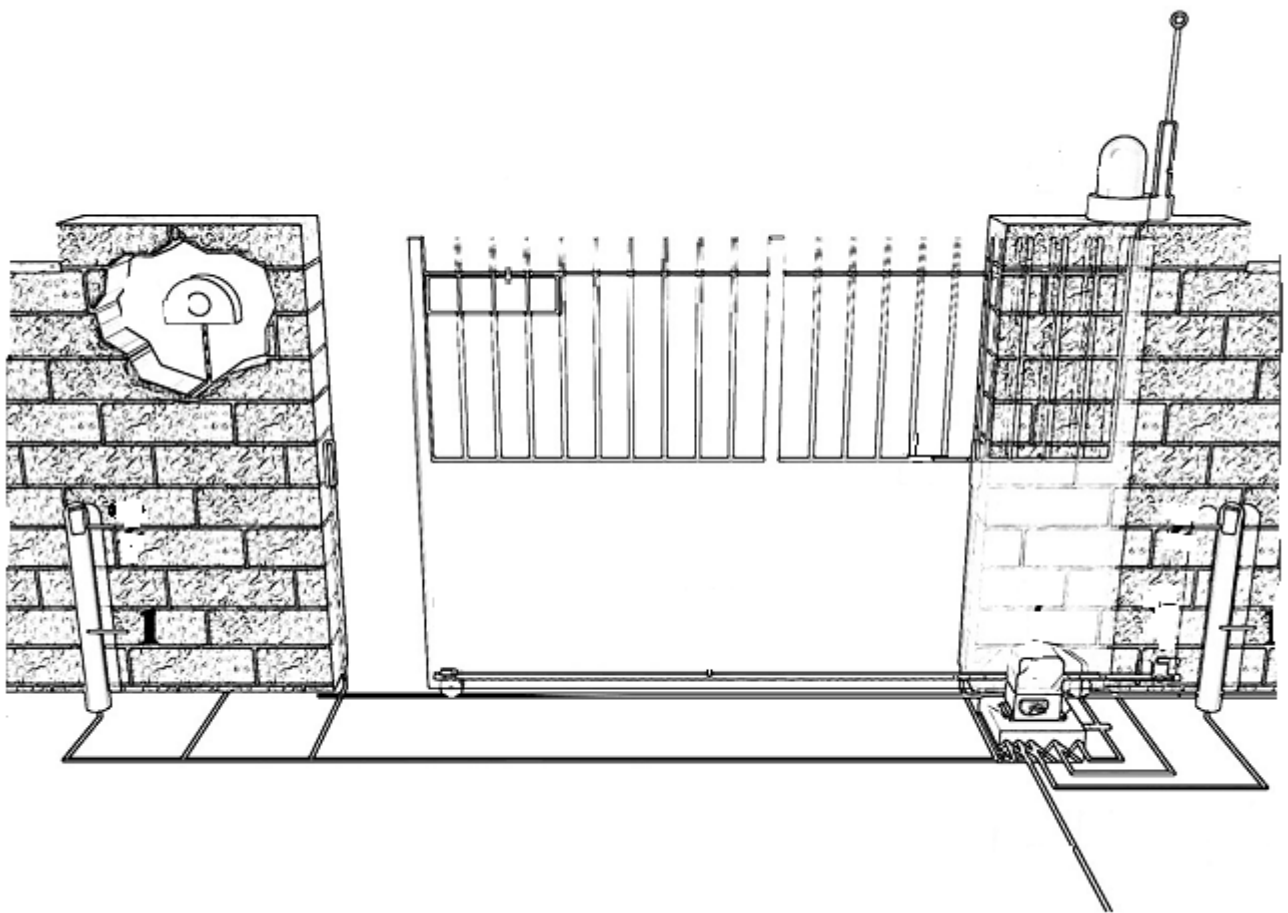


SLIDING GATE OPERATOR

USER'S MANUAL

SCG –18/ 22/35/38/45

(MAGNETIC LIMIT SWITCH)



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1. Important safety precautions

Carefully read and follow all safety precaution and warnings before attempting to install and use sliding gate operator, incorrect installation can lead to severe injury.

- Installing the sliding gate operator requires installation of standard 110V electrical wiring. This work should only be performed by a trained technician. Miswiring could cause personal injury or DEATH.
- To prevent the risk of electrocution, be sure to turn off all power to the machine until installation is complete.
- The gate operator should be installed by a qualified technician; otherwise, serious personal injury or property damage may occur.
- Before installation, the clutch should be unlocked.
- The auto-reverse function must be checked during installation to ensure that the gate can auto-reverse in the event of obstruction.
- This auto-reverse function should be regularly inspected and adjusted, if necessary.
- When opening or closing the gate, do not attempt to walk or drive through the gate.
- Do not touch the gate while it is in operation.
- Children should not be allowed to play near or operate automatic gate.
- The automatic gate operator must be grounded.
- Install the gate operator on the inside of the property, DO NOT install it on the outside of the property where the public has access to it.
- Be careful when in close proximity to moving parts where hands or fingers could be pinched.
- Additional safety equipment such as photoelectric sensors, safety edges, roller guards and warning signs must be installed to prevent injury.
- Do not allow control devices to be placed so that a person can access them by reaching through the gate.
- In the event of power failure, an emergency release key allows you to operate the gate manually.
- The operator should be switched off before repairing it or opening its cover.
- Please erase and reprogram the code after installing the operator.

2. Main features

- Infrared safety beam interface.
- User programmable and user erasable remote codes.
- RF hopping code technology prevents your remote code being accessible to others.
- Supports up to 100 remote controls.
- For your safety, the machine will stop and reverse if it encounters an obstruction on closing and stop when it encounters an obstruction on opening.
- Manual key release design for emergency purposes.
- Auto-close feature is available for this operator.
- Pedestrian mode.
- Single Phase Motor.

3. Main technical parameters

ITEM NO.	18	22	35	38	45
Power supply	AC230 /120V	AC230 /120V	AC230 /120V	AC 380V	AC230 /120V
Motor speed	1400 RPM	1400 RPM	1400 RPM	1400 RPM	1400 RPM
Output Torque	22Nm	27Nm	35Nm	38Nm	45Nm
Gate speed	12 m/min	12 m/min	12 m/min	12 m/min	12 m/min

Max gate weight	700 KG	1 TON	1.2 TON	1.5 TON	2 TON
Working temperature	-45 - +65	-45 - +65	-45 - +65	-45 - +65	-45 - +65
Noise	56dB	56dB	56dB	56dB	56dB
Protection class:	IP44	IP44	IP44	IP44	IP44

4. Necessary Tools

The following tools may be necessary to install the Sliding Gate operator. You will need screwdrivers, an electric drill, wire cutters and a wire stripper, a socket set, and possibly access to a welder.

5. Site Preparation

Before you begin the operator installation, the gate should be mounted and moving freely, there should be little resistance in the movement of the gate. The gate and post must be suitable for being automated. 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 machine is powered by 110V/60Hz AC power, therefore if you have not already done so; wire a waterproof outlet near the gate following proper safety standards for your area. If you are not experienced with this type of wiring or if your area requires it, hire a professional electrician to perform this as well as wire in the machine in the electrical section. The machine requires at least a 10A service. Make sure your electrician takes into account the voltage drop involved in running many feet of wire to your installation location. If an insufficient gauge of wire is used, there will be insufficient power at the site to operate the operator.

Parts List

Item	Quantity
Sliding gate operator	1
Operator Base	1
Remote control	2
Master Links	2
Chain	1
Chain Bolts	2
Chain Brackets	2
"U" Bolts for square & round gate frame	4
2 ¾_ (M8x 70mm) Bolts for mounting operator to the base and washers	4
2 ½_ (M8x65mm) Bolts for mounting Magnet brackets and washers	4
3 ¾_ Anchor bolts, Anchors, Washers and Nuts (In the same bag with manual release key)	4
5/8_ (M8x15mm) Socket Head Cap screws for mounting chain box	4
Manual release key	2
Magnet brackets	2
Magnets	2
User's manual	1

6. Mechanical Installation

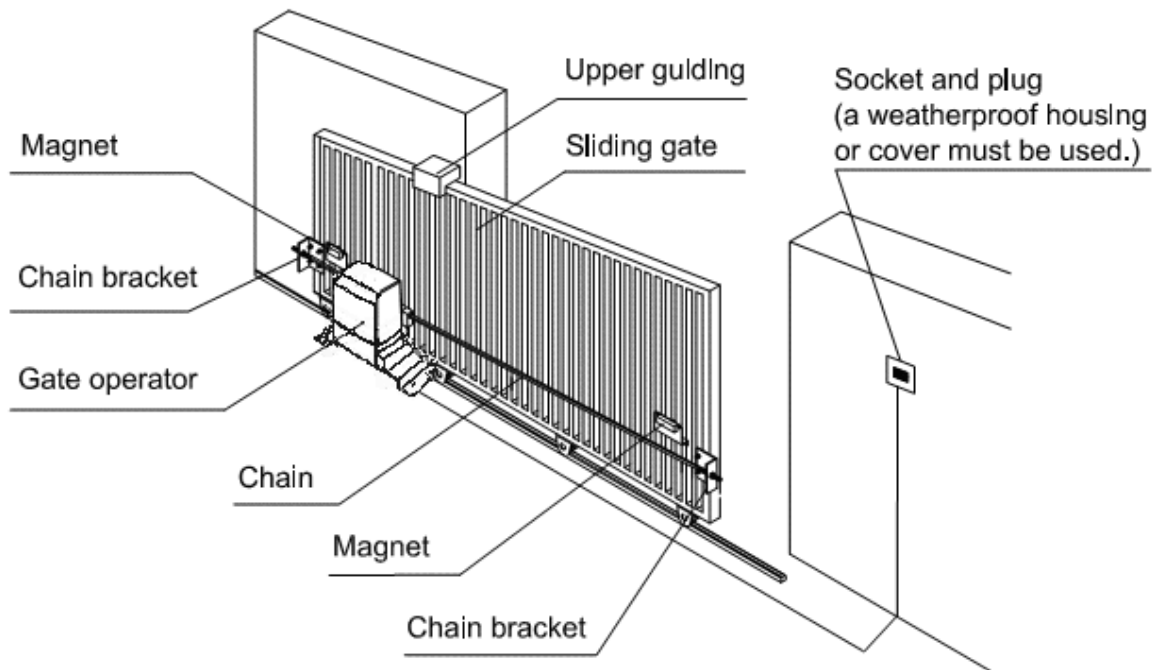


Fig.1

Installation and Adjustment

The Chain-driven Gate Operator operates by forcing a straight piece of chain through its chain box. This length of chain is extended between two chain brackets located at opposite ends of the gate. The entire configuration is shown in the diagram above.

Concrete Pad

The base unit of the gate operator requires a concrete pad in order to maintain proper stability. Once the gate is mounted adequately, electrical power is available, and the concrete pad is poured, you are ready to proceed.

Anchors

You can use the anchors that are provided with the operator. These anchors must be set into the concrete when it is poured, or you can use wedge anchors.

Operator Base

Mount the gate operator base to the concrete pad. Verify that the operator is leveled properly.

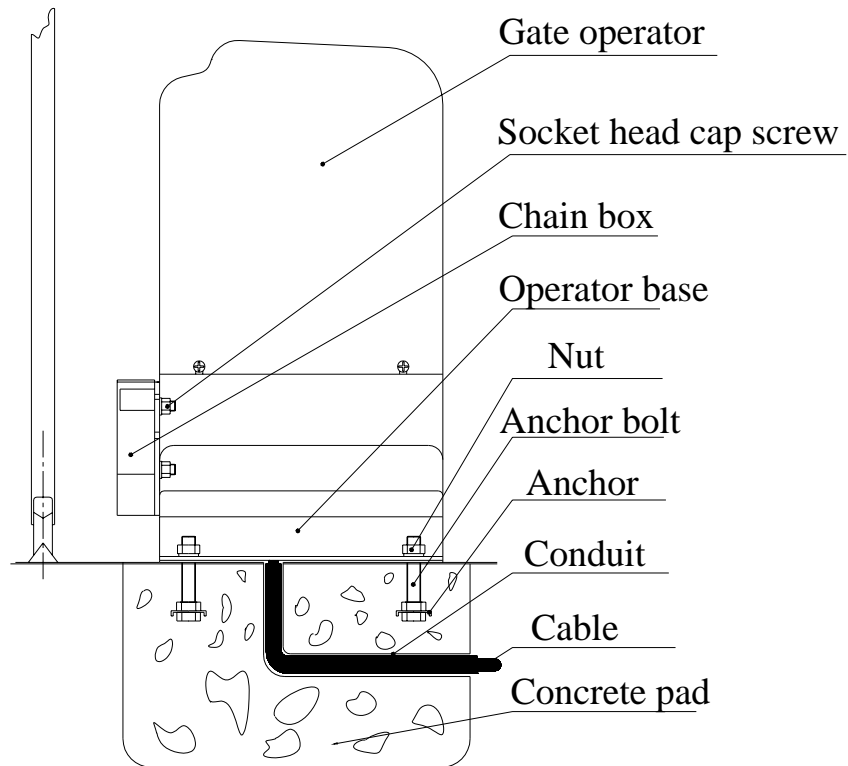


Fig.2

Chain Box

Make sure the ends of the guide chain are out of the chain holes on both sides of the chain box. Remove the cover and insert the manual release key and turn counter-clockwise to disengage the clutch. Remove the elastic band from the shaft and line up the key on the shaft with the sprocket at the chain box. Insert the sprocket from the chain box into the operator shaft. Place the operator on top of the base and use socket head cap screws to mount the chain box in to the base.

Operator

Mount the gate operator to the base using bolts and washers. Check the operator and make sure it is lined up with the gate.

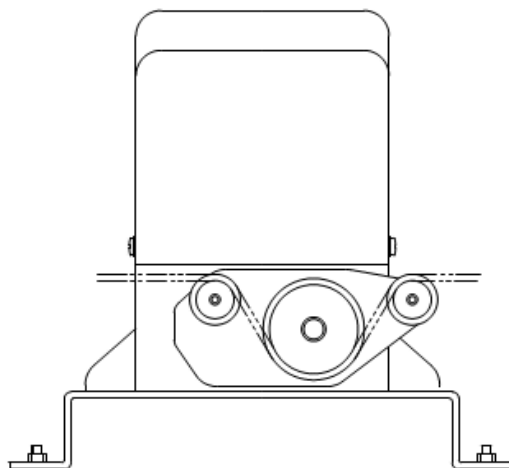


Fig.3

Chain Brackets

Use the appropriate bolts to attach the chain bracket to the frame of the gate. If the gate is of square frame style, use the square bolts shown.

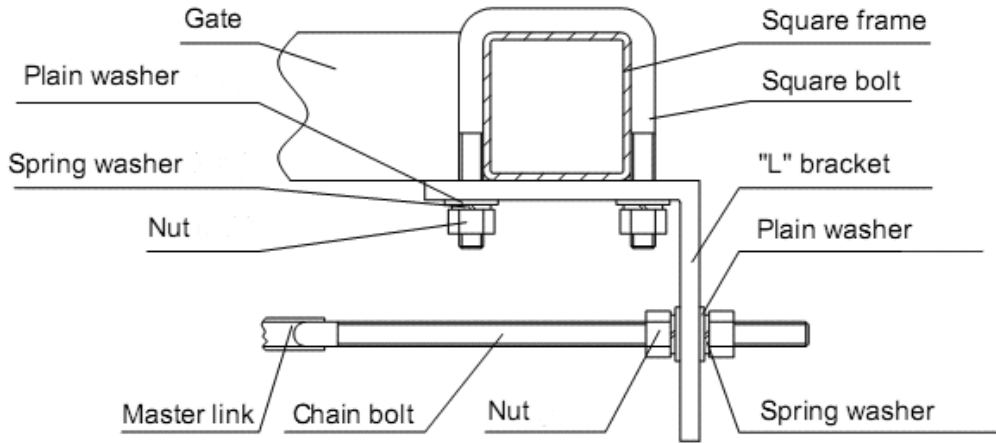


Fig.4

If the gate is of round frame style, use the round bolts shown.

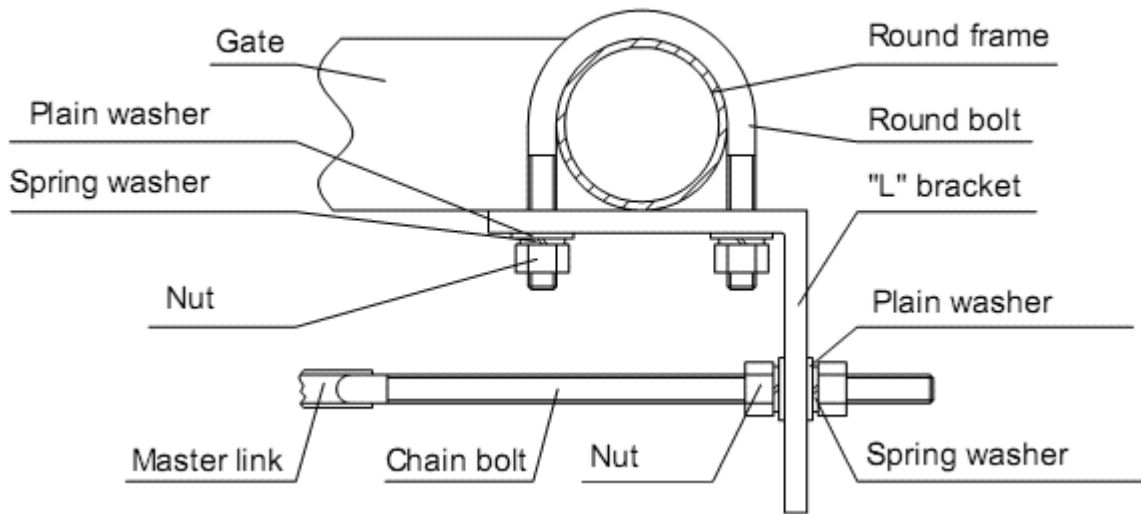


Fig.5

Chain

Close the gate and attach a chain bolt to the piece of chain that comes with the chain box using enclosure master links. Tighten the chain bolt to the bracket with washers and nuts. Pull the chain through the chain wheel box to the other chain bracket at the opposite end of the gate. Connect the other end of the chain and the chain bolt, and then tighten the chain bolt to the chain bracket. Thread up the chain by adjusting the chain bolt. Cut the chain to length if necessary. Make sure that the chain is perfectly aligned with the chain holes on the chain box. Tighten the chain by tightening the chain bolts at either end. See illustration below.

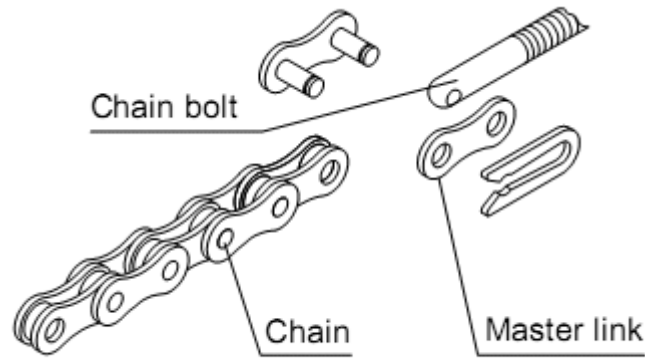


Fig.6

Magnets for Limit Switch

Install the magnet and magnetic limit switch as shown in Fig.7. The magnet and limit switch are used to control the position of the gate. When the magnet is installed, release the gear clutch and push the sliding gate manually to pre-determine the position. Fit the magnet bracket to the gate and then tighten the gear clutch. The lower bracket is for open position and higher bracket is for close position. Finally adjust the magnet to the proper position by moving the gate with the motor. Adjust the position of the magnetic limit switch until the positions of the opening and closing meet the requirement. Important Note: Please note the two magnet brackets (fixed plate) are different: one is higher and another is lower. Verify and if necessary exchange the two brackets position. Also if necessary exchange the limit switch wires CL (close) and OP (open).

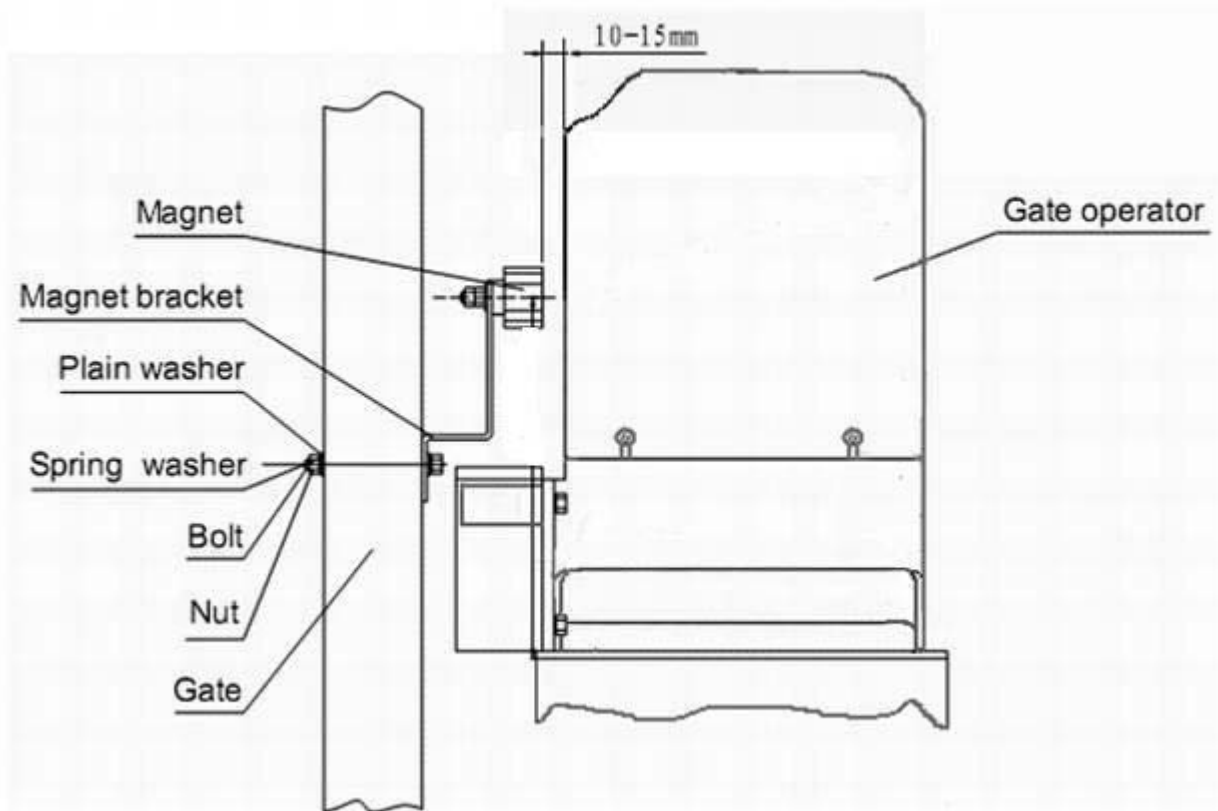


Fig.7

Control board scheme

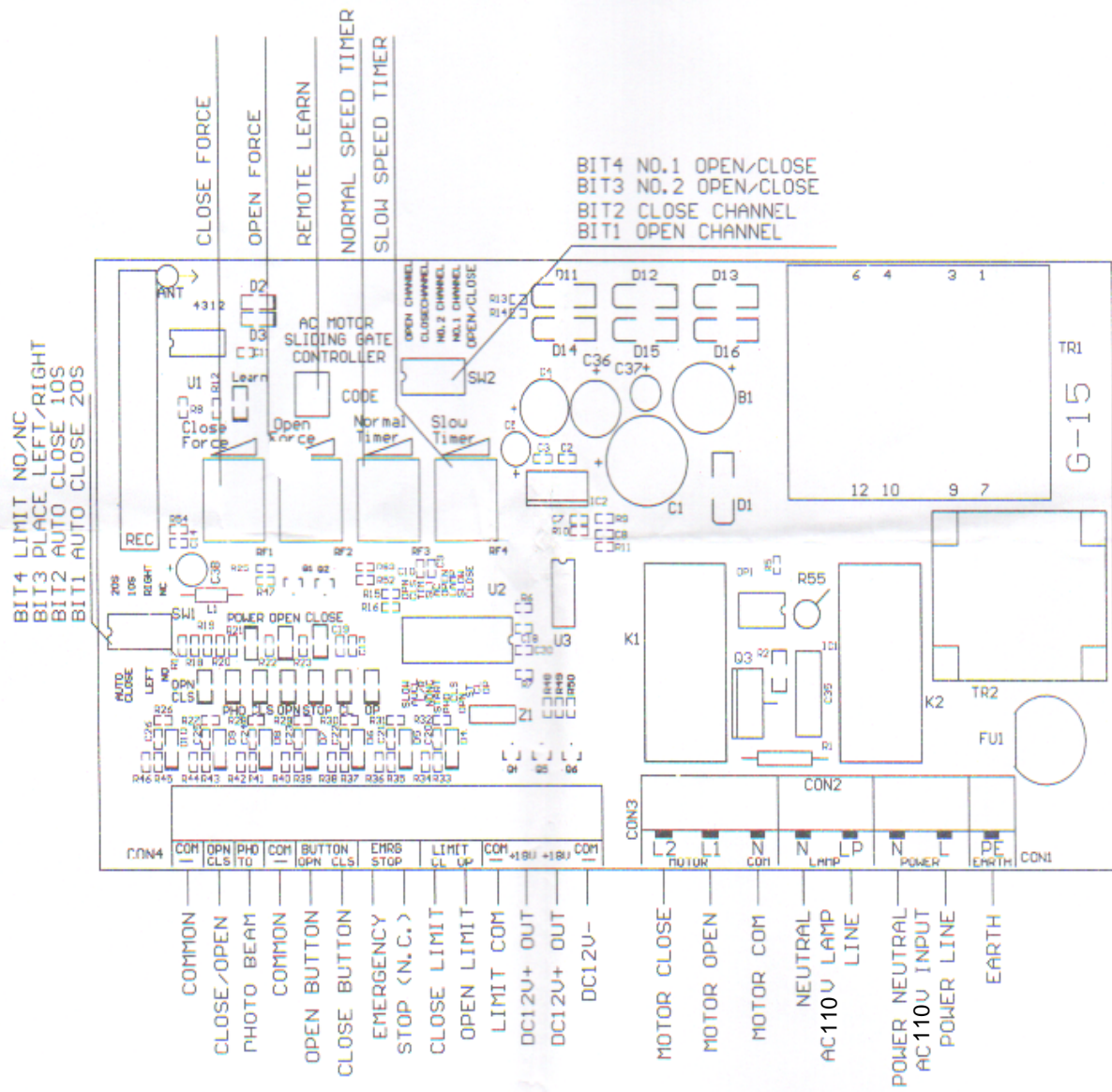


Fig.7

Wiring notes for control board

IMPORTANT!

PLEASE READ ALL INSTRUCTIONS BEFORE BEGINNING ANY CONNECTIONS.

MAKE SURE 110VAC POWER SOURCE IS DISCONNECTED, BREAKER IS OFF AND NO ONE IS GOING TO BE WORKING ON THE POWER SUPPLY!

Electrical Connections:

The Hot Line from source attaches to the POWER L (21) tab on the board

The Neutral Line from source attaches to the POWER N (20) tab on the board

The EARTH PE (22) wire from source attaches top the chassis on the unit

The common wire from motor should be connected to the COM N (17) tab on the board

The clockwise rotation wire from motor should be connected to the MOTOR L1 (16) tab on the board

The counter clockwise rotation wire from motor should be connected to the MOTOR L2 (15) tab on the board

The lamp wire should be connected to the LAMP N and LP (18,19) tab on the board

Other Electrical Connections:

Connector (CON4) has been provided for connecting all the individual devices to the main computer on the board all signal inputs are connected here to the main processing unit with a signal wire and ground. More information will be provided later on.

Connector (CON4) has been made available for 18VDC auxiliary outputs. You may use these for your other devices power needs, such as the sensors used in your particular installation.

Overload Detection:

The Control Board is equipped with an overload detection circuit, which will detect some obstruction in the gates path.. The sensitivity is adjustable with the potentiometer labeled (RF2) for open and labeled (RF1) for close.

The Overload must be adjusted to the most sensitive setting possible without causing self-tripping due to the gates inherent friction. Try re-adjusting the potentiometer several times by small increments testing the gate in both directions of travel until you are satisfied. Clockwise rotate increase the force. Counter clockwise rotate decrease the force.

TERMINAL BLOCK CONNECTIONS

1	2	3	4	5	6	7	8	9	10	11	12	13	14
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1-common- 2-open/stop/close/stop cycle button 3-photo beam 4-common- 5-open button 6-close button 7,8-emergency stop 9-close limit 10-open limit 11-limit com 12,13-DC18V+ 14-DC18V-
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INPUT	FUNCTION	TYPICAL DEVICES
5-7 open limit (N.O.orN)	1-Stop when completely open	Limit switch
6-7 close limit SW	1-Stop when completely closed	Limit switch
3-4 (N.C.) photo beam	1-Reverse if closing 2-Reset Timer (if used) 3-Disables closing	Safe edge Safety photo beam Safety loop
4-5(N.O.) open	1-Open 2-Reverse if closing 3-Reset timer (if used)	Open push button Card reader Key pad
1-2 (N.O.) alt OPN/CLS	1-Open 2-Close from full open 3-Stop from opening	Radio control Single push button Single key switch
1-7(N.O.) close	1-Close	Close push button
7-8(N.C.) emergency stop	1-Stop when motor open and close	Emergency stop push button

15	16	17	18	19	20	21	22
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15-motor counter clockwise rotation 16-motor clockwise rotation 17-motor common wire 18,19-lamp 20-110VAC neutral line 21-110VAC hot line 22-earth wire

8. Tuning and operation

Motor run timer:

The potentiometer labeled (RF3) is for normal speed timer and labeled (RF4) for slow speed timer. Timer is from 2 seconds to 70 seconds. Clockwise rotate increase the time. Counter clockwise rotate decrease the time. Turn off the power, wait for a moment (2 seconds). Turn on the power to enable the adjustment.

Remote Push Button Select:

To select NO. 1 push button you must flip the rocker arm (position 4) to the ON position in the switch (SW2). The button will cycle from open to stop and close

To select NO. 2 push button you must flip the rocker arm (position 3) to the ON position in the switch (SW2). The button will cycle too.

To select NO. 4 push button you must flip the rocker arm (position 2) to the ON position in the switch (SW2). The button is close only.

To select NO. 3 push button you must flip the rocker arm (position 1) to the ON position in the switch (SW2). The button is open only.

Limit switch N.C./N.O. Selector:

The position 4 in the switch (SW1) is limit switch N.C./N.O. selector.

Limit switch is N.O. you must flip the rocker arm (position 4) to the OFF position in the (SW1)

Limit switch is N.C. you must flip the rocker arm (position 4) to the ON position in the (SW1)

Turn off the power, wait for a moment (2 seconds) than turn on the power to enable the selection.

Left/right Hand Selector:

The position 3 in the switch (SW1) is L/R hand selector

Left hand place, you must flip the rocker arm (position 3) to the OFF position in the switch (SW1)

Right hand place, you must flip the rocker arm (position 3) to the ON position in the switch (SW1)

Change the position 3 in the switch (SW1) can change the open direction and close direction. Turn off the power, wait for a moment (2 seconds) than turn on the power to enable the selection.

Auto Close Timer:

(position 1 and position 2) in the switch (SW1) is use for auto close timer

To enable the auto close timer, you must flip the rocker arm (position 1 or position 2) to the ON position in the (SW1). Position 1 to on is 20 seconds. Position 2 to on is 10 seconds. Position 1 and position 2 together to on is 30 seconds.

To disable the auto close timer, you must flip the rocker arm (position 1 and position 2) to the OFF position in the (SW1)

Turn off the power, wait for a moment (2 seconds) than turn on the power to enable the selection.

Learn The Remote:

Press the code button on the board for 1 second, release the learn button, then press the transmitter for 1 second and release. The remote has been learned.

Erase The Remote:

Keep pressing the learn button on the receiver for 20 second, release the learn button. All remote has been erased.

9. Check

- Check the power supply, grounding and wiring before running the device.
- Release the disengagement mechanism with the release key to determine whether or not the gate can be moved manually. If everything is in good working order, tighten the disengagement mechanism with the key.
- Switch the power on and run the device to ensure that the gate is sliding smoothly.
- Adjust the magnet position until the gate opened and closed properly at the limited positions.
- The motor is only designed to work for less than 5 minutes. If it runs continually for an extended period of time, a thermal protector will stop it because of the high temperature.

10. Maintenance

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

- Check the chain lubricant and add 2# grease regularly.
- Lubricate shafts and sprockets.
- Keep operator clean at all times.
- Check and tighten anchor bolts.