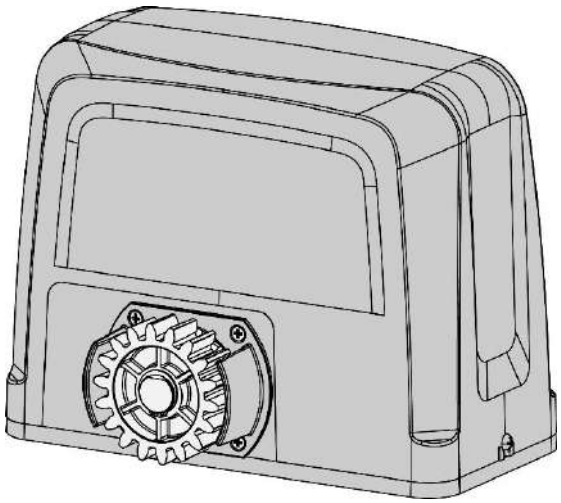
Sliding Gate Opener

User's Manual

Model:

SAG13



★ **Please read and follow all warnings, precautions and instructions before installation and use.**
★ **Periodic checks of the opener are required to ensure safe operation.**
★ **Save this manual.**

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Thank you for purchasing our sliding gate opener. We are sure that the products will be greatly satisfying as soon as you start to use it.
The product is supplied with a user's manual which encloses installation and safety precautions. These should be read carefully before installation and operation as they provide important information about safety, installation, operation and maintenance. This product complies with the recognized technical standards and safety regulations.

General Safety

⚠ WARNING! An incorrect installation or improper use of the product can cause damage to persons, animals or properties.

• Scrap packing materials (plastic, cardboard, polystyrene etc.) according to the provisions set out by current standards. Keep nylon or polystyrene bags out of children's reach.

• 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.

• The factory declines all responsibility for any consequences resulting from failure to observe Good Technical Practice when constructing closing structures (door, gates etc.), as well as from any deformation which might occur during use.

• Disconnect the electrical power supply before carrying out any work on the installation. Also disconnect any buffer batteries, if fitted.

• Fit an omnipolar or magnetothermal switch on the mains power supply, having a contact opening distance equal to or greater than 3,5 mm.

• Make sure a residual current circuit breaker with a 30mA threshold is fitted before the power supply mains.

• Check that earthing is carried out correctly: connect all metal parts for closure (doors, gates etc.) and all system components provided with an earth terminal.

• Fit all the safety devices (photocells, electric edges etc.) which are needed to protect the area from any danger caused by squashing, conveying and shearing.

• The factory declines all responsibility with respect to the automation safety and correct operation when other supplier's components are used.

• Only use original parts for any maintenance or repair operation.

• Do not modify the automation components, unless explicitly authorized by the factory.

• Instruct the product user about the control systems provided and the manual opening operation in case of emergency.

• Do not allow persons or children to remain in the automation operation area.

• Keep radio control or other control devices out of children's reach, in order to avoid unintentional automation activation.

• The user must avoid any attempt to carry out work or repair on the automation system, and always request the assistance of qualified personnel.

• Anything which is not expressly provided for in the present instructions is not allowed.

• Before installing the gate opener, check that all moving part as well as the sliding gate is in good mechanical condition, correctly balanced and opens and closes properly.

• Save these instructions for future use.

Preparation for Installation

Before proceeding to your opener installation, check if your gate structure is in accordance with the current standards, especially as follows:

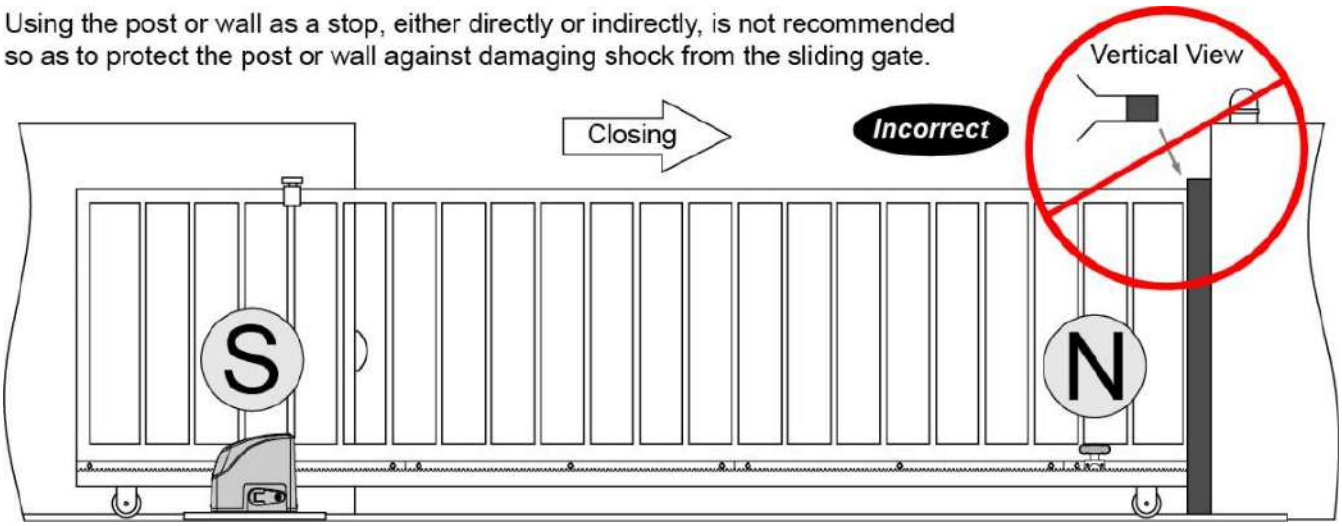
The gate sliding track is linear and horizontal. The wheels are suitable for use. The gate should be mounted and moved freely. Check that the structure is sufficiently strong and rigid, and that its dimensions and weights conform to those listed in the specifications table of this document. Make sure that the gate is plumb and level. The fence posts must be mounted in concrete. The gate does not bind or drag on the ground.

• The gate manual operation can be carried out smoothly along its entire run, and there is no excessive side slipping.

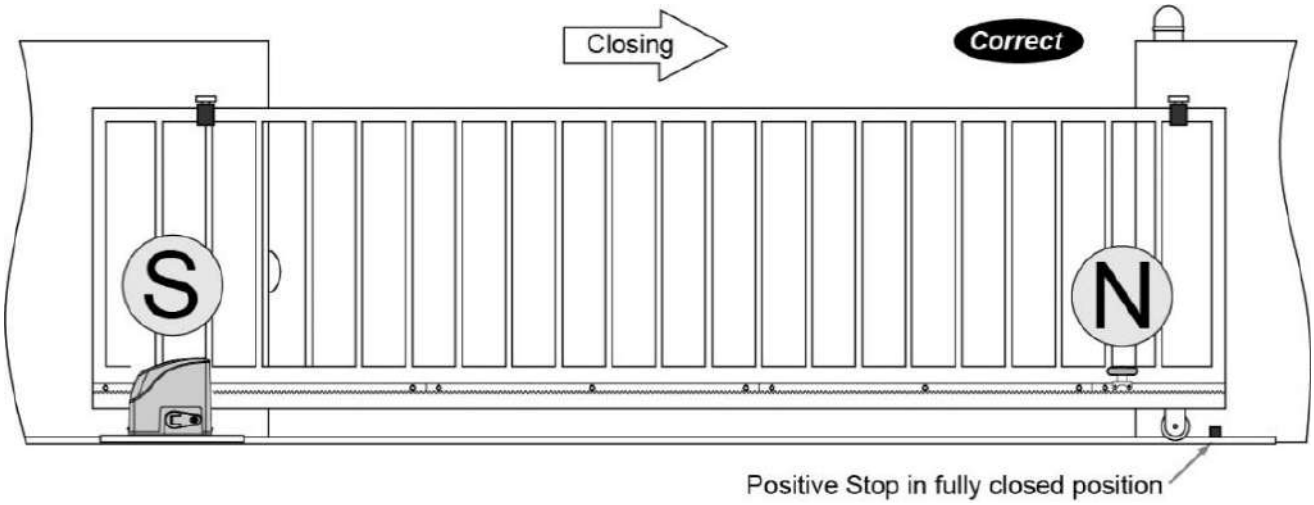
• The opening and closing gate stops are positioned.

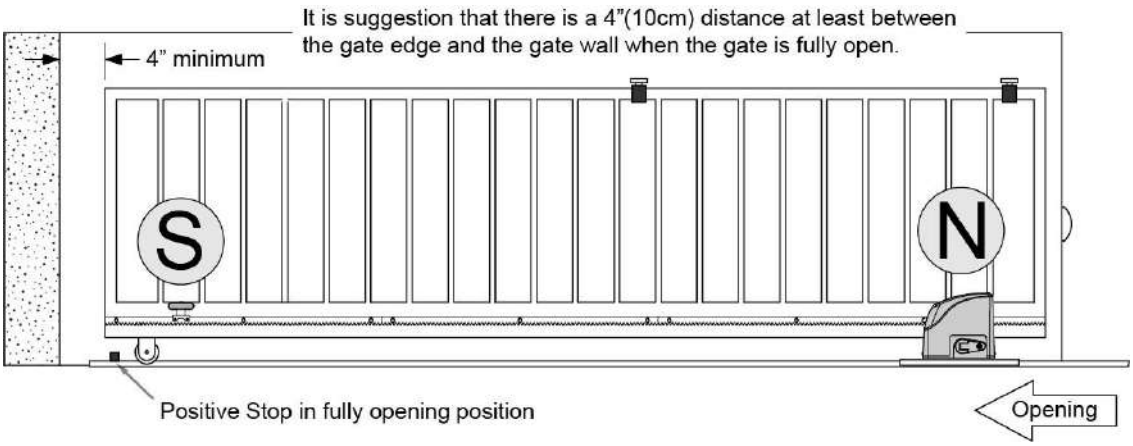
WARNING: Remember that control devices are intended to facilitate gate operation, but can not solve problems due to any defects or deficiency resulting from failure to carry out correct installation or maintenance. Take the product out of its packing and inspect it for damage. Should it be damaged, contact your dealer. Remember to dispose of its components (cardboard, polystyrene, nylon, etc.) according to the current prescriptions.

Refer to the following Figures for gate installation.

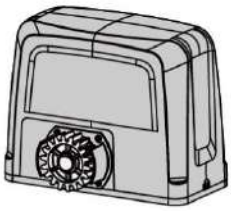


In sake of safety, a positive stop must be mounted on the two end of ground track.





Parts List

 Gate Opener (1 pc)	 Release Key (2 pcs)	 Remote Control (2 pcs)	 Expansion Tube 12X60 (4 pcs)
		 Big Washer Φ8 (4 pcs)	 Hex self-tapping screw M8X60 (4 pcs)
 Magnet Assembly (N pole) (1 pc)	 Magnet Assembly (S pole) (1 pc)	 Magnet Bracket (2 pcs)	 Pan Head Screw M5×12 (8 pcs)

Optional Accessories Parts List

 Wireless Keypad	 External Receiver	 HomeLink Remote Control Kit	 Wireless Push Button
 Wall Push Button	 Waterproof Wall Push Button	 Universal Wireless and Wired Keypad	 Wired Keypad

 Reflection Photocell Sensor	 Photo Eye Beam Sensor	 AC Alarm Lamp	 Vehicle Sensor Exit Wand
 Heavy Duty Gear Rack	 Heavy Duty Gear Rack		

Technical Specifications & Features

Specifications	
	SAG13
Power supply:	120V/60Hz or 220~240V/50Hz
Motor voltage:	120VAC or 220~240VAC
Absorbed power:	280W
Gate moving speed:	22 cm/s (8.3 in/s)
Max gate weight:	600kg (1300lbs)
Environmental conditions:	-22℃~ +55℃ (-4°F to 122°F)
Protection class:	IP44

Features:

·Midway mode.

·Quick selection for the gate open/close direction

·Reliable rolling code technology for remote control

·Emergency release key in case of power failure

·Stop in case of obstruction during gate opening

·Reverse in case of obstruction during gate closing

·Built in adjustable auto-close (1-99 seconds)

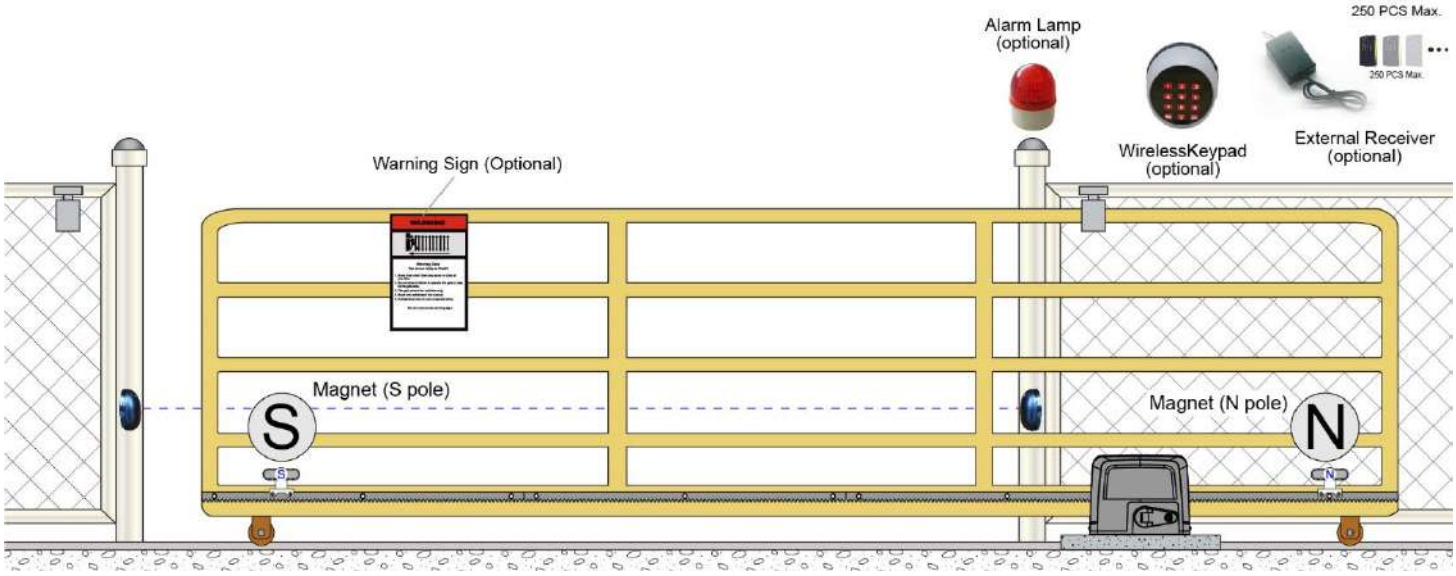
·Built in max. Motor Running Time (MRT) for multiple safety protection (90 seconds)

·Reliable electromagnetism limit for easy adjustment

·Can be equipped with a wide range accessories

·Easy to install, and minimum maintenance requirement

Installation Overview



Installation of the Opener

Caution:

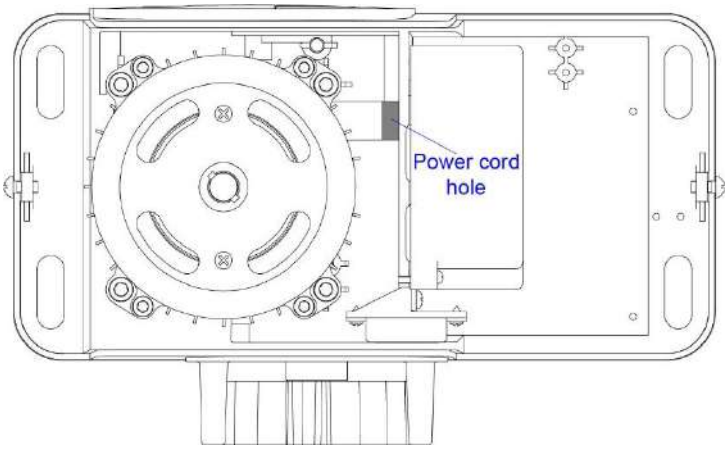
***Be sure that the opener is installed in a level and paralleled position and is properly secured. Improper installation could result in property damage, severe injury, and/or death.**

*** 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.**

*** Ensure that the safety side panels are present.**

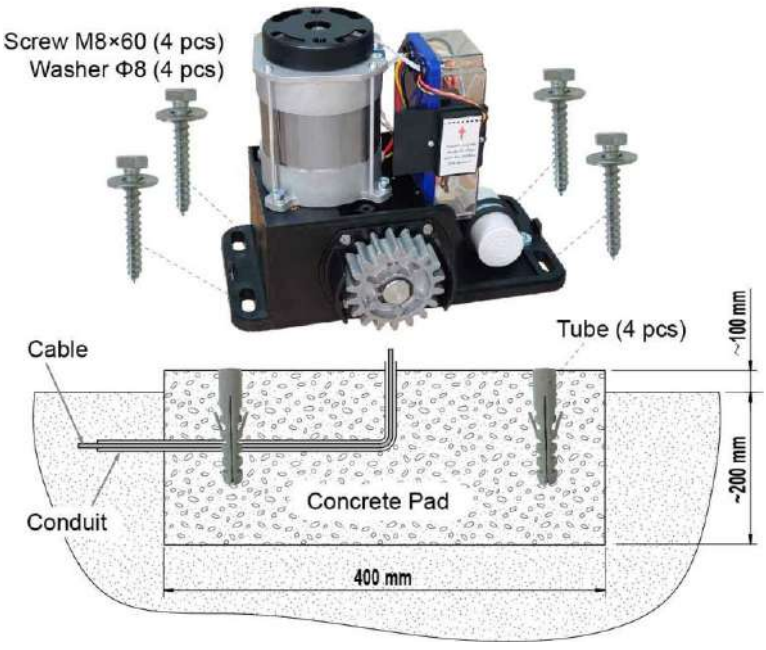
Necessary Tools: The following tools may be necessary to install the Gate opener. Screwdrivers, an electric hammer, wire cutters and a wire stripper, a socket set.

When install the opener, you should have or build a concrete pad to support the base plate of opener in order to maintain proper stability.



The installation proceeds are as follows:

1.Dig a hole for a concrete pad which should be approximately 40 x 24 x 30cm (16”x 9.5”x 12”). It may protrude 10 cm (4”) above ground and 20 cm (8”) in depth underground. Increase the pad height if necessary to protect the system from flooding, heavy snow etc.



2. Prepare one or more conduits for the electrical cables before pour concrete. Remember that cable conduits have to pass through the hole in opener base.

3. Pour concrete and before it starts to harden, check that it is parallel to the gate leaf and perfectly

level.

4. Make sure the position of Expansion Tubes was placed according to the position of mounting holes on the opener base.

5. Mount the opener to the concrete Pad. It's only temporary installation. Further adjustment will be required when install the rack.

Manual Operation

You can open the gate by manual when power failure. And the opener should be put in the manual (emergency release) position before fitting the rack, installing the opener and limit switch. The process is as follows:

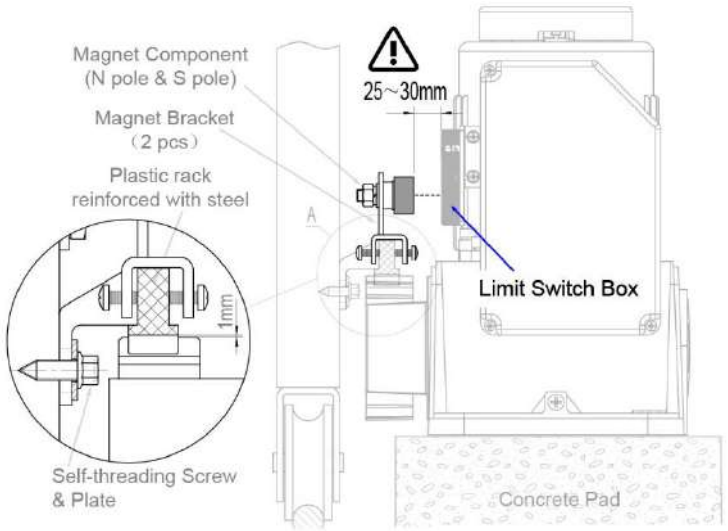
Insert the Release Key and turn it in clockwise 90°, then pull the release handle in clockwise 90° to disengage the clutch between the gear shaft and motor. Now the opener is in the manual operation.

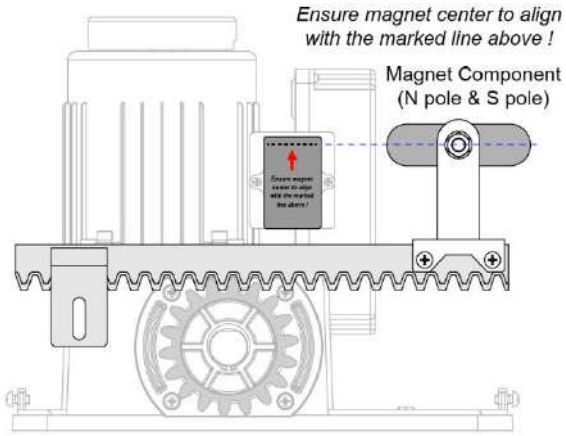
Fit the Plastic Rack Reinforced with Steel

1. Start with gate in closed position
2. Rack is optional. 1 piece is 1 meter. You can order from the dealer if needed.
3. Put one end of rack section on the gear of opener as a temporary support.

Make rack level and mark the rack's mounting holes **(four holes for light duty or six holes for heavy duty)** on the gate.

4. Fit the rack by self-threading screws. This kind of plastic rack is quieter and allows height adjustments to be made even after it has been fixed. Please keep 1.0mm space between the rack and the gear to avoid the weight of the gate effect on the opener.





Installation of the Magnets

Before install limit switch, make sure the gate opener is put in manual operation. (the clutch connected with gear shaft is disengaged) and the mains power supply is disconnected.

Position the S&N Magnet Components approximately on the gate and move the gate by hand to fix them in place.

Fit magnets bracket

Push the gate fully closed by hand. Locate and install the magnet bracket so that the opener will stop at the desired close position when the close limit switch approaches it.

Push the gate fully open by hand. Locate and install the magnet bracket so that the opener will stop at the desired open position when the open limit switch approaches it.

The magnet component with S pole outside must be installed at left side and the magnet component with N pole outside must be installed at right side from the view inside of property.

Ensure magnet center to align with the marked line above !

The magnets should be **25~30mm** away from the **Limit Switch Box**. If it is too near or too far, the switches will fail to work. Adjust the position of the magnets until the positions of the opening and closing meet the requirement.

Warning: Improper magnets installation may cause the gate crash into end barrier, which is very dangerous !

Important:

* Check that the rack teeth must engage the gear teeth throughout their full thickness. If not, adjust the position of the opener or/and place a few shims between the rack and gate.
* Manually slide the gate leaf to ensure the rack is proper on the gear of opener.
* Repeat same steps of first rack section to install the rest rack sections until proper length is reached.
* Cut away any excess of the rack (Note: rack length must be longer than actual travel of the gate)

Connecting of Power Supply

⚠ **WARNING: NEVER connect the gate opener to the power outlet before all the installations have been done.**

The power supply cord should be at least 3×0.75mm^2 (3C×18AWG). Connect the live wire and neutral wire to the “L” (1) and “N” (2) terminal of the control board respectively; and connect the earth wire to “PE”.

NOTE: The power supply cord is not included in the package.

Connecting of the Control Board

1. Motor

The **BLACK** wire of the motor should be connected into the “3” terminal.

The **YELLOW** wire of the motor should be connected into the “4” terminal.

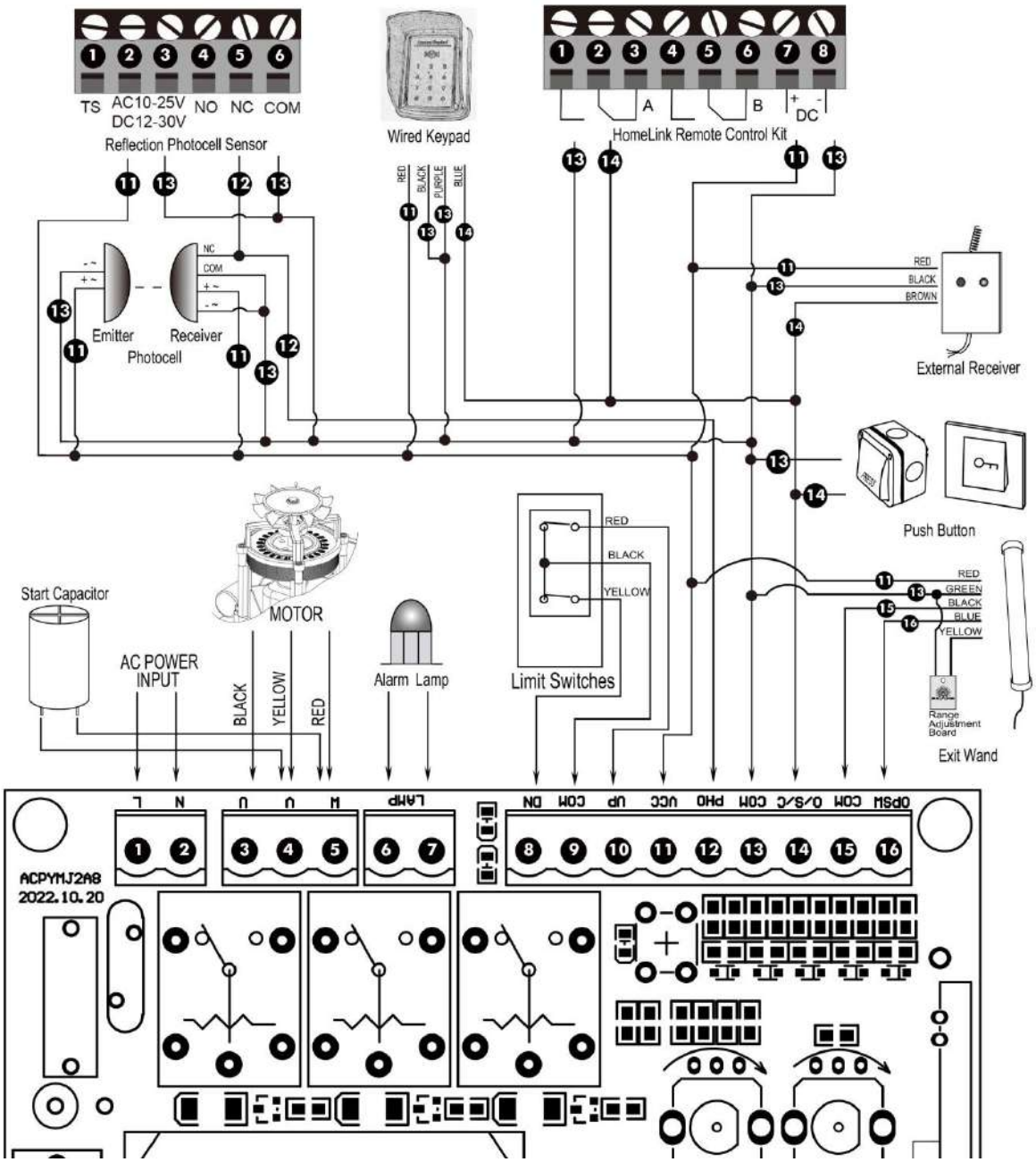
The **RED** wire of the motor should be connected into the “5” terminal.

2. Limit Switches

The **YELLOW** wire of the limit switches should be connected into the “8” terminal.

The **BLACK** wire of the limit switches should be connected into the “9” terminal.

The **RED** wire of the limit switches should be connected into the “10” terminal.



3. Alarm Lamp (Optional)

One wire of the warning light should be connected into the “6” terminal, another should be connected into the “7” terminal.

4. Start Capacitor

The two wires of the start capacitor should be connected into the “4”terminal and “5” terminal.

5. Photocell Beam System (PBS) (Optional)

Use a 2-core cable to connect the **“+ ~”** terminal of the photocell’s emitter to the “11” terminal, the **“- ~”** terminal to the “13” terminal. Also the **“+ ~”** and **“- ~”** terminals of the photocell’s receiver should be connected to the “11” and “13” terminals in parallel.

Use another 2-core cable to connect the **“COM”** terminal of the receiver to the “13” terminal, the **“NC”** terminal to the “12” terminal.

6. Reflection Photocell Sensor (optional)

The **“AC10-25V/DC12-30V”** terminals of the reflection photocell sensor should be connected to the “11” and “13” terminals, no matter the polarity.

The **"NC"** terminal should be connected to the "12" terminal.

The **"COM"** terminal should be connected to the "13" terminal.

TIPS

The terminal 12 and 13 on control board should be shorted if the photocell beam system (optional) does not use. A wire jumper has been used for short to terminal 12 and 13 in factory.

Please check if this wire jumper is missing or keep the photocell in alignment when the gate can open but fails to close.

7. Wired Keypad (12VDC) (Optional)

The **RED** wire of the wired keypad should be connected into the "11" terminal.

The **BLACK** wire of the wired keypad should be connected into the "13" terminal.

The **PURPLE** wire of the wired keypad should be connected into the "13" terminal.

The **BLUE** wire of the wired keypad should be connected into the "14" terminal.

8. Push Button (Optional)

The push button should be wired to the "13" and "14" terminals. The gate operator works alternately by pushing the button (open-stop-close-stop-open).

9. External receiver (optional)

The **RED** wire of the external receiver should be connected into the "#11" terminal.

The **BLACK** wire of the external receiver should be connected into the "#13" terminal.

The **BROWN** wire of the external receiver should be connected into the "#14" terminal.

10. HomeLink Remote Control Kit (optional)

The **"1"** terminal should be connected to the "13" terminal.

The **"2"** terminal should be connected to the "14" terminal.

The **"DC+"** terminal should be connected to the "11" terminal.

The **"DC-"** terminal should be connected to the "13" terminal.

11. Exit Wand (optional)

The **BLACK** wire of the exit wand should be connected into the **"COM"** (#15) terminal.

The **BLUE** wire of the exit wand should be connected into the **"OPSW"** (#16) terminal.

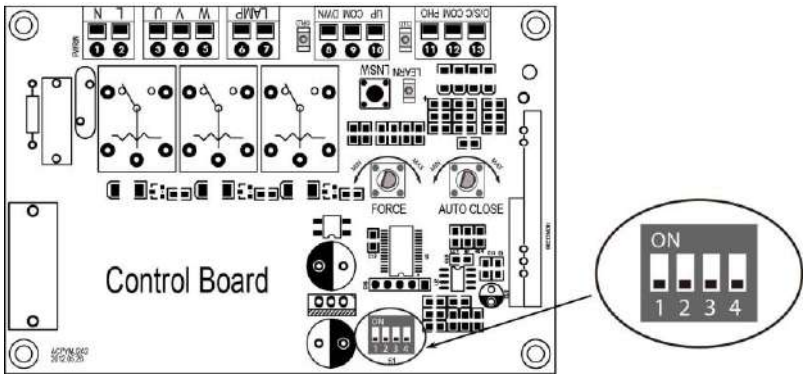
The **RED** wire of the exit wand should be connected into the **"VCC"** (#11) terminal.

The **GREEN** wire of the exit wand should be connected into the **"COM"** (#13) terminal.

The sensitivity adjustment board should be wired to the **GREEN** wire and the **YELLOW** wire of the wand. No matter the polarity.

Setting of the Control Board

⚠ **WARNING: Ensure the gate opener is Power Off when you make any adjustment of the gate opener. Keep away from the gate during you set the gate opener system in case of the unexpected gate moving. Carefully adjust the DIP switches to avoid the risk of machine damage and injury or death. Always ask the help of professional technician /electrician if you have any question.**



1. DIP Switches

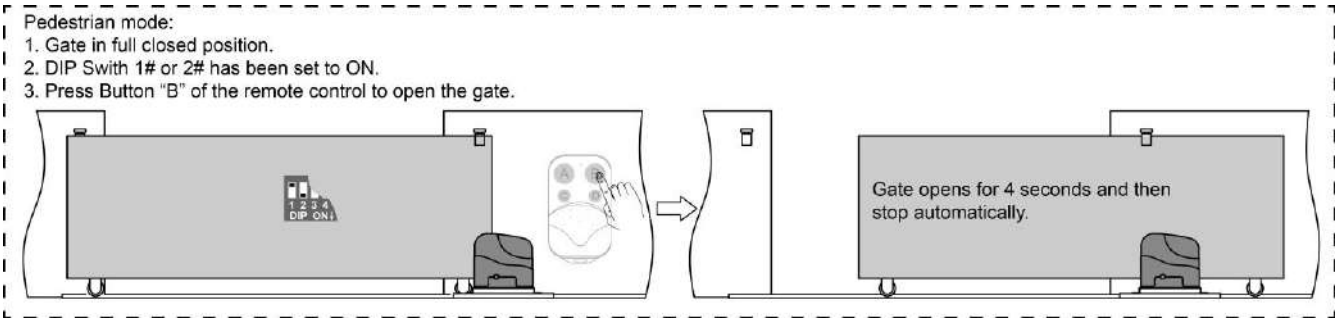
The DIP switches are used to set the running time of the motor in pedestrian mode, enable/disable auto

close function of the gate operator and fast change the open/close direction which is determined by the position of the gate operator installed.

DIP Switch #1–#2: Running time of the motor in Midway Mode
DIP Switch #1: ON – 2 Seconds **OFF** – 0
DIP Switch #2: ON – 4 Seconds **OFF** – 0
NOTE: The midway mode function would be disabled if both DIP switches are turned off. Factory default setting is disabled. The midway mode could be activated by pressing button B of the remote control when the gate is in the full closed position.

E.g. 

→ Running time of the operator in midway mode is 2 seconds.

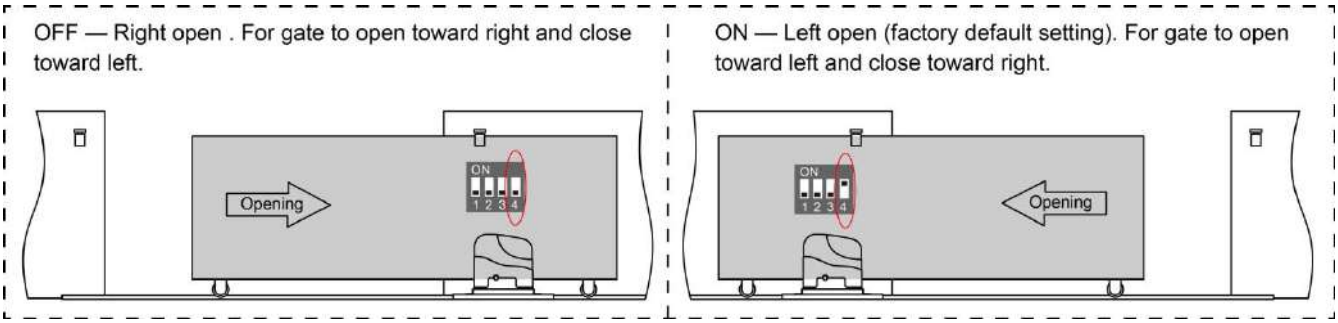


DIP Switch #3: Auto close function enabled/disabled
DIP Switch #3: ON – auto close function enabled
OFF –auto close function disabled

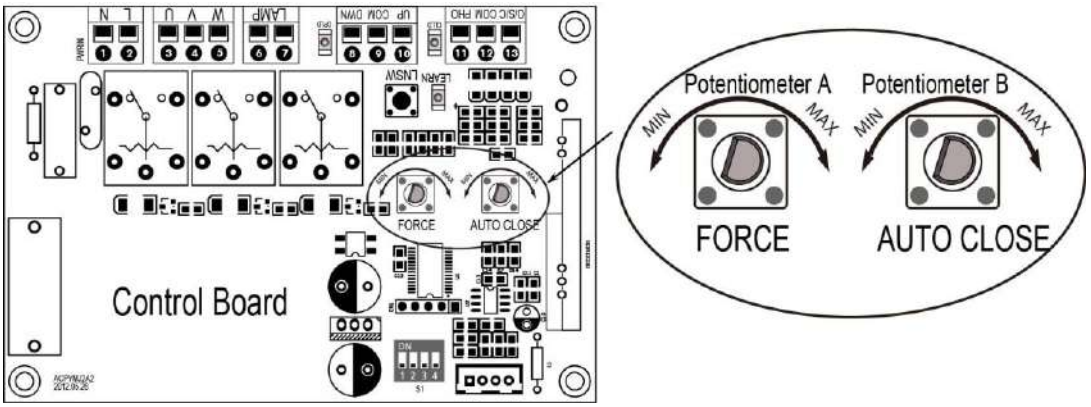
E.g. 

→ Auto close function of the opener has been enabled. Factory default setting is disabled.

DIP Switch #4: Left/Right open



2. Potentiometers
Potentiometer A and B are used to adjust the stall force and auto close time of the gate operator separately.
Turn **potentiometer A** clockwise to increase the stall force, and turn it counter-clockwise to decrease the stall force.
Turn **potentiometer B** clockwise to increase the auto close time, and turn it counter-clockwise to decrease the auto close time, the auto close time could be adjusted steplessly from 1 to 99 seconds.



⚠ **WARNING: Photocell is highly recommended to be installed with the gate opener as entrapment protection for safety when you set stall force to maximum.**

Test the Reversing Sensitivity

For the sake of safety, it is very important to test the reversing sensitivity as soon as the control board set is finished.

The reversing sensitivity adjustment is inverse correlation with stall force adjustment in potentiometer A. In other word, the stall force level is higher; the reversing sensitivity level is lower.

Put an immobile object along the gate path, and then operate the gate to strike it during the close cycles. The gate must reverse as soon as object is struck with it. If the gate doesn't reverse, please increase the reversing sensitivity by turning the potentiometer A in counter-clockwise direction. (Turning the stall force potentiometer toward to MIN position to increase the reversing sensitivity)

Note 1: If the sensitivity setting is too higher, the gate will stop or reverses very easy by itself while there is little obstruction or resistance such as strong wind or heavy snow sometimes.

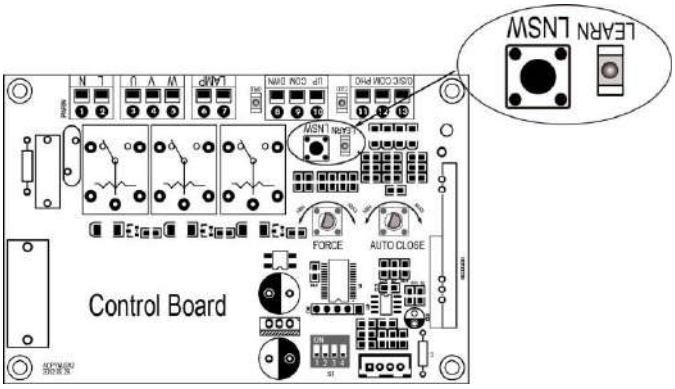
Note 2: Always check the gate reversing function every each time of control board set or restart after power off.

How to Program or Erase the Remote

- ✧ ***The remote MUST be programed to the opener BEFORE OPERATING. Please follow the steps to program the remote.***
- ✧ ***Activate the opener only when gate is in full view, free of obstruction and properly adjusted. No one should enter or leave gate area while gate is in motion. DO NOT ALLOW CHILDREN to operate push button or remote. DO NOT ALLOW CHILDREN TO PLAY NEAR THE GATE.***
- ✧ ***If you purchase additional remote controls, the gate opener must be programmed to accept the new remote code.***
- ✧ ***If you lose one of any remote control, please erase and reprogram all other remote controls to have a new code for safety.***

Program the remote

Press and release the **LNSW** button, the **LEARN LED** light will be on, and then press the key A or B on the remote twice in 2 seconds, the **LEARN LED** light will flash for 4 seconds. Now the remote has been programmed successfully.



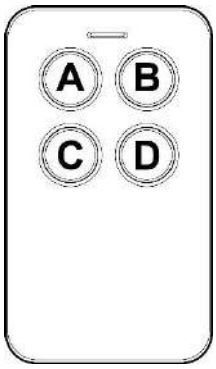
Erase all the remote codes

Press and hold the learn button until the **LEARN** light is off. Now all remote codes have been erased.

- ✧ **NOTE: Max. 8 remotes can be programmed for the opener. An External Receiver (optional) allows up to 250pcs remotes to be programmed for the opener.**
- ✧ **Our Universal External Receiver is also compatible with other brand swing gate opener, sliding gate opener and garage door opener.**

How to Use the Remote to Operate Your Gate Opener

Each remote has four buttons; they are button A, B, C and D. You may use this remote to operate as many as 4 sets swing gate openers or 1 set sliding gate opener and 2 sets swing gate openers.



1. Use this remote to only operate swing gate opener

A, B, C and D four buttons share same function once they are programmed with swing gate opener. You may choose any button to program it with our swing gate opener. Every press of the button is able to active the gate opener to work alternately (open-stop-close-stop-open).

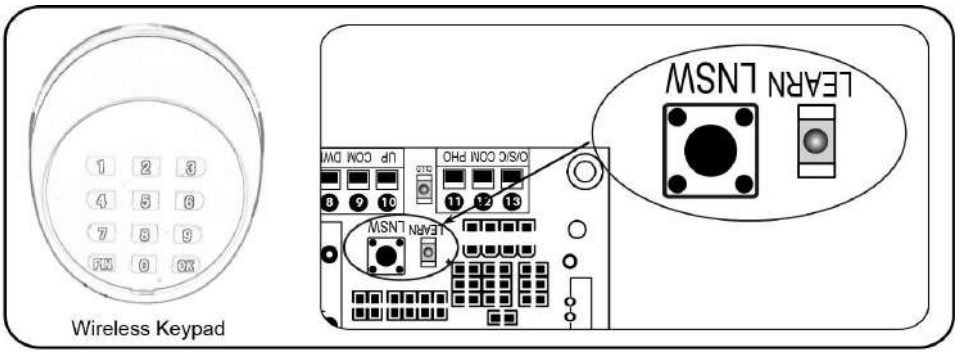
2. Use one remote to operate swing gate opener & sliding gate opener at the same time.

3. All of sliding gate opener have midway mode. Button B is designed to realize midway function (refer to more details in our sliding gate opener manual). So it is must program button A with sliding gate opener, while you may program either C button or D button with swing gate opener.

Wireless Keypad Programming

You can follow the below steps to program wireless keypad to the opener. Press the **LNSW** button until the **LEARN** LED is ON**,** and then releases the button. Then press "OK" button on keypad and **LEARN** LED will flash for 3 seconds and then be OFF which indicates the keypad has been programmed successfully. You can use the default password “888888” to operate the opener after programming. You can press “PIN” “8 8 8 8 8 8” and then press “OK” to confirm to operate the opener.

Also you can change the password of the keypad follow the below steps. Press “PIN” and then input the six digits old password and then press ”PIN” again, the **LEARN** LED will be ON. Input the six digits new password and then press the “PIN” to confirm the new setting, **LEARN** LED will flash for 3 seconds and then be OFF which indicates the password has been changed successfully. You can press “PIN” “6 digits new password” and then press “OK” to confirm to operate the opener.



NOTE: Every step for pressing button during program must be finished within 1 second to ensure successful programming.

Troubleshooting

Have a multimeter to check voltage and continuity. Use caution when checking high voltage terminals.

Symptom	Possible Solution(s)
The opener does not run.	1. Check the input voltage of the control board. It should be local AC electricity. 2. Check the fuse in the control board. Replace the fuse if it was burnt out. 3. Ensure the remote control has been programmed to the control board before operating. 4. The thermal protector is working because the high temperature after long working time. Please wait for 20 minutes to let the motor become cold. 5. Check the installing position of the limit magnets. The opener would not run if both of the limit switches are activated by one magnet. 6. Check the limit switch. Remove the wire connection of the limit switch which is connected to the 8#, 9#, and 10# terminals of the control board and then use a jumper wire to short the 3 terminals together to try it again. Replace the limit switch if the motor could run in both directions. 7. Check the control board. Replace the control board as necessary.
Remote control does not work.	1. The indicator light of remote control is not on. Check the battery in your remote control. Replace the battery as necessary. 2. The distance you use the remote is too far away from the opener. Try it again closer. 3. Remote control is not suitable for receiver. After making sure the codes are correct, erase remote controls and then re-program the codes in the device. 4. Check the control board. Replace the control board as necessary.
The gate starts but it is immediately stop or reverse	1. Check the wire connection of hall sensor board with the main control board. 2. The opening force or closing force is adjusted too small. Turn the Potentiometer A to increase the force. 2. Disconnect the gate from the gate opener and check that the gate slides freely without any binding. 3. Check the control board. Replace the control board as necessary.
The gate opens, but stops and will not return.	1. Check the installing position of the magnets. The opener would not run if both of the limit switches are activated by one magnet. 2. Check the limit switch. Remove the wire connection of the limit switch which is connected to the 8#, 9#, and 10# terminals of the control board and then use a jumper wire to short the 3 terminals together to try it again. Replace the limit switch if the motor could run in both directions. 3. Check the control board. Replace the control board as necessary.
The gate can open, but fails to close.	1. Photocell is obstructed. Remove obstruction. 2. Check the limit switch. Remove the wire connection of the limit switch

	which is connected to the 8#, 9#, and 10# terminals of the control board and then use a jumper wire to short the 3 terminals together to try it again. Replace the limit switch if the motor could run in both directions. 3. Check the control board. Replace the control board if necessary.
The gate will open automatically instead of close after the auto close time	Ensure the DIP 4# has been set correctly according to the installation for “Left Open” or “Right Open”
The motor runs but the gate doesn’t move.	Ensure the clutch for emergency release is adjusted properly and is not slipping.

Maintenance

Every six months check the following items for proper operation of the unit.

* Lubricate shafts and sprockets.

* Keep operator clean at all times.

* Check and tighten anchors bolts.

* Check for loose or corroded wire.

* Ensure the operator is well earthed, and correctly terminated.

* Always check the Stop/Reverse in case of obstruction function when performing any maintenance. If this function can’t be made operable, remove this operator from service until the cause of the malfunction is identified and corrected.

According to Waste of Electrical and Electronic Equipment (WEEE) directive, WEEE should be separately collected and treated. If at any time in future you need to dispose of this product please do NOT dispose of this product with household waste. Please send this product to WEEE collecting points where available.