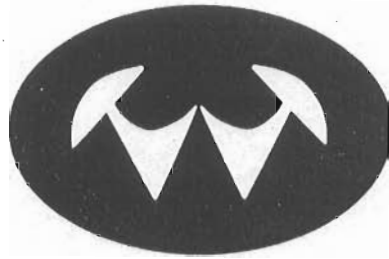


# LS-22 SLIDING GATE OPERATOR

## USER'S MANUAL



## LS SERIES SLIDING GATE OPERATOR USER'S MANUAL

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*Congratulation on the purchase of LS series sliding gate operators, please read the instructions carefully before proceeding.*

### **1. Main functions**

- The device is used to drive the sliding gate.
- Auto-reverse function.
- Infrared terminal (N.C or N.O) is supplied to use.
- Memory card can be unplugged.
- Release function: gate can be moved manually in case of power failure.

### **2. Main specifications and technical parameters**

- Power supply: AC 220V, 50Hz (AC110V, 60Hz)
- Power: 550W
- Maximum weight of gate: 1200KG
- Motor speed: 1400 r/min
- Output torque: 21N · m (It can be adjusted)
- Gate moving speed: 12m/min
- Limit switch: magnetic limit switch
- Remote control operating distance: 50m Frequency: 433.92MHz
- Remote control mode: single-button mode
- Auto-close time: 7-70 sec.
- Working time: 4hours
- Noise :  $\leq 56$ dB
- Environmental temperature:  $-45^{\circ}\text{C} \text{ --- } +65^{\circ}\text{C}$

### 3. Working principle and main structure

- The device is composed of a single-phase motor, worm and worm gear. The main shaft of the motor rotates the worm with the clutch engaged; the worm rotates the worm gear and output gear, which pushes rack attached to the sliding gate; thus moving the gate. The main size of the figuration can be seen in Fig.1.

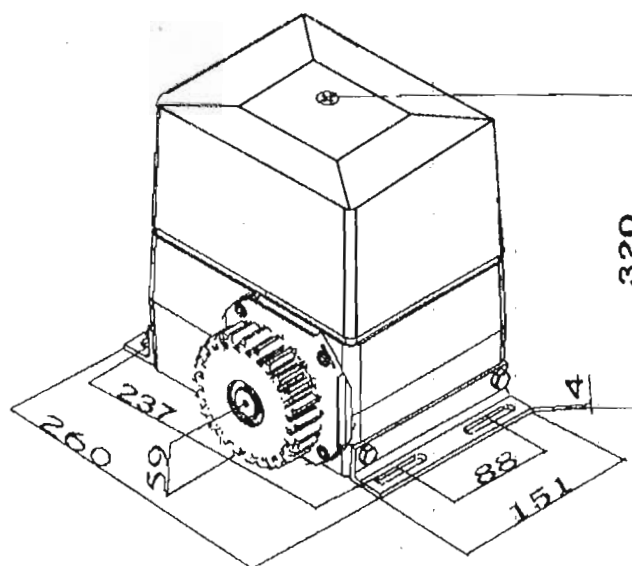


Fig.1

- The structure of the motor and worm is shown in Fig2. The pressure screw can be adjusted, press (or release) the spring to increase (or decrease) the pressure and the output strength as well.
- The structure of the worm gear components is shown in Fig.3. It includes a pair of plastic gear clutches, in case of power failure you

LS SERIES SLIDING GATE OPERATOR USER'S MANUAL

can use the key to release the clutch, and then the gate can be moved manually.

- The device is well lubricated and cooled by the cooling oil (#25 transformer oil), which fills the whole device, including the stator, the rotator of the motor, the worm gear and the worm.

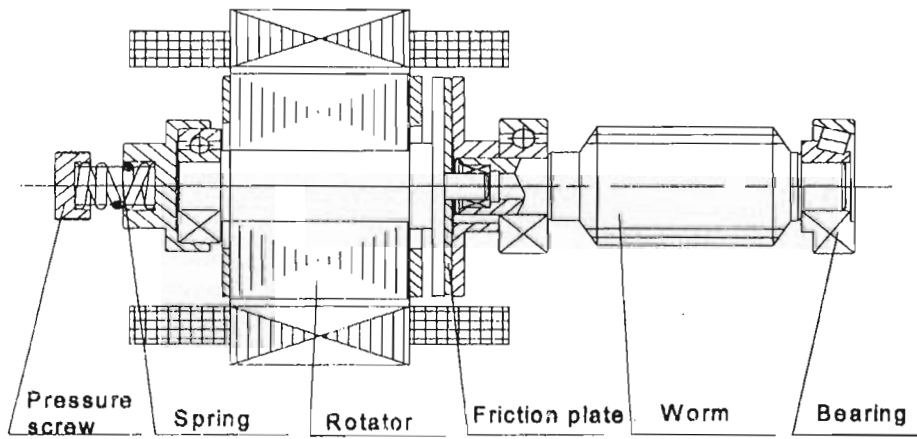


Fig.2

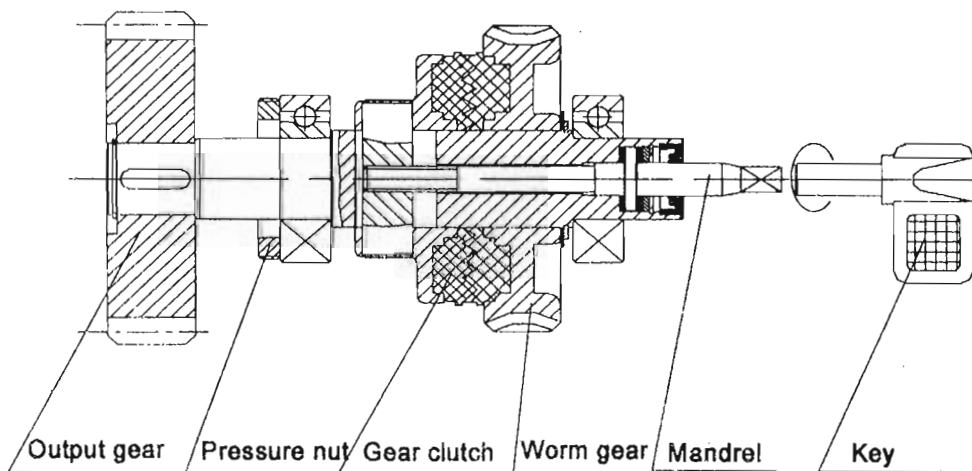


Fig.3

- The device is installed with a thermal protector, the thermal protector will switch off the motor automatically in case of temperature is higher than  $95^{\circ}\text{C}$  and switch on the motor automatically when the temperature is lower than  $60 \pm 5^{\circ}\text{C}$ .

#### 4. Installation and adjustment

- The gate operator and the sliding gate should be installed according to Fig.4. It is recommended to install limit devices at both ends of the gate to prevent the gate from sliding out of the rails. The rails must be installed horizontally.

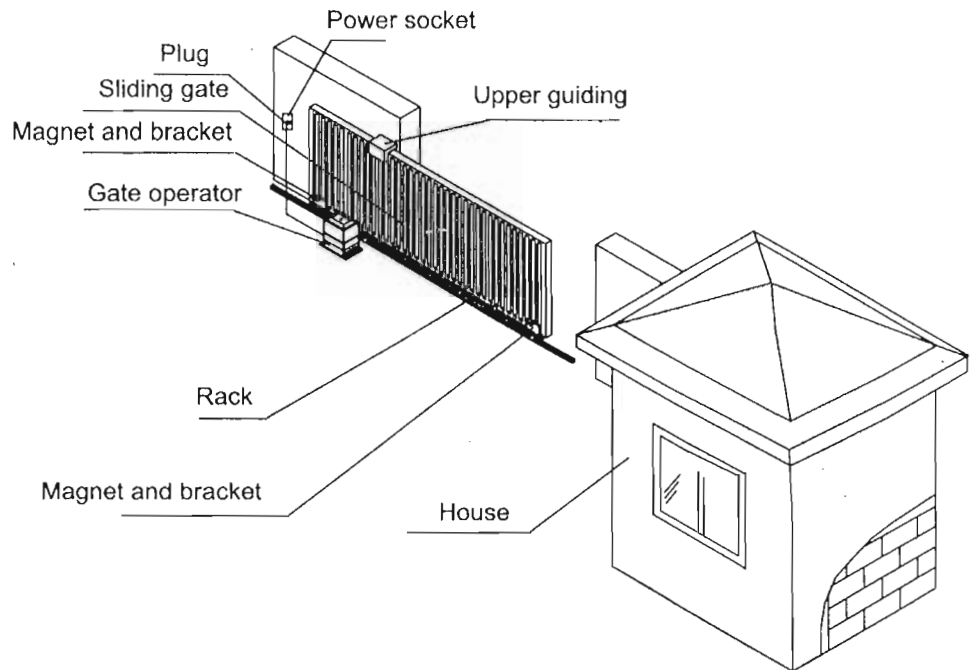


Fig.4

- Installation of the gate operator: you can fix the foundation of the gate operator as shown in Fig.5. A pipe/pipes \* must be used to protect the power lead. Then fix the motor on installation pad.

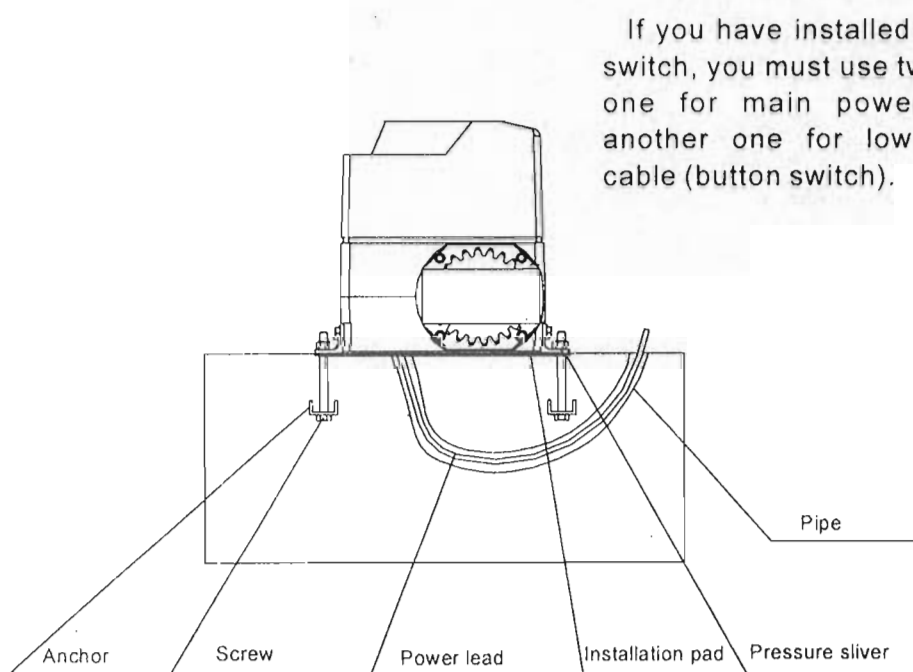


Fig.5

- Installation of rack

Fix the rack to the gate with screws and adjust the position of the rack so that the rack can be engaged correctly with gear. The space between rack and gear should be 1mm.

- Magnets for limit switch

Install the magnet and magnetic limit switch as shown Fig.6 and 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. Solder the magnet bracket to the rack and then tighten the gear clutch. The short bracket is for open position and longer bracket is for close position. Finally adjust the magnet to the proper position by moving the gate with the motor. The magnet should be 10~15mm away from the magnetic limit switch, if too far away, the switch will fail to work. Adjust the position of the magnetic limit switch until the position of the opening and closing meet the requirement.

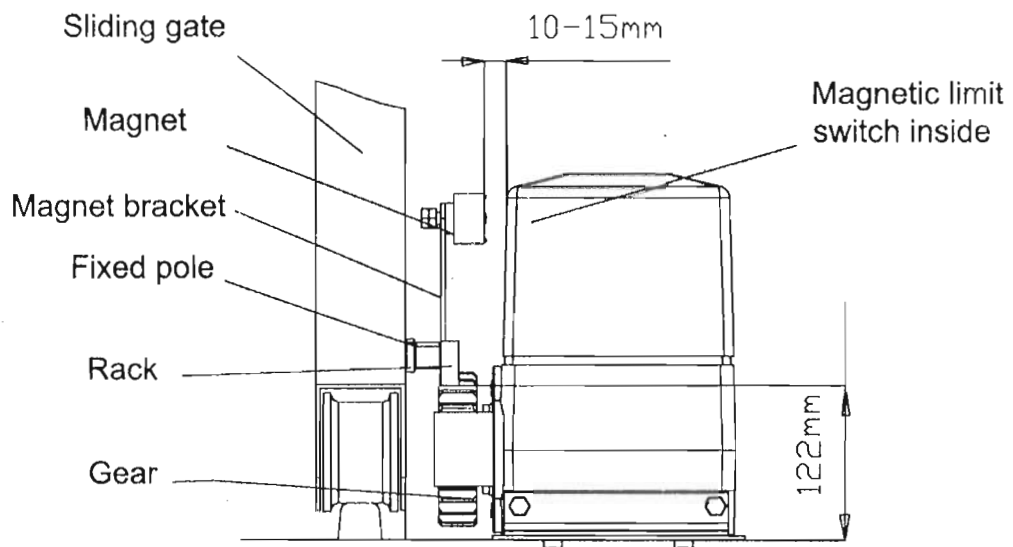


Fig.6

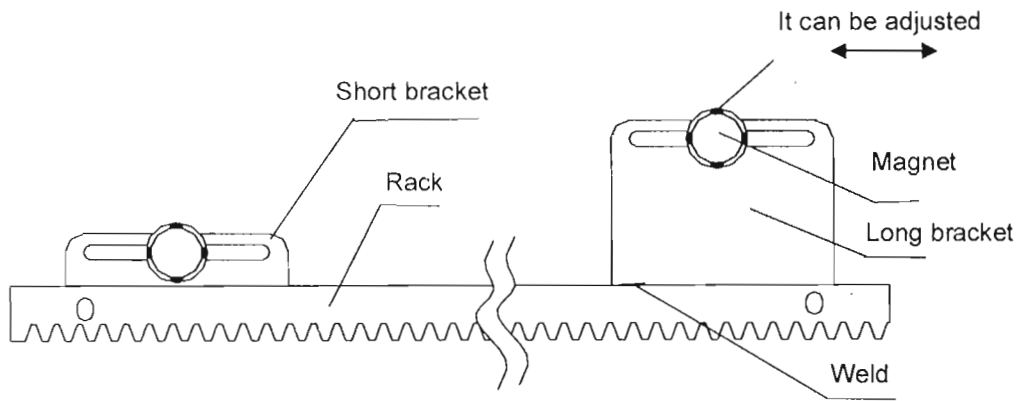


Fig.7

5. How to set the control board please see the manuals of control board.

## 6. Troubleshooting

Trouble	Possible causes	Solutions
By pressing button 1(button 2 or button 3) which has been programmed to open the gate, press the same button again to stop the gate in required position, but the gate will auto-close immediately.	The auto-close time is too short.	Reset the auto-close time. See <b>Set auto-close function</b> section.
When you use button 4 of remote control to open the gate, but the gate will auto-close immediately.	The auto-close time of pedestrian mode is too short.	Reset the auto-close time of pedestrian. See <b>Set auto-close function of pedestrian mode</b> section.
Remote control does not work	The indicator light of remote control does not light.	Check the batteries on your remote control
	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. See <b>Adding extra remote controls (learning)</b> section.
	Broken receive board	Replace receive board.
When you open the gate by using button 1(button 2 or button 3) which has been programmed, gate will stop in mid-travel or reverse before reaching the fully limit position.	The Force Adj. is adjusted too small.	Check the Force Adjust. Adjust to increase force.
	Gate is obstructed.	Remove the obstruction

# G-12 ELECTRONIC GATE SYSTEM CONTROL BOARD

## INSTALLATION INSTRUCTIONS

### **IMPORTANT!**

**PLEASE READ ALL INSTRUCTIONS BEFORE BEGINNING ANY CONNECTIONS.**

**MAKE SURE 220VAC 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 L (22) tab on the board

The Neutral Line from source attaches to the N (21) tab on the board

The Earth wire from source attaches top the chassis on the unit

The common wire from motor should be connected to the COM (19) tab on the board

The clockwise rotation wire from motor should be connected to the R (18) tab on the board

The counter clockwise rotation wire from motor should be connected to the F (17) tab on the board

The lamp wire should be connected to the LAMP (20) tab on the board

#### **Other Electrical Connections:**

Connector (CON3) 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 (CON7) has been made available for 24VAC auxiliary outputs. You may use these for your other devices power needs, such as the sensors used in your particular installation.

Connector (CON6) has been provided 12VDC for additional needs.

Connector (YX1) for remote receiver

#### **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 (VR1) for open and labeled (VR2) 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 decrease the force. Counter clockwise rotate increase the force.

#### **Remote Push Button Select:**

To select ■ push button you must flip the rocker arm (position 1) to the ON position in the switch (SW1).

To select ▲ push button you must flip the rocker arm (position 2) to the ON position in the switch (SW1).

To select ▼ push button you must flip the rocker arm (position 3) to the ON position in the switch (SW1).

To select Lock push button you must flip the rocker arm (position 4) to the ON position in the switch (SW1).

#### **Left/right Hand Selector:**

The position 2 in the switch (SW2) is L/R hand selector

Left hand place. you must flip the rocker arm (position 2) to the OFF position in the switch (SW2)

Right hand place. you must flip the rocker arm (position 2) to the ON position in the switch (SW2)

#### **Auto Close Timer:**

(position 1) in the switch (SW2) is use for auto close timer

To enable the auto close timer, you must flip the rocker arm (position 1) to the OFF position in the (SW2). Auto close time is adjustable with the potentiometer labeled VR3. Counter clockwise rotate increase the time (7s-70s).

To disable the auto close timer, you must flip the rocker arm (position 1) to the ON position in the (SW2)

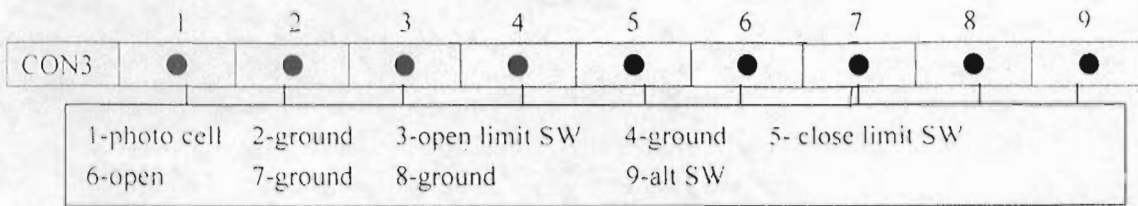
#### **Learn The Remote:**

Press the learn button on the receiver 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.

# TERMINAL BLOCK CONNECTIONS



INPUT	FUNCTION	TYPICAL DEVICES
3-4 (N.O.) open limit SW	1-Stop when completely open	Limit switch
4-5 (N.O.) close limit SW	1-Stop when completely closed	Limit switch
1-2 (N.O.) photo cell	1-Reverse if closing 2-Reset Timer (if used) 3-Disables closing	Safe edge Safety photo beam Safety loop
6-7 (N.O.) open	1-Open 2-Reverse if closing 3-Reset timer (if used)	Open push button Card reader Key pad
8-9 (N.O.) alt SW	1-Open 2-Close from full open 3-Stop from opening	Radio control Single push button Single key switch

