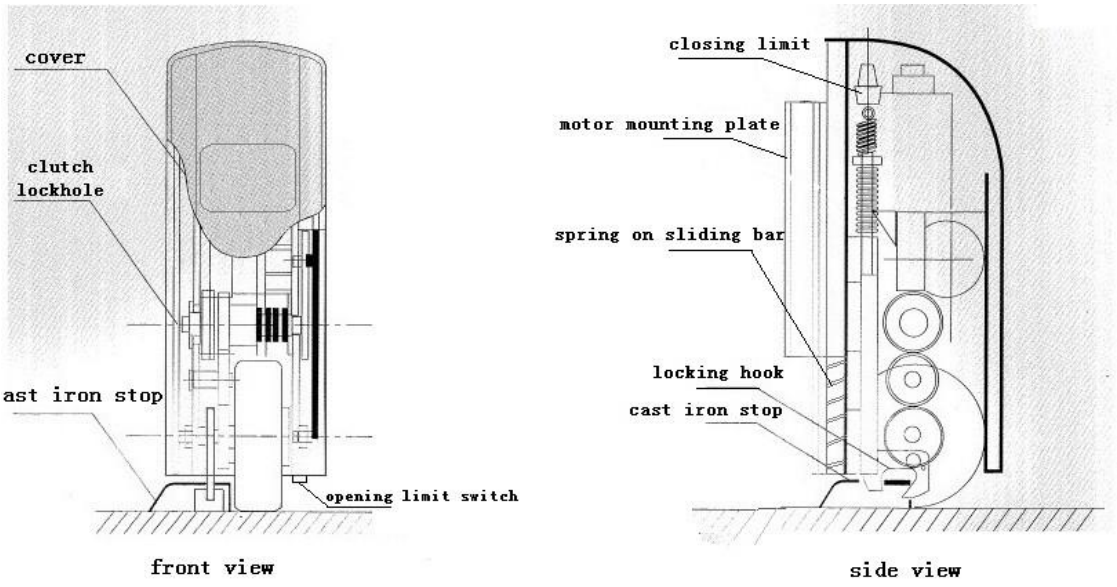
Swing Gate Operator
User's Manual

Ⅰ：Basic mechanic of SAINO SN series swing gate opener

Illustration 1: perspective internal structure of roller swing gate opener



Ⅱ: Methods to use th swing gate opener

A : Being driven by electricity

The swing gate openers can be electrically driven by pressing the buttons on the control panel. Thus the swing gate can be automatically opened , closed or its movement be suspended.

By using the remote controller, the function of automatic opening, closing or movement suspension can also be achieved.

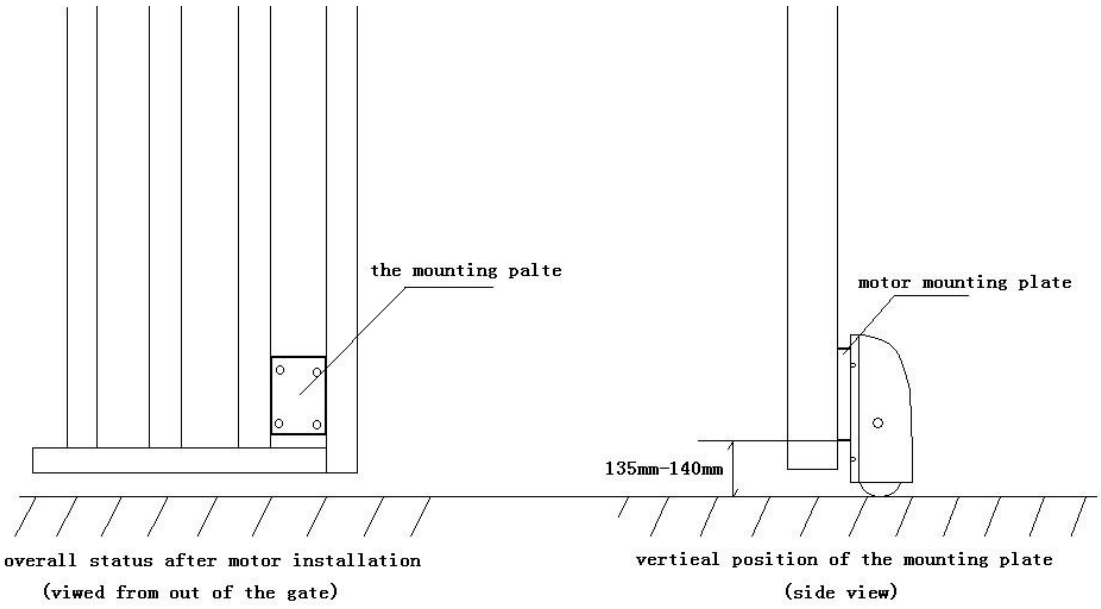
Or linked with and instructed by entry control system.

B : Manual operation

Manual opening: The user should insert the clutch key into the lock-hole and turn it clockwise, the clutch will be disengaged. Then the user can open the gate with hand.

Manual closing: The user firstly move the gate to the position nearing the cast iron stop. Then insert the clutch key into the lock-hole and turn it counterclockwise. As a result the clutch will be reengaged. Then push the gate into the fully-closed position. the clutch will be closed up automatically in the course.

Ⅲ: Installation (Illustration 2)



A : Installation of the motors

To install the motors, the mounting plates of the opener should first be mounted.

To decide the exact position for mounting the motor plate, we have to study the surface status of the ground on which the gate opener will run for operation. The overall unevenness of the ground surface should be under 8cm or the opener should be specially made. In that case, the tolerance to ground unevenness can be increased to 35cm.

Then find out and drive the gate wing to the point of the ground with the lowest position.

Put the motor plate in the position where the bottom edge of the plate is 135-140mm above the mentioned lowest point of the ground. And then fasten the plate to the gate with the bolts provided or by welding.

After the mounting plates are fixed, then the motors can be mounted on the plates.

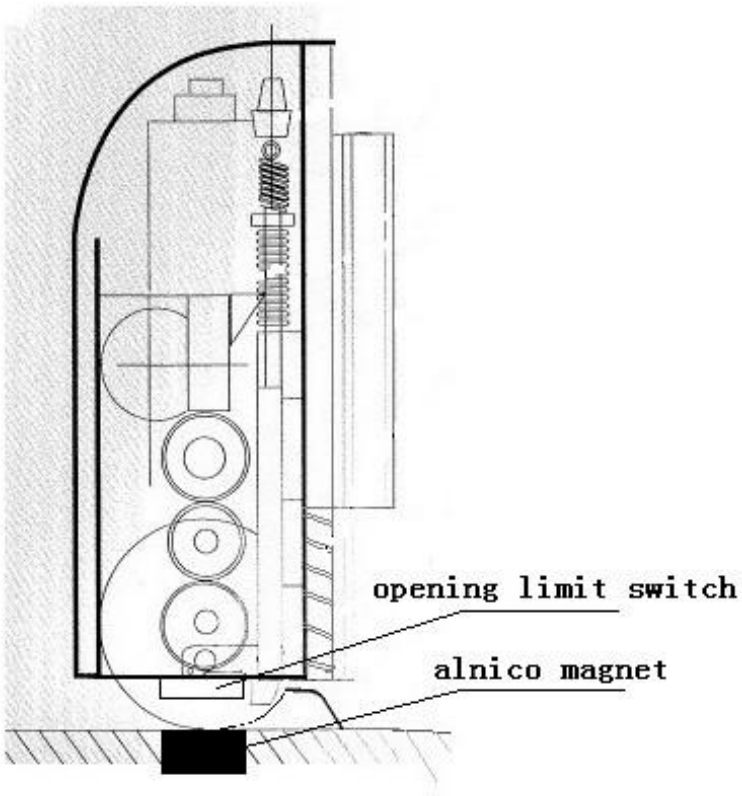
B : Installation of the cast iron stops

Move the gate to its fully-closed position, find out the position on the ground that is exactly vertically under the motor. Fasten the cast iron stop in this position.

Small tips:

1. There must be a clearance of 5-10mm between the stop and motor roller. Make sure of this by testing the gate opening and closing.
2. The two cast iron stops should not put exactly side by side. Instead one piece should be 5-10mm in front of the other. The purpose is to avoid the gate wings from bumping each other during the course of closing up.

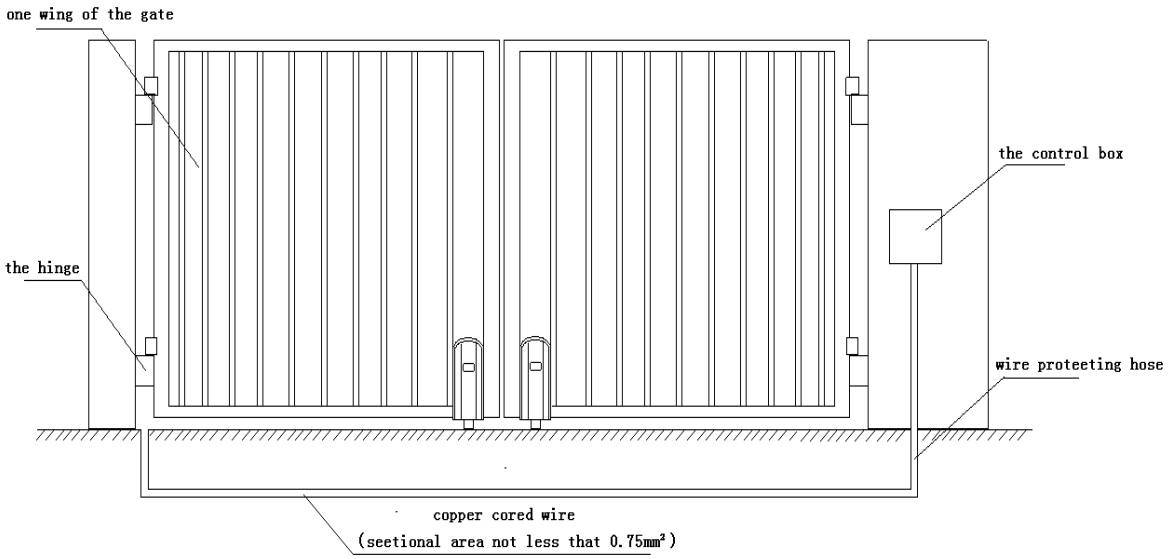
C The burial of alnico magnet



Move the gate wings to your desired opened-up position.
Then locate the opening limit switch at bottom of the motor.
Determine the point on the ground that is exactly vertically under the opening limit switch.
Then in this position of the ground bury the alnico magnet,with its upper side leveled with the ground surface.

D Wiring

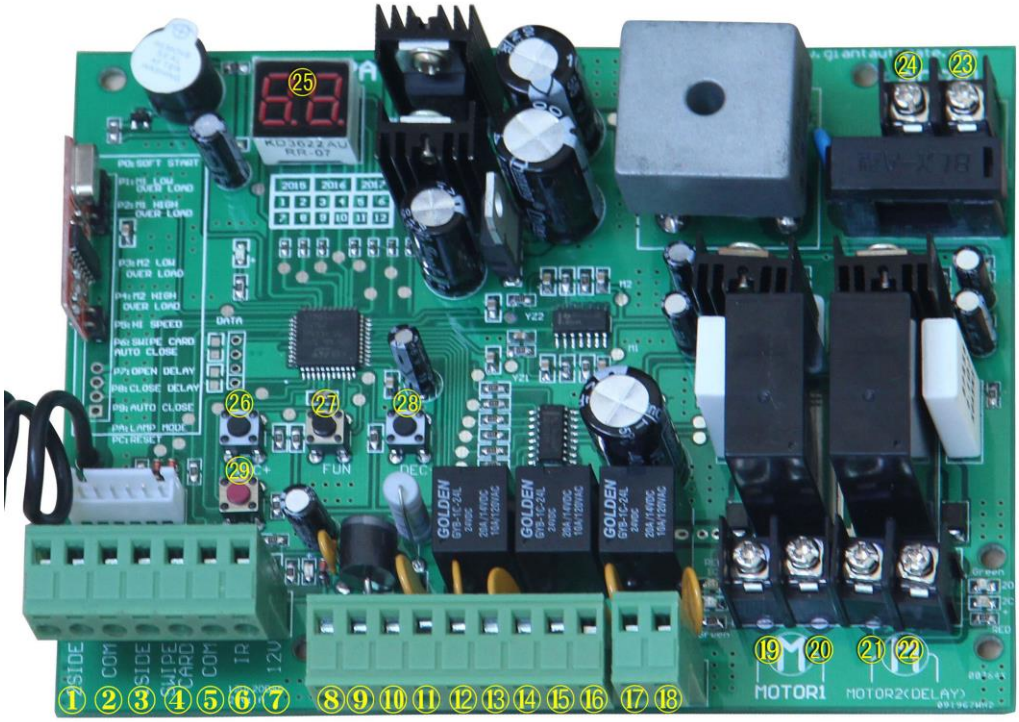
Please refer to the Illustration 4 for overall wiring.
For more wiring details concerning the control box,please refer to the Control Box Circuit Diagram.



Control board wiring diagram:

1. Technical Parameters:

1. Control Panel Voltage: AC24V, available for 24 V back up battery.
2. Applicable Range: Suitable for double arms swing gate opener.
3. Encoder For transmitter: Our own customized rolling code.
4. Support remote control: Can memorize 120PCS transmitters at most
5. Motor character: 24V DC motor x2



1. 2 SIDE terminal is used for connecting any external device that operates double gate
2. COM terminal is COMMON used for connecting the “ground” of external devices
3. 1 SIDE terminal is used for connecting any external device that operates single gate
4. Swipe Card terminal is used for connecting any external devices that will operate to open the gate
5. COM terminal is COMMON used for connecting the “ground” of external devices
6. Infrared terminal is used for connecting photo electric sensor
7. 12V DC output is used for connecting photo electric sensor (Continuous output current <=200mA)
8. 24V battery output is used for connecting the back up battery +
9. 24V battery output is used for connecting the back up battery -
10. 24V DC output is used for connecting external device. (such as photo electric sensor, max current output 1A)
11. GND is used for connecting the “ground” of external devices
12. 24V DC lamp output is used for connecting flash light +.
13. 24V DC lamp output is used for connecting flash light -.
14. 24V DC lock output—the NF terminal which used for connecting the electric lock
15. COM is COMMON used for connecting the “ground” of lock
16. 24V DC lock output—the NA terminal which used for connecting the magnetic lock
17. 24V DC alarm output
18. 24V DC alarm output
19. and 20. Motor1 terminal is used for connecting the motor 1 installed on the gate that opens later and close first. This terminal connect 1st red wire (counted from your left hand side to right hand side)
21. and 22. Motor2 Delay terminal is used for connecting the motor 2 installed on the gate that opens first and close later. This terminal connect 1st blue wire (counted from your left hand side to right hand side). NOTE! If for single gate, the gate motor just can connect the Motor2 Delay terminal.
23. AC24V input is used for connecting the transformer
24. AC24V input is used for connecting the transformer
25. digital display is used for showing you the setting data
26. INC+ is used for figure increase when setting the data
27. FUN is used for store the data
28. DEC- is used for figure decrease when setting the data
29. Learning button is used for program/remove remote

Remote control

Button “1” depressed to operate single gate; button “2” depressed to operate double gate; button “3” depressed for alarm output
Program new remote control:
First step:
Press the LEARN button on the control board for about 1 second, the indicator LED would turn off, then now means have already enter learning
Second step:

Press any button of the new remote control for about 2 second, then digital display would show the remote number while indicator LED on board starts flash four times with one buzzer sound then now means the learning successfully.
Note! After you press LEARN button, if not receive the new remote signal within 5s, indicator LED would turn on and exit learning.
Remove remote control:
Press and hold the LEARN button for about 5 second, if with one buzzer sound and indicator LED light on, then now means remove remote successfully.

Setting of the control board:

After power on, digital display will self-check from 00-99 with buzzer sound. If indicator LED light on, buzzer stop sound, it means the system is normal.
Basic operation method:
Press and hold the [FUN] button until the digital display shows PO. Now you enter the menu setting. You could through adjust the [INC+] [DEC-] to increase or decrease the serial number or numerical value. After data adjust well then press [FUN] to store the data. With one sound of buzzer, the store successfully. After store the data, the digital display would still on the menu number you just set, if you need to enter next menu setting, please press [INC+] or [DEC-] to choose and confirm with [FUN] to enter the menu number you want to set. Such as after you store the P0 value and press [FUN] to store it, then now the digital display would still show the number P0, and if you want go further to adjust P1, please press one [INC+], then digital display show P1, later press [FUN] to enter the P1 setting. And if you not need to enter next menu setting, you could press [LEARN] button to exit the menu setting.

1. To set the soft start time:
When digital display indicate P0, the gate opener is on the soft start time setting. The soft start time adjustable from 0-6s, 0s means close the soft start time, max soft start time 6s. Each time you press and release the [INC+] button, the figure increase by 1; each time you press and release the [DEC-] button, the figure decrease by 1. Press the [FUN] button to store the data when the soft start time chosen, then the soft start time setting finished (Factory set 2s).

2. To set the level of stall force:
2a-- When digital display indicate P1, the gate opener is on Motor 1 low speed running stall force adjustment. There is 0-20 levels for optional, each time you press and release the [INC+] button, the figure increase by 1; each time you press and release the [DEC-] button, the figure decrease by 1. Press the [FUN] button to store the data when the stall force level chosen, then the stall force of Motor 1 low speed running stall force adjustment finished. (factory set 6 level)
2b-- When digital display indicate P2, the gate opener is on Motor 1 high speed running stall force adjustment. There is 0-20 levels for optional. Each time you press and release the [INC+] button, the figure increase by 1; each time you press and release the [DEC-] button, the figure decrease by 1. Press the [FUN] button to store the data when the stall force level chosen, then the stall force of Motor 1 high speed running stall force adjustment finished. (factory set 10 level)
2c-- When digital display indicate P3, the gate opener is on Motor 2 low speed

running stall force adjustment. There is 0-20 levels for optional. Each time you press and release the [INC+] button, the figure increase by 1; each time you press and release the [DEC-] button, the figure decrease by 1. Press the [FUN] button to store the data when the stall force level chosen, then the stall force of Motor 2 low speed running stall force adjustment finished. (factory set 6 level)
2d-- When digital display indicate P4, the gate opener is on Motor 2 high speed running stall force adjustment. There is 0-20 levels for optional. Each time you press and release the [INC+] button, the figure increase by 1; each time you press and release the [DEC-] button, the figure decrease by 1. Press the [FUN] button to store the data when the stall force level chosen, then the stall force of Motor 2 high speed running stall force adjustment finished. (factory set 10 level)

3. To set the high speed running time:
When digital display indicate P5, the gate opener is on high speed running time setting. There is 0-33s for optional. 0s means without high speed running, gate opener would keep running in slow speed. Max high speed running time 33s. Each time you press and release the [INC+] button, the figure increase by 1; each time you press and release the [DEC-] button, the figure decrease by 1. Press the [FUN] button to store the data when the high speed running time chosen, then the high speed running time setting finished. (factory set 5s)

4. To set the auto close time after swipe card:
When digital display indicate P6, the gate opener is on auto close time setting **(** NOTE! this auto close time just means the auto close function which realize through external device-). There is 0-99s for optional. 0 means the gate opener would not auto close after swipe card. Max auto close time after swipe card 99s. Each time you press and release the [INC+] button, the figure increase by 1; each time you press and release the [DEC-] button, the figure decrease by 1. Press the [FUN] button to store the data when the auto close time after swipe card chosen, then the auto close time after swipe card finished. (factory set 10s)

5. To set the interval time:
5a. When digital display indicate P7, the gate opener is on open interval time setting. There is 0-10s for optional. 0s means double gates open simultaneously. “1” means the Motor 1 start to open 1 second before Motor 2 start to open. Max open interval time 10s. Each time you press and release the [INC+] button, the figure increase by 1; each time you press and release the [DEC-] button, the figure decrease by 1. Press the [FUN] button to store the data when the open interval time chosen, then the open interval time setting finished. (factory set 0s)
5b. When digital display indicate P8, the gate opener is on close interval time setting. There is 0-10s for optional. 0s mean double gates close simultaneously. “1” means the Motor 2 start to close 1 second before Motor 1 start to close. Max close interval time 10s. Each time you press and release the [INC+] button, the figure increase by 1; each time you press and release the [DEC-] button, the figure decrease by 1. Press the [FUN] button to store the data when the close interval time chosen, then the close interval time setting finished. (factory set 0s)

6. To set auto close time:
When digital display indicate P9, the gate opener is on auto close time setting. There is 0-99s for optional. 0s mean the gate opener would not auto close. Max auto close time is 99s. Each time you press and release the [INC+] button, the figure increase by 1; each time you press and release the [DEC-] button, the figure decrease by 1. Press the [FUN] button to store the data when the auto close time chosen, then the auto close time setting finished. (factory set 0)

7. To set lamp/alarm output control:
When digital display indicate PA, the gate opener is on lamp/alarm output control setting. There is 0-3 for optional. “0” means the alarm on monostabillity model and the lamp without voltage output after the gate total close 30s, other time with voltage output. “1” means the alarm on monostabillity model and the lamp would only flash when gate running. “2” means the alarm on bistabillity model and the lamp without voltage output after the gate total close 30s, other time with voltage output. “3” means the alarm on bistabillity model and the lamp would only flash when gate running. Each time you press and release the [INC+] button, the figure increase by 1; each time you press and release the [DEC-] button, the figure decrease by 1. Press the [FUN] button to store the data when the auto close time chosen, then the lamp/alarm output control setting finished. (factory set 0)

8. To set lock time:
When digital display indicate Pb, the gate opener is on lock time control setting. The lock control time means the time we could control the lock. There is 0-1 for optional. “0” means the lock control time is 0.5s, “1” means the lock control time is 5s. Each time you press and release the [INC+] button, the figure increase by 1; each time you press and release the [DEC-] button, the figure decrease by 1. Press the [FUN] button to store the data when the lock control time chosen, then the lock time setting finished. (factory set 0)

9. To choose single/double gate open:
When digital display indicate PC, the gate opener is on single/double gate open setting. There is 0-3 for optional. “0” means the gate could not open by remote, “1” means just can open one single gate, “2” means can just open two leaf gate, “3” means can open one single gate as well as two leaf gate. Each time you press and release the [INC+] button, the figure increase by 1; each time you press and release the [DEC-] button, the figure decrease by 1. Press the [FUN] button to store the data when the single/double gate open chosen, then the remote button setting finished. (factory set 3)

10. To choose photocell work in NC or NO
When digital display indicate Pd, you could choose the photocell work in NO or NC. Value 00 means work in NO, value 01 means work in NC.

11. To reset:
When digital display indicate Po, the gate opener is on rest setting. After enter Po setting, press the [FUN] to store and then now the reset successfully.