

# **AUTOMATIC BOOM GATE**

DC311

## **Installation and Users Manual**

### **WARNING**

**ONLY QUALIFIED AND EXPERIENCED  
TECHNICIANS SHOULD ATTEMPT  
INSTALLATION OR SERVICE TO THIS UNIT,  
OTHERWISE, SERIOUS PERSONAL INJURY,  
DEATH, OR PROPERTY DAMAGE MAY OCCUR.  
SAVE THESE INSTRUCTIONS.**



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## 1. Important Safety Information

Carefully read and follow all safety precaution and warnings before attempting to install and use DC311 boom gate. Incorrect installation can lead to severe injury.

- The automatic boom gate should be installed by a qualified technician; otherwise, serious personal injury or property damage may occur.
- Children should not be allowed to play near or operate automatic boom gate.
- Before any job on the boom gate, cut out electrical power.
- Do not in any way modify the components of the automatic boom gate, otherwise serious personal injury or property damage may occur. We do not accept responsibility for damage or injury resulting from installing this boom gate.
- Notify the users that the boom gate is never to be operated unless it is in full view.
- Always keep people and objects away from the boom gate when it is operated.
- Keep remote controls away from children, to prevent the boom gate from being activated involuntarily.
- The distance between the end of the bar and the nearest objects should exceed 0.5m.
- Any changing of the bar by customer is not allowed. If you have any special requirements about the bar, please kindly contact a dealer.
- Under no condition should boom gate be used with bar or spring not attached.
- For your safety, withdraw the crank before switching the power back on.
- For service, call an experienced technician.
- Our company reserves the right to change the design and specification without prior notification.

## 2. Introduction

- Please read the instructions carefully before proceeding. The automatic boom gate intended for use in parking area, commercial premises or apartment block access.
- Adopt intelligent brushless DC motor, open or close the bar without shaking.
- Compact design, attractive appearance, low voice, safe and reliable performance.
- The drive parts have a steel unibody structure.
- Soft start & soft stop.
- The bar can be fix on right side or left side.
- A unique internal spring counterbalance mechanism aids the action of the boom gate.
- Manual operation in case of power failure.
- Signal feedback function to transmit signals to parking system.
- Terminals available to photocell, loop detector and alarm lamp.

## 3. Main Technical Parameters

**Table 1**

Power supply	AC 240V, 50Hz
Motor power	550W
Duty cycle	40%
Bar length	3m
Opening or closing time	1s
Noise	≤62dB
Measurement	281mm (L) x 351mm (W) x 1052mm (H)
Remote control range	≥30m
Environmental temperature	-20° C~+50° C

## 4. Installation

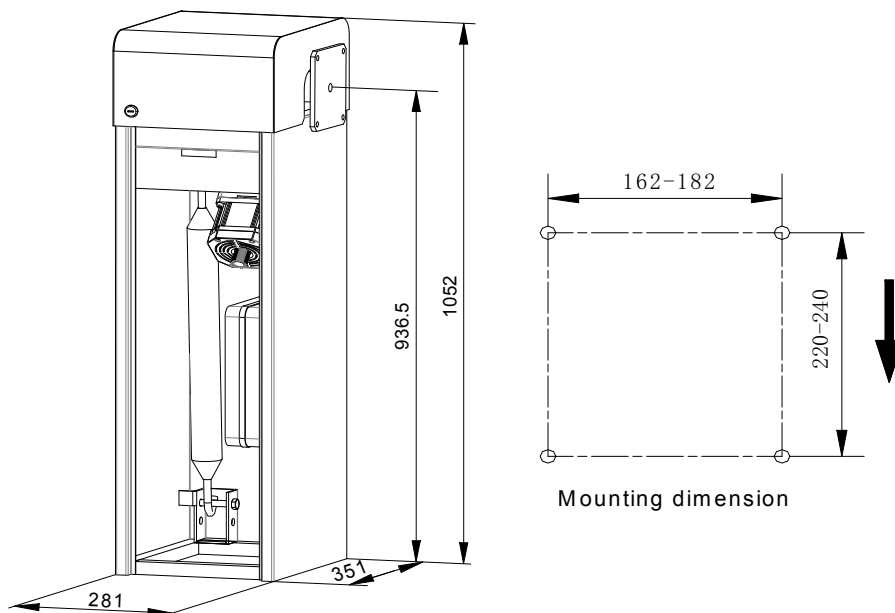
### Necessary Tools

The following tools may be necessary to install the automatic boom gate. You will need standard screwdrivers, an electric drill and spanners.

**Table 2**

Tool	Quantity		Tool	Quantity
Inner hexagon spanner	1		Cross screwdriver	1
Electric drill	1		Slotted screwdriver	1
Adjustable wrench	1			

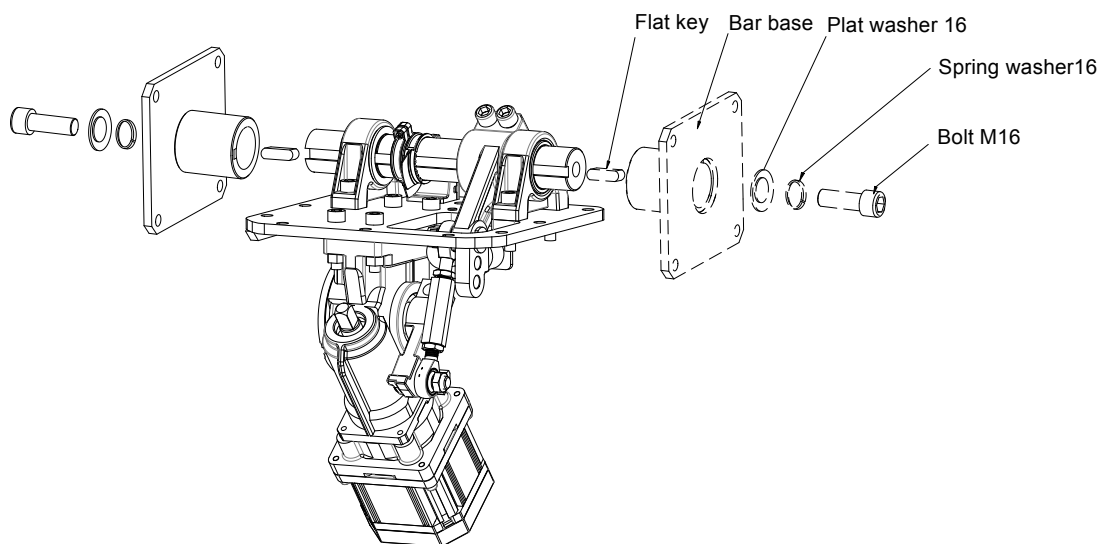
The entire configuration and dimension are shown in the diagram below.



**Fig.1**

Right-hand boom gate and left-hand boom gate

Our company is normally delivered right hand, if you need to change it to the left proceed as follows: Loose the M16 bolt, install the flat key, spring and bar base on the left, tight the bolt.



**Fig.2**

### Conduit

Make one input hole for electric wires. In order to protect the wires, conduits must be set into the concrete when it is poured. Wires within the conduit shall be located or protected so that no damage can result from contact with any rough or sharp part.

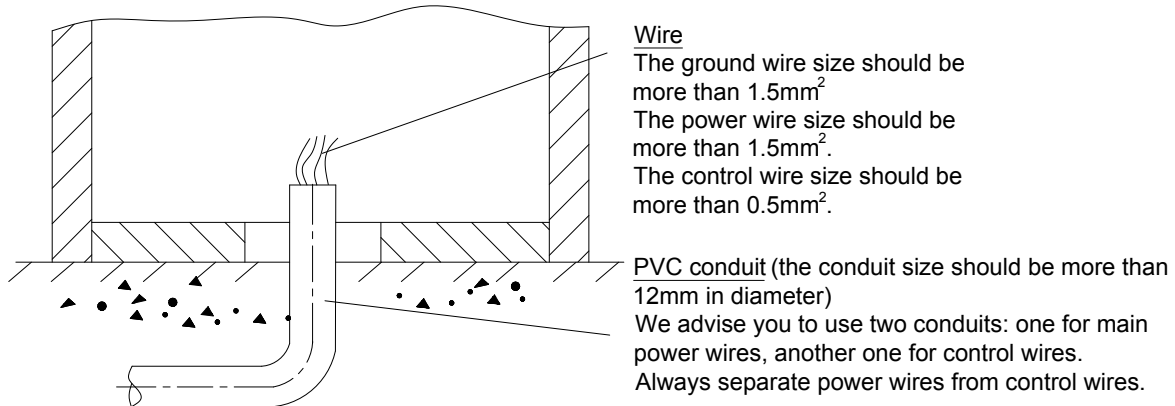


Fig.3

### Expansion bolt (see Fig.4)

- The boom gate requires a concrete pad in order to maintain proper stability. Place the boom gate on its concrete pad and check the boom gate orientation with regard to the roadway.
- Mark the base hole locations onto the cement with a pencil or similar.
- Then move the operator to the side and drill the 4 holes on the marks that you have just drawn on the concrete pad.
- Insert the (4) M12 wedge expansion bolts that are provided with the boom gate into the holes or you can use the (4) M12 bolts, these bolts must be set into the concrete when it is poured.

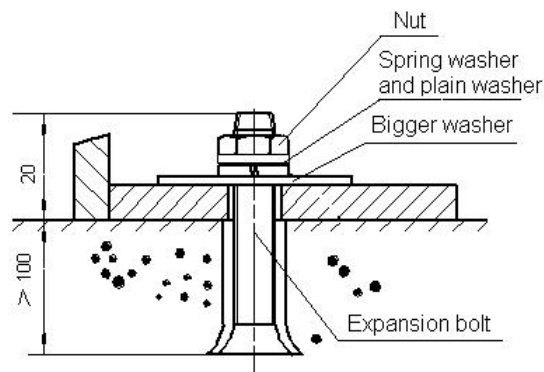


Fig.4

### Boom gate

Place the boom gate back into position, place two pieces of plates on the square frame of the barrier, tighten the washers and nuts.

### Bar

Mount the bar to the assembled cubicle and lock it with the four  $\text{M10} \times 16$  socket head screws.

### Manual operation

In case of power failure use crank to open or close boom gate manually, use the crank as follow:

- Shut off the main power of the boom gate. This safety measure is mandatory to avoid any risk of injury in case of accidental running of the motor.
- Insert the crank in the opening of the housing (protected by a cover).
- Turn the crank clockwise or counterclockwise.
- Withdraw the crank before switching the power back on.

In case of power failure, you also can open or close the bar manually by rotating the motor shaft see Fig.5.

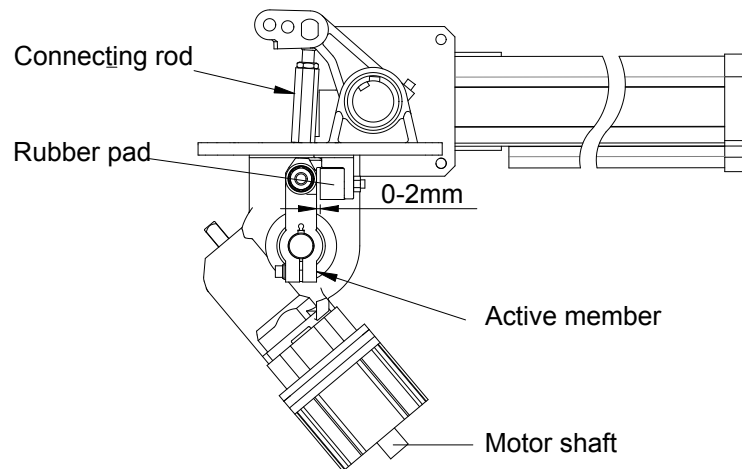


Fig.5

Limit switch (normally open contact) see Fig.6

- The adjustable limit switches are used to stop the bar in the opened and closed positions.
- Loose the M4 screw of open limit cam, turn the open limit cam until the open limit switch clicks, then tighten the screws.
- Loose the M4 screw of close limit cam, turn the close limit cam until the close limit switch clicks, then tighten the screws.
- After adjusting, you can open the bar then close the bar and observe whether the bar has successfully reached the opened (vertical) position and closed (horizontal) position. If the bar does not reach the opened position and closed position, you can repeat the adjusting process.

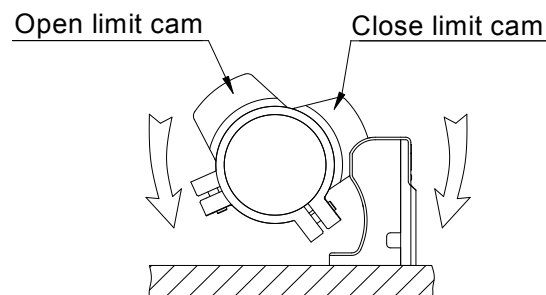


Fig.6

## 5. Electrical

### Remote control

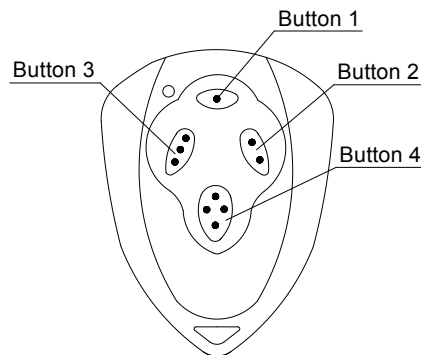


Fig.7

- **To add extra remote controls (Learning):** Press the button 'LEARN BUTTON' (see Fig.9) on the control board, the LED turns on, then press the Button 1 of remote control button, the LED turns off, press the same remote control button again, the LED flash and then stop. the learning process is finished.  
Up to 25 remote controls may be used.
- **Erase remote controls:** To erase all existing remote controls, press and hold 'LEARN BUTTON' about 8 seconds till the LED indicator light turns off. This indicates that all the remote controls have been erased completely.
- The remote control works in single channel mode. The bar will open stop close stop cycles.

### Loop detector (N.O.)

- If loop detector detects vehicles during the bar closing, the bar will reopen immediately and stay open until the vehicles move out of the loop, after vehicles move out of the loop, the bar will continue to close.
- If loop detector detects vehicles when the bar stops at vertical or middle position, the bar will open immediately until vehicles move out of the loop. After vehicles move out of the loop, the bar will close.
- If loop detector detects vehicles when the bar stops at horizontal position, the bar will not move.
- The bar will keep opening if loop detector detects vehicles during opening. After vehicles pass through the loop, the bar will close.

### External button switch

Open the bar by pushing the OPEN button, close the bar by pushing the CLOSE button.

### Infrared photocell (N.O.)

If infrared beam is interrupted during closing, the bar will reopen immediately.(the speed slowed down during closing)

It also can be set to N.C. See Fig.8.

### Limit switch (N.O.)

- The switch is used to accurately stop the bar in the vertical and horizontal positions.
- If the bar stops at opened position (vertical) when the limit switch is reached, the bar will not move if you press open button of button switch.
- If the bar stops at closed position (horizontal) when the limit switch is reached, the bar will not move if you press close button of button switch.
- It also can be set to N.C. see Fig.8.

### Open priority

The bar will return to open if press OPEN button during closing (the speed slowed down during closing).

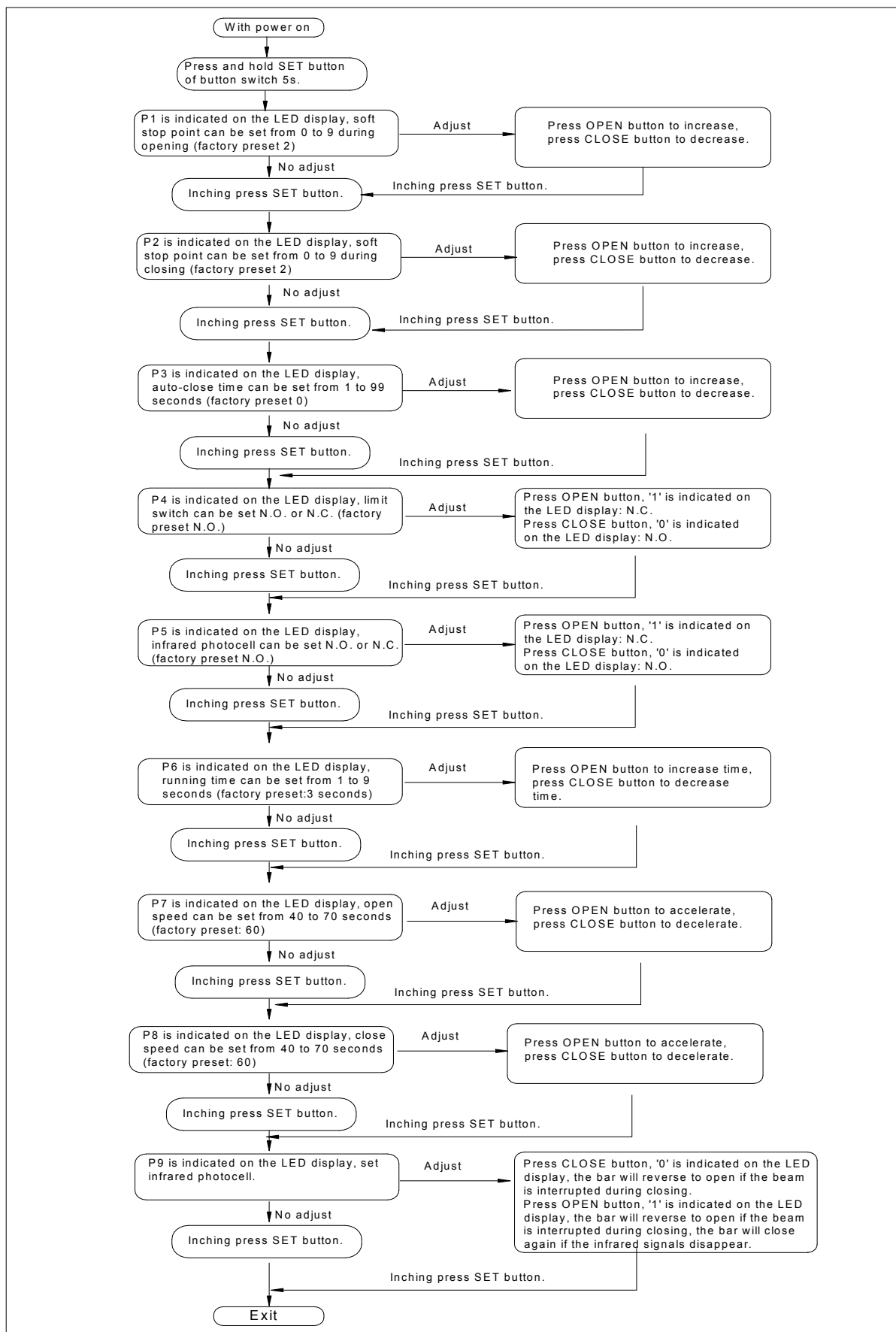


Fig.8 Programming



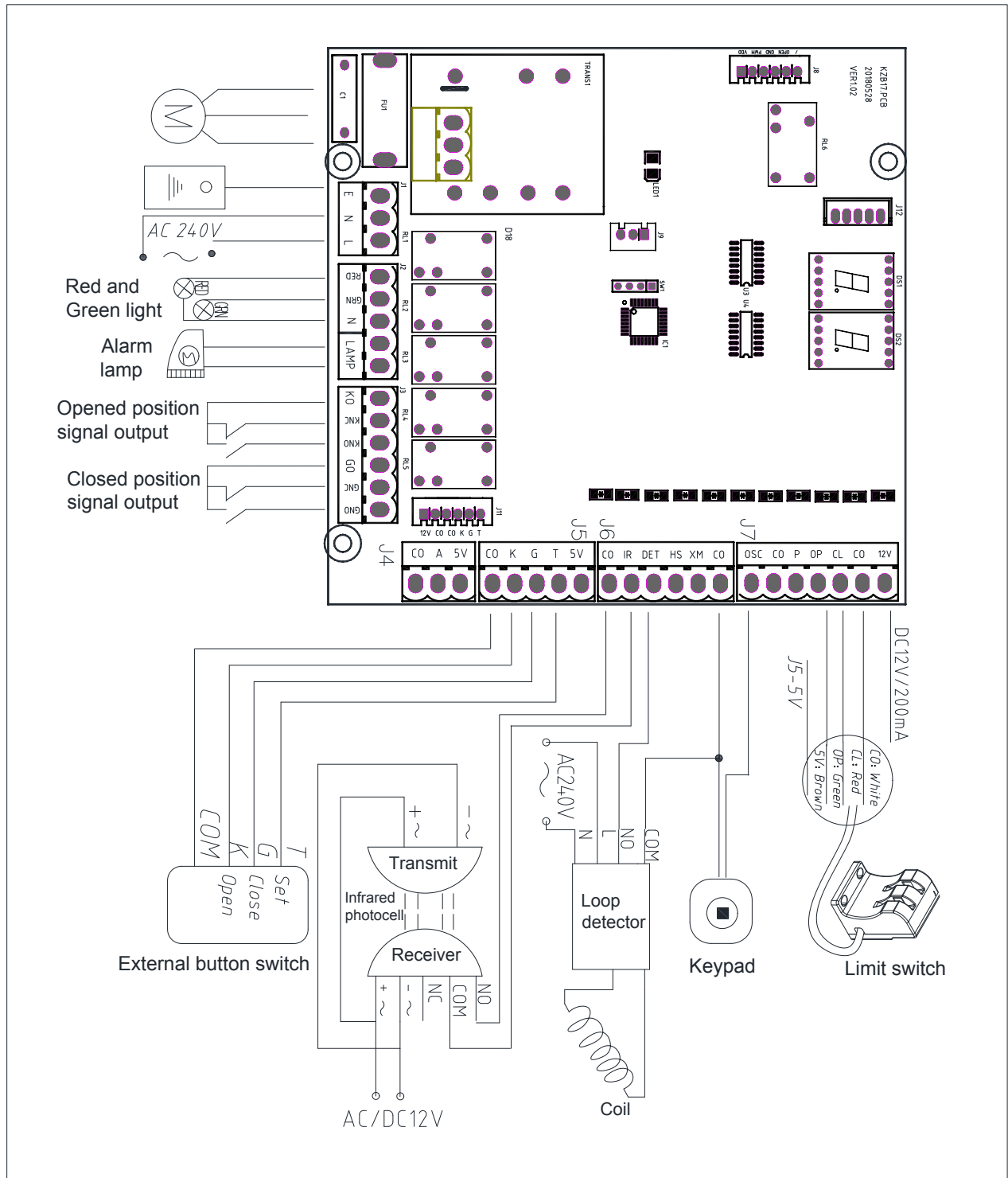


Fig.9 Control board

## 6. Maintenance

- Every 6 months regularly grease the wheels and axles.
- Check if all screws and nuts have been tightened firmly.
- Check if all wires are firmly connected to their respective terminal blocks.
- Make sure the bar is correctly fixed.
- Check the general state of the balancing spring.
- Keep boom gate clean at all times.

## 7. Troubleshooting




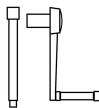
**Table 3**











No.	Trouble	Possible causes	Solutions
1	The bar fails to close or open fully.	Limit switch	Re-adjust the limit switch or replace the limit switch.
		The screws on the connecting rod may be loose.	Tighten the screws, adjust the horizontal position as show in Fig.5.
2	The bar opens too slowly.	Balancing spring	Adjust the balancing spring rod or replace the balancing spring.
3	LED on the control board does not light.	Fuse blown	Replace fuse.
		Motor	Adjust the motor, see Fig.8 P1/P2, P7/P8
4	The remote control operating distance is too short or not far enough.	Battery level may be low.	Replace the battery inside of the transmitter or try another transmitter.
5	The indicator light of the transmitter does not light.	Poor contacted.	Replace the transmitter.
6	The indicator light of the control box does not light.	Fuse	Replace the fuse.

## 8. Packing List

Make sure that all parts are included before using. Refer to packing list. If any parts appear to be missing, contact a dealer.

**Table 4**

No.	Item		Quantity
1	Assembled cubicle		1
2	Bar locking bracket		1
3	Bar locking cover		1
4	Crank		1

5	Transmitter		2
6	Key		1
7	Plate		2
8	Expansion bolt		4
9	Bigger washer		4
10	Bolt M10X16 for mounting bar		4
11	M16x40 Hexagon socket screw for mounting bar locking bracket		1
12	16 Spring washer and plain washer		1
13	Key		2
14	Allen wrench 3mm		1