

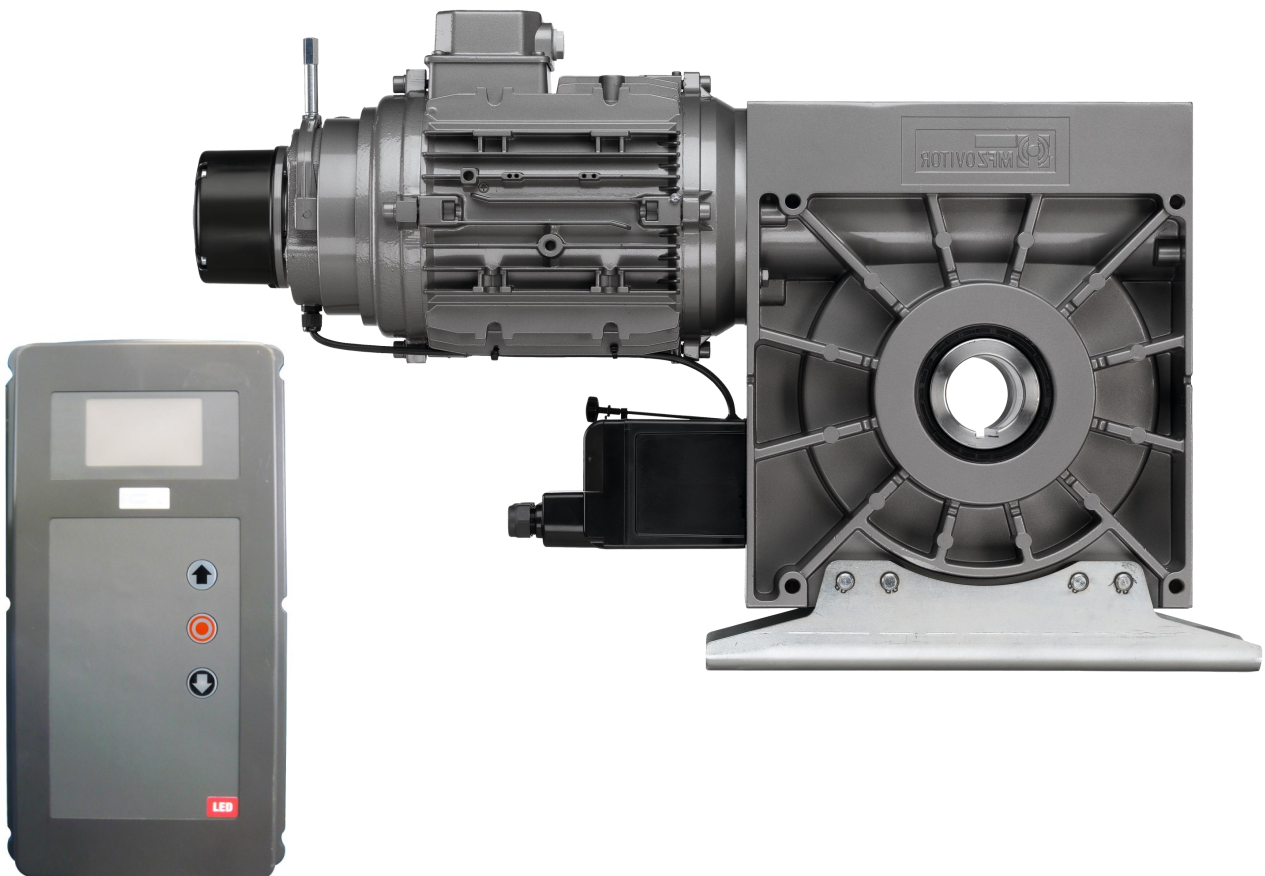
# Installation, connection and programming manual

No. 1467

05/18

**Murax P110 Shutters  
and Dentel grille**

**S2000 Operator  
with CS 300 Box**



**(Document reserved for installers)**

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## Equipment required for installation

- |                     |                                      |
|---------------------|--------------------------------------|
| - Lifting equipment | - Flat wrenches: 8, 10, 15 and 17 mm |
| - Clamps            | - Hexagon keys: 5 mm                 |
| - Spirit level      | - Socket wrenches: 10, 15 and 17 mm  |
| - Plumb bob         | - Screwdriver                        |
| - Tape measure (5m) | - Grease and brush                   |
| - Hammer drill      | - Multi-grip pliers                  |

# Installation instructions



## CAUTION!

To ensure that this product is assembled, used and maintained in complete safety, it is important to follow the instructions provided in this document. For everyone's safety, please observe the precautionary measures below.



- \* Before beginning the assembly, read this manual carefully.
- \* This closure must be installed by a professional technician.
- \* All the parts delivered are specifically sized for this product. Adding and/or using other parts may be detrimental to safety and may affect the product's warranty.
- \* Any modification or improvement of this closure must be compliant with the standard EN 13241 + A2. In this case, a "modification/transformation" file must be created by the installer as per the standard EN 12635 annex C.
- \* Considerable force is exerted in the case of a shutter or a grille. This work must therefore be carried out in accordance with the safety instructions. Use the appropriate tools to install these products. Ensure that the work is carried out on a stable floor.
- \* Ensure that the assembly area is adequately lit, clear, clean and clearly marked out.
- \* Ensure that no other people are present at the assembly site apart from the installers. Non-authorized persons (children for example!) who are present at the site risk injury during assembly.
- \* All the components of this closure must be installed in compliance with the installation instructions provided in this manual.
- \* All the requirements of the standards EN 13241 + A2 must be met and verified if necessary.

### Max. locking torque:

- Assembly screw: **10 Nm**
- Shutter clip screw: **12 Nm**

### Min. working load per attachment point:

- Plates: **300 daN**
- Guiding rails: **40 daN**

**Please note:** If installing on an iron structure, the guiding rails and plates can be welded to the building. In this case, a cord of approximately 50 mm must be attached to each side, roughly 800 mm apart.

## Information on the operator

Reduced torque time (Nm)	2000
Maximum locking torque (Nm)	6529
Reduced speed (min-1)	8
Operator power (kw)	2.5
Operating voltage (V)	400 / 3~ + Neutral
Power supply frequency (Hz)	50
Input voltage (V)	24
Nominal motor current (A)	8.1
Max. activations per hour	20
Operator continuous operation time (%)	S3 - 60
Power supply under your responsibility (mm <sup>2</sup> )	5 x 1.5
Protection under your responsibility (A)	10.0
Protection class (IP)	54
Temperature range (°C)	-20 / +60
Continuous noise level (dB (A))	< 70
Unit weight (kg)	81
Max. number of reduced rotations	36
Hollow shaft Ø (mm)	55

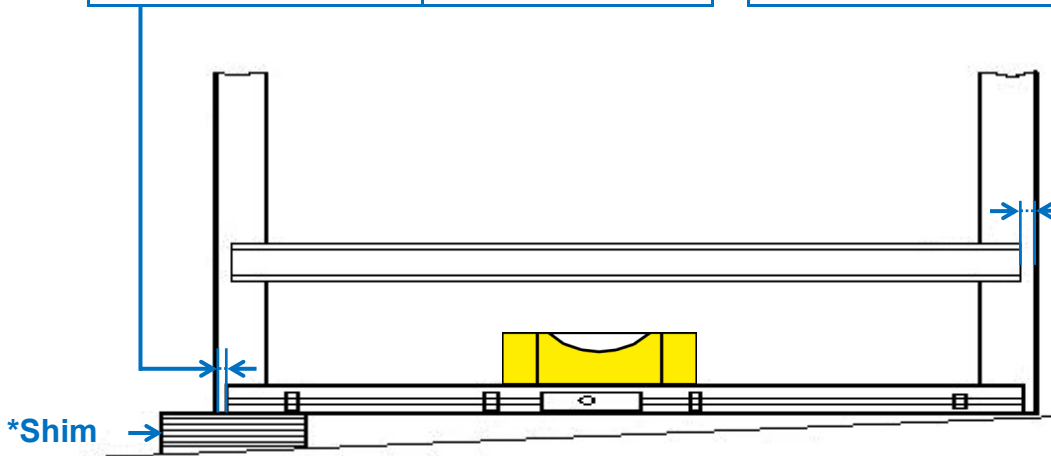
# Installing the guiding rails and the axle



The clearances for the hurricane slides and the noise reduction clips vary, refer to the corresponding manual which is included in the accessory pack.

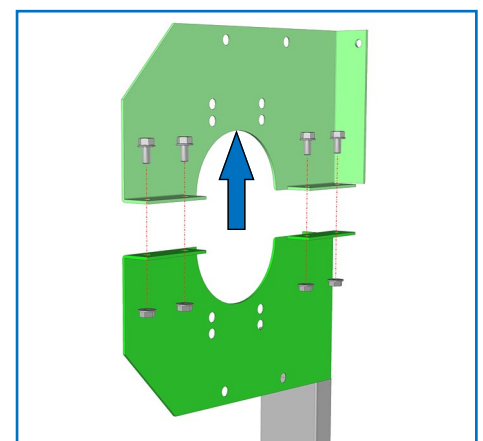
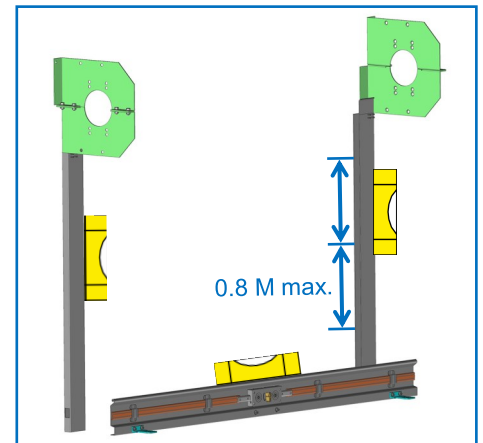
End-slat	
The inner clearance on each side must be observed in accordance with the depth of the guiding rail	
Bottom clearance of guiding rail	Depth of guiding rail
8 mm	40 / 60 mm
8 mm	80 / 100 mm

Intermediate slats or Corrugated tubes	
The inner clearance on each side must be observed in accordance with the depth of the guiding rail	
Bottom clearance of guiding rail	Depth of guiding rail
8 mm	40 / 60 mm
12 mm	80 / 100 mm

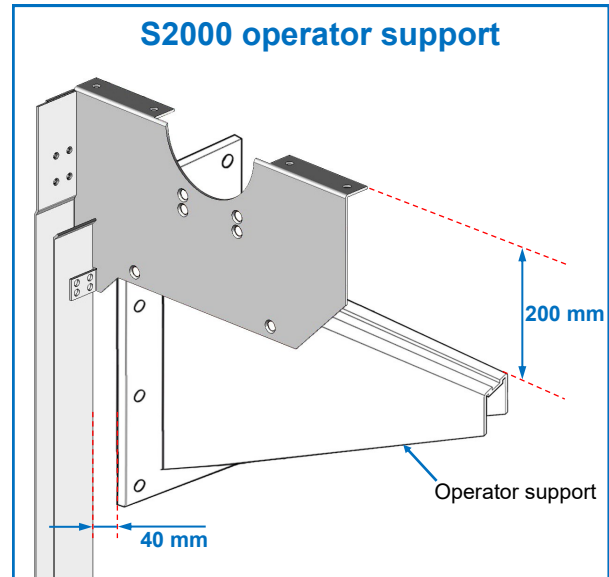


**Operator side:** It is essential to leave a space of 520 mm at the back of the guiding rail to accommodate the operator.  
**Opposite side to the operator:** It is essential to leave a space of 140 mm at the back of the guiding rail to install the bearing and the clamping washer.

- 1 - Provisionally attach the guiding rails using the clamps.
  - Position the end-slat horizontally (a shim may potentially be needed at the bottom of the guiding rail\*), ensuring that the clearance is respected.
  - Check that the guiding rails are plumb.
  - Permanently attach the guiding rails.
  
- 2 - Opposite side to the operator (OO) and Operator side (OS):
  - Disassemble the two upper half winding plates.

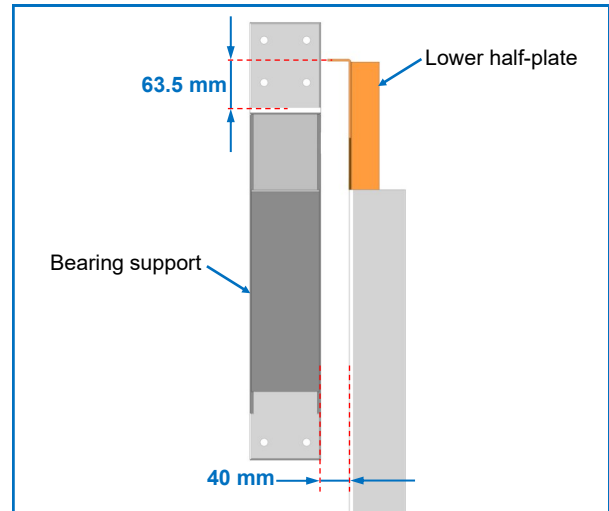


- 3 - Operator side (OS):**
- Firmly attach the support to the wall with the steel pins and 10 screws TH M12 (pins and screws not provided).



**3**

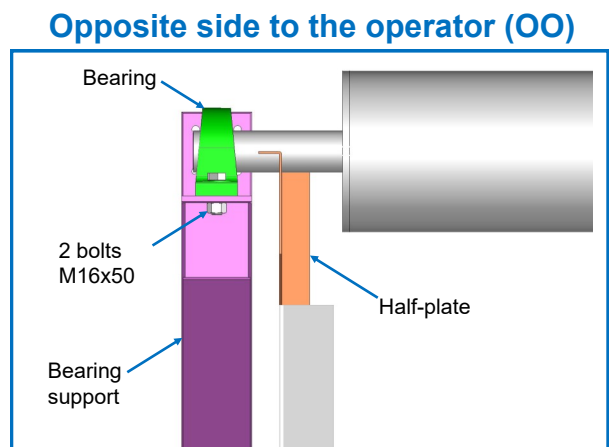
- 4 - Opposite side to the operator (OO):**
- Firmly attach the support to the wall with the steel pins and 6 screws TH M12 (pins and screws not provided).



**4**

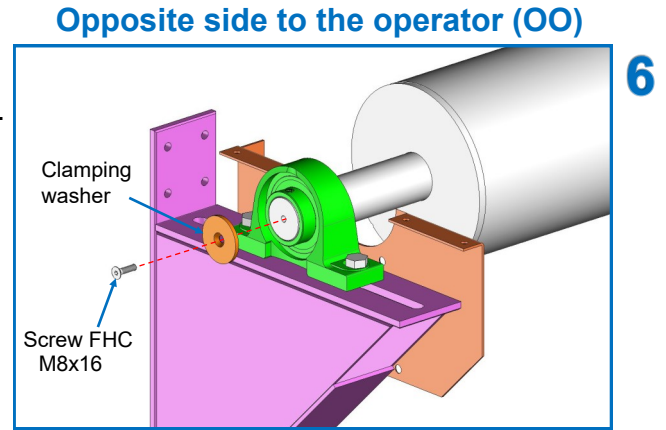
 **The weight of the shutter is carried by the operator and the bearing supports; therefore these supports must be attached to the wall very carefully.**

- 5 - Install the axle:**
- Position the axle on the two lower half-plates.
  - Fit the bearing onto the shaft, positioning it on its support while ensuring it is centered on the half-plate.
  - Screw the bearing in place with the 2 bolts M16x50.




**5**

6 - Screw the clamping washer to the end of the shaft with the FHC M8x16 screw with threadlock.

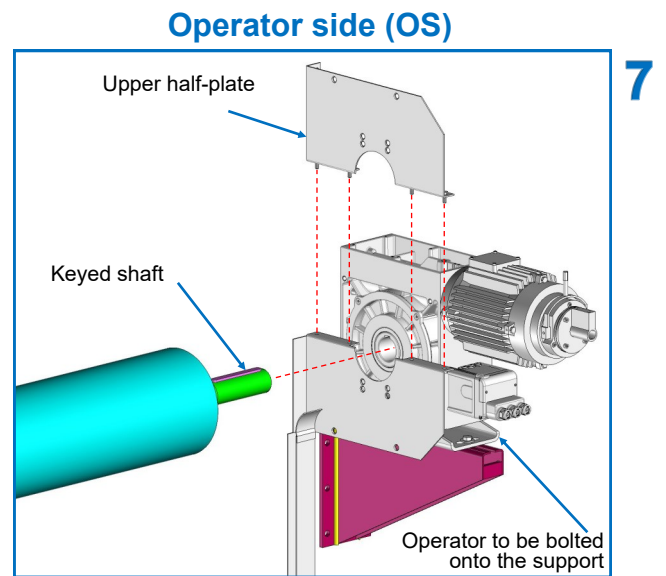


7 - Install the operator: Fit the operator onto the keyed shaft

 **The axle must be parallel with the header and the keyed shaft must be centered on the plate.**

Position the operator on its support and attach it with 2 bolts M14x60 and 4 washers of 14 mm.

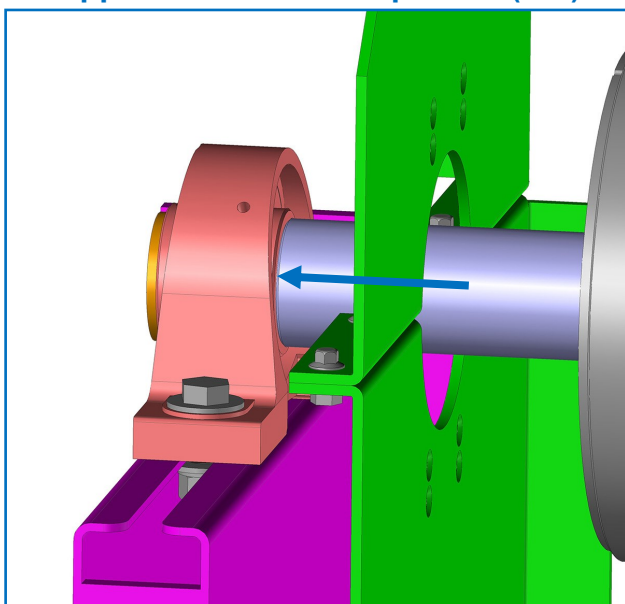
Reassemble the two upper half winding plates and attach them to the wall.



 **The front plates must remain parallel throughout the entire operation, so use additional supports (not provided).**

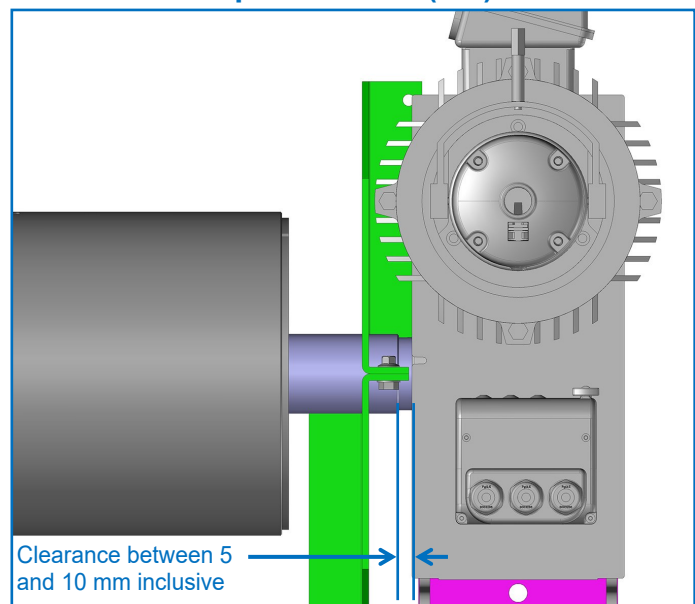
8 - Once the structure is assembled, check:

**Opposite side to the operator (OO)**



Shoulder abuts the bearing

**Operator side (OS)**



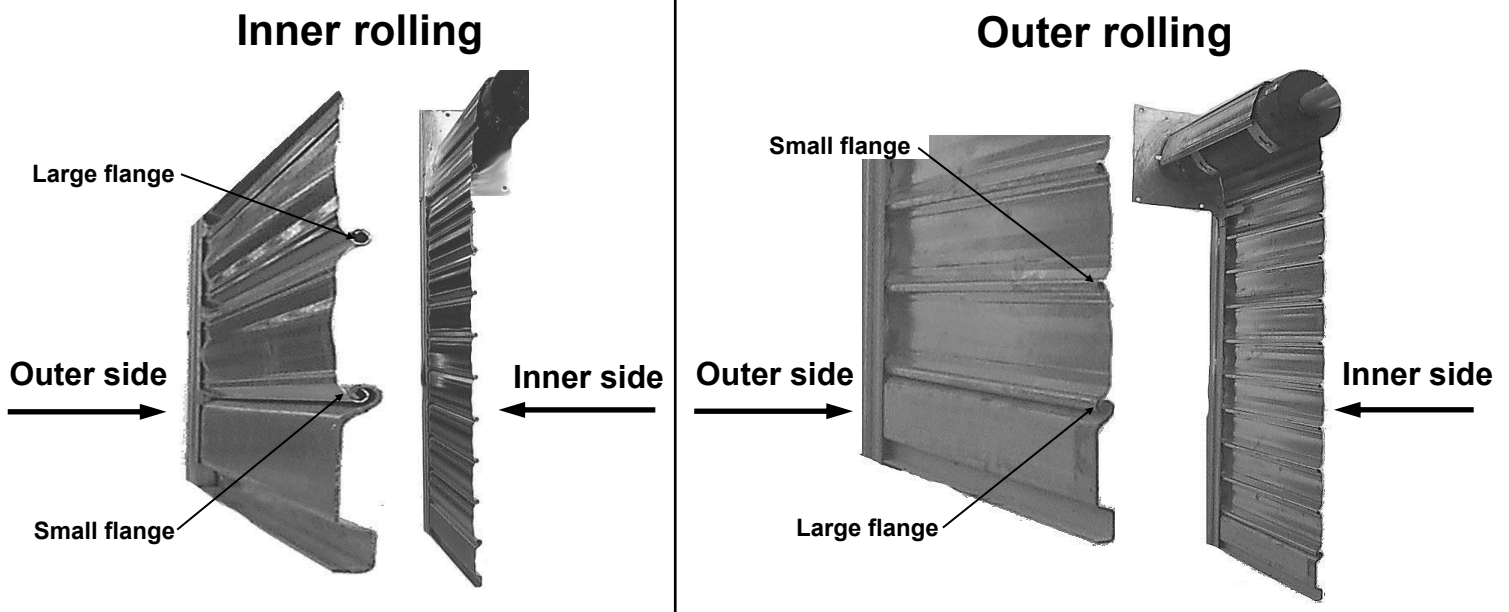
Between the shoulder and the operator

# Shutter installation principle

## Rolling direction

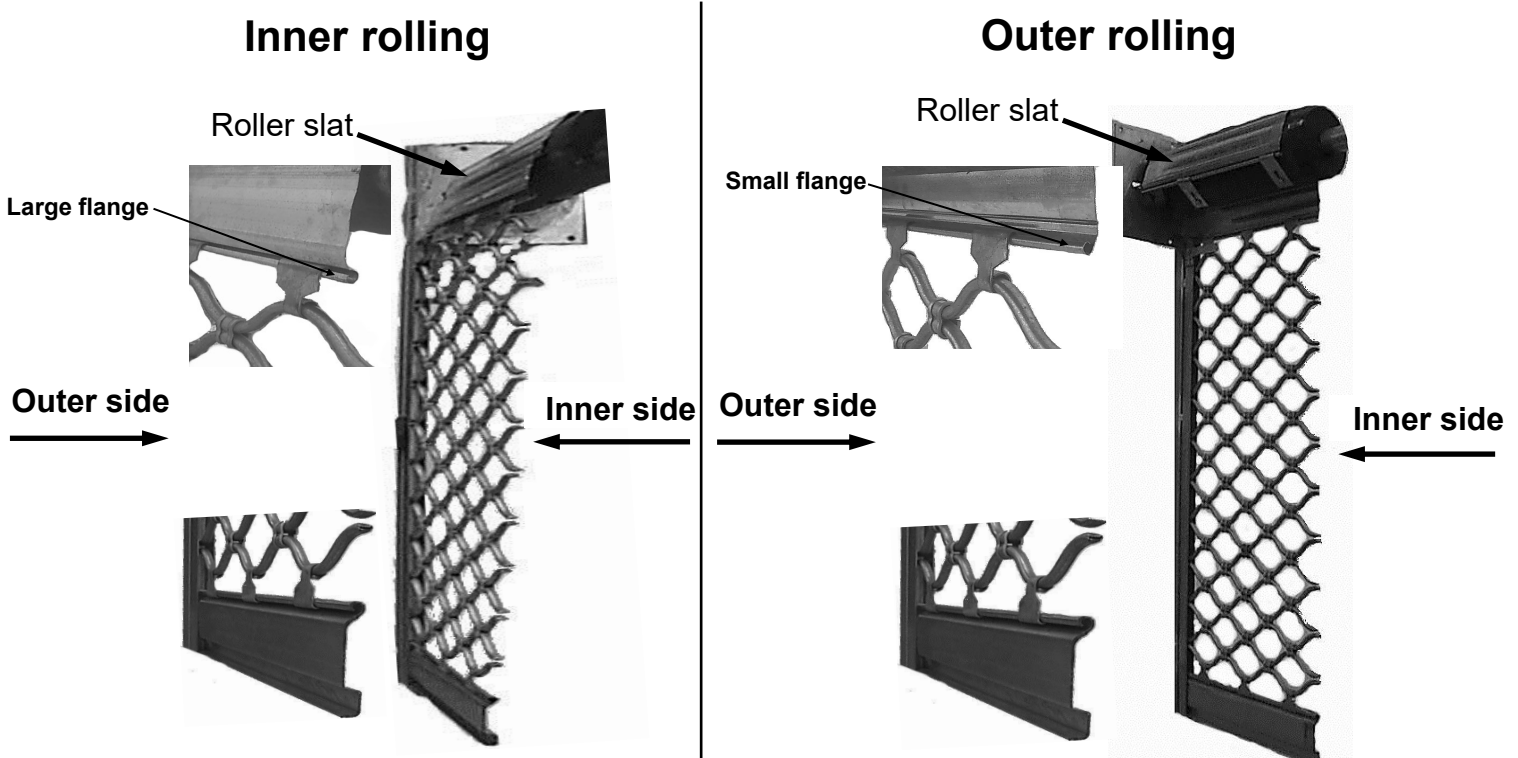
### SOLID OR MICROPERFORATED MURAX SHUTTER

A Microperforated shutter always requires 3 full roller slats in the upper section



### DENTEL SHUTTER

A Dentel shutter always requires 3 full roller slats in the upper section





# Assembling the Murax shutter



The height and the rolling of the shutter are calculated with a precise number of slats. All the slats provided must be installed.

How the shutter is assembled depends on the space available on the assembly site at the back of the guiding rails.

## Case No.1: You have plenty of space

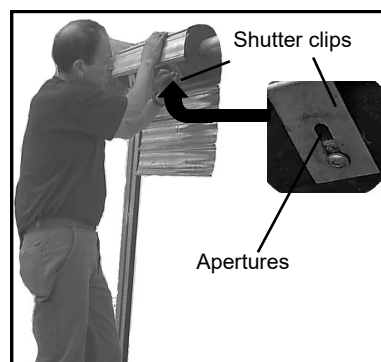
You have, on one side at least, a length longer than the length of the slats (for example: installation on the facade of a building)

1- Assemble (roughly) a meter's length of the shutter on the floor using the shutter clips.



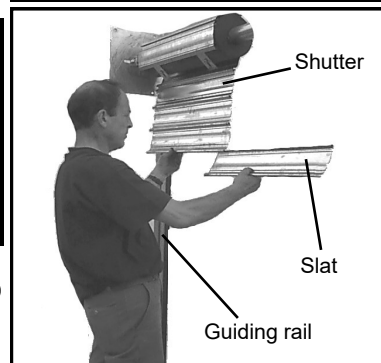
**The rolling direction**

2- Attach the shutter to the axle, letting the slats hang outside of the guiding rails. ①



Before fully tightening the clamp screws, ensure that the screw heads are not touching the slat flanges during rolling. If so, adjust all the clips so that they are at the same distance using the apertures.

Then, insert each slat from the side until the end-slat. ② ③

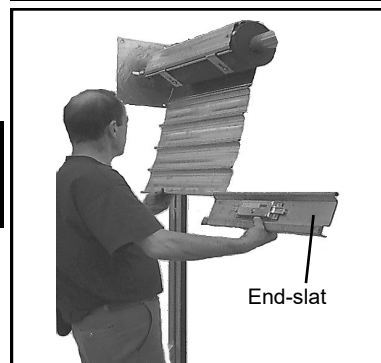


- Align the ends of the slats.



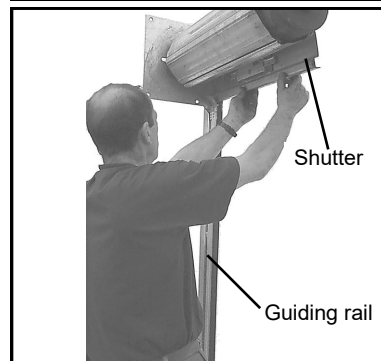
If using hurricane end-pieces refer to the corresponding manual for the order of slats with end-pieces.

4- Roll the shutter above the start curves.  
- Unroll the shutter in the guiding rails. ④



5- Lower the shutter again ensuring that the slats are aligned.

6- Remember to adjust the start curves.



## Case No.2: You do not have any space

You do not have any space at the back of the guiding rails  
(for example, installation in a corridor)

- 1- Create the shutter by threading the slats together, without forgetting the clips. ①



**The rolling direction**

- 2- Roll the assembled shutter starting from the clips and moving towards the end-slat. ①

- 3- Lift the shutter up to the tube using a hoist or an alternative lifting system.



**To avoid scratching the slats while unrolling them, ensure that the axle is protected (e.g. with a box, etc.).**

- Unroll the shutter in the guiding rails starting from the end-slat. ②

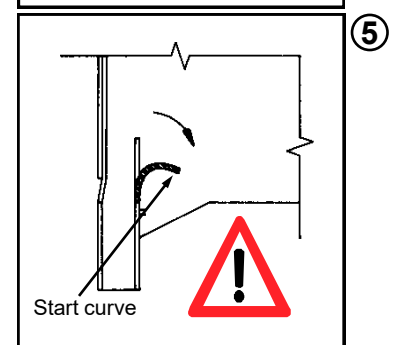
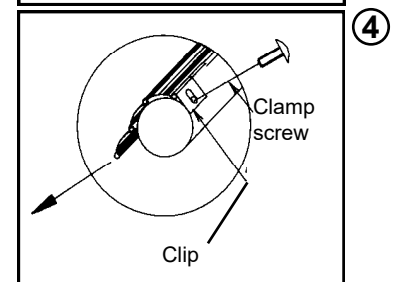
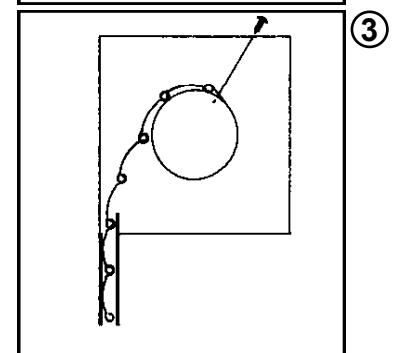
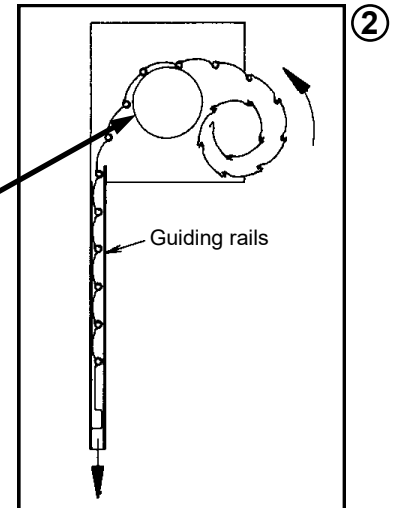
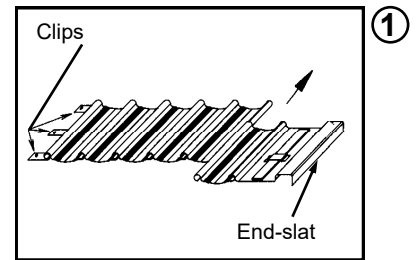
- 4- Slide each clip into place until it is opposite its corresponding hole. ③

- 5- Attach the shutter to the tube using the clips. ④



**Before fully tightening the clamp screws, ensure that the screw heads are not touching the slat flanges during rolling. If so, adjust all the clips so that they are at the same distance using the apertures.**

- 6- Remember to adjust the start curves. ⑤



### **Case No.3: You do not have enough space**

You do not have enough space inside and the board is not very thick  
(for example: Installation inside a building with small reservations)

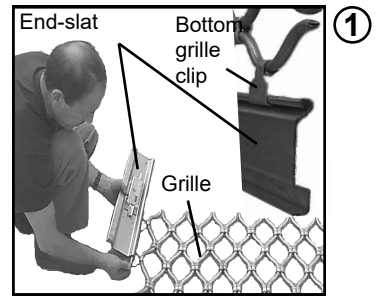


#### **The rolling direction**

- 1 - Assemble 12 to 15 slats on the axle outside of the guiding rails.
- 2 - Position them to the side of the assembled part of the shutter.
- 3 - Slide on the slats one by one from the outside until the end-slat.
- 4 - Reposition the shutter behind the guiding rails.
- 5 - Align the ends of the slats.
- 6 - Raise the shutter and insert the end-slat in the guiding rails.
- 7 - Lower the shutter again, checking that the slats pass through the guiding rails.
- 8 - Remember to adjust the start curves.

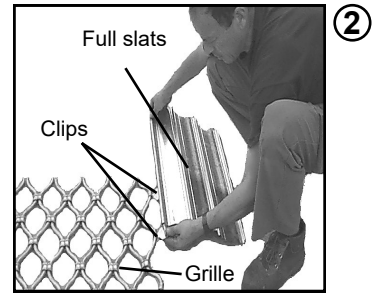
# Assembling the Dentel shutter

1- Insert the end-slat into the bottom clips. ①

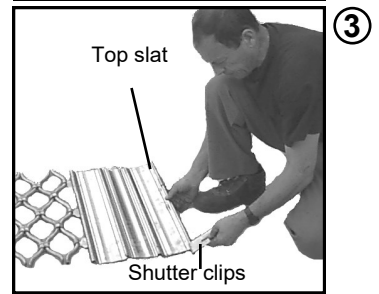


2- Insert the 3 full slats into the top clips. ②

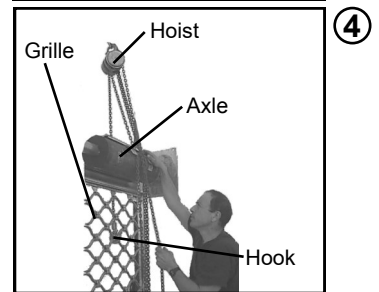
 **The rolling direction**




3- Insert the shutter clips into the top slat. ③

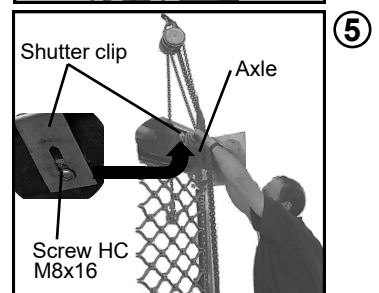


4- Attach at least 2 hoists to the wall above the axle.  
 - Attach the hoists to the grille, 1 m above the shutter;  
 - Install the grille using the hoists and position the slats around the axle. ④

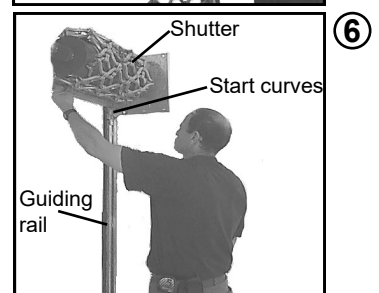


5- Slide each clip into place until it is opposite its corresponding hole.  
 - Screw the clips to the shutter on the axle using the screws HC M8x16. ⑤

 **Before fully tightening the clamp screws, ensure that the screw heads are not touching the slat flanges during rolling. If so, adjust all the clips so that they are at the same distance using the apertures.**



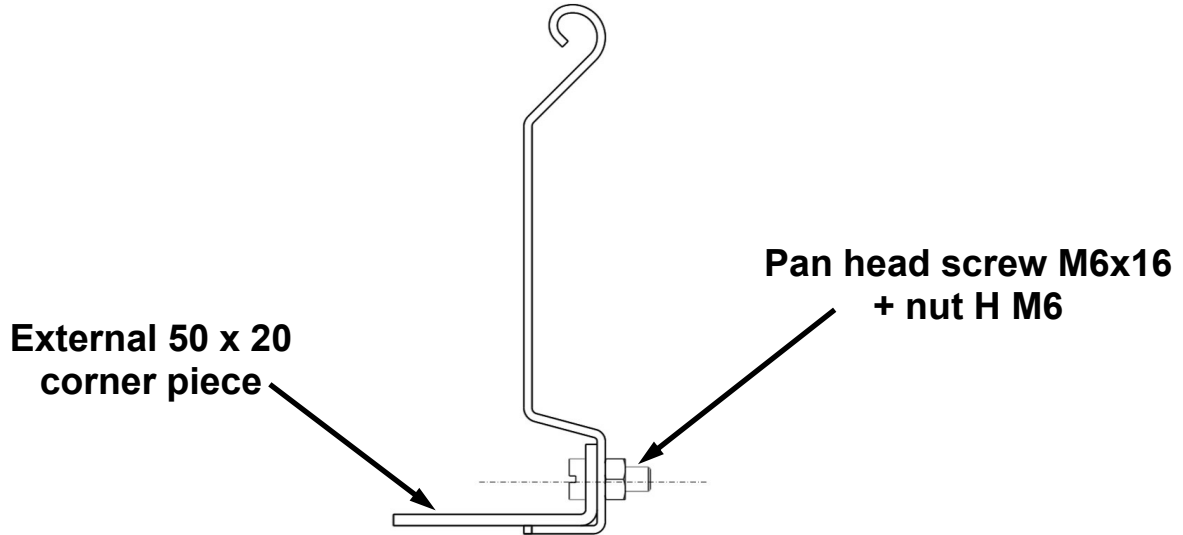
6- Roll the shutter above the start curves.  
 - Unroll the shutter in the guiding rails. ⑥



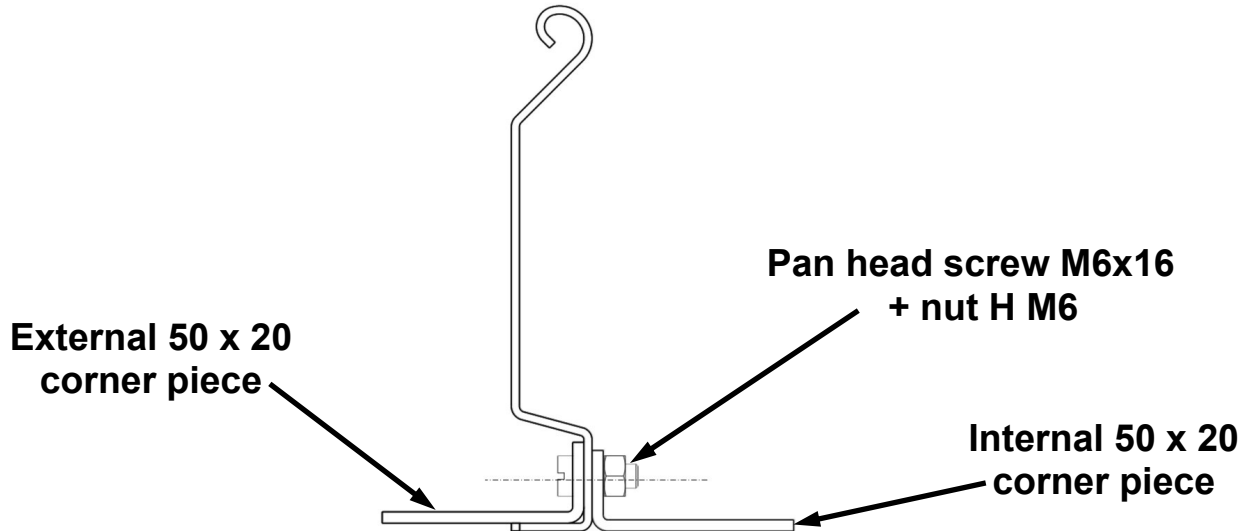
7- Remember to adjust the start curves.

# Assembling the end-slat supports

- 1 50 x 20 Corner piece for the end slats in the following cases:**
- Galva Murex 110 if  $4,000 \leq \text{WIDTH} < 5,000$  mm
  - Laquered Murex 110 if  $3,000 \leq \text{WIDTH} < 5,000$  mm



- 2 50 x 20 Corner pieces for the end slats in the following cases:**
- Galva Murex 110 if  $\text{WIDTH} < 5,000$  mm
  - Laquered Murex 110 if  $\text{WIDTH} < 5,000$  mm
  - Dentel if  $\text{WIDTH} \geq 5,000$  mm

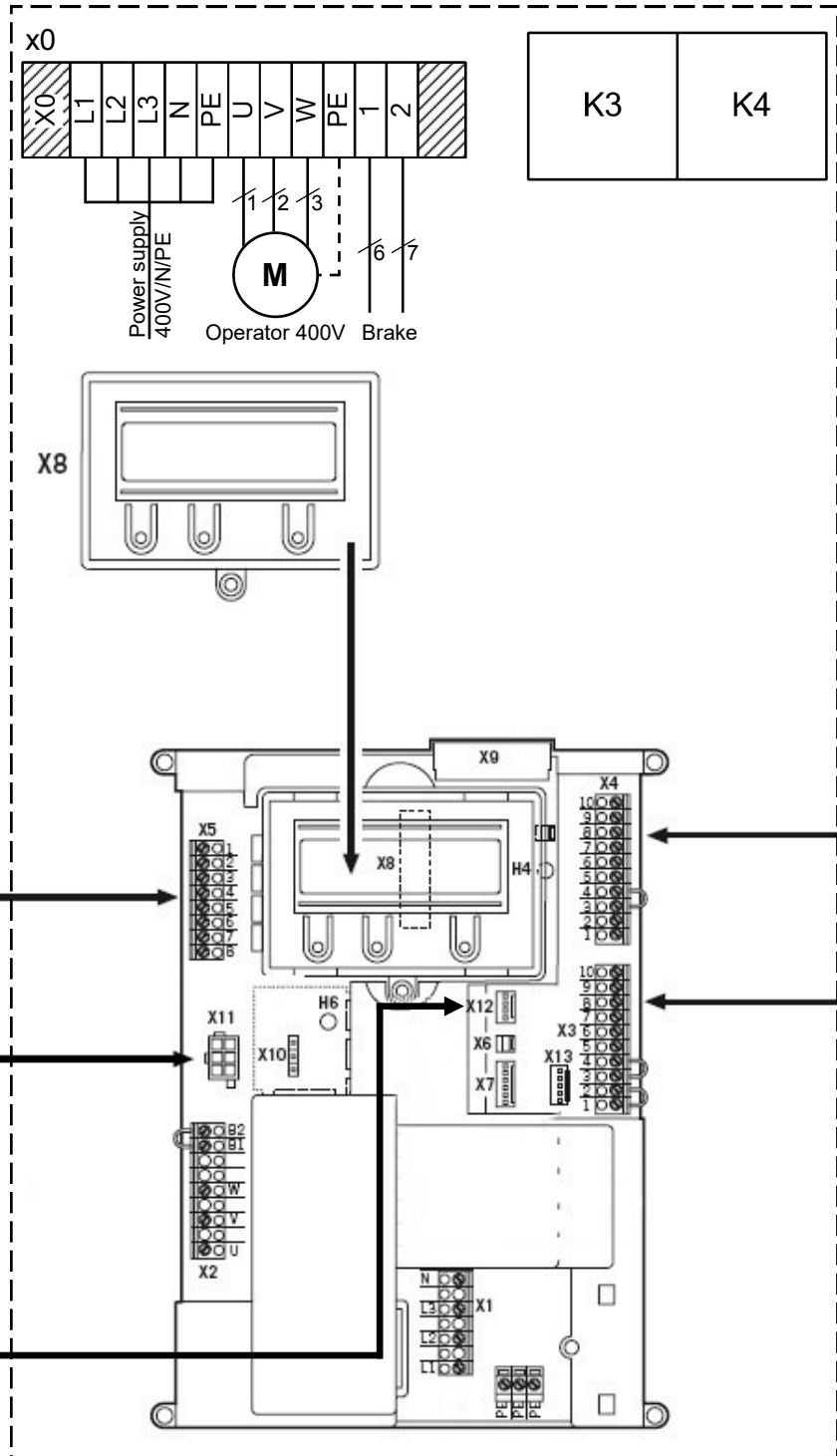


# Connecting the CS 300 box

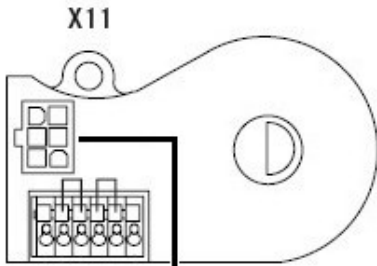
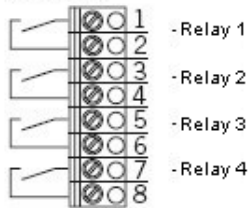
**Description:**

- x0 = Main power supply and operator cable terminal block
- x3 = Control connection terminal block
- x4 = Safety device connection terminal block
- K3 = OPEN Contactor
- K4 = CLOSE Contactor
- x11 = AWG Terminal block - Digital limit-switches

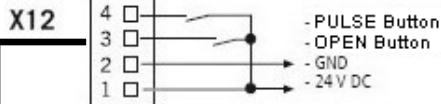
**Neutral obligatory**



X5 Terminal strip  
(Potential-free switch contacts  
(no voltage))



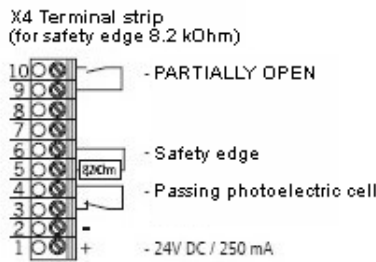
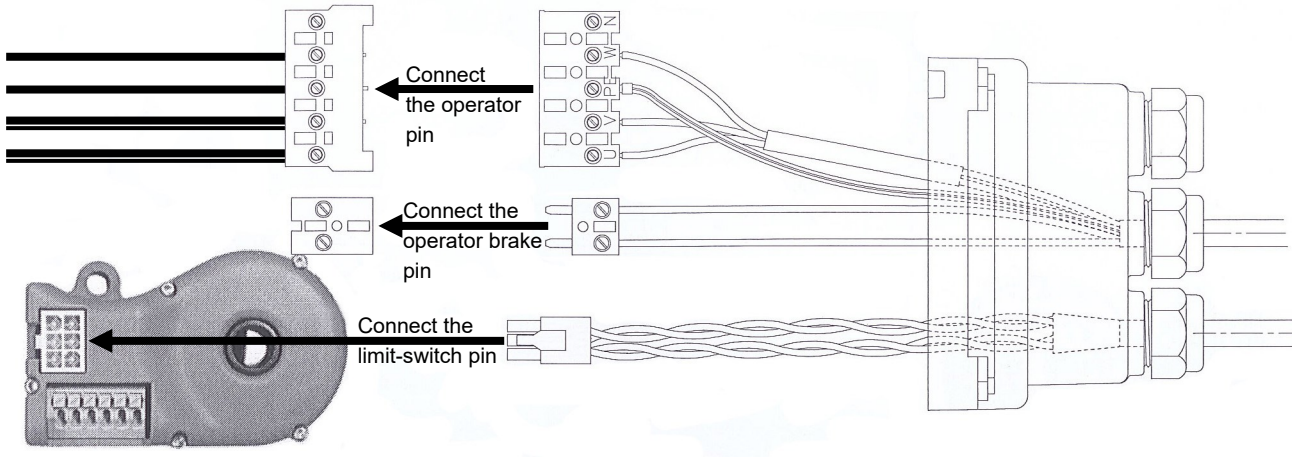
External radio



Ensure the power line is protected using an upstream differential circuit-breaker.  
 Ensure that in close proximity to the operator, there is:

- A thermal protection device for the operator.
- A power cut-off system, which is accessible to the user.

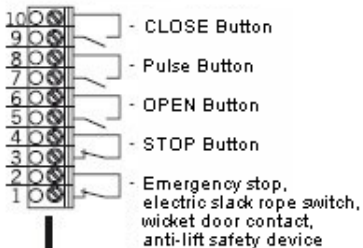
# Connecting the operator



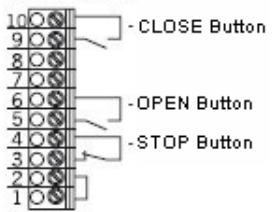
X4

X3

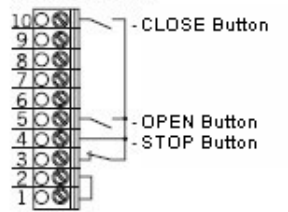
**X3 Terminal strip (assignment)**



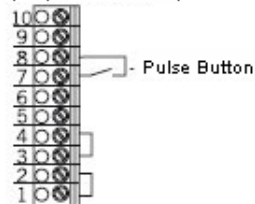
**OPEN / STOP / CLOSE Button (six-wire option)**



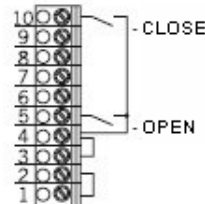
**OPEN / STOP / CLOSE Button (4-wire option)**



**Pulse button (Sequential control)**



**OPEN / CLOSE Key switch**



## Selecting a language (with LCD screen)

**Display upon activation:** JUSTIERUNG 5235 (ADJUSTMENT)

1- Hold down **P** for > 1s → EINGABE (INPUT)

2- Hold down **+** and **-** for > 2s → EINGABE DEUTSCH (INPUT) (GERMAN)

3- Hold down **P** until the light flashes → EINGABE DEUTSCH (flashes) \_ (INPUT) (GERMAN)

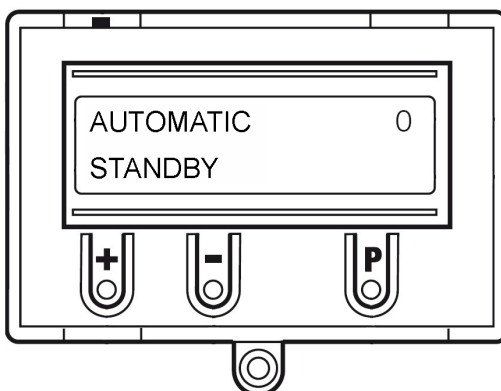
4- Hold down **+** until the desired language is selected → INPUT ENGLISH (flashes) \_

5- Hold down **P** to confirm the language → INPUT ENGLISH

6- Return to **INPUT** mode, by holding down **+** and **-** for > 1s

## Setting the end positions

On the LCD screen



- Select the **ADJUSTMENT** mode, by holding down the **P** button → ADJUSTMENT STANDBY

- **Setting the top end position:**  
Move the door to the required OPEN end position, by pressing the **+** button.

**!** If the door does not rise, change the operator rotation direction by switching the U and V wires on the x0 terminal block.

Record the OPEN end position, by holding down the **P** button and then holding down the **+** button until the following display appears

→ TOP ADJUSTMENT RECORD

- **Setting the bottom end position:**  
Move the door to the required CLOSE end position, by pressing the **-** button.  
Record the CLOSE end position, by holding down the **P** button and then holding down the **-** button until the following display appears

→ BOTTOM ADJUSTMENT RECORD

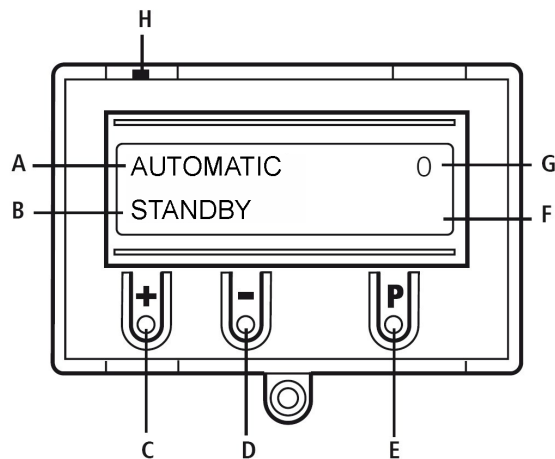
- The end positions have now been set.

- Exit the **ADJUSTMENT** mode, by holding down the **P** button until **AUTOMATIC** mode is selected.



# Overview of the LCD screen

- A - Operating mode / Diagnostic info
- B - Parameter / Diagnostic info
- C - Button (+)
- D - Button (-)
- E - Button (P)
- F - Value / Status
- G - Value / Status
- H - Jumper



## Selecting a mode on the LCD screen (A):

By holding down the **P** button, you can select the following modes:

**1 - AUTOMATIC    2 - ADJUSTMENT    3 - INPUT    4 - DIAGNOSTIC**

**Please note:** If the **H** jumper is removed, the **(+)**, **(-)** and **(P)** buttons will not work.  
The screen display will continue to work

## Description of mode 1: AUTOMATIC

The door will operate in this mode.

**On the screen:** - The operating mode is displayed (e.g.: AUTOMATIC).  
- The shutter status or potential faults are displayed (e.g. STANDBY).

**Please note:** If the "Auto-hold" parameter is set on **MOD2** or **MOD3** in the **INPUT** menu, the screen display will change from **AUTOMATIC** to **MANUAL** mode.

## Description of mode 2: ADJUSTMENT = Setting the end positions.



In **ADJUSTMENT** mode, there is no stop position because the limit-switches are deactivated. Overrunning the end positions may damage the door.

**On the screen:** - The end position value is displayed.

## Description of mode 3: INPUT = Modification of different parameters for shutter operation.

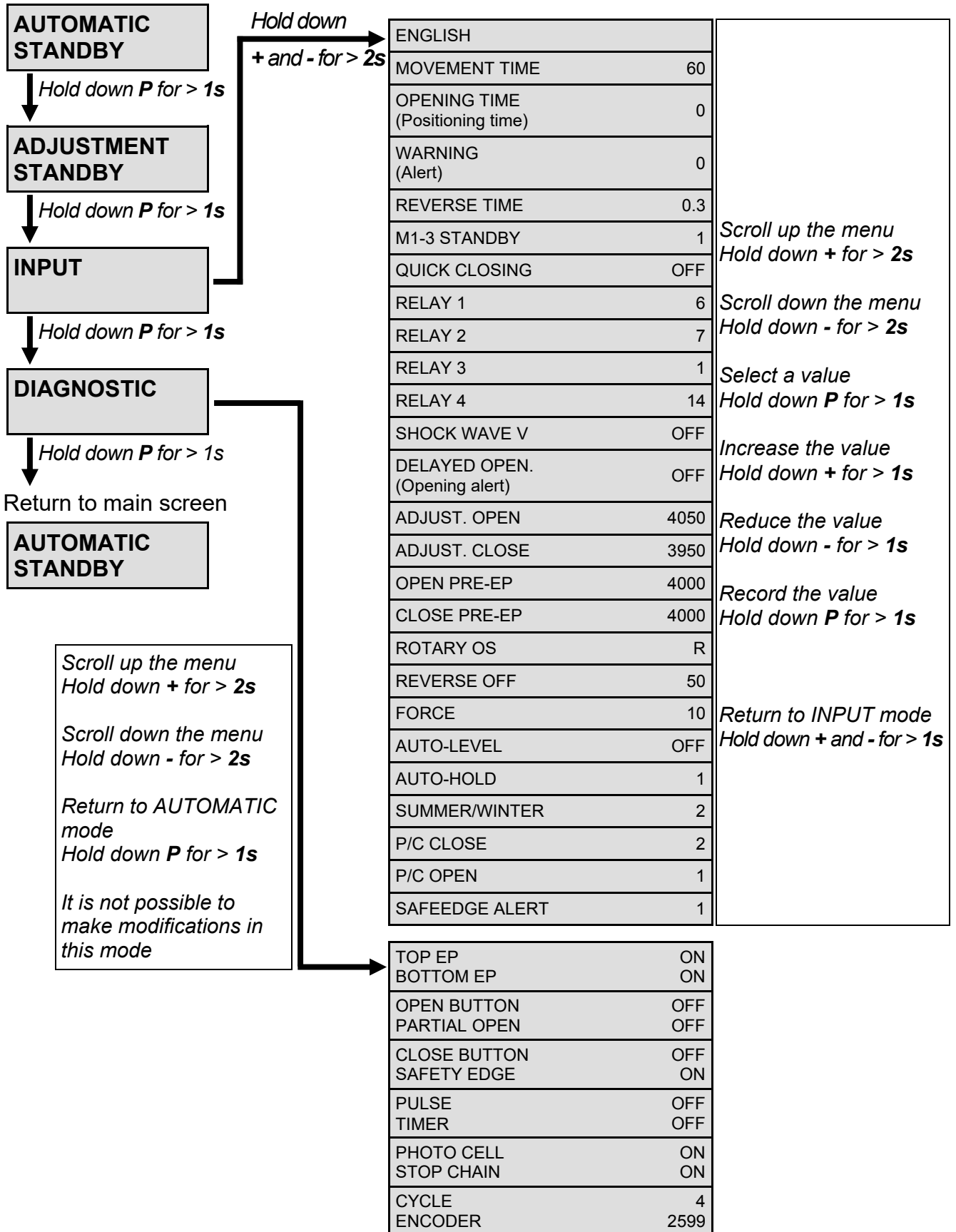
**On the screen:** - The selected parameter is displayed.  
- The set value / status is displayed.

## Description of mode 4: DIAGNOSTIC = The status of the controls and safety devices is displayed.

**On the screen:** - The components to be checked are displayed.  
- The checked component value is displayed.

# Default parameters table

## Mode architecture (standard factory settings)



# Selecting the operating mode



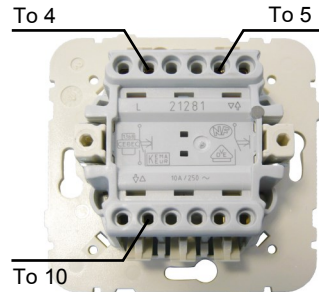
- Set the end positions before selecting the operating mode.
- The fixed controls must be installed within sight of the door but away from any moving parts and at a height of at least 1.5 m from the floor.
- Use one switch for a single operator. It is completely prohibited to order several operators with a single monopolar switch.

## Sustained pressure operation Sustained ascent / descent



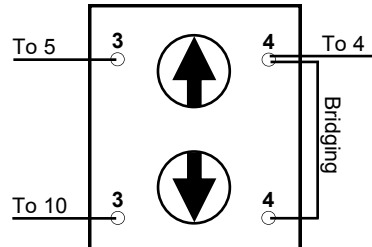
Only the control requiring sustained action should be installed and used.

### Button box (BBA1/BBE1)



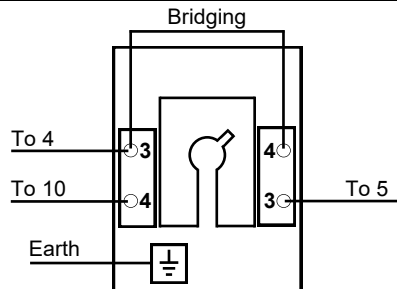
Wall-mounted/built-in button box (BBA1/BBE1)

### Button box (BBA2)



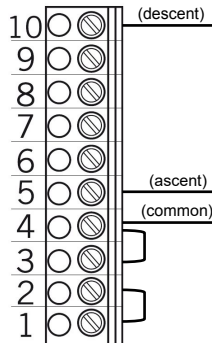
Télémécanique wall-mounted button box (BBA2)

### Key switch box (BCA/BCE)



Wall-mounted/built-in key switch box (BCA/BCE)

X3 Terminal strip



CS 300 Box terminal block

- **Parameters to be modified for sustained pressure operation:**  
(Refer to the parameter table for parameter functions)

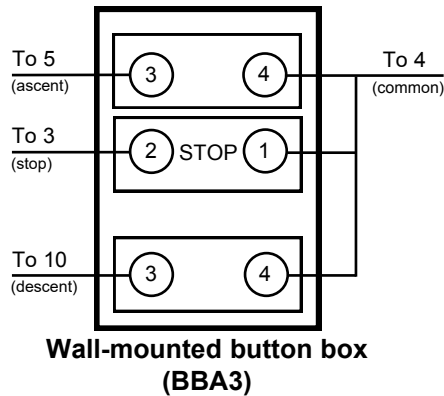
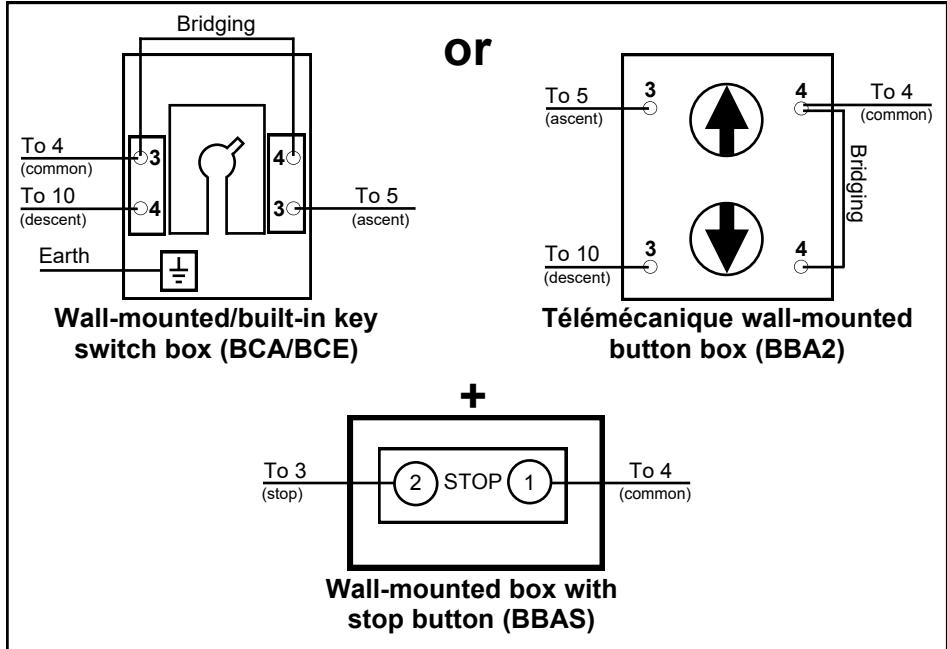
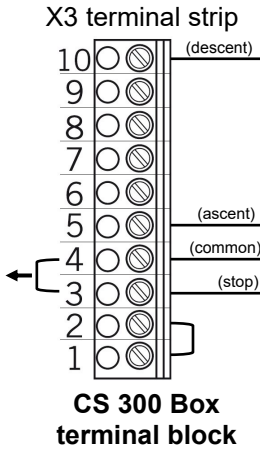
AUTO-HOLD	Mod2	Sustained pressure operation
-----------	------	------------------------------

# Combined operation

## Pulse ascent - Sustained descent

**- Connection of the controls:**

**Remove the bridge between 3 and 4**



**- Parameters to be modified for combined operation:**

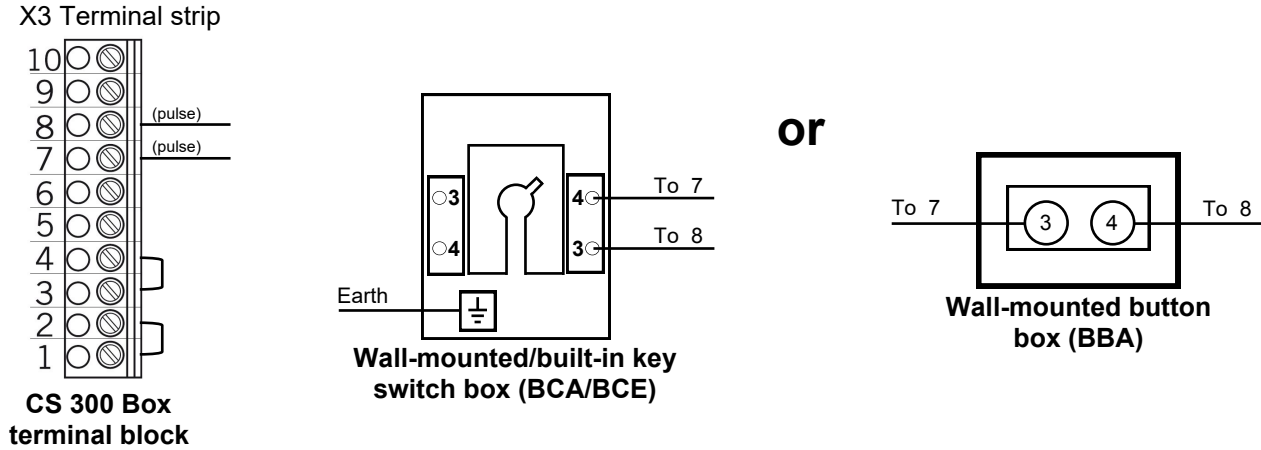
(Refer to the parameter table for parameter functions)

AUTO-HOLD	Mod3	Combined operation
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# Pulse operation

## Pulse Ascent/Descent

**- Connection of the controls:**



**Please note:** If operating with the remote control, refer to the corresponding receiver box manual.

**- Check:** (Refer to the parameter table for parameter functions)

OPENING TIME	0	If > 0: Automatic operation
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**- Parameters to be modified for pulse operation:**

(Refer to the parameter table for parameter functions)

MOVEMENT TIME	?	To be defined according to the shutter height, opening time + 4s
WARNING	2	Alert before closing (flashing light)
RELAY 1	2	Flashing light
RELAY 2	25	Lighting of area
SHOCK WAVE V	ON	Safety edge with auto-test
DELAYED OPEN.	ON	Alert before opening
AUTO-HOLD	1	Pulse operation
P/C CLOSE	2	Photo cells when closing

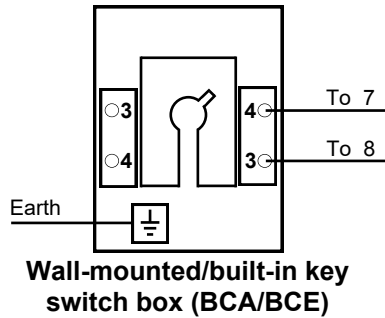
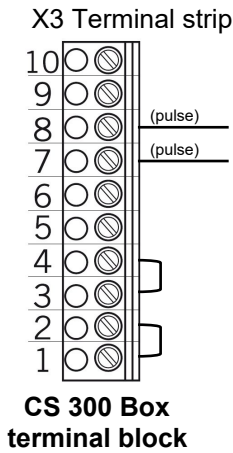
# Automatic operation

## Pulse ascent and automatic re-closing

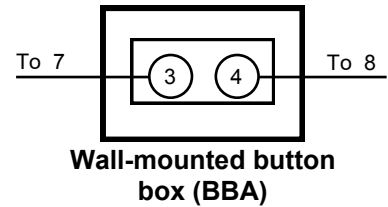
The timed re-closing is integrated into the automatic operating mode (no manual control) (cf: NF EN 12 453 - NF EN 13 241-1)

\* Ensure that the mandatory protection levels are in place for automatic operation

**- Connection of the controls:**



or



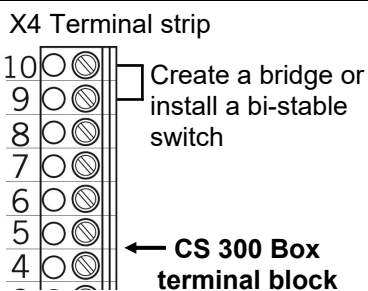
**Please note:** If operating with the remote control, refer to the corresponding receiver box manual.

**- Parameters to be modified for automatic operation:**  
(Refer to the parameter table for parameter functions)

MOVEMENT TIME	?	To be defined according to the shutter height, opening time + 4s
OPENING TIME	10	If 0: pulse operation
WARNING	2	Alert before closing (light flashes)
RELAY 1	2	Flashing light
RELAY 2	25	Lighting of area
SHOCK WAVE V	ON	Safety edge with auto-test*
DELAYED OPEN.	ON	Alert before opening
AUTO-HOLD	1	Automatic operation
P/C CLOSE	2	Photo cells when closing*

# Partial opening

(Refer to chapter 'Overview of functions': SUMMER/WINTER)

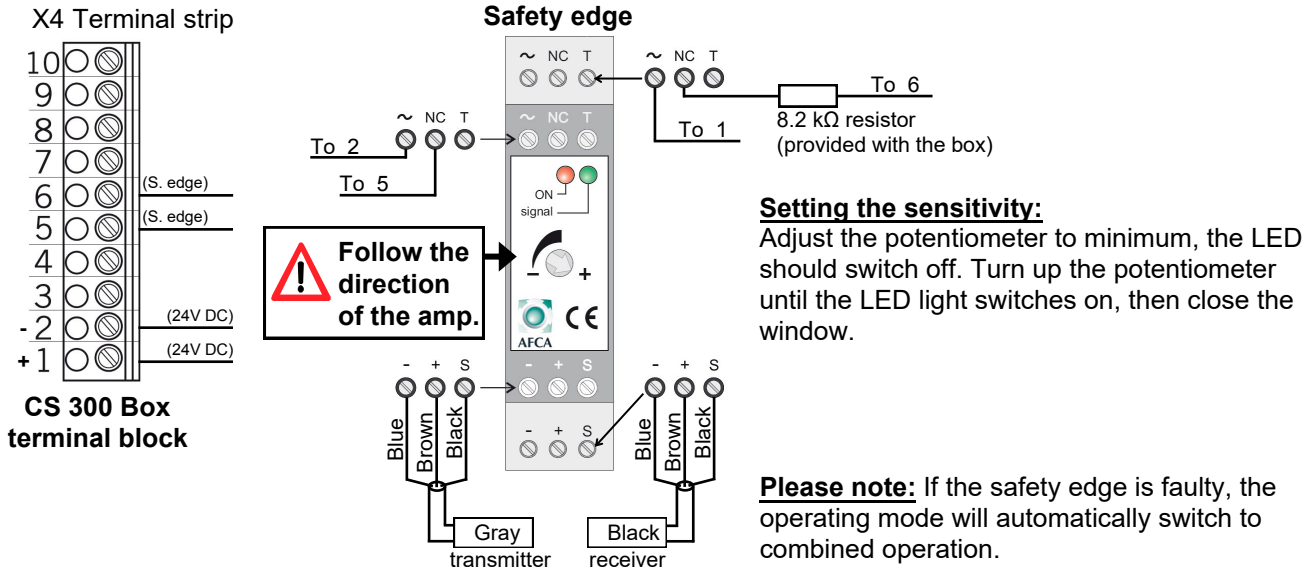


**Programming:** Open the shutter to the required height, then note the value displayed in **ADJUSTMENT** mode. Next, go to **INPUT** mode and program the **OPEN PRE-EP** with this value.

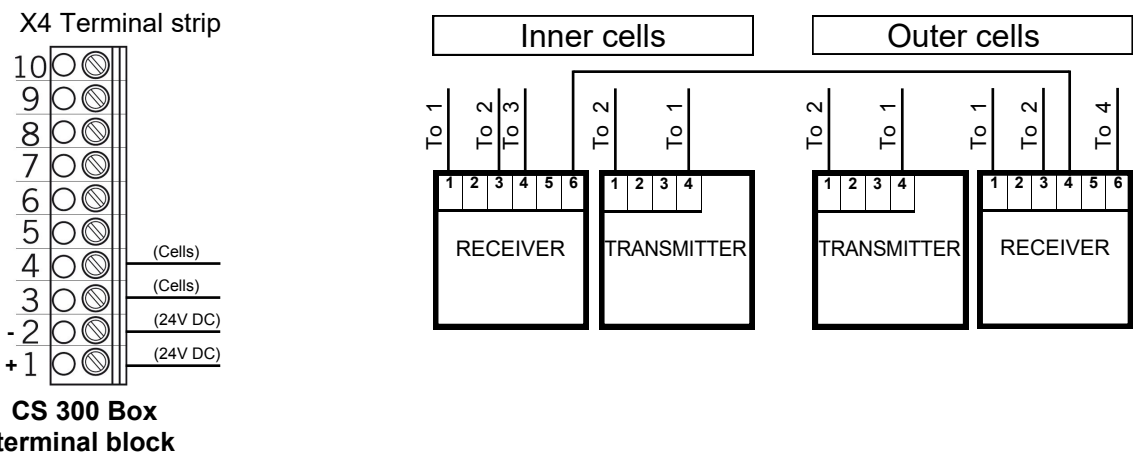
OPEN PRE-EP	4000	Settings from 0 - 8190 (example 4000)
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# Connecting the safety devices

## Bottom safety edge with auto-test



## Bottom cells

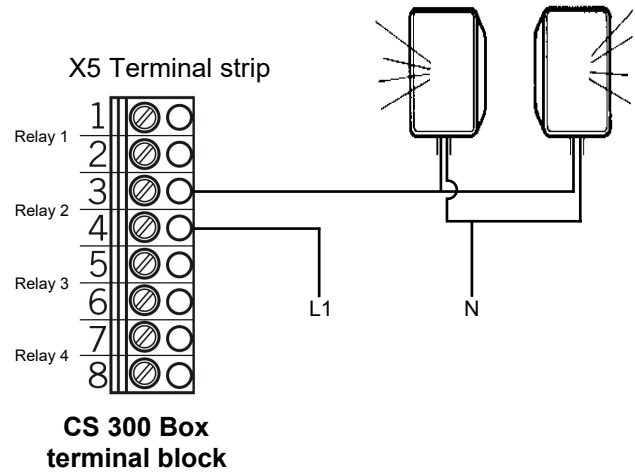
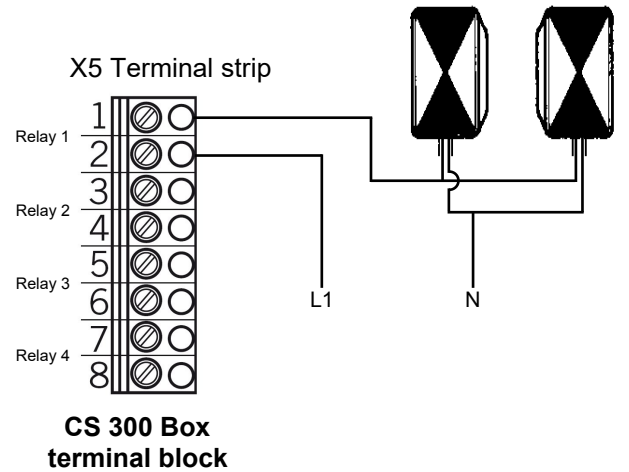


## Orange flashing lights (option)

230V - MAX. 2 x 15 W

## Illumination lights (option)

230V - MAX. 2 x 100 W



Relay 1	2	Flashing lights	Relay 2	25	Lighting of area
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# Overview of functions

## AUTOMATIC mode:

Display		Description
Automatic opening		The door moves to the open end position*
Automatic closing		The door moves to the close end position
Automatic standby	O	The door is in the open end position
Automatic standby	o	The door is in the partial opening position (primary end position - at the top)
Automatic standby	U	The door is in the close end position
Automatic standby	u	The door is in the partial closing position (primary end position - at the bottom)
Automatic standby	r	The door is in the reverse movement disconnection position

**Please note:** If the "Auto-hold" parameter is set on **MOD2** or **MOD3** in **INPUT** mode, the screen display will change from **AUTOMATIC** to **MANUAL** mode.

Display		Description
Manual mode Manual ascent		The door moves to the open end position*
Manual mode Manual descent		The door moves to the close end position
Manual mode Standby		The door is in the intermediate position

\* While the door is opening, the applied force at that time will be displayed.

## INPUT mode:

Function	Description	Available settings	Factory settings
DEUTSCH	Selecting a language	DEUTSCH ENGLISH FRANCAIS ESPAGNOL NEDERLANDS POLSKI CESKY ITALIANO	DEUTSCH
OPERATING TIME	Checking the maximum opening and closing time. The movement time specified must be slightly longer than the actual movement time of the door.	1 - 250 Seconds	60 Seconds
OPEN TIME	Once the door is fully open, it stops and begins closing after a time delay. If the time delay is set at > 0, the pulse function only gives commands in the opening direction.	0 - 600 Seconds	0 = Automatic closing off
WARNING	The red light flashes (warning) before the door closes by pulse or automatic operation.	0 - 120 Seconds	0 = Off
REVERSE TIME	Standby time after each change of direction	0.1 - 2.0 Seconds	0.3 Seconds
M1-3 STANDBY	MOD1: The relay is in standby (door closed) OFF MOD2: The relay is in standby (door closed) ON	MOD1 MOD2	MOD1
QUICK CLOSING	ON: If the cells are interrupted during opening, the door will stop and close automatically. This function is also active when the time delay = 0  OFF: The door operates normally.	ON  OFF	OFF





Function	Description	Available settings	Factory settings
FORCE	During opening, the force will be displayed on the screen. If the force is activated, set a lower value than the lowest value displayed during opening. The greater the difference between these two values, the less sensitive the force control will be. The power control is activated if the set value is > 0.	0 - 999	10
AUTO-LEVEL	ON: Floor adjustment on OFF: Floor adjustment off	ON OFF	OFF
AUTO-HOLD	MOD1: Automatic operation MOD2: Sustained pressure operation MOD3: Combined operation	MOD1 - MOD3	MOD1
SUMMER/WINTER	<p>Connection to the X4 terminal strip (9 and 10)</p> <p>MOD1: (summer/winter button 1) If the button is pressed, the door will open to the intermediate position (partial opening). <u>Please note:</u> No automatic closing in partial opening.</p> <p>MOD2: (summer/winter selection switch 1) Closed: All the opening commands operate in partial opening. Open: All the opening commands operate in full opening. <u>Please note:</u> Automatic closing operates from these 2 positions.</p> <p>MOD3: (summer/winter selection switch 2) Closed: All the opening commands operate in partial opening. Open: All the opening commands operate in full opening. <u>Please note:</u> Automatic closing only operates in partial opening.</p> <p>MOD4: (summer/winter selection switch 3) Closed: All the opening commands operate in partial opening. Open: All the opening commands operate in full opening. <u>Please note:</u> Automatic closing only operates in full opening.</p> <p>MOD5: (summer/winter button 2) If the button is pressed, the door will open to the intermediate position (partial opening). <u>Please note:</u> Automatic closing operates in partial opening.</p> <p>MOD6: Activation of automatic closing Closed: No automatic closing. Open: Automatic closing activated.</p> <p>MOD7: External clock input The door opens as soon as the contact closes and stays in the open position until the contact opens. Automatic closing will then operate. This function can be interrupted by pressing the close button. The door closes.</p> <p>MOD8: Selection switch: Maintain in opening/Alarm. Closed: The door opens to the partial opening position and stays there until the contact is closed. Open: Normal operation.</p>	MOD1 - MOD8	MOD2
P/C CLOSE (photo cell closing)	<b>Functioning of the cells during closing:</b> MOD1: Stop by activation MOD2: Stop and reverse by activation	MOD1 MOD2	MOD2
P/C OPEN (photo cell opening)	<b>Functioning of the cells during opening:</b> MOD1: The photoelectric cell is deactivated MOD2: The photoelectric cell between the close end position and the pre-limit switch position is activated, the door stops. The red light switches on. The close pre-limit switch position is automatically put on the close end position + 600.	MOD1 MOD2	MOD1
SAFEEDGE WARN (safety edge warning)	MOD1: Deactivated MOD2: Device activated	MOD1 MOD2	MOD1

**Explanation of relay modes:**
**- Light functions:**

MOD	Name	Close end position	Open end position	Warning	Door movement
MOD1	Red light 1	On/Off*	Stop	Flashing	On
MOD2	Red light 2	On/Off*	Stop	Flashing	Flashing
MOD3	Red light 3	On/Off*	Stop	On	On
MOD18	Red light 4	Stop	Stop	Flashing	Stop
MOD23	Green light	Stop	On	Stop	Stop

\* According to parameter MOD1-3 STANDBY

**- Position messages:**

MOD	Name	Comments
MOD6	Open end position	The relay closes the contact if the door is in the open end position
MOD7	Close end position	The relay closes the contact if the door is in the close end position
MOD8	No open end position	The relay closes the contact if the door is not in the open end position
MOD9	No close end position	The relay closes the contact if the door is not in the close end position
MOD10	Primary open end position (partial opening)	The relay closes the contact if the door is in the primary open end position (partial opening)
MOD11	Primary close end position	The relay closes the contact if the door is in the primary close end position
MOD12	Primary close end position up to close end position	The relay closes the contact if the door is between the primary close end position and the close end position
MOD19	Primary open end position up to open end position	The relay closes the contact if the door is between the primary open end position (partial opening) and the open end position

**- Pulse signals:**

MOD	Name	Comments
MOD4	Pulse in opening command	The relay closes the contact for 1 second if the door receives an opening command. With this pulse, it is possible to control the light, for example.
MOD27	Pulse after having reached the open end position	The relay closes the contact for 2 seconds when the door reaches the open end position. With this pulse, it is possible to open the next partition, for example.

**- Brake functions:**

MOD	Name	Comments
MOD14	Brake	The brake rectifier switch is controlled by the relay to ensure quicker functioning of the brake. The contact is closed and the brake is therefore released as soon as the door moves (quiescent current brake).
MOD15	Reverse brake	The brake rectifier switch is controlled by the relay to ensure quicker functioning of the brake. The contact is open and the brake is therefore released as soon as the door moves (operating current brake).
MOD16	During opening, the brake remains ON	The brake rectifier switch is controlled by the relay to ensure quicker functioning of the brake. The contact is closed and the brake is therefore released as soon as the door moves (operating current brake). So that the door stops smoothly at the upper end position, the contactor is not switched in the open end position (opening time).

**- Error messages:**

MOD	Name	Comments
MOD5	Fault signal	The relay closes the contact when there is a stop or error command. All the errors in the chapter 'display of faults and solutions' will activate the relay.
MOD17	Safety edge device activated	The relay opens the contact when the safety edge is activated. A fault with the safety edge or a fail test is displayed from MOD5.

**- Functions for external accessories:**

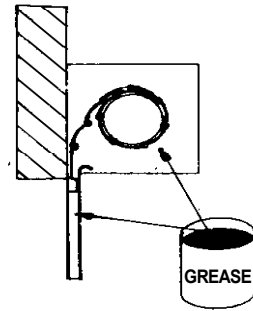
MOD	Name	Comments
MOD13	Magnetic latch function	The relay is open in close end position. If an open command is then received, the relay closes and stays closed until the close end position is reached once more. If more time is required for opening the magnetic latch, this setting can be changed in the delayed opening and warning parameters.
MOD20	Opto-transmission system activation	Before each close command, the Opto transfer system is activated and remains activated during closing. Closing will be delayed by roughly 0.5 seconds because this system is activated.
MOD21	Anti-lift safety device test	The relay produces a test signal once the close end position has been reached and it waits until the stop circuit is activated in response to the test signal.
MOD22	External safety device test	The relay produces a test signal once the open end position has been reached and it waits until the safety edge input is activated in response to the test signal.
MOD24	Condenser activation	For each move command, the relay is closed for roughly 1 second. Using this relay, a starter condenser required for a single-phase current is activated to ensure the operator starts up safely.
MOD25	Courtyard light function	For each open command, the relay is closed for 2 minutes and it is therefore possible to use it to control the lighting.
MOD26	Radio transmission system activation	Before each stop command, the radio transmission system is activated with a pulse. The activation time must be set in the transmission system. The activation of the system enables delayed closing of roughly 0.5 seconds.
MOD28	Relay close function	The relay remains open

**DIAGNOSTIC mode:**

Display	Meaning	Status
TOP EP	Open end position	OFF: Activated ON: Deactivated
BOT EP	Close end position	OFF: Activated ON: Deactivated
OPEN BUTTON	Open button	ON: Activated OFF: Deactivated
PART OPEN	Partial open button Connection to the X4 terminal strip (9 and 10)	ON: Activated OFF: Deactivated
CLOSE BUTTON	Close button	ON: Activated OFF: Deactivated
SAFETY EDGE	Safety edge	ON: The system is closed OFF: The system has stopped (fault)
PULSE	Pulse Button	ON: Activated OFF: Deactivated
TIMER	Weekly timer	ON: Activated OFF: Deactivated
PHOTO CELL	Passing photoelectric cell	ON: Closed OFF: Stopped (fault)
STOP CHAIN	Command stop button Motorization stop system	ON: Closed OFF: Stopped (fault)
CYCLE	Counter for number of door cycles	Door cycle display
ENCODER	Absolute value encoder	Door position value display

# Finishes

**IMPORTANT!**  
Carefully grease the inside of the guiding rails and the winding plates

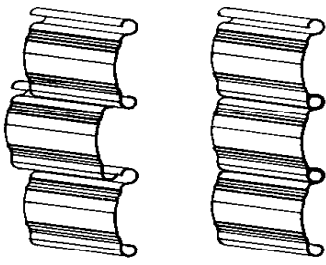


## In case of problems maneuvering the shutter

**⚠ If the anti-fall guard is blocked, contact a trained installer**

If the shutter is crooked when moving up and down

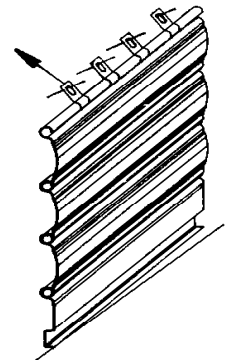
(Gap larger than 4 cm on the end-slat)



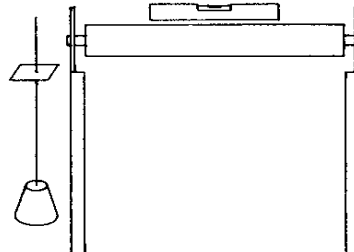
**NO**  
**YES**  
Check that the slats are correctly aligned



**NO**                      **YES**  
Remove any blockages from inside the guiding rails



Raise the shutter from the lowest side using the clip apertures provided for this purpose



Check that the guiding rails are correctly aligned and that the axle is perfectly horizontal

## In case of incorrect functioning of the operator

**Most importantly, never put the operator into continuous operation by directly activating the power contactors**

**Triple-phase operator:** check the 400V or 230V voltage between each phase.

Check that the emergency operation control is not activated.

# Display of faults and solutions

Fault or fault signal	Cause	Solutions
The door does not respond	- Power is off	- Check the power supply to the operator and the box
After pressing the open button, the door moves to the close end position After pressing the close button, the door moves to the open end position	- Rotating magnetic field incorrectly applied	- Check the rotating magnetic field and create a clockwise rotating magnetic field if necessary
STOP	- The stop circuit is interrupted <b>Terminal block X3 (1,2):</b> Emergency stop, electric slack rope switch, anti-lift safety device <b>Terminal block X6 (1,2):</b> Internal on/off switch <b>Terminal block X11 (4,8):</b> Motorization safety circuit <b>Terminal block X2 (B1,B2):</b> Bridge <b>Terminal block X3 (3,4):</b> External stop button <b>Terminal block X7 (1,2):</b> Internal stop button	- Check and close the stop circuit
End position error	- The door is positioned beyond the end positions - The end positions have not yet been programmed	- Check that the end positions have been programmed and reconfigure the settings if necessary
Movement time error	- The programmed movement time has been exceeded	- Check the door's trajectory - Reprogram the movement time
Safety edge fault	- There is no 8.2kΩ resistance - The safety edge is not operating correctly - The safety edge is activated	- Connect the resistance (refer to p.23) - Check the safety edge and the coiled cable - Remove the obstacle that is blocking the door's trajectory
Shock wave V fault (safety edge)	- In close end position, the DW switch does not activate	- Check the DW switch, the coiled cable and the profile - Check the close-end position settings
OS Rotary fault	- The rotating magnetic field has been incorrectly applied to terminal strip X1	- Check that a clockwise rotating magnetic field has been applied
RS485 error	- Communication error between the limit-switch and the box	- Check the cable and the plug connections
FORCE error	- The force control is activated	- Check whether the door moves easily - Reset the force value

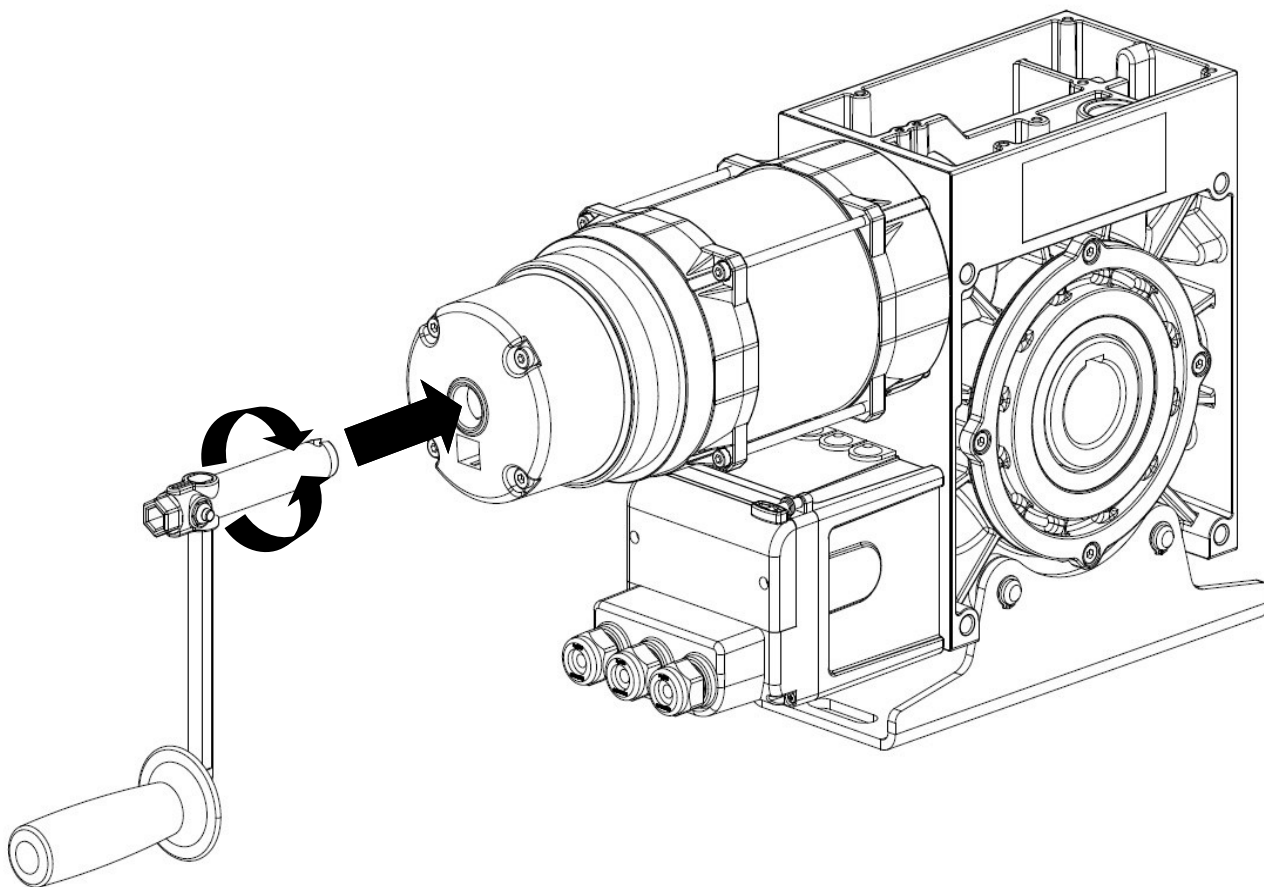
**Please note:** After having rectified the fault, it is necessary to switch the box, once the power is off.





to be displayed next to the closure

## Emergency operation



- 1- Insert the crank into the operator as far as the stop (the operator power supply is cut off and the door cannot operate electrically).
- 2 - Turn the crank in one direction to open the door and in the other direction to close it.
- 3 - Once repairs are completed, remove the crank (the operator power is reactivated and the door can operate electronically).



**Never pull the operator brake when repairing the operator or when it is in operation.**

## Technical help contact details

(Installer's stamp)

