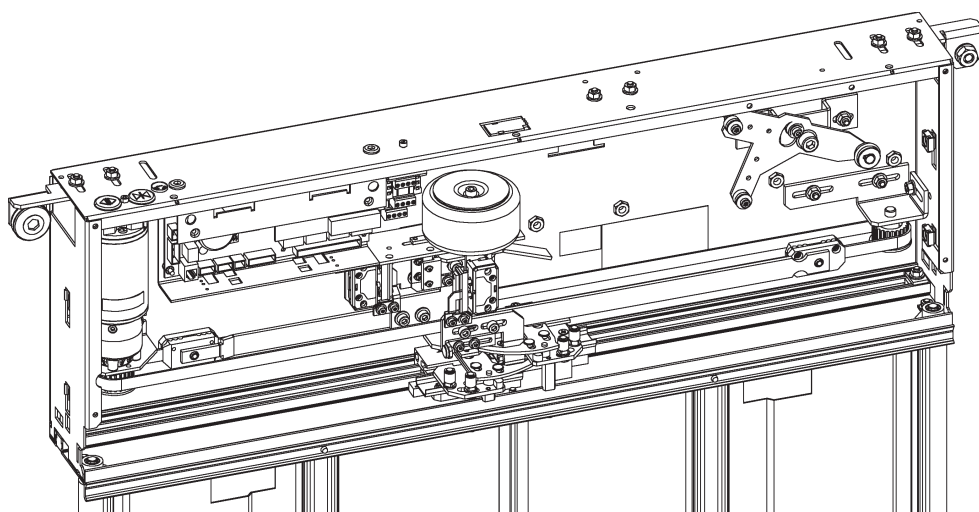


## INSTRUCTION HANDBOOK CAR DOORS

# FOLDING DOOR



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EXCELLENCE IN SOLUTIONS



## ECO BUS CAR DOORS

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Code	3411.32.0100
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Date	29.11.2012

C	General up-dating	29/11/12
B	General up-dating	23/09/11
MOD.	DESIGNATION	DATE

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The points that are important under the safety viewpoint and danger warnings are indicated with these symbols:



Danger general



Important warnings



Risk of personal injury (e.g. sharp edges, protruding parts)



Risk of damage to mechanical parts ( e.g. incorrect installation)



Live parts

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Congratulations on choosing a **WITTUR** product!

Before starting the installation of this product, read the information contained in this document.

You will find important warnings on how to assemble and maintain your **WITTUR** product in good operating conditions and to get the maximum of your investment.

You will also find important information concerning the product care and maintenance which are an important factor to ensure safety at all times.

**WITTUR** has long been involved in research aimed at reducing noise level and in design that takes into due consideration the product quality and the conservation of environment.



This document is an integral part of the supply and must be available in the lift power room at all times.

All products are provided with identification type label and in case with certification marks in accordance with the current rules.

In case of need concerning the product, the identification data on the label must be always communicated to us.

We hope you will get full satisfaction from this **WITTUR** product. Yours faithfully,

**WITTUR**



### WARNINGS

- **WITTUR** will not be held liable for any damage caused by tampering of the packing material by thirds.
- Before starting assembly, check that the product received corresponds to the order and to the packing list and that no damage has occurred in transit.
- Within its policy of continual research, **WITTUR** reserves to make changes to its products without notice. The figures, descriptions and data contained in this manual are intended as purely indicative and not binding.



- To ensure the safety of the product, avoid any alteration or tampering.
- **WITTUR** liability will be limited to the original components only.
- **WITTUR** product is intended for use in the lift sector only, therefore **WITTUR** liability shall be limited to such use.



- This product is intended for professional use. Any improper use, including for hobby or DIY, is prohibited.
- In order to prevent any injury to persons and damage to property, the handling, installation, adjustment and maintenance must be carried out by suitably trained personnel, using appropriate clothing and equipment.
- Any masonry work connected with the correct installation of the product must be executed in a workmanlike manner according to the applicable laws.
- The connection of the electric/electronic units to the local power supply must be executed in a workmanlike manner according to the applicable laws.
- All metal parts supporting the electric/electronic units must be connected to an earth system in a workmanlike manner according to the applicable laws.



- Before connecting the product to the power supply check that the product's requirement corresponds with the power supply available.
- Before starting any work on the electric/electronic components disconnect power from the system.
- **WITTUR** shall have no responsibility on the execution of masonry works or the connection of electric/electronic components to the power supply.



- **WITTUR** shall not be liable for damages/injury to property/persons caused by improper use of the emergency opening devices.



### SUGGESTIONS

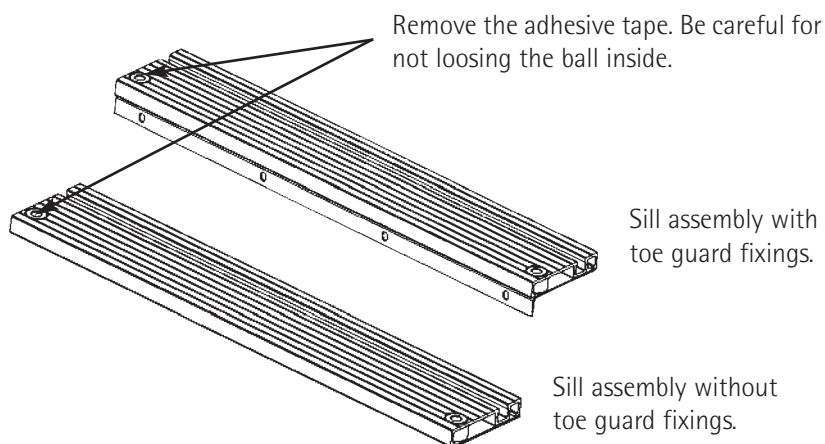
- Keep the material in the original packing, protected from bad weather and direct exposure to sun during the storage period in order to avoid the accumulation of water/condensation inside the packing material.
- Never dispose of packing material in the environment.
- Once dismantled, the product should be conveniently disposed as provided for by the local laws; never dispose of in the environment.
- Whenever possible, re-cycling is preferable to disposal in dump sites.
- Before re-cycling check the nature of the various materials and re-cycle in the appropriate way.

# ECO BUS CAR DOORS

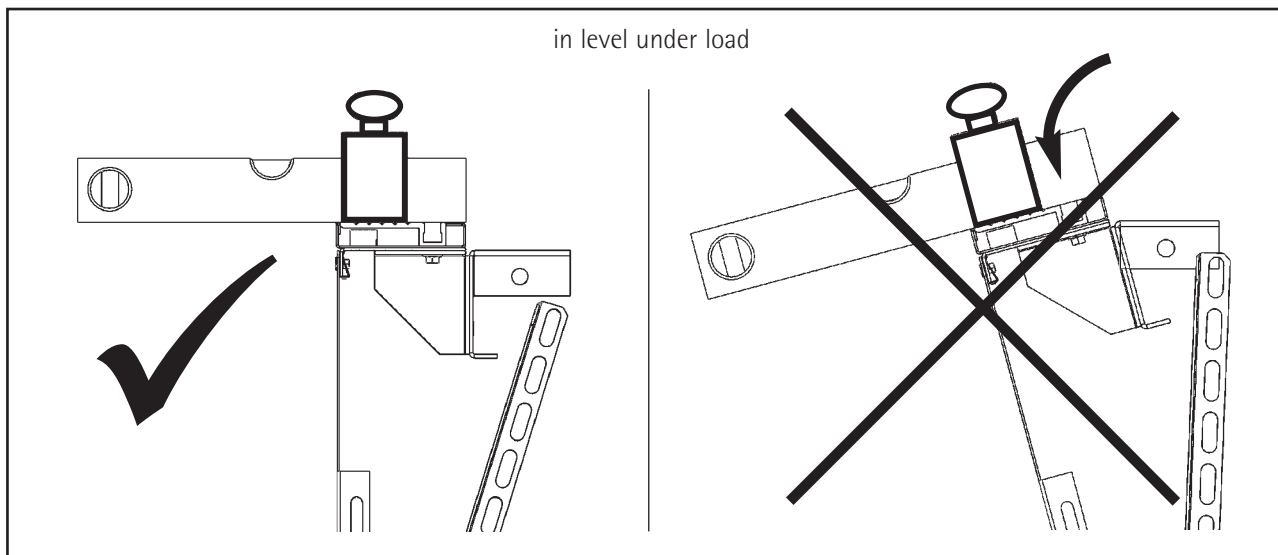
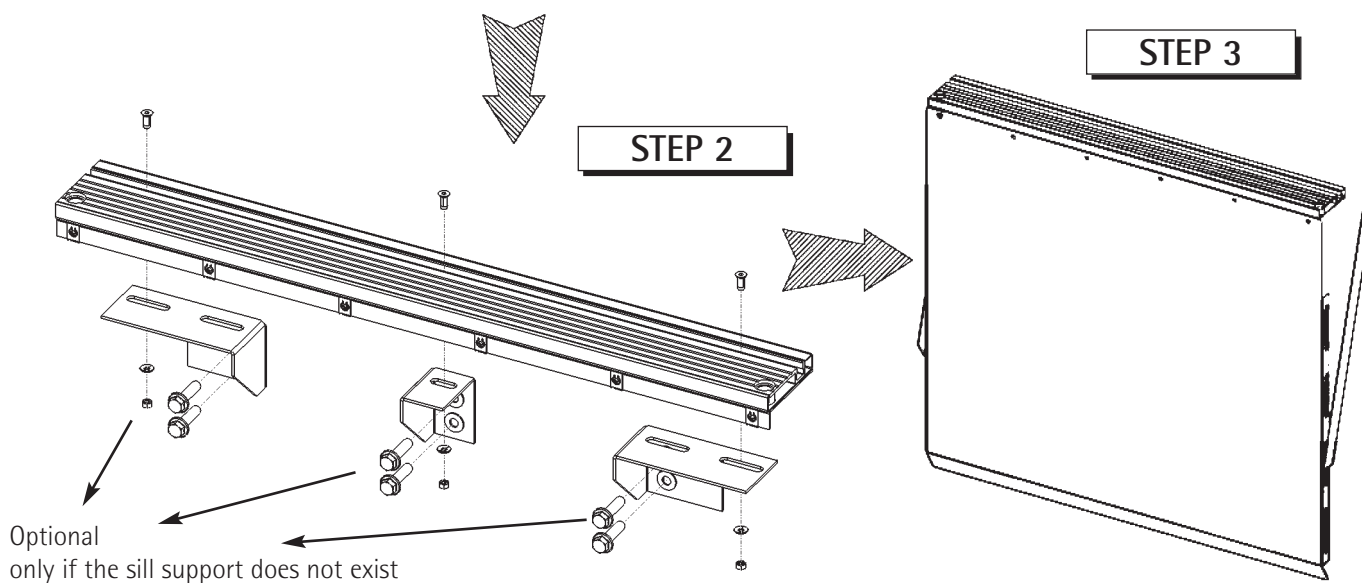
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## 1. INSTALLING SILL

### STEP 1



### STEP 2



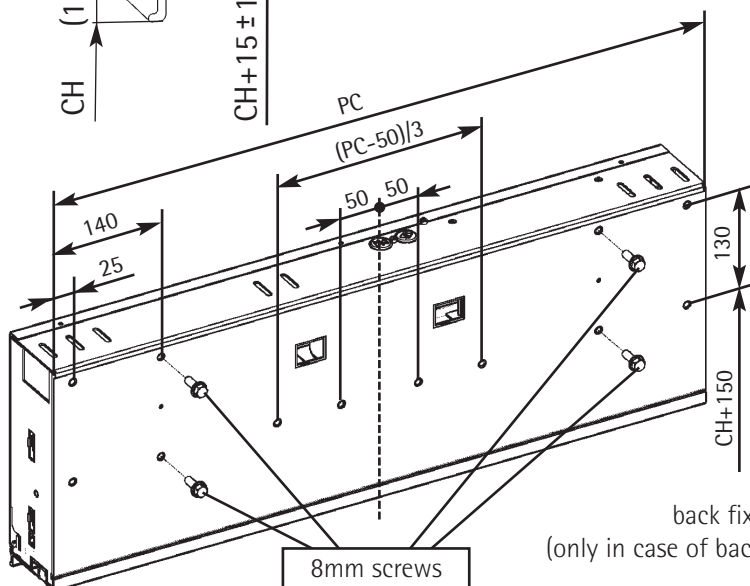
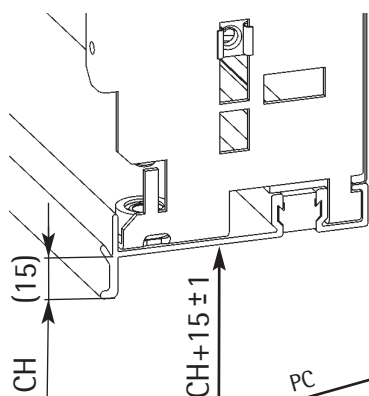
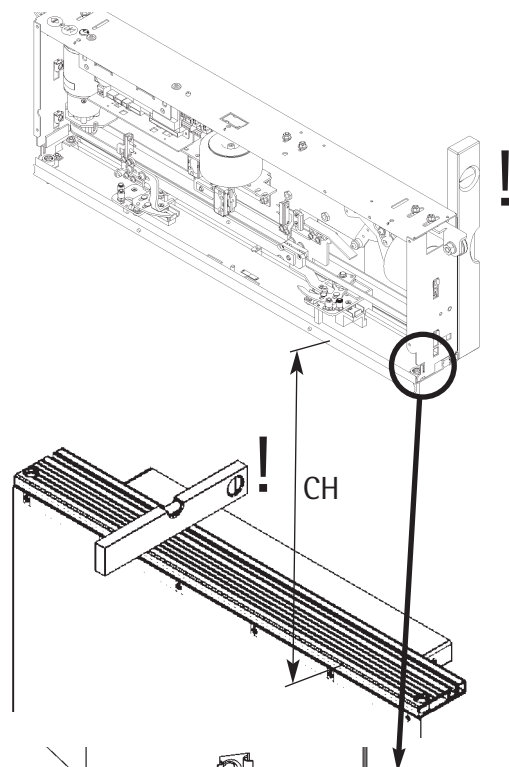
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## 2. INSTALLING OPERATOR

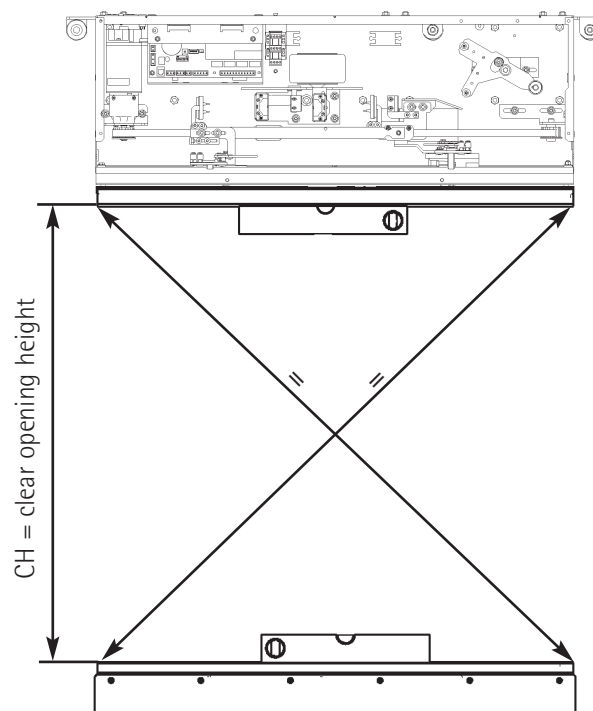
Fit the operator in the car entrance at the requested height between sills.

### STEP 4



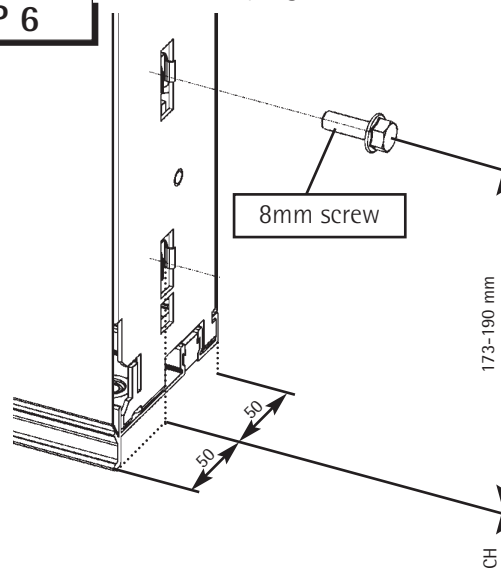
### STEP 5

...adjustment



side fixing: fix the upper screws only (right & left)

### STEP 6



back fixing  
(only in case of back fixing option)

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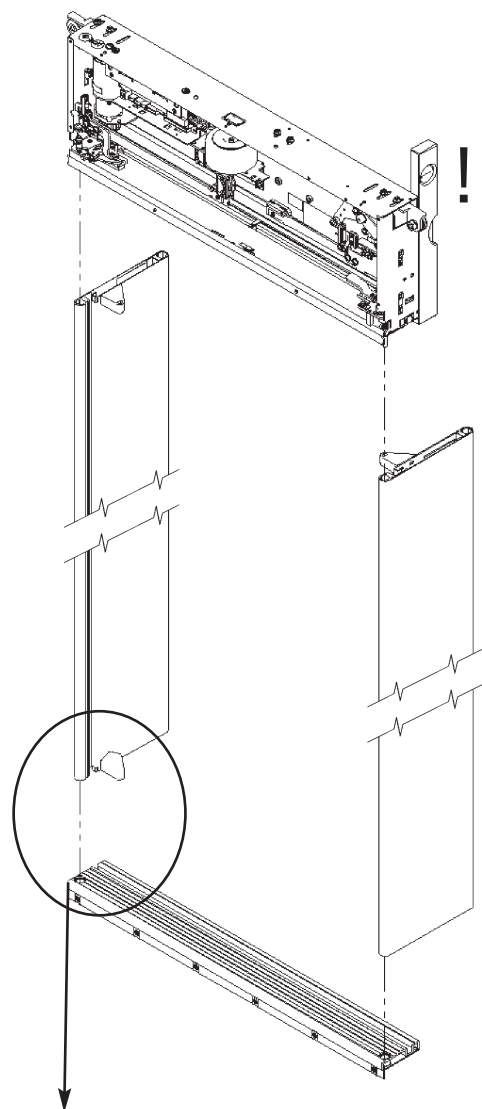
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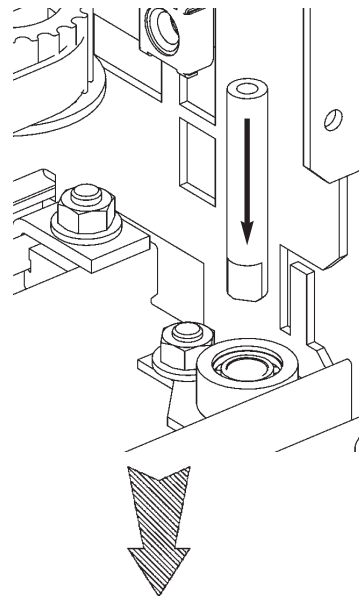
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## 3. MOUNTING PANELS

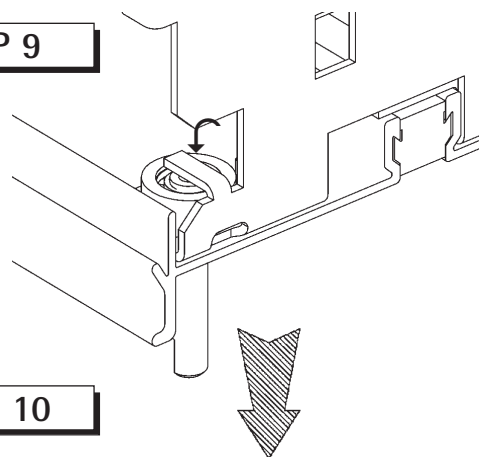
### STEP 7



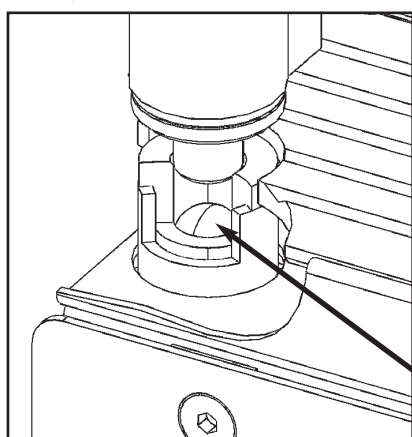
### STEP 8



### STEP 9

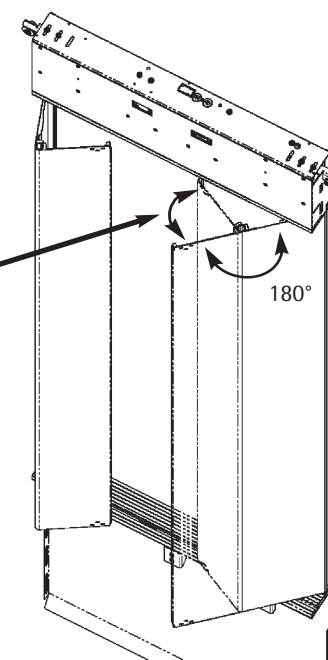


### STEP 10



Make sure that the panels can be easily moved by hand.  
In case of a flat door -Check if both sides can be moved in a flat position (180°).

**! Check ball presence !**



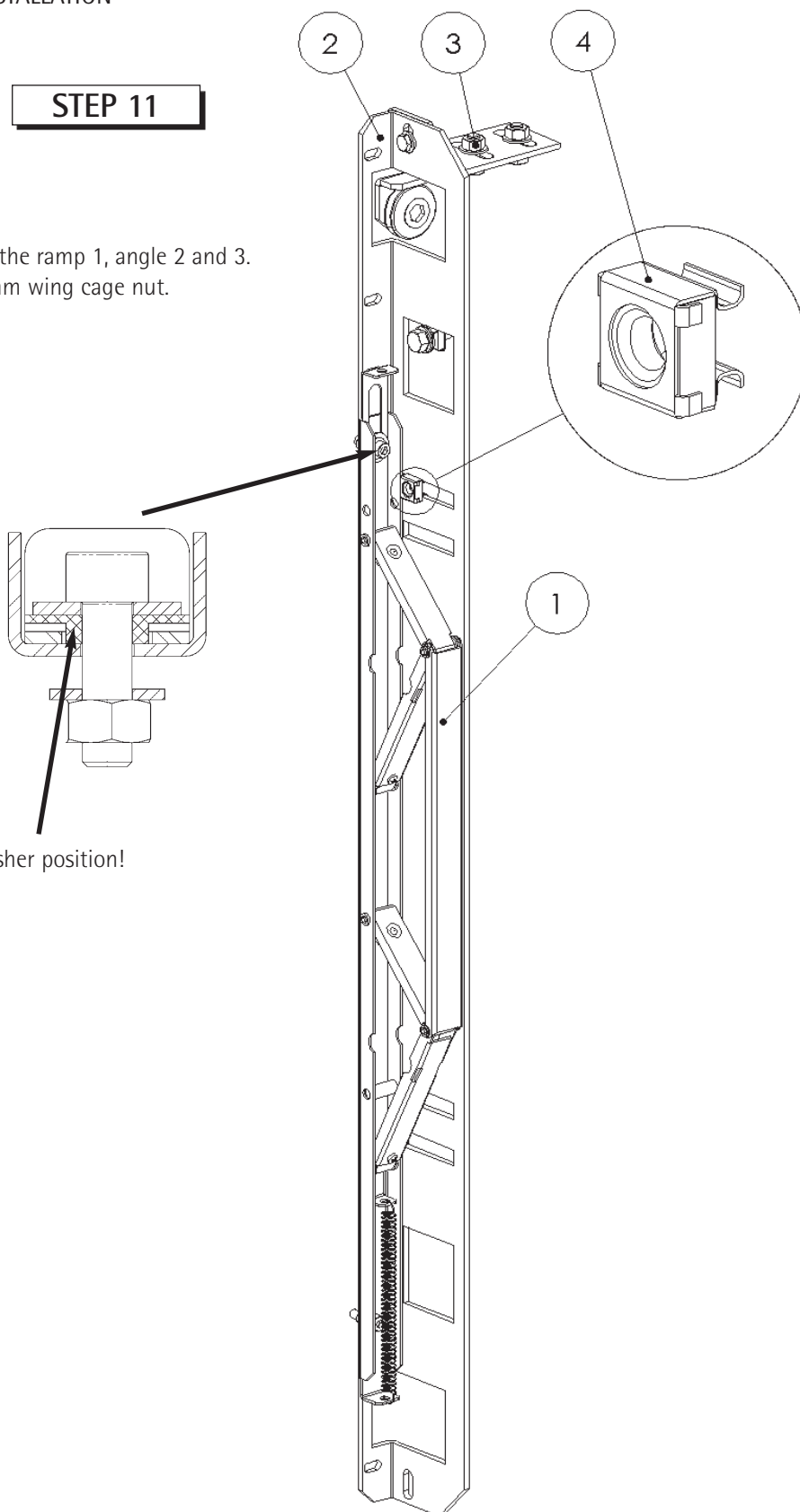
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## 3.1 RAMP INSTALLATION

### STEP 11

Assembly the ramp 1, angle 2 and 3.  
Fit the 4mm wing cage nut.



Check washer position!

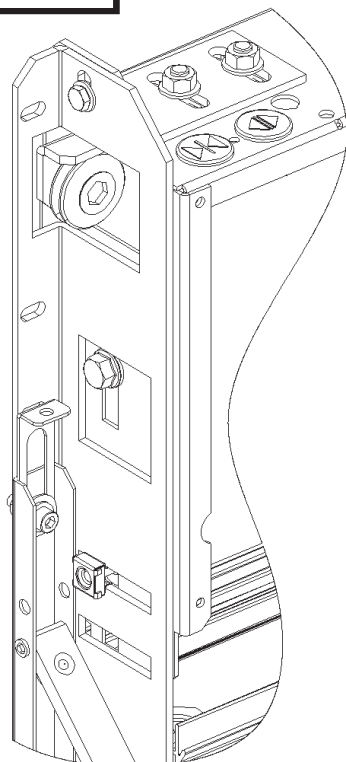


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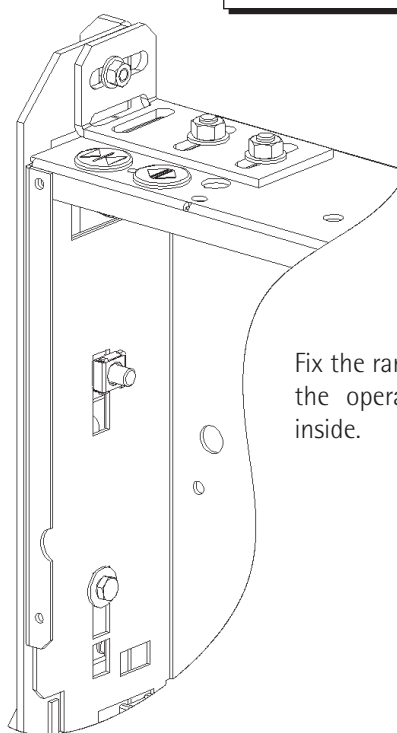
## STEP 12

Fix the ramp assembly and the diverting pulley to the operator box.

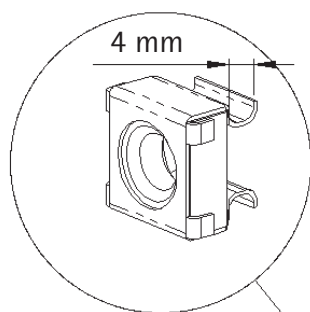


## STEP 13

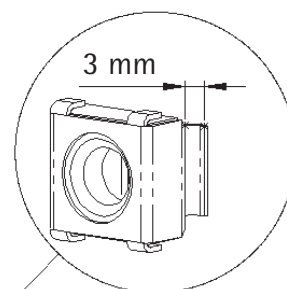
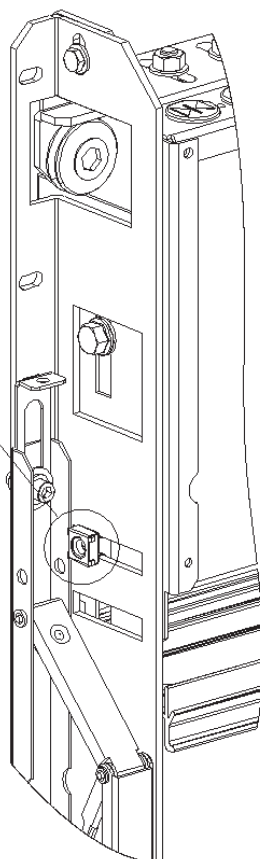
Fix the ramp assembly to the operator box from inside.



## STEP 14



Check the correct position of the cage nuts.



Requirement for flat version

90  
CH

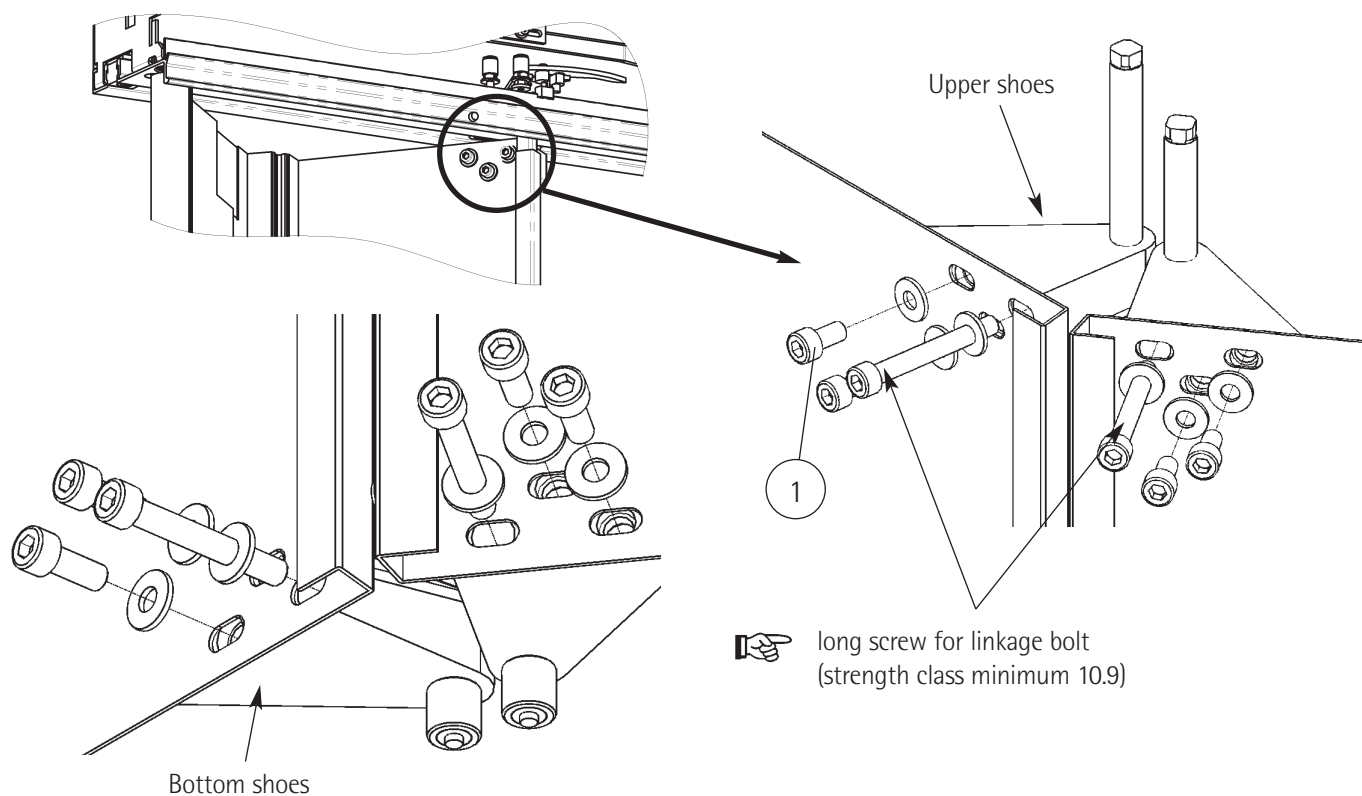
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## 4. INSTALLING SHOES AND CONNECTING PANELS

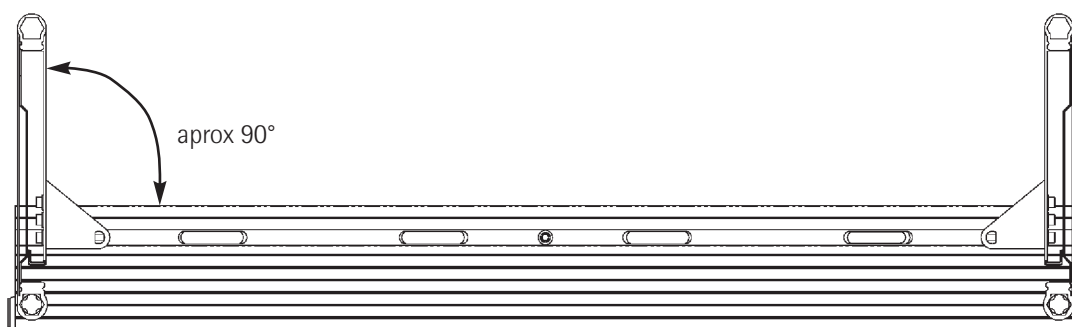
Fix the panels on the upper and bottom shoes with the screws (1).

### STEP 15



### STEP 16

Check free movement of panels from open to close position.



#### panel situation:

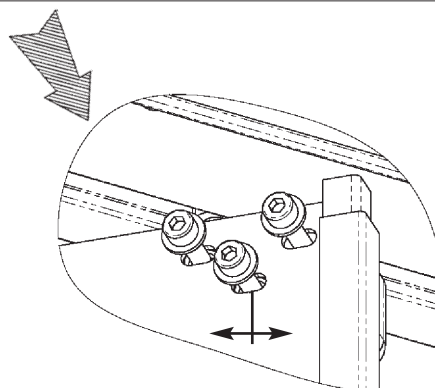
flat version



w version



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Use the long slots to adjust the panel position.  
For flat panel according chapter 6 or Quick Installation Guide.  
PM.2.002171

# ECO BUS CAR DOORS

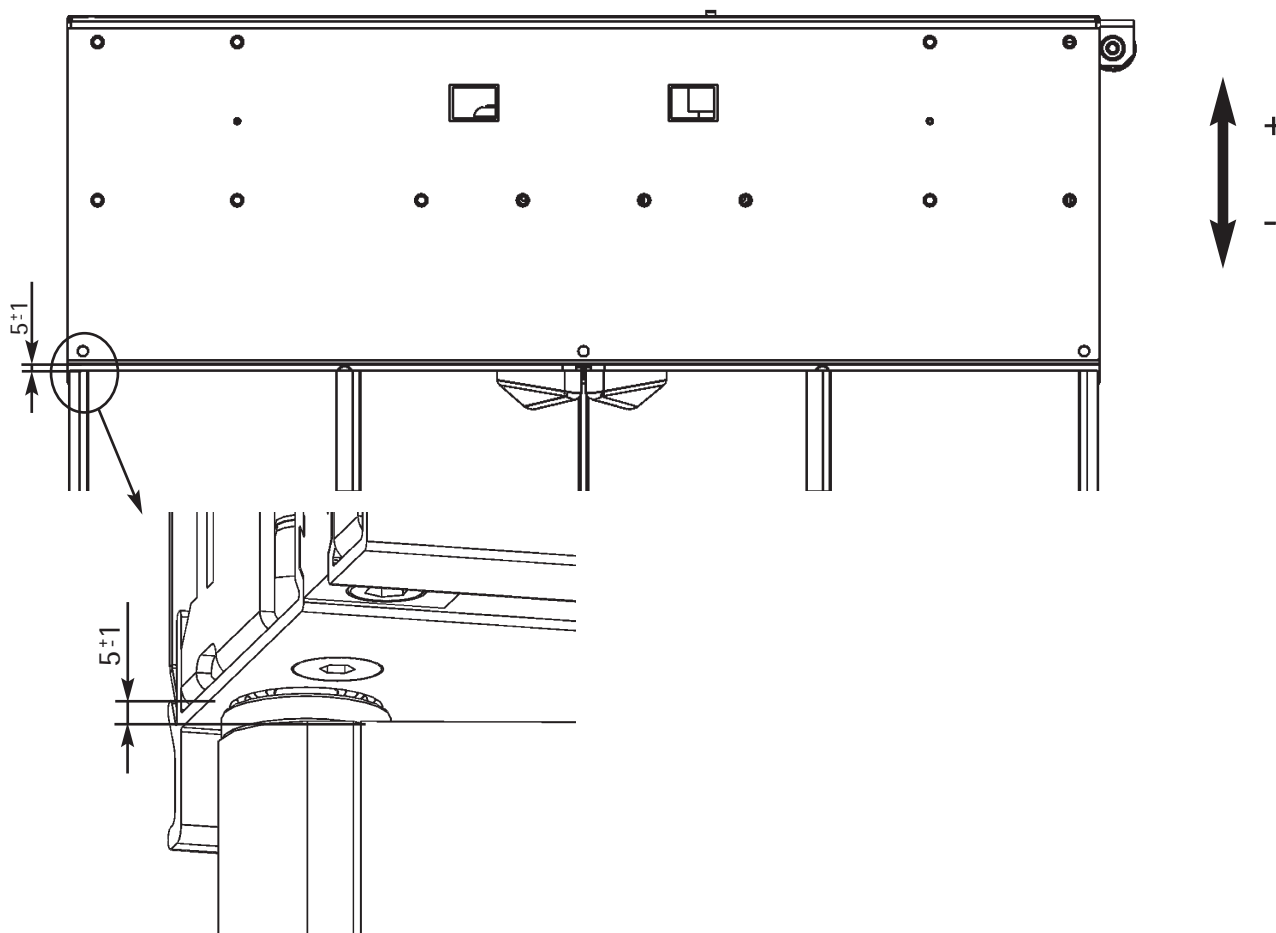
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## 5. CHECKING THE GAPS



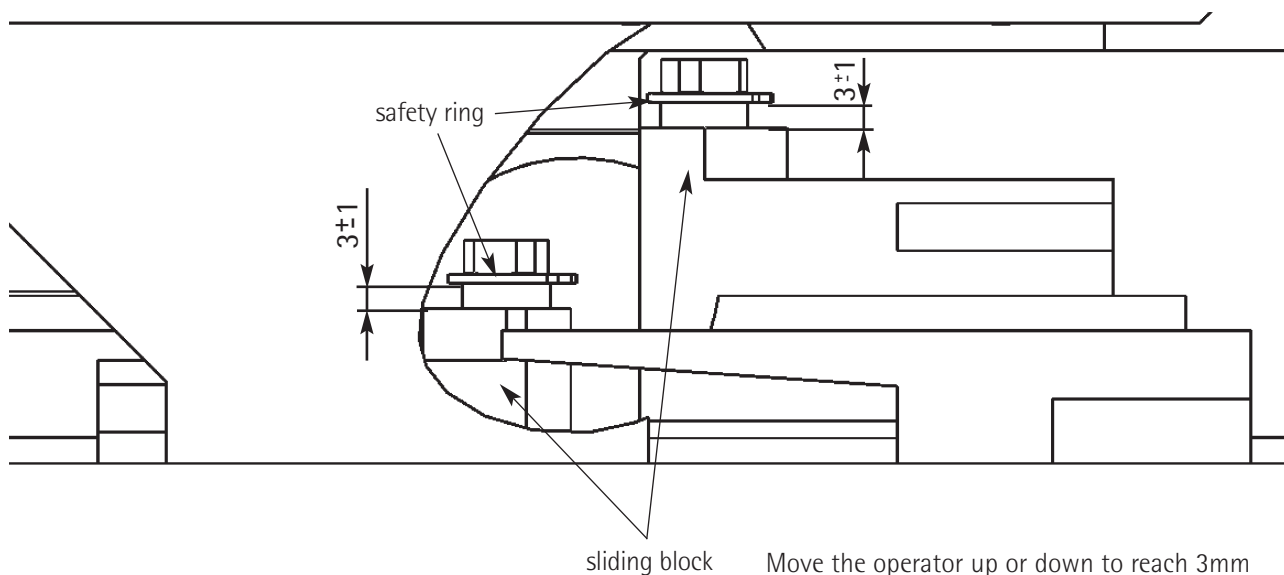
### STEP 17

Check gap between upper aluminium profile and panels:



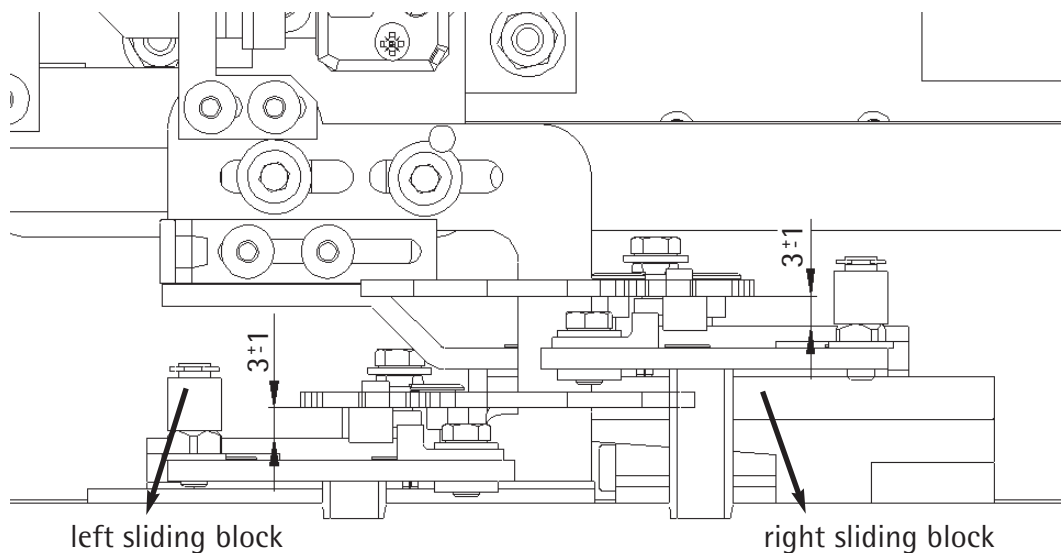
### STEP 18A

For W VERSION: Check gap between safety ring and sliding blocks.

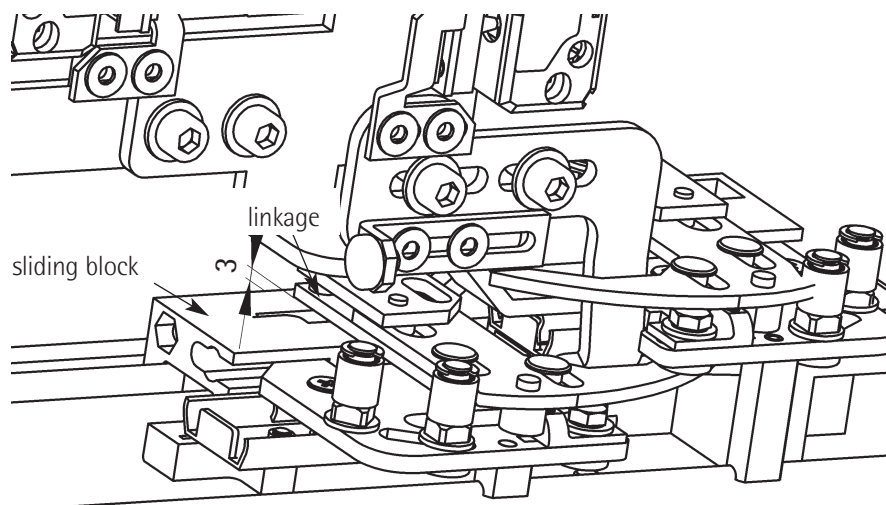



**STEP 18B**

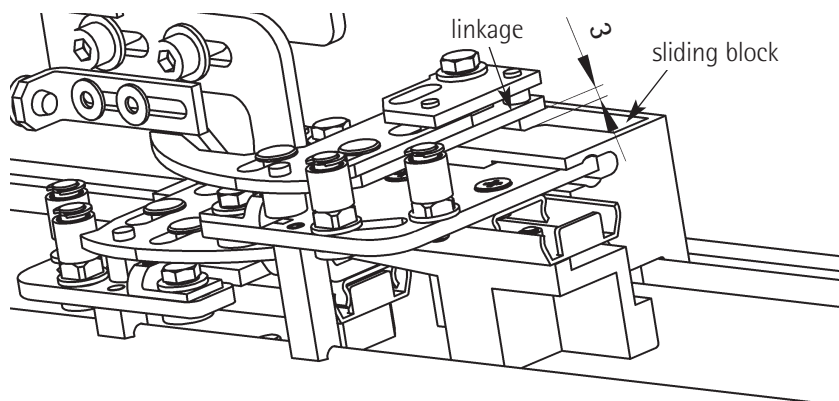
For FLAT VERSION: Check gap between linkage and sliding blocks.



Left sliding block



Right sliding block



To adjust the gap between the linkage and the sliding blocks you have to adjust the vertical operator position.

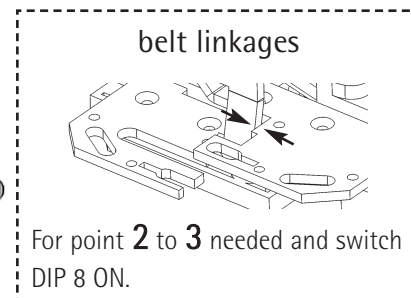
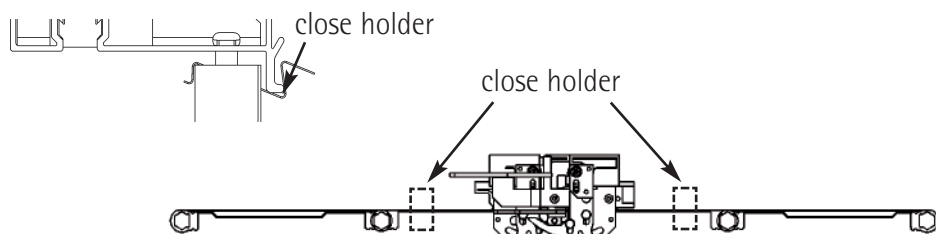
# ECO BUS CAR DOORS

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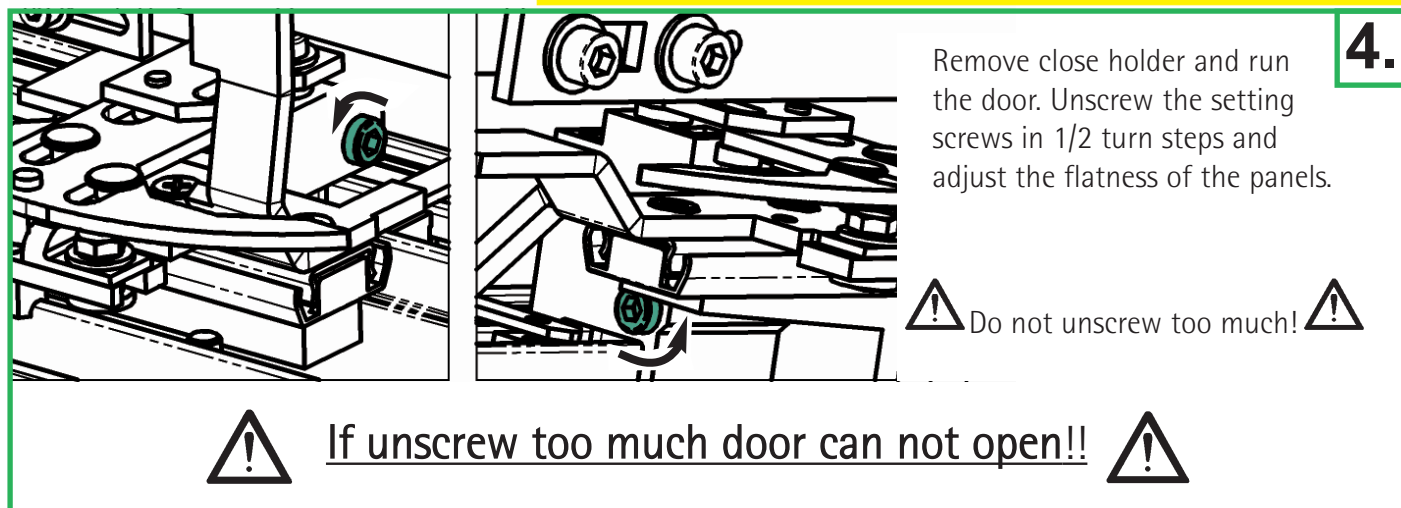
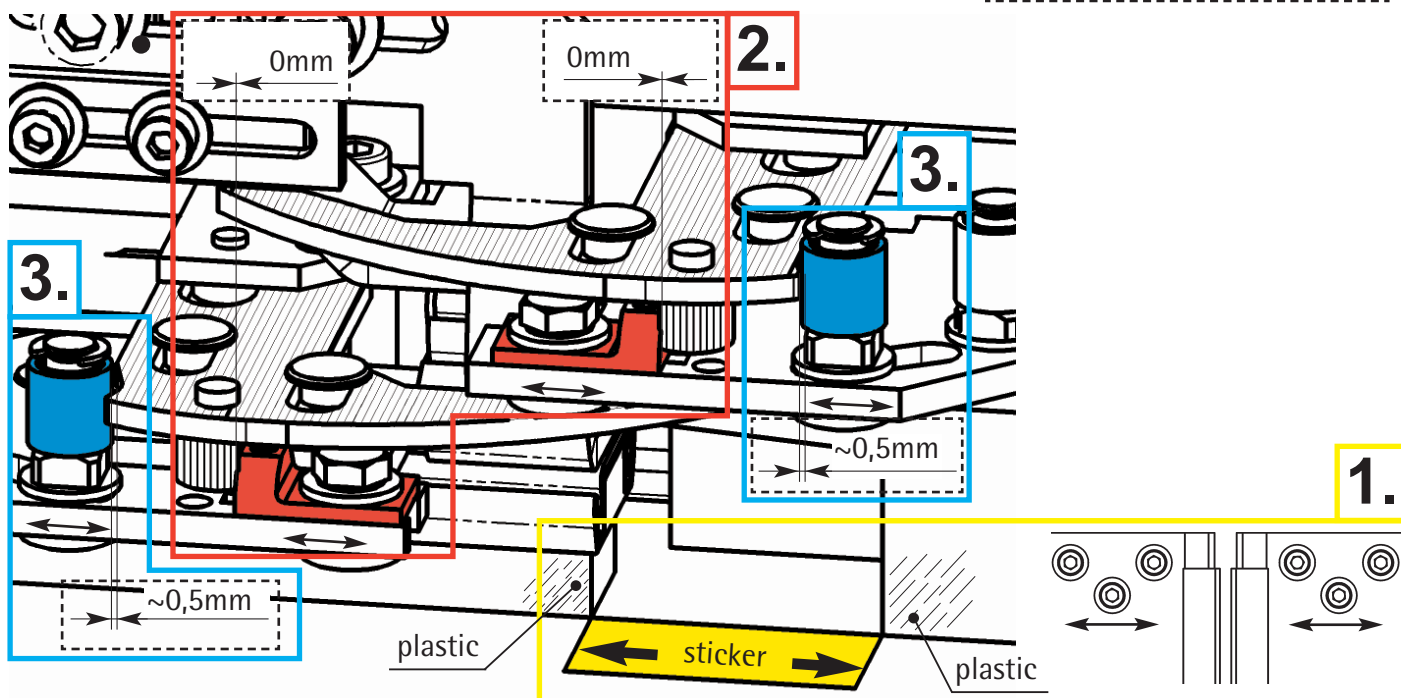
## 6. ADJUSTMENT OF THE FLAT MECHANISM

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Keep the panels flat by using the close holder (3411.05.5062) (valid for point 1 to 3).



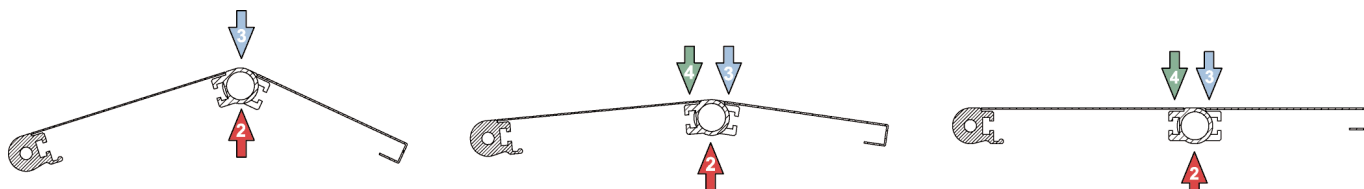
Adjust the mechanism according to the point 1 to 4.



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### 6.1 TROUBLESHOOTING

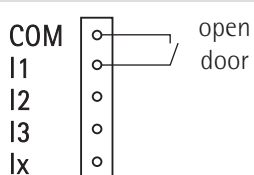


### 6.2 DIP-SWITCH SETTINGS FOR FOLDING DOOR W AND FLAT SHAPE

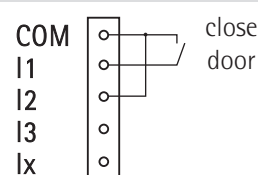
Valid with software version V4.0

	OFF	ON
S1/1	Normal operation (command inputs on X1 active)	Test Button operation (buttons active)
S1/2	No automatic reopen (only Reopen O3 is switched)	Automatic reopen on obstruction or IPD (Reopen O3 is switched)
S1/3	Normal operation (command inputs on X1 active)	<i>Electric shoe operation (swing door mode)(*)</i>
S1/4	Std. function on output O4	
S1/5	Close pulse (MEDIUM) (together with DIP S1/7 ON)	Close pulse (HIGH) (together with DIP S1/7 ON)
S1/6	Door speed setting "low" (0,27m/s)	Door speed setting "high" (0,40m/s)
S1/7	Close pulse OFF for W shape mechanics	Close pulse ON (HIGH or MEDIUM) for Flat shape mechanics
S1/8	Hold open/closed only on active open/close command	Automatic end keeping

(\*) Mode 1:  
I1 = ON -> door opens  
I1 = OFF -> door closes



(\*) Mode 2:  
I1 = ON -> door closes  
I1 = OFF -> door opens



# ECO BUS CAR DOORS

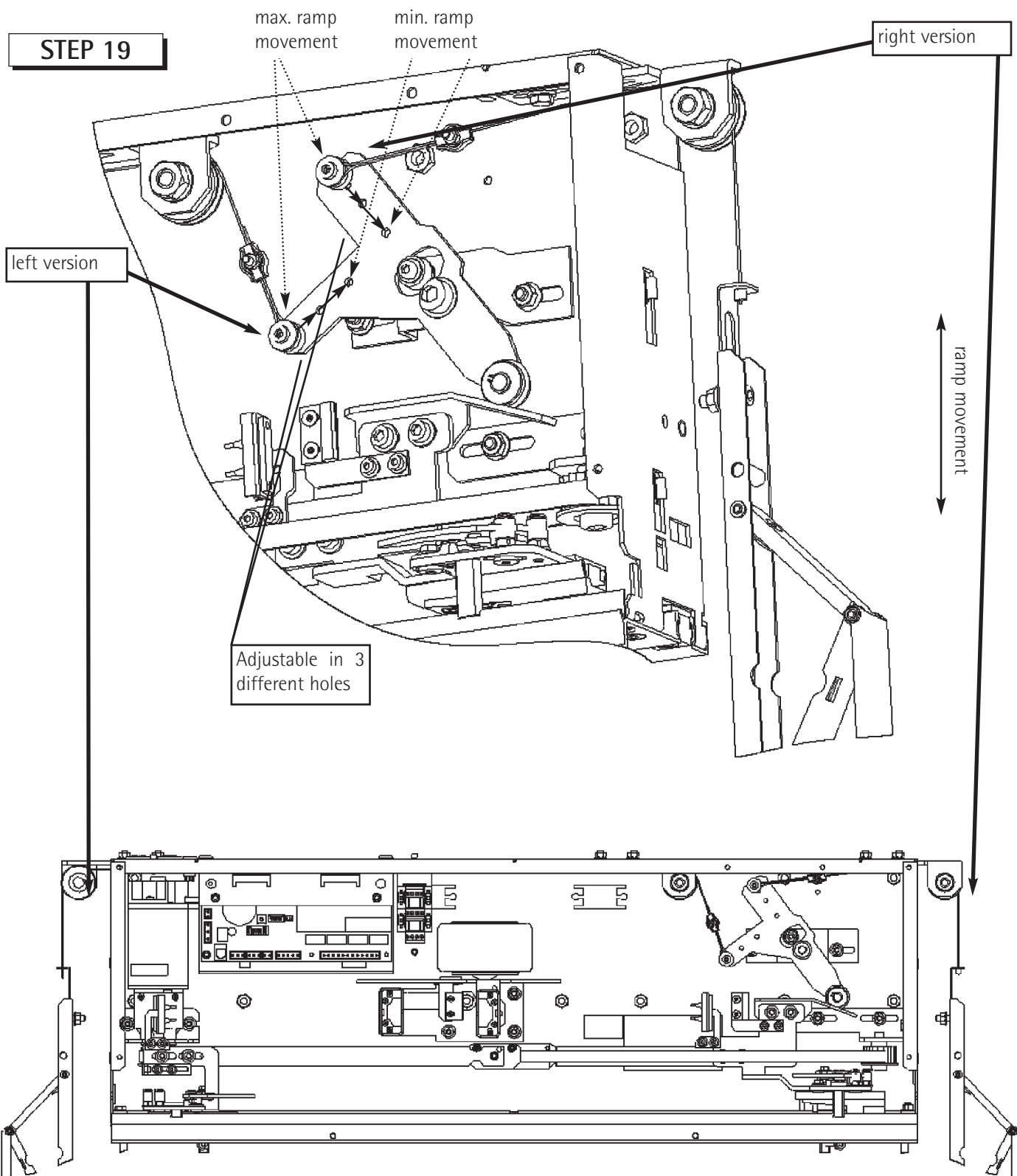
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## 7. ADJUST RAMP MOVEMENT

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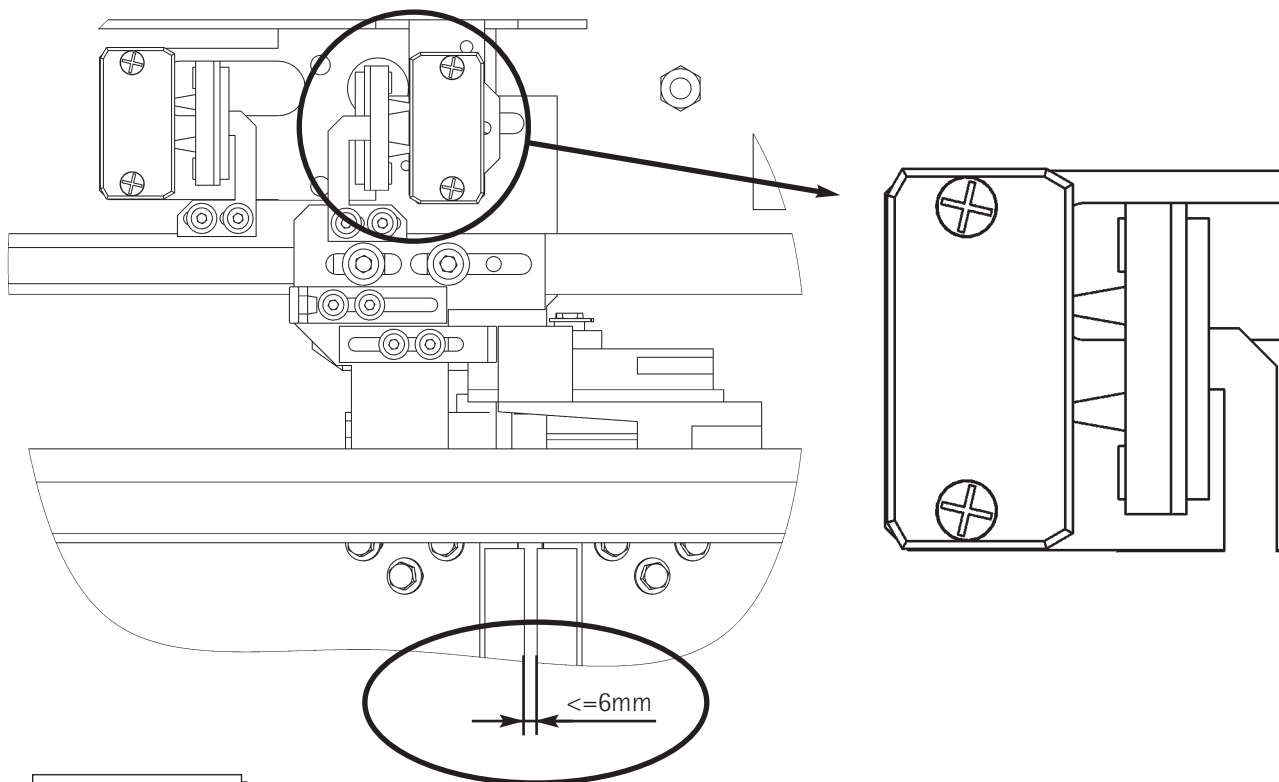
## 8. ADJUSTMENT OF DOOR CONTACTS

### STEP 20



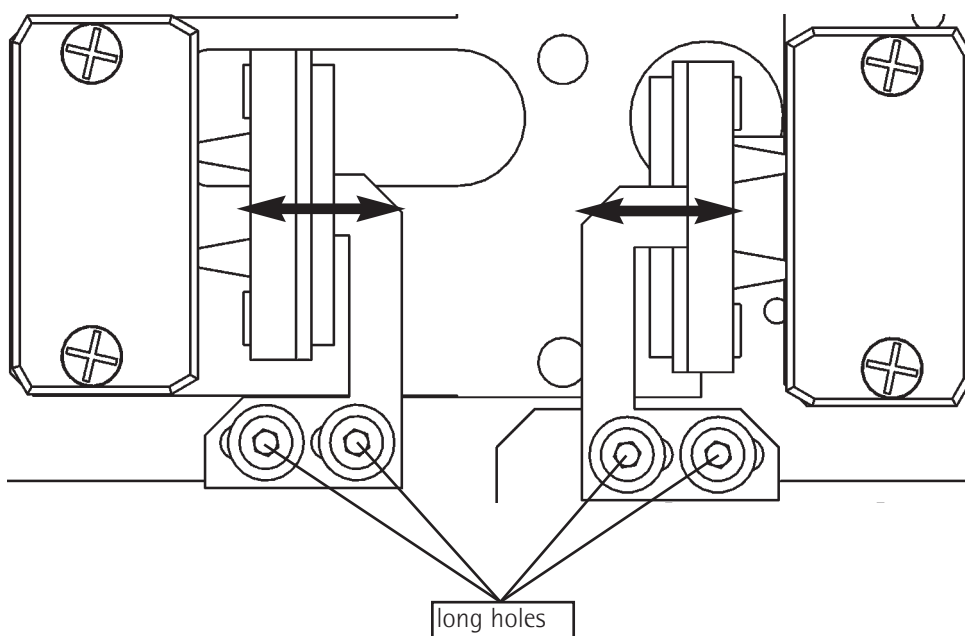
Check the position of the door contacts:

**Safety circuit must open when gap between panels is maximum 6mm.**



### STEP 21

Adjust the position by using the long holes.





## ECO BUS CAR DOORS

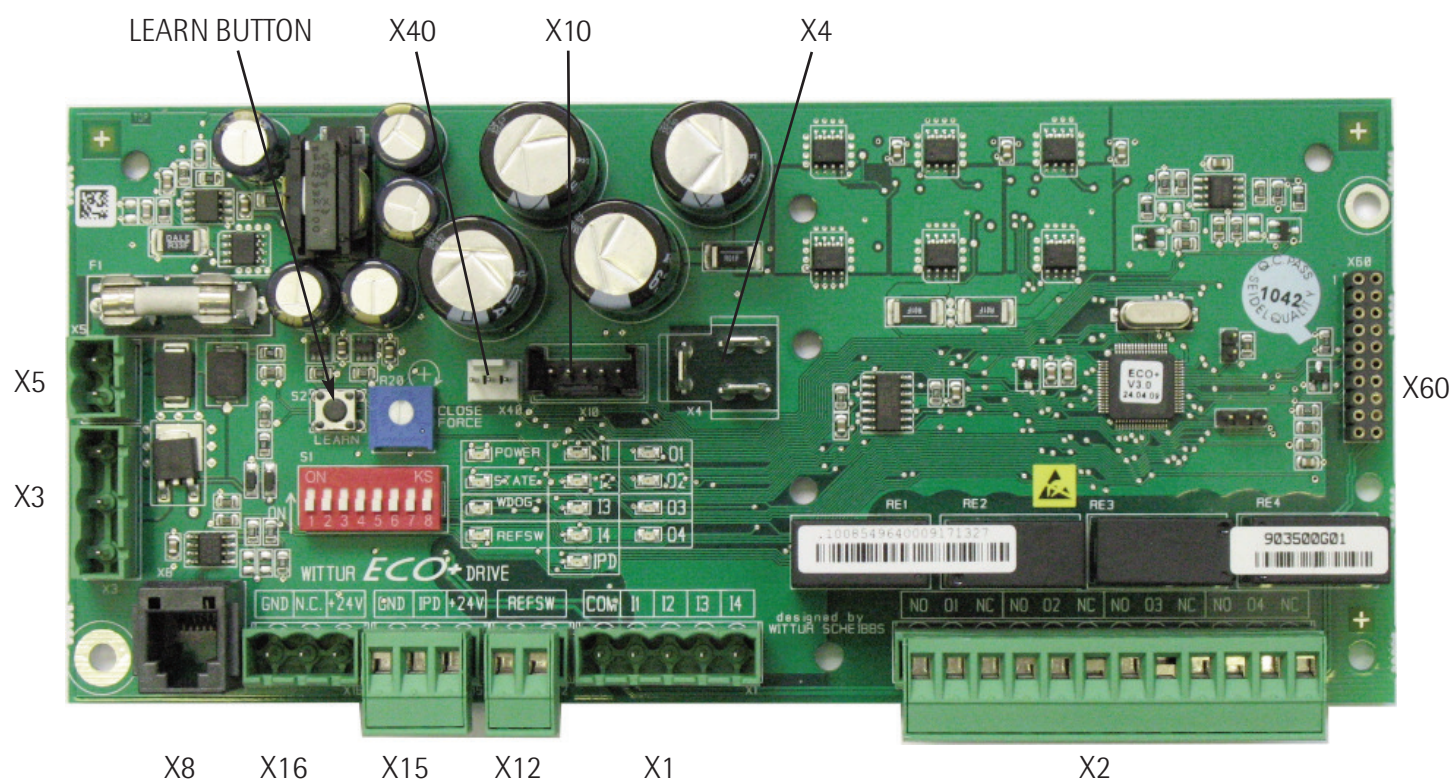
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## 9. GENERAL INFORMATION PRIOR TO INSTALLATION

### 9.1 DESCRIPTION AND FUNCTION

ECO door drives are used for low and mid duty elevators. The Drive can move panel masses up to 130kg complete door package weight.

## 10. ELECTRONIC ASSEMBLY LAYOUT

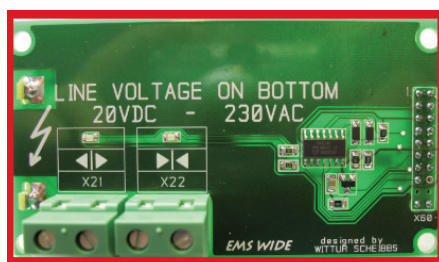


Plug description:

- |  |   |
|--|---|
| X1 - Inputs  | X10 - Motor encoder                             |
| X2 - Outputs   | X12 - Reference switch                          |
| X3 - Transformer secondary winding                     | X15 - Photo Cell (Curtain of light) Receiver    |
| X4 - Motor   | X16 - Photo Cell (Curtain of light) Transmitter |
| X5 - Battery supply                                    | X40 - Test drive buttons                        |
| X8 - RS485 interface for WPT (Wittur Programming Tool) | X60 - Extension plug                            |

### EMS-WIDE Interface (optional)

X21, X22 High Voltage OPEN/CLOSE Input



X21 X22

### 10.1 INSULATION TEST


 Caution: Before carrying out tests on system's insulation, connector X5 must be disconnected.

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### 11. COMMISSIONING

-  The door operators supplied directly from the factory are pre-adjusted: it is not necessary to carry out the door CO (Clear Opening) learning.  
The ECO drive at first installation or after switch-off /switch-on will use the first two complete closing / opening cycles to optimize door CO: STATE LED off → CO optimized.

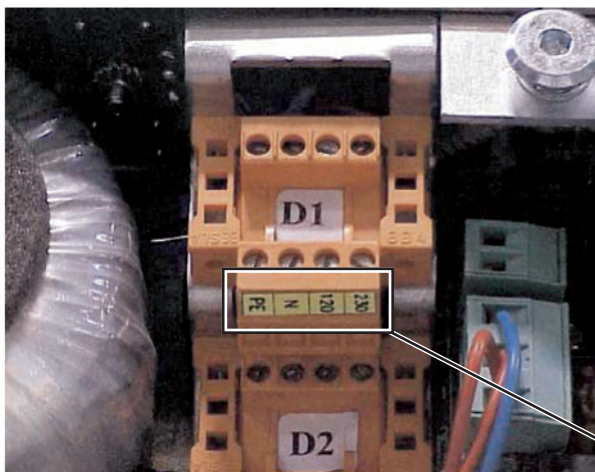
Door operators delivered directly from the factory are pre-adjusted.

#### 11.1 POWER SUPPLY

- The ECO-drive provides transformers for both different voltage ranges and can supply with 127VAC or 230VAC.
- Select the recommended fuse for the nominal voltage range, see table

Nominal Supply Voltage Range:	127VAC	230VAC
Automatic fuse slow (in control panel)	2A	1A
Minimum cable required	1mm <sup>2</sup>	0,75mm <sup>2</sup>

- Line in supply is connected to a plug with screw terminals (D1).



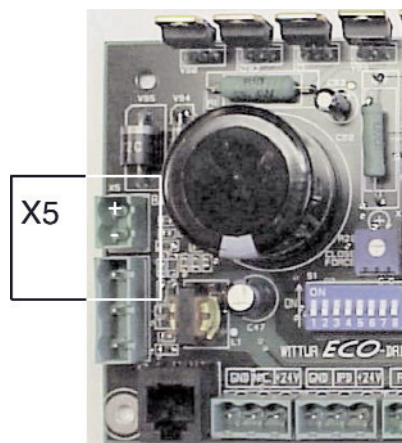
PE =	Connect ground wire
N =	Connect neutral wire
120 =	Connect 127 VAC phase wire
230 =	Connect 230 VAC phase wire

##### 11.1.1 Emergency supply

Battery voltage	24VDC-4Ah
Min. cable sq. measure	1,5mm <sup>2</sup>

- The battery's supply takes place through the X5 connector.

Pay attention: the battery has to be connected only in case of absence of the supply indicated on point 11.1.

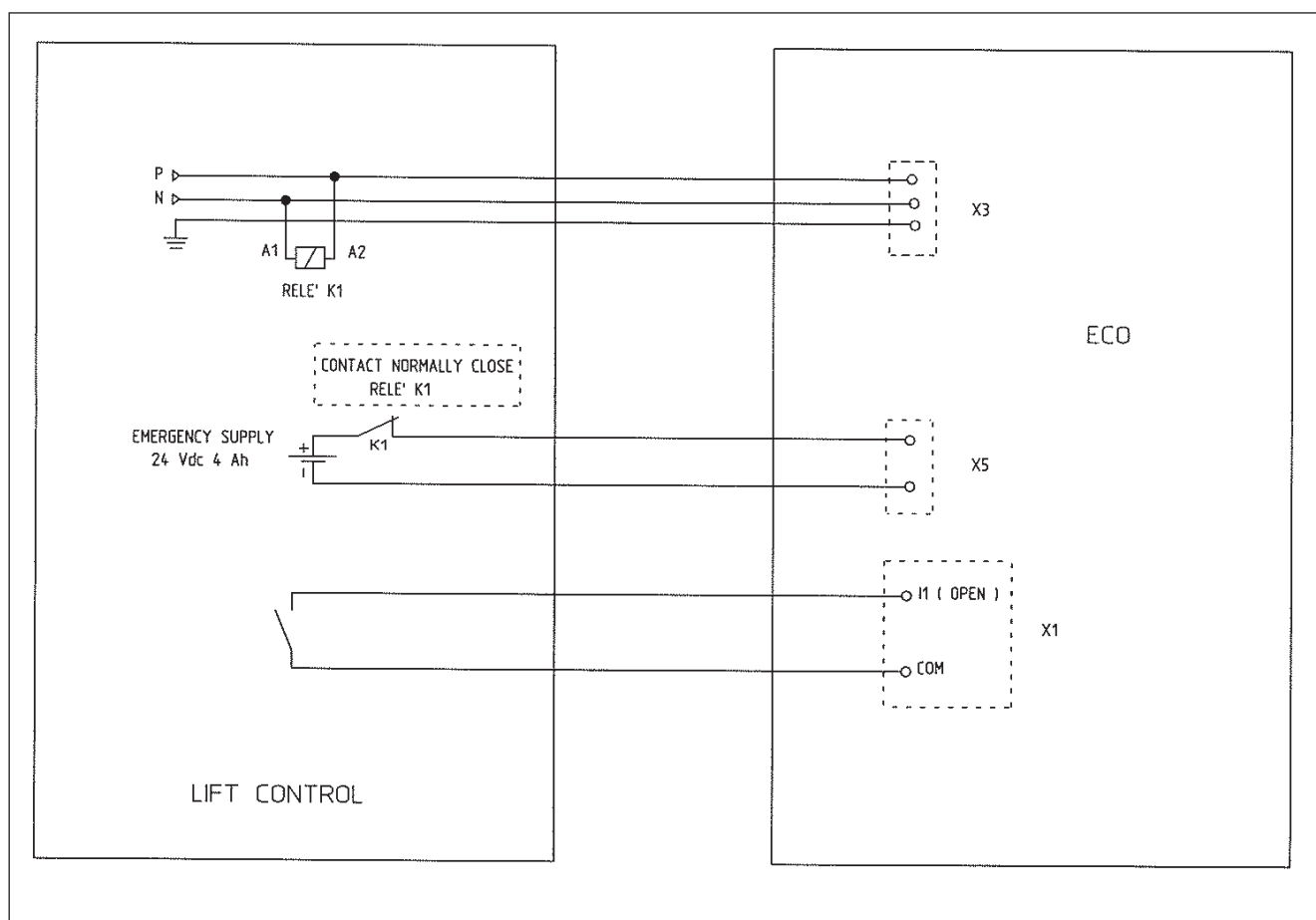


### 11.1.2 Emergency procedure in automatic mode (specialized technical staff not present):

If mains power is removed, to ensure correct operation of the emergency procedure in automatic mode via the control panel supplied by the buffer battery, it is necessary to supply the ECO drive with power from a battery (24 Vdc 4 Ah) via connector X5: the battery power must be supplied immediately after mains power is removed (the ECO drive must not be switched off ). The opening of doors for opening I1 (OPENING) will be managed by the control panel. Fig.1 shows the recommended wiring diagram.

#### NOTE:

If power is removed while the cabin is aligned with the floor and the closure limit switch of the ECO drive is not activated, the doors can be opened manually, as the ECO drive will leave the motor without power.



## ECO BUS CAR DOORS

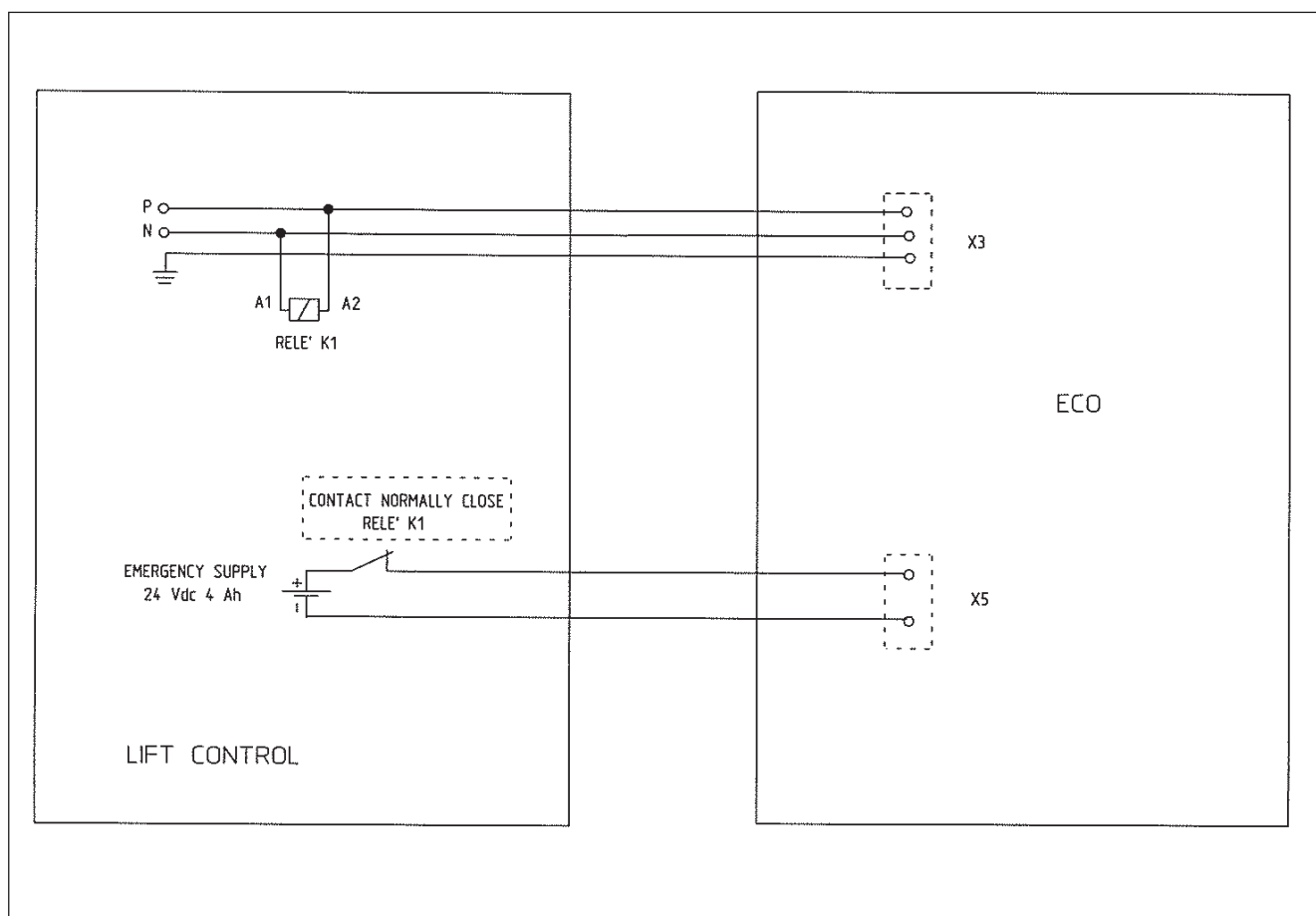
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### 11.1.3 Emergency procedure in manual mode (specialized technical staff present):

1. If mains power is removed, to ensure correct operation of the emergency procedure in manual mode, we recommend supplying the ECO drive with battery power (24 Vdc 4 Ah ) via connector X5: the battery power must be supplied immediately after mains power is removed (the ECO drive must not be switched off ). This way it will be possible to align the elevator cabin with the desired floor by means of a manual operation: the doors can only be opened manually: Fig.2 recommended wiring diagram.
2. If the ECO drive is not supplied with battery power (24 Vdc 4 Ah) via connector X5, the car door has to be closed before starting the car movement. In case of car door opened, the ramp is extended and it can damage the landing lock.

#### NOTE:

If in case of main power failure, it is not possible to supply the ECO drive with power from a 24 Vdc 4 Ah battery, to ensure correct operation of the elevator we recommend you disconnect connector X12(reference switch connector).





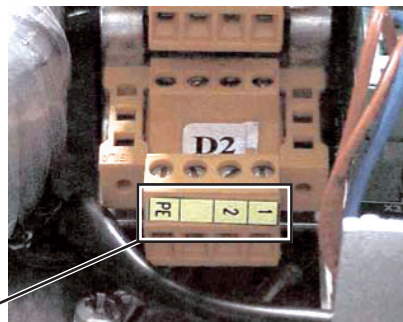
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### 11.2 SAFETY CIRCUIT

- The door contacts are prewired to a terminal plug with screw terminals D2.
- Safety contact ratings: Min. 5VDC - Max. 250VAC 2A

PE =	Connect ground wire
1 & 2 =	Connect safety circuit wires

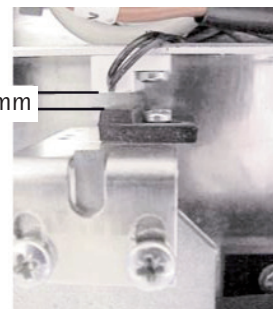


### 11.3 PREPARATION AND LEARNING OF DOOR PARAMETERS

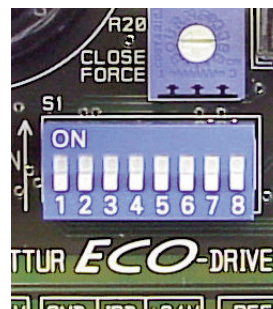
 Carry out only in event of replacement: replace card or motor.

- 1 DIP-Switch setting has to be copied from the replaced board, see chapter 7: "DIP-Switches".
- 2 In case of need adjust the reference switch so, that switch and magnet are opposite one each other when the door panels are closed (clearance between switch and magnet should be 5÷6 mm).

5÷6mm



- 3 The DIP Switch S1/1 (Test Button Operation) must be activated.



- 4 Set the panels of the car door in closing position. The sliding blocks should brush against the buffer.



Press the LEARN push-button **for one second only**, immediately after switching on.




- 5 Activate the alimentation through the D1 connector as indicated at par.11.1.
- 6 Now the door must be driven in close direction by Test Drive Button.
- 7 The door might now run in wrong direction in respect to command. Use that test drive button which drives the door in close direction and drive until door panels are fully closed (REF SWITCH LED must be on).


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- 8 If the motor is running in wrong direction the electronics rectifies the motor rotation direction when the "Ref Switch" is closed and a new learning procedure will re-start.

 Is no reference switch available the direction of the motor rotation has to be changed by crossing the motor cables, if necessary (Press the LEARN button again).

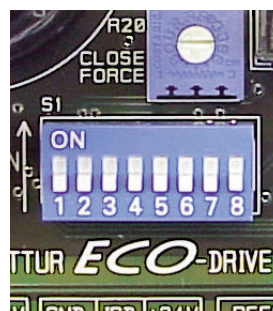
- 9 Now the learning of door width is done during 2 consecutive full door width movement cycles (STATE LED off --> learning done).

 Take care, that the commands are available in end position for more than one second, that the electronic has time enough to detect the mechanical end position.

10 The parameters are stored automatically after learning procedure.

### 11.4 DRIVING THE DOORS WITH THE ELEVATOR CONTROLLER

- Connect the signals from the elevator controller to connector X1 and X2 of the door operator.
- Refer to the project delivery documents for the wiring diagram between the elevator controller and door operator (see also circuit diagram in chapter 17).
- Check if Test Button operation Switch is OFF S1/1.



- If the door is not at the reference switch (near by close end) in power up and CLOSE is active (connected with COMMON) it will move at low speed as long as the reference (close end) position is found.
- After finding the reference switch the door drive will start with the next OPEN command in direction open with normal speed drive until the mechanical end is found.
- Then the door will drive with normal speed in both directions.
- Check that the safety devices (open button, photo cells and close force limiter) reopen the door (see DIP-switch description).
- According to the DIP-Switch adjustment (S1/2) the door is reopened by the elevator control or automatically by the door.

### 11.5 DRIVING THE DOORS BY THE SERVICE DRIVE BUTTONS

- The Test Buttons only work when the Test button operation switch (S1/1) is active.
- Check that the door is moving open and close when the test buttons are pressed.
- In this mode of operation the re-opening of the door by a safety device is not activated (enables the adjustment of the closing force).

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### 12. ADJUSTMENTS ALWAYS TO BE DONE

#### 12.1 FORCE ADJUSTMENT



An adjustment of too high closing force may cause serious injury to passengers. The max. allowed force can be found in the code valid for your country (EN81: max. 150N).

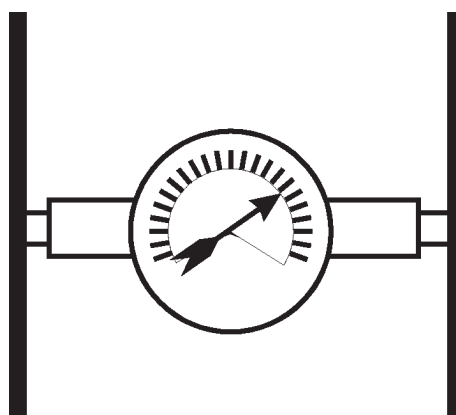


The adjustment must be done by use of a force measuring device.



Do not attempt to measure the force of a moving door, stop it first to avoid damage of the force measuring device!

- Open and close the door manually and check that there is no mechanical obstruction.
- Put a force measuring device between the door panels (center opening) or between door panel and slam post (side opening).



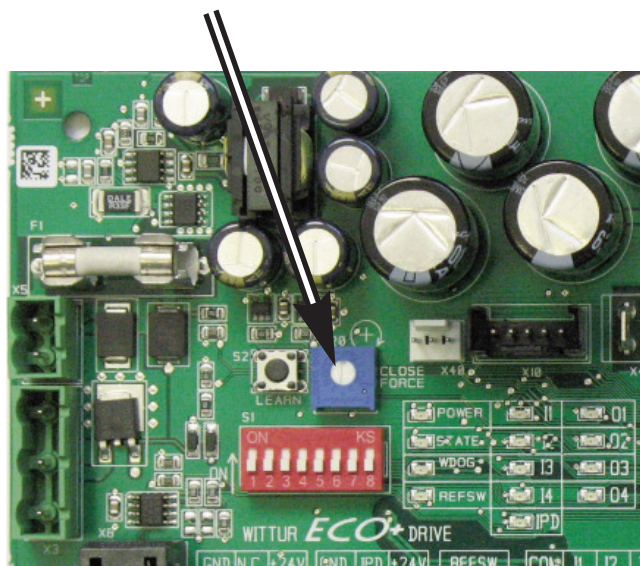
For centre opening the measuring device will show half of the actual close force. For side opening the measuring device will show the actual close force.

- Drive the door with the close button (or close command) to the close direction. The Test Buttons only function when the Test button operation DIP-Switch (S1/1) is ON.
- The close command should be applied for less than 10sec period's, than remove the close command for a short time, before continue the adjustment procedure.
- The opening force adjustment will be done in the factory (normally: opening force is 30N less than closing force).

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- Adjust the closing force according codes using potentiometer CLOSE FORCE. The Closing Force will increase by turning the potentiometer clockwise!

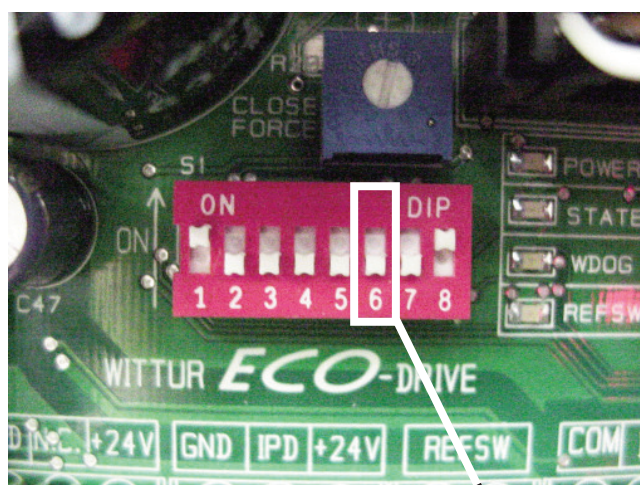


### 12.2 ADJUSTMENT OF THE SPEED

- The drive electronic offers to select one out of two different speed levels (for handicap elevators or other purpose).
- Look at DIP-SWITCHES description (chapter 15).

### 12.3 SETTING SPEED ACCORDING TO DISABLED PEOPLE REGULATIONS

- The DIP-SWITCH S1/6 must be set to OFF.



DIP-SWITCH S1/6 SET TO OFF



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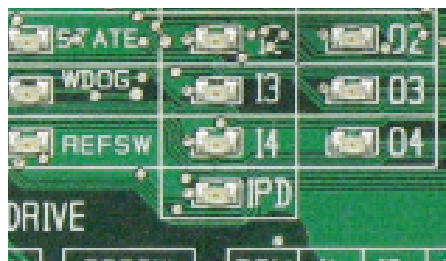
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### 13. DESCRIPTION OF LED'S

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#### 13.1 LED'S INPUTS

Name	LED illuminated if
I1	Input 1 is connected to COM
I2	Input 2 is connected to COM
I3	Input 3 is connected to COM
I4	Input 4 is connected to COM
IPD	Input Passenger- Protection Device (Photo cell.....)

#### 13.2 LED'S OUTPUTS

Name	LED illuminated if
O1	Output 1 relay is operated
O2	Output 2 relay is operated
O3	Output 3 relay is operated
O4	Output 4 relay is operated

#### 13.3 DIFFERENT LED'S

Name	LED illuminated if
POWER	the power supply is switched on
WATCH DOG	the microprocessor does not work
STATE	Light: during start up and learning Flashes: if an error is detected Off: normal operation
REFSW	the door is in Close end area

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### 14. ELECTRICAL INTERFACES

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#### 14.1 INPUTS

The Inputs are activated if they are switched at COM.

Terminal	Symbol	Name of the terminal	Explanation
COM	COM	COMMON	Common line for I 1..4
I1		OPEN	This command will drive the door in open direction until the open position is reached. Depending on the setting of DIP-Switch S1/8 the door is kept open by motor torque also without command.
I2		CLOSE	This command will drive the door in close direction until close position is reached. Depending on the setting of DIP-Switch S1/8 the door is kept closed by motor torque also without command.
I3	NDG	NUDGING	Nudging input, puts the door to slow speed drive in close direction. Smoke sensitive devices like photo cell or light barrier (Input IPD) will be ignored.
I4	SD	SERVICE DRIVE	By setting this input the test button operation is activated. The command inputs at X1 are inactivated. Same function as DIP switch S1/1.

Optical couplers are mounted on the inputs, supplied directly from the ECO card:

Technical data:

- Voltage: 24 VDC + 10%
- Power: 12 mA each input

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### 14.2 PASSENGER PROTECTION DEVICE INPUT AND SUPPLY

The Input is activated if put at GND.

Terminal	Symbol	Name of the terminal	Explanation
+24V	PH+	+24V	+24V DC supply for photo cell or curtain of light (max. 150mA)
IPD	REV	PHOTO CELL	Input for Photo Cell or curtain of light, light barrier or other passenger protection device
GND	PH-	GND	Ground for supply of photo cell or curtain of light (light barrier)
N.C.	L		Can be used as terminal for light barrier

### 14.3 OUTPUTS

The outputs are relais where the 3 connections of the contacts are feed to the terminals.  
(01 to 04: COMMON = COM, normally open contact = NO, normally close contact = NC)

Terminal	Symbol	Name of the terminal	Explanation
01		OPEN END	The open end output indicates the fully open position of door panels.
02		CLOSE END	The close end output indicates the fully closed position of door panels
03	REV	REOPEN	The Reopen output indicates if a reopen request, coming from photo cell or close force limiter is pending or an automatic re-open is done.
04	POS	Position	This output is set when the door is opened wider than a certain position (Position trigger point can be adjusted by WPT normally deactivated).

Technical data:

- Voltage: 230 VAC / 30 VDC
- Power: max 2A continuous load

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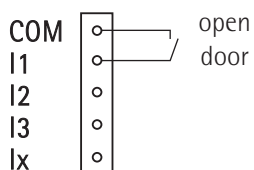
## 15. DIP-SWITCH SETTINGS FOR FOLDING DOOR W AND FLAT SHAPE

Valid with software version V4.0

	OFF	ON
S1/1	Normal operation (command inputs on X1 active)	Test Button operation (buttons active)
S1/2	No automatic reopen (only Reopen O3 is switched)	Automatic reopen on obstruction or IPD (Reopen O3 is switched)
S1/3	Normal operation (command inputs on X1 active)	<i>Electric shoe operation</i> (swing door mode)(*)
S1/4	Std. function on output O4	
S1/5	Close pulse (MEDIUM) (together with DIP S1/7 ON)	Close pulse (HIGH) (together with DIP S1/7 ON)
S1/6	Door speed setting "low" (0,27m/s)	Door speed setting "high" (0,40m/s)
S1/7	Close pulse OFF for W shape mechanics	Close pulse ON (HIGH or MEDIUM) for Flat shape mechanics
S1/8	Hold open/closed only on active open/close command	Automatic end keeping

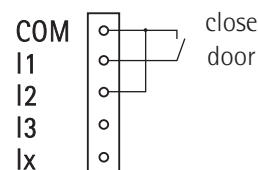
(\*) Mode 1:

I1 = ON -> door opens  
I1 = OFF -> door closes



(\*) Mode 2:

I1 = ON -> door closes  
I1 = OFF -> door opens



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### 16. TROUBLESHOOTING

There is a fault if the State LED is blinking. The faults can be read by WPT.

#### 16.1 THE DOOR DOES NOT MOVE

##### 16.1.1 The door does not move at all

- Check that the power is ON. The POWER LED must light up if D1 is connected and the circuit breaker in the elevator control panel is ON
- Check W LED, switch OFF/ON or replace board in case it lights up.
- Check that the motor and encoder wires are connected correctly (plug X4 and X10) and the motor is not overheated ( $\leq 60^{\circ}\text{C}$ ).
- Check that the control panel is sending an Open or Close command (I1-I2/X1, Led I1, I2).
- Check if there is too high friction if door is moved manually. If the STATE LED flashes read the faults by using WPT, switch ON/OFF or replace board in case it flashes.

##### 16.1.2 The door does not open

- Check that the OPEN command LED I1 lights up when an open command is present (I1/X1 low).
- Check that the CLOSE command LED I2 does not light up (I2/X1 not low). A close command overrides the open command.
- Check that the landing door lock is not jammed.
- Check if the open force limitation is active (S 1/7 ON) and the friction is too high.
- The Opening force may be too low (or friction too high). Turn OPEN FORCE potentiometer slightly clockwise to increase the opening force, but watch the maximum allowed force!

##### 16.1.3 The door does not close

- Check that the CLOSE command LED I2 lights up or the Input I2/X1 is switched on COM.
- The closing force may be too low (or friction too high). Turn CLOSE FORCE potentiometer slightly clockwise to increase the closing force, but watch the maximum allowed force!

##### 16.1.4 The door only partly opens or closes

- Check that the open and close signal times (LEDs I1, I2) from the elevator controller are long enough. The door moves only as long as command is set.

#### 16.2 THE DOOR DOES NOT REOPEN

- If no automatically Re-open is selected (DIP Switch S1/2 is OFF):
- To reopen the door, the elevator controller must receive either a reopen request signal from the door electronics (REOPEN) or from an independently wired safety device (e.g. Photocell or Curtain of Light).
- For reopening the elevator controller must remove the close command and activate the open command
- If automatic Re-open is selected (DIP Switch S1/2 is ON):
- An automatic Re-open process is caused by the Input IPD or by the closing force limiter.



Check the following reopen devices

- Photocell or light cell (defect or dirty).
- Closing force limiter (force too high).

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### 16.3 FAULTS CAUSING RESET OR SWITCH OFF (STATE LED IS BLINKING)

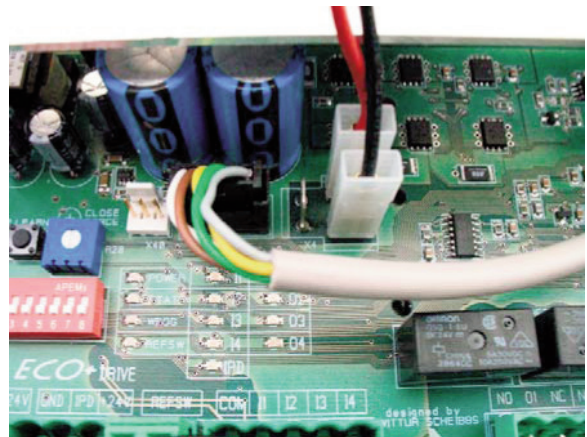
- Power stage short circuit
- motor or encoder short circuit, open wires and/or missing signals.
- Internal electronic fault
- Undervoltage (supply voltage is measured and the power stage switches off if the voltage is too low).
- mechanical end not found ( $\geq 5m$ ).
- door mechanically blocked.

### 16.4 FAULTS DECREASING PERFORMANCE OF DOOR

- Motor and/or power stage temperature too high. The software reduces the power of the motor (power stage). If temperature is nevertheless exceeding a higher limit, power stage is shut down for cooling down a certain time.
- Low voltage supply like battery drive or low line voltage supply.

### 16.5 CONNECTION OF DC MOTOR (E.G: REPLACEMENT OF OLD ELECTRONIC)

the ECO electronic can be used as spare for the old ECO electronic.  
Connect the DC motor (blue) as shown in the picture.

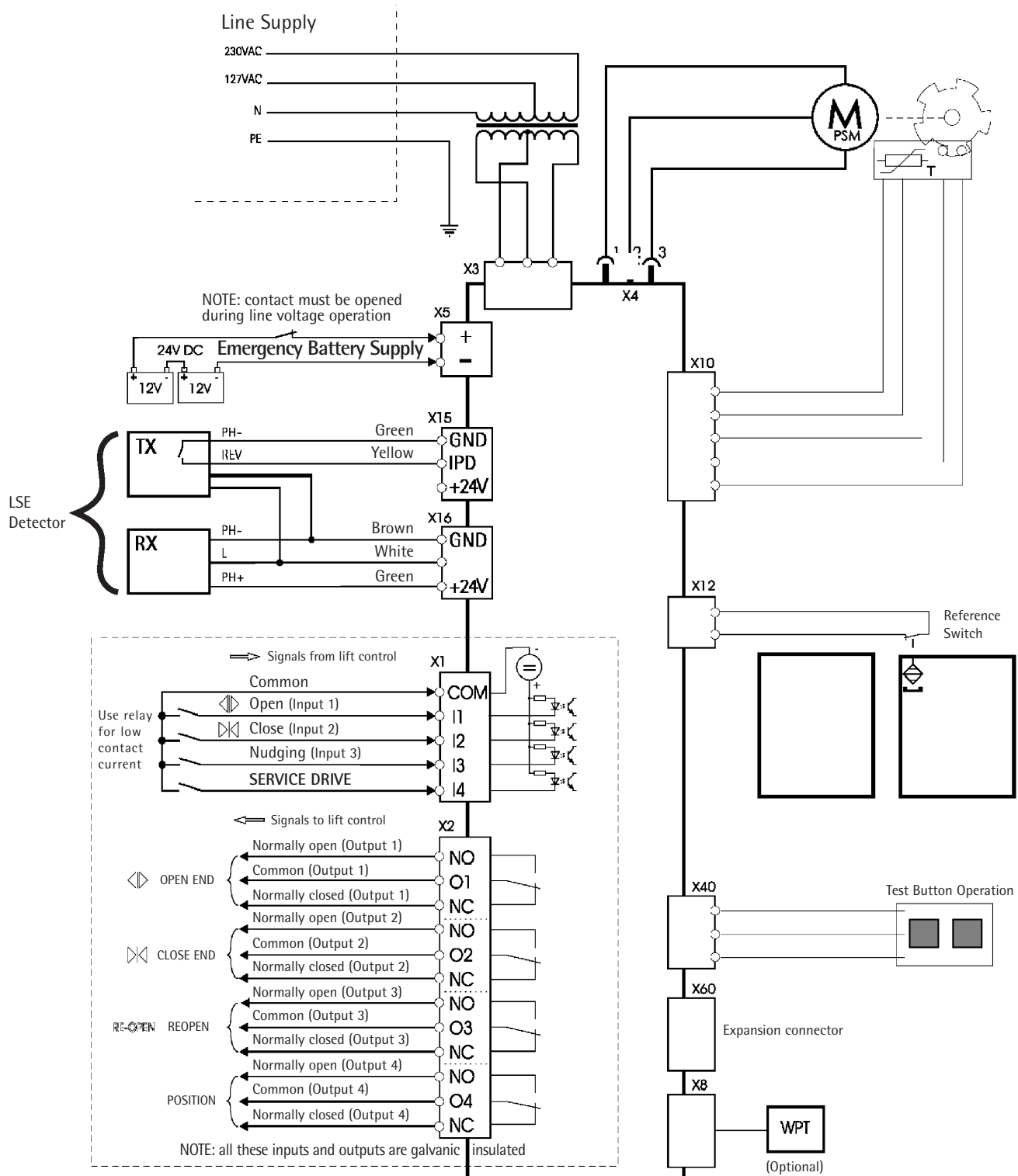


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## 17. CIRCUIT DIAGRAM ECO DRIVE



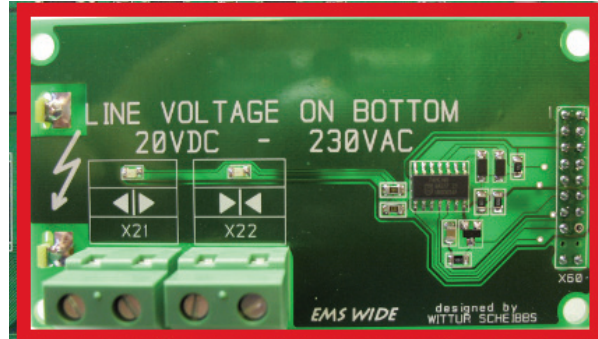
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### 18. EMS WIDE OPTION

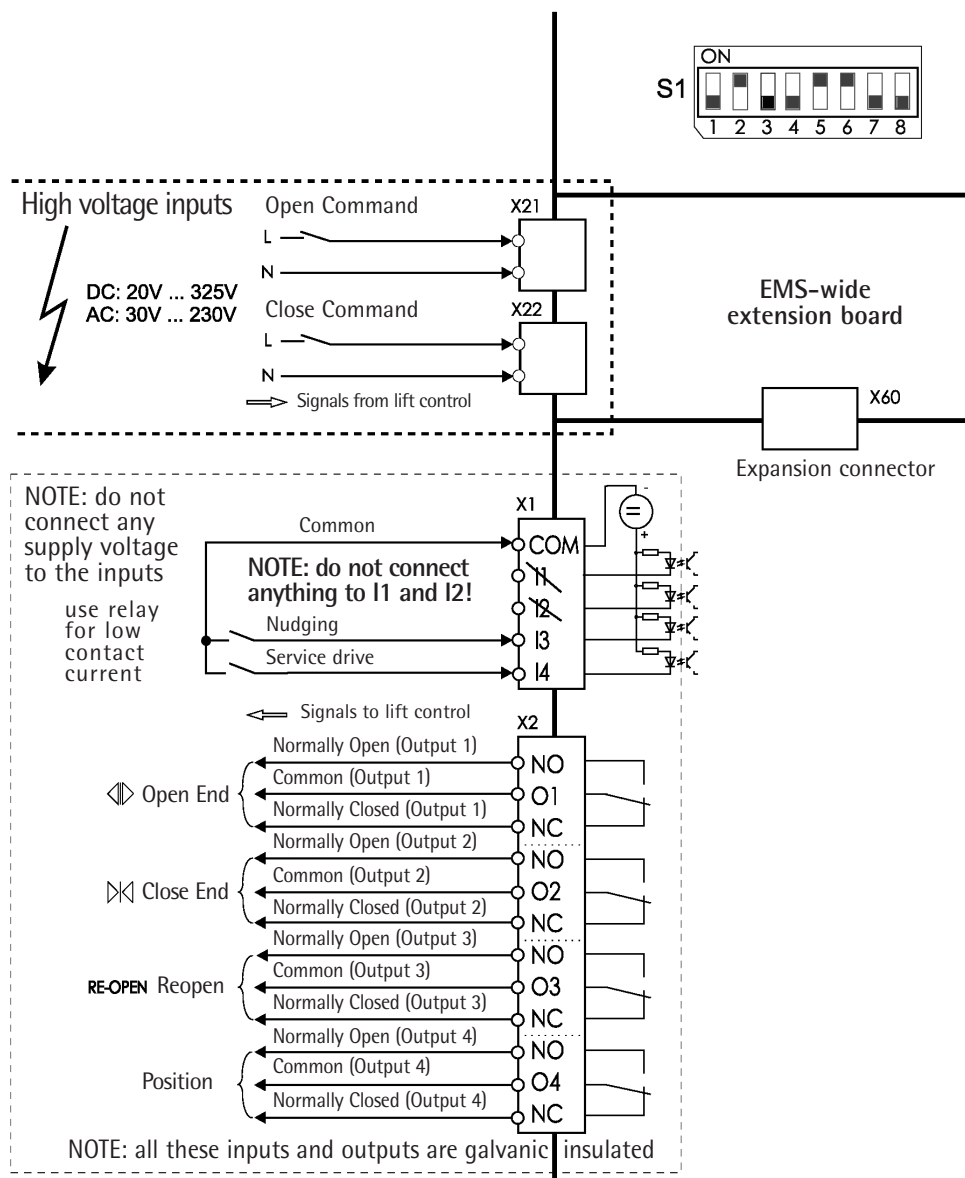
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Expansion board on ECO Card. Function depends on Dip Switch setting S1/3 and S1/8.



#### 18.1 DUAL COMMAND CONTROL

Use ECO-MIDI-SUPRA wiring diagram for line supply and other connections  
All grey colored switches must be set according ECO-MIDI-SUPRA operating instruction.





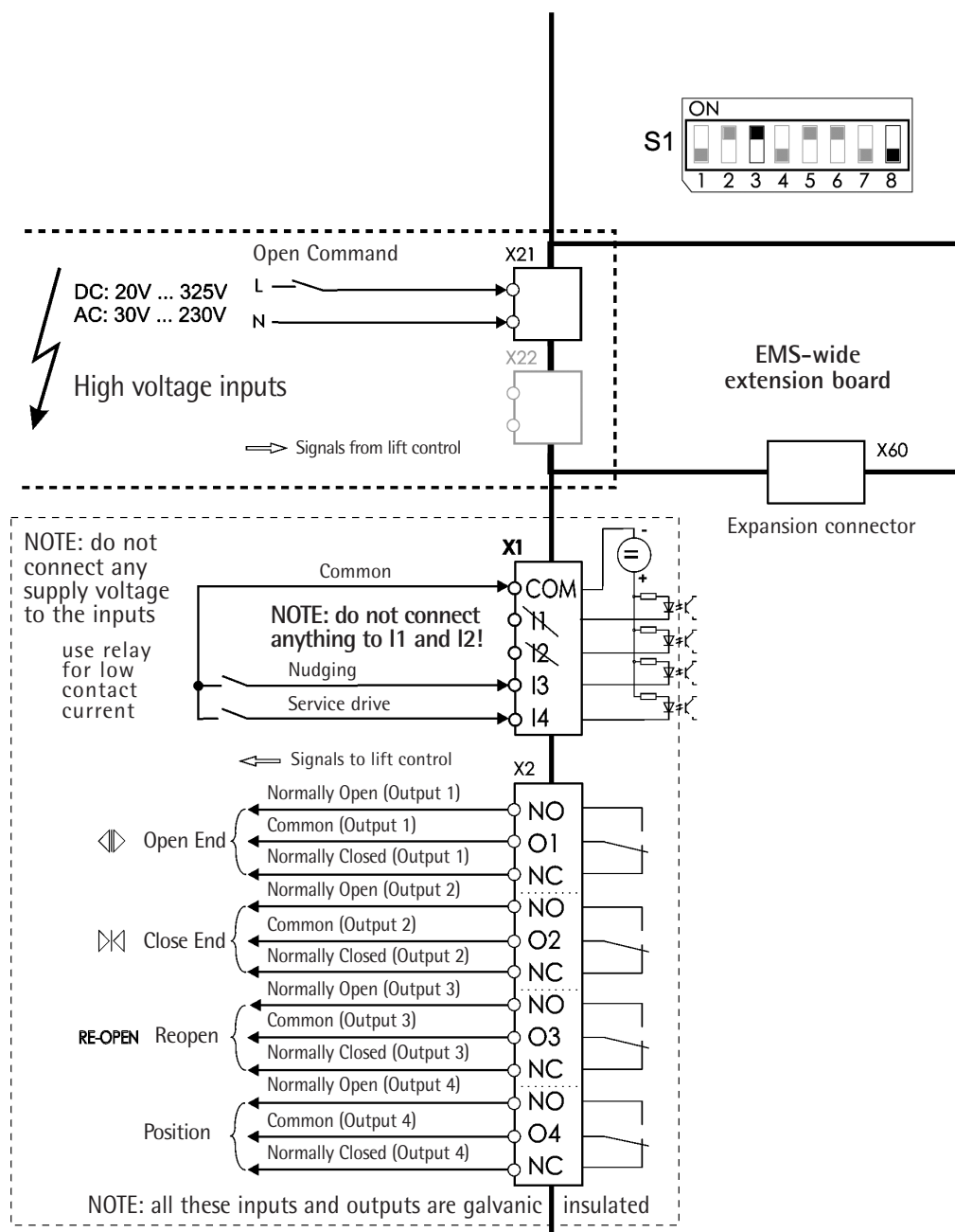
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## 18.2 SINGLE COMMAND CONTROL OPEN

Use ECO-MIDI-SUPRA wiring diagram for line supply and other connections

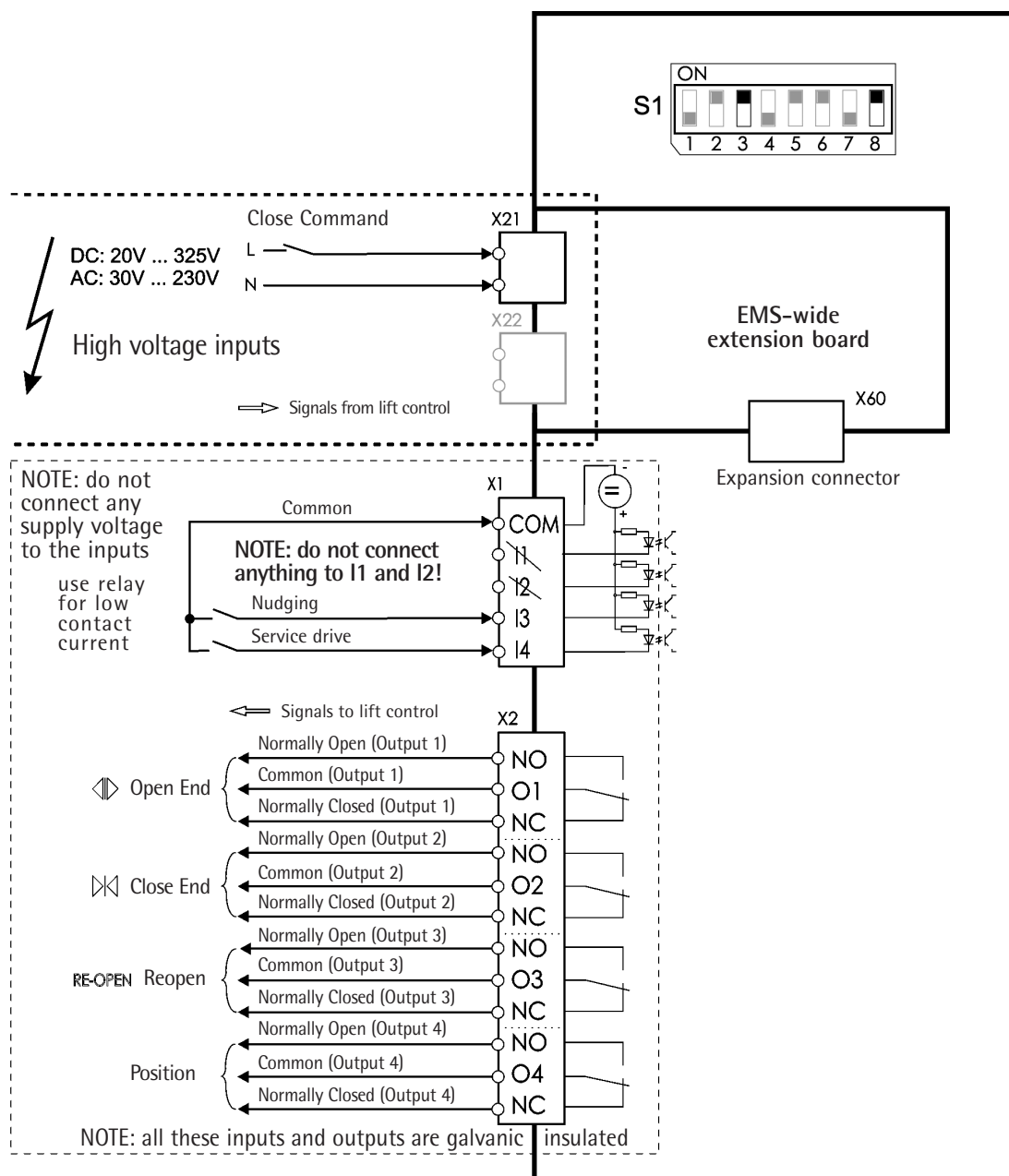
All grey colored switches must be set according ECO-MIDI-SUPRA operating instruction.



### 18.3 SINGLE COMMAND CONTROL CLOSE

Use ECO-MIDI-SUPRA wiring diagram for line supply and other connections

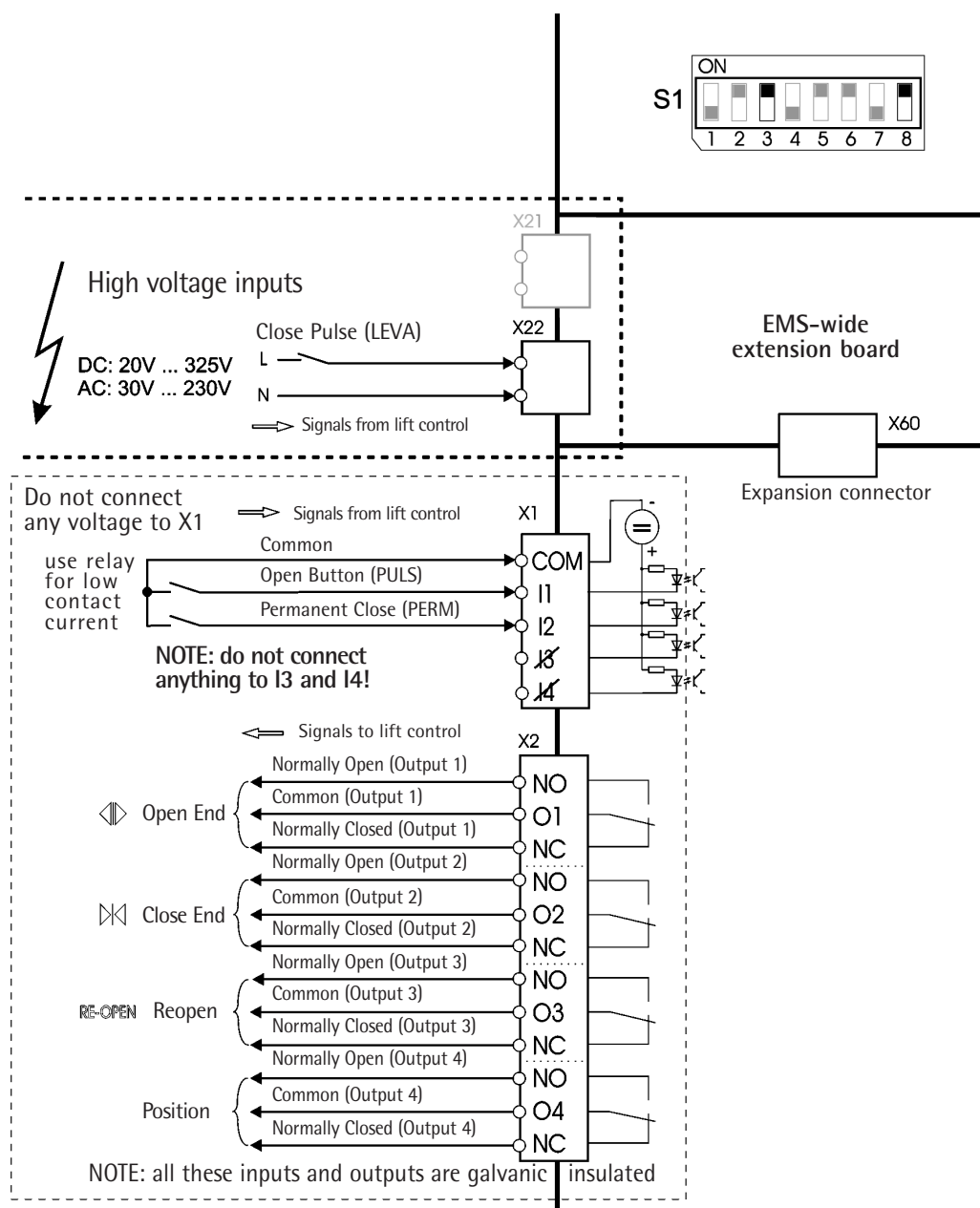
All grey colored switches must be set according ECO-MIDI-SUPRA operating instruction.



#### 18.4 SINGLE COMMAND CONTROL CLOSE WITH SIGNAL EXTENSION

Use ECO-MIDI-SUPRA wiring diagram for line supply and other connections

All grey colored switches must be set according ECO-MIDI-SUPRA operating instruction.



#### 19. SERVICE DRIVE SWITCH



- RUN position: accepts commands from operation panel,
- TEST position: accepts commands from service keys (X50).

**N.B.:** The **SERVICE DRIVE SWITCH** can be adjusted with a screwdriver; rotate clockwise/anticlockwise.

The DIP-SWITCH S1/1 must be strictly set in the OFF position.

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## 20. WITTUR PROGRAMMING TOOL INTERFACE SOFTWARE DESCRIPTION

### 20.1 INTRODUCTION

The ECO-electronic is equipped with a serial communication interface RS 485 to watch/modify data stored in the electronic. Some data (for example the speed values) are stored in a memory which is independent from power supply, this memory is called EEPROM. For use of the Wittur programming Tool see Operating instructions D276Mxx.

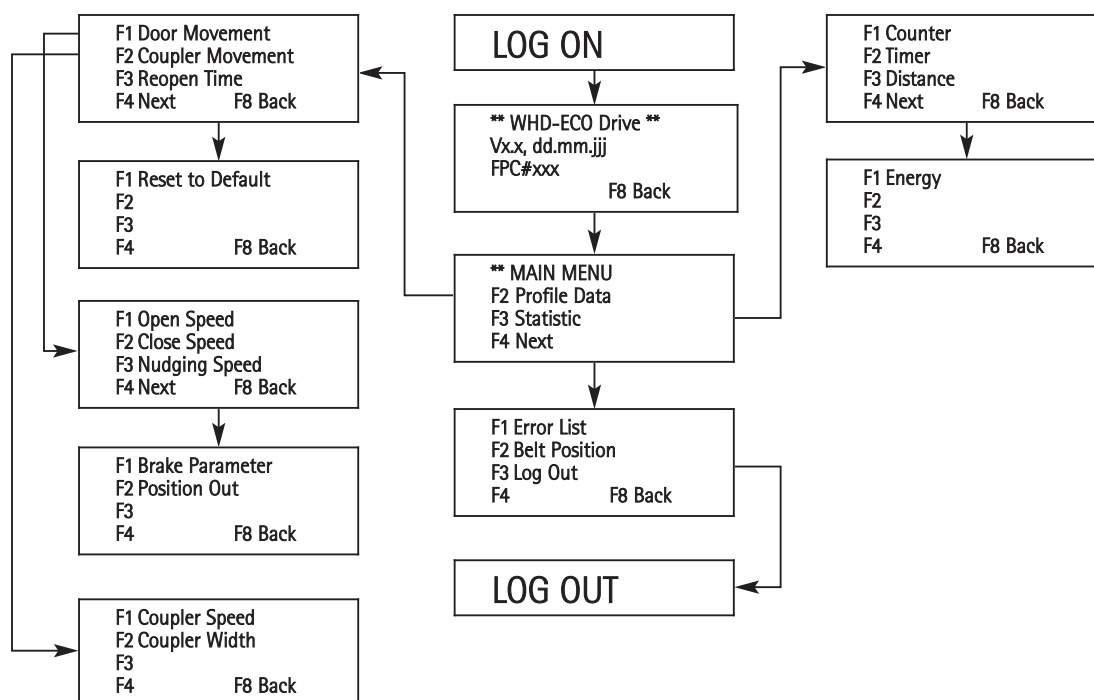


Wrong adjustments may damage the door mechanic.

### 20.2 CONNECTING THE WITTUR PROGRAMMING TOOL TO THE ECO-ELECTRONIC

The Programming Tool can be connected directly to the ECO platine at the plug X8, there are no further adjustments necessary. Switch off the WPT before connecting to door drive.

### 20.3 MENU STRUCTURE OF PROGRAMMING TOOL



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## 20.4 DOOR ADJUSTMENT WITH THE PROGRAMMING TOOL

## 20.4.1 Login of the Programming Tool

- Press the 'ON'-button longer than 2 seconds until you can see the Log-in Display.

```
WPT software V1.3
19.09.2001, 11:15

Logging on .
```

- The screen after power on login shows the door drive software revision and date.

```
** WHD-ECO DRIVE **

Vx.x, dd.mm.jjjj
FPC#xxx      F8 Back
```

- After pressing 'F8' the initial menu screen appears.

```
** MAIN MENU
F2 Profile Data
F3 Statistic
F4 Next
```

- Press 'F1' to 'F3' to select one of the menu items or use 'F4' to view additional screens.

```
F1 Error List
F2 Belt Position
F3 Log Out
F4          F8 Back
```

- 'F8' jumps back to last screen.

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## 20.4.2 'F2': Profile Data

```
F1 Door Movement
F2 Coupler Movement
F3 Reopen Time
F4 Next      F8 Back
```

This menu allows you to call up 2 further cascading menus: 'F1' Door Movement (20.4.3) and 'F2' Coupler Movement (20.4.5).

## 20.4.2.1 'F3': Reopen Time

Reopen Time is the waiting period after the re-open in open end, before the door close again.  
By pressing 'F3' the parameter Reopen Time can be watched and changed.

```
Reopen Time:
0000.0 s

ENTER Ch.  F8 Back
```

To enter a new value press the number keys, after that press 'ENTER'. This value is taken over in a buffer and carried out.

```
Reopen Time:
0001.5 s

ENTER Ch.  F8 Back
```

By leaving this menu with 'F8' you will be asked if the entered value shall be stored permanently to the memory.

```
Use changed Value?

YES/NO      F8 Back
```

By pressing the keys 'YES' / 'NO' the value can be used / rejected.

## 20.4.2.2 'F4': Next (Profile Data)

```
F1 Reset to Default
F2
F3
F4      F8 Back
```

The door parameter are resetted to its initial value by pressing the button 'F1'.

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### 20.4.2.3 'F1': Reset to default

Reset to Default?

YES/NO      F8 Back



By pressing the 'YES' button all the factory adjusted parameters are cleared and overwritten by default values.

Before resetting the door electronic to default values the two items 11.3, must be followed (manual closing of door panels!).

After the "Reset to Default" is done, continue the start-up procedure like described in item 11.3.

### 20.4.3 'F1': Door Movement

F1 Open Speed  
F2 Close Speed  
F3 Nudging Speed  
F4 Next      F8 Back

This menu allows you to watch/modify values described in the following chapters by pressing the corresponding function key. See chapter 20.4.2.1 how to enter values.

All these variables are stored in the EEPROM. Speed values for speed setting 1-3 are calculated from values of speed setting 4 by multiplying with fix constants.

#### 20.4.3.1 'F1 Open speed' - Open speed.

Top speed for open movement; speed setting 4.

#### 20.4.3.2 'F2 Close speed' - Close speed

Top speed for close movement; speed setting 4.

#### 20.4.3.3 'F3 Nudging speed' - Close speed for nudging

Top speed for close movement with nudging command; speed setting 4.

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### 20.4.4 'F4': Next (Door Movement)

```
F1 Brake Parameter
F2 Position Out
F3
F4          F8 Back
```

This menu allows you to watch/modify values described in the following chapters by pressing the corresponding function key. See chapter 20.4.2.1 how to enter values. This value is stored in the EEPROM.

#### 20.4.4.1 'Brake Parameter'

Because of the adjustment of this parameter the delay and creep to the open / close end is influenced (pre-adjusted at '5'). The possible adjustment is '0'..'9', but the earliest brake is reached with parameter '0' and the latest delay is reached with parameter '9'.

#### 20.4.4.2 'Position Out' Relay output

By entering this parameter the Position relay can be adjusted to switch at any door position. Standard adjustment is 0 (deactivated).

### 20.4.5 'F2': Coupler Movement

```
F1 Coupler Speed
F2 Coupler Width
F3
F4          F8 Back
```

This menu allows you to watch/modify values described in the following chapters by pressing the corresponding function key. How to enter values see in chapter 20.4.2.1. This value is stored in the EEPROM.

#### 20.4.5.1 'F1 Coupler Speed'

Adjustment of the maximum speed in the coupler area. It is the same for open and close.

#### 20.4.5.2 'F2 Coupler Width'

The parameter coupler width shows the distance which the belt is moving in close end without moving the door panels.



If this value is changed the door is stopped until the learn button is pressed!



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### 20.4.6 'F3': Statistic

```
F1 Counter
F2 Timer
F3 Distance
F4 Next      F8 Back
```

This menu allows you to watch values described in the following chapters by pressing the corresponding function key.

#### 20.4.6.1 'F1 Counter'

This counter shows the number of the driven door cycles.

#### 20.4.6.2 'F2 Timer'

This counter shows the power-on time of the door electronic.

#### 20.4.6.3 'F3 Distance'

This counter measures the absolute movement of the drive belt in meter, but not the coupler movement.

### 20.4.7 'F4': Next (Statistic)

```
F1 Energy
F2
F3
F4          F8 Back
```

This menu allows you to watch values described in the following chapters by pressing the corresponding function key.

#### 20.4.7.1 'F1 Energy'

This counter counts the electric power feed to the drive in KWh.

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### 20.4.8 'F4': Next (Main Menu)



This menu allows you to watch values described in the following chapters by pressing the corresponding function key.

#### 20.4.8.1 'F1 Error List'

Errors are coded with numbers or letters. The Error List can be deleted with the key 'F5'.

Possible Faults are:

- 'EC' : Fault by Encoder
- 'EE' : EEprom writing or reading fault
- 'OC' : Over current
- 'RS' : Faulty reference switch
- 'IE' : Internal software fault
- 'AP' : Fault by position counter, door width > 5m
- 'TS' : Faulty temperature sensor
- 'NE' : Encoder not connected
- 'CF' : Closing force potentiometer defect
- 'ME' : Fault by motor or encoder
- 'SS' : Standstill fault, door is blocked
- 'TH' : temperature of the electronic or motor too high
- 'FE' : is set during manual change of coupler movement parameter.

#### 20.4.8.2 'F2 Belt Position'

Actual position of the belt, positive- door panels open (then it is the door panel position), negative - coupler area

#### 20.4.8.3 'F3 Log Out'

By pressing F3 the communication between door drive and WPT is stopped and the WITTUR Programming Tool switches off.

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### WARNINGS ON HOW TO KEEP THE DOORS IN GOOD OPERATING CONDITIONS



In order to prevent failures or incorrect operation and to maintain the system in good conditions, the technical efficiency of the system should periodically be checked, to ensure compliance with the applicable laws.

The technical efficiency depends on various factors such as:

- Work load
- Years of operation
- Door weight
- Climatic and environmental conditions
- Cleanness of environment
- Correct maintenance
- Etc.

And it can affect:

- Clearance/interference between the doors, and between the doors and posts according to the applicable laws
- Clearance of coupling device
- Status/conditions of fixing and coupling elements
- Conditions of parts affected by wear
- Efficiency of the lock and relevant contacts
- Any other parts that may be affected by the type of application.

For these reasons it is not possible to establish a general part replacement programme beforehand.



All screws used for the assembly of our product are screwed by means of a tightening torque as shown on following table:

Screw	Max torque (Nm)	Min torque (Nm)
M3	1,1	0,9
M4	2,6	2,1
M5	5,1	4,1
M6	9	7
M8	21	17
M10	42	34
M12	71,4	57,1

In case of need please refer to above table.

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## TECHNICAL SUPPORT

FAILURE	PROSSIBLE CAUSE	SOLUTION
- The operator works but the panels do not move	- Blocked sliding blocks	- Check the gaps. See page 9/10
- The door does not fully close (flat)	- Blocked sliding blocks - Blocked panels - Wrong adjustment of the flat mechanism	- Check the gaps. See page 9/10 - Check movement in flat position 170°-180° - Check the settings according page 11
- The door does not open	- Blocked sliding blocks - Blocked panels  - Wrong adjustment of the mechanism	- Check the gaps. See page 9/10 - Check movement in flat position 170°-180° - Tighten the setting screws. (see page 11 point 4) - Adjust opening bolt in direction open position (see page 11 point 2)
- Squeaking noise from door operator	- dirt between alu profile - sliding blocks	- cleaning