AUTOMATIC DOOR
M200
(KAPV SP / KAPVE SP)

Instructions Manual

PLEASE READ CAREFULLY BEFORE ANY ASSEMBLY OR INSTALLATION

VER.: 1.2
REV.: 02/2014

Content

Warning to installer and user

1) WARNING: It´s very important to your safety that this instructions are followed.The bad installation or wrong appliance can damage people or materials.
2) This product was designed and produced strictly for the use indicated in this manual. Any other use then expressly mentioned may damage the product and / or be a hazard to people, and void the warranty.
3) ELECTROCELOS is not responsible for the incorrect use of the product or by using other than that for which it was designed.
4) Do not install the product in an area where there is danger of explosion: gases or flammable fumes are a serious security threat.
5) ELECTROCELOS is not responsible if the safety standards weren´t taken into account in the manufacture of the element to be automated, or any deformation that may occur at the same.
6) Before the installation, turn off the power.
7) The devices (ex: photocells) should be used for prevent injury in people or materials.
8) ELECTROCELOS is not responsible for safety and proper operation of the product when isn´t used components sold by itself.
9) Do not make any changes to motor components and accessories.
10) The installer should inform the customer of how to operate the product in an emergency case and provide the manual of it.
11) Do not let children closer to the door when in motion.
12) Keep controls out of reach of children, to prevent any accident.
13) You shouldn´t in any circumstances, attempt to repair or modify the equipment. Must call a qualified technician for that job.
14) The equipment should be installed protected from elements such as: water, rain, humidity or excessive dust.
15) Equipment must be connected to earth ground.
16) Equipment for indoor use only.

1. Characteristics & Technical Data

- Intelligent Automatic Door - Auto programmable and with adjustable parameters.
- Low noise level - Replaceable rubber guide base.
- Firm movement , ABS Braking - Virtually no noise.
- Auto reverse when hitting an obstacle.
- Unic electronic motor lock - Locking force of approximately 800N.
- Lower Power Consumption - Approximately 10W in Standby.
- 36V brushless motor - High efficiency, high strength and long life.
- Bi-Door Interlocking - One of the doors remains closed (interlock between doors).
- Program selector with 5 available functions: Fully closed, Fully open, Partial opening, Automatic, Entry/exit only.
- Emergency Battery optional - Allows emergency opening in case of 230V power failure.
- Auxiliary functions - Compatible with most access control systems.
- Satin finish.
- Adapted for varied climates.
- Simple installation.

Objectives focused by the designer:

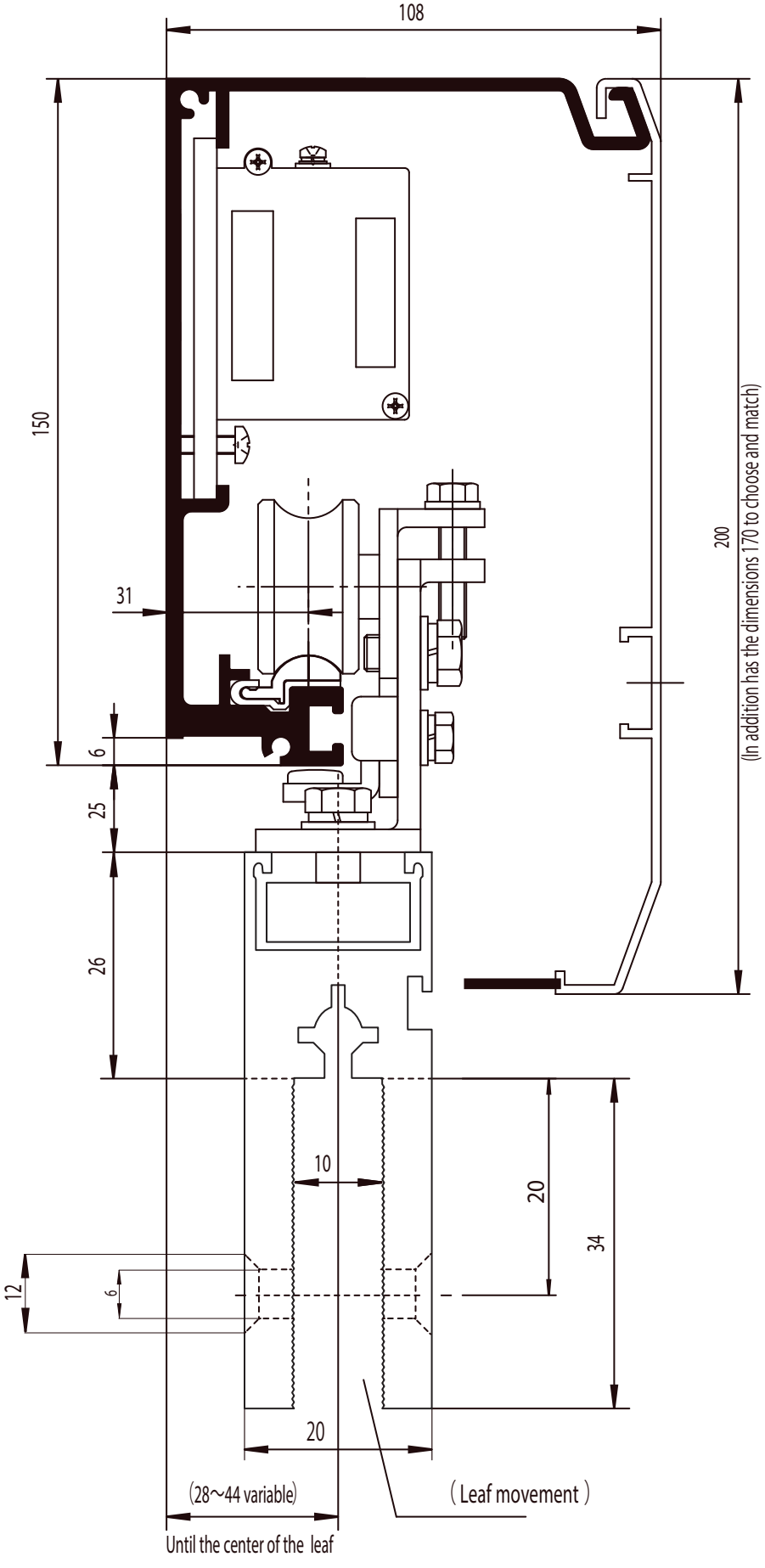
- Reverses automatically when hiting obstacle in the path - Security in first place.
- Move Steadily - Low noise level

1. Characteristics & Technical Data

Specification	Surface Mouting Type	
Door Body Type	1 Leaf	2 Leafs
Door Weight	Max. 200Kg	Max. 100Kg/leaf
Door Width	DW = 700 ~ 2000mm	DW = 650 ~ 1500mm
Type of Use	Intensive Use	
Power Supply	AC230V +/- 10%, 50 ~60Hz	
Opening Speed	300 ~ 500 mm/s (Adjustable)	
Closing Speed	250 ~ 500mm/s (Adjustable)	
Bounce Time	< 1s	
Pause Time	1 ~ 20s (Adjustable)	
Airproof Force	> 70N	
Electronic Lock Force	Approximately 800N	
Motor Rated power	100W	
Standby consumption	Approximately 10W	
Functions	Fully closed, Fully open, Partial open, Automatic, Entry/exit only	
Working Temperature	- 30º C ~ 50º C	

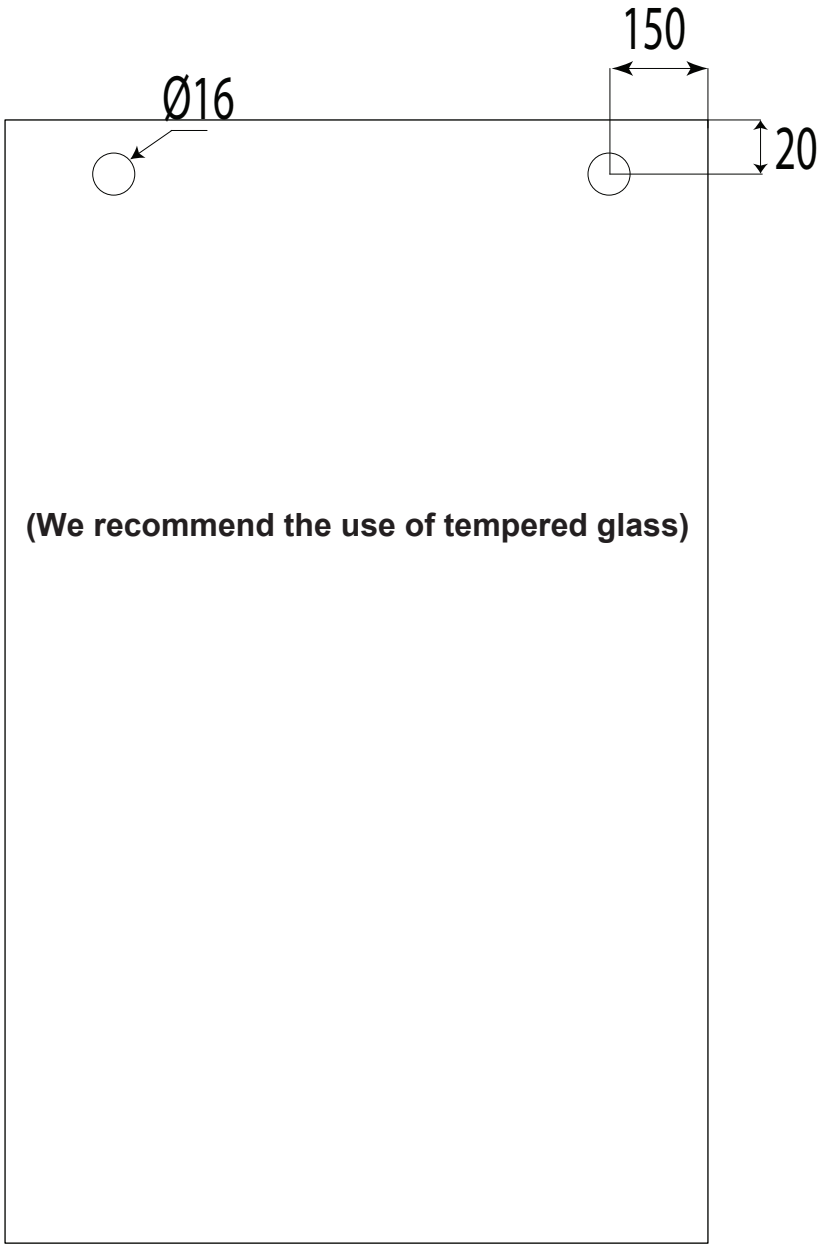
2. Power Beam Sectional View

Aluminum profile type: M0103 (Length: 4200mm or 5800mm)



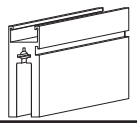
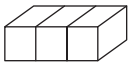
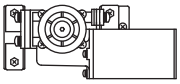
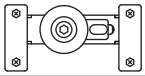
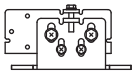
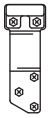
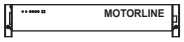
3. Glass production

Measures for drilling / Fixing glasses:



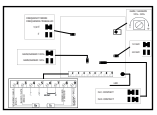
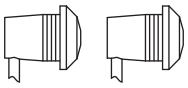
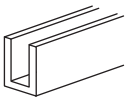
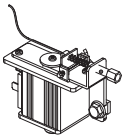
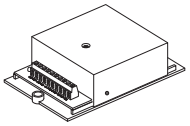
4. Power Beam Component List

- The following components attached in the packing boxes

Item	Part Number	Schematic Drawing	Quantity	Note
Glass Profile	M PERFIL V		2	
Batteries	M BAT		3	3 x 12V 1,2Ah
Power beam Model	M0103		1	Standard 4200mm Standard 5800mm
Cover Profile	M0103T		1	Standard 4200mm Standard 5800mm
Motor	M0901		1	
Belt Tensioner	M0201		1	
Cradle parts	M0401		4	Normally 2pcs per door
Upper Connection Parts	M0501		1	
Lower Connection Parts	M0502		1	
Belt	M0301		1	
Controller	M0802		1	
Door Halter	M0601		4	
Switch of power supply	M1201		1	
Microwave Sensor	M1601		2	

4. Power Beam Component List

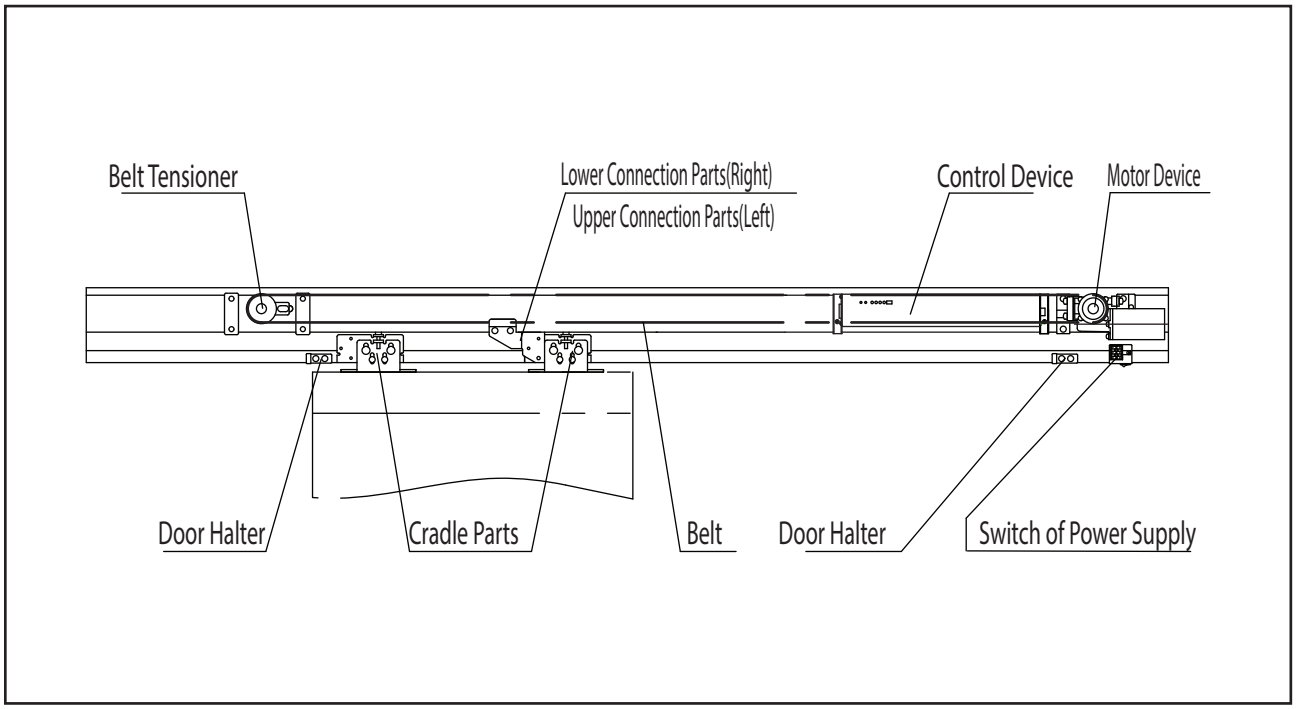
- The following components attached in the packing boxes

Item	Part Number	Schematic Drawing	Quantity	Note
Photocells Module	CR10MS		1	
Photocells	FOTO9S1A		1par	
Door guide	M2125		2	
Program Selector	M CELE 01		1	
Electric Lock	M ELE 02		O	Optional
Electric lock controller module	M FE 03		O	Optional

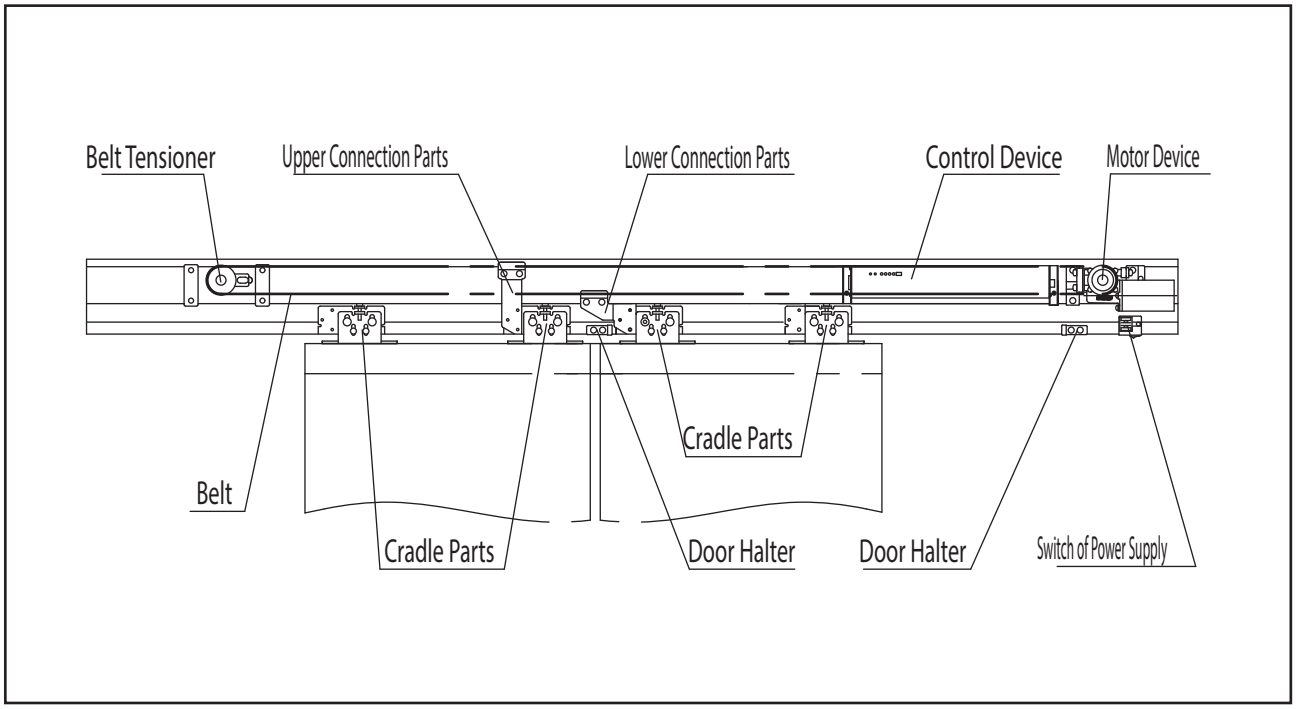
5. Power Beam Parts Positions

All mounting parts position are basically as follows:

(Single Door Leaf Type)



(Double Door Leaf Type)



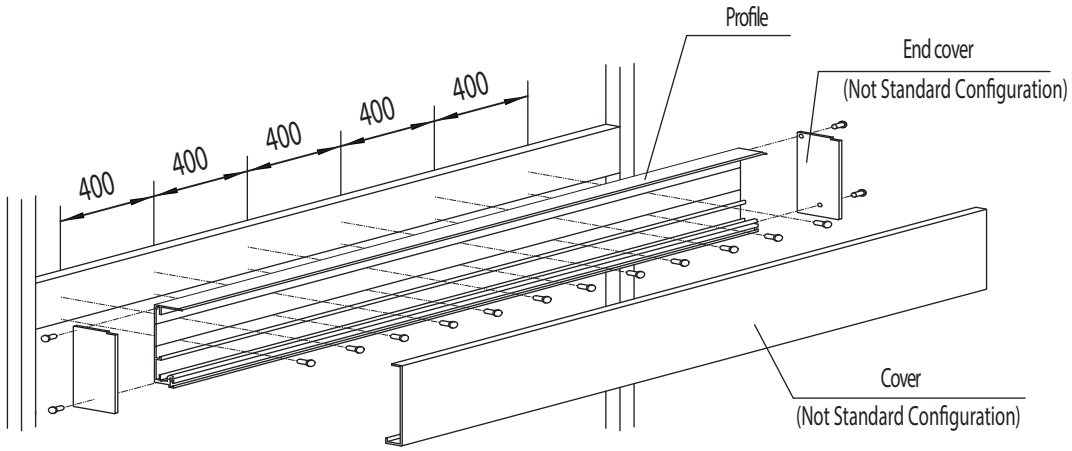
6. Profile Installation

(Surface Mounting)

The surface must vertically and horizontally leveled to ensure the proper functioning condition.
- Set the M0103 profile to wall using at least 8mm screws

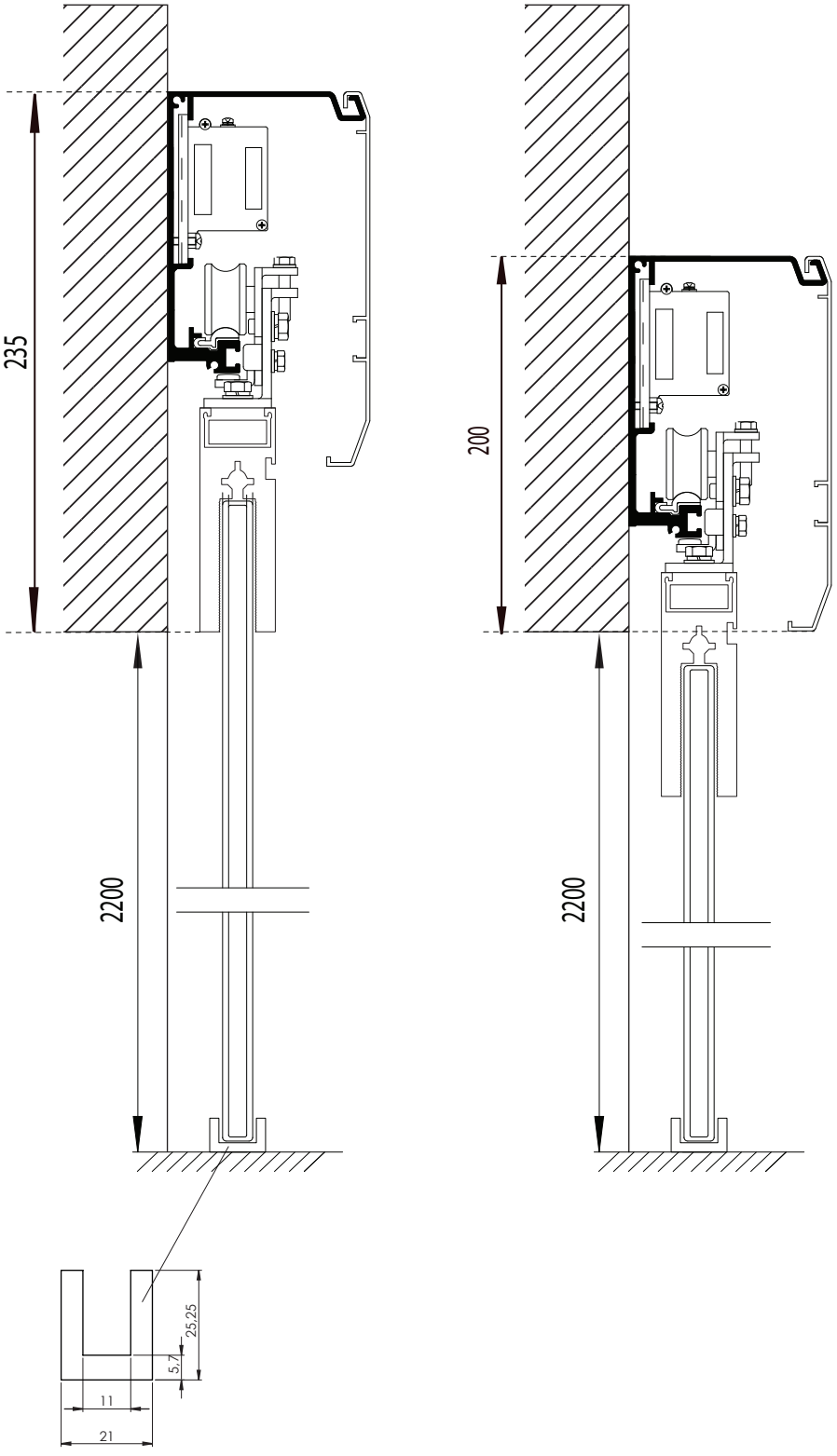
(1) Make holes in the profile and in the wall in order to fix power beam.
Use a level to verify that the profile is perfectly level.

(2) Pay attention to the passage of electrical cables and signal in order to prevent them from being damaged by moving parts.



6. Profile Installation

POSSIBLE APPLICATIONS:



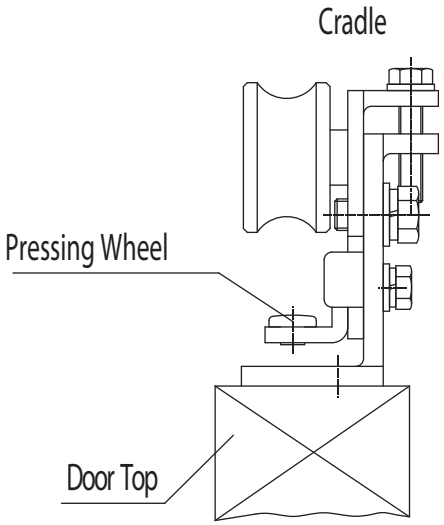
7. Door Leaf Hanging

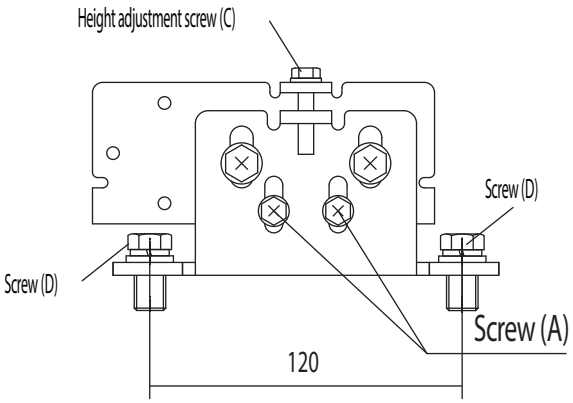
To adjust the leaves, follow the steps below:

(1) Loosen the screw A to lower the support in relation to cradle

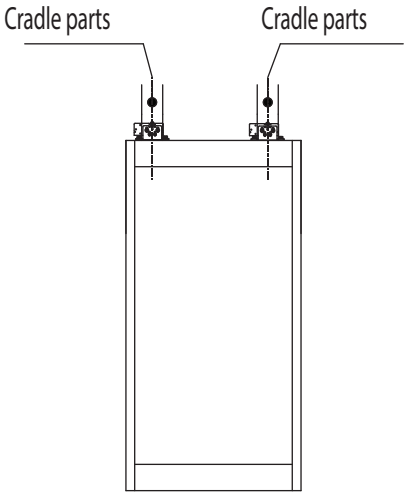
(2) Hang the door leaf in the profile

(3) Ensure that the nylon wheel of the cradle will roll down right along the curve track.

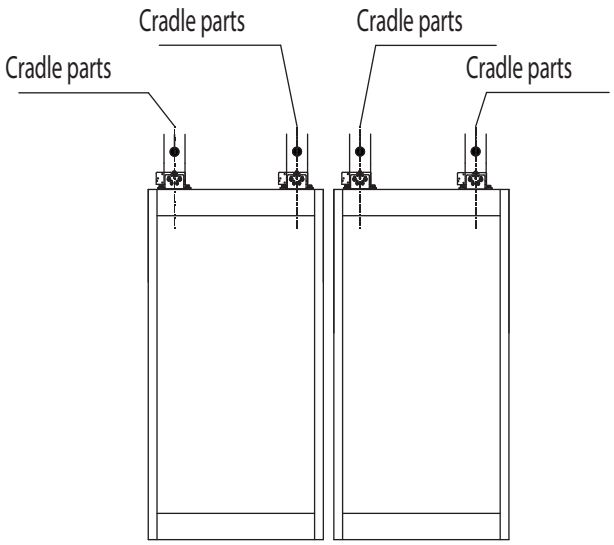




(Single door leaf type)



(Bisection type)

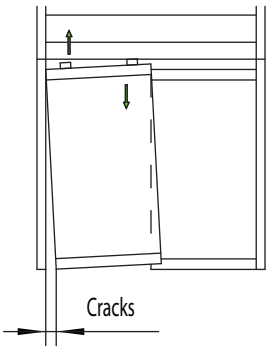


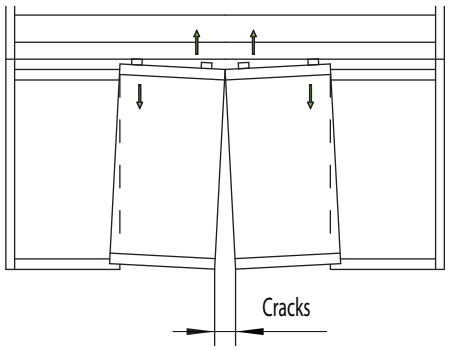
8. Door Leaf Adjusting

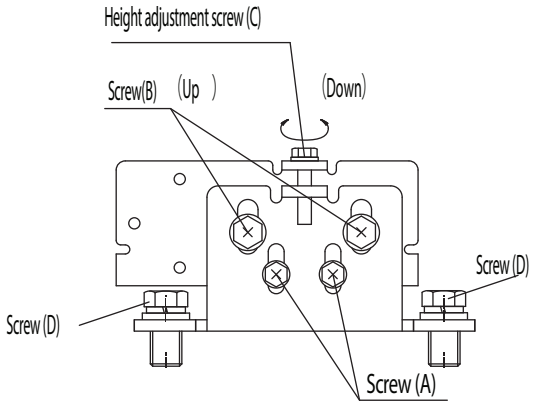
Adjusting steps:

(1) Left and right side cradles should be installed in a straight line.
(2) After hanging the door leaf on the power beam, check if the door leaf slides to left or right side.
(3) With the door leaf hung on the sliding guide, it should be open and close by hand in order to verify if exists friction.
(4) The movable door leaf has to be hung vertically.
- When the space between the movable leaf and the fixed parts is not desired, you can adjust using screws D from the cradle (See previous page).
- When the movable door leaf are declining as the following diagram, you can adjust it relieving bolts A and B and turning the screw C.
(5) No friction is allowed on the movable door.

Attention: No oil can be used on the sliding guide.



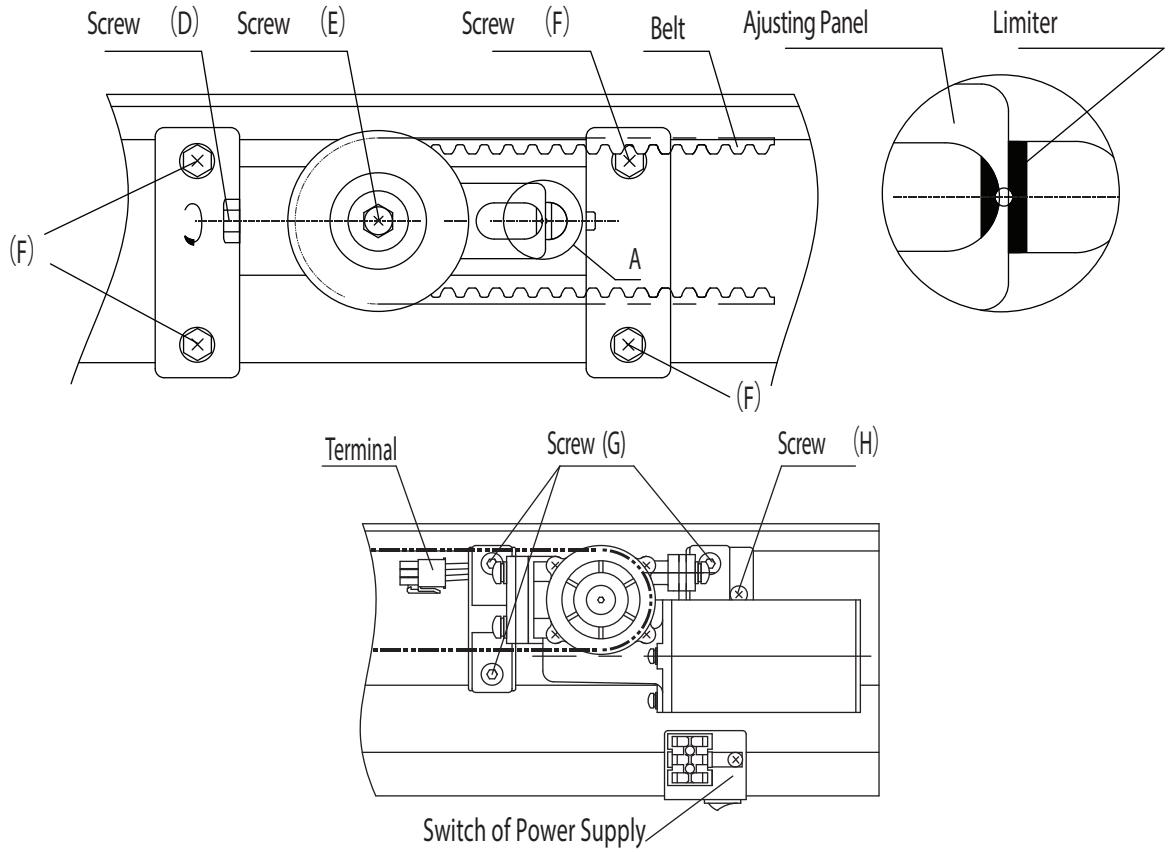




Leveling and adjusting leafs:
(1) Loosen the screws A and B from bracket.
(2) Turn the screw C to adjust height
(3) Tighten the screws A and B after adjustment.

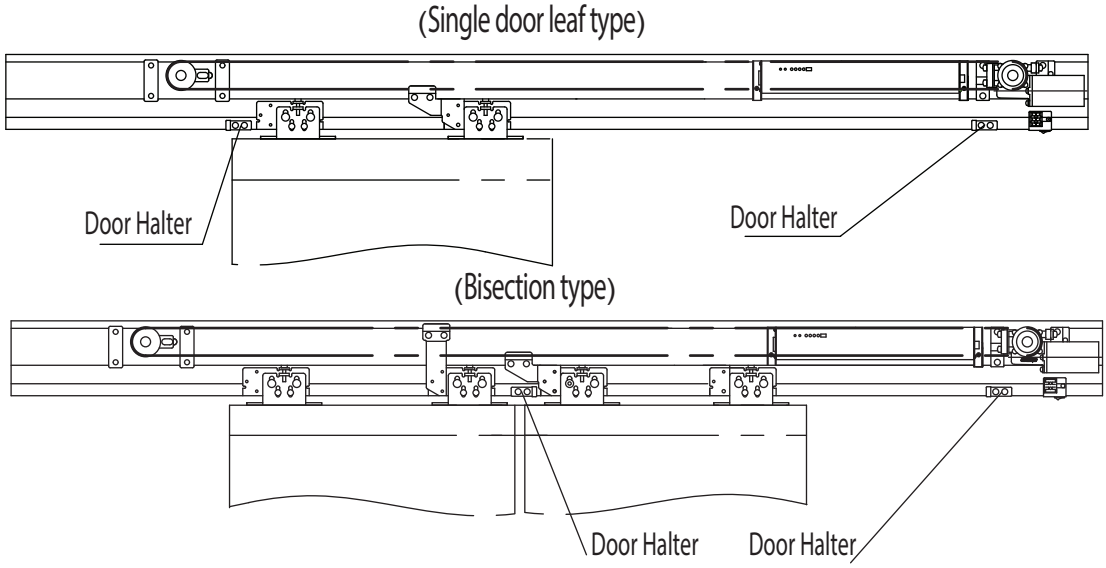
9. Belt Tension Adjusting

(1) Check the tightness of the 4 screws (F) and (G)
(2) Adjust screw (D) to reduce or increase belt tension.
(3) Belt may get prolonged after a long time of use. In this case, belt tension has to be renewed by repeating the above steps (1 and 2).



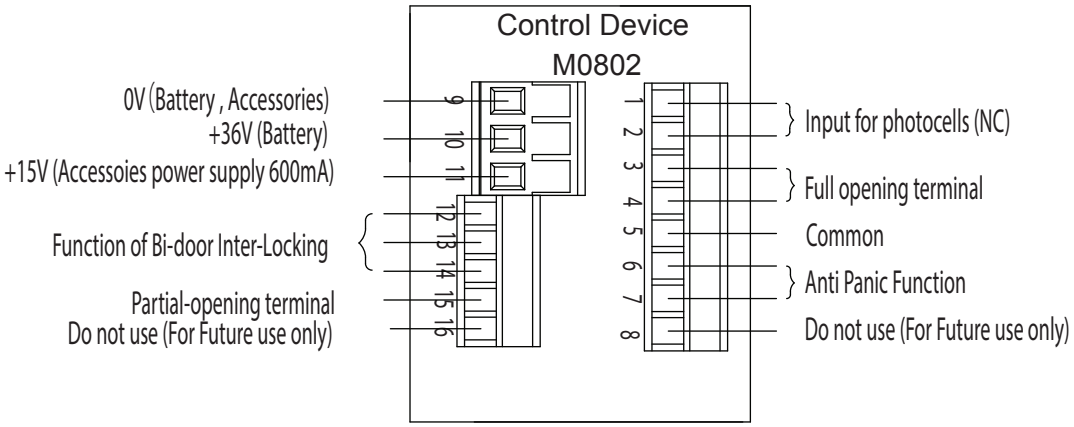
10. Door Halter Installation

(1) Define the closing position of the door by installing the stopper.
(2) The position of the stoppers is as follows.



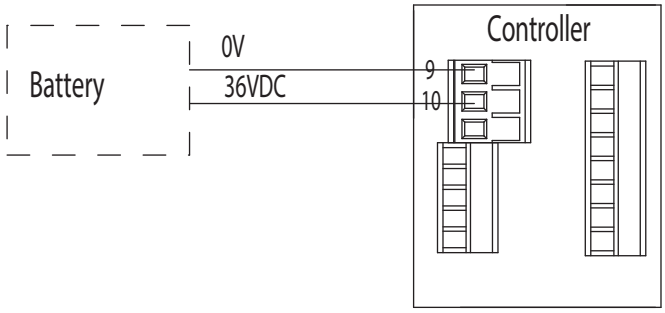
11. Connection Scheme

!WARNING! : All the connections should be operated under cutting off the 230V power supply.



Note: Exit 6 and 7 are only for Anti Panic automatic glass doors. If not using this function, place a shunt between the 2 exits.

12. Emergency battery wiring scheme (optional)



The batteries are only for the following cases:
1 - Open the door automatically in case of 230V power failure.
2 - Electronic lock when closed, for a limited time in case of 230V fault.

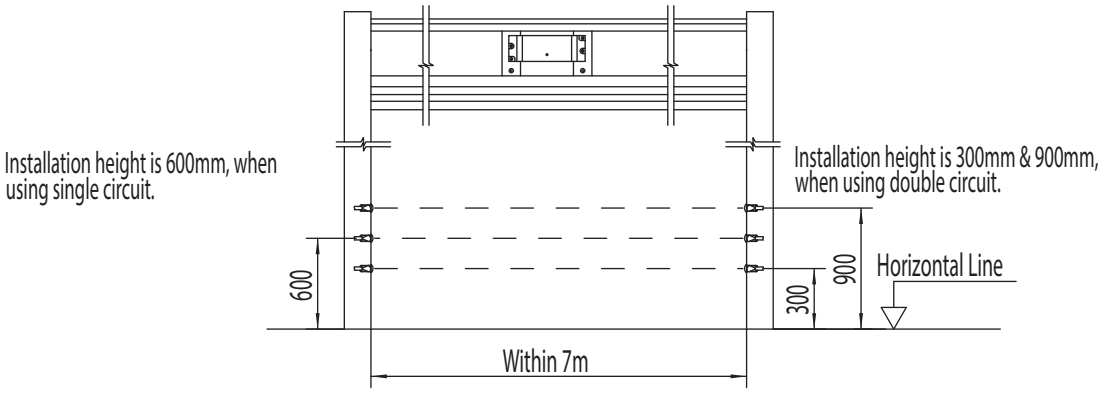
For this select K2 ON or K2 OFF.

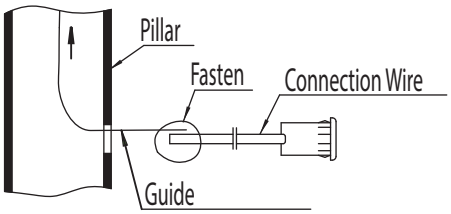
K2 ON - In the presence of batteries, door opens automatically in case of 230V power failure.

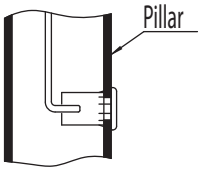
K2-OFF - In the presence of batteries, door remains closed in case of 230V power failure.

13. The Installation of Safety Sensor (optional)

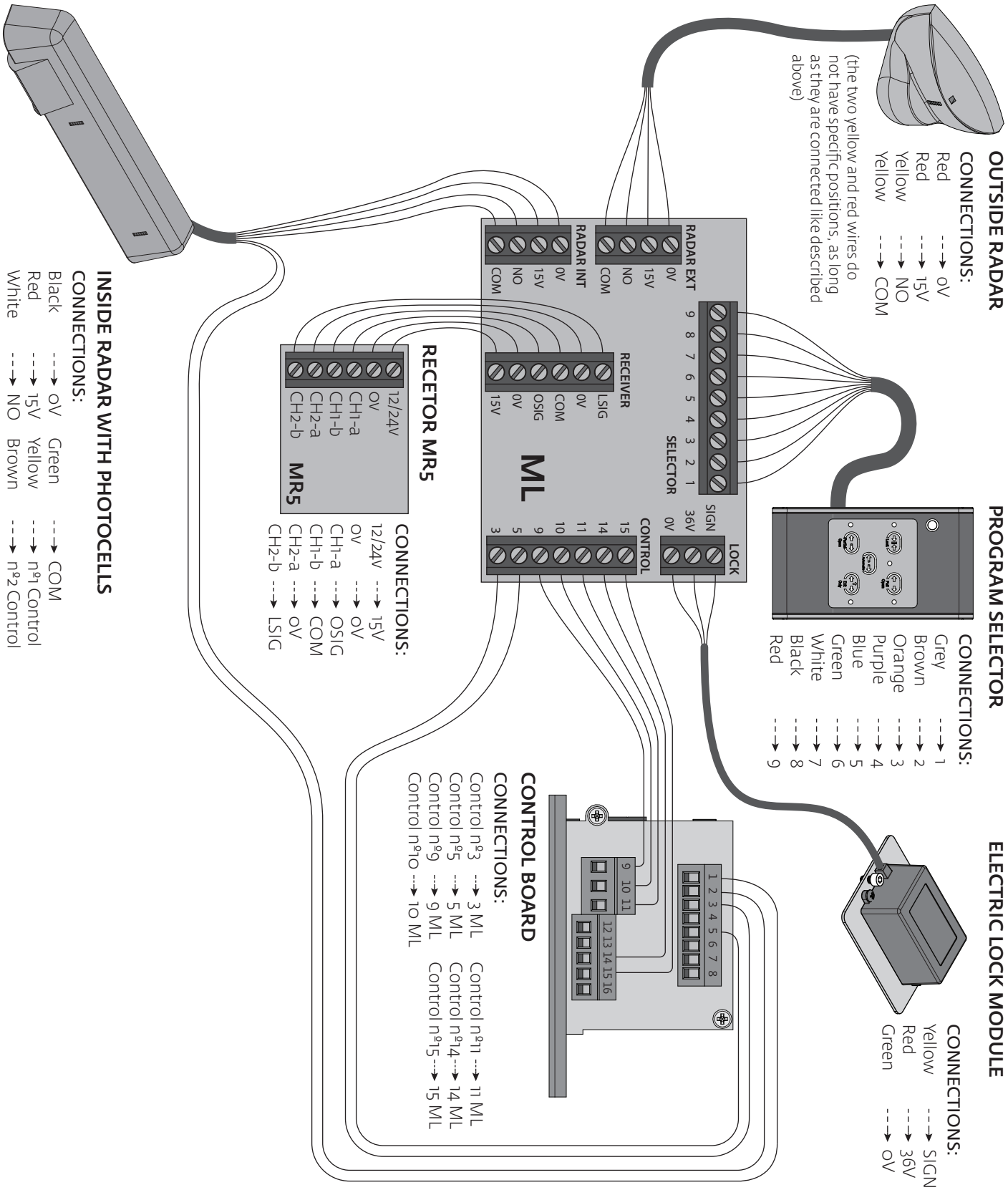
(1) Make holes in the pillar, making sure that holes will keep photocells lens in the same horizontal level.
Attention: The mounting distance should be within 7meters.



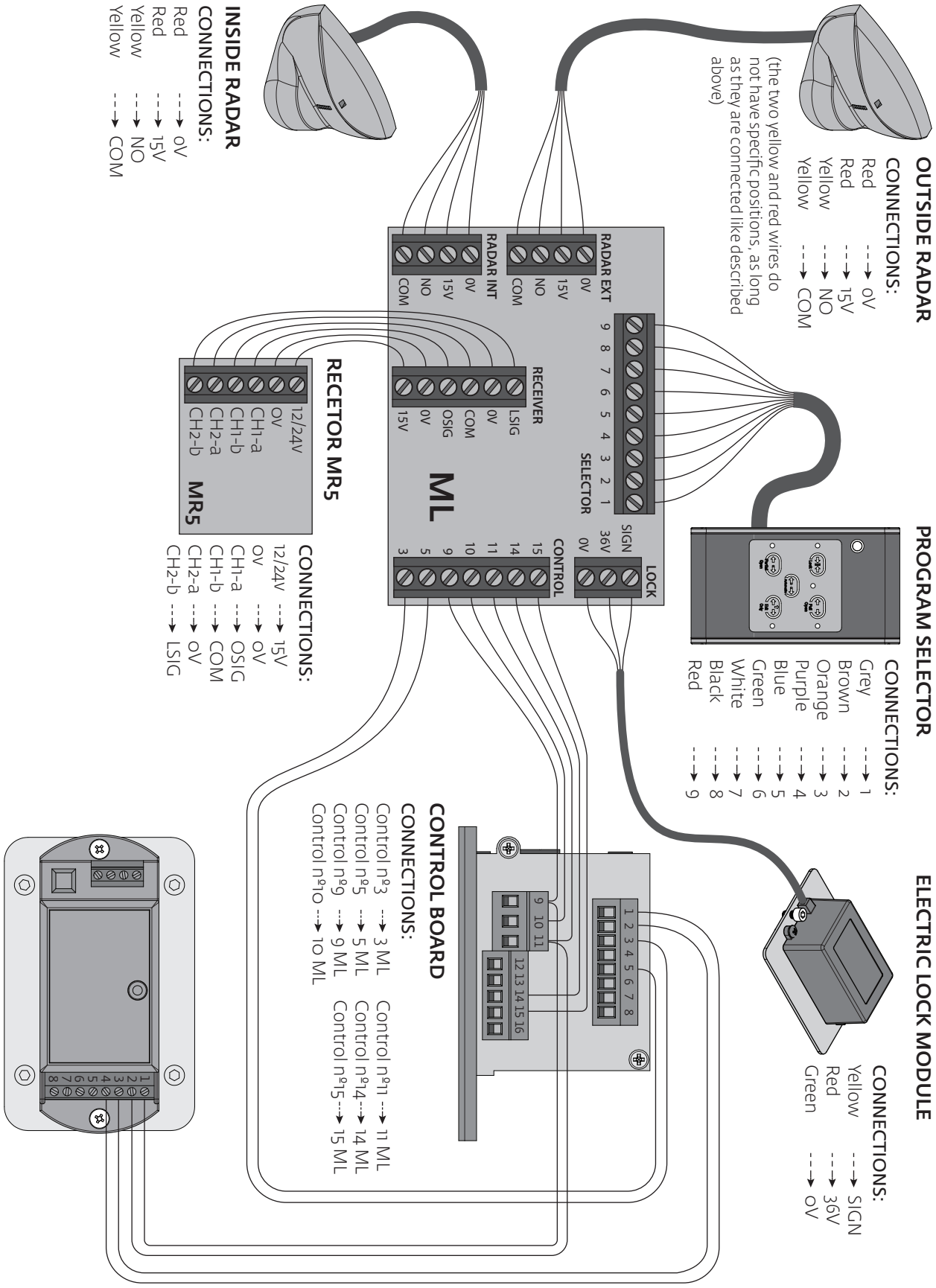




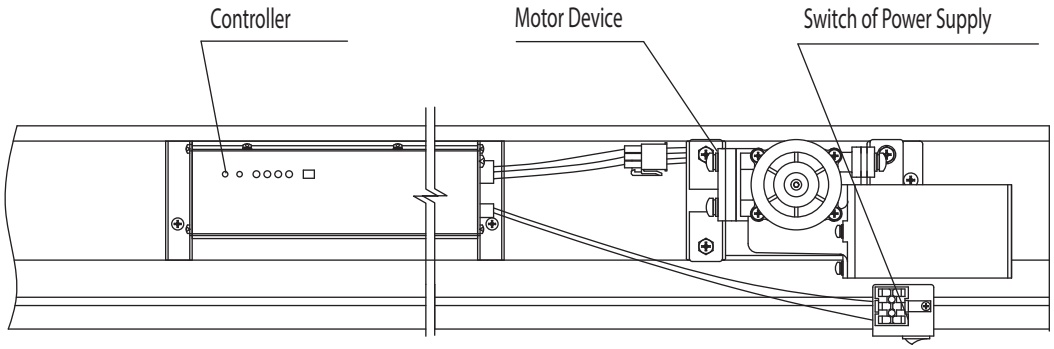
14. Connections of all devices with the PCB ML (OPTION 1)



14. Connections of all devices with the PCB ML (OPTION 2)



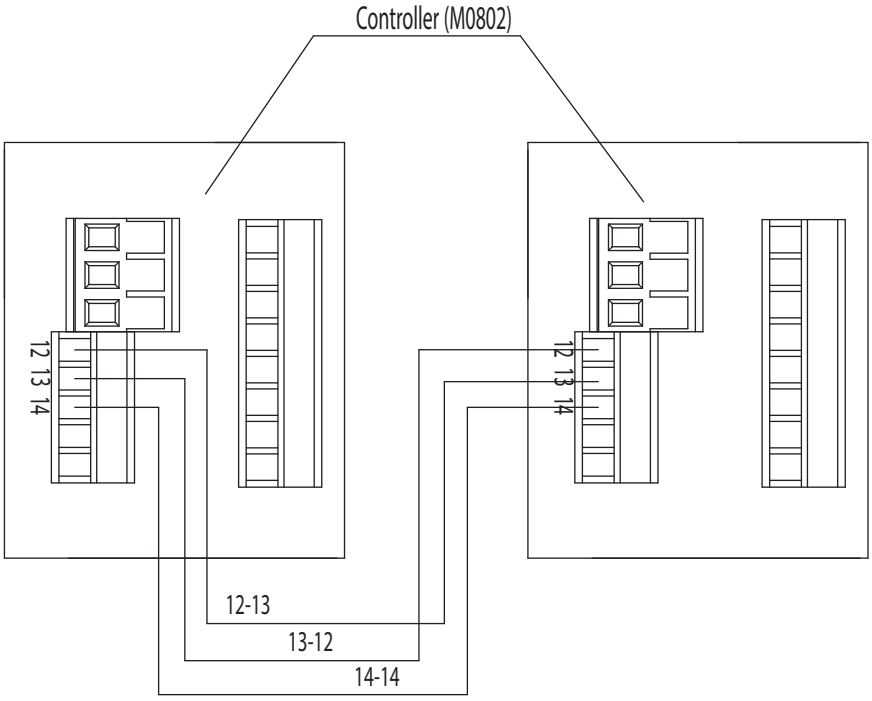
15. Switch of Power Supply, Control Device and Motor Connection



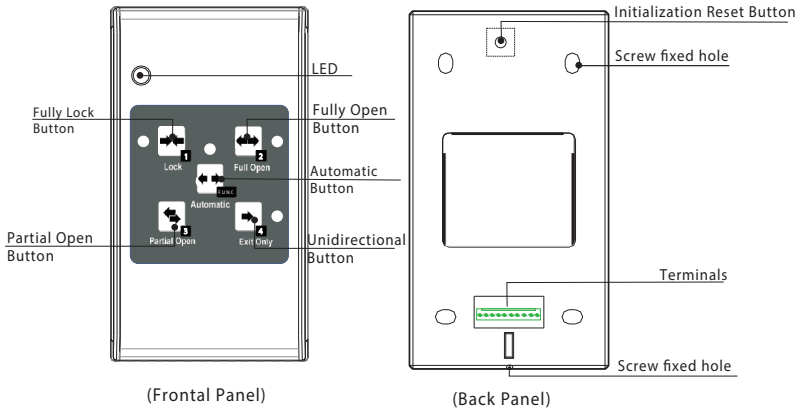
16. Bi-Door Inter-Locking Connection Diagram

Double doors - After the closing of one door, another opens (Inter-Locking)

With this connection the 2 doors are never open at the same time.



17. Program selector diagram



- Five-range program selector
- DC15 power input
- Easy instalation and use
- Function switch against password
- With memory function in case of power failure
- Instruction with indicator light to confirm operation validity.

“FULLY LOCK”

“ FULLY OPEN”

“HALF OPEN” - Outdoor and indoor sensors are enabled - Door only half open

“UNIDIRECTIONAL” - It allows to disable one of the microwave sensors according to direction

“AUTOMATIC” - Indoor and outdoor sensors are enabled.

Changing operation mode:

- Press the "FUNC" key for 5 seconds - Led indicator turns green - Enter password (original password is 1234). Reconfirm by pressing the "FUNC" button again - Select the function you need from the five available FULL LOCK / FULL OPEN / HALF OPEN / EXIT ONLY / AUTOMATIC.

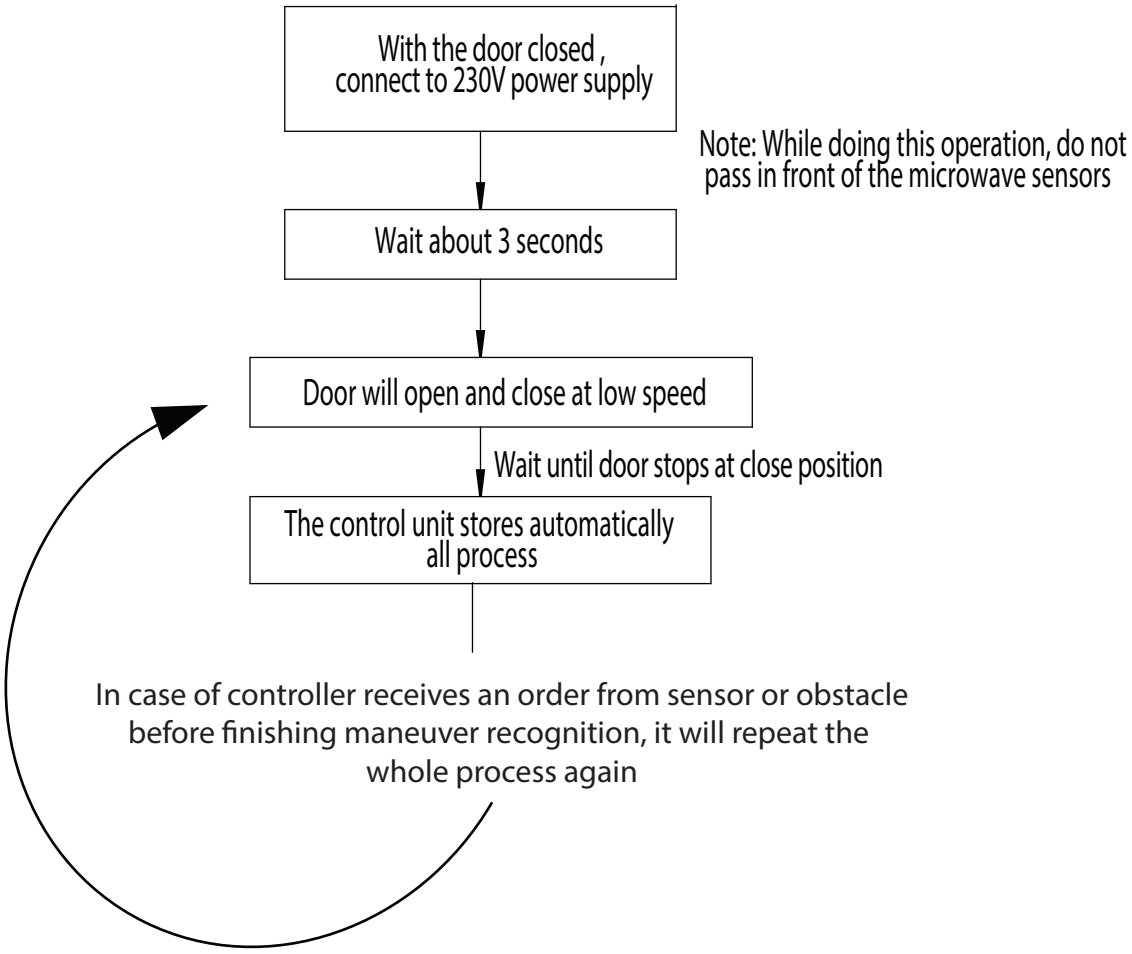
Setting Management password:

- Press the "FUNC" key for 10 seconds - Selector will emit sound between 5 and 10s - Enter correct password. Reconfirm by pressing the "FUNC" button again - Enter new password and press "FUNC", reconfirm the new password and pressing "FUNC" key (New password setting completed successfully).

Note - If you have forgotten your password, open the rear panel and press the RESET button for 40 seconds. The initialization of the system is confirmed by sounding a beep. Password back to 1234.

18. Graphic: Programming control unit

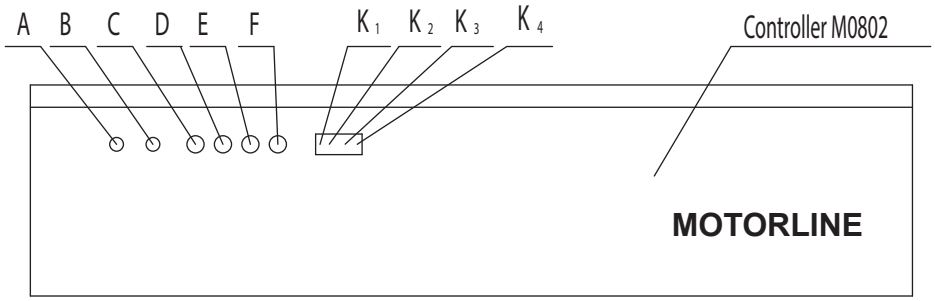
After assembly completed, open and close the door several times by hand before connecting to main power supply 230V in order to assure that there is no obstacle during opening and closing. After checking the proper motion of the leaves, can now move to the programming, which is made automatically.



19. Control System Functions Setting

Adjust steps and warnings:

1. Open and close the door for several times with hands before turning on the electricity to make sure there is no unconviniently during the process of opening and closing.
2. If there is safe power, you can enable/disable according to K2 switch position.
3. You must adjust the rebound force (F) according to door leaf's weight and running speed.
4. When adjusting speed, you must also adjust rebound force in order to avoid the door taking for meets barriers bounde to present repeatedly movement.
5. At the beggining, the opening time should be selected to the mínute. This parameter will be easier adjusted after the other parameters have already been selected.



A - Indicator light
B - Hand handling button (Start)
C - Door opening speed adjustment
D - Door closing speed adjustment
E - Pause time adjustment
F - Rebound force adjustment

K1, K2, K3, K4 in OFF condition (default)

K1. K1 button in ON, by receiving signal from the radar, the door will open and only will close after receiving a second pulse. K1 OFF - Automatic Mode: The door opens to the 1st radar signal and closes automatically after expiry preselected pause time.

K2. If emergency battery present, the switch K2 in ON will keep the door open in case of power failure 230V. K2 OFF, in the event of 230V power failure, the the door remains closed.

K3. ON / OFF - Selects the direction of the door opening.

K4. Choosing closing force.

CR10MS/FOTO9S1A

UNITÀ DI CONTROLLO - FOTOCELLULA SINCRONIZZATA
CONTROL UNIT - SYNCHRONIZED PHOTOCELL
CENTRAL DE CONTROLO - FOTOCÉLULAS SINCRONIZADAS

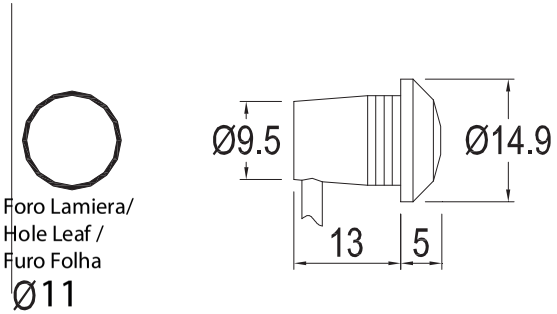
MADE IN ITALY

DESCRIZIONE / *DESCRIPTION / DESCRIÇÃO :*

CR10MS è una fotocellula per la gestione di 1 raggio infrarosso.
L'elettronica, progettata con circuito PLL, garantisce un'ottima immunità da disturbi ottici ed elettrici.

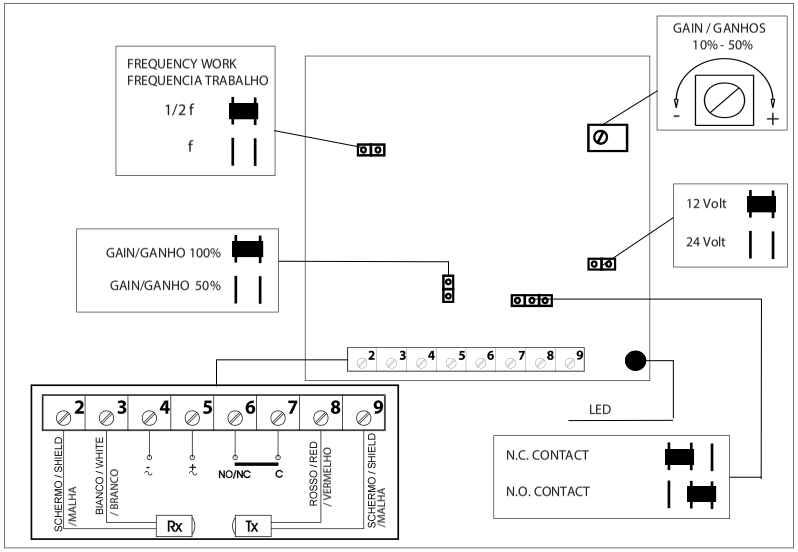
CR10MS *is a control unit for 1 infrared beam. PLLelectronic circuit guarantees an excellent immunity to optical and electrical noise.*

CR10MS *é uma unidade de controlo para um feixe de infravermelhos.Circuito eletrônico PLL garante uma excelente imunidade ao ruído óptico e eléctrico.*



CARATTERISTICHE TECNICHE / TECHNICAL DATA / DADOS TÉCNICOS	
PORTATA/*RANGE/ALCANCE*	0,1 ÷ 6 mt.
PROTEZIONE/*DEGREE OF PROTECTION/* GRAU DE PROTECÇÃO	IP 30 (IP 55 OPTIONAL / OPCIONAL)
ALIMENTAZIONE/*SUPPLY VOLTAGE /* ALIMENTAÇÃO	12 / 24 Volt DC - AC ± 15%
ASSORBIMENTO/*SUPPLY CURRENT* CURRENTE/	50 mA
TEMPERATURA DI FUNZIONAMENTO/ *OPERATING TEMPERATURE /* TEMPERATURA DE FUNCIONAMENTO	-15 ÷ +50° C
USCITA/*OUTPUT/SAIDA*	N.O. / N.C. (RELAY CONTACT / CONTACTO RELÉ)
PORTATA CONTATTO/*OUTPUT CONTACT/* SAÍDA CONTACTO	1A - 24 Volt DC
RAGGIO/*OPTICAL RAY/ FEIXE ÓPTICO*	INFRARED / INFRAVERMELHOS 900 nm
CONFORMITÀ/*APPROVALS / CONFORME*	89 / 336 / CEE; UNI 8612

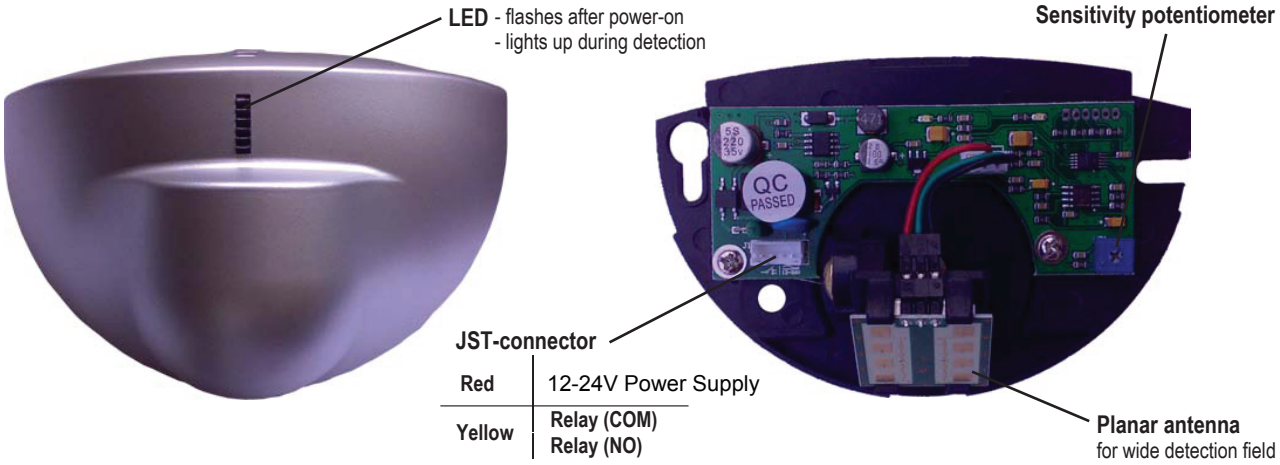
APPLICAZIONI / *APPLICATIONS* / *APLICAÇÕES*:
Porte automatiche / *Automatic doors / Portas Automáticas*



VERS. 1.3

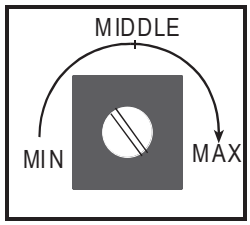
21. Connecting Microwave sensors

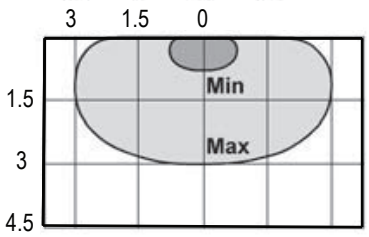
1 General information



2 Adjustments

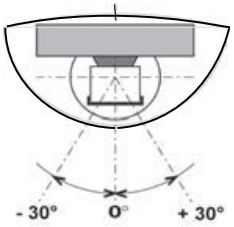
1 The sensitivity settings determine the size of the sensing field

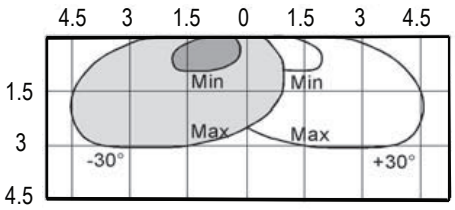




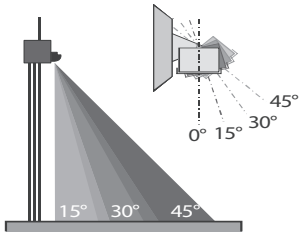
vertical angle: 30°, mounting height: 2.2m

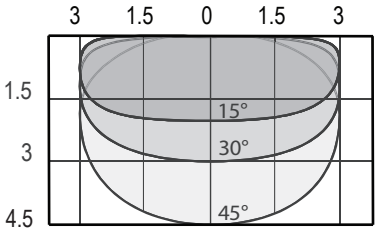
2 The lateral angle of the planar antenna determines the position of the sensing field





3 The vertical angle of the planar antenna determines the depth of the sensing field

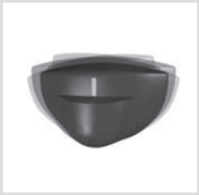




sensitivity: maximum

21. Connecting Microwave sensors

3 Installation tips



Avoid vibrations!

Do not cover the sensor!

Avoid moving objects in proximity of the sensor!

Avoid HF lamps or fluorescent lighting in proximity of the sensor!

Avoid touching electronics!

Revolve the potentiometer slowly with small strength.

4 Troubleshooting

SYMPTOMS	PROBABLE CAUSES	CORRECTIVE ACTION
The door will not open and no red LED lights up.	The sensor power is off.	Check the wiring and the power supply.
The door opens and closes constantly.	The sensor "sees" the door moving.	Increase the tilt angle and/or reduce the sensitivity.
	When closing, the door creates vibrations picked up by the sensor.	Make sure that the sensor is correctly fixed. Reduce the sensitivity.
The door will not close. Red LED is OFF.	ON-OFF switch at door control is in wrong position or faulty. Improper output configuration.	Make sure that the ON-OFF switch for the door is in the ON or AUTOMATIC position. Check the output configuration setting on each sensor connected to the door operator.

5 Technical specifications

Technology	: microwave and microprocessor
Transmitter frequency	: 24.125GHz
Transmitter radiated power	: ＜20dBm EIRP
Transmitter power density	: ＜5mW/cm²
Maximum mounting height	: 3.5 m
Tilt angles	: 0° to 90° vertical and -30° to + 30° lateral
Detection field (mounting height=2.2m)	: 6m (W) x 3m (D)
Detection mode	: motion
Minimum speed	: 5 cm/s (measured in the sensor axis)
Supply voltage	: 12V to 30V AC/DC +30% / -10%
Mains frequency	: 50 to 60 Hz
Power consumption	: < 2W (VA)
Output relay (free of potential change-over contact)	
Max. contact voltage	: 42V AC- 60V DC
Max. contact current	: 1A (resistive)
Max. switching power	: 30W (DC) / 60VA (AC)
Hold time	: 1.0 s
Temperature range	: -25°C to +55°C
Degree of protection	: IP54
Norm Conformity	: R&TTE 1999/5/EC; EMC 89/336/EEC
Material	: ABS
Color of housing	: black smoked, aluminium finish
Dimensions	: 120mm (W) x 80mm (H) x 50mm (D)
Weight	: 0.265kg
Length of cable	: 2.5m

22. The Abnormal Status and the Resolving Methods

When the auto-door unconventionally runs, please cut off the power supply for a few seconds, and then turn on again.

Nº	Abnormal Status	Possible cause	Resolving Methods
1	The door cannot move	1. Power failure 2. Door blocked 3. Damaged fuse 4. Cables desconnected	1. Check the 230V power supply. 2. Separate the door from belt and check if door can be moved by hand 3. Check fuse M1201 4. Make sure the cables are securely connected
2	Door open and close with very low speed	1. Leafs with friction 2. Cradels with damaged bearings 3. M0201Group tensioner with damaged bearings 4. Defective control unit 5. Motor with stuck reducer	1. Move the door manually, without being attached to belt and verify proper operation. 2. Repeat the previous step 3 Remove belt and check by hand if the movement is correct. 4.Change the position of the potentiometers D and C see whether the unit changes the operation. 5. Without the belt and without power, make sure the motor turns manually
3	Door cannot be closed	1. Sensor sending continued signal 2. Photocells always open	1.Unplug one radar ,one by one to see if the door close 2. Check if the cables connecting photocells module to control unit (1 and 2) close the circuit NO.Install an shunt between point 1 and 2 and make sure the door close.In case it closes verify power suplly cables
4	Door reverse direction when closing	1. There are obstacles in the sensor detection area. 2. The door leaves are within the detection area. 3. Photocells misaligned 4. There is friction in some door components	1. Remove obstacles in the area of the detection sensor. 2. Adjust the sensor detection area and sensitivity 3. Align the photocells 4. Check, moving leaves by hand, where exists contact between components
5	Door leafs slam violently	- Lack of stoppers - Faulty control board	- Check if the stoppers are tight and in place; - Change the position of the potentiometers C and D in order to see whether the switch changes control unit operation. - Reset control board by disconnecting batteries and 230V power supply for 5seconds.Power on again, the door will start new programming.