

PL SERIES

300/400/500/800

SLIDING GATE OPERATOR

for sliding gates - 24V ——— EN



INDEX

A. SAFTY INSTRUCTION

3

B. PRODUCT DESCRIPTION AND INTENDED USE

4

B1. KIT CONTENT

4

B2. DESCRIPTION OF DEVICE

5

B3. DIMENSIONS

5

C. INSTALLATION

6

C1. INSTALLATION OF GEAR MOTOR AND GEAR RACKS

6

C2. LIMIT SWITCH ADJUSTMENT

7

C3. MANUAL RELEASE OF MOTORS

7

D. COMMISSIONING

8

D1. PC500BU CONTROL BOARD

8

D2. REMOTE LEARNING

9

D3. SAFETY DEVICE LOGIC

10

D4. PROGRAMMING

11

D5. PARAMETER TABLE

12-13

D6. SYSTEM LEARNING

14

D7. RESET TO DEFAULT SETTINGS

14

E. SMARTPHONE CONTROL WITH EYEOPEN MOBILE APPLICATION

15

E1. WB1 WIFI MODULE

15

E2. QUICK SET UP GUIDE

15-17

F. TECHNICAL SPECIFICATIONS

17

G. MAINTENANCE

18

A. SAFTY INSTRUCTION

WARNING !

Please read this instruction manual carefully before the installation of gate-automated system.

This manual is exclusively for qualified installation personnel. Powertech Automation Inc. is not responsible for improper installation and failure to comply with local electrical and building regulations.

Keep all the components of the kit content and this manual for further consultation.

In this manual, please pay extra attention to the contents marked by the symbol: 

Be aware of the hazards that may exist in the procedures of installation and operation of the gate-automated system.

Besides, the installation must be carried out in conformity with local standards and regulations.

If the system is correctly installed and used following all the standards and regulations, it will ensure a high degree of safety.

Make sure that the gates work properly before installing the gate-automated system and confirm the gates are appropriate for the application.

Do not let children operate or play with the gate-automated system.

Do not cross the path of the gate-automated system when operating.

Please keep all the control devices and any other pulse generator away from children to avoid the gate-automated system being activated accidentally.

Do not make any modifications to any components except that it is mentioned in this manual.

Do not try to manually open or close the gates before you release the gear motor.

If there is a failure that cannot be solved and is not mentioned in this manual, please contact qualified installation personnel.

Do not use the gate-automated system before all the procedures and instructions have been carried out and thoroughly read.

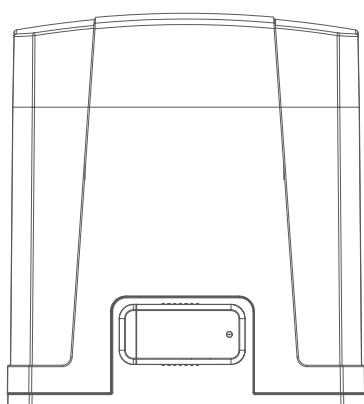
Test the gate-automated system weekly and have qualified installation personnel to check and maintain the system at least every 6-month.

Install warning signs (if necessary) on the both sides of the gate to warn the people in the area of potential hazards.

B. PRODUCT DESCRIPTION AND INTENDED USE

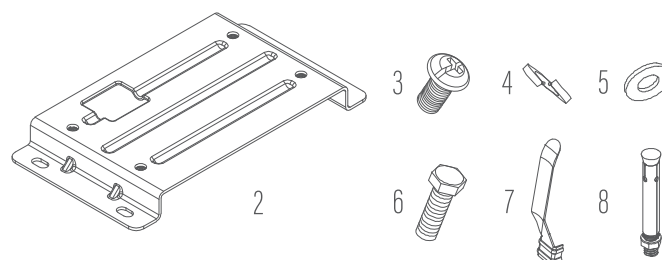
B1. KIT CONTENT

► MOTOR ◀

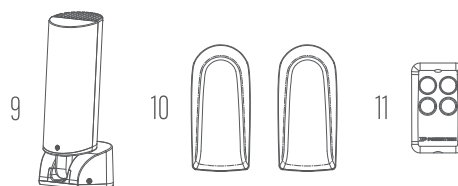


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► HARD WIRE ◀

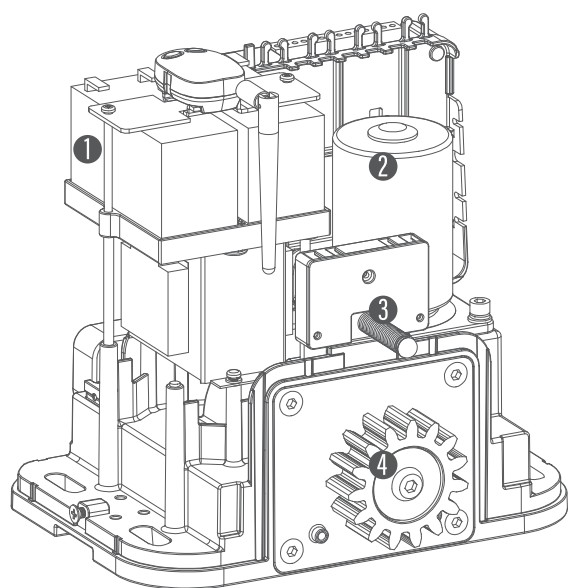


► ACCESSORIES ◀

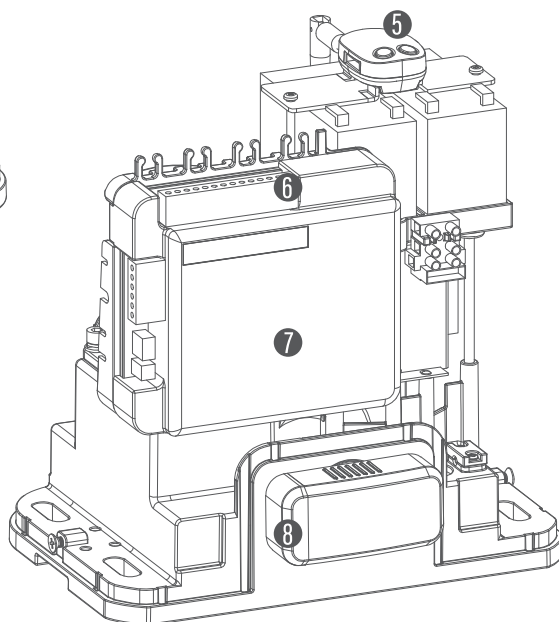


► REF. ◀	DESCRIPTION	QUANTITY ◀
1.	24Vdc motor including P500BU PCB	1
2.	Metal fixing plate	1
3.	Screw for fixing plate	4
4.	Nut	4
5.	Nut	4
6.	Screw	4
7.	Limit switch	2
8.	Peg	4
9.	Flashing light	4
10.	Photocell	4
11.	Remote	4

B2. DESCRIPTION OF DEVICE

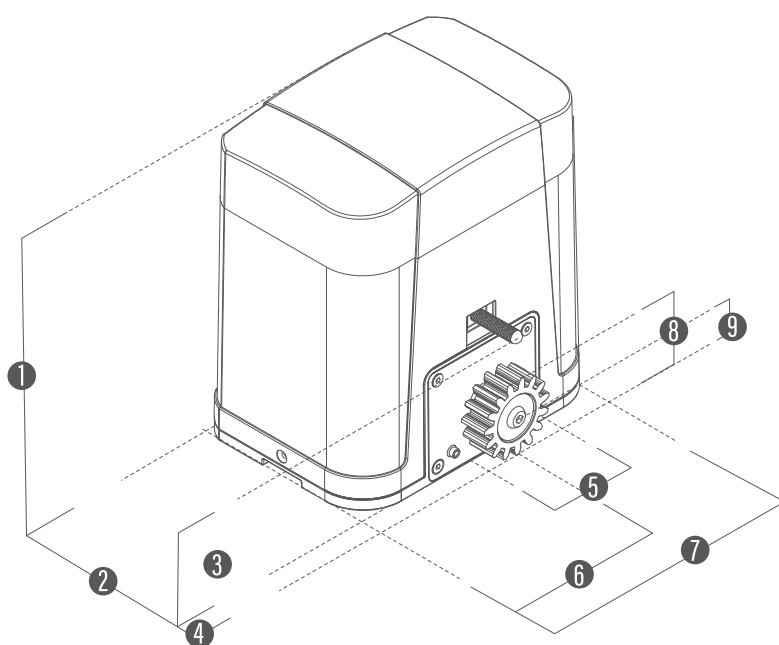


- 1. Back up batteries (optional)
- 2. 24Vdc motor
- 3. Limit switch
- 4. Operation gear



- 5. Wifi Box
- 6. Terminal of devices
- 7. Control panel
- 8. Release device

B3. DIMENSIONS

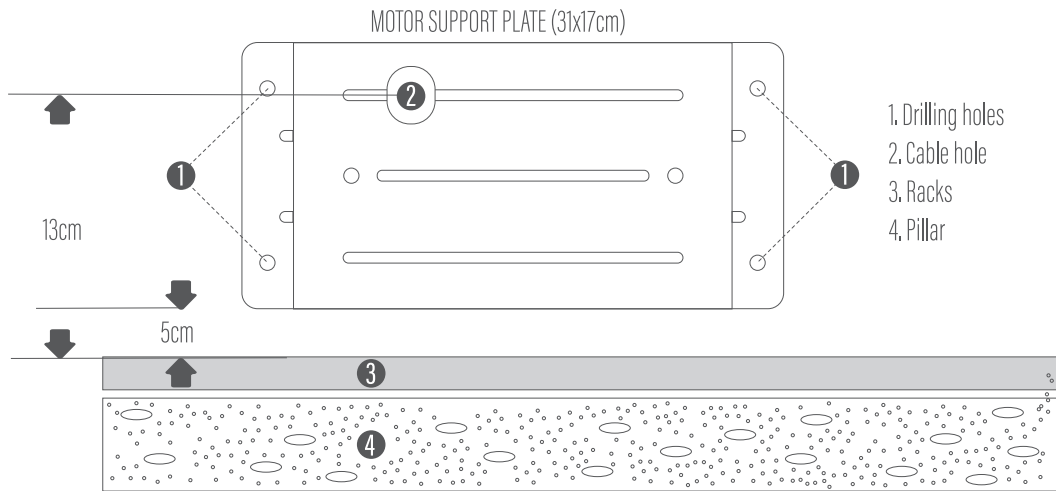


- 1. 275 mm
- 2. 170 mm
- 3. 124 mm
- 4. 24 mm
- 5. Z15 / OP68
- 6. 125 mm
- 7. 250 mm
- 8. 85.5 mm
- 9. 51.5 mm

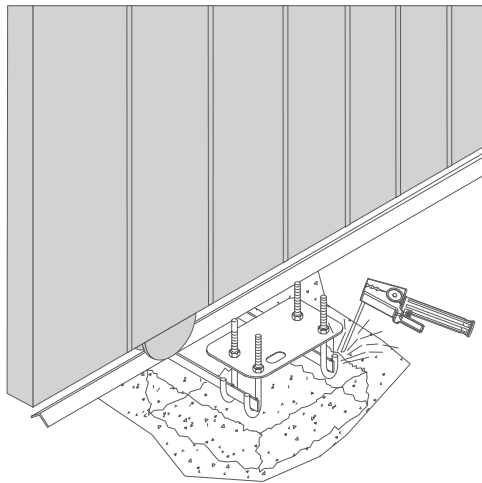
C. INSTALLATION

C. INSTALLATION OF GEAR MOTOR AND GEAR RACKS

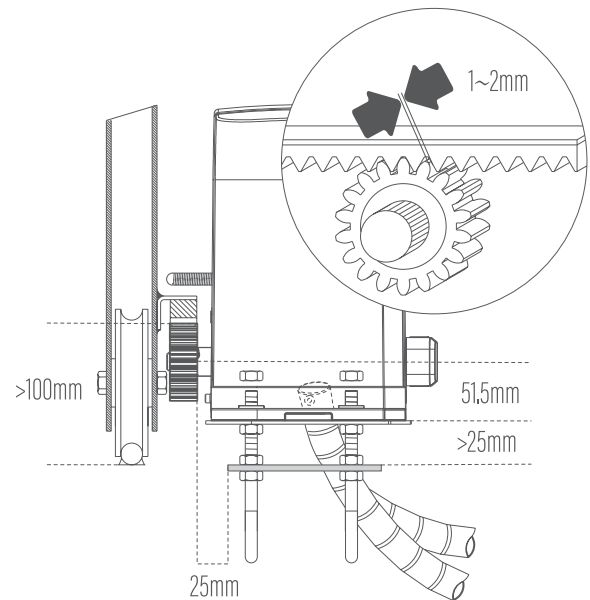
Place the first rack on the driving pinion and trace the drilling locations completely. The rack must be perfectly horizontal. Mark a trait on the top of rack. Proceed in this way over the entire length of the gate.



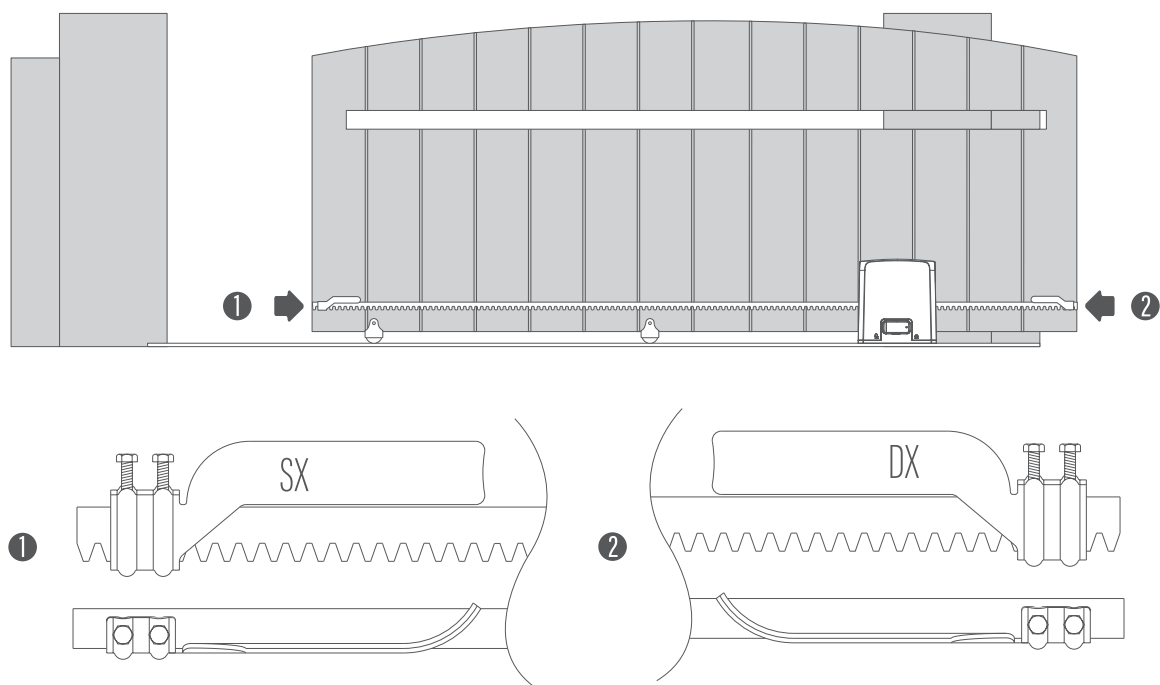
● SUPPORT PLATE INSTALLATION



● RACK INSTALLATION



C2. LIMIT SWITCH ADJUSTMENT



C3. MANUAL RELEASE OF THE MOTORS

In the case of power failure, for emergency release of the motor, please follow the procedure below :

● TO UNLOCK THE DEVICE

1. Push the lid of the release chamber and move rightward.
2. Insert the key and turn clockwise to unlock the device.
3. Turn counterclockwise to release the motor.

figure 1

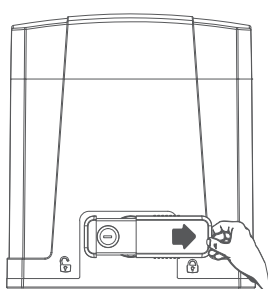


figure 2

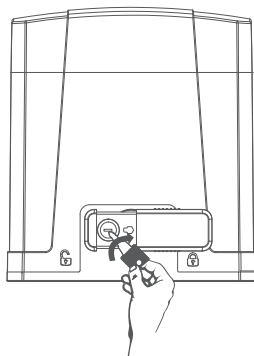
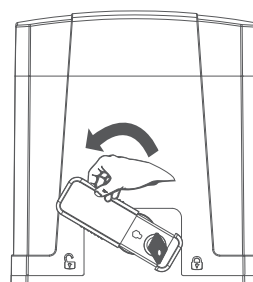
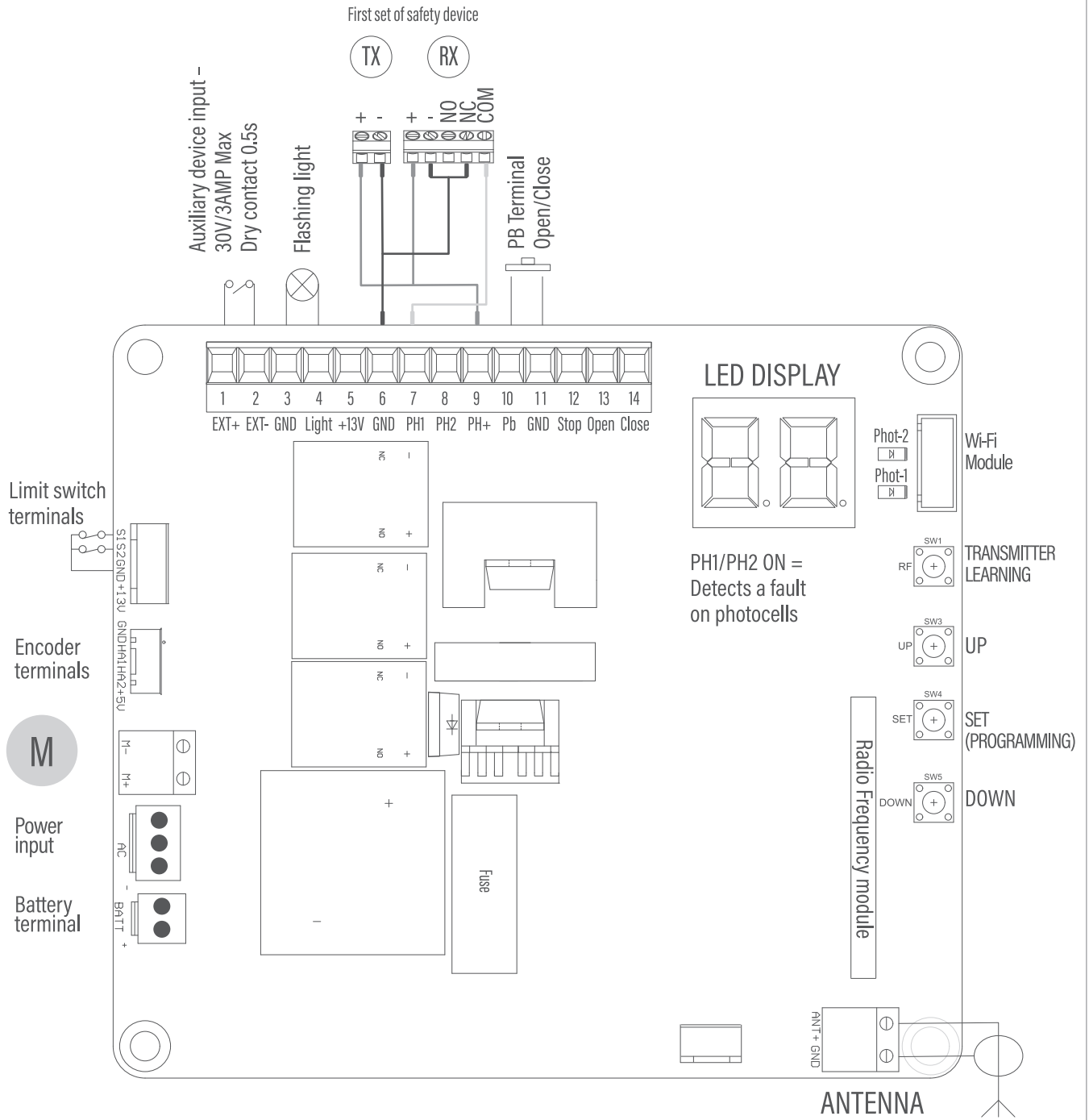


figure 3

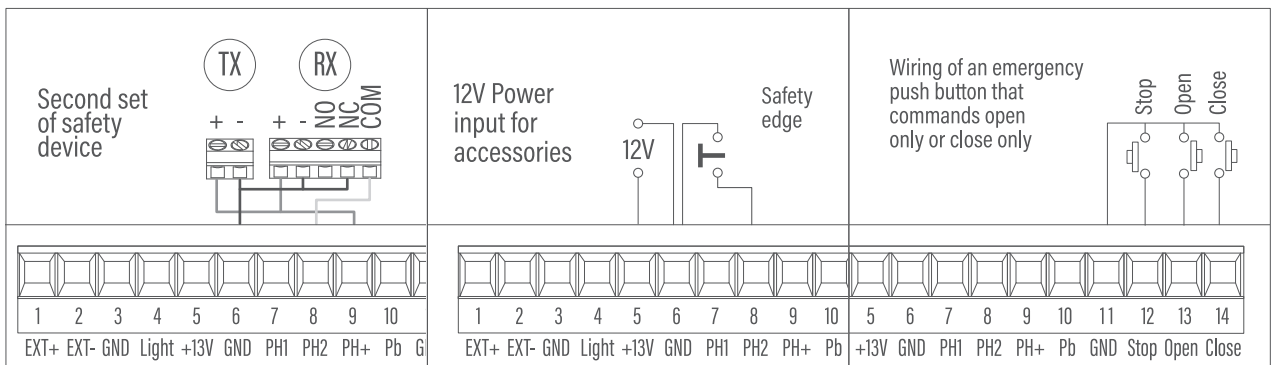


D. COMMISSIONING

D1. PC500BU CONTROL BOARD



ADDITIONAL WIRING OPTIONS (Non mandatory) :



D2. REMOTE LEARNING

 **MANDATORY** : Before processing system learning, you must first memorize the remotes.

● RESET (DELETE) ALL THE REMOTES

1. Press and hold RF button.
2. The (CC) value confirms that all the transmitters have been deleted.

● REMOTE LEARNING

1. Press and hold RF button (programming). After 2 seconds the LED display show (CS), Release RF button
2. Press and hold a button on the remote for at least 1 second then release. (CS) value blinks 3 times, completing memorization process. You have 5 seconds to memorize another remote.

● NEW REMOTE LEARNING FROM A PRE-MEMORIZED REMOTE

1. Press and hold C and D button on a pre-memorized remote.
2. The buzzer beeps 1 time. Then press and hold a button on the new remote for at least 1 second . The buzzer beeps 3 times, completing new remote memorization process.

D3. SAFETY DEVICE LOGIC

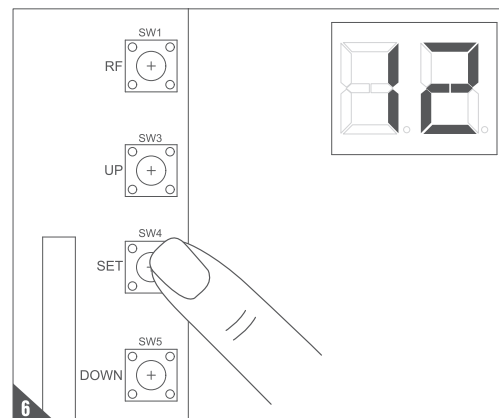
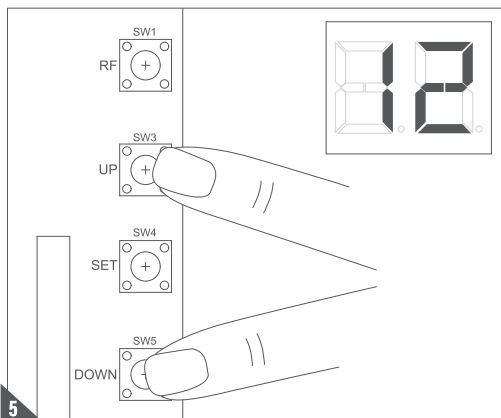
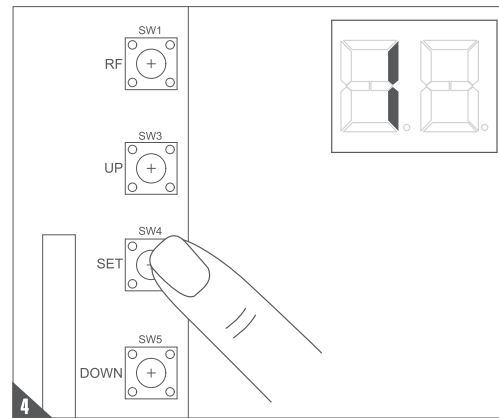
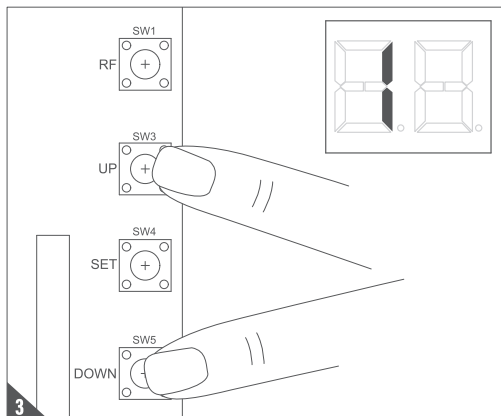
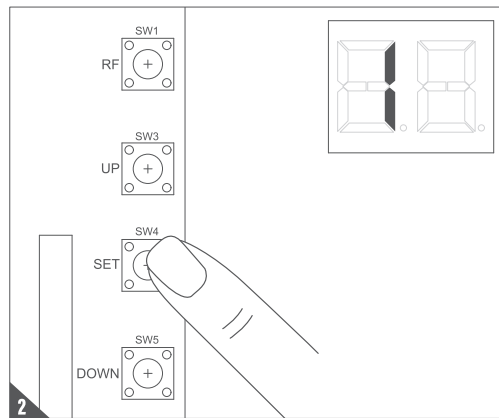
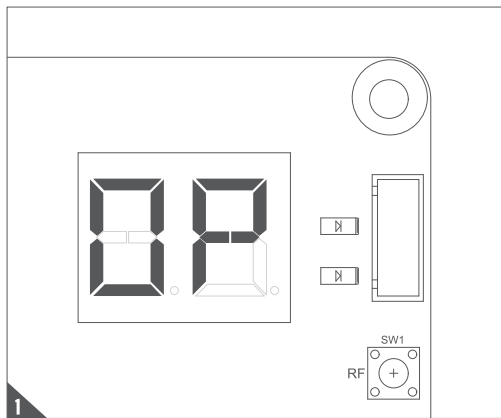
3-1 Anticrush safety between the gate and the wall		
Safety device category	Photocell default on PH1	Safety edge default on PH2
Gate fully closed	No effect	No effect
Opening phase	No effect	Stop and close
Stop during cycle	Reload pause time => Automatic closing	No effect
Gate fully opened	Reload pause time => Automatic closing at slow speed	No effect
Closing phase	Stop => Open at slow speed	No effect
3-2 -Security during closing stage		
Safety device category	Photocell default on PH1	Safety edge default on PH2
Gate fully closed	No effect	No effect
Opening phase	No effect	Stop => Reverse 2 seconds => Pause time => Automatic closing
Stop during cycle	Reload pause time => Automatic closing at slow speed	No effect
Gate fully opened	Reload pause time => Automatic closing	Reload pause time => Automatic closing
Closing phase	Stop => Open at slow speed	Stop => Reverse 2 seconds => Pause time => Automatic closing
3-3 - Loop detector		
Safety device category	Photocell default on PH1	Safety edge default on PH2
Gate fully closed	No effect	Open
Opening phase	No effect	No effect
Stop during cycle	Reload pause time => Automatic closing	Open
Gate fully opened	Reload pause time => Automatic closing	Reload pause time => Automatic closing
Closing phase	Stop => Open at slow speed	Stop => Open at slow speed
3-4 - Quick closing - Pausing time is reduced to 5 seconds		
Safety device category	Photocell default on PH1	Safety edge default on PH2
Gate fully closed	No effect	No effect
Opening phase	Pause time before automatic closing reduced to 5 seconds	Pause time before automatic closing reduced to 5 seconds
Stop during cycle	Pause time before automatic closing reduced to 5 seconds	Pause time before automatic closing reduced to 5 seconds
Gate fully opened	Pause time before automatic closing reduced to 5 seconds	Pause time before automatic closing reduced to 5 seconds
Closing phase	Open => Reduce pause time to 5 seconds	Open => Reduce pause time to 5 seconds
3-5 - Standard residential mode ***DEFAULT SETTING***		
Safety device category	Photocell default on PH1	Safety edge default on PH2
Gate fully closed	No effect	No effect
Opening phase	No effect	No effect
Stop during cycle	Reload pause time => Automatic closing	Reload pause time => Automatic closing
Gate fully opened	Reload pause time => Automatic closing	Reload pause time => Automatic closing
Closing phase	Open	Open
3-6 - Condominium mode. Transmitters only accept signal for opening / Automatic closing is mandatory		
Safety device category	Photocell default on PH1	Safety edge default on PH2
Gate fully closed	No effect	No effect
Opening phase	No effect	No effect
Stop during cycle	Impossible	Impossible
Gate fully opened	No effect	No effect
Closing phase	Open	Open

D4. PROGRAMMING

● INDICATIONS ON THE LED DISPLAY

💡 *During the programming and operation, the LED display is ON and provides indications.*

1. Press and hold « ▲ / SET » for 3 seconds.
2. The LED display « F1 » parameter setting.
3. Select main setting with ▲ / ▼ then confirm with « SET ».
4. Display of the sub-setting (ex: parameter F1-subvalue=1)
5. Modify sub-setting value with ▲ / ▼ (ex: F1-1, F1-2, F1-3···)
6. Validate sub-setting with « SET ».



⚠ *The LED display will switch off after 8 seconds if no button is pressed.*

D5. PARAMETER TABLE

SETTING	DESCRIPTION		DEFAULT SETTING
1	Operation Direction	1-1 1-2	Open to the left (Default) Open to the right Default setting is 1-1
2	Auto Closing	2-0 2-1 2-2 2-3 2-4 2-5 2-6 2-7 2-8	No auto closing 5 seconds 15 seconds 30 seconds 45 seconds 60 seconds 80 seconds 120 seconds 180 seconds Default setting is 2-0 Temporary suspension of autoclosing By pushing A+B on the remote, it is possible to suspend the auto closing function. Activated = > Non activated = 4 beeps Non activated = > Activated = 2 beeps
3	Safety device logic	3-1 3-2 3-3 3-4 3-5 3-6	Mode 1 Safety edge on the back Loop detector Quick close 1 Standard residential mode Condominium mode Default setting is 3-1
4	Motor speed	4-1 4-2 4-3 4-4	50% of full speed 70% of full speed 85% of full speed 100% of full speed Default setting is 4-4
5	Motor deceleration point during opening and closing phase	5-1 5-2 5-3 5-4 5-5	75% 80% 85% 90% 95% Default setting is 5-1
6	Motor deceleration speed	6-1 6-2 6-3 6-4	80% 60% 40% 25% Default setting is 6-4
7	Overcurrent setting	7-1 7-2 7-3 7-4 7-5 7-6 7-7 7-8 7-9 7-A 7-C 7-E	2A 3A 4A 5A 6A 7A 8A 9A 10A 11A 12A 13A Default setting is 7-1 Recommended setting : PL500 Series : 2A / 10A PL800 Series : 2A / 13A
8	Pedestrian mode	8-1 8-2 8-3 8-4 8-5	3 seconds 6 seconds 9 seconds 12 seconds 15 seconds Default setting is 8-1
9	Pre-flashing	9-0 9-1	Deactivated Activated => preflashes 3 seconds before the gate maneuver Default setting is 9-0

SETTING		DESCRIPTION		DEFAULT SETTING
A	Overcurrent reaction	A-0 A-1 A-2 A-3	Deactivated Reverse for 1 second Reverse for 3 seconds Reverse to the end	Default setting is A-3
C	Main operation key	C-1 C-2 C-3 C-4	A Key B Key C Key D Key	Default setting is C-1
E	Pedestrian function key	E-0 E-1 E-2 E-3 E-4	Deactivated A Key B Key C Key D Key	Default setting is E-2
F	External device key	F-0 F-1 F-2 F-3 F-4	Deactivated A Key B Key C Key D Key	Default setting is F-3
G	Motor sensitivity (overcurrent sensitivity when detecting an obstacle)	G-0 G-1 G-2 G-3 G-4 G-5	Stop after 0,2 second Stop after 0,5 second Stop after 0,75 second Stop after 1 second Stop after 1.5 second	Default setting is G-1 <i>(▲ WARNING ! For values exceeding 1 and 1,5 seconds, an additional safety device (safety edge) MUST be installed.)</i>
H	Safety device 1	H-0 H-1	Deactivated Activated	Default setting is H-0
J	Safety device 2	J-0 J-1	Deactivated Activated	Default setting is J-0
L	Stop terminal function	L-0 L-1	Deactivated Activated	Default setting is L-0
O	Trigger duration on LAT+ / LAT- / 24V OUTPUT (activated by button C on the remote)	O-0 O-1 O-2 O-3 O-4 O-5	ON / OFF 1 second 30 seconds 60 seconds 90 seconds 120 seconds	Default setting is O-0
P	Buzzer function (Buzzer beeps during every gate maneuver)	P-1 P-2	Activated Deactivated (Can be useful during the comissioning and parameter settings)	Default setting is P-0
U	EXT-/EXT+ OUTPUT: electric lock / zone lighting / 24V output (activated by button C on the remote)	U-1 U-2 U-3	Power an electric lock in 24V (activated at start of the cycle) Zone lighting (activated during the movement of the gates) 24V output (courtesy light) controlled by the C button of the remote (adjustment of the duration with O setting)	Default setting is U-1

D6. SYSTEM LEARNING



PRE-CHECK UP BEFORE LEARNING PROCEDURE

The motors, photocells and other safety devices are installed and wired.

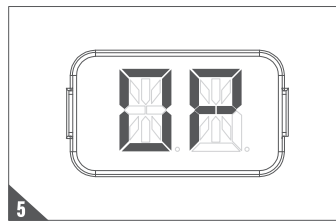
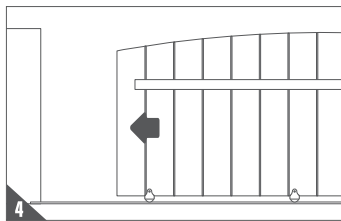
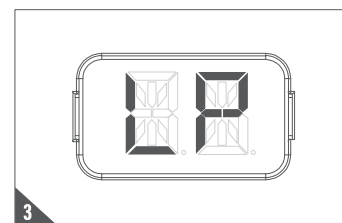
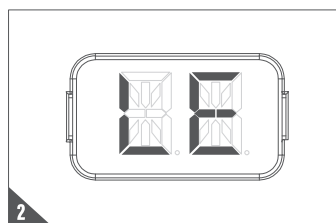
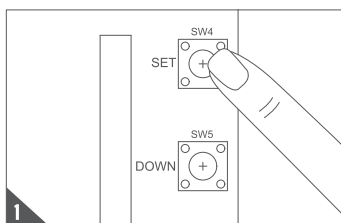
The stoppers or limit switches are installed and adjusted.

The remotes are memorized.

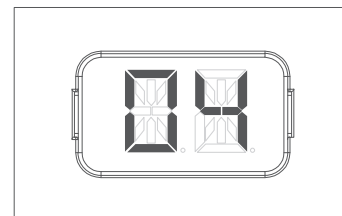
Unlock the motors. Manually move the gate to 100% fully closed and lock the motors.

● SYSTEM LEARNING PROCEDURE

1. Press and hold SET for 3 seconds.
2. The LED display « LE » value. Release the button to launch the system learning procedure.
3. The LED display « LP » value.
4. The motor performs closing / opening movements then stops.
5. The display of « OP » confirms that the learning procedure has been completed successfully.

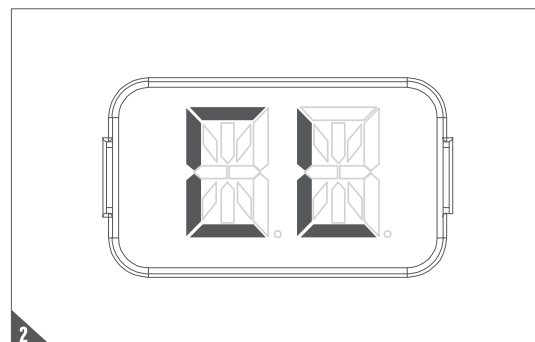
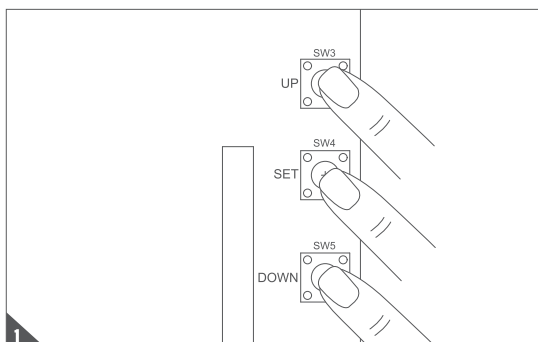


During the learning phase, the LED display the motor power consumption (in Ampere).
If this value fluctuates a lot during the gates movement, make sure to verify if there are any hard spots.



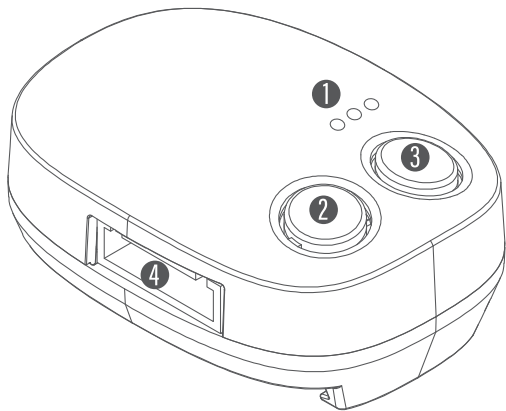
D7. RESET TO DEFAULT SETTINGS

1. Press and hold ▲ / SET / ▼
2. The LED display « CL », confirming that the system has successfully returned to default settings.
Release the buttons => The LED display « -L » => (System learning not completed)



E. SMARTPHONE CONTROL WITH EYEOPEN MOBILE APPLICATION

E1.WB1 Wi-Fi MODULE



- ① LED INDICATORS
- ② R BUTTON (RESET)
- ③ P BUTTON (PAIR)
- ④ TERMINALS

● LED INDICATORS DESCRIPTION

BLUE: The blue LED blinks before pairing and stays ON when successfully connected to the WiFi.

GREEN : The green LED blinks once when the WB1 module receives a signal from the application.

If the WiFi is disconnected or the WiFi signal is weak, the green LED blinks constantly,

RED : Indicates that the system is disconnected or WiFi password is incorrect.

The range between WB1 module and router is 30 meters (in open space).

E2. QUICK SET UP GUIDE

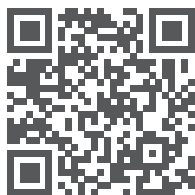
💡 Select which smartphone will be the « owner » smartphone

The owner is able to give authorization to the other shared smartphones.

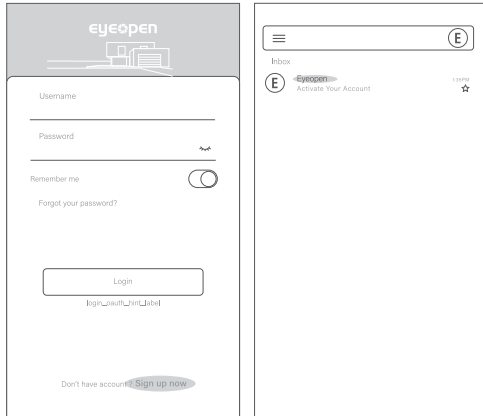
Activate and connect the smartphone to the WiFi that will be connected to the WB1 WiFi module.

EYEOPEN is only compatible with 2.4Ghz WiFi network

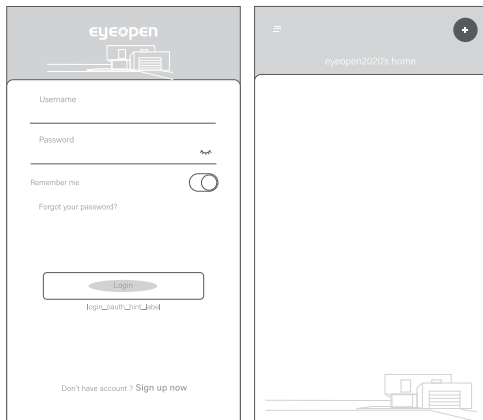
1. Download the EYEOPEN application on your smartphone .



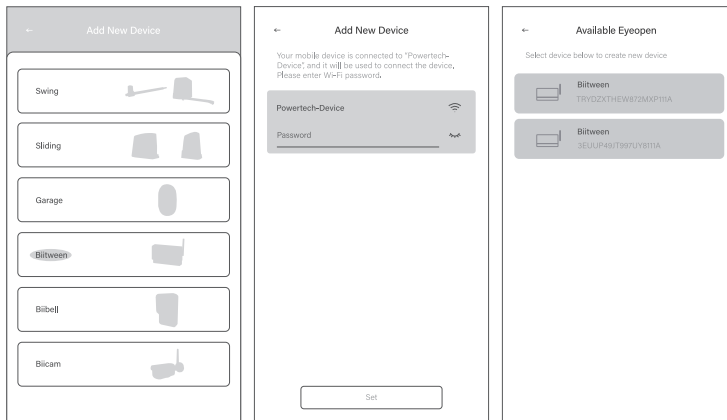
2. Sign up and create login and password. Confirm and exit EYEOPEN application, Open your mailbox and activate the link received in the email.



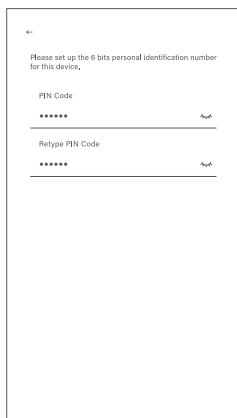
3. Open and login in the application.



4. Tap the (+) icon to add device and follow the instructions. Key in and confirm the WiFi password and select the device.

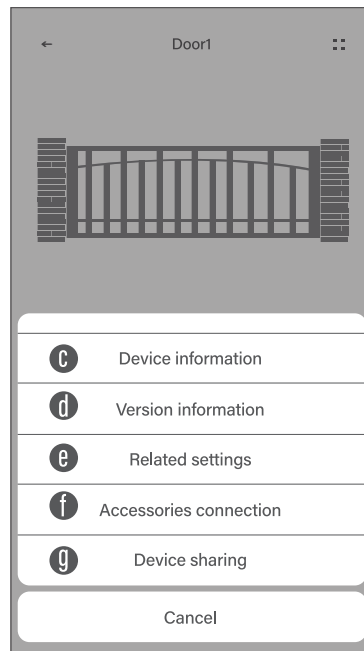
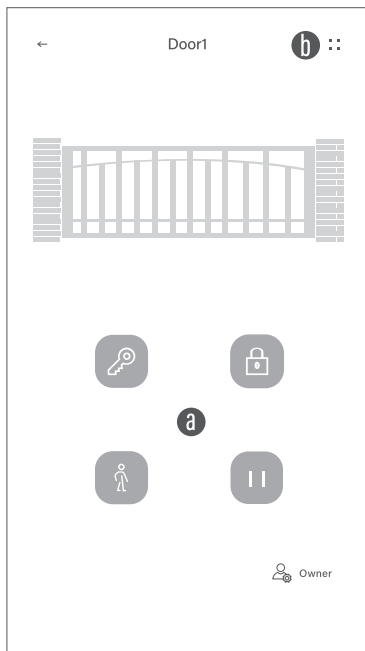


5. Set up the 6 digits PIN Code twice and confirm.



💡 By default, choose 123456 (Twice). You can later modify This PIN code once you are more comfortable with the application.

6. You have now access to the operation interface of the device. You can control, modify settings, add accessories or share the access.



- a. Operation button
- b. Setting page
- c. Device information
- d. Version information
- e. Related settings
- f. Accessories connection
- g. Device sharing

F. TECHNICAL SPECIFICATIONS

Model Name	PL500	PL800
Category	Sliding gate opener	
Max gate length	6-8 meters	8-10 meters
Max gate weight	500 kg	800 kg
Motor force	5000N	8000N
Motor power supply	24Vdc	24Vdc
Motor Speed	2710cm/s	18.55cm/s
Duty cycle	20%	20%
IP Rating	IP44	IP44
Working/Operating temperature	-20°~50°C	110-240Vac (50-60Hz)
Power (W)	100W	144W
Release	Key	Key
Dimensions	250mm x 170mm x 275mm	250mm x 170mm x 275mm
Weight	8kg	9.5kg

G. MAINTENANCE

● MAINTENANCE

Conduct the following operations at least every 6 months. For intensive use scenarios, shorten this delay.

● Disconnect the power supply

1. Clean and lubricate the screws, hinges with grease.
2. Make sure the fastening are properly tightened.
3. Make sure the wire connection is in good functioning conditions

● Connect the power supply

1. Double check the parameter settings.
2. Check the manual release.
3. Check the photocells and other safety devices