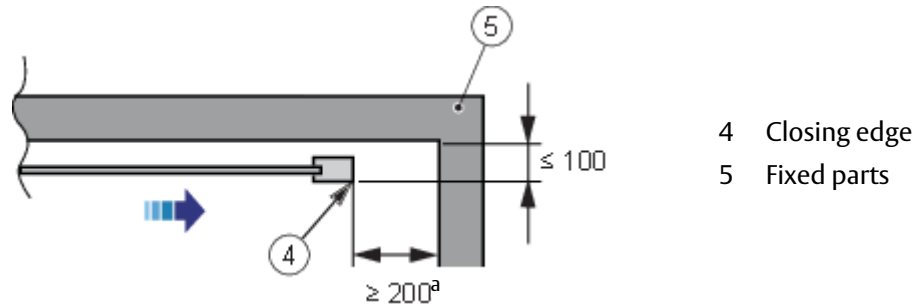


- 1 Door leaf
 - 2 Fixed screen
 - 3 Operator
- COW = Clear opening width
LAP = Overlap (profile width)

The safety distances measured between the secondary closing edge (4) and surrounding fixed parts (5) are shown in the illustrations below.

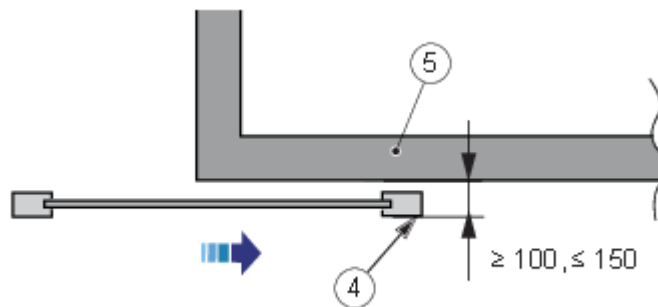
If the distance between the door and wall/side light is 100 mm or less, there shall be at least 200 mm^a between the door and a opposing surface when the door is in full open position. Safety distance for head or equip the operator with side presence sensors or pocket screens.

If the distance is more than 100 mm between the door and wall/side light, there shall be at least 500 mm between the door and a opposing surface when the door is in full open position. Safety distance for body or equip the operator with side presence sensors or pocket screens.



^a To comply with EN 60335-2-103:2015 a distance greater than 300 mm is needed

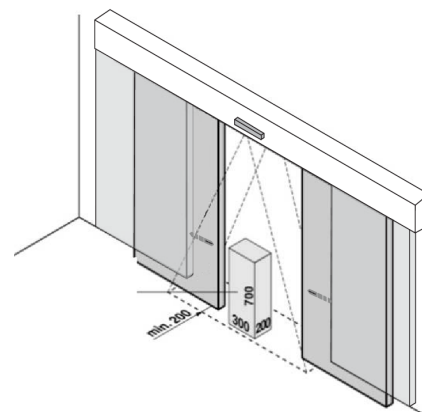
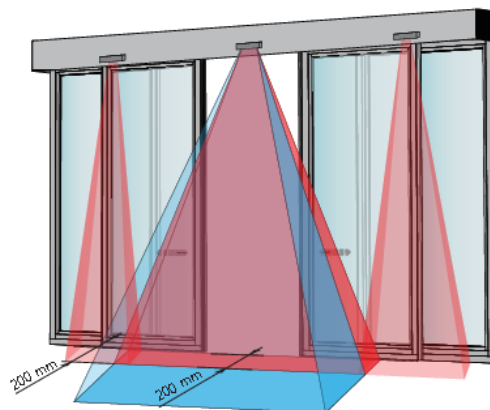
If the distance is more than 100 mm but less than 150 mm between the door and the wall the speed of the door has to be reduced according to PRA-0004 or equip the operator with side presence sensors or pocket screens.



Sensor adjustment

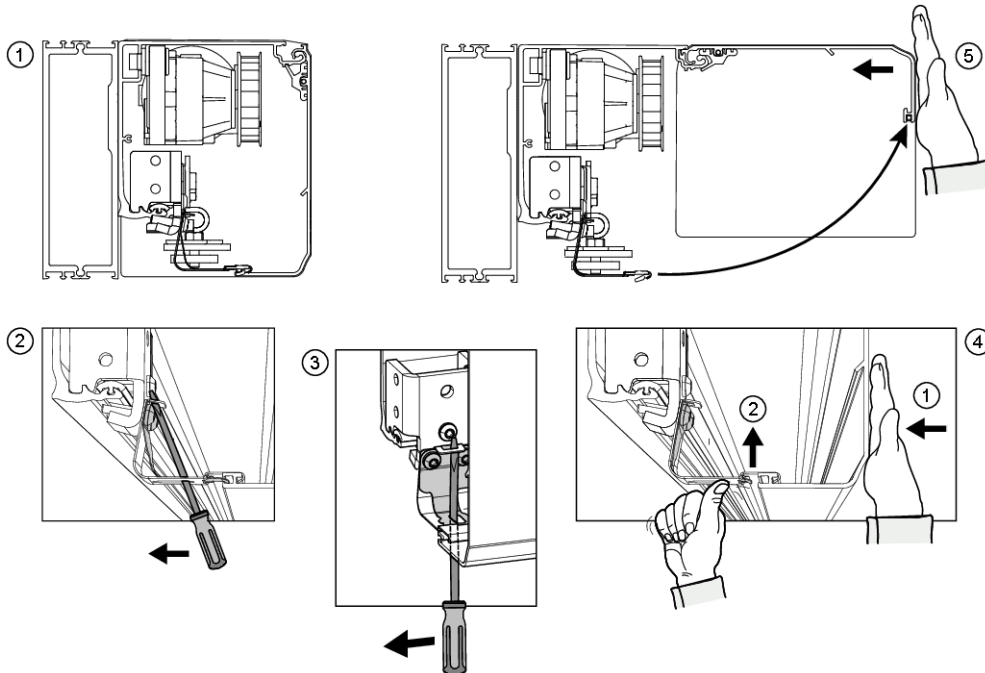
This is an example of how the mounted sensors shall be adjusted.

This is how the presence field of the sensor is tested to fulfil the standards according to EN 16005 and DIN 18650.



13.3 Installing/removing the cover, standard cover lock

Tip Watch this short instruction video, to see how to fit the detachment guard.
<https://s3m.io/SQXmI>

**Open cover**

Secure and unsecure cover

Secure and unsecure the open cover as shown below.

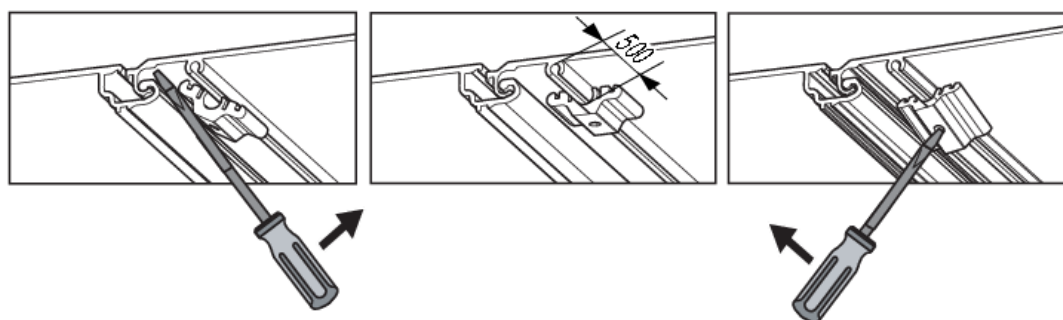


Figure 1: Old detachment guard

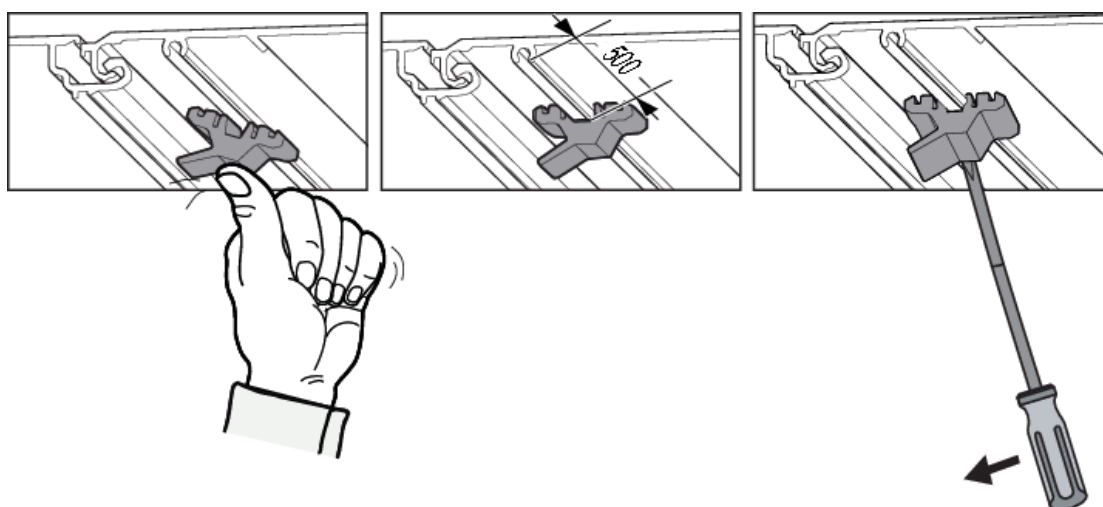
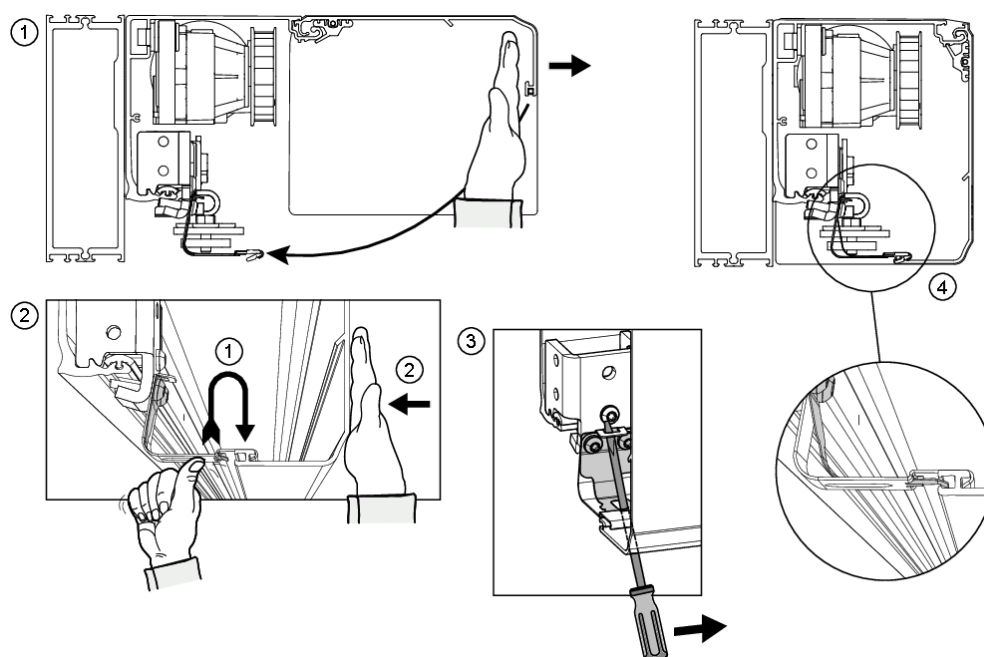


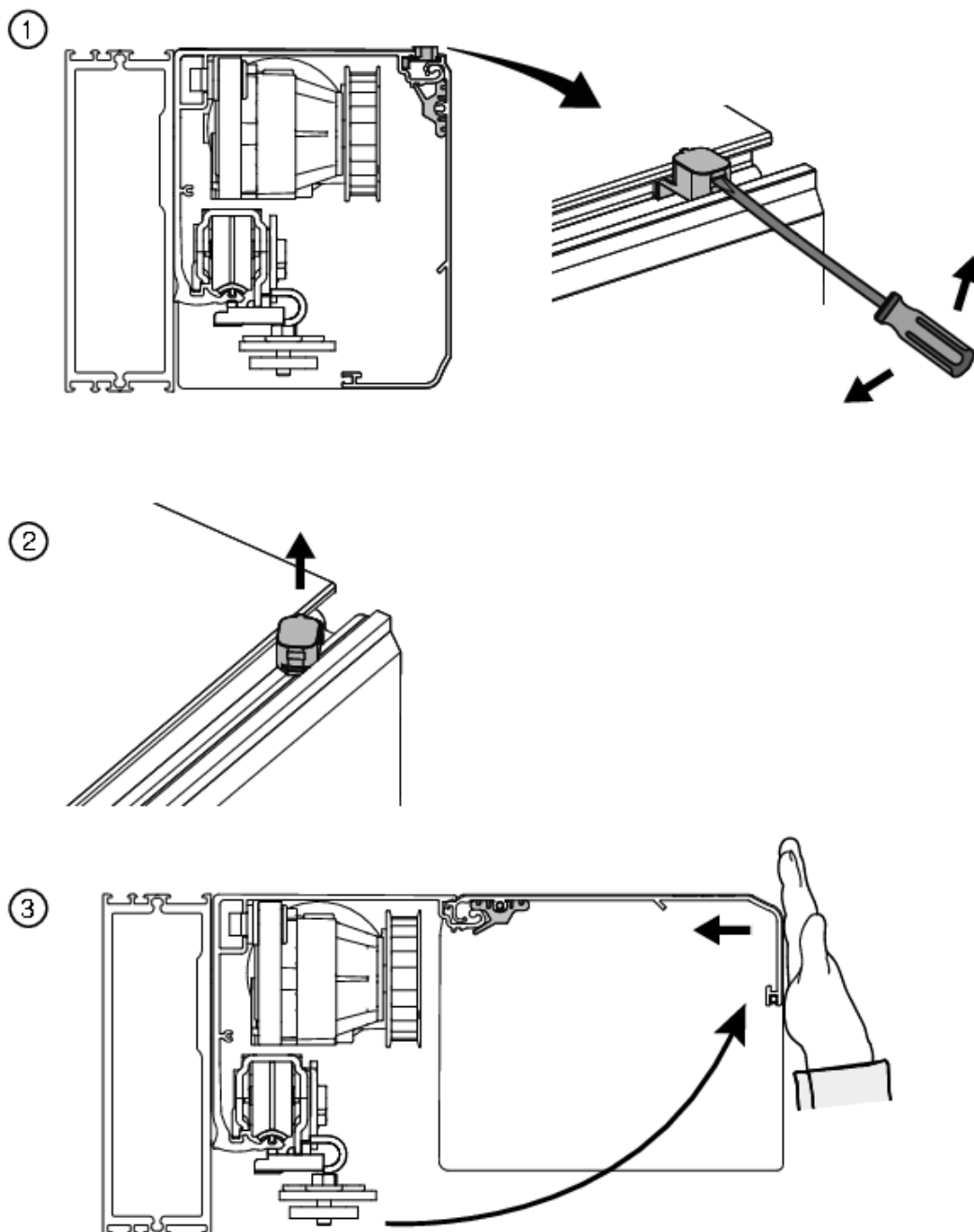
Figure 2: New detachment guard

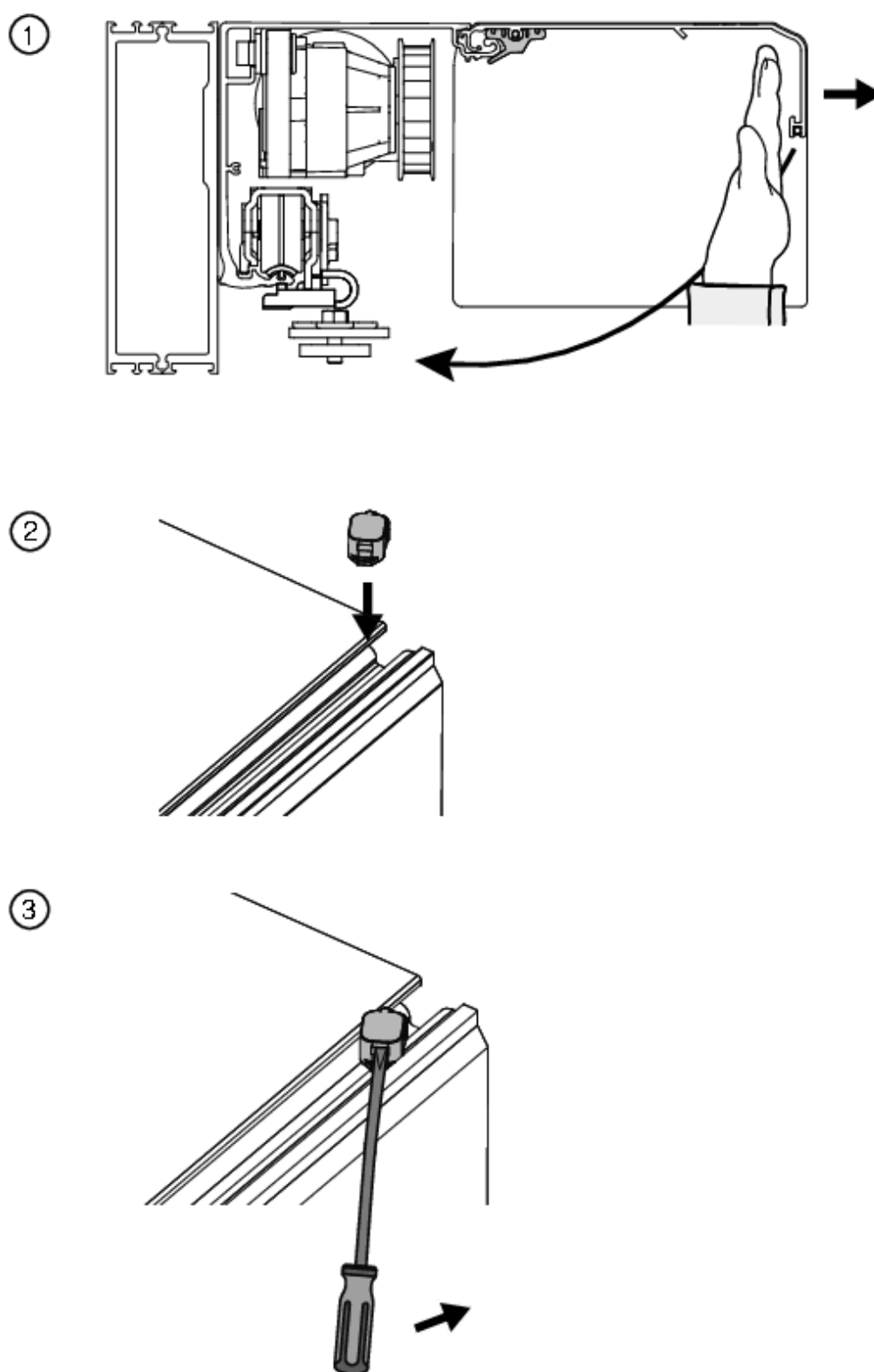
Close cover



13.4 Installing/removing the cover, optional cover lock

Open cover



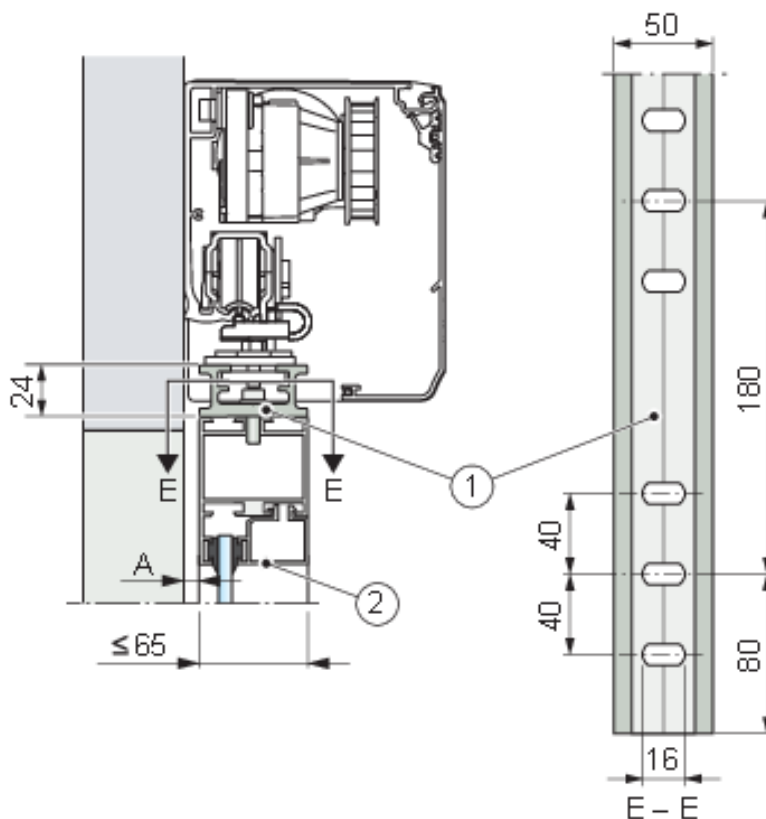
Close cover

13.5 Installing the door adapter on top of the door leaf (frame doors by others)

For **ASSA ABLOY Entrance Systems** doors the door adapters and door holders are factory-mounted, proceed to [page 37](#).

- a If necessary cut the door adapter (1) to correspond with the door leaf width.
- b Make sure that the upper part of the door leaf (2) is sufficiently reinforced.
- c Place the door adapter (1) on top and centre of the door leaf (2). Door leaf (2) with bigger depth than 50 mm place the door adapter (1) aligned with the outer side of the door.
- d Mark on the door leaf (2) after the pre-drilled slotted holes. One slotted hole in each group of three has to be used as the door adapter carries the whole weight of the door leaf (2).
- e Drill and thread for M6 or use self-tapping screws (Taptite) in the door leaf (2).
- f The door adapter (1) can be roughly adjusted for depth, ± 5 mm, in relation to the door leaf (2). This rough adjustment is to be carried out when the door adapter (1) is fitted on the door leaf.
- g The distance "A" serves to ensure the correct depth installation. This information is delivered with the door system.
- h Tighten the door adapter (1).

If a break-out unit is to be installed, a special break-out adaptor has to be ordered and then cut to size. See separate Installation and Service Manual for PSB.



- 1 Door adapter (standard)
- 2 Door leaf

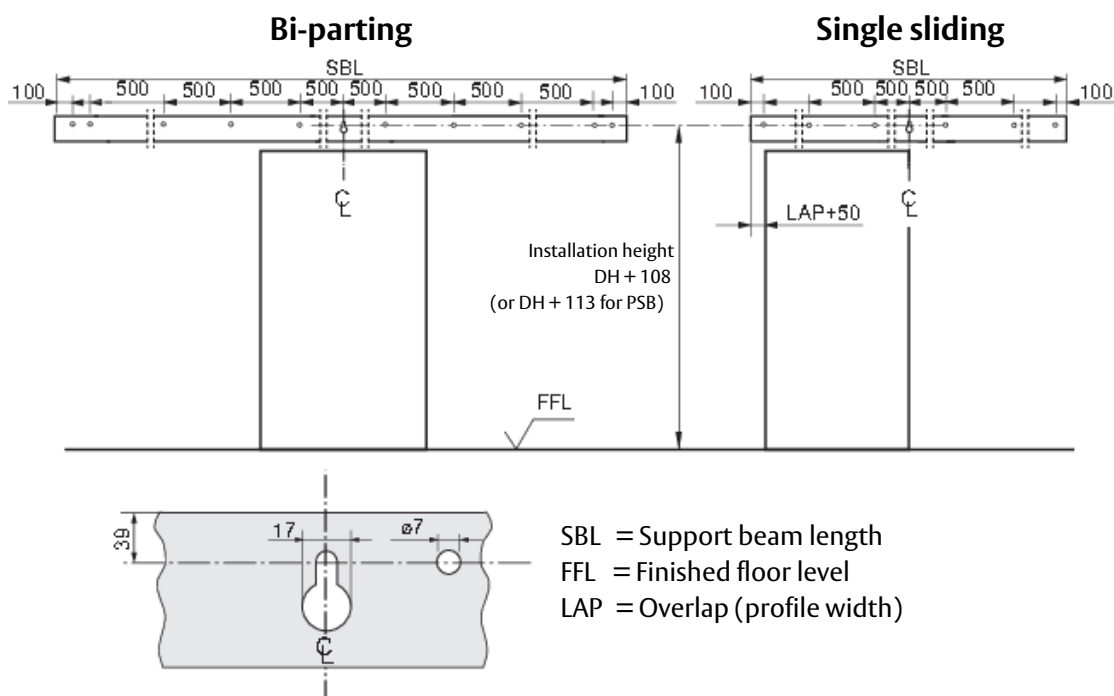
13.6 Installation of support beam

Marking and fixing

Determine the installation height from the **highest point** of the finished floor:

- Measure the door leaf height (DH) **including the door adapter**.
- Add **108 mm** or **113 mm** if break-out unit PSB with 8 mm surface mounted threshold/floor guide track is installed. (See also separate installation drawings for Frame and Slim, and Installation and Service Manual for PSB.)
- Mark the installation height on the wall as determined under items **a)** and **b)** as shown in the picture below.
- Drill the hole, tap or plug for the keyhole screw.
- Hang up the support beam in the keyhole and tighten the screw gently.
- Make sure that the support beam is level** and compensate for possible sag in the ends. Mark the rest of the fixing holes using the beam as a template.
(Note that some holes can be covered by other components that first must be removed or slid to the side.)
- Tilt or remove the support beam.
- Drill the holes, tap or plug them.
- If the wall is uneven, compensate by hanging ASSA ABLOY spacers around the screws before they are tightened.
- Fix the support beam using screws.
- Clean the support beam and sliding track thoroughly.

Note! The height of the screw head must not exceed **6.5 mm**.



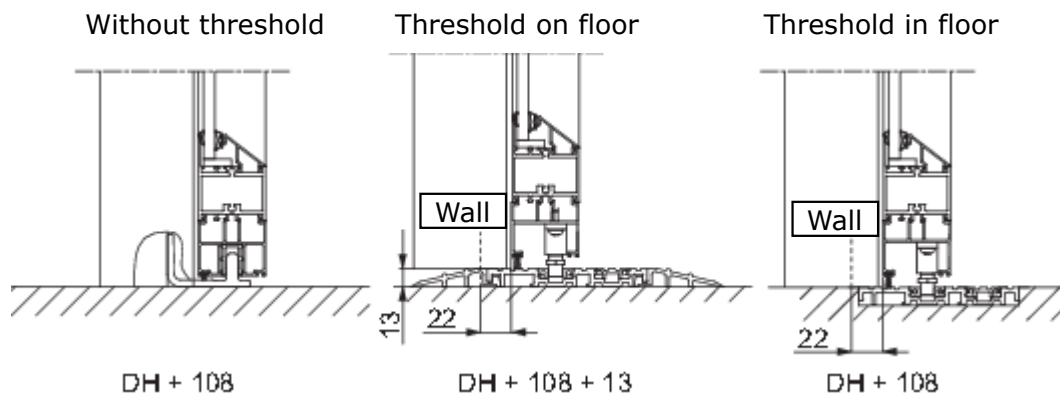
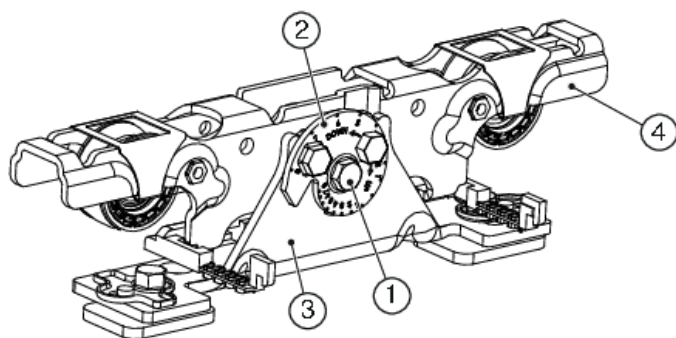


Figure 3: Installation height

Also see page [25](#).

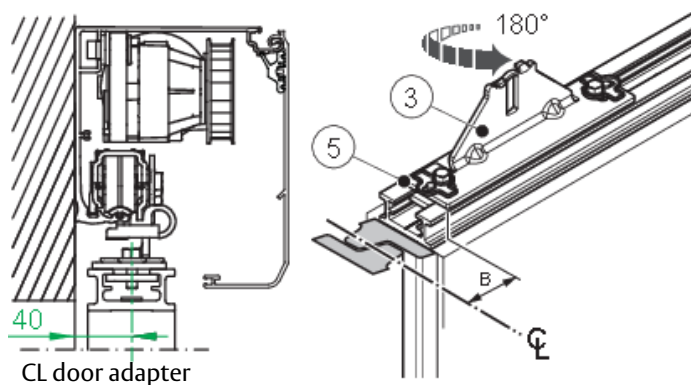
13.7 Installing the door holders on the door adapter (frame doors by others)

- a Remove the height adjustment fastening screw (1) and the height adjustment cam (2). Remove the wheel holder (4) from the door holder (3).

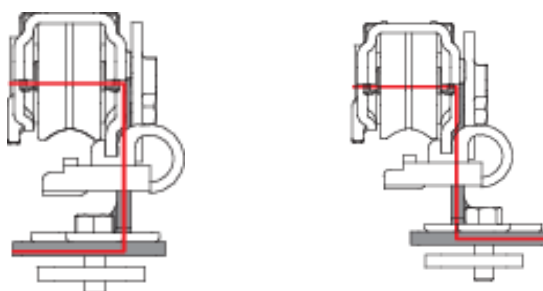


- 1 Height adjustment fastening screw
- 2 Height adjustment cam
- 3 Door holder
- 4 Wheel holder

- b The door holders (3) can be turned depending on door type. If the center of the door adapter is placed more than 40 mm out from the side light/wall, the door holder (3) has to be turned 180°, Z-placement.



- 3 Door holder
- 5 Door adapter



C-placement is for ASSA ABLOY Slim Z-placement is for ASSA ABLOY Frame

- c Fasten the door holder (3a) at a distance A from the trailing edge of the door leaf (6), refer to the picture below. Tighten the screws (7) with a torque of 10 Nm.

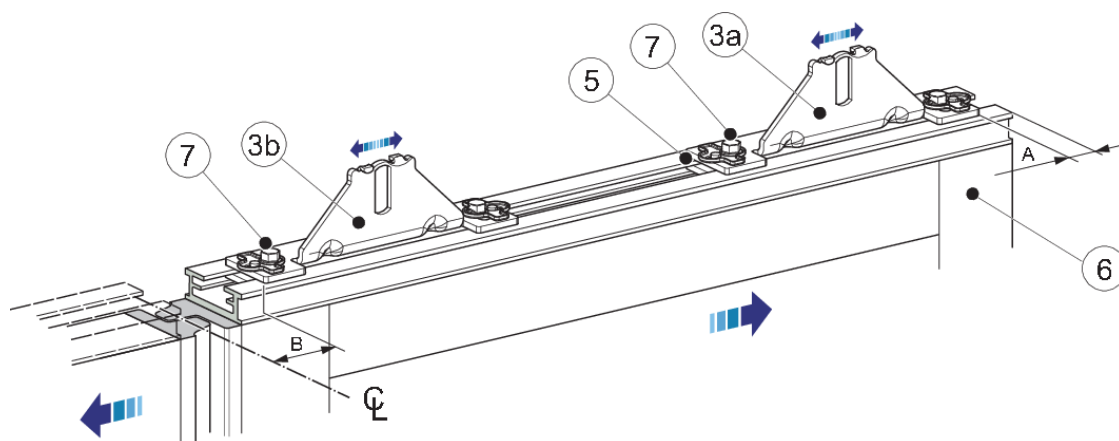
d **Bi-parting door:**

Fasten the door holder (3b) at a distance B from the estimated centre line CL between the doors. Tighten the screws (7) with a torque of 10 Nm.

Single door:

Fasten the door holder (3b) at a distance B from the estimated centre line CL between the door leaf (6) and the slam post. Tighten the screws (7) with a torque of 10 Nm.

Note! Make sure that the door holders (3) are completely in line with the door adapter (5).



- 3 Door holder
- 5 Door adapter
- 6 Door leaf
- 7 Screw

LD, LDP, LDB	A (mm)	B* (mm)	Max distance** (mm)
Old lock	31	55	2
Old lock Short wheel holder	11	35	2
New lock	31	66	9
New lock Short wheel holder	11	46	9
New lock	31	73	2
New lock Short wheel holder	11	53	2

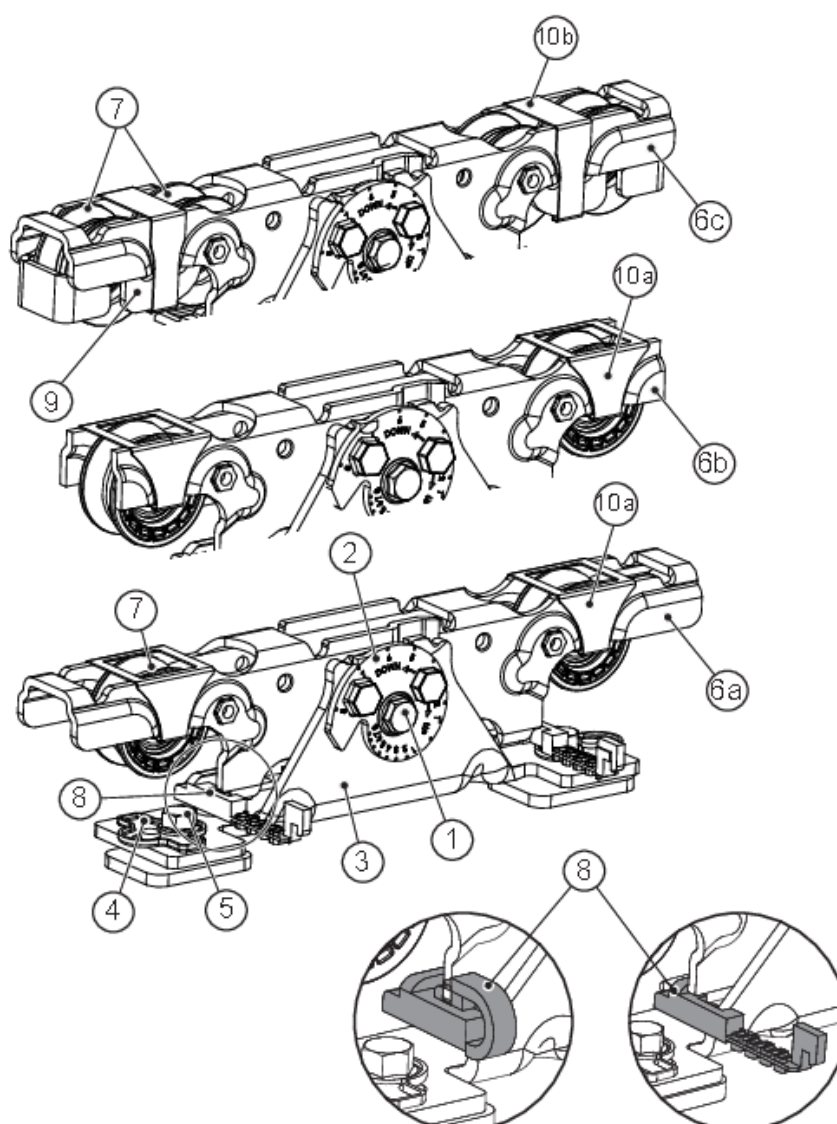
*Bx2 between the door holders on a bi-parting door.

CL is the estimated center line between the doors or door and door post.

**Max distance = the distance a door leaf can move when the door is in locked position.

Distances for espagnolette lock - see accessories.

Part identification door carrier



- | | | | |
|----|-----------------------------------|--|---------------------|
| 1 | Height adjustment fastening screw | 7 | Carriage wheel |
| 2 | Height adjustment cam | 8 | Anti-riser device |
| 3 | Door holder | <ul style="list-style-type: none"> • left illustration, Engaged • right illustration, Disengaged | |
| 4 | Depth adjustment | 9 | Secondary bogie |
| 5 | Door holder fastening screw | 10a | Clips, single wheel |
| 6a | 2-Wheel holder | 10b | Clips, bogie wheels |
| 6b | 2-Wheel holder, short | | |
| 6c | 4-Wheel holder | | |

Note! If the door width is less than 540 mm, the operator will be equipped with a short wheel holder.

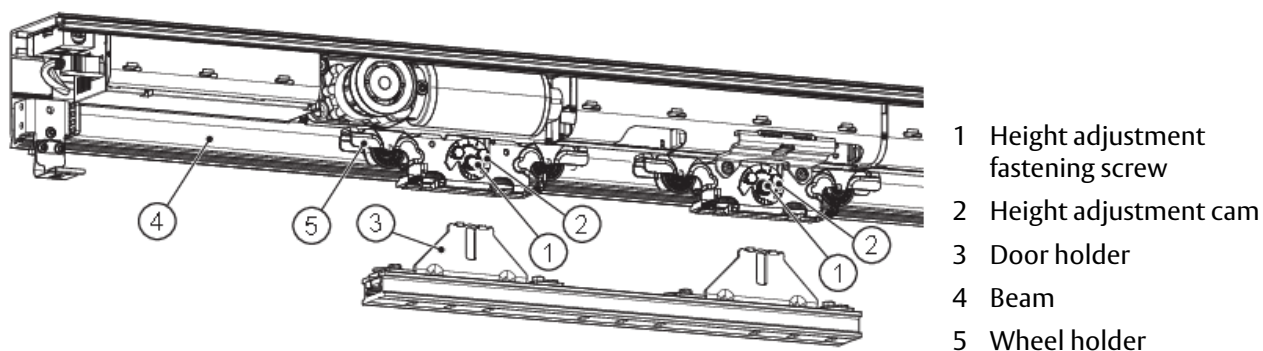
Wheels	Door weight, bogie	Door weight, double bogie
Plastic	0-90 kg/leaf	-
Steel	90-120 kg/leaf	120-240 kg/leaf

Note! If door height / door width ratio (DH/DW) is more than 3.5, double bogie wheels will be delivered. Plastic wheels if door weight is <90 kg/leaf and steel wheels if door weight is >90 kg/leaf.

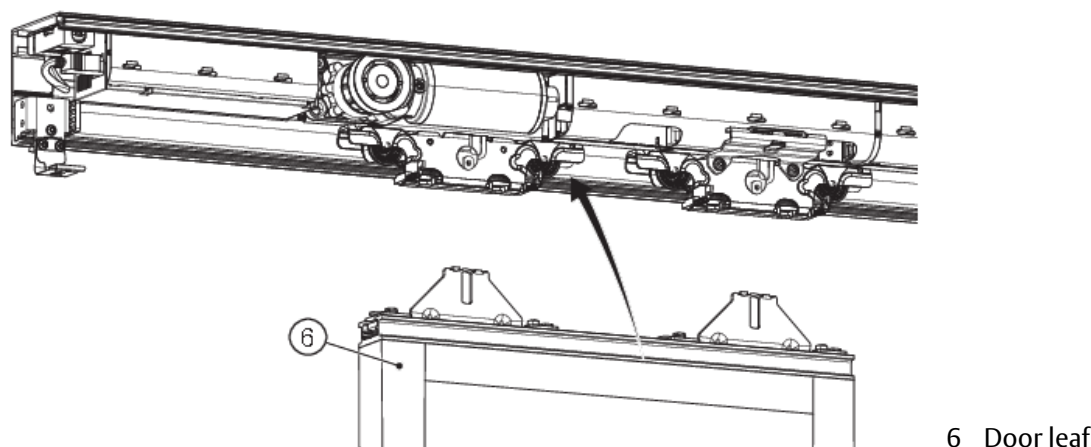
13.8 Hanging and mounting the door leaves

- a Loosen and remove the height adjustment fastening screw (1) and the height adjustment cam (2) from the wheel holders (5) that are already installed in the support beam. The anti-riser devices shall be engaged when the wheels are placed in the beam (4), see page 41.

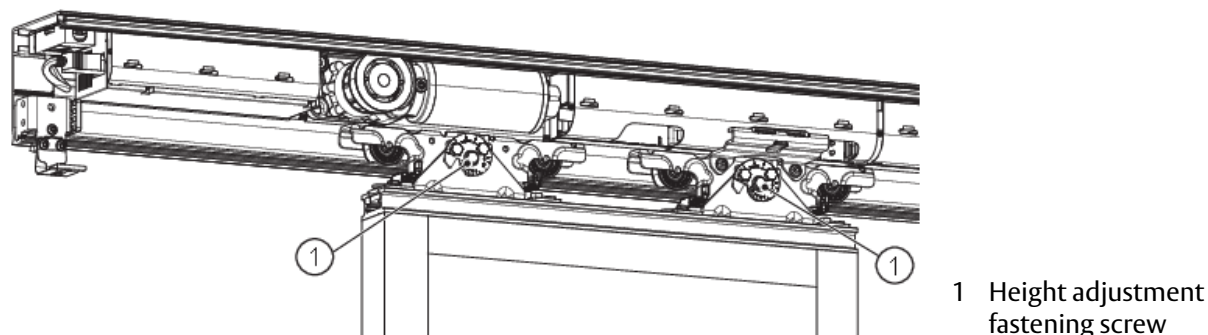
Note! The beam (4) might be damaged when hanging the door leaves (6) onto the beam, if the wheel holder (5) is mounted on the door holder (3).



- b Raise the door leaf (6) and place it carefully over the floor guide, if installed.



- c Slide the wheel holders (5) sideways until they are aligning with the door holders.
- d Reinstall the height adjustment fastening screw (1) and height adjustment cam (2) into the door holders (3) and tighten gently.



- e Adjust the door height until the door leaf (6) is about 6-8 mm above the floor. Tightening torque for the height adjustment fastening screw (1): 18Nm

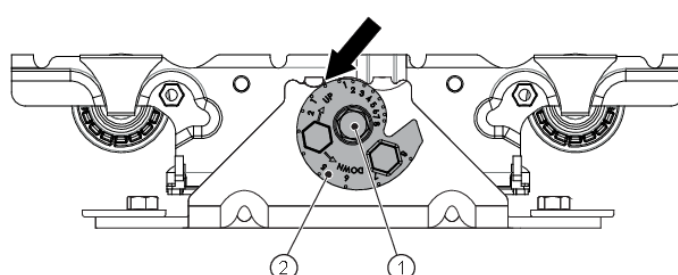
13.9 Height adjustment

The door can be height adjusted ± 8 mm by turning the height adjustment cam (2).

- a Indication on the cam show what height the door is adjusted to (in mm).

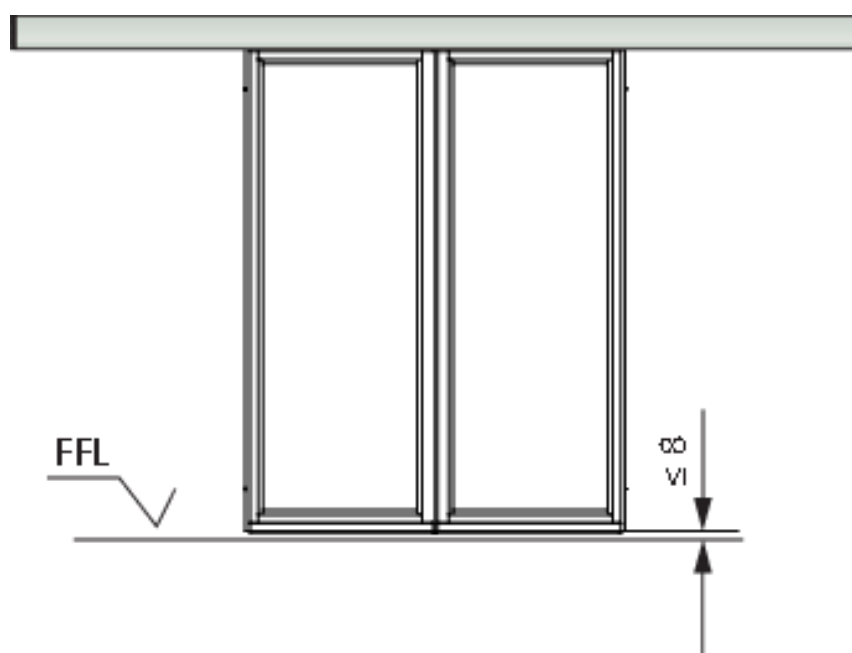
Note! The illustration below shows a zero adjusted cam.

- b Check that the door(s) is hanging horizontally. It is very important that the door leaves are parallel with the fixed panel.
- c To increase the height of the door turn the cam in the direction shown by the arrow UP on the cam.
- d When the door leaf is 6-8 mm above the highest point of the Finished Floor Level (FFL), the door is properly adjusted. Tighten the height adjustment fastening screw (1) with 18Nm.



- 1 Height adjustment fastening screw
- 2 Height adjustment cam

- e Check that the door leaf is parallel (no gap at the top or bottom), when in closed position.



13.10 Installation of ASSA ABLOY Entrance Systems floor guides (frame doors by others)

The floor guides can be adjusted depthwise about ± 4 mm after being installed, using the eccentric nut underneath the plastic block.

Note! Before installing the floor guide make sure that the plastic block is adjusted to the middle position to ensure full adjustability (± 4 mm).

Installation

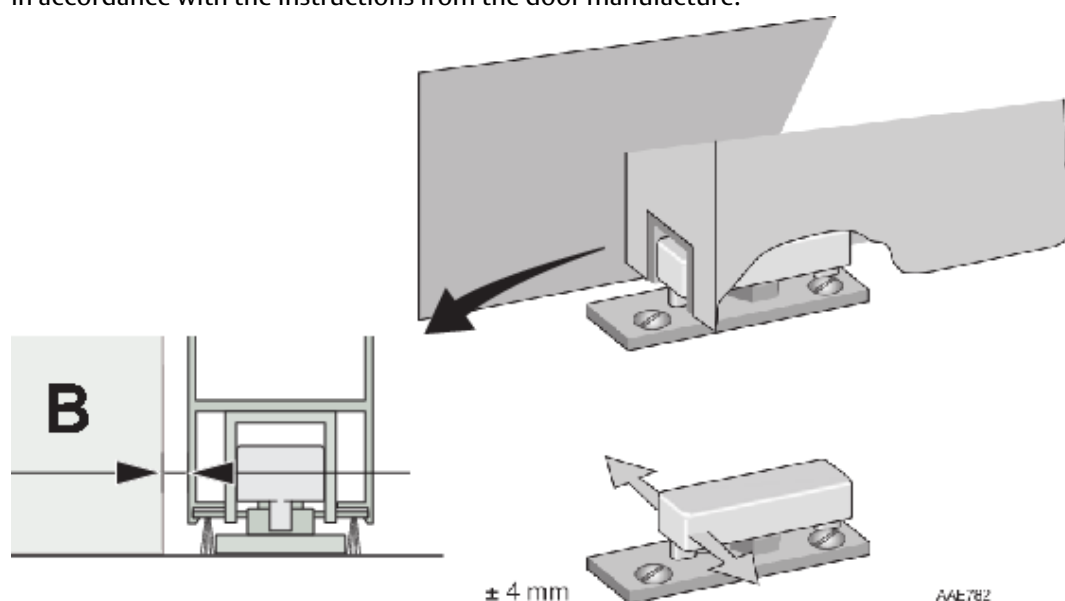
a Bi-parting doors

Push the doors together and slide them until their meeting point is aligned with the centre of the opening.

Single sliding doors

Slide the door leaf to closed position.

- b Fit the floor guide so that the **plastic block** is in line with the **trailing edge** of the door leaf when in the **closed** position as shown in the illustration below, and depthwise (the B measurement) in accordance with the instructions from the door manufacture.



- c Mark the position for the floor guide.
- d Push the door leaf sideways to clear the space.
- e Mark, drill and plug the three holes and fasten the floor guide.
- f Check that the door runs freely over the floor guide without friction.
- g If a weather brush is used on the lower edge of the door leaf, it should only lightly touch the floor.

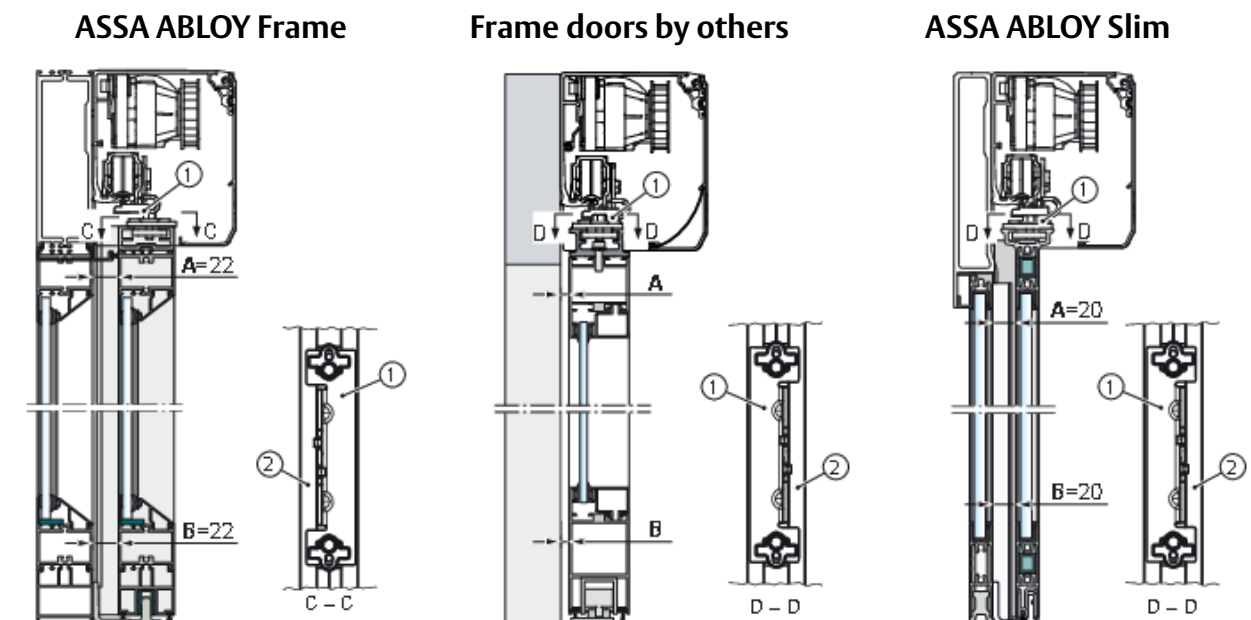
13.11 Depth adjustment of the door leaves

- a The distance **A**, between the top of the door leaf and the fixed screen, is to be adjusted by loosening the two screws connecting the door holder (1) to the door adapter (2).
- b The holes in the door holder (1) are slotted and the door leaf/adapter (2) can be adjusted ± 7 mm.
- c The distance **A** shall be 22 mm for ASSA ABLOY Frame System and 20 mm for ASSA ABLOY Slim System.
- d For frame doors made by others the distance **A** is supplied by the manufacture. The **A** distance depends on the door leaf thickness and draught excluders. When a draught excluder is used between the door leaf and the fixed screen, it should seal equally for the total vertical height.

Note! Make sure that the door holder (1) is completely in line with the door adapter (2).

Note! The door holders (1) can be turned depending on door type. See illustration below.

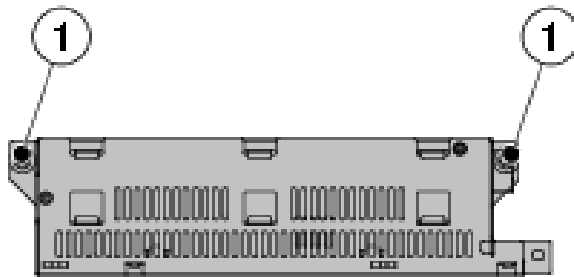
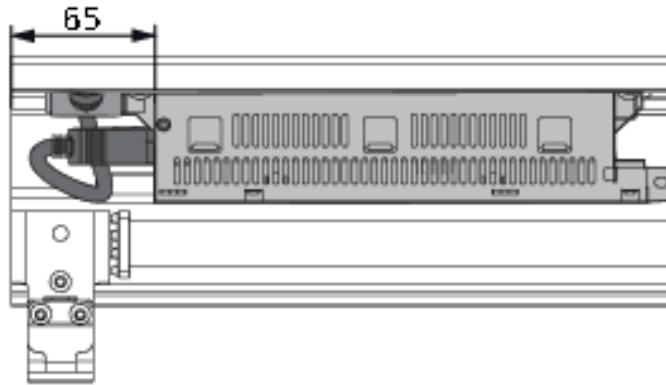
- e The distance **B** shall be equal to **A**. With ASSA ABLOY floor guide series, FGB or GS on frame doors made by others, the distance **B** can be adjusted ± 4 mm with the eccentric nut on the floor guide.
- f When the depth adjustment is done, tighten the screws on the door holder with 10 Nm.



- 1 Door holder
- 2 Door adapter (integrated in the door leaf for ASSA ABLOY Slim and Frame)

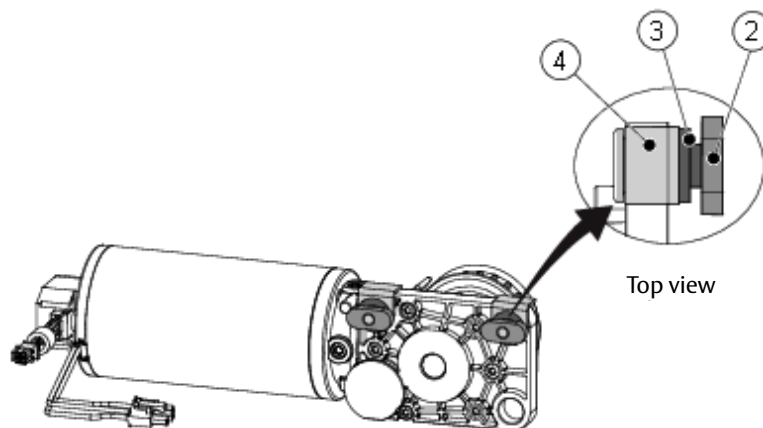
13.12 Installation of components and electrical wiring

- a Start from the left side of the operator, loosen and slide the mains connection and the power supply sideways to obtain 65 mm from the left side of the support beam to the left side of the power supply. Tighten the two fixing screws (1).



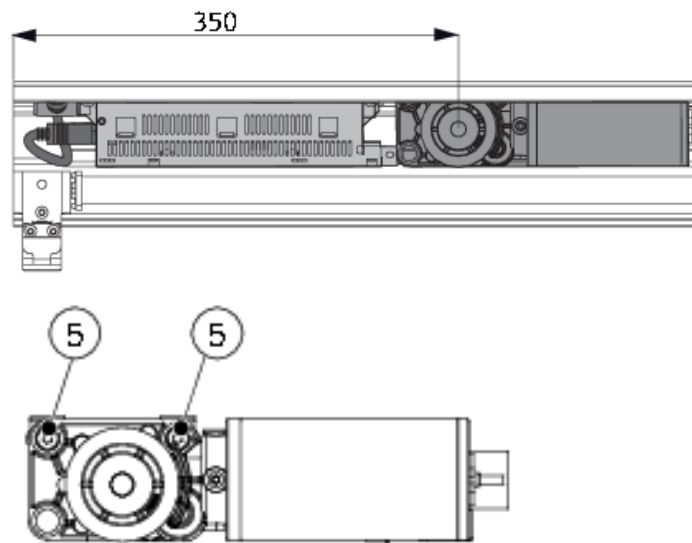
1 Fixing screw

- b Tighten the nuts (2) on the drive unit by hand. No space between the nut (2), plastic washers (3) and the damper (4).



- 2 Nut
3 Plastic washer
4 Damper

- c Install the drive unit with its outgoing shaft 350 mm from the left side of the support beam. Tighten the screws (5) with a force of **10 Nm**. Start with the right screw and ensure that the drive unit is fixed in the beam. Continue with the left screw and visually ensure that this screw also is securely tightened in the beam.



5 Fixing screw

- d Continue with the main control unit MCU or MCU-ER and keep a distance of 5-10 mm to the drive unit. Tighten the two fixing screws (2).

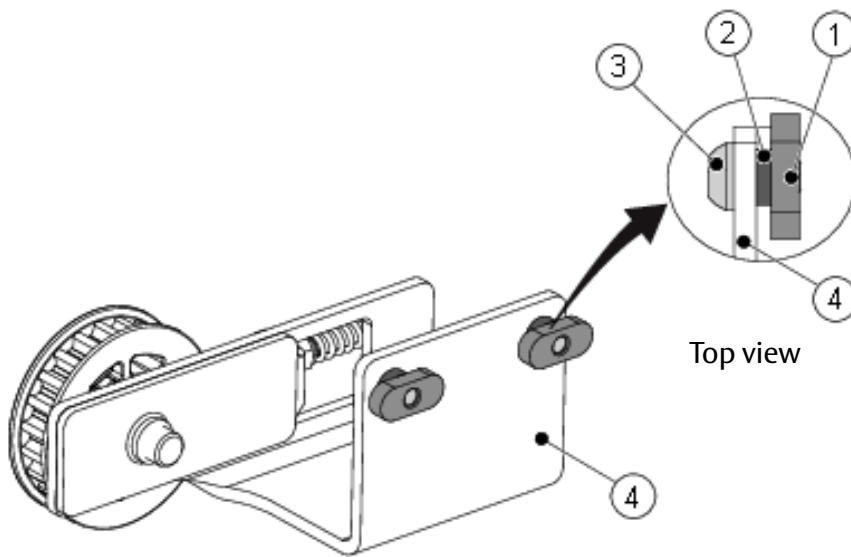


- e If an I/O unit (IOU) shall be used make sure that the connector is fully connected to the MCU/MCU-ER.
- f Fix the batteries, if fitted.

Note! Extension cables are available as accessories if MCU/MCU-ER, IOU or batteries must be installed with greater distances.

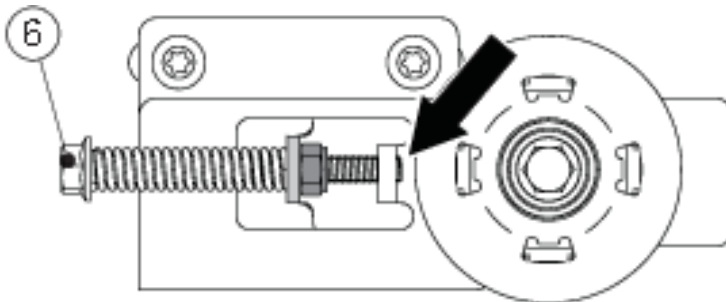
13.13 Installation of tension wheel assembly

- a Tighten the nuts (1) on the belt tension by hand. No space between the nut (1), plastic washer (2), screw (3) and the tension frame (4).



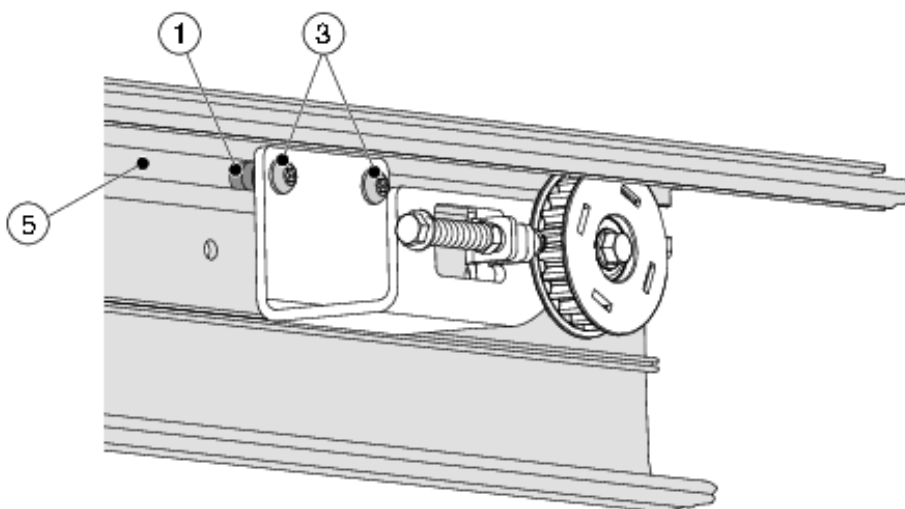
- 1 Nut
- 2 Plastic washer
- 3 Screw
- 4 Tension frame

- b Starting position of the adjustment screw (6).



- 6 Adjustment screw

- c Put the belt tension with the nuts (1) in the C-track (5). Tighten the screws (3) gently. It shall be possible to slide the tension wheel assembly side ways in the C-track (5).



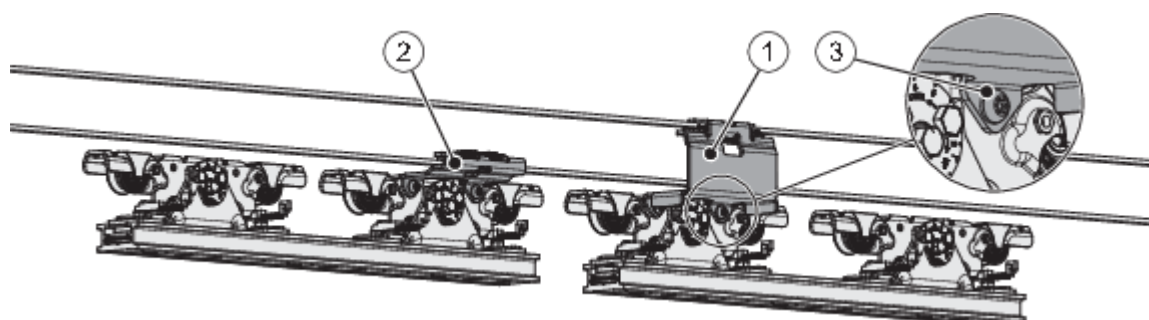
- 1 Nut
- 3 Screw
- 5 C-track

13.14 Placement of the transmission bracket

13.14.1 Bi-parting doors

The upper transmission bracket shall be attached to the carriage wheel holder on the leading edge of the right door.

The lower transmission bracket shall be attached to the carriage wheel holder on the leading edge of the left door.

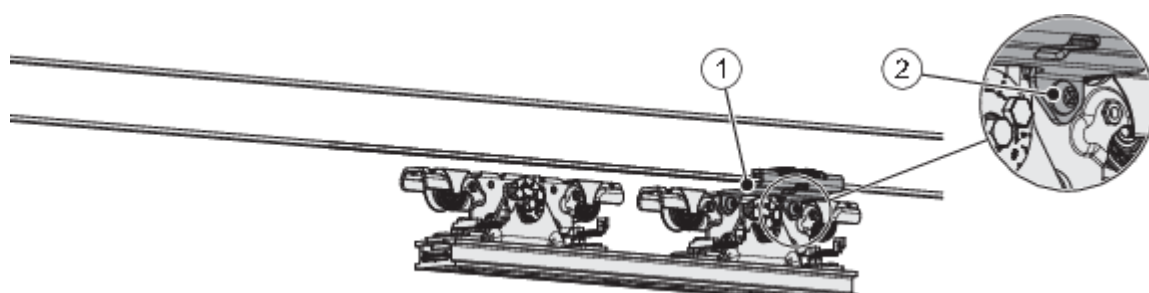


Note! Tighten with a maximum force of **7 Nm**.

- 1 Upper transmission bracket
- 2 Lower transmission bracket
- 3 Screw MRT M6x12 (4x)

13.14.2 Single left opening doors

The lower transmission bracket shall be attached to the carriage wheel holder on the leading edge of the left door.

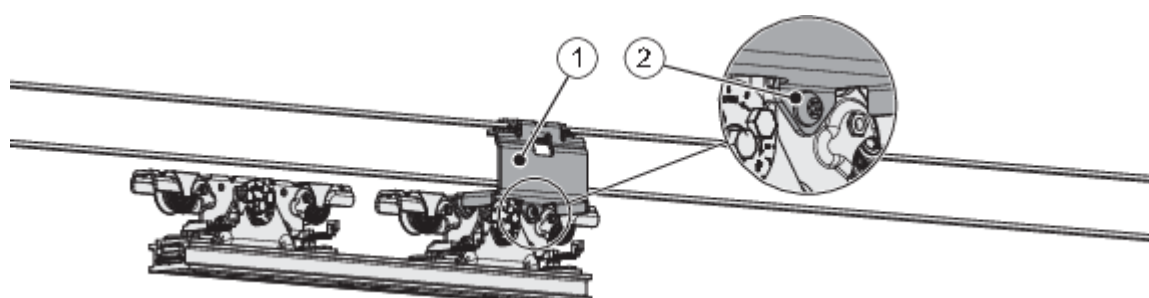


Note! Tighten with a maximum force of **7 Nm**.

- 1 Lower transmission bracket
- 2 Screw MRT M6x12 (2x)

13.14.3 Single right opening doors

The upper transmission bracket shall be attached to the carriage wheel holder on the trailing edge of the door.



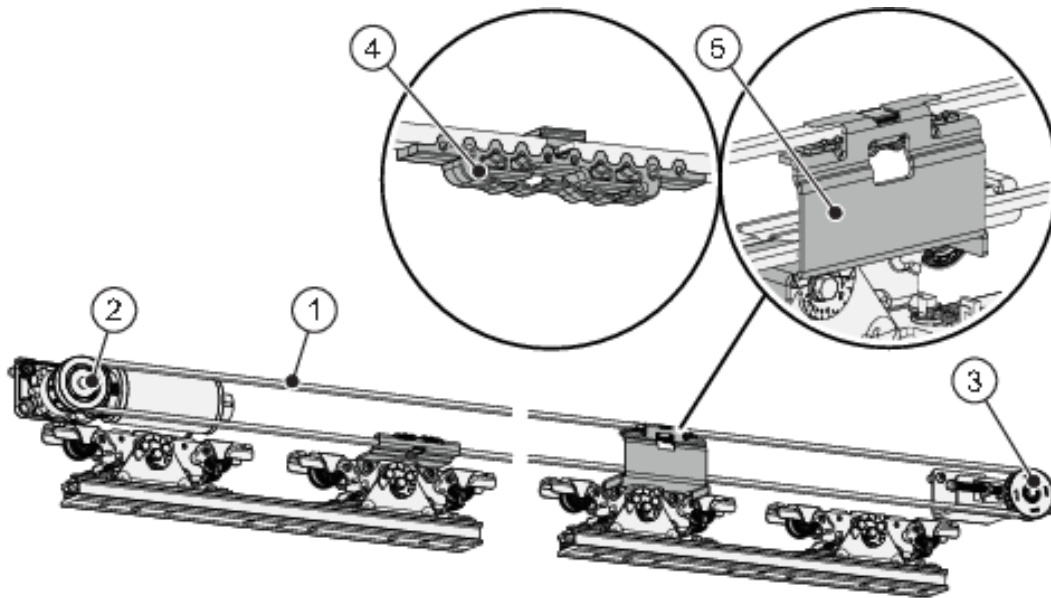
Note! Tighten with a maximum force of **7 Nm**.

- 1 Upper transmission bracket
- 2 Screw MRT M6x12 (2x)

13.15 Attachment of tooth belt fitting

13.15.1 Bi-parting doors

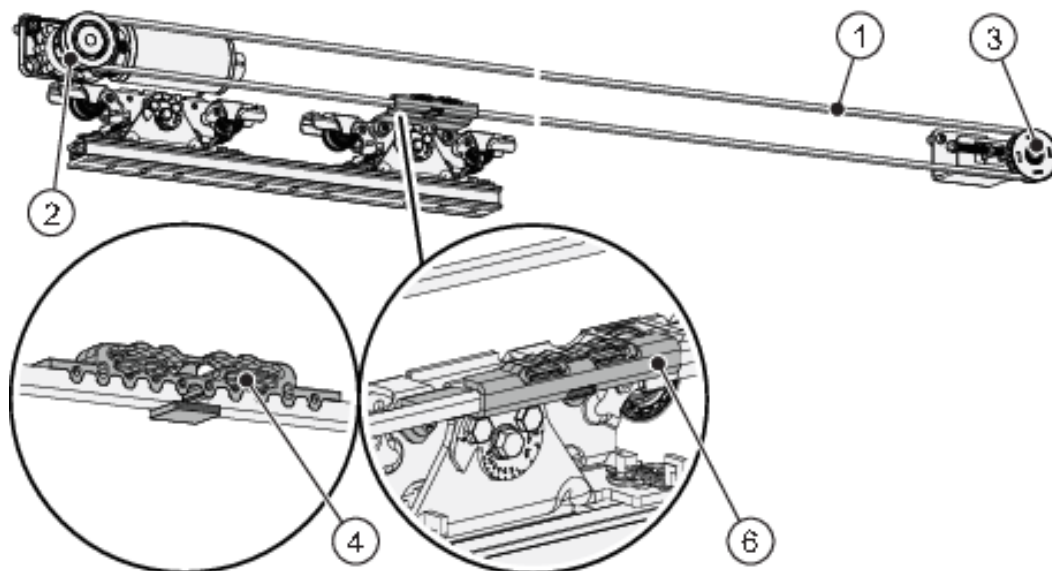
- a The tooth belt (1) is delivered separately and is pre-cut to the right length. Route the belt (1) around the drive unit pulley (2) and around the tension wheel (3).
- b The belt ends are joined with the belt clamp (4) in the **upper** part of the belt.
- c Click the belt clamp (4) into position in the upper transmission bracket (5).



- | | |
|---------------------|------------------------------|
| 1 Tooth belt | 4 Belt clamp |
| 2 Drive unit pulley | 5 Upper transmission bracket |
| 3 Tension wheel | |

13.15.2 Single left opening doors

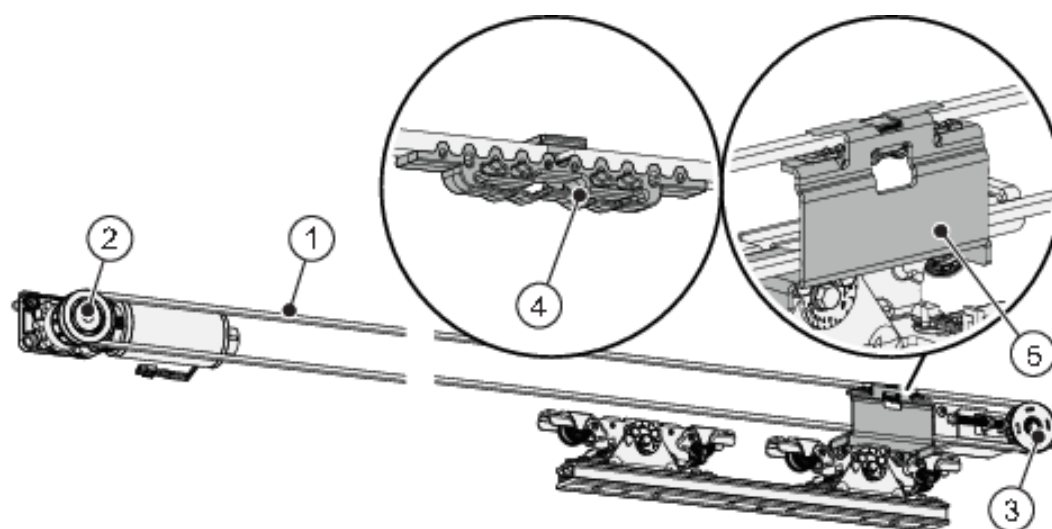
- a The tooth belt (1) is delivered separately and is pre-cut to the right length. Route the belt (1) around the drive unit pulley (2) and around the tension wheel (3).
- b The belt ends are joined with the belt clamp (4) in the **lower** part of the belt.
- c Click the belt clamp (4) into position in the lower transmission bracket (6).



- | | |
|---------------------|------------------------------|
| 1 Tooth belt | 4 Belt clamp |
| 2 Drive unit pulley | 6 Lower transmission bracket |
| 3 Tension wheel | |

13.15.3 Single right opening doors

- a The tooth belt (1) is delivered separately and is pre-cut to the right length. Route the belt (1) around the drive unit pulley (2) and around the tension wheel (3).
- b The belt ends are joined with the belt clamp (4) in the **upper** part of the belt.
- c Click the belt clamp (4) into position in the upper transmission bracket (5).



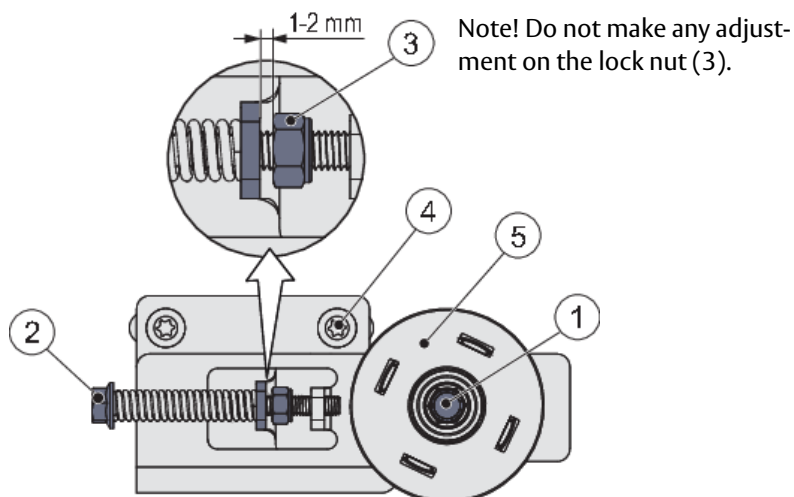
- | | |
|---------------------|------------------------------|
| 1 Tooth belt | 4 Belt clamp |
| 2 Drive unit pulley | 5 Upper transmission bracket |
| 3 Tension wheel | |

13.16 Checking and adjusting the belt tension

If the belt tension has to be corrected, proceed as follows:

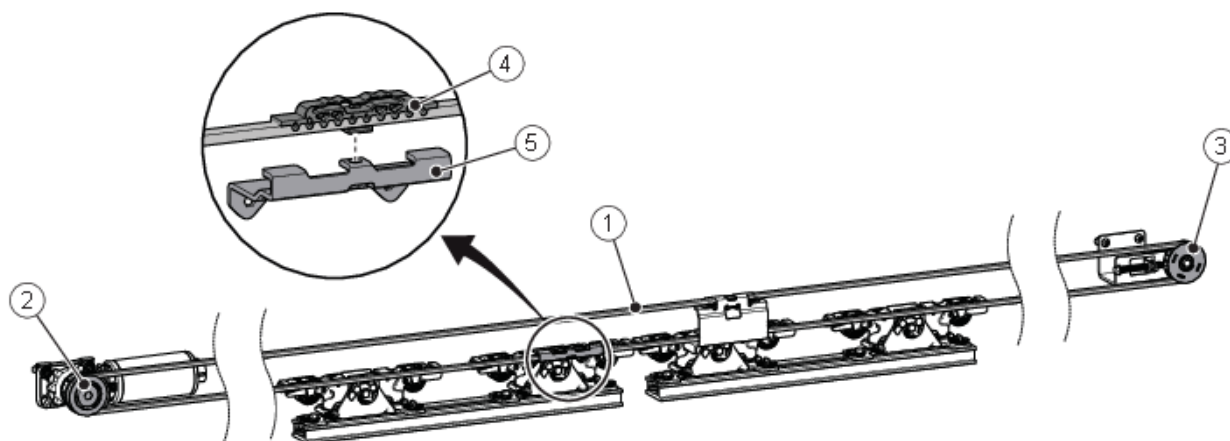
- a Remove the slack reducer, if fitted.
- b Loosen the fixing screw (1) without removing it.
- c Screw the adjustment screw (2) to its outmost position.
- d Loosen the tension wheel assembly fixing screws (4).
- e Tension the belt by pulling the tension wheel assembly by hand.
- f Tighten the tension wheel assembly fixing screws (4) with a **torque of 10 Nm**.
- g Tighten the belt tension adjustment screw (2) until there is a gap of approx. 1-2 mm between the lock nut (3) and the bracket according to illustration below, but not further. Be sure not to overtighten, otherwise the adjustment screw (2) might damage the tension wheel (5).
- h Retighten the fixing screw (1) with a **torque of 30 Nm**.

Note! Do not make any adjustment on the lock nut (3).



13.17 Bi-parting operators

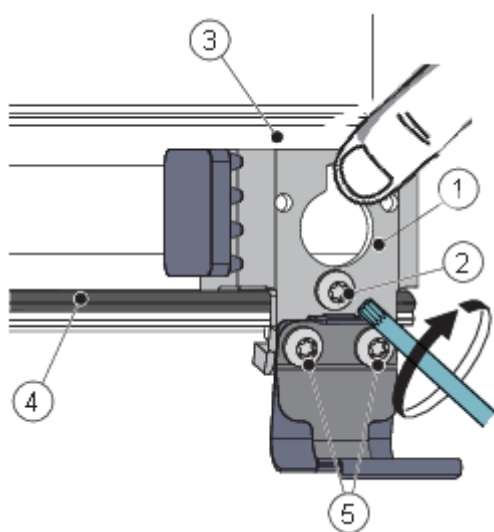
- a Put doors in fully closed position. Make sure that the doors trailing edge is aligned with the side light.
- b Put the belt clamp (4) centered over the lower transmission bracket (5).
- c When centered snap the belt clamp (4) in place.
- d Examine the door panels for alignment with the sidelight or the wall in the open position.



- 1 Tooth belt
- 2 Drive unit pulley
- 3 Tension wheel
- 4 Belt clamp
- 5 Lower transmission bracket

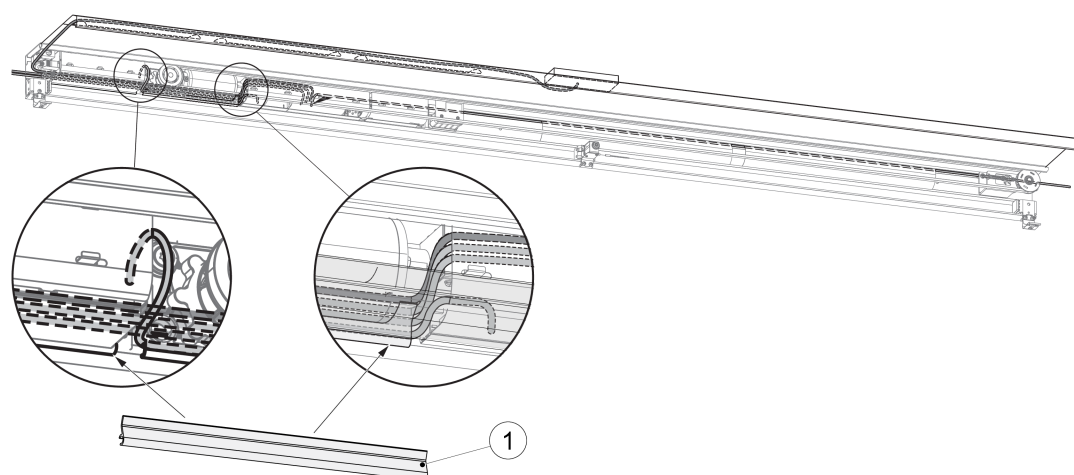
13.18 Adjustment of the door stop

- a Push the doors by hand to the desired opening.
- b For ASSA ABLOY Frame the door leaf can be fully open.
For single doors, shearing of finger is reduced by using a jamb as a door stop in closed position. Labyrinth sealing is used between the trailing edge on the door leaf and the fixed side screen to prevent a finger trap.
See [Alternative installation of door system \(by others than ASSA ABLOY door systems\)](#) on page 30 for required measurements.
- c Loosen the door stops (1), move them in against the wheel holders, and hold the door stop in position against the beam (3) then tighten screws (5) firmly.
- d Tighten the screw (2) on **one** of the door stops (1) to secure the plastic track (4). If there is a screw (2) on the other door stop remove it.
- e Check that the required opening and finger protection is achieved, see page 30.

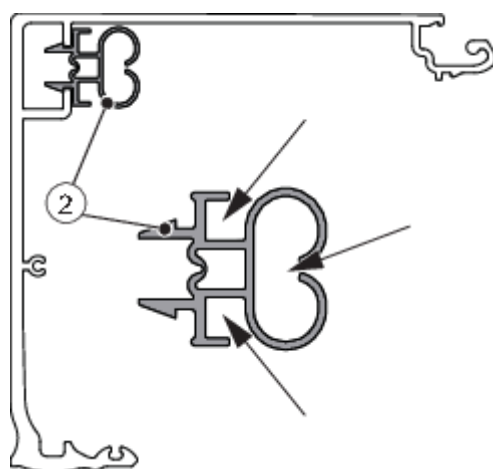


- 1 Door stop
- 2 Screw (to secure the plastic track)
- 3 Beam
- 4 Plastic track
- 5 Door stop fastening screw

13.19 Route the cables and attach the plastic cable holders, see illustrations below



1 Cable holder



2 Cable holder

13.20 Attachment of slack reducer

Attach the slack reducer between the eighth and ninth belt tooth on each side of the low transmission bracket. If two slack reducers are needed put the second slack reducer in the same way under the upper transmissions bracket.

Note! If needed, the operators will be delivered with slack reducer springs.

Single doors

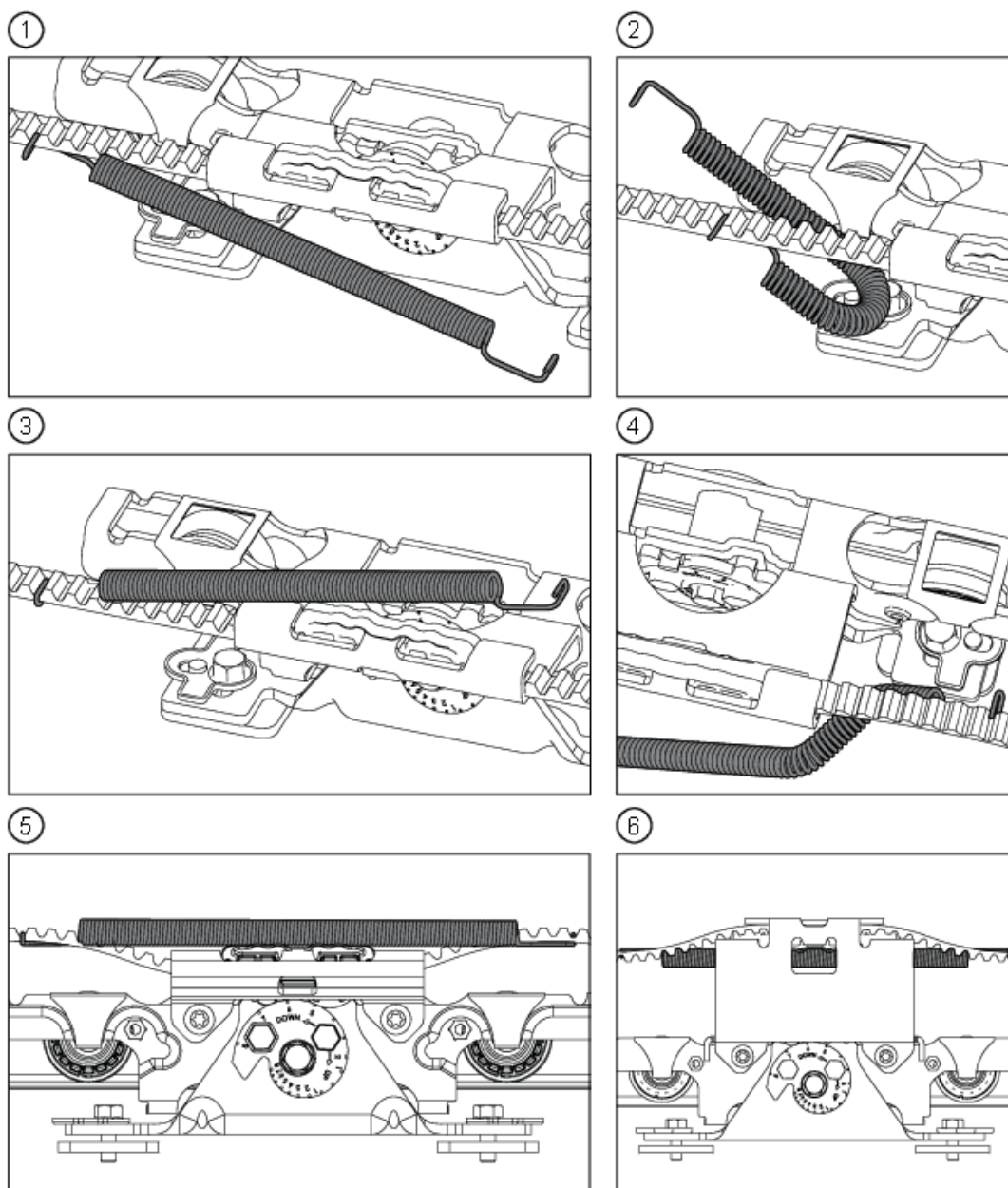
If the belt length is more than 4700 mm, there shall be one slack reducer.

Double doors

If the belt length is more than 5700 mm, there shall be two slack reducers.

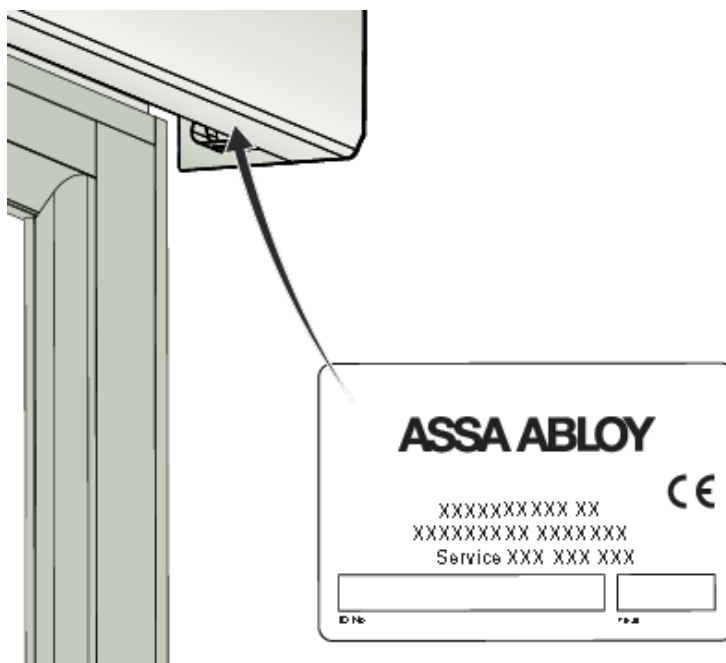
In all other cases

In all other cases, then above, there will not be any slack reducers in the operator.



13.21 Attachment of the local product label

When properly installed and adjusted, attach the local product label on the right side of the lower part of the operator cover.



14 Electrical connections



During any work with the electrical connections the **mains power** and the **electrical emergency unit must be disconnected**.

- Place the electric switch easily accessible from the operator.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

14.1 Mains connection

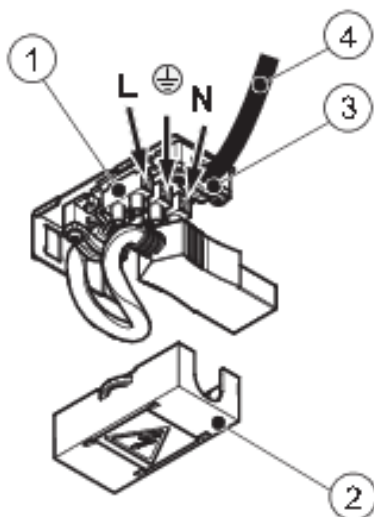
The incoming mains, which is a single phase 50/60 Hz AC voltage between 100 V -10% and 240 V +10% fuse 10 AT, is connected in the mains connection unit.

- a Remove the protective lid (2).
- b Connect the incoming mains power (4) through the strain relief (3) to the connection block (1) as shown in the illustration below.
- c Put the protective lid (2) back in place.

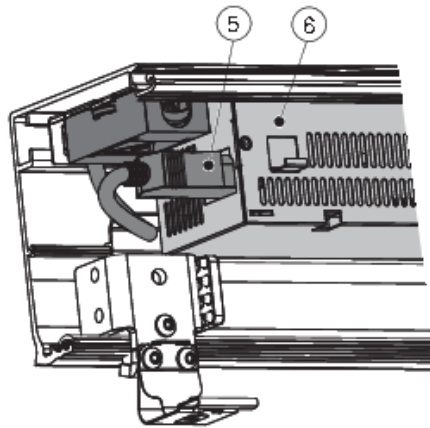


Installer must properly ground door package! Improper grounding can lead to risk of personal injury.

Mains power
100-240 V AC
50/60 Hz, 10 A



- 1 Mains connection block
- 2 Protective lid
- 3 Strain relief
- 4 Mains power



The mains connection (5) must remain unconnected until the wiring is completed. Then connect to the power supply unit (6).

5 Connection cable

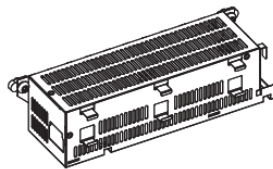
6 Power supply unit

14.2 Electrical units

14.2.1 Power supply unit (PSU 50/PSU 75/PSU 150)

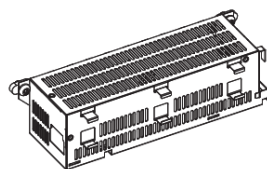
The power supplies are available in different versions:

PSU 50
(obsolete)



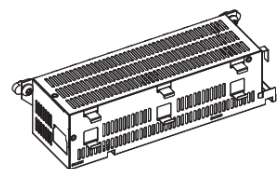
(Marked with orange label)

PSU 75



(Marked with yellow label)

PSU 150

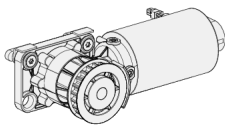


(Marked with green label)

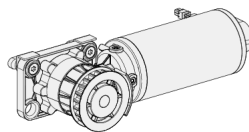
14.2.2 Drive unit (NDD/HDD/DD)

The drive unit is available in different versions:

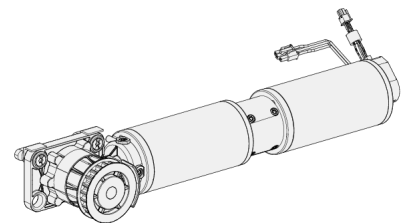
Normal duty drive (NDD)
GR 63X25
(obsolete)



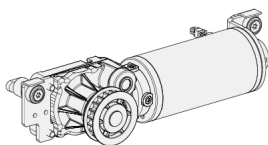
Heavy duty drive (HDD)
GR 63X55



Dual drive (DD)
2 X GR 63X55



Extra heavy duty drive (XHD)
GR 63X55

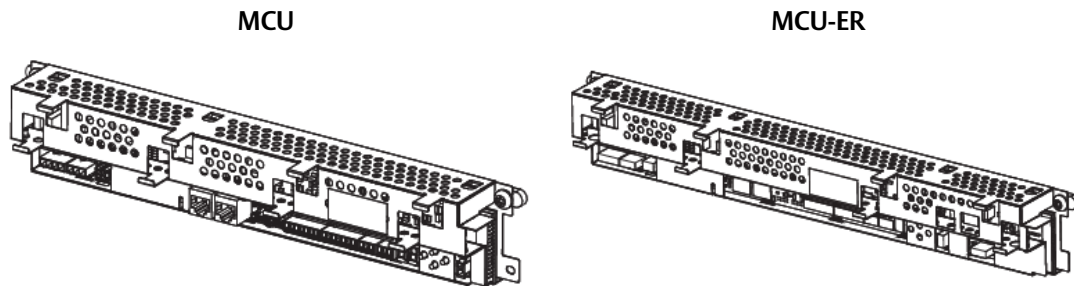


14.2.3 Main control unit (MCU/MCU-ER)

The main control unit has the connection for the power supply, drive unit, operation mode selector, activation units, electromechanical lock and batteries. An installer interface with a two digit display and four push buttons is used for function selection, adjustments and for troubleshooting. See page 83 for details.

The main control is available in two different versions.

- MCU - used in all other applications
- MCU-ER - used in escape routes where EN16005 and DIN18650 applies

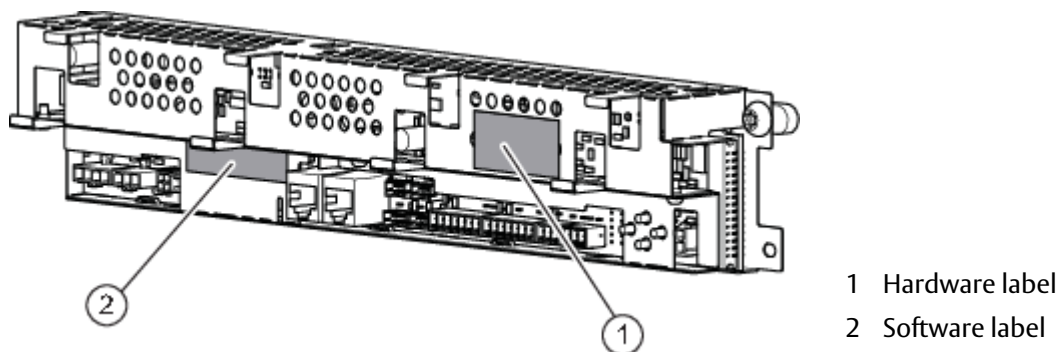


The MCU/MCU-ER has two labels, a hardware label (1) and a software label (2).

The hardware label states revision of the MCU/MCU-ER and applies to PCB or hardware changes.

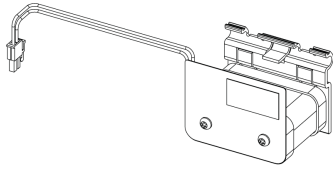
The software label states the software version. In the MCU there are two different software versions and in the MCU-ER there are three different software versions, see page 14 regarding software.

Note! Newer MCU/MCU-ER will not have all software versions stated. Instead the software release version is stated.



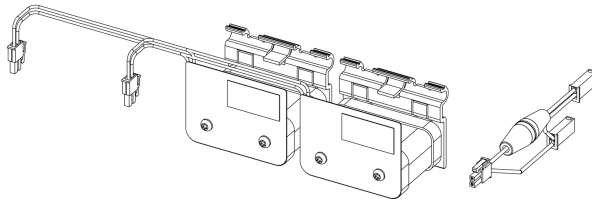
14.2.4 Additional electronic units can be connected for extra functionality

Battery unit 12 V (EEU 12)



For opening or for fire closing a 12 V battery can be connected that automatically opens or closes the door in the event of a power failure. For higher door speed, the 24 V battery below is recommended and is also a demand to conform with authority demands for escape routes (EN 16005 and DIN 18650).

Battery unit 24 V (EEU 24)



For emergency opening or for fire closing a 24 V battery can be connected that automatically opens or closes the door in the event of a power failure. This battery can also be used for continued normal operation during short power failures (convenience mode). The fuse in the cable harness is 10 AT.

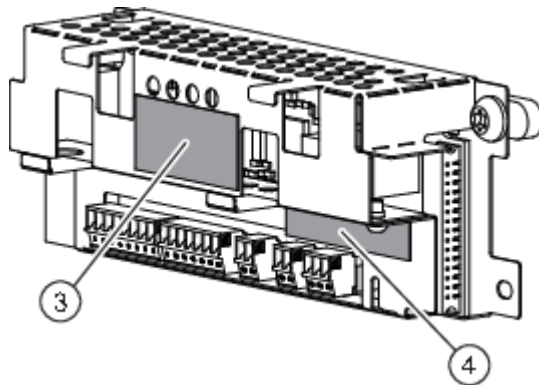
I/O unit (IOU)

The IOU has two labels, a Hardware label (3) and a Software label (4).

The hardware label states revision of the IOU and applies to PCB or hardware changes.

The software label states the software version.

Note! Newer IOU's will not have the software version stated. Instead the software release version is stated.



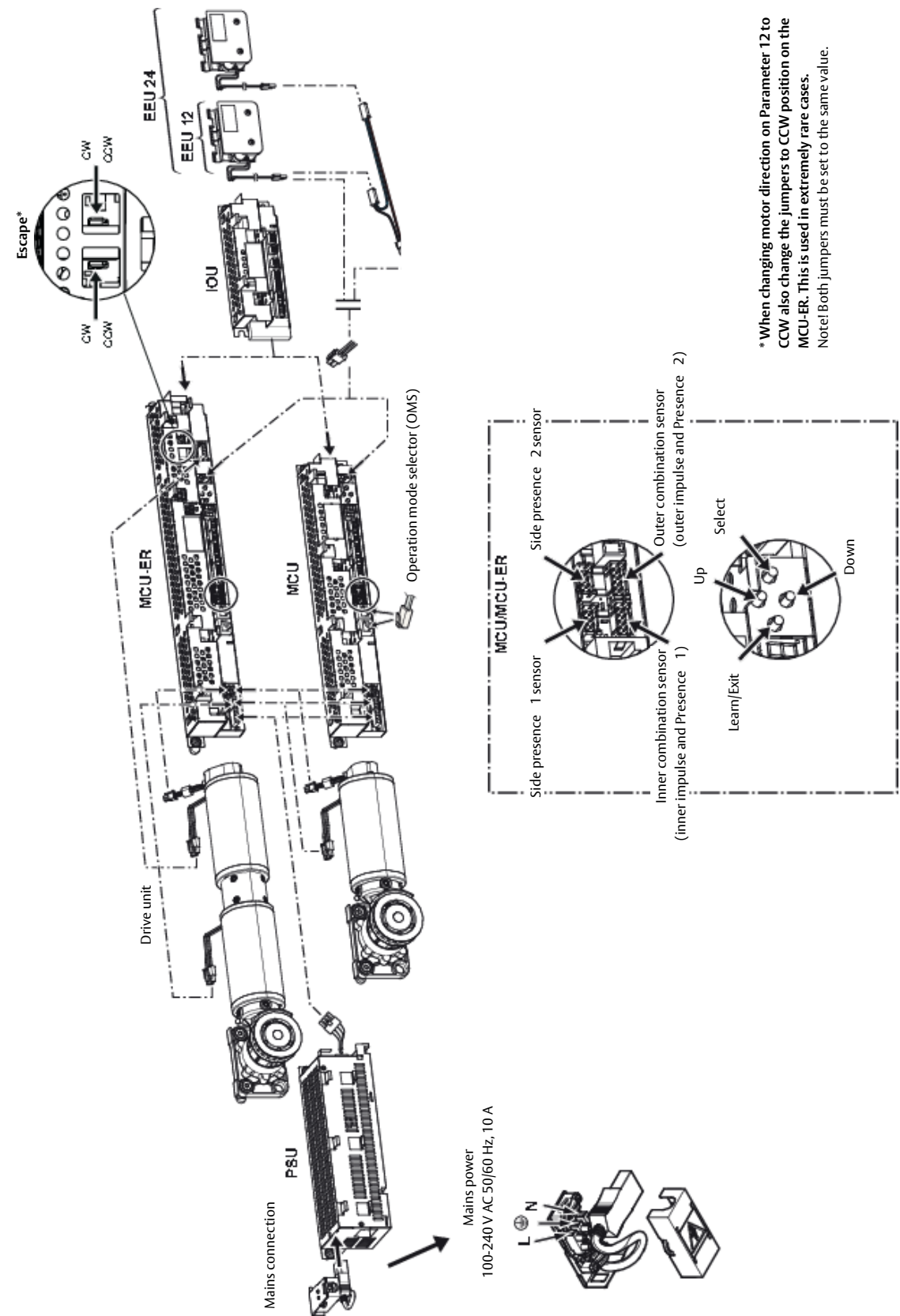
3 Hardware label

4 Software label





















For extra functionality like

- close or robbery impulse
- nurse impulse
- open/close impulse
- emergency open impulse (fireman's opening)
- bi-stable lock
- espangolette lock
- connection of optional operation mode selector
- fire impulse
- sustainable function off
- relay output for external error or status indication, maximum 15W, 42VAC / 30 VDC (SELV), resistive load only
- interlock off (interconnected operators)
- interlocking
- second monitored inner impulse
- repeated fire closing
- pharmacy impulse 1 and 2
- mode selector enable impulse























14.2.5 Connection of electrical units



MCU/MCU-ER

20		Not to be used
19		Lock
18		(+) Lock
17		(+) 24 V DC
16		Inner impulse
15		(-) 0 V DC
14		(+) 24 V DC
13		Presence + stop monitoring *
12		Key impulse **
11		Presence impulse 2
10		C-switch or inner/outer impulse monitoring
9		Presence impulse 1
8		(-) 0 V DC
7		(+) 24 V DC
6		Side presence monitoring
5		Outer impulse
4		Function Select TB:4 Side presence impulse 2/OFF/Exit/Auto Partial/Open/Winter mode
3		Function Select TB:3 Stop impulse/Emergency open impulse
2		Function Select TB:2 Side presence impulse 1/OFF/Exit/Auto partial/Open/Winter mode
1		(-) 0 V DC

IOU

22		Error/Status NC	} max. 15W 42 V AC / 30 V DC (SELV) resistive load only
21		Error/Status COM	
20		Error/Status NO	
19		Fire	} External alarm loop 12-24 V DC
18		Fire	
17		Lock	} Bistable or Espagnolette lock only
16		Lock	
15		(+) 24 V DC	
14		Open	
13		Auto partial/Pharmacy impulse 2	
12		Exit/Pharmacy impulse 1	
11		OFF	
10		Reset	
9		(-) 0 V DC	
8		(+) 24 V DC	
7		Battery wake up	
6		Function Select TB:6 Sustainable drive mode disable/Mode selector enable	
5		Emergency open	
4		Function Select TB:4 Open/Close impulse/Interlock disable/Inner imp. 2 monit./Interlock in	
3		Function Select TB:3 Nurse function/LDE up/Interlock out	
2		Function Select TB:2 Close or robbery impulse/LDE down/Inner impulse 2	
1		0 V	

* 1 wire monitoring = Presence, stop, inner (and/or) outer impulse monitoring

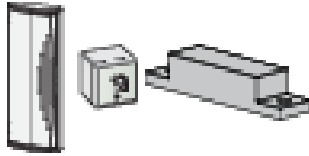
** Key impulse can generate a battery wake up if mains power is off and battery is fitted. The door can open or open/close

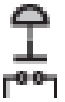
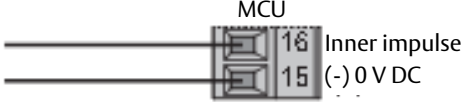
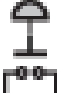
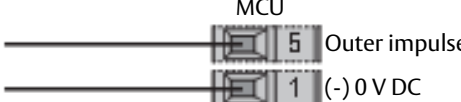

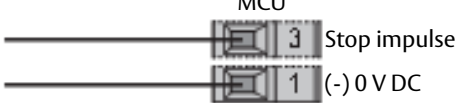

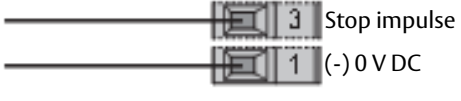


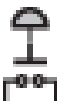

14.3 Connection of the sensors and the other accessories

Refer to the sensor manual for installation and adjustments. The protective device must comply with EN 12978.

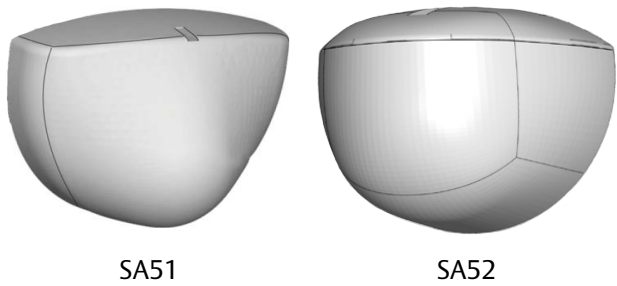
Note! Make sure that the cable from the sensor installed on the cover does not interfere with the lock unit. If it does, drill a new hole for the sensor cable.

14.3.1 MA111-1, KS-S, KS-F, magnet switch



MA111-1, KS-S, KS-F, magnet switch	Connection	Set if used
Inner impulse 		-
Outer impulse 		-
Stop impulse NO 		-
Stop impulse NC 		MCU 46=01
Stop impulse NC (monitored) 		MCU 46=01 66=01
Key Impulse 		-

14.3.2 SA51, SA52



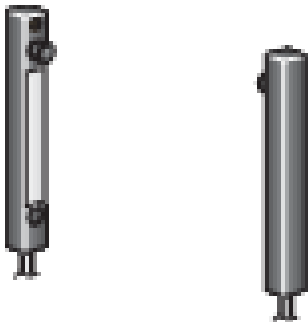
SA51, SA52	Connection
Inner sensor	<p>MCU</p> <p>Green 17 (+) 24 V DC</p> <p>Yellow 16 Inner impulse</p> <p>Brown 15 (-) 0 V DC</p> <p>White</p>
Outer sensor	<p>MCU</p> <p>Green 7 (+) 24 V DC</p> <p>Yellow 5 Outer impulse</p> <p>Brown</p> <p>White 1 (-) 0 V DC</p>

14.3.3 SA53



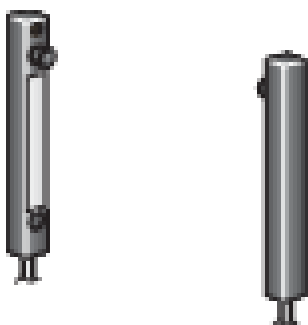
SA53	Connection
Inner sensor	<p>MCU</p> <p>Red 17 (+) 24 V DC</p> <p>Yellow 16 Inner impulse</p> <p>Yellow 15 (-) 0 V DC</p> <p>Black</p>
Outer sensor	<p>MCU</p> <p>Red 7 (+) 24 V DC</p> <p>Yellow 5 Outer impulse</p> <p>Yellow</p> <p>Black 1 (-) 0 V DC</p>

14.3.4 SBK-111 NPN/N (Normally Closed)









SBK-111 NPN/N	Connection	Set if used
Presence im-pulse 	<p>Transmitter (red sleeve) MCU</p> <p>White 14 (+) 24 V DC</p> <p>Brown 13 Presence monitoring</p> <p>Receiver (blue sleeve)</p> <p>White 14 (+) 24 V DC</p> <p>Green 11 Presence impulse 2 *</p> <p>Green 9 Presence impulse 1</p> <p>Brown 8 (-) 0 V DC</p> <p>* If only one presence sensor is used, this must be connected to MCU-TB:9. Use the presence impulse 2 only when the presence impulse 1 is already used.</p>	MCU 7=01 (8=01) 9=01, (02)
Stop impulse 	<p>Transmitter (red sleeve) MCU</p> <p>Brown 13 Stop monitoring</p> <p>White 7 (+) 24 V DC</p> <p>Receiver (blue sleeve)</p> <p>White 7 (+) 24 V DC</p> <p>Green 3 Stop impulse</p> <p>Brown 1 (-) 0 V DC</p>	MCU 45=01 46=01 66=01

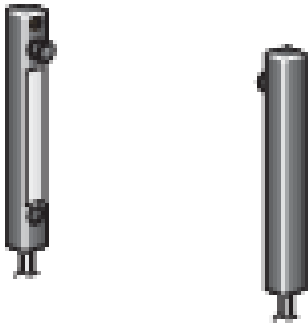
14.3.5 SBK-111 NPN/R (Normally Open)
















SBK-111 NPN/R	Connection	Set if used
Inner impulse 	<p>Transmitter (red sleeve) MCU</p> <p>White ——— 17 (+) 24 V DC</p> <p>Brown ——— 15 (-) 0 V DC</p> <p>Receiver (blue sleeve)</p> <p>White ——— 17 (+) 24 V DC</p> <p>Green ——— 16 Inner impulse</p> <p>Brown ——— 15 (-) 0 V DC</p>	-
Outer impulse 	<p>Transmitter (red sleeve) MCU</p> <p>White ——— 7 (+) 24 V DC</p> <p>Brown ——— 1 (-) 0 V DC</p> <p>Receiver (blue sleeve)</p> <p>White ——— 7 (+) 24 V DC</p> <p>Green ——— 5 Outer impulse</p> <p>Brown ——— 1 (-) 0 V DC</p>	-
Presence im- pulse 	<p>Transmitter (red sleeve) MCU</p> <p>White ——— 14 (+) 24 V DC</p> <p>Brown ——— 13 Presence monitoring</p> <p>Receiver (blue sleeve)</p> <p>White ——— 14 (+) 24 V DC</p> <p>Green ——— 11 Presence impulse 2 *</p> <p>Green ——— 9 Presence impulse 1</p> <p>Brown ——— 8 (-) 0 V DC</p> <p>* If only one presence sensor is used, this must be connected to MCU-TB:9. Use the presence impulse 2 only when the presence impulse 1 is already used.</p>	MCU 9=01, (02)

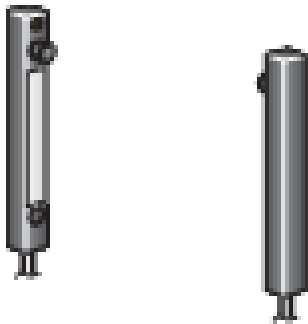
SBK-111 NPN/R	Connection	Set if used
Stop impulse 	<p>Transmitter (red sleeve) MCU</p> <p>Brown  Stop monitoring</p> <p>White  (+) 24 V DC</p> <p>Receiver (blue sleeve)</p> <p>White  (+) 24 V DC</p> <p>Green  Stop impulse</p> <p>Brown  (-) 0 V DC</p>	MCU 45=01 46=00 66=01

14.3.6 ELS400 NPN/LO (Normally Closed)




ELS400 NPN/LO	Connection	Set if used
Presence im-pulse 	<p>Transmitter (red sleeve)</p> <p>White  (+) 24 V DC</p> <p>Brown  Presence monitoring</p> <p>Receiver (blue sleeve)</p> <p>White  (+) 24 V DC</p> <p>Green  Presence impulse 2 *</p> <p>Green  Presence impulse 1</p> <p>Brown  (-) 0 V DC</p> <p>* If only one presence sensor is used, this must be connected to MCU-TB:9. Use the presence impulse 2 only when the presence impulse 1 is already used.</p>	MCU 7=01 (8=01) 9=01, (02)
Stop impulse 	<p>Transmitter (red sleeve) MCU</p> <p>Brown  Stop monitoring</p> <p>White  (+) 24 V DC</p> <p>Receiver (blue sleeve)</p> <p>White  (+) 24 V DC</p> <p>Green  Stop impulse</p> <p>Brown  (-) 0 V DC</p>	MCU 45=01 46=01 66=01

14.3.7 ELS400 NPN/DO (Normally Open)

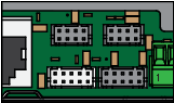
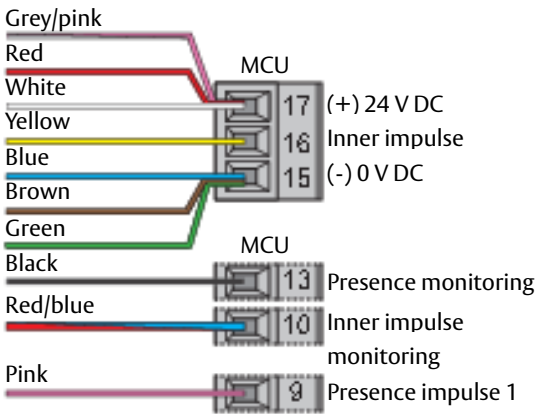
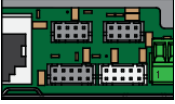
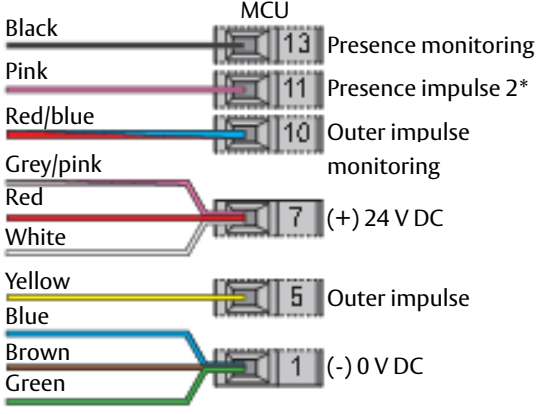


ELS400 NPN/DO	Connection	Set if used
Inner impulse 	<p>Transmitter (red sleeve)</p> <p>White ——— MCU 17 (+) 24 V DC</p> <p>Brown ——— 15 (-) 0 V DC</p> <p>Receiver (blue sleeve)</p> <p>White ——— 17 (+) 24 V DC</p> <p>Green ——— 16 Inner impulse</p> <p>Brown ——— 15 (-) 0 V DC</p>	-
Outer impulse 	<p>Transmitter (red sleeve)</p> <p>White ——— MCU 7 (+) 24 V DC</p> <p>Brown ——— 1 (-) 0 V DC</p> <p>Receiver (blue sleeve)</p> <p>White ——— 7 (+) 24 V DC</p> <p>Green ——— 5 Outer impulse</p> <p>Brown ——— 1 (-) 0 V DC</p>	-
Presence im- pulse 	<p>Transmitter (red sleeve)</p> <p>White ———</p> <p>Brown ——— 100 Ω ——— MCU 14 (+) 24 V DC</p> <p>13 Presence monitoring</p> <p>Receiver (blue sleeve)</p> <p>White ——— 14 (+) 24 V DC</p> <p>Green ——— 11 Presence impulse 2 *</p> <p>Green ——— 9 Presence impulse 1</p> <p>Brown ——— 8 (-) 0 V DC</p> <p>* If only one presence sensor is used, this must be connected to MCU-TB:9. Use the presence impulse 2 only when the presence impulse 1 is already used.</p>	MCU 9=01, (02)

ELS400 NPN/DO	Connection	Set if used
Stop impulse 	<p>Transmitter (red sleeve) MCU</p> <p>Brown ———— 13 Stop monitoring</p> <p>100 Ω ———— 7 (+) 24 V DC</p> <p>White ————</p> <p>Receiver (blue sleeve)</p> <p>White ———— 7 (+) 24 V DC</p> <p>Green ———— 3 Stop impulse</p> <p>Brown ———— 1 (-) 0 V DC</p>	MCU 45=01 46=00 66=01

14.3.8 SC31-E



SC31-E	Connection	Sensor dip ON	Set if used
Inner sensor 	 <p>If impulse monitoring is NOT wanted, do not connect the RED/BLE wire and set 16=00.</p>	SC31-E: 1, 3, 5, 8, 9 (7 = NO) (15 = Look-back)	MCU (07=01) 09=01, (02) 16=01
Outer sensor 	 <p>If impulse monitoring is NOT wanted, do not connect the RED/BLE wire and set 17=00. * If only one sensor, connect the presence impulse (PINK wire) to MCU-TB:9.</p>	SC31-E: 1, 3, 8, 9 (7 = NO) (15 = Look-back)	MCU (07=01) (08=01) 09=02, (01) 17=01

SC31-E	Connection	Sensor dip ON	Set if used
Two combined monitored inner impulse sensors		SC31-E: Sensor #1 1, 3, 5, 8, 9 (7 = NO) (15 = Look-back)	MCU 07=01 09=01, (02) 16=01 91=03 93=03

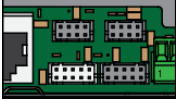
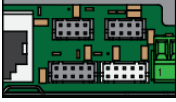
14.3.9 SC31-M, SC32-M

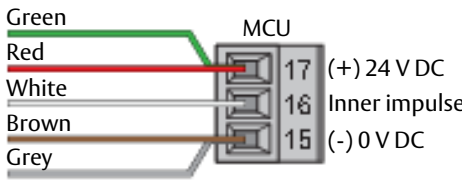
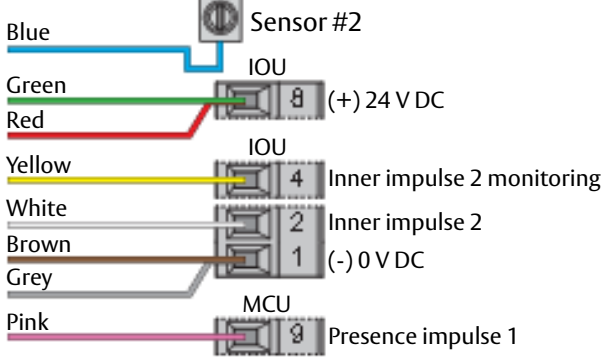


SC31-M, SC32-M	Connection	Sensor dip ON	Set if used
Inner sensor 	<p>Red (+) 24 V DC</p> <p>White Inner impulse</p> <p>Yellow (-) 0 V DC</p> <p>Blue</p> <p>Brown</p> <p>Green</p> <p>Black Presence monitoring</p> <p>Pink Presence impulse 1</p>	SC32-M: 1, 3, 5, 12, (11 = NO)	MCU (07=01) 09=01, (02)
Outer sensor 	<p>Black Presence monitoring</p> <p>Pink Presence impulse 2*</p> <p>Red</p> <p>White (+) 24 V DC</p> <p>Yellow Outer impulse</p> <p>Blue</p> <p>Brown (-) 0 V DC</p> <p>Green</p> <p>* If only one sensor, connect the presence impulse (PINK wire) to MCU-TB:9.</p>	SC32-M: 1, 3, 12, (11 = NO)	MCU (07=01) (08=01) 09=02, (01)
		SC31-M: 1, 3, 8, 9, (7 = NO), (15 = Look-back)	

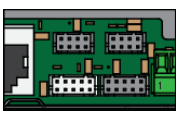
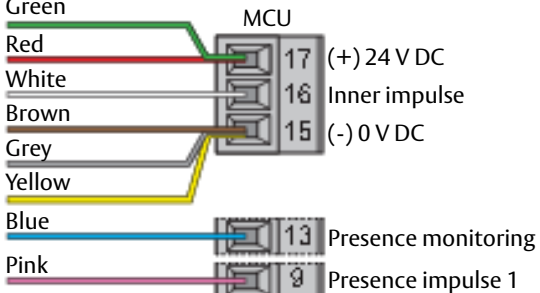
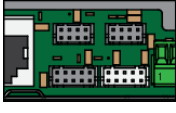
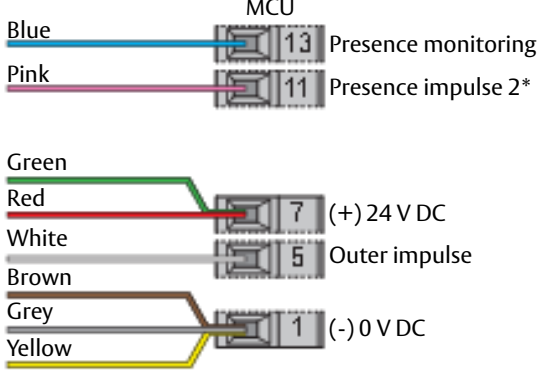
14.3.10 SC53-E



SC53-E	Connection	Set if used
Inner sensor 	<p>Green Red White Brown Grey Blue Yellow Pink</p> <p>MCU 17 (+) 24 V DC 16 Inner impulse 15 (-) 0 V DC 13 Presence monitoring 10 Inner impulse monitoring 9 Presence impulse 1</p> <p>If impulse monitoring is NOT wanted, do not connect the YELLOW wire and set 16=00.</p>	MCU (07=01) 09=01, (02) 16=01
Outer sensor 	<p>Blue Pink Yellow Green Red White Brown Grey</p> <p>MCU 13 Presence monitoring 11 Presence impulse 2* 10 Outer impulse monitoring 7 (+) 24 V DC 5 Outer impulse 1 (-) 0 V DC</p> <p>If impulse monitoring is NOT wanted, do not connect the YELLOW wire and set 17=00. * If only one sensor, connect the presence impulse (PINK wire) to MCU-TB:9.</p>	MCU (07=01) (08=01) 09=02, (01) 17=01

SC53-E	Connection	Set if used
Two combined monitored inner impulse sensors	<p>Sensor #1</p>  <p>Green Red White Brown Grey</p> <p>MCU 17 (+) 24 V DC 16 Inner impulse 15 (-) 0 V DC</p> <p>Blue Yellow</p> <p>MCU 13 Presence monitoring 10 Inner impulse monitoring</p> <p>Pink</p> <p>-----</p> <p>Sensor #2</p>  <p>Blue Green Red Yellow White Brown Grey</p> <p>IOU 8 (+) 24 V DC 4 Inner impulse 2 monitoring 2 Inner impulse 2 1 (-) 0 V DC</p> <p>MCU 9 Presence impulse 1</p> <p>The presence impulse must be configured to NC.</p>	MCU 07=01 09=01, (02) 16=01 91=03 93=03

14.3.11 SC53-M

SC53-M	Connection	Set if used
Inner sensor 	 <p>Green Red White Brown Grey Yellow Blue Pink</p> <p>MCU 17 (+) 24 V DC 16 Inner impulse 15 (-) 0 V DC 13 Presence monitoring 9 Presence impulse 1</p>	MCU (07=01) 09=01, (02)
Outer sensor 	 <p>Blue Pink Green Red White Brown Grey Yellow</p> <p>MCU 13 Presence monitoring 11 Presence impulse 2* 7 (+) 24 V DC 5 Outer impulse 1 (-) 0 V DC</p> <p>* If only one sensor, connect the presence impulse (PINK wire) to MCU-TB:9.</p>	MCU (07=01) (08=01) 09=02, (01)

14.3.12 SP36-M



SP36-M	Connection	Sensor dip ON	Set if used
Presence im- pulse	<p>* If only one presence sensor is used, this must be connected to MCU-TB:9. * Use the presence impulse 2 only when the presence impulse 1 is already used.</p>	SP36-M connec- ted to MCU- TB:9: 1, 3, 5, 8, (7 = NO) SP36-M connec- ted to MCU- TB:11: 1, 3, 8, (7 = NO)	MCU (07=01) 09=01, (02)
Side presence impulse	<p>If only one side presence sensor is used, this must be connec- ted to MCU-TB:2. * Use the side presence impulse 2 only when the side pres- ence impulse 1 is already used.</p>	SP36-M: 1, 3, 8, (7 = NO)	MCU (27=01) (28=01) 29=01, (02)

14.3.13 SP54-M, SP56-M



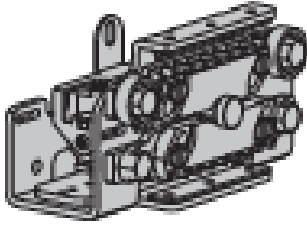
SP54-M



SP56-M

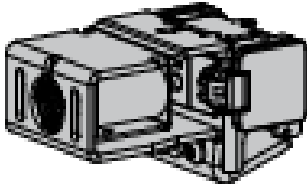
SP54-M, SP56-M	Connection	Sensor dip ON	Set if used
Presence impulse	<p>* Use the presence impulse 2 only when the presence impulse 1 is already used.</p>	-	MCU (07=01) (08=01) 09=01, (02)
Side presence impulse	<p>* Use the side presence impulse 2 only when the side presence impulse 1 is already used.</p>	-	MCU (27=01) (28=01) 29=01, (02)

14.3.14 Lock - Belt lock



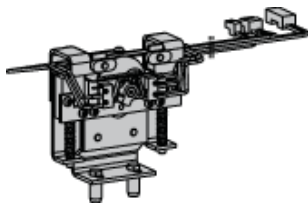
Belt lock	Connection	Sensor dip ON	Set if used
LD (locked without power) Fail secure		-	MCU 05=02 06=01
LDP (locked with power) Fail safe		-	MCU 05=01 06=01
LDB (bi-stable)		-	MCU 05=01 06=01 98=01

14.3.15 Lock - M2M (metal to metal)



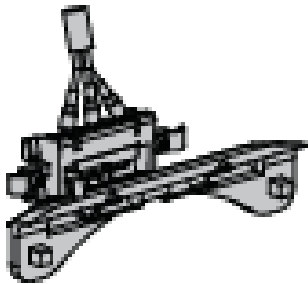
M2M lock	Connection	Sensor dip ON	Set if used
LD (locked without power) Fail secure		-	MCU 05=04 06=01
LDP (locked with power) Fail safe		-	MCU 05=03 06=01
LDB (bi-stable)		-	MCU 05=03 06=01 98=01

14.3.16 Lock - LDE (espagnolette lock)



LDE lock	Connection	Sensor dip ON	Set if used
	<div><div><div>IOU</div><div><div>Black</div><div>Red</div><div>Blue</div><div>White</div><div>Brown</div><div>Green</div></div><div><div>17</div><div>16</div><div>3</div><div>2</div><div>1</div></div><div><div>Lock</div><div>Lock</div><div>LDE up</div><div>LDE down</div><div>(-) 0 V DC</div></div></div></div> <div><div>External functionality</div><div><div>Yellow</div><div>Purple</div><div>Grey</div></div><div><div>COM</div><div>NO</div><div>NC</div></div><div></div></div>	-	MCU 90=02 93=02 98=02

14.3.17 LSK

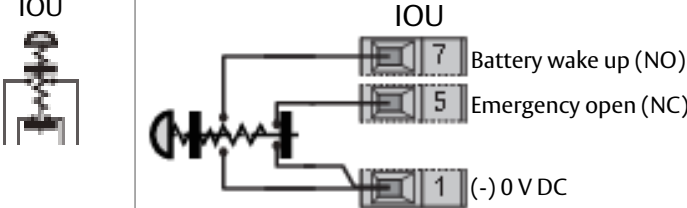


LSK	Connection	Sensor dip ON	Set if used
Internal use (Repeated fire closing)	<div><div><div>IOU</div><div><div>Black</div><div>Brown</div></div><div><div>7</div><div>1</div></div><div><div>Battery wake up</div><div>(-) 0 V DC</div></div></div></div>	-	MCU 36=00
External use	<div><div><div>Brown</div><div>Blue</div><div>Black</div></div><div><div>COM</div><div>NO</div><div>NC</div></div><div></div></div>	-	-

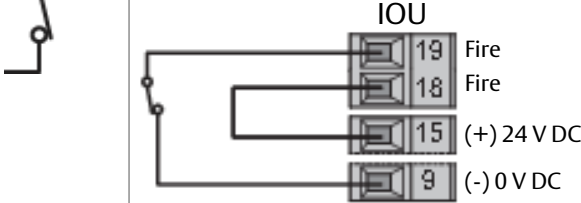

14.3.18 Emergency opening
(Non-locking button)

	Connection	Sensor dip ON	Set if used
<div><div>IOU</div><div></div></div>	<div><div><div>IOU</div><div><div></div><div></div></div><div><div>5</div><div>1</div></div><div><div>Emergency open</div><div>(-) 0 V DC</div></div></div></div>	-	MCU 95=01 96=01

14.3.19 Fireman's opening (Non-locking button)

	Connection	Sensor dip ON	Set if used
IOU	 <p>IOU</p> <p>7 Battery wake up (NO)</p> <p>5 Emergency open (NC)</p> <p>1 (-) 0 V DC</p>	-	MCU 95=01 96=01

14.3.20 Fire impulse

	Connection	Sensor dip ON	Set if used
IOU	<p>Fire alarm Relay output</p>  <p>IOU</p> <p>19 Fire</p> <p>18 Fire</p> <p>15 (+) 24 V DC</p> <p>9 (-) 0 V DC</p> <p>Note! An external power source have to be used when parameter 65 (Sustainable Drive Mode) is configured to 01 (On) or 02 (Extended).</p>	-	MCU 36=(00, 01, 02) 3A=(00, 01, 02) 94=01
IOU	<p>Fire alarm voltage output (range 12-24 VDC)</p>  <p>IOU</p> <p>19 Fire</p> <p>18 Fire</p>	-	MCU 36=(00, 01, 02) 3A=(00, 01, 02) 94=01

15 Start-Up

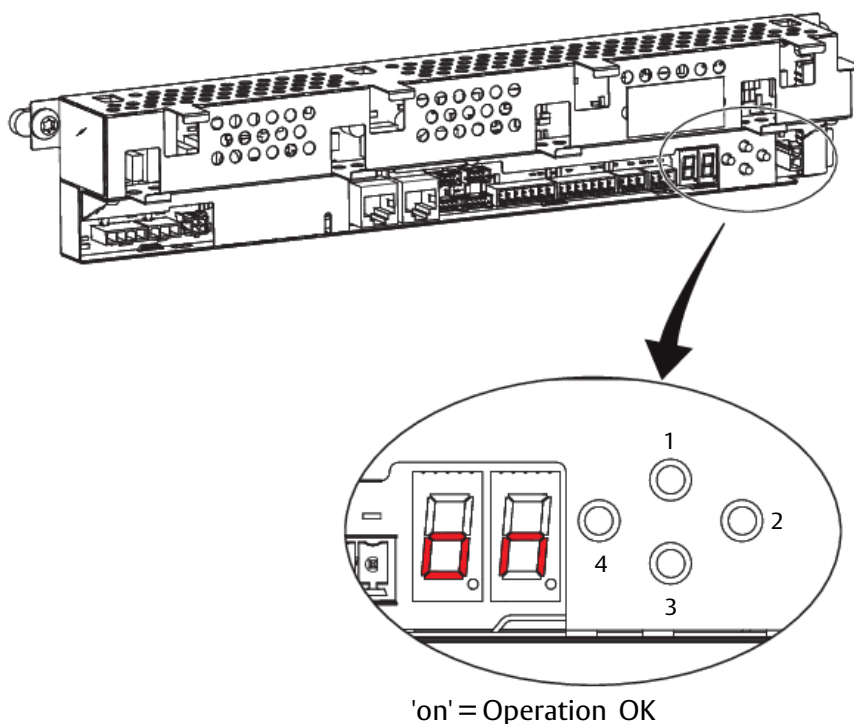
Start-up and adjustment must be carried out in the following order when the operator is installed.

- a Only connect PSU, motor, lock, battery and operation mode selector.
- b Connect the mains plug to the control unit.
- c Push and hold the learn button for 2 seconds. Release the learn button when there is a flashing "L" in the display.
- d The learn cycle starts 2 seconds after the learn button is released.
- e When the learn is finished the display can show different parameters that could not be set automatically during the learn cycle. These parameters shall be entered by the installer. See [page 84](#).
- f Push the door to open and activate the Push And Go, see that the door runs as expected.
- g Disconnect the power and connect all accessories such as well adjusted sensors and breakout switches.
- h Connect the mains plug to the control unit.
- i Check that the sensors are in standby mode, deactivated, and there is no traffic in the door opening.
- j Push the Learn button and make a learn. In the second learn all the accessories and sensors shall be learned into the control unit.
- k Check the door movement by giving an impulse on the operator.
- l If necessary adjust the door speed parameters to the required speeds.
See the "Guide for installers of Powered Pedestrian Sliding Doors", Product Risk Assessment document PRA-0004, for calculation of speed.
- m Check that the installation complies with valid regulations and requirements from the authorities, see [page 30](#).
- n For parameters that shall be adjusted to comply with EN 16005, DIN 18650 or CO48 see [Escape route according to the European standard EN 16005 on page 144](#), [Escape route according to DIN 18650 on page 145](#) or [Escape route according to Article CO48 on page 146](#).

15.1 Adjustments and selection of special operating functions

The main control unit has a two-digit display that shows text and/or digits. On the right side of the display are four push buttons. The display and the buttons are referred to as the MMI. The display can show 4 different modes:

- a Parameter mode. In Parameter mode the display shows parameters from 00 to C6. A parameter control different behavior in the operator.
- b Value mode. In Value mode the display shows values from 00 - 99. A value sets how a parameter shall act.
- c Error mode. Error mode shows what error group and error code that is active.
- d Status mode. Status mode shows what impulses that are active in to the MCU.



- 1 Up (to step up in parameter or value menu)
- 2 Select (enters into parameter or value menu and program a value into memory)
- 3 Down (to step down in parameter or value menu)
- 4 Learn/Exit (Learn has 3 functions, 1 quick learn, 2 Normal learn, 3 default setting, Exit jumps out from value menu without saving or parameter menu)

Up and Down buttons steps between the different parameters or values.

Select steps from the standby mode into the parameter mode or steps from the parameter mode into the value change mode. In the value change mode, pushing Select, will program the selected value into the selected parameter and step back to the parameter mode.

Learn/Exit button initiate a learn of the control unit if the MCU is in the standby mode. Learn/Exit button will exit the value programming mode and enter the parameter mode without saving the value. Learn/Exit button will exit the parameter mode and enter the standby mode.



Fingers may be trapped by the belt transmission bracket. Set the operation mode selector (OMS) to OPEN before doing any configurations with the buttons.

Active error

E1 = flashing letter E followed by a digit displays an active error (1-9). The digit shows the main type of error. The display switches between this main error and a two digit number to specify the error.

If several errors are active they are displayed in a sequence. Errors are cleared by a RESET from the operation mode selector (OMS) or by turning off and on the mains power. For a detailed description of errors, see [Troubleshooting](#) on page 158.

15.2 The Learn function can be one of three different types

- 1 Push and hold the Learn/Exit button for **more than one and less than two** seconds, then each connected electronic module is recognized.
- 2 Push and hold the Learn/Exit button for **more than two seconds** and the display flashes L. A complete Learn cycle will start after 2 seconds when the Learn/Exit button is released. The complete learn cycle includes the learn in point no. 1.

The following accessories/parameters are automatically detected and set during the learn cycle.

Accessory/Parameter	Parameter number
Adjustment of closing speed according to ANSI/BHMA A156.10 standard.	02
Electromechanical lock and which type	05, 06, 98
Controlling of connected sensors output, NO/NC	07, 08, 27, 28, 46
If the sensors are monitored or not	09, 16, 29, 66, 91
Battery and battery size	41
Espagnolette lock parameters	43, 44, 90, 93
Measuring of clear opening width	59
Power supply type	64
Door type	67
Calculation of door weight	68
Calculation of friction in the system.	69
Second inner impulse	93

When the learn cycle has ended the door will stay closed. If there are some parameters that couldn't be configured automatically during the learn cycle the door will open. The display will show first a "P" and then what parameter that couldn't be auto configured, e.g. whether the door is bi-parting or single sliding (parameter 67 Door Type). These parameters has to be configured by the installer.

- 1 Push the right button, Select, to start editing parameters.
 - 2 Push the Select button once again and the value of this parameter is shown while flashing.
 - 3 Push the Up or Down buttons to select the right value.
 - 4 Push the Select button to confirm and program the selected value.
 - 5 Continue to configure the rest of the unlearned parameters.
 - 6 Push and hold the Learn/Exit button for more than two seconds and the display shows 'on'. After two seconds delay the door closes and is ready for operation or for further adjustments.
- 3 Push and hold the Learn/Exit button for more than **ten seconds** and the operator returns to default factory set parameters.
- After 2 seconds the display starts to flash a L. After another 8 seconds the display shows de (de for default) and the control unit is factory set. 2 seconds after the button is released the display goes back to show what it showed before the start of the default setting.

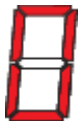
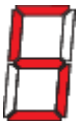


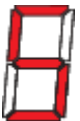

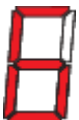
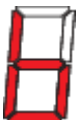


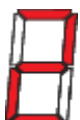

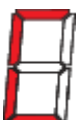


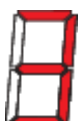

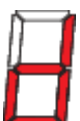

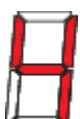
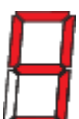
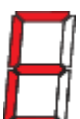
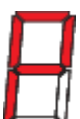
15.3 Display test and configuring of parameters

- a When the display shows "on", push the Select button and each of the two display windows make a rotating test pattern.
- b Verify that all seven segments of the two display windows are lit during the test. If not there is a risk of misjudgment of the digits shown in a defective display.
- c When the display test is finalized the display shows two steady digits indicating the first parameter.
- d Push the Up or Down buttons to select the parameter to adjust.
- e Push the Select button again to show the value of the selected parameter. The value is shown as two flashing digits.
- f Push the Up or Down buttons to adjust the value in the allowed range.
- g When the correct value is selected push the Select button again and the value will be programmed into the MCU memory.
- h Push the Exit button once and leave the value editing **without** making any changes.
- i Push the Exit button once again to leave parameter menu. The display shows 'on'.
It is also possible to return to normal operation 'on' by waiting three minutes without pushing any button.

Note! The value is programmed into the MCU when pushing Select regardless if the value is changed or not. When a value is programmed into the MCU that parameter is excluded from the learn cycle. If a new learn is made the programmed parameter will remain unchanged.

To have the parameters included in the learn cycle again you have to make a default setting of the MCU, (see above).

Below is the available characters in the display. Observe 5 and S look the same.

Display	Char-acter	Display	Char-acter	Display	Char-acter	Display	Char-acter	Display	Char-acter
	0		5		A		e		S
	1		6		b		F		t
	2		7		C		n		-
	3		8		d		o		
	4		9		E		P		

15.4 Status indication on the display

Select status indication by setting parameter 5E = 01.

The display shows the different impulses that are active. The status viewing starts with showing St as for Status, then one or many numbers representing the different active impulses in to the operator.

The different impulses are:

- 00 = Key Impulse
- 01 = Inner impulse
- 02 = Outer impulse
- 03 = Synchronisation impulse
- 04 = Interlock in impulse
- 05 = Presence impulse 1
- 06 = Presence impulse 2
- 07 = Side Presence impulse 1
- 08 = Side Presence impulse 2
- 09 = Stop impulse
- 10 = Emergency open impulse
- 13 = Close command
- 14 = Nurse impulse
- 24 = Push and Go impulse
- 25 = Open-Close impulse
- 28 = Fire impulse
- 47 = Interlock Disable
- 66 = Push and Close impulse

15.5 Configuration parameters (sorted after functionality)

Note! Some of the parameters below are not accessible, depending of different options installed.
For further explanations of parameters below, see page [92](#).

FUNCTION parameters		
Param. ID	Description	Range
MCU 5E	Status indication. Off(00) / On(01)	00-01
MCU 5F	Default programming. Off(00) / On(01)	00-01
IOU 9C	Pharmacy function. Off(00) / On(01)	00-01
MCU 12	Opening direction. CW(00) / CCW(01)	00-01
MCU 13	Hold Force	00-60 N
MCU 2A	Side Presence Function. Safe Speed(00) / Stop Door(01)	00-01
MCU 2b	Function Select TB:2. Side Presence Impulse 1(00) / OFF(01) / EXIT(02) / AUTO PARTIAL(03) / OPEN(04) / WINTER MODE(05)	00-05
MCU 2C	Function Select TB:4. Side Presence Impulse 2(00) / OFF(01) / EXIT(02) / AUTO PARTIAL(03) / OPEN(04) / WINTER MODE(05)	00-05
MCU 32	Active Brake on Stop. Off(00) / On(01)	00-01
MCU 33	Push & Go in EXIT Mode Selection. Off(00) / On(01)	00-01
MCU 34	Hold Force in EXIT and OFF Mode Selection. Off(00) / On(01)	00-01
MCU 35	Toggle Operation Mode Selector after Stop. Off(00) / On(01)	00-01
MCU 3C	Sliding Door Manager Confirmation Choice. No Code (00) / Confirm Button (01) / User Pin Code (02)	00-02
MCU 3D	PASS Function. Off (00) / On (01)	00-01
MCU 3E	PASS Exit Only. Off (00) / On (01)	00-01
MCU 3F	PASS Limit.	00-1000
MCU 47	C-Switch Configuration. NO(00) / NC(01)	00-01
MCU 53	Operator Type. Slider(00) / Prison Cell Door(01) / UniTurn(02) / Hermetic(03) / Mechanical Emergency Unit(04)	00-04
MCU 54	Service Needed Operating Hours	00-60 h x1000
MCU 55	Service Needed Opening Cycles	00-50 cycles x100.000
MCU 56	Service Needed Locking Cycles	00-50 cycles x10.000
MCU 60	Learn. Off(00) / On(01)	00-01
MCU 61	Auto Width. Off(00) / On(01)	00-01
MCU 62	Partial Function. Opened(00) / Closed(01)	00-01
MCU 6A	Interlock Function. Off(00) / On(01)	00-01
MCU 6b	Synchronizing Function. Off(00) / On(01)	00-01
MCU 6C	External Bus Device ID	01-99
MCU 6d	Extended Hold Open Time Function. Off(00) / On(01)	00-01
MCU 6E	MMI Access code. 1 push(00), 4 push(01)	00-01
MCU 65	Sustainable Drive Mode. Off(00) / On(01) / Extended(02)	00-02
MCU 67	Door Type. Single sliding(00) / Biparting(01)	00-01
IOU 90	Function Select TB:3. No function(00) / Nurse function(01) / LDE up(02) / Interlock out(03)	00-03

FUNCTION parameters		
Param. ID	Description	Range
IOU 91	Function Select TB:4. No function(00) / Open/Close impulse(01) / Interlock disable(02) / Inner impulse 2 monitoring(03) / Interlock in(04)	00-04
IOU 93	Function Select TB:2. No function(00) / Close function(01) / LDE down(02) / Inner impulse 2(03)	00-03
IOU 99	Function Select TB:6. No function(00) / Sustainable Disable(01) / Mode Selector enable(02)	00-02

DRIVE parameters		
Param. ID	Description	Range
MCU-ER A0	Escape Route Motor Configuration. 1-motor(01) / 2-motor(02)	01-02
MCU 15	Run Program. Smooth(01) to Max Performance(05)	01-05
MCU 49	Opening Max Force	02-23 N x10
MCU 4A	Close Kick Force	02-23 N x10
MCU 50	Closing Max Force	02-23 N x10
MCU 64	Power Supply Type. 50 W(00) / 150 W(01) / 75 W(02)	00-02
MCU 68	Door Weight	01-60 kg x10
MCU 69	Friction	00-99 N
MCU 70	Motor Type. Normal Duty(00) / Heavy Duty(01) / Extra Heavy Duty(02) / Heavy Duty 30V 10:1 5mm (03) / Dual Duty 32V 10:1 5mm (04)	00-04
MCU 71	Max Motor Power	03-15 W x10
MCU 72	Motor Overtemperature Recovery Value	00-95

EMERGENCY parameters		
Param. ID	Description	Range
MCU 10	Emergency Unit Monitoring. Off(00) / Convenience Monitoring(01) / Redundant Monitoring(02)	00-02
MCU 36	Emergency Action. Closing(00) / Opening(01) / Not used(02)	00-02
MCU 37	Emergency Action in OFF Mode. Off(00) / On(01)	00-01
MCU 38	Convenience Battery. Off(00) / On(01)	00-01
MCU 39	Battery Wake-up. Open(00) / Open/Close(01)	00-01
MCU 3A	Lock Door After Fire Closing. Follow Mode Selector(00) / Always Unlock(01) / Always Lock(02)	00-02
MCU 40	Emergency Unit Test Interval	04-23 hours
MCU 41	Battery Type. No battery(00) / 12V(01) / 24V(02)	00-02
IOU 94	Fire Impulse Function (IOU). Off(00) / On(01)	00-01
IOU 95	Emergency Open Impulse Function (IOU). Off(00) / On(01)	00-01
IOU 96	Emergency Button Configuration (IOU). NO(00) / NC(01)	00-01

OPERATION MODE SELECTOR parameters		
Param. ID	Description	Range
OMS B0	Operation Mode Selector Variant, OMS-1. 3 modes with EXIT(01) / 3 modes with AUTO(02) / 4 modes(03) / 5 modes(04)	01-04
OMS B1	Operation Mode Selector Key Lock, OMS-1. Off(00) / Hold for two sec(01) / Passcode(02) / Key(03)	00-03
OMS B2	Operation Mode Selector Service Indication, OMS-1. Off(00) / On(01)	00-01
OMS B3	Choose Priority of the operation mode selector, OMS-1. The lower the number the higher the priority.	25-99
OMS B4	Choose group of the operation mode selector, OMS-1.	00-10
OMS B5	Choose display mode of the operation mode selector, OMS-1. Show system mode(00) / Show local mode(01)	00-01
OMS B6	Choose Terminal mode of the operation mode selector, OMS-1. The buttons on OMS is disabled(00) / The OMS adapts to system mode(01) / The OMS is setting the operation mode(02)	00-02
OMS B7	Mode Selector, Self Service Indication, OMS-1. Off(00) / On(01)	00-01
OMS B8	Mode Selector, Key Impulse, OMS-1. Disabled(00) / Login Required(01) / Enabled(02)	00-02
OMS B9	Bluetooth Power Mode, Always disabled(00), Disabled in OFF mode(01), Always enabled (02). Default(02)	00-02
OMS C0	Operation Mode Selector Variant, OMS-2. 3 modes with EXIT(01) / 3 modes with AUTO(02) / 4 modes(03) / 5 modes(04)	01-04
OMS C1	Operation Mode Selector Key Lock, OMS-2. Off(00) / Hold for two sec(01) / Passcode(02) / Key(03)	00-03
OMS C2	Operation Mode Selector Service Indication, OMS-2. Off(00) / On(01)	00-01
OMS C3	Choose Priority of the operation mode selector, OMS-2. The lower the number the higher the priority.	25-99
OMS C4	Choose group of the operation mode selector, OMS-2.	00-10
OMS C5	Choose display mode of the operation mode selector, OMS-2. Show system mode(00) / Show local mode(01)	00-01
OMS C6	Choose Terminal mode of the operation mode selector, OMS-2. The buttons on OMS is disabled(00) / The OMS adapts to system mode(01) / The OMS is setting the operation mode(02)	00-02
OMS C7	Mode Selector, Self Service Indication, OMS-2. Off(00) / On(01)	00-01
OMS C8	Mode Selector, Key Impulse, OMS-2. Disabled(00) / Login Required(01) / Enabled(02)	00-02
OMS C9	Bluetooth Power Mode, Always disabled(00), Disabled in OFF mode(01), Always enabled (02). Default(02)	00-02
MCU 6F	Choose group of the IOU operation mode selector	01-10
IOU 97	Operation Mode Selector Function (IOU). Off(00) / On(01)	00-01
IOU 9A	Priority of the IOU operation mode selector.	25-99
IOU 9B	Choose group of the IOU operation mode selector.	00-10

ELECTROMECHANICAL LOCK parameters		
Param. ID	Description	Range
MCU 05	Lock Configuration (main control). No lock(00) / LDP(01) / LD(02) / LDP Low Energy(03) / LD Low Energy(04) / LDP boost 1A(05) / LD boost 1A(06)	00-06
MCU 06	Lock Release. Off(00) / On(01)	00-01
MCU 42	Remain Locked at Stop. Off(00) / On(01)	00-01
MCU 43	Opening Delay for Lock	00-99 sec x 0.1
MCU 44	Exit Lock. Off(00) / On(01)	00-01
MCU 51	Push & Close. Off(00) / On(01)	00-01
MCU 52	Push & Close Timeout	00-99 sec x10
IOU 98	Lock Configuration (IOU). No lock(00) / LDB(01) / LDE(02) / LDB UniSlide(03) / LDB bi-solenoid lock(04) / Bistable lock HD UniSlide(05) / Espagnolette 24 V(06)	00-05

SENSOR parameters		
Param. ID	Description	Range
MCU 07	Presence Impulse 1 Configuration. NO(00) / NC(01)	00-01
MCU 08	Presence Impulse 2 Configuration. NO(00) / NC(01)	00-01
MCU 09	Presence Impulse Monitoring	00-02 units
MCU 16	Inner Impulse (motion) Monitoring. Off(00) / On(01)	00-01
MCU 17	Outer Impulse (motion) Monitoring. Off(00) / On(01)	00-01
MCU 27	Side Presence Input 1 Configuration. NO(00) / NC(01)	00-01
MCU 28	Side Presence Input 2 Configuration. NO(00) / NC(01)	00-01
MCU 29	Side Presence Impulse Monitoring	00-02 units
MCU 30	Side Presence Activation Distance	00-99 dm
MCU 31	Sensor Type. 1-wire(00) / 2-wire(01) Monitoring	00-01
MCU 45	Function Select TB:3 No Function(00) / Stop Impulse(01) / Emergency Open Impulse(02)	00-02
MCU 46	Stop Configuration. NO(00) / NC(01)	00-01
MCU 66	Stop Impulse Monitoring. Off(00) / On(01)	00-01
IOU 91	Inner impulse 2 monitoring, see page 88	03
IOU 93	Inner impulse 2, see page 88	03

TIME parameters		
Param. ID	Description	Range
MCU 03	Hold Open Time	00-60 sec
MCU 04	Key Hold Open Time	00-60 sec
MCU 20	Partial Hold Open Time	00-60 sec
MCU 21	Push & Go Hold Open Time	00-60 sec
MCU 22	Auto Width Activation Time	00-60 sec
MCU 23	Auto Width Resume Time	00-60 sec
MCU 24	Jam Hold Time	00-10 sec
MCU 25	Interlock Disable Time	00-60 sec
MCU 26	Presence Hold Open Time	00-60 sec
IOU 92	Open/Close Timeout (IOU)	00-60 min

SPEED parameters

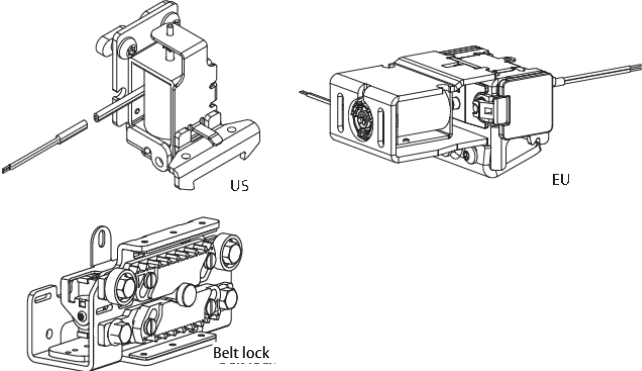
See the “Guide for installers of Powered Pedestrian Sliding Doors”, Product Risk Assessment document PRA-0004, for calculation of speed.

Param. ID	Description	Range
MCU 00	High Speed Opening	10-85 cm/sec
MCU 01	Low Speed	05-85 cm/sec
MCU 02	High Speed Closing	10-85 cm/sec
MCU 4D	Remote high speed closing, upper limit	100-850 mm/s
MCU 4E	Remote high speed opening, upper limit	100-850 mm/s

POSITION parameters

Param. ID	Description	Range
MCU 3b	Hermetic Jam Detection Distance	0-99 mm
MCU 5A	UniTurn jam detection distance	00-20 cm
MCU 5C	Pharmacy open 1 position	00-99 cm
MCU 5D	Pharmacy open 2 position	00-99 cm
MCU 11	Partial Open Position	00-99 %
MCU 48	C-Switch Activation Distance	00-99 dm
MCU 57	Low Speed Distance, Opening	00-99 cm
MCU 58	Low Speed Distance, Closing	00-99 cm
MCU 59	Door Open Position	00-99 dm
MCU 63	Partial Closed Position	00-30 cm

15.6 Description of parameters

Main control board parameters			
No.	Parameter Name	Value	Description
00	High Speed Opening		Sets the maximum opening speed. Unit cm/s.
01	Low Speed		The low speed is self adjusting to optimal operation if this parameter is set to max. Depending on authority or installation requirements the low speed, low speed distance opening and/or closing can be further reduced. Unit cm/s
02	High Speed Closing		Sets the maximum closing speed. Unit cm/s.
03	Hold Open Time		The general hold open time for Inner and Outer impulses. Unit seconds.
04	Key Hold Open Time		Hold open time for Key impulse. Unit seconds.
05	Lock Configuration (main control)		<p>Europe = Low Energy locks Never LD in escape routes, except when using Brake-Out! LDP = locked with power (fail safe) LD = locked without power (fail secure) LDB = Bi-stable lock see also parameter 98, on page 107. Also refer to parameter 06, on page 93.</p> 
	No lock	00	No lock
	LDP or LDB	01	LDP = Locked with power and LDB = Bi-stable lock. Only used with US lock, belt lock or UniSlide lock.
	LD	02	LD = Locked without power. Only used with US lock, belt lock or UniSlide lock.
	LDP LE or LDB LE	03	LDP LE = Locked with power low energy. Used with EU lock.
	LD LE	04	LD LE = Locked without power low energy. Used with EU lock.
	LDP boost 1A	05	Not to be used.
	LD or LDB boost 1A	06	Not to be used.

Main control board parameters			
No.	Parameter Name	Value	Description
06	Lock release		If "Lock Release" is On, the door will apply force in the closing direction when the lock is unlocking. This is made to prevent a lock from being stuck in locked position when opening. Should be set to On when an electromechanical lock is installed.
	Off	00	
	On	01	
07	Presence Impulse 1 Configuration		This parameter determines if a presence impulse is normally open (NO) or normally closed (NC).
	NO	00	Normally open
	NC	01	Normally closed
08	Presence Impulse 2 Configuration		This parameter determines if a presence impulse is normally open (NO) or normally closed (NC).
	NO	00	Normally open
	NC	01	Normally closed
09	Presence Impulse Monitoring		Presence impulse monitoring is a demand to be activated according to EN 16005 or DIN 18650 if the door travels faster than adjusted according to PRA-0004.
	No monitoring of presence impulse	00	Set to "00" if no monitoring of Presence impulse sensors is required or if no presence impulse sensors are installed.
	Presence impulse 1	01	Set to "01" if one Presence impulse sensor shall be monitored (if only one sensor is used this sensor has to be connected to MCU Presence impulse 1).
	Presence impulse 1 and 2	02	Set to "02" if two Presence impulse sensors shall be monitored.
10	Emergency Unit Monitoring		The emergency unit will be tested by shutting of the power to the MCU and open the door with the emergency unit. The test is never done in operation mode selection OPEN and normally not in OFF, unless parameter 37 "Emergency Action In OFF Mode" is set to On, see below. Authorities can demand that the emergency unit is monitored on a regular basis, see parameter 40 "Emergency Unit Test Interval" below. Half an hour before this time has elapsed the following outer impulse generates an emergency opening test. If there is no outer impulse within the next half hour, the operator control unit generates the opening impulse by itself ("ghost impulse"). The test is also always performed after a Reset and after changing operation mode selection from a position where a test is not done to a position where the test is made.
	Off	00	
	Convenience Monitoring	01	(01) is a simpler one-channel monitoring, this can be done with both MCU and MCU-ER. Convenience monitoring can also be used when monitoring the Convenience battery parameter 38. It will only indicate empty battery.
	Redundant monitoring	02	(02) is a redundant two-channel monitoring that is a demand for escape route according to: EN 16005 or DIN 18650. The redundant two-channel monitoring requires the MCU-ER control unit. If the operator is equipped with MEU the operator shall be using the MCU. It is also possible to use MCU-ER together with MEU, see section Mechanical Emergency Unit (MEU) on page 141.

Main control board parameters			
No.	Parameter Name	Value	Description
11	Partial Open Position	00-99 %	Sets the partial open size. Note! A building is certified for a certain COW. Depending on how many people that is allowed to be in the specific area there also has to be a certain COW. Partial open position must be set to 80 % of the certified distance in escape routes. Unit % of COW.
12	Opening Direction	00-01	When changing this parameter and "Emergency Unit Monitoring" parameter 10 = 02. Remember to also set the Escape jumpers right, see page 63.
	CW	00	Motor is running in clockwise direction.
	CCW	01	Motor is running in counterclockwise direction.
13	Hold Force	00-60	Adjustment of the force used to keep the door in closed position (ND motor max 30 N, HD and DD motor max 60 N). Also refer to parameter 34 (Hold force in mode selection EXIT and OFF). Unit N.
15	Run Program	01-05	Performance adjustment. Sets how fast or slow the door shall accelerate or break.
	Smooth	01	For light doors.
	Max Performance	05	For heavy doors.
16	Inner Impulse (motion) Monitoring	00-01	According to EN 16005 or DIN 18650 it is a demand to have Inner impulse monitoring = On in escape routes. When inner impulse monitoring is selected C-switch is disabled.
	Off	00	Disables monitoring
	On	01	Enables monitoring
17	Outer Impulse (motion) Monitoring	00-01	If the escape route is in the direction of the outer sensor it is a demand to have outer impulse monitored according to EN 16005 or DIN 18650. When outer impulse monitoring is selected C-switch is disabled.
	Off	00	Disables monitoring
	On	01	Enables monitoring
20	Partial Hold Open Time	00-60	Hold open time for Inner & Outer impulses with operation mode selection PARTIAL and for the Nurse impulse. Unit seconds.
21	Push & Go Hold Open Time	00-60	Hold open time after a Push & Go. Unit seconds.
22	Auto Width Activation Time	00-60	Auto width activation time is available if parameter 61=01 "Auto Width" is selected. If the door has not closed during the auto width activation time and the door is open or opening the door will open to full open door. Unit seconds.
23	Auto Width Resume Time	00-60	When the door have been closed during the auto width resume time, the next opening impulse will open the door to partial open position. Only available if parameter "Auto Width" 61=01. Unit seconds.

Main control board parameters				
No.	Parameter Name	Value	Description	
24	Jam Hold Time	00-10	Sets how long time the door shall be stopped when a jam is detected during opening. Unit seconds.	
25	Interlock Disable Time	00-60	The parameter controls the time that interlock is valid. Only active if "Interlock Function" parameter 6A = 01. See how interlock works in page 15.6.	
		00	If the time is set to 00, interlock is always active.	
		01-60	The "Interlock Disable Time" starts to count down the moment a valid opening impulse is made on the first door. If the first door does not close during the "Interlock Disable Time" the second door is not interlocked any more and will also open. When both doors are closed Interlock Disable Time will be reset. Unit seconds.	
26	Presence Hold Open Time	00-60	Hold open time for Presence impulses 1 & 2. At least 2 sec to meet ANSI demand. Unit seconds.	
27	Side Presence Input 1 Configuration	00-01	This parameter determines if a side presence impulse is normally open (NO) or normally closed (NC).	
	NO	00	Normally open	
	NC	01	Normally closed	
28	Side Presence Input 2 Configuration	00-01	This parameter determines if a side presence impulse is normally open (NO) or normally closed (NC).	
	NO	00	Normally open	
	NC	01	Normally closed	
29	Side Presence Impulse monitoring		Side presence impulse monitoring is a demand to be activated according to EN 16005 or DIN 18650 if the door travels faster than adjusted according to PRA-0004.	
	No monitoring of Side Presence impulse	00	Set to "00" if no monitoring of Side Presence impulse sensors is required or if no Side Presence impulse sensors are installed.	
	Side Presence impulse 1	01	Set to "01" if one Side Presence impulse sensor shall be monitored (if only one sensor, it has to be connected to MCU Side Presence impulse 1).	
	Side Presence impulse 1 and 2	02	Set to "02" if two Side Presence impulse sensors shall be monitored.	
2A	Side Presence Function	00-01		SW 4.0
	Safe Speed	00	If a Side Presence Impulse is activated during opening, the door shall continue to open with a safe speed (0,1 m/s).	
	Stop Door	01	If a Side Presence Impulse is activated during opening, the door shall stop and be stopped during the set Presence Hold Open Time (see parameter 26).	





Main control board parameters				
No.	Parameter Name	Value	Description	
2b	Function Select MCU-TB:2	00-04	When used as mode selector, Function Select MCU-TB:2 has priority over PSK-6U, OMS Basic and OMS Standard. Note! Function Select MCU-TB:2 has priority over Function Select MCU-TB:4.	SW 7.0
	Side Presence Impulse 1	00		
	Mode selection OFF	01	Not allowed in escape route.	
	Mode selection EXIT	02		
	Mode selection AUTO PARTIAL	03		
	Mode selection OPEN	04		
	Mode selection WINTER MODE	05	Mode selection WINTER MODE is used in combination with PSK-6U, OMS Basic or OMS Standard. When the MCU-TB:2 input is active, the door opens to the Partial open position (parameter 11) in all operation mode selections.	SW 8.0
2C	Function Select MCU-TB:4	00-04	When used as mode selector, Function Select MCU-TB:4 has priority over PSK-6U, OMS Basic and OMS Standard. Note! Function Select MCU-TB:2 has priority over Function Select MCU-TB:4.	SW 7.0
	Side Presence Impulse 2	00		
	Mode selection OFF	01	Not allowed in escape route.	
	Mode selection EXIT	02		
	Mode selection AUTO PARTIAL	03		
	Mode selection OPEN	04		
	Mode selection WINTER MODE	05	Mode selection WINTER MODE is used in combination with PSK-6U, OMS Basic or OMS Standard. When the MCU-TB:4 input is active, the door opens to the Partial open position (parameter 11) in all operation mode selections.	SW 8.0
30	Side Presence Activation Distance	00-99	This is an inhibit signal for side presence. The door will act according to the value entered in parameter 2A. The value has to be according to local legislation. In an escape route the door has to open to 80% of the certified distance (see parameter 11 on page 94) within 3 sec. after an inner impulse.	
		00	If value 00 is selected side presence impulse is valid from fully closed to fully open position.	
		01-99	The distance is counted from open position. During opening, the side presence impulse is inhibited until the door reaches the entered value in the parameter. Unit dm.	

Main control board parameters				
No.	Parameter Name	Value	Description	
31	Sensor Type	00-01	Select type of monitoring for the combined sensors. Choose between 1-wire (00) or 2-wire (01) monitoring.	
	1-wire monitoring	00	1-wire monitoring is used when combined sensors have only one monitoring input for both presence and impulse field.	
	2-wire monitoring	01	2-wire monitoring is used when a sensor has separate monitoring inputs for both presence and impulse field. If 2-wire monitoring and inner/outer impulse monitoring are selected, the C-Switch function is switched to inner/outer impulse monitoring (see parameters 16 and 17 on page 94).	
32	Active Brake on Stop	00-01		
	Off	00	The door freewheels until it stops.	
	On	01	The operator brakes the doors actively during 1 sec. on a Stop impulse.	
33	Push & Go in mode selection EXIT	00-01		
	Off	00	Push & GO is not active in mode selection EXIT.	
	On	01	Push & GO is active in mode selection EXIT.	
34	Hold Force in mode selection EXIT and OFF	00-01	Set if the hold force is active in mode selection EXIT and OFF. Also refer to parameter 13 (Hold force).	
	Off	00		
	On	01		
35	Toggle Operation Mode Selector after Stop	00-01	In operation mode selection OFF the mode must be changed before normal operation after a Stop impulse.	
	Off	00		
	On	01		
36	Emergency Action	00-02	Emergency Action opens or closes the door in case of power failure, with the help of the battery.	
			Note! Fire impulse follows the Emergency Action setting. Refer to parameter 94 (Fire impulse function) on page 106 .	
	Closing	00	The door closes on fire impulse or power failure. Also refer to parameter 3A (Lock Door After Fire Closing) on page 98 .	
	Opening	01	The door opens on fire impulse or power failure.	
	Not used	02	Not used	SW 8.0
37	Emergency Action in OFF Mode	00-01	Decides if "Emergency Action" shall be performed in mode selection OFF (emergency unit monitoring will also be performed in OFF mode).	
	Off	00		
	On	01		
38	Convenience battery	00-01	When this parameter is set to On (01), with a 24V (UPS) battery the operator will continue its normal operation in case of mains power failure. Monitoring will be made if parameter 10 is set to Convenience Monitoring (01). Not approved in escape routes!	
	Off	00		
	On	01		

Main control board parameters				
No.	Parameter Name	Value	Description	
39	Battery Wake up	00-01	The parameter controls how the door is acting on Key impulse or Battery wake up in mode selection OFF without mains power. The parameter "Emergency Action In OFF Mode" (37) must also be set to Off (00).	
	Open	00	If "Battery Wake up" is set to Open (39 = 00) the impulse is opening the door fully and stop there.	
	Open/Close	01	If "Battery Wake up" is set to Open/Close (01) and parameter "Emergency Action" (36) is set to Opening (01) the impulse is opening the door fully, remains open for the time set by parameter "Key Hold Open Time" (04) and will then close, lock and disconnect the battery.	
3A	Lock Door After Fire Closing		The parameter sets how the lock will act when a fire closing impulse is activated.	SW 3.2
	Follow Mode Selector	00		
	Always Unlock	01		
	Always Lock	02		
3b	Hermetic Jam Detection Distance	00-99	Distance that jam detection is disabled during opening. Normally set to 60 for ASSA ABLOY SL540. Unit mm.	SW 5.0
3C	Sliding Door Manager Confirmation Choice	00-02	The parameter controls how the Sliding Door Manager shall be allowed to set a new door mode, write a parameter or do a reset.	SW 7.0
	No code	00	No code needed to set changes.	
	Confirm Button	01	Need to press Confirm Button to set changes.	
	User Pin Code	02	Need to enter User Pin Code to set changes. Mandatory in escape route according to EN 16005 and DIN 18650.	
3D	PASS function	00-01	PASS will keep track of how many people that passes in and out through the door. The PASS counter represent the number of people that is inside the building. The PASS counter is updated in all operation mode selections except OFF.	SW 7.0
	Off	00	PASS function is deactivated. Counter set to 0.	
	On	01	PASS function is activated.	

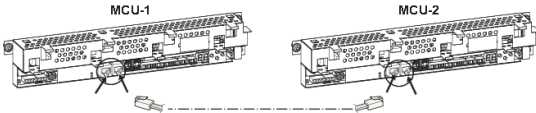
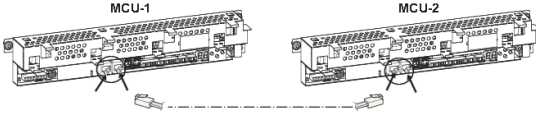
Main control board parameters				
No.	Parameter Name	Value	Description	
3E	PASS Exit Only	00-01	When the PASS function (3D) counter is equal to or greater than the PASS Limit (3F) an action is performed depending on the setting of PASS Exit Only (3E). This function will work in operation mode selection EXIT, AUTO and AUTO PARTIAL.	SW 7.0
	Off	00	PASS Exit Only is deactivated. The Sliding Door Manager app will notify when the PASS Limit is reached.	
	On	01	PASS Exit Only is activated. When the PASS Limit is reached the door will not open when there is an active outer impulse. The Sliding Door Manager app will notify when PASS Limit is reached.	
3F	PASS Limit	00-1000	Set restriction limit of people inside the building. The limit is used in parameter 3D and 3E. Unit number of people.	SW 7.0
40	Emergency Unit Test Interval	04-23	The time set in this parameter controls the maximum time until the next automatic test of the emergency unit is performed. Unit hours.	
41	Battery Type	00-02	What type of battery that is mounted in the operator is identified during the Learn.	
	No battery	00		
	12V	01		
	24V	02		
42	Remain Locked at Stop	00-01	The parameter sets how the lock shall act when Stop impulse is activated (for example break-out).	
	Off	00	The locked door will be unlocked when Stop impulse is activated.	
	On	01	The locked door remains locked when Stop impulse is activated.	
43	Opening Delay For Lock	00-99	The time for opening is delayed (0.0-9.9 sec) after an opening impulse is given in operation mode selections OFF and EXIT. Unit seconds x0.1.	
44	Exit Lock	00-01	This parameter controls the electro-mechanical lock in the operation mode selector setting EXIT. According to EN 16005, DIN 18650 and CO48 this parameter must be = 00 in escape routes.	
	Off	00	The electromechanical lock is unlocked in EXIT.	
	On	01	The electromechanical lock is locked in EXIT.	
45	Function Select MCU-TB:3	00-02		
	No function	00	No function.	
	Stop impulse	01	MCU-TB:3 is selected as the Stop impulse.	
	Emergency open impulse	02	MCU-TB:3 is selected as the Emergency open impulse.	SW 8.0

Main control board parameters				
No.	Parameter Name	Value	Description	
46	Function Select MCU-TB:3 Configuration	00-01	Configuration of the Function Select MCU-TB:3. Choose between normally open (NO) or normally closed (NC) impulse.	
	NO	00	Normally open	
	NC	01	Normally closed	
47	C-Switch Configuration	00-01	Configuration of "C-Switch" (electronic limit switch) output, NO (00) or NC (01).	
	NO	00	Normally open	
	NC	01	Normally closed	
48	C-Switch Activation Distance	00-99	The C-Switch is an open collector output. The value in the parameter decides how far one door leaf shall travel from closed position before the c-switch change state. Unit dm.	
49	Opening Max Force	02-23	The force applied from the operator to the door leaf during opening. Also refer to parameters 50 (Closing Max Force) , 64 (Power Supply Type) , and 71 (Max Motor Power) . The lowest value adjusted in parameters above will be used. Normal Duty: Max force 190 N. Heavy Duty: Max force 190 N. Extra Heavy Duty: 230 N. Unit N x10.	
4A	Close Kick Force	02-23	The force applied from the operator to the door leaf during the close kick. Close kick force is limited by the value in 71 (Max Motor Power) . Normal Duty: Max force 190 N. Heavy Duty: Max force 190 N. Extra Heavy Duty: 230 N. Unit N x10.	SW 3.2
4B	Not used	-	Not used.	SW 8.0
4D	Remote high speed closing, upper limit	100-850	The closing speed is possible to configure from the IoT unit. The value set in this parameter is the upper limit of the configurable closing speed from the IoT unit. Unit mm/s. Refer to page 157 for more information.	SW 8.0
4E	Remote high speed opening, upper limit	100-850	The opening speed is possible to configure from the IoT unit. The value set in this parameter is the upper limit of the configurable opening speed from the IoT unit. Unit mm/s. Refer to page 157 for more information.	SW 8.0

Main control board parameters				
No.	Parameter Name	Value	Description	
50	Closing Max Force	02-23	<p>The force applied from the operator to the door leaf during closing. Also refer to parameters 49 (Opening Max Force), 64 (Power Supply Type), and 71 (Max Motor Power). The lowest value adjusted in parameters above will be used. Normal Duty: Max force 190 N. Heavy Duty: Max force 190 N. Extra Heavy Duty: 230 N. Unit N x10.</p>	
51	Push & Close	00-01	<p>When this parameter is set to On (01) the motor will in operation mode selections OFF or EXIT try to close the door with the force selected by parameter 50 "Closing Max Force", if someone tries to open it manually. Push & Close is also known as "poor man's lock".</p>	
	Off	00		
	On	01		
52	Push & Close Timeout	00-99	<p>Adjustable time for how long time the door will continue to "fight back" when someone is trying to force it open. Value (00) will "fight back" continuously. Unit seconds x10.</p>	
53	Operator Type	00-04		
	Slider	00		
	Prison Cell Door (PCD)	01	The operator is not available at the moment.	
	UniTurn	02	When ASSA ABLOY SL500 is mounted in an ASSA ABLOY UniTurn Slider.	
	Hermetic Slider	03	Used with hermetic door system.	SW 5.0
	Mechanical Emergency Unit Slider	04	Used with mechanical emergency unit.	SW 5.0
54	Service needed Operating Hours	00-60	<p>Set time before yellow LED in operation mode selector will start flashing. To clear the service needed indication you have to hold  on the MMI at the same time for 5 seconds when the display shows on. After 5 s the display will show SE during another 5 s, release the up and down buttons. While the display shows SE press  and the counters Operating hours and Opening cycles will be set to zero. Unit hour X 1000.</p>	
55	Service Needed Opening Cycles	00-50	<p>Set number of openings before yellow LED in operation mode selector will start flashing. To clear the service needed indication you have to hold  on the MMI at the same time for 5 seconds when the display shows on. After 5 s the display will show SE during another 5 s, release the up and down buttons. While the display shows SE press  and the counters Operating hours and Opening cycles will be set to zero. Unit cycles X 100.000.</p>	

Main control board parameters				
No.	Parameter Name	Value	Description	
56	Service Needed Locking Cycles	00-50	Set number of lockings before yellow LED in operation mode selector will start flashing. This parameter can not be zeroed by MMI interface. The parameter has to be increased to the next level of service interval. Unit cycles X 10.000.	
57	Low Speed Distance, Opening	00-99	“Creep speed” distance during opening. Unit cm.	
58	Low Speed Distance, Closing	00-99	“Creep speed” distance during closing. Unit cm.	
59	Door Open Position	00-99	Opening width of one door leaf. The parameter shall be set automatically by performing a Learn cycle. Unit dm.	
5A	UniTurn jam detection distance	00-20	Jam detection distance is measured from closed position. Within the configured distance the jam detection time is extended. Used to prevent unintended jam detection during opening of the door. Only valid when “Operator type” is set to “UniTurn”. Unit cm.	
5C	Pharmacy open 1 position	00-99	Lock for pharmacy functionality is not yet available. The door will open the configured distance when a Pharmacy impulse 1 is given. The distance is calculated on one door leaf. This parameter is active when parameter "Pharmacy Function" (9C) is set to On. Unit cm.	
5D	Pharmacy open 2 position	00-99	Lock for pharmacy functionality is not yet available. The door will open the configured distance when a Pharmacy impulse 2 is given. The distance is calculated on one door leaf. This parameter is active when parameter "Pharmacy Function" (9C) is set to On. Unit cm.	
5E	Status indication	00-01	The operator shows the status indication on the LED display of the MCU. See page 86 for more information.	
	Off	00		
	On	01		
5F	Default programming	00-01	Default programming sets the parameters to the factory default values.	SW 3.2
	Off	00	It is not possible to perform a default programming from the MMI.	
	On	01	It is possible to perform a default programming from the MMI.	
60	Learn	00-01	Sets the possibility to perform a learn cycle.	
	Off	00	It is not possible to perform a learn cycle from MMI.	
	On	01	It is possible to perform a learn cycle from MMI.	

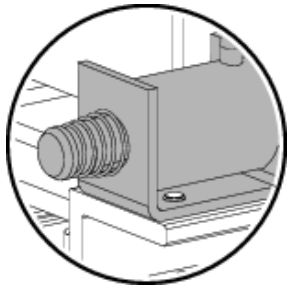
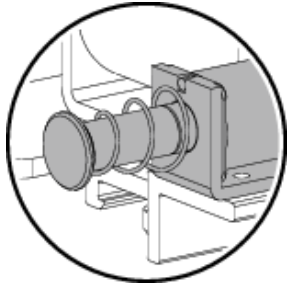
Main control board parameters				
No.	Parameter Name	Value	Description	
61	Auto Width	00-01	If this function is selected (01) and the operation mode selection is AUTO PARTIAL, the door will open from partial open width to full open width, if an opening impulse is given and the door has not closed during the time selected in parameter 22 "Auto Width Activation Time". Must not be used in escape routes.	
	Off	00	Partial Open.	
	On	01	Auto Width.	
62	Partial Function	00-01	With this function the door can be selected to be partially opened or partially closed (see below 63 "Partial Closed Position").	
	Opened	00	Partial Open or Auto Width.	
	Closed	01	Partial Closed Position, (Auto Airing).	
63	Partial Closed Position	00-30	"Partial closed position" (Auto airing function) can be obtained by selecting "Partial Function" (62) Closed (01). An airing position of the door can be set between 0-30 cm measured from the closed position on one door leaf. The operation mode selector is to be set to AUTO PARTIAL and the closed position of the doors will then be the "Partial Closed Position". Unit cm.	
64	Power Supply Type	00-02	50 / 150 / 75 W power supply. The power supply selected to the operator depends on the desired performance level. Also refer to parameters 49 (Opening Max Force) , 50 (Closing Max Force) , and 71 (Max Motor Power) . The lowest value adjusted in parameters above will be used.	
	50W	00		
	150W	01		
	75W	02		
65	Sustainable Drive Mode	00-02		
	Off	00		
	On	01	<p>The 24 V DC to the accessories like sensors is turned off when:</p> <ul style="list-style-type: none"> the mode selector is in OFF and the door is closed the mode selector is in OPEN and the door is open. <p>The power to the motor is turned off when the door is not opening or closing.</p> <p>The motor power is limited to 75 W even if parameter 71 is set to a higher value.</p> <p>If the electromechanical lock LDP or the LDB is used, set parameter 44 (Exit lock) to Off (00) to reduce power usage on the lock in mode selection EXIT.</p> <p>Note! The fire impulse will be activated when the 24 V DC is turned off. If the fire impulse is used and connected with power from the MCU, an external power source will be required to be used instead.</p>	
	Extended	02	Do not use.	SW 8.0

Main control board parameters			
No.	Parameter Name	Value	Description
66	Stop Impulse Monitoring	00-01	Monitoring enables (01) or disables (00) monitoring of the Stop impulse. Stop impulse is not allowed in escape route, unless break out system is used.
	Off	00	
	On	01	
67	Door Type	00-01	To be able to adapt closing speeds according to UL regulation door type has to be selected.
	Single sliding	00	One door leaf
	Biparting	01	Two door leaves
68	Door weight	01-60	Will be estimated during the Learn but can also be altered manually. Unit kg x 10.
69	Friction	00-99	The friction when moving the door is automatically measured during a Learn. The friction for the different performance levels are: Standard not more than 30N. High not more than 50N. Exceptional not more than 70N. Unit N.
6A	Interlock Function	00-01	Interconnection cable or IOU needed. Interconnection of operators 
	Off	00	
	On	01	
6b	Synchronizing Function	00-01	Interconnection cable needed. Interconnection of operators 
	Off	00	
	On	01	

Main control board parameters			
No.	Parameter Name	Value	Description
6C	External Bus Device ID	01-99	In a chain of interconnected operators one of them has to be the main operator. This operator shall have the value 01. Up to two operation mode selectors can be connected to the chain of interconnected operators. Both of the operation mode selectors are configured in the main MCU. All other interconnected operators shall have different values in this parameter. This to make every operator unique.
6d	Extended Hold Open Time Function	00-01	+ 5 sec. hold open time on doors often reopening during closing.
	Off	00	
	On	01	
6E	MMI access code	00-01	If this parameter is set to single push (00) the parameters are not locked and when set to the four pushes code (01) the possibility to adjust parameters call for a special enabling code (select, learn/exit, learn/exit, select) before altering parameters into the MCU / MCU-ER will be possible.
	One push	00	
	Four pushes	01	
6F	MCU-OMS group	01-10	This parameter groups MCU with OMS. Units with the same value are in the same group. Units in the same group listens to each other.


Motor control parameters			
No.	Parameter Name	Value	Description
70	Motor Type	00-04	Depending on desired performance.
	Normal Duty	00	
	Heavy Duty	01	
	Extra Heavy Duty	02	SW 5.0
	Heavy Duty 30V 10:1 5mm	03	SW 6.0
	Dual Duty 32V 10:1 5mm	04	
71	Max Motor Power	03-15	The max amount of power the motor can be supplied with. Also refer to parameters 49 (Opening Max Force) , 4A (Close Kick Force) , 50 (Closing Max Force) and 64 (Power Supply Type) . The lowest value adjusted in parameters above will be used. Unit W x 10.
72	Motor Overtemperature Recovery Value	95	Do not alter, shall always be 95! For authority use only.









I/O Board parameters			
No.	Parameter Name	Value	Description
90	Function Select IOU-TB:3	00-03	
	No function	00	
	Nurse function	01	The door will open to partial opening in operation mode selections EXIT, AUTO and AUTO PARTIAL.
	LDE up	02	Espagnolette lock. Sets input to LDE lock up.
	Interlock out	03	When configuring for interlock also set parameter 6A = 01
91	Function Select IOU-TB:4	00-04	
	No function	00	
	Open/Close Function	01	One impulse opens the door the next impulse closes the door. Available in OMS mode EXIT, AUTO, PARTIAL.
	Interlock disable function	02	Disables interlock, both doors can be open at the same time.
	Inner impulse 2 monitoring	03	Sets inner impulse 2 monitoring for the second inner impulse on the IO unit. Set also parameter 93 = 3.
	Interlock in	04	When configuring for interlock also set parameter 6A = 01.
92	Open/Close Timeout	00-60	The time set in this parameter controls when a door shall start closing automatically if left open by an Open/Close impulse. 00 min = no automatic closing. Unit minutes.
93	Function Select IOU-TB:2	00-03	
	No function	00	
	Close function	01	Close impulse is selected. This impulse will immediately close the door, even during opening, and remain closed as long as the Close impulse is active. The electro-mechanical lock will lock the closed door. May not be used on an escape route door.
	LDE down	02	Espagnolette lock. Sets input to LDE lock down.
	Inner impulse 2	03	When two inner impulses are to be used. Sets input to inner impulse 2.
94	Fire Impulse Function	00-01	Depending on configuration in Emergency Action (36), the door will open or close on fire impulse. Fire impulse overrides presence impulse. At closing, the door does not reopen on jam.
	Off	00	Fire impulse disabled.
	On	01	Fire impulse enabled.
95	Emergency Open Impulse Function	00-01	Can be used as a Fireman's opening impulse in combination with IOU-TB:7 Battery wake up.
	Off	00	
	On	01	The door will always open on Emergency Open Impulse.
96	Emergency Open Impulse Configuration	00-01	Configures the button used for Fireman's opening.
	NO	00	Normally open
	NC	01	Normally closed

I/O Board parameters				
No.	Parameter Name	Value	Description	
97	Operation Mode Selector Function	00-01	Switch / timer / relay / "old" operation mode selector (5-wire).	
	Off	00		
	On	01	Not allowed in escape route, according to EN 16005 and DIN 18650.	
98	Lock Configuration	00-06	Parameter setting to configure the bistable (LDB) or espagnolette (LDE) lock that is connected to the IOU. It is possible to use the LDB lock as a night lock for escape routes. Refer to parameter 5, on page 92.	
	No lock	00	No lock.	
	Bistable lock (SL500, SL510, SL520)	01	LDB = for the bistable coil in the lock for the SL500, the SL510, the SL520 and the belt lock.	
	Espagnolette lock	02	LDE = espagnolette lock.	
	Bistable lock ND UniSlide	03	LDB = for the bistable coil in the lock for the UniSlide (small normal duty bistable solenoid).	
				
	LDB = Bistable lock (SL521)	04	Not used.	SW 6.0
	Bistable lock HD UniSlide	05	LDB = for the bistable coil in the lock for the UniSlide (large heavy duty bistable solenoid).	SW 8.0
				
	Espagnolette lock 24 V	06	Espagnolette lock for the SL500.	SW 8.0



I/O Board parameters				
No.	Parameter Name	Value	Description	
99	Function Select IOU-TB:6		Possibility to disable Sustainable drive mode or to enable Mode Selector with this function through IOU-TB:6.	SW 3.2
	No function	00		
	Sustainable Disable	01	Disables Sustainable drive mode. It is possible to disable sustainable drive mode. As long as TB:6 is active the operator will run with full power.	
	Mode Selector Enable	02	Enable the Mode Selector with an external key. IOU mode selector and PSK-6U are not affected by this parameter. When parameter is set to value 02 the OMS is locked. If an impulse is given on IOU TB:6 the indication LED on OMS will be steady red during 15 seconds and it is possible to change mode selection (set parameter b1/C1 = 00).	
9A	Priority of the IOU operation mode selector	25-99	The lower the number is the higher the priority.	
9B	Choose group of the IOU operation mode selector	00-10	This controls which MCU that looks at which OMS. It is possible to group different OMS to different MCU. MCU and OMS with same group number listens to each other. If value 00 is selected the IOU mode selector controls all operators.	
9C	Pharmacy function	00-01	Lock for pharmacy functionality is not yet available.	
	Off	00		
	On	01		






Escape route parameters				
No.	Parameter Name	Value	Description	
A0	Escape Route Motor Configuration	01-02	Single motor or double motor depending on authority demand.	
	1-motor	01		
	2-motor	02		


Operation mode selector parameters			
No.	Parameter Name	Value	Description
b0	OMS-1 variant	01-04	Europe = 5 modes (04). OMS Basic 
	3 modes with EXIT	01	OFF, EXIT and OPEN.
	3 modes with AUTO	02	OFF, AUTO and OPEN.
	4 modes	03	OFF, EXIT, AUTO and OPEN.
	5 modes	04	OFF, EXIT, AUTO, AUTO PARTIAL and OPEN.

Operation mode selector parameters			
No.	Parameter Name	Value	Description
b1	OMS-1 key lock	00-03 00-02	<p>OMS Standard and OMS Bluetooth OMS Basic</p>  <p>OMS Standard and OMS Bluetooth- There are four different levels of access code choices for the operation mode selector: 00-03</p> <p>OMS Basic - There are three different levels of access code choices for the operation mode selector: 00-02</p>
	Off	00	No access code.
	Hold for two sec	01	<p>OMS Basic - Access is obtained by holding  or  for 2 seconds.</p> <p>OMS Standard and OMS Bluetooth - Access is obtained by holding any mode selection button for 2 seconds.</p>
	Passcode	02	<p>OMS Basic - Passcode can be selected where the access is obtained by briefly pushing in turn    .</p> <p>The entire passcode must be entered within 3 seconds.</p> <p>OMS Standard and OMS Bluetooth - Passcode can be selected where the access is obtained by briefly pushing the buttons in correct order.</p> <p>The entire passcode must be entered within 10 seconds.</p> <p>The passcode must be changed through the CT.</p> <p>Default passcode for OMS Standard and OMS Bluetooth :</p> 
	Key	03	OMS Standard and OMS Bluetooth - Give access with an internal/built in key.

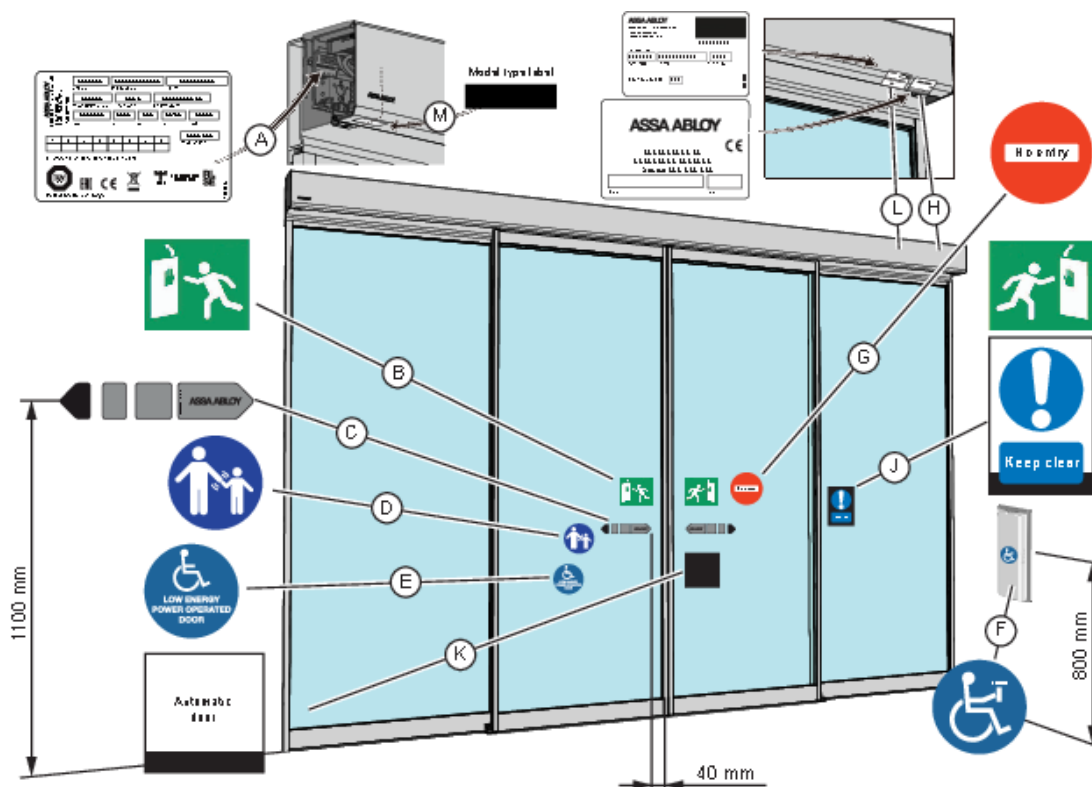
SW
5.0

Operation mode selector parameters				
No.	Parameter Name	Value	Description	
b2	OMS-1 service indication	00-01	Yellow flashing service LED. Service indication on operation mode selector. No service indication (00). Indicate service (01).	
	Off	00		
	On	01		
b3	OMS-1 priority	25-99	The lower the number the higher the priority.	
b4	OMS-1 group	00-10	This controls which MCU that looks at which OMS. It is possible to group different OMS to different MCU. MCU and OMS with same group number listens to each other. If a OMS is set to 0 this OMS controls all operators that is connected in that loop.	
b5	OMS-1 display mode	00-01	Choose display mode of the operation mode selector.	
	Show system mode	00	In Show system mode the OMS shows the setting that the operator is put to. It is shown with one flash every 5 s. When the OMS is flashing every 5 s it is not possible to change the mode on the OMS.	
	Show local mode	01	In Show local mode the OMS shows the last setting made on the OMS.	
b6	OMS-1 terminal mode	00-02	Choose terminal mode of the operation mode selector OMS-1.	
	The buttons on OMS are disabled	00		
	The OMS-1 adapts to system mode	01		
	The OMS-1 keeps its selected mode.	02		
b7	OMS-1 self-service indication	00-01	OMS Basic - Orange flashing service LED. OMS Standard and OMS Bluetooth - Magenta flashing service LED. Self service indication on operation mode selector.	SW 3.2
	Off	00	No self service indication.	
	On	01	Indicate self service.	
b8	OMS-1 key impulse	00-02	Key impulse to the operator can be made in the following ways by pushing the symbol below. OMS Basic -  OMS Standard and OMS Bluetooth - 	SW 3.2
	Disabled	00	Disables the possibility to give key impulse.	
	Login Required	01	Login required on the OMS to enable the possibility to give key impulse. The login is configured through parameter 99 and b1.	
	Enabled	02	Enables the possibility to always give key impulse.	

Operation mode selector parameters				
No.	Parameter Name	Value	Description	
b9	Bluetooth Power Mode	00-02	Bluetooth power mode determines if the Bluetooth is activated or deactivated in the OMS Bluetooth. Bluetooth Power Mode is configurable between 00-02.	SW 5.0
	Always disabled	00	The Bluetooth is shut off.	
	Disabled in OFF mode	01	When the OMS Bluetooth is in OFF mode the Bluetooth is shut off, otherwise it is active.	
	Always enabled	02	The Bluetooth is always active.	
C0	OMS-2 variant	01-04	Europe = 5 modes (04). OMS Basic 	
	3 modes with EXIT	01	OFF, EXIT and OPEN.	
	3 modes with AUTO	02	OFF, AUTO and OPEN.	
	4 modes	03	OFF, EXIT, AUTO and OPEN.	
	5 modes	04	OFF, EXIT, AUTO, AUTO PARTIAL and OPEN.	
C1	OMS-2 key lock	00-03 00-02	OMS Basic 	SW 5.0
	Off	00	No access code.	
	Hold for two sec	01	OMS Basic - Access is obtained by holding  or  for 2 seconds.	
	Passcode	02	OMS Basic - Passcode can be selected where the access is obtained by briefly pushing in turn  . The entire passcode must be entered within 3 seconds.	
C2	OMS-2 service indication	00-01	Yellow flashing service LED. Service indication on operation mode selector. No service indication (00). Indicate service (01).	
	Off	00		
	On	01		
C3	OMS-2 priority	25-99	Selectable between 25 - 99 The lower the number the higher the priority.	

Operation mode selector parameters				
No.	Parameter Name	Value	Description	
C4	OMS-2 group	00-10	Selectable between 00 - 10 This controls which MCU that looks at which OMS. It is possible to group different OMS to different MCU. MCU and OMS with same group number listens to each other. If a OMS is set to 0 this OMS controls all operators that is connected in that loop.	
C5	OMS-2 display mode	00-01	Choose display mode of the operation mode selector.	
	Show system mode	00	In Show system mode the OMS shows the setting that the operator is put to. It is shown with one flash every 5 s. When the OMS is flashing every 5 s it is not possible to change the mode on the OMS.	
	Show local mode	01	In Show local mode the OMS shows the last setting made on the OMS.	
C6	OMS-2 terminal mode	00-02	Choose terminal mode of the operation mode selector OMS-2.	
	The buttons on OMS-2 are disabled	00		
	The OMS-2 adapts to system mode	01		
	The OMS-2 keeps its selected mode.	02		
C7	OMS-2 self-service indication	00-01	OMS Basic - Orange flashing service LED.	SW 3.2
	Off	00	No self service indication.	
	On	01	Indicate self service.	
C8	OMS-2 key impulse	00-02	15.6.1 Key impulse to the operator can be made in the following ways by pushing the symbol below. OMS Basic - 	SW 3.2
	Disabled	00	Disables the possibility to give key impulse.	
	Login Required	01	Login required on the OMS to enable the possibility to give key impulse. The login is configured through parameter 99 and b1.	
	Enabled	02	Enables the possibility to always give key impulse.	

16 Signage



Check that all required signage is applied and intact. Mandatory indicates that the signage is required by European directives and equivalent national legislation outside the European Union.

Ⓐ	Product label: Mandatory
Ⓑ	Emergency break-out: Mandatory, if approved for escape route.
Ⓒ	ASSA ABLOY Entrance Systems door sticker: Mandatory according to ASSA ABLOY Entrance Systems brand instructions, European directives and equivalent national legislation outside the European Union, to highlight the presence of the glass.
Ⓓ	Supervision of child (applied to both sides of the door): Mandatory according to national regulations. Recommended, if the risk analysis shows use by children.
Ⓔ	Operator designed for disabled people: Recommended, if applicable (applied to both sides of the door).
Ⓕ	Activation by disabled people: Recommended, if applicable.
Ⓖ	No entry, identifying one-way traffic: Mandatory in GB and US, if applicable, not included in the product.
Ⓗ	Local product label: Mandatory
Ⓙ	Keep clear: Mandatory in GB, if applicable, not included in the product.
Ⓚ	Automatic door: Mandatory in GB, if applicable, not included in the product.
Ⓛ	Burglary resistant label: Mandatory, if Protect (burglary resistant system).
Ⓜ	Model type label: Mandatory.

17 Accessories

17.1 Interconnection of operators

17.1.1 Interconnection cable

Interconnection cable is used for controlling several operators with one or more operation mode selectors (OMS) and for interlocking or synchronization.

Operators can communicate with each other by connecting an interconnection cable between the operators.

Cable connection:

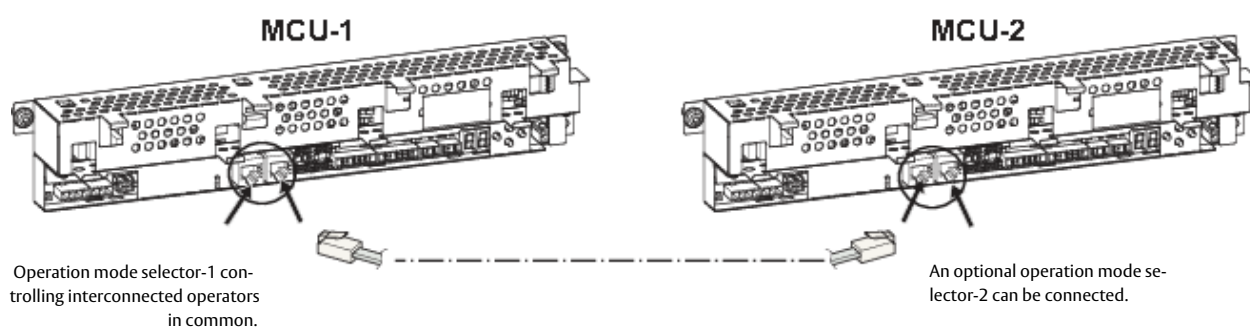


Pin 1 to pin 1

.....

.....

Pin 8 to pin 8



17.1.2 Hardware configuration for interconnection

When both RJ45 connectors are used on the MCU, the jumper must be removed. Refer to the examples that follow.

Each accessory unit (for instance OMS, IoT) is an "end node" and carries the termination with it.

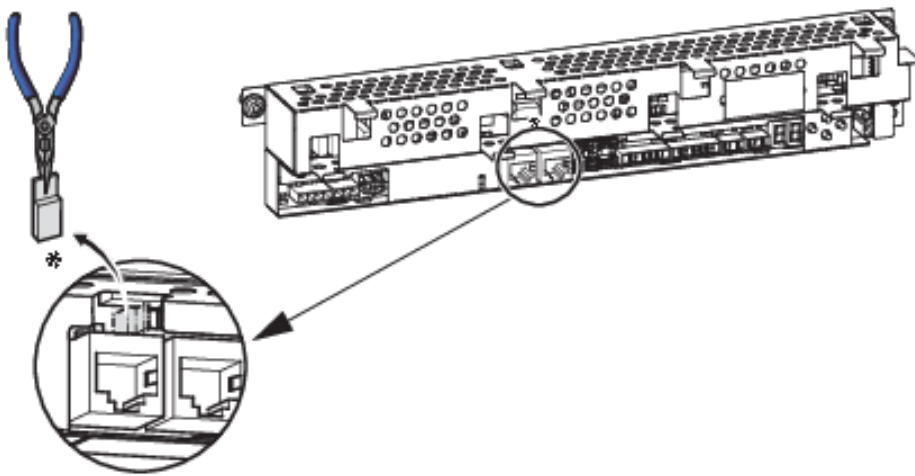
- MCU **with** the jumper is an end node.
- MCU **without** the jumper is **not** an end node.

An interconnected system must only contain two end nodes.

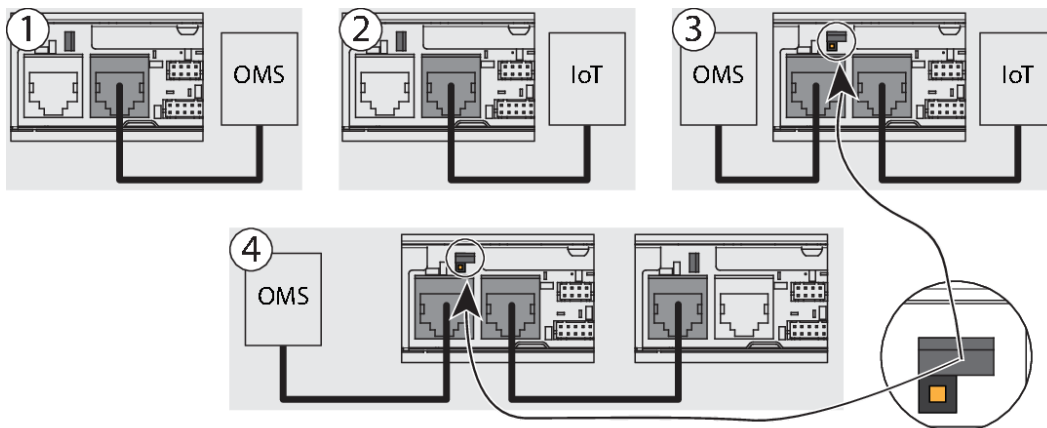
Maximum two MCU can be interconnected together with one OMS.



It is not possible to use an IoT Gateway 2.0 with interconnected or synchronized operators. The IoT Gateway 2.0 cannot communicate with two MCUs.



The illustration below shows the connection and the jumper placement for some examples of different operator and accessory combinations.



Total maximum cable length is 500 m.

Use a straight-through shielded twisted pair (STP/FTP) CAT5/CAT5e cable if the length exceeds 30 m or is in electrically disturbing environment.

17.1.3 Parameter configuration for interconnection

Note! Do not connect any operation mode selector (OMS) before the configuration of 6C is done on all MCUs.

One of the operators has to be the main MCU (MCU-1). The main MCU shall have the value 01 in parameter 6C. All the other interconnected operators shall have ascending values in parameter 6C. When the configuration is done break the power on all the interconnected operators. Connect the OMS, turn on the power. The main MCU is the control unit where the parameters to the operation mode selectors (OMS-1, OMS-2) can be configured.

17.2 Interlock

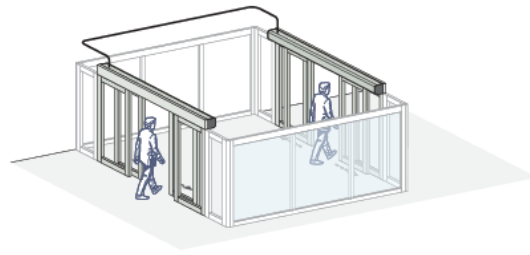
A typical use of interlock is to have one inner and one outer door to create an airlock. The air lock will reduce draft and energy loss in the entrances.

This interlock must not be used for security reason.

When the operators are interlocked only one door can open at the time. The open door must close before the other door can open.

Example:

- a Both doors are closed.
- b Door 1 gets an impulse and opens.
- c If door 2 also gets an impulse before door 1 has closed, door 2 will stay closed and the impulse will be remembered.
- d When door 1 has closed door 2 will open by the remembered impulse.



The following alternative is how to make an interlocking.

- 1 Interlock the operator through the IOU, this is compatible with UniSlide interlock.

It is possible to interlock many operators. Set the following parameters in all MCUs:

6A (Interlock function)= 01 (ON)

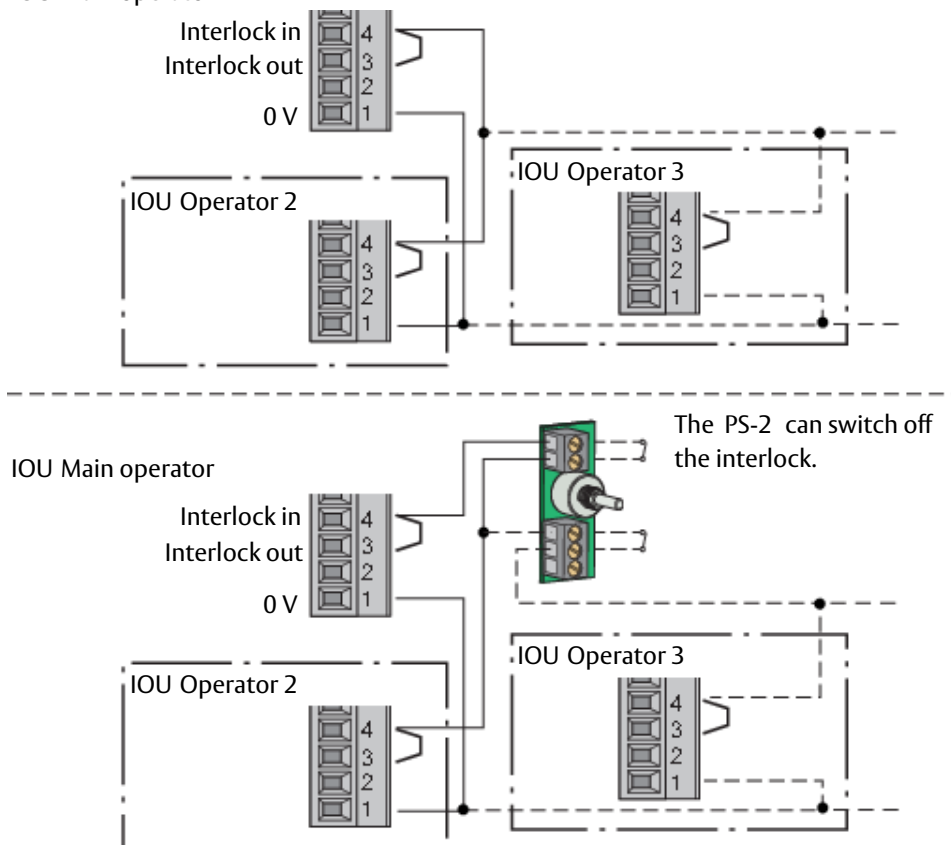
90 (Function select IOU-TB:3)= 03 (Interlock out)

91 (Function select IOU-TB:4)= 04 (Interlock in)

See parameter 25 (Interlock disable time) on page 95.

Connect the IOU according to the illustrations that follow. Use the PS-2 to disconnect the interlock. If more than three operators shall be interlocked and have the possibility to disconnect the interlock, two or more PS-2 units need to be used.

IOU Main operator



17.3 Synchronization

Synchronization is when two operators work together as one. The doors opens and closes at the same time. A typical use is when two big single sliders are put together to get one big clear opening width. Synchronization can only be done between two operators, not more.

Refer to chapter [17.1.1](#), [17.1.2](#) and [17.1.3](#) on how to connect the operators together, interconnection of operators, and follow the instruction.

For synchronization set parameter 6b (Synchronizing function) = 01 (ON) on both MCUs.

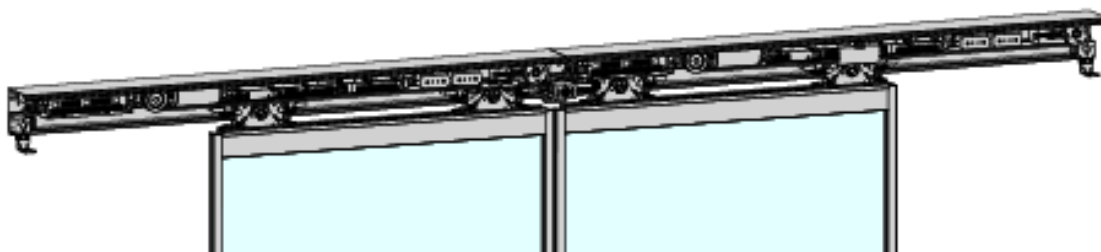
Do a restart after adjustment.

Note! If two IOUs are used, one on each operator, parameter 97 must be set to 00 on one of the operators.



It is not possible to use an IoT Gateway 2.0 with interconnected or synchronized operators. The IoT Gateway 2.0 cannot communicate with two MCUs.

For further configuration examples about operation mode selector (OMS), see page [120](#).



17.4 Operation mode selectors (OMS)

17.4.1 Types







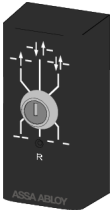
For the mode selector there are a couple of alternatives:

- OMS Standard and OMS Bluetooth, WxH 36x142 mm with 5 selections.
- OMS Basic, a narrow version, WxH 44x80 mm with 5 selections.
- OMS Basic, two square versions, WxH 80x80 or 55x55 mm with 5 selections.
- PSK-6U, a 2-wire analog mode selector connected to the MCU.

The operation mode selectors (OMS Basic) can be flush mounted in profiles or in electrical wall boxes. The operation mode selectors (OMS Basic) can also be installed surface applied in wall boxes.

Note! Do not use PSK-6U in combination with operation mode selector (OMS). If PSK-6U is used together with an IOU it is necessary to set parameter 97 = 00 to disable IOU mode selector.

PSK-6U cannot be used in an interconnected system. Only one PSK-6U can be connected to the MCU.

Surface mounted OMS Standard	Surface mounted OMS Bluetooth
 With key Without key	 With key Without key
Surface mounted OMS Basic 44x80 mm	Flush mounted OMS Basic 44x80 mm
	
Flush mounted OMS Basic 80x80 mm	Flush mounted OMS Basic 55x55 mm
	
Surface mounted PSK-6U	
	

17.4.2 Operation mode selector (OMS) functionality

Check how to install interconnected units before configuring the operation mode selector (OMS). See section 17.1.1 on page 115.


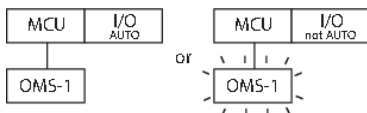
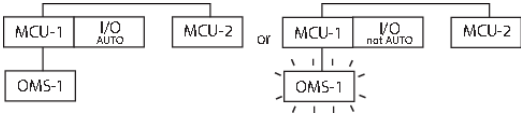
All functionality regarding the operation mode selector (OMS) is programmed through the MMI on the main MCU-1 (has parameter 6C = 01).

There are three (3) different types of configurations for MCU and OMS.

The "configure parameter" shows which parameter to change from the default setting to obtain the function described, the parameters in the parenthesis shall represent the default values.

Grouping operators

When connecting two MCU together they might need to be grouped together. MCUs are grouped by entering the same value in the group parameter, MCU 6F, IOU 9B, OMS-1 B4, OMS-2 C4. The units that are grouped together will operate together. If OMS or IOU has the value 00 in the group parameter these units will control both interconnected MCUs regardless of their group value.

1	<p>Single control</p> 	<p>One MCU and one OMS-1. MCU is controlled by the OMS-1. No configuration needed. Configure parameter MCU, b5=0, b6=1 (6F=01, b3=40, b4=01).</p>
2	<p>Single control with I/O unit override</p> 	<p>One MCU with IOU and one OMS-1. OMS-1 controls MCU when IOU is in AUTO. When IOU is not in AUTO, IOU controls MCU and OMS-1 shows active mode selection. OMS-1 is flashing once every 5 second to show that it is remotely overridden. When the OMS-1 is remotely overridden it is not possible to change its mode. Configure parameter MCU, b5=0, b6=1 (6F=01, 97=01, 9A=30, 9b=01, b3=40, b4=01).</p>
3	<p>Local paired, single control with I/O unit override</p> 	<p>Two MCU, one OMS-1 and one IOU connected to MCU-1. OMS-1 controls MCU-1 and MCU-2 when IOU is in AUTO. When IOU is not in AUTO, IOU controls both MCU-1 and MCU-2. OMS-1 is flashing once every 5 second to show that it is remotely overridden. When the OMS-1 is remotely overridden it is not possible to change its mode. Configure parameter MCU-1, b5=0, b6=1 (6C=1, 6F=01, 97=01, 9A=30, 9b=1, b3=40, b4=01). Configure parameter MCU-2 6C=2, (6F=1).</p>

Operation of operation mode selector (OMS)

OMS Basic

The different operation modes are selected by pushing the arrow symbols pointing upwards or downwards. When a button is pushed a buzzer will sound. The present selection is indicated by a blue light to the left of the function symbol.

When an arrow symbol has not been pushed for 5 seconds the access will be locked.

In the upper right corner a flashing LED indication can be displayed.

- A red light indicates an error, see page 163.
- An orange light every other second is indicating a status or condition that can be cleared by the owner e.g. a break-out door is standing open.
- A yellow light every other second is indicating that maintenance is due.





OMS Standard and OMS Bluetooth

The different operation modes are selected by pushing their respective symbols. The present selection is indicated by a blue light.


Note! When the Operation Mode Selector Key Lock (b1) is set to Hold for two sec (01), the access will be locked 5 seconds after a button has been pushed.

When the Operation Mode Selector Key Lock (b1) is set to Passcode (02) or Key (03), the access will be locked 15 seconds after entering passcode or activating key, or when a new mode selection has been confirmed.

Note! When the Operation Mode Selector Key Lock (b1) is set to either Passcode (02) or Key (03), the operation mode selection must be confirmed by pressing the .

In the  a light can be displayed.

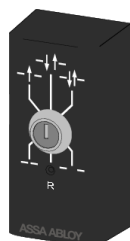
- A red light indicates an error, see page 163.
- A yellow light every other second is indicating that maintenance is due.
- A magenta light every other second is indicating a status or condition that can be cleared by the owner e.g. a break-out door is standing open.
- A steady green light is displayed when the OMS is unlocked and B1 is configured for Passcode (02) or Key (03).
- A green light is flashing 4 times per second when a new operation mode has been selected but not yet confirmed.
- A green light will flash whenever a button is pressed while typing the passcode.
- When correct passcode is entered, the green led is continuously lit.
- A green light will be displayed for 1 second when Mode Selector Key

Impulse is given (e.g. by holding  for 2 seconds when the operation mode is OFF).



The operation mode selectors are available with 5 selections (plus RESET).

With 5 selections OPEN, AUTO PARTIAL, AUTO, EXIT and OFF functions can be obtained.



Symbol	Text	Function
	OPEN	The door is permanently open. The door can be moved by hand e.g. for window cleaning. All activation units except for the emergency push button (if fitted) are disconnected.
	AUTO PARTIAL	Two-way traffic, AUTO PARTIAL is obtained. The door can be opened partially with the inner and outer activation units and with a key switch (if fitted). With an emergency push-button the door opens fully.
	AUTO	Two-way traffic, normal operation of the door. The door can be opened with the inner and outer activation units and with a key switch/emergency push-button (if fitted).
	EXIT	<p>Passage from inside only. The door is normally locked if an electromechanical locking device has been fitted. The door can only be opened with the inner activation unit or with a key switch/emergency push-button (if fitted).</p> <p>Note! If parameter 44 = 0 is set, the electromechanical lock is not locked in EXIT.</p>
	OFF	<p>In an escape route the OFF mode may only be set after it is certain that all people have left the building.</p> <p>The door cannot be opened with inner or outer activation units. The door is locked if an electromechanical locking device has been fitted. The door can be opened partially with a key switch (if fitted). The door can be opened fully with an emergency pushbutton (if fitted).</p> <p>OMS Basic The key impulse is indicated by briefly showing a blue light to the left of the OPEN symbol. This function depends on how parameters b1/C1 and b8/C8 are set, refer to page 110.</p> <p>OMS Standard and OMS Bluetooth This function depends on how parameters b1 and b8 are set, refer to page 110.</p>
	RESET	By briefly pushing the dot (placed in the lower right corner of the OMS Basic) or the button (placed in the hole accessible from the underside of the OMS Standard/OMS Bluetooth) with a narrow object, the door operator will make a RESET function with a system test. The door will then be ready for normal operation.
		Turn the key clockwise to the position "R" (six o'clock) and insert a narrow object in the small hole on the operation mode selector and push briefly. Then turn the key counter-clockwise back to the requested setting and the door operator will make a RESET function with a system test. The door will return to the closed position (if not in operation mode selection OPEN or if an error is present) and is then ready for normal operation.
	RESET	<p>Turn the key clockwise to the position "R" (six o'clock) and insert a narrow object in the small hole on the operation mode selector and push briefly. Then turn the key counter-clockwise back to the requested setting and the door operator will make a RESET function with a system test. The door will return to the closed position (if not in operation mode selection OPEN or if an error is present) and is then ready for normal operation.</p> <p>Note! The key cannot be removed in the "R" position.</p>

17.5 ASSA ABLOY Sliding Door Manager

If the operator is equipped with an OMS Bluetooth, it is possible to change the mode selections with the smartphone app **ASSA ABLOY Sliding Door Manager**.

Installation of the app

- Download the app **ASSA ABLOY Sliding Door Manager**, at **App Store** or **Google Play**. Make sure to have your value document ready.
- Before starting the setup wizard, make sure that your door's operating mode selector is set to **AUTO**.
- Tap the button "+ **Add Door** " in the app, and follow the door setup wizard. The setup wizard will guide you how to pair the smartphone with the door.

Note! To be able to pair, you have to be in the range of 10 meters from the door.



17.6 Lock

Electromechanical lock

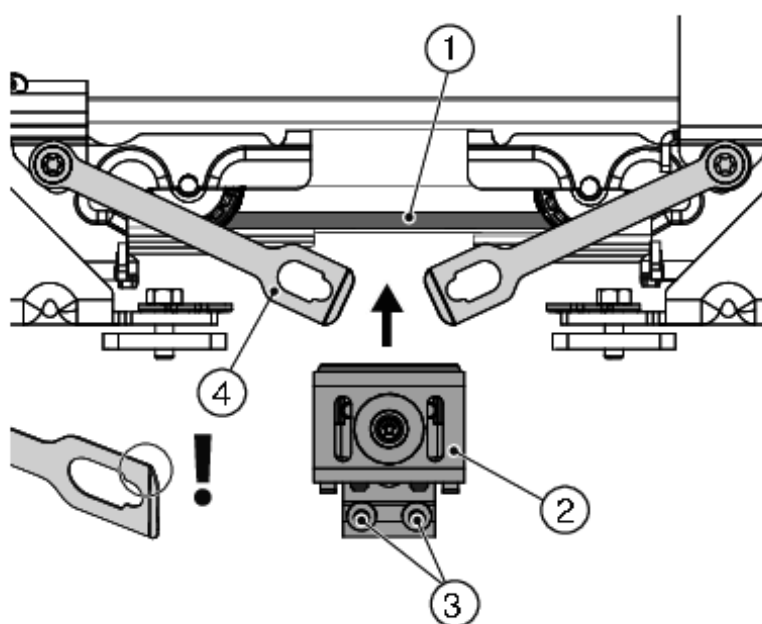
The following locks are available to the operator:

- Locked with power (LDP), fail safe
- Locked without power (LD), fail secure
- Bistable lock (LDB)
- Espagnolette lock (LDE)

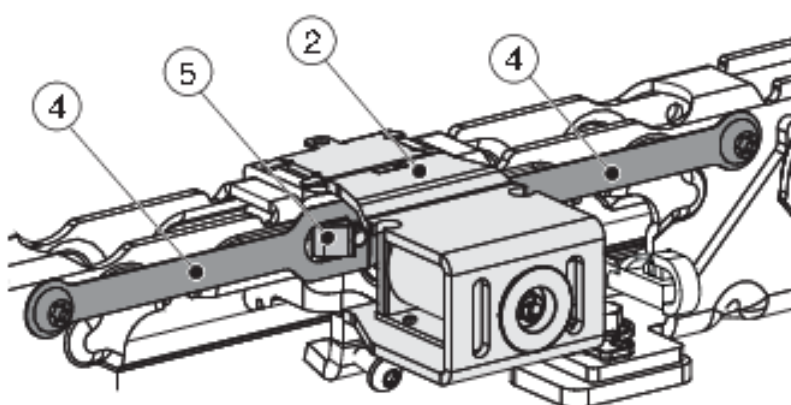
Note! The espagnolette lock is at the moment not allowed to mount in escape routes.

17.6.1 Installing the old lock (LD, LDP, LDB)

- Push the door/doors to closed position. Place the lock (2) on the plastic track (1) in the beam at the leading edge of the door/doors. Tighten the screws (3) lightly.
- Adjust the spring latches (4) so they align with the plastic ramps (5) on the lock.
- For bi-parting make sure the lock is centered between the doors.
- Tighten the screws (3) on the lock.

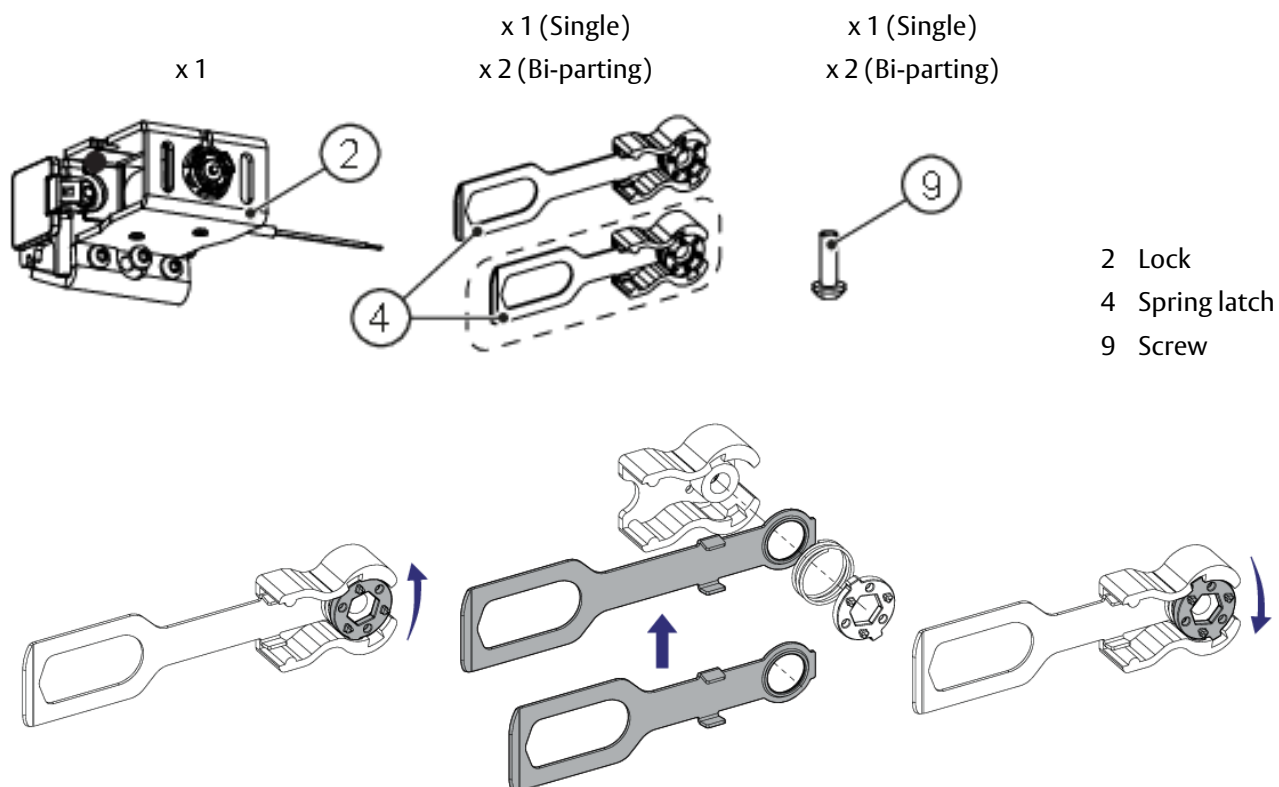


- 1 Plastic track
- 2 Lock
- 3 Screw
- 4 Spring latch

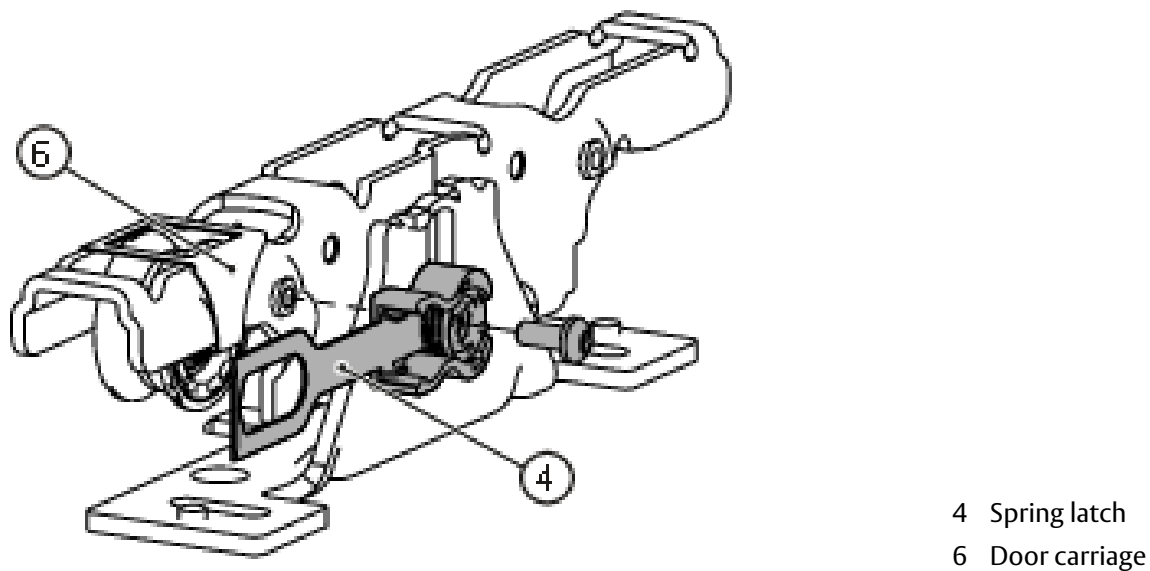


- 2 Lock
- 4 Spring latch
- 5 Plastic ramp

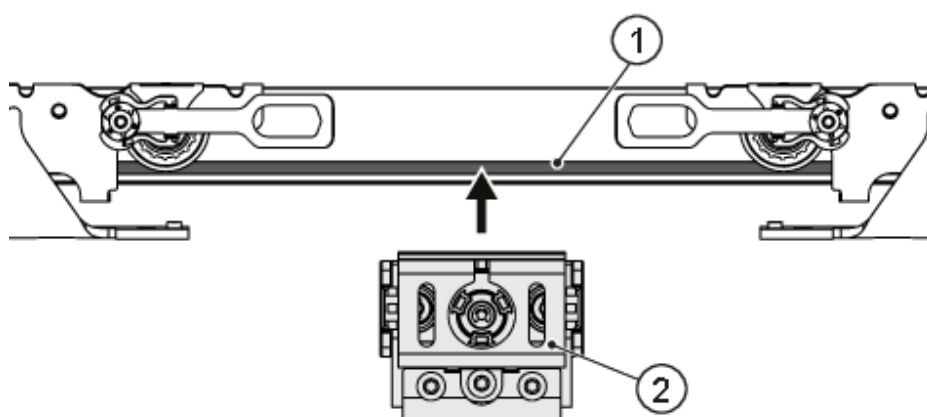
17.6.2 Installing the New lock (LD, LDP, LDB)



- a Mount the spring latches (4) on the door carriage (6) and fasten with a force of **3 Nm**.

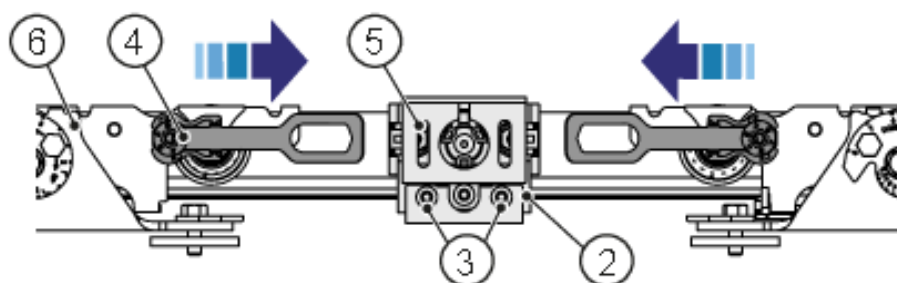


- b Place the lock (2) on the plastic track (1) in the beam at the leading edge of the door/doors.



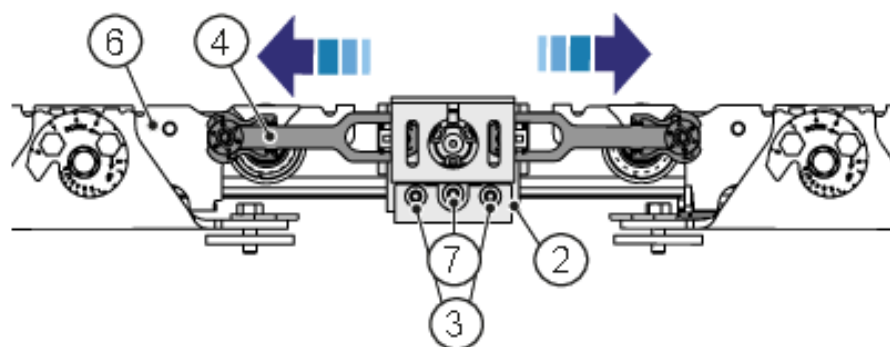
- 1 Plastic track
2 Lock

- c Push the door/doors to closed position. Tighten the outer screws (3) gently on the lock.



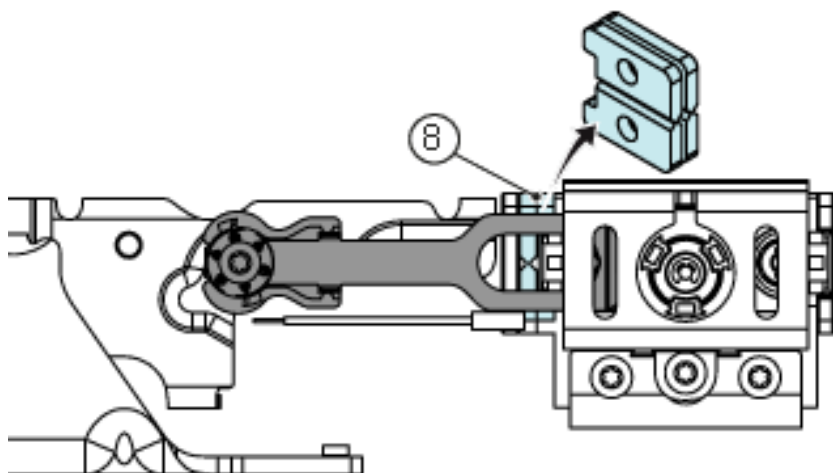
- 2 Lock
3 Outer screw
4 Spring latch
5 Plastic ramp
6 Door carriage

- d For bi-parting make sure the lock (2) is centered between the doors by pulling the doors apart while the lock is locked.
- e When the lock is centered, tighten outer screws (3) on the lock (2). Secure the lock by tightening the center screw (7). When center screw (7) is tightened there will be a small indentation on the beam.



- 2 Lock
3 Outer screw
4 Spring latch
6 Door carriage
7 Center screw

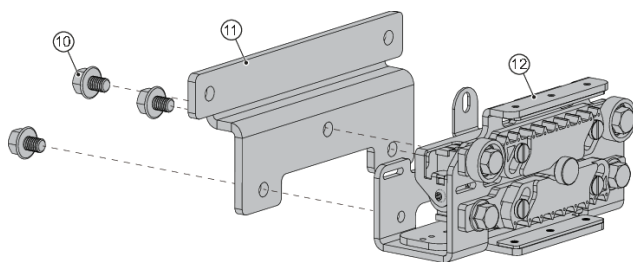
- f Adjustment washer (8) is used for single door when the lock is used as a door stop. Place one or two adjustment washers to adjust the gap in the lock.



8 Adjustment washer

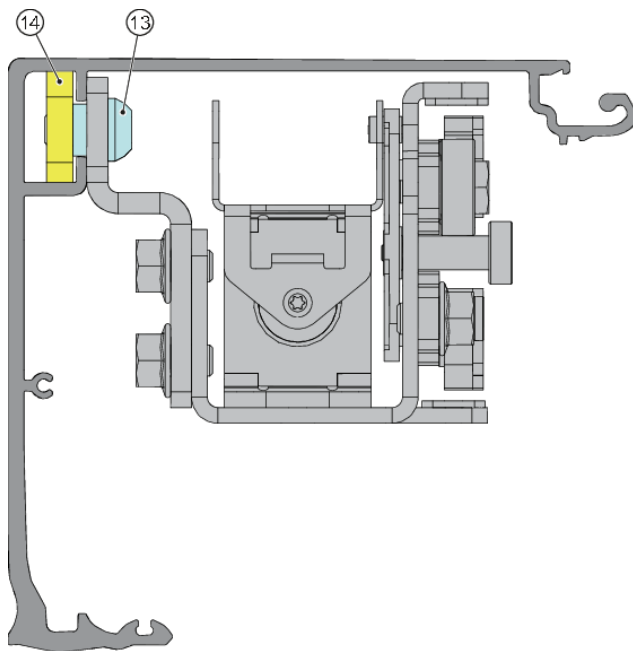
17.6.3 Installing the belt lock (LD, LDP, LDB)

- a Attach the bracket (11) to the belt lock (12) with the screws (10).



- 10 Screw
11 Bracket
12 Belt lock

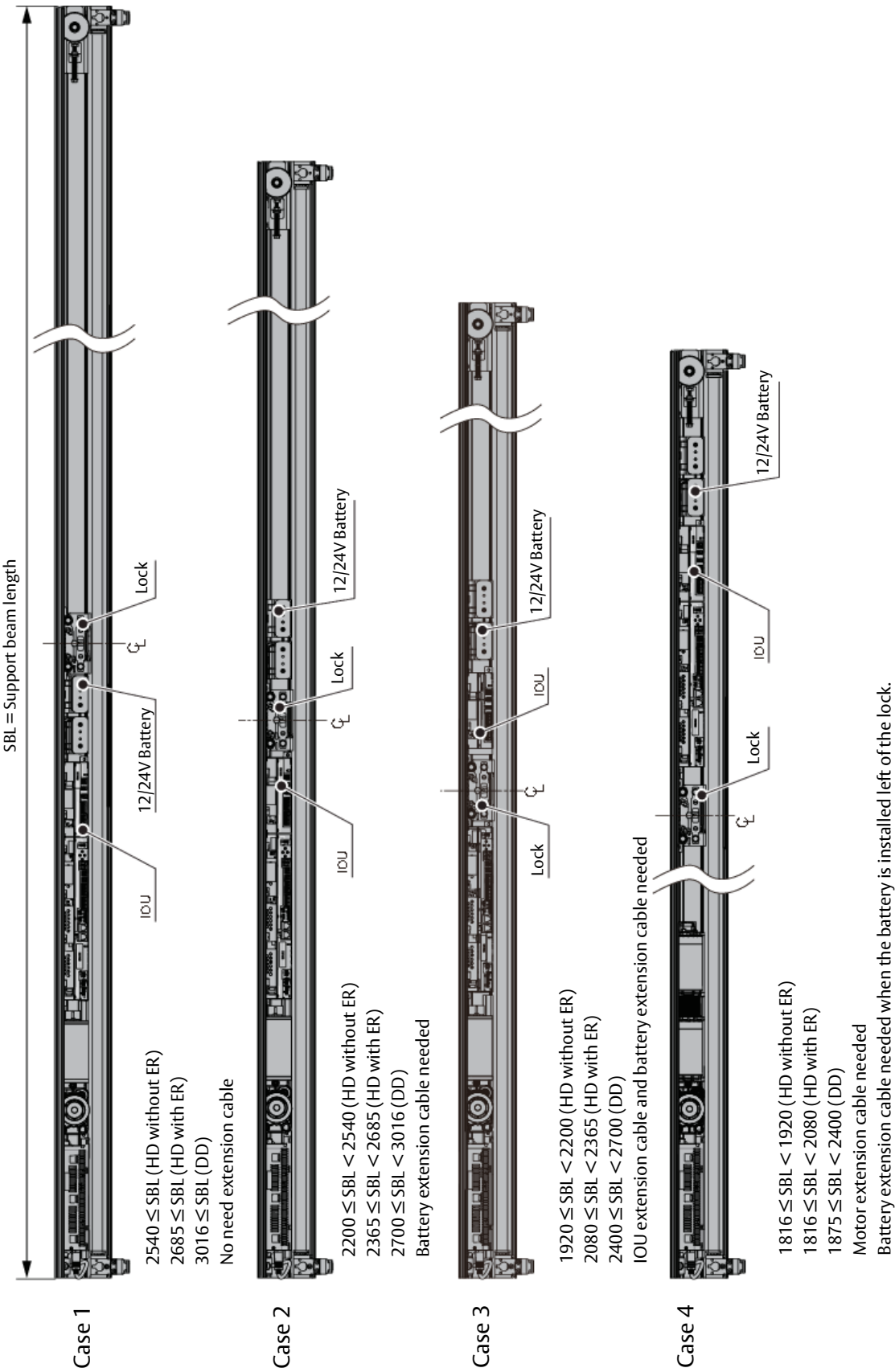
- b Attach the belt lock to the support beam with the screws (13) and nuts (14).



- 13 Screw
14 Nut

Note! Refer to the belt lock installation drawing (1017730).

Limited SBL (support beam length) for the belt lock
Bi-parting door (the belt lock is installed in the middle)



17.6.4 Connection of LD, LDP, LDB

Big coil on LD, LDP, LDB, connects to;

Black to MCU:18

Black to MCU:19

Bi-stable lock small coil;

Blue to IOU:16

Gray to IOU:17

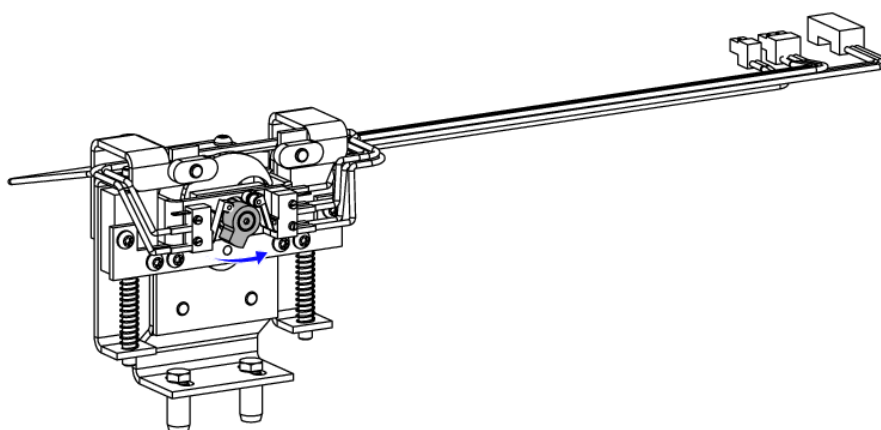
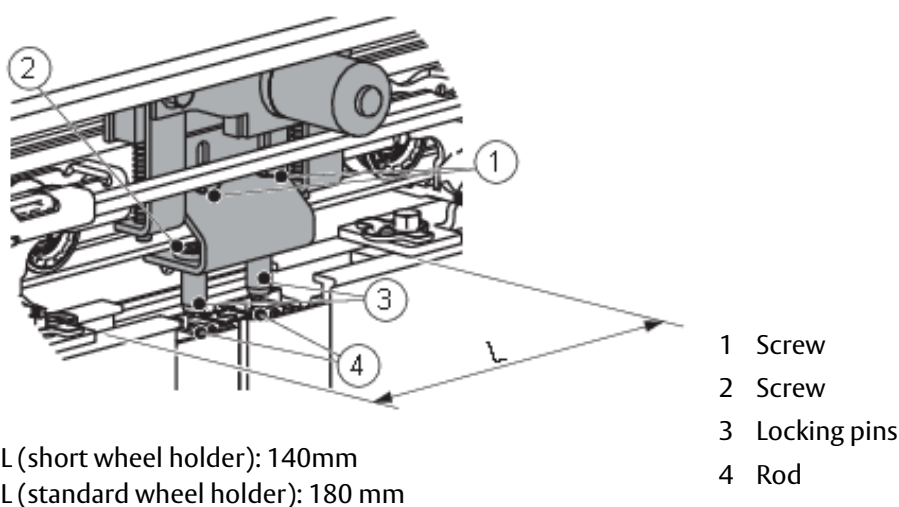
or

Black to IOU:16

White to IOU:17

Note! Verify that the cable from the inner sensor does not interfere with the lock unit, refer to [Connection of the sensors and the other accessories](#) on page 65.

- 17.6.5 Installing the Espagnolette lock (LDE) (The Espagnolette lock is at the moment not allowed to mount in escape routes)
- Close the doors.
 - Mount the lock in the C-track, so the locking pin (3) is centered over the rod (4) in the door leaf.
 - Loosen the screws (1).
 - Height adjust the locking pins (3), so they are centered over the rods (4) in the door leaf.
 - Tighten the screws (1).
 - Loosen the screws (2).
 - Depth adjust the locking pins (3), so they are centered over the rods (4) in the door leafs.
 - Tighten the screws (2).
 - Connect the wiring to the IOU-board according to the connection diagram on page 80.



- Push down the rods in the doors to indicate where to drill holes in the floor. The holes in the floor shall be where the rods lock in the floor.
For connection see page 80.

Note! Verify that the cable from the inner sensor does not interfere with the lock unit, refer to [Connection of the sensors and the other accessories](#) on page 65.

17.7 Cover

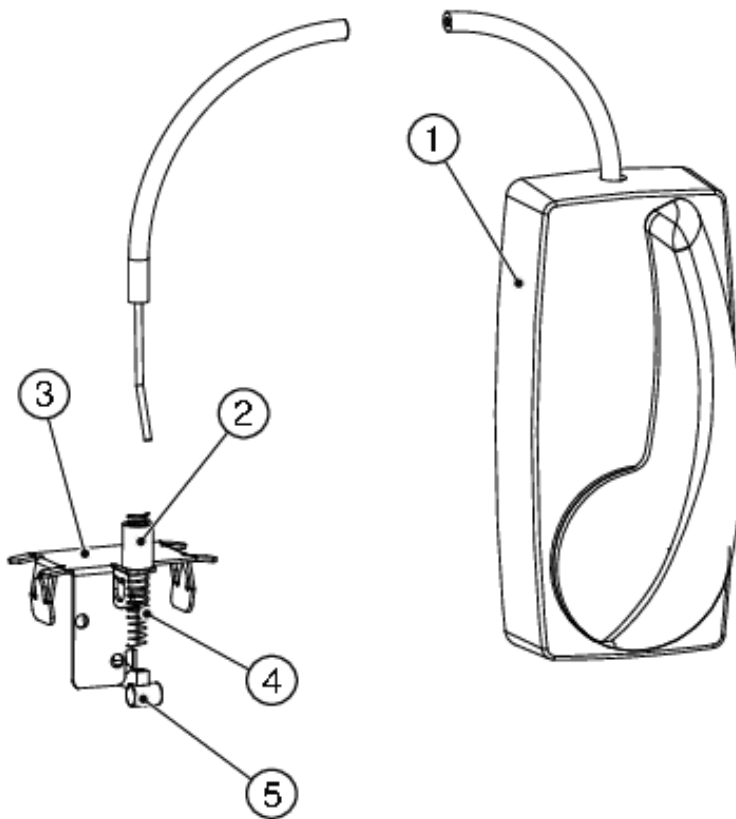
Made in clear anodized aluminium as standard. Paint finished in RAL colours or anodizing optional.

17.8 Motion sensor and presence sensors

Motion and presence sensors, refer to separate manuals or installation drawings on pages [65](#).

17.9 Manual Opening Lock device, MOLD

For manual locking and unlocking of the electro-mechanical lock (LD), locked without power (fail secure).

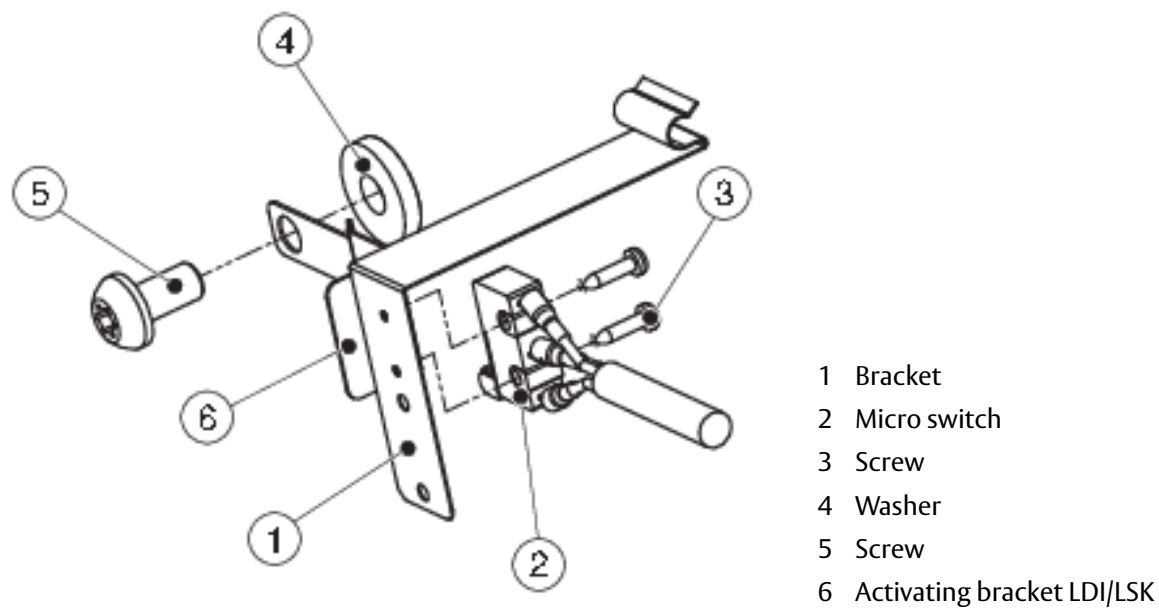


- 1 Supplementary lock release
- 2 Bending protection
- 3 Lock release kit
- 4 Compression spring
- 5 Wire lock

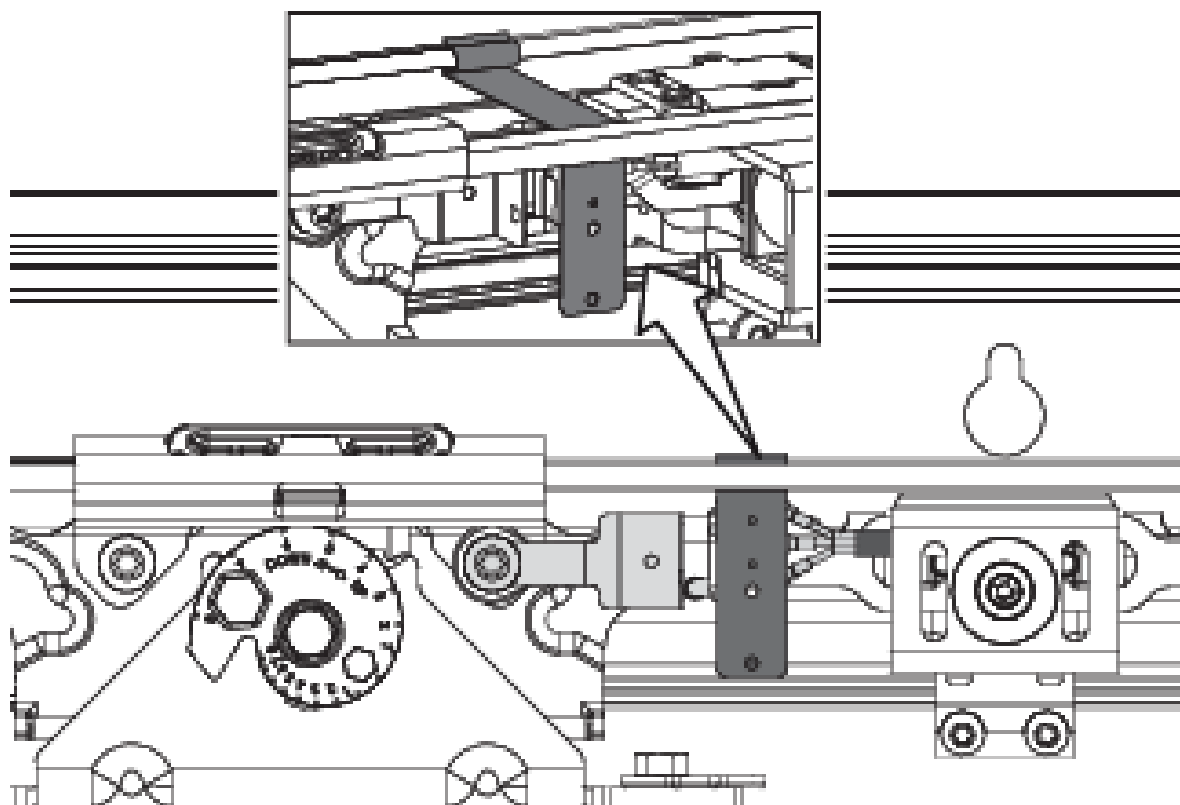
See separate installation drawing 1013736.

17.10 Limit switch kit, LSK

For indication of door and lock position. Old version of LSK.

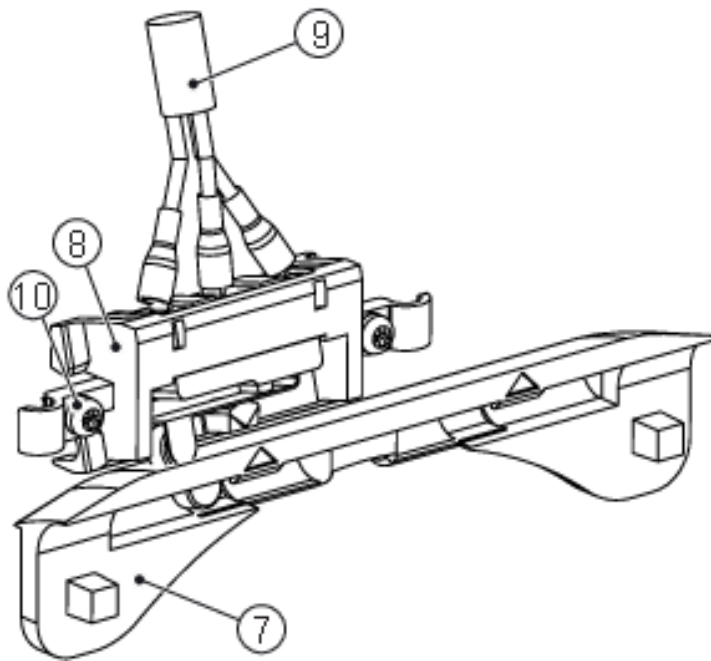


Attach the micro switch kit, as the illustration below shows.



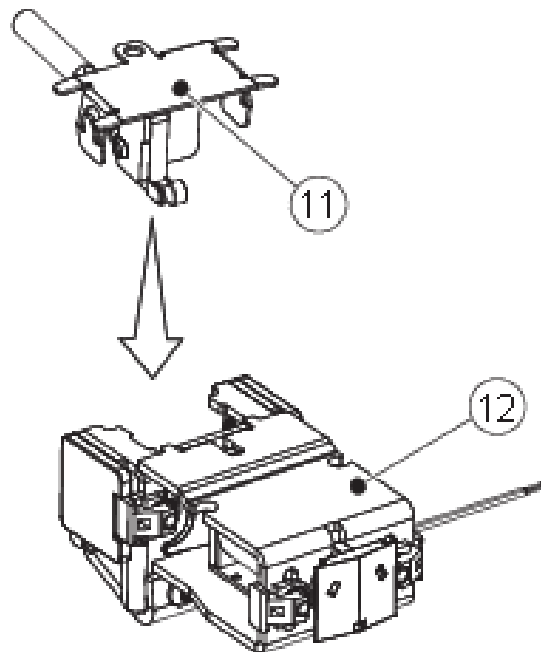
New version of LSK.

For more information, see installation drawing 1013640.



- 7 Activator
- 8 Holder
- 9 Micro Switch
- 10 Screw

Put the lock indication switch (LIS) (11) into position on top of the lock (12) with a click.



- 11 Lock indication switch (LIS)
- 12 Lock

17.11 Locked door indicator, LDI

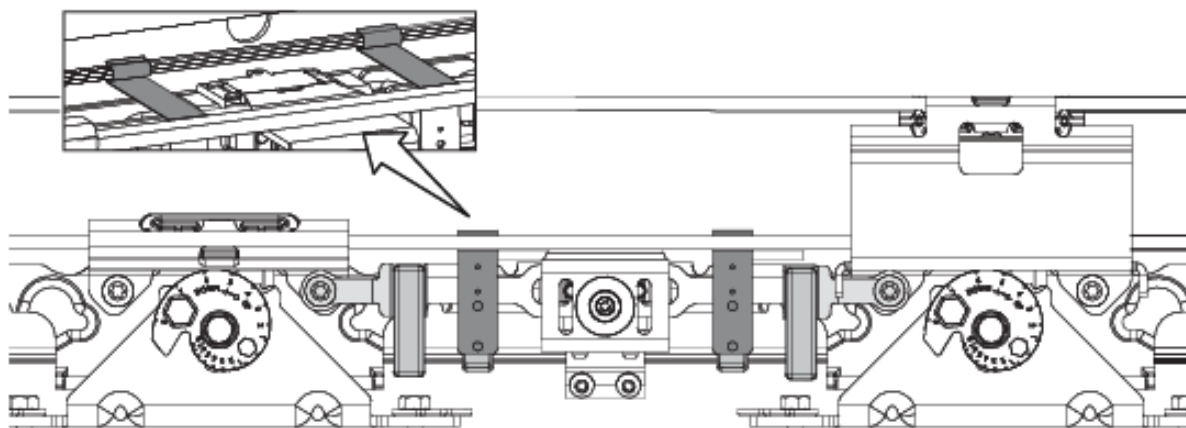
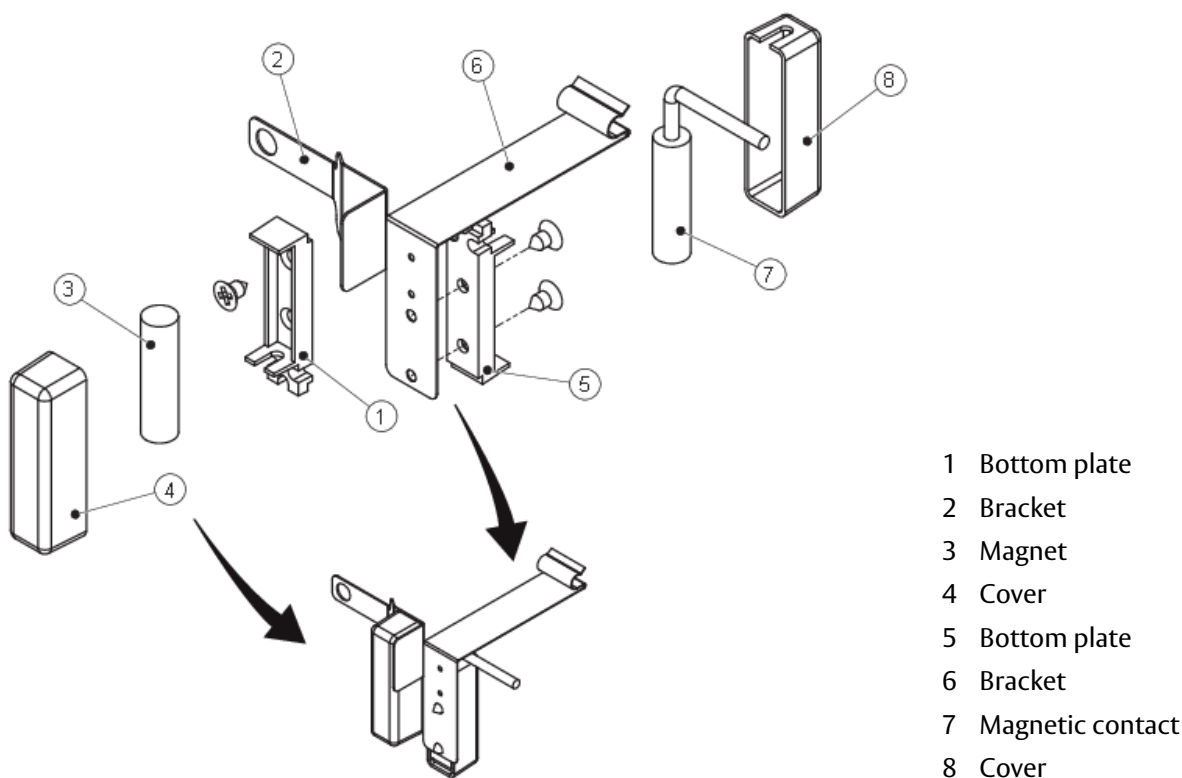
For indication of locked lock and closed door for connection to alarm system. Old version of LDI.

Magnet mounting

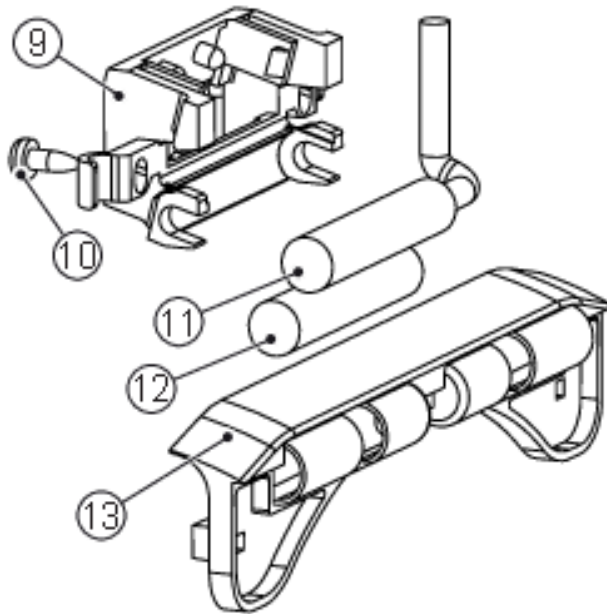
- a Screw the bottom plate (1) to the bracket (2).
- b Put the magnet (3) in the bottom plate (1).
- c Snap on cover (4).

Sensor mounting

- a Screw the bottom plate (5) to the bracket (6).
- b Put the magnetic contact (7) in the bottom plate (5).
- c Snap on cover (8).



New version of LDI. See separate installation drawing 1013640.



- 9 Holder
- 10 Screw
- 11 Magnetic switch
- 12 Magnet
- 13 Activator

17.12 Quick connectors

17.12.1 2x10 to 1x10 converter

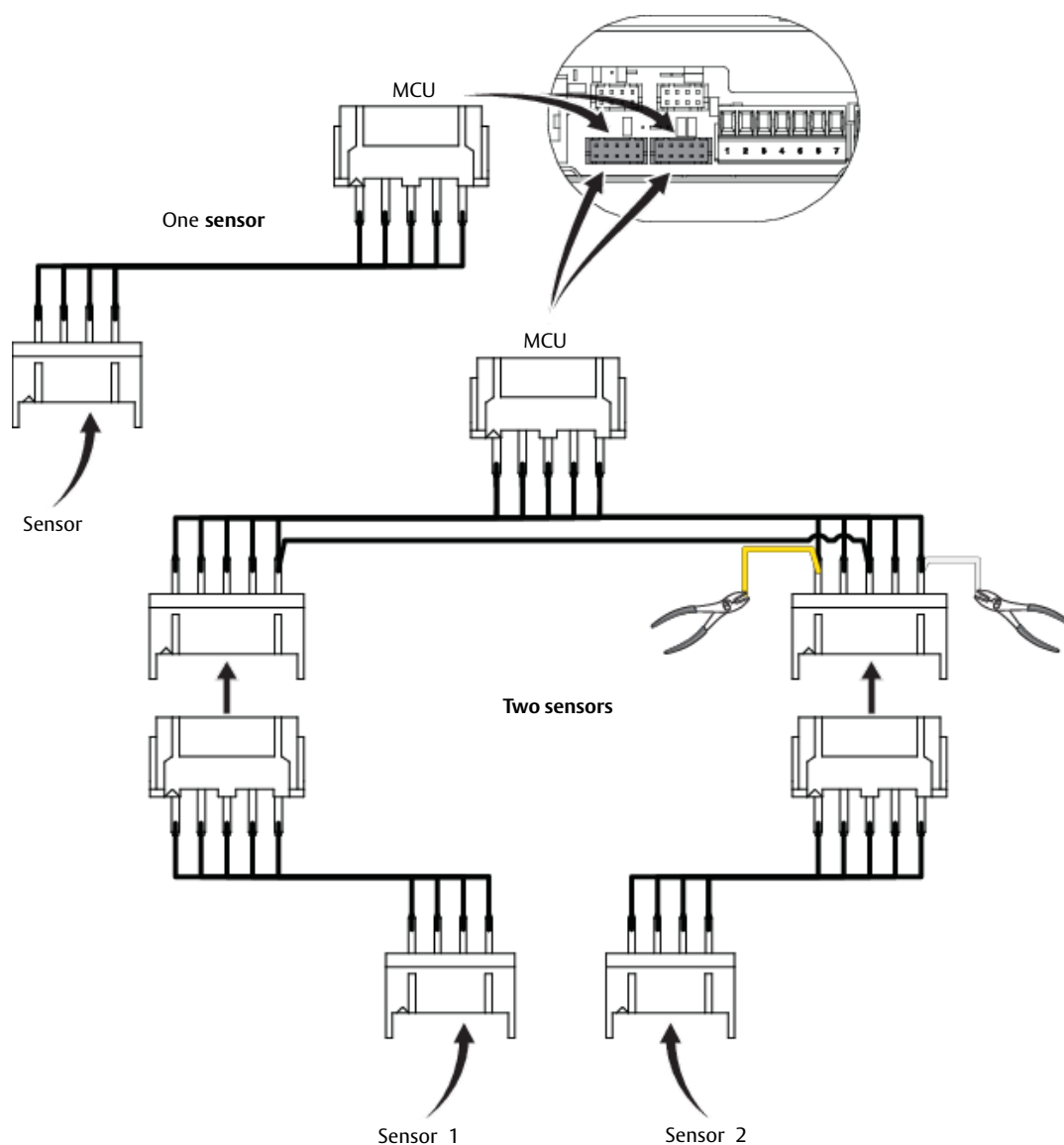
See separate installation drawing 1016750 for how to:

- Connect two monitored inner impulses
- Connect two inner impulses, inner impulse must not be monitored
- Connect two monitored outer impulses
- Connect two outer impulses, outer impulse must not be monitored

17.12.2 8 to 10 converter

Convert side presence sensor(s) to presence impulse(s).

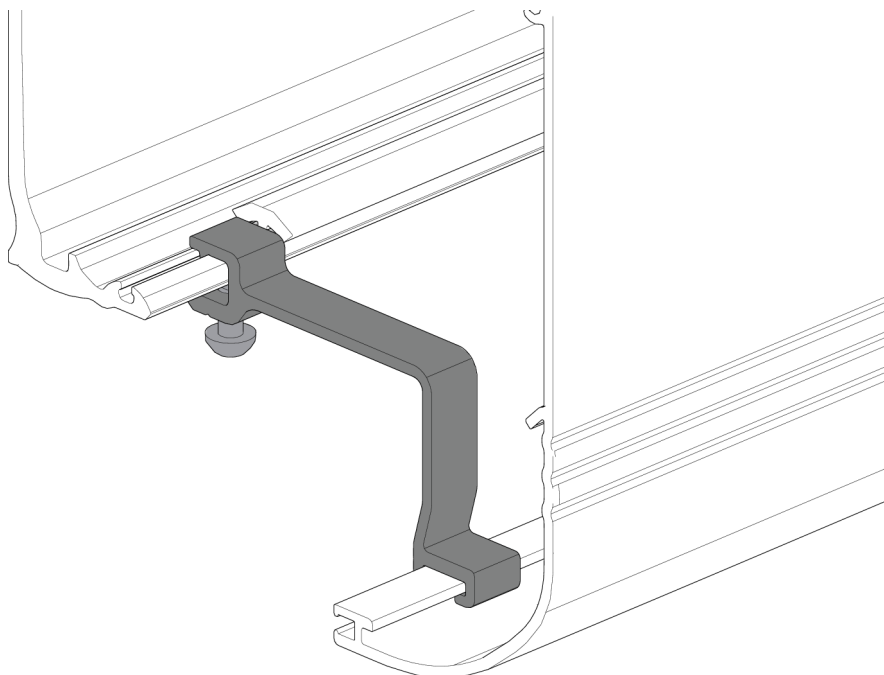
Combine 8 to 10 and 2x10 to 1x10 converters to allow 1-4 sensors to be converted from side presence to presence impulse.



Parameter No.	Value
07	00 (NO) or 01 (NC)
08	00 (NO) or 01 (NC)
09	01 one side, 02 two sides

17.13 Cover latch, alternative

The alternative cover latch is available as a spare part, 331011545 (one piece)

**17.14 Fire closing with repeated closing**

If the mains power is lost and the door is opened by hand after an electrical emergency closing, it will close again. This demands 12 V or 24 V battery and a LSK.

17.15 Break-out unit PSB

Can be used in escape route and enables door and side screens to be broken outwards in case of emergency.

See page [18](#) and [separate installation drawing 1003658](#).

17.16 Convenience battery UPS

Stand-by supply which gives continued operation during short power failure, the operator can run without mains power for 20 minutes.

Demand 24 V Battery.

17.17 External error indication

Obtained if a lamp or a buzzer is connected. IOU required.

17.18 Key switches (flush and/or surface mounted)

Used to give opening impulse to the door in any operation mode selector setting. The key switch can also open the door when power is switched off, if a battery is fitted.

17.19 Push button

Used to give opening impulse to the door.

See separate installation drawing 656005.

17.20 PASS

The PASS function enables the operator to count how many people that pass through the door, in and out. The value can be presented in the [ASSA ABLOY Sliding Door Manager](#) app.

The PASS function aids in controlling the amount of people that can enter the building. The max restriction limit is 1 000 persons.

PASS will work in all operation mode selections (except OFF which will reset the counter).

PASS Exit Only - a function that will prevent the door from opening for incoming people when the user defined restriction limit has been reached - will work in EXIT, AUTO and AUTO PARTIAL.

For the end user to be able to change the PASS parameters, they have to use the Sliding Door Manager app. Therefore it is needed that the operator is equipped with an OMS Bluetooth. In the app it is possible to set a restriction limit for PASS Exit Only. It is also possible to set value(s) for when to receive notifications when i.e. 50% or 75% of the restriction limit is reached. Notifications are only received when connected to the operator through Bluetooth.

17.20.1 How it works

The system uses 3 impulses to count people. Inner impulse, Outer impulse and Presence impulse 1.

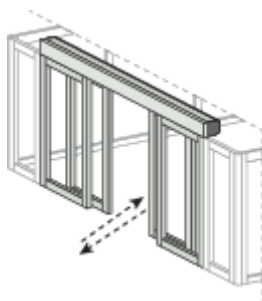
Every time the operator gets an Outer impulse followed by Presence impulse 1 the PASS counter adds one to the counter.

Every time the operator gets an Inner impulse followed by Presence impulse 1 the PASS counter deducts one to the counter.

Operation mode selection OFF will reset the counter.

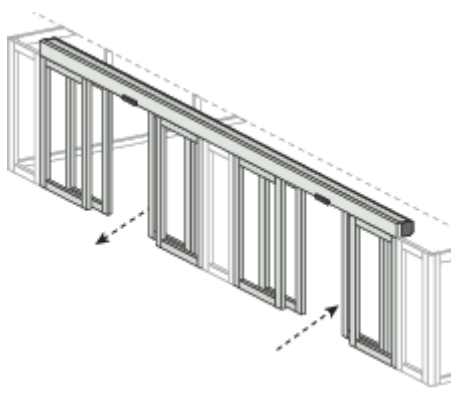
17.20.2 Installation

Two-way system



In a two-way system Entry and Exit is done through one door.

One way system



In a one way system there is one Entry door and one Exit door. The 2 operators shall be interconnected, see [Interconnection of operators](#) on page 115. The **Entry** door shall be the main **MCU-1** and parameter **6C = 01**. The **Exit** door shall be **MCU-2** and parameter **6C = 02**.

The OMS Bluetooth shall be connected to the main MCU-1. There can only be one OMS connected.

Parameter settings

Set the 3 parameters PASS Function (3D), PASS Exit Only (3E) and PASS Limit (3F) functions according to page 98.

Tip Use the following parameter setting if the door shall remain closed when the PASS Limit is reached:

Parameter name	MCU-1	MCU-2
PASS Function	3D = 01	3D = 01
PASS Exit Only	3E = 01	3E = 01
PASS Limit	3F = max number of people in the building	
External Bus Device ID	6C = 01	6C = 02

17.20.3 Sensors

The impulse sensors that shall be used have to be uni-directional (meaning that the outer/inner impulse is only activated when approaching the door).

Best option for sensors are SC31-M and SC31-E or equivalent. SC53-M and SC53-E also works but has limited capability to detect people who are walking close to each other.

Note! It is important to set Presence 1 sensitivity as high as possible, without triggering when no person is activating the sensor (ghosting). If the sensitivity is set too low then the presence sensor will miss fast moving targets and people counting accuracy drops.

Note! If a door is installed as **Entry only** and therefore does not have inner sensor, then the outer sensor's presence signal shall be connected to Presence 1.

17.20.4 Optimizing performance

To optimize performance (counting accuracy) only one person should go through the door at a time, while no one else is in the Inner, Outer or Presence detection zones.

The recommendation is to use barriers and signs to guide people to walk with 2 meter distance between each other and to keep clear of sensor detection areas when for example queuing.

In a combined Entry/Exit door it is even more important to use signs and barriers to keep people from meeting in the doorway for counting accuracy.

Floors that are shiny makes it more difficult for the presence sensor to detect people. Consider using a dark floor mat.

Always try to have Entry and Exit door setup as identical as possible

- Identical sensor models, configuration and installation height
- Identical floor reflection
- Identical flow of people (avoid clusters of people). Clustering often occurs when entering a building but is reduced in exits by the cashiers which creates a more even flow of people. Barriers and signs can mitigate people clustering.

Note! If two or more persons walk close to each other through the door they will be counted as one person. Our sensors cannot determine individual persons.

Note! If two persons meet (one heading in and the other heading out) in the doorway it is likely that they will be counted as either both in or both out.

17.21 Upgrades

High performance:

- Install 75 W power supply

- Install Heavy duty motor

Exceptional performance:

- Install 150 W power supply
- Install Heavy duty motor

17.22 Rules for Escape Route

How the operator shall act in an escape route is determined in the standards EN 16005, DIN 18650 or CO48.

Doorsets mounted in an escape route shall open to fully open in case of power failure. This is achieved with either Electrical Emergency Unit or Mechanical Emergency Unit, see below.

In case of an emergency escape the doors shall open to 80% of a clear opening width (COW) of 2 m in 3s (not applicable for CO48).

How to configure the operator in escape route, see chapter [17.26](#), [17.27](#) and [17.28](#).

17.23 Electrical Emergency Unit (EEU)

EEU consist of rechargeable batteries.

EEU can be used in escape route.

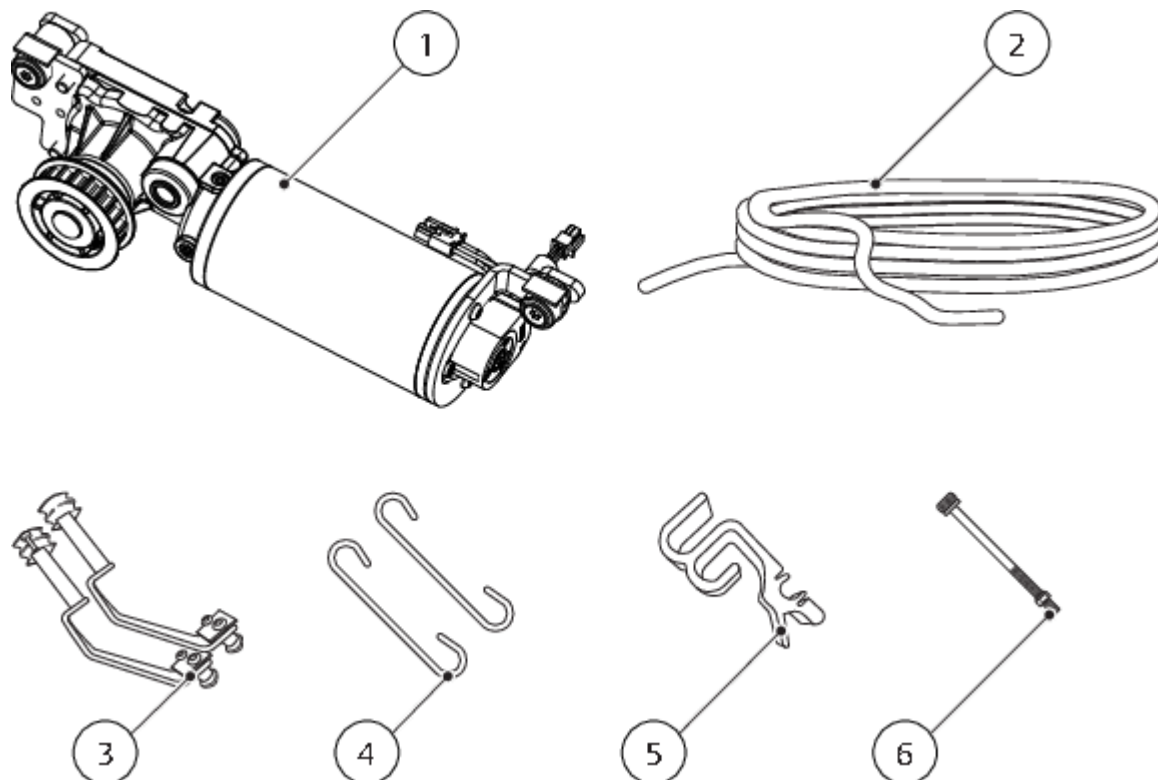
17.24 Mechanical Emergency Unit (MEU)

MEU consist of rubber band.

MEU can be used in escape route.

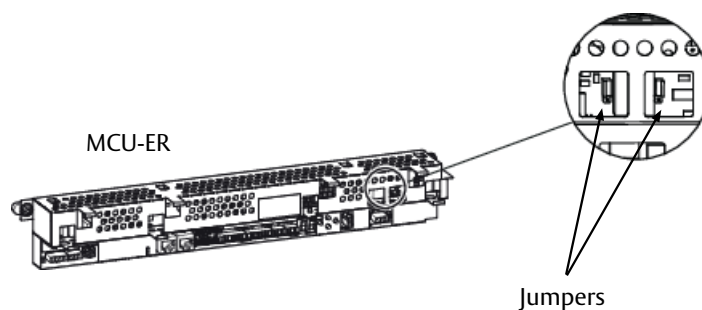
See separate installation drawing 1018512 for more information.

Mechanical emergency unit with elastic cord - Components



- 1 XHD Drive unit
- 2 Elastic cord
- 3 Wheel brackets
- 4 Hooks
- 5 Elastic cord support
- 6 Screw ISO 4762 (MC6S) M5x50

Note! Standard set-up for MEU is using MCU. If the MCU-ER is used together with MEU, remove the jumpers in the escape unit.



Notes regarding MEU



Caution! With door weight heavier than 2 x 100 kg, the door must run open and close cycles during 10 h, in order to brake-in the wheels and track. If no preconditioning is performed, there is a high risk that the emergency unit test will fail.

The MEU can be equipped with a 12 V or 24 V battery. The battery will only help to open and brake the doors when the mains power is lost. The battery is not a part of the escape system and will not be monitored when monitoring of the emergency unit is performed, only the elastic cord will be monitored.

Note! To test that the battery is functional, set the mode selection to AUTO and then break the power to the operator. Observe the door, the elastic cord will open the door and the battery will brake the door before reaching fully opened position (the doors will not slam into the door stops).

If the operator does not decrease the speed of the door, the battery needs to be replaced by an ASSA ABLOY Entrance Systems-authorized representative.

17.25 Emergency monitoring with EEU and MEU

According to standard it is a demand that the EEU or MEU shall be monitored on a regular time basis. The monitoring is performed by opening the door with help of the emergency unit. Half an hour before this time has elapsed the following opening impulse generates an emergency opening test. If there is no opening impulse within this half hour, the operator control unit generates a monitoring test itself.

If the emergency unit opens the door within the limited time the test is successful and the door resumes the function set by the operation mode selector.

Note! The test is never performed in operation mode selector setting OPEN. In setting OFF it can be selected. The test is always performed after a RESET and after changing operation mode selection, from a position where a test is not done to a position where the test is a demand.

17.26 Escape route according to the European standard EN 16005

EN 16005 (WITHOUT break-out)

Hardware requirements
MCU-ER board
24 V battery
Monitored presence sensors
Monitored inner impulse
Only 1 OMS allowed

Configure parameters:
9 = 2 Monitored presence impulse.
10 = 2 Monitored emergency unit.
11 = Partial open position must be set to at least 80 % of the certified distance in escape routes.
16 = 1 Monitored inner impulse.
29 = 2 Monitored side presence impulse (if applicable).
30 = Side presence activation distance. Must be set to at least 80% of the certified distance in escape route.
41 = 2 24 V battery.
44 = 0 The electromechanical lock is not locked in EXIT.
45 = 0 Stop Function disabled.
97 = 0 Operation Mode Selector Function (IOU) disabled.
b1 = 2 Passcode or b1 = 3 Key.

EN 16005 (WITH break-out)

Hardware requirements
MCU board
Monitored presence sensors
Only 1 OMS allowed
Break-out door system

Configure parameters:
9 = 2 Monitored presence impulse.
29 = 2 Monitored side presence impulse (if applicable).
45 = 1 Stop Function enabled.
b1 = 2 Passcode or b1 = 3 Key.

17.27 Escape route according to DIN 18650

DIN 18650 (WITHOUT break-out)

Hardware requirements
MCU-ER board
Double motor
24 V battery
Monitored presence sensors
Monitored inner impulse
Only 1 OMS allowed

Configure parameters:
9 = 2 Monitored presence impulse.
10 = 2 Monitored emergency unit.
11 = Partial open position must be set to at least 80 % of the certified distance in escape routes.
16 = 1 Monitored inner impulse.
29 = 2 Monitored side presence impulse (if applicable).
30 = Side presence activation distance. Must be set to at least 80 % of the certified distance in escape route.
41 = 2 24 V battery.
44 = 0 The electromechanical lock is not locked in EXIT.
45 = 0 Stop Function disabled.
97 = 0 Operation Mode Selector Function (IOU) disabled.
A0 = 2 Escape route motor configuration, 2-motors
b1 = 2 Passcode or b1 = 3 Key.

DIN 18650 (WITH break-out)

Hardware requirements
MCU board
Monitored presence sensors
Only 1 OMS allowed
Break-out door system

Configure parameters:
9 = 2 Monitored presence impulse.
29 = 2 Monitored side presence impulse (if applicable).
45 = 1 Stop Function enabled.
b1 = 2 Passcode or b1 = 3 Key.

17.28 Escape route according to Article CO48

CO48

(WITHOUT break-out)

Hardware requirements
Mechanical emergency unit with elastic cord
MCU board
Monitored presence sensors
Only 1 OMS allowed

Configure parameters:
9 = 2 Monitored presence impulse.
10 = 2 Monitored emergency unit.
12 = 01 Opening Direction CCW
29 = 2 Monitored side presence impulse (if applicable).
44 = 0 The electromechanical lock is not locked in EXIT.
45 = 0 Stop Function disabled.
53 = 4 Operator Type, MEU (Mechanical Emergency Unit)
70 = 2 Motor type, XHD
97 = 0 Operation Mode Selector Function (IOU) disabled.
b1 = 2 Passcode or b1 = 3 Key.

17.29 Personal safety according to EN 16005, DIN 18650 and Article CO48 in non escape route

Configure parameters:
9 = 2 Monitored presence impulse.
29 = 2 Monitored side presence impulse (if applicable).

17.30 Extra functionality that requires an IOU

17.30.1 Open / Close function

One button impulse, will alternate between Open and Close. The door will stand open until next impulse or can after an adjustable time delay automatically start to close even if a new impulse is not received.

17.30.2 Fire alarm connection

Used to emergency open or fire close the door with mains power on.

17.30.3 Nurse function

Used mostly in combination as a Nurse - Bed function. Nurse opens the door to partial open position, and bed (connected to inner or outer impulse) opens to full open position.

Nurse works in operation mode selections Exit, Auto.

The Nurse impulse has the same hold open time as partial open.

17.30.4 Remote Exit mode

Remotely put door into Exit via an remote system, like timer.

17.30.5 Emergency open impulse

Used to give opening impulse to the door in any operation mode selector setting as long as the operator has power.

17.30.6 Fireman's opening

Used to give opening impulse to the door in any operation mode selector setting, with or without power.

Demand 12 V or 24 V battery.

17.30.7 Status relay

The status relay switches if impulses, events, errors or mode selections change state. This is dependent on the configuration.

The output of the status relay is connected to IOU-TB:20-22.

The status relay is configured in the SL Service Tool.

The following is an example of how to use the status relay:

- Configuration
 - The status relay is configured to "Stop".
 - A light is connected to the status relay and the light source is installed in the front desk of an office building.
- Operation
 - When the door leaves are broken out, the operator starts the "Stop" event.
 - The status relay changes the light source from OFF to ON.
 - The light source shows the personnel that the door leaves are broken out. Someone needs to put the door leaves back to the initial position.
 - When the door leaves are put back in their initial position the light source changes to OFF.

Selectable events		
ID	Event name	Description
0	Key Impulse	Key impulse.
1	Inner impulse	Inner impulse.

Selectable events		
ID	Event name	Description
2	Outer impulse	Outer impulse.
3	Sync in	Active when the synchronized door is opening or is open.
4	Interlock in	Active when the other door is open, opening or closing.
5	Pres impulse 1	Presence impulse.
6	Pres impulse 2	
7	Side presence 1	Side presence impulse.
8	Side presence 2	
9	Stop	Stop impulse.
10	Emerg open	Emergency open impulse.
11	Sync out	Active when the door is opening or is open.
12	Interlock out	Active when the door is not closed.
13	Close impulse	Close impulse.
14	Nurse impulse	Nurse impulse.
15	Intrusion att.	Intrusion attempt - Active when activity is detected on the outside of the door, when the door is in mode selection OFF.
16	Lock output	Active when the lock connected to the MCU is locked.
17	Learn conf pos	Learn configuration position - active when the door is in fully open position after a learn cycle. The MMI and SL Service Tool shows parameters that needs to be set manually.
18	Output enable	Active when the motor is connected and activated (can open the door and hold the door in open position). When Output enable is deactive, there is no power to the drive unit.
19	Safe position	Active when the door is in fully open position or in closed position AND there is an error code.
20	Safe speed	Active when the door is opening or closing with a speed of 0.1 m/s.
21	C-switch	Active when the door leaf has passed the C-switch Activation Distance.
22	Presence mon	Presence monitoring - Active during test of presence sensors.
23	Error active	Active when an error is active.
24	Push And Go	Push And Go impulse is active until the door is fully opened.
25	Open/close imp	Open/close impulse.
26	Inner imp mon	Inner impulse monitoring - Active during test of inner impulse sensor.
27	Side pres mon	Side presence monitoring - Active during test of side presence sensors.
28	Fire impulse	Fire impulse.
29	Service needed	Active when service is needed.

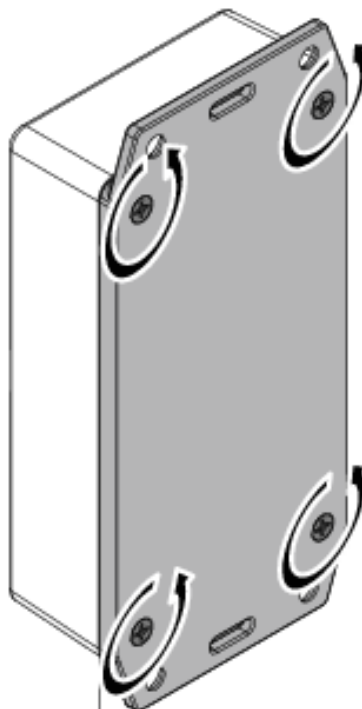
Selectable events		
ID	Event name	Description
30	Stop mon	Stop monitoring - Active during test of stop sensors.
31	Self service	Active when stop impulse is active.
32	Closed	Active when the door is in closed position.
33	Part open	Active when the door is in partial open position.
34	Open	Active when the door is in open position.
35	Stopped	Active when the stop impulse is active Active when the door is in operation mode Open. Active when the door stands still during a Jam while opening. Active when the operator is in configuration mode through the MMI. Output enable is deactive when Stopped is active.
36	Closing	Active when the door is closing.
37	Opening	Active when the door is opening.
38	Start up	Not used.
39	Mode Off	Operating mode selection.
40	Mode Exit	
41	Mode Auto	
42	Mode Partial	
43	Mode Open	
44	Close kick	Active at the end of the closing cycle, when the door goes from closing to closed.
45	Lock release	Active when the door applies force in the closing direction when the lock is unlocking.
46	Sustain dis	Active when sustainable drive mode is disabled.
47	Interlock dis	Active when interlock is disabled.
48	Espagn up	Espagnolette up - Active when espagnolette lock is up (unlocked).
49	Espagn down	Espagnolette down - Active when espagnolette lock is down (locked).
50	Sensor monitor IOU	Active during test of second inner impulse sensor.
51	Interlock in IOU	Active when the other door is open, opening or closing.
52	Inner imp IOU	Inner impulse IOU.
53	Lock output IOU	Active when the lock connected to the IOU is locking or unlocking (only valid for bistable and espagnolette lock).
54	Mode selector enable	Active when the external switch for mode selector is activated.
55	Pharmacy imp 1	Pharmacy impulse 1.
56	Pharmacy imp 2	Pharmacy impulse 2.
57	Redundant output enable	Active during test of emergency unit. Active during opening of the door with the redundant motor controller. Active during fire close.



Selectable events		
ID	Event name	Description
58	Battery wakeup	Not used.
59	Jam during opening	Active when the door is mechanically stopped during opening.
60	Jam during closing	Active when the door is mechanically stopped during closing.
61	Power fail	Active when the power supply voltage is decreased to a value that is less than the limit. Deactive during tests that cause the supply voltage to decrease to a value that is less than the limit.
62	Pharmacy open pos 1	Pharmacy open position 1 - Active when the door is in pharmacy open position 1 (activated by Pharmacy impulse 1).
63	Pharmacy open pos 2	Pharmacy open position 2 - Active when the door is in pharmacy open position 2 (activated by Pharmacy impulse 2).
64	Outer imp mon	Outer impulse monitoring - Active during test of outer impulse sensor.
65	PASS limit	Active when the PASS limit is reached.
66	Push And Close	Active when the door leaves are pushed open and until the door is fully closed.
68	Remote configured	Active when the door has an active remote configuration from IoT (time-outs after one hour if no action is taken).
97	New start	Not used.

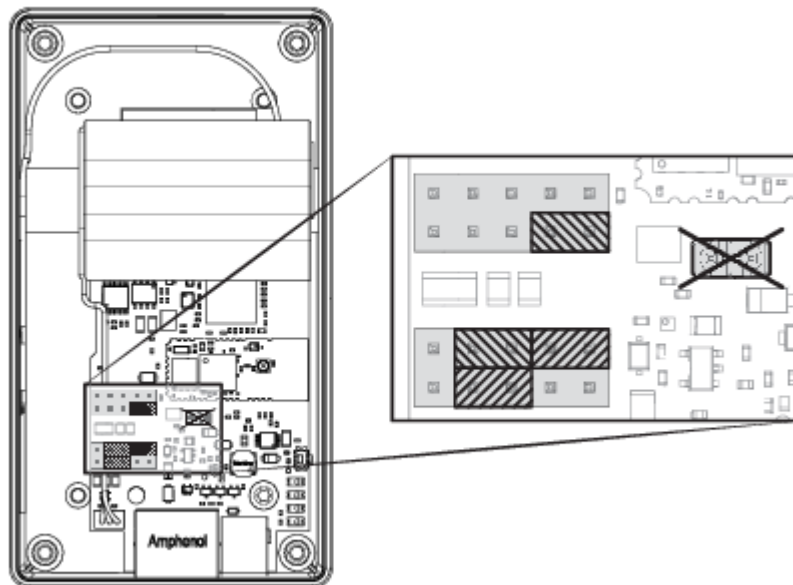
17.31 IoT Gateway 2.0

17.31.1 Jumper setting

- a Open the IoT Gateway 2.0 unit by removing the four screws and removing the bottom plate.

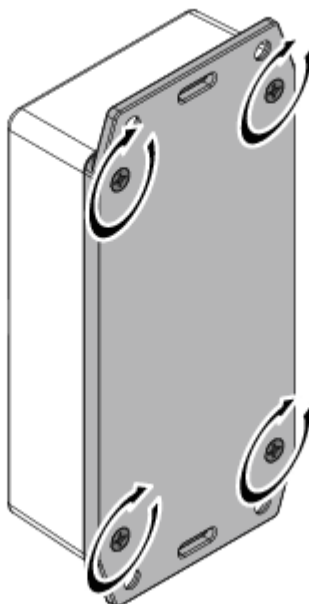


- b  Put the jumpers in these positions (the jumpers are packed in a plastic bag in the IoT Gateway 2.0 package).
- c  Make sure there is no jumper in this position.



Verify that the jumpers are placed correctly.
The circuit board risk being damaged if the jumpers are placed incorrectly when powered on.

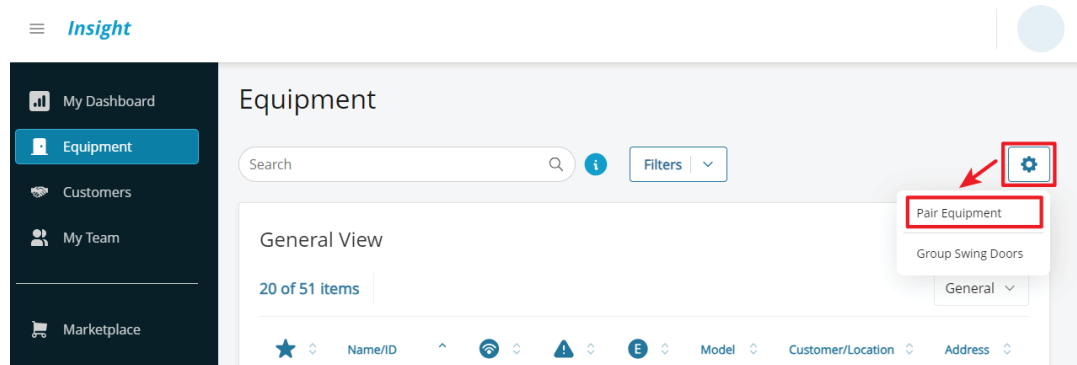
- d Attach the bottom plate and fix it with the 4 screws.



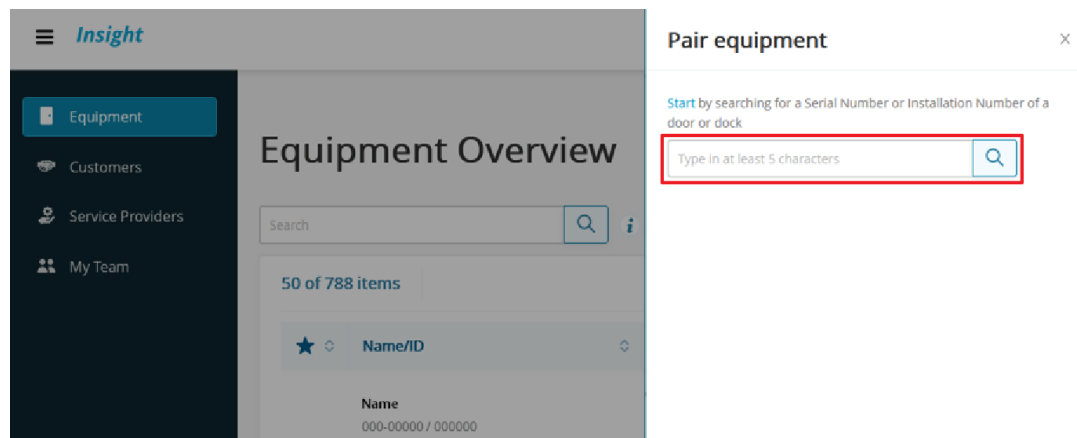
- e Make sure to remove the jumper on the MCU/MCU-ER if there is another accessory connected (for instance the OMS), see [Hardware configuration for interconnection](#) on page 116.

17.31.2 Pairing and configuring IoT Gateway 2.0 with Insight

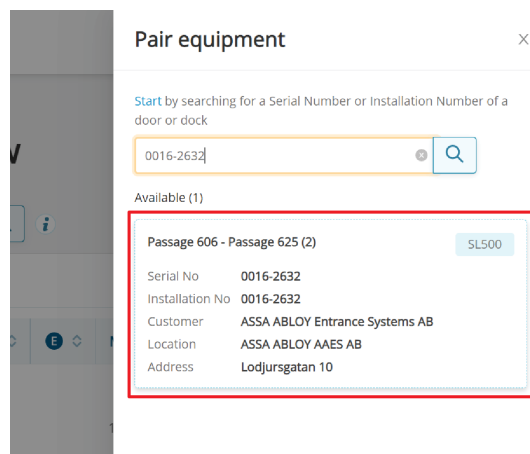
- a Go to <https://insight.assaabloyentrance.com/login> and login.
- b Click on "Pair Equipment".



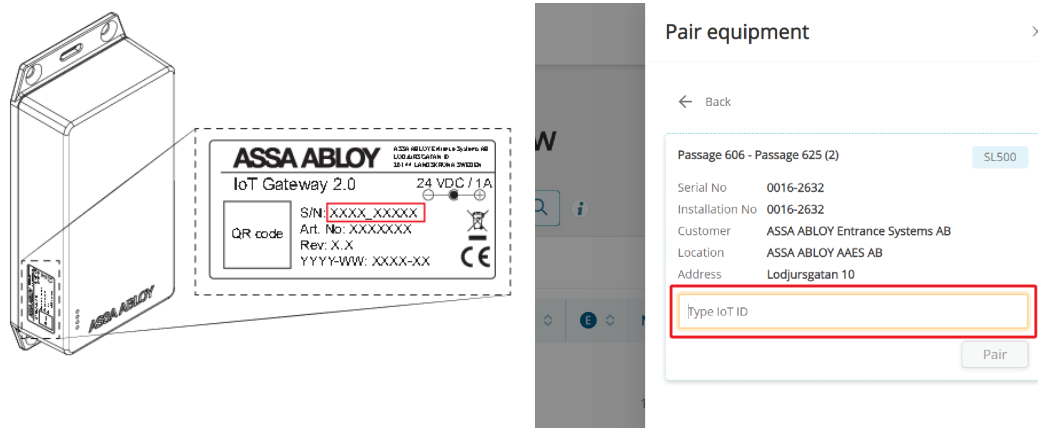
- c Enter the installation ID of the door in the search field to search for the door.



- d Select the door.



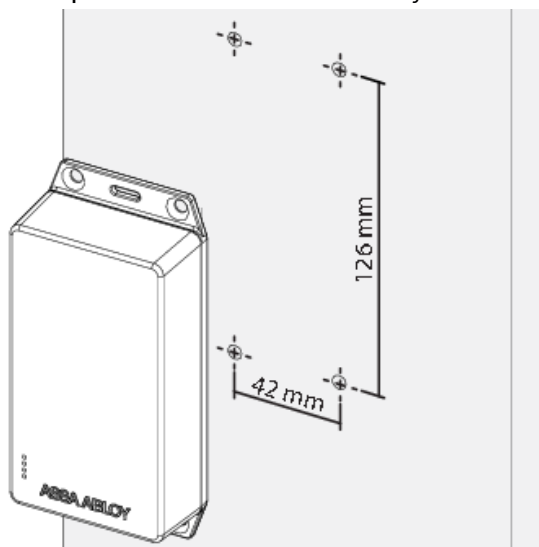
- e Enter the serial number of your IoT Gateway 2.0 unit, found on the label on the IoT Gateway 2.0 unit (e.g. ES01_00000).



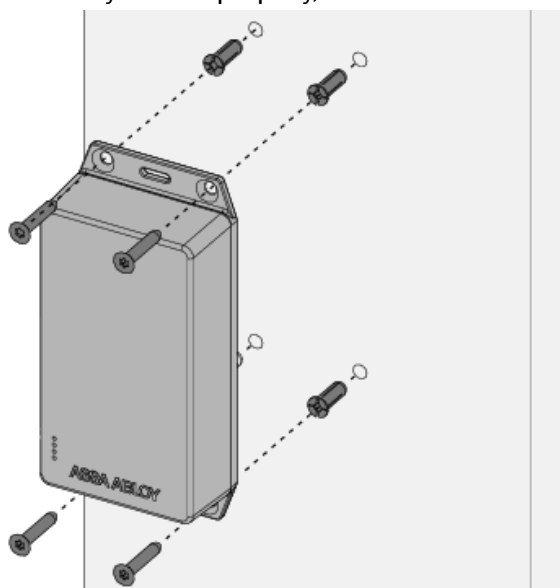
- f Configure the door (if needed).
- g The door is now connected, and can be found in the Equipment page.

17.31.3 Fixing

- a Choose an appropriate place with good signal quality to fix the IoT Gateway 2.0 unit on.
- b Prepare the hole pattern where the IoT Gateway 2.0 unit shall be fixed.



- c Fix the IoT Gateway 2.0 unit properly, based on what surface you fix it onto.



- d IoT Gateway 2.0 unit fully fixed.



17.31.4 Connection

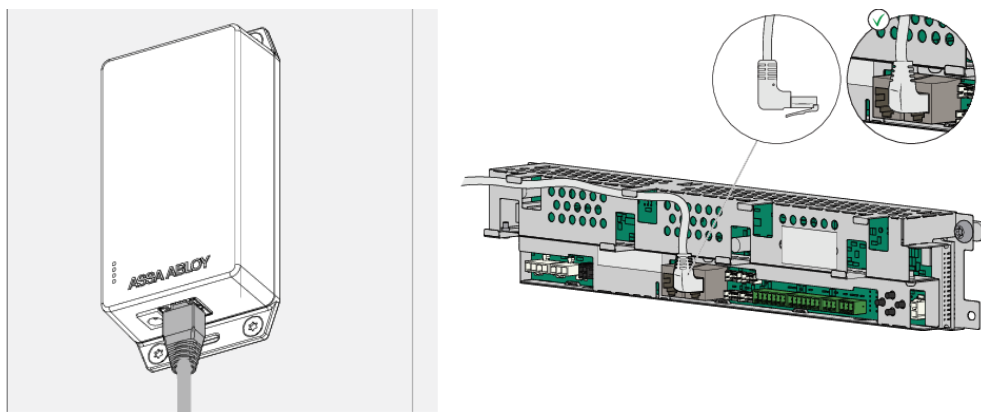


If an OMS is connected, the power to the operator must be disconnected before connecting the IoT Gateway 2.0.



It is not possible to use an IoT Gateway 2.0 with interconnected or synchronized operators. The IoT Gateway 2.0 cannot communicate with two MCUs.

Connect cable 1704629 between IoT Gateway 2.0 unit and SL500 control unit.



Make sure to securely fix the cable to the wall!

17.31.5 ASSA ABLOY IoT Gateway 2.0 LED Indication table

LED	LED description	
Steady green LED	Power to the IoT Gateway 2.0.	
Flashing yellow LED, 0.5 s ON then 0.5 s OFF	Firmware upgrade in progress. Do not remove power to the IoT Gateway 2.0.	
Flashing yellow LED, 1 flash every 5 s	Searching for cellular network.	
Flashing yellow LED, 2 flash every 5 s	Connected to cellular network.	
Flashing yellow LED, 3 flash every 5 s	Not paired to door in Insight. See pairing process on page 153.	
Steady yellow LED	Everything is OK. Connected to the cloud.	
Flashing red LED, 5 flashes every 1 s	Critical system error	Reboot IoT Gateway 2.0 by removing power from the unit, open casing and disconnecting the battery. Reconnect battery and power on. If error persists, replace IoT Gateway 2.0.
Flashing red LED, 1 flash every 1 s	Battery low, modem turned OFF, no connection to the cloud.	Repeated red flashes over long time - replace IoT Gateway 2.0.
Flashing red LED, 2 flash every 5 s	Battery low, delayed transmission from control system.	
Flashing red LED, 3 flash every 5 s	Battery low, no transmission from control system.	

17.32 ecoLOGIC

The ecoLOGIC feature continuously optimizes certain parameters to reduce energy loss through the door. The optimized parameters are:

- Opening speed
- Closing speed
- Hold open time.

The optimization is based on input values such as outer temperature and traffic.

The operating mode must be set to AUTO PARTIAL. If the operator loses contact with the cloud, the door will revert to its original settings and behave as if it is in operation mode AUTO.

Note! The setting of the ecoLOGIC parameters 4D and 4E will ensure that the function can never cause any inconvenient behavior on the door. This is done by defining upper limits that are not specified by default. If these values are not set, the ecoLOGIC feature cannot be activated.

17.32.1 Requirements on the installation

- An IoT Gateway 2.0 must be installed.
- SL500 must have SW 8.0 or later.
- Operation mode selector must be equipped with AUTO PARTIAL mode. The user can disable ecoLOGIC by selecting another operating mode.
 - When the door is configured for ecoLOGIC, there will not be a standard AUTO PARTIAL operating mode (there will be no reduced opening position). This is instead EcoLOGIC.


17.32.2 Configuration, SL500



The belt might climb and jump over teeth.

Risk of irregular door behaviour if the speed is set too high.

- Do not set the Remote high speed closing, upper limit to a too high value.
- Do not set the Remote high speed opening, upper limit to a too high value.

No.	Parameter Name	Configuration	Notes
11	Partial Open Position	Set to 99%	-
4D	Remote high speed closing, upper limit	Set according to the circumstances	ecoLOGIC may adjust the closing speed between the minimum range value of High Speed Closing (parameter 02) and the value of 4D.  A door that closes too fast may appear intimidating.
4E	Remote high speed opening, upper limit	Set according to the circumstances	ecoLOGIC may adjust the opening speed between the value of High speed opening (parameter 00) and the value of 4E.

17.32.3 Configuration, sensor

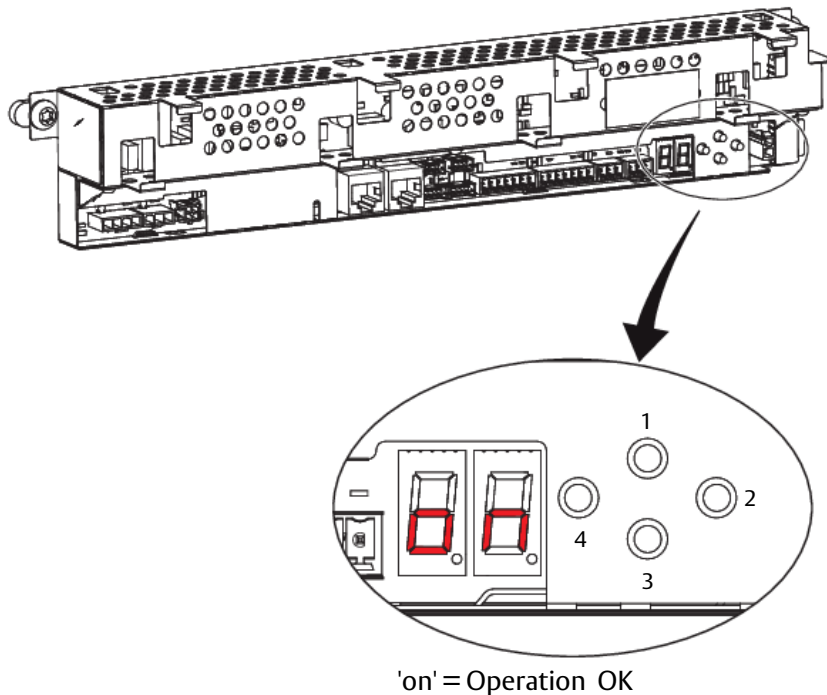
Setting	Configuration
Hold open time	Set to the minimum value

18 Troubleshooting

Before starting the troubleshooting, check that the operation mode is correctly selected. Start the troubleshooting by checking the mechanical and electrical parts of the operator in the order listed below.

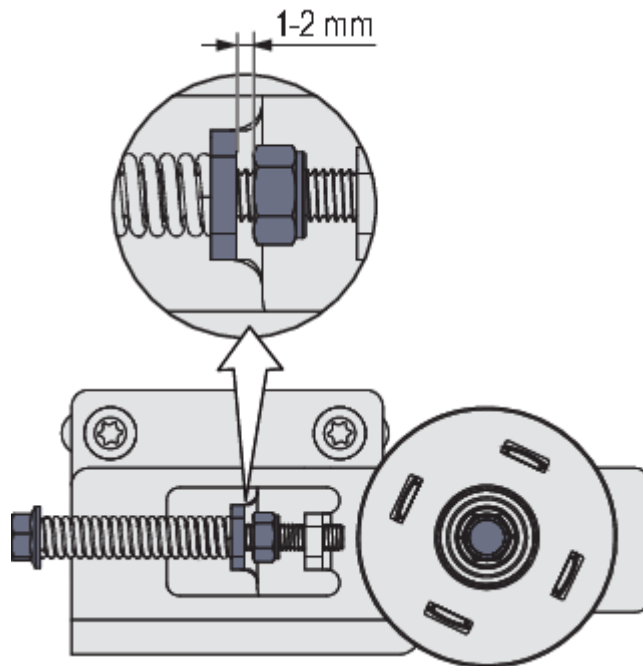
The electromechanical parts are fixed in the support beam. To replace these components, the complete unit has to be loosened and replaced.

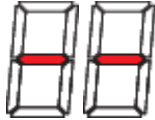
- a The main control unit is equipped with a two digit display for error indication.
- During normal operation the display shows 'on'.
 - If all segments are off in the display check the mains power, power supply cable or perform a RESET. If the problem remains replace the main control unit or the power supply.
 - When an error is active the display is alternating between an error type e.g. E4 (Motor / Encoder Error) and a second two digit number specifying the error more in detail e.g. 03 (encoder error). If several errors are active they will be displayed in sequence. On the electronic unit there is also a green light emitting diode (LED). If the LED is off or flashing it is indicating that the unit is failing.



- 1 Up (to step up in parameter or value menu)
 - 2 Select (enters into parameter or value menu and program a value into memory)
 - 3 Down (to step down in parameter or value menu)
 - 4 Learn/Exit (Learn has 3 functions, 1 quick learn, 2 Normal learn, 3 default setting, Exit jumps out from value menu without saving or parameter menu)
- b Disconnect the mains power and batteries, if fitted. Unlock all mechanical locks. Pull the door leaf manually and check that the door can be easily moved over the complete sliding track/floor guide. If the door leaf stops or is hard to move, the reason may be sand, stones, rubbish etc. in the floor guide.
- The door leaf may also be jamming on the floor or on the weather proofing brush strips. Clean the floor guide, adjust the door leaf height/depth or take other necessary measures e.g. replacement of worn parts until the door leaf is running smoothly when manually operated.

- c If the belt is making noise against the beam or cover check that there is the right belt tension. On the Tension wheel assembly, measure the distance between the adjustment screw and the nut. The distance shall be 47 mm. Remove the slack reducers and release the fixing nut in the center of the tension wheel and check that the distance is 1-2mm between the nut and the adjacent plate.



Main error: Power Supply		
Detailed error	Reason	Remedy
--  Not enough power	There is not enough power to the MCU.	Check that the power does not drop from the PSU, check cables. Replace the PSU.

Main error: E1 Sensor Error		
Detailed error	Reason	Remedy
19 Inner Impulse Error	The control unit does not get a test answer from the activation unit.	Make sure that the monitoring output is connected and the connections are OK. Replace the monitored inner activation unit.
20 Fire Impulse Error	The control unit does not get a test answer from the fire alarm.	Make sure that the fire alarm connections are OK.
28 IOU Inner impulse 2 error	The control unit does not get a test answer from the activation unit.	Make sure that the monitoring output is connected and the connections are OK. Replace the monitored inner activation unit.
29 Outer Impulse Error	The control unit does not get a test answer from the activation unit.	Make sure that the monitoring output is connected and the connections are OK. Replace the monitored outer activation unit.
30 Stop Impulse Error	The control unit does not get a test answer from the stop impulse.	Make sure that the monitoring output is connected and the connections are OK.
31 Side Presence Impulse Error	The control unit does not get a test answer from the activation unit.	Make sure that the monitoring output is connected and the connections are OK. Replace the side presence activation unit.
32 Presence Impulse Error	The control unit does not get a test answer from the activation unit.	Make sure that the monitoring output is connected and the connections are OK. Replace the presence activation unit.

Main error: E2 Emergency Unit Error		
Detailed error	Reason	Remedy
21 Emergency Unit Error	The battery voltage drops due to low capacity during EEU test.	Charge or replace the battery.
	The battery voltage measurement is wrong.	Replace the escape route unit (if present), otherwise replace the main control unit.
25 Battery Error	The battery is disconnected, short circuited or the internal thermal fuse in the battery is defective. The charging current is out of specification.	Make sure that the cables are OK and connected.
		Charge or replace the battery.
		Replace the main control unit.
26 Emergency Action Timeout	The door is prevented its emergency unit test within a stated time, due to high friction or jammed door.	Make sure that the door can open to the fully open position.

Main error: E3 Electronic Unit Error		
Detailed error	Reason	Remedy
00 RAM Error	Internal RAM memory error.	RESET, and if the problem remains, replace the electronic unit having a flashing or extinguished LED.
01 ROM Error	Internal ROM memory error.	RESET, and if the problem remains, replace the electronic unit having a flashing or extinguished LED.
02 EEPROM Error	Serious internal EEPROM memory error.	RESET Download a Default parameter set and perform a RESET. If the problem remains, replace the main control unit.

Main error: E3 Electronic Unit Error		
Detailed error	Reason	Remedy
05 Ambient Temperature Error	Ambient temperature measurement is wrong.	RESET, and if the problem remains, replace the main control unit.
06 Brake Chopper Error	Not possible to activate brake chopper.	RESET, and if the problem remains, replace the main control unit.
08 A/D Converter Error	The internal A/D converter is broken.	RESET, and if the problem remains, replace the electronic unit having a flashing or extinguished LED.
10 Register Error	Internal register error.	RESET, and if the problem remains, replace the electronic unit having a flashing or extinguished LED.
11 OS Error	Internal program error.	RESET, and if the problem remains, replace the electronic unit having a flashing or extinguished LED.
14 Lock Current Error	The lock is defective.	Check that the right lock is installed, and if the problem remains, replace the lock.
		RESET, and if the problem remains, replace the main control unit.
17 Hardware Watchdog Error	It is not possible to disable the motor bridge.	RESET, and if the problem remains, replace the main control unit.
18 EEPROM Critical Write Error	Internal write EEPROM memory error. This error mainly occurs when it is impossible to change a configuration parameter.	RESET, and if the problem remains, replace the main control unit.
22 Over Current Error	The output is overloaded. Possible overloaded outputs are: <ul style="list-style-type: none"> MCU/MCU-ER TB:6, TB:10 and/or TB:13 IOU TB:3 and/or TB:4 	RESET, and if the problem remains, check the connected sensors and other 24 V accessories.
		RESET, and if the problem remains, replace the electronic unit having a flashing or extinguished LED.
23 Lock Circuit Error	It is not possible to disconnect the lock with the lock relay.	RESET, and if the problem remains, replace the main control unit.
24 Learn Error	The Learn cycle has timed out.	Make sure that the door can make a full open/close cycle. Check for high friction or jammed door and then make a new Learn.
27 LDB/LDE Lock Error	The LDB lock connected to the IOU is defective. The LDE lock connected to the IOU is defective.	Verify that the lock is installed and configured correctly (parameter 98). If LDE lock, verify that the limit switches are working. If the problem remains, replace the lock.
33 Flash Code Error	Serious internal programming error.	RESET, and if the problem remains, replace the main control unit.
34 Output Enable Error	Test of safety related circuits failing.	RESET, and if the problem remains, replace the main control unit.
35 Link Voltage Error	The internal link voltage measurement is wrong.	RESET, and if the problem remains, replace the main control unit.
46 OMS Standard Internal Error	Internal error in the OMS Standard.	RESET, and if the problem remains, replace the OMS Standard. Added in SW 5.0.

Main error: E4 Motor / Encoder Error		
Detailed error	Reason	Remedy
03 Encoder Error	The encoder, encoder cable, or motor cable is damaged.	Make sure that the encoder cable and the motor cable are connected.
	Wrong motor type is selected.	Check Motor Type configuration.
04 Motor Current Error	The motor cable or the encoder cable is damaged.	Make sure that the encoder cable and the motor cable are connected.
	Wrong motor type is selected.	Check Motor Type configuration.
09 Encoder Cable Error	The encoder cable is damaged.	Make sure that the encoder cable is connected, otherwise replace the encoder cable.

Main error: E5 Lock Error		
Detailed error	Reason	Remedy
07 Lock Failure	The lock or something else was preventing the door from opening the first 14 mm from closed position.	Make sure that the lock is operating without friction. Make sure that Hold Force and Lock Release parameters are set correctly.

Main error: E6 Communication Error		
Detailed error	Reason	Remedy
12 Motor Control Communication Error	Motor control processor disconnected from the internal bus.	RESET, and if the problem remains, replace the main control unit.
13 Door Control Communication Error	Door control processor disconnected from the internal bus.	RESET, and if the problem remains, replace the main control unit.
36 Escape Route Communication Error	Escape route unit processor disconnected from the internal bus.	RESET, and if the problem remains, replace the escape route control unit.
37 I/O Communication Error	I/O control unit disconnected from the internal bus.	RESET, and if the problem remains, replace the I/O control unit.
38 I/O Brand Mismatch Error	The I/O control unit is not of the brand ASSA ABLOY.	Replace the I/O control unit with a I/O control unit of the brand ASSA ABLOY. Added in SW 3.2.
39 OMS Brand Mismatch Error	The Operation mode selector (OMS) is not of the brand ASSA ABLOY.	Replace the Operation mode selector (OMS) with a OMS of the brand ASSA ABLOY. Added in SW 3.2.
47 OMS Communication Error	Corrupted communication with the OMS when selecting operation mode.	RESET, and if the problems remains change the OMS. If the problem still remains after changing the OMS change the MCB or MCB-ER. Added in SW 5.0.
51 Web Communication Error	Web control unit disconnected from the internal bus.	RESET, and if the problem remains, replace the Web control unit.
52 Hi-O Communication Error	Web Hi-O unit disconnected from the internal bus.	RESET, and if the problem remains, replace the Hi-O control unit.
53 Operation Mode Selector Communication Error	Operation mode selector (OMS) disconnected from the external bus.	RESET, check connections, and if the problem remains, replace the operation mode selector (OMS).
54 External Communication Error	The external bus is malfunctioning.	RESET, and if the problem remains, replace the main control unit.
55 CTI Brand Mismatch Error	The Configuration Tool Interface (CTI) or the MCU is not of the brand ASSA ABLOY.	Check that the operator is a ASSA ABLOY operator. Added in SW 3.2.

Main error: E7 Motor Temperature High		
Detailed error	Reason	Remedy
16 Motor Temperature High	The duty cycle of the door is too high for the current Speed settings and Hold Open Time.	If the motor is warm, put the door in operation mode OPEN and wait for at least 1 minute. Reduce Speeds and increase Hold Open Time parameters.
	The heavy-duty motor is replaced by a normal duty motor.	Put the door in operation mode selection OPEN and wait for at least 5 minutes.

Main error: E8 Non-critical Error		
Detailed error	Reason	Remedy
49 EEPROM Non-critical Write Error	The main control unit cannot write error log or event log information to the EEPROM memory.	RESET, and if the problem remains, replace the main control unit if it is important to read logged information.
50 EEPROM Access Error	The EEPROM queue is full.	Too many Events to log. Reduce the number of events to log in the Event Log configuration.

Note! It is not possible to replace an ASSA ABLOY operator component with a component from a different brand.

OMS Basic Error Codes		
Detailed error	Reason	Remedy
Red light every 2 seconds	Error in door operator MCU.	RESET, and if the problem remains a service visit is required. See also page 158.
Red light 4 times per second	Internal error in the OMS Basic.	Replace the OMS Basic.
Steady red light	When an impulse is given on IOU TB:6 (Mode Select- or Enable) the indication LED on OMS Basic will be steady red for 15 seconds.	-

OMS Standard and OMS Bluetooth Error Codes		
Detailed error	Reason	Remedy
Red light every 2 seconds	Error in door operator MCU.	RESET, and if the problem remains a service visit is required. See also page 158.
Red light 4 times per second	Internal error in the OMS Standard/ OMS Bluetooth.	Replace the OMS Standard/ OMS Bluetooth.

- 18.1 After remedy or replacement the operator has to be checked as follows:
- a Study the door movement and adjust the functions to the values required for a smooth door operation and make sure to comply with local regulations.
 - b Check that correct functions and values have been selected for the installed accessories and that the installation complies with valid regulations and requirements from the authorities.
 - c Clean the cover and the doors.

19 Service/Maintenance

Regular inspections shall be made according to national regulations and product documentation by an ASSA ABLOY Entrance Systems-trained and qualified technician. The number of service occasions should be in accordance with national requirements and product documentation. This is especially important when the installation concerns a fire-approved door or a door with an emergency opening function.

As with all other technical products, an automatic door needs maintenance and service. It is essential to know the importance of maintenance to have a reliable and safe product.

Service and adjustments will ensure a safe and proper operation of an automatic door unit.

This product may contain batteries that should only be replaced by an ASSA ABLOY Entrance Systems-trained and skilled technician.

The "Service Log Book" shall be used together with the "Site Acceptance Test and Risk Assessment" document (PRA-0005) provided. Keep both documents available for maintenance and service records.

The table below shows the recommended interval in months, when to replace parts during preventive maintenance.

Part	Part number	Cycles/hour in operation			Abusive Environment
		<10	<100	>100	
		Low traffic	Medium traffic	High traffic	
Electrical emergency unit battery	330000375	24	24	24	24
Mechanical emergency unit elastic cord ^a	331700121	6	6	6	6
Floor guide shoe		24	12	6	6
Standard	33830064				
Felt padded	33831622				
Break-out	331008122				
Door carriage		36	24	12	12
Plastic wheels	330000381				
Steel wheels	330000382				
Anti-riser device	330000392				
Sliding track	330000412	36	36	36	24
Tooth belt	331701406	48	48	48	36
Drive unit damper kit	330000377	60	60	60	60
Lock ramp	331013087	60	60	60	60
Belt clamp	330000388	60	48	36	24
Cam and center shaft kit	330000395	60	60	60	48
Door stop rubber kit	330000398	24	24	24	24
Tension wheel assembly	331007118	36	36	36	36
Detachment guard	331012777	60	60	60	60
Brush/sealing		12	12	12	12
Slim, Slim Thermo	33716223				
Frame, Slim, Slim Thermo	33738789				

^a Service interval required to be compliant with CO48.

Check that all required signage, [see page 114](#), is applied and intact. Also check other consumable parts, such as brushes, door stops and glazing rubbers.

19.1 Service

- a Remove dust and dirt from the operator. Dirt on the sliding track should be removed with methylated spirits. If necessary replace the sliding track.
- b None of the parts need lubrication.
- c The tooth belt must be kept dry and clean. Check the belt tension.
- d Check that all nuts and bolts are tightened well.
- e Check the status of the door wheels, sliding track, belt, floor guides and all the other consumables, and change them if needed or if they have completed the life cycle period according to the described in chapter .
- f Check the correct functionality of the Mode Selector in all the different positions.
- g Adjust, if necessary, the door leaf speed, the HOLD OPEN TIME and the door leaf position to comply with valid regulations and requirements.
See the "Guide for installers of Powered Pedestrian Sliding Doors", Product Risk Assessment document PRA-0004, for calculation of speed.
- h Check, and re-adjust if needed, door leaves height and tilt to secure a proper and smooth sliding, opening and closing.
- i Check, re-adjust or exchange if needed, brushes, rubber sealings etc to secure proper closing and efficient energy saving by helping to prevent energy waste.
- j Check that all the safety distances required by applicable norms to prevent accidents by crushing, shearing, drawing-in, etc. are kept and respected. Re-adjust or exchange or suggest additional protection if needed.
- k Check all the safety sensors, activation units, the emergency escape functionality if applicable, and the emergency opening function under Power Failure situation. Adjust or exchange if needed to secure that all the safety works properly according to applicable norms.
- l If an electromechanical lock is installed check the function as follows:
 - Set the operation mode selector to EXIT. The lock shall open after an inner impulse. When the lock opens there is a clicking sound from the lock. If the operator is placed as an escape route the door should open and close without any sound from the lock. The lock shall remain unlocked.
 - Set the operation mode selector to OFF. Make sure the door can not be opened by pulling the door leaf in the opening direction.
 - When the operation mode selector is set back to EXIT, two clicking sounds (bi-stable) or one clicking sound (locked with power) indicate that the lock is unlocked. The door should then open and close as mentioned above.

20 SL Service Tool

20.1 Important information



Incorrect installation and adjustment of the door operator can lead to severe injury.

20.2 How to install the SL Service Tool software on the tablet



If you are an ASSA ABLOY Entrance Systems employee, the SL Service Tool app is already installed on your tablet. If not, contact your IT-support.

To be able to install the SL Service Tool software the installation file (*.apk) must be copied to your tablet and be executed there. Depending on which device you have, it may look different than the pictures in the instruction.

- a Connect your tablet to a PC using a USB cable.
- b Copy the installation file (*.apk) from the PC to you tablet, for instance in the "Download/" directory.
You can now disconnect your tablet from the PC.
- c On your tablet, navigate to the directory where you saved the installation file (*.apk)
- d Tap on it to run the installation.

- e Follow the instruction on the screen.

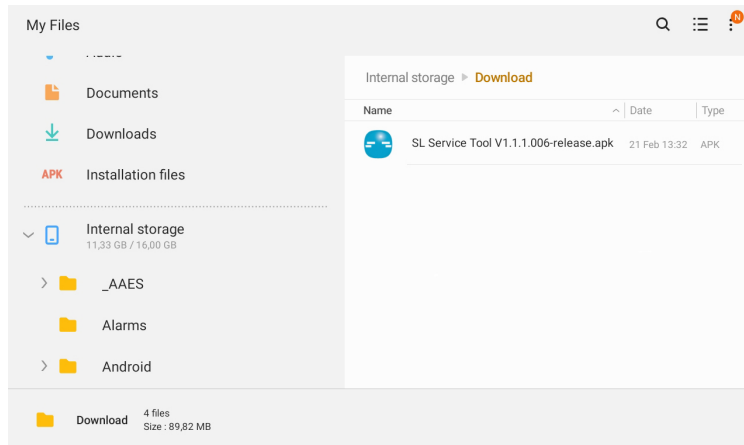


Figure 4: Find the installation (*.apk) file

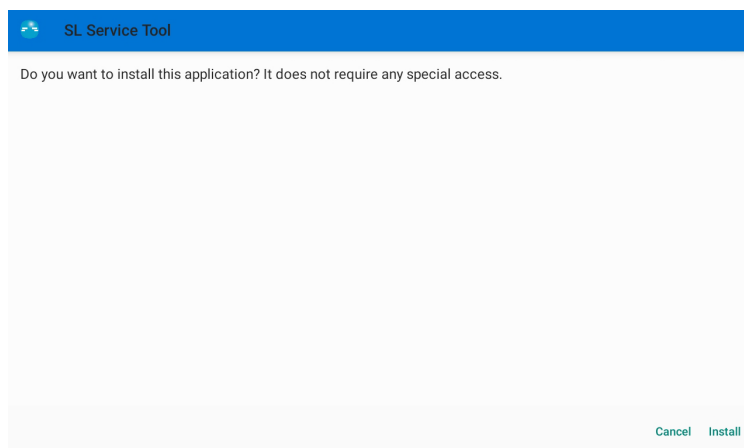


Figure 5: Install the SL Service Tool software

- f Tap "Done" to close the dialog. An icon is created that is used to start the program.

Note! The CTI must be paired to your tablet before opening the application, refer to [Pair the tablet with the Configuration Tool Interface \(CTI\)](#) on page 170.

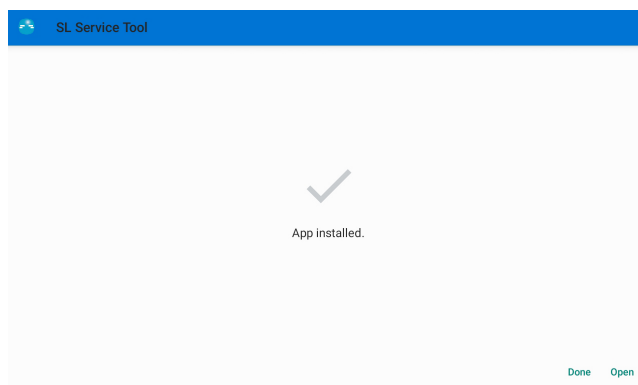


Figure 6: App installed

20.3 Pair the tablet with the Configuration Tool Interface (CTI)

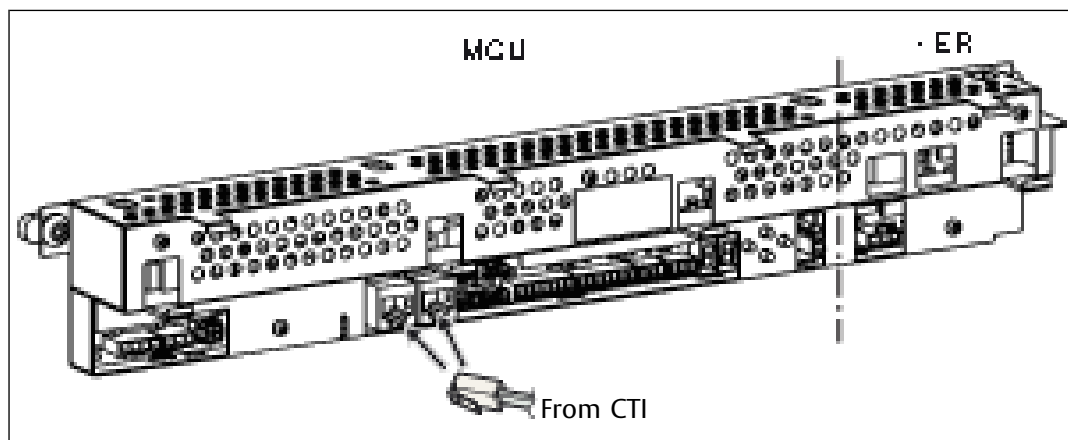
The CTI is your communication device to communicate with the Control Unit, through Bluetooth.

- a Connect the CTI to the Main Control Unit (MCU), the OMS Standard or to the OMS Bluetooth, the **Power ON** LED starts to flash on the CTI.

- 1 - Power ON - Blinking
- 2 - Communication indicator
 - Blinking during data transfer.
- 3 - Error indication
 - Blinking during error.
 - Blinking during firmware upgrade.



Figure 7: Configuration Tool Interface (CTI)



- b On your tablet, go to "Settings" and then "Connections".

- c Turn on the Bluetooth. The tablet starts to scan the area for other Bluetooth devices. All the CTI's are named with "CT_interface_xxxxxxxxxx" where the number is the unique device address.

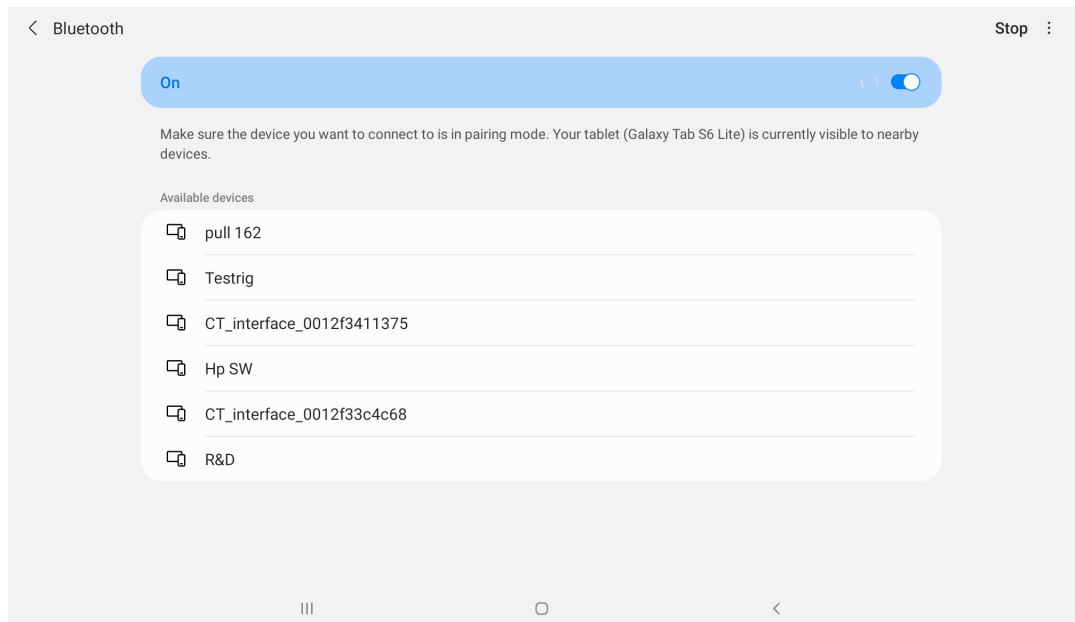


Figure 8: Pair the CTI device

- d Tap on the CTI device to pair it with your tablet. Now your tablet is ready to communicate with the CTI.

20.4 Getting started

- a Start the *SL Service Tool App* by tapping the icon on your tablet desktop.
- b Enter your password with the on-screen keyboard and tap **Login**. The number of login attempts left decreases at every login.

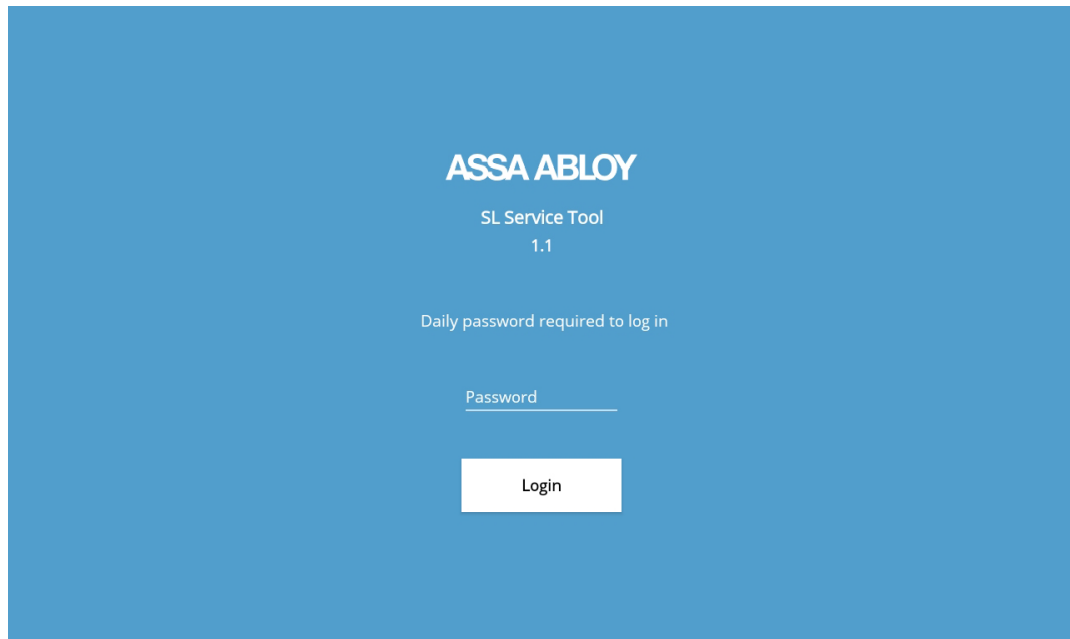


Figure 9: Login

Note! A daily (temporary) password must be used when:

- "Number of logins left:" is decreased to 0 (zero).
- The first time you log in to the *SL Service Tool App*.
- When the application time limit is exceeded.

A daily (temporary) password is only valid one day and resets "Number of logins left:" to its initial value. Contact your technical supervisor to obtain a daily password. When you log in with a daily password you will be prompted to create a personal password.

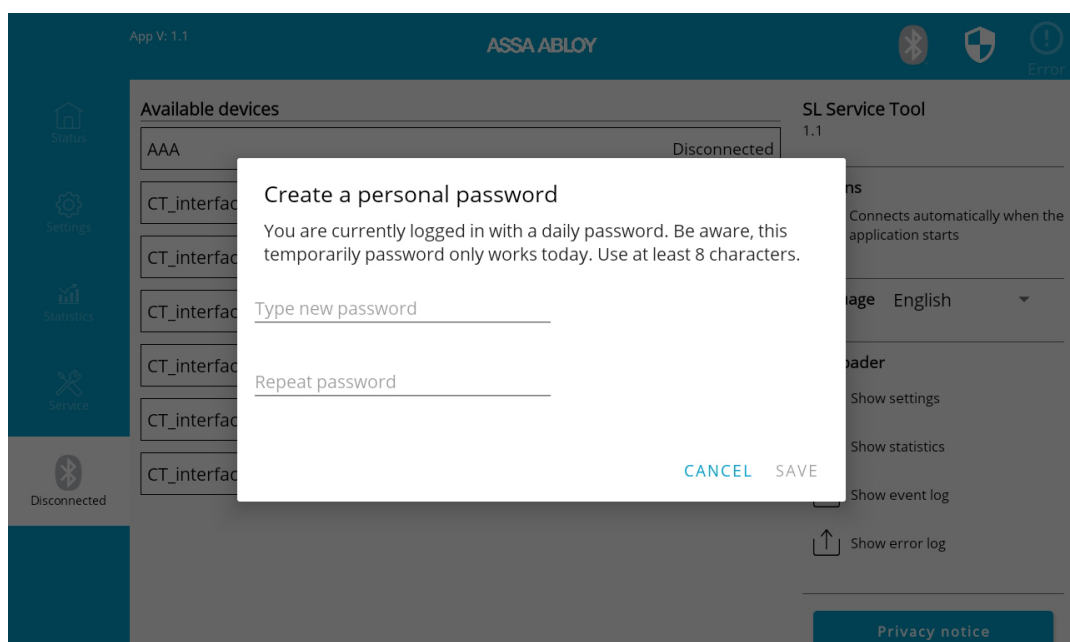
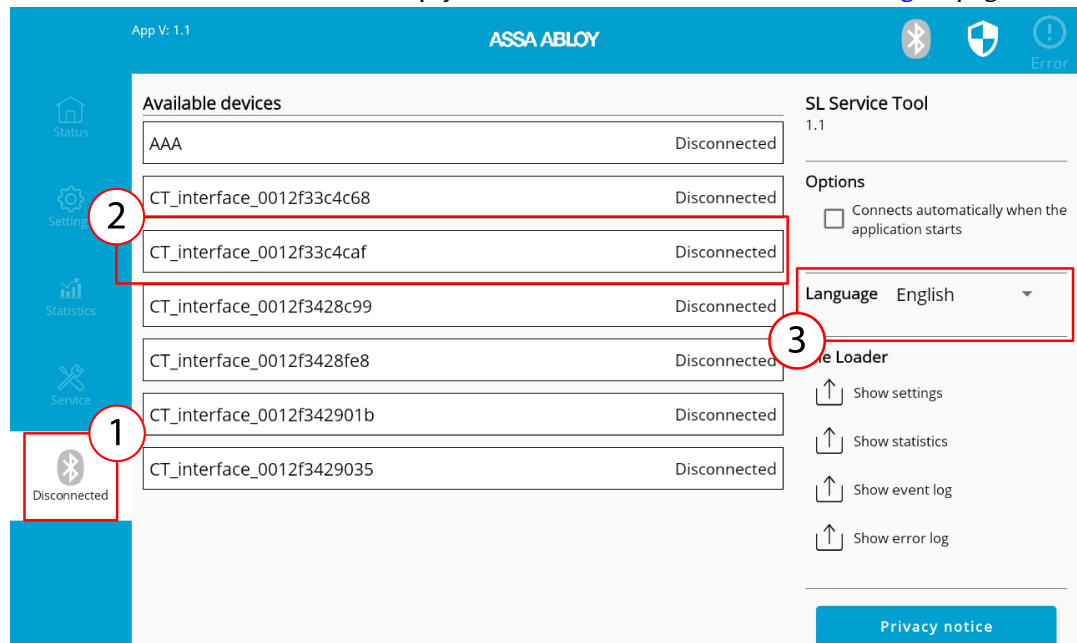


Figure 10: Change password

20.5 Connection

Note! The first time you start the SL Service Tool, there will be a pop-up: "Allow SL Service Tool to access this device's location?". Select "Allow" to find your CTI in the list.

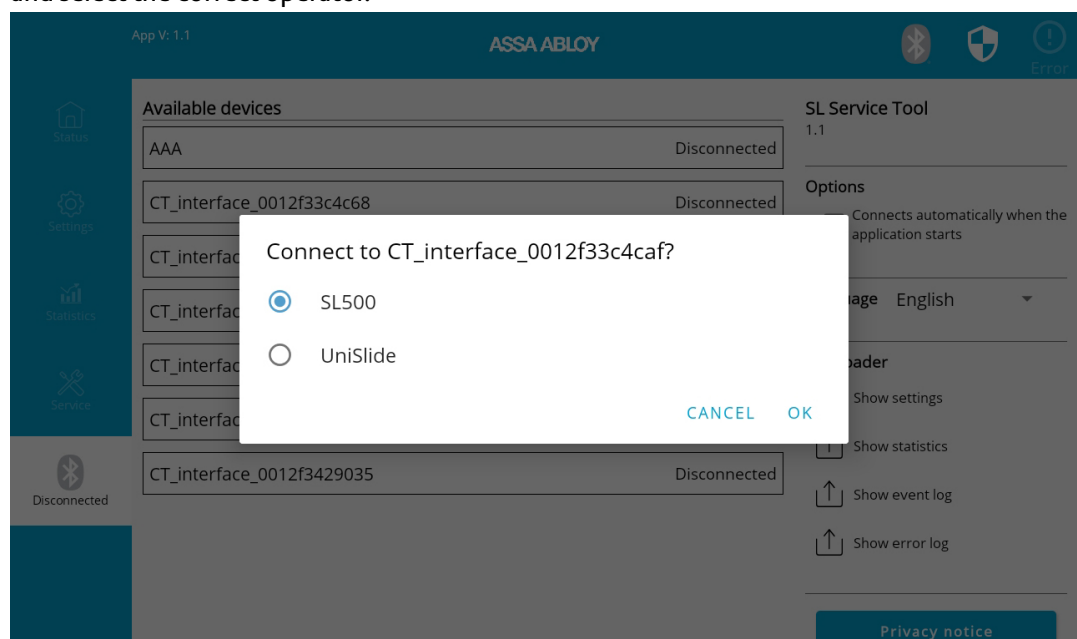
- Tap the Bluetooth icon (1).
- Tap the name of your CTI device (2) to connect to the door. The name of your CTI is printed on the back of your CTI.
- If the list of "Available devices" is empty, refer to [SL Service Tool troubleshooting](#) on page 181.



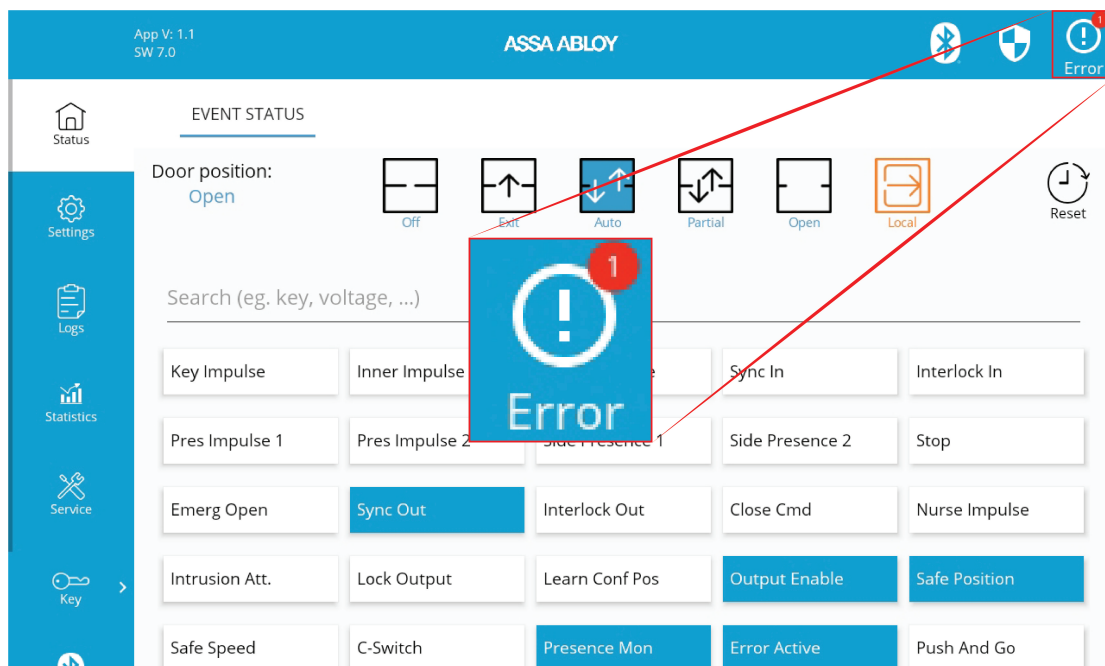
Note! There is an option to change language (3) in the menu to the right on this page. Available languages are: English, Czech, Dutch, French, German, Italian, Polish, Portuguese, Spanish and Swedish.

- Choose "SL500" to connect to an operator in the SL500 family, or "UniSlide" to connect to a UniSlide operator.

Note! If the wrong operator is selected, disconnect the cable from the CTI and connect it again and select the correct operator.



20.6 Error messages


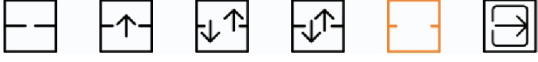


Active errors are shown here. The number in the red circle shows how many active errors there are.

20.7 Status screen

Status lets you set the operating mode and see a list of active inputs and events.

Note! A search for "key, voltage" shows all the results that contain "key" and "voltage". This is applicable in all search fields.

- 
 • Local - The current operation mode has blue color, and Local has orange color.
- 
 • Remote mode - The SL Service Tool sets the operation mode. The current operation mode has orange color.

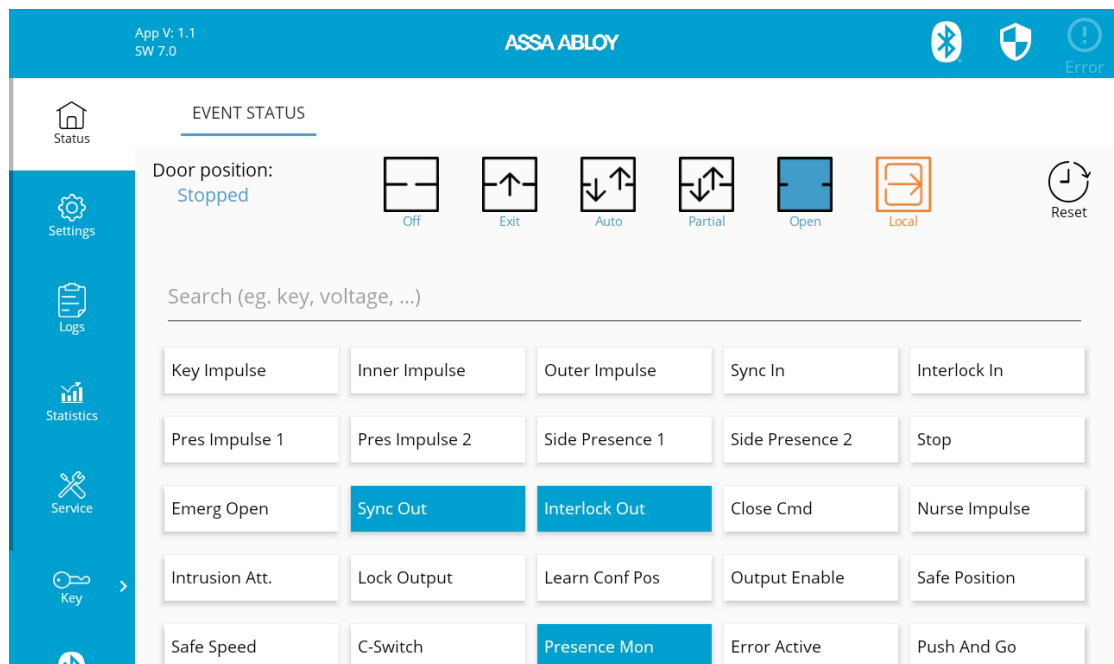


Figure 11: The Status screen when the SL Service Tool is set to local and operation mode Open

20.8 Settings screen

Settings screen has three subscreens.

- Parameters - configure parameters, lock the MMI (buttons on the MCU), unlock the MMI, Learn (start the Learn cycle), load default parameters, Fetch (retrieves the current parameter values), save and load parameters, share parameters and reset.
- Status relay configuration - configure the status relay. The status relay is activated (switches) when any of the selected events occur. If multiple events occur the status relay will continue to stay activated. When all selected events are deactivated the status relay is released. An event can be an impulse, event, error, door status, door position, or mode selection. The status relay is located on the IOU.
- Passcode configuration - set the password for the OMS. Requires a connected OMS Standard or OMS Bluetooth and parameter B1 (OMS-1 key lock) = 02 (Passcode).



Tap + - to add and remove customized parameter groups.

Parameters needs to be assigned one by one to the customized groups.

App V: 1.1
SW 7.0

ASSA ABLOY

Bluetooth, Security, Error

PARAMETERS STATUS RELAY CONFIGURATION PASSCODE CONFIGURATION

Lock MMI Unlock MMI Learn Load Default Fetch Save Load Share Reset

Search (eg. key, voltage, ...)

Id	Parameter name	Value
00	High Speed Opening	400 mm/s
01	Low Speed	700 mm/s
02	High Speed Closing	130 mm/s
03	Hold Open Time	7000 ms
04	Key Hold Open Time	7000 ms
05	Lock Configuration	No Lock
06	Lock Release	Off
07	Presence Input 1 Configuration	Normally Open

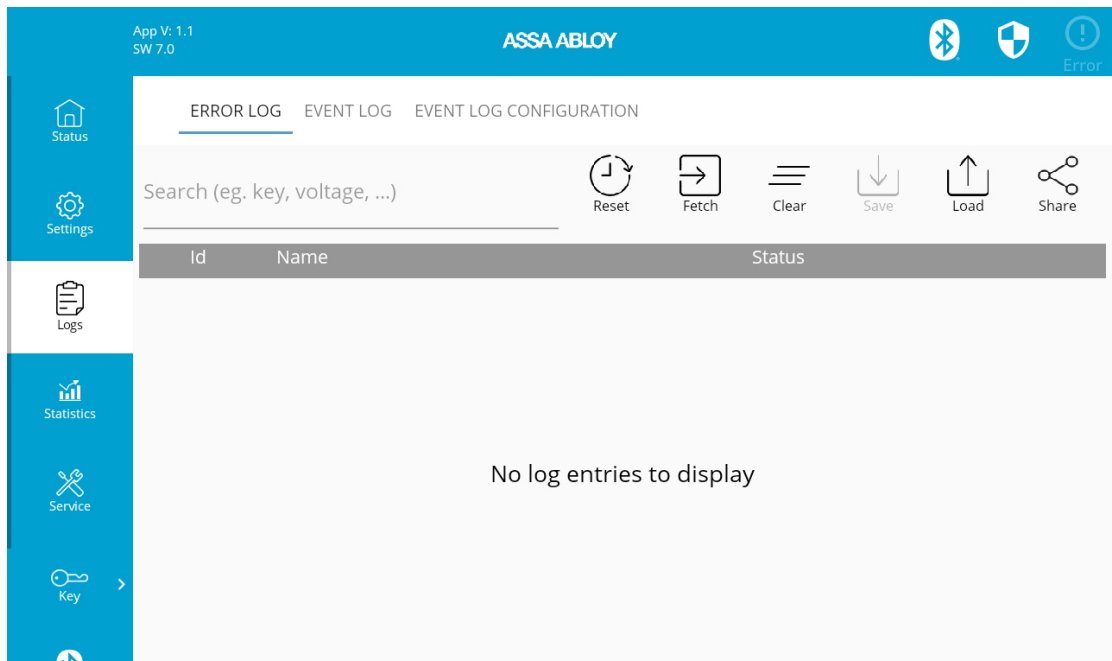
Groups + -

- ☐ Main control
- ☐ Motor control
- ☐ I/O board
- ☐ Escape route
- ☐ Operation mode Selector

20.9 Logs screen

Logs screen has three sub screens.

- Error log - browse through all logged errors, search for specific errors and manage error log by fetching, saving and clearing.
- Event log - browse through all logged events, search for specific events and manage event log by fetching, saving and clearing.
- Event log configuration - configure specific events to log. The logged events will show up in the Event log.



Tap Fetch to fetch the log.



Tap Clear to clear the log.

20.10 Statistics screen

Statistics - see statistics of the door, for instance the number of opening cycles, system downtime and much more.

The statistics that are available are dependent on the software version that is in the units.

App V: 1.1
SW 7.0

ASSA ABLOY

Bluetooth

Shield

Error

Status

Settings

Logs

Statistics

Service

Key

Search (eg. key, voltage, ...)

Fetch

Save

Load

Share

Cycle counters		Current value
Number of opening cycles	12757	Edit
Total number of opening cycles	12757	
Number of lock cycles	0	Edit
Total number of lock cycles	0	
Time counters		Current value
System uptime	647	Edit
Total system up time	647	
System down time	0	Edit
Total system down time	0	
On board system information		Current value
Motor temperature	0 %	
Ambient temperature	34 °C	

20.11 Service screen

Service - see software and hardware versions, update software.

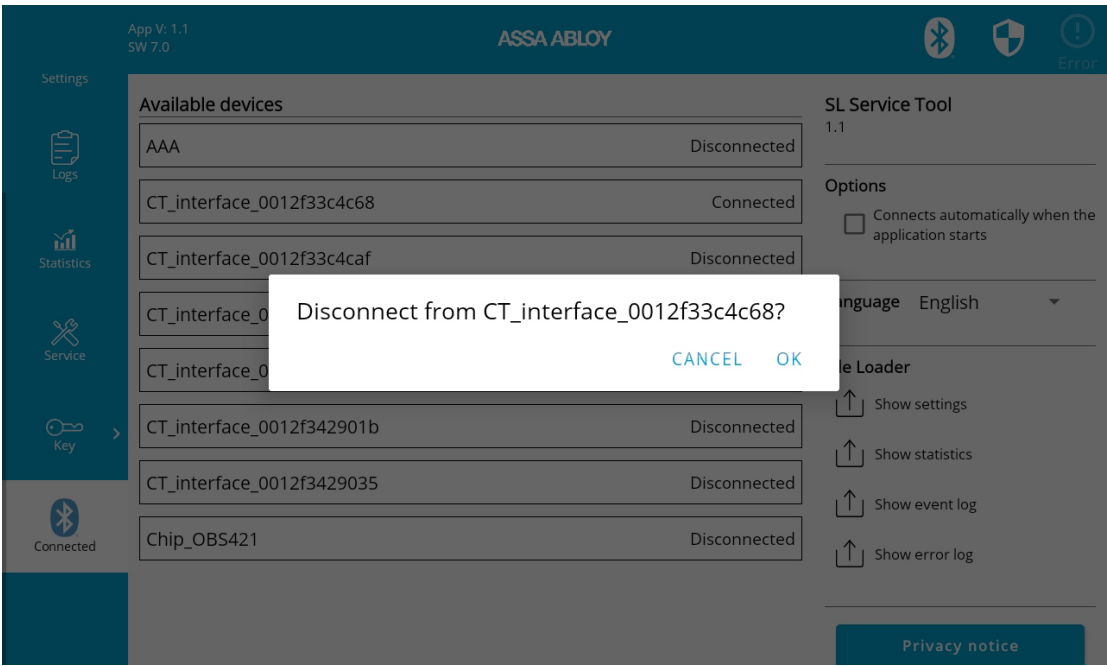
The screenshot displays the ASSA ABLOY SL Service Tool interface. The top status bar shows 'App V: 1.1' and 'SW 7.0' on the left, the 'ASSA ABLOY' logo in the center, and Bluetooth, security, and error status icons on the right. A left-hand navigation menu contains icons for Status, Settings, Logs, Statistics, Service (selected), and Key. The main content area is titled 'System information' and contains two tables. The first table, 'Configuration tool components', lists the CTI device with version 1.2.17.2 and bootloader version 2.0, with an update button. The second table, 'Control system', lists three components: Escape route (version 1.1.17.4, release SW 6.0, bootloader 2.0), Motor control (version 14.4.17.2, release SW 6.0, bootloader 2.0), and Main control (version 15.4.17.2, release SW 7.0, bootloader 2.0). The Operation mode Selector has version 1.4.17.6, release SW 7.0, and bootloader 3.0. A note at the bottom states '* Embedded Main Control release: Unknown'.

Configuration tool components	Version	Bootloader version	Update
CTI device	1.2.17.2	2.0	Update

Control system	Version	Release	Bootloader version	Update
Escape route	1.1.17.4	SW 6.0	2.0	Update
Motor control	14.4.17.2	SW 6.0	2.0	
Main control	15.4.17.2	SW 7.0	2.0	
Operation mode Selector	1.4.17.6	SW 7.0	3.0	

* Embedded Main Control release: Unknown

20.12 Disconnection



To disconnect, tap on the active connection. In the new window, select OK to disconnect.

20.13 SL Service Tool troubleshooting

20.13.1 CTI not available

If the list of available devices is empty, this can be because the tablet is not permitted to use the device's location. For Android it is necessary to know the device location to connect to a Bluetooth unit.

Do the following steps to change permission for location (there can be differences because of the device manufacturer and the Android version):

- a Tap and hold on the SL Service Tool icon.
- b Tap on the information icon (i) (the button can also be called "App info").
- c In the "App info" screen, tap on "Permissions".
- d Make sure that the permission for "Nearby devices" is set to "Allowed".
- e Close the "App info" screen.
- f Tap on the "Recent apps" (can be either three vertical lines or a square), and swipe up on the SL Service Tool to close the app.
- g Start the SL Service Tool again. The SL Service Tool now shows the list with your CTI.

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