besam

Besam Revolving Door UniTurn
CDC 4.1

Installation and Service Manual

1003087-EI-1-1 – Issue 2005-12-01

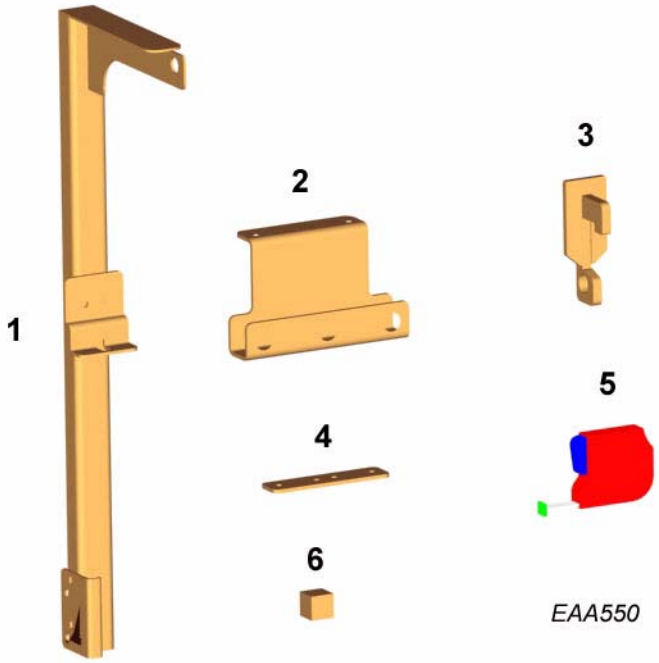
Table of content:

Table of content:

Table of content:

Table of content:

1.0 UniTurn toolkit



Item	No	Part No.	Description	Used when?
	1	265663	A complete toolkit	
1	3	265656	Lifting arm	To lift the drive ring in place
2	4	265181	Lifting device	To lift the drive ring and the rotating frame in place
3	4	264309	Lifting hook	To lift the rotating frame in place
4	8	265662	Joint bracket	To temporarily put the drive ring together
5	1	738832	Tape measure	To check the roundness of the outer ceiling ring
6	1	265661	Distance block	To get the distance between the drive ring and the rotating frame

2.0 Screwkit

Ref	Screw type	Fit where?
	RTS ST 6,3x38	“Wall ring, Z-brackets” on page 14, “Safety edges” on page 40
	RTS ST 5,5x13	“Fixing rails” on page 12, “Inner ceiling” on page 41
	MC6S-H 8x30	“Steel beams” on page 17, “Spokes” on page 20, “Bottom beam” on page 23, “Display door” on page 25, “Canopy ring” on page 32
	MC6S-H 6x30	“Display door” on page 25
	MC6S-H 8x50	“Spokes” on page 20
	MC6S 6x45	“Display door” on page 25
	MC6S TT 8x40	“Outer wall sections” on page 13, “Wall ring, Z-brackets” on page 14
	MC6S 8x22	“Drive ring” on page 15
	MC6S 8x40	“Drive ring” on page 15
	MF6S-H 8x20	“Rotating doors and walls” on page 23
	M6S 8x30	“Ceiling ring” on page 21
	M6S-H 8x80	“Rotating doors and walls” on page 23

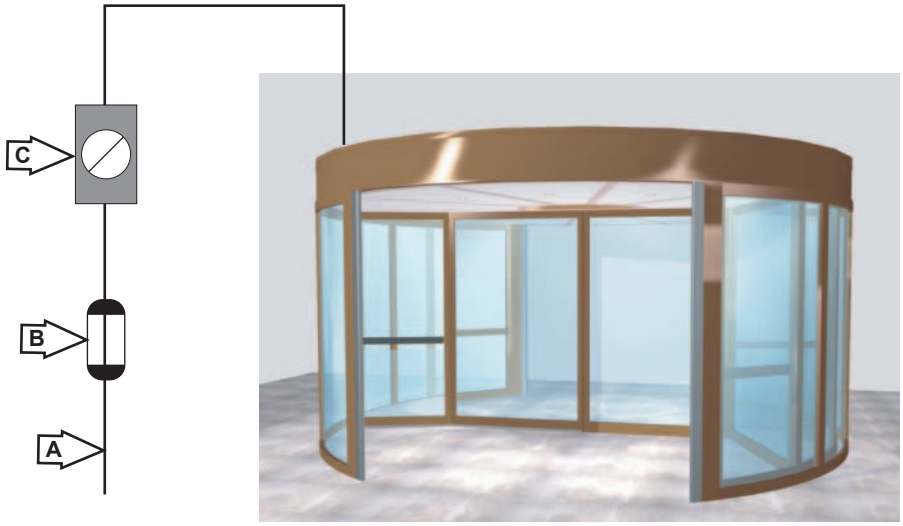
Ref	Screw type	Fit where?
	RXB 4,8x19	“Fitting of the swing escape doors.” on page 27
	TBRSB 8,4x26x5	“Wall ring, Z-brackets” on page 14, “Steel beams” on page 17, “Ceiling ring” on page 21, “Rotating doors and walls” on page 23
	BRB 8,4x16x1,5	“Wall ring, Z-brackets” on page 14, “Steel beams” on page 17, “Spokes” on page 20, “Ceiling ring” on page 21, “Rotating doors and walls” on page 23
	M6M M8	“Wall ring, Z-brackets” on page 14, “Steel beams” on page 17, “Spokes” on page 20, “Rotating doors and walls” on page 23
	Distance	“Canopy ring” on page 32

3.0 Installation

To meet regulations, UniTurn must be provided with a type label which is easily visible. Such label is enclosed in the shipment and shall be attached indoor, on the wall ring close to the wall section.

3.1 Pre-installation check

3.1.1 Mains supply



EAA505A

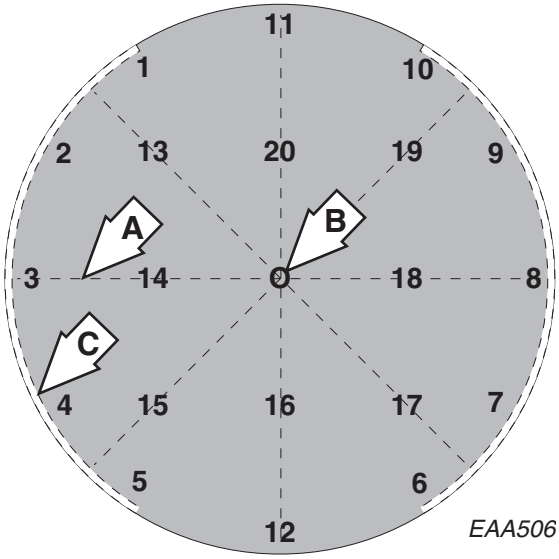
	Description
A	Mains power supply 230V, 50Hz, 10A, mains fuse max 10A or 100-120V, 50/60Hz, 16A, mains fuse max 16A Power consumption 1500W
B	Fuse
C	Main switch An all pole mains switch, having a contact separation of at least 3mm, shall be incorporated in the mains wiring in accordance with national wiring regulations.

A 3 cord cable to be connected from the appropriate fuse box, via an all pole mains switch to a point above the door according to illustration 1:1 (the illustration is viewed from the inside of the building). The hole for the cable shall have a diameter of minimum 14mm.

3.1.2 Floor surface

Check if the surface where the door is to be placed is suitable.

3.1.3 Mark up



EAA506

Spot	Value	0-spot value	Difference
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

Mark a line A. Line A is the centre line of the door between the adjacent walls.

Mark the centre point of the door B along line A.

Mark a circle C with a radius of 1806 mm (UniTurn-36), 2106 mm (UniTurn-42), 2406 mm (UniTurn-48) or 2706 mm (UniTurn-54). This circle is the inside diameter of the fixing rails.

If a ground ring is used, use the centre of the ground ring as a guide for line A and centre B

Mark spots 1-20 on the floor.

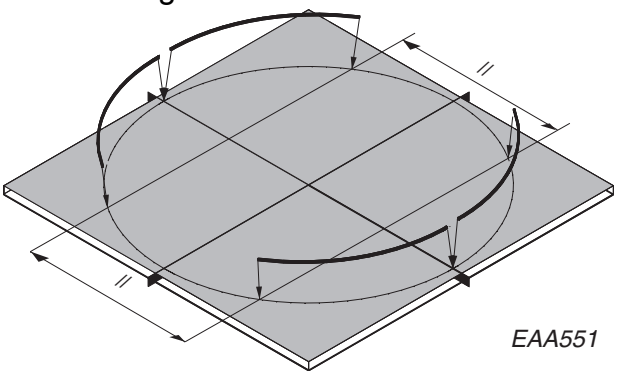
Place the levelling instrument outside the entry or the exit of the revolving door.

Take measurements on spots 1-20 and document the flatness of the floor. Max. deviation ± 3 mm. Enter results in the table on the form included in the Users manual. Inform the contractor about the floor level status and get their sign on the form for future floor level guarantee issues.

The highest spot constitutes the reference point; max. 6 mm between the highest and lowest points

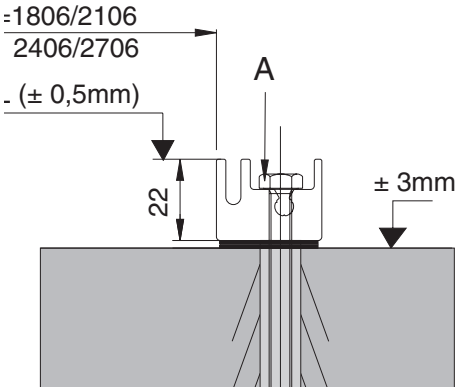
3.2 Fixing rails

Fit the fixing rail



Put the fixing rails on the floor. Adjust the location so the inner face of the rails corresponds with the circle on the floor, the joint between the fixing rail parts (with a 1-2mm gap) correspond with the centre line of the door and that the distance between the rail ends are equal.

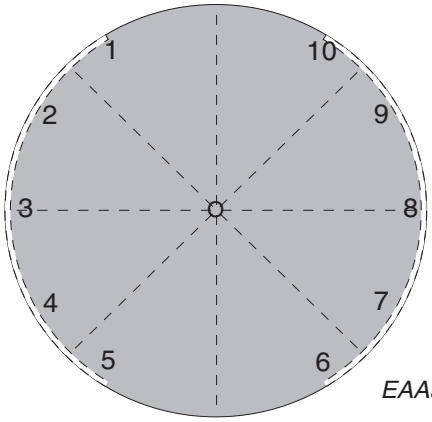
Use the rails as guide when drilling holes in the floor. Make sure that the holes are of proper diameter and depth (corresponding to the bolt/plug unit used.)



Door type	Nominal R	R min.	R max.
UniTurn-36	1806		
UniTurn-42	2106		
UniTurn-48	2406		
UniTurn-54	2706		

Bolt the rails to the floor. Max. difference between R min./R max and nominal R is 1 mm.

Adjust top level of fixing rail (L) with washers between the floor and the fixing rail (use a levelling instrument to measure the level). Maximum permitted deviation in relation to the 0-point is ± 0.5 mm. Check spot 1-10 and enter results in table.

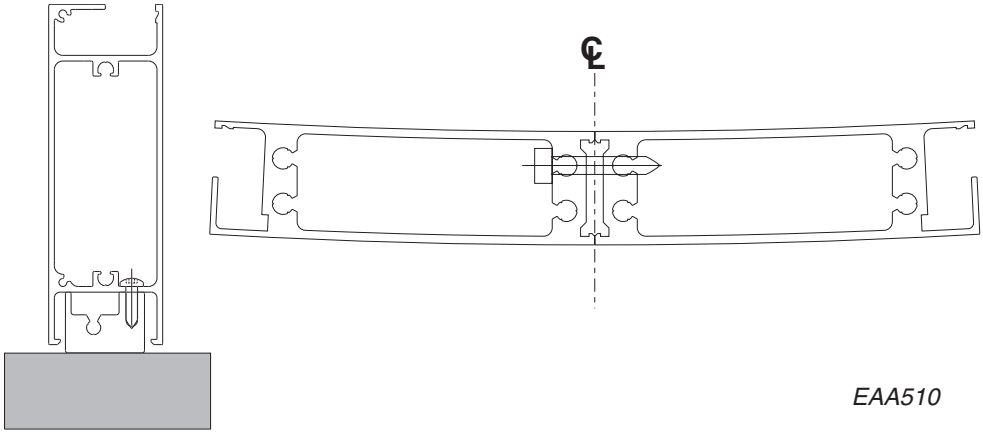


Point	Point 1 value	Value	Deviation
1	-		
2			
3			
4			
5			
6			
7			
8			
9			
10			

3.3 Outer walls

Outer wall sections

8 No. RTS 5,5x13
6 No. MC6S TT 8x40



EAA510

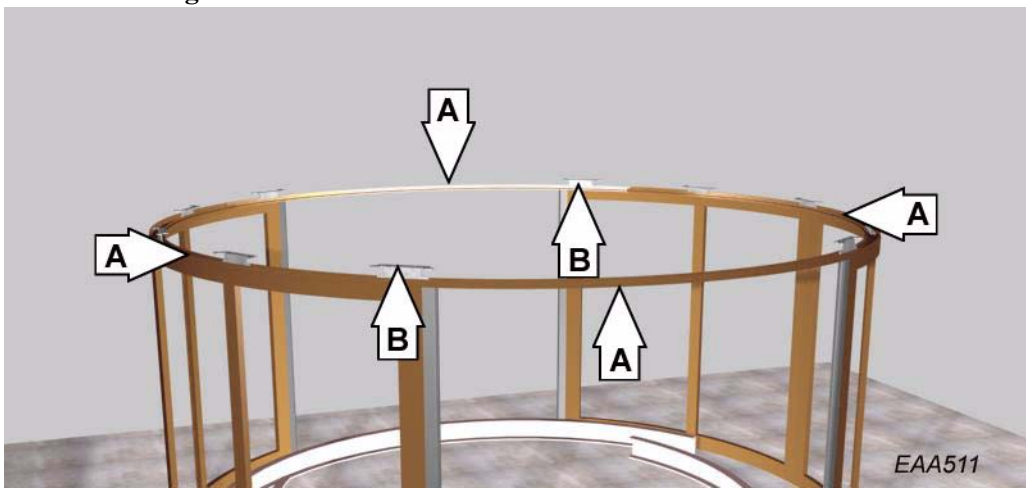
Put the four drive ring parts inside the door before mounting the outer walls to avoid damaging the walls.

Put the wall sections on top of the fixing rails.

Put a rubber sealing in the joint and assemble the two sections on each side to each other. Adjust the location of the assembled section so that the joint between the two parts line up with the centre line on the floor.

Wall ring, Z-brackets

32 No. MC6S TT 8x40
32 No. small washers
16 No. RTS 6,3x38
16 No. big washers

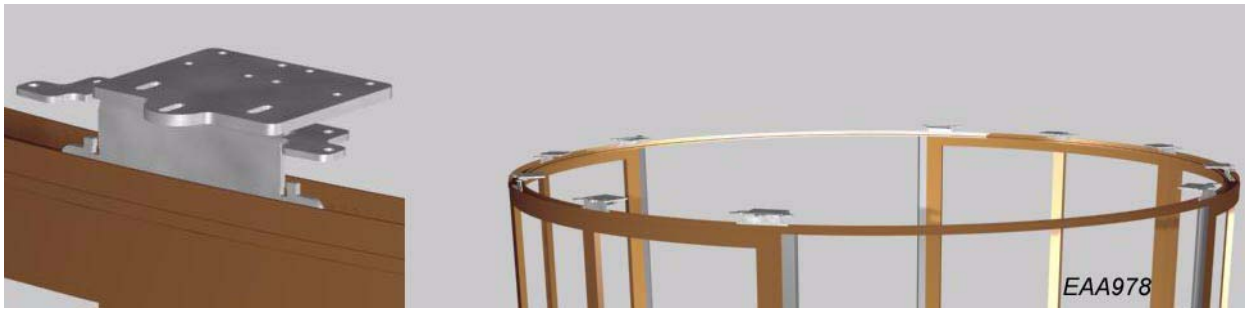


Put the 4 no. wall ring sections (A) on top of the wall. The parts of the wall ring with holes for activators and for presens-sensor shall be situated above the openings.
Start with the sections on top of the wall sections. Fix them temporarily to the wall sections (do not forget to fix the Z-brackets (B) at the same time). Adjust the location of the wall ring sections so that the distances between the end of the wall section and the end of the wall ring are equal on both sides. Tighten the bolts. Continue with the wall ring sections and the Z-brackets above the openings.
Note that the brackets close to the openings shall be located above the wall sections.

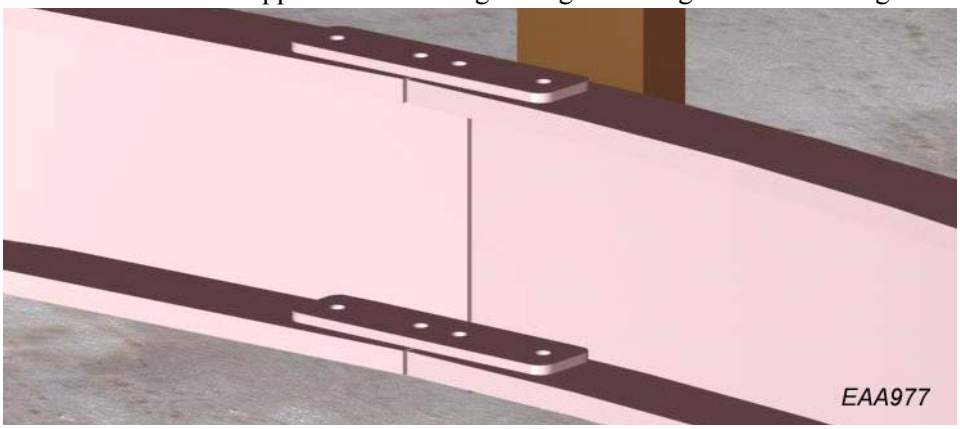
Fix the wall sections to the fixing rails with bolts through the bottom extrusion into the rails (2 bolts each wall section).

3.4 Drive ring

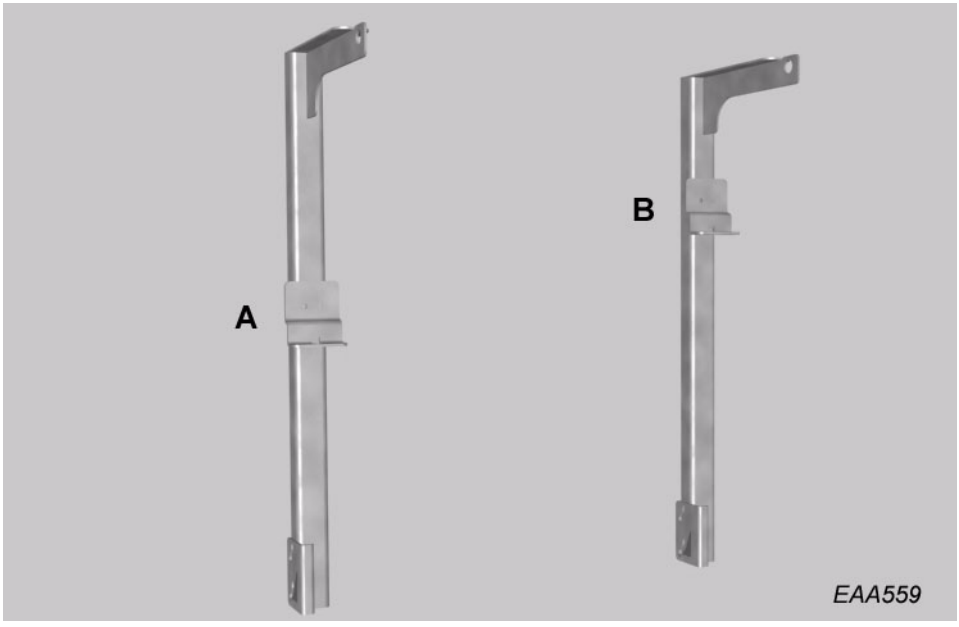
112 No. MC6S 8x22
20 No. MC6S 8x40
40 No. big washers
20 No. nuts



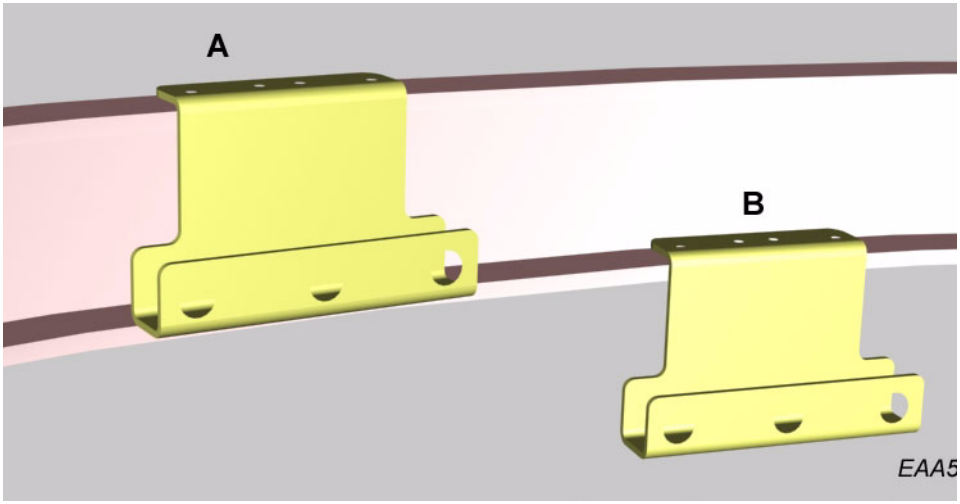
Mount the drive ring bottom brackets temporarily with one bolt and turn them to increase the area to support the drive ring during mounting of the drive ring.



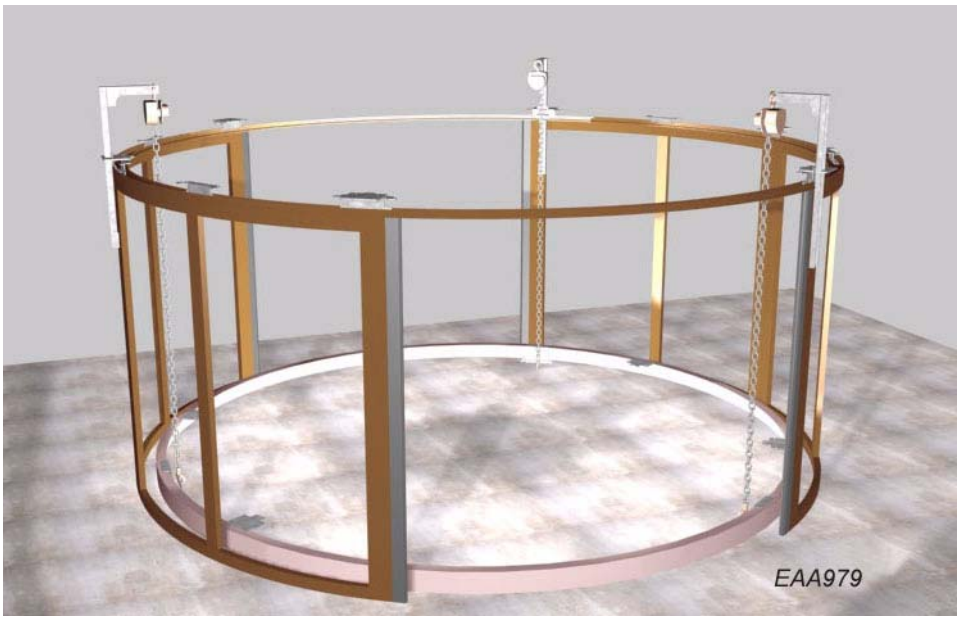
Mount the four parts of the drive ring together with the brackets included in the toolkit.



Normal position for the lifting device bracket is according to A. If the space above the revolver is not enough, move the bracket to position B.



Mount the fixing brackets to the drive ring. Normal position for the brackets are according to A. If the space above the revolver is not enough, put the brackets in position B.
Use the centre hole for the chain blocks at the jambs, and the right or the left hole for the chain block at the centre.



Attache the lifting device to the outer walls.

Hang the chain blocks on the lifting device.

Attach the hook to the drive rings lifting brackets.

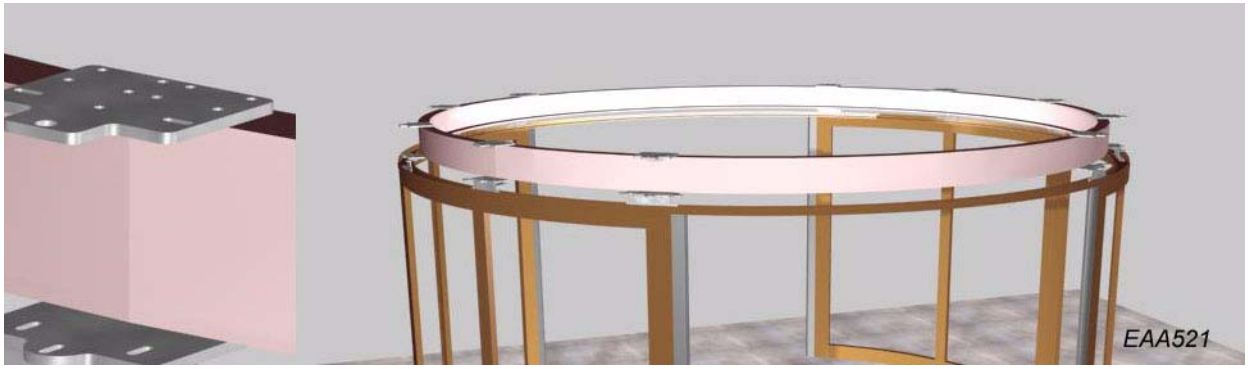
Lift the drive ring in place.

Turn the drive ring bottom brackets to there correct position and fix them properly to the Z-brackets and to the drive ring.

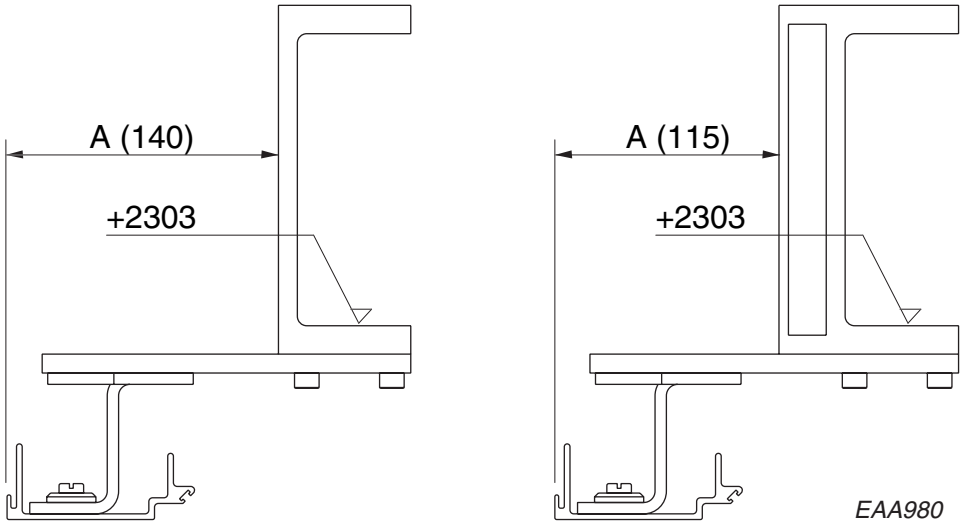
Remove the chain hoists and lifting devices

Mount the remaining drive ring bottom brackets.

.



Mount the 10 No. drive ring top brackets (MC6S 8x22).

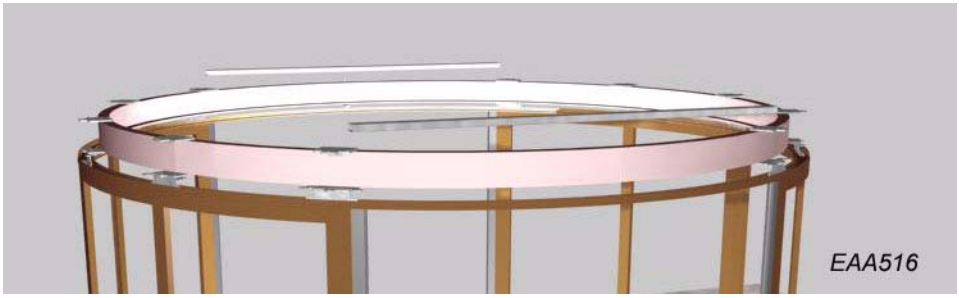


Adjust the location of the ring so measure A is equal all around. Check the measures across the wall ring at the top of the outer walls and adjust if necessary.

Tighten all bolts.

3.5 Steel beams

4 No. MC6S 8x30
4 No. nuts
4 No big washers

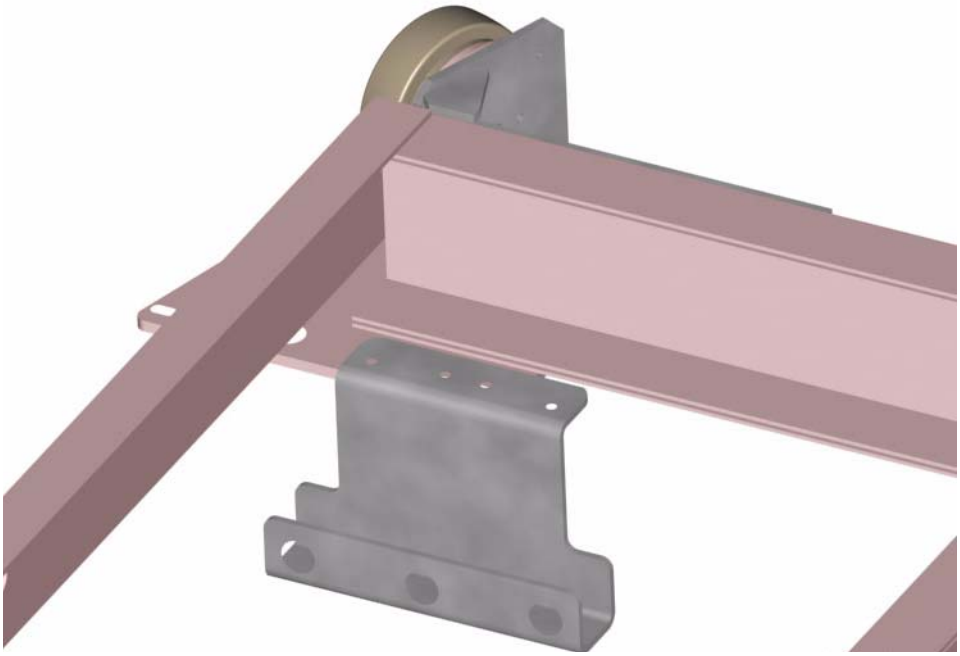


Mount the two steel beams above the inside and outside openings. Do not tighten the screws holding the two steel beams.

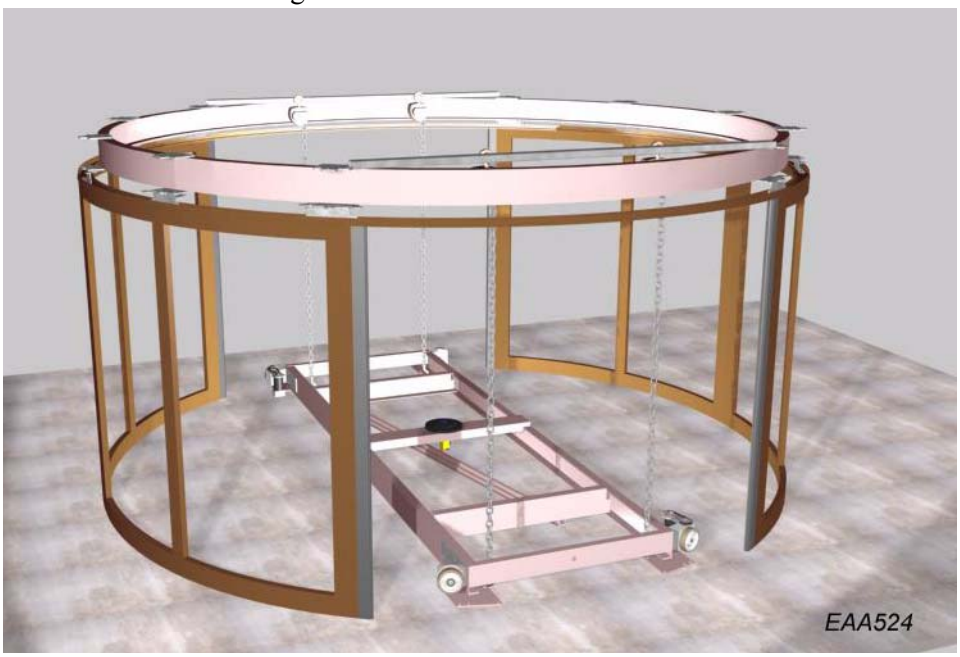
3.6 Rotating frame

Preparation and lifting

Put the pre-assembled frame on the floor inside the revolving door. The short sides of the frame shall point towards the door openings.



Fit the lifting device to the rotating frame as shown on the illustration using MC6S 8x40 bolts and big washers from the screw kit.



Fit the chain blocks to the steel tubes above the door openings using the lifting hooks.

Attache the chain block hooks to the lifting devices on the rotating frame.

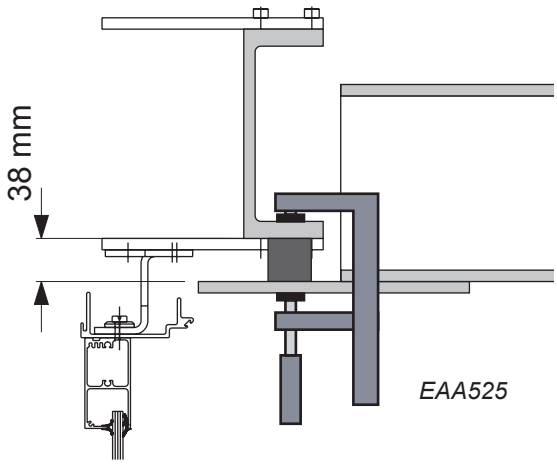
Loosen the bolts attaching the motor and the brake units to the sides of the rotating frame.

Lift the rotating frame until the wheels on the motor and on the brake units corre-

sponds to the drive ring.

Push the motor and the brake units into the drive ring until the bolts reaches the end of the long holes.

Adjust the distance between the rotating frame and the bottom of the drive ring at all four corners of the rotating frame using the distance included in the tool kit and a screw clamp. Tighten the bolts holding the motor and brake assemblies.



The rotating frame shall now rest on the drive ring.

Remove the chain hoist and the lifting beams.

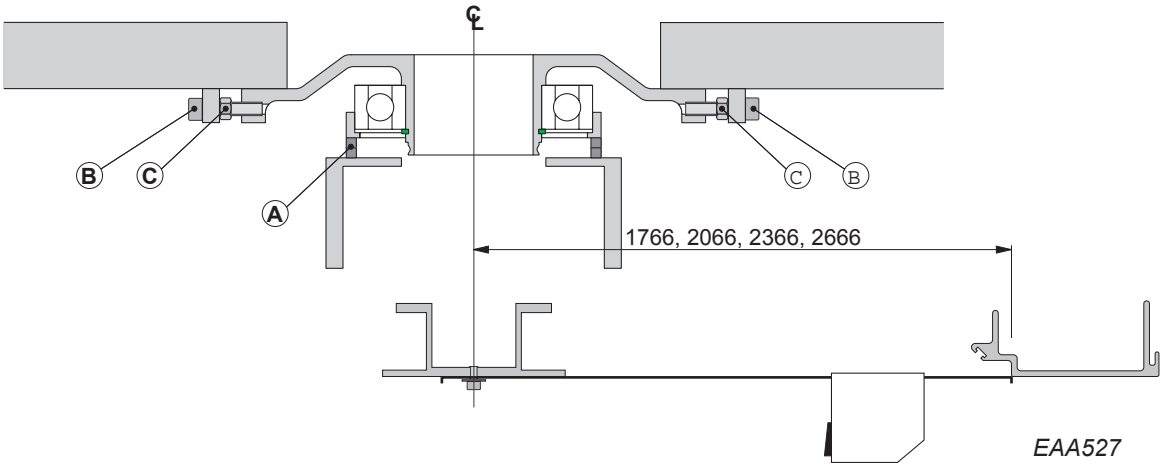
Turn the rotating frame until the door attachment beam is 90° to a line through the openings.

3.7 Spokes

6 No. MC6S 8x30
6 No. MC6S 8x50
12 No. nuts
24 No. small washers

Fit the 6 spokes by bolting one end to the bracket and the other end to the central disk.

To get a fall off on the dust protection roof, the centre disc can be raised with distances (A) up to 18mm.

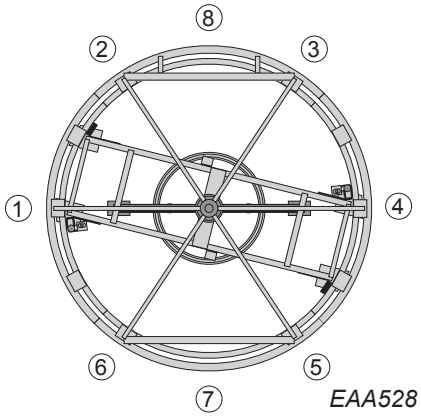


.Remove the escape door lock.

Measure the distance D under the 6 spokes.
Dm = average of the 6 measures

Adjust, if necessary, the 6 spokes to Dm with the adjustment screws (B).
Note! Only pulling forces are allowed in the spokes

Check Dm at the points 1-8 (6:1).
If the distance between the centre and points 3 and 8 exceeds Dm, loosen the adjustment screws 1 and 4 and tighten 2, 3, 5 and 6.



Tighten the screws holding the two steel beams.

3.8 Ceiling ring

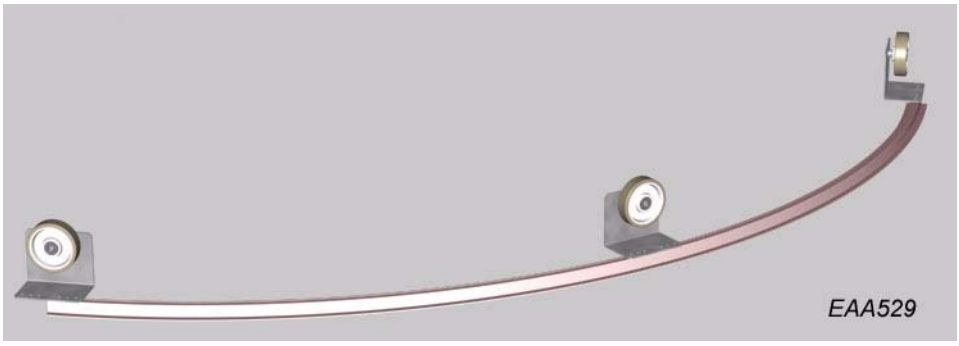
24 No. M6S 8x30
20 No. small washers
4 No. big washers

The outer ceiling ring is divided in four parts. The inner ring is fitted to the rotating frame.

Outer ceiling ring.

Use a RTS 5,5x13 self tapping screw to pre-tap all fixing holes for the brackets holding the inner ceiling. This simplifies the mounting of the inner ceiling later on.

Park the door with the rotating sections shorter ends above each opening.



Mount the support wheels.

Lift the two ceiling ring sections up and let the wheels fit in to the drive ring.

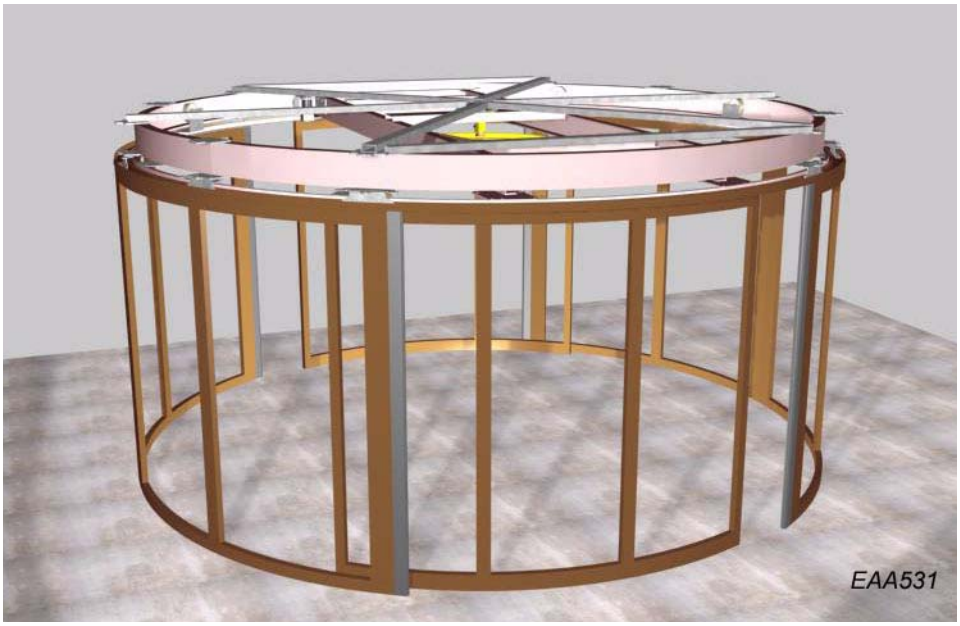
Mount the other two ceiling ring sections.

Fix the ceiling ring to the rotating frame (M6S 8x30, big washers). Do not tighten the screws.

3.9 Rotating doors and walls

Curved display walls

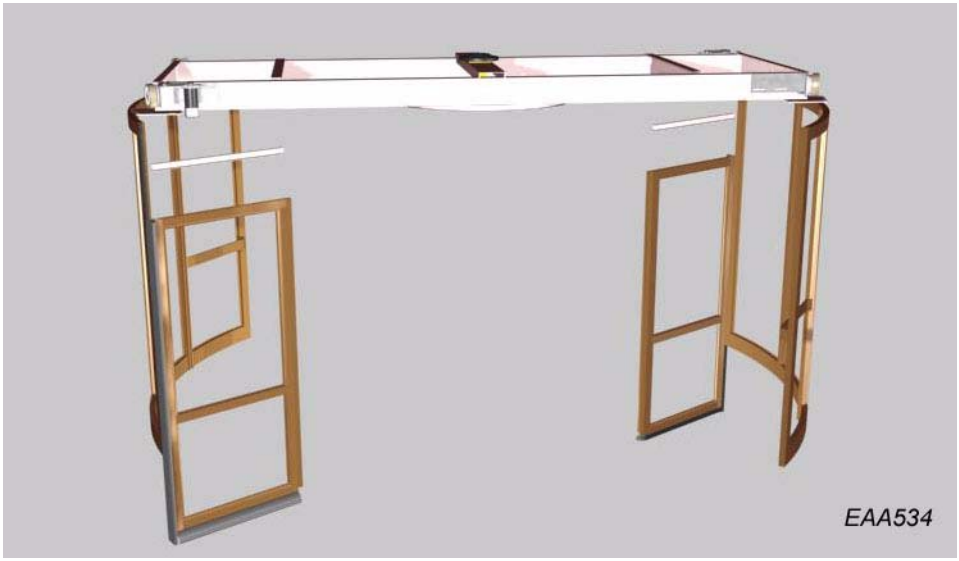
12 No. M6S 8x80
8 No. big washers
4 No. small washers



Mount the curved part of the display areas temporarily (do not tighten the screws).

Straight display walls

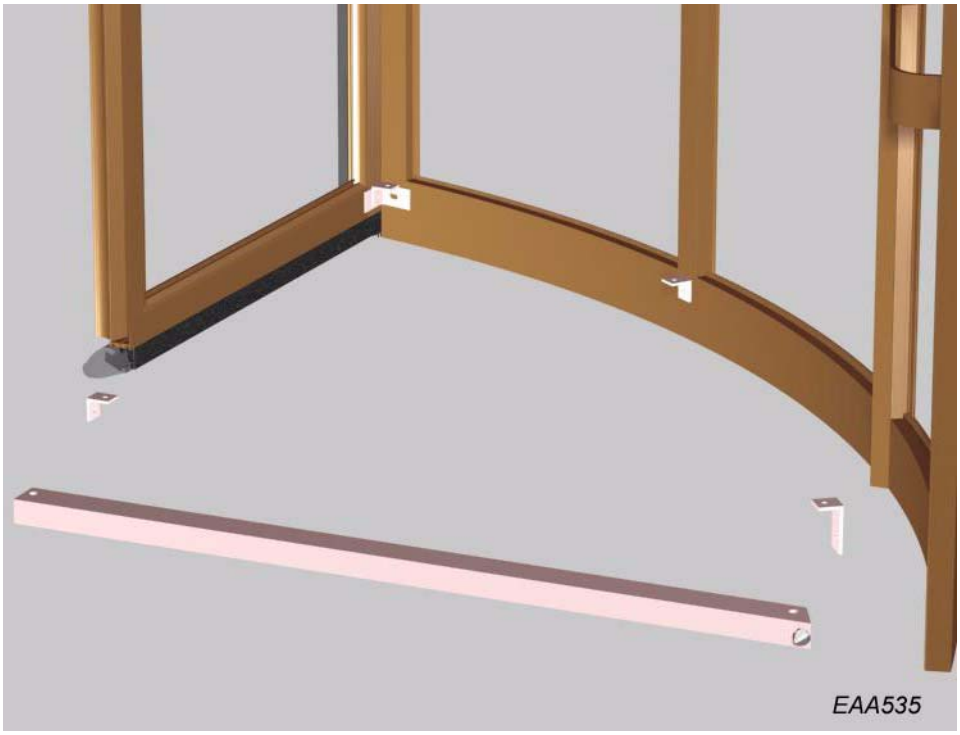
4 No. M6S 8x80
4 No. big washers



Put the ceiling profile above the straight part with the non-touch sensor and fix them to the rotating frame and to the curved part. Do not tighten the screws.

Bottom beam

4 No. MF6S
4 No. nuts M8
16 No. small washers
12 No. MC6S 8x30



Fix the beam at the bottom of the display area door.
There is a lock mounted on the beam if the door is equipped with sliding escape doors.

Display door

Top profile:
4 No. MC6S 8x30
4 No. big washers

Hinges:
8 No. MC6S 6x30

Fix the ceiling in the display area.

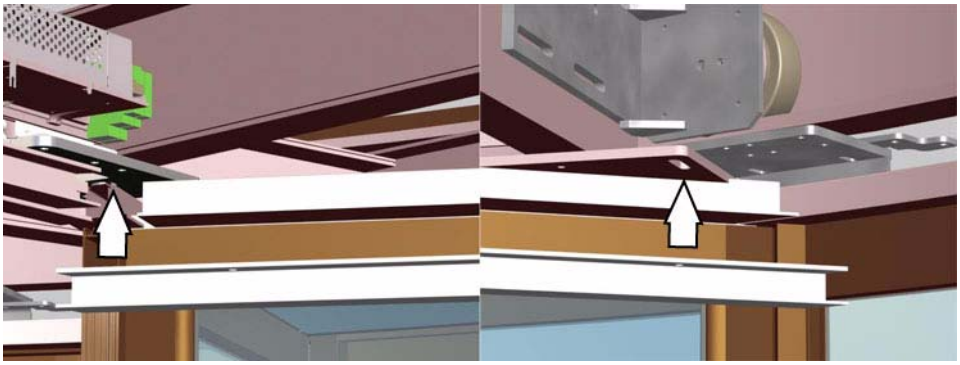
Fix the ceiling profile above the display door.

Fix the door to the display area.

If the revolver is equipped with sliding escape doors

2 No. MC6S 8x25
2 No. Nuts M6M8
2 No. big washers

Slide the door carrier into the support beam.



Mount the support beam to the rotating frame.

3.10 Fitting of the swing escape doors.

Escape door top: 4 No. MF6S 8x20
Escape door bottom: 4 No. MC6S 6x45
Finger protection profile: 8 No. RXB 4,8x19

Fix the escape door leaves to the corner of the display area.

Make sure that the triangle profiles lines up with the back edge of the pivot doors.

Tighten all screws at the bottom.

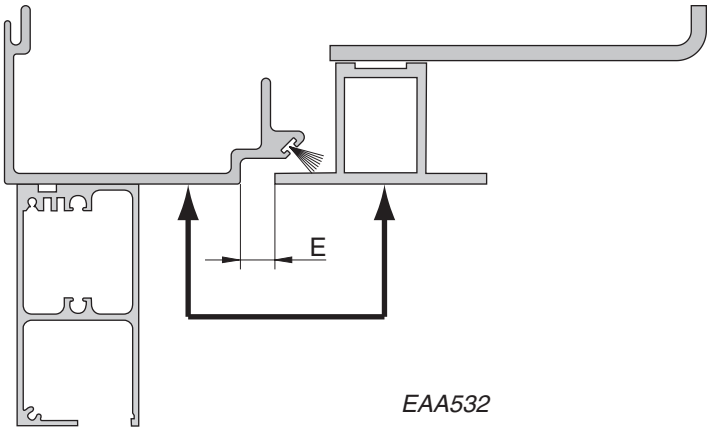
Adjustments

Close the display doors and the pivot doors.

Tighten the last screw above the sensor door.

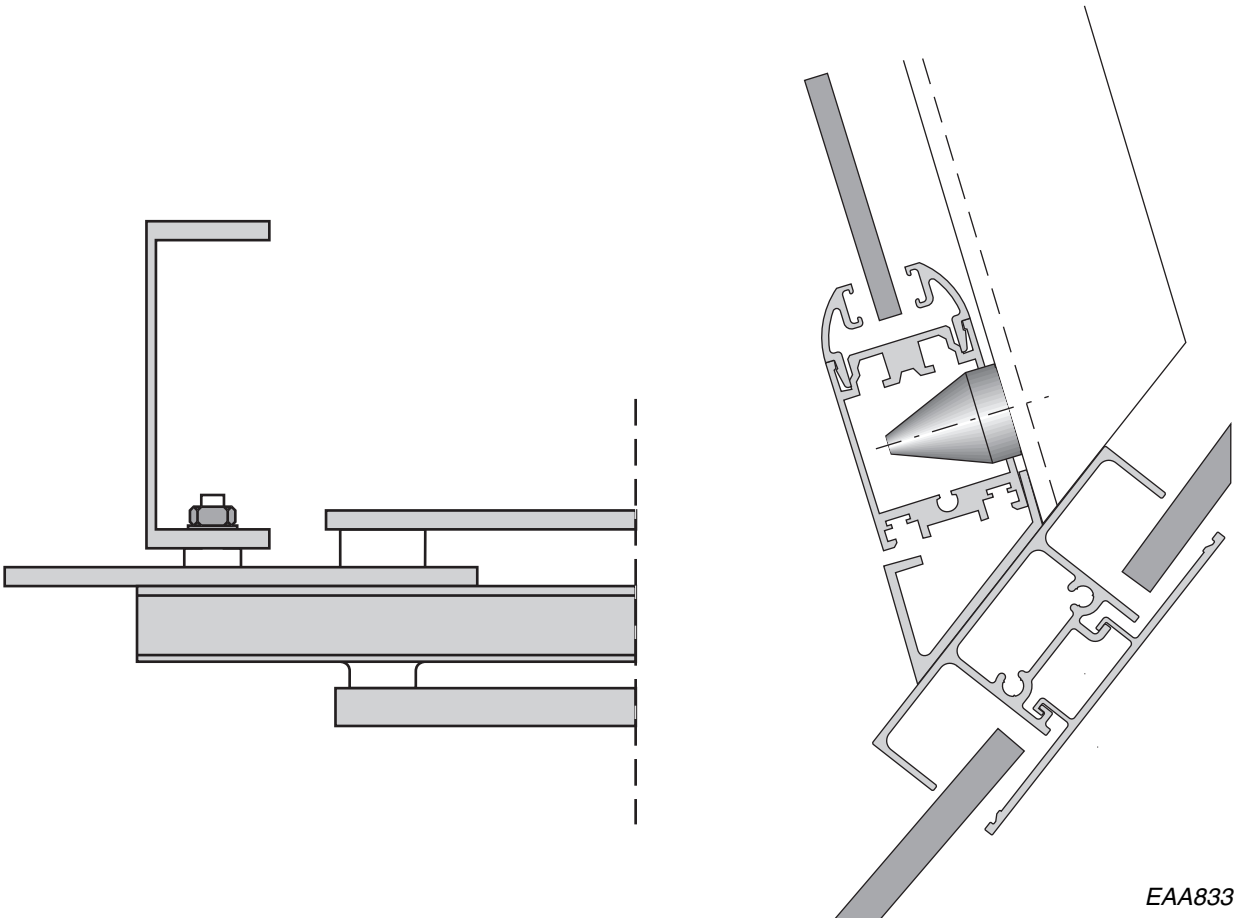
Tighten the last screw above the display door

Tighten the screws holding the curved part.



Make sure that the lower edge of the ceiling ring levels with the lower edge of the wall ring.

Adjust the ceiling ring so the distance E is equal all around. Move the rotating part around and check that the distance E not vary unacceptable.



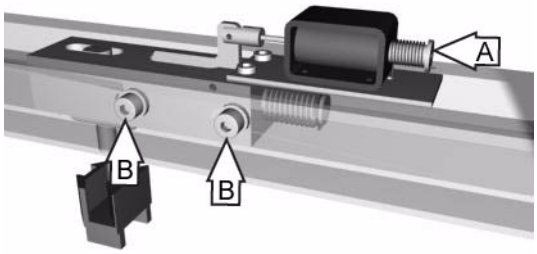
EAA833

Adjust the escape doors so the joints are even. The adjustment is made with the adjustment screws in the rotating frame. Lock the adjustment screws to the rotating frame with the locking nuts.

Adjust the display area by pressing out the lower corner of the curved part until you get the correct space between the curved part and the outer wall. Fix the cone to the beam. If necessary the level of the ceiling profile at centre can be adjusted with an adjustment screw above the ceiling.

Adjustment of the escape door lock

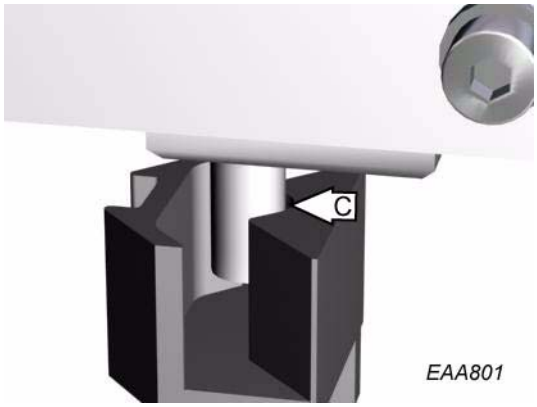
Cut the power to the lock.
Loosen the two bolts (B).
Activate the lock manually by pushing the magnet pin (A) forward.



EAA800

Pull the lock backwards as far as possible.
Push the lock forward until the gap (C) between the locking bolt and the striking plate is between 1 and 2,5 mm.
Tighten the screws.

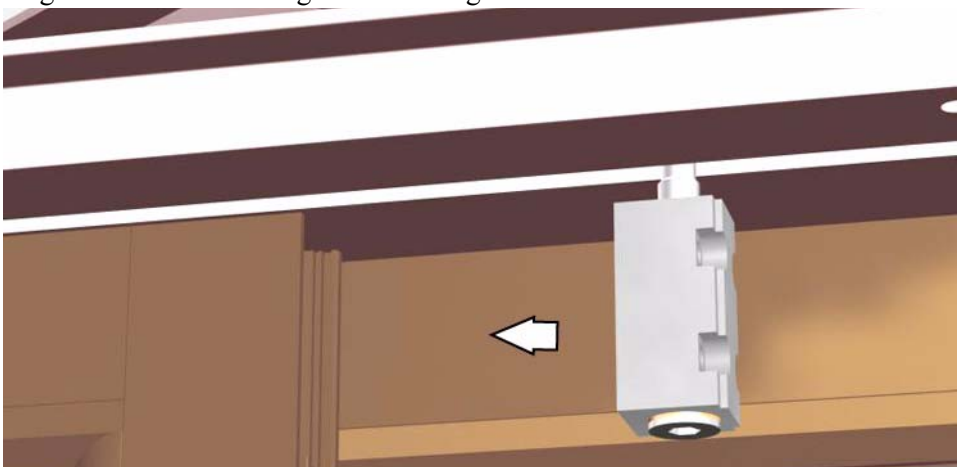
To receive maximum locking force the gap shall be between 2 and 2,5 mm.



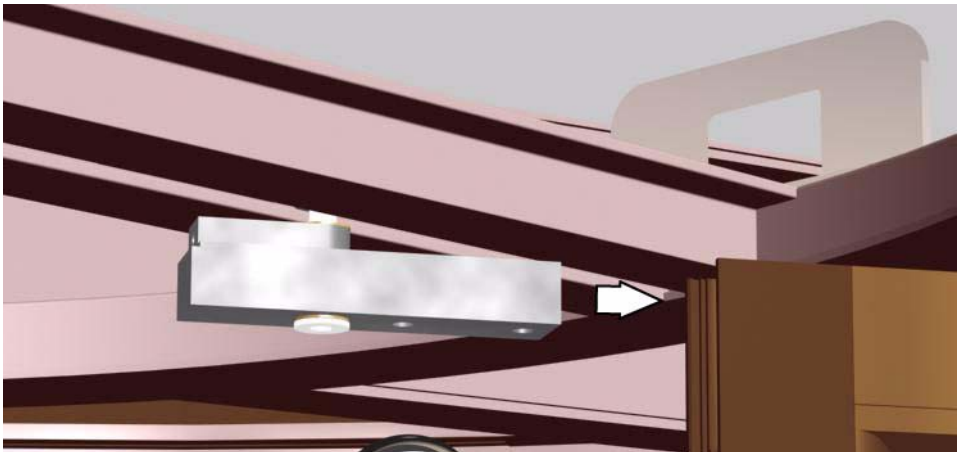
EAA801

3.11 Fitting of the sliding escape doors.

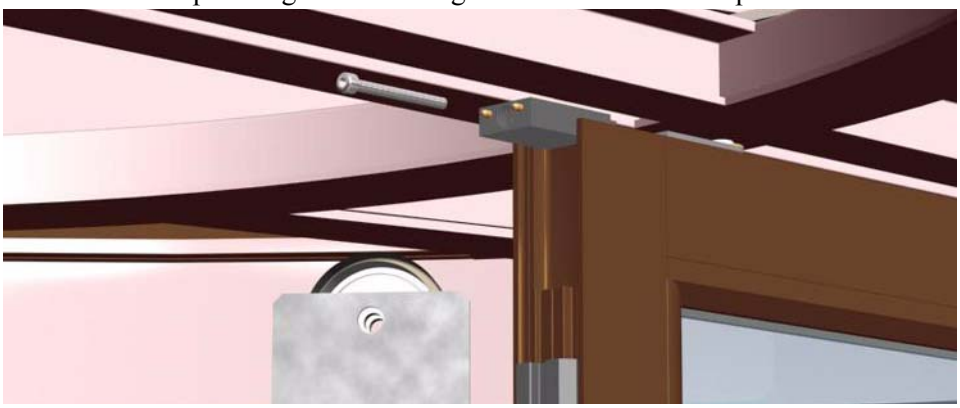
Put two wooden bloocks on the floor so the door leaf app. reaches the correct height to avoid the carriage wheel fittings to crack.



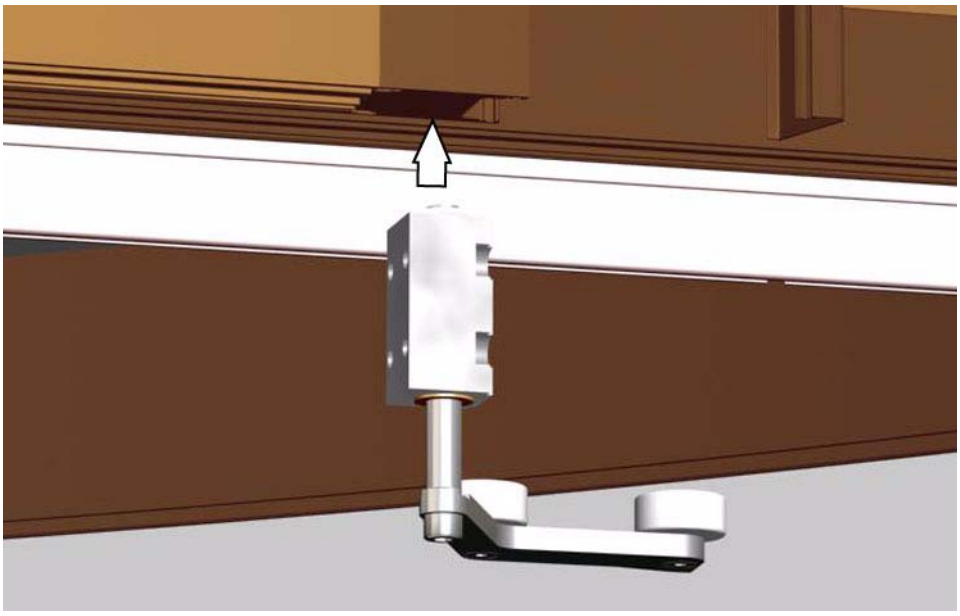
1. Mount the top carriage wheel fitting to the back of the escape door.



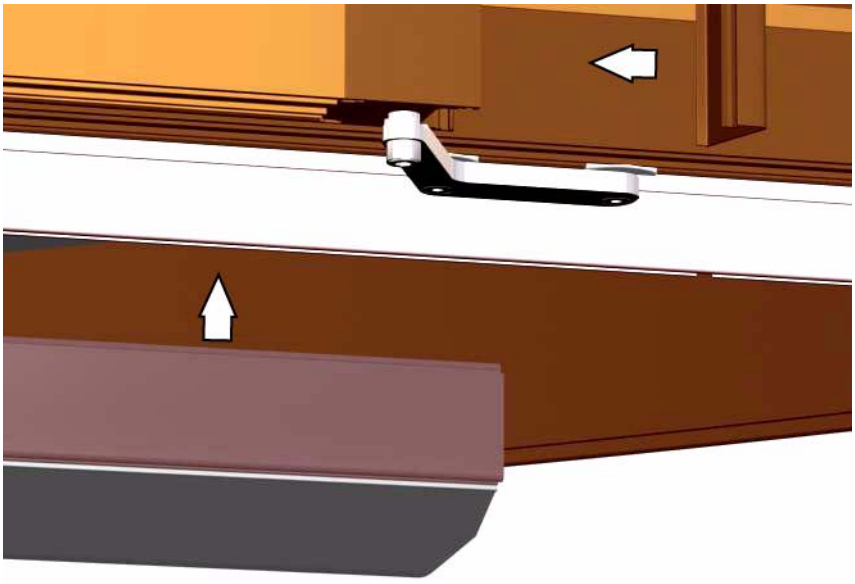
2. Mount the top carriage wheel fitting to the front of the escape door.



3. Mount the connection box
4. Fit the top of the rubber sealing to the escape door.



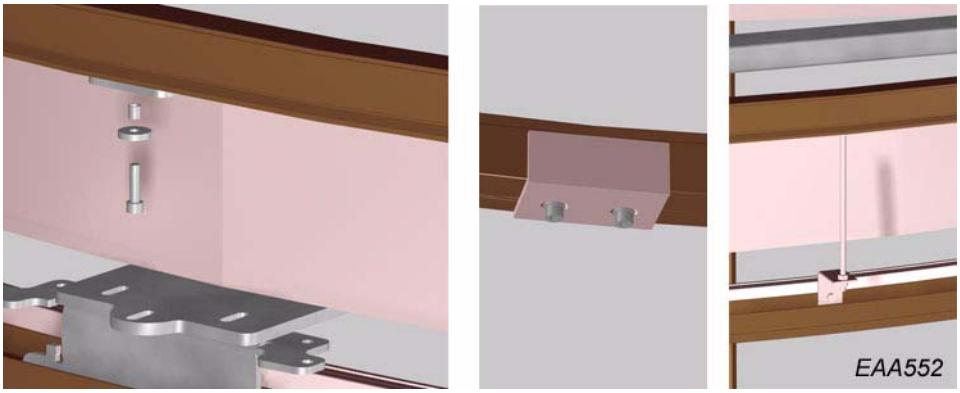
5. Mount the door guide at the bottom of the back of the escape door.
   Adjust the gap between the sliding escape door and the display door and the back of the sliding escape door in closed position by adjusting the bottom guider profile
6. Repeat step 1 to 5 on the other sliding escape door.
7. Adjust the escape doors
   Centre the sliding escape doors by loosen the carriage wheel fitting from the tooth belt (the one without the tooth belt joint). Put booth door leaves in closed position. Tighten the carriage wheel fitting to the tooth belt
   Close the doors and adjust the gap between the back of the escape door and the display area.
   Adjust the gap between the two escape doors by adjusting the height of the central beam.



8. Mount the safety edges.
9. Mount the profile to the back of the escape door.

3.12 Canopy ring

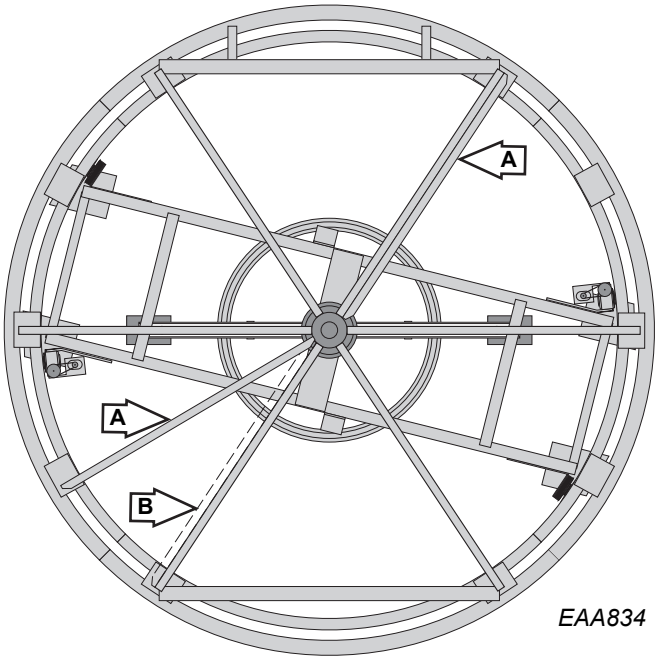
10 No. distances
18 No. MC6S 8x30
10 No. big washers
8 No. small washers
4 No. joint angles

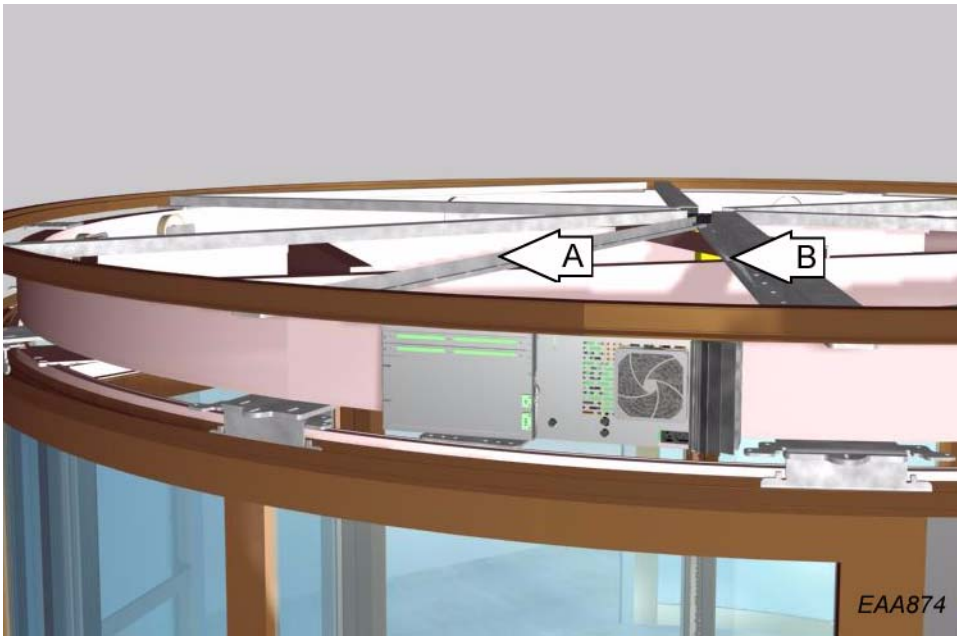


Fit the four parts of the canopy ring to the brackets on top of the drive ring.
Use distance, big washer and MC6S-screw to fix the canopy ring to the top drive ring bracket.
Use joint angles, small washers and MC6S-screws at the joints.

Mount the stabilizing rod above the centre of each opening.

3.13 Control box



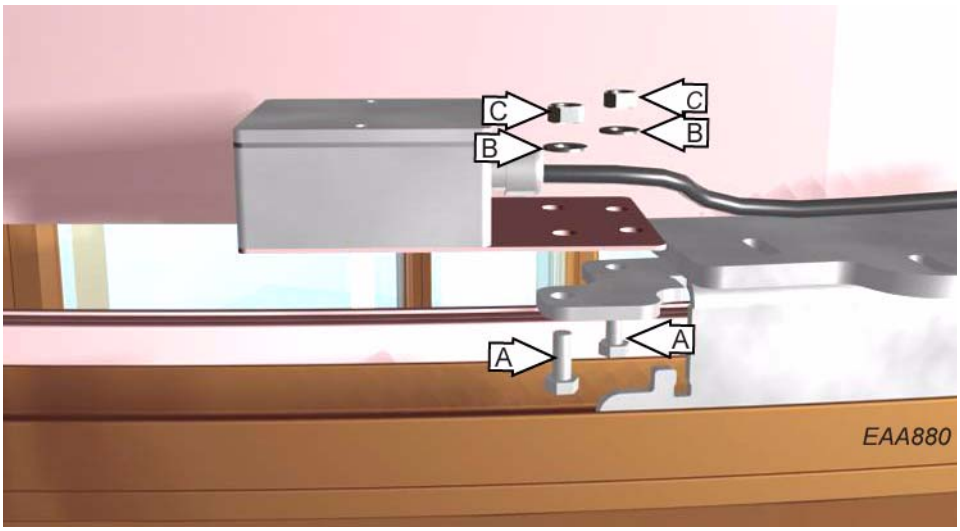


Mount the two cable-channels located according to A.
Put the end of the cable-channel on top of the central disc.
Slid the holes at the other end of the cable-channel around the screws holding the drive ring top bracket.
An alternative location of the cable-channel close to the control box is B.

Fix the CDC control box to the drive ring.

Connect the ground cable to ground either:
by connecting the ground cable to the driving ring with a self-drilling screw *or*
by connection to other ground terminal.
NOTE! Only one of the alternatives should be used.

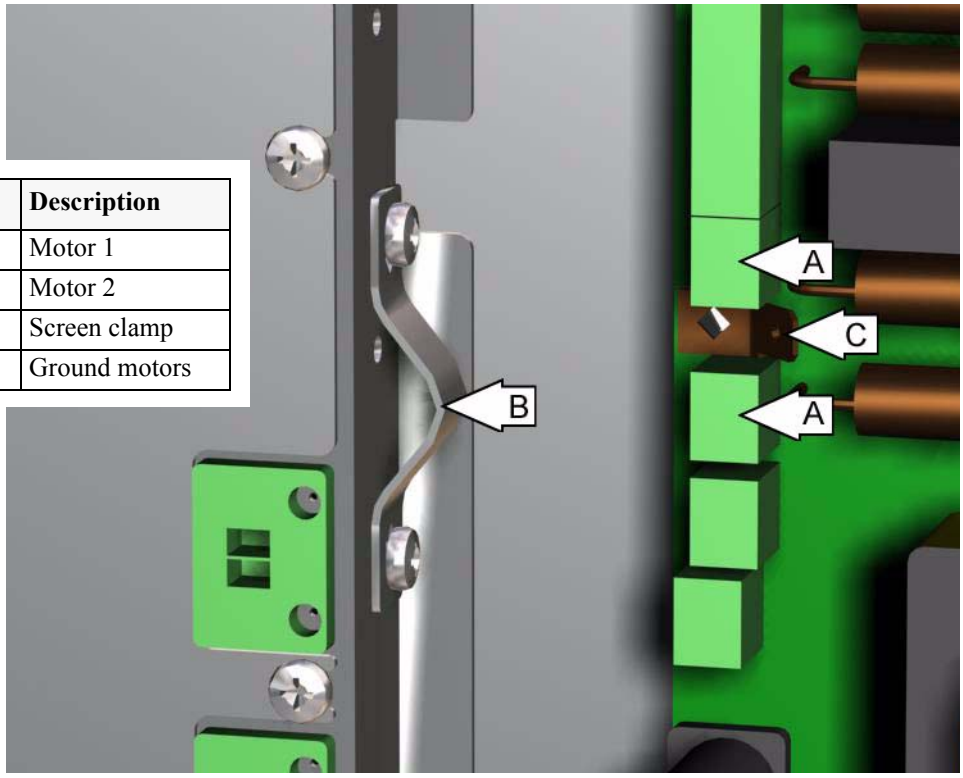
3.13.1 Connection box



Fix the mains connection box firmly to the Z-profile (M6S 8x20 (A), SRB 9x18 (B), M6M M8 (C)).

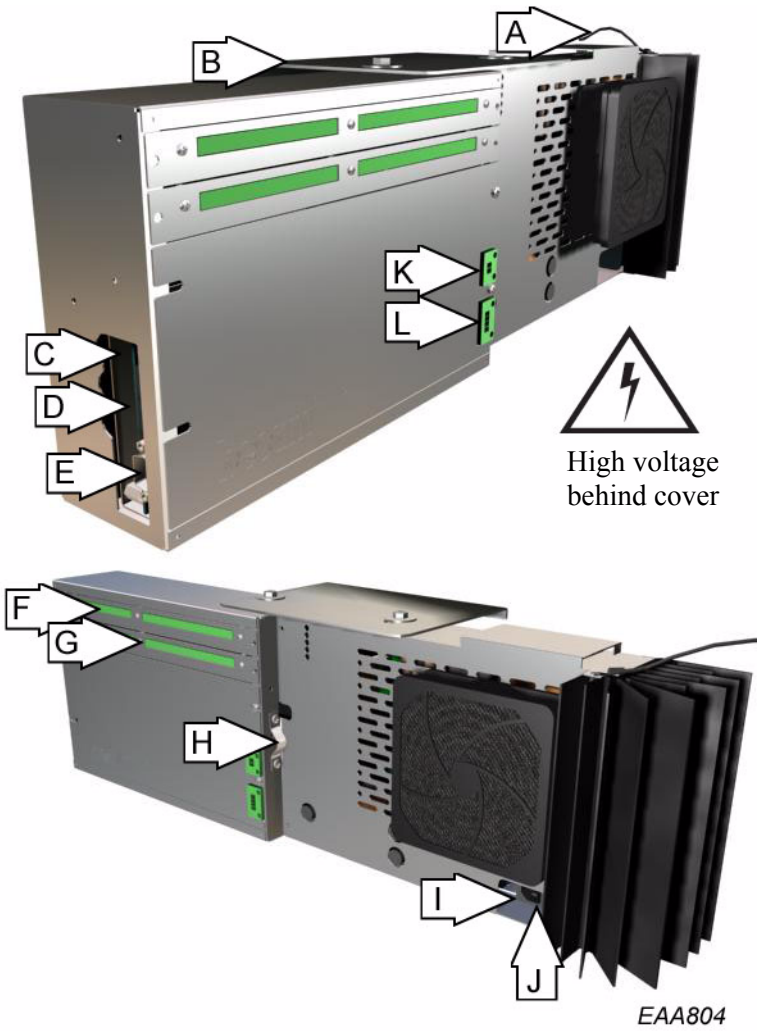
3.14 Electrical installation

Item	Description
A	Motor 1
A	Motor 2
B	Screen clamp
C	Ground motors



Connect the motor cables to the connections on the DPC-board marked A according to picture. Do not forget to relieve the motor cables with the screen clamp (B)

Item	Description
A	Ground cable
B	Mounting bracket
C	PCD Channel B connector
D	PCD Channel A connector
E	COM port
F	IOA 1 terminals
G	IOA 2 terminals
H	Motor cable opening
I	Mains power
J	Power outlet for spotlights
K	Evacuation push buttons
L	Emergency stop push buttons



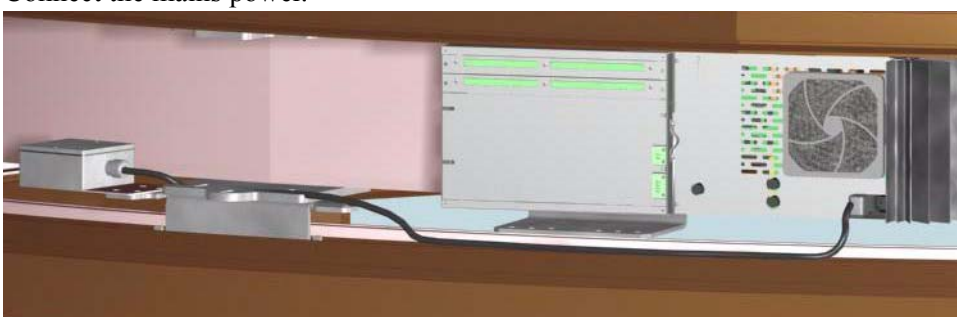
Connect the I/O-cables to the IOA terminals (see “IOA 1-board” on page 51) and “IOA 2-board” on page 54.

Connect the battery to connection DPC J13 on the DPC-board (see “DPC-board” on page 48).

Mount the PCD on the left mullion on the door internal side (or at other chosen location).

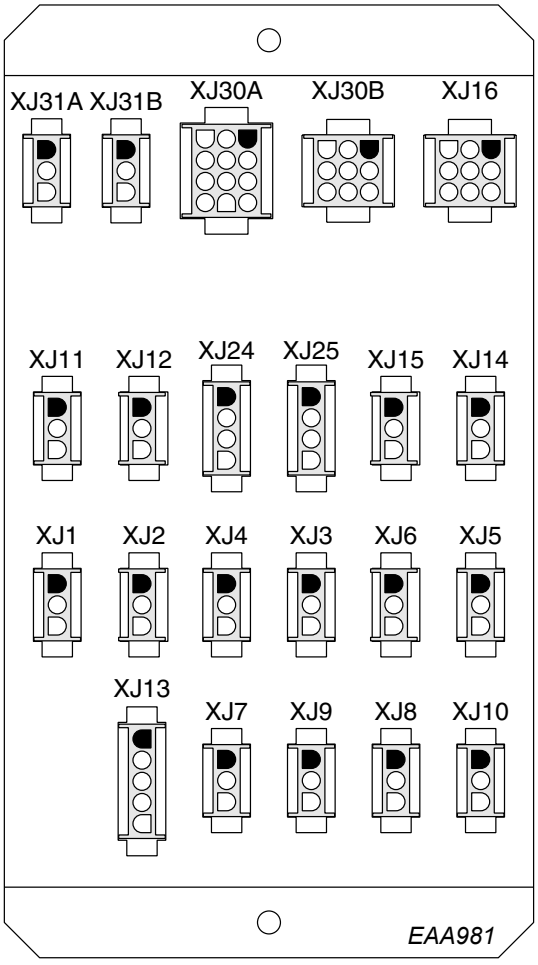
Connect the PCD cable to the CDC-box at the connector marked ”Channel A”.
Option: Connect a second PCD at the connector marked ”Channel B”. It is possible to set either channel A or B as PCD master channel with option flag 16 and 19 in the system settings. (see “Configuration options” on page 67)

Connect the power cable with the connection box to the CDC-box.
Connect the mains power.



3.14.1 Connection box at centre.

Conn.	Description
XJ1	24V (MR3)
XJ2	24V (MR3)
XJ3	Vertical safety switch (safety loop)
XJ4	Vertical safety switch (safety loop)
XJ5	Horizontal safety switch pivot door (safety loop)
XJ6	Horizontal safety switch pivot door (safety loop)
XJ7	Indication switch pivot door (safety loop)
XJ8	Horizontal safety switch display area (safety loop)
XJ9	Horizontal safety switch display area (safety loop)
XJ10	Indication switch pivot door (safety loop)
XJ11	Lock pivot door
XJ12	(Lock pivot door) spare
XJ13	CFD
XJ14	Brake 1
XJ15	Brake 2
XJ16	Spare
XJ24	Motor 1 out
XJ25	Motor 2 out
XJ30A	From CDC
XJ30B	Spare
XJ31A	Motor 1 in
XJ31B	Motor 2 in



Error code 10

To identify failure in the safety loop pull out connections XJ3 to XJ10 one by one and replace them with a 3 pin AMP-connector with a jumper between pin 1 and 2.

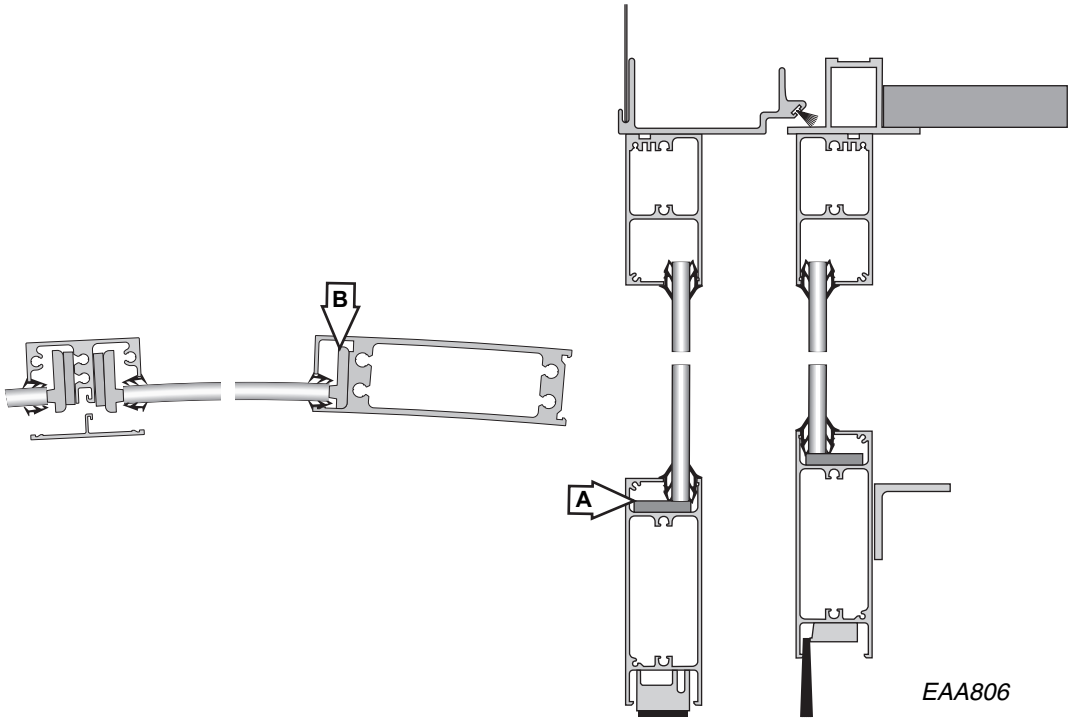
Note!

Error code 10 can also appear if there is contact between the signal cables and earth. Check the resistance on each loop with an Ohmmeter.

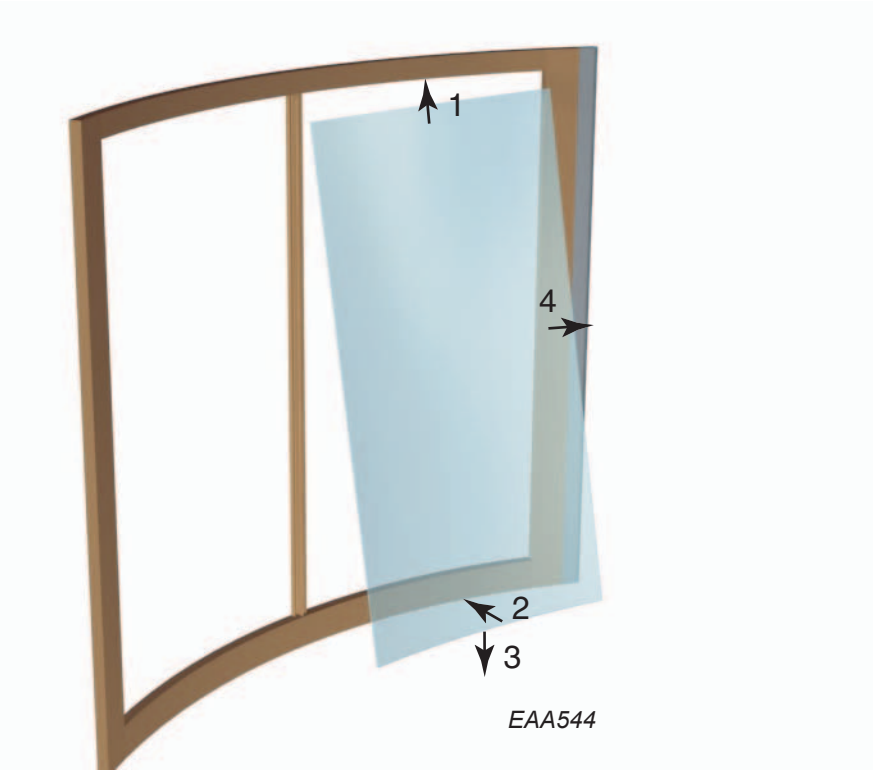
3.15 Glazing

The pivot doors and the straight parts to the display area are factory glazed. The outer walls and the curved parts of the display areas shall be glazed on site.

Glazing of curved glasses

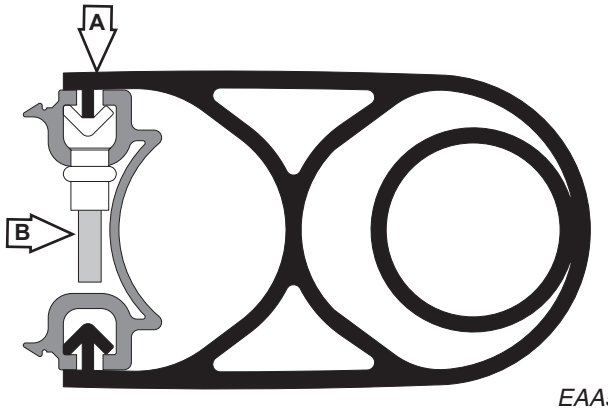


Mount the blocks in the sill (A) and the jamb profile (B).



Push the glass into the head profile.
Let the glass slide down into the sill profile.
Push the glass into the jamb profile.
Mount the blockings between the glass and the vertical glazing bar.
When both glasses are in place in the wall section, mount the cover profile.
Mount the rubber glazing strips.

3.16 Safety edges



EAA553

Mount the safety edge to the outer wall.
Loosen the edge of the rubber (A) to get access to the screw behind it.
Tighten the screw (B).
Put the rubber back in place.

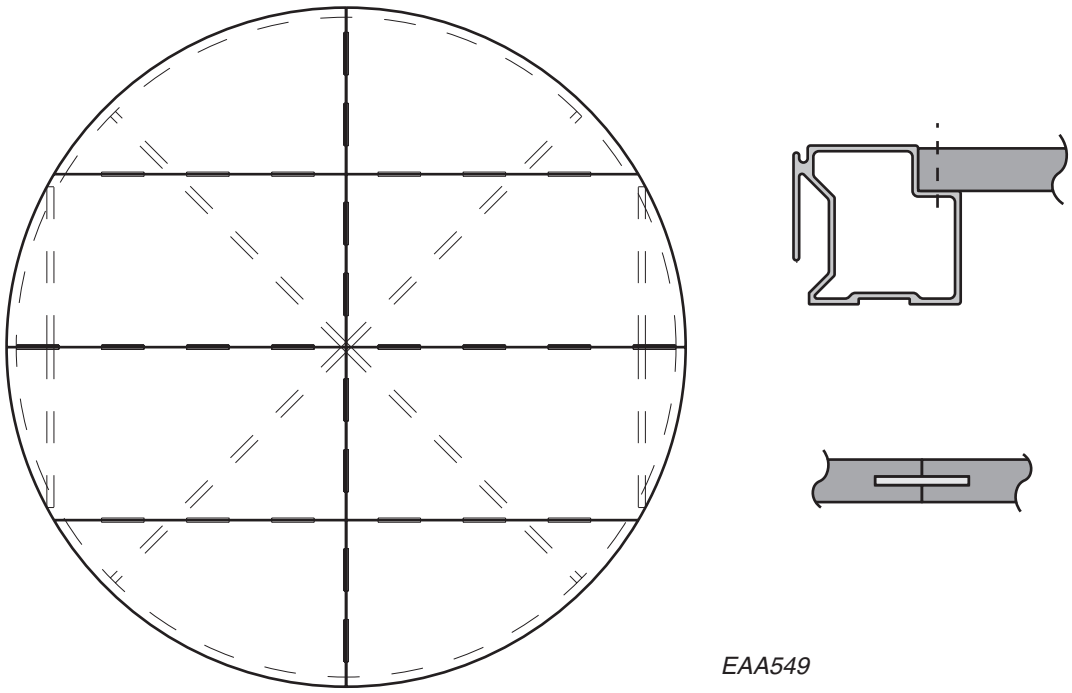
The screws are located 10mm from each end of the aluminium fixing profile.

3.17 Function check

Check all functions. See “Program Control Device (PCD)” on page 57 or “Operation via Main Diagnostic Terminal, MDT” on page 78

3.18 Dust roof

30 No. RXK 4,2x32 (self drilling screws.



EAA549

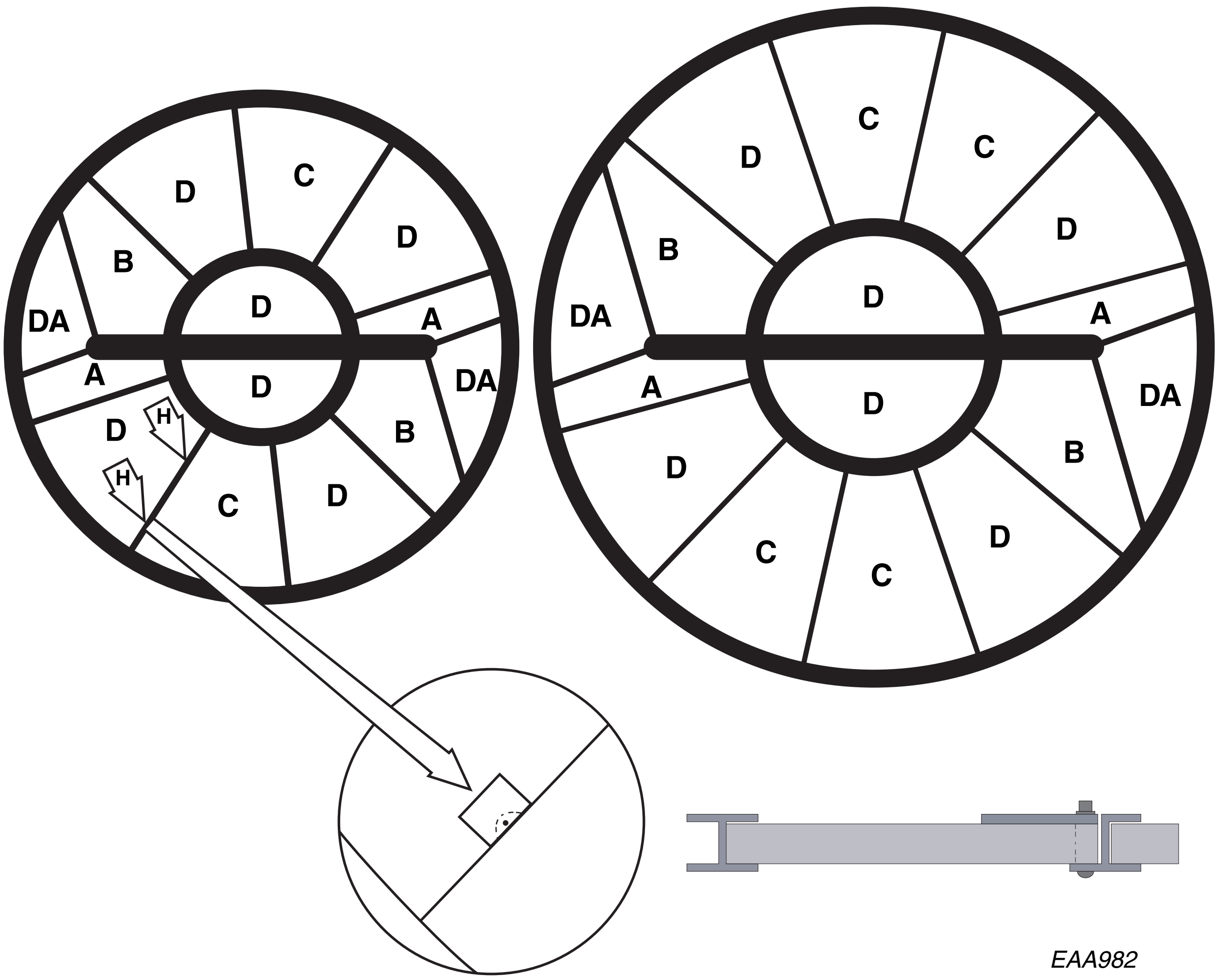
Put all parts in place on top of the canopy.

Push the parts together using the guiding tongues.

Screw the dust roof to the canopy ring.

3.19 Inner ceiling

40 No. RTS ST 5,5x13

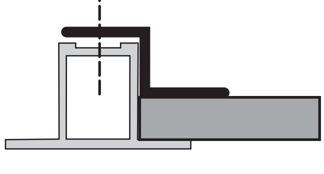


EAA982

Parts marked DA are already in place.

Put all remaining parts of the ceiling in place.

Adjust to get even joints.



EAA561

Fix parts A, B and C to the outer and inner ceiling ring with the ceiling brackets.

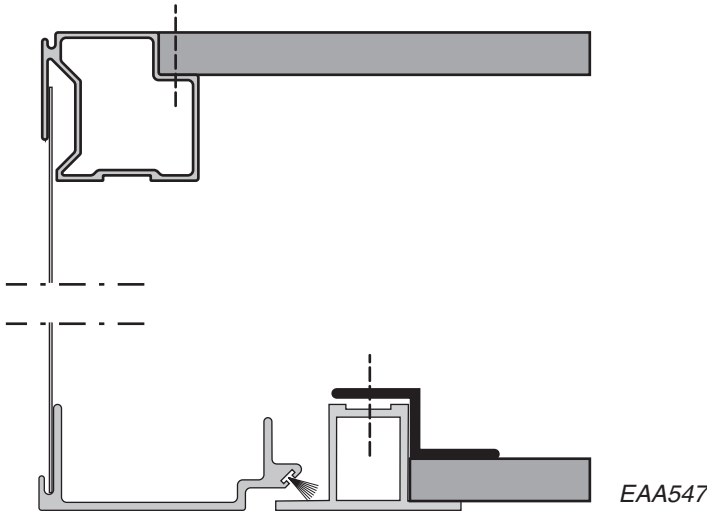
Fix the inspection hatch locks with double adhesive tape. Make sure to align the locks with the edge of the ceiling and centre the rivet nuts.

Connect the lights to the pre-installed wires at the rotating frame.

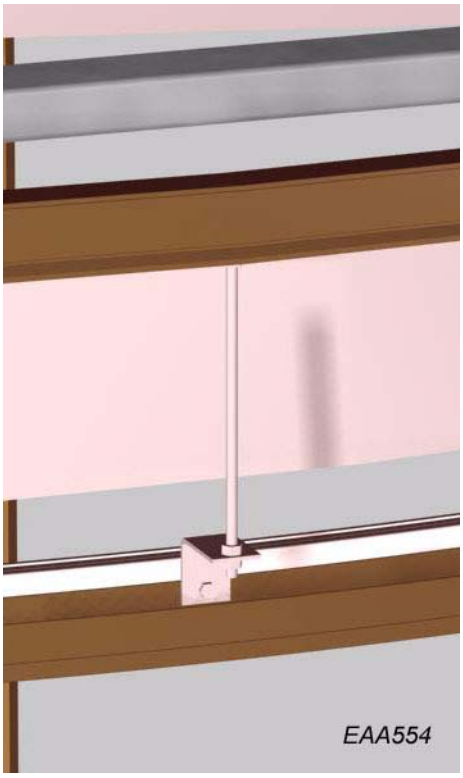
Connect the light to the control box (see “Electrical installation” on page 35).

Put the floor in the display area.

3.20 Facia

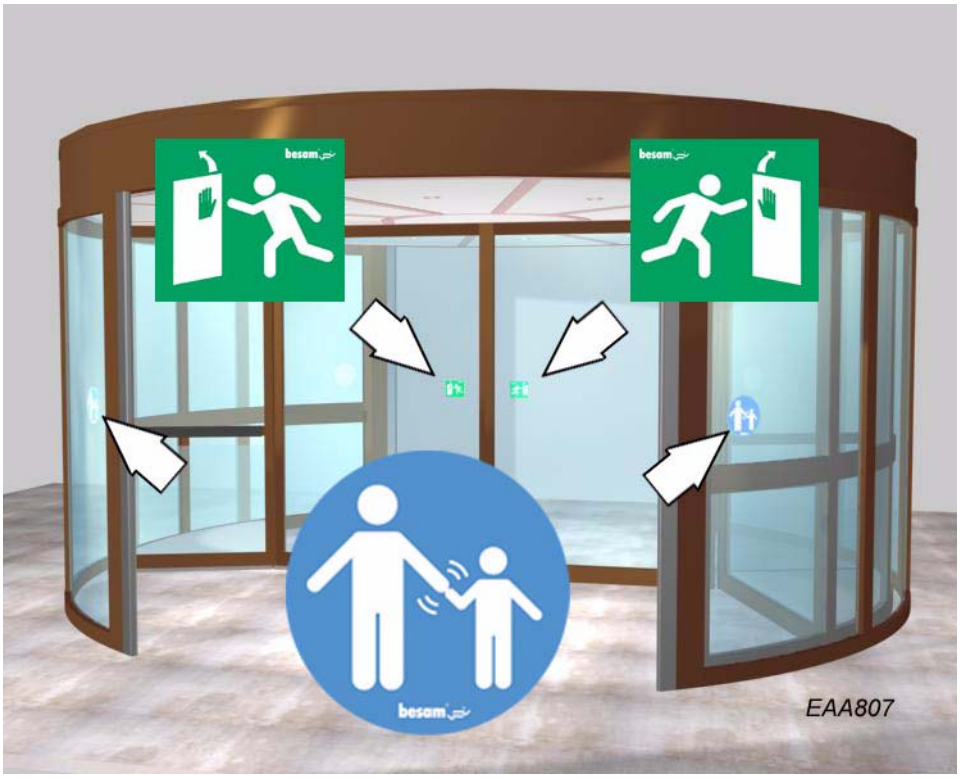


Fit the al.-facia sheets by pushing them up in the grove in the canopy ring and then sliding them down in to the wall ring.



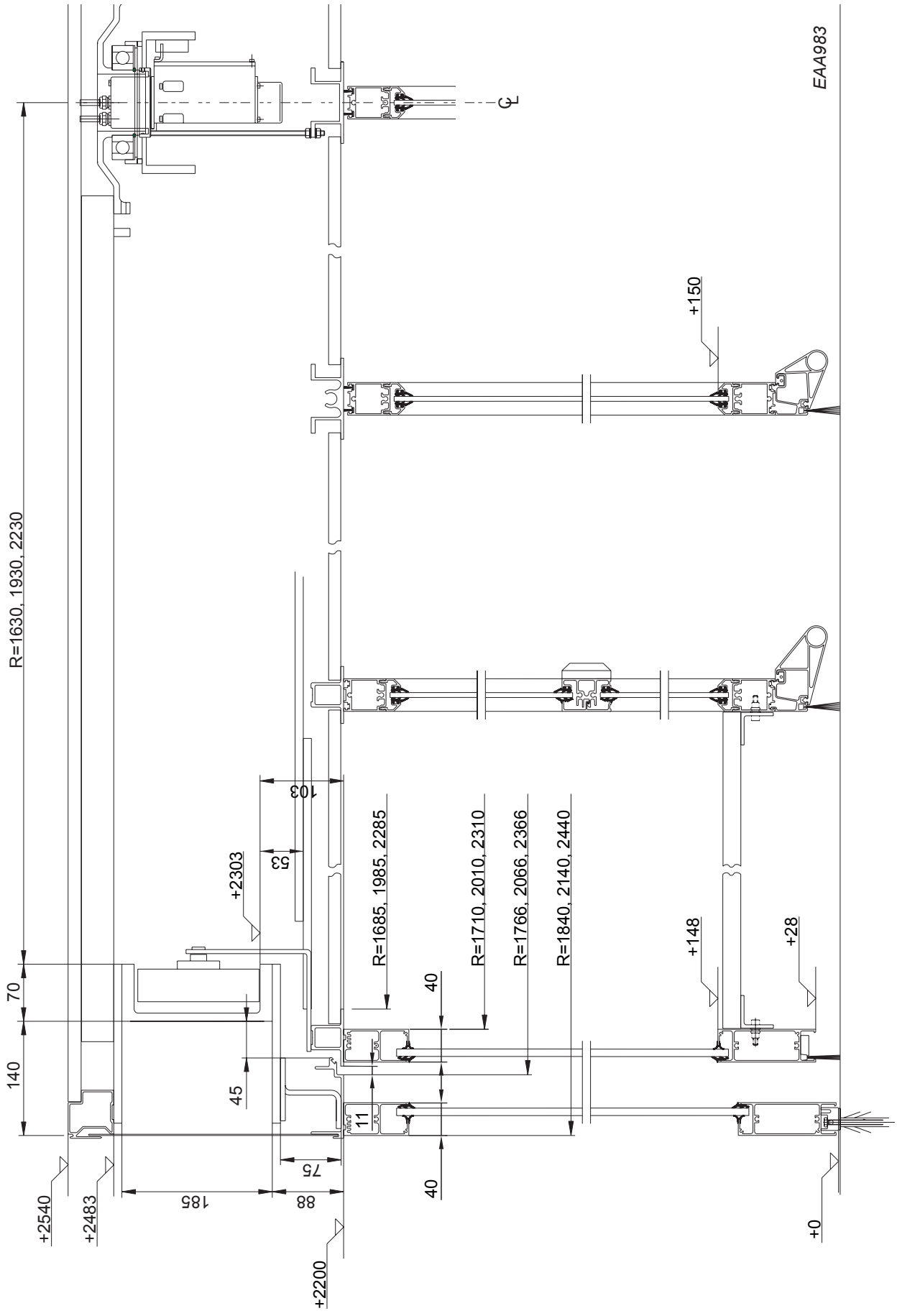
The distance between the canopy ring and the wall ring can be adjusted with stabilizing rod located above each opening.

3.21 Signs

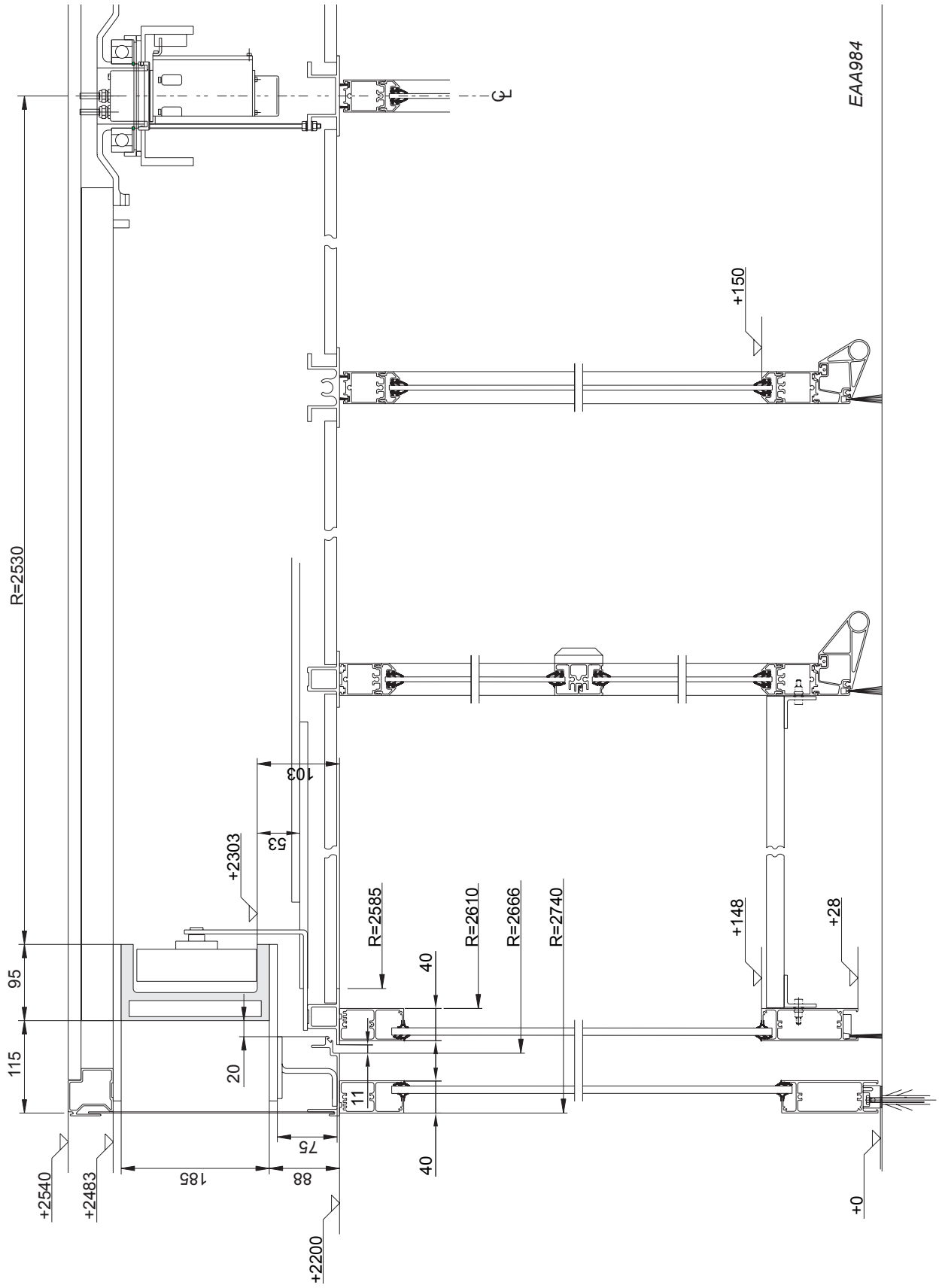


The signs shall be put on from both the inside and the outside of the door app. 1200mm from finished floor to the centre of the signs.

3.22 Cross sections UniTurn-36/42/48



3.23 Cross sections UniTurn-54



4.0 CDC system

4.1 General information

4.1.1 Safety test

To ensure the high safety level of the door, the safety systems are tested.

Every 20 min. the condition of the safety equipment is tested. This test is made during normal running conditions and is not noticeable

Every 24 hours (normally at the first start up) the brakes and motors are tested. The test takes about one minute and is carried out as follows:

1. The door runs close to the closed position and stops
2. The brakes are activated.
3. The door tries to run with the brakes on and checks for any movement.

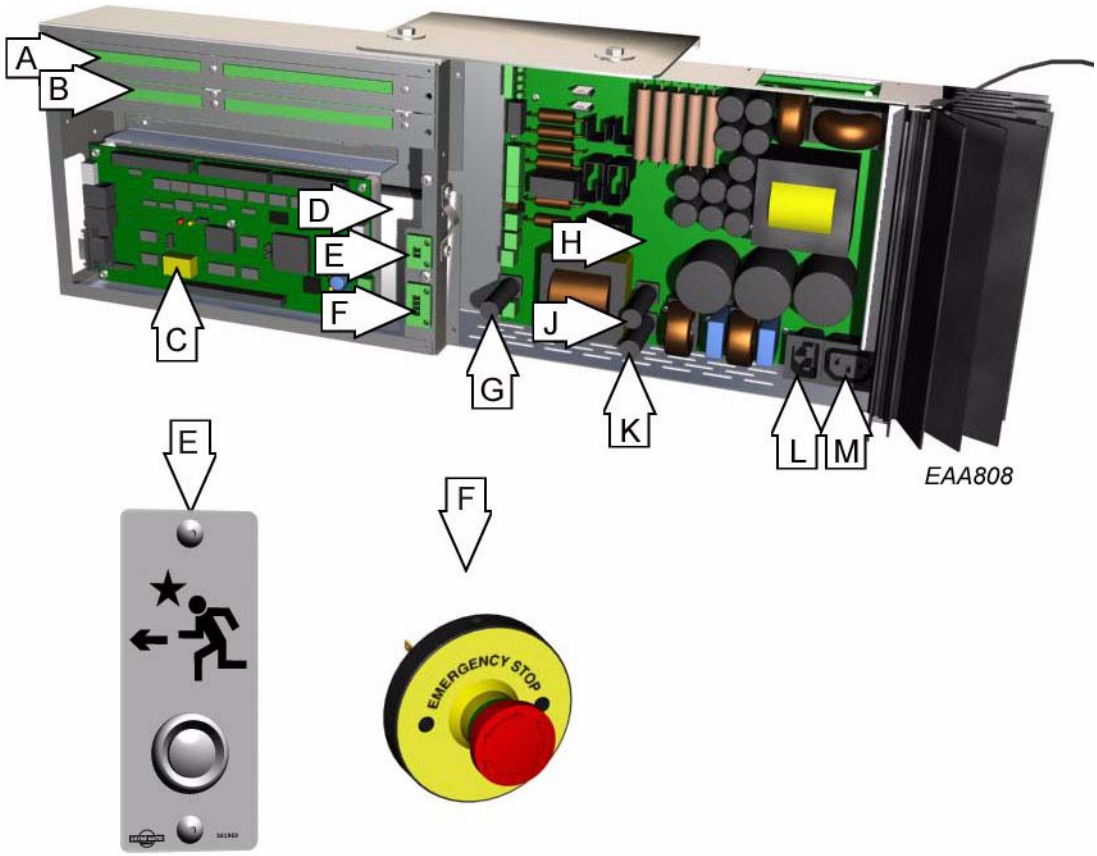
4.1.2 Fire alarm and power failure

Safety device conditions when the door is running to the emergency position:

CFD and PDR are disconnected.

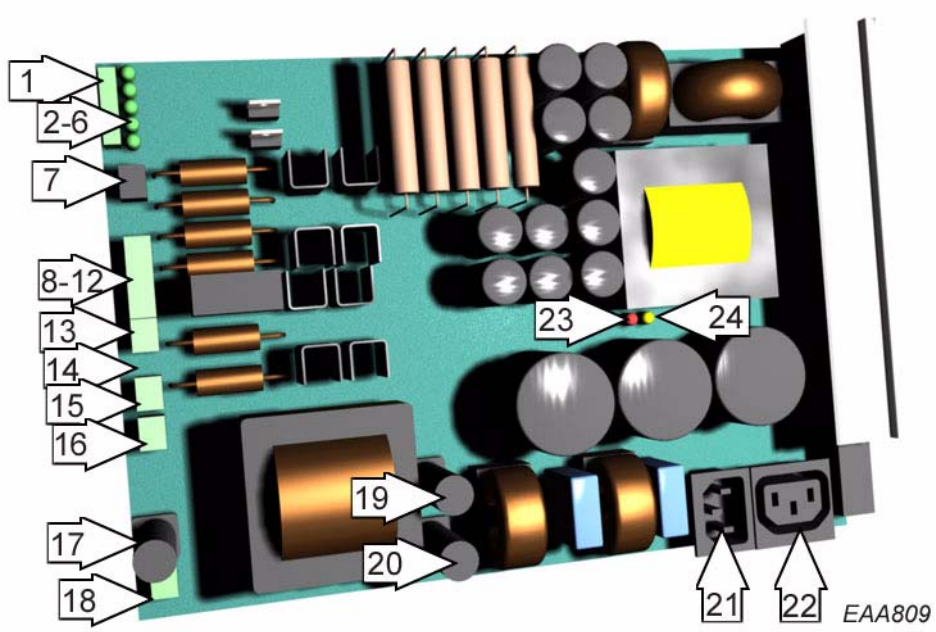
Door stop if safety edge (code10) is activated, but start again after 4 sec with a speed at 0,5 rpm and all safety are disconnected.

4.2 Identification



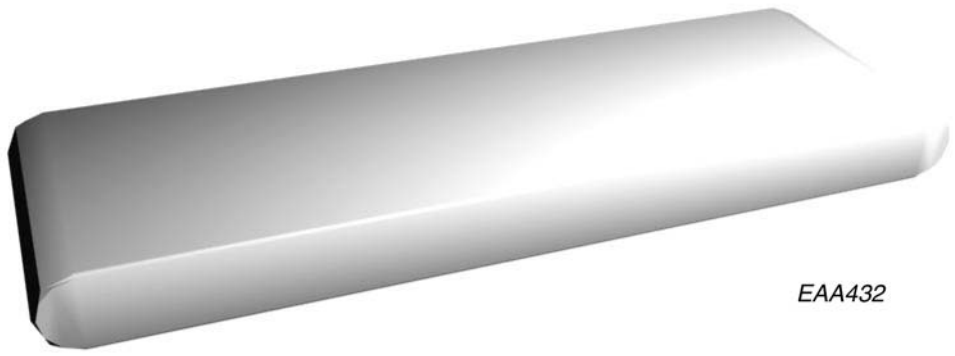
Item	Description
A	IOA 1 terminals
B	IOA 2 terminals
C	MPU Main processing unit
D	Battery
E	Evacuation push buttons (2)
F	Emergency stop push buttons (2)
G	Battery fuse 16 A slow (F3)
H	DPC-board
J	Main fuse 10 A slow (F2)
K	Main fuse 10 A slow (F1)
L	Mains
M	Power lighting

4.3 DPC-board



Item	Description
1	Connector, to MPU-board (J 10)
2	LED green, -12V
3	LED green, +5V
4	LED green, +12V
5	LED green, +24V
6	LED green, +42V
7	Connector, evacuate function (J11)
8	Connector, -12V (J 2)
9	Connector, 0V (J 2)
10	Connector, +5V (J 2)
11	Connector, +12V (J 2)
12	Connector, +24V (J 2)
13	Connector, motor M1 (J 4)
14	Earth
15	Connector, motor M2 (J 8)
16	Connector, emergency stop (J 15)
17	Fuse, battery 16 AT (slow) (F 3)
18	Connector, battery in (J 13)
19	Fuse, mains power 10 AT (slow) (F 2)
20	Fuse, mains power 10 AT (slow) (F 1)
21	Mains power (J 1)
22	Power outlet for lighting (J 9)
23	LED red, thermal overload indicator
24	LED yellow, mains power indicator

4.4 Battery pack



The battery pack supplies power to the CDC-system during mains power failure and enables revolving door emergency drive. The battery pack is mounted in the CDC-box underneath the MPU-board and connected to DPC J13.

WARNING!

After main switch off the battery still supplies power to the CDC-system during 90 seconds.
To ensure power off:
- disconnect the battery by typing *F931* on the PCD and switch power off within 30 seconds

or

- wait 90 seconds after power switch off

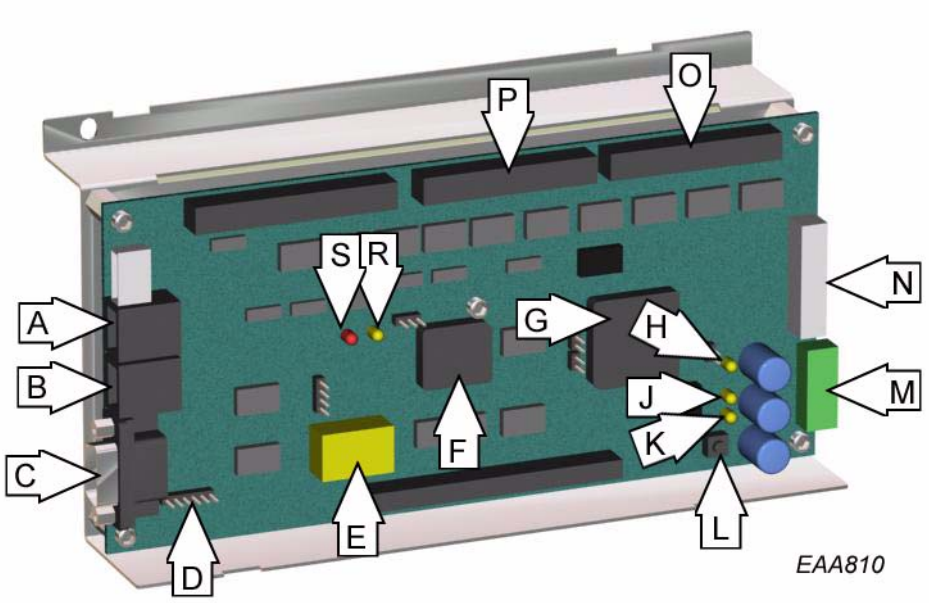
or

- disconnect the battery from DPC J13.

If error code 36 (battery error) is shown when connecting the battery, allow the battery pack to recharge for min. 24 hours. It takes 72 hours to fully charge the battery pack.

Besam uses back up batteries which are not classified as dangerous for the environment. In spite of this, back up battery shall be removed from the appliance before it is scrapped. The revolving door shall be disconnected from the mains supply before the battery is removed. The battery is easily disconnected by one two pole connector (and one additional one pole connector for the door in escape route).
All used batteries shall be disposed of safely.

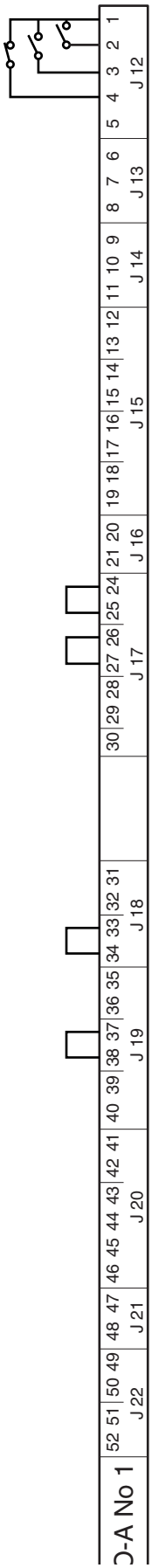
4.5 Main processing unit, MPU



Item	Description
A	Connector, PCD B (J 7)
B	Connector, PCD A (J 6)
C	Connector, COM port (J 5)
D	Programming connector (J 11)
E	Ram memory and battery backup
F	Flash memory
G	Main processor CPU
H	LED3, indicator 24V (PCD)
J	LED2, indicator 12V Logic
K	LED1, indicator 5V Logic
L	Reset button
M	Connector, power from DPC-board (J 1)
N	Connector, signals to DPC-board (J 4)
O	Connector, to IOA 1 (J 9)
P	Connector, to IOA 2 (J 10)
R	LED Error frequent reset.
S	LED Watchdog on in normal condition

The MPU controls the CDC-system Three LED;s, showing power supply, and a red reset button are placed on the board. The PCD channel A and B connectors and the COM port are mounted on the MPU-board.

4.6 IOA 1-board



Conn	Term		Description
J12	1	+	Climate control, security mat and mechanical lock
	2	IN	Climate control
	3	IN	Security mat
	4	IN	Mechanical lock
	5		
J13	6	+	Vertical sensor PDR1 (inside)
	7	IN	
	8	-	
J14	9	+	Vertical sensor PDR2 (outside)
	10	IN	
	11	-	
J15	12	IN	Not used
	13		
	14	IN	Not used
	15		
	16	IN	Slow (CFD)
	17		
	18	IN	Stop (CFD)
	19		
J16	20	IN	Motorized service opening of pivot doors, inwards. Automatic slider, open
	21		
J17	24	OUT	Safety loop out
	25	(IN)	
	26		
	27	(IN)	
	28		
	29	IN	Safety loop in
	30		Not used
J18	31	IN	Lock door command
	32		
	33	IN	Fire alarm
	34		
J19	35	IN	El-mech. lock locked
	36		
	37	IN	El-mech. lock open
	38		
	39		El-mech. lock motor
	40		
J20	41	+	Brake 1
	42	OUT	
	43		Not used
	44		
	45	+	Service door impulse
	46	OUT	
J21	47		Not used
	48		
J22	49		Climate control
	50	OUT	
	51	OUT	Door status
	52		

Digital inputs, IOA 1-board

Terminal 2. Climate input

(see “Climate control” on page 103)

Terminal 3. Security mat input

UniTurn OneWay only

Terminal 4. Mechanical lock input (status code 12)

Normally closed.
Indicates mechanically locked door to the system.
The door is stopped when input is activated.

Terminal 7. Vertical sensor PDR 1, inside (status code 21)

The door is stopped when input is activated by presence in the safety zone.

Terminal 10. Vertical sensor PDR 2, outside (status code 22)

The door is stopped when input is activated by presence in the safety zone.

Terminal 16. CFD slow (status code 25)

Door speed is reduced to ”Creep speed” when input is activated. ”Creep speed” is held until 1 s after input deactivation.

Terminal 18. CFD stop (status code 26)

The door is stopped, with or without active brakes (option selection), when input is activated. The door starts again 1 s after input deactivation.

Terminal 20. Automatic service opening inwards

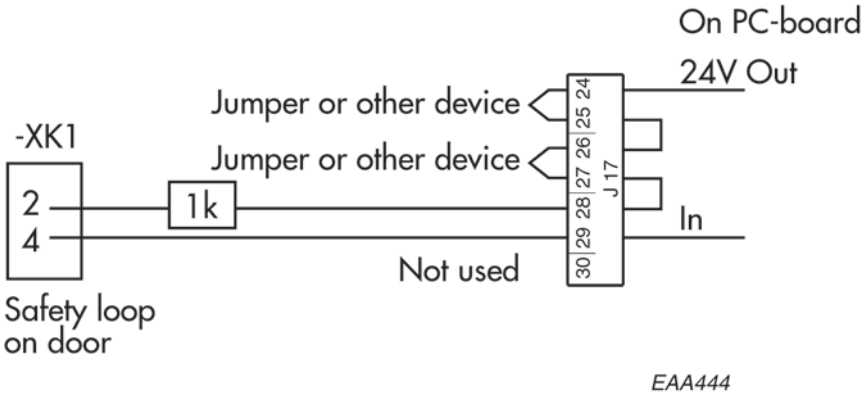
Activation position switch. Door stop and open pivot doors inwards.
Automatic sliding doors, open (see “Automatic sliding centre door leaves” on page 117)

Terminal 24. Safety loop output

Terminal 29. Safety loop input (status code 10)

The safety loop is supervised with a 1k resistor as reference value.

The door is stopped with active brakes when input is activated. The door starts again 1 s after the input is deactivated.



Terminal 31. Lock door command

The door is rotated to closed position and locked by activation of the electromechanical lock (if fitted).
Input is possible in all operating modes except: *7 Manual and 8 Summer position.*

Terminal 33. Fire alarm input (status code 31)

The door is rotated to emergency position (defined by configuration option). The door resumes normal operation 1 s after input deactivation.

Terminal 35. El-mech. lock closed indication (error code 11)

Input is activated when the electromechanical lock is in locked position.

Terminal 37. El-mech. lock open indication (error code 11)

Input is activated when the electromechanical lock is in open position.
Note! Short circuit connection 37 and 38 with a jumper if no electromechanical lock is installed.

Digital outputs IOA 1-board

Terminal 39, Electromechanical Lock Power

Output +24 V when the electromechanical lock motor travels to closed position and 0 V when the electromechanical lock motor travels to open position.

Terminal 40, Electromechanical Lock Power

Output 0 V when the electromechanical lock motor travels to closed position and +24 V when the electromechanical lock motor travels to open position.

Terminal 42, Rotation Brake 1

Output is active continuously or for one second when used as active brake.
This output is controlled by configuration flag 7, 9, 12 and 14.

Terminal 46, Motorized service door output

Activate the motorized service doors or the automatic sliding doors to open

Terminal 48

Not used.

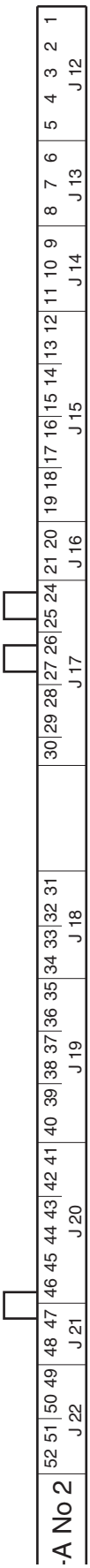
Terminal 50, Climate Output

(see “Climate control” on page 103)

Terminal 51-52, Door status

Potential free contact.
Output is activated when the door is rotating or is standing in locked position.
(To be chosen in configuration option flag 21)

4.7 IOA 2-board



Conn	Term		Description
J12	1	+	Encoder
	2	0	
	3	A	
	4	B	
	5	-	
J13	6	+	
	7	IN	High speed impulse inner
	8	-	
J14	9	+	
	10	IN	High speed impulse outer
	11	-	
J15	12	IN	Low speed impulse inner
	13		
	14	IN	Low speed impulse outer
	15		
	16	IN	Error clear
	17		
	18		Not used
	19		
J16	20	IN	Motorized service opening of pivot doors, outwards. Automatic slider, auto
	21		
J17	24	OUT	Emergency stop loop out
	25	(IN)	
	26		
	27	(IN)	
	28		
	29	IN	Emergency stop loop in
	30		
J18	31	IN	Emergency position command
	32		
	33		Not used
	34		
J19	35	IN	Key inner
	36		
	37	IN	Key outer
	38		
	39		Not used
	40		
J20	41	+	
	42	OUT	Brake 2
	43		
	44	OUT	Escape door lock
	45		PDR test
	46		
J21	47		Not used
	48		Not used
J22	49		Not used
	50		Not used
	51	OUT	General alert
	52		

Digital inputs IOA 2-board

Terminal 2, 0-pulse

Incremental encoder 0-pulse input.

Terminal 3, A-pulse

Incremental encoder A-pulse input.

Terminal 4, B-pulse

Incremental encoder B-pulse input.

Terminal 7, High Speed Start Inner

The door rotates 180 or 360 degrees at ”High speed” from open position. Selected by configuration flag 15.
The door rotates 360 degrees from closed position.
Active in operating modes 2, 3, 4, 5 and 6.

Terminal 10, High Speed Start Outer

The door rotates 180 or 360 degrees at ”High speed” from open position. Selected by configuration flag 15.
The door rotates 360 degrees from closed position.
Active in operating modes 2, 3 and 6.

Terminal 12, Low Speed Start Inner

The door rotates 180 or 360 degrees at ”Low speed” from open position. Selected by configuration flag 15.
The door rotates 360 degrees from closed position.
Active in operating modes2, 3, 4, 5 and 6.
If the door is rotating at a higher speed when input is activated, the speed is immediately reduced to ”Low speed” for the rest of the rotation cycle or minimum 270 degrees if start is reactivated.

Terminal 14, Low Speed Start Outer

The door rotates 180 or 360 degrees at ”Low speed” from open position. Selected by configuration flag 15.
The door rotates 360 degrees from closed position.
Active in operating modes: *2, 3* and 6.
If the door is rotating at high speed when input is activated, the speed is immediately reduced to ”Low speed” for the rest of the rotation cycle or minimum 270 degrees if start is reactivated.

Terminal 16, Error Clear

Error reset push button input.
Same function as “C”-button on the PCD.

Terminal 20, Automatic service opening outwards

Activation position switch. Door stop and open pivot doors outwards. (see “Motorized service opening of pivot doors” on page 113)
Automatic sliding doors, auto (see “Automatic sliding centre door leaves” on page 117)

Terminal 24, Emergency stop loop output

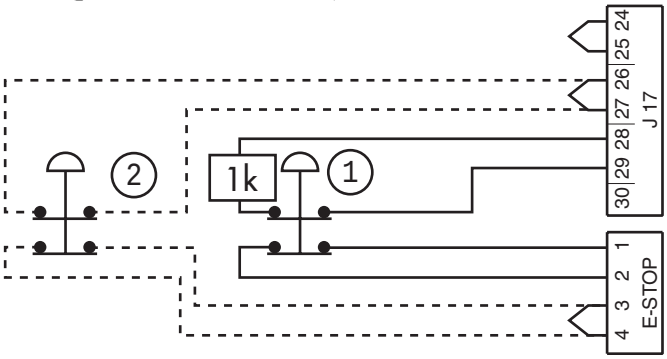
Terminal 29, Emergency stop loop input (error code 20)

Stop button 1 located inside is mandatory and is equipped with a build-in 1k resistor.

The emergency stop button shall have a double normally closed contact.

Connector J17 connection 26, 27 and connector E-stop connection 3, 4 - Jumper or stop button 2.

The door is stopped with active brakes when the input is activated. The door starts again when the input is deactivated and the error condition is manually reset (press "***C***" on the PCD)



Terminal 31, Emergency position command (status code 33)

The door rotates to the emergency position when the input is activated.

Terminal 35, Key Inner

The door rotates 360 degrees. Active in all operating modes except: *7 Manual and 8 Summer position*.

Terminal 37, Key Outer

The door rotates 360 degrees. Active in all operating modes except *7 Manual and 8 Summer position*.

Digital outputs IOA 2-board

Terminal 42, Rotation Brake 2

Output is active continuously or for one second when used as active brake.
This output is controlled by configuration flag 7, 9, 12 and 14.

Terminal 44, Escape door lock

Output is always active except when:
-Fire alert input is active, status code 31
-The door is battery operated, status code 32
-The door is locked in locked position, optional function
(option flag 8: *Escape door lock in locked position*)
-Code 20 is active
-The door is in summer position.

Terminal 45, Output for PDR test signal

Related error codes is D4 and D5.

Terminal 51-52, General Alert

Potential free contact.
Output is activated instantly for all error codes and with a 10 second delay for all status codes.

5.0 Program Control Device (PCD)

NOTE!

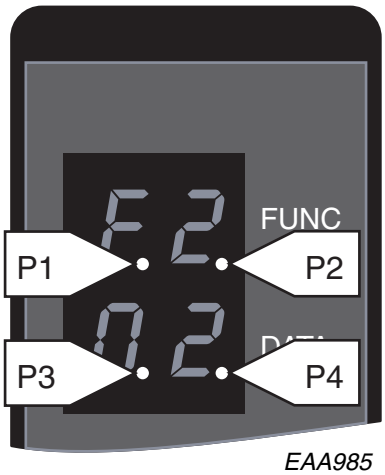
During all changes in settings the revolving door must be allowed to rotate 360° to enable the changes to be completed.

EAA812

Key	Function
0-9	Numeric inputs
#	Confirm access code input
È	Setpoint selection upwards
Í	Setpoint selection downwards
+	Setpoint value change upwards
–	Setpoint value change downwards
F	Function selection
S	Setpoint confirmation and storage
C	Error reset Clear display Leave menu
	Lock door command to be connected to IOA 1 connection 31, 32

The PCD display blanks 10 or 30 seconds after the last key stroke but still remains in the current function menu (see “Configuration options” on page 67).

Information prompts on PCD display



EAA985

Prompt	Description
P1	Locked door command ON
P2	Service request To be shown after 140.000 revolutions (factory setting)
P3	Real time operation ON
P4	Climate control ON

PCD Function menu

The following functions can be controlled from the PCD:

F2 Change operating mode
F3 Adjust setpoints
F4 Change access code
F5 System configuration
F6 Diagnostic functions
F7 Real time clock functions
F8 Optional functions
F9 System functions

5.1 Login/logout on PCD

To be able to make changes in the system it is necessary to login.

Login on PCD

1. Type # to clear the display.
2. Type the access code (4 digits). The display shows ----.
3. Type # to confirm the input.
   If the access code is correct the display shows LI (Log In) and the present access level.

If four unauthorized attempts to access the PCD are made in a row it takes five minutes before a new attempt can be made.

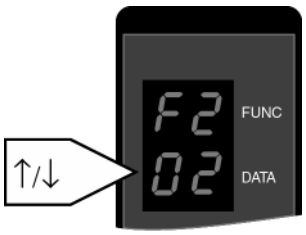
Logout on PCD

1. Type # to clear the display.
2. Type the access code (4 digits). The display shows ----.
3. Type # to confirm the input.
   If the access code is correct the display shows L0 (Log Out) and the present access level.

Automatic logout occurs ten minutes after the last key stroke. The automatic log-out can be inhibited (see “Other PCD commands” on page 77)

5.2 Change operation mode

Type ***F2***. The display shows F2
Use ↑ or ↓ to change operating mode.
Confirm the change by typing ***S***.



EAA157

Number	Operation mode	Function
01	Lock door	The door rotates to closed position. If an electromechanical lock is fitted, the lock is activated.
02	Automatic operation, start from open position	The door is parked in open position when there is no traffic. As soon as the outside or inside activation units detect approaching traffic, the door starts rotating.
03	Automatic operation, start from closed position	The door is parked in closed position when there is no traffic. As soon as the outside or inside activation units detect approaching traffic, the door starts rotating.
04	Automatic operation, start from open position exit only	The door is parked in open position when there is no traffic. As soon as the inside activation units detect approaching traffic, the door starts rotating.
05	Automatic operation, start from closed position exit only	The door is parked in closed position when there is no traffic. As soon as the inside activation units detect approaching traffic, the door starts rotating.
06	Continuous rotation	The door rotates at low speed. As soon as the outside or inside activation units detect approaching traffic, the door accelerates to normal speed. The door returns to low speed when there is no traffic.
07[a]	Manual operation	The door rotates forward as long as the + key is depressed and reverse as long as the – key is depressed.
08	Summer position	The door is parked in escape position and the escape doors are unlocked.

a. During manual operation safety devices 10, 21, 22, 25, 26 are disconnected.

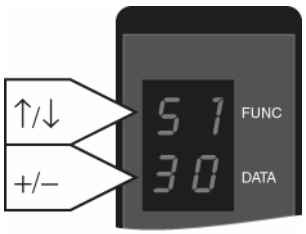
5.3 Speed adjustment

Type ***F3***. The display shows S1.
Use ↑ or ↓ to select setpoint number,

Use + or - to change setpoint value.

Type ***S*** to confirm the new setting.
The display shows SSSS and then blanks.

Press ***C*** to leave the setpoint menu without changing any settings.



EAA158

Setpoint	Description	Setpoint value
S1	High speed setpoint	0,5-4,0 rpm
S2	Low (handicap) speed setpoint	0,1-2,5 rpm
S3	Creep speed setpoint	Fixed at 0,5 rpm
S4	Continuous speed setpoint	0,5-2,0 rpm
S5	Manual speed setpoint	0,1-2,0 rpm
S6	Reverse speed setpoint	0,1-2,0 rpm
S9	Door size parameter[a]	01-09

a. Used to set the balance between force/acceleration and detection of blocked door (error code 30)
Basic setting:
UniTurn-3604-05
UniTurn-4205-06
UniTurn-4806-07
UniTurn-5406-08

Note!

For safe speed setting see STI 04-014

5.4 Change access code

To enable door operation from the PCD it is necessary to have an access code. The access code also determines which service level that is obtained.

At delivery the access code to level 1 is 1234. To change the access code do as follows:

Login with the existing access code.

Type ***F41***. The display shows F4/L1.

Type the new access code.

Type ***S*** to confirm.

Type the new access code a second time.

Type ***S*** to confirm.
If the new access code has been accepted, the display shows CCCC and then blanks.
If the new access code not has been accepted, the display shows EEEE and then blanks.

5.5 Access levels

This manual contains service instructions relating to both access level 3 and access level 4. The difference between the access levels is that a few parameters requires access at level 4 to be handled. These parameters are noted in the instructions. These parameters will not appear on the PCD or MDT during access at level 3. Obtainable functions at the different access levels are presented below.

R = Read only
W = Read and Write
E = No access (EEEE feedback)
NA = No access

Function	PCD	MDT	Level 1	Level 2	Level 3	Level 4
Operating mode selection						
Select operating mode 1–9	X	X	W	W	W	W
Adjust setpoints						
High speed	X	X	R	W	W	W
Low speed	X	X	R	W	W	W
Creep speed (Not adjustable)	X	X	R	R	R	R
Continuous speed	X	X	R	W	W	W
Manual speed	X	X	R	R	R	W
Reverse speed	X	X	R	R	R	W
Regulator parameters k&h (PI) individually	X		NA	NA	W	W
Door size parameter	X	X	R	R	R	R
Regulator parameters individually	X		NA	NA	NA	W
Change access code						
Level 1	X		W	W	W	W
Level 2	X		NA	W	W	W
Level 3	X		NA	NA	W	W
Level 4	X		NA	NA	NA	W
System adjustments						
Set home position	X		R	R	W	W
Adjust start position		X	R	W	W	W
Adjust start position	X		NA	W	W	W
Adjust safety zone		X	R	W	W	W
Adjust safety zone	X		NA	W	W	W
Adjust security mat reversing zone offset		X	W	W	W	W
Adjust security mat reversing zone offset	X		NA	W	W	W
Set door diameter		X	R	W	W	W
Set door diameter	X		NA	W	W	W
Configuration option flags						
01 Battery installed		X	NA	R	W	W
01 Battery installed	X		R	R	W	W
02 Summertime		X	NA	R	W	W
02 Summertime	X		W	W	W	W
03 Emergency position		X	NA	R	W	W
03 Emergency position	X		R	R	W	W
04 Lights OFF in locked position		X	NA	R	W	W

Function	PCD	MDT	Level 1	Level 2	Level 3	Level 4
04 Lights OFF in locked position	X		R	W	W	W
05 Motor and brake function test		X	NA	R	W	W
05 Motor and brake function test	X		R	W	W	W
06 PCD short edit timeout		X	NA	R	W	W
06 PCD short edit timeout	X		R	W	W	W
07 Brake assisted CFD stop		X	NA	R	W	W
07 Brake assisted CFD stop	X		R	R	W	W
08 Escape door lock in locked position		X	NA	R	W	W
08 Escape door lock in locked position	X		R	R	W	W
09 Brake assisted stop in closed position		X	NA	R	W	W
09 Brake assisted stop in closed position	X		R	R	W	W
10 Safety zone reversing		X	NA	R	W	W
10 Safety zone reversing	X		R	W	W	W
11 Emergency drive from locked position		X	NA	R	W	W
11 Emergency drive from locked position	X		R	R	W	W
12 Active brakes in locked position		X	NA	R	W	W
12 Active brakes in locked position	X		R	R	W	W
13 Not used	X	X	NA	NA	NA	NA
14 Active brake in open position		X	NA	R	W	W
14 Active brake in open position	X		R	R	W	W
15 Revolutions per start impulse		X	NA	R	W	W
15 Revolutions per start impulse	X		R	R	W	W
16 PCD slave installed		X	NA	R	W	W
16 PCD slave installed	X		R	R	W	W
17 Electromechanical lock installed		X	NA	R	W	W
17 Electromechanical lock installed	X		R	R	W	W
18 Display default PCD message ”ON”		X	NA	R	W	W
18 Display default PCD message ”ON”	X		R	W	W	W
19 PCD Master channel		X	NA	R	W	W
19 PCD Master channel	X		R	W	W	W
20 Event log printer on MDT channel		X	NA	R	W	W
20 Event log printer on MDT channel	X		R	R	W	W
21 Door status output		X	NA	R	W	W
21 Door status output	X		R	R	W	W
22 Service prompt always visible		X	NA	R	W	W
22 Service prompt always visible	X		R	R	W	W
23 Motorized service doors installed		X	NA	R	W	W
23 Motorized service doors installed	X		R	R	W	W
24 Automatic service doors installed		X	NA	R	W	W
24 Automatic service doors installed	X		R	R	W	W
25 Service doors - open direction outwards		X	NA	R	W	W
25 Service doors - open direction outwards	X		R	R	W	W
26 Smoke evacuation at all emergency runs		X	NA	R	W	W
26 Smoke evacuation at all emergency runs	X		R	R	W	W
27 Security mat installed		X	NA	R	W	W

Function	PCD	MDT	Level 1	Level 2	Level 3	Level 4
27 Security mat installed	X		R	R	W	W
28 Low temperature start		X	NA	R	W	W
28 Low temperature start	X		R	R	W	W
29 Smoke evacuation at fire alarm only		X	NA	R	W	W
29 Smoke evacuation at fire alarm only	X		R	R	W	W
Config functions						
Event log and print enabling	X	X	NA	R	W	W
Event print enabling	X		NA	R	W	W
Select events to print		X	NA	W	W	W
Select events to print	X		NA	NA	W	W
Print selected events		X	NA	W	W	W
Print selected events	X		NA	NA	W	W
Print entire event log		X	NA	W	W	W
Print entire event log	X		NA	NA	W	W
Abort event log printing		X	NA	W	W	W
Abort event log printing	X		NA	NA	W	W
Select event log display format	X		NA	NA	W	W
Display MPU program version	X	X	R	R	R	R
Switch MDT channel ON	X		W	W	W	W
Switch MDT channel OFF	X		W	W	W	W
Climate control enabled/disabled		X	W	W	W	W
Climate control enabled	X		W	W	W	W
Climate control disabled	X		W	W	W	W
Real time operation mode ON/OFF		X	W	W	W	W
Real time operation mode ON	X		W	W	W	W
Real time operation mode OFF	X		W	W	W	W
Automatic logout inhibit	X		W	W	W	W
Clear revolution counter	X		E	E	E	W
Event log clearance	X		E	E	E	W
Clear service prompt and add service interval	X		E	E	W	W
Diagnostic functions						
Display IOA1 I/O status	X	X	NA	NA	R	R
Display IOA2 I/O status	X	X	NA	NA	R	R
Motor current measurement		X	NA	NA	R	R
Brake function		X	NA	NA	R	R
Battery status		X	NA	NA	R	R
MPU-Internal status		X	NA	NA	R	R
Log functions						
Event log data		X	NA	R	R	R
Event log enable status				R	W	W
Real time clock functions						
Read real time clock	X	X	R	R	R	R
Set real time clock	X	X	W	W	W	W
Calibrate real time clock		X	R	R	W	W
Calibrate real time clock	X		NA	NA	W	W

Function	PCD	MDT	Level 1	Level 2	Level 3	Level 4
Set real time operation		X	NA	NA	W	W
System functions						
System reset	X		W	W	W	W
Restore all access codes	X		NA	NA	W	W
Restore speed setpoints	X		NA	NA	W	W
Restore config option flags	X		NA	NA	W	W
Restore all offsets	X		NA	NA	W	W
Restore event log flags	X		NA	NA	W	W
Disconnect battery	X		NA	NA	W	W
Set day test time (flag 5).	X	X	NA	NA	W	W

5.6 Set home position

Make sure that the encoder is firmly fixed

Home position is the same as locked position

Move the door to home position/locked position by hand or by manual operation.

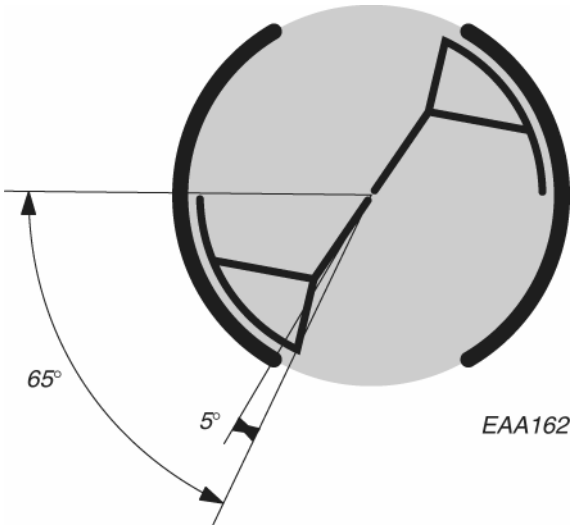
Type ***F514***. The display shows 1401.

Type ***S*** to confirm. The display shows SSSS and then blanks.

EAA159

5.7 Adjust start position

The start position in operation mode 02 and 04 can be adjusted up to 65° according to illustration.

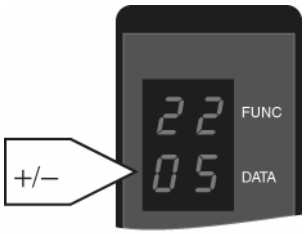


EAA162

Type ***F522***. The display shows 22 and the present start position.

Press + or - to select new start position. Adjustment is possible within the range 0-65°.

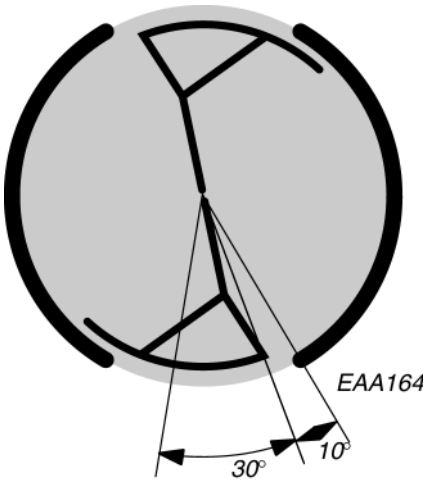
Type ***S*** to confirm the new setting. The display shows SSSS and then blanks.



EAA163

5.8 Adjust safety zone

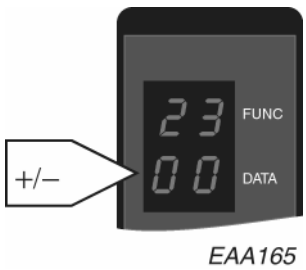
The safety zone has a fixed segment of 10° and an adjustable segment of 30°. The sensors are active until the trailing edge of the curved section of the rotating part has passed the drum edge.



Type ***F523***. The display shows 23 and the present adjustable safety zone.

Press + or - to select new safety zone within the adjustable 30° segment.

Type ***S*** to confirm the new setting. The display shows SSSS and then blanks.



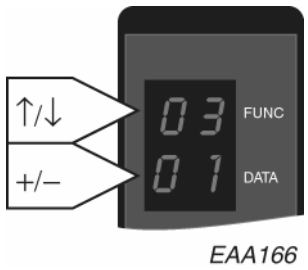
5.9 Configuration options

Type ***F53***. The display shows an option number and its setting, e g: 03 01.

Use ↑ or ↓ to select option number.

Press + or - to select setting 00 or 01, see ”Option settings” below.

Type ***S*** to confirm the new setting.



EAA166

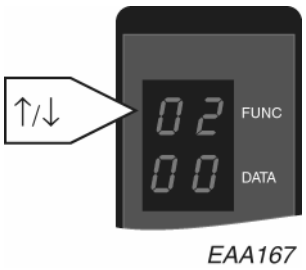
.

Option no.	Description	Default setting	Remark
01	Battery installed	00	00=No; 01=Yes
02	Summertime	00	00=No; 01=Yes
03	Emergency position	01	00=Closed; 01=Open
04	Lights OFF in locked position	01	00=No; 01=Yes
05	Motor and brake function test	00	00=No; 01=Yes
06	Short PCD edit timeout	01	00=30 sec.; 01=10 sec.
07	Brake assisted CFD stop	00	00=No; 01=Yes
08	Escape door locked in locked position	01	00=Open; 01=Locked
09	Brake assisted stop in closed position	01	01=On; 00=Off
10	Safety zone reversing	01	00=No; 01=Yes
11	Emergency drive from locked position	00	00=No; 01=Yes
12	Active brake in locked position	01	01=On; 00=Off
13	Limit switch installed *	00	00=No; 01=Yes
14	Active brake in open position	00	00=No; 01=Yes
15	Full revolution per impulse	00	00=No; 01=Yes
16	PCD slave installed	00	00=No; 01=Yes
17	Electromechanical lock installed	00	00=No; 01=Yes
18	Display default PCD message ”ON”	01	00=No; 01=Yes
19	PCD Master channel	00	00=Channel A 01=Channel B
20	Event log printer on MDT channel	00	00=No; 01=Yes
21	Door status output	00	00=on when door is locked 01=on when door rotate
22	Service prompt always visible	01	00=No; 01=Yes
23	Motorized service doors installed	00	00=No; 01=Yes
24	Automatic service doors installed	00	00=No; 01=Yes
25	Service doors - open direction	00	00=Inwards 01=Outwards
26	Smoke evacuation	00	00=No; 01=Yes
27	Security mat installed	00	00=No; 01=Yes
28	Low temperature start	00	00=No; 01=Yes
29	Smoke evacuation at fire alarm only	00	00=No; 01=Yes

5.10 Check of Input and output status

Type ***F611*** for IOA 1 or ***F612*** for IOA 2. The display shows a input channel number and the present status of the channel.

Use ↑ or ↓ to display the desired input channel number and its present status.



EAA167

Display	Status
00	Low input, steady
01	High input, steady

Press ***C*** to leave the menu.

Channel number	IOA 1	IOA 2
02	Climate in	Encoder 0-pulse
03	Security mat input	Encoder A-pulse
04	Mechanical lock input [01]	Encoder B-pulse
07	Vertical sensor PDR1 [01]	High speed start inner
10	Vertical sensor PDR2 [01]	High speed start outer
12	Not used	Low speed start inner
14	Not used	Low speed start outer
16	Slow drive input (CFD) [01]	Error clear “C”
18	Stop drive input (CFD) [01]	Not used
20	Service door command, dir, in	Service door command, dir, out
29	Safety input [01]	Emergency stop (E20) [01]
31	Lock door command	Emergency positioning command
33	Fire alarm input [01]	Not used
35	Lock in closed position	Key inner
37	Lock in open position [01]	Key outer
39	Lock motor pos direction	Not used
40	Lock motor neg direction	Not used
42	Rotation brake 1	Rotation brake 2
44	Not used	Escape door lock [01]
46	Service door impulse	Test of external devices
50	Climate out	Not used
51	Door status	General alert

Figures within [ ] = Normal running conditions

5.11 Real time clock

The CDC system has a real time clock build in. The clock is used for the log record and when the door is running under real time settings.

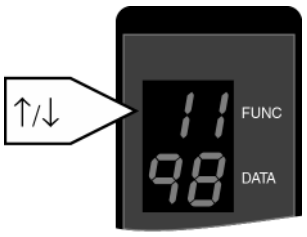
The real time clock is set during installation. After three, four months the clock is calibrated. Normally it is only necessary to calibrate the clock once.

5.11.1 Read real time clock

Type ***F71***. The display shows 11 and present parameter value relating to year.

Use ↑ or ↓ to select parameter number and display the parameter value.

Press ***C*** to leave the menu.



EAA168

11	Year
12	Month
13	Date
14	Hour
15	Minute
16	Second

5.11.2 Set real time clock

Before setting date and time, set ”Summertime” to ”Yes” or ”No” in ”Configuration Options” page 67.

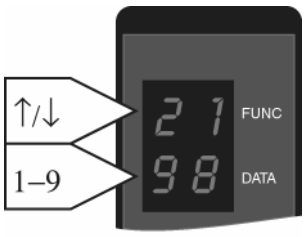
Type ***F72***. The display shows 21 and present parameter value relating to year.

Use ↑ or ↓ to select parameter number and display the parameter value.

Use the number keys ***1–9*** to change the parameter value.

Type ***S*** to confirm each new setting.

Press ***C*** to leave the menu.



EAA169

21	Year
22	Month
23	Date
24	Hour
25	Minute
26	Second

5.11.3 Calibrate real time clock

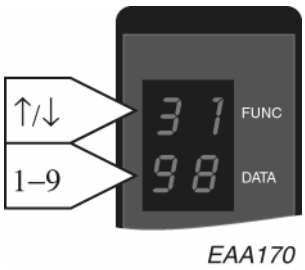
Type ***F73***. The display shows 31 and present parameter value relating to year.

Use ↑ or ↓ to select parameter number and display the parameter value.

Use the number keys ***1–9*** to change the parameter value.

Type ***S*** to confirm each new setting.

Press ***C*** to leave the menu.



EAA170

31	Year
32	Month
33	Date
34	Hour
35	Minute
36	Second

5.12 Log functions

The event log records and time stamps 600 events in a circular buffer in the CDC system.

As an option a printer can be connected to the COM port to print out the system events.

Refer to code list on opposite page for flag numbers.

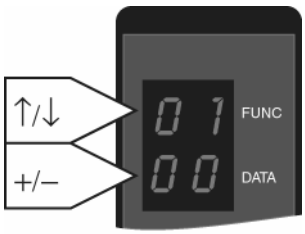
5.12.1 Set event log flags

Type ***F541***.
The display shows the flag number and the present flag status, 00=OFF and 01=ON.

Use ↑ or ↓ to select flag number and display its present status.

Use + or - to change the flag status.

When all event log flags have been set, type ***S*** to confirm the new setting. The display shows SS41 and then blanks.



EAA173

5.12.2 Set event print flags

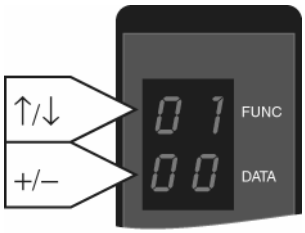
Events to be printed or shown on screen (not saved in event log).

Type ***F542***.
The display shows the print flag number and the present print flag status, 00=OFF and 01=ON.

Use ↑ or ↓ to display the select print flag number and display its present status.

Use + or - to change the print flag status.

When all event print flags have been set, type ***S*** to confirm the new setting. The display shows SS42 and then blanks.



EAA173

5.12.3 Set event log display format

There are two types of print layouts.

00 Without degree

Status	26:	2001-Sep-17	11:14:02ON
Status	26:	2001-Sep-17	11:14:03OFF

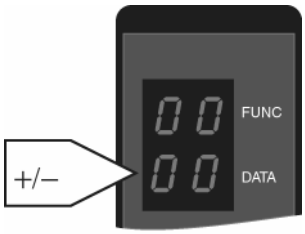
01 With degree

Impulse	95:	010917	11:14:54265ON
Impulse	95:	010917	11:14:56280OFF

Type *F547*

Use + or - to change the display format

Type ***S*** to confirm the new setting



5.12.4 Code list

Code	Description	Type	Action
In	Door initiation run	Status	Looking for 0 pulse. If the door do not operate with this code, check so the door is not set to manual mode 07
On	Normal condition	Status	If the door do not operate with this code, check so the door is not set to manual mode 07
05	Power fail test	Error (24hour test)	Reset, if error code appears again check cable MPU to DPC next replace DPC
06	A/B pulse	Error	Missing A or B pulse from encoder. Check cabling and slip ring
07	Zero pulse	Error	Missing 0 pulse from encoder. Check cabling and slip ring
10	Safety stop	Status	Check XJ3 to XJ10 (safety loop). (see “Error code 10” on page 37)
11	El-mech. lock	Error	If lock is not installed there must be jumper between 37 and 38.Check micro switch, for lock in open position.
12	Door is locked with mechanical lock	Status	If lock is not installed there must be jumper between 1 and 4
17	Door manually pushed	Event	Log only
18	Rotation direction error	Error	Wrong cabling on A/B pulse from encoder or wrong motor cabling.
19	Over speed	Error	Door pushed to speed over 5 rpm
20	Emergency stop	Error	Turn emergency stop button, restart by press "C". If cables for stop button are damage and in contact with ground, error 20 will also appear.
21	Vertical sensor 1PDR (inner)	Status	Adjust sensor above entrance. (see “Adjustment PIR-30.” on page 106)
22	Vertical sensor 2 PDR (outer)	Status	Adjust sensor above entrance. (see “Adjustment PIR-30.” on page 106)
25	Slow drive input (CFD)	Status	CFD Information. (see “CFD sensors” on page 129)
26	Stop drive input (CFD)	Status	CFD Information. (see “CFD sensors” on page 129)
29	General alert output	Status	Output on IOA/2 connection 51-52. Log only.
30	Blocked door	Error	Push the door by hand to check so there is no mechanical reasons obstacles in the door, gearbox, brake, belt or lock problem. If the door can be moved by hand, check that motor cables are connected. Check connection "E-STOP" correct connection to 1-2 and 3-4 emergency stop button. Only one emergency button = jumper between 1-2 or 3-4.
31	Fire alarm input	Status	If not used, jumper between 33-34.Must be potential free contact from fire alarm system.
32	Power fail	Status	Lost of power supply
33	Emergency position command	Status	Input IOA/2 31-32 have been activated
34	Limit switch error	Error	see Appendix "Door in escape route"
36	Battery error	Error	Battery not connected or not charged. Charge the battery for approx. 48 hour.
50	Motor 1	Error (24hour test)	Check for mechanical obstruction.
51	Motor 2	Error (24hour test)	Check for mechanical obstruction.

Code	Description	Type	Action
52	Brake 1 Status	Error	Check cabling connection to brake.
53	Brake 2 Status	Error	Check cabling connection to brake.
54	Brake 1	Error (24hour test)	Check brake
55	Brake 2	Error (24hour test)	Check brake
56	Motor deactivation	Error (20min test)	Reset, if error code appears again after 20 min., replace DPC board. (Code 56 can appear if door is pushed during it's test.)
57	Brake distance	Error	Check brakes function
58	Safety loop input	Error	Reset, if error code appears again replace IOA/1
59	Emergency stop loop	Error	Reset, if error code appears again replace IOA/2
62		Error	Only for Door in escape route
69	20 minutes test	Event	Log only
71	MPU prom	Error	Reset, if error code appear again replace MPU
72	MPU internal RAM	Error	Reset, if error code appear again replace MPU
73	MPU external RAM	Error	Reset, if error code appear again replace MPU
74	MPU watchdog	Error (20min test)	Reset, if error code appear again replace MPU
75	Watchdog supervisor Init	Error	Reset, if error code appear again replace MPU
76	Watchdog supervisor Timing	Error	Reset, if error code appear again replace MPU
77	Reset F911 or reset button	Event	Log only
78	Flash Loading	Event	Log only
79	24 hour test	Event	Log only
81	Lock door	Mode	Log only
82	Auto open	Mode	Log only
83	Auto closed	Mode	Log only
84	Exit open	Mode	Log only
85	Exit closed	Mode	Log only
86	Continuous	Mode	Log only
87	Manual	Mode	Log only
88	Summer position	Mode	Log only
89	Real Time	Event	Log only
90	Climate Control	Event	Log only
91	High speed start inner	Impulse	Log only
92	High speed start outer	Impulse	Log only
93	Low speed start inner	Impulse	Log only
94	Low speed start outer	Impulse	Log only
95	Key inner	Impulse	Log only
96	Key outer	Impulse	Log only
97	Evacuate	Impulse	Log only

Code	Description	Type	Action
98	Lock door command	Mode	Log only
99	Service request	Even	Log only
9A	Motor overheated	Error	Check the motors
9B	Brake 1 deactivation	Error (20min test)	Reset, if error code appears again replace IOA/1
9C	Brake 2 deactivation	Error (20min test)	Reset, if error code appears again replace IO/2
9D	Internal EEPROM	Error	Reset, if error code appears again change MPU
9F	Motor signals	Error (20min test)	Reset, if error code appear again change MPU
A0	Security mat "One way function	Status	Matt activated
B0	Motorized service door switch	Status	Switch for motorized service door activated
B1	Automatic service door	Impulse	Impulse for motorized service door activated, Log only
C0	Mechanical lock	Status	Sequence wrong. Only for Door in escape route
C1	Mechanical lock signal	Error	Only for Door in escape route see Appendix
D0	Watch dog AVR	Error (20min test)	Reset, if error code appear again change MPU
D1	Battery load test	Error (20min test)	If it's appear during installation charge the battery. If battery is 2-3 years old Change battery.
D2	Motor current measure	Error	Difference between M1 and motor 2 is to big, Check the motors (carbon)
D3	Motor regulator	Error	
D4	PDR 1 vertical sensor test signal	Error	Check cabling and PDR
D5	PDR 2 vertical sensor test signal	Error	Check cabling and PDR
D6	Emergency stop button TEST	Error	Appear only in log, if test of stop button command F938 is done and the test fail.

Note:

In most cases the door can be locked with the electromechanical lock even if the door does not function. Push the door to the closed position, and lock the door with the ON/OFF key switch. (the door have only one closed position, if the door do not lock, turn 180 degrees.

5.12.5 Print out of event log

To avoid problems, use a printer recommended by Besam. The printer is then correctly setup and with a suitable cable.

Set configuration option no. 20 to 01=Yes (see “Configuration options” on page 67)

Connect the printer to the COM port connector at the side of the CDC-unit. (see “Electrical installation” on page 35)

Print out of the entire log (up to 600 events)

Type ***F545***

Stop print out

Type ***F546***

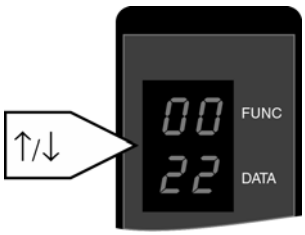
Print out of one selected event code

Type ***F543***
The display shows the event code.

Use ↑ or ↓ to select the event code to print.

Type ***S*** to confirm.

Type ***F544*** to print out the selected event code.



EAA174

5.12.6 Print out of selected events

To be able to identify problems that happens just now and then it is possible to leave the printer connected to the system and print out a selection of events during a longer period of time. The selected events will then be printed when they are logged.
Select events to be printed by setting event print flags (see “Set event print flags” on page 71)

5.13 Other PCD commands

F526	Safety mat zone (UniTurn Oneway)
F543	Select event code to print
F544	Print selected events
F545	Print entire event log
F546	Abort event log printing
F547	Select event log display format
F551	Display MPU program version
F552	Switch MDT channel ON
F553	Switch MDT channel OFF
F554	Climate control function enable
F555	Climate control function disable
F556	Real time operation mode ON
F557	Real time operation mode OFF
F561	Automatic logout inhibit
F562	Clear revolution counter
F563	Clear event log
F564	Clear service prompt and start new period
F911	System reset
F921	Restore all access codes
F922	Restore speed setpoints
F923	Restore config option flags
F924	Restore safety. Start position offset
F925	Restore event logg flag
F931	Disconnect battery

6.0 Operation via Main Diagnostic Terminal, MDT

To adjust settings and perform maintenance on the CDC system a VT100 Terminal or a PC can be connected and used as a Main Diagnostic Terminal instead of the PCD.

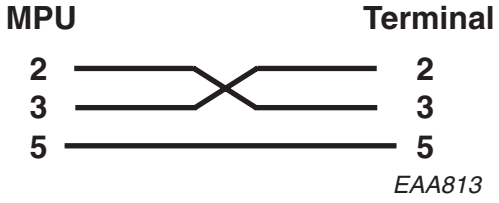
6.1 Connection

The MDT is connected directly at the COM port at the side of the CDC-unit. (see “Electrical installation” on page 35)

To enable usage of a PC as MDT

1. ***A*** Windows 3.1/3.11
   Start terminal under Accessories
1. ***B*** Windows 95/98
   Start Hyperterminal under Accessories
2. Make the following settings
   - 8 bits data
   - No parity
   - One stop bit
   - 9600 baud

Use a standard Null Modem cable (9 pin).



6.2 Software update

An update can only be performed on a CDC4 system already running an operational version of the CDC4 application software, in other words, MDT login must be possible, if this is not the case, skip to the section describing initial software load.

Normal door operation is not possible during the update procedure, so it should be positioned in its escape position or closed for access.

IMPORTANT!

The old version must reside in flash memory bank P1 or the update will fail.
Start by checking where the program is installed, P1 or P0.

Login to the CDC via comport and check under the CDC Main Menu the information software release. The program change automatically from download to P0 next P1 next P0 etc.
To have a successful updating next time, install the latest version two times so it ends in P1

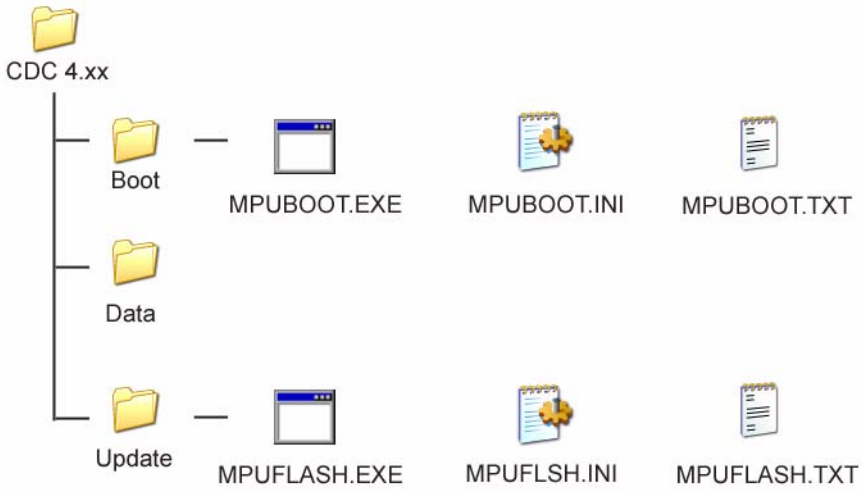
This example is OK

```
Door Type             : UniTurn
Software Release      : Ver 4.01 B 13 P1 #FA8C
```

In this cases the update will fail!

```
Door Type             : UniTurn
Software Release      : Ver 4.01 B 13 P0 #FA8C
```

6.2.1 Update procedure

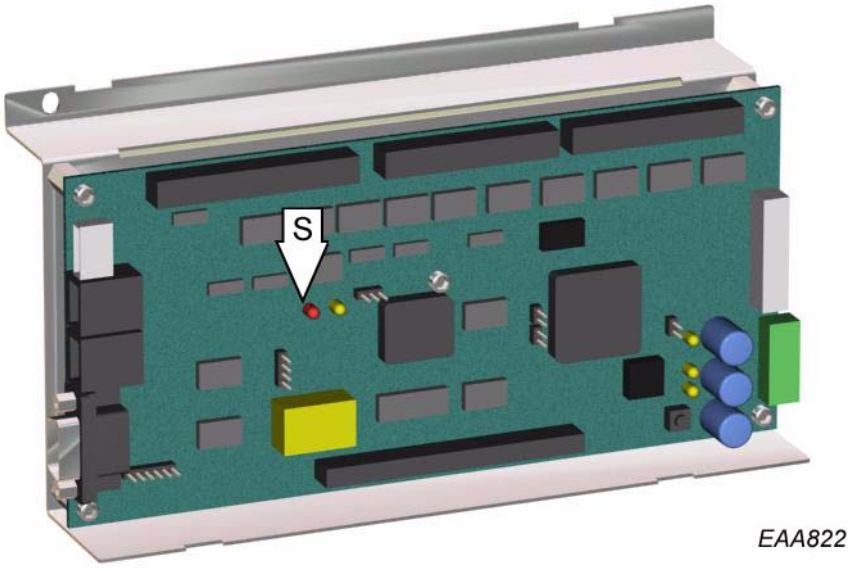


1. Close down the communication before down load.
2. Open the CDC 4.xx folder
3. Open the update folder
4. Start the MPUFLASH.EXE program
5. Follow the on screen instructions (press space or return).

```
MPU Flasher version 1.04
Applica-    : CDC.A07
tion
Comport     : COM1
Bauderate   : 9600
Download-   : S
mode
Flash Code  : 1234567890

To start:   If nobody is logged in press SPACE else reset
            the MPU and then press RETURN

To quit:    Press Escape
```

The download starts automatically

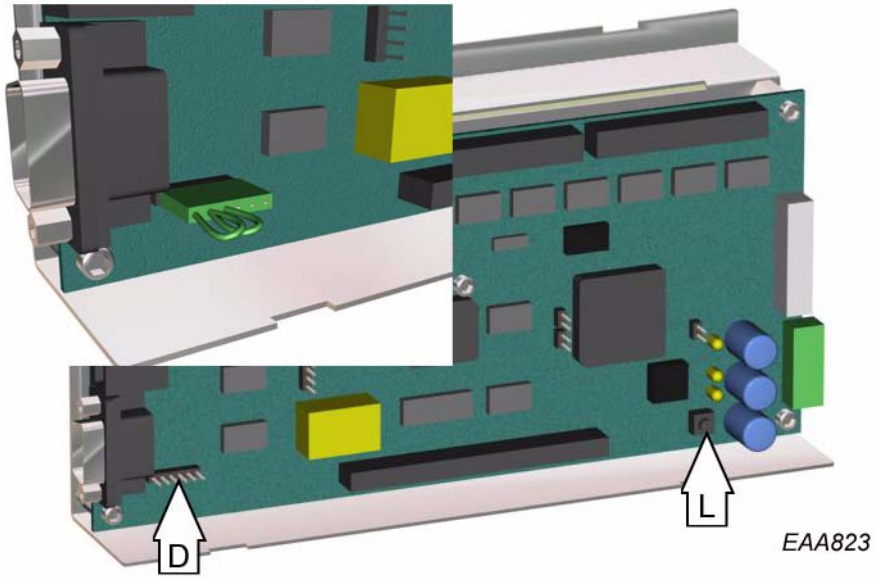
```
(A4CC)
Wait for CDC to be ready
3 2 1 0
Enter flash programming mode ********** OK
FL V1.05 Page 0
Changing baudrate to 19200 baud...OK
Erase...OK
Download in binary format...
Size of application is 207760 bytes
0%----------------------------------------------------------
--100%
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXX
OK
Writing checksum...(A4CC)
OK
Ver-
ify...OK
Config =
09
Reset...OK
Resetting...
DONE!

To start:   If nobody is logged in press SPACE else reset
            the MPU and then press RETURN

To quit:    Press Escape
```



The watchdog supervisor indicator LED (S) lit up if the update was successful
Download the update once more in the P1 memory bank.

6.2.2 Initial software load (Boot load)

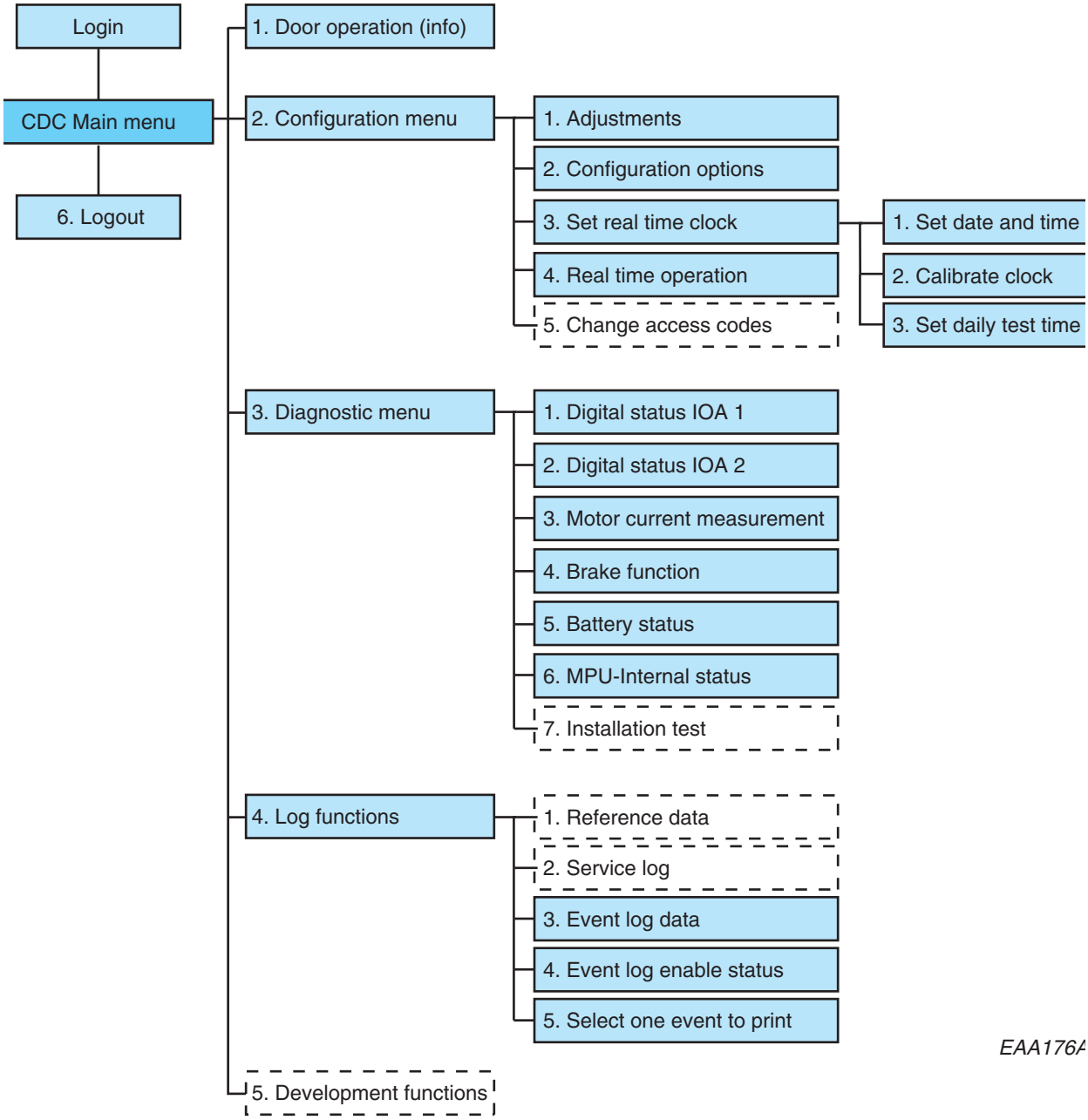
If there is no program loaded or if the update fails (The watchdog supervisor indicator LED did not lit up), the program have to be boot loaded.



1. Apply a programming contact to connector J11 (D).
2. Press the reset button (L).
3. Follow the procedures described in the previous chapter (update procedure) but with the MPUBOOT.EXE-file located in the Boot-library instead of the MPUFLASH.EXE-file.
4. Remove the programming contact.
5. Press the reset button (L).

6.3 MDT Display hierarchy

Software release 4.11



6.4 Login

To enable login on the MDT the PCD must be logged out.

Enter access code: **** OK

The CDC Main Menu appears on the display.

If the display show: ! ! ! ! the PCD is logged in

6.5 Main menu

```
Door Type             : UniTurn
Software Release      : Ver 4.11.01 P1 #A388 2004-09-29

Press key to select function:

1: Door Operation
2: Configuration
3: Diagnostic Functions
4: Log Functions
5: Development Functions
6: Logout
```

Press the number key relating to the number in front of the desired sub menu to select.

Press *ESC* to go to this menu from any sub menu.

6.6 Door operation

```
Error/Status Display:     ON
Operating Mode:           2         Real Time + Climate Control Mode
                                    2
Door Speed (RPM/10):      30
Door Position (deg):      113
Revolution Counter:       3524
Date & Time:              Wednesday 2004-09-29 13:07:16

Operating modes:
1: Lock Door
2: Auto Open = Start from open position
3: Auto Closed = Start from closed position
4: Exit Open = Start from open position, inner impulse only
5: Exit Closed = Start from closed position, inner impulse only
6: Continuous Rotation
7: Manual Operation
8: Summer Position
9: Automatic Service
Doors

Press function key:       C: Error Clear
                          I: Inner Key Impulse
                          O: Outer Key Impulse
                          R: Real Time Operation ON/OFF
                          A: Air Condition/Climate Control ON/OFF
```

Press the number key relating to the number in front of the desired operation mode to select.

Press ***Enter*** to confirm changes.

Press ***ESC*** to return to main menu.

6.6.1 Other information on Door operation screen

Manually locked

Lock door command input activated. It is not possible to give an impulse from the terminal when this input is active.

Service request

The door have been running for 140.000 revolutions.
Type ***F564*** on the PCD to clear service prompt and reset the service period.

Real time

Real time operation is active

Type ***R*** to toggle between real time operation ON/OFF.

Climate control

Climate control is active

Type ***A*** to toggle between climate control ON/OFF.

Real time + Climate control

Real time and Climate control operation are active

6.7 Configuration menu

```
Press key to select function:

1:   Adjustments
2:   Configuration Options
3:   Real Time Clock
4:   Real Time Operation
5:   Change Access Codes (not used)
```

Press the number key relating to the number in front of the desired sub menu to select.

Press ***ESC*** or ***X*** to return to main menu.

Real time operation (see “Real time operation” on page 98)

6.7.1 Adjustments

```
High Speed                  (RPM/10)      30
Low Speed                   (RPM/10)      15
Creep Speed                 (RPM/10)      5
Continuous Speed            (RPM/10)      15
Manual Speed                (RPM/10)      10
Reverse Speed               (RPM/10)      10

Start Position Offset                     5
Safety Zone Offset                        10
Security Mat Rev. Zone                    0
Offset

Door Size Parameter (1-9)                 5

Door Diameter (dm)                        54
```

Use Tab-key to select value to change.

Use number keys to enter new value.

Press ***Enter*** to confirm each change.

Type ***X*** to return to the previous menu or *ESC* to return to main menu.

Setpoint	**Setpoint value**
High speed	0,5-4,0 rpm
Low (handicap) speed	0,1-2,5 rpm
Creep speed	Fixed at 0,5 rpm
Continuous speed	0,5-2,0 rpm
Manual speed	0,1-2,0 rpm
Reverse speed	0,1-2,0 rpm

Door size parameter

Can only be changed from the PCD.

Door diameter

Type in the door size (36, 42, 48) to get correct data from the brake test

6.7.2 Configuration options

```
1:   Battery Installed                        1
2:   Summertime                               0
3:   Emergency Position Open                  1
4:   Lights Off In Locked Position            1
5:   Motor & Brake Function Test              1
6:   Short PCD Edit Timeout                   1
7:   Brake Assisted CFD Stop                  0
8:   Escape Door Locked In Locked Position    1
9:   Brake Assisted Stop In Closed Position   1
10:  Safety Zone Reversing                    1
11:  Emergency Drive From Locked Position     0
12:  Active Brake In Locked Position          1
13:  Limit Switch Installed                   0
14:  Active Brake In Open Position            0
15:  Full Revolution Per Impulse              0
16:  PCD Slave Installed                      0
17:  Electromechanical Lock Installed         0
18:  Display Default PCD Message ON           1
19:  PCD Master Channel = B                   0
20:  Event Log Printer on MDT Channel         0
21:  Door Status Output Active Door Running   0
22:  Service Prompt Always Visible            1
```

```
23   Motorized Service Doors Installed        0
24   Automatic Service Doors Installed        0
25   Service Doors - Open Direction outward   0
26   Smoke Evacuation At All Emergency Runs   0
27   Security Mat Installed                   0
28   Low Temperature Start                    0
29   Smoke Evacuation At Fire Alarm Only      0
```

Use ***Tab***-key to select value to change.

Use number keys 1 or 0 to enter new value.

Press ***Enter*** to confirm each change.

Type ***N*** to display next page.

Type ***P*** to display previous page.

Type ***X*** to return to the previous menu or ***ESC*** to return to main menu.

6.7.3 Set real time clock

```
Press key to select function:

Date & Time: Wednesday 2004-09-29 15:03:11

1:   Set Date and Time
2:   Calibrate Clock
3:   Set Daily Test Time
```

Set date and time

```
Date & Time: Saturday 2000-01-01 00:08:40

Enter New Date (yyyy mm dd):   20000501
New Date Entered =             2000-05-01

Enter New Time (hh mm ss):     070000
New Time Entered =             07:00:00

Summertime Active (Y/N)?: y
SummerTime ON

Accept change? (Y/N)
```

Use number keys to enter new date and time.
Date format yyyymmdd without space.
Time format hhmmss without space.

Press ***Enter*** to confirm each change.

Press ***Y*** to accept change.

Type ***X*** to return to the previous menu or ***ESC*** to return to main menu.

Calibrate clock

```
Date & Time: Thursday   2000-06-01 07:00:31

Current Calibration Factor = 0

Enter New Date (yyyy mm dd):   20010501
New Date Entered =             2001-05-01

Enter New Time (hh mm ss):     070131
New Time Entered =             07:01:31
Summertime Active (Y/N)?: y
SummerTime ON

Accept change? (Y/N)
```

Use number keys to enter new date and time.
Date format yyyymmdd without space.
Time format hhmmss without space.

Press ***Enter*** to confirm each change.

Press ***Y*** to accept change.

Type ***X*** to return to the previous menu or ***ESC*** to return to main menu.

Daily test time

```
Daily Test Time: 06:00

Enter New Time (hh mm):   2400
New Time Entered =        24:00

Accept change? (Y/N)
```

6.8 Diagnostic Menu

```
Press key to select function:

1:   Display Digital Status
     IOA1
2:   Display Digital Status
     IOA2
3:   Motor Current Measurement
4:   Brake Function
5:   Battery Status
6:   MPU Internal Status
7:   Installation Test
```

Press the number key relating to the number in front of the desired sub menu to select.

Press ***ESC*** or ***X*** to return to main menu.

6.8.1 Digital status IOA 1

0 = Low in/output steady
1 = High in/output steady

```
IOA1 Input Status                      IOA1 Output Status
==========================             ==========================
                                       ====
2: Climate Control Input     0         39:Lock Motor Pos Direction  0
3: Security Mat Input        0         40:Lock Motor Neg Direction  0
4: Mechanical Lock Active    1         42:Rotation Brake 1          0
7: Vertical Sensor PDR 1     1         44:Not Used
10:Vertical Sensor PDR 2     1         46:Service door Impulse      0
12:Evacuate Position 1       0         48:(Watchdog 1 IOC)
14:Evacuate Position 2       0         50:Climate Control Active    0
16:Slow Drive Input          1         51:Door Status Output        0
18:Stop Drive Input          1
20:Service Door Cmd, Dir, In 0
29:Safety Input (S 10)       1
31:Lock Door Command         0
33:Fire Alert Input          1
35:Lock In Locked Position   0
37:Lock In Open Position     1
```

The following in/outputs are high (1) during normal operation.

4	Mechanical lock active
7	Vertical sensor PDR1
10	Vertical sensor PDR2
16	Slow drive input
18	Stop drive input
29	Safety input
33	Fire alert input
37	Lock in open position

Type ***X*** to return to the previous menu or ***ESC*** to return to main menu.

6.8.2 Digital status IOA 2

0 = Low in/output steady
1 = High in/output steady

```
IOA2 Input Status                      IOA2 Output Status
=========================              =========================
2: Encoder 0-Pulse          0          39:Not Used
3: Encoder A-Pulse          0          40:Not Used
4: Encoder B-Pulse          0          42:Rotation Brake 2          0
7: High Speed Start Inner   0          44:Escape Door Lock          1
10:High Speed Start Outer   0          46:Test Of External Devices  0
12:Low Speed Start Inner    0          48:(Watchdog 2 IOC)
14:Low Speed Start Outer    0          50:Mech. Locked (IOC)        1
16:Error Clear              0          51:General Alert             1
18:Emergency Opening Input  0
20:Service Door Cmd, Dir,   0
Out
29:Emergency Stop (E 20)    1
31:Emergency Pos. Command   0
33:Not Used                 0
35:Key Inner                0
37:Key Outer                0
```

The following in/outputs are high (1) during normal operation.

29	Emergency stop
44	Escape door lock

Type *X* to return to the previous menu or *ESC* to return to main menu.

6.8.3 Motor current Measurement

```
Motor 1 i2t Value            0
Motor 2 i2t Value            0

Motor 1 Current              3.28 A
Motor 2 Current              3.28 A


Motor 1 i2t Value At Error   0
9A/D2
Motor 2 i2t Value At Error   0
9A/D2
```

When the door is running constantly (3-3,5 rpm) the motor current value should be between 2,5 and 4,0 A. The current should be equal on motor 1 and motor 2.

Motor i2t Value At Error 9A/D2

This value is the value that was saved when error code 9A (Motor overheated) or D2 (Motor current measure occurred. The motor with the highest value is the faulty one.

6.8.4 Brake function test

```
Brake 1 Output        0
Brake 1 Status        0

Brake 2 Output        0
Brake 2 Status        0

Door Size (dm)        54
Braking Distance      10       (unit = 0.25 deg)     78 (mm)

Braking Distance is calculated in door periphery
```

Type *X* to return to the previous menu or *ESC* to return to main menu.

Test
Let the door run at high speed.
Stop the door by activating a safety edge.
Output = 1 Signal OK.
Status = 1 Connections and brake OK.

Brake output indicate brake signal out from the system (connection 42 on IOA/1 and IOA/2). Brake status indicate that a current is passing through the brake and back to the system.
Door size (dm) is the value that have been specified in the adjustment page (see “Adjustments” on page 87).

6.8.5 Battery test

```
Battery Voltage =  35.5 V      (24.0 - 37.0
                               V)

DPC 42 V =         45.09 V
```

Normal value 24,0 - 37,0 V

Type ***X*** to return to the previous menu or ***ESC*** to return to main menu.

6.8.6 MPU Internal test

```
Power Fail Input          0
Evacuate Input            1

Motor Power On            0
Lights On                 1
```

Power fail input
Signal from DPC indicating power failure (status code 32)(0).

Evacuate input
Signal from evacuate push button DPC J11(1).

Motor power on
Signal from MPU to DPC motor relay(0 = Door not running)
(1 = Door running)

Lights on
Signal from MPU to DCP lights relay (0 = Lights off)
(1 = Lights on)

6.9 Log functions

```
Press key to select function:

1:   Reference Data
2:   Service Log
3:   Event Log Data
4:   Event Log Enable Status
5:   Select One Event to Print
```

Press the number key relating to the number in front of the desired sub menu to select.

Press ***ESC*** or ***X*** to return to main menu.

Note
No function behind 1: Reference Data and 2: Service Log.

6.9.1 Event log data

Display the 600 last events recorded in the log.

To change the display format (see “Set event log display format” on page 72)

Without degree

```
428  Error    36:  2004-Sep-29 13:43:50    ON
429  Event    77:  2004-Sep-29 13:49:04    ON
430  Event    78:  2004-Sep-29 13:49:04    ON
431  Error    11:  2004-Sep-29 13:49:04    ON
432  Error    20:  2004-Sep-29 13:49:04    ON
433  Status   31:  2004-Sep-29 13:49:04    ON
434  Error    20:  2004-Sep-29 13:49:04    ON
435  Error    36:  2004-Sep-29 13:49:06    ON
436  Error    36:  2004-Sep-29 13:00:34    OFF
437  Event    99:  2004-Sep-29 13:01:13    OFF
```

With degree

```
438  Status   31:  040209 11:43:18        068     OFF
439  Status   31:  040209 11:43:19        082     ON
440  Status   31:  040209 11:43:19        094     OFF
441  Error    34:  040209 11:43:21        113     ON
442  Status   31:  040209 11:43:29        238     ON
443  Status   31:  040209 11:43:30        243     OFF
444  Error    34:  040209 11:43:44        293     ON
445  Event    77:  040209 12:37:01        087     ON
446  Event    78:  040209 12:37:01        087     ON
447  Error    34:  040209 12:38:26        000     ON
```

Type ***L*** to display the last 10 events in the log.

Type ***N*** to display the next 10 events in the log.

Type ***P*** to display the previous 10 events in the log.

Type ***F*** to display the first 10 events in the log.

Type ***E*** to print the entire logg.

Type ***W*** to toggle pause on/off.

Type ***S*** to print selected event.
To select event to be printed type ***X*** to go to the previous menu. Select ***5***. Type the event to be printed e.g. 30. Press ***Enter***. Type ***X*** to go to previous menu. Type ***3*** to return to the Event logg data page and then type ***S***.

Type ***X*** to return to the previous menu or ***ESC*** to return to main menu.

6.9.2 Event log enable status

Type	Code	Lstat	Pstat	Type	Code	Lstat	Pstat
Error	05	1	1	Error	57	1	1
Error	06	1	1	Error	58	1	1
Error	07	1	1	Error	59	1	1
Error	11	1	1	Error	62	1	1
Error	18	1	1	Error	63	1	1
Error	19	1	1	Error	64	1	1
Error	20	1	1	Error	65	1	1 not used
Error	30	1	1	Error	71	1	1
Error	34	1	1	Error	72	1	1
Error	36	1	1	Error	73	1	1
Error	50	1	1	Error	74	1	1
Error	51	1	1	Error	75	1	1
Error	52	1	1	Error	76	1	1
Error	53	1	1	Error	9A	1	1
Error	54	1	1	Error	9B	1	1
Error	55	1	1	Error	9C	1	1
Error	56	1	1	Error	9D	1	1

Lstat = Log Enable Status Pstat = Print Enable Status

Code 34,62, 63, 64, 65 TÜV doors only

Type	Code	Lstat	Pstat	Type	Code	Lstat	Pstat
Error	9F	1	1				
Error	C1	1	1				
Error	D0	1	1				
Error	D1	1	1				
Error	D2	1	1				
Error	D3	1	1				
Error	D4	1	0				
Error	D5	1	1				
Error	D6	1	0				

Lstat = Log Enable Status Pstat = Print Enable Status

Type	Code	Lstat	Pstat	Type	Code	Lstat	Pstat
Status	10	0	0	Event	17	1	1
Status	12	0	0	Event	68	1	1
Status	21	0	0	Event	69	0	0
Status	22	0	0	Event	77	1	1
Not used	23	0	0	Event	78	1	1
Status	25	0	0	Event	79	0	0
Status	26	0	0	Event	89	0	0
Status	29	0	0	Event	90	0	0
Status	31	1	1	Event	99	1	1
Status	32	1	1	Event	B1	0	0
Status	33	0	0				
Status	37	1	1				
Status	A0	0	0				
Status	B0	0	0				
Status	C0	0	0				

Lstat = Log Enable Status Pstat = Print Enable Status

Code 37,68 doors in escape route only

Type	Code	Lstat	Pstat	Type	Code	Lstat	Pstat
Mode	81	0	0	Impulse	91	0	0
Mode	82	0	0	Impulse	92	0	0
Mode	83	0	0	Impulse	93	0	0
Mode	84	0	0	Impulse	94	0	0
Mode	85	0	0	Impulse	95	0	0
Mode	86	0	0	Impulse	96	0	0
Mode	87	0	0	Impulse	97	0	0
Mode	88	0	0				
Mode	8A	0	0				
Mode	98	0	0				

Lstat = Log Enable Status Pstat = Print Enable Status

Type ***N*** for next page.

Type ***P*** for previous page.

Use ***Tab***-key to select value to change.

Use number keys ***1*** or ***0*** to enter new value.

Press ***Enter*** to confirm each change.

Type ***X*** to return to the previous menu or ***ESC*** to return to main menu.

Description of codes (see “Code list” on page 73)

Lstat = logstatus
600 events recorded in a circular buffer
To be recorded 1=Yes, 0=No

Pstat = Printstatus
Events given printstatus 01 appear on the screen or printed on printer.

If you want the events given printstatus 1 constantly to be printed on a printer remember to set configuration option no. 20 to 1 (see “Configuration options” on page 88) and to connect the printer to the COM port (see “Electrical installation” on page 35)

7.0 Real time operation

The CDC-system has three different day schedules. Each day schedule may contain up to 10 different operation modes. The week schedule informs the system of which day schedule to run and in what order during a week. It is possible to make up to 16 exceptions from this week schedule for e.g. public holidays e.t.c.

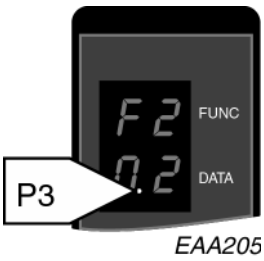
7.1 Real time operation via PCD

7.1.1 Activation

Type ***F556*** (Real time operation ON)

Prompt P3 lit's up.

The door operates according to schedule.



7.1.2 Deactivation

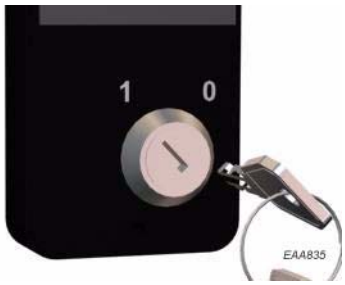
Type ***F557*** (Real time operation OFF)

Prompt P3 lit's down.

The door operates according to manually set operation mode.

7.1.3 Key switch

Activation of the key switch (locked door command) on the PCD overrides real time operation. When the key switch is deactivated the door resume settings.



7.1.4 Manually setting of operation mode

If the door is running in real time operation mode and the operation mode is manually changed, real time operation mode is automatically deacivated. To resume real time operation mode it has to be reactivated by typing ***F556***

7.2 Real time operation via MDT

Type ***R*** to toggle between real time operation ON/OFF (see “Door operation” on page 85).

7.3 Settings (via MDT only)

Minimum access level = 3.

```
     DAYSCHEDULE 1     DAYSCHEDULE 2     DAYSCHEDULE 3     WEEKSCHEDULE
1    0700 LOCKED LION  0800 LOCKED LION                    MON DAYSCHEDULE 1
2    1800 EXIT CLOSED  2000 LOCKED LIOF                    TUE DAYSCHEDULE 1
3    1700 LOCKED LION                                      WED DAYSCHEDULE 1
4    2000 LOCKED LIOF                                      THU DAYSCHEDULE 1
5                                                          FRI DAYSCHEDULE 1
6                                                          SAT DAYSCHEDULE 2
7                                                          SUN DAYSCHEDULE 2
8
9
10

LN START EXPT  END   EXPT  SCHED LN START EXPT  END   EXPT  SCHED EDIT FUNCTIONS
1  2001-04-13 2001-04-13 DS 2  9                                  1= DAYSCHEDULE 1
2  2001-04-16 2001-04-16 DS 2  10                                 2= DAYSCHEDULE 2
3  2001-05-01 2001-05-01 DS 2  11                                 3= DAYSCHEDULE 3
4  2001-05-24 2001-05-24 DS 2  12                                 4= WEEKSCHEDULE
5                              13                                 5= EXCEPTIONS
6                              14
7                              15
8                              16
```

Use number key ***1***, ***2*** or ***3*** to make or edit day schedule 1, 2 or 3.

Use number key ***4*** to make or edit the week schedule.

Use number key ***5*** to make or edit exceptions.

Type ***X*** to return to the previous menu or ***ESC*** to return to main menu.

7.3.1 Day schedule

```
     DAYSCHEDULE 1
 1   0700 LOCKED LION
 2   0800 EXIT CLOSED
 3   1700 LOCKED LION
 4   2000 LOCKED LIOF
 5
 6
 7
 8
 9
10

Enter line number to edit: 4

Line entered =     4
Enter New Time: 2100
New Time Entered = 2100
Press SPACE to browse Mode: LOCKED LIOF
Entry Line = 4 New Time = 2100 New Mode = LOCKED LIOF Accept change? (Y/N)
```

Underlined figures are input values.

The different operation modes has to be in time order.

Use number key to select line number to make or edit.

Press ***Enter*** to confirm.

Use number key to enter time.

Press ***Enter*** to confirm.

Use ***space*** to browse between the different operation modes.
Available operation modes:
Locked Lights OFF
Locked Lights ON
Auto open
Auto closed
Exit open
Exit closed
Continues (rotation)
Clear entry (to erase the event from the day schedule)

Press ***Enter*** to confirm

Type ***Y*** or ***N*** to accept or not accept changes.

Type ***X*** to return to the previous menu or ***ESC*** to return to main menu.

7.3.2 Week schedule

```
   WEEKSCHEDULE
1  MON DAYSCHEDULE 1
2  TUE DAYSCHEDULE 1
3  WED DAYSCHEDULE 1
4  THU DAYSCHEDULE 1
5  FRI DAYSCHEDULE 1
6  SAT DAYSCHEDULE 2
7  SUN DAYSCHEDULE 3

Enter line number to edit: 7
Line entered =          7
Enter New Day Schedule (1-3): 3
New Day Schedule Entered = 3
Line 7 DAYSCHEDULE 3

Accept change? (Y/N)
```

Underlined figures are input values.

Use number key to select line number to make or edit.

Press ***Enter*** to confirm.

Use number key to enter day schedule.

Press ***Enter*** to confirm.

Type ***Y*** or ***N*** to accept or not accept changes.

Type ***X*** to return to the previous menu or ***ESC*** to return to main menu.

7.3.3 Exceptions

```
LN     START  EXPT   END    EXPT   SCHED  LN     START  EXPT   END    EXPT   SCHED
1      2001-04-13   2001-04-13   DS 2   9
2      2001-04-16   2001-04-06   DS 2   10
3      2001-05-01   2001-05-01   DS 2   11
4      2001-05-24   2001-05-24   DS 2   12
5                                      13
6                                      14
7                                      15
8                                      16

Enter line number to edit: 5
Line entered =          5
Enter New Start Time (yyyy mm dd): 20011224
New Start Time Entered =2001-12-24
Enter New End Time (yyyy mm dd): 20011224
New End Time Entered = 2001-12-24
Enter New Exception Schedule (1-3): 2
New Exception Entered = 2
Line 5 Start Time = 2001-12-24 End Time = 2001-12-24 DAYSCHEDULE 2
Accept change? (Y/N)
```

Underlined figures are input values.

Use number key to select line number to make or edit.

Press ***Enter*** to confirm.

Use number key to enter start date.
Date format yyyymmdd without space.

Press ***Enter*** to confirm.

Use number key to enter end date.
Date format yyyymmdd without space.

Press ***Enter*** to confirm.

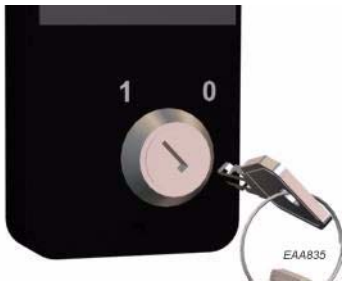
Use number key to select day schedule.

Press ***Enter*** to confirm

Type ***Y*** or ***N*** to accept or not accept changes.

Type ***X*** to return to the previous menu or ***ESC*** to return to main menu.

8.0 Climate control



Operation mode “Locked door (01)” and key switch (locked door command) automatically deactivates the climate output (heater and fan off). When operation mode is changed or “locked door command” key switch is deactivated, the system waits for 10 minutes. If the climate input is activated during this time, the climate output is activated and heater and fan starts.

Operation modes “Manual (07) and “Summer position (08) do not deactivate the climate control output (heater and fan are running if climate control input is active).

8.1 Climate control via PCD

8.1.1 Activation

Type ***F554*** (Climate control ON)

Prompt P4 lit’s up

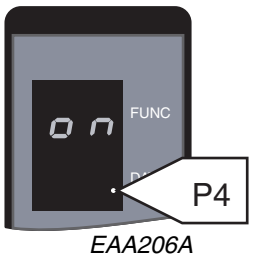
When the outside temperature is below the temperature set on the thermostat the climate control change the following operation modes

Auto open toAuto closed

Exit open toExit closed

Continues rotationtoAuto closed

(operation mode Auto closed will remain)



EAA206A

8.1.2 Deactivation

Type ***F555*** (Climate control OFF)

Prompt P4 lit’s down

The door operates according to operation mode set by real time operation or manually.,

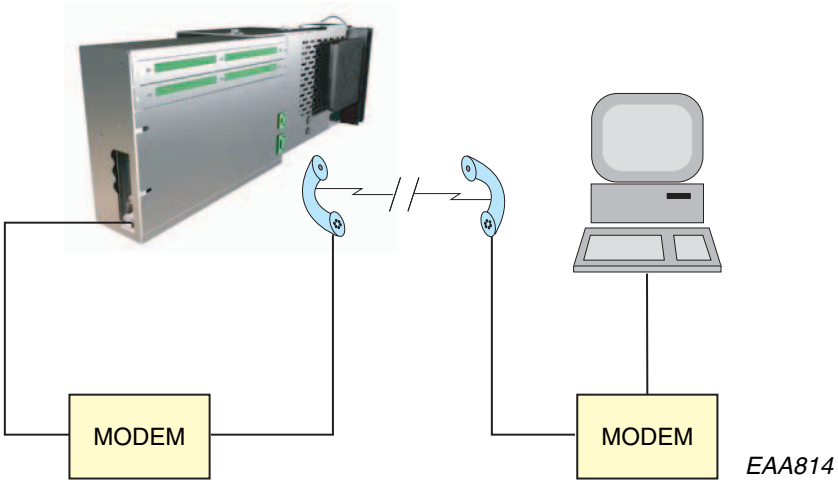
8.2 Climate control via MDT

Type ***A*** to toggle between climate control ON/OFF (see “Door operation” on page 85).

9.0 Remote Control Operation

9.1 Connection

To enable remote control of the CDC-system a telephone modem is connected to the COM port on the CDC-unit. The modem is then connected either to a cellular phone or to the common telephone line to establish contact with a VT100 -terminal or a PC placed elsewhere.

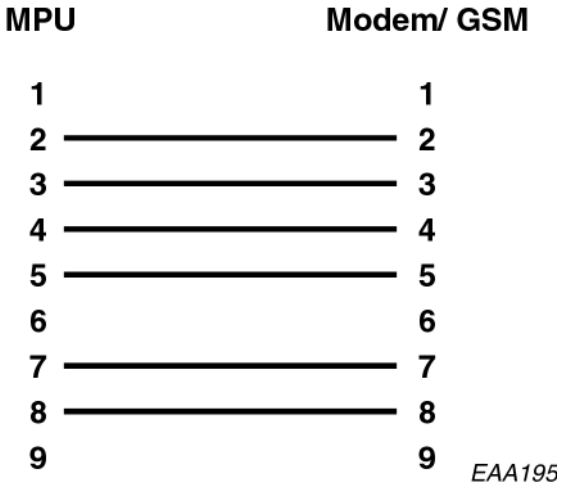


EAA814

9.2 Operation

Remote control operation is performed the same way as operation via a MDT. (see “Operation via Main Diagnostic Terminal, MDT” on page 78)

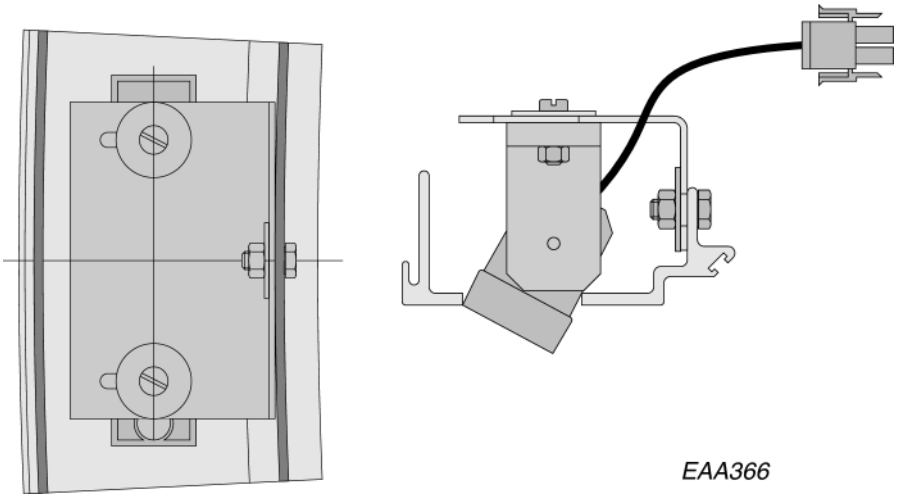
Cable from Mpu to Modem/ GSM



EAA195

10.0 Options

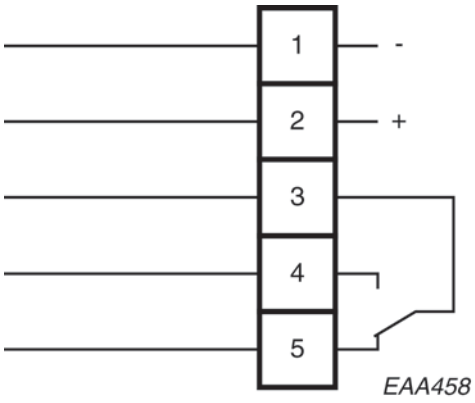
10.1 Activator PIR-30



Mechanical installation:

Mount the PIR-30 attachment on the wall ring above the inside and the outside openings according to picture above.

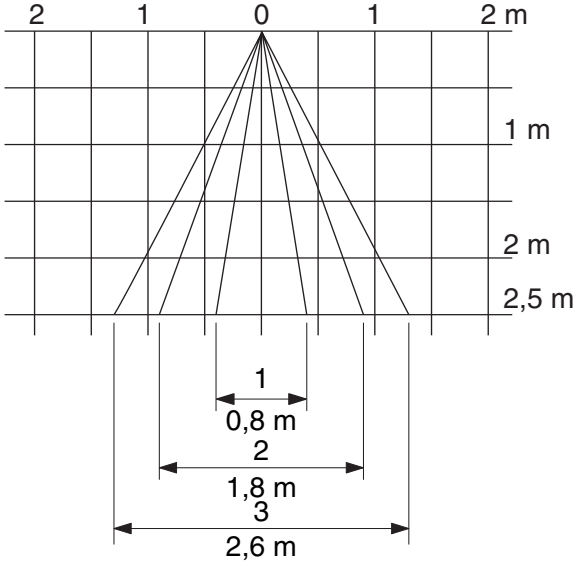
Electrical connections

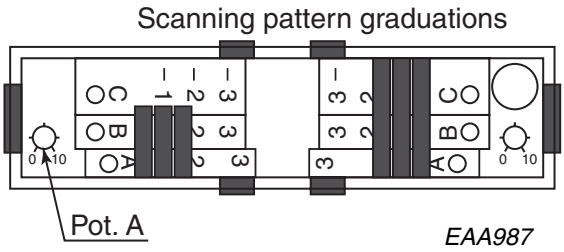


Connection	Colour		Voltage
1	White	-	12-30VDC 12-24 VAC
2	Brown	+	
3	Green	Common	48 VAC/DC 30W/60VA
4	Yellow	Normally open	
5	Grey	Normally closed	

10.1.1 Adjustment PIR-30.

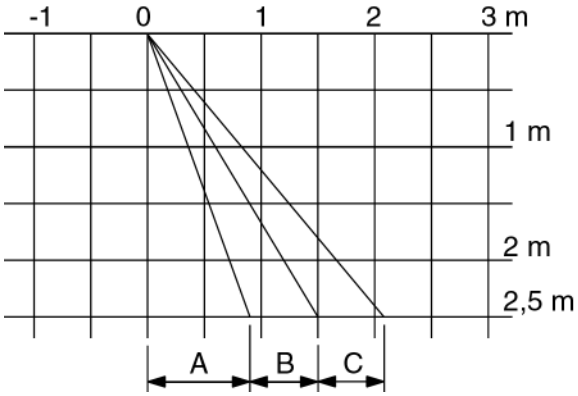
Pot. A Sensitivity of the sensor system (min=0 and max=10).

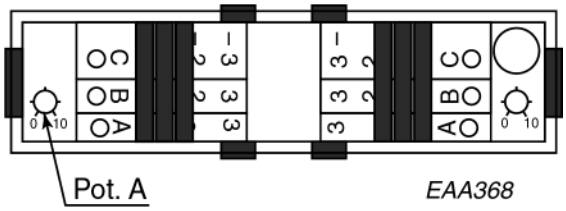




Sideways adjustment.

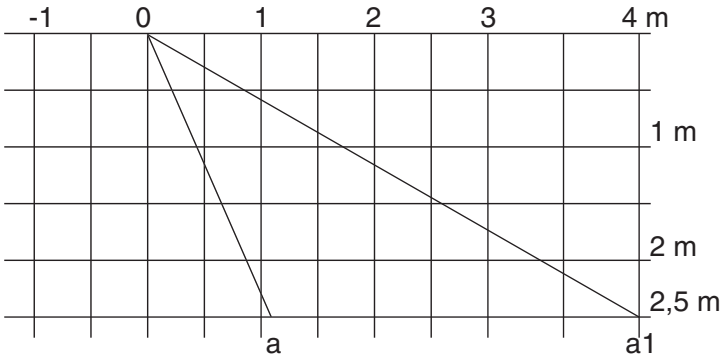
Three scanning pattern graduations for coverage of the lateral zones 1-3. (Lenses which are covered by slides are inactivated).

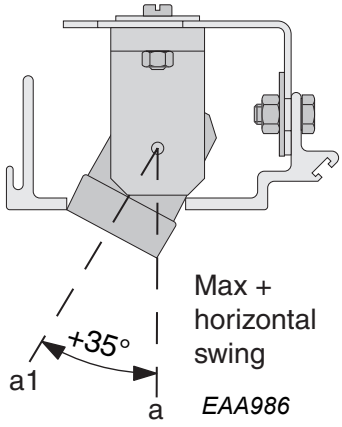




Frontal adjustment

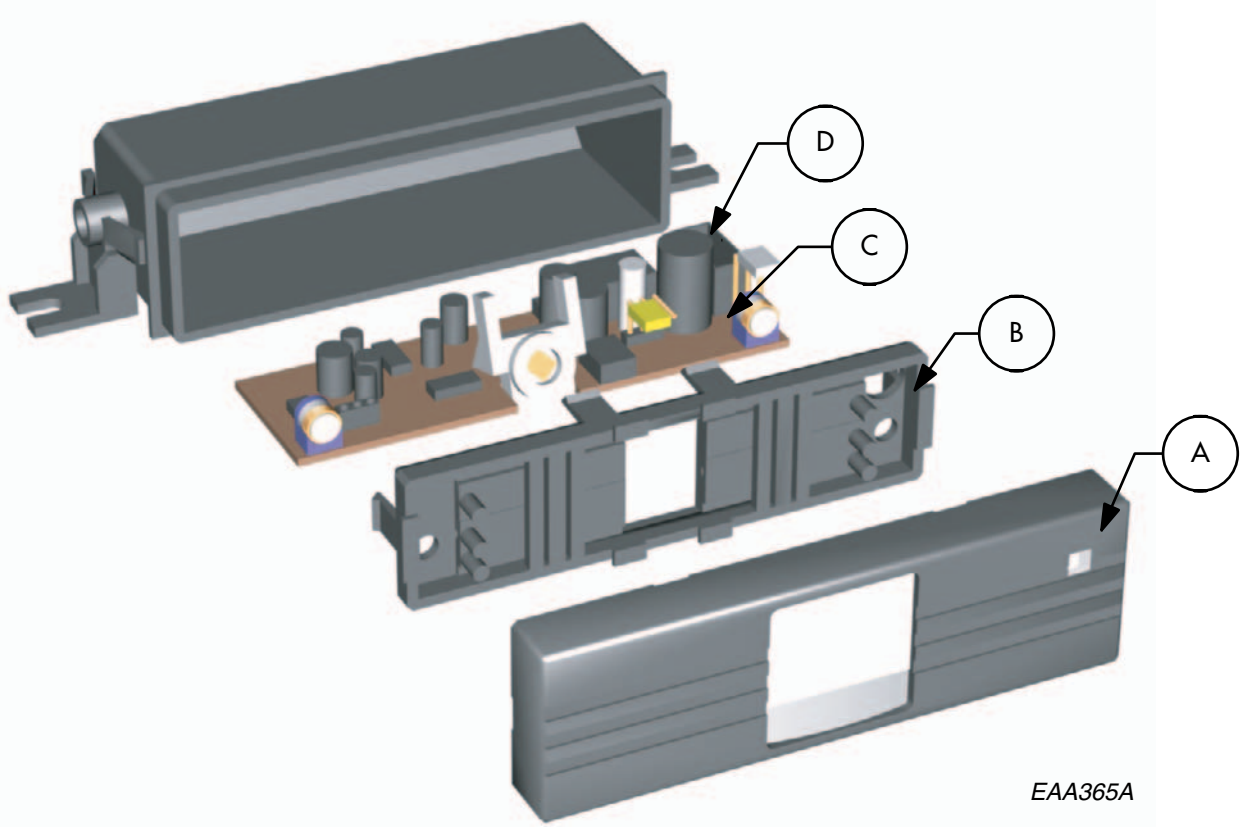
Frontal slides, for adjustment of scanning depth C-A.





Frontal adjustment by swivelling the unit by graduations of 5º. For shifting along the depth of the entire scanning field.

10.1.2 Replacing PIR-30

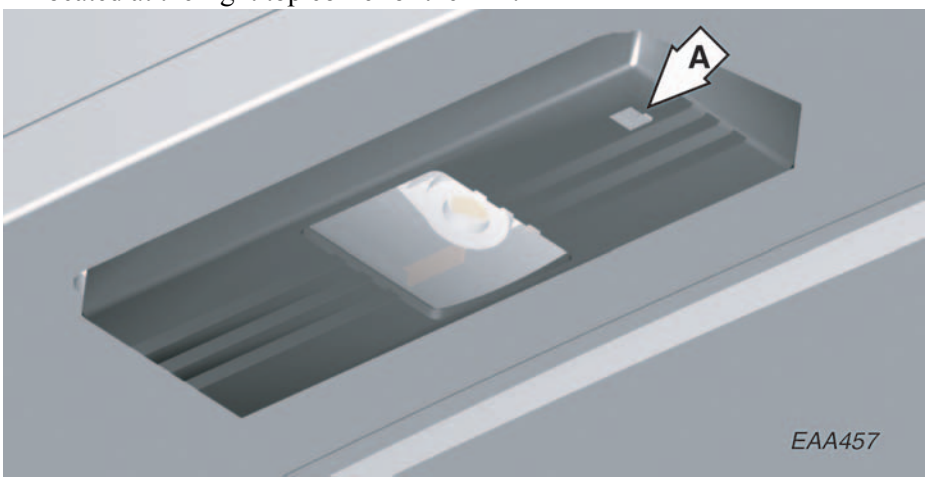


Replacing PIR-30

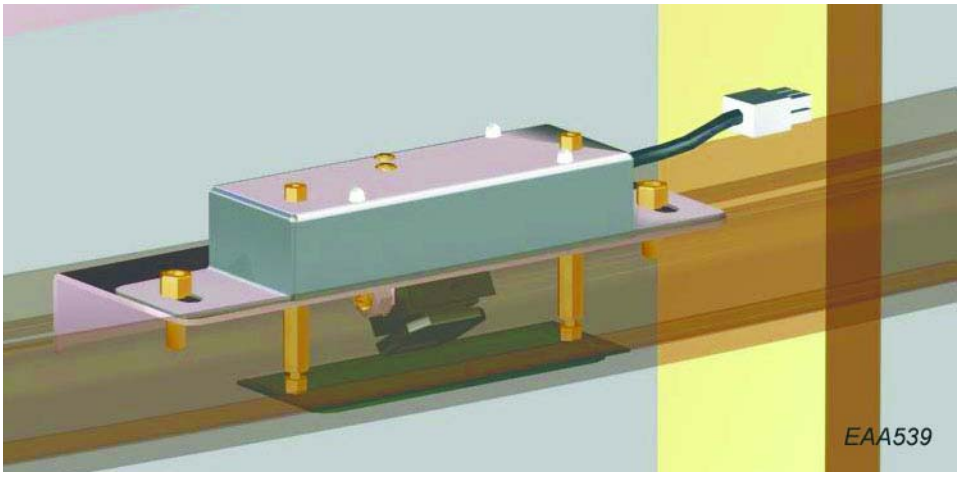
When replacing a used PIR, it is normally not necessary to replace the housing and cabling, only the PC-board.

Do as follows:

1. Remove the front cover A (can be made from “the outside” without taking down the fascia sheets).
2. Remove the slider frame B.
3. Pull out the PC-board C and disconnect the wires D and replace the PC-board.
4. When reassembling make sure that the LED and the LED window (A) are located at the right top corner of the PIR.



10.2 Direction sensing radar DSR

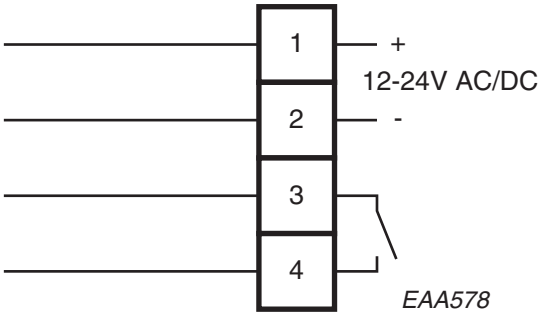


The DSR is factory preset for the UniTurn.
The settings of the DSR can be made with a remote control device.

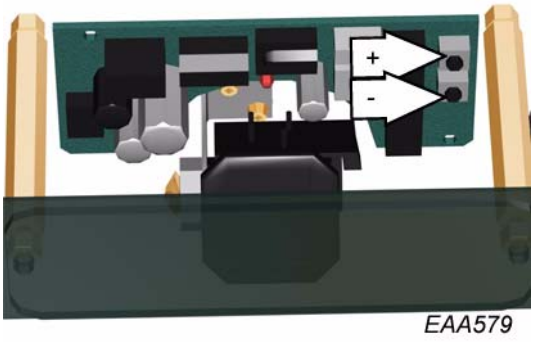
Mechanical installation:

Mount the DSR on the wall ring according to picture above with the cable outlet to the right.
The picture is shown facing the door

Electrical connection

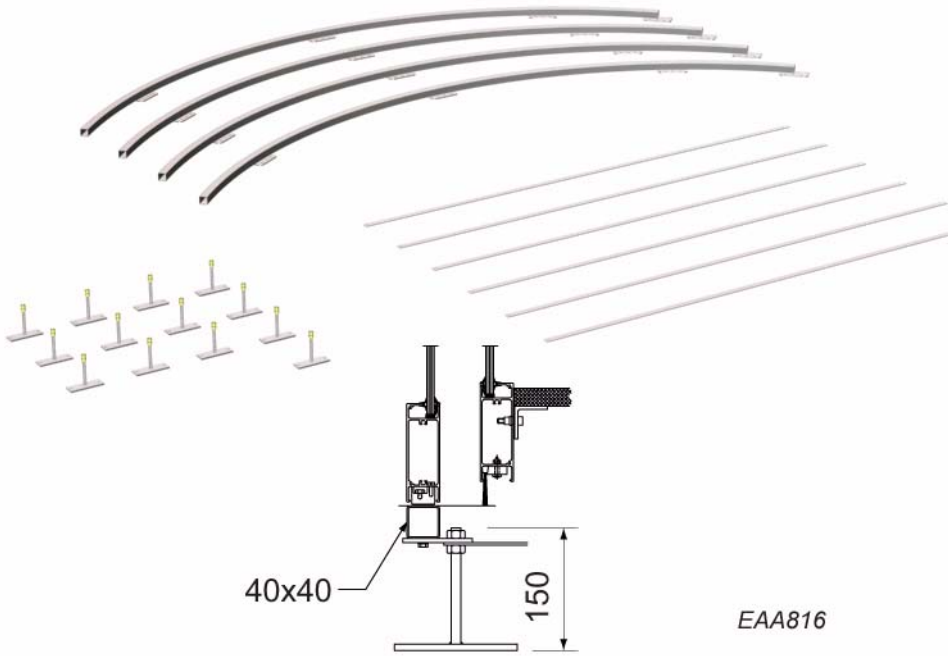


10.2.1 Adjustment of sensitivity



Sensitivity 0 - 9.
Default setting 7.
To change the sensitivity press the marked + or - to increase or decrease the sensitivity. One push change the sensitivity one step.

10.3 Ground ring

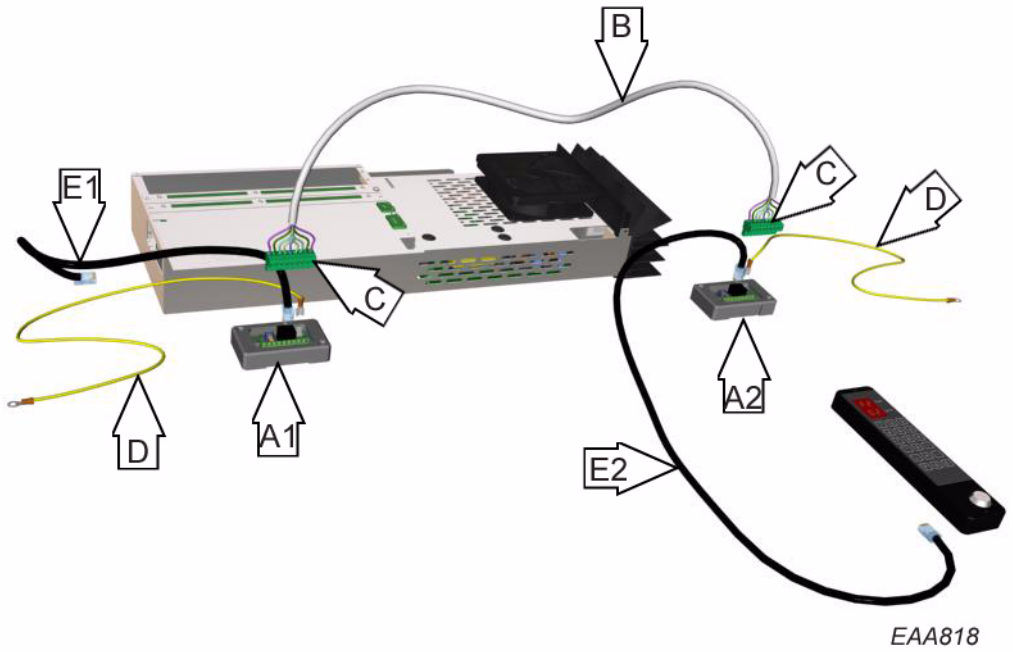


The kit consists of:
4 no. 90º ring parts
6 no. Spokes
13 no. Supports
6 no. Screws M6S 12x20
32 no. Nuts M6M 12
8 No. Screws RTS ST 6,3x19

10.3.1 Mounting

1. Screw the four 90º ring parts together.
2. Mount the spokes and the supports.
3. Put the ground ring in it´s correct position.
4. Check the roundness of the ground ring.
5. Level the ground ring to it´s correct height by adjusting the supports.
6. Fix the ground ring to the floor.
7. If necessary, cut the threaded rod on the supports.

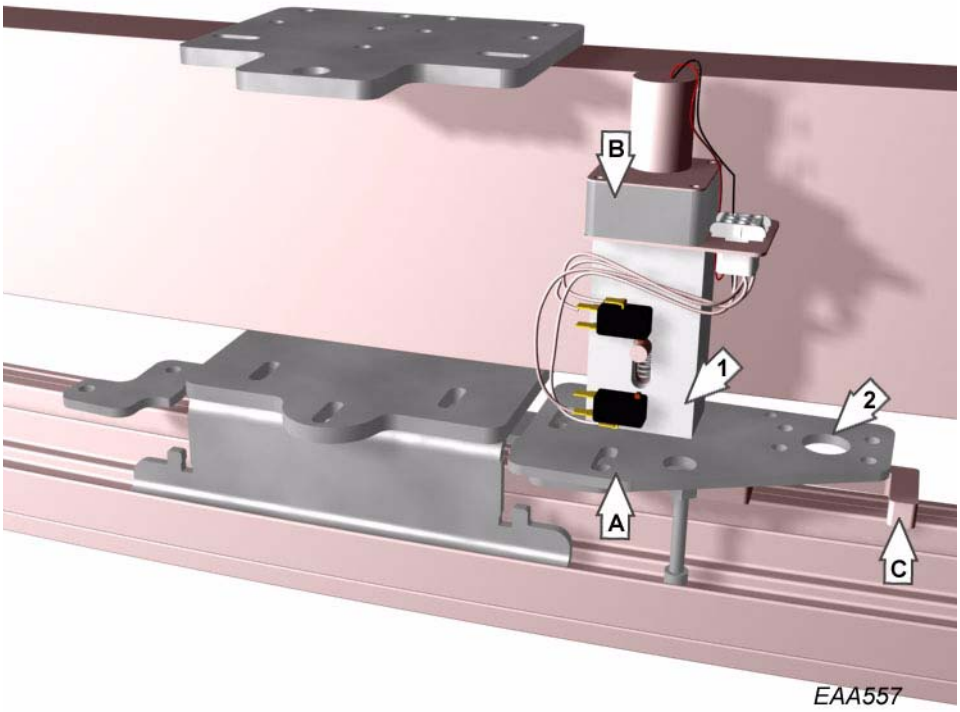
10.4 Interface kit PCD



10.4.1 Mounting

1. Mount the interface box A1 close to the CDC control box.
2. Mount the interface box A2 close to the location of the PCD.
3. Install a screened cable B between the two interface boxes. This cable is not included in the kit. Maximum length of the cable is 100m.
   9 wires are required for the interface boxes and 2 no. for the key switch. If the extra PCD is installed together with a reception panel an extra 4 wires are required (2 for the stop push button and 2 for the key impulse push button).
4. Connect the cable to the connection blocks C.
5. Put the connection blocks in place.
6. Connect the interface boxes to earth using the earth wires D (connect interface box A1 to the CDC control box chassis).
7. Connect the interface box A2 to the PCD using the modular cable included in the kit
8. Connect the interface box A1 to the CDC control box using the modular cable included in the kit

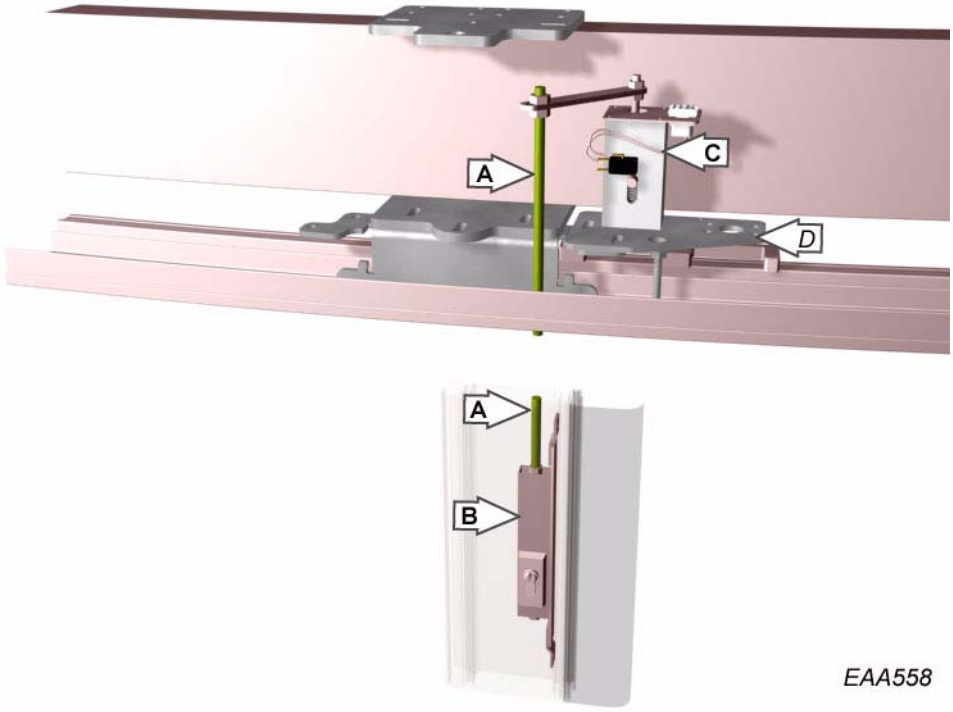
10.5 El.-mech lock



10.5.1 Mounting

1. Mount the electro-mechanical lock B on the fixing plate A. The electro-mechanical lock shall be mounted in position 1. If both electro-mechanical lock and mechanical lock are used the electro-mechanical lock shall be mounted in position 2.
2. Mount the fixing plate A on top of the Z-bracket located above the left jamb viewed from the inside.
3. Push the door to locked position.
4. Mount the striking plate C on top of the rotating ring. Make sure that the striking plate and the dead bolt correspond.
5. Connect the electro-mechanical lock to the CDC control box IOA 1-board.

10.6 Mechanical lock



10.6.1 Mounting

1. Loosen the threaded rod (A) from the vertical profile by cutting the straps.
2. Screw the threaded rod (A) into the lock chamber (B).
3. Mount the mechanical lock (C) on the fixing plate (D).
4. Mount the fixing plate (D) on top of the Z-bracket located above the left jamb viewed from the inside.
5. Connect the threaded rod to the lock and adjust the movement so the micro is working correctly.
6. Push the door to locked position.
7. Mount the striking plate on top of the rotating ring. Make sure that the striking plate and the dead bolt correspond.
8. Connect the mechanical lock to the CDC control box IOA 1-board.

10.7 Motorized service opening of pivot doors

The pivot doors are operated by the two IK operators and two CSD control units. A PMD programming tool is needed to make adjustments of the pivot doors. The motorized service opening of pivot doors is operated by a 3 position switch.

The positions are:

Off
Open inwards.
Open outwards.

When activated the door rotates to its emergency position and then the pivot doors are opened 90º to give a free unimpeded access to the building. The pivot doors remain open until the switch is set to OFF. When the motorized service opening of pivot doors is deactivated the pivot doors are closed and the door resume normal operation. The door must be in operation mode 02, 03, 04, 05 or 06 when service opening switch is activated.

Fire alarm

In case of a fire, the motorized service opening of pivot doors can be used as a smoke lid.

10.7.1 Configurations

The following configurations have to be set. To be able to set the configurations you have to logged in at access level 3 or higher.

23: Motorized Service door installed.

00= No 01 = Yes

The pivot door´s are operated by a 3 position key switch. when set to 01

24: Automatic Service door installed

00= No 01 = Yes

Must be set to 00 (No).

25: Service doors open direction

00=Inwards01=outwards
Setting of witch opening direction the door should open in case of fire alarm or power fail.

26: Smoke evacuation

00 = No, 01= yes.
Setting if the pivot doors should open automatic in case of fire alarm or power fail, yes or no.
The door will also open in case of several error codes.
(Configuration number 3 and 11 have also influence to the function.)

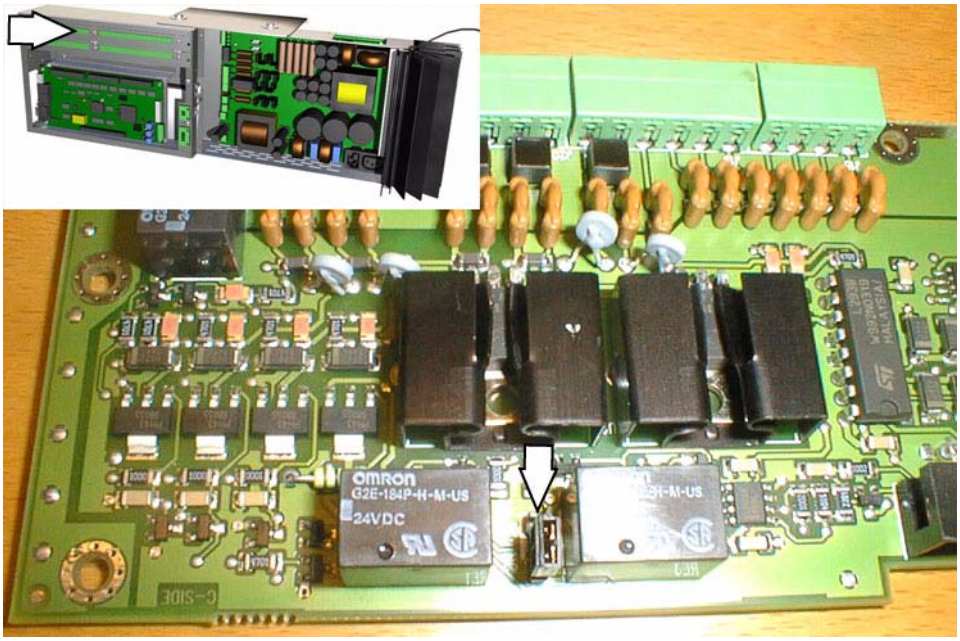
29: Smoke evacuation at fire alarm only

00 = No, 01= yes.
Setting if the pivot doors should open automatic in case of fire alarm only, yes or no.

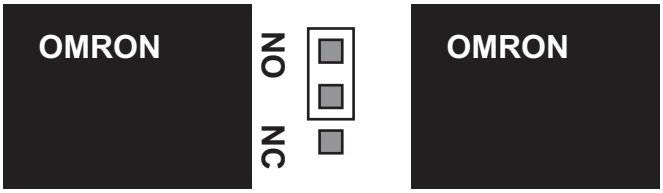
Connection

See connection diagram CDC 4.1 "Automatic sliding doors" 1002240

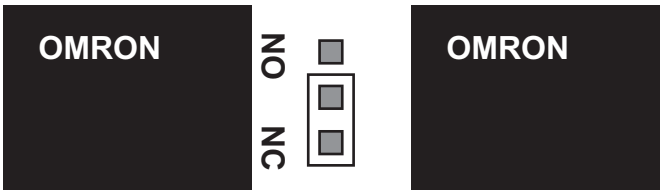
Jumper setting on IOA 1-board



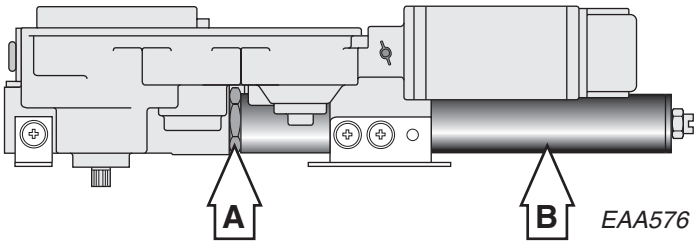
If configuration flag 26 or 29 is set to NO=00



If configuration flag 26 or 29 is set to YES=01

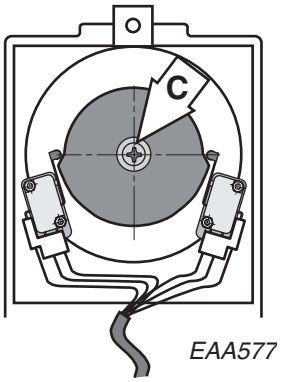


10.7.2 Mechanical adjustment



Adjustment of the pivot doors closed position:

Loosen the lock nut A
Turn the spring tube B clockwise or counter clockwise to line up the door leaves.
Tighten the lock nut A



Loosen the screw C
Adjust the cam after the door adjustment according to picture.
Tighten screw C

Further information is to be found in the IK service manual

10.8 Automatic sliding centre door leaves

The automatic sliding doors is operated by a separated switch. The door must be in operation mode 02, 03, 04, 05 or 06 to be able to operate the switch.

The switch have 3 positions:

 Normal rotation (automatic sliding doors off)

 Automatic sliding doors activated

 Open

When switch is set to “automatic sliding doors” position, the revolving door rotates to its emergency position and stop.

Activation units are then operate the sliding doors.

When the switch is set back to “normal rotation”, the door will start to rotate as soon as the sliding doors are closed.

When the switch is set to “open”, the revolving door rotates to its emergency position and stops. The sliding doors will then open, and stays open as long as the switch stays in this position.

Fire alarm

In case of a fire the door can be used as a smoke lid. Connected to the fire alarm system, the revolving door rotates to its emergency position and stop. The sliding doors will then open, and stays open as long as the fire alarm is activated.

10.8.1 Configurations for sliding doors

The following configurations have to be set. To be able to set the configurations you have to logged in at access level 3 or higher.

23: Motorized Service door installed.

00= No 01 = Yes
Must be set to 00, NO

24: Automatic Service door installed

00= No 01 = Yes

When set to 01 it is possible to set the door in operating mode 09 Automatic service doors on the PCD or MDT.

The door rotates to its emergency position. The outside and the inside activators control the opening of pivot door leaves.

26: Smoke evacuation

00 = No, 01= yes.

Setting if the sliding doors should open automatic in case of fire alarm or power fail, yes or no.

The door will also open in case of several error codes.

(Configuration number 3 and 11 have also influence to the function.)

29: Smoke evacuation at fire alarm only

00 = No, 01= yes.

Setting if the sliding doors should open automatic only in case of fire alarm, yes or no.

Connection

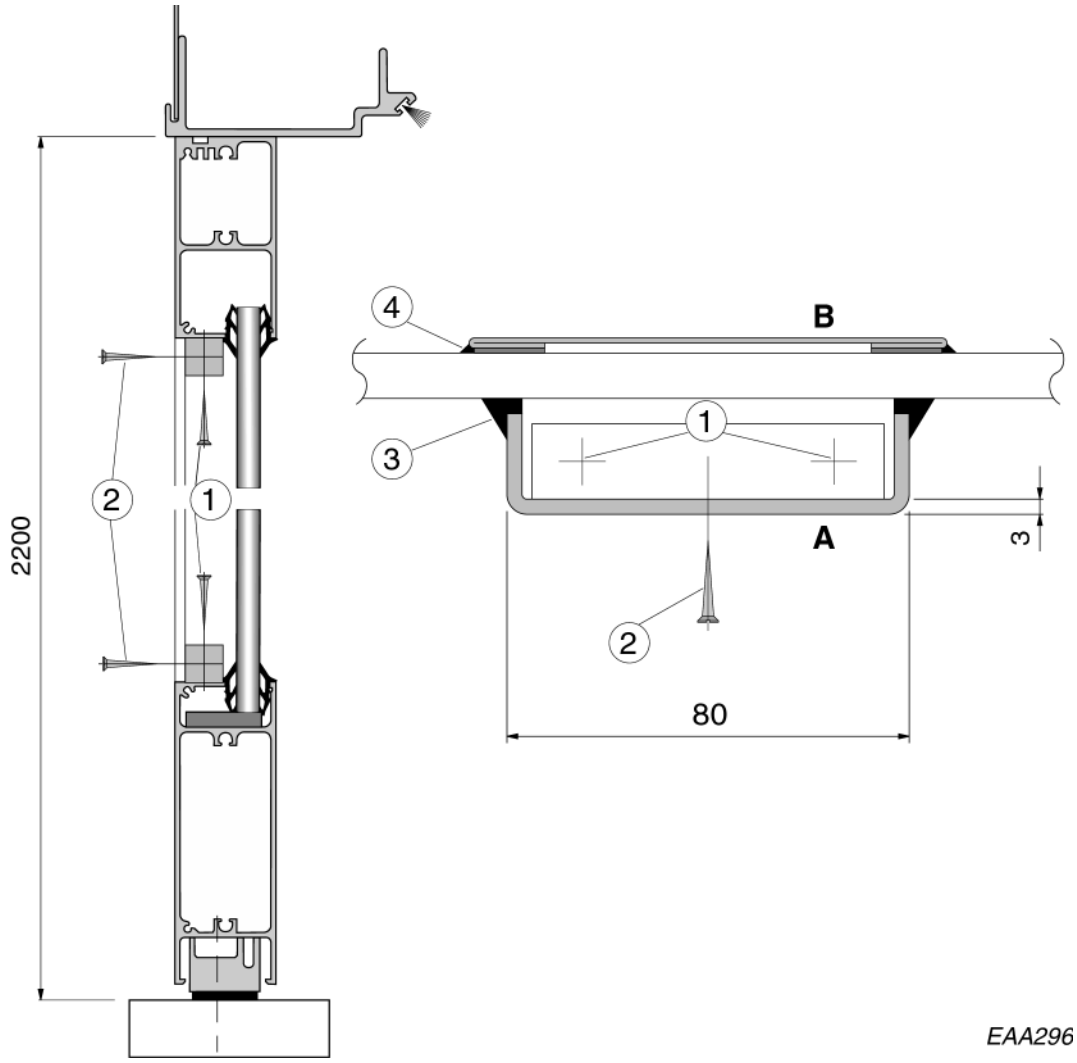
See connection diagram 1002240 and the manual for UniSlide.

10.9 Push button disabled AA-5

EAA455

Connect the push buttons to the inner/outer low speed impulse on the IOA 2-board.

10.10 Fixed screen joint



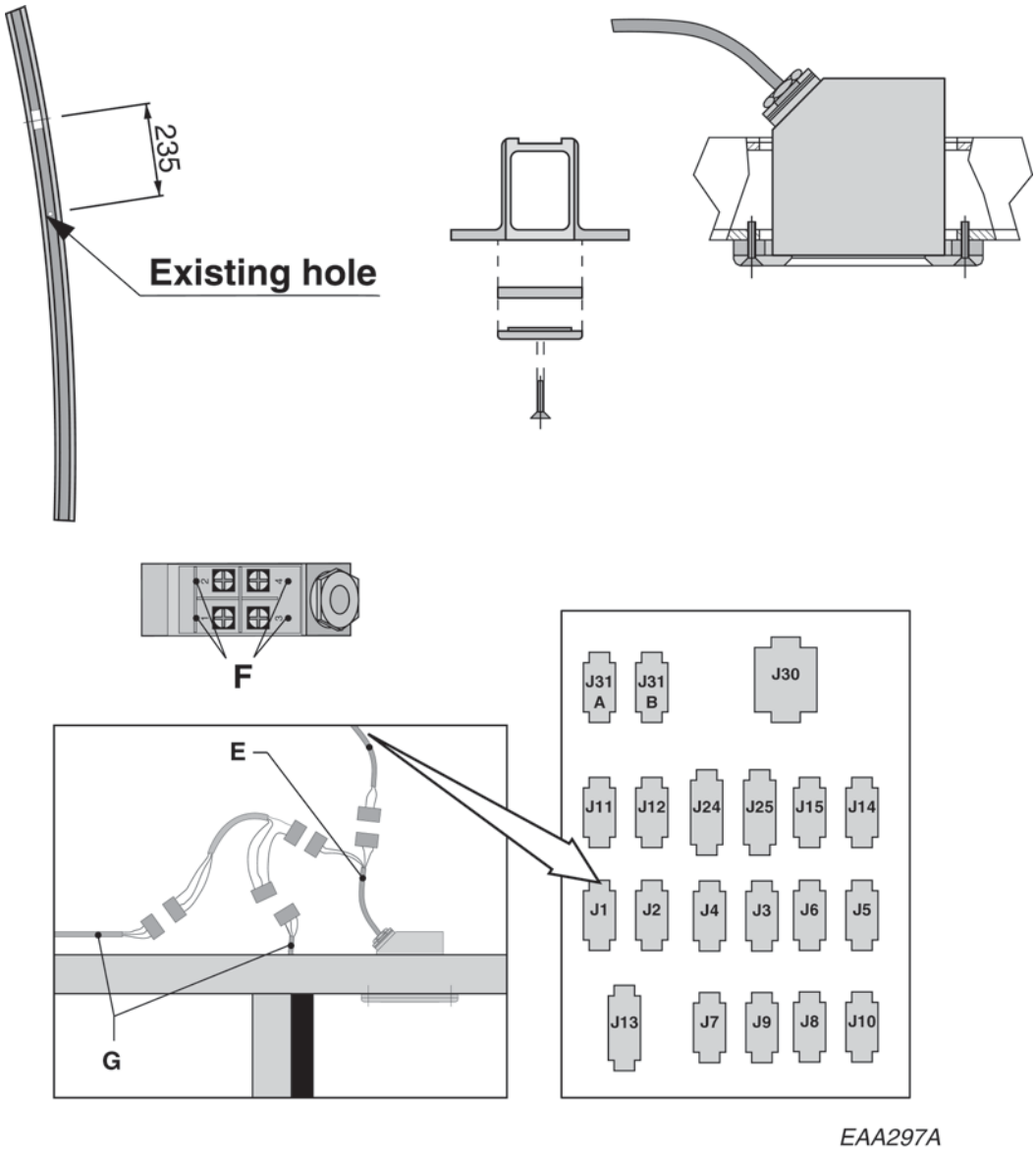
Connection profile, A:

1. Mark where on the profile the connection profile is to be placed.
2. Drill holes and screw the plastic blocks to the upper and lower horizontal profile, 3 mm in from the edge, (1).
3. Attach the connection profile to the plastic blocks with one screw up and one down, (2).
4. Fill the joints between the glass and the connection profile with black silicone, (3).

Cover plate, B

5. Use the double-adhesive tape, which is already attached to the folded parts, and place the cover plate so that it covers the connection profile. Put silicone in the joints between the glass and the cover profile, (4).

10.11 PDR in rotating ceiling



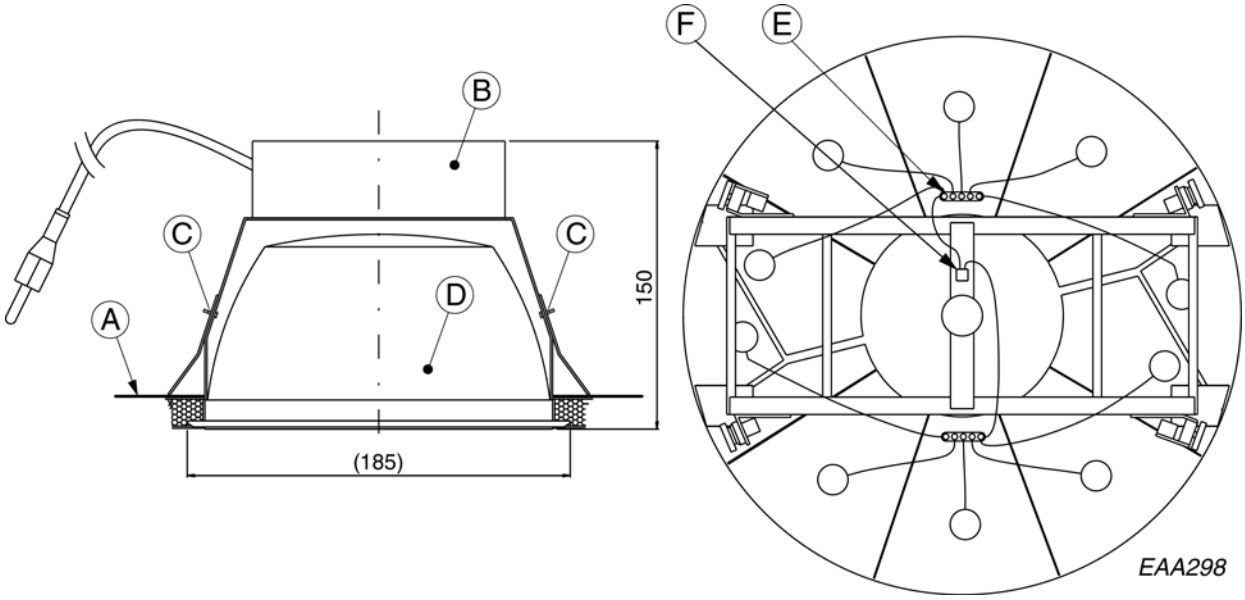
Mechanical installation:

1. Mount the PDR attachment according to picture above.

Electrical installation:

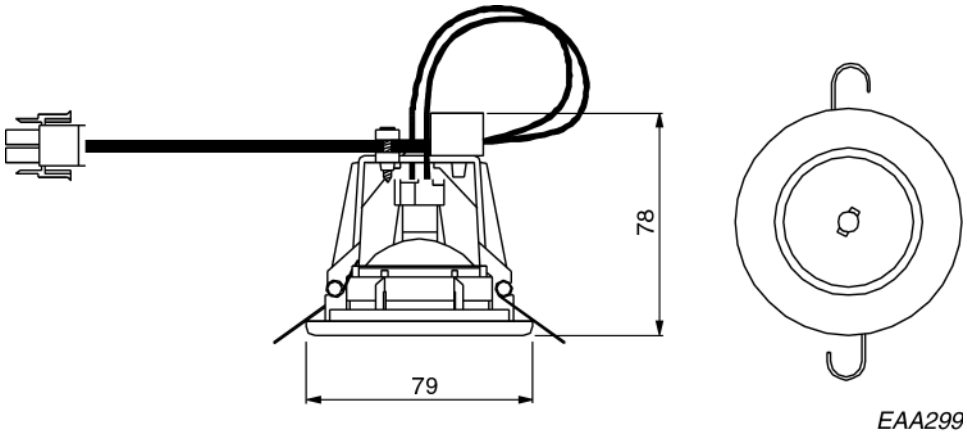
2. Open the top of the PDR and connect the free ends of the cable marked 1-4 to connections 1-4 in the PDR (F).
3. “Snap-in” the PDR.
4. Connect the PDR between the vertical trip-switch (G).
5. Connect the power supply to J1 or J2.
6. Go to the other side of the door and follow step 1-5.
7. Switch on the door, check the functions and adjust the PDR.

10.12 Downlight



1. Put the unloading ring (A) above the hole in the inner ceiling.
2. Push the fittings (B) up in the hole and secure with screws (C).
3. Mount the reflector (D), use protective gloves and insert the lamp.
4. Connect the distributing boxes (E) to the junction box (F) and connect the lamp plugs.

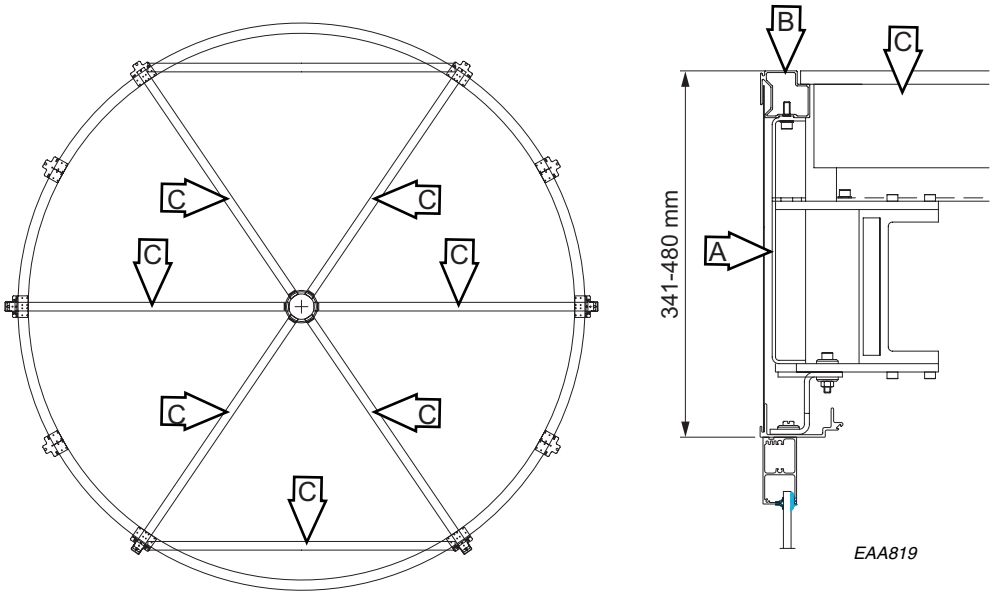
10.13 Spotlight



1. Bend the springs backward on both sides of the lamp and insert it in the hole in the ceiling from underneath.
2. Connect to the transformers which are located on the inside of the rotating frame.

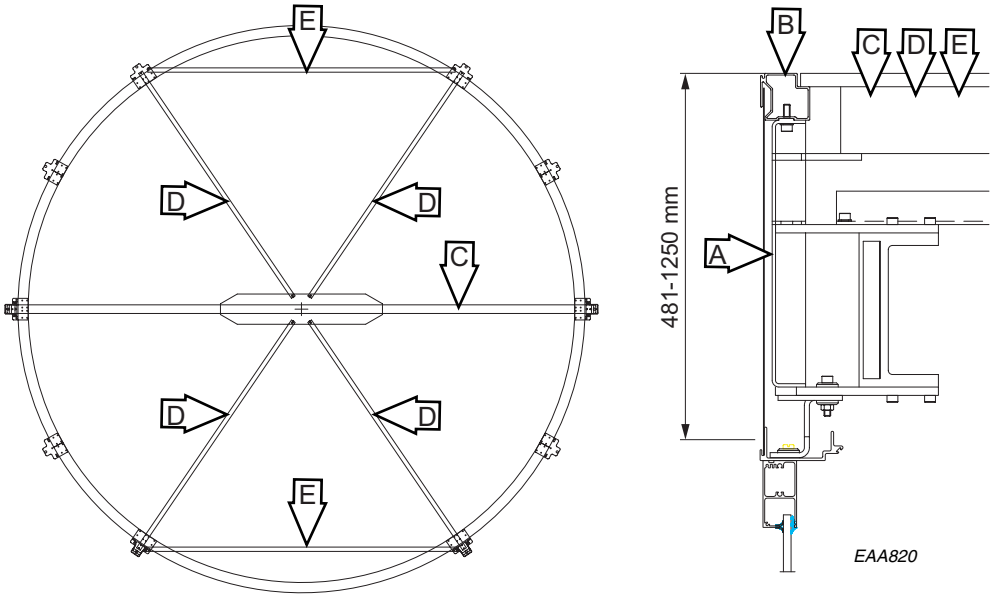
10.14 Extended facia

10.14.1 Facia height 341-480 mm



1. Mount the distances (A).
2. Mount the canopy ring (B) on top of the distances.
3. Mount the wooden beams (C) on top of the spokes.

10.14.2 Facia height 481-1250 mm



1. Mount the distances (A).
2. Mount the canopy ring (B) on top of the distances.
3. Mount the dust roof support beams (C, D, E).

11.0 General service inspection

Things to be checked during general service inspection:

- Speed settings of the door according to “STI 04-014 Revolving doors - safety instructions”
- Handicap speed

Presence detection, function and/or monitoring

- Horizontal, sensor door 1 (safety edge)
- Horizontal, escape door 1 (safety edge)
- Vertical 1 (safety edge)
- Horizontal, sensor door 2 (safety edge)
- Horizontal, escape door 2 (safety edge)
- Vertical 2 (safety edge)
- Vertical 1 (CFD sensor)
- Horizontal 1 (CFD sensor)
- Vertical 2 (CFD sensor)
- Horizontal 2 (CFD sensor)
- Internal (PDR)
- External (PDR)

Emergency stop, function

- Stop button 1
- Stop button 2

Emergency opening button (door in escape route), function

- Opening button 1
- Protective glass, installed

Door safety distances according to prEN 12650

Motor unit 1

- Carbon
- Belt tension
- Motor attachment
- No abnormal sound, motor 1

Motor unit 2

- Carbon
- Belt tension
- Motor attachment
- No abnormal sound, motor 2

Brake unit 1

- Tolerance between the brake disc and the brake lining
- Brake attachment
- No abnormal sound, brake 1

Brake unit 2

- Tolerance between the brake disc and the brake lining
- Brake attachment
- No abnormal sound, brake 2

Make a brake test according to “Revolving doors - safety instructions”

Escape doors, function

Lock

- Put grease on the lock pin

Hinges

Motorized service doors

- Disconnect the power and let the operators open by battery for 10 minutes
- Battery life time (max 2 years) age
- Opening and closing N

Emergency run on Battery, function and/or monitoring

- Disconnect the power and let the door run on battery to emergency position

Activation units, function and monitoring Adjustment (zone should cover entire entrance)

- Inner activation units
- Outer activation units
- If the door is located in an escape route the functionality of the inner impulse system shall be tested twice a year by a trained technician
- Programme selector
- Mains connection and cabling

Drive unit and transmission

- Bolt connections, frame
- Bolt connections, ring
- Clean the ring (for best brake performance)
- No abnormal sound

Door leaves

- Rigid doors
- Glass
- Sealing and brushes
- No jamming or abnormal friction
- Hinges

Locks, function

- Mechanical lock(s)
- Electro-mechanical lock(s)

Markings

- Mother/child
- Emergency stop
- Emergency opening
- Emergency opening (break-out door)
- Other markings

11.1 Inner Impulse

If the door is located in an escape route the functionality of the inner impulse system shall be tested twice a year by a trained technician.

11.2 Test of emergency stop push-button

Activate the emergency stop device, operation should cease immediately and the display show 20.

Log in on the PCD if necessary.
Type ***F938***.
The display show ***PASS*** or ***FAIL***
Reset the emergency stop push-button, the revolving door must not start.
Press the button ***C***, this resets the emergency stop function and the revolving door starts.

EAA743

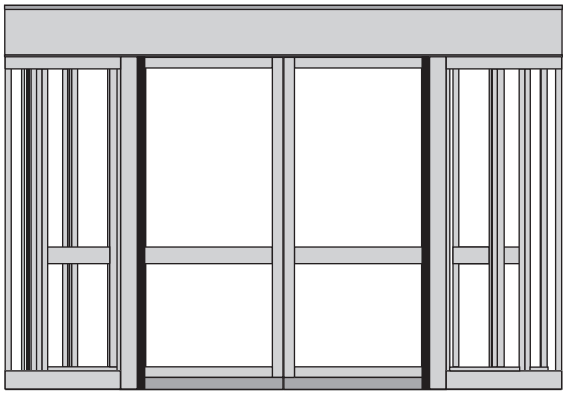
Note

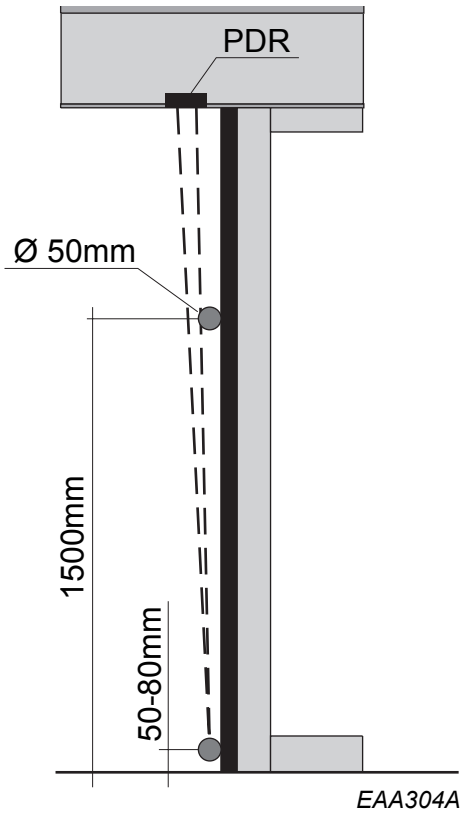
The emergency stop push button shall be tested once a year by a trained technician.

11.3 PDR sensors

11.3.1 Range

Check the range of the detection zone by moving a test body (diameter. 50mm) downwards along the vertical rubber edge.



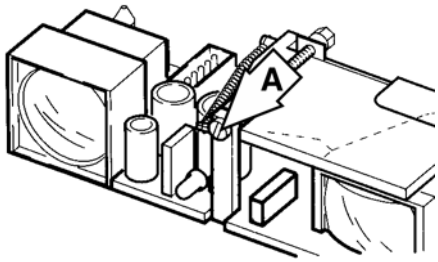


EAA304A

The PDR should be activated at a distance of 1.5 m from the floor.

The detection zone ends about 50-80 mm from the floor.

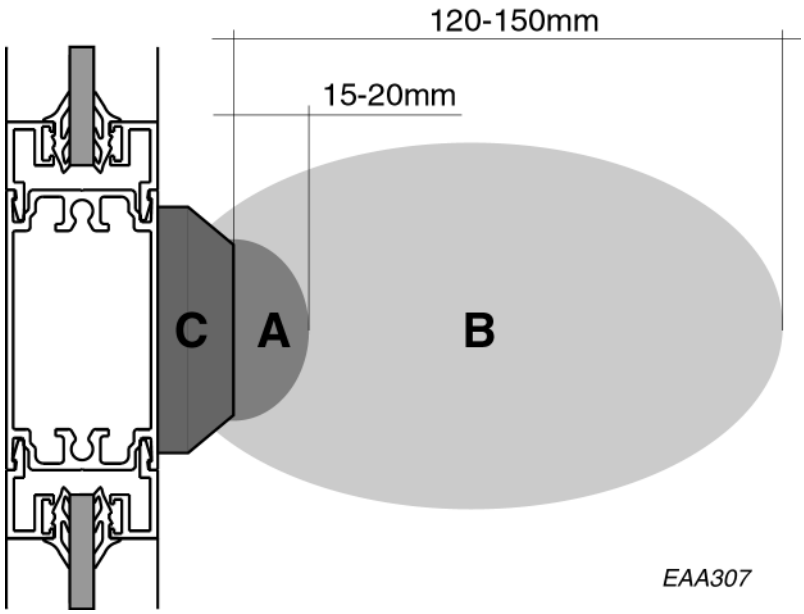
The length of the detection zone can be adjusted with the screw (A) located behind the cover. Turning the screw clockwise gives a longer detection zone



EAA460

11.4 CFD sensors

11.4.1 Check functions



Clean all antennas.

Check the sensitivity of the horizontal safety sensors.

Move your hand towards sensor C. Entering zone B should result in slow rotation and the display shows 25.

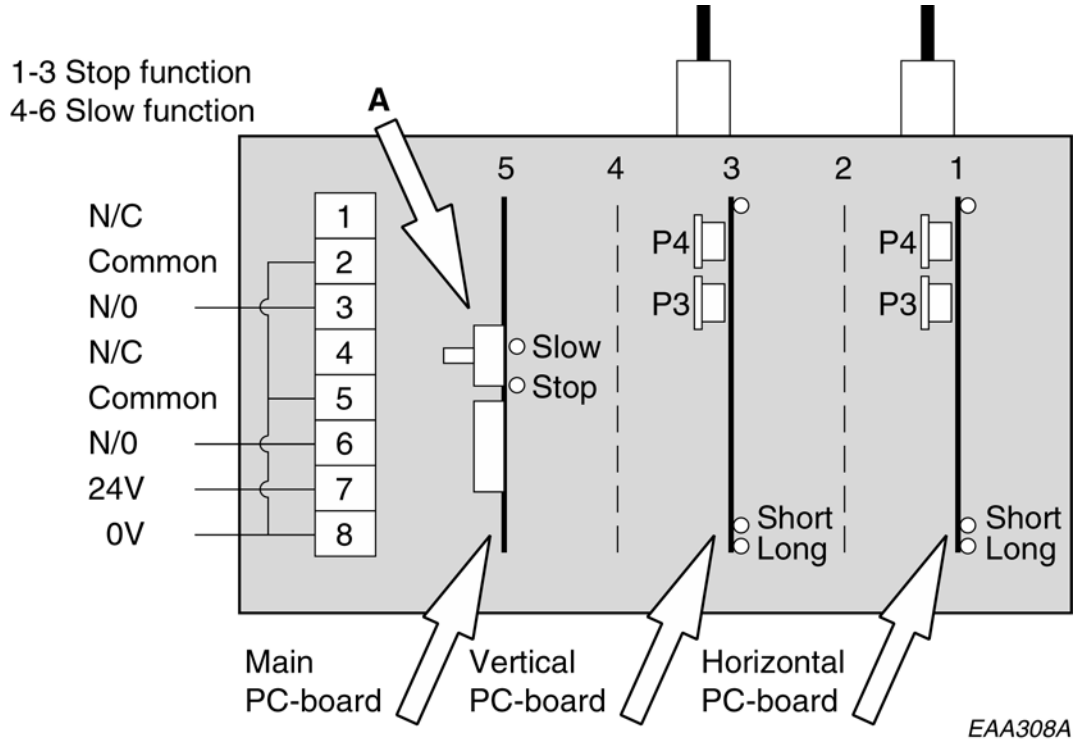
Entering zone A should result in stop and the display shows 26.

11.4.2 Instructions for adjusting CFD.

1. Remove the lid of control box CFD.
2. Switch on the switches on PC-board marked A for the buzzer.
3. Turn potentiometer P3 and P4 on PC-boards 1 and 3 counter-clockwise to stop.

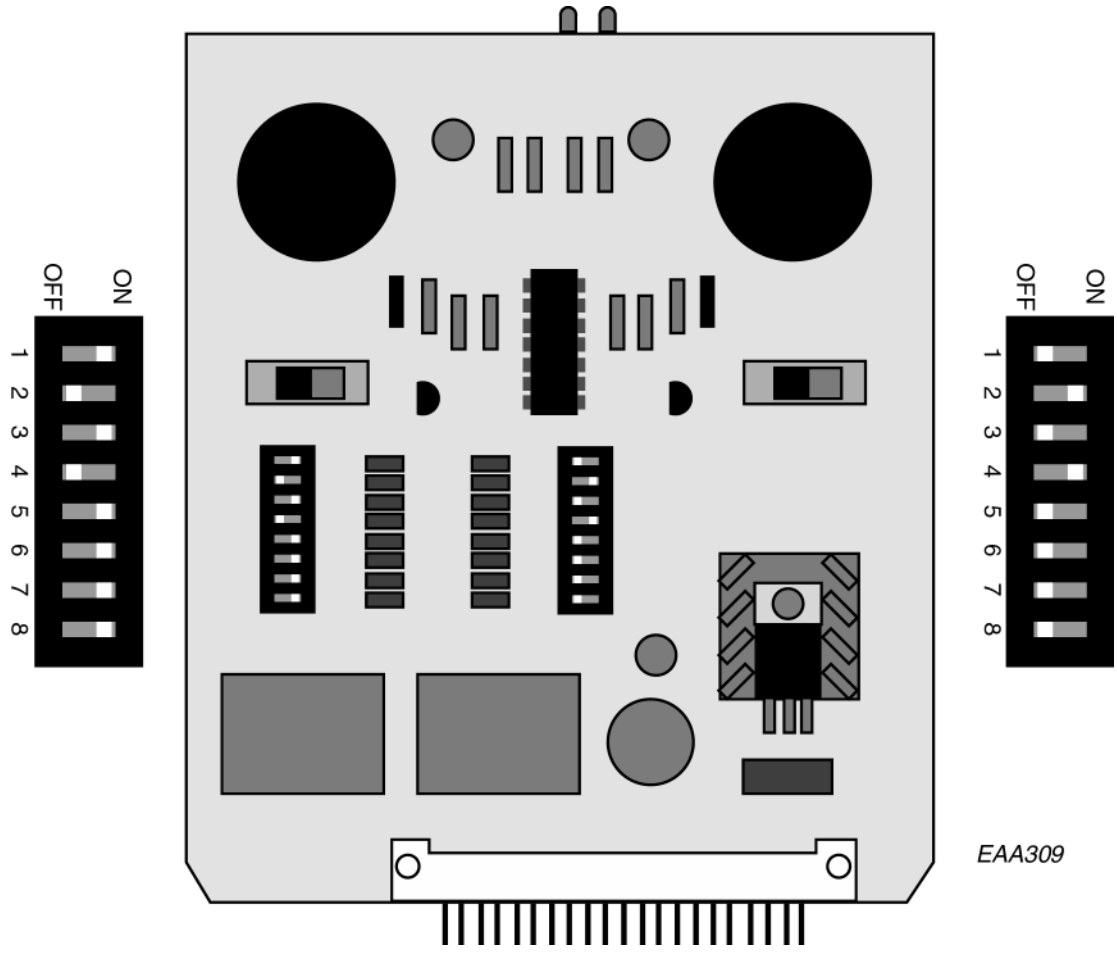
PC-board 1 and 3, yellow LED;s

4. Adjust stop zone A. Turn P4 clockwise step by step. Check with your hand beside the sensor, repeat this until the buzzer sounds with a low frequency 15-20 mm from the sensor.
5. Adjust long zone B. Turn P3 clockwise, repeat in accordance with point 4. Repeat this until the buzzer sounds with a high frequency 120-150 mm from the sensor.



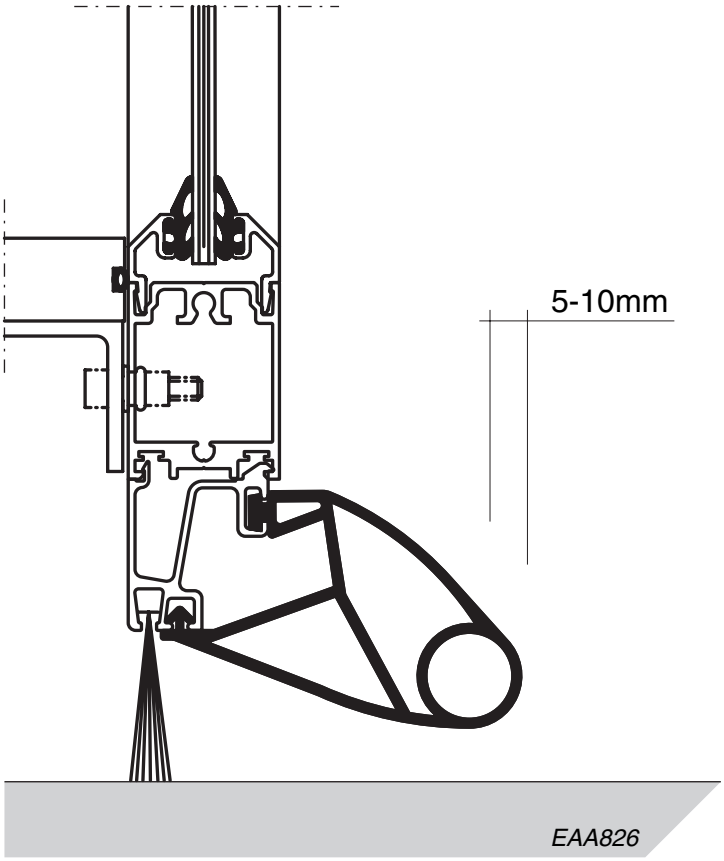
“Main” PC-board

Dip-switch setting shall be according to picture.



11.5 Mechanical safety units

11.5.1 Horizontal compressible safety switch.



Check condition of brush.

Remove any litter from the brush.

Check that the rubber is undamaged.

Check that the trip-switches are firmly fixed.

Check that the cut-out function is 5-10 mm.

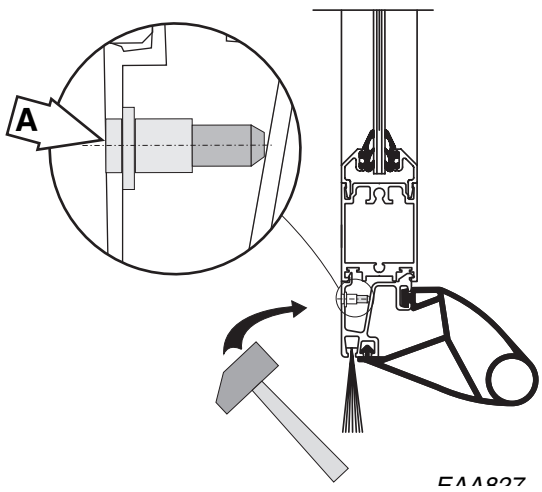
When a trip-switch is activated, the door stops and the display shows 10.

11.5.2 How to replace

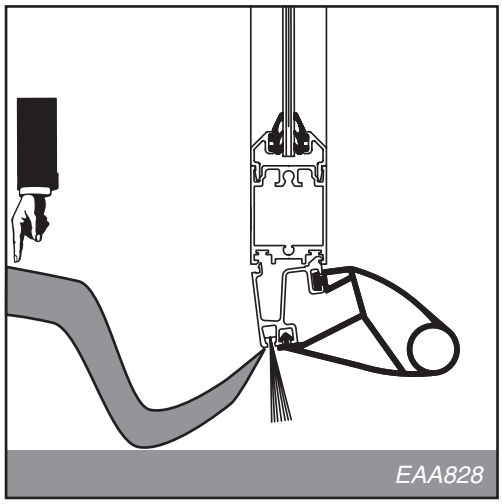
Open the escape door. Remove floor in the display area. Remove screws (A).

Release the rear “snap in” by applying light force with a rubber mallet and remove the old safety switch.

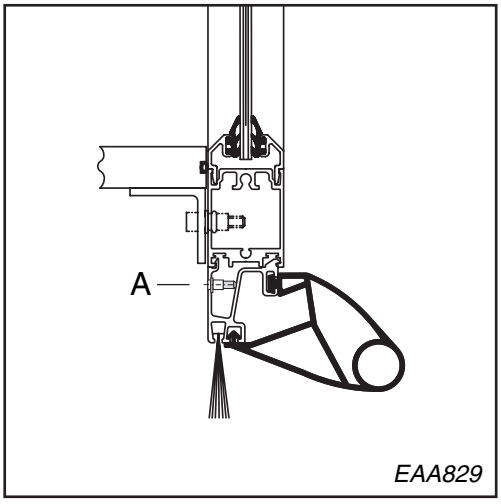
Disconnect all electrical wires.



Put the new safety switch in place. Connect all electrical wires, make sure that the wires are not trapped. Start with the “snap in” at the front. Use a crow bar, or similar, to get the rear “snap in” in place



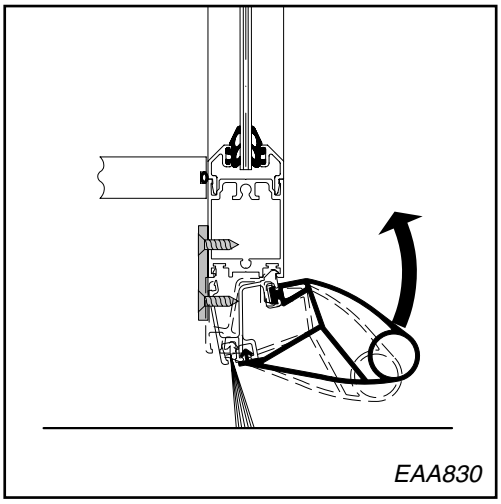
Insert screws (A).



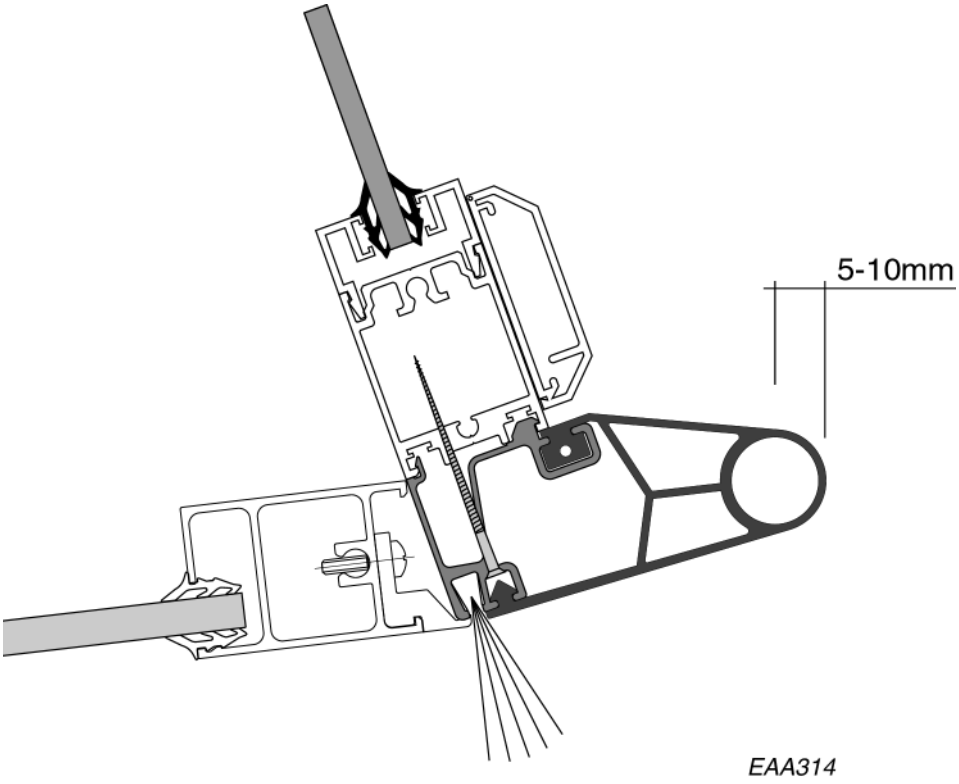
11.5.3 How to overcome unequal floors

If the floor level is unequal and the safety switch hits the floor causing unwanted stops, the nose of the safety switch can be raised.

Fix the back of the safety switch profile with two brackets 50x50x3 mm instead of pushing it into the bottom profile of the door as shown on the illustration.



11.5.4 Vertical switches



Check condition of brush.

Remove any litter from the brush.

Check that the rubber is undamaged.

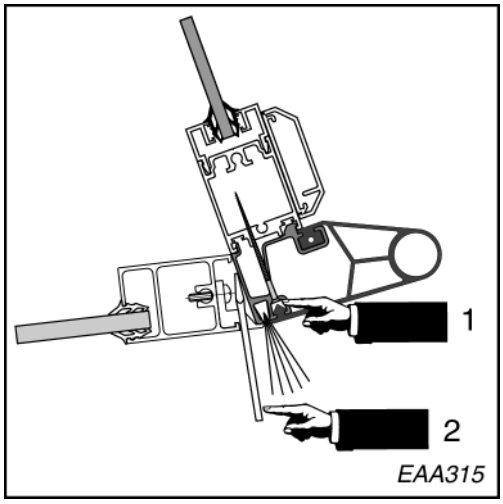
Check that the trip-switches are firmly fixed.

Check that the cut-out function is 5-10 mm.

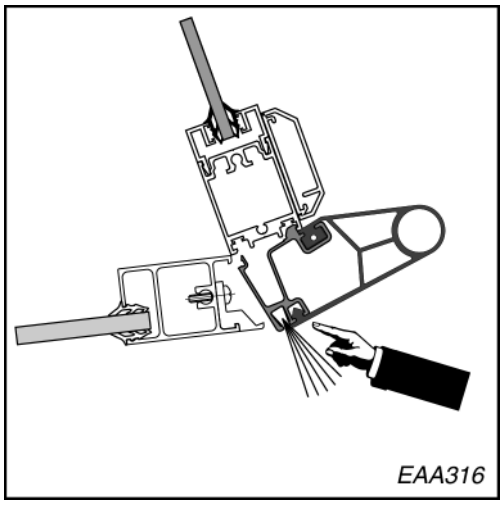
When a trip-switch is activated, the door stops and the display shows 10.

11.5.5 How to replace.

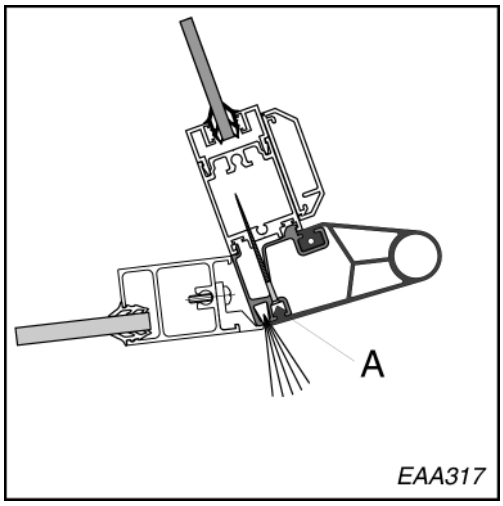
Start by loosen the rubber from the al.-profile approx. 10 cm from each end.
Remove screws, one at each end (1).
Release the rear “snap in” by inserting a screwdriver behind the fixing profile (2). Disconnect all electrical wires.



Connect all electrical wires.
Put the new safety switch in place
Start with the “snap in” at the front.
Use a rubber mallet to get the rear “snap in” in place.

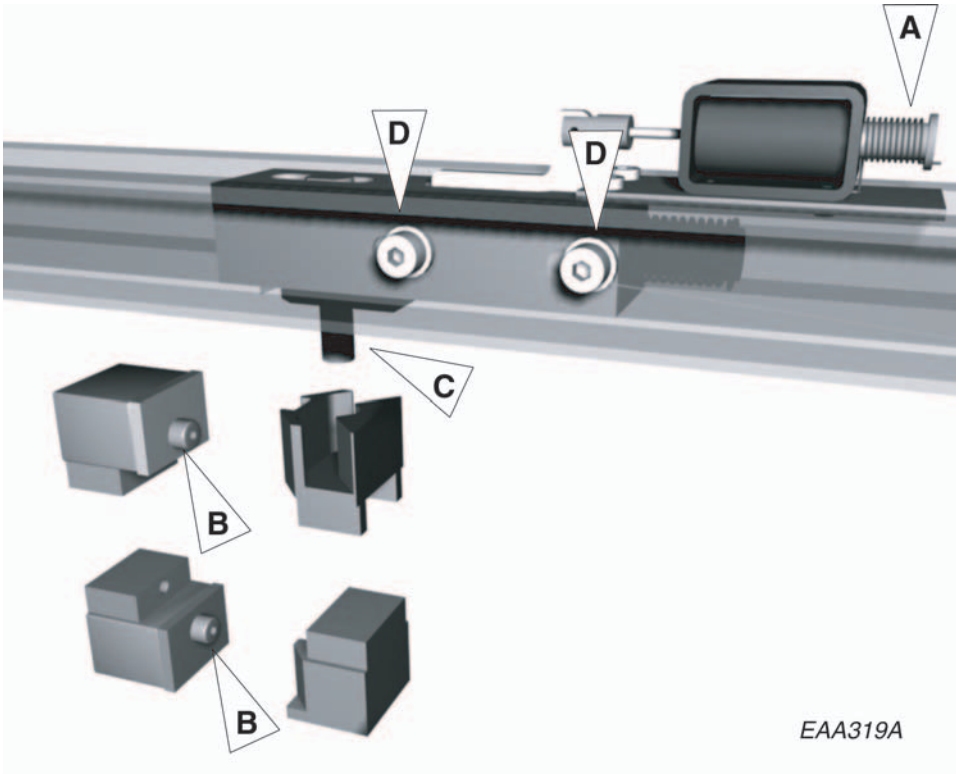


Insert screws (A).



11.6 Electro-mechanical escape door lock

Check that both door leaves can be opened. This should only be possible if the diagnostic display shows 20 (emergency stop), 31 (fire alarm) or during power failure. When the emergency escape doors are open the rotating part shall not rotate (display shows 10).



Check that all parts are firmly fixed.

Check that the spring marked A is working correctly, properly fixed and not damaged.

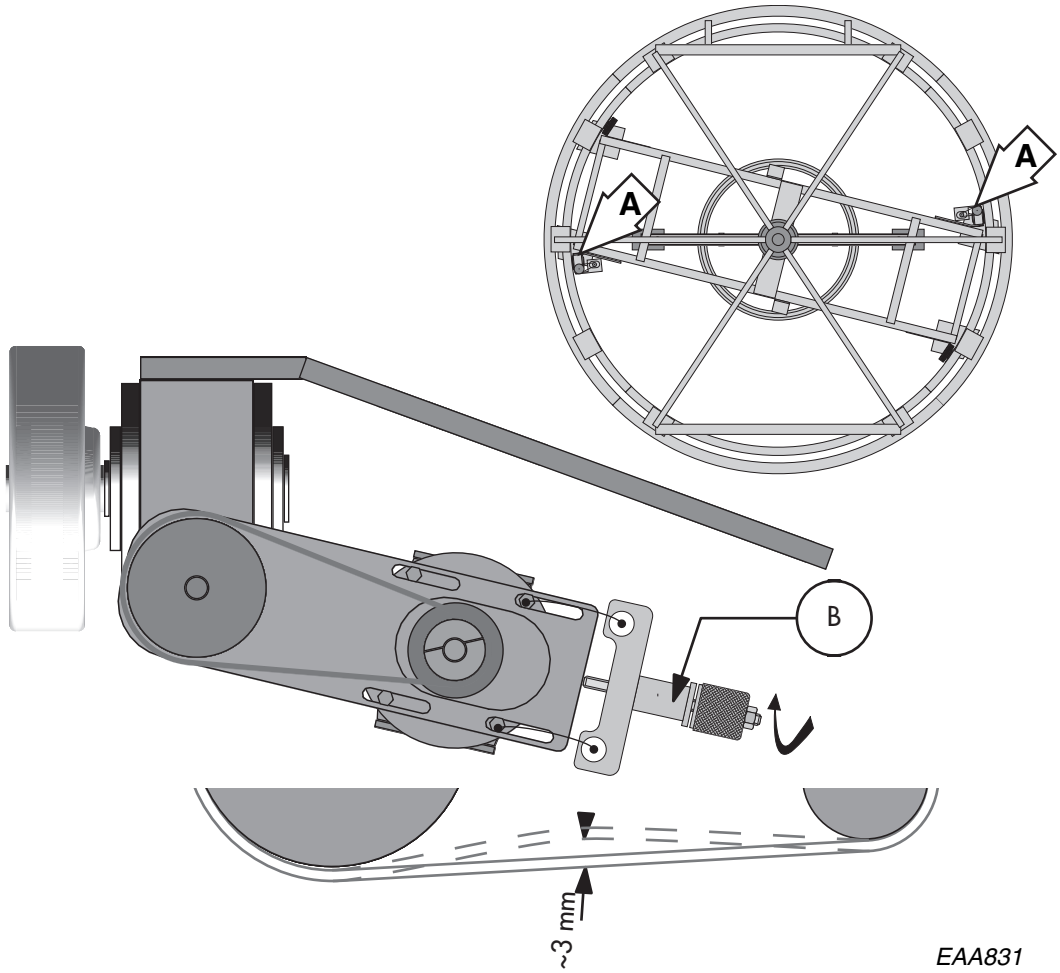
Check that the locking bolt marked B is working correctly and not damaged.

Check that the locking bolts marked C are working correctly and are not damaged.

Apply a thin synthetic oil on locking bolts B and C.

To adjust the lock along the profile loosen the two screws marked D (see “Adjustment of the escape door lock” on page 29).

11.7 Motor unit



Check that the motor units (A) are firmly fixed to the rotating frame.

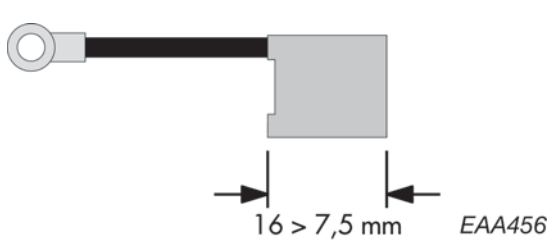
Check that the drive wheel is firmly fixed to the gear box.

Check the adjustment of the drive belt, using the belt tightener tool (B) (part no. 248385).
The procedure for adjusting the belt is described in FI 009.
When a force of app. 20N is applied to the belt, the deviation shall be app. 3mm.

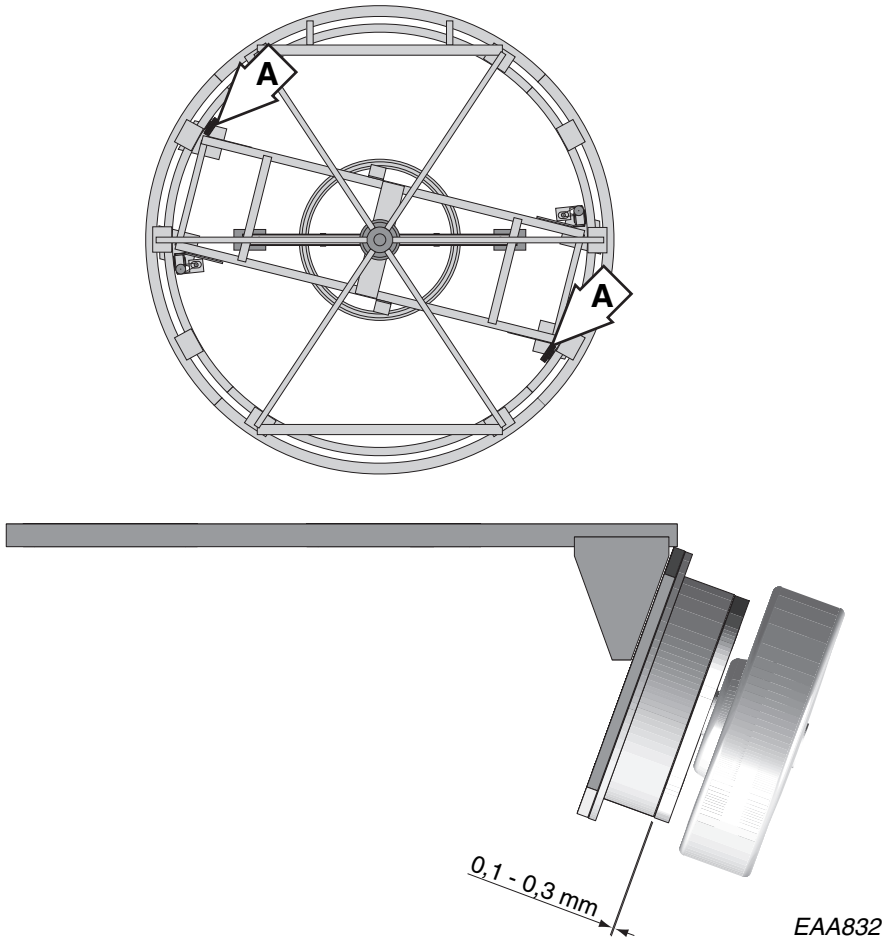
Check the cables.

Check the commutator brushes.
Minimum length 7,5 mm.

Clean the commutator.



11.8 Brake unit



Check that the brake units (A) are firmly fixed to the rotating frame.
Check that the brake wheel is firmly fixed to the brake unit.
Check the tolerance between the brake disc and the brake lining.
Check the cables.
Check the electrical function.

PCD Operation

PCD Key functions

0-9	**Numeric inputs**
#	**Confirm access code input**
↑	**Setpoint selection upwards**
↓	**Setpoint selection downwards**
+	**Setpoint value change upwards**
–	**Setpoint value change downwards**
F	**Function selection**
S	**Setpoint confirmation and storage**
C	**Error reset**
	Clear display
	Leave menu
P1	**Locked door command ON**
P2	**Service request ON**
P3	**Real time operation ON**
P4	**Climate control ON**

- **Login**
  #Access code#
  Correct access code:
  display shows LI and present access level.

- **Logout**
  #Access code#
  Correct access code:
  display shows LO and present access level.

- **Operation mode**
  F 2
  ↑↓ Select operation mode
  S Confirm change

01	Lock door
02	Automatic operation, start open
03	Automatic operation, start closed
04	Automatic operation, start open, exit only
05	Automatic operation, start closed, exit only
06	Continuous operation
07	Manual operation (+ forward, – reverse)
08	Summer position

- **Speed adjustment**
  F 3
  ↑↓ Select setpoint
  + – Change setpoint value
  S Confirm change

S1	High speed	0,5-4,0 rpm	S9 Door size parameter, 1-9
S2	Low speed	0,1-2,5 rpm	
S3	Creep speed	fixed at 0,5 rpm	
S4	Continuous speed	0,5-2,0 rpm	
S5	Manual speed	0,1-2,0 rpm	
S6	Reverse speed	0,1-2,0 rpm	

- **Access code change**
  F 4
  Enter access level to change, ***1-4***.
  New access code
  S Confirm
  New access code
  S Confirm
  Access code accepted:
  display shows CCCC.
  Access code not accepted:
  display shows EEEE.

- **Set home position**
  Move door to home position by hand or by manual operation.
  F 5 1 4
  S Confirm/store home position

- **Adjust start position**
  F 5 2 2
  + – Change start position, range 0-65°
  S Confirm change

- **Adjust safety zone**
  F 5 2 3
  + – Change safety zone, range 0º - 30º
  S Confirm change

- **Configuration options**

  F 5 3

  ↑↓ Select option

  + – Change option setting (00=OFF, 01=ON)

  S Confirm change

01	Battery installed	16	PCD slave installed
02	Summertime	17	Electromechanical lock installed
03	Emergency position	18	Display default PCD message ”ON”
04	Lights function	19	PCD Master channel
05	Motor and brake function test	20	Event log printer on ”Read out” ch
06	Short PCD edit timeout	21	Door status output
07	Brake assisted CFD stop	22	Service prompt always visible
08	Escape door locked	23	Motorized service doors installed
09	Brake ass stop in closed pos	24	Automatic service doors installed
10	Safety zone reversing	25	Service doors - open direction
11	Emerg. drive from locked pos	26	Smoke evacuation
12	Active brake in locked pos	27	Security mat installed
13	Limit switch installed	28	Low temperature start
14	Active brake in open pos	29	Smoke evacuation at fire alarm only
15	Deg. per impulse from open pos		

- **Digital input status**

  F 6 1

  1 IOA 1 inputs

  2 IOA 2 inputs

  ↑↓ Select channel number and status (00=OFF, 01=ON)

  C Leave menu

	IOA 1 **Term No**		**IOA 2** **Term No**
02	Climate in	02	Encoder 0-pulse
03	Security mat input	03	Encoder A-pulse
04	Mechanical lock input	04	Encoder B-pulse
07	Vertical sensor PDR 1	07	High speed start inner
10	Vertical sensor PDR 2	10	High speed start outer
12	Not used	12	Low speed start inner
14	Not used	14	Low speed start outer
16	Slow drive input (CFD)	16	Error clear “C”
18	Stop drive input (CFD)	18	Not used
20	Service door cmd, dir, in	20	Service door cmd, dir, out
29	Safety input	29	Emergency stop (E20)
31	Lock door command	31	Emergency positioning command
33	Fire alarm input	33	Not used
35	Lock in closed position	35	Key inner
37	Lock in open position	37	Key outer
39	Lock motor pos direction	39	Not used
40	Lock motor neg direction	40	Not used
42	Rotation brake 1	42	Rotation brake 2
44	Not used	44	Escape door lock
46	Service door Impulse	46	Test of external devices
50	Climate out	50	Not used
51	Door status	51	General alert

- **Real time clock**

  F 7

  1 Read real time clock

  2 Set real time clock

  3 Calibrate real time clock

  ↑↓ Select parameter

  0-9 Change value

  S Confirm value

  C Leave menu

Read	**Set**	**Calibrate**	
11	21	31	Year
12	22	32	Month
13	23	33	Date
14	24	34	Hour
15	25	35	Minute
16	26	36	Second

- **PCD commands**

F543	Select event code to print	F562	Clear revolution counter
F544	Print selected events	F563	Clear event log
F545	Print entire event log	F564	Clear service prompt and reset period
F546	Abort event log printing	F911	System reset
F547	Select event log display format	F921	Restore all access codes
F551	Program version	F922	Restore speed setpoints
F552	Switch MDT channel ON	F923	Restore config options flags
F553	Switch MDT channel OFF	F924	Restore safety. Start position offset
F554	Climate control function enabled	F925	Restore event log flag
F555	Climate control function disabled	F931	Disconnect battery
F556	Real time operation mode ON	F938	Emergency button test
F557	Real time operation mode OFF		
F561	Automatic logout inhibit		

Real time operation

Day schedule

Day schedule 1	Day schedule 2	Day schedule 3
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
10	10	10

Week schedule

Week day	Schedule
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Saturday	
Sunday	

Exceptions

Start exception	End exception	Exception schedule
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
10	10	10
11	11	11
12	12	12
13	13	13
14	14	14
15	15	15
16	16	16

Australia: Besam Australia Pty Ltd,
8 Nicholas Drive, Dandenong,
AU-3175 Victoria.
Tel: +61 3 9706 4886
Fax: +61 3 9706 4906
E-mail: admin@besamaustralia.com

Austria: Besam Maschinenhandels-
ges.m.b.H., Hütteldorferstraße 216c,
1140 Wien.
Tel: +43 1 914 55 37 0
Fax: +43 1 914 92 98
E-mail: vertrieb@besam.at

Belgium: Besam Belgique SA,
Centrum-Zuid 3042,
BE-3530 Houthalen.
Tel: +32 11 609 500
Fax: +32 11 604 680
E-mail: info@besam.be

Canada: Besam Canada, inc.
4090 Ridgeway Dr. Unit #16
Mississauga, Ontario
L5L 5X5 Canada
Tlf: 905 608 9242
Fax: 905 608 1151
E-mail: general@besam.ca

China: Besam Automatic Door
Systems, Trading (Shanghai) Co. Ltd,
China Merchants Plaza 6th Floor,
Suite (South) 606, No. 333 North
Cheng Du Rd. CN-Shanghai
PRC 200041.
Tel: +86 21 5298 0800
Fax: +86 21 5298 0700
E-mail: besam@tonghua.com.cn

Czech Republic: Besam spol.
s r.o., Košarova 23,
CZ-197 00 Praha - Kbely
Tel: +420 2 8600 1560
Fax: +420 286 001 570
E-mail: besam@besam.cz

Denmark: Besam A/S, Marielund-
vej 20, DK-2730 Herlev, Denmark,
Tlf: 44 53 70 80
Fax: 44 53 20 22
E-mail: besam@besam.dk

Finland: Besam OY, Soidinkuja 4,
FI-00700 Helsinki
Tel: +358 9 7288 5400
Fax: +358 9 799 292
E-mail: besam@besam.fi

France: Besam S.A.S, 10 Rond Point
du Général de Gaulle, FR-94864
Bonneuil s/Marne Cedex.
Tel: +33 1 43 77 55 66
Fax: +33 1 43 39 56 00
E-mail: besam@besam.fr

Germany: Besam GmbH,
Lagerstraße 45, DE-64807 Dieburg
Tel: +49 6071 2080
Fax: +49 6071 208 111
E-mail: info@besam.de

Great Britain: Besam Ltd.,
Washington House, Brooklands
Close, Sunbury on Thames,
GB-Middlesex TW16 7EQ
Tel: +44 1932 765 888
Fax: +44 1932 765 864
E-mail:info@besam.co.uk

Hungary: Besam Kft.,
Nagytétényi út 112,
H-1222 Budapest.
Tel: +36 1 424 7274
Fax: +36 1 226 1949
E-mail: besam@besam.hu

Ireland: Besam Ireland Office 2,
43 Trimgate Street, IE-Navan,
Co. Meath.
Tel: +353 46 76747
Fax: +353 46 76745
E-mail: karoly.nagy@besam.co.uk

Italy: Besam S.p.A.,
Via Monzoro 142, IT-20010 S.
Pietro all'Olmo (MI).
Tel: +39 02 936 11 311
Fax: +39 02 936 21 16
E-mail: besamitalia@besam.it

Netherlands: Besam Nederland
BV, Postbus 8155, NL-6710 AD Ede.
Tel: +31 318 69 89 69
Fax: +31 318 63 83 46
E-mail: info@besam.nl

Poland: Besam Polska Sp. z.o.o., ul.
Rydygiera 12, PL-01-793 Warszawa.
Tel: +48 22 331 86 80
Fax: +48 22 331 86 81
E-mail: besampl.biuro@besam.com.pl

Portugal: Besam Portugal,
Rua Duarte Leite,
41 2820-220 Charneca da Caparica.
Tel: +351 212 969 290
Fax: +351 212 974 132
E-mail: besam@netc.pt

Russia: Besam OY, Soidinkuja 4,
FI-00700 Helsinki.
Tel: +358 9 7288 5400
Fax: +358 9 799 292
E-mail: besam@besam.fi

Singapore: Besam (Mfg) Pte Ltd,
152 Ubi Ave. 4 #02-02, Armorcoat
Tech Bldg, SG-Singapore 408826.
Tel: +65 6745 6228
Fax: +65 6745 7322
E-mail: info@besam.com.sg

Slovak Republic: Besam, spol.
s.r.o., Kapitulská 15,
SK-811 01 Bratislava.
Tel: +4212 4488 8917
Fax: +4212 2 4488 8917
E-mail: besam@besam.sk

Spain: Besam Ibérica S.A.,
C/Reyes Católicos, 6, ES-28108
P.I. de Alcobendas (Madrid).
Tel: +34 91 657 48 60
Fax: +34 91 661 43 80
E-mail: informacion@besam.es

Sweden: Besam Svensk
Försäljning AB,
Box 353, SE-261 23 Landskrona.
Tel: +46 418 510 00
Fax: +46 418 140 60
E-mail: swsales@besam.se

Besam Export AB: Box 669,
SE-261 25 Landskrona.
Tel: +46 418 514 00
Fax: +46 418 513 55
E-mail: export@besam.se

US: Besam Automated Entrance
Systems, Inc., 1900 Airport Road,
US-Monroe, NC 28110.
Tel: +1 704 283 2101
Fax: +1 704 296 1020
E-mail: sales@besam-usa.com

Parent company:
ASSA ABLOY Entrance
Systems Group AB,
Box 131, SE-261 22 Landskrona.
Tel: +46 418 511 00
Fax: +46 418 238 00
Internet: www.besam.com

besam™

Besam Production AB, Box 668, SE-261 25 Landskrona.
Tel: +46 418 512 00. Fax: +46 418 512 68.
E-mail: general@besam.se

ASSA ABLOY is the world's leading manufacturer and supplier of locking solutions, meeting tough end-user demands for safety, security and user friendliness.