PG200 SERIES

800N/1000N/1200N/1500N

GARAGE DOOR OPERATOR

for garage door —— EN

POWERTECH

INDEX

A. GENERAL SAFETY WARNINGS AND PRECAUTIONS 3

B. KIT CONTENT 4

B1. KIT CONTENT 4
B2. SPECIFICATION 5
B3. DIMENSIONS 5
B4. CONTROL BOARD 6

C. INSTALLATION 7

C1. RAIL ASSEMBLY 7-8
C2. ATTACH THE RAIL TO THE MOTOR 8
C3. ATTACH THE RAIL ON THE HEADERWALL AND CEILING 9
C4. CONNECT RELEASE SECTION TO THE GARAGE DOOR 10
C5. FINAL STEPS BEFORE SYSTEM LEARNING 11
C6. EMERGENCY RELEASE 11

D. TRANSMITTER MEMORIZING AND ERASING PROCESS 12

D1. TRANSMITTER MEMORIZING AND ERASING PROCESS 12
D2. ERASING TRANSMITER MEMORY 12
D3. SYSTEN LEARNING , RESET PROCESS AND LED DISPLAY 13
D4. RESTORE DEFAULT SETTING 13
D5. PROGRAMMABLE FUNCTION INDICATION LED 14
D6. PROGRAMMABLE FUNCTION SETTING 15-16
D7. SAFETY BEAM FUNCTION MODE 17
D8. FUNCTION MODE 17-18

E. SMARTPHONE CONTROL WITH EYEOPEN MOBILE APPLICATION 19

E1. Wi-Fi/Bluetooth BOX WB3 19
E2. Eyeopen SYSTEM 19
E3. APPLY FOR A NEW ACCOUNT 20
E4. CONNECTING TO Eyeopen 21
E5. OPERATION PAGE 22
E6. RELATED SETTINGS – Wi-Fi SETTINGS 22
E7. RELATED SETTINGS - PIN CODE SETTING 23
E8. RELATED SETTINGS - PARAMETER SETTINGS 23
E9. OWNER SHARE DEVICE TO USERS 24
E10. PUSH NOTIFICATION 25
E11. FAQ 26-27

A. GENERAL SAFETY WARNINGS AND PRECAUTIONS

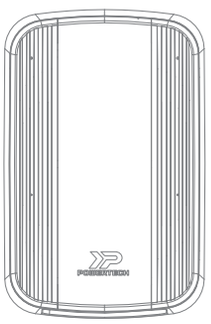
WARNING!

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. KIT CONTENT

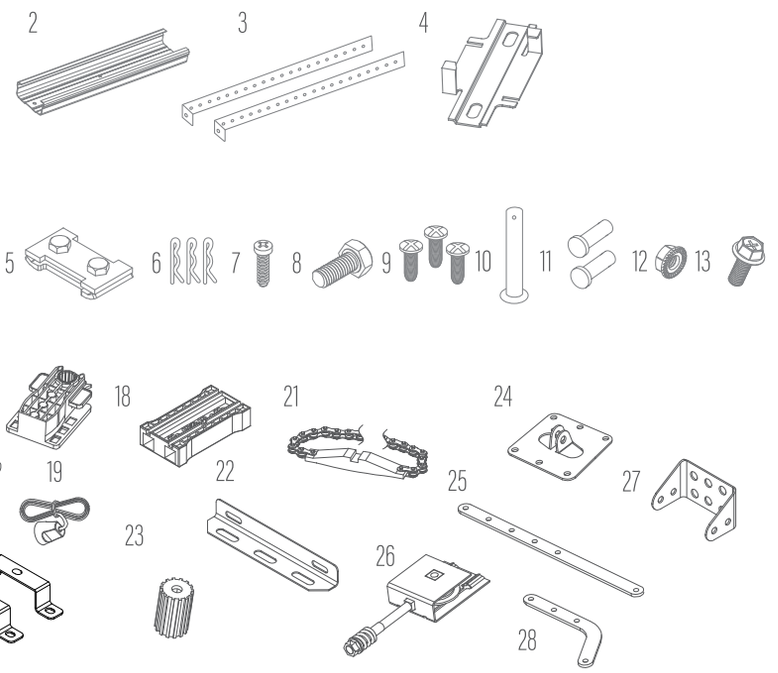
B1. KIT CONTENT

▶ MOTOR ◀



1

▶ ACCESSORIES ◀

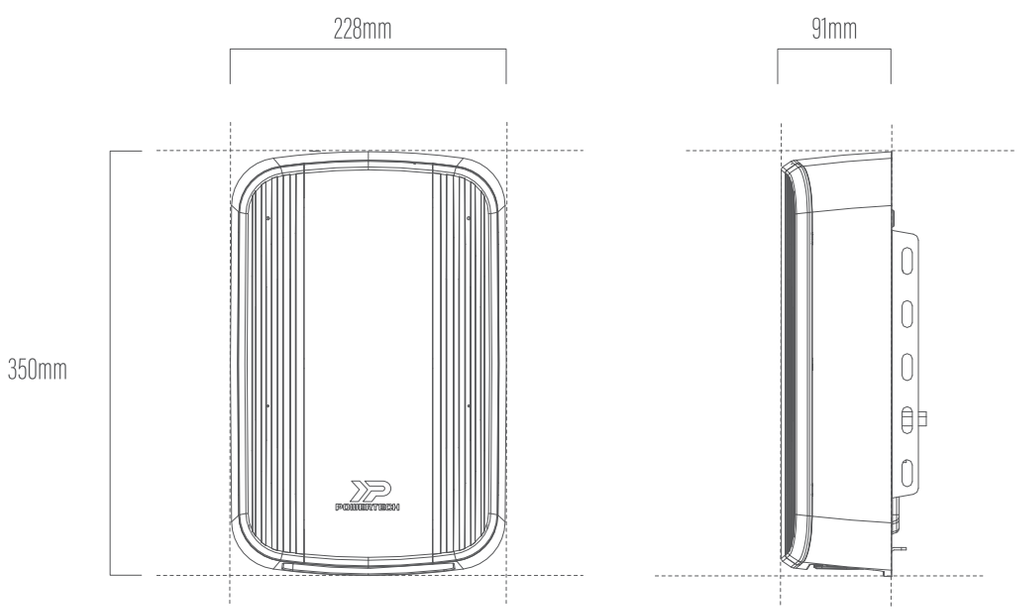


▶ REF	DESCRIPTION	QUANTITY ◀
1.	Motor	1
2.	Connecting rail	2
3.	Ceiling bracket (optional)	2
4.	Ceiling support bracket	1
5.	Blocker (optional)	1
6.	R pin	3
7.	M6 screw	4
8.	M8 bolt	2
9.	M4 screw	3
10.	Long clevis pin	1
11.	Clevis pin	2
12.	M8 nut	2
13.	M6 bolt	6
14.	Rail	3
15.	Rear pulley support	1
16.	Front hold bracket	1
17.	Outer trolley assy	1
18.	Inner trolley assy	1
19.	Release rope	1
20.	Motor hold bracket	2
21.	Chain & Mortise	1
22.	Ceiling bracket (optional)	1
23.	Transition gear	1
24.	Door bracket	1
25.	Straight arm	1
26.	Front pulley tensioner	1
27.	Header bracket	1
28.	Bent arm	1

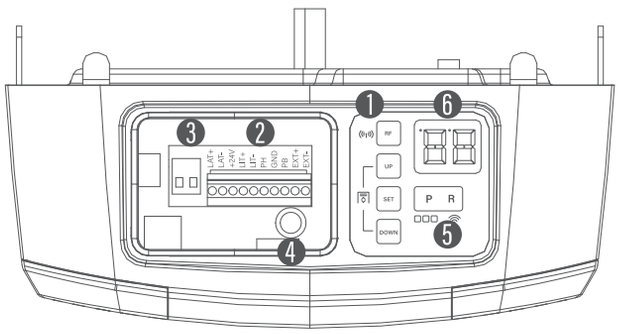
B2. SPECIFICATION

Model	PG200-800N	PG200-1000N	PG200-1200N	PG200-1500N
Category	DC Garage Door Motor			
Force	800N	1000N	1200N	1500N
Max gate length / Max gate weight	10-12m²	12-14m²	14-16m²	≦25m²
Power Supply	AC 220 / 110V ; 50Hz~60Hz	AC 220 / 110V ; 50Hz~60Hz	AC 220 / 110V ; 50Hz~60Hz	AC 220 / 110V ; 50Hz~60Hz
Motor Power Supply	DC24V	DC24V	DC24V	DC30V
Power (W)	80W	100W	120W	210W
Gear type	Worm gear	Worm gear	Worm gear	Worm gear
IP Rating	-	-	-	-
Remote frequency	433 MHZ	433 MHZ	433 MHZ	433 MHZ
Current (A)	3.3A	4.2A	5A	7A
Working temperature / Operating temperature	-20℃ ~ +50℃	-20℃ ~ +50℃	-20℃ ~ +50℃	-20℃ ~+50℃
Dimensions (mm)	350 x 228 x 91	350 x 228 x 91	350 x 228 x 91	350 x 228 x 91
Manual release	Yes	Yes	Yes	Yes

B3. DIMENSIONS

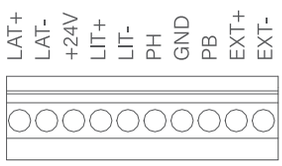


B4. CONTROL BOARD



1. Operation buttons:
   Remote Function key (RF Learn)
   UP key (Up)
   Setting key (Set)
   Down key (Down)

2. Connection terminal of Optional accessories

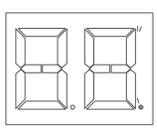


3. Battery terminal

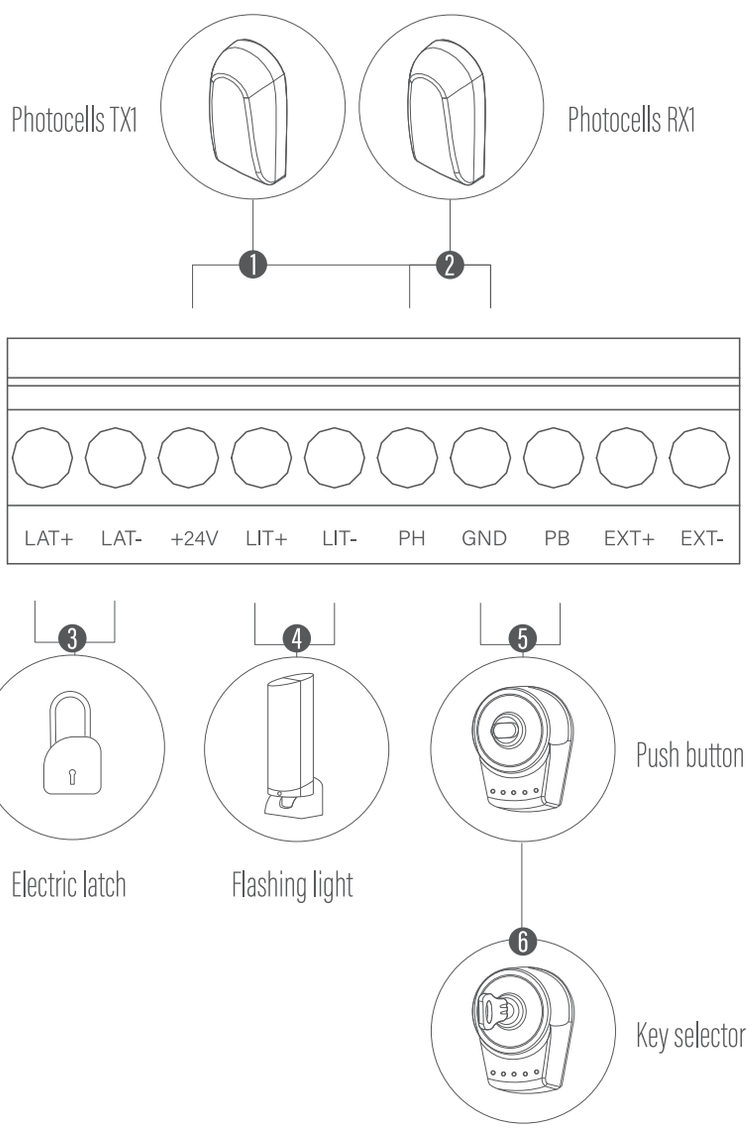
4. Fuse

5. Wi-Fi Box (Refer to Wi-Fi Box User Manual)

6. LED DISPLAY



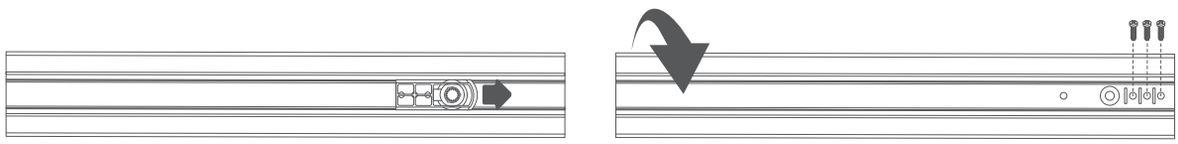
Note:the LED will turn ON when the motor is powered



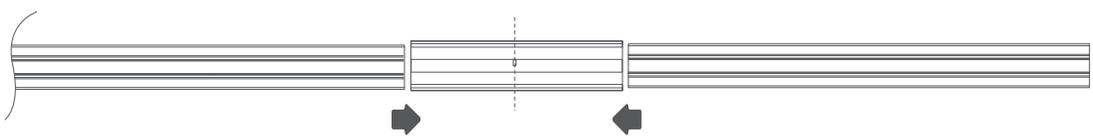
C. INSTALLATION

C1. RAIL ASSEMBLY

1. Fasten the ⑮ rear pulley support on the rear end of the ⑭ rail with ⑨ M4 screw(3 pcs).



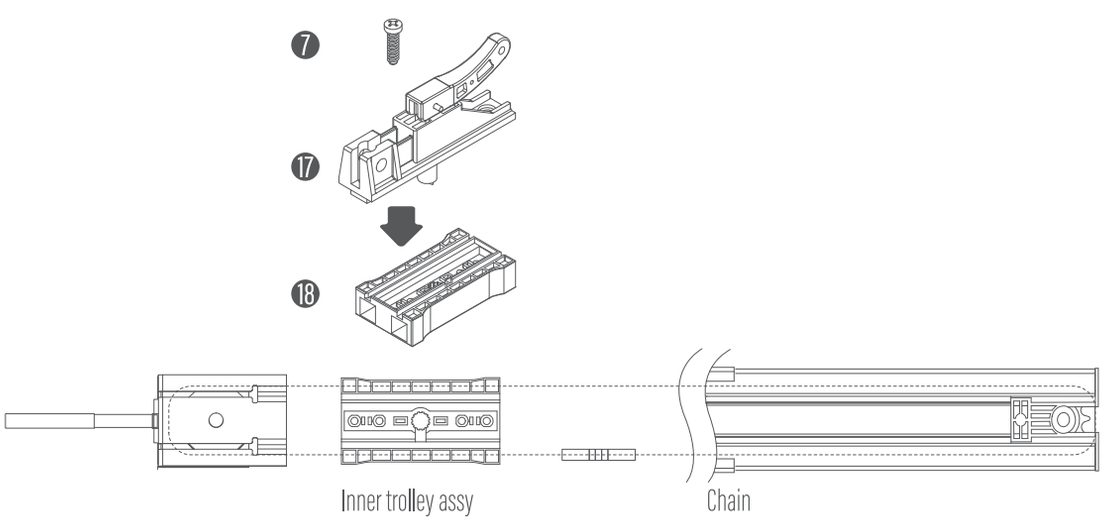
2. Assemble the front and ② middle rail with the junction, and make sure is located at the middle of the protruding point.



3. Assemble the back and ② middle rail with another junction, and make sure is located at the middle of the protruding point.

COMPLETE

4. Put the ⑱ inner trolley assy in the rail track, and put the ㉑ chain in the rail track. Make sure the mortise part is on left side of rail.
Cross the ㉑ chain through the ㉖ front pulley tensioner, the ⑮ rear pulley support, and the ⑱ inner trolley assy.
The mortise part should be placed in the front of the whole rail. Connect the ㉑ chain.

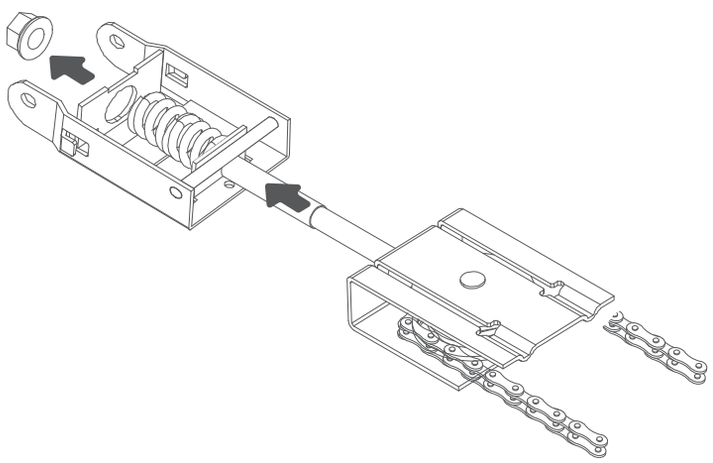


5. Remove the nut and the spring in the ㉖ front pulley tensioner. Make sure the chain is placed in the gap of the pulley on the two sides. Insert the ⑯ front hold bracket against the rail. Use the spring and the nut to adjust the tightness of the ㉑ chain.

⑯ Front hold bracket

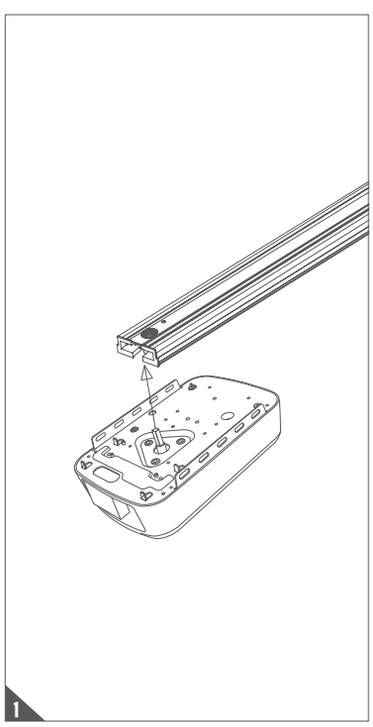
㉖ Front pulley tensioner

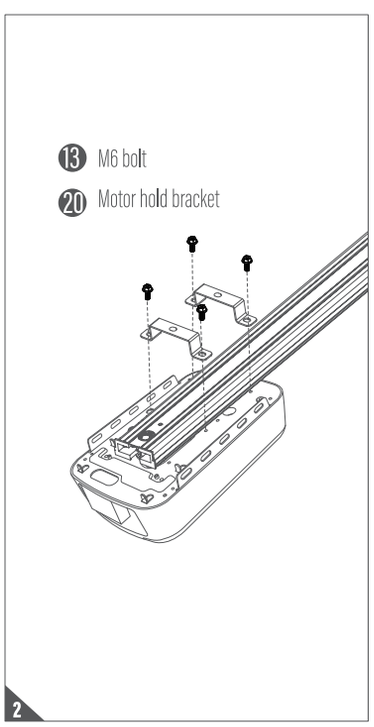
㉑ Chain & mortise

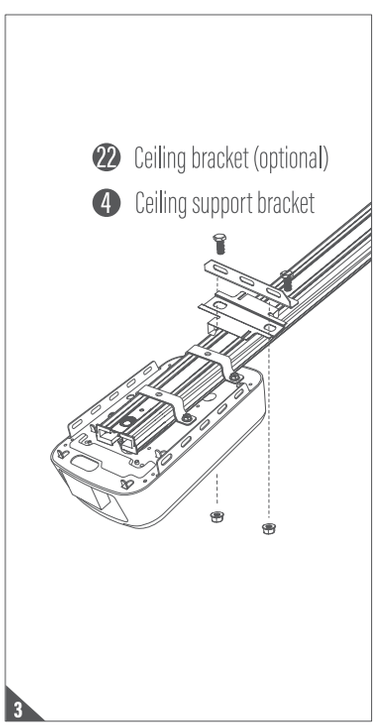


C2. ATTACH THE RAIL TO THE MOTOR

1. Connect the insertion gap of the ⑮ rear pulley support and ㉓ transition gear to the output shaft of the motor.
2. Fasten the rail on the motor with ⑳ motor hold bracket and ⑬ M6 bolt.
3. Fasten the ④ ceiling support bracket and ㉒ ceiling bracket at the rear side between the motor and the ⑤ rear blocker(optional).





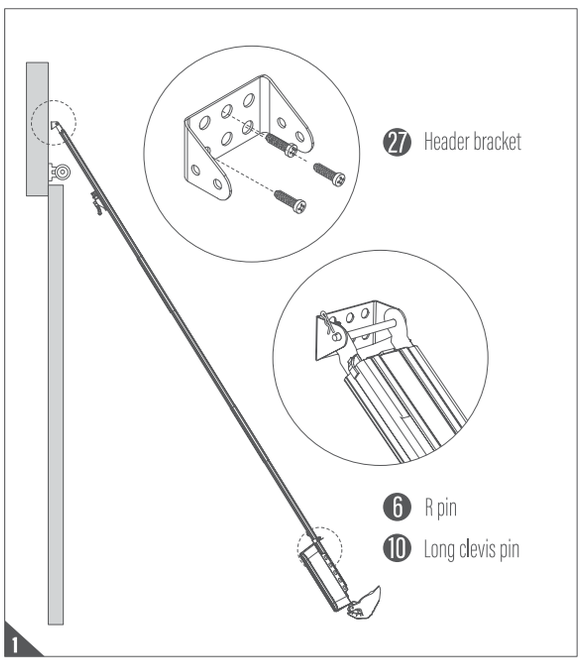


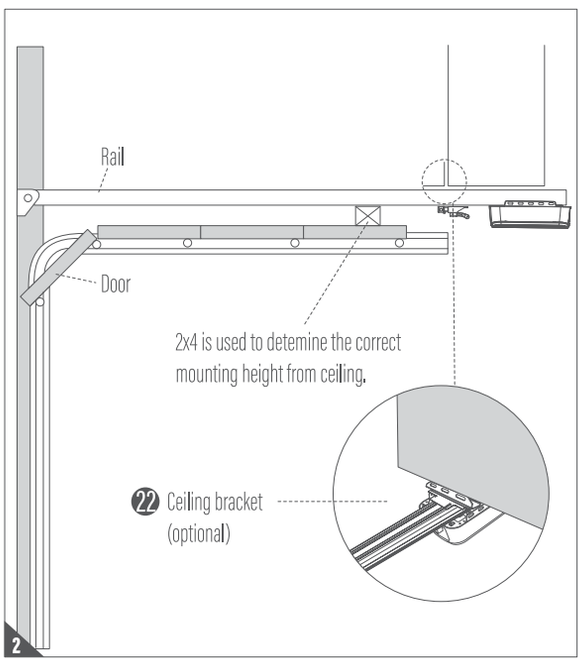
C3. ATTACH THE RAIL ON THE HEADERWALL AND CEILING

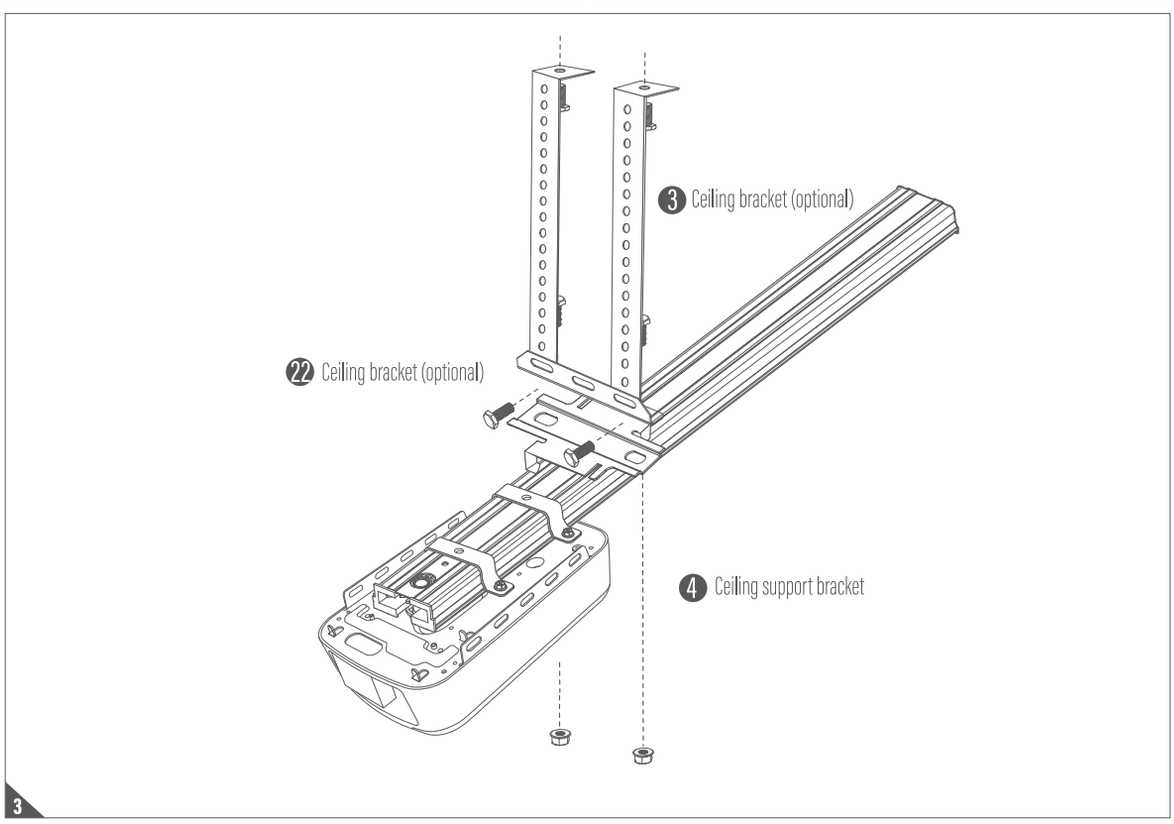
1. Fasten the ㉗ header bracket on the wall with expansion screw(not included).

It is recommended is positioned at the center of the garage door.
The installation height of the ㉗ header bracket varies from 30-50cm from the garage door.

2. Align the assembled rail front rear against the ㉗ header bracket.
3. Attach the fornt rail to ㉗ header bracket with ⑥ R pin and ⑩ long clevis pin.
4. Attach the ㉒ ceiling bracket on the crossbeam of ceiling with crews.

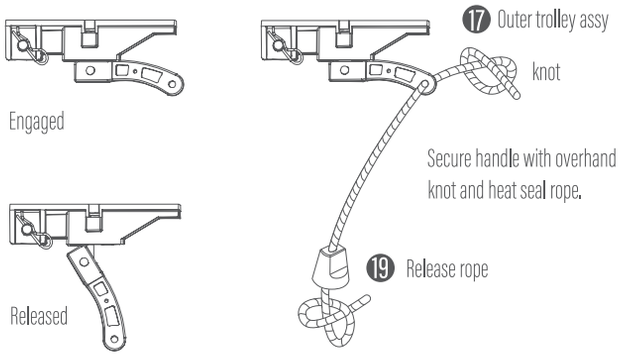






C4. CONNECT RELEASE SECTION TO THE GARAGE DOOR

1. Connect the ⑲ Release rope on the ⑰ Outer trolley assy.



WARNING

To prevent possible **SERIOUS INJURY** or **DEATH** from a falling garage door:

If possible, use emergency release handle to disengage trolley ONLY when garage door is CLOSED. Weak or broken springs or unbalanced door could result in an open door falling rapidly and/or unexpectedly.

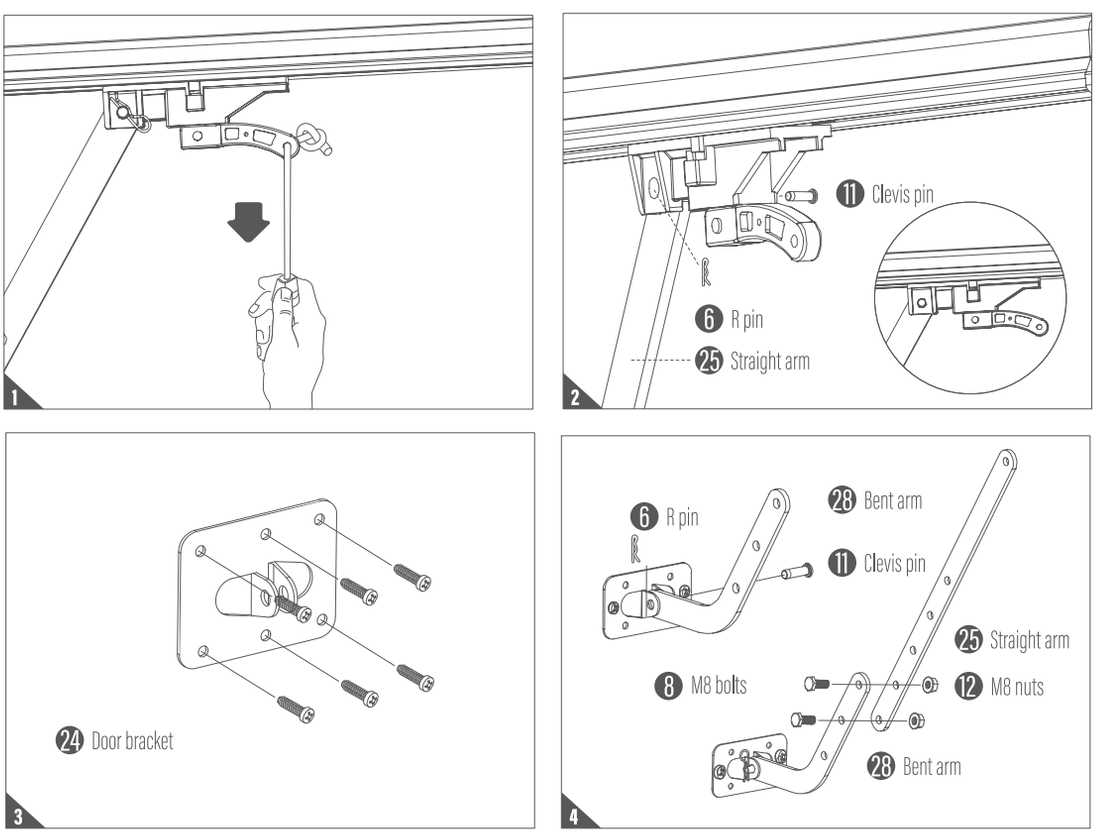
NEVER use emergency release handle unless garage doorway is clear of persons and obstructions.

NEVER use handle to pull door open or closed. If rope knot becomes untied, you could fall.

Handle should hang 6 feet (1.5 m) above floor. Ensure that the rope and handle clear the tops of all vehicles to avoid entanglement.

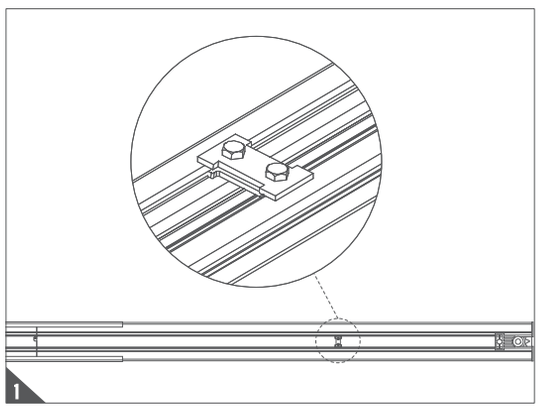
- CONNECT DOOR ARM TO TROLLEY

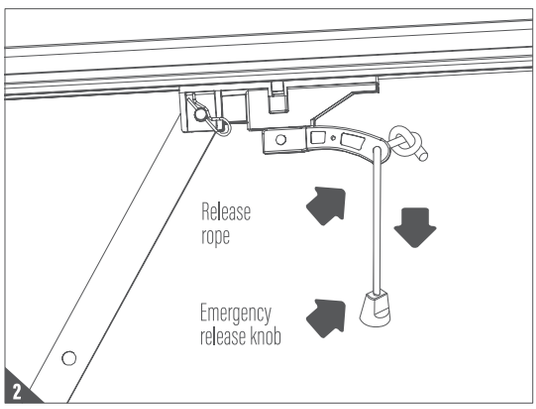
1. Pull the ⑲ release rope to disengage the ⑰ outer trolley assy.
2. Connect ㉕ straight arm to ⑰ outer trolley assy.
3. Fasten the ㉔ door bracket on the center of the garage door.
4. Connect ㉘ bent arm and ㉕ straight arm with ⑧ M8 bolts and ⑫ M8 nuts.



C5. FINAL STEPS BEFORE SYSTEM LEARNING

1. Install the ❺ blocker on the door opened position.
2. Attached the warning sign to the ⓳ release rope.





WARNING

To prevent possible **SERIOUS INJURY** or **DEATH** from electrocution or fire:

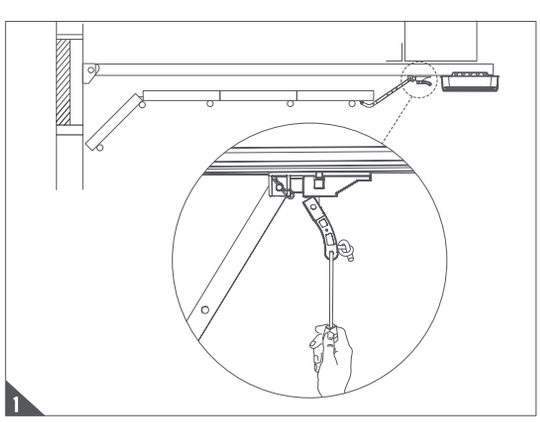
Be sure power is not connected to the opener, and disconnect power to circuit BEFORE removing cover to establish permanent wiring connection.

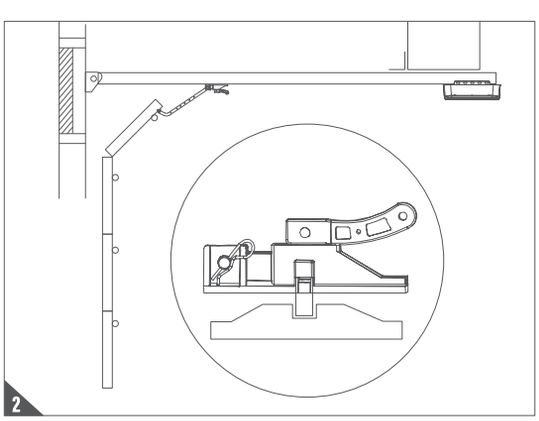
Garage door installation and wiring MUST be in compliance with all local electrical and building codes.

NEVER use an extension cord, 2-wire adapter, or the opener is grounded.

C6. EMERGENCY RELEASE

1. Pull the ⓳ release rope to release the trolley. Make sure the trolley is disengaged. The garage door can be operated manually.
2. Before restarting the motor, manually move the garage door until the trolley is engaged.



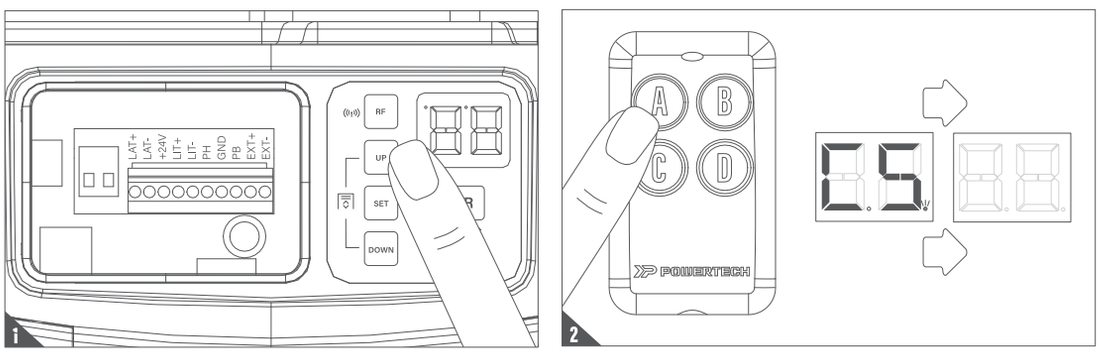


D. TRANSMITTER MEMORIZING AND ERASING PROCESS

D1. TRANSMITTER MEMORIZING AND ERASING PROCESS

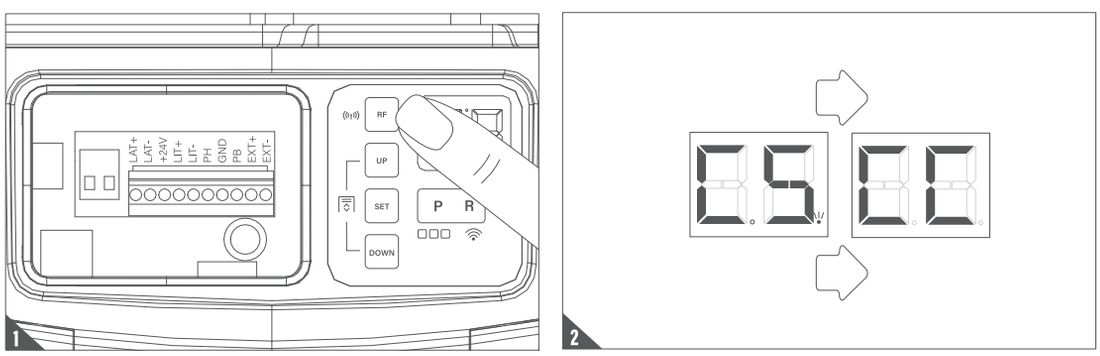
- TRANSMITTER MEMORIZING

1. Press "RF Learn" button for 3 seconds.
2. The display will show "CS"; then press the transmitter A button within 10 seconds; the"CS" will blink three times and show "CS". After 10 seconds without any movement, "CS" will be off , The transmitter learning is completed.



D2. ERASING TRANSMITER MEMORY

1. Press and hold "RF Learn" button for 10 seconds
2. The display will show "CS". When "CC" shows up, the memory is cleared.

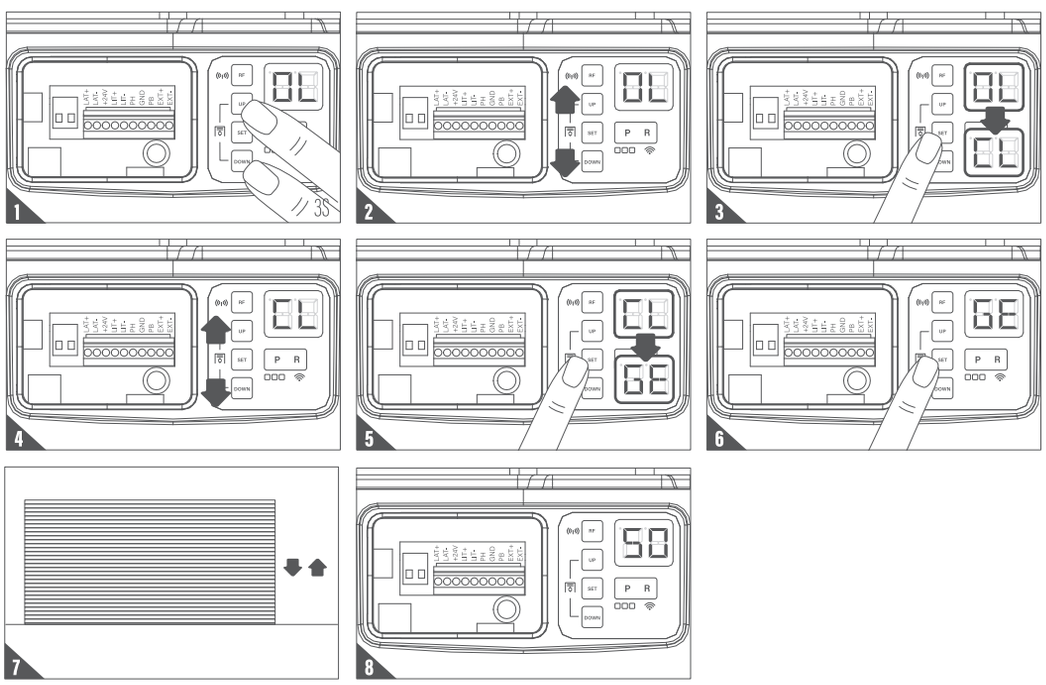


D3. SYSTEN LEARNING , RESET PROCESS AND LED DISPLAY

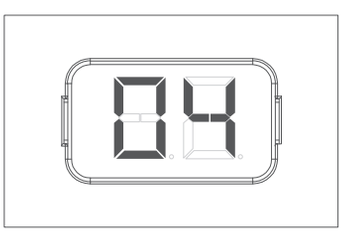
- SYSTEM LEARNING

1. Press and hold « RF » and « SET » buttons 3 seconds, the LED display shows « OL » and the motor enters system learning program.
2. Set up open limit and LED display shows « OL » . Press and hold « UP » or « DOWN » button to raise or descend the door. When the door moves to the proper open position, press « SET » button.
3. Set up close limit and LED display shows « CL ». Press and hold « UP » or « DOWN » button to raise or descend the door. When the door moves to the proper close position, press « SET » button.
4. The LED display blinks « GE » continuously.
5. Press « SET » or « A » button of the transmitter to proceed operation testing.
   The LED display shows the operation current value in the process and memorizes overcurrent value.
6. The motor opens and closes automatically with full speed. The LED display shows « SO » while the system learning completes. The LED display shows « SF » while the system learning fails. The LED display will be off after 10 seconds.

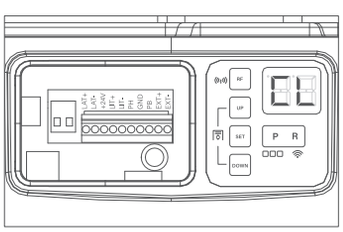
Note: The overcurrent function and flashing light function will be activated automatically after learning process complete.



Note : During the system learning procedure, the control panel will automatically detect the current consumption from each motor, indicate the resistance level of the gate whiling the motor operation. If this reading increase instantly or stay in high reading, please check if any object in between of the gate moving area, and contact your installer for inspection.

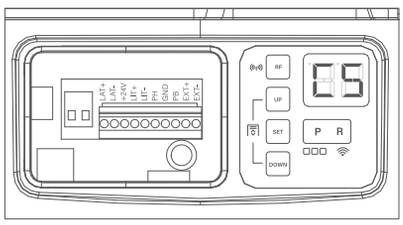


D4. RESTORE DEFAULT SETTING

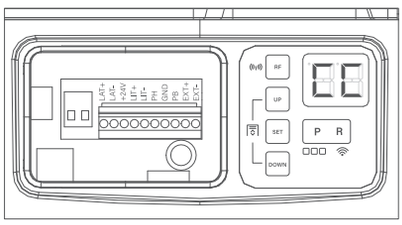


1. Press « RF » and « DOWN » buttons for 3 seconds, and the LED display shows « CL » to recover the default settings.

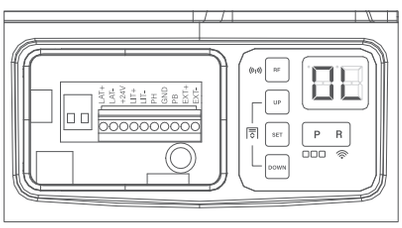
D5. PROGRAMMABLE FUNCTION INDICATION LED



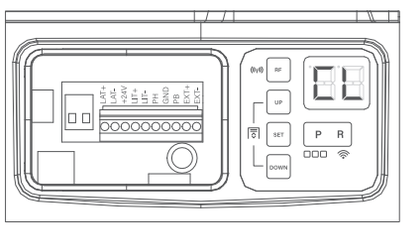
[CS] – Start transmitter learning mode.



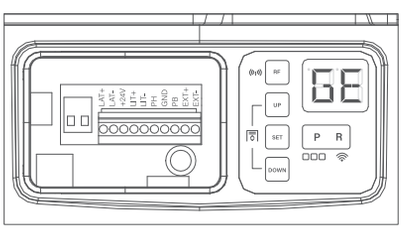
[CC] – Cleaned all studied transmitter.



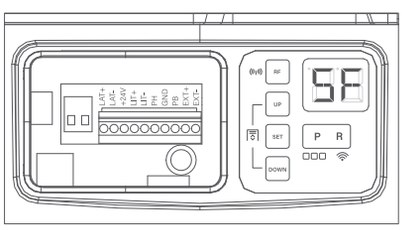
[OL] – Set up open limit.



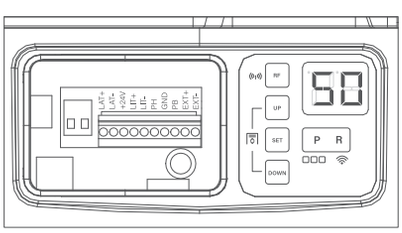
[CL] – Set up close limit.



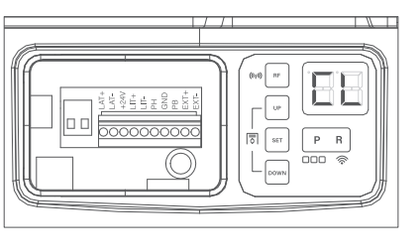
[GE] – Operation testing.



[SF] – System learning fail.



[SO] – System learning complete.



[CL] – System setting clear.

How to set the parameter

1. *Press the « SET » key for 3 seconds, the display will show the function code.*
2. *Choosing the setting by « UP » and « DOWN » keys, after having chosen the indicated item, press the « SET » key and enter the setting of this function. The second digit will be shown on the right of the display, indicating the related function(please refer below chart for details). Using the « UP » and the « DOWN » Keys to choose the setting function and press the « SET » key to save.*

D6. PROGRAMMABLE FUNCTION SETTING

LED disply	Definition	Function	Value	Description
1	Deceleration point (% full operation)	1-0 1-1 1-2 1-3 1-4	75% 80% 85% 90% 95%	The default setting is 1-2. The door will reverse 2cm if overcurrent occur in last 10% distance.
2	Main operation key	2-0 2-1 2-2 2-3 2-4	Function off Button A Button B Button C Button D	The default setting is 2-1.
3	Lighting key	3-0 3-1 3-2 3-3 3-4	Function off Button A Button B Button C Button D	The default setting is 3-2.
4	External device key	4-0 4-1 4-2 4-3 4-4	Function off Button A Button B Button C Button D	The default setting is 4-3.
5	Safety beam function mode	5-0 5-1	Function off Logic mode 1	The default setting is 5-0.
6	Alarm (Buzzer)	6-0 6-1	Function off Function on	The default setting is 6-0.
7	Auto closing	7-0 7-1 7-2 7-3 7-4 7-5 7-6 7-7 7-8	Function off 5 seconds 15 seconds 30 seconds 45 seconds 60 seconds 80 seconds 120 seconds 180 seconds	The default setting is 7-0.

LED disply	Definition	Function	Value	Description
8	Lighting	8-0 8-1 8-2 8-3	Function off LED light stars running 1 minute LED light stars running 2 minute LED light stars running 3 minute	The default setting is 8-3.
9	Electric Latch	9-0 9-1	Function OFF Release when open	The default setting is 9-0.
A	Over-current sensitivity	A-0 A-1 A-2 A-3 A-4 A-5	Level 0 Level 1 Level 2 Level 3 Level 4 Level 5	The default setting is A-2.
F	Power supply for +24V terminal	F-0 F-1	Continuously power supply Sleep mode	The default setting is F-0. Sleep mode : power supply only when motor is opening.
H	Pb Terminal Function	H-0 H-1 H-2 H-3 H-4 H-5 H-6 H-7	Open/Stop/Close/Stop Open/Stop/Close Open Stop (NO) Stop (NC) Close Turn On LED Functuon Off	The default setting is H-1.
I	Overcurrent Reaction when Open	I-0 I-1 I-2	Stop Reverse 2 secs and stop Reverse to the end	The default setting is I-1.
L	Overcurrent Reaction when Close	L-0 L-1 L-2	Stop Reverse 2 secs and stop Reverse to the end	The default setting is L-2.
O	Logic of the step by step button	O-0 O-1	Open/Stop/Close/Stop Open/Stop/Close	The default setting is O-1.
P	Function Mode	P-0 P-1 P-2	Standard Mode Condominium Mode1 Condominium Mode2	The default setting is P-0.
U	Flashing Light	U-0 U-1 U-2 U-3 U-4	Function OFF Blinks when starts moving Blinks 3 secs before starts moving Pre-flashing OFF Pre-flashing for 3 seconds	The default setting is U-0.

D7. SAFETY BEAM FUNCTION MODE

5-1 Logic mode 1	
Door Status	Door react when photocells are triggered
Door Closed	Stop and no command can be accepted until the obstacles are removed.
Door Opened	Stop and wait for a next command. IF auto-closing function is ON, will reload the auto-closing time countdown.
Door Stop During Moving	Open to the end.
Door Closing	Open to the end.
Door Opening	No effect.

P.S.
1. Automatic door close function is determined by "F7 Auto door closing setting".
2. F5-1 function only works when the FP Function mode is set to "P-0".

D8. FUNCTION MODE

P-0 Standard mode as 5-1 Logic mode 1	
Door Status	Door react when photocells are triggered
Door Closed	Stop and no command can be accepted until the obstacles are removed.
Door Opened	Stop and wait for a next command. IF auto-closing function is ON, will reload the auto-closing time countdown.
Door Stop During Moving	Open to the end.
Door Closing	Open to the end.
Door Opening	No effect.

P.S. Automatic door close function is determined by "F7 Auto door closing setting".

P-1 Condominium mode 1		
Door Status	Remote action	Door react when photocells are triggered
Door Closed	Open to the end and then start the automatic closing time.	When the photocells are triggered, it does not accept any command. The command can only be accepted after the obstacles are removed.
Door Opened	Reload the auto-closing time countdown.	When the photocells are triggered, the automatic door closing time stop and no command is accepted. After the obstacle is removed, the automatic door closing time will start and wait for new command.
Door Stop During Moving	Open to the end and then start the automatic closing time.	When the photocells are triggered, the automatic door closing time stop and no command is accepted. After the obstacles are removed, the automatic door closing time will start and wait for new command.
Door Closing	Stop and open to the end. After the door is opened to the end, the automatic closing time will start.	When the photocells are triggered, door stop and open to the end. After the obstacles are removed, the automatic door closing time will start.
Door Opening	No effect.	No effect.

P.S.
1. When the automatic door closing function is turned off, the automatic door closing time is 60 seconds. Otherwise, it depends on the number of seconds set by the automatic door closing.
2. F5 Safety beam function mode must be set to "F5-1" to use the above-mentioned sensor functions.

P-2 Condominium mode 2		
Door Status	Remote action	Door react when photocells are triggered
Door Closed	Open to the end and then start the automatic closing time.	When the photocells are triggered, it can accept any command, but the door can only be opened. When open to the end, the automatic door closing time will stop. After the obstacles are removed, the automatic door closing time will restart.
Door Opened	Reload the auto-closing time countdown.	When the photocells are triggered, the automatic door closing time stop and no command is accepted. After the obstacles are removed, the automatic door closing time will start and wait for new command.
Door Stop During Moving	Open to the end and then start the automatic closing time.	When the photocells are triggered, the automatic door closing time stop and no command is accepted. After the obstacles are removed, the automatic door closing time will start and wait for new command.
Door Closing	Stop and open to the end. After the door is opened to the end, the automatic closing time will start.	When the photocells are triggered, door stop and open to the end. After the obstacles are removed, the automatic door closing time will start.
Door Opening	No effect.	No effect.

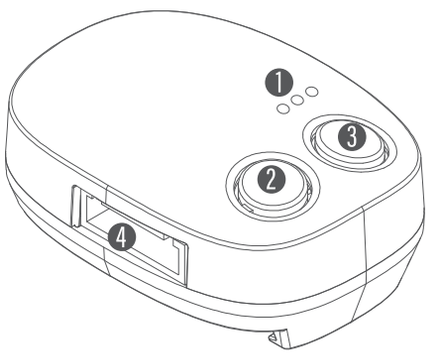
P.S.

1. When the automatic door closing function is turned off, the automatic door closing time is 60 seconds. Otherwise, it depends on the number of seconds set by the automatic door closing.

2. F5 Safety beam function mode must be set to "F5-1" to use the above-mentioned sensor functions.

E. SMARTPHONE CONTROL WITH EYEOPEN MOBILE APPLICATION

E1. Wi-Fi/Bluetooth BOX



1. LED display
2. R button (press to restart)
3. P button
4. Terminals

- LED INDICATORS

Blue LED
The blue LED is an indicator of connection of Bluetooth.
The blue LED blinking indicates the WB3 is waiting for pairing.
The blue LED is **ON** when WB3 is connected to Bluetooth.
Green LED
The green LED is an indicator of Wi-Fi signal.
The green LED blinking indicates weak Wi-Fi signal.
Red LED
The red LED blinking indicates wrong operations or system errors.
Please refer to FAQ when the red LED is **ON**.

- BUTTON AND FUNCTION

R button: A reset button

P button: A pairing button
To restore the default settings: Press and hold the P button for 5 seconds and press the R button once. The blue LED will flash to indicate that the reset is complete.

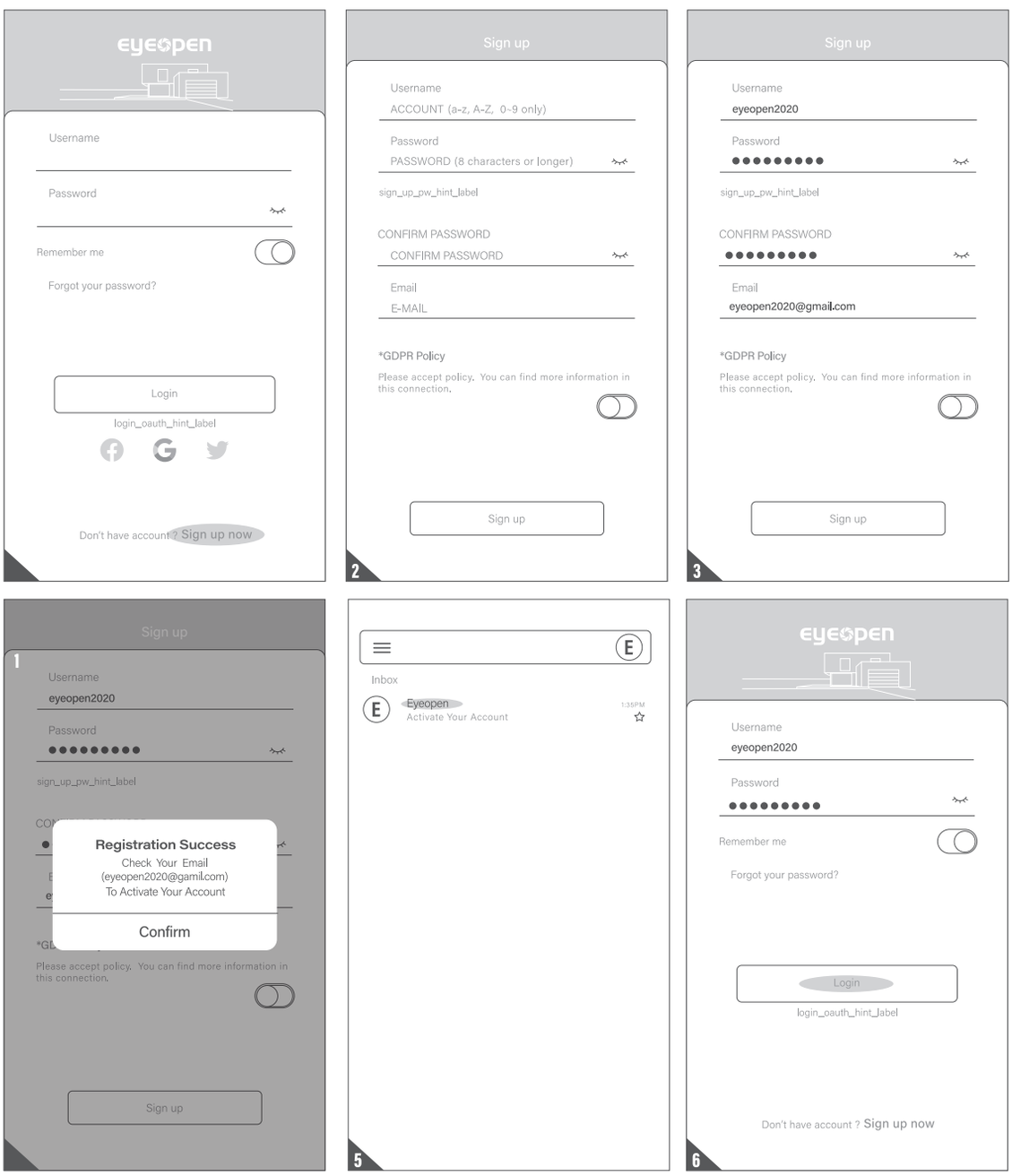
E2. Eyeopen SYSTEM

Eyeopen is the App system on the smartphone provided by Powertech, allows you to operate your Powertech gate automations remotely through this App.

E3. APPLY FOR A NEW ACCOUNT

1. Please scan the QR code and download Eyeopen.
2. Press sign up icon and press the agree icon to continue.
3. Please type the following information for registration:

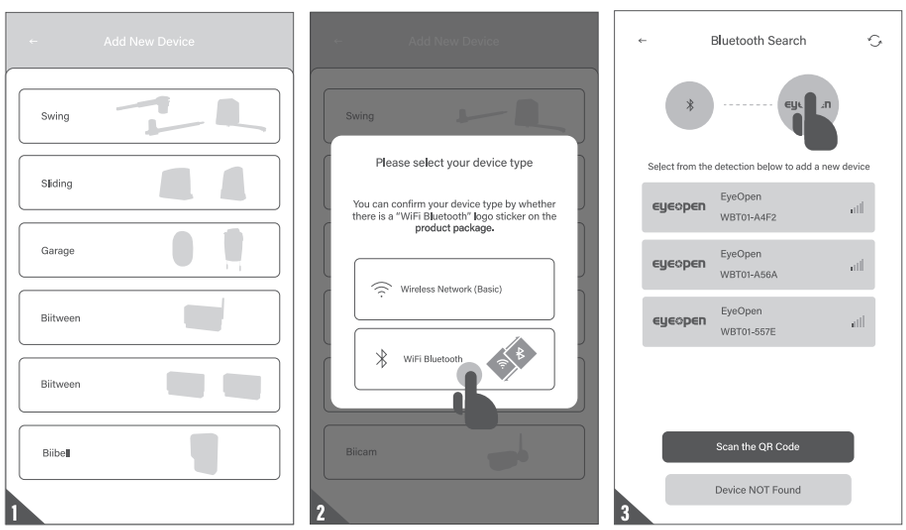
a. Password (enter twice for verification)
b. The password should have at least 1 English character and at least 8 characters/numbers in total.

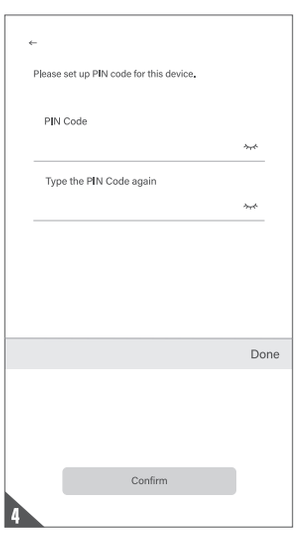


4. The system will send a link to your email when the registration succeeds.
5. Please go to your email , and click the link to activate your account.
6. Please log in to your account.

E4. CONNECTING TO Eyeopen

1. Please login your Eyeopen account. (Turn on the Bluetooth function of your smart phone.)
2. Tap the (+) icon to add a new device. Choose your product from the list.
3. Tap the Bluetooth icon and tap the device you are going to connect.
4. Set a PIN code twice and confirm.
5. Choose the device you are going to connect at available Eyeopen interface.
6. The device will start connecting.
7. After countdown, the device will show on the main page.



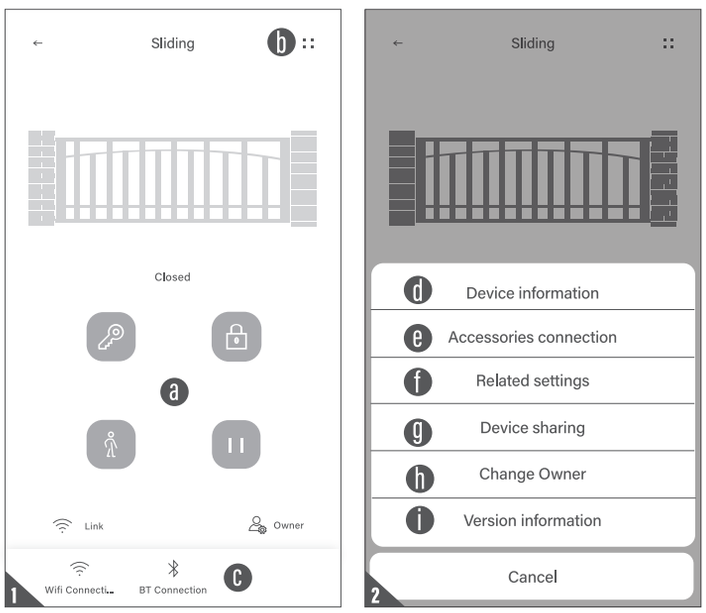


Please keep your PIN code for further usage. PIN code will be used when you
1. Login on the new smart phone. / 2. Enter the parameter settings interface. / 3. Return to the factory default.

If you forgot your PIN code, please follow the indications in FAQ - Question 7 - Return to the factory setting.

E5. OPERATION PAGE

1. Open / Stop / Close / Pedestrian.
2. Settings page.

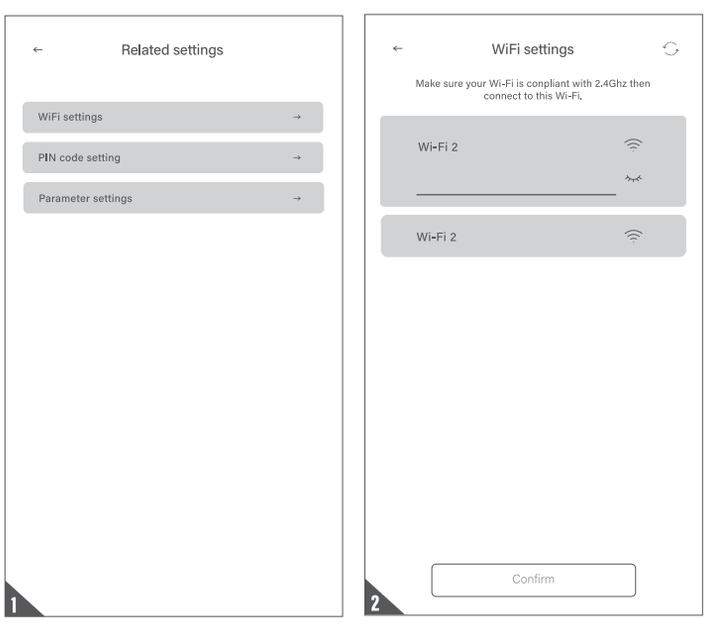


a. Operation button
b. Setting page
c. Wifi / Bluetooth icon
d. Device information
e. Accessories connection
f. Related settings
g. Device sharing
h. Change Owner
i. Version information

E6. RELATED SETTINGS – Wi-Fi SETTINGS

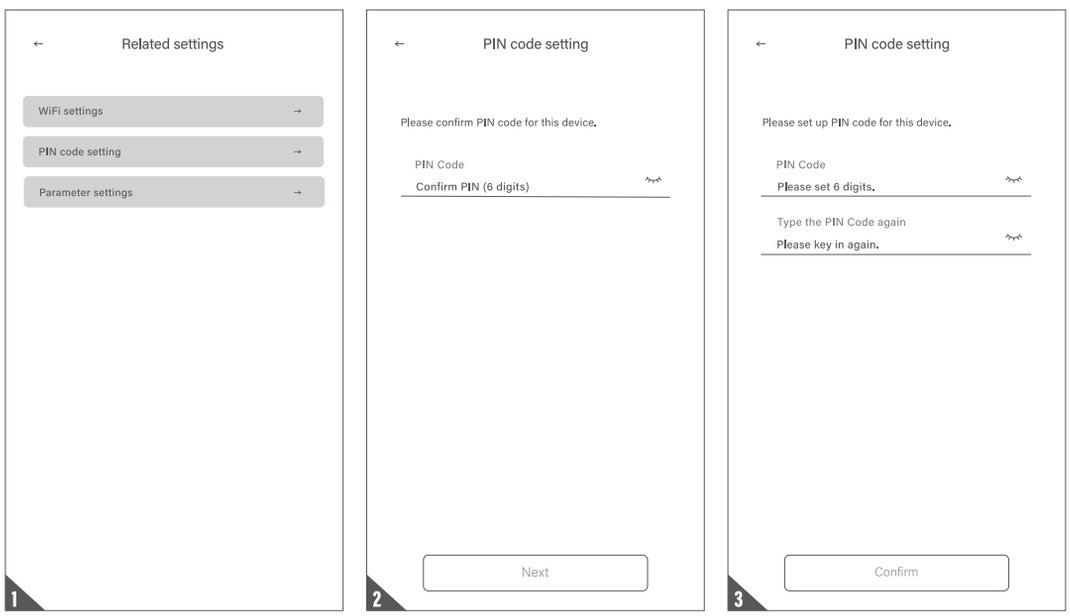
1. Tap the Wi-Fi setting page to enter.
2. Select a new Wi-Fi , Tap confirm to start connection.

Please make sure the password is correct .



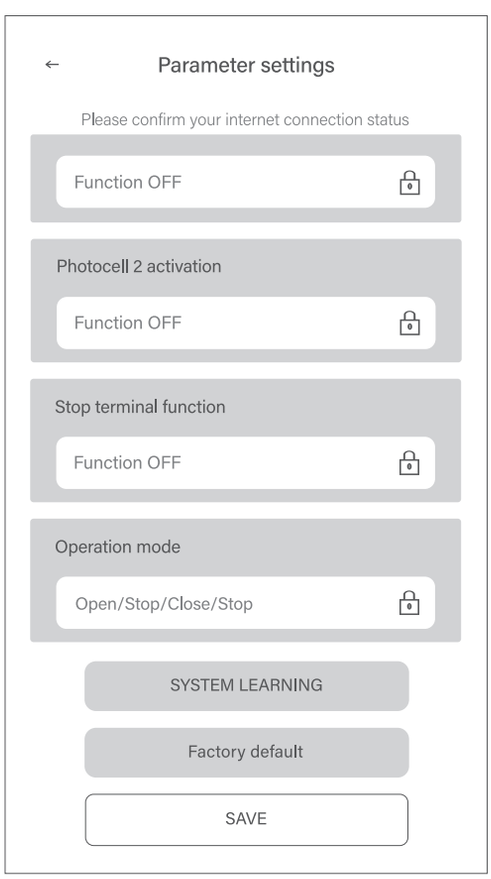
E7. RELATED SETTINGS - PIN CODE SETTING

1. Tap the PIN code setting to enter.
2. Enter current PIN code.
3. Set a new PIN code and confirm.



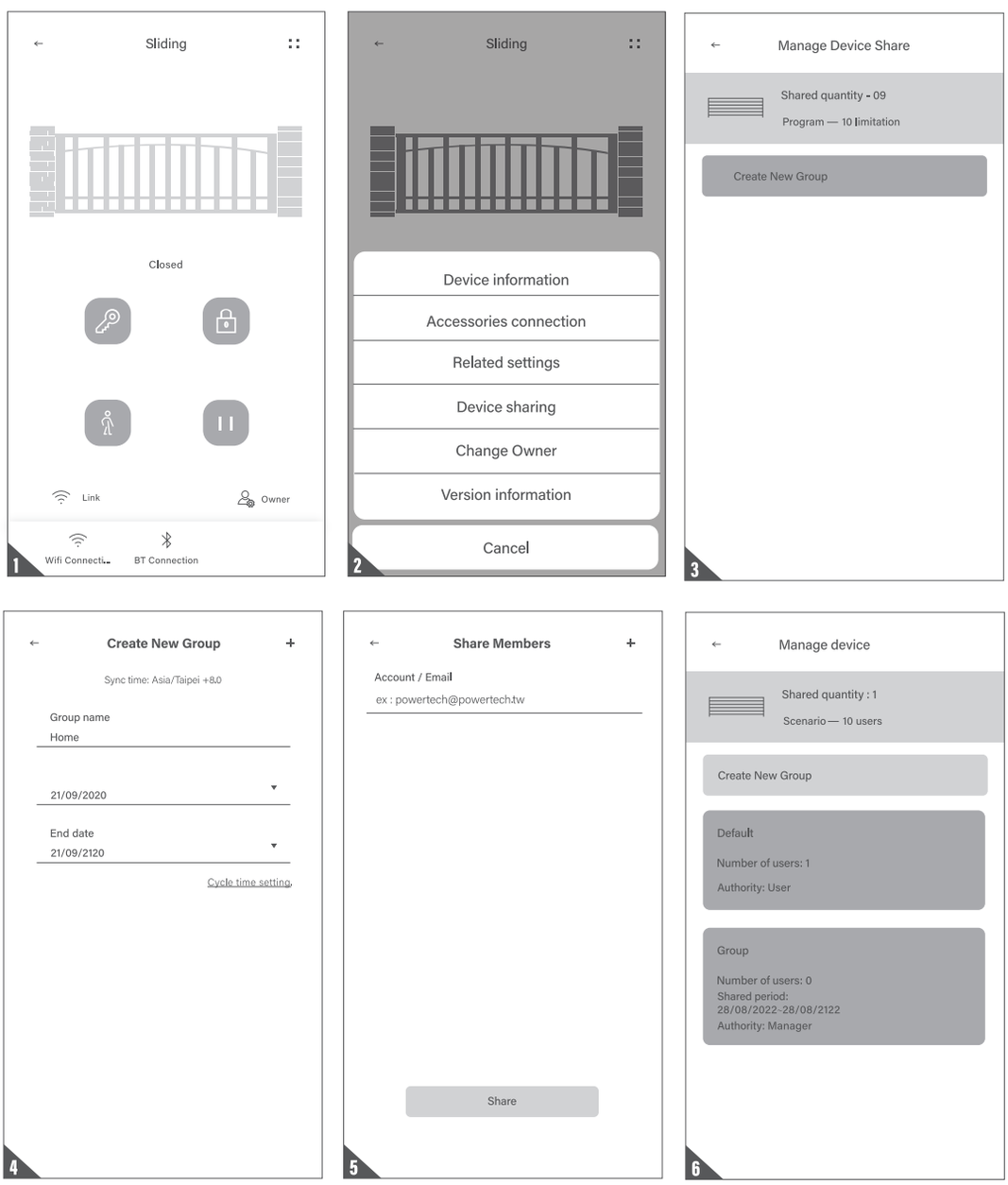
E8. RELATED SETTINGS - PARAMETER SETTINGS

1. Tap the Parameter settings to enter.
2. Key in the PIN code.
3. Change the parameter and save your changes.
4. Start the system learning via Eyeopen.



E9. OWNER SHARE DEVICE TO USERS

1. Tap the device on you main interface and enter the operation page.
   Tap the (::) icon to enter the setting page.
2. Tap the device sharing.
3. Tap the create new group.
4. Name your group and set a duration for this group.
5. Invite users by an Eyeopen account and tap share.
6. The group icon will show at the (Device sharing) page.



E10. PUSH NOTIFICATION

1. Press the icon on the upper left corner to enter the account management page.
2. Tap the push notification setting.
3. Turn **ON** the switches of the notification.

Please go to the settings page of your smartphone. Find Eyeopen and allow the notifications.

E11. FAQ

Question 1

The blue LED is **NOT** blinking when pairing.

Answer 1

Press the P button of the Wi-Fi box.

Question 2

Blue and green LED blinks alternatively when connecting to Eyeopen by the first user.

Answer 2

Entering a wrong password to your Wi-Fi network.

Question 3

Red LED blinks when connecting to Eyeopen by the first user.

Answer 3

The Eyeopen cannot get a IP from the router. Please disconnect other device.

Question 4

Red LED blinks when enter the PIN code.

Answer 4

Entering the wrong PIN code. Please confirm the correct PIN code with the first user.

Question 5

Green LED blinks.

Answer 5

The Wi-Fi signal is weak. Please adjust the antenna of the Wi-Fi box or adding an Wi-Fi amplifier to enhance Wi-Fi signal.

Question 6

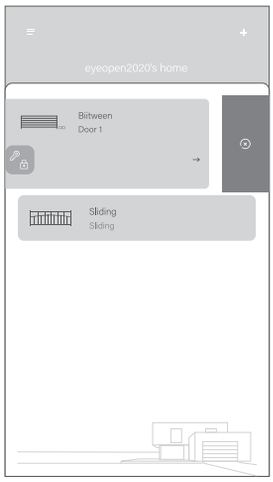
Red LED on.

Answer 6

Red LED on indicates a system error. Please return to the factory setting as mentioned below.

Question 7

Return to the factory setting.



Answer 7

Return to the factory setting is used when you lose your PIN code for sharing the device.
After return to the factory setting, please follow the previous indications to reconnect Eyeopen.
Slide the device icon on the main page and tap the (delete) icon.
Open the cover of your motor and get to the Wi-Fi box.
Press the P button for 5 seconds and press the R button once.
The blue LED of the Wi-Fi box is blinking which indicates the device has returned to the factory default.

Please refer to page 5 "C1 connecting to Eyeopen"

Question 8

How should I change my PIN code.

Answer 8

Enter the operation page of the device in EyeOpen ➡ Click the (Device Parameters) in the setting page ➡ Tap (Reset PIN).