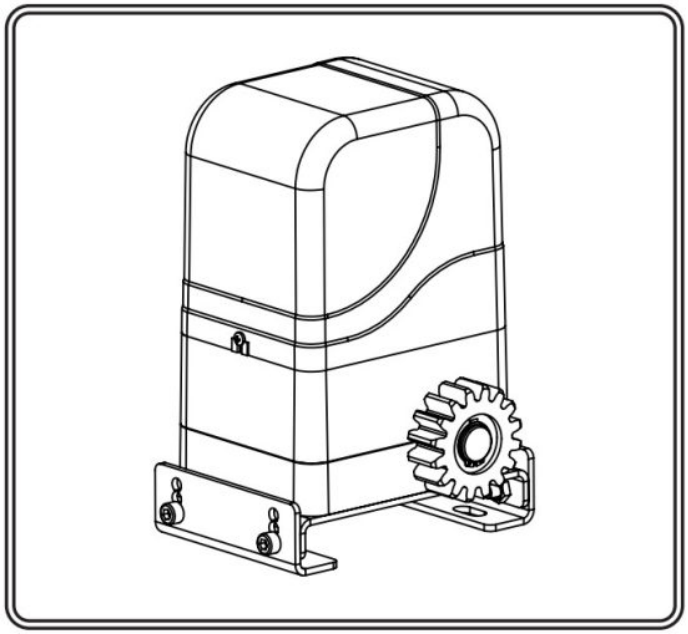
PYM-Z012 Sliding Gate Opener User Manual

Sliding Gate Opener
User's Manual
Model: PYM-Z012

Contents

PYM-Z012 Sliding Gate Opener



- Thank you for purchasing the sliding gate opener.
- Please read and follow all warnings, precautions and instructions before installation and using.
- Periodic checks of the opener are required to ensure safe operation.
- Keep the manual for future reference

General Safety

⚠ **WARNING!** An incorrect installation or improper use of the product can cause damage to persons, animals or properties, should always request the assistance of qualified personnel.

- This product was exclusively designed and manufactured for the use specified in the present documentation. Any other use not specified in this documentation could damage the product and be dangerous.
- The factory declines all responsibility for any consequences resulting from improper use of the product, or use which is different from that expected and specified in the present documentation.
- Do not install the product in explosive atmosphere or where there is any danger of flooding.
- To AVOID damaging gas, power, or other underground utility lines, contact underground utility locating companies BEFORE digging.
- Disconnect the electrical power supply before carrying out any work on the installation or maintenance.
- Please ensure that the using power voltage matches with the supply voltage of gate opener (AC220V±10% 50Hz).
- To ensure safety, before installing the motor, all potential hazards and exposed pinch points of the gate must be eliminated or guarded prior, and make sure Gate End Stop and a Gate Stopper mounted at each end of the rail to prevent the gate travelling off the track.
- Never mount any device that operates the gate motor where the user can reach over, under, around or through the gate to operate the controls. These must be placed at least 1.8m from any moving part of the moving gate.
- Keep remote control and other control devices out of children’s reach, in order to avoid unintentional activation.
- If required, install infrared photocells (sold separately) to detect obstructions and prevent injury or damage.
- Instruct all users about the control systems provided and the manual opening operation in case of emergency.
- Anything which is not expressly provided for in these instructions is not allowed and will void warranty.

- Only use original parts for any maintenance or repair operation. We decline all responsibility with respect to the automation safety and correct operation when other supplier's components are used.

Product Description

The PYM-Z012 sliding gate opener was designed as a device for moving sliding gates.
The way of the gear works prevents the gate from moving when the motor is turned off, so there is no need to use an electric lock. Avoid a power failure, user can use the override key to unlock the clutch to manual open or close the gate.

Appearance and dimensions

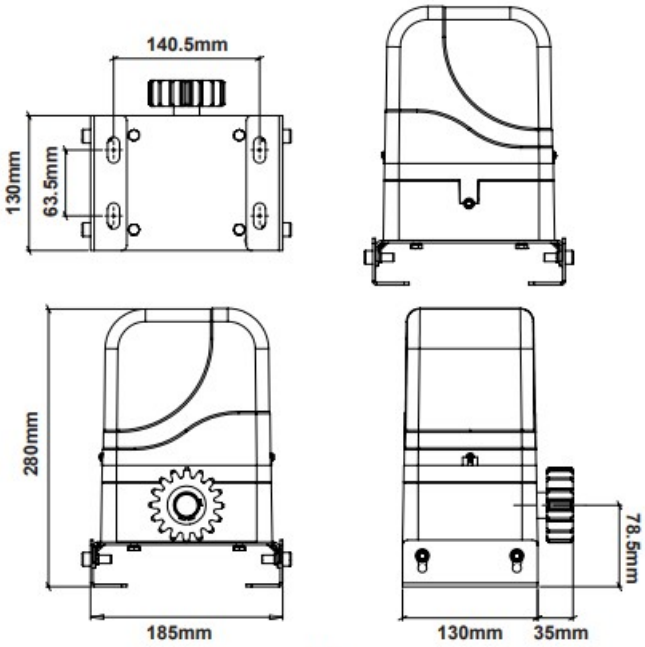


fig 1

Part list

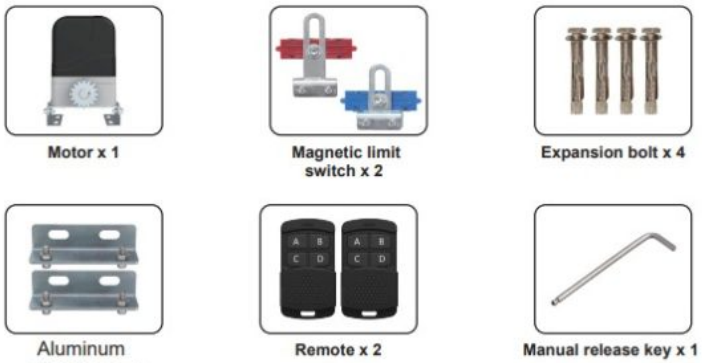


fig 2

Parameters

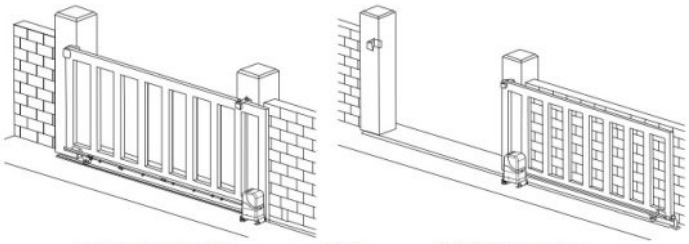
Power supply	DC12V±10%	Output gear number	Z=16
Rated Power	130W	Open(close) speed	v=12m/min
Loading Weight	300KG	Remote control distance	≤50meters
Max Torque	12N.m	IP	IP 55
Output gear module	M=4	Working temperature of motor	-25°C ~ +55°C

Features of sliding gate opener

1. Stylish appearance design and built-in control panel integrated inside the mechanism, no external controller or receiver needed.
2. Built in limit switch allowing the motor to switch off once the cycle is finished.
3. Built in manual override with 2 supplied unique override keys in case of emergency or power failure.
4. The motor is constructed of all metal gears make it durable and long lasting.
5. Thermal protection against engine overheating.
6. Ability to support up to 120pcs remote controls.
7. Possibility to connect external buttons and control devices (e.g.push button, WIFI controller, radio receiver etc).
8. Automatic closing function adjustable from 1 to 99 seconds.
9. Anti-pinch protection in case of meeting an obstacle.
10. Possibility of partial opening of the gate, without the need to perform the full scope of work.
11. Add smart module for 2.4G Bluetooth control (optional).
12. Signaling the current operating status of the machine on the display.
13. Easy installation, firm and solid structure, stable and reliable driving,permanently lubricated, maintaining-free.

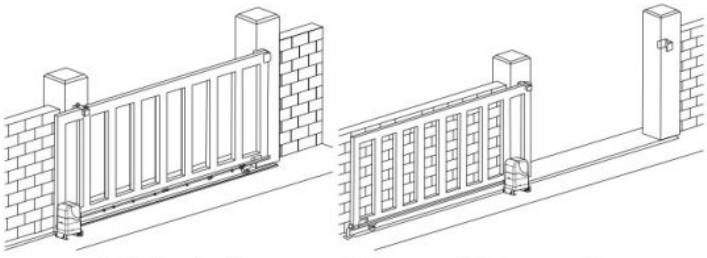
Installation Overview

Gate Opening Default Setting Information
The gate motor will open the gate to the right-hand side as its default setting (Refer to Fig 3)



Gate in closed position Fig 3 Gate in open position

If your gate needs to open from the other direction (to the left, refer to Fig 4) your motor needs to be mounted on the left-hand side as shown, you will need to switch 2 wires of motor (Fig 14) at random.
And swap over two magnets positions (Fig 5).



Gate in closed position Fig 4 Gate in open position

Any works done to the motor motor must be completed while the power is off, and the motor is unplugged.

4.1 Installation of the Opener

Necessary Tools

◆ The following tools may be necessary to install the Gate Opener.
◆ Screwdrivers. ◆ Electric drill. ◆ Wire cutters. ◆ Wire stripper. ◆ A socket set.

Caution

- Be sure that the opener is installed in a level and paralleled position and is properly secured and the gate can be moved smoothly push or pull by hand before installing motor(Fig 5).
- Improper installation could result in property damage, severe injury, and/or death.
- Before starting installation, ensure that there is no point of friction during the entire movement of the gate and there is no danger of derailment.

- Wheels and guide rollers should rotate easily and be free from dirt/grime.
- Ensure that the Warning Signs are present.

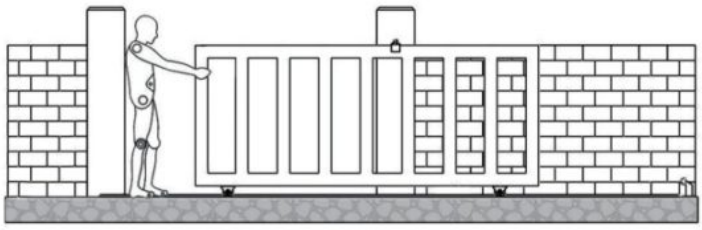


Fig 5

4.2 Example Sliding Gate Setup

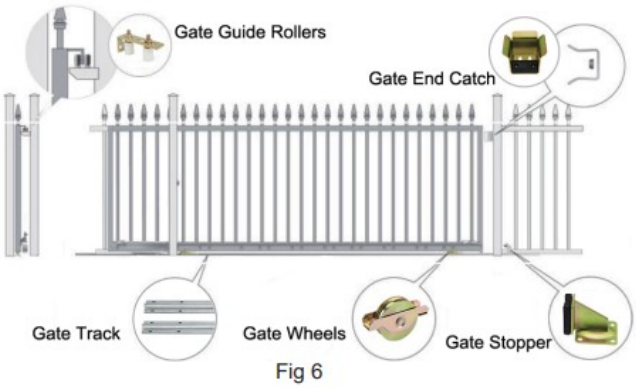


Fig 6

Note:
Before motor installation , sliding gate must installed well with hardware kit .If any gate hardware kit require, please contact with us.

4.3 Installation procedures

1. The limit default setting is for gate in close position. Before installation, please make sure gate is closed.
2. Prepare one or more conduits for the electrical cables. Cable conduits have to pass through the hole in the base plate.
3. Pour concrete and before it starts to harden, check that it is parallel to the gate leaf and perfectly level.
4. The four anchor bolts must be set into the concrete when it is poured, make sure the position of anchor bolts was placed according to the position of mounting holes on the base plate before concrete become harden.
5. Mount the base plate to the concrete pad.
6. Place the opener onto base plate. Check that it is perfectly parallel to the gate, and then screw the four bolts and washers supplied. It's only temporary installation. Further adjustment will be required when install the rack.

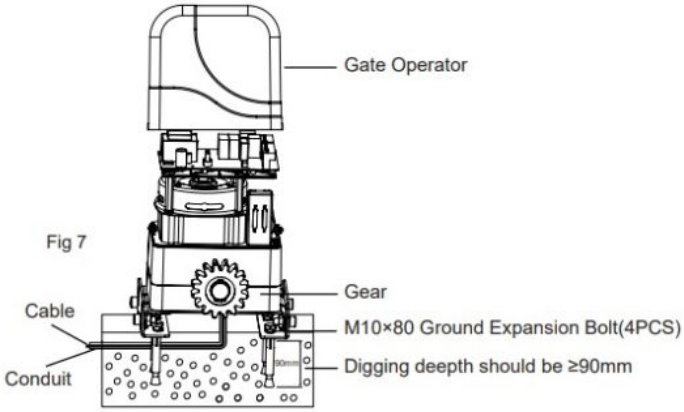


Fig 7

4.4 Manual release the clutch

1. Using the supplied key unlock manual override and pull out manual override lever (see Fig 8) then manually

close the gate.

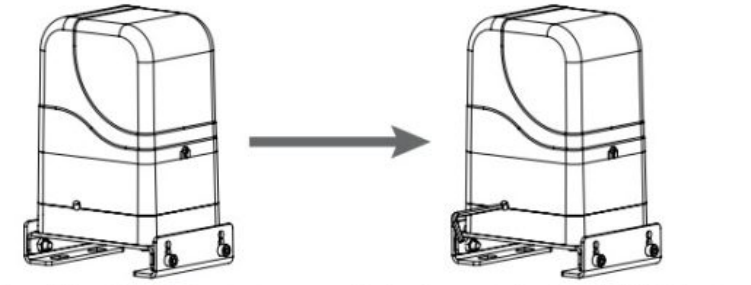


Fig 8

2. Insert the key in the key, barrel and turn the key, clockwise and pull to allow the manual override lever to swing out.

4.5 Installation of racks

1. After the motor is installed,the racks teeth the down ,then put the gear on the motors.and final connected with screws and gate.push the door with hand.so can let door sliding it and can move it without any problem.after confirmed,fixed the racks. 2. Rack is usually unit assembly, in order to avoid gate run shake or jammed, rack and joint clearance must be corrected.Suggest use this way, see diagram3 with a small correction of the rack, after connecting right with racks 1 and racks 2 , then fixed racks 1 and 2.

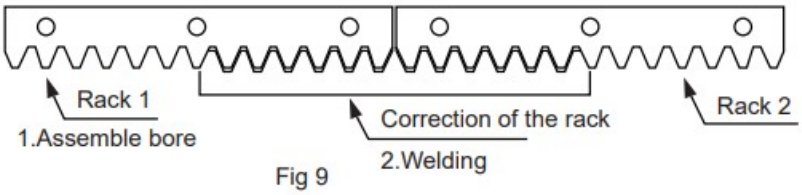
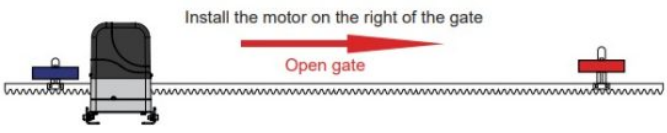


Fig 9

4.6 Installation of magnetic limit switch

1. Included in your gate motor kit are two magnetic limit travel stops which must be fitted to the gear rack on your gate to ensure safe operation.
2. The magnetic limit travel stops are designed to set the desired opening and closing position of your gate. These limit travel stops activate when the magnets travel past a magnetic limit switch sensor under the motor cover.
3. Two limit magnets were supplied, the higher limit bracket with magnet needs installed on the CLOSE position, lower limit bracket with magnet needs installed on the OPEN position. If not, the motor cannot run normally, as below Diagram 9 shows. (NOTE: The lower side limit, that magnet needs to adjust to the lowest position. And higher side limit, that magnet usually adjusts to the highest position–or just in some conditions, only adjusts to the higher side magnet position).
4. Release the clutch with the manual key and push the sliding gate manually to predetermine position, fix the magnet to the gear rack and then tighten the clutch with the key. Power on the control board, running the motor with the remote control, and adjust the magnet to the proper position until the gate can auto-stop at its correct position when fully opened or fully closed.



If you install the motor on the left of the gate, please adjust the blue and red limit magnet position as below picture show.

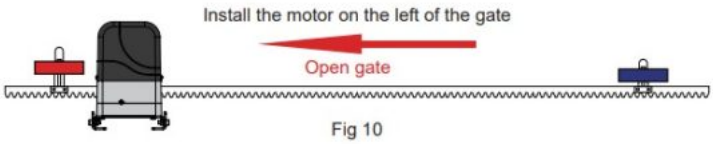


Fig 10

Control Board

5.1 Technical Parameters

1. Board power supply: AC 12V
2. Back-up battery: DC 12V
3. Application: Sliding gate opener
4. Remote control: Giant customized rolling code
5. Remote control memory: Max support 120pcs.

5.2 Connection of the power supply
WARNING: NEVER connect the gate opener to the power outlet before all the installations have been done.
NOTE:

1. If battery are chosen as the power source, the battery should be waterproof type, or be placed in waterproof circumstances. User can connect 1pc DC 12V battery with the control board.
2. Please note that the wire connection of the power supply system is very important. An incorrect wire connection will damage the control board. Power Mode 1. By AC electricity and back-up battery, only use the AC transformer to charge the battery.

If AC electricity failure happens rarely (less than 8 hours per day), then you can use a DC 12V battery as a back-up power source in case of AC power failure.

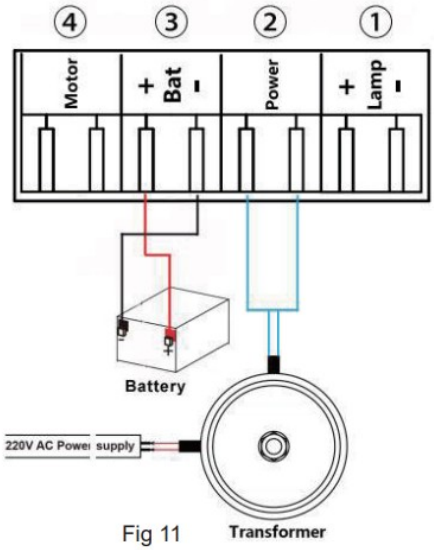


Fig 11

Power Mode 2. Only use the battery as the power source, use the solar panel to charge the battery.
If AC electricity is not available, then you can choose the DC 12V battery as the power source and use the solar panel to charge the battery.

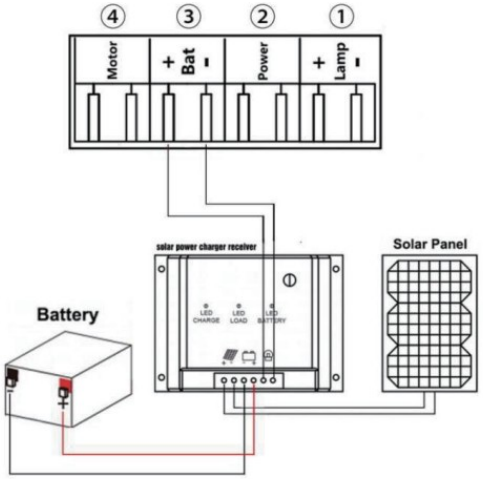


Fig 12

Power Mode 3. By AC electricity and transformer, only use AC transformer to supply the power

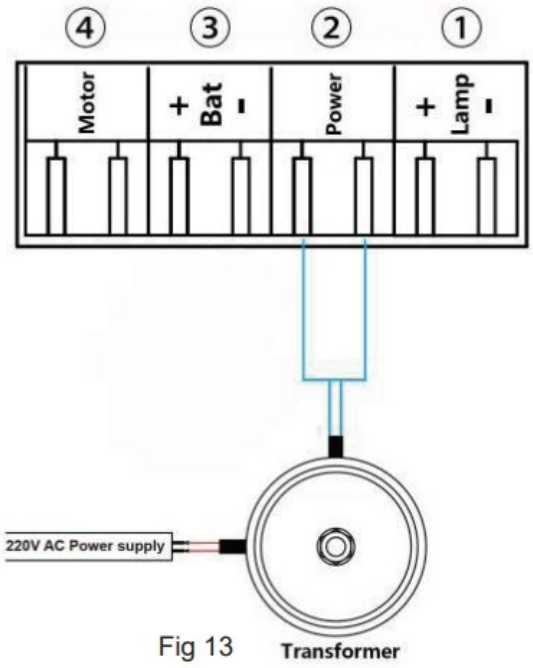
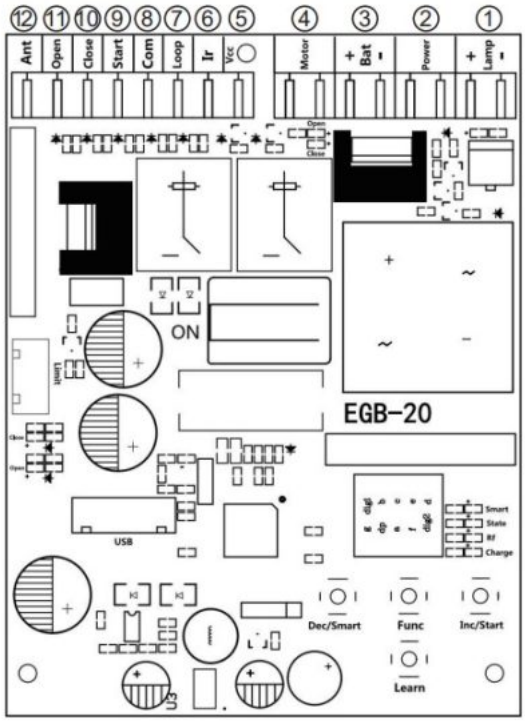


Fig 13

5.3 Terminal and Buttons instruction



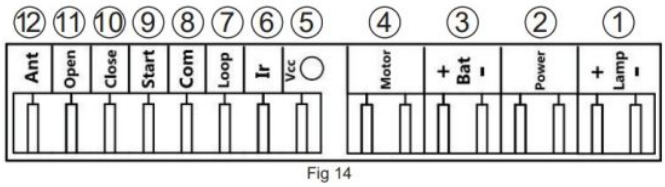


Fig 14

1. Lamp +/- : used for connecting with flashing light, output voltage is DC 12V
2. Power: Used for connecting with AC 12V power.
3. Bat +/- : used for connecting with the DC 12V battery.
4. Motor: used for connecting with DC 12V sliding gate motor.
5. Vcc: DC 24V output is for connecting to an external device. (such as photocell sensor).
6. Ir: used for connecting with the photocell sensor.
7. Loop: used for connecting with loop detector etc device.
8. Com: used for connecting with COM terminal or GND.
9. Start: It is a single button control mode switch for controlling the gate by “open -stop – close – stop – open” cyclically.
10. Close: used for connecting with any external devices that will operate to close the gate.
11. Open: used for connecting with any external devices that will operate to open the gate.
12. ANT: antenna connection.

    Note: Terminals ⑤ and ⑧ are supplying power for external devices.

    Buttons function description
13. Digital display: used for showing the setting data with you.
14. Dec/Smart: used for figure decreasing of setting the data or operating the smart module.
15. Func: used for storing data.
16. Inc/Start: used for figure increasing of setting the data or operating the single button control mode.
17. Learn: used for programming/removing the remote control.

5.4 Control Board Wire Diagram

● Connect with the sliding gate motor.

A. Install the motor on the right of the gate (factory setting)

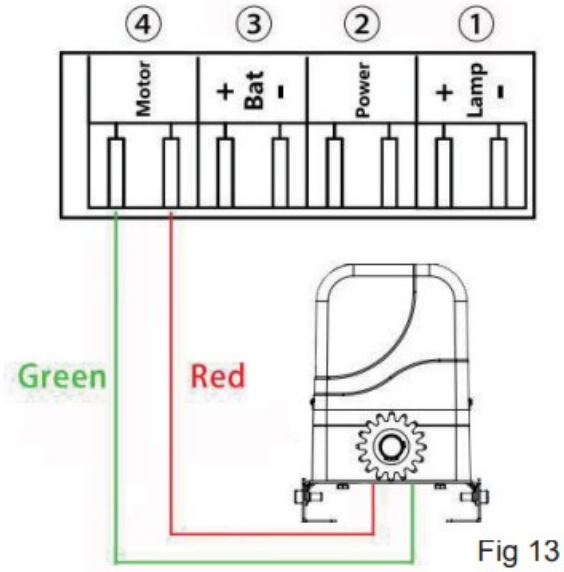


Fig 13

Terminal ④ and ⑤ are for connecting with the motor.

B. Install the motor on the left of the gate.

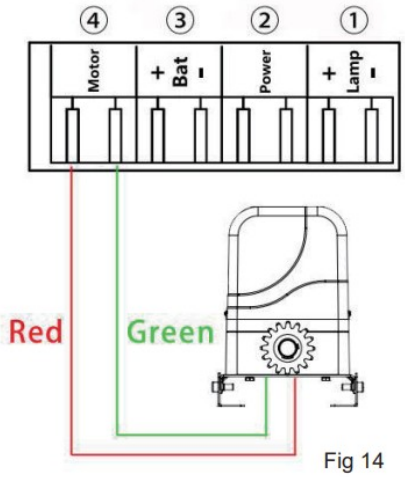


Fig 14

Terminal ④ and ⑤ are for connecting with the motor.

● Connect with the flash lamp.

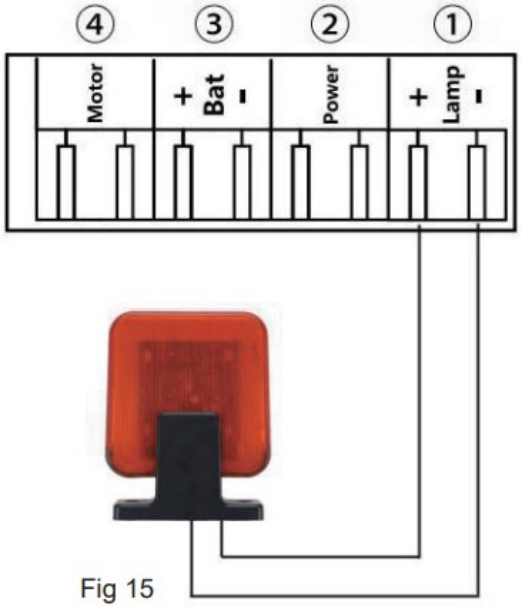


Fig 15

Terminal ① is for connecting with the flash lamp.

Connect with the photocell sensor.

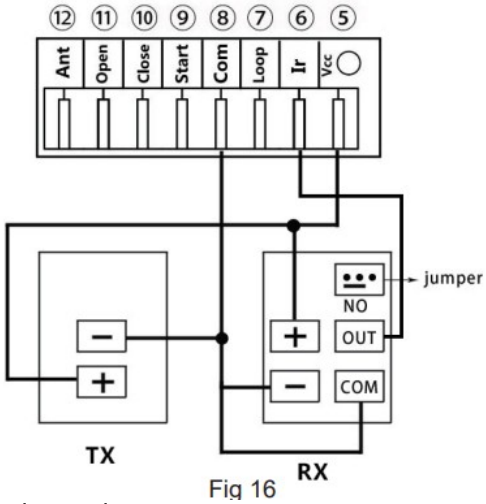


Fig 16

Photocell sensor is used for gate meeting resistance:

Connect terminal ⑧ with the “COM “ of photocell RX.

Connect terminal ⑥ with the “OUT “ of photocell RX.

Connect terminal ⑤ with the “+ “ of photocell RX and TX.

Connect terminal ⑧ with the “- “ of photocell RX and TX.

Connect with the loop detector.

Note: the sliding gate control board is factory default to connect the NO mode of the photocell, So please keep the jumper on the NO, as the picture shows!

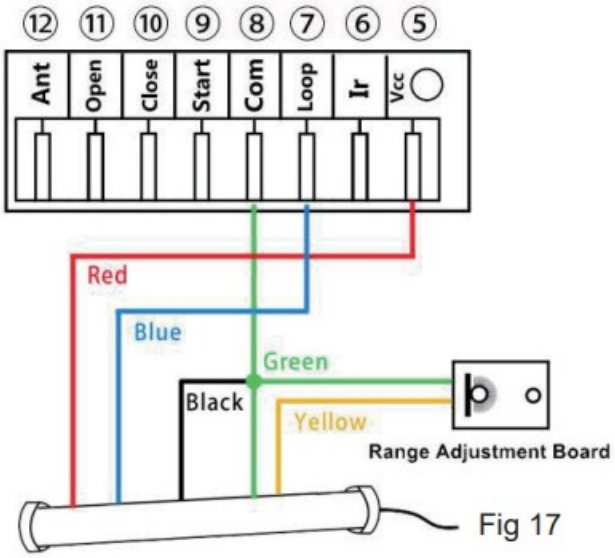


Fig 17

Loop detector wire information:
Definition of the 5 –core cable:
RED → Input Voltage (+)
GREEN → Ground/Common (-)
BLACK → Relay's Common
BLUE → Relay's Normally Open
YELLOW → Range adjustment potentiometer (POT)
Red wire: connect with terminal ⑤ .
Black wire: connect with terminal ⑧ .
Green wire: connect with terminal ⑧ and range adjustment board.
Blue wire: connect with terminal ⑦.
Yellow wire: connect with range adjustment potentiometer.
Connect with the start terminal.
The start terminal is used for connecting with some external devices, such as push button, wired keypad, receiver etc. Control gate by " open-stop-close-stop-open " mode

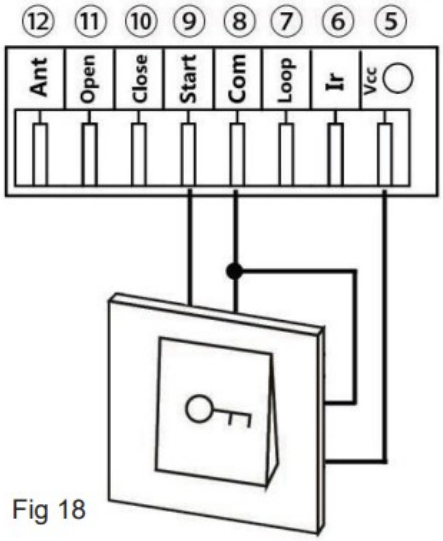


Fig 18

Terminal ⑤ and ⑧ are for supplying the power to the push button.
Terminal ⑧ and ⑨ are for connecting with the push button.
Connect with the open terminal.

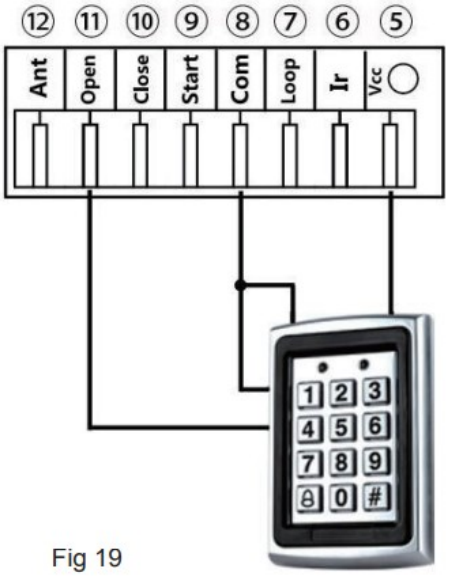


Fig 19

Terminal ⑤ and ⑧ are for supplying the power to the open gate device.
Terminal and ⑧ are for connecting with the device.
Connect with the close terminal.

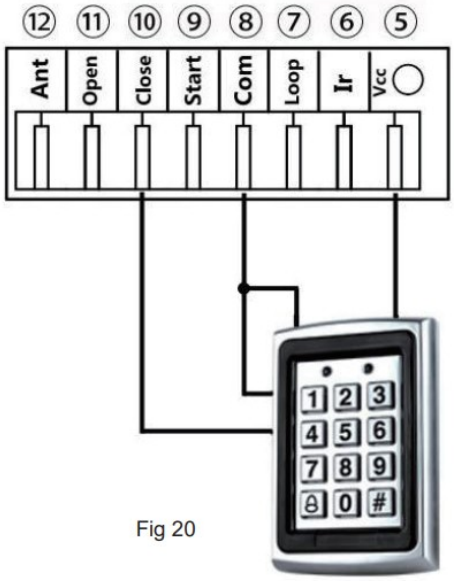


Fig 20

Terminal ⑤ and ⑧ are for supplying the power to the close gate device.
Terminal ⑩ and ⑧ are for connecting with the device.

5.5 Control Board Function Description

Item	**Description**
Power on	After the control panel powered on, the status indicator LED lit up.
Open/Close LED indicator	While the gate opener works normally, opening the gate will turn on blue, close the gate will turn on red.
Resistance functions	The resistance function can achieve an anti-smashing car. While the gate motor is opening, it meets obstruction and will stop. If the gate motor is closing and meets the obstruction, the gate will be reopened. The motor's resistance sensitivity of high speed and low speed can be adjusted and set by digital display.
Limit function	When the gate is fully opened/closed, after the user triggers the limit, the motor will stop running. The limit mode can be set through the digital display menu.

Loop function	**The loop detector has 2 functions for optional, switch them by the digital display menu PC:** **Mode 0**: When the gate is opened fully or opening, if the user triggers the loop detector, the motor will automatically close after loop signal disappears 3s. When the gate is closing, if the user triggers the loop detector, the motor will reopen the gate at once. And after the loop signal disappears 3s, then the gate starts to close. **Mode 1**: When the gate is stopped or on closing, if the user triggers the loop detector, the motor will reopen the gate at once. After the gate is opened fully, the system will enter the close gate countdown and set the time by the digital display menu PD.
Infrared mode	While the gate is closing, if the infrared is triggered, the gate will rebound to open. When the gate is opening fully, after 3s, the gate will be auto-closed.
Auto close	The auto-closing function is only activated after the open limit switch is enabled. When auto-close starts to countdown, the STATE LED will flash one time each second. Auto close time can be set through the digital display menu.
Pedestrian mode PED	1. The remote 2nd or 4th button can trigger the PED mode. When the user triggers the PED mode, the gate will work with “open – stop – close – stop – open” mode. 2. And its open gate time can be set by digital display menu P4, the gate will stop moving when the time ends. At the moment, if the user also sets the PED model auto close function, then the motor will enter auto close countdown and close the gate after time ends. 3. While the user triggers the PED mode, but the gate already opened fully before the open time runs out, the gate opening action will still be performed the next time it is triggered.
Lamp function	The digital display menu can set the lamp work mode by P9. Mode 0: when the gate is moving, the lamp will light on; after the gate stops moving about 30s, the lamp will turn off; Mode 1: when the gate moving, the lamp will light on; when the gate stops moving, the lamp will turn off. NOTE: No matter whether you choose mode 0 or mode 1, when the gate is on the auto close time counting down the statue, the lamp also will light on.
Motor protection	As soon as the motor runs continuously for more than the 90s, the motor will automatically stop working to protect the motor.

Smart charging function	When the battery voltage is lower than 13±0.5V, the control board will activate the smart charging function. When the battery voltage is over 14±0.5V, the control board will stop the charging. When the gate system detects the charger power supply is not connected, it will auto-disconnect the charger circuit. When the gate motor is moving, it will auto-disconnect the charger circuit to protect the charging device.
Upgrade control board system by USB device	1. Before you upgrade the system, please confirm whether U disk document is FAT32 or not. If not, please format the U disk as FAT32. 2. Copy the upgrade file into the root directory of the U disk and name it EGB-20.bin. 3. Insert the U disk into the upgrade module, and then connect the upgrade module to the USB port. 4. Turn off the power supply, and confirm the state LED also lights off. 5. Press and hold on the Fun button, and turn on the power supply, the digital display will show “UP”, which means upgrading the system successfully, and the control board will restart automatically.

5.6 Control Board Digital Display Menu Setting

- Press and hold the [FUN] button for 3 seconds, and the digital display will indicate “P0”, then release the button, now the menu can be set to [Inc/Start] and [Dec/Smart] for increasing and decreasing numbers or values.
- After adjusting the value, press the [Func] button to store the data, and the buzzer will beep one time to show the store successfully.
- After the menu setting is finished, press the [Learn] button to exit the menu setting and close the display.

Item	Value	Function description	Factory set	Explanation
P0	0-20 level	Low speed resistance sensitivity	10 level	The value is more bigger,the resistance value is more higher, it is hard to meet resistance
P1	0-20 level	High speed resistance sensitivity	10 level	
P2	3-60 seconds	Open gate high speed running time	12 seconds	
P3	3-60 seconds	Close gate high speed running time	12 seconds	
P4	3-20 seconds	Pedestrian mode open gate time	6 seconds	
P5	0-99 seconds	Pedestrian mode auto close the gate time	10 seconds	0 means close the function
P6	0-99 seconds	Auto close time	0 seconds	0 means close the function
P7	0-1	Limit mode optional	1: NO mode	0 NC mode 1 NO mode
P8	0-1	Infrared input mode	1: NO mode	0 NC mode 1 NO mode

P9	0-1	Lamp output mode 0: Mode 0 1: Mode1	1:Mode 1	Mode 0: When the gate is moving, the lamp will light on. After 30s, the lamp will off. Mode 1: When the gate is moving, the lamp will light on. While the gate is stopping, the lamp will off.
PA	0-10	Set slow speed torque	6	The larger the value, the faster the slow speed.
PB	0-1	Open terminal function switch	0	0: Open the gate fully. 1: PED mode
PC	0-1	Loop detector mode switch	0	0: After triggering the signal, the gate will reopen. While the signal is disappearing, after 3s, close the gate. 1: While the gate is opened, the loop will activate to close the gate and countdown the time
PD	0-99s	Loop close gate time countdown	10 seconds	0: Close the time countdown
Po	0-10	Factory reset	0	5: It will reset all the value to factory reset.

5.7 Digital display information show

1. When the gate is start to open, the digital display will show 1S “OP”
2. When the gate is start to close, the digital display will show 1S “CL”
3. After the gate stop moving, the digital display will show 1S“–”
4. When the gate moves to the full open limit, the digital display will show 1S“LO”
5. When the gate moves to the full close limit, the digital display will show 1S“LC”
6. When the motor reaches max working time, the digital display will show 1S“EC”
7. When the motor running with a high speed and meet obstruction, the digital display will show 1S“OH”
8. When the motor running with a low speed and meet obstruction, the digital display will show 1S“OL”
9. After the photocell is activated, the digital display will show 1S “PH”
10. After the loop is activated, the digital display will show 1S“LP”
11. When the PED mode is activated, the digital display will show “PD”

How to program or erase the remote

- Program the remote: Press the learn button for at least 1 second and then release, the LED indicator will light on. Now user needs to press the button on the remote control, with the buzzer short beep, which means the code learning is successful, and the digital LED will show the quantity of that remotes were learned.
  Note: Due to the digital display only can show two words, if the controller already learned more than 99pcs remote, from the 100th remote, the digital display will show A to replace the ten and hundred digits. Such as the 100th remote will show A0, and the 101st remote will show A1. If the controller already learned more than 109pcs remote, from the 110th remote, the digital display will show b to replace the ten and hundred digits.

Such as the 110th remote will show b0. Max capacity: 120pcs remote. If the digital LED shows “-” with a buzzer short beep 5 times, then means can not learn more remotes.

- Erase the remote: Press and hold the learning button for 5 seconds, while the user hears the buzzer with a long beep, release the button, and the digital display shows “00”. Now all remotes can not control the gate.

How to use the remote to operate your gate opener
Each remote has 4 buttons. The factory default is a single-button control mode. The 1st and 3rd remote buttons are used to control the gate as “open – stop – close – stop – open”, and the 2nd and 4th buttons are used to control the PED mode.
Smart Module Control Mode (Optional)
If you add the smart module to your control board, you also can use the smartphone Bluetooth function to control your gate opener by phone on the X-House IOT app. And you also can achieve keyless entry while you driving a car, as long as you plug a 2.4G transmitter into your car.
8.1 How to Program and Operate the 2.4G Transmitter

- Program the 2.4G transmitter: Short press the DEC/Smart button, and the buzzer will sound once, smart indicator LED will light on, and enter the programming mode. Power on the 2.4G transmitter, and it will auto-transmit the 2.4G signal, if the Smart indicator LED flash twice and keep lighting on, which means the programming is successful. Otherwise, after 8s will exit the programming mode automatically.
- Operate to open the gate: Plug the 2.4G transmitter into the car, while the user drives the car and arrives at the front of the gate, the smart module will receive the 2.4G signal and open the gate automatically.

8.2 How to Add and Operate the Bluetooth Device

- Add the Bluetooth device
  Step 1: Open the XHouse IOT app, enter the add device mode, and choose the Bluetooth device.
  Step 2: Choose the correct Bluetooth device, press the add button. (The Bluetooth device mode number is XHOUSE_092BLE_XXXXXX, XXXXXX is serial number)
- Bluetooth device control mode: The app have open, close, stop control buttons.
- Reset the Bluetooth device: Hold and press the DEC/Smart button for 5s, while you hear the buzzer sound two beeps, release the button, and the operation is complete.
- Reset the Bluetooth device: Hold and press the DEC/Smart button about 10s, while you hear the buzzer sound with a long beep, release the button. After that, the module will erase all the 2.4G transmitters and reset the Bluetooth device.

Maintenance

1. The rack and drive gear should be kept clean. Do not attach any objects to the gate that may interfere with the rack or drive gear.
2. Should frequent clean the sundries on the magnet limit.
3. Lubricate all moving parts every 3 months.
4. If the control circuit board is fitted with an optional back up battery, check the condition once a month and replace if necessary.
5. Check power cables and conduit have not been damaged.
6. During heavy rainfall or light flooding ensure the motor housing has had no ingress of water.

Problem	Possible Causes	Repair Method
Gate fails to operate	1. Check the clutch states, power-driven state or not? 2. Power no indication, and power trip. 3. The fuse has broken. 4. Remote control failure or invalid. 5. Damaged power cable. 6. Remote control or motor problem.	1. Recovery 2. To restore power. 3. Change the fuse. 4. Detection or change. 5. Detection and Repair. 6. Detection and Repair.
Working distance of remote control reduced	1. Low battery power or damaged. 2. Interference from equipment using th e same frequency. 3. The receiver of controller was damag ed.	1. Replace battery. 2. Wait eliminate interference. 3. Replace the control board.
Gate fails to stop at start or en d position	1. The terminal stop toggle switch is da maged or obstructed. 2. Limit switch of the motor and the limit detection of the interface PCB board plu g off. 3. Limit of open and close is in wrong position.	1. Replace toggle switch or remove obstruction Insert and fixed it. 2&3. Adjust of limit switch (J1)
Press open and close key of motor, but cant working and o perate	1. Blocked sensitivity is too high (set too big). 2. The gate has lifted off the track and di sengaged the drive gear from the rack.	1. Make blocked sensitivity lowered, and check gear and racks can operate normally. 2. Maintenance and replace

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Documents / Resources

	PYM PYM-Z012 Sliding Gate Opener [pdf] User Manual PYM-Z012 Sliding Gate Opener, PYM-Z012, Sliding Gate Opener, Gate Opener

References

- User Manual