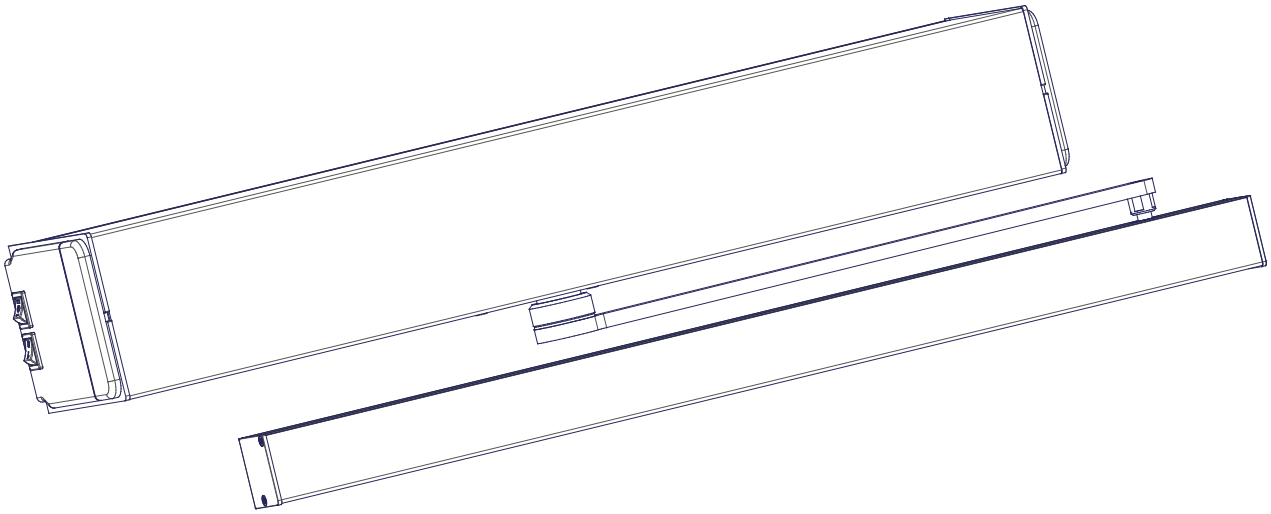


AUTOMATISM FOR SWING DOORS

OPERATING INSTRUCTIONS

ENGLISH

Thank you for choosing this product. For best automatism performance, Sesamo recommends you carefully read and follow the installation and use instructions found in this manual. Installation of this automatism must only be performed by the professionally qualified personnel for whom this manual is addressed. Any errors during installation may be harmful to people or things. Packaging material (wood, plastic, cardboard, etc.) should not be scattered in the environment or left within the reach of children as potential sources of danger. Every installation phase must be performed in accordance with the regulations in force and following Good Technique standards. Before beginning installation make sure that the product is integral and has not been damaged during transportation or by poor storage conditions. Before installing the product make sure that each architectural and structural element of the entrance (girder fastening surfaces, casings, guide, etc.) is appropriate and sufficiently robust to be automated. Conduct a careful risk analysis and make suitable modifications to eliminate conveyance, crushing, cutting and hazardous areas in general. Do not install the product in environments where gas, steam or inflammable fumes are present. The manufacturer is not liable for any neglect of "good technique" or specific regulations in the construction of the casing to be motorized and any collapse of the same. All automatic entrance safety and protection devices (photocells, active sensors, etc.) must be installed in accordance with the regulations and directives in force, with the completed risk analysis, system type, use, traffic, forces and inertia in play. Pay careful attention to area where the following may occur: crushing, cutting, conveyance and any other type of hazard in general applying, if necessary suitable indications. Indicate the motorized door identification information on every installation. Make sure that the upstream electrical system is correctly dimensioned and has all the opportune protections (circuit breakers and fuses). Only use original spare parts in maintenance and repairs. Do not tamper or alter devices in the automatism and all the safety devices in the control panel for any reason. The manufacturer is not liable if parts within the automatism are altered or tampered with or if safety devices other than those indicated by the manufacturer are used in the system. The automatism installer must provide the automatic entrance manager with the use manual and all the information required for correct use in automatic and manual modes (even for electronic locking) and in the event of emergency. Pay careful attention to the messages in this manual that are marked with the hazard symbol. They can either be warnings aimed at avoided potential equipment damage or specific signals of potential hazard to the installer and others. This device was designed to automate pedestrian swinging doors. Any other use is considered contrary to the use foreseen by the manufacturer who therefore shall not be held liable.

Before carrying out any operation it is necessary to read this manual carefully and follow all the instructions, with particular attention to those indicated by the following references:

⚠ **DANGER:**	indications that, if not followed scrupulously, could generate sources of danger or death
! **ATTENTION:**	indications that, if not followed scrupulously, could generate malfunctions

SUMMARY

1. WARNING FOR THE INSTALLER (GENERAL SAFETY OBLIGATIONS)

1)  It is important for the personal safety to install the automatism in accordance with the instructions. Incorrect installation or incorrect use of the product can lead to serious personal injury.
2) Read carefully the instructions before starting to install the product.
3) Keep the instructions for future reference.
4) This product was designed and built exclusively for the use indicated in this documentation. Any other use not expressly indicated could compromise the integrity of the product and /or represent a source of danger.
5) SESAMO declines any responsibility deriving from misuse or use other than that for which the automatism is intended.
6) Do not install the appliance in an explosive atmosphere: the presence of flammable gases or fumes is a serious safety hazard.
7) SESAMO is not responsible for failure to observe Good Technique in the construction of the closing elements to be motorized, as well as for any deformation that may occur during use.
8) Before carrying out any work on the system, disconnect the power supply.
9) Check that there is a differential switch upstream of the system.
10) Check that the earth installation is done in a workmanlike manner.
11) The safety devices (EN 12978 standard) protect any dangerous areas from mechanical mouvements risks, such as crushing, conveying, shearing.
12) For maintenance use only SESAMO parts.
13) Do not make any modifications to the components that are part of the system.
14) The installer must provide all information relating to the manual operation of the system in the event of an emergency.
15) The user must not attempt any kind of repair or direct intervention and contact only qualified personnel.
16)  Installation must be carried out only by qualified and experienced personnel and in full compliance with current regulations.
17) Anything not expressly provided for in these instructions is not permitted.
18)  This manual is intended for professional installers or competent persons only.

RECYCLING AND DISPOSAL

This product is built with different materials. The major parts (aluminum, plastic, iron, wires) are solid urban waste. They can be recycled through collection and disposal in authorized centers. Other components (control boards, etc.) may contain pollutants. They need to be removed and hand over to companies authorized to recover and dispose them. The packaging (paperboard, plastics etc.) are solid urban waste and they can be disposed of without any problem, simply performing waste collection for recycling. Before proceeding it is always recommended to verify local specific norm for disposal.

PLEASE RECYCLE!

2. INTENDED USE

DANGER: The SMARTPRO automation must be used exclusively for the movement of pedestrian swing doors.
The automatism for hinged doors is a monobloc composed of an electromechanical device that allows the opening and closing of the door to be controlled by means of a trasmission arm.
The door is opened / closed by a spring /motor system or closed only by a spring in the event of a power failure. Inside the protection casing there is also the electronic control device that allows to program and control the operation of the system.

3. APPLICATION LIMITS

DANGER: For a correct application of the automatism the door must not exceed the weight and the width indicated in the diagram of Fig.2. Each transmission arm also corresponds to a different maximum depth value of the jamb above which it is not possible to correctly install the system. The automatism is designed exclusively for the normal operation of swing doors in dry environments, and must be installed inside buildings. SESAMO declines all responsibility for any damage deriving of any application or use outside the intended purposes and from unauthorized modifications.

4. LOW ENERGY

SMARTPRO can be set in the order to meet requirements of Low-Energy application according EN16005.

- reduced dynamic force;

- low speed;

- reduced dynamic/static force.

It is installer's responsibility to verify the compliance of the installation Low-Energy compared with current standards. The protection of the closing edge must be assessed individually.

5. PRELIMINARY CHECKS

Before installing the automatism please check:

- verify the installation does not create dangerous situations;
- prearrange proper pipes and conduits for the wires, granting the protection of the same against mechanical damages;
- the surface where fixing the automatism has to be resistant. Use screws, bolts, etc. adequate to the type of surface;
- the structure of the door has to be strong to hold the weight of the automatism as well the hinges, also check to not have friction between fixed and mobile parts;
- use proper equipment and tools to install in security and in accordance with the regulations.

6. MACHINE DIRECTIVE

The installer who motorized a door becomes the automatic door machine manufacturer according to directive 2006/42/CE and must:

1. Arrange the Technical Booklet with the documents indicated in attachment VII of the Machine Directive and keep them for at least 10 years.
2. Draft the CE declaration of conformity according to attachment II-A of the machine directive and provide the use with a copy.
3. Apply the CE markings on the motorized door according to point 1.7.3 of attachment I of the machine directive.
4. In particular, but not exclusively, if for the purpose of the standard EN 16005 it is necessary to install monitored sensors, the wiring has to carry out as described in this manual and the correct sensors operation has to be checked following instruction manual of the sensors themselves.

For more information and for assist installers in applying the specifications of the directives and of European standards concerning the safe use of motorized gates/doors consult the guidelines available on internet at the address www.sesamo.eu

DECLARATION OF INCORPORATION

(Directive 2006/42/CE, Annex II, part B)

Manufacturer: SESAMO S.R.L.

Address: Str. Gabannone 8/10 - 15030 Terruggia – AL -ITALY

Declares that the product: **SmartPro**
- is made to be incorporated in a machine to construct a machine considered by Directive 2006/42/CE
- conforms with the essential safety requirements indicated in appendix I of the directive with the exception of the following points: 1.2.4.3, 1.2.4.4, 1.3.4, 1.3.5, 1.3.7, 1.3.8.2, 1.4, 1.5.3, 1.5.7, 1.5.14, 1.5.15, 1.5.16
- complies with the conditions of the following other CE Directives: 2014/30/UE Electromagnetic Compatibility, 2014/35/UE Low Voltage

And that:
- the following (parts/clauses of) agreed regulations have been applied:

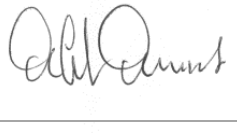
EN 60335-2-103 EN 61000-6-2 EN 61000 -6–3 EN16005

and also declares that:

- the relevant technical documentation has been completed in accordance with part B of appendix VII; this documentation, or parts of it, will be delivered electronically or by traditional post upon justified request from the competent national authorities
- the relative technical documentation will be compiled by: SESAMO SRL, Strada Gabannone, 8/10 - 15030 Terruggia (AL) – Italy
- it is not permitted to use the product until the machine in which it will be incorporated or will become a component of has been identified and has received the declaration of conformity with the conditions of Directive 2006/42/CE and the national legislation that transposes it, in other words, until the machinery referred to in this declaration forms a single unit with the machine.

SESAMO S.R.L. Aldo Amerio

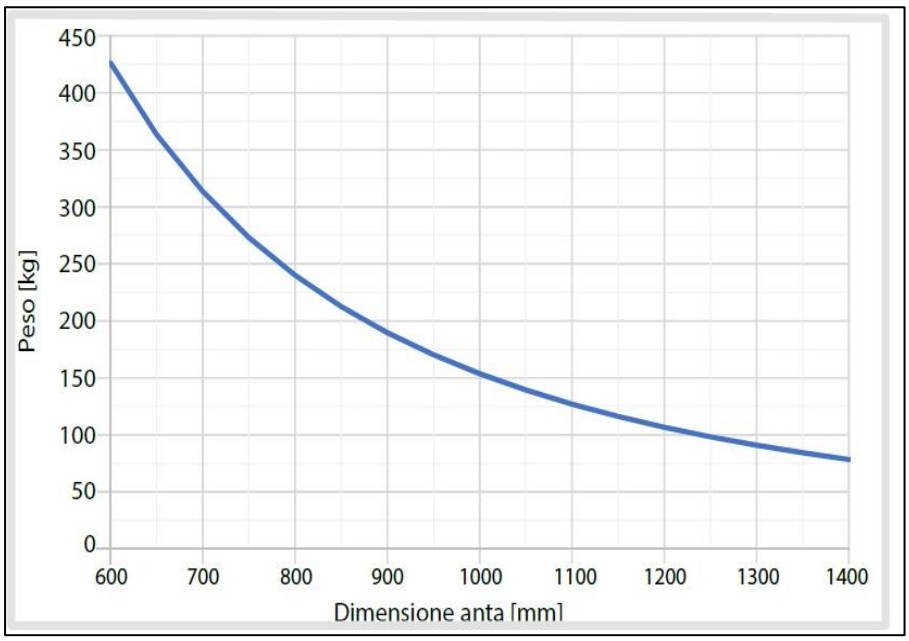
June 2019



7. TECHNICAL FEATURES

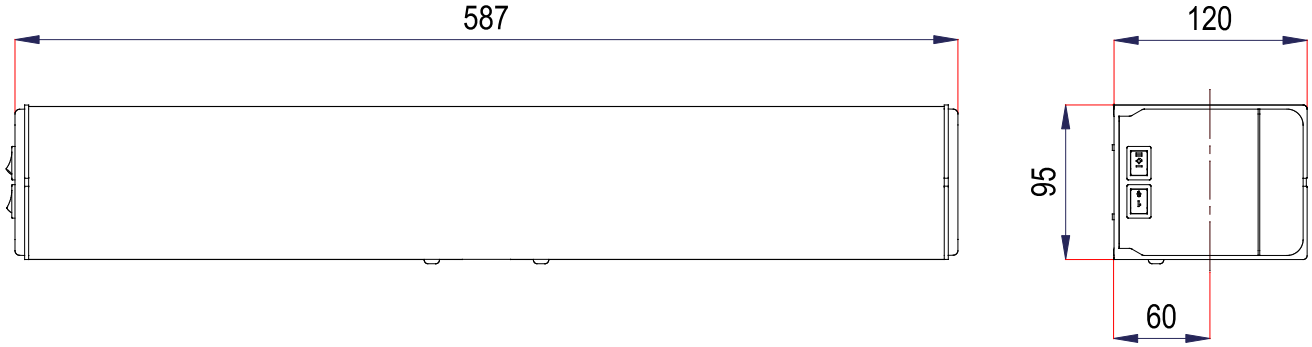
DIMENSIONS	587x120x95mm
POWER SUPPLY	230V ±10% AC 50/60Hz
RATED POWER	85W
NIMINAL MOTOR TORQUE	35Nm
EXTERNAL DEVICES POWER	15Vdc - 12W MAX
OPENING TIME	3s ÷ 6s (70°/s ÷ 20°/s)
CLOSING TIME	4s ÷ 15s (40°/s ÷ 10°/s)
CLOSING FORCE (ACCORDING EN 1154)	EN3 ÷ EN6
MAX. OPENING ANGLE	110°
WING DIMENSION	600 ÷ 1400 mm
WEIGHT MAX. WING	See chart
WORKING TEMPERATURE	from -10°C to +55°C
ANTI-CRUSHING	Automatic traction restriction in presence of obstacles
WEIGHT	9 kg
SERVICE	Continuos
PROTECTION	IP40
SOUND PRESSURE LEVEL (LpA)	≤70dB (A)

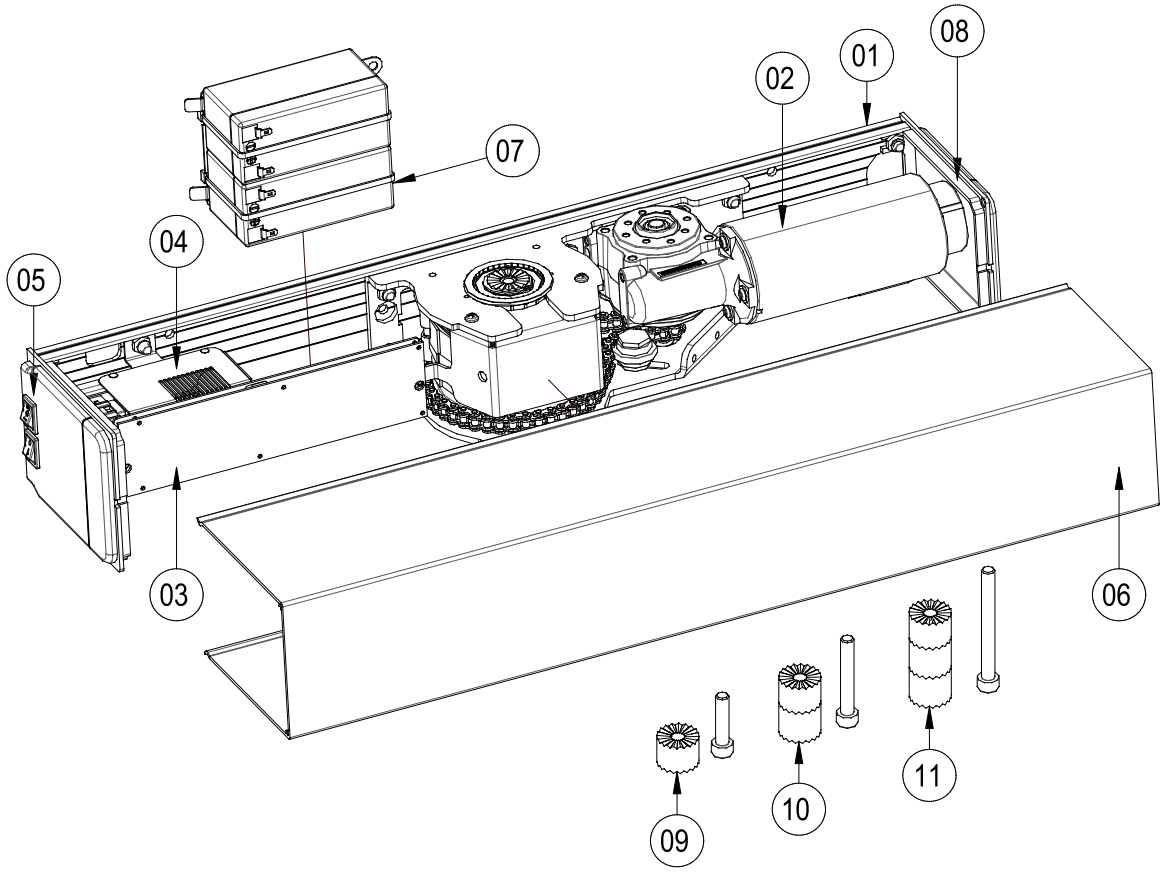
WING (mm)	WEIGHT (kg)
600	420
700	310
800	240
900	190
1000	150
1100	130
1200	110
1300	90
1400	80



DEVICE EQUIPPED WITH SPRING OPENING IN THE EVENT OF LACK OF ELECTRICITY, SEE SECTIONS WARNINGS AND INTENDED USE.

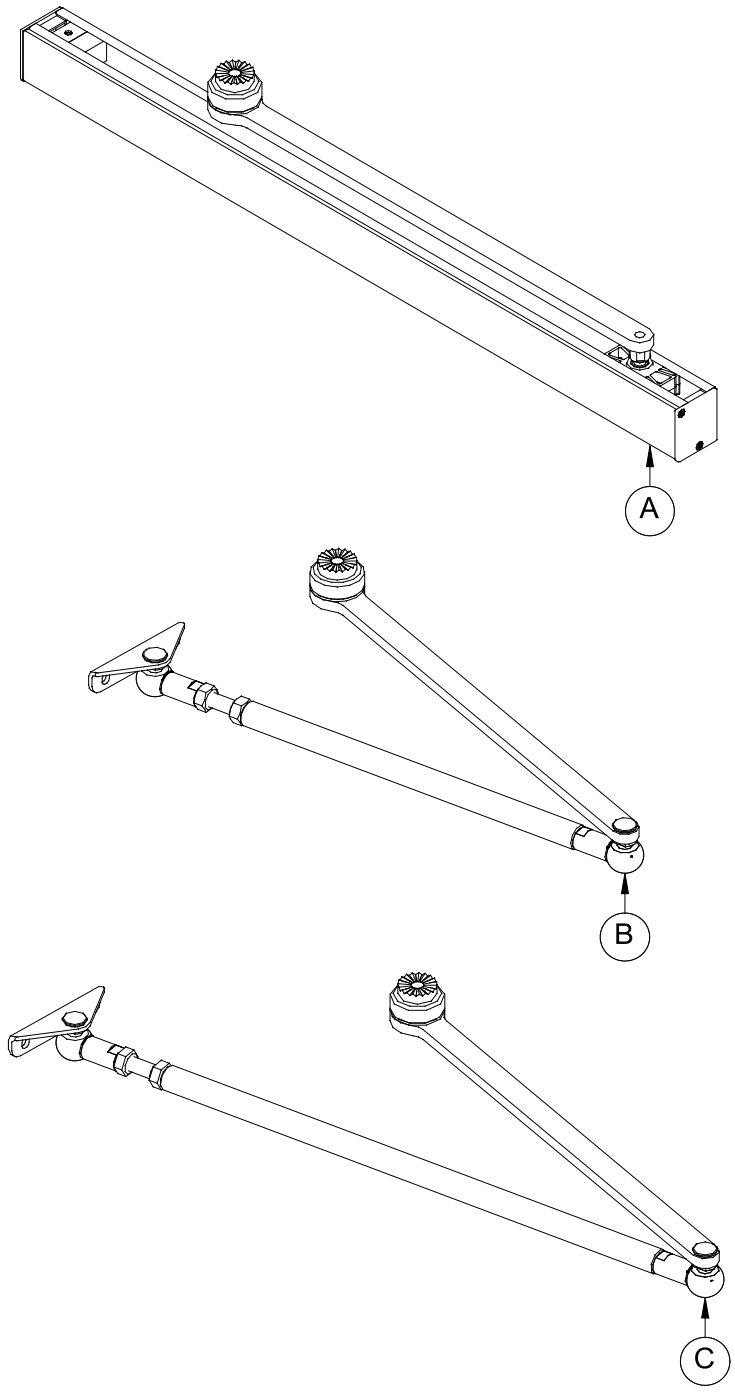
8. DIMENSIONS AND GENERAL SPECIFICATIONS





01	Base Plate
02	Drive system (motor/gear/spring)
03	Main control board
04	Switching power supply unit
05	End cap with Internal program switch and ON/OFF switch
06	Cover
07	Battery back up (optional)
08	Kit axle extensions H=50mm (optional)
09	Kit axle extensions H=70mm (optional)
10	Kit axle extensions H=90mm (optional)

9. ARMS

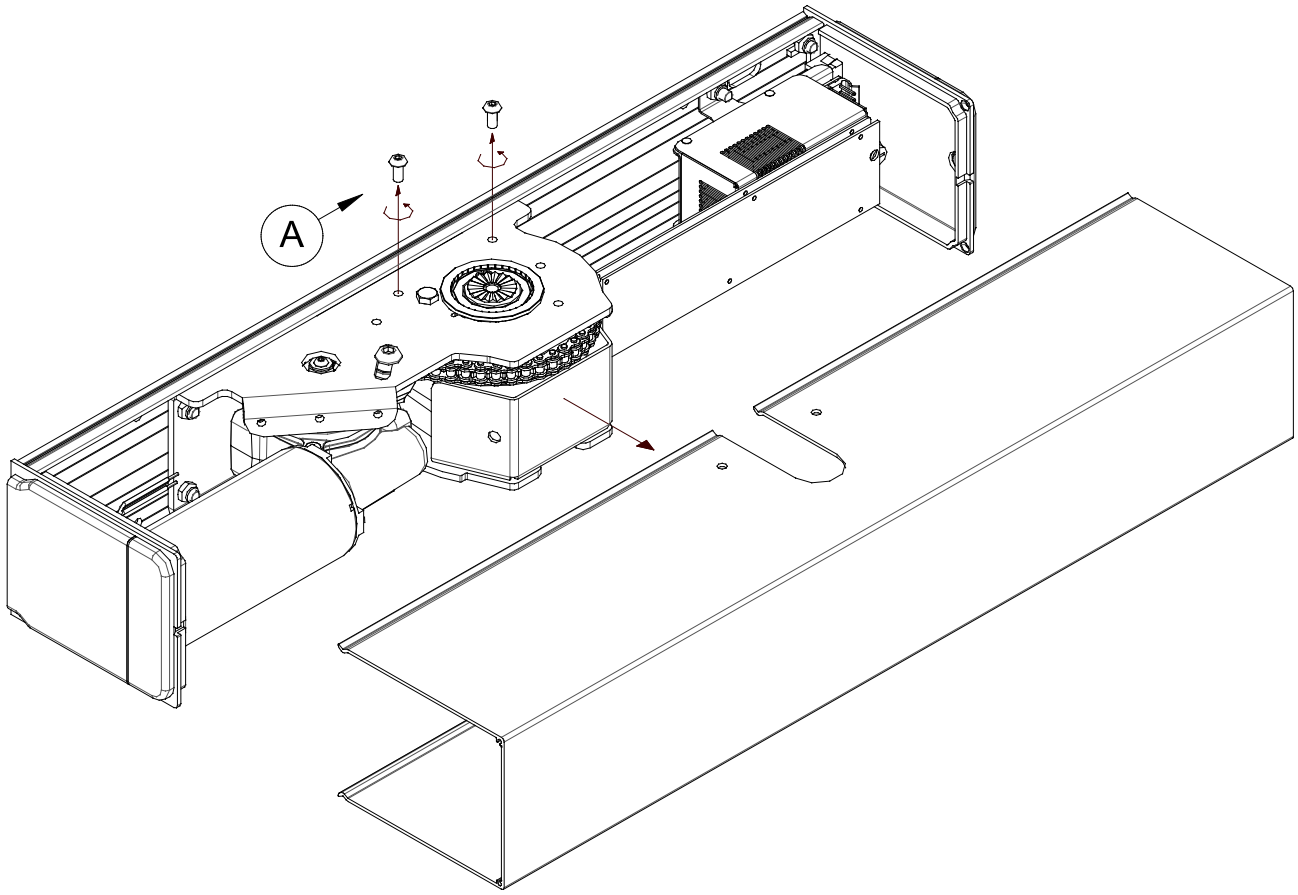


A	Slide arm: pull arm installation – for lintel depths +50mm – 100mm
B	Standard arm: push arm installation – for lintel depths max. -150mm
C	Long arm: push arm installation -for lintel depths max. -300mm

FOR A CORRECT POSITIONING PLEASE REFERS TO PARAGRAPH “ARM INSTALLATION”

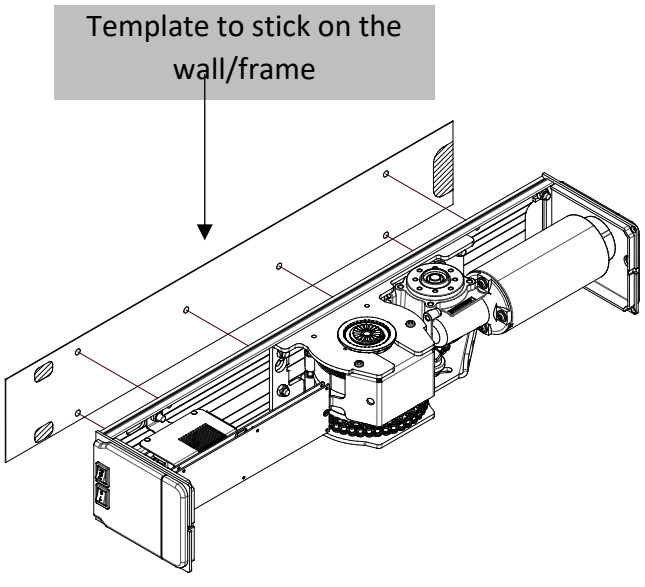
10. REMOVE COVER AND PREPARATION OF THE OPERATOR'S INSTALLATION

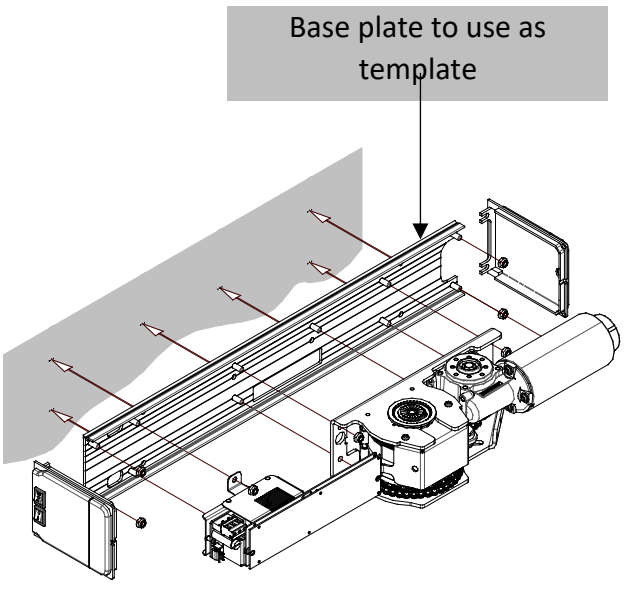
Unscrew "A" and remove the cover



Preparation 1: use adhesive template and NOT remove components

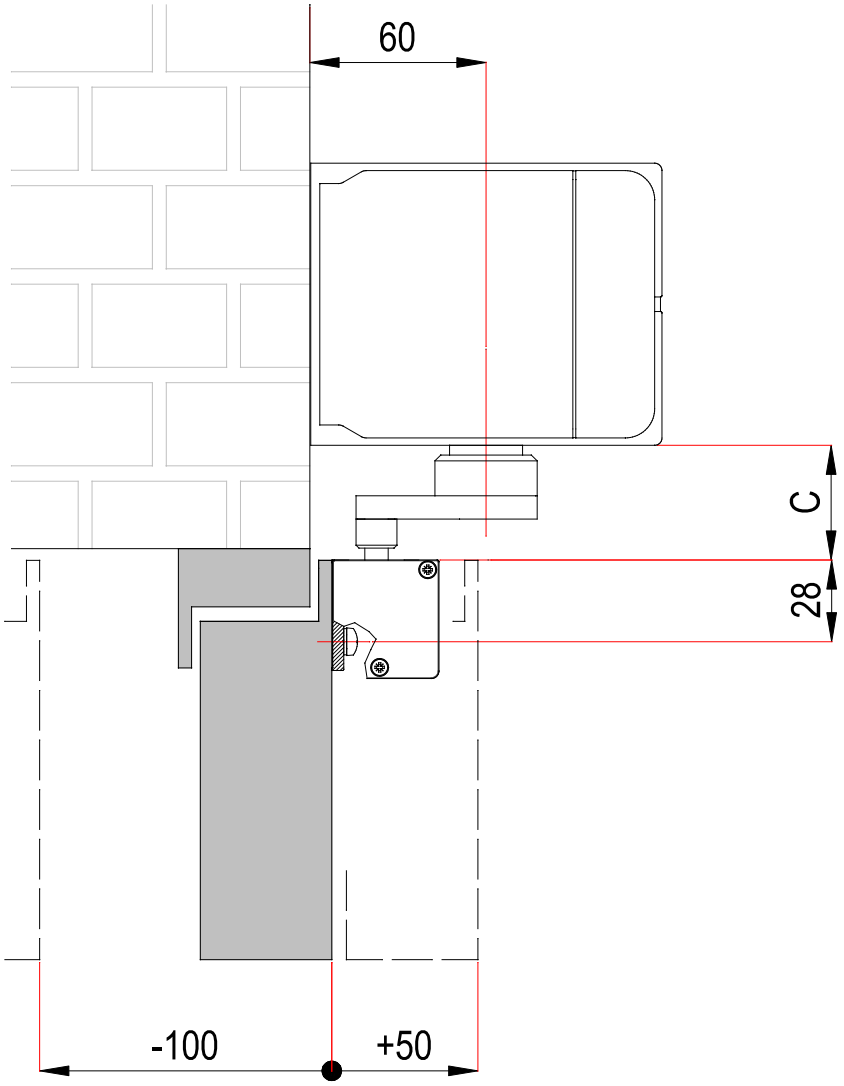
Preparation 2: use base plate as template removing components





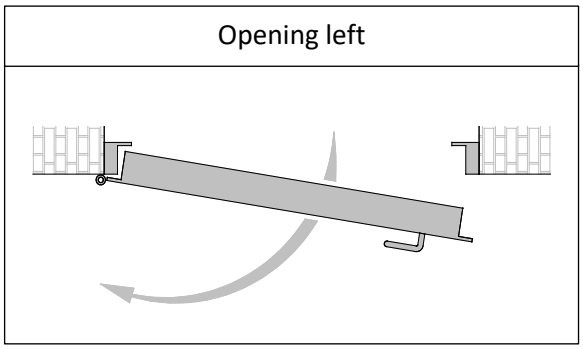
11. SLIDE ARM INSTALLATION (PULL)

The rigid arm is used for doors that open on the same side as the automatism installation.

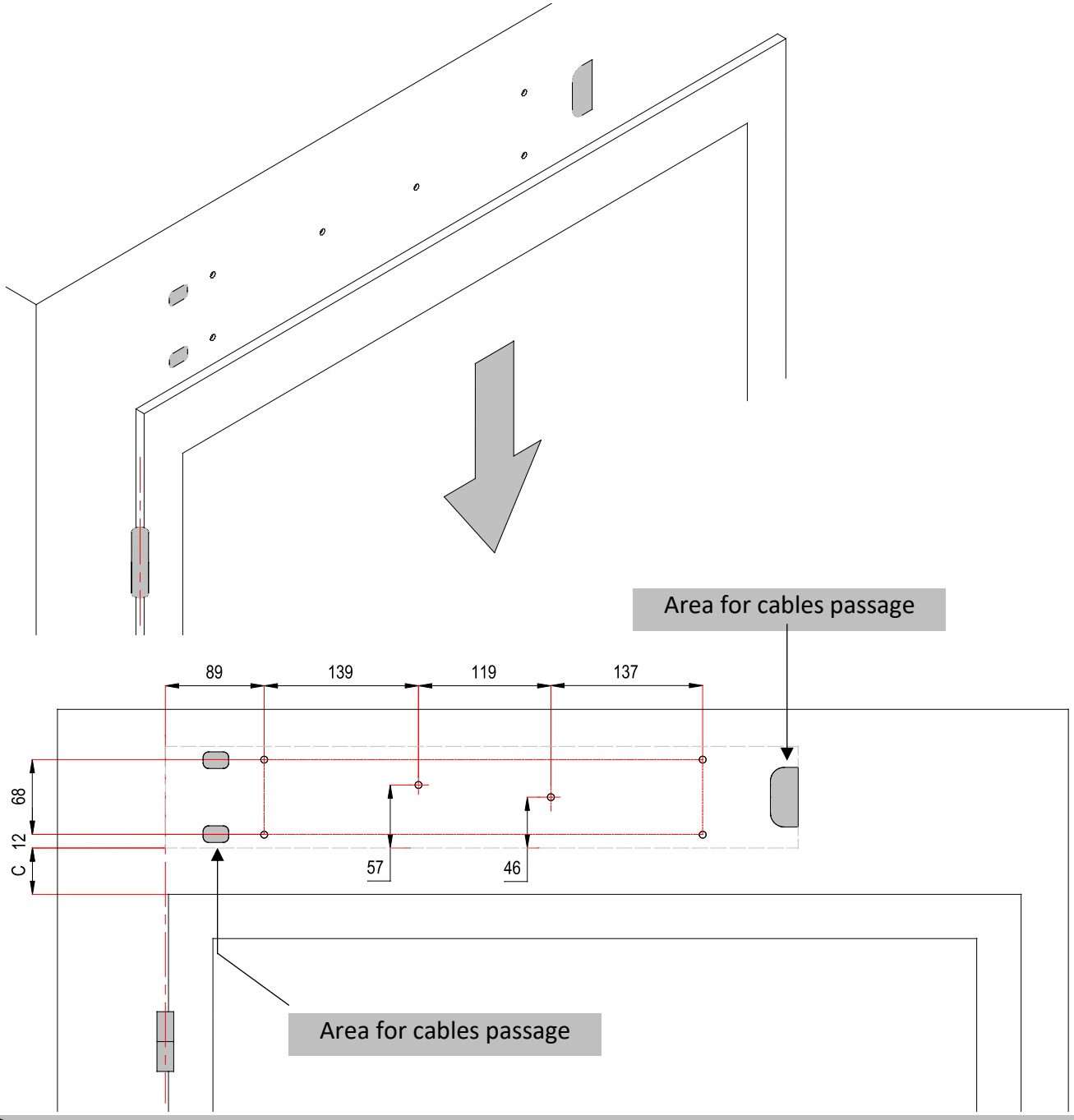


Axle extensions	position “C”
L=30mm (Standard already welded to arm)	42mm
L=50mm (Standard + Kit axle extensions H=50mm)	62mm
L=70mm (Standard + Kit axle extensions H=70mm)	82mm
L=90mm (Standard + Kit axle extensions H=90mm)	102mm

WING OPENING LEFT - dimension and fixing of the automatism:

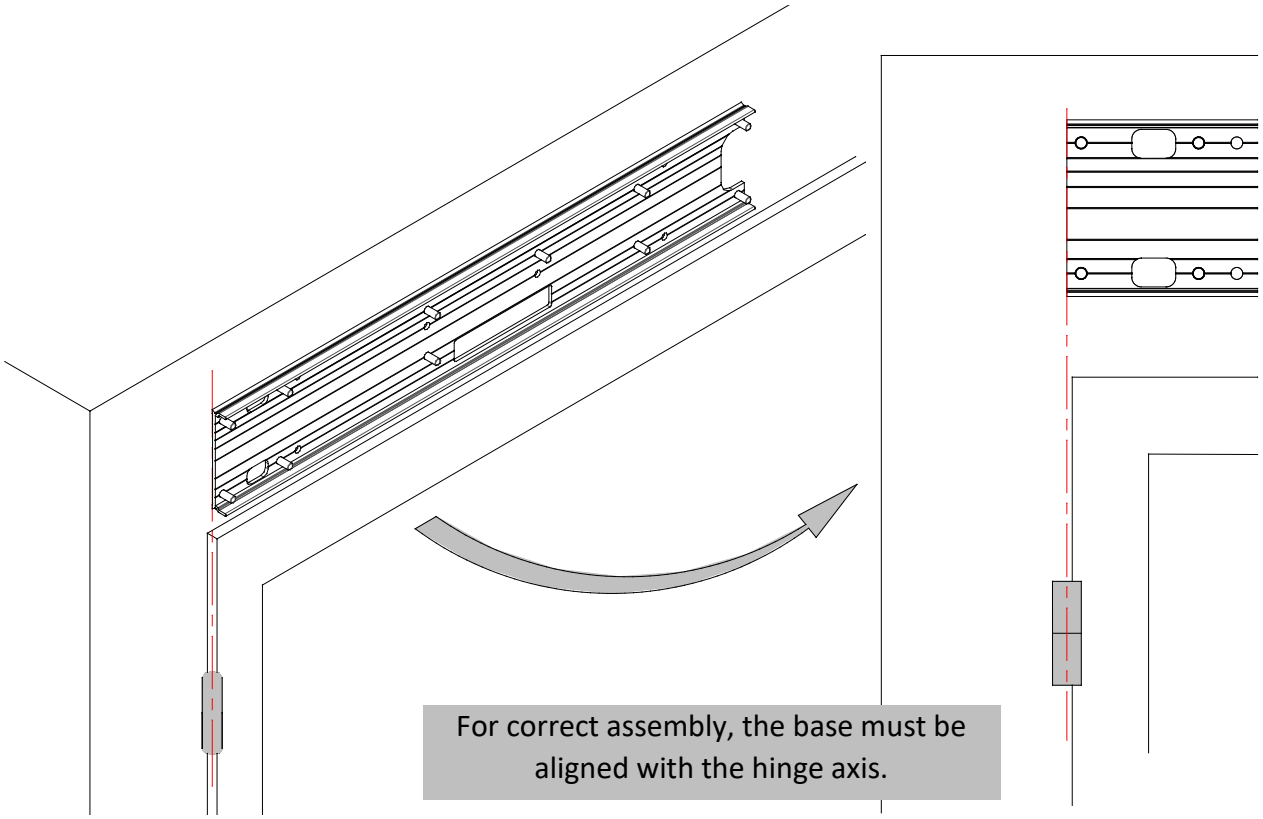


Use the adhesive template for the fixing holes. The Holes must be adequate for the type of screw used. For the passage of cables, make holes in the areas indicated in the image.

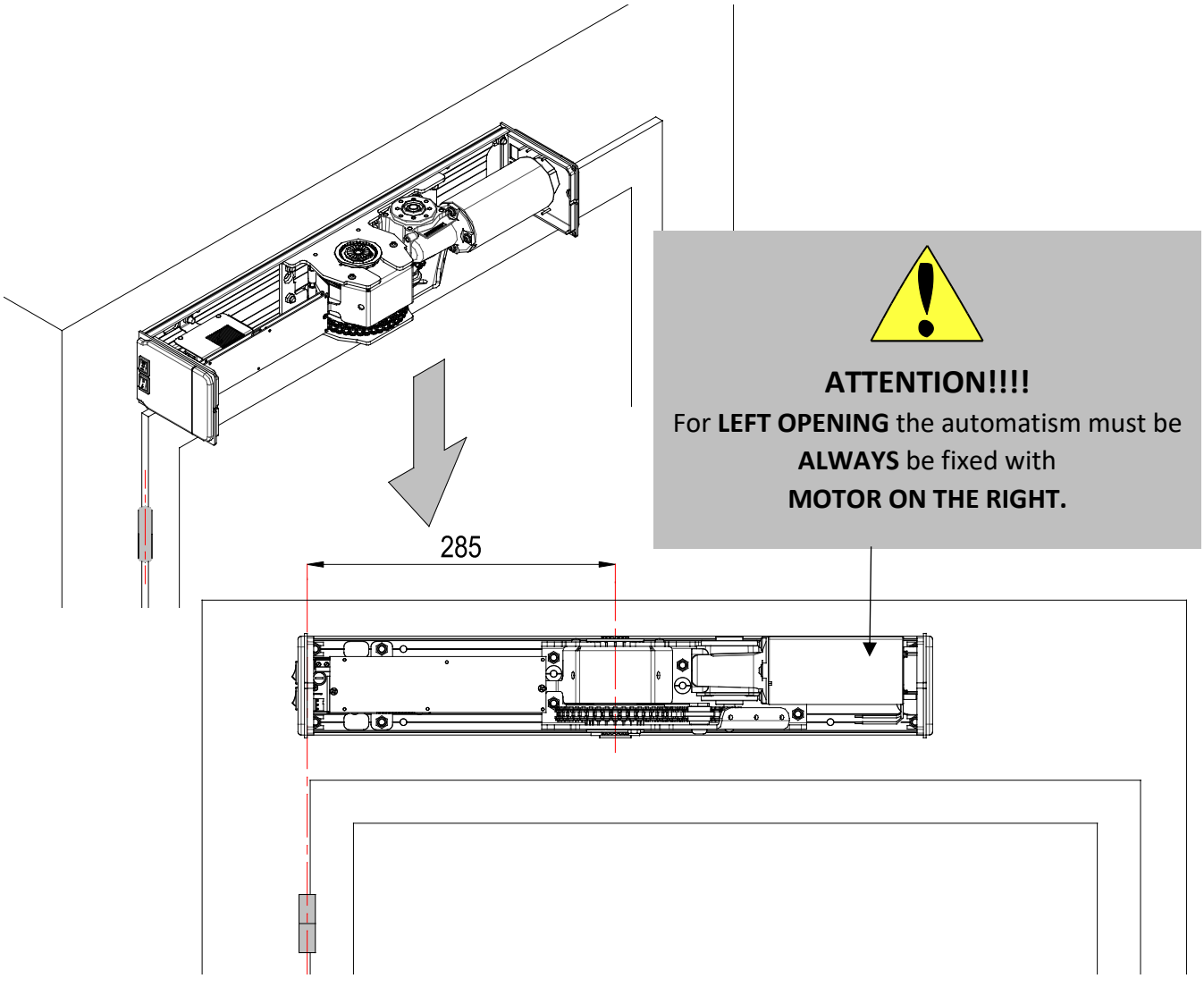


For correct positioning, always use the axis of the hinges of the door as main reference.

Fix the automation using the holes made previously.



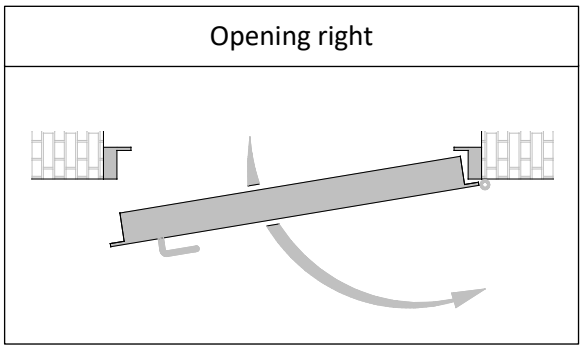
For correct assembly, the base must be aligned with the hinge axis.



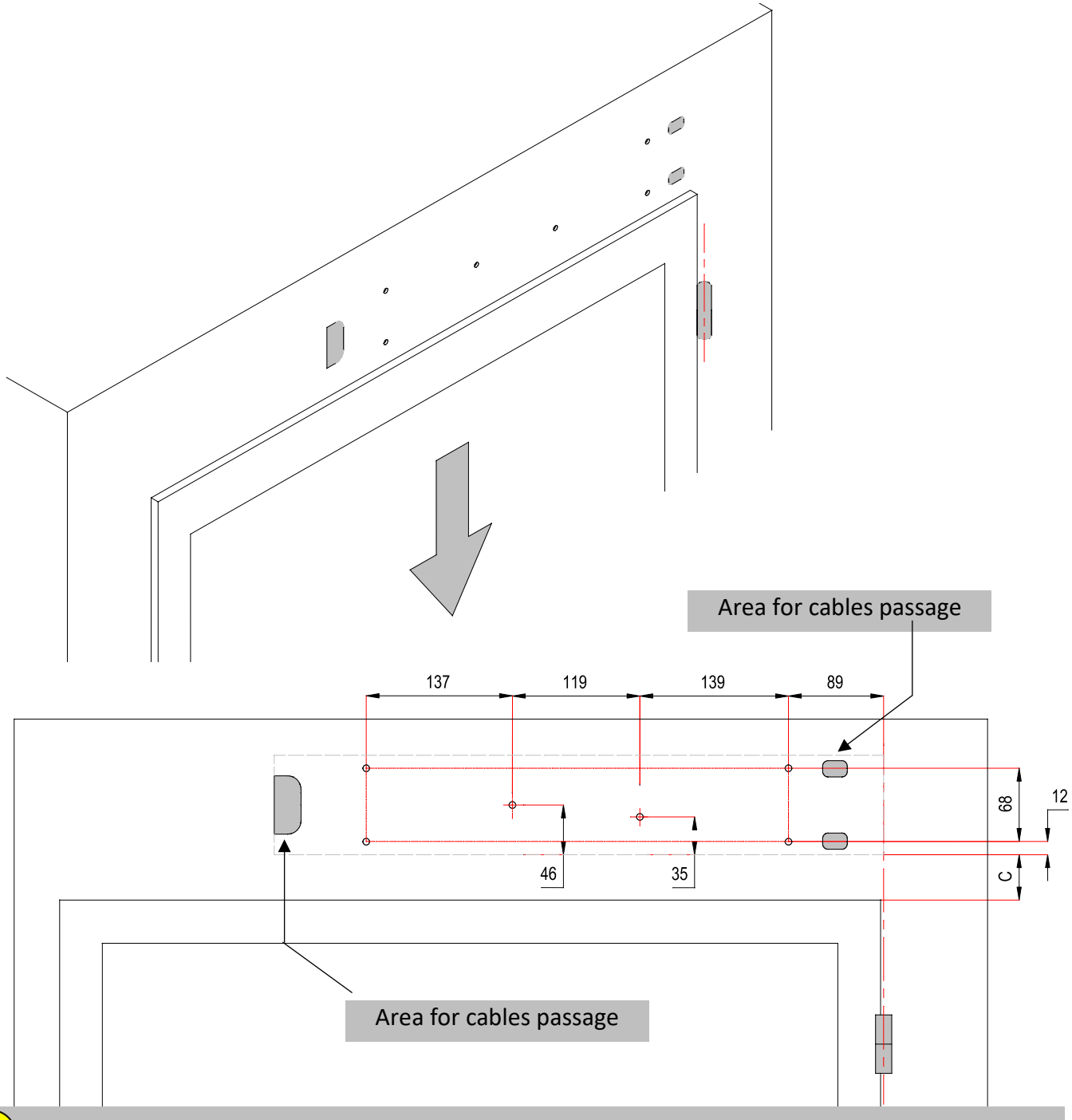
ATTENTION!!!!

For **LEFT OPENING** the automatism must be **ALWAYS** be fixed with **MOTOR ON THE RIGHT.**

WING OPENING RIGHT - dimension and fixing of the automatism:



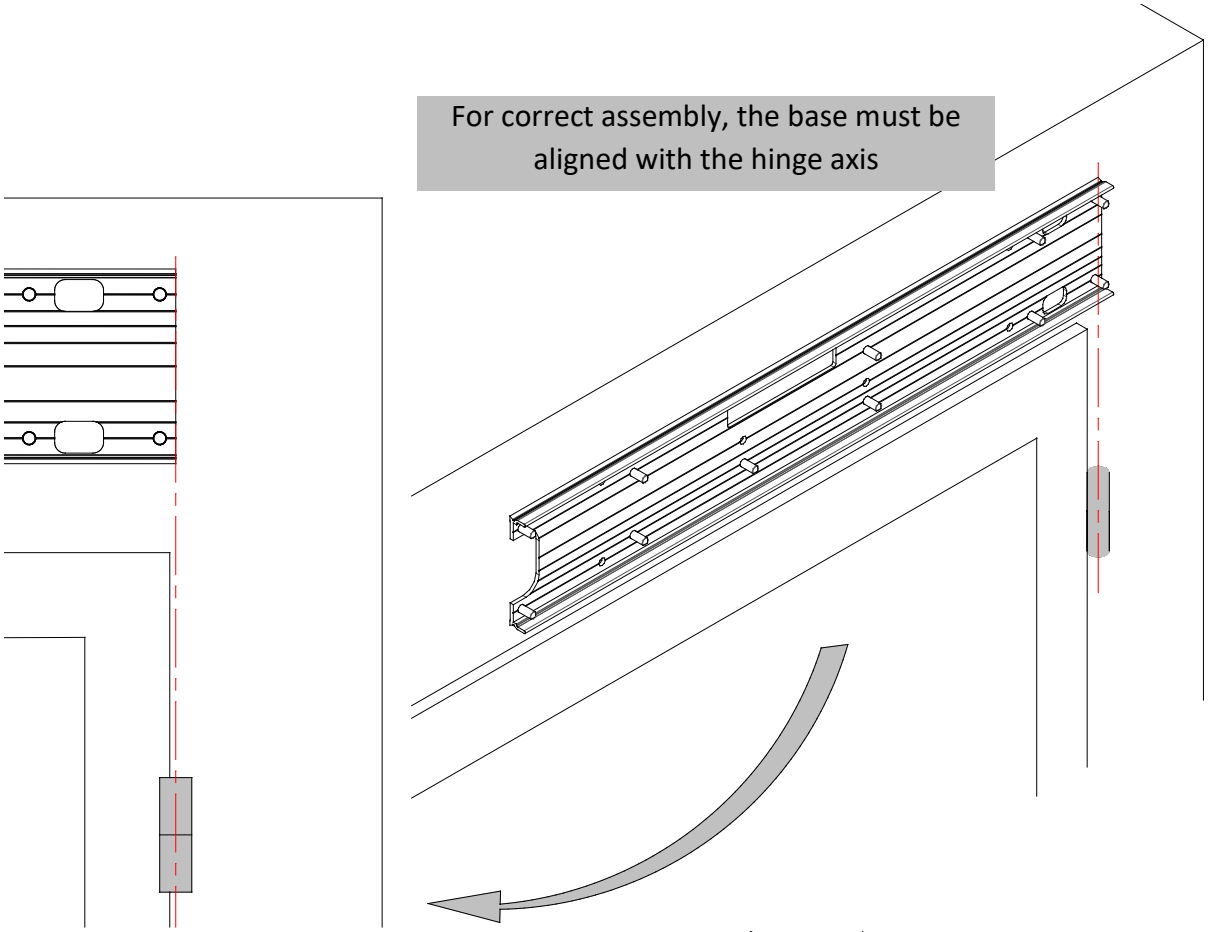
Use the adhesive template for the fixing holes. The holes must be adequate for the type of screw used. For the passage of cables, make holes in the areas indicated in the image.

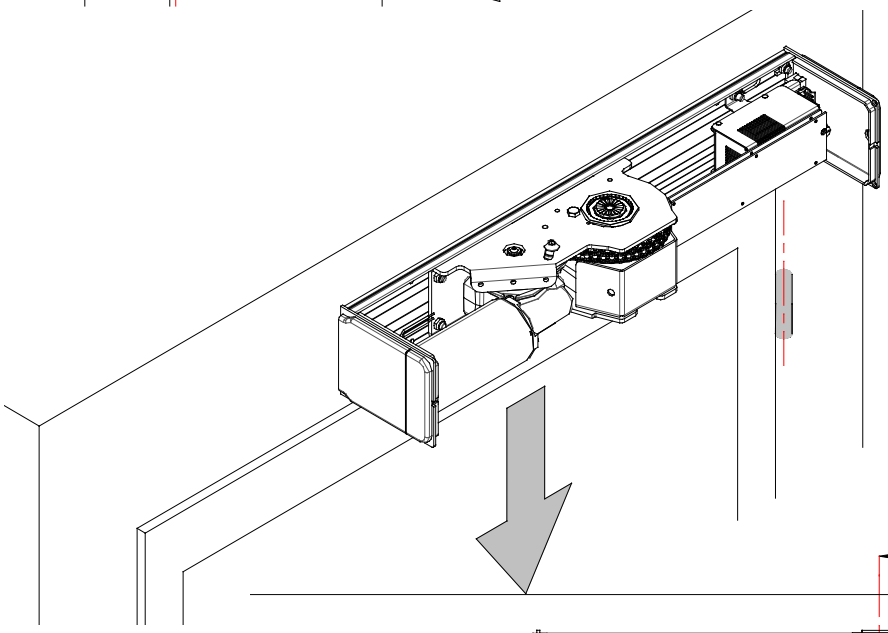


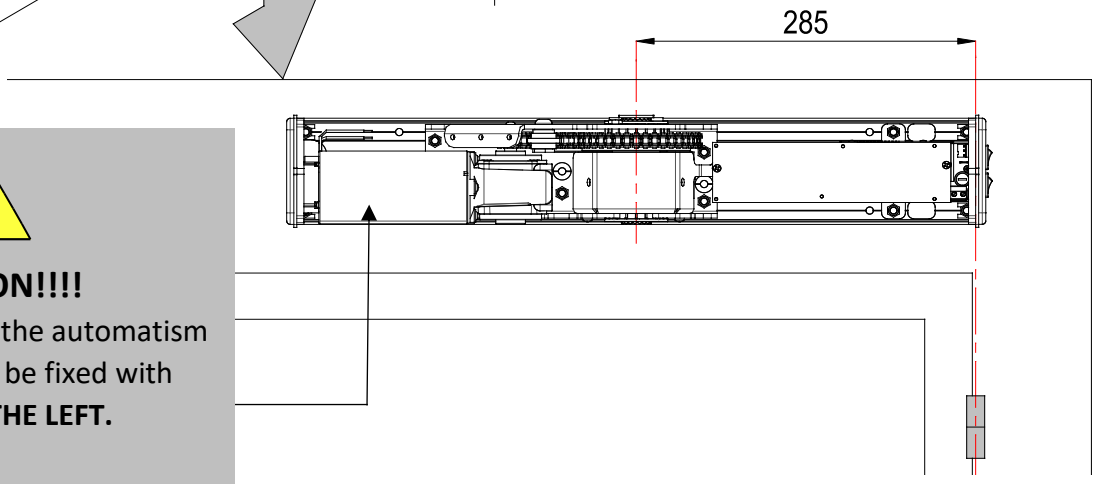
For correct positioning, always use the axis of the hinges of the door as main reference.

Fix the automation using the holes made previously.

For correct assembly, the base must be aligned with the hinge axis







ATTENZION!!!!

For **RIGHT OPENING** the automatism must be **ALWAYS** be fixed with **MOTOR ON THE LEFT.**

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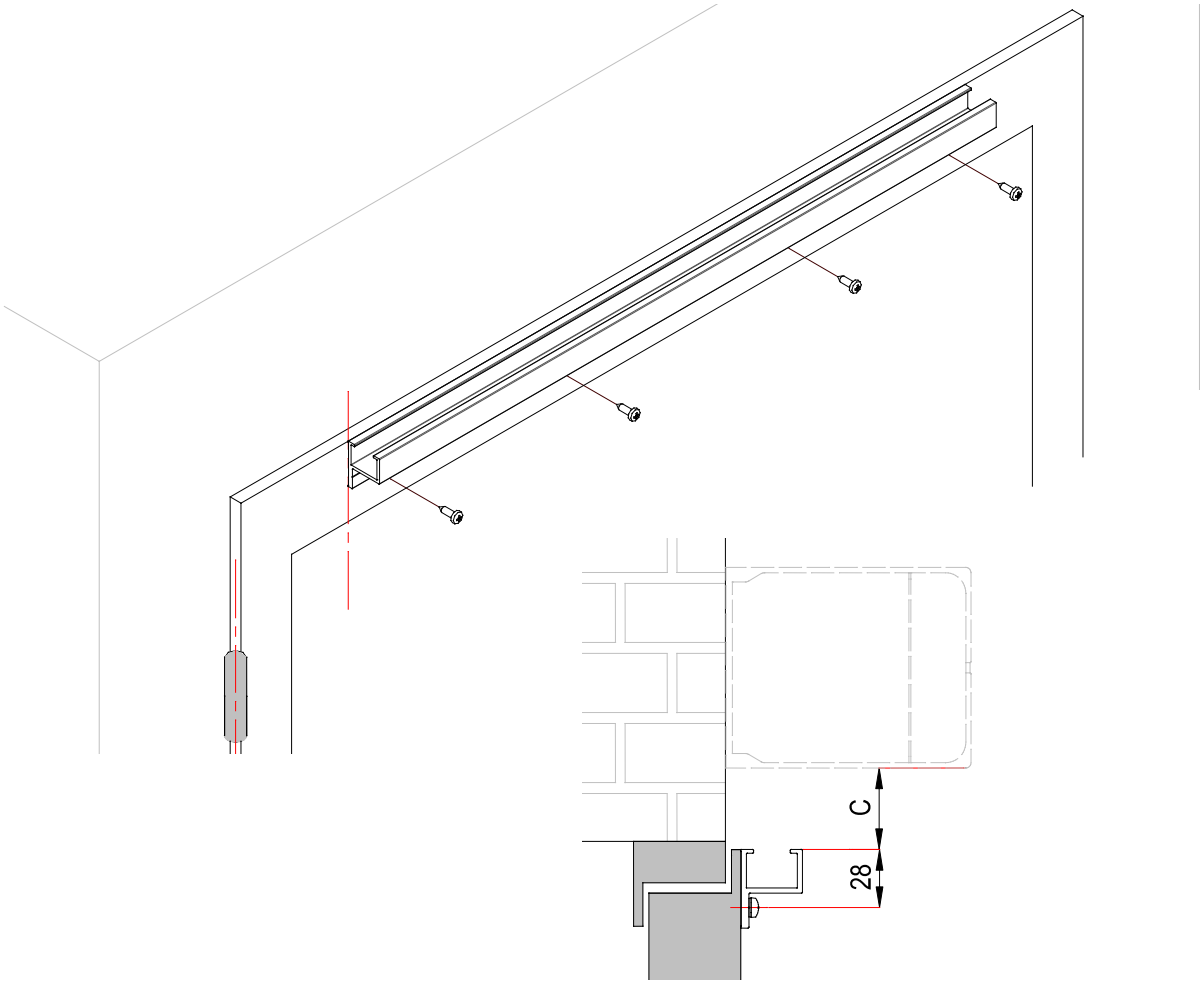
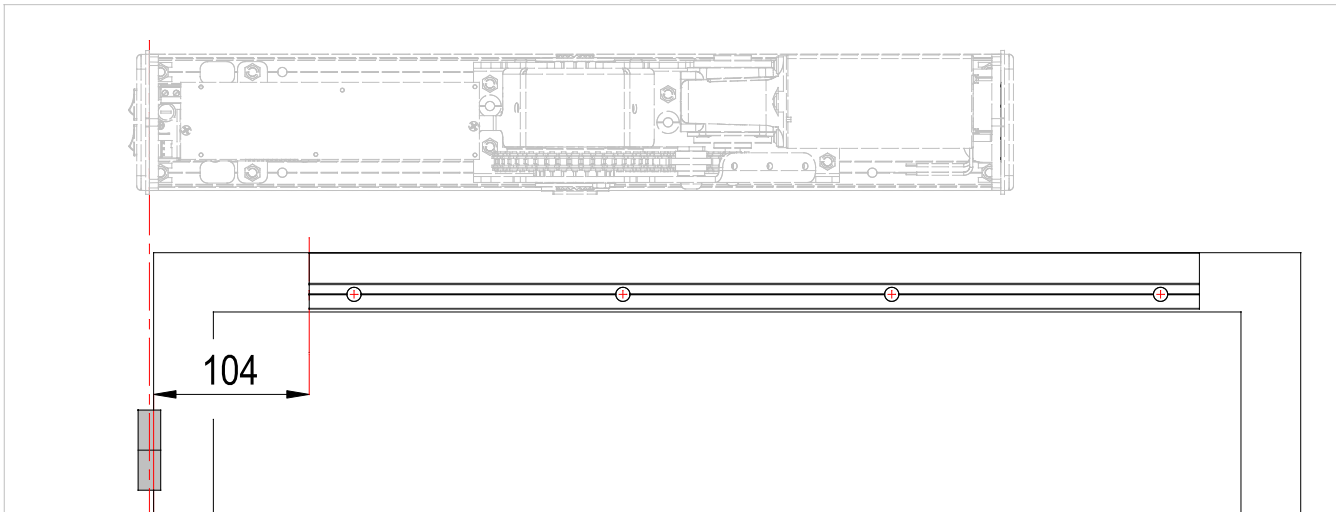
RIGID ARM FIXING for opening left



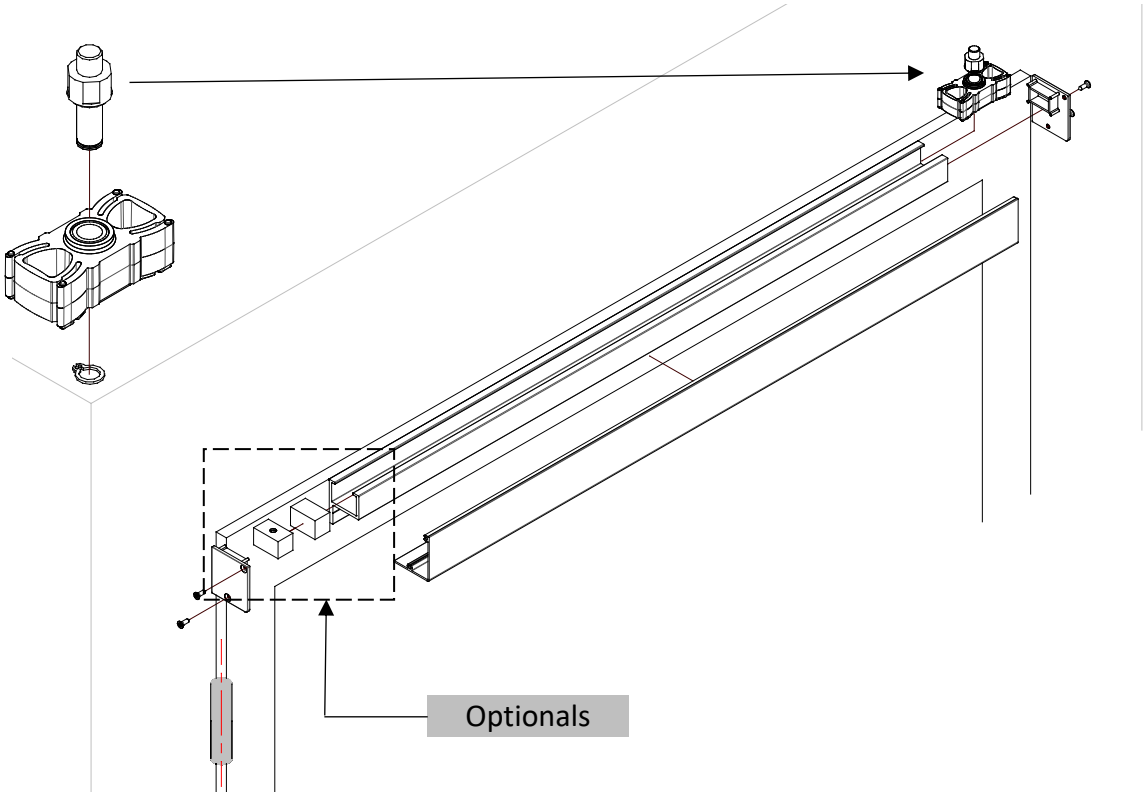


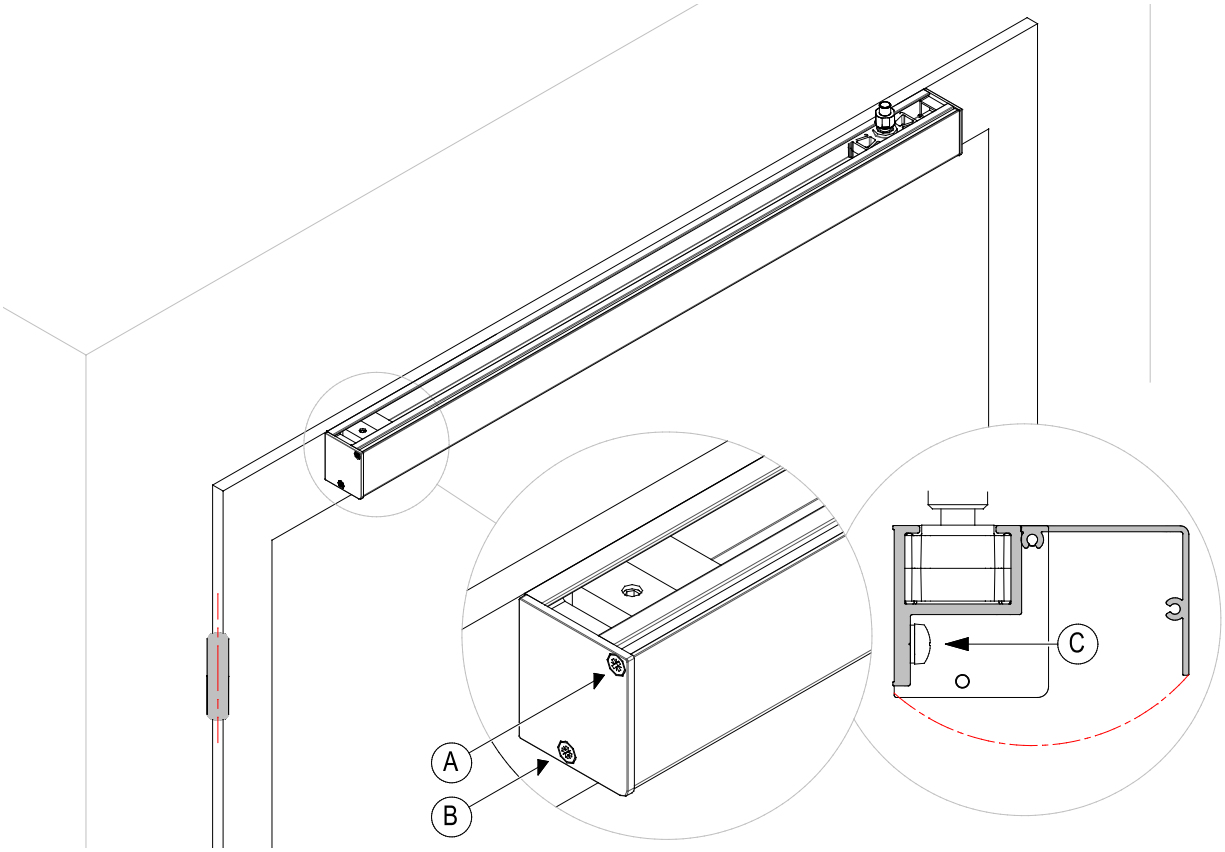
For doors opening right, carry out the same assembly respecting the 104mm height from the axis of the hinges.

For correct positioning, always use the door hinge axis as main reference.

Use screws suitable for the type of the door for the fixing of the guide.

Pre-mount the sliding part as shown in the image and insert into the guide (in this case, install the optional mechanical stop). Then fit end caps and cover.

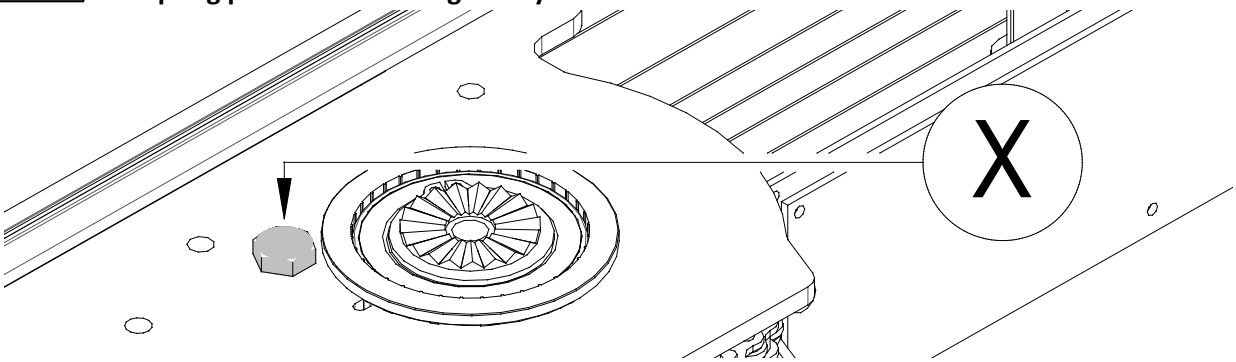




By loosening the screw “A” and unscrewing the screw “B” the cover cab be opened to act on the guide fixing screws “C”.

ATTENTION!!! Fix arm to the operator. This operation defines how the product is going to be operated!!!
For the correct methodology follow the warnings given and the following diagrams.

Attention!!!! The highlighted screw indicated with an "X" represents the mechanic constraint of the spring that NEVER HAS TO BE REMOVED before having finished the procedure for choosing the spring preload and having solidly fixed the arm to the door and to the automation.



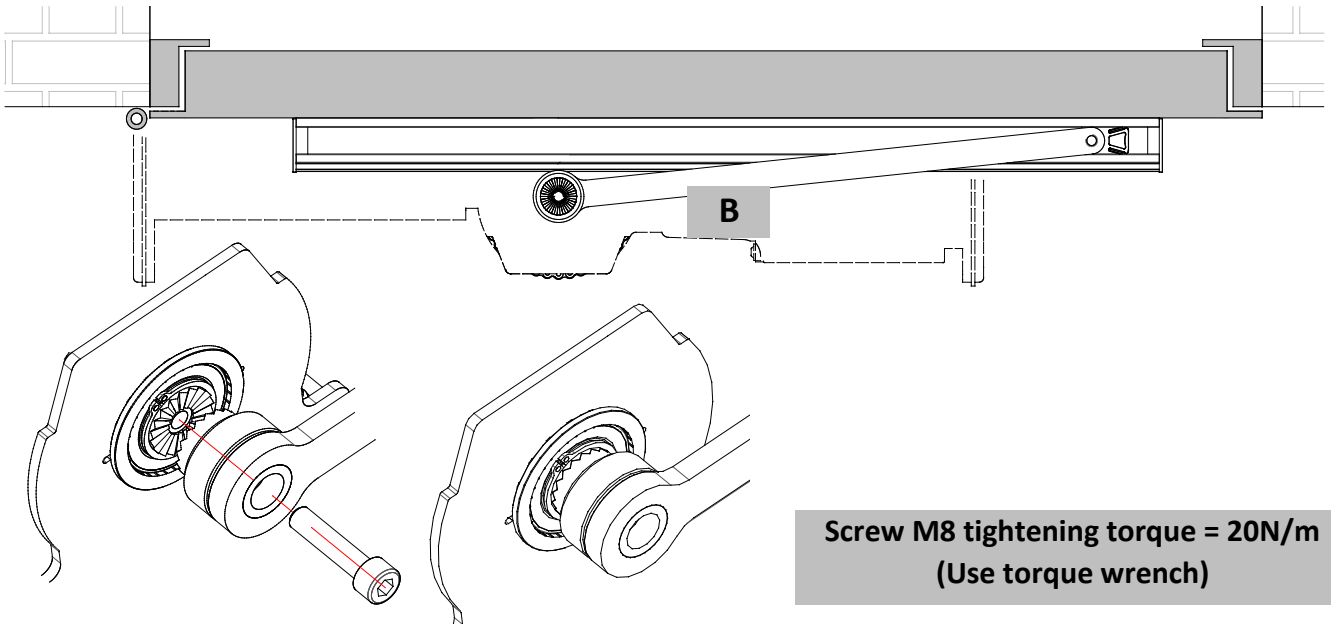
ATTENTION!!!!

Removing the indicated screw (X) before completing the installation of the automatism and fixing of the arm to the door generates a serious danger to the installer as it sets in motion mechanical parts that create danger for all parts of the body near the automation itself!!!

Choose the automation preload work:

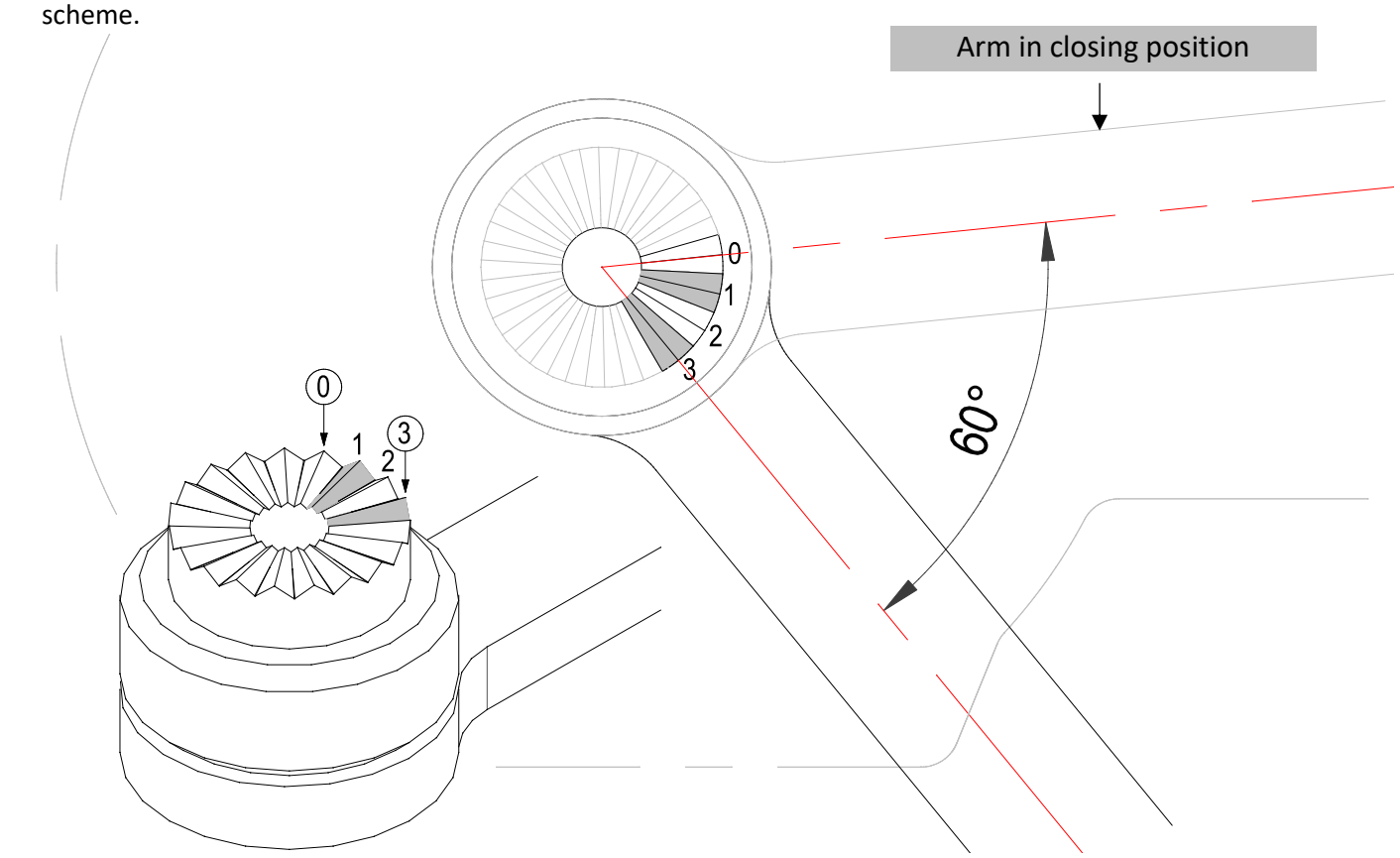
A

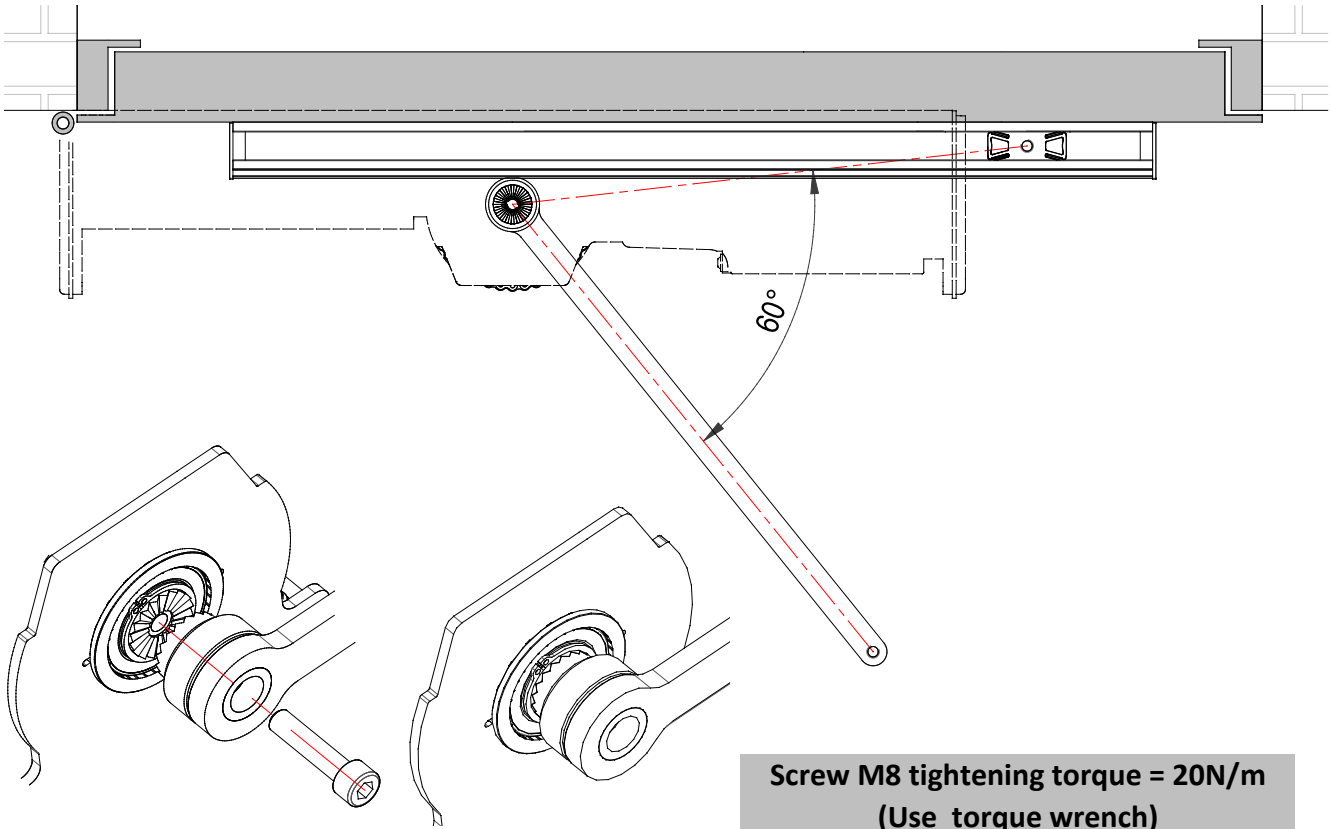
Maximum preload (factory setting) – torque value of about **14,0 N/m**:
fix the arm with the door in the closed position **to the automatism using the appropriate M8 screw**, after which follow the final fixing scheme.



Screw M8 tightening torque = 20N/m
(Use torque wrench)

<u>Medium preload</u> – torque value of about **12,0 N/m**:
starting from the closed door position (max. preload), the arm must be **rotated by n.3 teeth in the opening direction and fixed to the automation using the appropriate M8 screw** , after which follow the final fixing scheme.

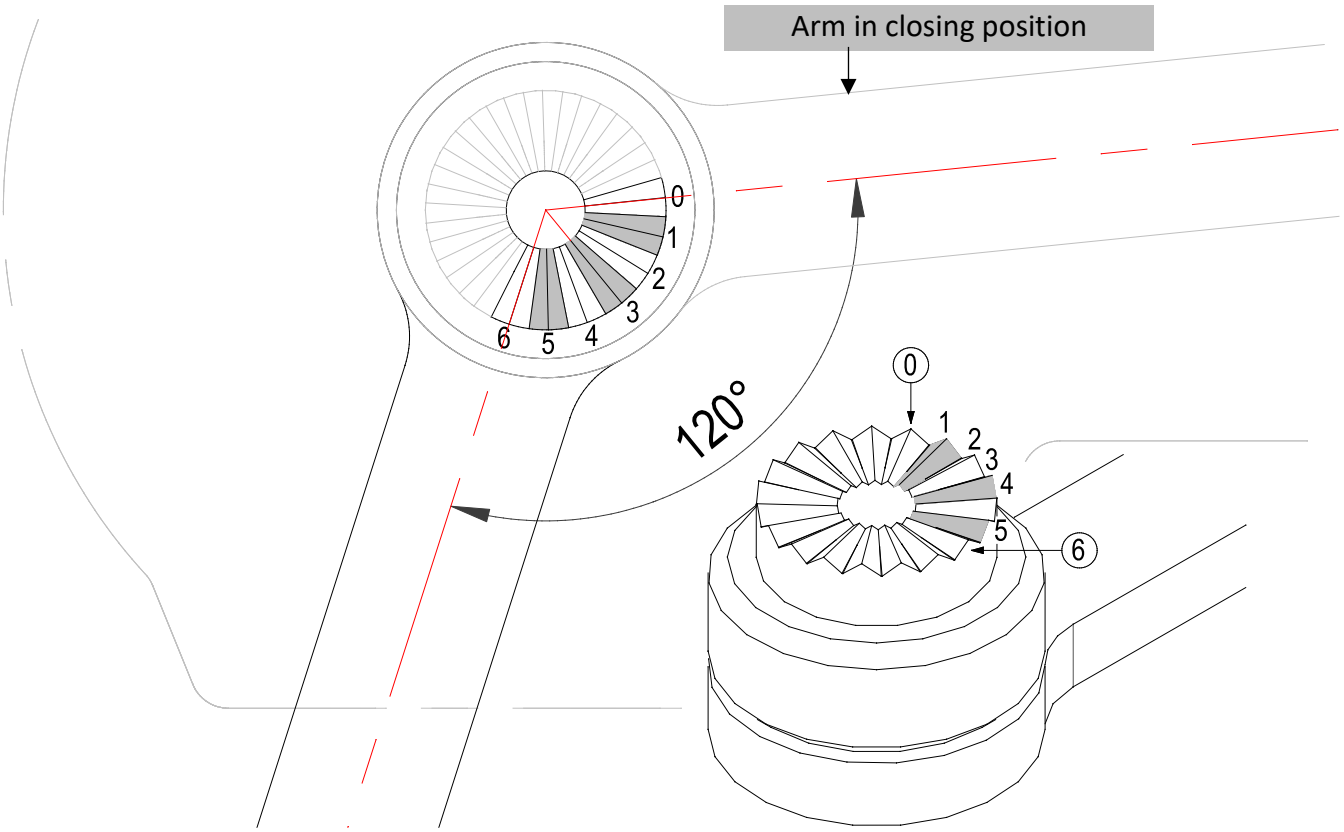


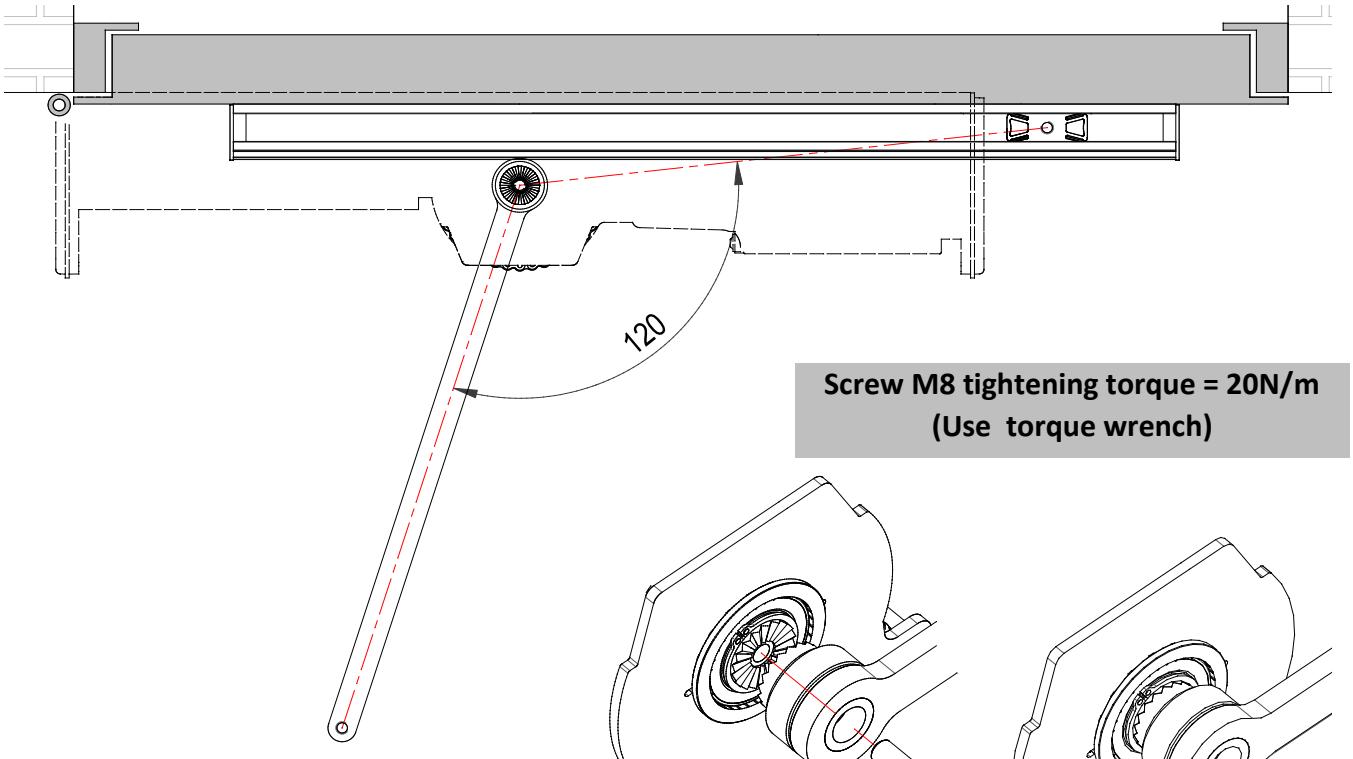


Screw M8 tightening torque = 20N/m
(Use torque wrench)

C

<u>Minimum preload</u> – torque value of about **10,0 N/m**:
starting from the closed door position (max. preload), the arm must be **rotated by n.6 teeth in the opening direction and fixed to the automation using the appropriate M8 screw**, after which follow the final fixing scheme.

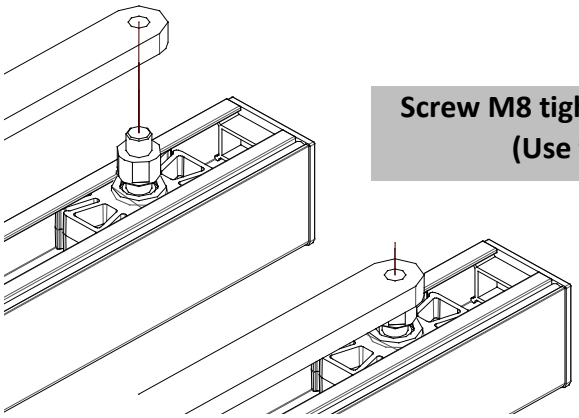




Screw M8 tightening torque = 20N/m
(Use torque wrench)

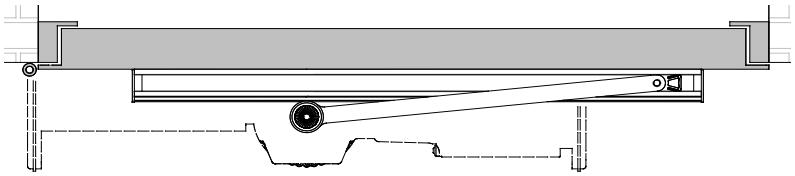
Final fixing scheme:

screw the arm to the door through the coupling between the threaded hole of the arm itself and the sliding piece shaft.

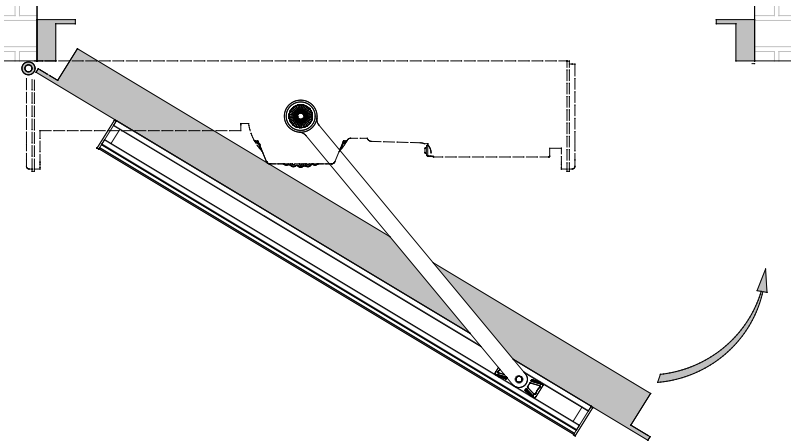


Screw M8 tightening torque = 20N/m (Use torque wrench)

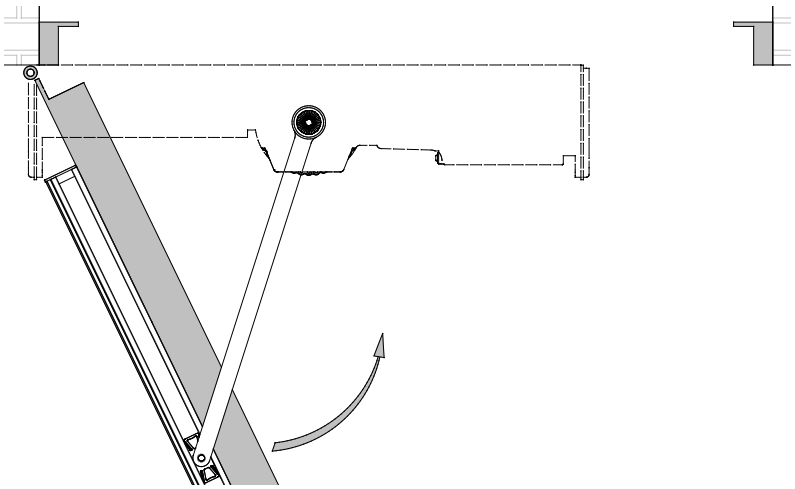
Depending on the selected preload you will be in the following situations:



A= <u>maximum preload (factory setting)</u>

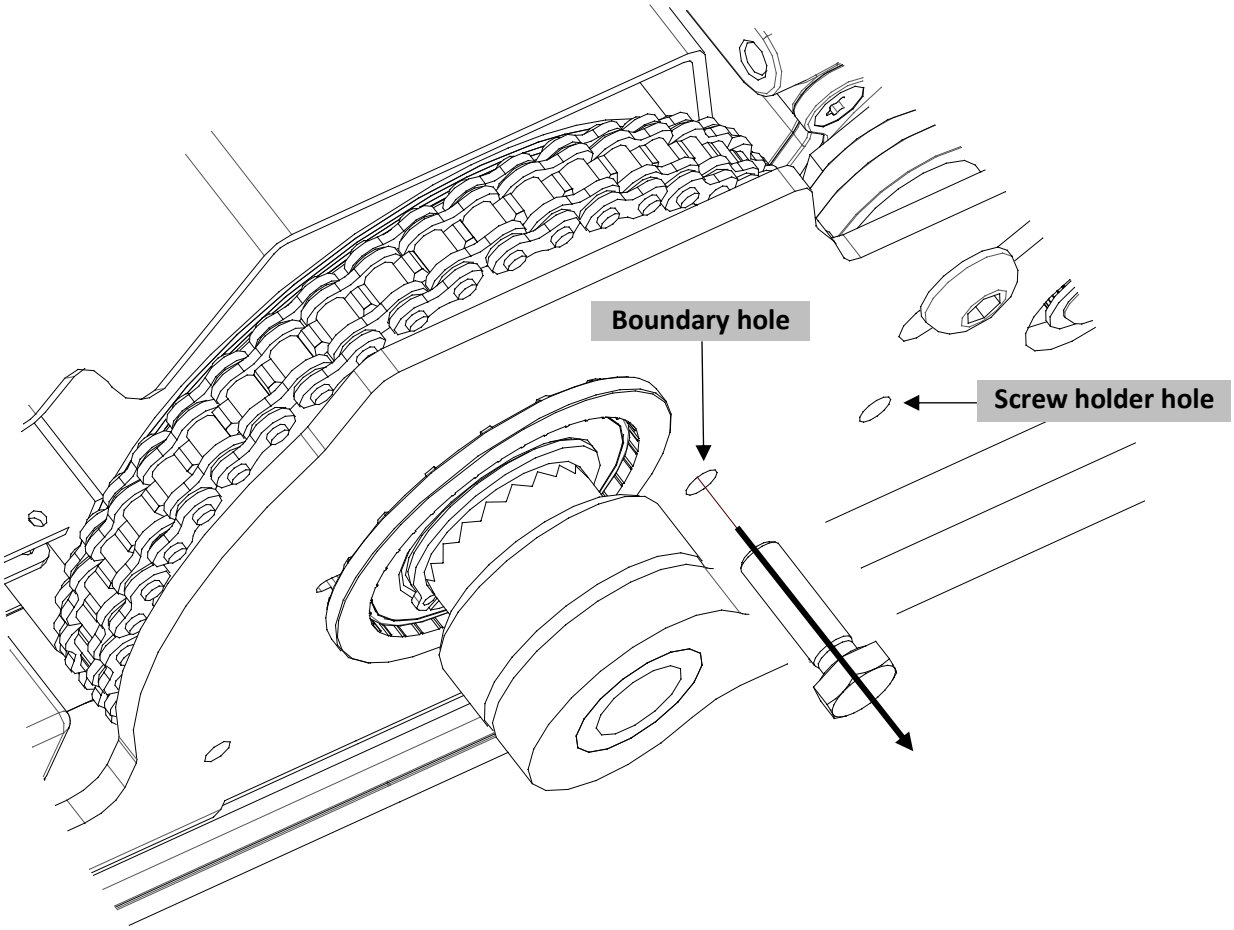


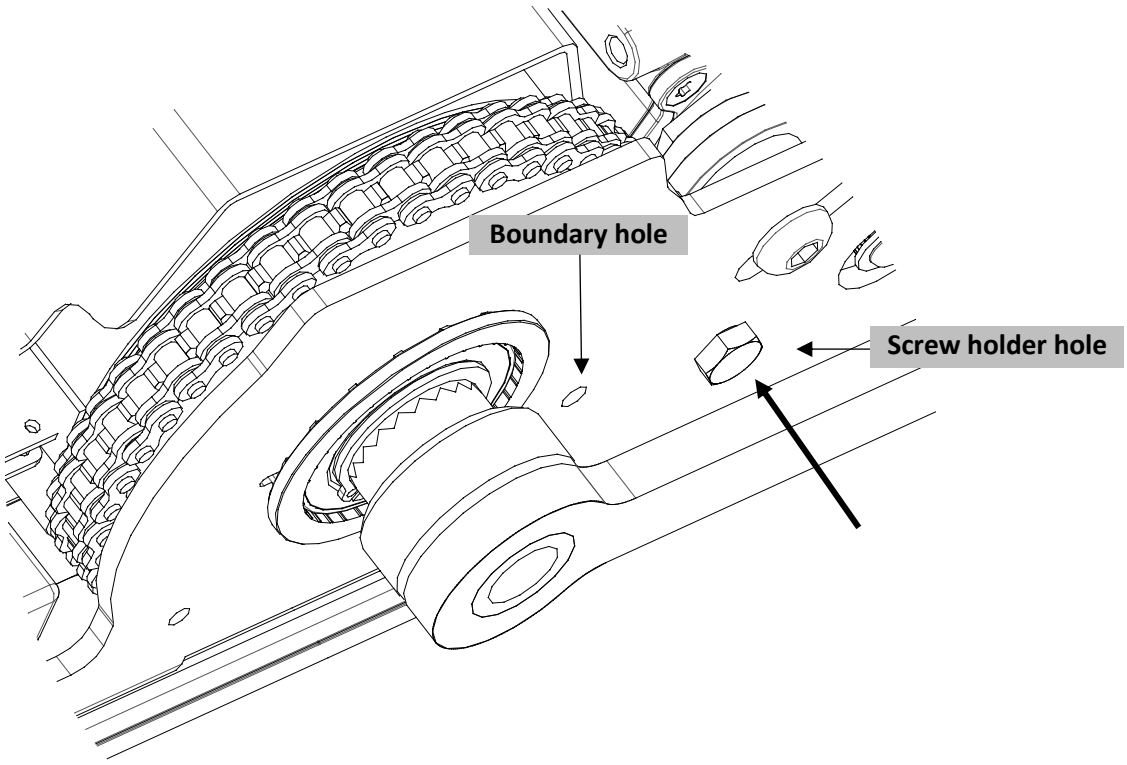
B= <u>Medium preload</u>



C= <u>Minimum preload</u>

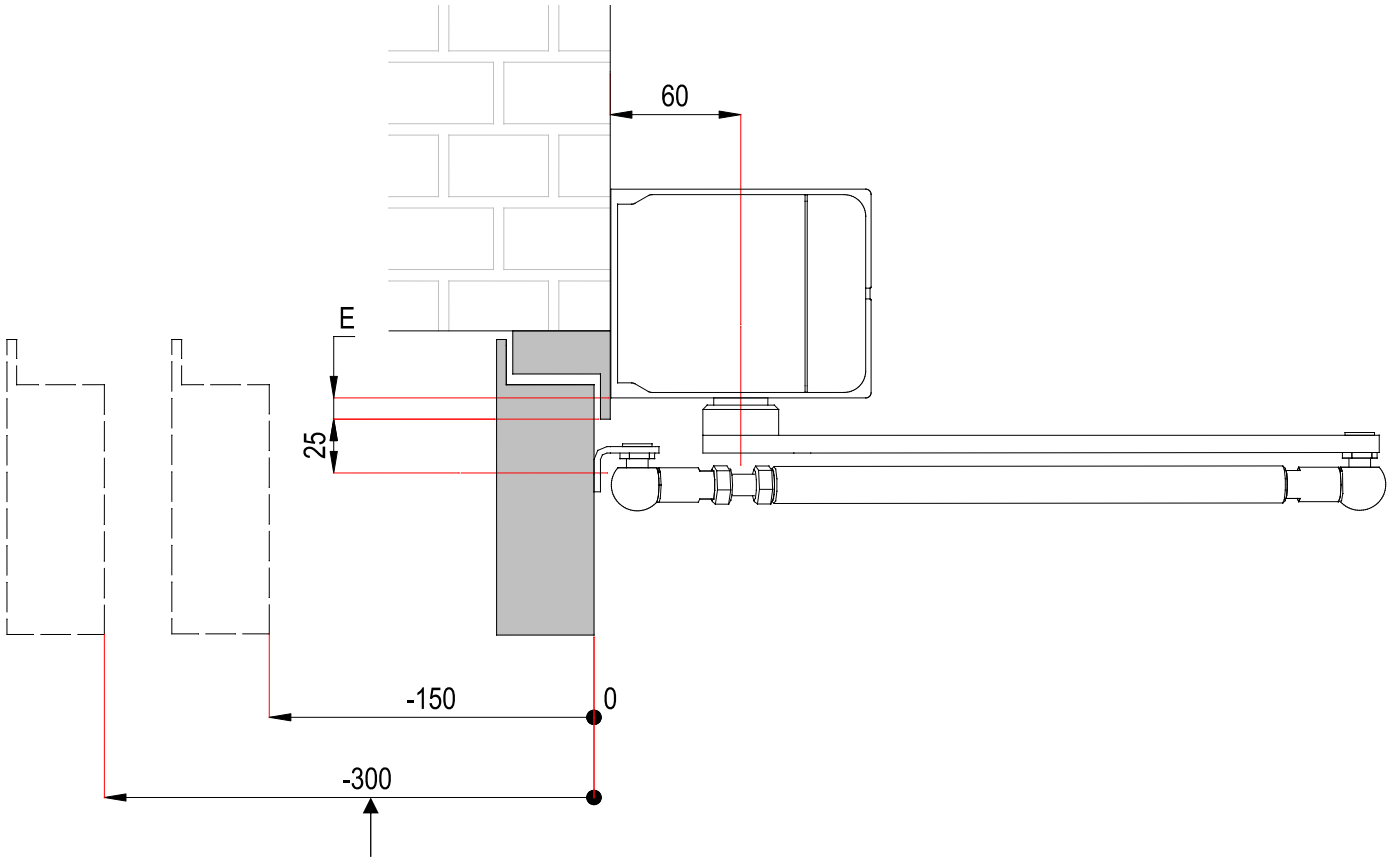
<u>Once the arm is connected to both the automation and the door and checked that all fastenings have been carried out, remove the spring alley</u> and screw the screw into the “screw holder” hole as shown in the image.





12. ARTICULATED ARM INSTALLATION (PUSH)

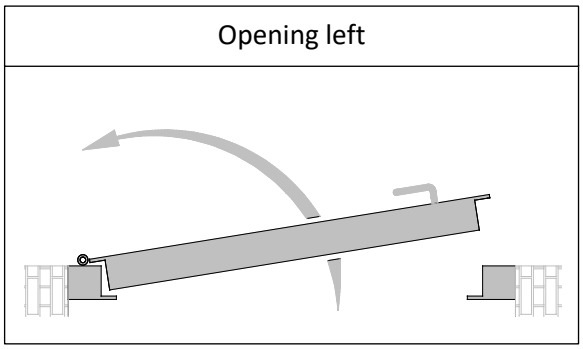
The articulated arm is used for doors that open on the opposite side of the automation.



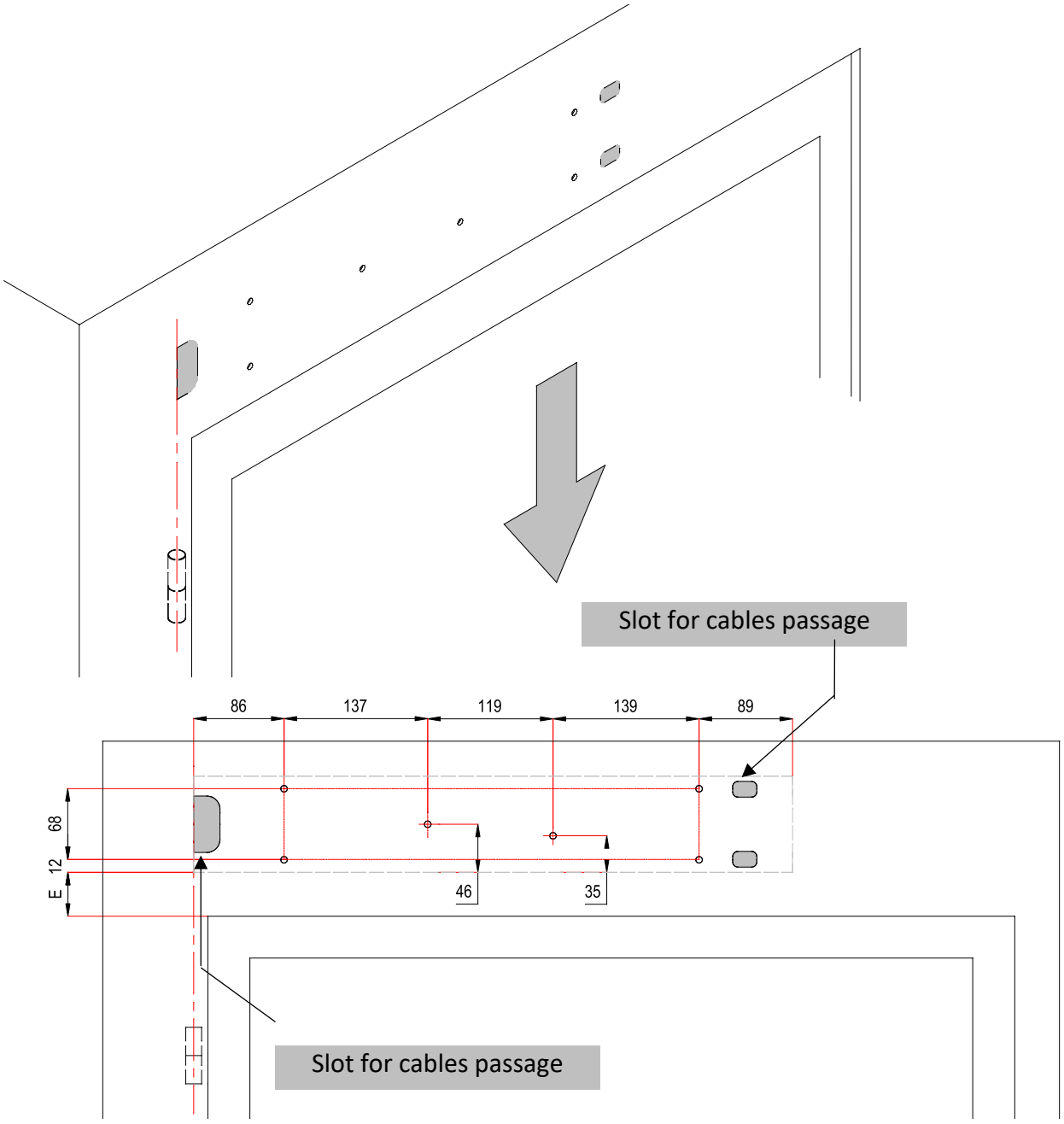
Long articulated push arm

Axle extensions	Position "E"
L=30mm (Standard already welded to the arm)	12mm
L=50mm (Standard + Kit axle extensions H=50mm)	32mm
L=70mm (Standard + Kit axle extensions H=70mm)	52mm
L=90mm (Standard + Kit axle extensions H=90mm)	72mm

WING OPENING LEFT - dimension and fixing of the automatism:

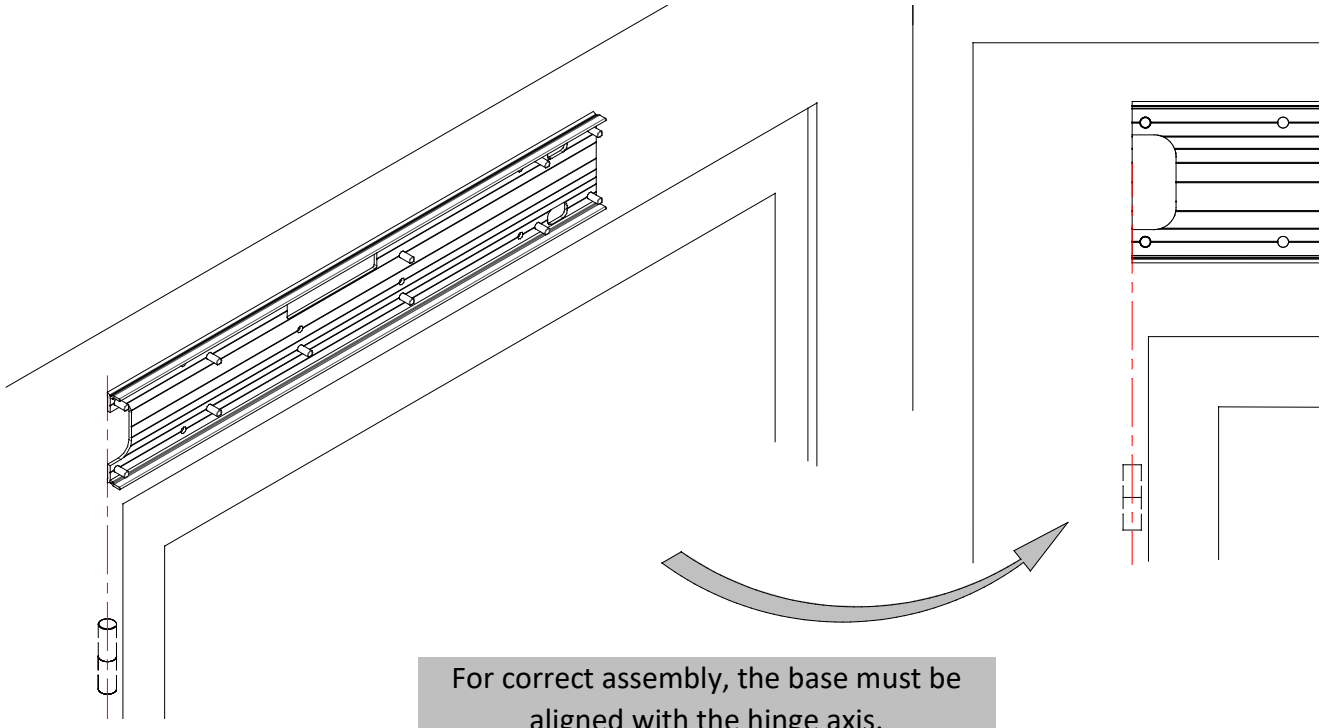


Use the adhesive template for the fixing holes. The Holes must be adequate for the type of screw used. For the passage of cables, make holes in the areas indicated in the image.

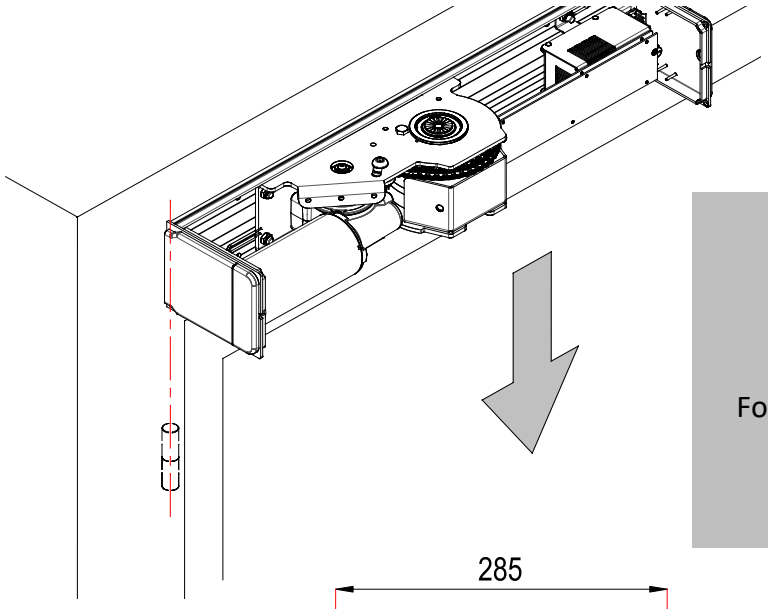


For correct positioning, always use the axis of the hinges of the door as main reference.

Fix the automation using the holes made previously.

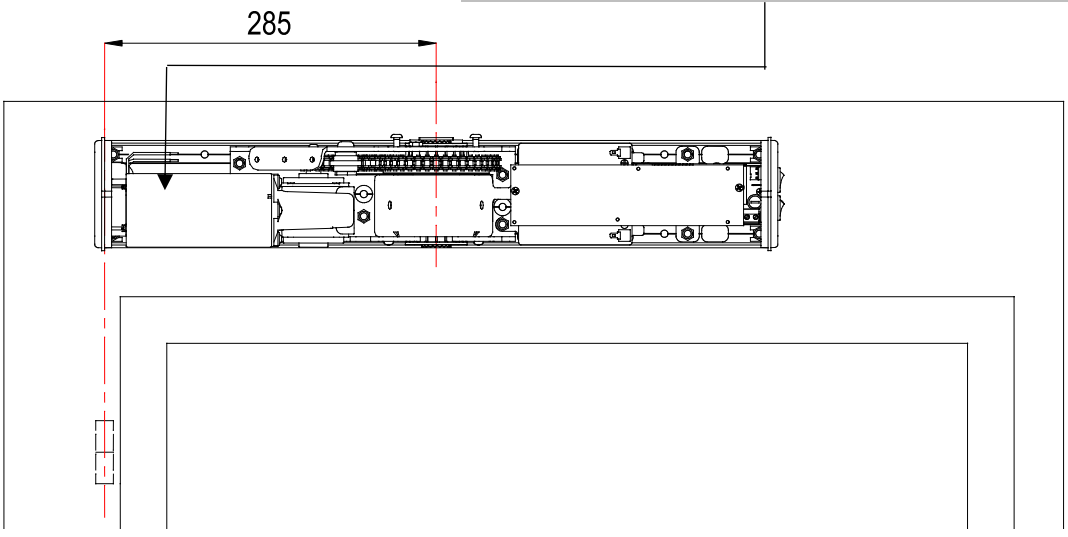


For correct assembly, the base must be aligned with the hinge axis.

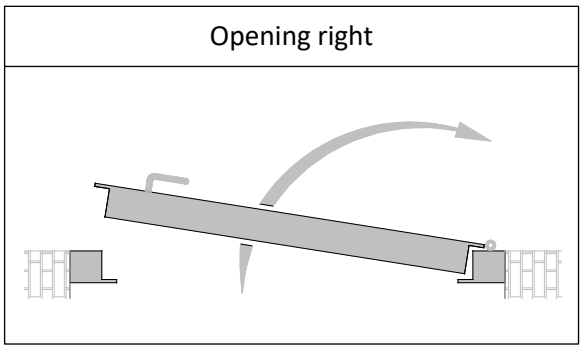


ATTENTION!!!!

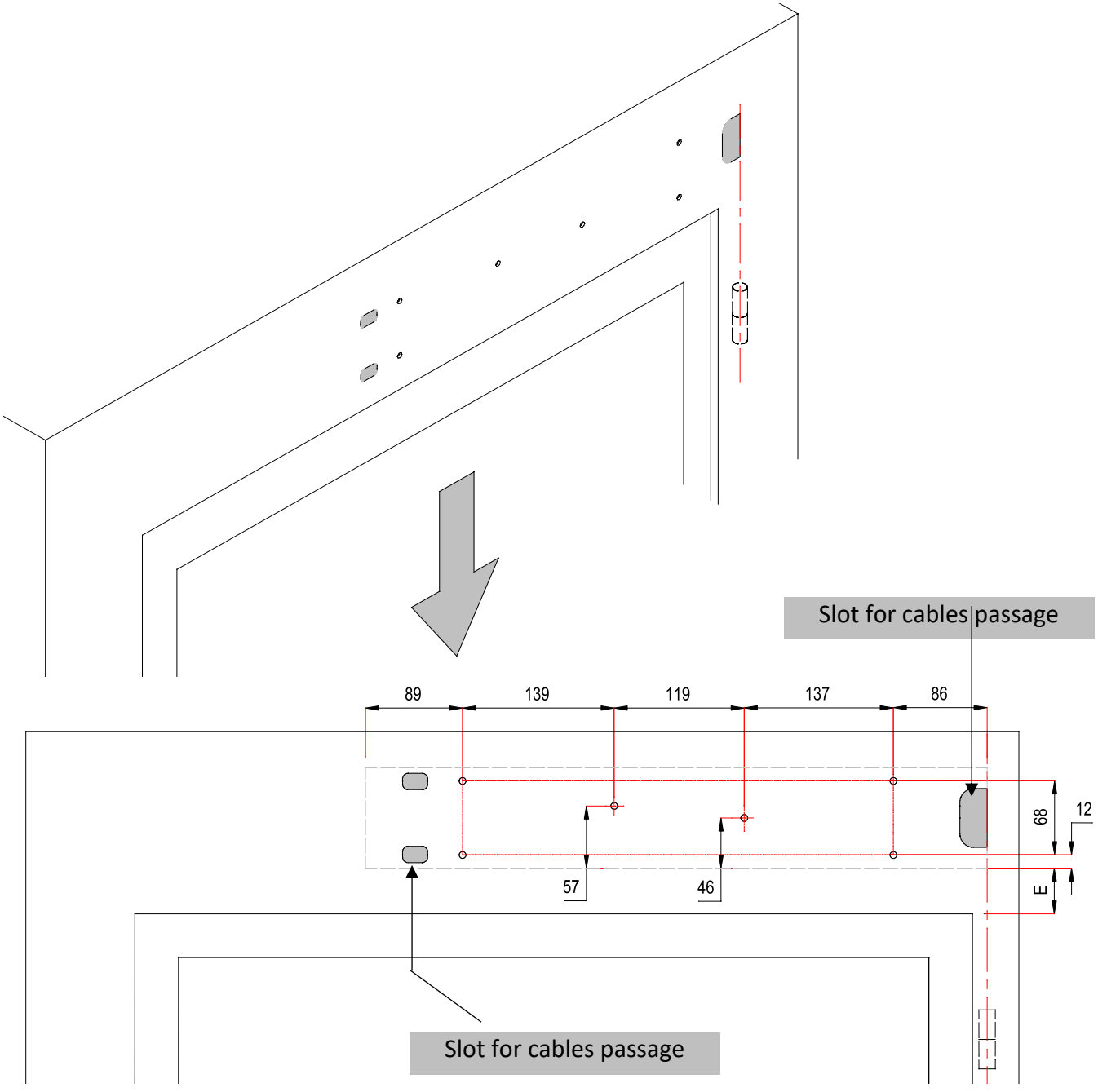
For **WING OPENING LEFT** operator must **ALWAYS** be mounted with **MOTOR ON THE LEFT.**



WING OPENING RIGHT - dimension and fixing of the automatism:

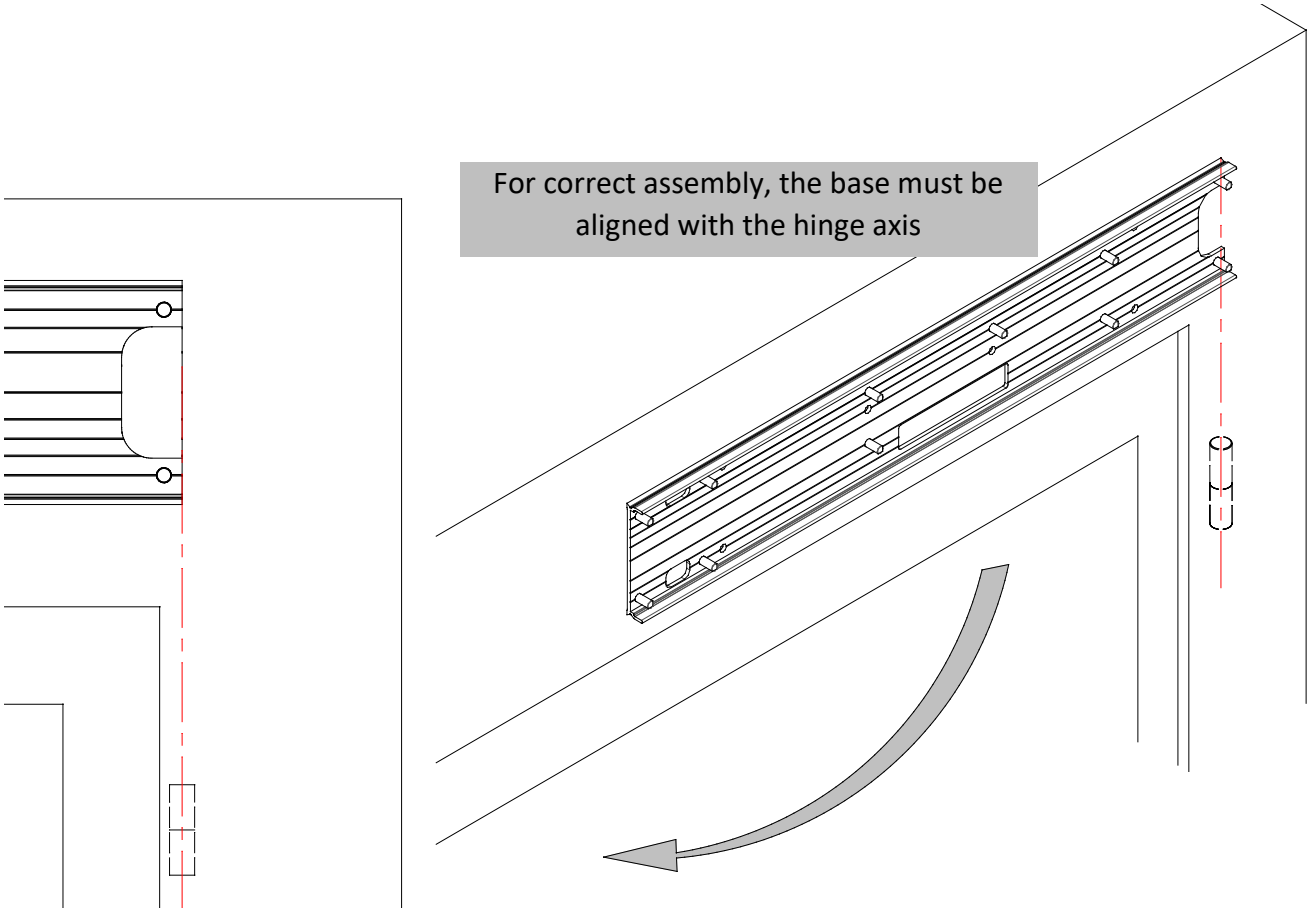


Use the adhesive template for the fixing holes. The Holes must be adequate for the type of screw used. For the passage of cables, make holes in the areas indicated in the image

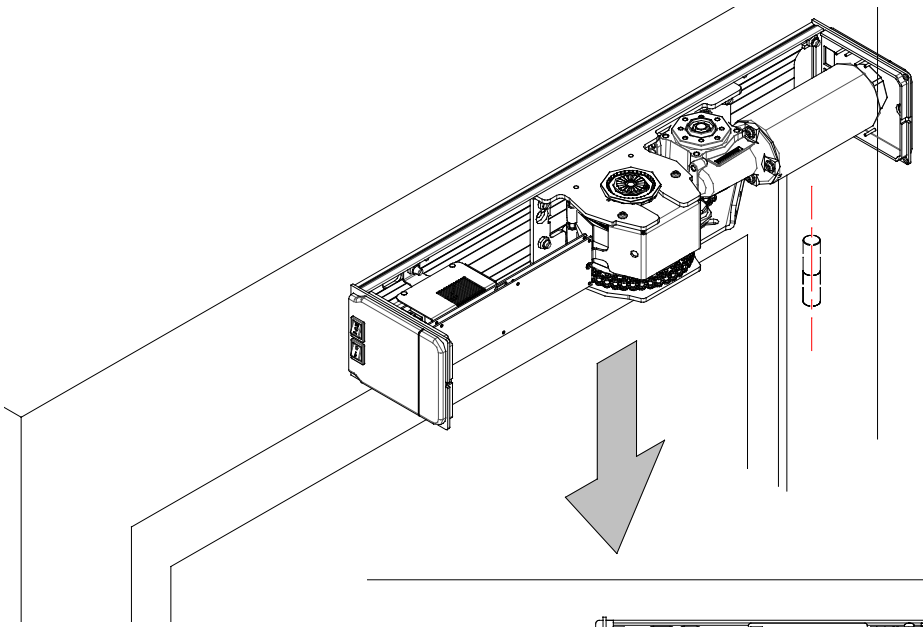


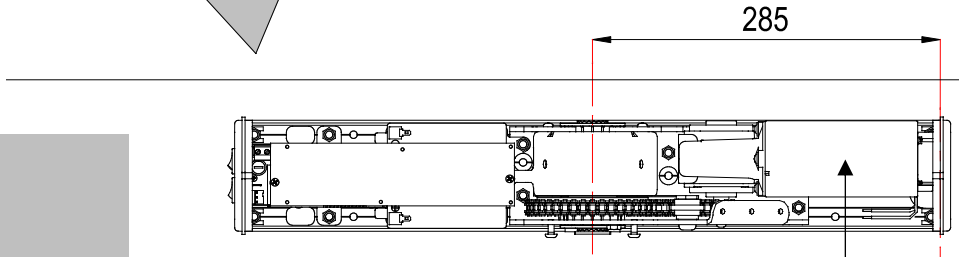
For correct positioning, always use the axis of the hinges of the door as main reference.

Fix the automation using the holes made previously.



For correct assembly, the base must be aligned with the hinge axis





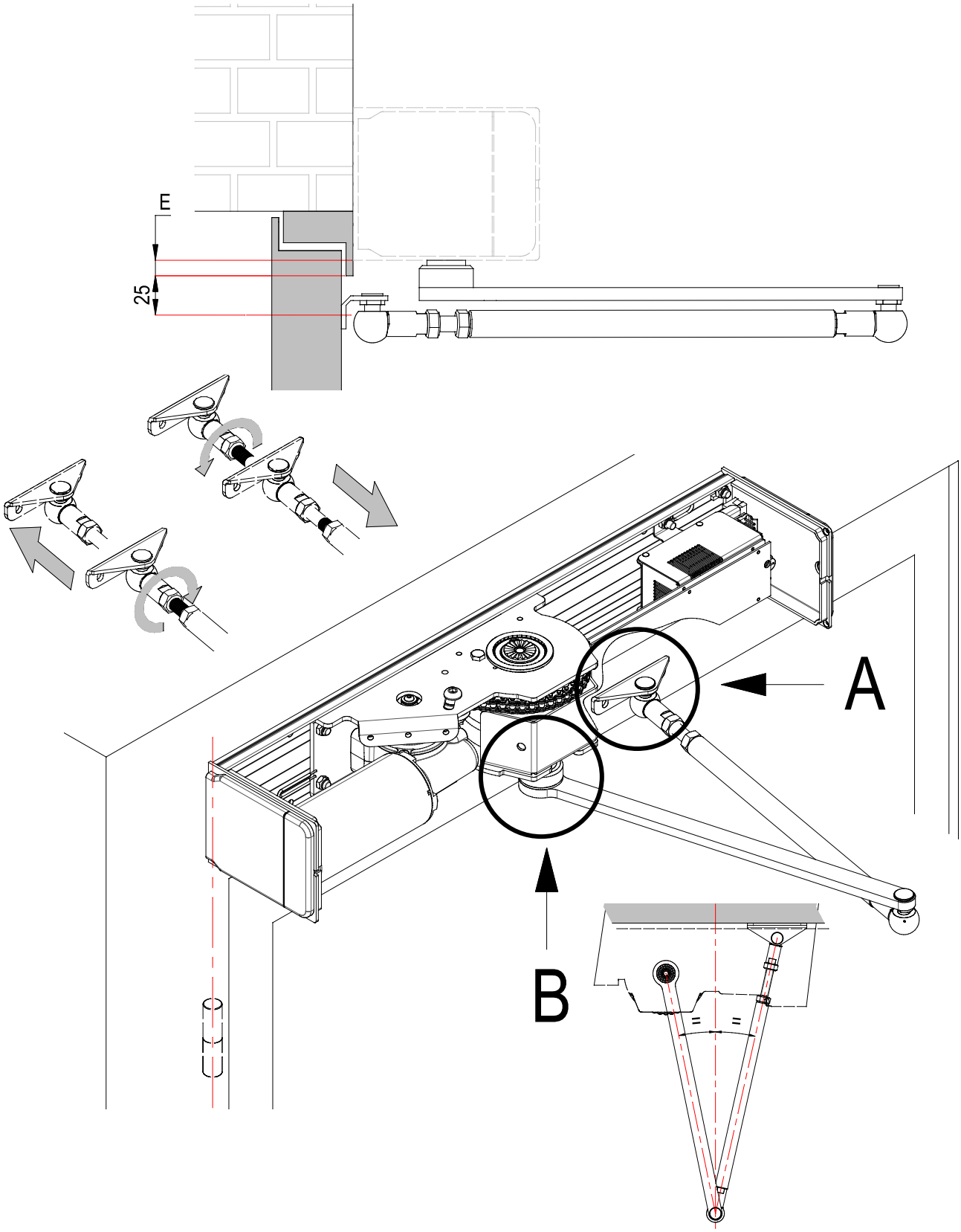
ATTENTION!!!!

For **WING OPENING RIGHT** operator must **ALWAYS** be mounted with **MOTOR ON THE RIGHT**.

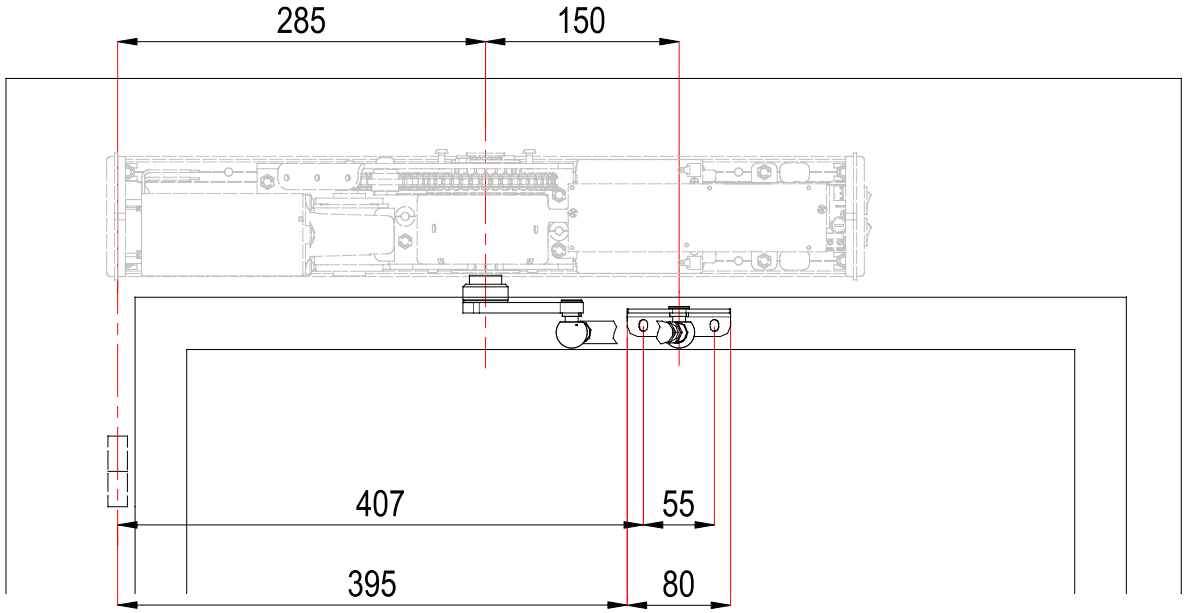
PUSH ARM INSTALLATION for wing opening left

Valid also for doors opening to the right performing the same operations but opposite side.

ALWAYS mount the articulated arm from a closed door and **NEVER remove the locking screw spring preaload** during the arm installation phases, the screw will be removed ONLY after having chosen the preload to be used and performed the procedure correctly.

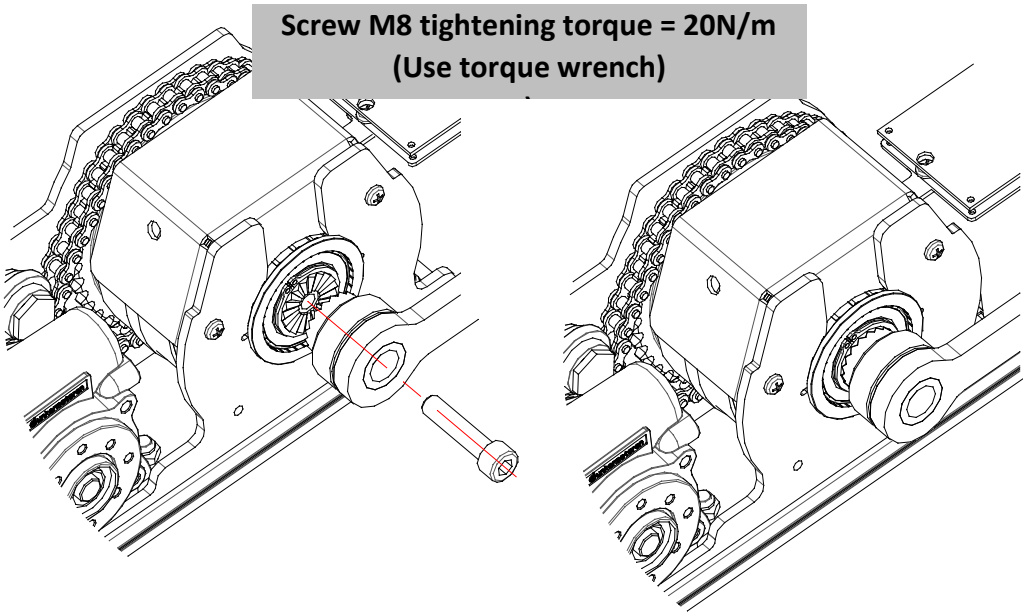


Detail A – Bracket fixing dimensions on the door.

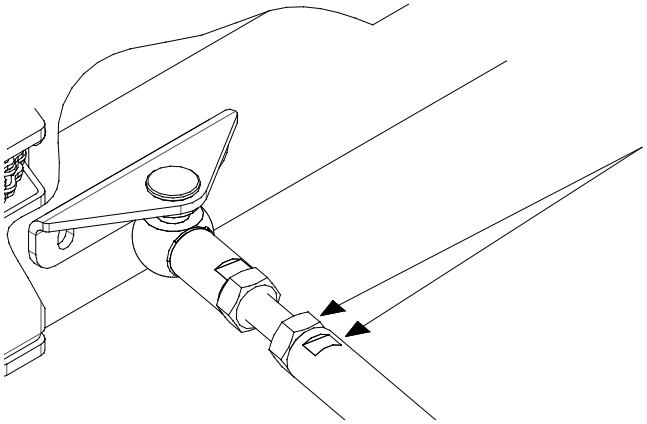


Detail B – Arm fixing to the automation using the M8 screw supplied.

Screw M8 tightening torque = 20N/m
(Use torque wrench)



Last operation fix the M10 nut to lock the telescopic rod.

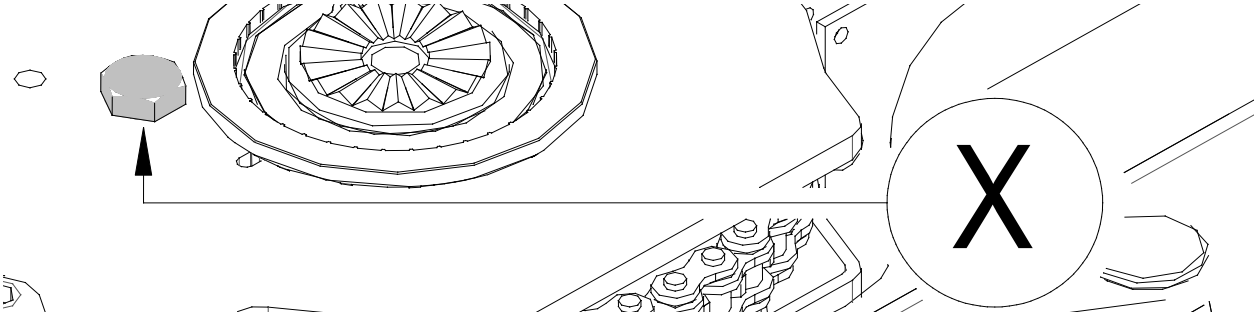


<u>ATTENTION!!! Only from this point on it is possible to adjust the preload of the spring</u>. This is the most delicate operation as it also determines which preload the operator will operate!!!

Attention!!!! The highlighted screw indicated with an "X" represents the mechanic constraint of the spring that NEVER HAS TO BE REMOVED before having finished the procedure for choosing the spring preload and having solidly fixed the arm to the door and to the operator.

ATTENTION!!!!

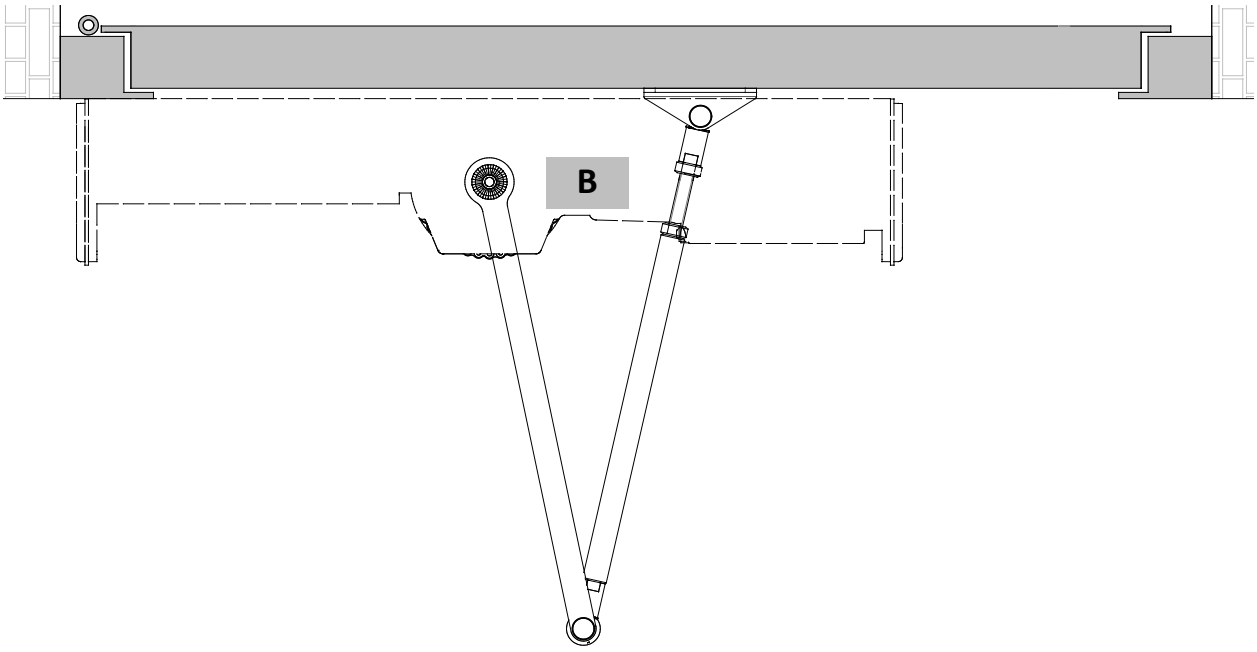
Removing the indicated screw (X) before completing the installation of the automation and fixing the arm to the door generates a serious danger to the installer as it sets in motion mechanical parts that create danger for all parts of the body near the automation itself!!!



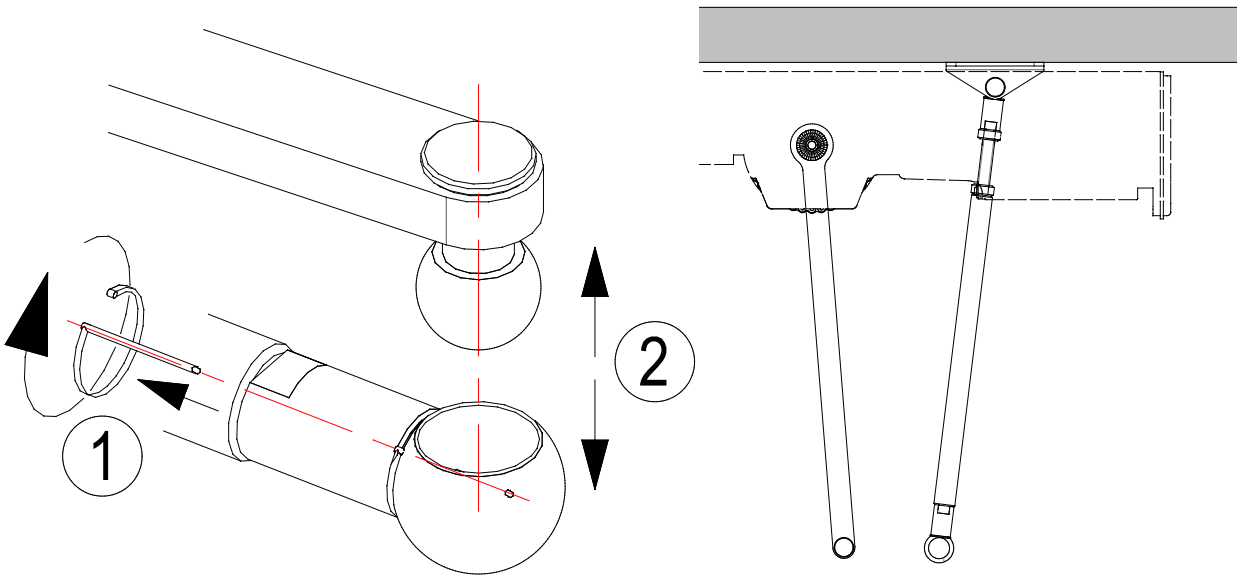
Choose the automation preload work:

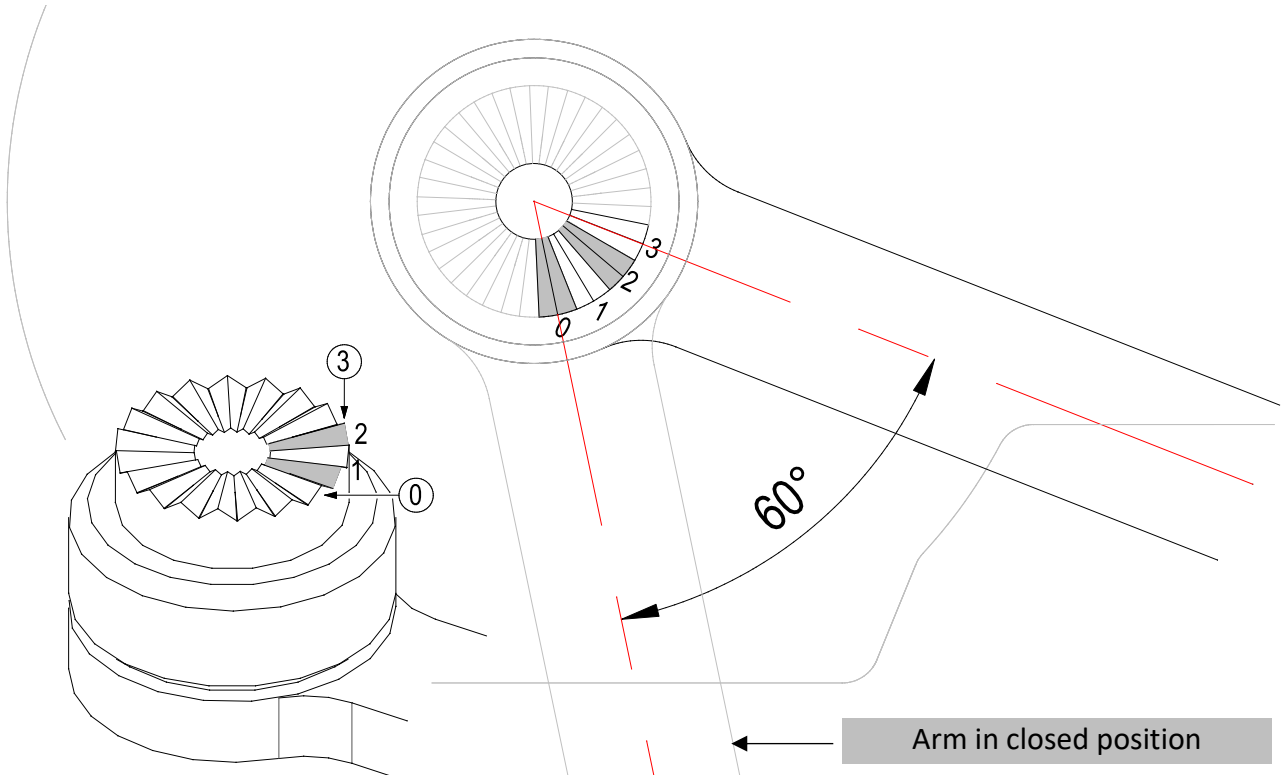
A

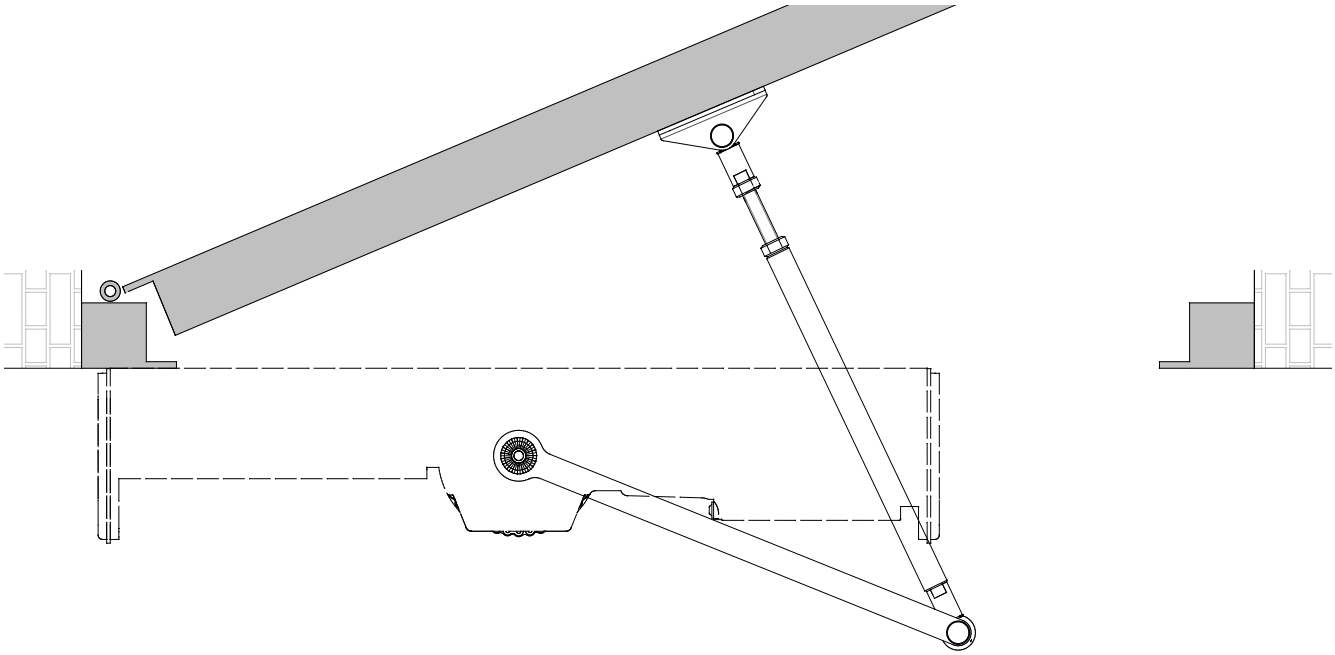
<u>Maximum preload (factory setting)</u> – torque value of about **14,0 N/m**:
fix the arm **with the door in the closed position (operation already done).**



Medium preload – torque value of about **12,0 N/m**:
starting from the closed door position (max. preload), the arm needs to be released on the tip by removing the joint (see image) after which the NON telescopic part (the one fixed to the automation) must be rotated in the opening direction **of n.3 teeth and screwed again the operator.** Once set the telescopic rod (fixed to the door) and fixed part of the arm they will have to be re-bound by remounting the joint.
At the end of this operation you will find the door slightly open as indicated in the picture (**BLOCKED BY THE SPRING CONNECTION SCREW**).





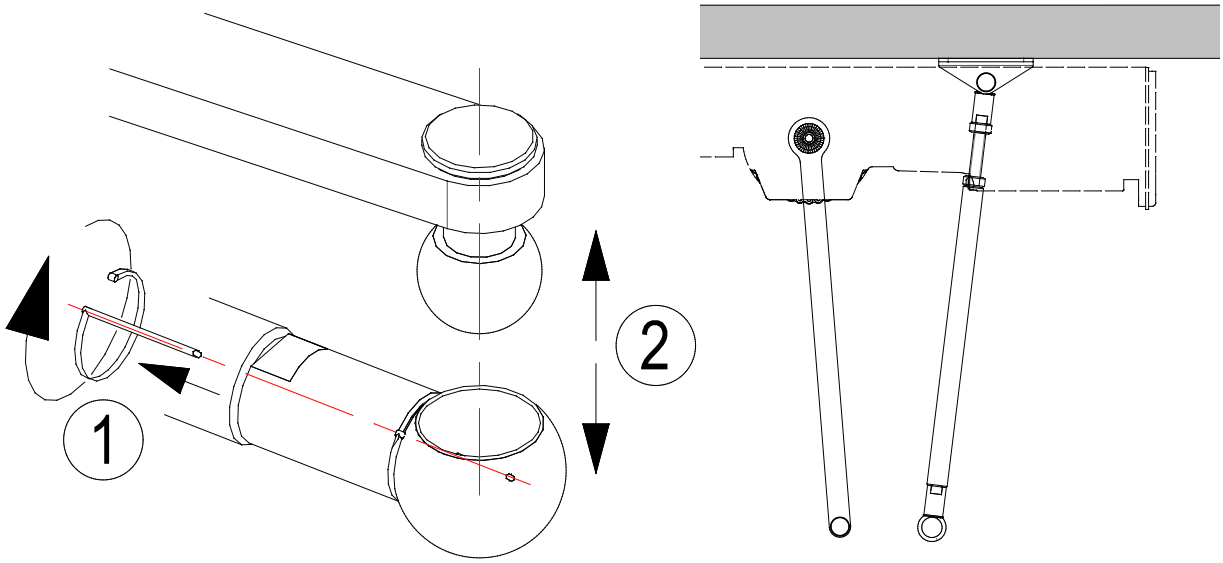


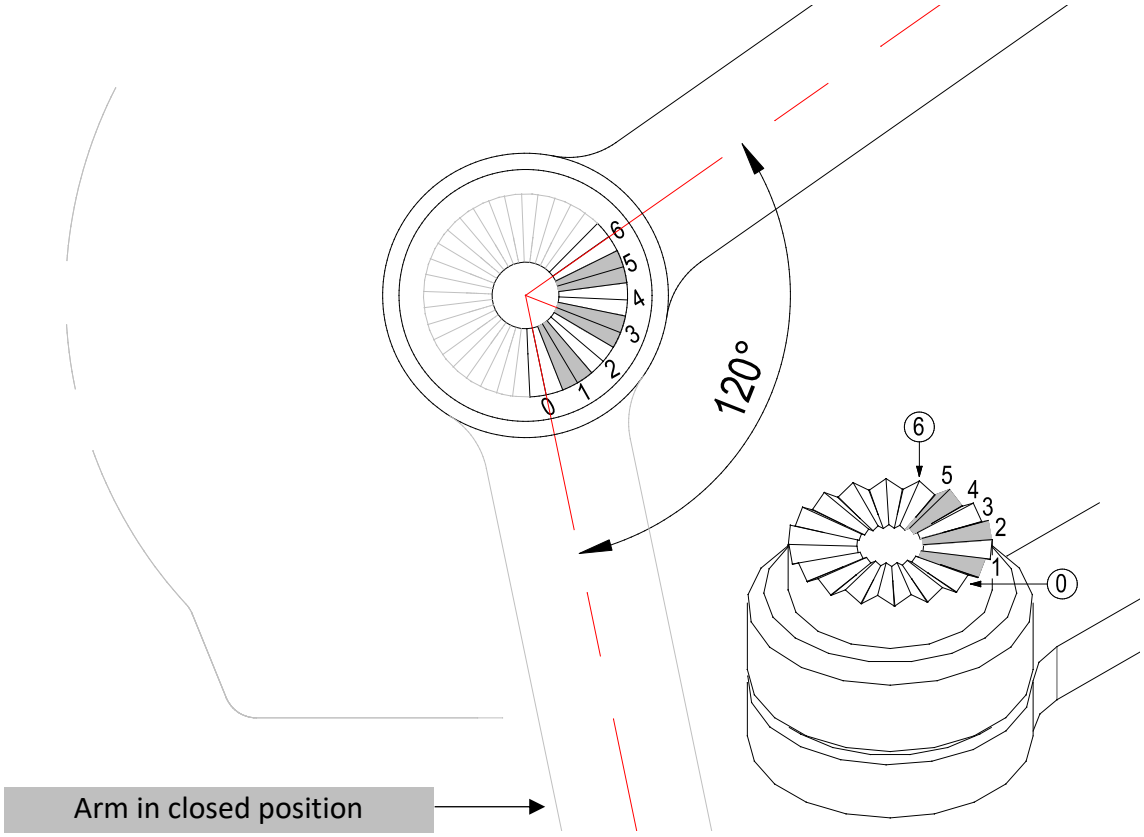
C

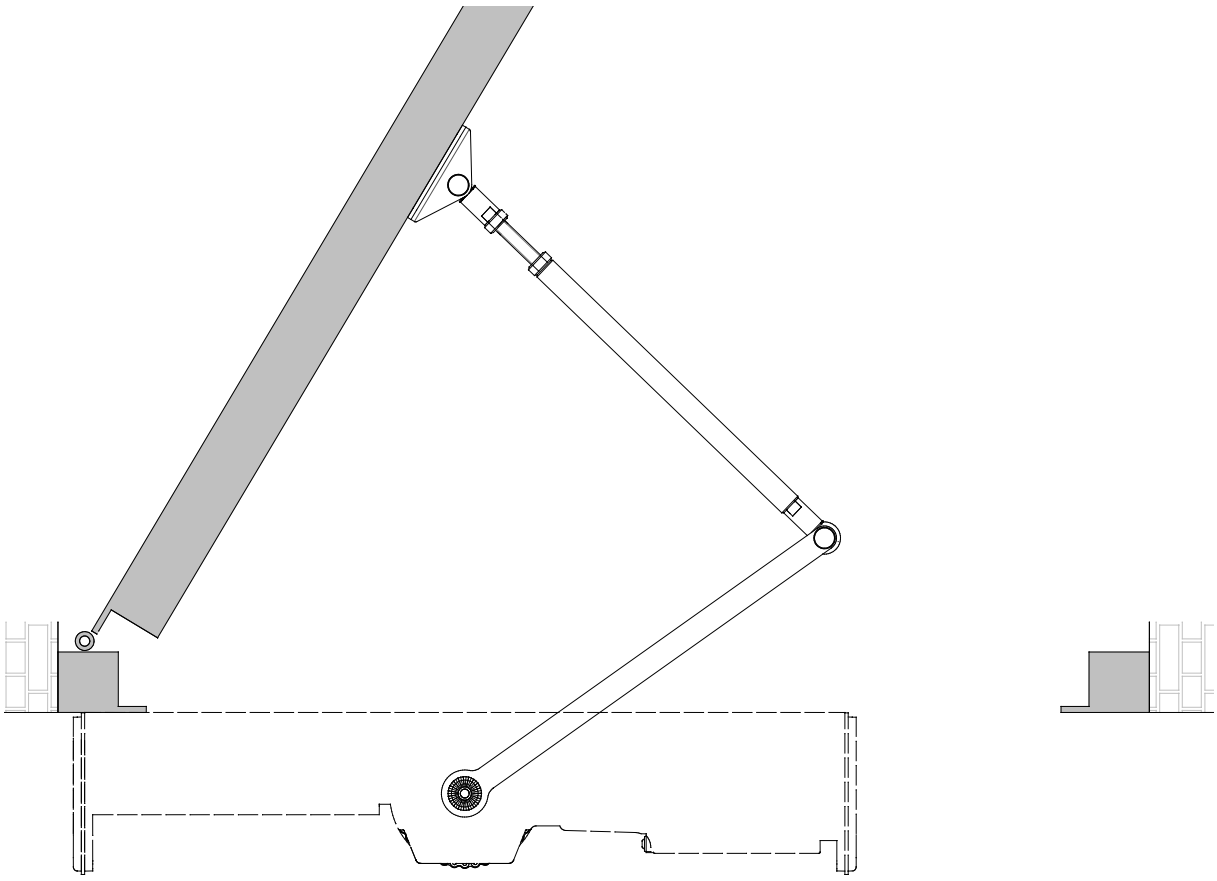
<u>Minimum preload</u> – torque value of about **10,0 N/m**:

if you go in this direction, starting from door on closed position (max. preload), arm must be released on the tip by removing the joint (see detail) after the part **NON telescopic** (to one fixed to the operator) it will be **rotated in the opening direction step of n.6 teeth and screwed again to the operator.** Once set the telescopic rod (fixed to the door) and the fixed part of the arm they will have to be re-bound by remounting the joint.

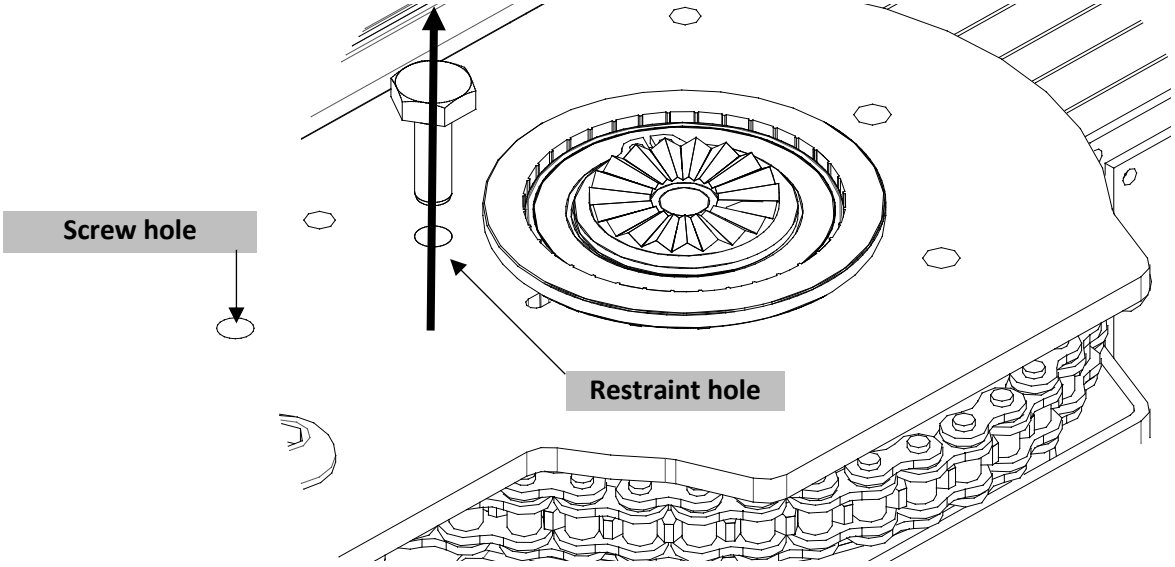
At the end of this operation you will find the door slightly open as indicated in the picture (**BLOCKED BY THE SPRING CONNECTION SCREW**).

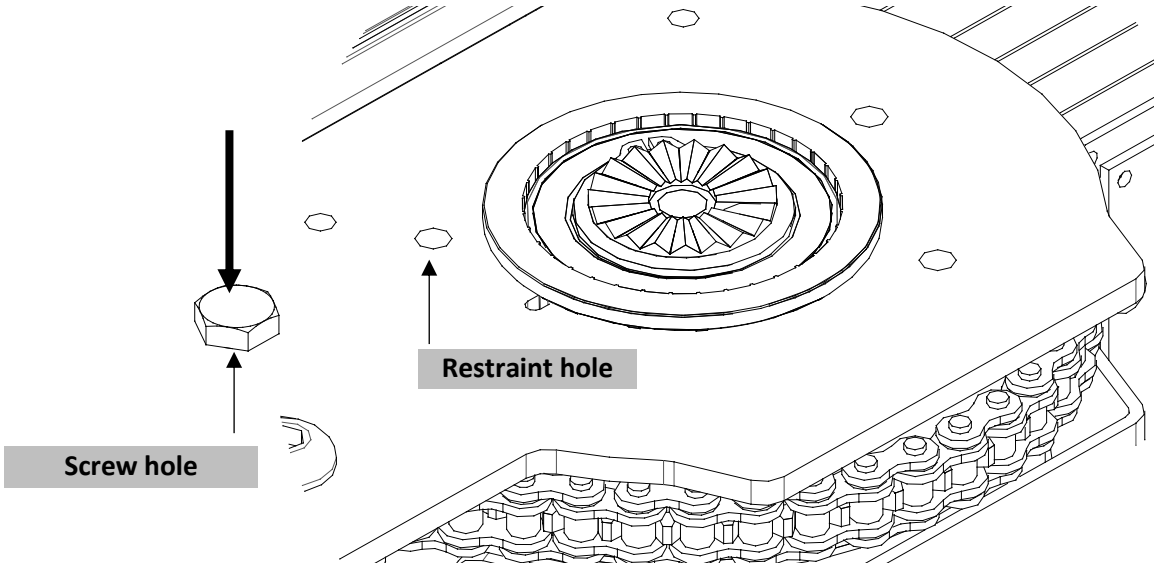



6
5
4
3
2
1
0
120°
6
5
4
3
2
1
0
Arm in closed position



<u>Connect the two parts of the arm and double check all fastenings have been executed and remove the spring restraint.</u> Screw in the hole the spring screw as indicated in the picture.

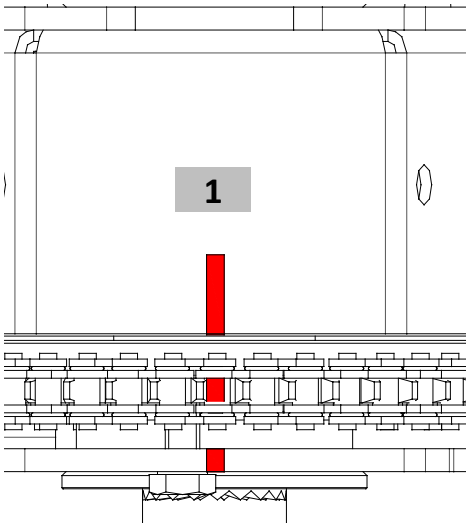


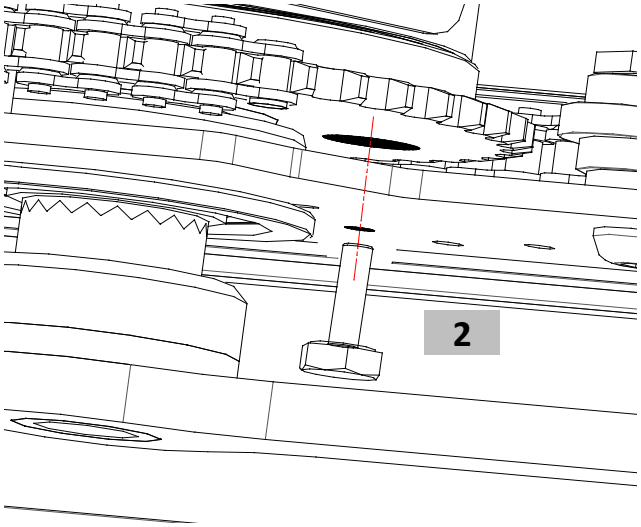


13. CHANGE SPRING PRELOAD (ONLY FOR SMARTPRO S)

ATTENTION!!! This operation must be performed with the utmost caution!!!!
ATTENTION!!! NEVER loosen or disassemble the arm from the door before having reassembled the spring restraint screw!!!!

1. Realign the red reference notches (when door in closed position they are not aligned, open the door until they match).
2. Tighten the screw paying attention it will fit in the hole of the toothed gear so as to constrain again the spring (realigning the notches the holes must fit together).

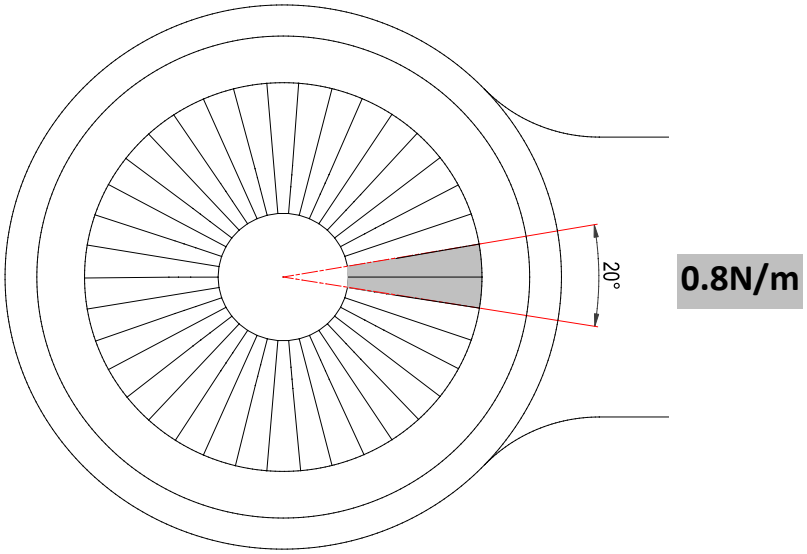




3. Depending on the selected arm follow the instruction described above

   Ba aware that:

Each segment of teeth of the arm connexion correspond to 20° arm rotation and a reduction (if you follow the opening direction) / increase (if you go opposite the opening direction) of spring preload of 0,8N/m.



14. SPRING REARM (ONLY FOR SMARTPRO S)

ATTENTION!!! This operation must be performed with the utmost caution!!!!
ATTENTION!!! This operation must be performed exclusively if the spring should discharge because of the lack of observation of the proper installation procedures.

The operator is supplied already with the spring pre-loaded with a default value signed by a red mark aligned between the chain and the metal case of the transmission.
If, due to some mistake during the installation, basic procedures have not been followed, the spring should be discharged, to recharge follow the steps here under described:

1. Disconnect arms if already installed
2. If the operator is already fixed on wall, keep it in that position and do not remove it.
3. If the operator is not already installed, fix it firmly on a workbench.
4. Remove jumper KEY (open KEY contact) and switch on power
5. Carry out Sd (Set to Default) procedure
6. Switch off power and put again jumper KEY (close KEY contact). Switch on power.
7. Press "-" until display shows **"CS" (Charge Spring)** – press enter one time and press again enter until "CS" blinks.
8. Press **"+"** in the control board, motor will start pre-loading the spring.

Charge it up to the two red lines will be aligned.

9. In case you must go back to find the right position because the line is exceeded,

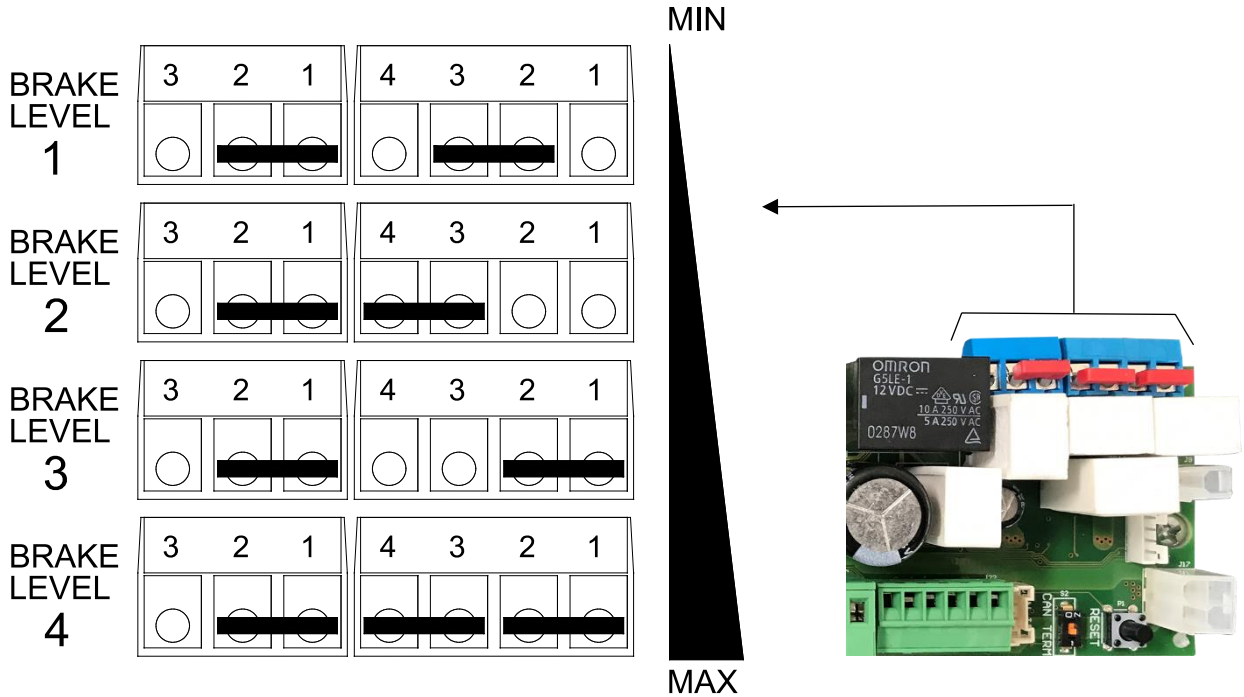
use push button **"-"** of the control board.

10. Once aligned the red lines **WITHOUT DISCONNECTING POWER SUPPLY** screw again the bond spring screw In its hole.

Now the operator is again ready to work normally.

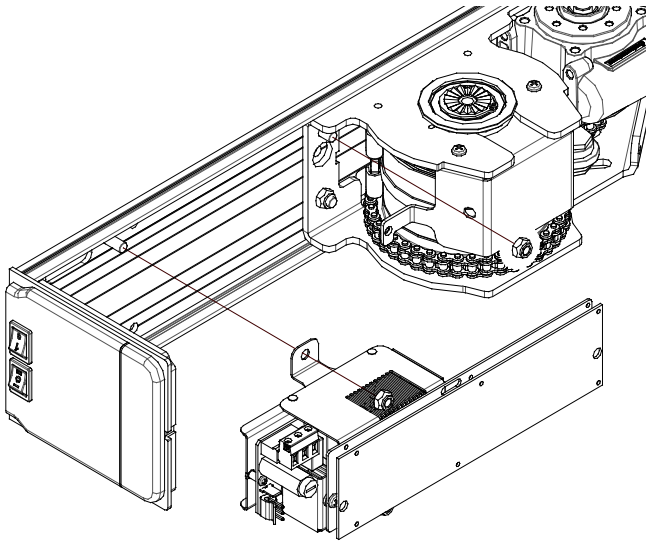
15. BRAKE LEVEL SECTION (ONLY FOR SMARTPRO S)

It is used to set the closing speed depending on sizes / weight of the door wing (see picture). This operation can be managed in manual mode, opening and let the door closing by spring without power supply.

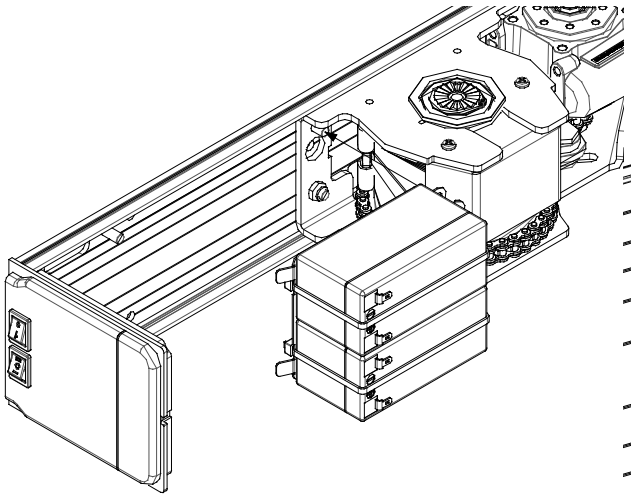


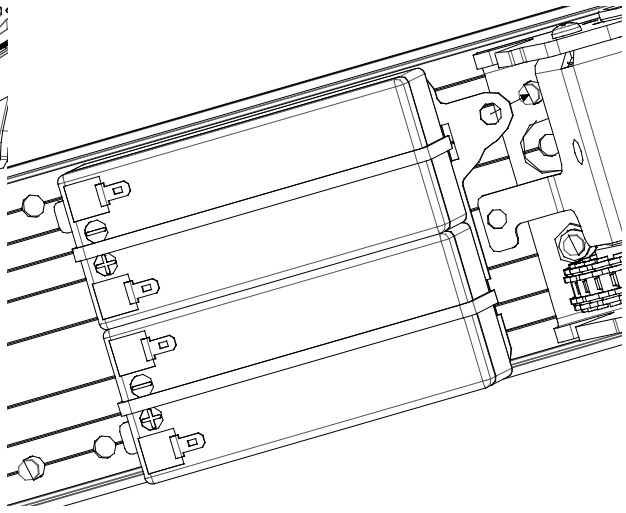
16. BATTERY INSTALLATION

1. Disassemble switching and control board

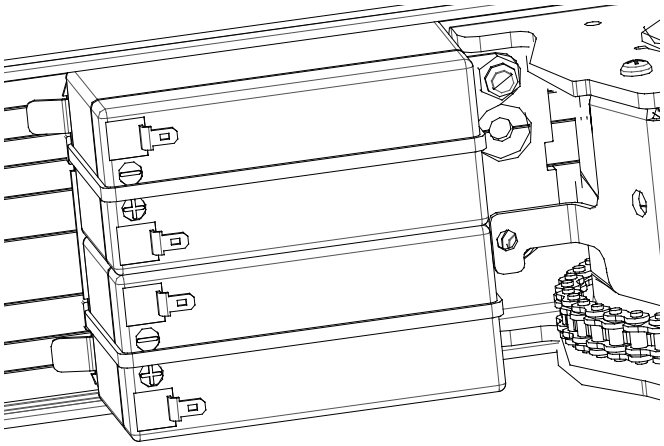


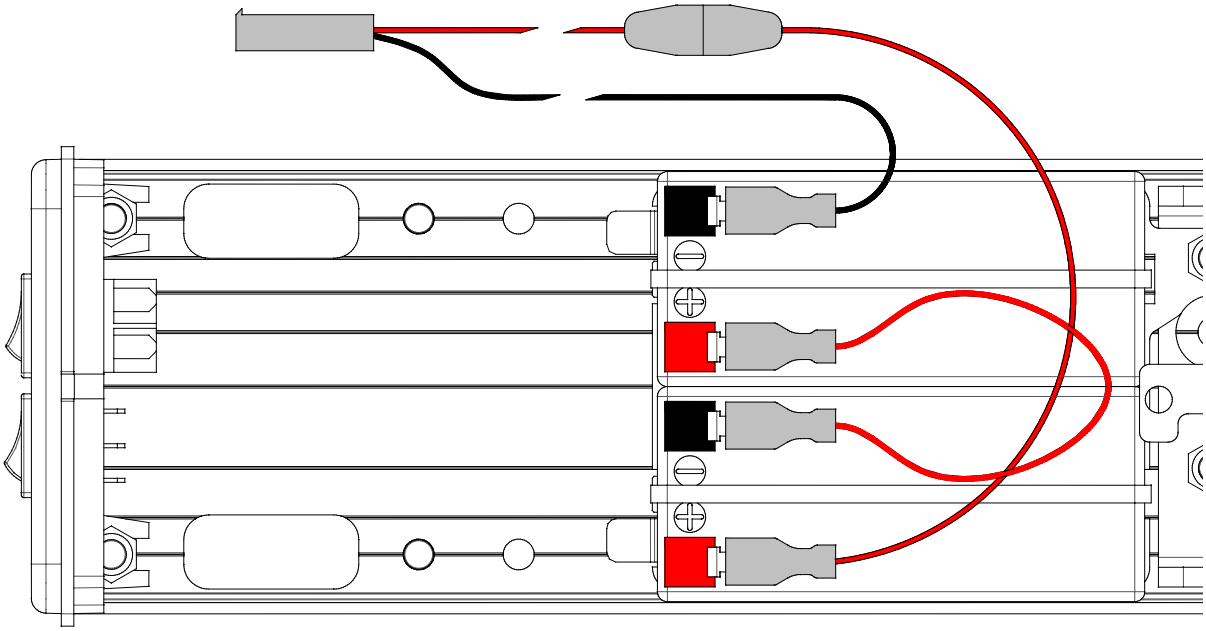
2. Fit battery back-up kit into the pin shown in the picture.



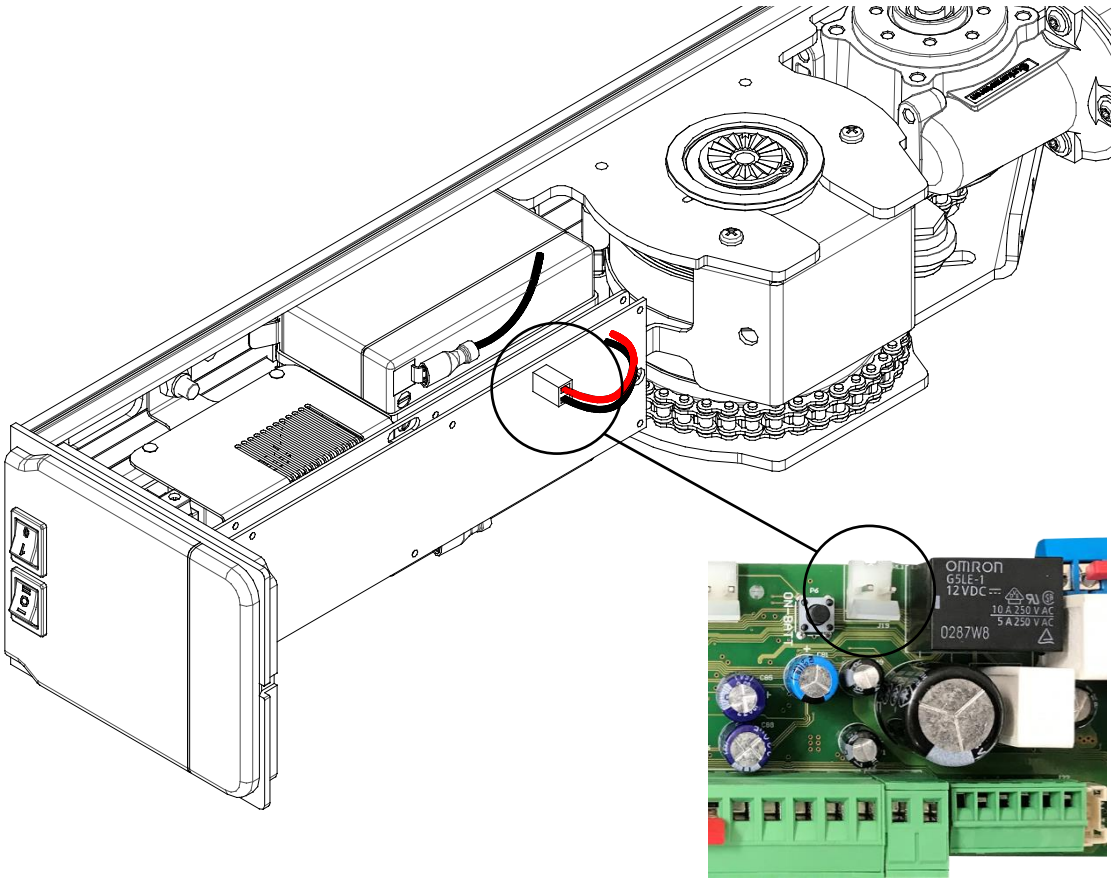


3. Re-tighten the self-locking nut previously unscrewed and wire batteries with its own wiring set.



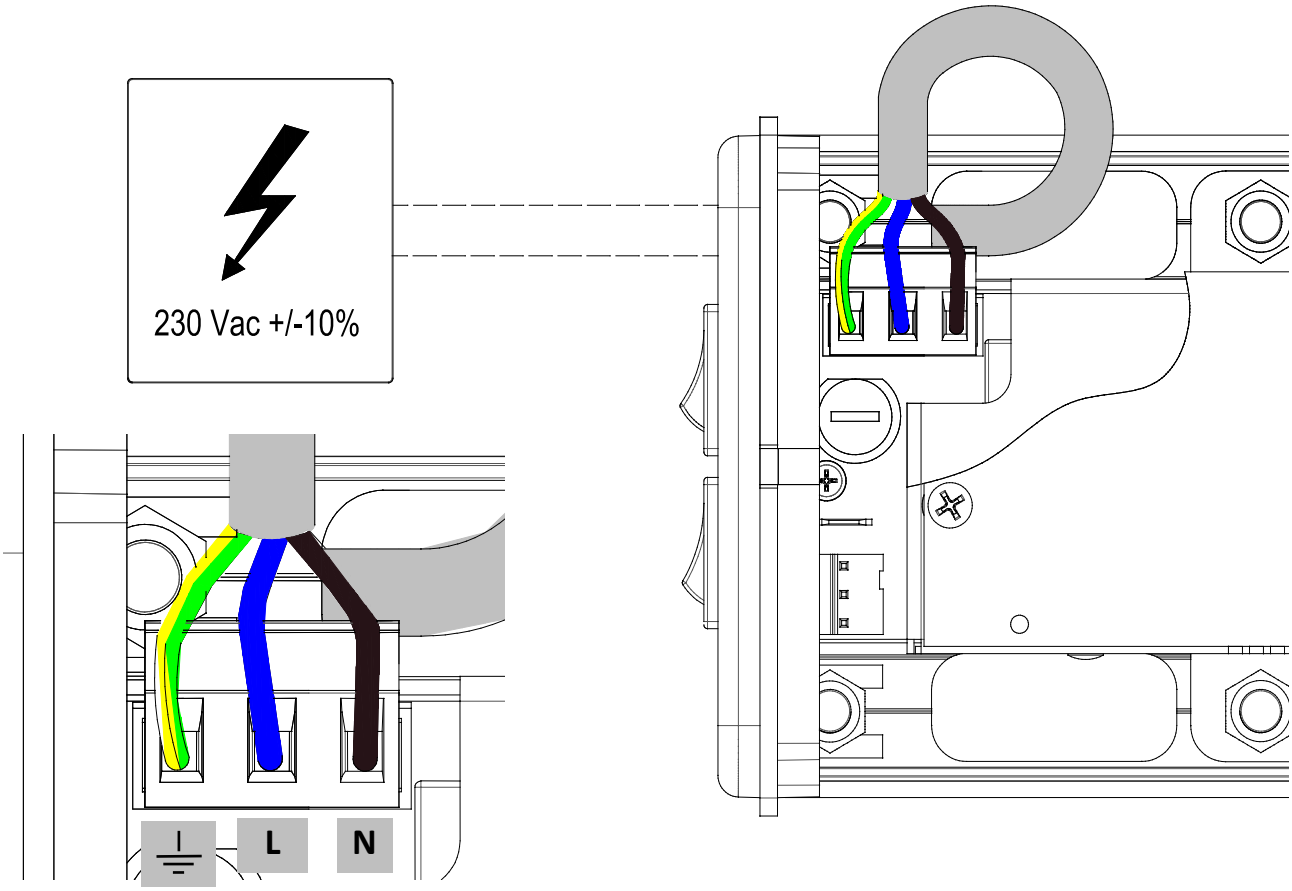


4. Refit switching and control board, insert cable connector in the dedicated electric clamp

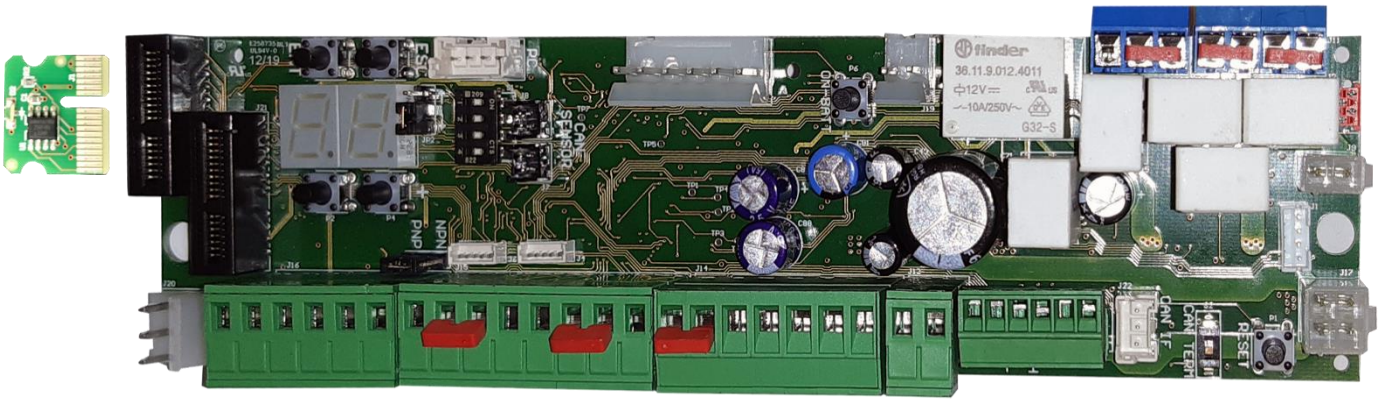


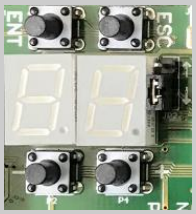
17. POWER SUPPLY CONNECTION

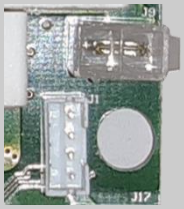
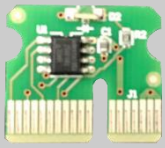
- Verify the plate data correspond to those specified in the electrical network.
- Provide a bipolar switch with a distance between the contacts equal or higher than 3mm
- Check there is a suitable over-current protection on the installation.
- Make sure there are no sharp edges that could damage the cables.



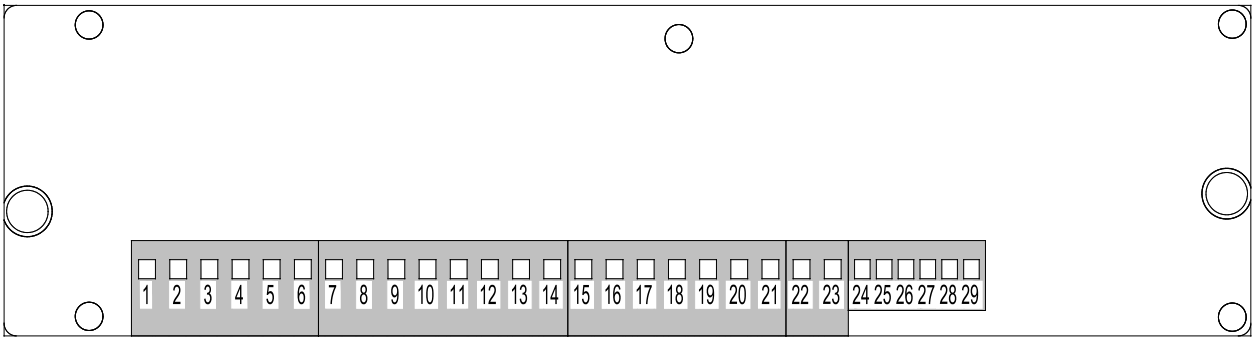
18. CONTROL BOARD

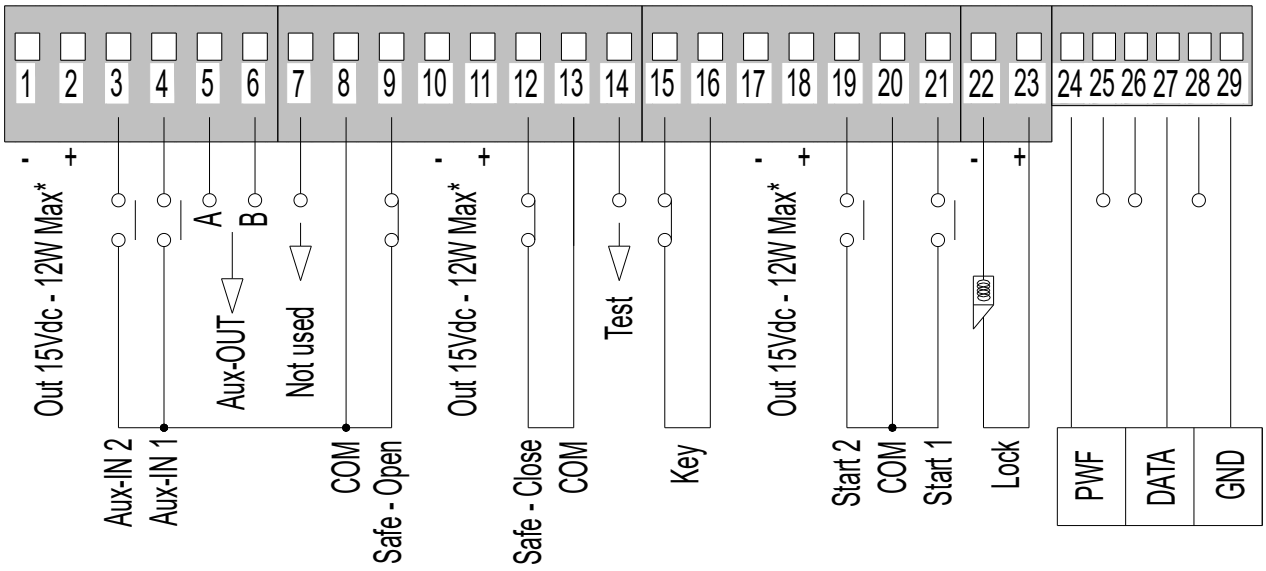


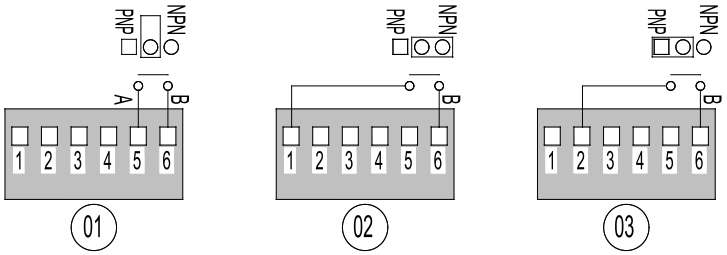
OUTPUT	DESCRIPTION	OUTPUT	DESCRIPTION
	Connector Main-Key (J5)		Connector Can Bus (J8)
	Connector expansion (J21)		Connector battery recharged card (J18)
	Display + push buttons + jumper orientation display		Connector battery back-up kit (J19)
	Connector internal sensors (J3)		Connector selection brake level (J11)
	Dip – Switch (S1)		Connector integrated 3 position switch (J2)

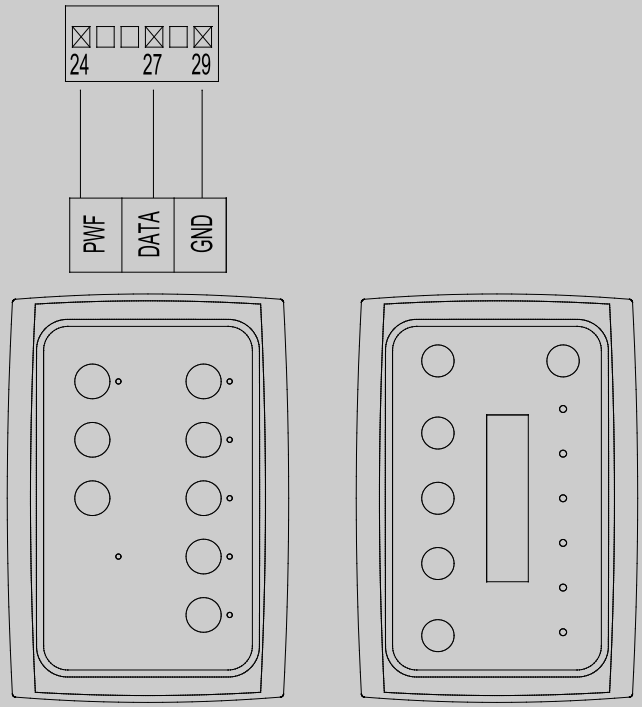
USCITA	DESCRIZIONE	USCITA	DESCRIZIONE
	Connectors encoder e motor power supply (J9+J1)		Connector ON/OFF switch (J17)
	Connector power supply 24V (J20)		Connector master/slave (J22)
	Main Key		Connectors (safety controls, aux e selector)

Terminal boards numbering and contacts



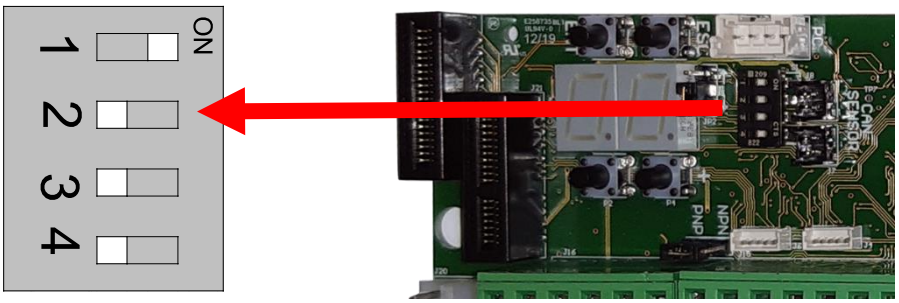


CONTACT		FUNCTION	DESCRIPTION
1-2	--	Power supply 15Vdc – 12W Max*	Power supply output for sensor or other opening devices
3-8	NA	Auxiliary input 2	Input contact with configurable functions as indicated in the parameters chart (see pag.56 parameter 16)
4-8	NA	Auxiliary input 1	Input contact with configurable functions as indicated in the parameters chart (see pag.56 parameter 15)
5-6	NA	Auxiliary output A/B	Auxiliary output configurable as follows: 
7-8	NC	Not Used	Not Used
8-9	NC	Safe Open	Contact safety sensor in opening. If safety sensor installed in the opening door wing and wired to control board on terminal (Safe Open) detects and obstacle during opening, it stops immediately the movement of the door. If the detection stops, the door starts the movement in opening and then closed in normal speed. Sensor's detections in closing does not influence the movement and door keep going on its movement. In case of installation with a door opening close to a wall (for example in a corridor) it is mandatory to set a value (% of the full opening) where sensor does not detect the wall as an obstacle. This value can be set modifying parameter 20 (see paragraph "Managing parameters function-display").
10-11	--	Power supply 15Vdc – 12W Max*	Power supply output for sensor or other opening devices
12-13	NC	Safe Close	Contact safety sensor in closing. If safety sensor installed in the closing side of the door and wired to control board on terminal (Safe Close) detect an obstacle in closing, it stops and reverse immediately the movement of the door, going to full opening at standard speed and consequently in closing at normal speed. Sensor's detections in opening does not influence the movement and door continue to move.
13-14	NC	Test	Test safety sensor.
15-16	NC	Key	Key command. Lock signal. Closing devices can be connected (electronic key, key selector switch, card reader, etc) If the signal is open, control board gives instruction to close doors. (starting from any position). Until the signal is closed,

			door remains closed and none external peripheral can be detected (including multi-logic selectors). **Signal must be short-circuited with COM if no devices are connected.**
17-18	--	Power supply 15Vdc – 12W Max*	Power supply output for sensor or other opening devices
19-20	NA	Start 2	Opening signal. External devices to open the door can be connected. The closing of this signal command the opening of the doors. This signal is monitored both in logic 2 Radar both in logic 1 Radar
20-21	NA	Start 1	Opening signal. External devices to open the door can be connected. The closing of this signal command the opening of the doors. This signal is monitored only in logic 2 Radar.
22-23	--	Lock	Output for power supply of electric lock 12Vdc o 24Vdc Max 500mA. **ATTENTION!! set according dedicated paragraph**
24-27-29	NA	Connector of the selector switch	Wiring basic/advanced selector. 
25-26-28	NA	Connector of the selector switches	Predisposition for selector wiring **NON-AVAILABLE**

***Total power available to be divided on all the power outputs.**

19. DIP SWITCHES



DIP	PARAMETER		VALUE	DEFAULT
1	Model of operator	OFF	Motor	ON
		ON	Spring	
2	Arm selection	OFF	Push arm	OFF
		ON	Pull arm	
3	Mode of use LOW ENERGY (see table)	OFF	Normal	OFF
		ON	Low Energy	
4	PUSH&GO (see table)	OFF	Disabled	OFF
		ON	Active	

LOW-ENERGY

Operator open and closed at reduced speed. Set opening and closing delay time according to the weight and width of the door leaf specified in the following table.

		Weight of the door (kg)				
		50	**60**	**70**	**80**	**90**
Width (mm)	**750**	3,0s	3,0s	3,0s	3,0s	3,5s
	850	3,0s	3,0s	3,5s	3,5s	4,0s
	1000	3,5s	3,5s	4,0s	4,0s	4,5s
	1200	4,0s	4,5s	4,5s	5,0s	5,5s

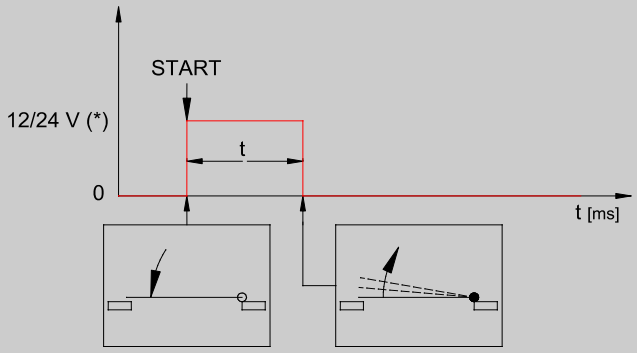
Timings related to opening from 0° to 80° and in closing from 90° to 10°

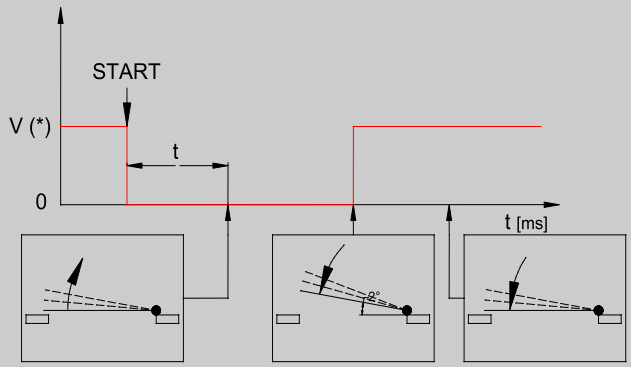
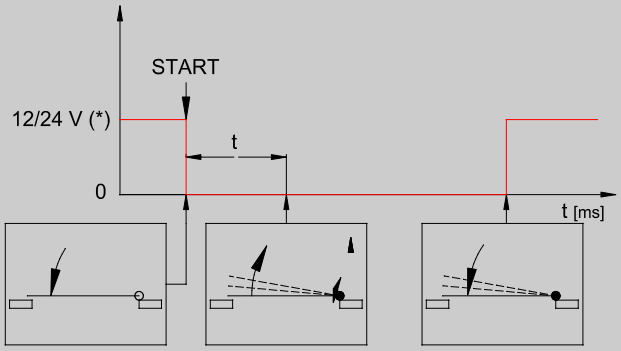
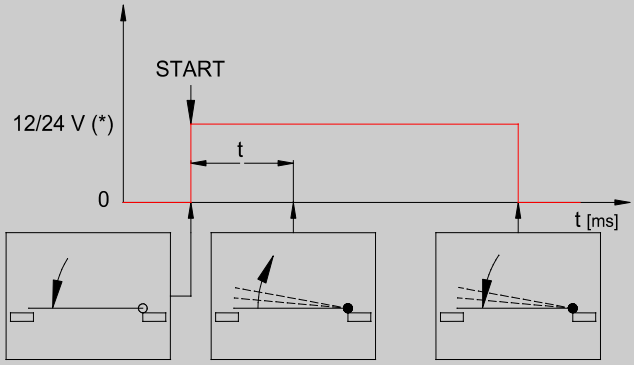
PUSH & GO

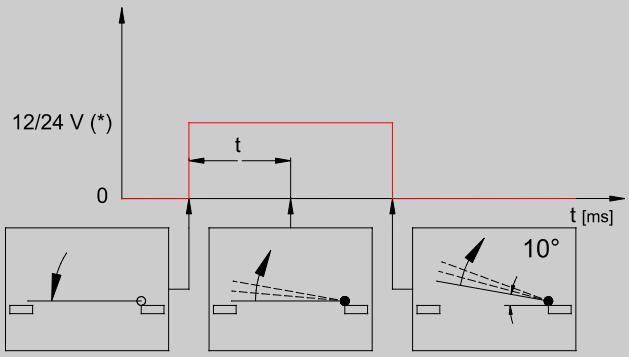
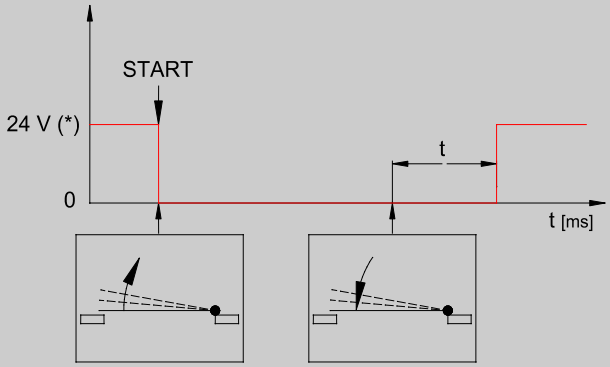
A manual push on the door when it is in closing position enforces an automatic opening and closing cycle.

20.ELECTRIC-LOCKS SETTING

ID	DESCRIPTION	SETTING	DEFAULT
09	Electric lock power (1)	0 = 12 VDC 1 = 24 VDC	0
10	Lock type (2)	0 = Not used 1 = Electric lock with mechanical relock on closing 2 = Maglock – ONLY 24VDC 3 = Magnetic bolt lock 4 = Motorized lock 5 = Electric lock with auto relock 6 = Maglock with delay relock – ONLY 24VDC	0
11	Impulse time or Opening delay (3)	RANGE: 0 ÷ 9 This timing depends on the type of electric lock	2
12	Closing force of the electric-lock (4)	RANGE: 0(min.) ÷ 9(max.)	5
14	Activation of the electric-lock according the logic selected (5)	0 = Disabled 1 = One Radar 2 = Two Radars 3 = One Radar and Two Radars	3
15	Aux input 1	4 = Unlocking Feedback (6) 5 = Command unlocking (7)	0
16	Aux input 2	4 = Unlocking Feedback (6) 5 = Command unlocking (7)	1
17	Aux output 1	5 = Lock command repetition	0
18	Aux output 2	5 = Lock command repetition	1

TYPE	PAR.	VALUE	OPERATION
1-ELECTRIC LOCK WITH MECHANICAL RELOCK ON CLOSING	10	1	After impulsive power supply, it unlocks the door and automatically relocks when it closes. It requires a push back hit to unlock the door. 
	11	RANGE: 0÷9 [t=50÷500 ms]	
2-MAGLOCK	10	2	It keeps the door closed with power, when disconnected it release the door. It does not require a push back hit. Maglock is powered again when door start it closing cycle to facilitate the complete closing.
	11	RANGE: 0÷9 [t=200÷2000 ms]	

<table>
<tr><td></td><td></td><td></td><td> 
</td></tr>
<tr><td rowspan="2">3-MAGNETIC BOLT LOCK</td><td>10</td><td>3</td><td rowspan="2">It keeps the door closed with a bolt that keep the door locked. If disconnected, pulls the bolt up and release the door. It requires a push back hit to unlock the door. Magnet is powered again when door is fully closed.
 
</td></tr>
<tr><td>11</td><td>RANGE: 0÷9
[t=200÷2000 ms]</td></tr>
<tr><td rowspan="2">4-MOTORIZED LOCK</td><td>10</td><td>4</td><td rowspan="2">Electric-lock with electric motor that when powered it retract the locking pin and let the door open. It requires a push back hit to unlock the door. Motorized lock is powered off when door is fully closed.
 
</td></tr>
<tr><td>11</td><td>RANGE: 0÷9
[t=500÷5000 ms]</td></tr>
<tr><td rowspan="2">5-ELECTRIC LOCK WITH AUTO RELOCK - IMPULSIVE</td><td>10</td><td>5</td><td rowspan="2">When powered it release the lock. Rest comes releasing the voltage after an opening of 10°. It requires a push back hit to unlock the door.</td></tr>
<tr><td>11</td><td>RANGE: 0÷9
[t=100÷1000 ms]</td></tr>
</table>

			
6- MAGLOCK WITH DELAY RELOCK	10	6	Magnet that is powered keeps the door closed, if disconnected it release the door. It does not require a push back hit to unlock the door. Magneti s powered again only when the door is completely closed. 
	11	RANGE: 0÷9 [t=200÷2000 ms]	

([1]) It is possible to use electric lock 12 and 24 VDC (Parameter 09) maximum power supply di 500mA**. <u>For maglock use only 24VDC.</u>**

([2]) Compatibility with following types of electric locks:

([3]) For some type of electric-lock it is possible to modify the duration of the impulse for activation or the delay of the opening from the unlock command. This parameter has different meaning and adjustment range setting according to the model of electric-lock set with parameter 10.

([4]) To ensure the closing of the electric-lock is possible to adjust the closing force.

([5]) È possibile limitare l'utilizzo della serratura (per le tipologie di serrature 2-3-4-6) solo se sono selezionate determinate logiche di funzionamento.

([6]) È possibile gestire un comando di feedback dalla serratura che ne indica la condizione di sblocco: dopo aver dato il comando di sblocco la centrale elettronica attende il consenso dalla serratura prima di iniziare l'apertura. Se questo non arriva entro un tempo massimo impostato, l'automatismo apre comunque la porta.

([7]) È possibile di utilizzare uno degli ingressi ausiliari come comando di sblocco manuale della serratura che lavora in parallelo al comando di sblocco automatico, utilizzabile per aprire la porta in modalità manuale.

21. START UP

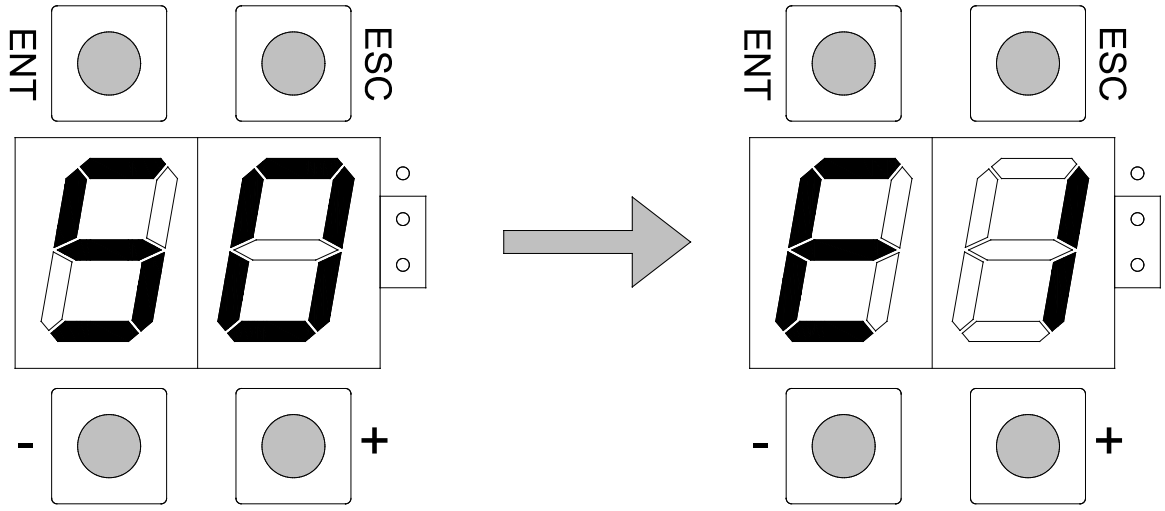
Verify contacts 8-9, 12-13, 15-16 are closed.
Be sure to have set the parameters of the electric-lock.

DANGER: during LP procedure the safety sensors are not connected.
Be sure no persons are passing through the door. Movement of the doors might create serious damage to property or people at risk of life-threatening injuries.

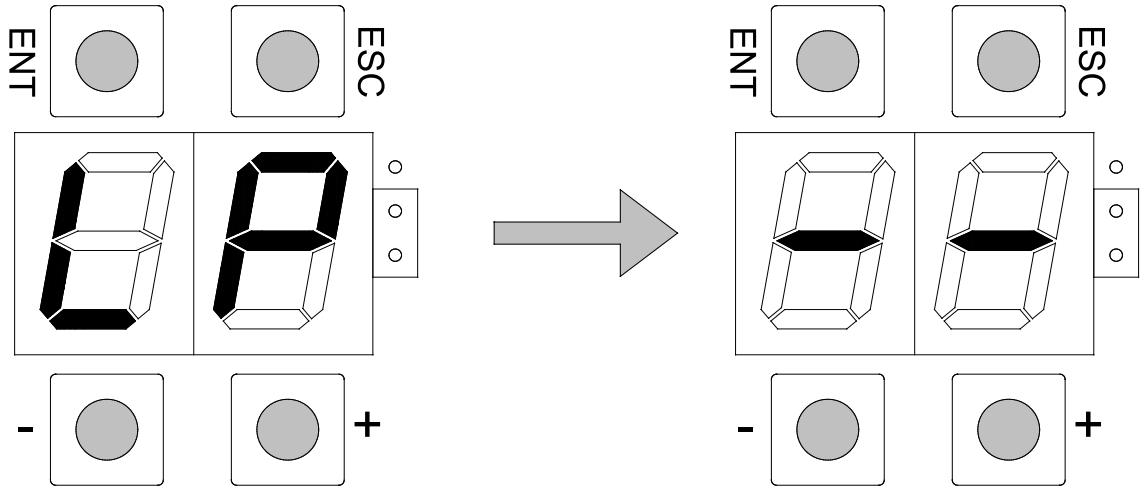
Start up procedure:

- Give power to control board. Display shows “S0”, monitoring of the sensor not working (solo per versione preserie).

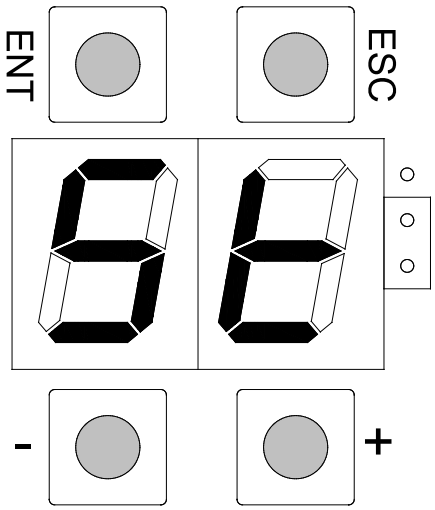
11. Display will show “E1” blinking.



- Press “–“until display shows “LP”, then press “ENT” until the display shows “—".

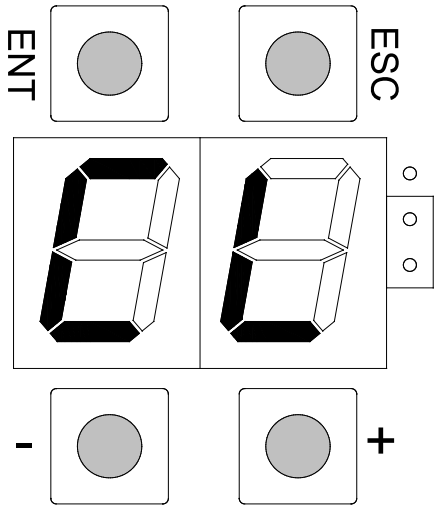


- Press “ENT” until the segment of the display start rotating, release “ENT”.
- Display shows “St”, control board is now waiting for 10 seconds and then start the self-learning procedure.



NOTE: SmartPro does NOT need any mechanical stopper, but in this operation, during LP procedure, give a physical limit to the door depending on the desired angle you need.

12. Operator starts an opening and closing cycle to memorize the dimensional parameter, when completed the door will go in closed position and display will show “CL” fix.

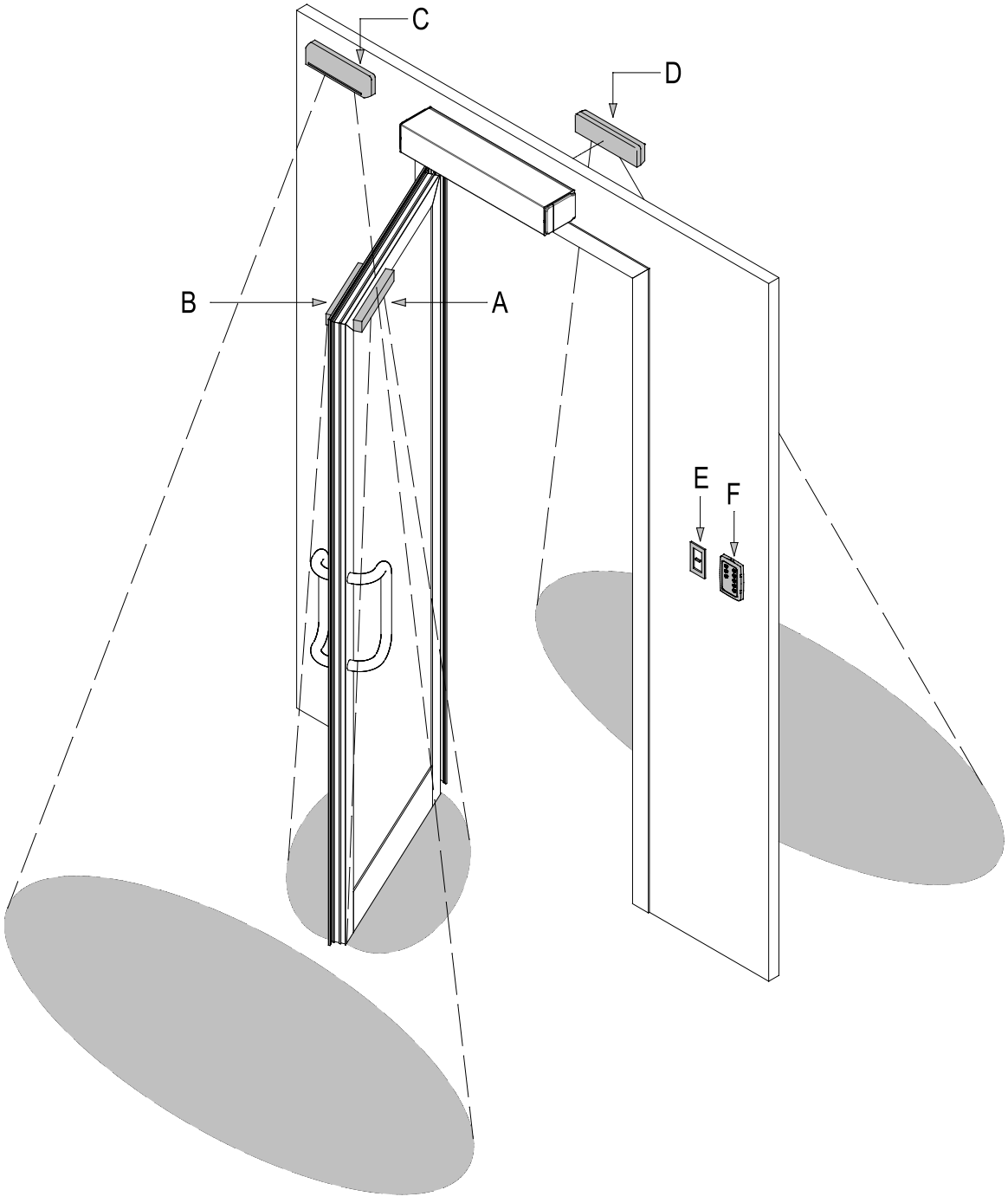


13. Operator is now ready to work and push button ENTER could be used to give an opening command to the door

22. SAFETY SENSORS AND SAFETY DEVICES INSTALLATION

Smart Pro control board allows to connect safety sensors both in monitoring EN16005 both in standard configuration.

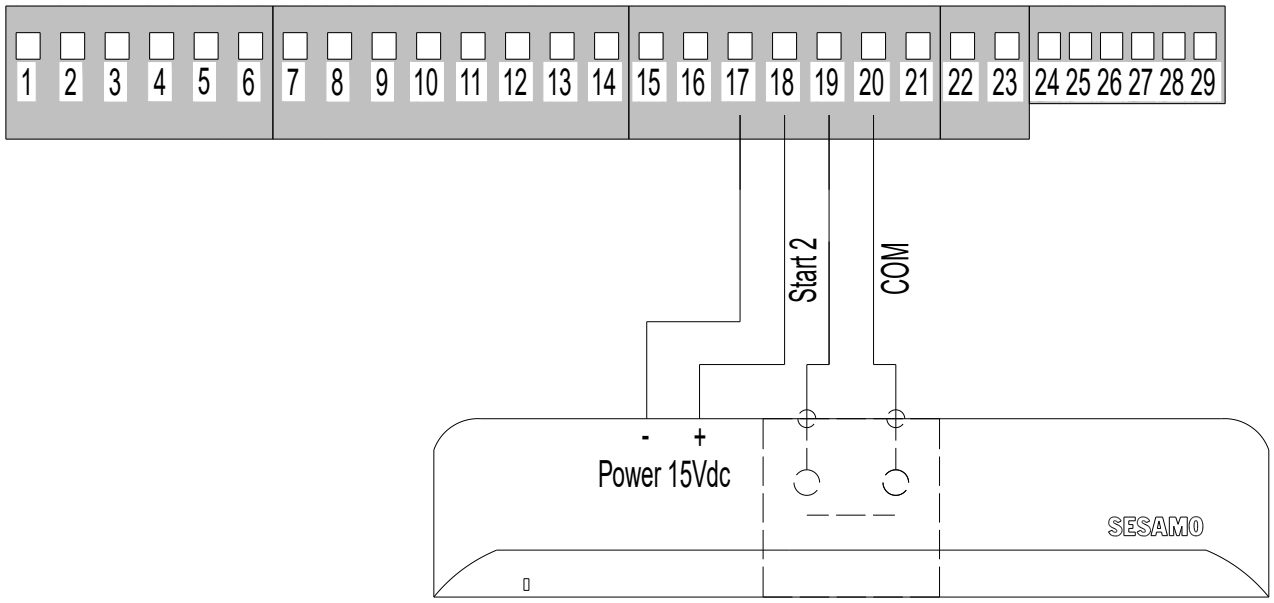
It is installer's responsibility to evaluate which and how many sensors must be used



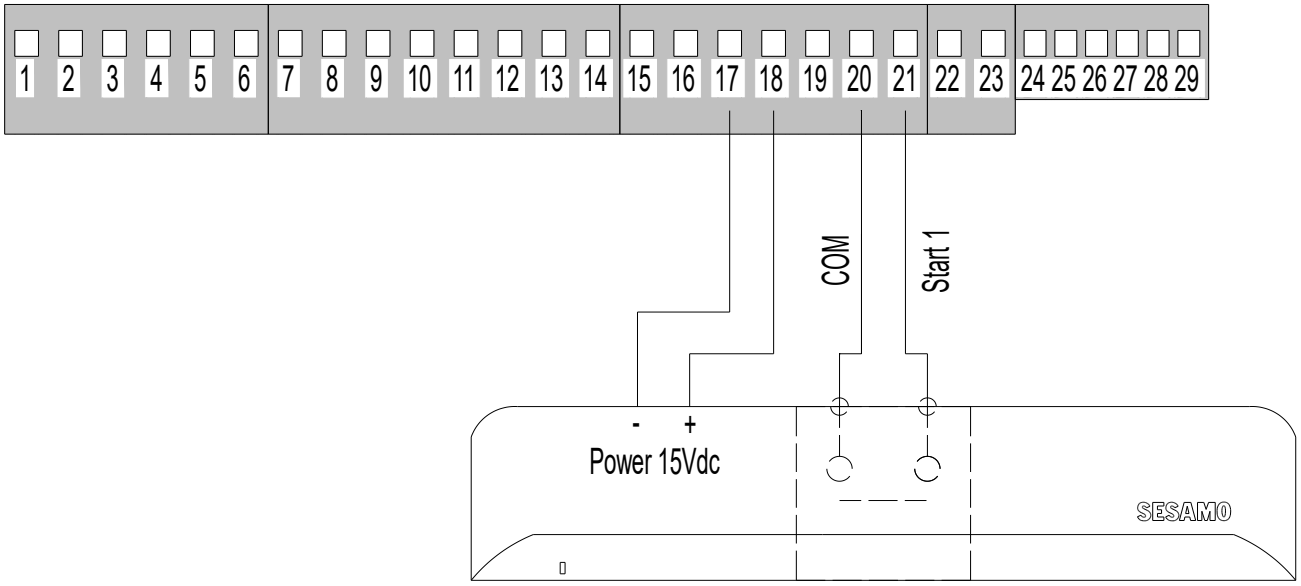
A= Safety sensor in closing
B= Safety sensor in opening
C= Internal opening sensor
D= External opening sensor
E= Main power supply switch
F= Logic selector

Wiring diagram external devices (sensor C and sensor D**)**

Wiring diagram sensor C (alternatively it can be wired a push button)



Wiring diagram sensor D (alternatively it can be wired a push button)



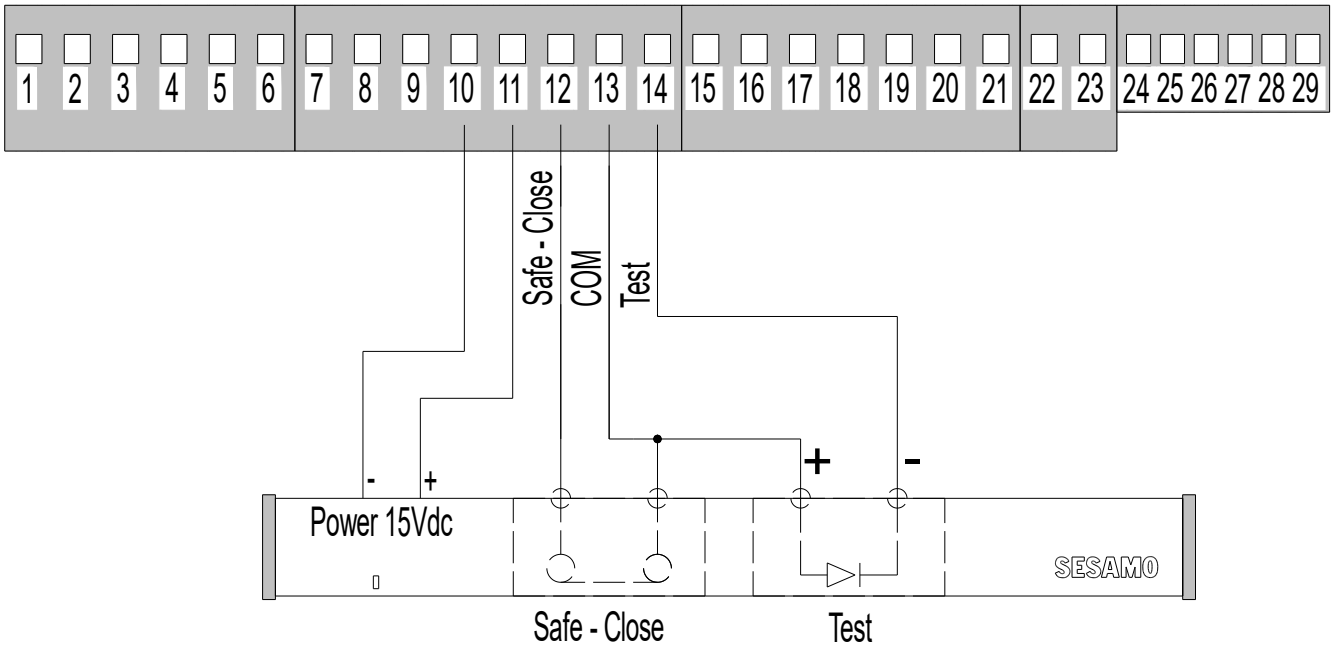
Main power switch See paragraph 17.

Selector wiring F see chart pag.43.

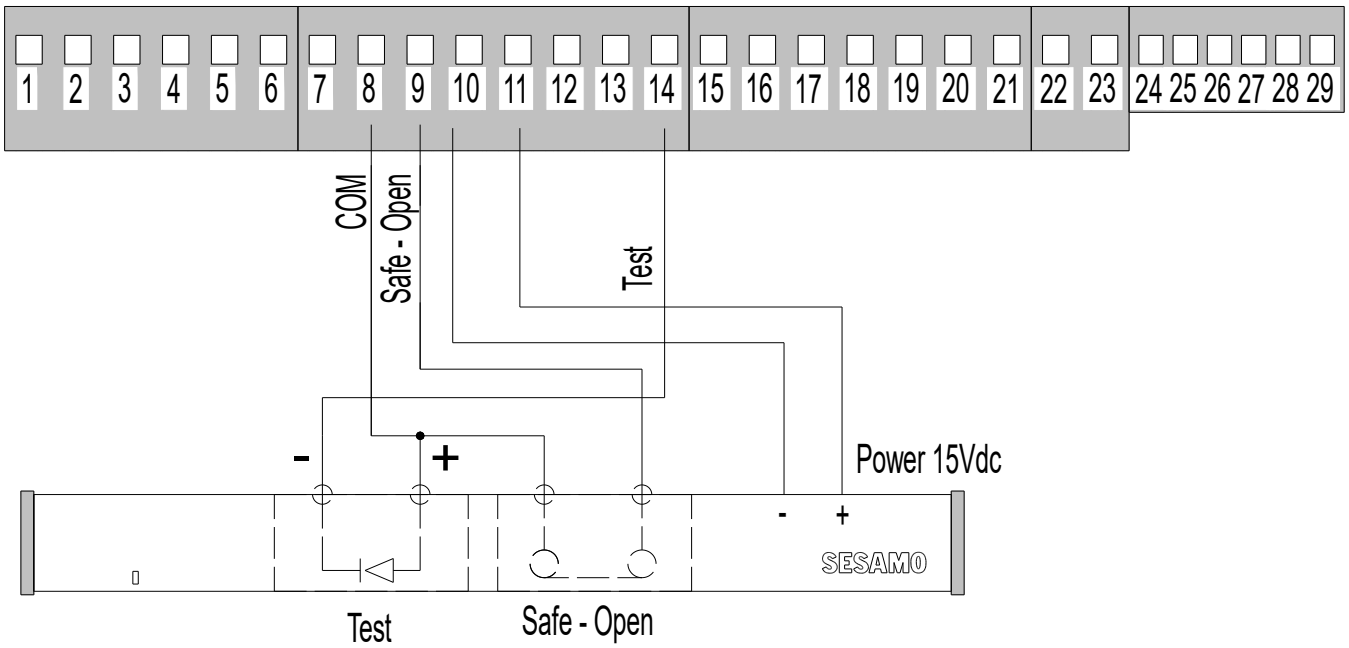
Safety sensors A e B are monitored sensors, for this type of sensors the installations options can be:

- Only safety sensor A in closing
- Only safety sensor B in opening
- Both safety sensors in closing and opening A e B.

Wiring diagram sensor in closing A



Wiring diagram sensor in opening B



After wiring set parameter 18 as follows:

14. Only safety sensor in closing A – set parameter 18 at level 1
15. Solo safety sensor in opening B – set parameter 18 at level 2
16. Both safety sensors A e B – set parameter 18 at level 3

Control board when powered on will indicate the type of sensors' configuration according the following table:

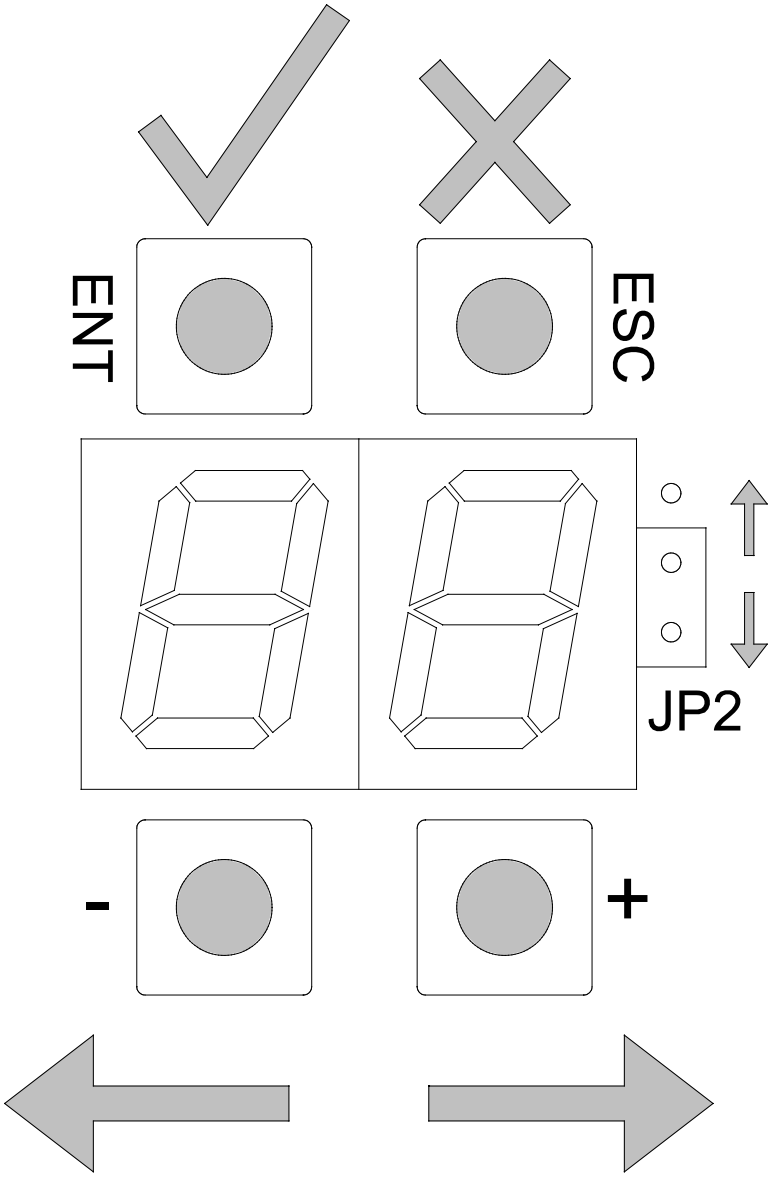
ID	CONFIGURATION	DESCRIPTION
S0	No monitored sensors detected	There are no monitored sensors wired or the sensors detected will be managed as normal sensors without monitoring.
S1	Monitored sensor only in opening.	There is only monitored sensor in opening. In closing there is no sensor connected or the sensor connected will be managed as normal sensor without monitoring.
S2	Monitored sensor only in closing.	There is only monitored sensor in closing. In opening there is no sensor connected or the sensor connected will be managed as normal sensor without monitoring.
S3	Monitored sensor in opening and closing.	Monitored sensor wired in opening and closing.

In case of incorrect connection or malfunction of the sensors, the display of the control board will show "F" blinking followed by a number:

F1	Monitored sensor only in opening.	Safety sensor in opening is not connected or it does not work properly
F2	Monitored sensor only in closing.	Safety sensor in closing is not connected or it does not work properly
F3	Monitored sensor in opening and closing.	Both safety sensor in opening and closing are not connected or they do not work properly

DANGER: Before confirming the acquisition, carefully check that the configuration detected by the control board is appropriate for the installation and verify that all safeties are detected correctly. Otherwise safety may not be granted and the automatic movement of the doors could cause serious damage to property or people at risk of life-threatening injuries.

23.OPERATING LOGICS



Display with pushbuttons allows to launch learning procedure and set automatism paramters
Use jumper JP2 to correctly see display indications..
Functions :

- Search parameters (see list below) through pushbuttons [+] or [-]
- Push Enter [ENT] to show the value currently set. In this moment display is flashing
- It is possible to modify the value using pushbuttons [+] or [-] – once modified press [ENT] to confirm or [ESC] to exit without modifying. Display comes back to the parameter.
- Press [ESC] to exit from parameters setting

Note: during parameters setting a time out of 10 seconds is active, In case of non operations for 10 seconds the systems exits.

Parameters list:

ID	PARAMETER	SETTING	DEFAULT
01	Opening speed	RANGE: 20°/s ÷ 70°/s (step of 5°/s)	60
02	Closing speed	RANGE: 10°/s ÷ 40°/s (step of 5°/s)	20
03	Idle time	RANGE: 0 ÷ 60 seconds (step of 1s); 62: 2 min. 63: 3 min. 64: 4 min.	0
04	Idle time in Low Energy	RANGE: 5 ÷ 60 seconds (step of 1s); 62: 2 min. 63: 3 min. 64: 4 min.	5
05	**With SPRING** Closing speed with spring power assisted	RANGE: 1 ÷ 9 (1=minimum speed, 9=maximum speed)	5
	With MOTOR only Level anti-wind	RANGE: 0 ÷ 9 (0=disabled, 1=Minimum level, 9=Maximum level)	0
06	Anti-crushing	RANGE: 1 ÷ 9 both opening both closing (1=più sensibile; 9=meno sensibile)	5
07	Acceleration	RANGE: 5 ÷ 30 (step of 1) Modify both acceleration and deceleration	30
08	Approaching angle	RANGE: 10° ÷ 40° (it modifies both parameters (closing 1/2 of the opening)	20
09	Electric lock power	0 = 12 VDC 1 = 24 VDC	0
10	Lock type	0 = Lock not used For different type of electric locks please refer to paragraph “electric locks setting”	0

11	Impulse duration of the electric lock or Opening delay	RANGE: 0 ÷ 9 Timing depends on the type of electric lock: please refer to paragraph “electric locks setting”	2
12	Lock closing force	RANGE: 0(min.) ÷ 9(max.)	5
13	Single/Master/Slave	0 = Single 1 = Not used 2 = Not used 3 = Double Master – wiring CAN cable 4 = Double Slave – wiring CAN cable	0
14	Activation of the electric lock or motor closing according to the logic selected	0 = Disabled 1 = One Radar OUT 2 = Two Radar, One Radar IN. 3 = Always (1 Radar IN, 1 Radar OUT, 2 Radar)	3
15	Auxiliary input configuration 1 AUX-IN 1	0 = DDA opening 1 = Emergency opening 2 = Interlock door with priority 3 = Interlock door without priority 4 = Feedback lock release 5 = Command lock release 6 = Command Single on Double door operation 7 = Stand-by 8 = Reactivate the door after stand-by 9 = step/step function (1 impulse open, 1 impulse close) 10 = Fire alarm opening 11 = Setting manual logic 12 = Setting Stop Closed logic 13 = DDA opening in manual operation 14 = step/step function with automatic closing (idle time in minutes and not seconds) 15 = Contact Door in closed position 16 = Opening Total or Partial.	0
16	Auxiliary input configuration AUX-IN 2	0 = DDA opening 1 = Emergency opening 2 = Interlock door with priority 3 = Interlock door without priority 4 = Feedback lock release 5 = Command lock release 6 = Command Single on Double door operation 7 = Stand-by 8 = Reactivate the door after stand-by 9 = step/step function (1 impulse open, 1 impulse close) 10 = Fire alarm emergency opening 11 = Setting manual logic 12 = Setting Stop Closed logic 13 = DDA opening in manual operation 14 = step/step function with automatic closing (idle time in minutes and not seconds) 15 = Contact Door in closed position 16 = Opening Total or Partial.	1

17	Auxiliary output AUX-OUT	0 = Interlock 1 = Stop open condition 2 = Stop closed condition 3 = Failure 4 = Repetition of lock command 5 = door in movement	0
18	Safety sensors cofiguration	0 = Monitoring disabled 1 = Monitoring active for closing sensors 2 = Monitoring active for opening sensors 3 = Monitoring active both opening both closing sensors	0
19	Not Used	-	-
20	Opening safety sensor exclusion	Opening safety sensor angle exclusion. RANGE: 0 ÷ 40% of total angle opening	0
21	Phase displacement in opening for double door	RANGE: 0 ÷ 100 displacement in opening unit of 100 ms (0=syncronized)	0
22	Phase displacement in closing for double door	RANGE: 0 ÷ 100 displacement in closing unit of 100 ms (0=syncronized)	0
23	Polarity input SAFE OPEN	0 = NA (Normally Open) 1 = NC (Normally Close)	1
24	Polarity input SAFE CLOSE	0 = NA (Normally Open) 1 = NC (Normally Close)	1
25	Polarity input KEY	0 = NA (Normally Open) 1 = NC (Normally Close)	1
26	Polarity input START 1	0 = NA (Normally Open) 1 = NC (Normally Close)	0
27	Polarity input START 2	0 = NA (Normally Open) 1 = NC (Normally Close)	0
28	Polarity input AUX IN1	0 = NA (Normally Open) 1 = NC (Normally Close)	0
29	Polarity input AUX IN2	0 = NA (Normally Open) 1 = NC (Normally Close)	0

30	Polarity input AUX OUT	0 = NA (Normally Open) 1 = NC (Normally Close)	0
31	Weight of the wings	0 = Automatic (achieved during LP) 1 = level LOW 2 = level MEDIUM 3 = level HIGH	0
32	Force level during RESET and LP procedure	RANGE: 0 ÷ 9 (0 = minimum÷ 9= maximum)	5
33	Opening angle reduction in percentage	RANGE: 0% ÷ 50% (step of 1%)	0
34	Closing in mode other than manual	0 = Closing by motor. 1 = Closing by spring	0
35	DDA opening speed	0 = Low Energy 1 = speed as parameters 1 e 2	0
36	Batteries mode	0 = standard (only spring) 1 = continuous operation 2 = antipanic	0
37	START 2 configurations	0 = Functionality as described at page 43 1 = DDA opening: active only in manual mode 2 = DDA opening: active in all mode	0
38	Not used		0
39	Approaching speed	RANGE: 5°/s ÷ 15°/s (step of 1°/s)	8
40	Partial opening	RANGE: 50%÷90% (step of 2%)	70
41	Function in spring closing mode	0 = Stop Movement 1 = Reopening by motor	0

42	Polarity test sensor	0 = NA (Normally Open) 1 = NC (Normally Close)	1
43	Not Used	-	-
Sd	Set to default	1-Select Sd pushing buttons [+] e [-] 2-Push [ENT] 3-when displays [--] push again[ENT] for 5 seconds to confirm 4-when disappears [--] leave the push button [ENT].	-
Lp	Learning cycle	1- Select Lp pushing buttons [+] e [-] 2-Push [ENT] 3- when displays [--] push again[ENT] for 5 seconds to confirm 4- when disappears [--] leave the push button [ENT]. Lp starts, see Start Up.	-
In	Information	0-firmware version of the user controller e.g. 1:04 1- firmware version of the safety controller e.g. 1:02 2-type of automatism (C0= Smart Pro) 3-Door weight (see parameter nr 31) 4- total number of operations performed by the control unit. 5- sensor configuration (see parameter 18)	-

24.SEGNALAZIONI DI STATO

SEGNALAZIONE	DESCRIZIONE
OP fisso	Door in open position
OP Lampeggiante	Door opening
CL Fisso	Door in closed position
CL Lampeggiante	Door closing
St	Door stop

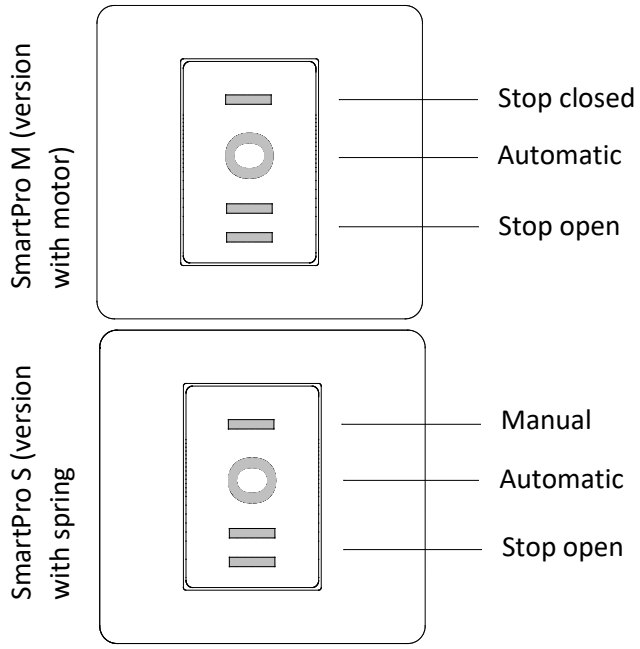
25.ERROR MESSAGES

INDICATION	DESCRIPTION
E1	Waiting for initialization (Learning procedure LP)
E5	Missing Main-Key
E6	Error configuration monitoring sensors (Necessary to set parameter 18)
E7-5	Overcurrent
E7-6	Time-out Movement (greater than 60”)
E7-A	Supply voltage overload, out of tolerance
E8-1	Error Test connection Motor and Encoder (Verify the connection between Motor and Encoder).
E8-8	Error Diagnostic Encoder
E8-A	Switching power overload
E9	Activation safety function

N.B.:
following errors:
E3 / E4 / E7-2 / E7-3 / E7-4 / E7-7 / E7-8 / E7-9 / E7-b / E7-C / E7 -F / E8-2 / E8-3 / E8-4 / E8-5 / E8-6 / E8-7 / E8-9 / E8-b.
They are related to transient anomalies. If they persist, replace the board and send it to Sesamo with the indication of the error code reported.

26.OPERATING LOGICS

Con interruttore logiche montato in testata:



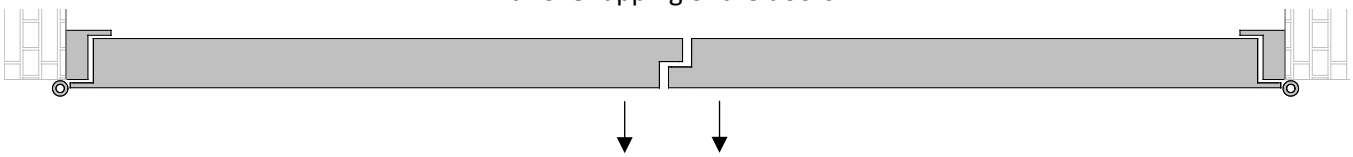
With basic selector (optional) (3 position switch is disabled):

LOGIC	DESCRIPTION
Manual	In this logic the devices connected to START 1 and START2 are disabled. Opening and closing are in manual mode. Safety sensor in opening and closing are working only in motor opening by DDA mode (disabled people).
1 radar	RADAR ONLY EXIT: Only START 2 is detected. A signal coming from a sensor command an opening cycle and following a closing cycle. The door locking by electric-lock or motor (in case none electric-lock has been set) in the closed position depends on the type of lock used and from the setting of parameter 14.
2 radar	RADAR IN and OUT: Both contacts START1 e START2 of the control board are detected. A signal coming from a sensor connected to one of those input gives the signal to open the door and then close. The door locking by electric-lock or motor (in case none electric-lock has been set) in the closing position depends on the type of lock used and from the setting of parameter 14.
Stop close	Door is kept in closed position. Operator gives a command to close the door. In this logic input START1 e START2 of the control board are not detected; if installed, the electric-lock blocked the door. If there is not any electric-lock, the motor will keep the door in closed position.
Stop open	Door is kept in open position. Operator gives a command to fully open and keep opened the door. In this logic input START1 e START2 of the control board are not detected.

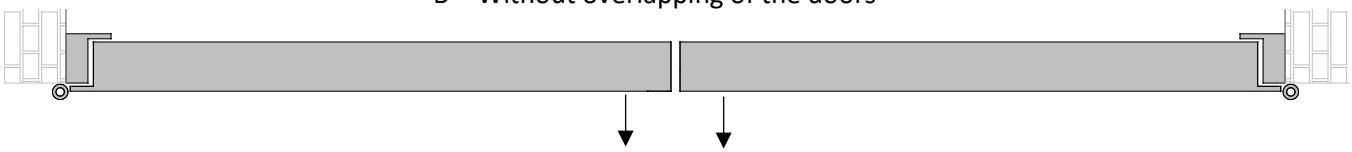
OPERATING LOGICS	DESCRIPTION
Opening anti-crushing	While opening, if door touches an obstacle it stops moving. Operator stops for few second the movement and bring the door in closed position at reduced speed. Setting value adjustable with parameter 06 (see paragraph “Parameter adjustment display”).
Closing anti-crushing	While closing, if door touches an obstacle it stops moving. Operator revers immediately the movement of the door and bring the door in complete opening position. The following closing will be operated at reduced speed. Setting value adjustable with parameter 06 (see paragraph “Parameter adjustment display”).

27. WIRING AND USE DOUBLE SMARTPRO (S/M)

A – With overlapping of the doors



B – Without overlapping of the doors

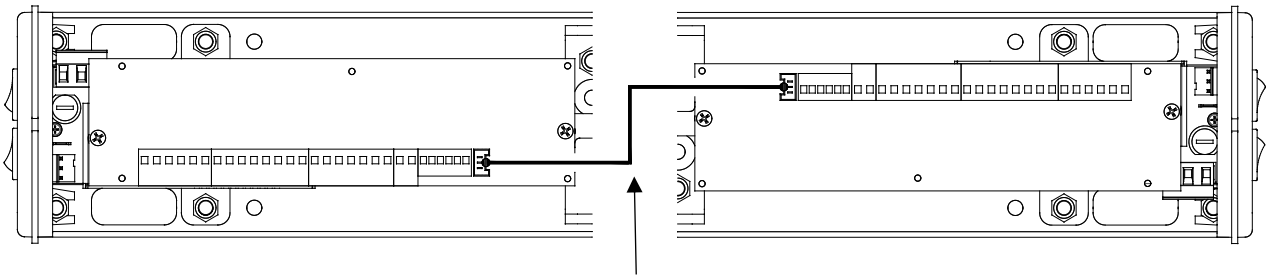


ATTENTION!!!! Before wiring the two operator MASTER and SLAVE operator by be chosen. By convention MASTER door is always the first that opens and the last that closes while SLAVE door is the last in opening and the first that closes. MASTER control board process the operating logics while SLAVE control board executes the commands of the MASTER.

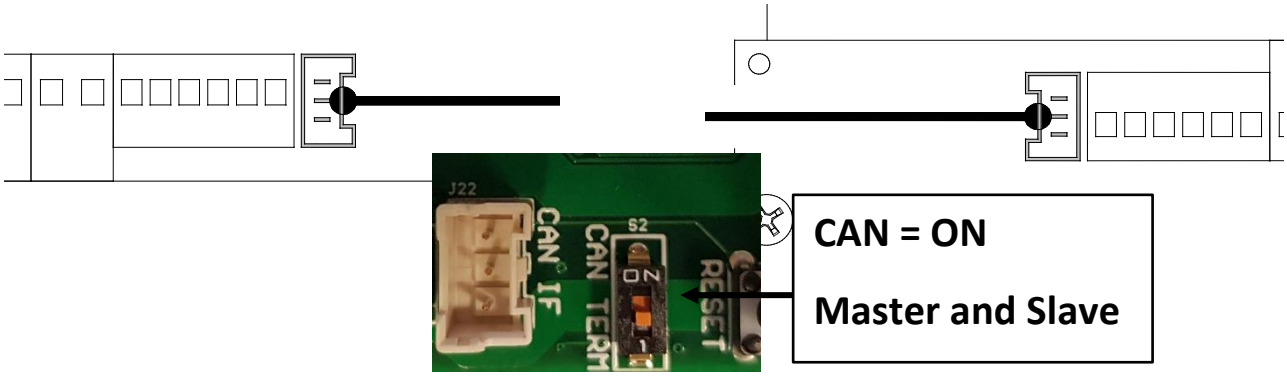
Wire the two operators as indicated before with the sync cable.

Master

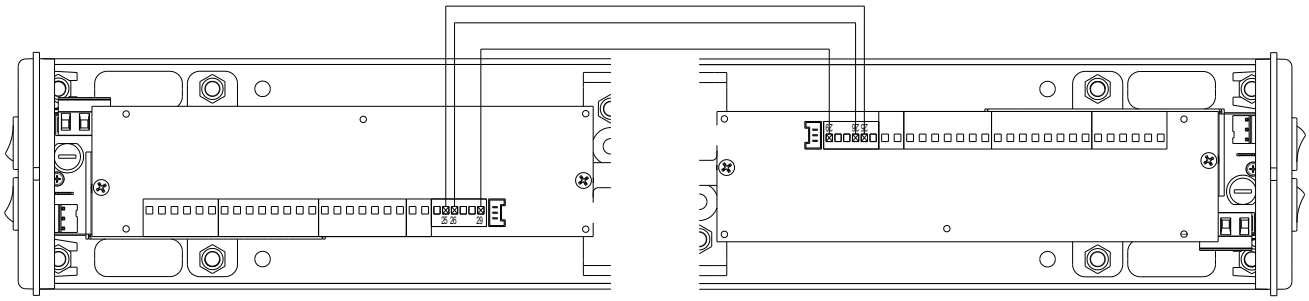
Slave



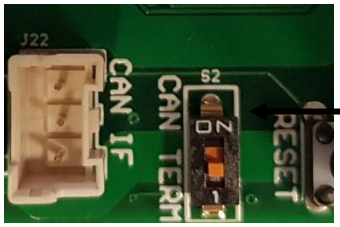
Sync cable



In case Sync cable is not available it is possible to connect together the two Smart Pro as follows:



Always set CANN=ON - Master and Slave



CAN = ON

Master and Slave

Set on MASTER and SLAVE control boards the following values:

ID	DESCRIPTION	SETTING	DEFAULT
13	Mode Single/Double	0 = Single 1 = Not used 2 = Not used 3 = Double Master – wiring CAN cable 4 = Double Slave – wiring CAN cable	0

Depending on whether you need to have an offset in the doors, set the following values:

- Synchronized doors on MASTER control board parameter 21=0 and 22=0 (valid for option B)
- NON-Synchronized doors on MASTER control board parameter 21>0 and 22>0 (valid for options A e BD)

ID	DESCRIPTION	SETTING	DEFAULT
21	Displacement in opening for double	RANGE: 0 ÷ 100 Displacement in opening by step of 100ms (“0“ if synchronized)	0
22	Displacement in closing for double	RANGE: 0 ÷ 100 Displacement in closing by step of 100ms (“0“ if synchronized)	0

OPERATION	DESCRIPTION
Electric-lock	Managing is allowed (with relative logic) on both control boards as in the case of single operators.
Push & Go	Activatable on both control boards in the same way as a single operator. Detecting the attempt to open a door causes the opening of both doors.
Anti-crushing	Value separately and independently managed from both control boards. • If one board detects an anti-crushing in closing, the movement of both doors stop and they slowly go in complete opening position. • If one board detects an anti-crushing in opening, the movement of the door that detects the anti-crushing stop and bring the door slowly in closing position. Other door, meanwhile will have reached the opening position, it will wait the other door before starting the closing cycle.

ATTENTION:

- Both operators must use the same main power supply exit.
- Do not use any switches or fuses in between the two operators.
- Optional external peripherals (KEY, START 1 e START 2), must be connected only on MASTER.
- Safety sensors (SAFE OPEN e SAFE CLOSE) must be connected separately on both control boards.
- Selector (optional) must be connected only on MASTER. In case of setting parameters with selector, they will be learned on both MASTER and SLAVE control boards
- Commissioning must be set only on MASTER
- During “LP” MASTER door will be the first to move, and it must be stopped at desired position to give a door limit.

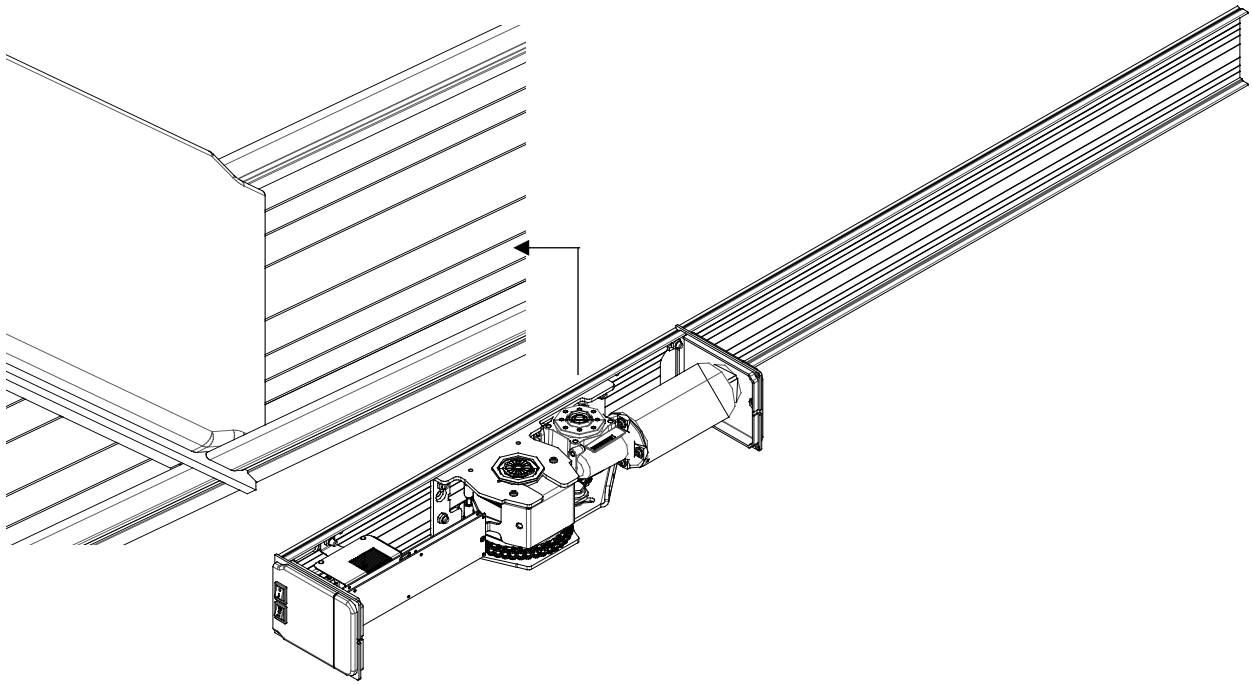
Immediately after SLAVE door will start moving and it also must be stopped at desired position to give a door limit. When “LP” will finish both doors will go in STOP close position (on display “CL” fix). A carter kit is available as optional, an extension base plate and cover to join two operators.

ASSEMBLING CARTER KIT (optional):

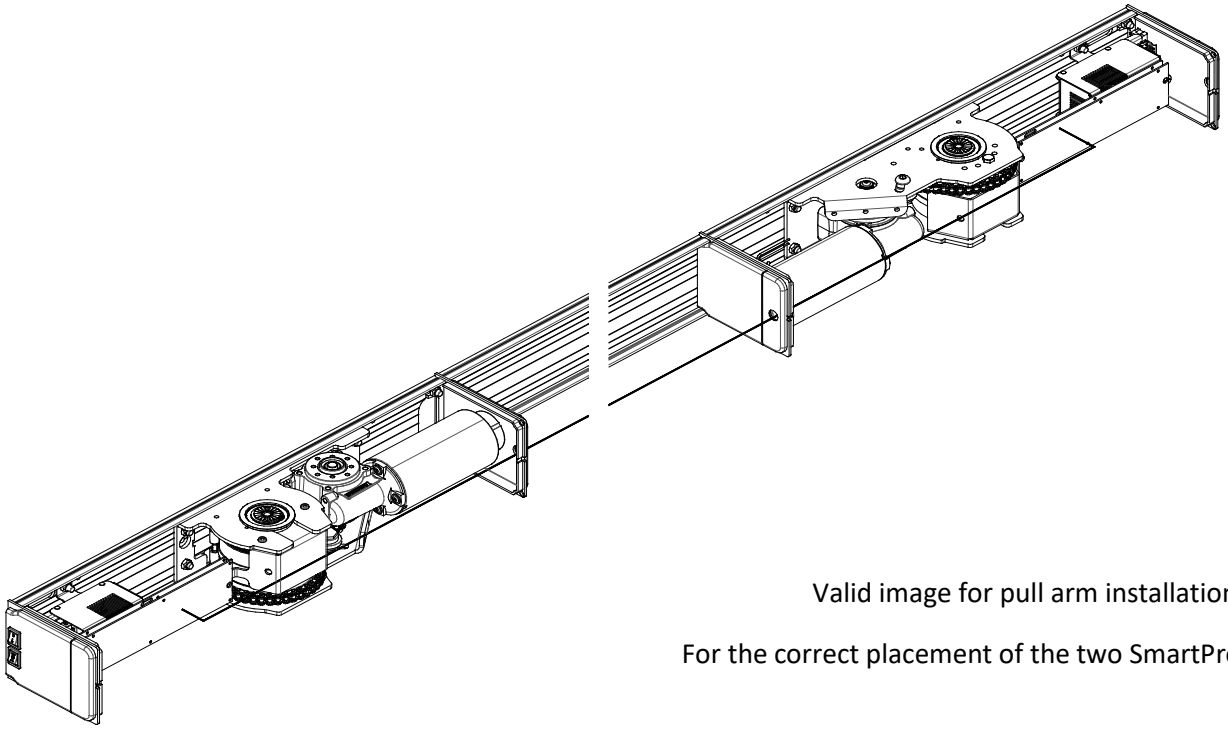
Measure the interaxis between hinges “I” to obtain cuts measurements of the plate and cover according to the following formula.

CUTS base/cover = I-1145mm

Assemble the first SmartPro and insert the base on its slot made on the outside lateral cap.



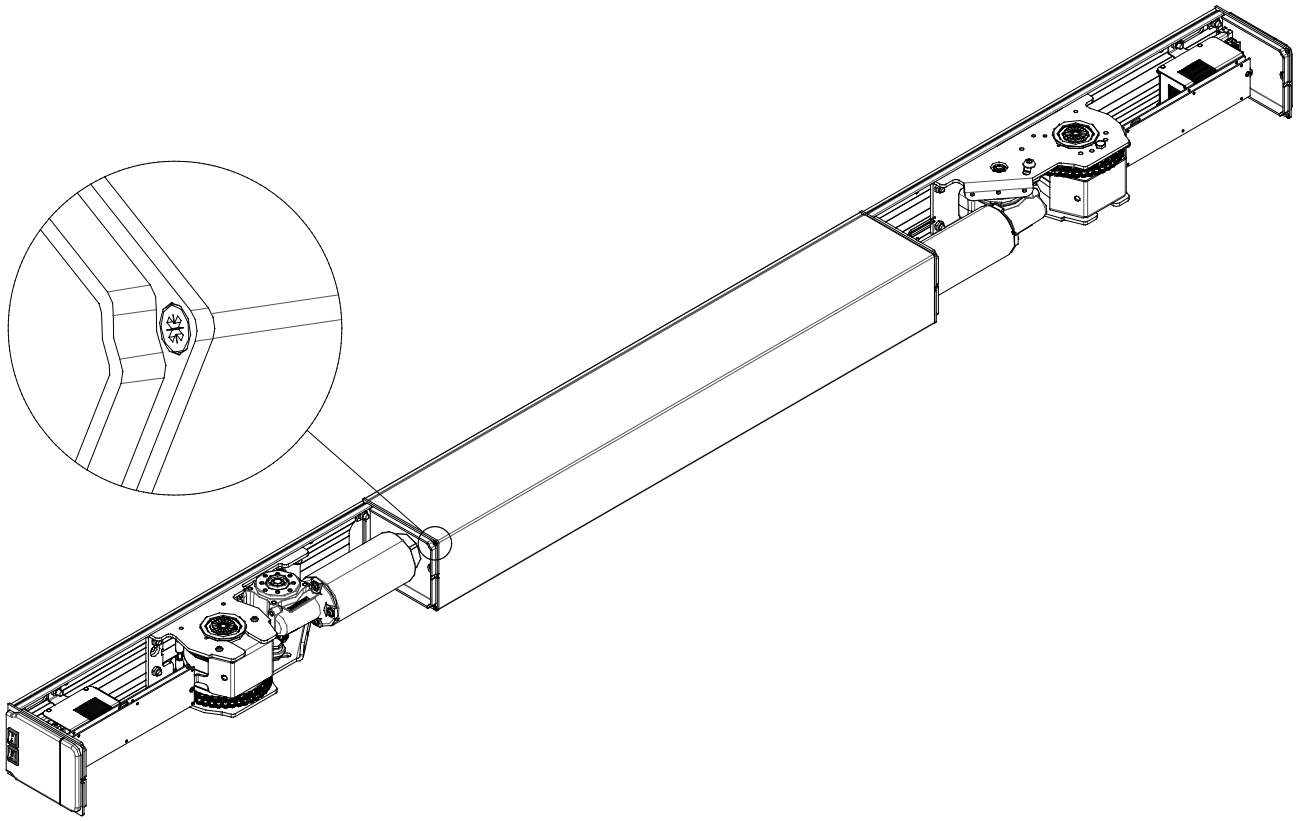
Assemble the second SmartPro and drill both internal caps to allow the sync cable to be wired.



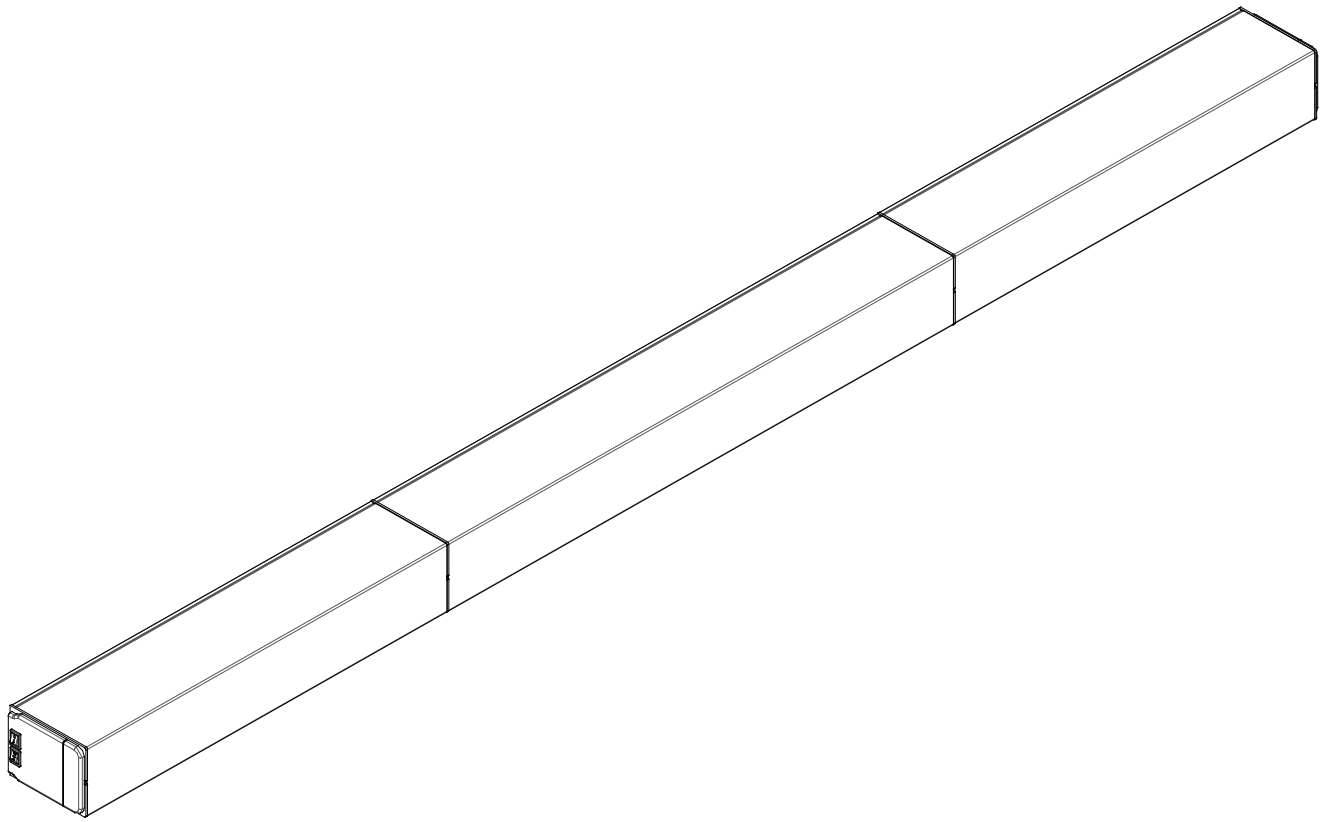
Valid image for pull arm installations

For the correct placement of the two SmartPro,

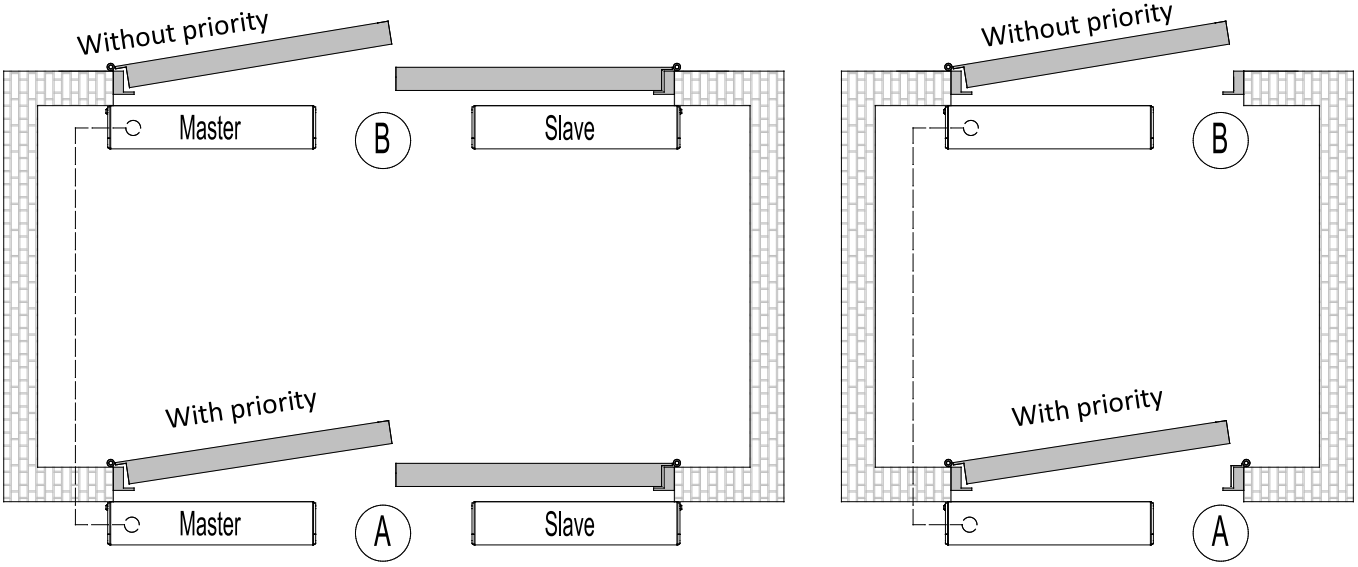
Close the internal part of the extra cover and screw it thanks to the prepared slots on the caps.

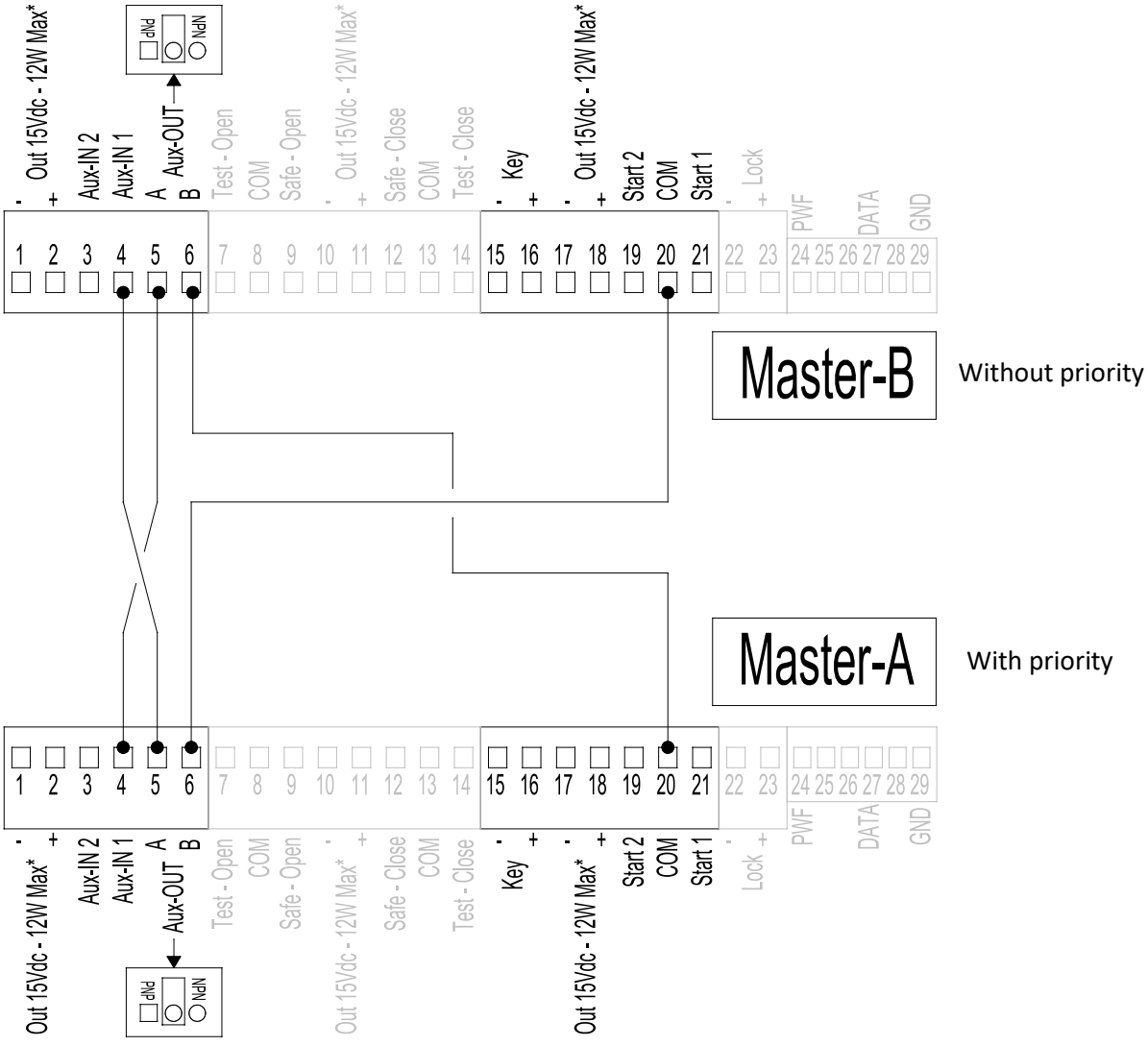


Close both SmartPro with their own covers.



28. WIRING AND USE OF INTERLOCK





SmartPro control board (S/M) it is designed to work in Interlock mode (either for single than double door) with connection with an electronic control board of the same series.

Opening of a door, in the Interlock mode, it can just happen if the other door is not moving, if it is making any movement.

To interlock two operators after wiring them according the instructions on the side page, follow these steps:

1. Select a priority for opening, (if sensors give input to open at same time to both doors, it is required to set a priority for opening):

   - Chose the control board WITH PRIORITY
   - Chose the control board WITHOUT PRIORITY

   SET MASTER WITH PRIORITY:

15	AUX-IN 1	**2 = Interlock door with priority**
17	AUX-OUT 1	**1 = Status door open**

2. SET MASTER WITHOUT PRIORITY:

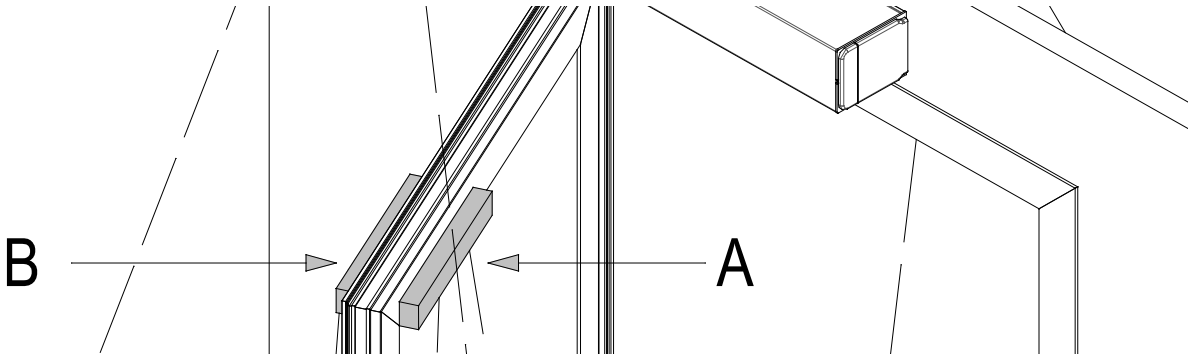
15	AUX-IN 1	**3 = Interlock door without priority**
17	AUX-OUT 1	**1 = Status door open**

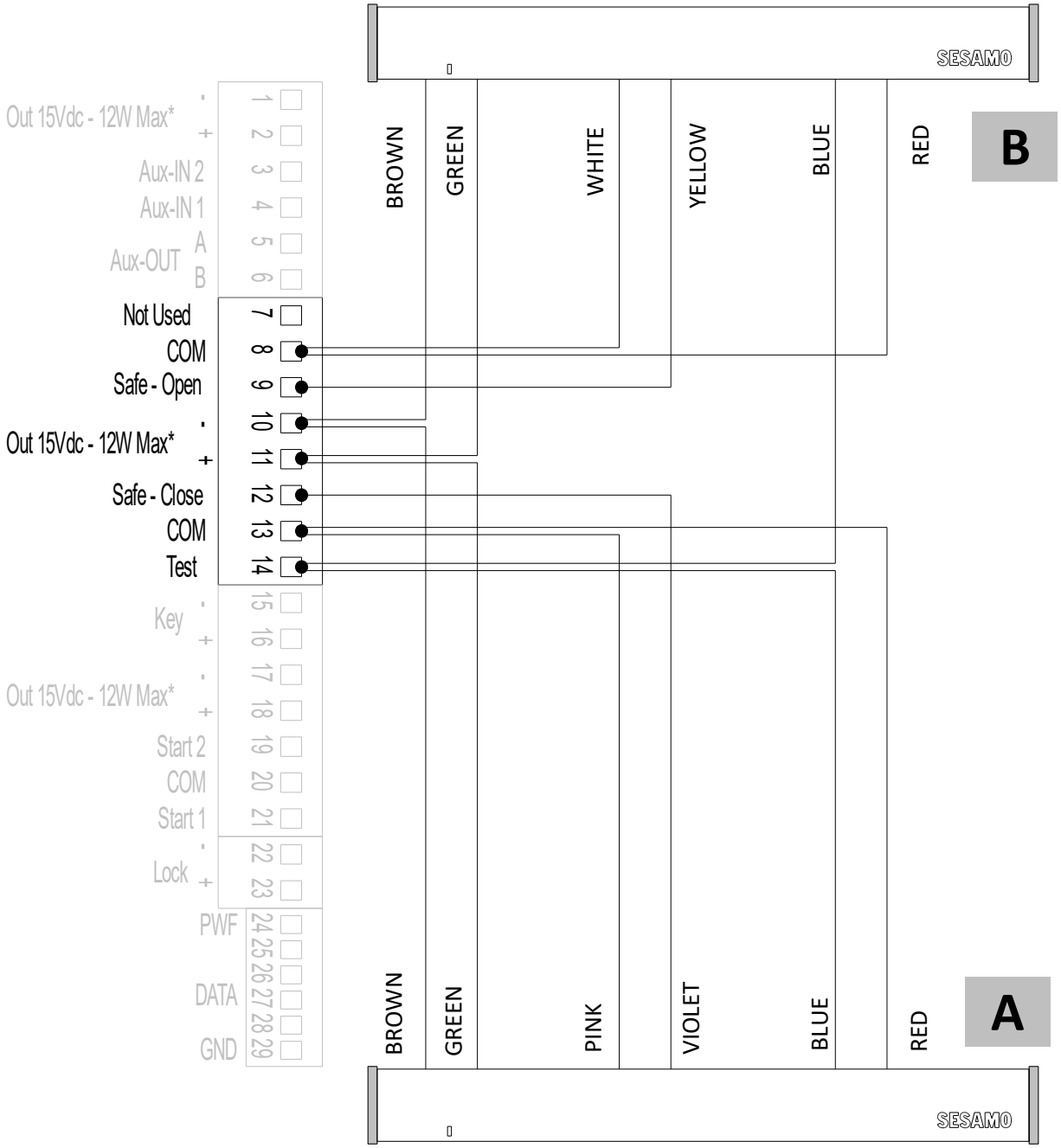
In the case of contemporary opening signals, it will open the selected door selected WITH PRIORITY.

29. TROUBLESHOOTING

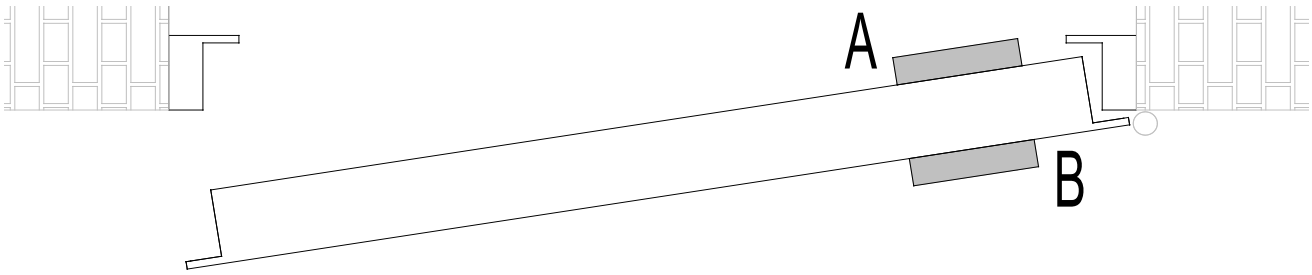
Description	Warning on the display	Cause/solution
Door does not open	None	Check if system is regularly powered
The door remains open	Op Steady	The logic selector is on the stop open - change logic position An opening control is inserted, e.g. start1/start2/photocell/emergency opening - check the respective inputs There is an obstacle – remove it
The door does not open/start the acquisition of Lp parameters	St steady	Key contact inserted - check contact key Opening safety sensor activated - check sensor or remove object
The door does not open but automation tries to open	OP followed by St followed by CL	Lock or electric lock not working. Check and rrelease Check if paramter of electric lock is set correctly
The door reverses during the closing phase	Op flashing	The movement of the door activates the safety closing sensor - check and/or calibrate the sensor Friction activates the reversal of the movement - eliminate friction
Door stops during opening cycle and then closes	Op flashing followed by Cl flashing	Friction activates stop and the subsequent reversal of movement - eliminate friction

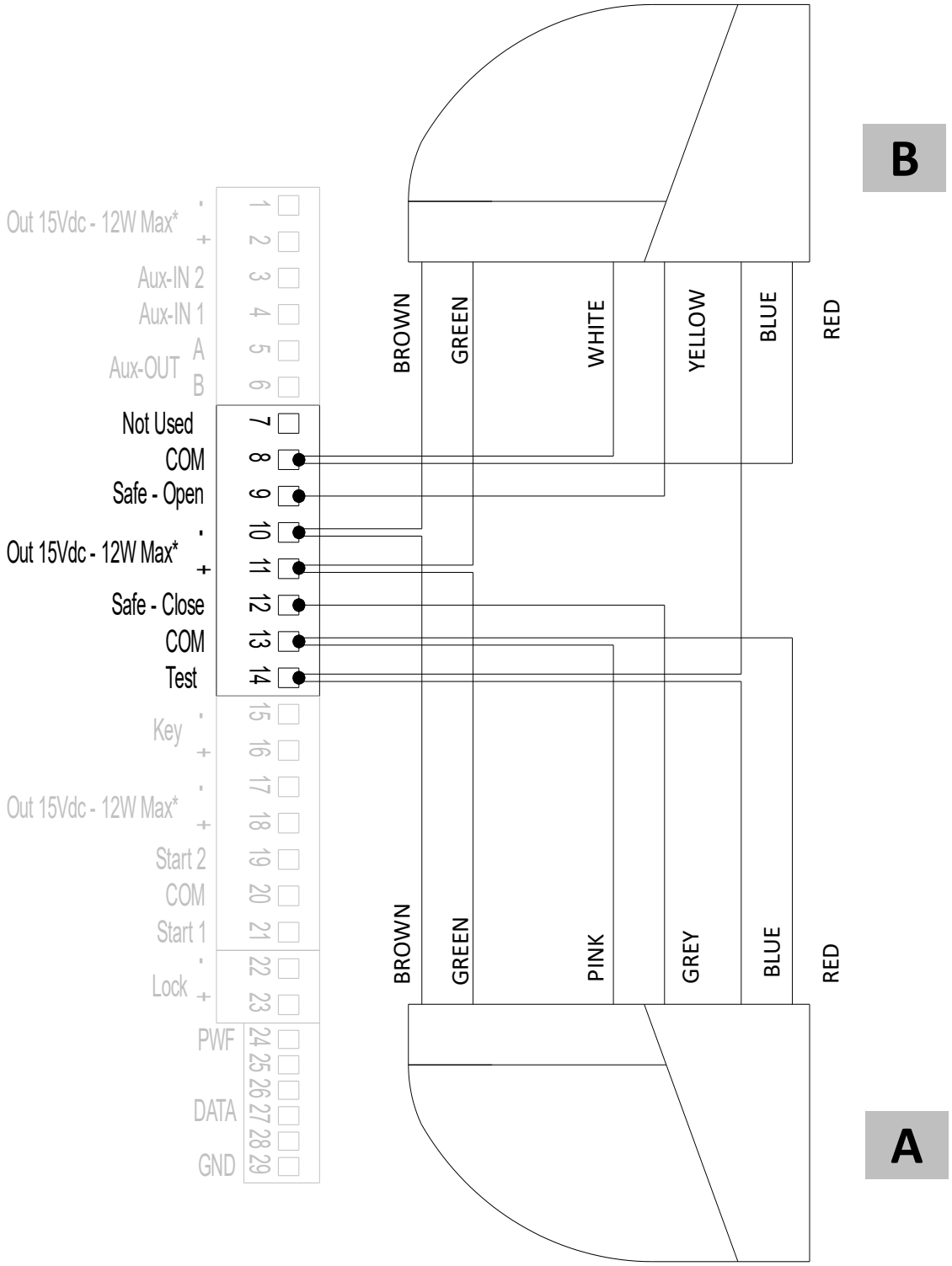
30. SENSORS 4SAFE ON SW - WIRING



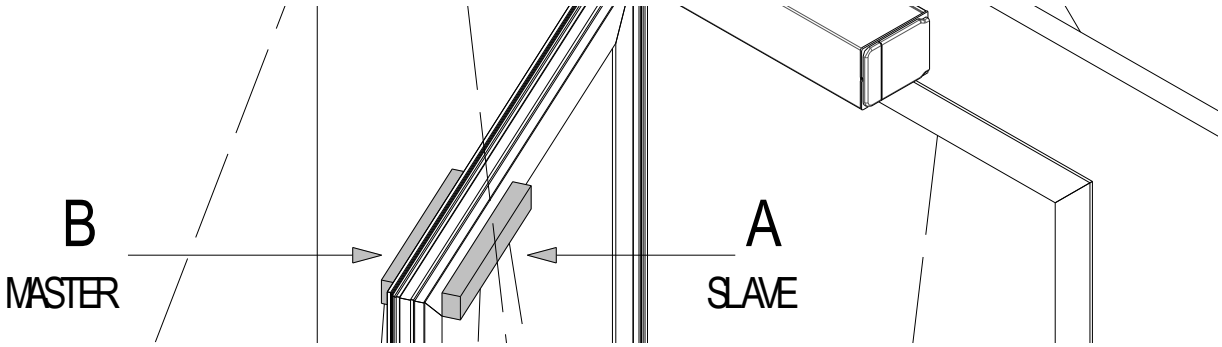


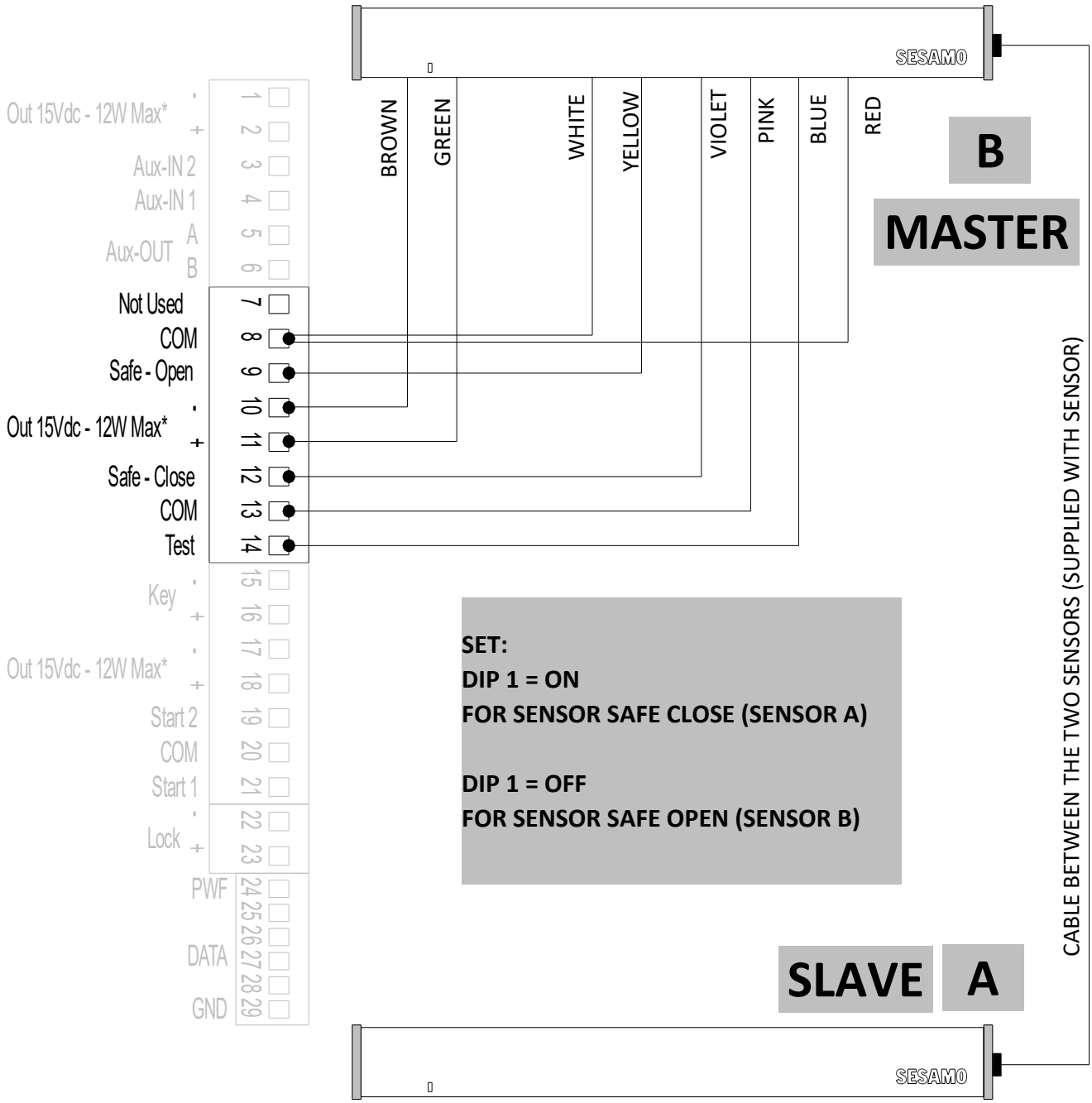
31. SENSORS LZR-FLATSCAN SW – WIRING



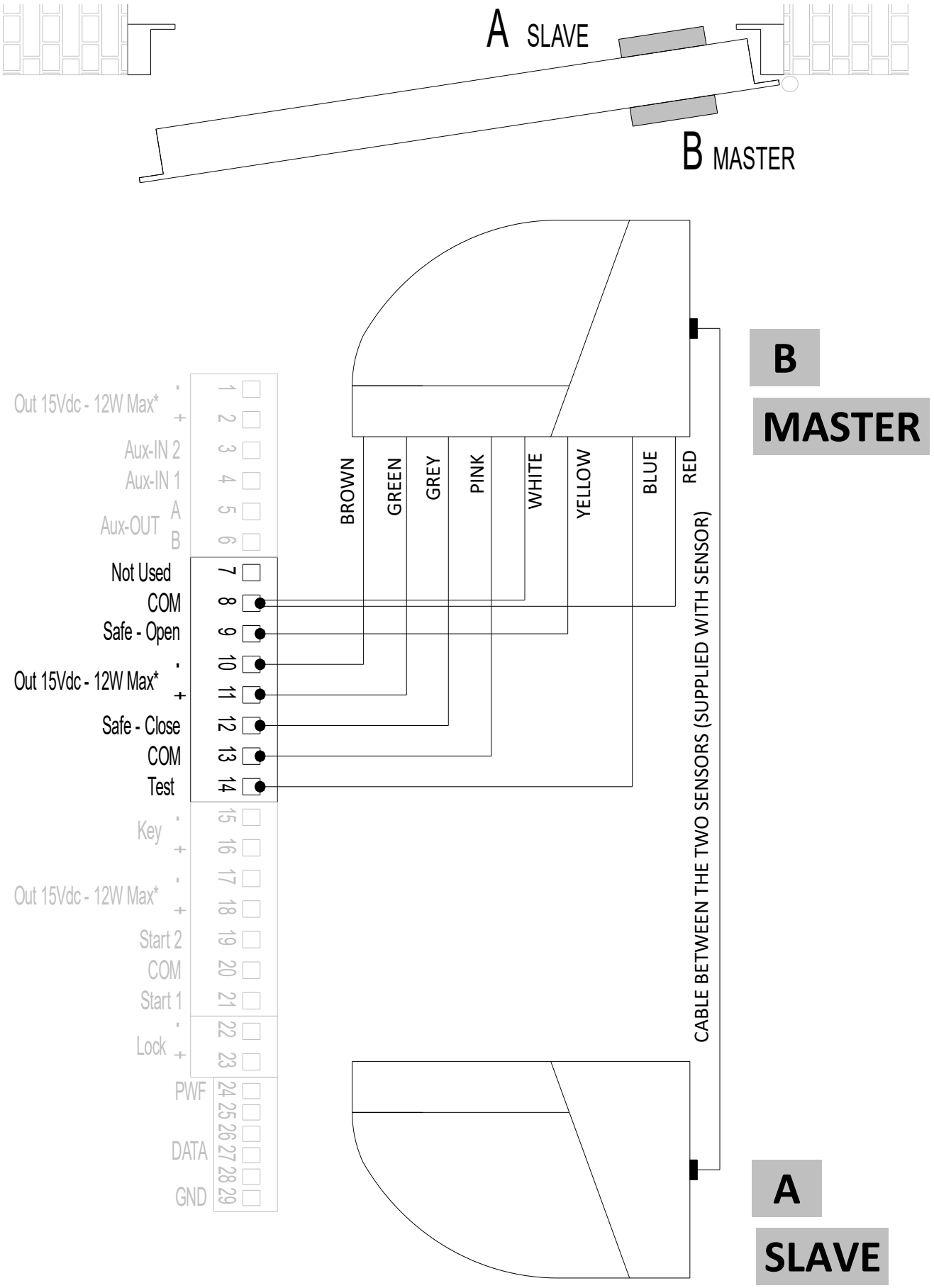


32. SENSORS 4SAFE ON SW – WIRING USING MASTER/SLAVE CABLE BETWEEN THE TWO SENSORS





33. SENSORS LZR-FLATSCAN SW – WIRING USING MASTER/SLAVE CABLE BETWEEN THE TWO SENSORS



USER AND MAINTENANCE MANUAL

OPERATOR "SMARTPRO" FOR SWING DOORS

MODEL	SERIAL NUMBER	DATE
▪ SMARTPRO		

USER MANUAL

PURPOSE OF THE MANUAL

These instructions are intended for the manager or user of a SESAMO automatic doors installation. In order to obtain the best performance from the automatism, Sesamo recommends that you read and carefully follow the user instructions in this manual. This device has been designed for the automation of swinging doors. Any other use will be considered contrary to the use provided for by the manufacturer who, therefore, cannot be held responsible. Do not tamper with or modify the internal equipment of the automatism or any of the safety devices provided in the control unit for any reason. The manufacturer accepts no responsibility in the event the internal parts of the automatism are modified or tampered with or if safety devices are used in the system which are different from those indicated by the manufacturer.

Automatism's security is left to the photocells or to the active safe sensors that detect the presence of any obstacles in the area of passage and eventually prevent re-closing of the doors.

As an additional safety, the automatism is equipped with a sophisticated microprocessor device which in the event of danger limits the pushing force of the door, so as not to constitute a source of danger to persons in transit.

For safety reasons, the automatism is designed so that it is always possible, even in case of power failure and battery, move the wings by hand

GENERAL NOTES REGARDING SECURITY

The following precautions are an integral and essential part of the product and must be delivered to the user that must read them carefully as they contain important instructions for use and maintenance safety.
Inside the equipment there are currents and voltages high enough to endanger life.

- You must keep these instructions and forwarded to all possible future user of the system.
- The manufacturer can't be held responsible for any damage caused by improper, incorrect and / or unreasonable action.
- Avoid operating in the proximity of hinges and / or moving mechanical parts.
- Do not enter the range of the door while it is in motion.
- Do not oppose the movement of the door because it can be dangerous.
- Do not allow children to play or stay within range of the door.
- Keep out of the reach of children any control device to prevent the door from being activated involuntarily.
- All cleaning of the internal parts, maintenance or repair work must be performed by qualified personnel. To ensure the efficiency of the system and its proper functioning is essential to follow the manufacturer's instructions by carrying out by professionally qualified due maintenance.
- Do not clean the cover of the automation by running water directly on the area to be treated.
- In particular, it is recommended to periodically check the correct operation of all safety devices.
- Failure to observe with the above may create dangerous situation.
- In case of assistance, this manual should be made available to the operator who will perform the operation.
- All installation, maintenance and / or repair must be documented and made available to the user.

- SESAMO suggests, for any kind of maintenance, calibration, adjustments and / or modifications, the intervention of our technicians or local technical authorized.
- SESAMO assumes no responsibility for any unauthorized work on their own equipment.
- For any repairs and / or replacement, only original parts must be used.

DESCRIPTION AND OPERATION

Power the automatism with the mains voltage of 230V pressing the switch "0-1" on the head of the automation to position 1. After a while the automatism carries out a low-speed manoeuvre in the closing direction.

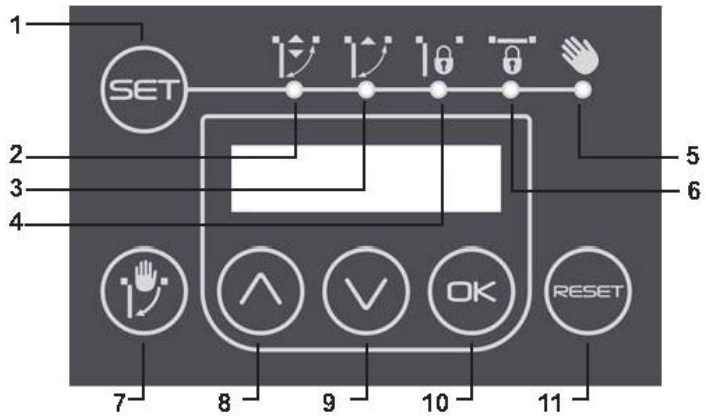
When it comes to the closed position after a while is ready to be used in ways that depend on the type of peripherals and accessories installed and by the logic selected by three way selector present on the head.

The opening of the wings can be controlled by detection sensors, by the advanced or basic selector and by the push buttons for the manual control; the opening manoeuvre can be followed by a pause or by the automatic reclosing of the doors depending on the logic chosen (see the description of the logics selector).

The pause of the wings in the open position facilitates the passage of people according to the needs of the customer, the pause time can be adjusted during installation.

The closing of the wings occurs automatically at the end of the pause time, at a slower speed than the opening.

INSTALLATION WITH ADVANCED SELECTOR



1	**Logic selection**
2	**2 radar**
3	**1 radar**
4	**Stop open**
5	**Manual opening logic**
6	**Stop close**
7	**Manual opening push button**
8	**Scroll up**
9	**Scroll down**
10	**Confirm**
11	**Reset**

Logic description

• **Stop Close**: the automatism controls the complete closure of the door wings.

In this logic the inputs START1 and START2 of the electronic control card are not monitored; if present, the electric locking system blocks the door wings.

• **Stop Open**: the automatism controls the complete opening of the door wings. In this logic the inputs START1 and START2 of the electronic control card are not monitored.

• **2 radar (Entry-exit radar)**: both the inputs START 1 and START 2 of the electronic control card are monitored. A signal originating from a sensor connected to one of these inputs triggers the opening and consequent closing of the door wings. The electric locking system, if present, never blocks the door wings.

• **1 radar (Exit-only radar)**: only the input START 2 of the electronic control card is monitored. A signal originating from a sensor connected to this input triggers the opening and consequent closing of the door wings. The electric locking system, if present, blocks the door wings every time that these reach the position of complete closure.

• **Manual opening**: the automatism controls the complete closure of the door wings. In this logic the inputs START1 and START2 of the electronic control card are not active.

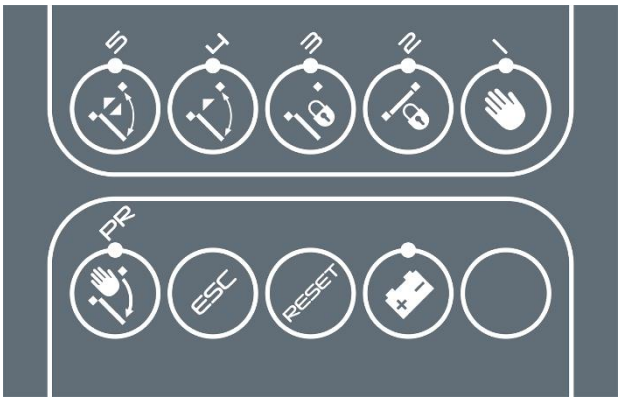
The automatism performs an opening maneuver and closing only and exclusively as a result of pressing the button of manual opening control. The led indicators indicate the logic currently active (led lit up). To change the logic, press the SELECT key; every time the key is pressed the led corresponding to the various logics lights up in sequence.

When the desired logic is reached, the led blinks for a few seconds; when the light remains on, the control card acquires the new logic.

If it’s the Multi Slave activated, when you change the operating logic, you are prompted which port is meant to operate, and you can choose a port (by choosing the number of the port on which you want to change logic).

Trough the LCD display and navigation buttons, you can move through the menu functions.
SCROLL DOWN key ': Allows you to scroll down the menu functions
SCROLL UP key: Allows you to scroll up the menu functions
RUN key: allows you to confirm your selection choice
RESET button: when pressed causes a reset of the control panel of the operator.

INSTALLATION WITH BASIC SELECTOR



1	**Logic manual opening**
2	**Stop close**
3	**Stop open**
4	**1 Radar**
5	**2 Radar**
PR	**Manual opening push button**
ESC	**Esc**
RESET	**Reset**
	Battery mode

Stop Close: the automatism controls the complete closure of the door wings. In this logic the inputs START1 and START2 of the electronic control card are not monitored; if present, the electric locking system blocks the door wings.

• **Stop Open**: the automatism controls the complete opening of the door wings. In this logic the inputs START1 and START2 of the electronic control card are not monitored.

• **2 radar (Entry-exit radar)**: both the inputs START 1 and START 2 of the electronic control card are monitored. A signal originating from a sensor connected to one of these inputs triggers the opening and consequent closing of the door wings. The electric locking system, if present, never blocks the door wings.

• **1 radar (Exit-only radar)**: only the input START 2 of the electronic control card is monitored. A signal originating from a sensor connected to this input triggers the opening and consequent closing of the door wings. The electric locking system, if present, blocks the door wings every time that these reach the position of complete closure.

• **Manual opening**: the automatism controls the complete closure of the door wings. In this logic the inputs START1 and START2 of the electronic control card are not active.

The automatism makes an opening and closing only and exclusively in the following cases:

- When you press the manual opening control, and if the electric locking system is not installed, with the "push and go" when activated.

The led indicators indicate the logic currently active (led lit up). To change the logic, press the SELECT key; every time the key is pressed the led corresponding to the various logics lights up in sequence. When the desired logic is reached, the led blinks for a few seconds; when the light remains on, the control card acquires the new logic.

The Battery LED signal lights to indicate the absence of power supply and the resulting battery operation automatism. In addition, the flashing of the LED indicates low battery power.

ELECTRONIC KEY

Through this accessory together with the wing-locking device, it is possible to close the wings from the outside, regardless of the logic selected on the advanced or basic selector.

Any power failure following this closure will not cause the doors to open.

Each time the electronic key is inserted, the automatism passes from a normal operation state to a closed and locked state and vice versa. During the transition from the locked state to the normal operation state, the wings perform a complete opening and closing manoeuvre so as to allow the entry of a person if necessary.

OPERATION IN CASE OF POWER FAILURE: SMARTPRO M

In the absence of optional batteries SmartPRO M is designed so that it is always possible, even in the absence of power, move manually the door after unlocking the electric lock, if installed.
In the presence of batteries and mains fail the operator can work with one of the following ways:

Anti-panic mode: during a power failure the wings will stop in the open position, from the advanced selector it is possible to select only the stop closed function.

Continuous operation: when a power failure occurs, the automatism continues to operate with the set logic until the batteries run down.

The choice of operation type is carried out during installation by a trained technician

OPERATION IN CASE OF POWER FAILURE: SMARTPRO S

The automatism SmartPRO S is equipped with an integrated spring for closing the door in the absence of power. The spring is adjustable as a function of weight / width of the door. The adjustment must be performed by qualified technician following the instructions in the installation manual.

CLEANING

Cleaning:

Object	**Procedures**
Painted surfaces	Clean with soap and water
Anodised surfaces	Clean with non-alkaline soap (pH 5.5 / 7) and water
Photocells	Clean with a damp cloth
Selectors	Clean with a damp cloth

MANTEINANCE MANUAL

MANTEINANCE INTERVAL

Maintenance: The maintenance interval on SESAMO's automatism is based on the intensity and term of use. For systems with high traffic intensity (input airports, supermarkets, shopping centers, etc..) Or operating in particularly harsh conditions should perform scheduled maintenance at six-month intervals agreed with a specialist.

For systems with low traffic intensity (small shops, offices, homes, operating rooms, etc.) should perform scheduled maintenance at annual intervals agreed with a specialist..

MANTEINANCE

MODEL	SERIAL NUMBER	DATE	INTERVENTION
▪ SMARTPRO			▪ Maintenance Operation ▪ Intervention by Request

During a scheduled maintenance operation, carried out by an authorised technician, it is advisable to carefully perform the checks and procedures listed below:

- ❑ Remove the mains power supply using the bipolar switch upstream from the automatism and the switch on the automatism (switch "0-1").
- ❑ Open the cap of the automatism.
- ❑ Disconnect the batteries (when are present).
- ❑ Check the tightening of the screws of the device components and screws to the structure of the automation
- ❑ Check the tightening of the screws holding the arm to arm connection - these are screws with self-locking treatment - replace them if they are loosened and tightened several times - using screws provided by Sesamo.
- ❑ Check the wiring connections between accessories, sensors and electronic control unit.
- ❑ Reconnect the automatism to the mains power supply and the batteries.
- ❑ Check the smoothness of the frame, its general conditions (evaluate any misalignments caused by impacts)
- ❑ Check the safety sensors (functionality and adjustment).
- ❑ Check the detection sensors (functionality and adjustment).
- ❑ Check the movement of the wings during braking and approach.
- ❑ Control the electric lock (functionality and regulation)
- ❑ Verify the correct selection of the operation logics.
- ❑ SmartPRO M check the efficiency of the batteries (when are present) by operating the installation for a period without the mains power supply.
- ❑ Verify the movement, functionality and regulation in the low-energy function (if it's used).
- ❑ SmartPRO S: verify operation without power and eventually calibrate the spring.
- ❑ Close the cap and reassemble the arm.

Note:

Diagnostics to identify the operator failure

SIGNAL	DESCRIPTION
E1	Door needs self learning procedure (see Paragraph “Start up”)
E5	Missing Main-Key
E6	Error in the configuration of the monitoring sensors (Need to set parameter 18)
E7-5	Electrical overcurrent detection
E7-6	Time-out Movement (greater than 60”)
E7-A	Overload power tension out of tolerance
E8-1	Error Test connection Motor and Encoder (Verificare la connessione del Motore e dell’Encoder).

E8-8	Diagnostic error Encoder
E8-A	Over Current
E9	Activation safety function

N.B.:
following errors:
E3 / E4 / E7-2 / E7-3 / E7-4 / E7-7 / E7-8 / E7-9 / E7-b / E7-C / E7 -F / E8-2 / E8-3 / E8-4 / E8-5 / E8-6 / E8-7 / E8-9 / E8-b.
They are related to temporary anomalies. If they persist replace the control board and send it to Sesamo with the error code indicated.

WARNING! This product falls within the scope of the Directive 2012/19 / EU concerning the management of waste for electrical and electronic equipment. (RAEE). The appliance must not be disposed of with domestic waste as it is made of different materials that can be recycled to suitable structures. Inquire through the municipal authority regarding the location of the ecological platforms suitable to receive the product for disposal and the subsequent correct recycling. It should also be remembered that, upon purchase of an equivalent appliance, the distributor is obliged to collect the product for disposal free of charge. The product is not potentially dangerous for human health and the environment, it does not contain harmful substances as per Directive 2011/65 / EU (RoHS), but if abandoned in the environment it negatively impacts on the ecosystem.

The crossed-out bin symbol indicates the compliance of this product with the regulations regarding waste for electrical and electronic equipment. The abandonment in the environment of the equipment or the illegal disposal of the same are punished by law.

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