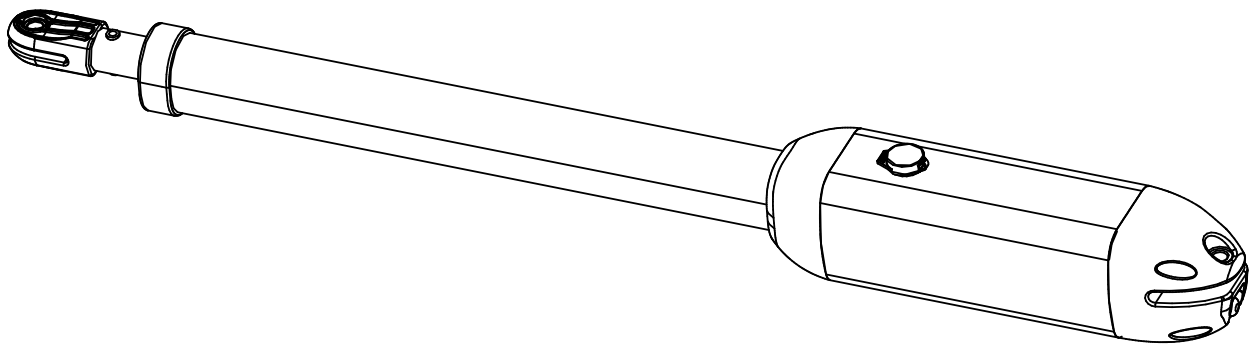


SW400DC Swing Gate Opener User Manual



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Dear users,

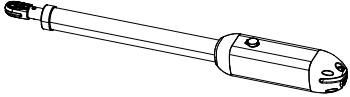
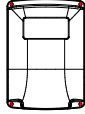
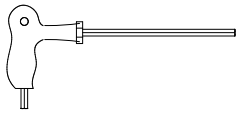
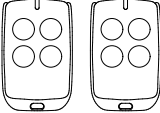
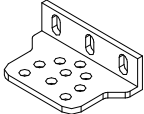
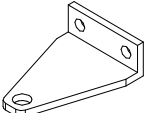
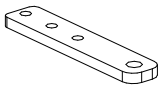
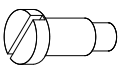
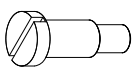
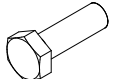

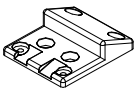
Thank you for choosing this product. Please read the manual carefully before assembling and using it. Please do not leave out the manual if you send this product to a third party.

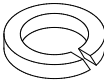
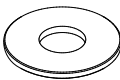
1. Safety Instruction



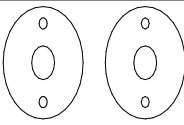
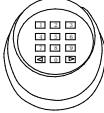
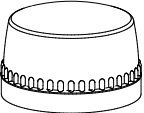
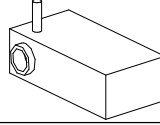
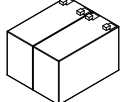
- Please read this manual carefully before installation, in which involves with important information about installation、 using、 maintenance and safety.
- Any undefined operations under this manual is not allowed, incorrect using may damage the product even causing the injuries or property losses.
- To consider the possible danger during the installation or using process of swing gate operator, installation must strictly comply with the construction standard and electrical operating procedure.
- Before installation, please make sure that the power voltage being used matches with the supply voltage of this product. Please check if the leakage protection switch is installed and the grounding system is correct.
- Please check if additional equipments or materials are required to meet the specific requirements.
- The disposal of packaging material must be complying with the local regulation.
- Please do not change any parts except for those defined under this manual. Any undefined changes may cause the malfunction. Any damages to the product arising therefrom shall be beyond the liability of the company.
- Please do not leak water or any liquid into the controller or any other open devices. Please disconnect the power immediately if any mentioned cases happened.
- Please keep this product away from heat and open fire. Or it may damage the components; cause the failure or other hazards.
- Please make sure there is no vehicles、 passengers and objects passing through while the swing gate is moving.
- Anti-clip equipment like infrared protection switch must be installed to avoid injuries to person and property losses. The company shall not be liable for any damage or accident arising therefrom.
- The installation、 using and maintenance of this product must be carried out by professionals.
- Children are not allowed be touch the control devices or remote transmitters.
- A warning sign must be placed somewhere on the swing gate according to the national standard.
- Please keep this instruction properly for future reference.

2. Packing List (Standard)

No.	Picture	Name	Quantity
1		Main machine	2
2		Control box	1
3		Manual release bar	1
4		Remote control	2
5		Wall bracket	4
6		Front mounting bracket	2
7		Connecting bracket	2
8		Mounting screw (short)	2
9		Mounting screw (long)	2
10		Screw M8×25	4
11		Nut M8	6
12		Safety stopper	1

No.	Picture	Name	Quantity
13		Spring washer Ø12	2
14		gasket	2

Packing List (Optional)

No.	Picture	Name	Quantity
1		Infrared sensor	1
2		Wireless keypad	1
3		Alarm lamp	1
4		Electric lock	1
5		Storage battery	2

3. Technical Parameters

Model	SW400DC
Power supply	220V/50Hz;110V/60Hz
Motor power	62W
Gate moving speed	22~26s / 90°
Max.single-leaf weight	400kg
Max.single-leaf length	3M
Max.piston stroke	45cm
Max.force	2500N
Remote control distance	≥30m
Remote control mode	Single button mode
Storage battery (optional)	DC24V (4.5Ah or 9Ah)

Noise	≤60dB
Working duty	S2, 30min
Recording of up remote controls	25
Remote frequency	433.92 MHz
Working temperature	-20°C - +70°C
Package weight	20kg

4. Installation

SW400DC swing gate opener is applicable to single leaf gate weight less than 400kg, and the length shorter than 4m. The drive mode adopts the worm and worm gear to combine the screw rod transmission. This gate opener must be installed inside the enclosure or yard for protection.

4.1 Installation Drawing

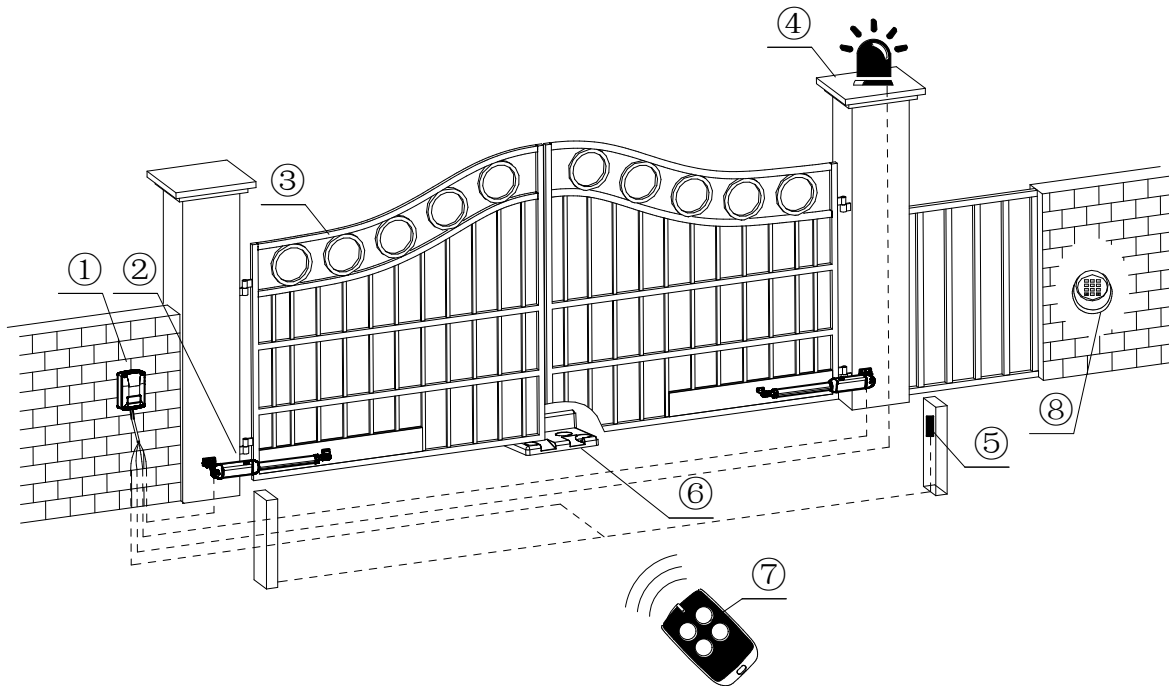


Figure 1

- ① Control box
- ② Gate opener (optional)
- ③ Gate
- ④ Alarm lamp (optional)
- ⑤ Infrared sensor (optional)
- ⑥ Stopper
- ⑦ Remote control
- ⑧ Wireless keypad

4.2 Size of Main Machine and Accessories

4.2.1 Size of Main Machine

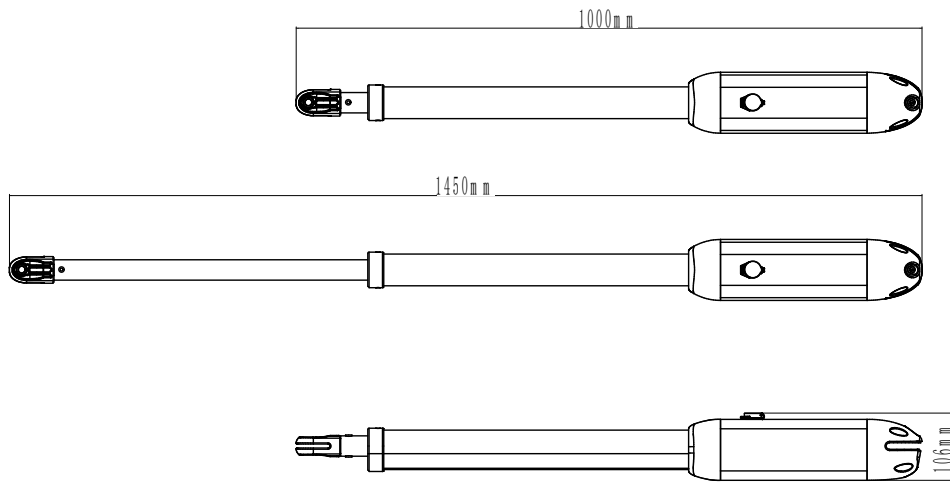


Figure 2

4.2.2 Size of Mounting Plate

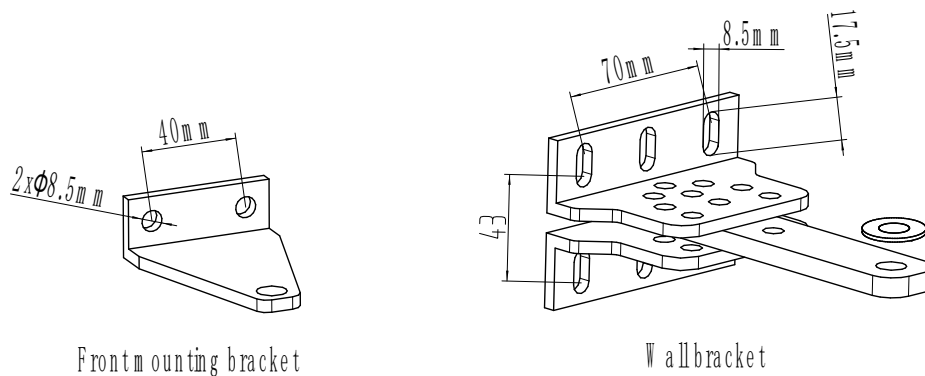


Figure 3

4.3 Installation Steps

4.3.1 Preparation before Main Machine Installation

a) Before installing the door opener, please confirm that the door were installed correctly, please ensure that the door can be manually operated smoothly, and the door safety stopper can effectively prevent the door to continue moving.

b) Please keep a distance of 40-50mm between the door bottom and the ground for installing the electric lock. If electric lock is not required, the distance between the door bottom and the ground should be ≥ 20 mm;

c) The recommended mounting height of the 2 main machines is around 300 ~ 800mm above the ground, and make sure there are reliable fixed points for mounting brackets.

Cable bury

In order to ensure the normal operation of the door opener and protect the cable from damage, please use two PVC pipes to bury the motor and power cables, and the control cables separately.

One PVC pipe for motor and power cables, the other one for control cables.

Mounting brackets fixing

In order to install the SW400DC main machines firmly, it is recommended to use the expansion screws to fix the mounting brackets.

4.3.2 Accessory Installation

a) Before installing the main machines, please install the wall bracket on the wall first, then fix the connecting bracket, finally install the front mounting bracket on the door.

Note: Please detect by gradienter before fixing to ensure that the front mounting bracket and the connecting bracket are in the same level.

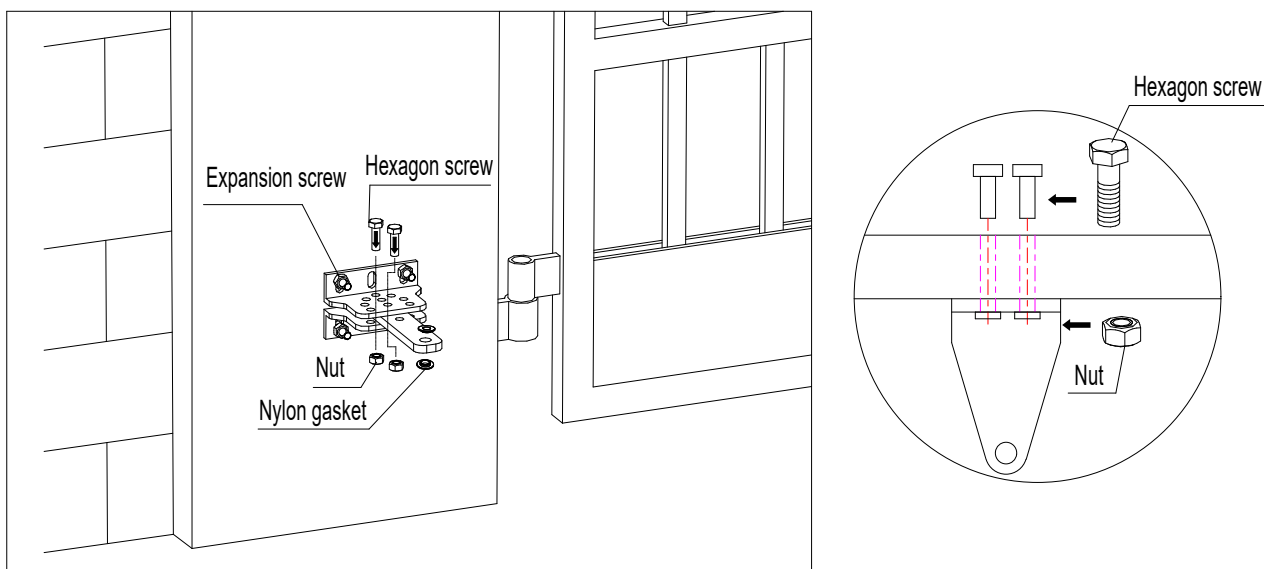


Figure 4

b) The connecting bracket and the wall bracket can be connected according to different conditions, please refer to figure 5.

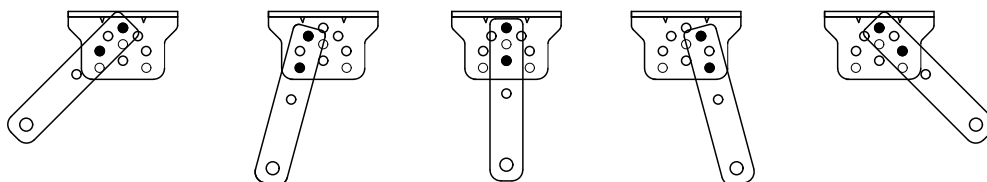


Figure 5

c) Users should prepare power cables for the control box and the main machines by themselves due to the different installation environment. The cores for the control box power supply cable should be more than 3, the cores for the motor cable is 2. If users need to install external accessories like electric lock, infrared sensor, alarm lamp, external button switch etc., please increase the embedded cables accordingly, please make sure the sectional diameter of electric lock

cable is over 1.5mm², sectional diameter of other cables is over 0.5mm². The cable length should be determined by users according to their installation situations.

Note: The outlet on the PVC pipe should be downward in order to avoid the rain water flowing into the pipe along the cable.

d) Before the installation, please unlock the two main machines. Unlock method: Remove the cover, insert the manual release bar, rotate the bar until it's released, as shown in Figure 6, then turn the telescopic arm, you'll find it is stretched easily.

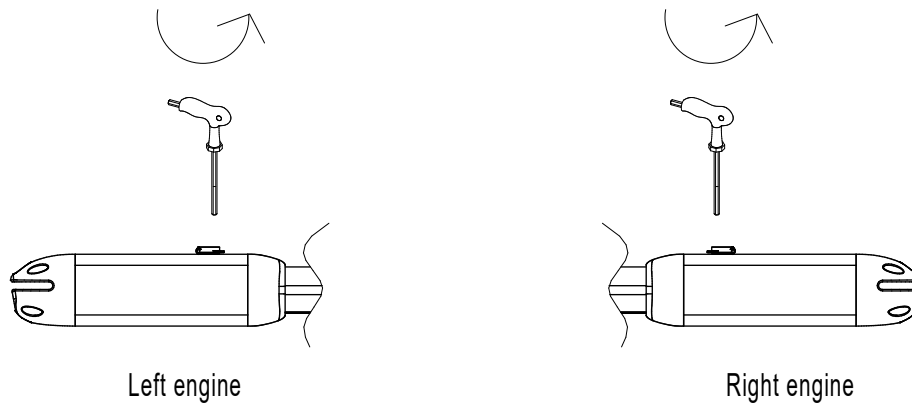


Figure 6

4.3.3 Main Machine Installation

Please refer to Figure 7 to fix the tail of the main machine and the connecting bracket with the installation screws, and then manually adjust the telescopic arm to the appropriate length, finally fix the telescopic arm connector and the front mounting bracket with the installation screws. Pull the door after installation to ensure the travel is flexible without jamming.

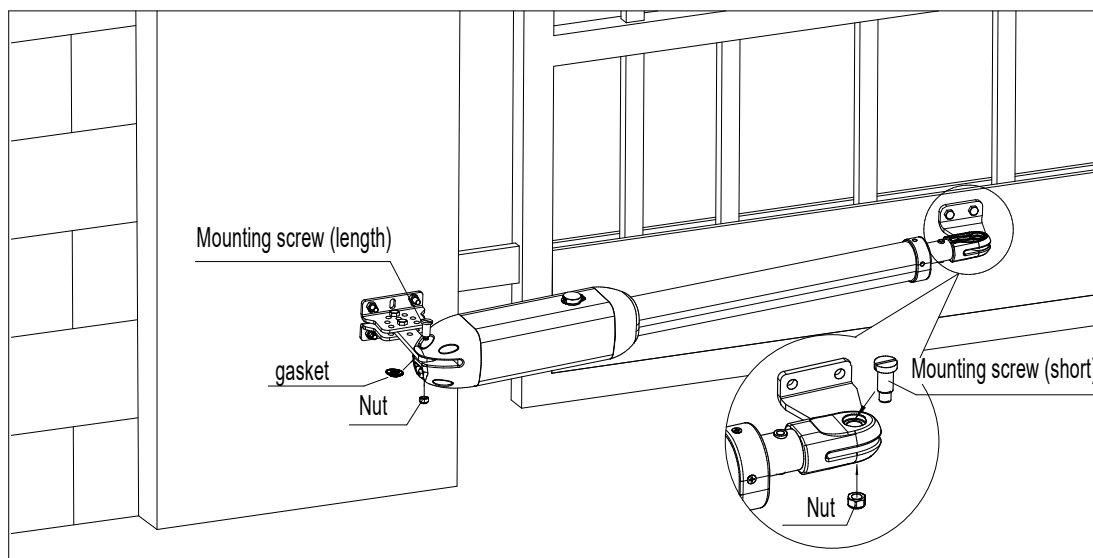


Figure 7

Installation direction: door opens inward

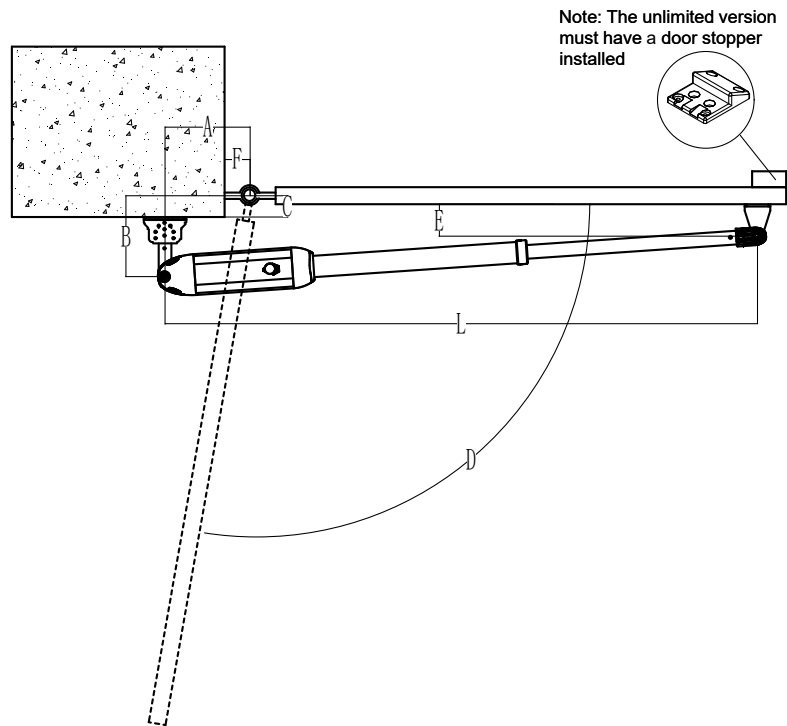
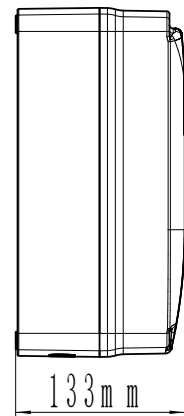
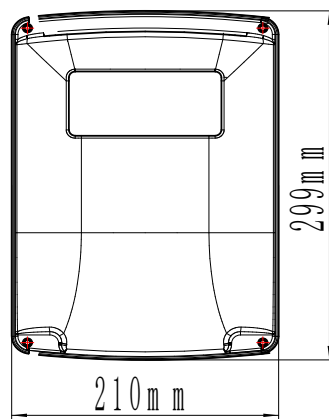
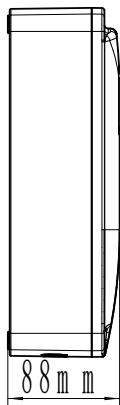
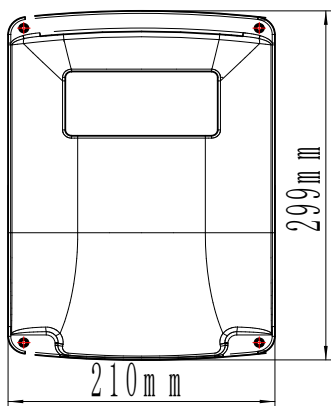


Figure 8

	A(mm)	B(mm)	C(mm)	D max	L(mm)
SIZE	240	115	15	100°	1400
	220	125	25	100°	1440
	200	135	35	100°	1420
	180	145	45	90°	1420

Note: Value B must be close or equal to the value A to reach the best mechanical advantage.

4.3.4 Size of Control Box



Control box without built-in battery

Control box with built-in

battery

Figure 9



Warning

- **To ensure safety, please install the safety stopper at the close limit position when the door opens inward (as shown in figure 8).**
- Before installing the main machine, please make sure the main machine and components are in good mechanical performance and the door can be manually operated flexibly.
- One control unit can optionally drive one main machine or two main machines.
- Earth leakage circuit breaker must be installed on where the gate movement can be seen, and the minimum mounting height for the control box should be over 1.5m to avoid being touched by kids.
- After installation, please check whether the mechanical property is good or not, whether gate movement is flexible or not after unlocking, and whether the infrared sensor (optional) is installed correctly and effectively.

5. Wiring and Debugging

5.1 Wiring Instructions

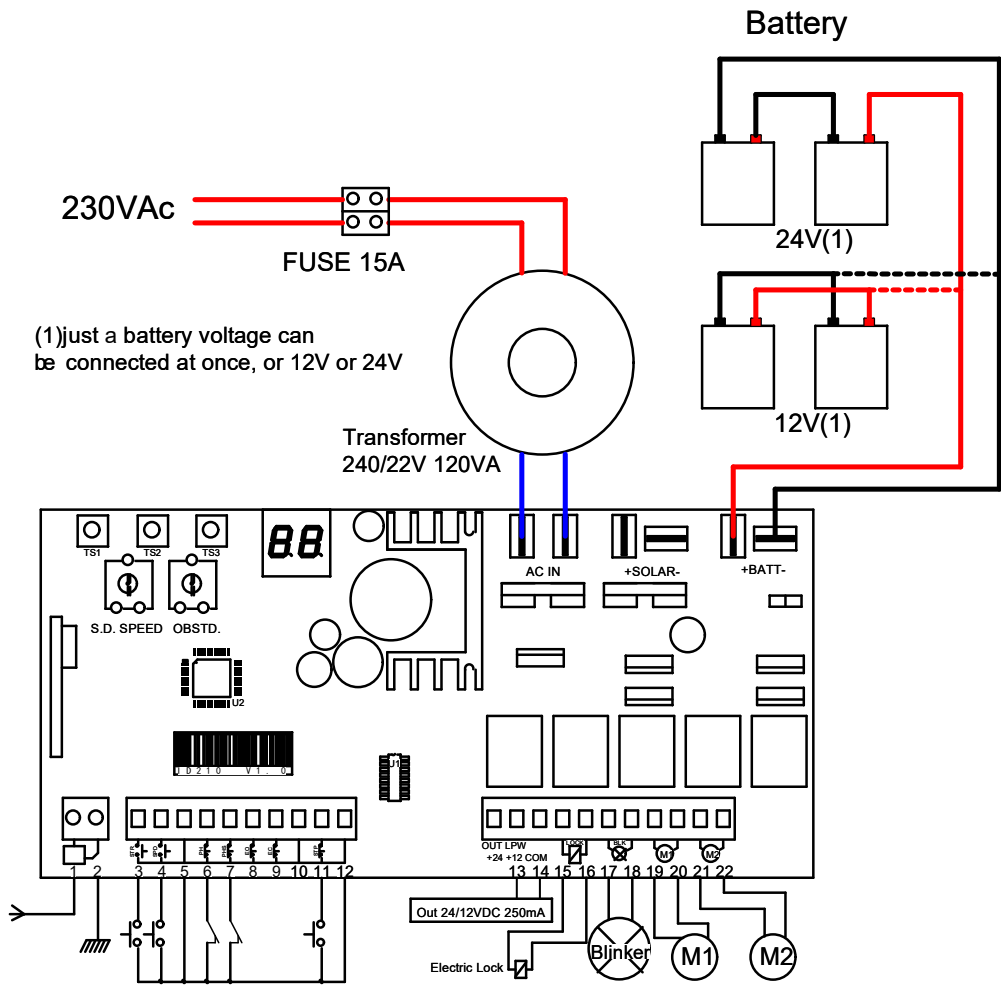


Figure 10

5.2 Control Board Drawing and Instructions

Drawing:

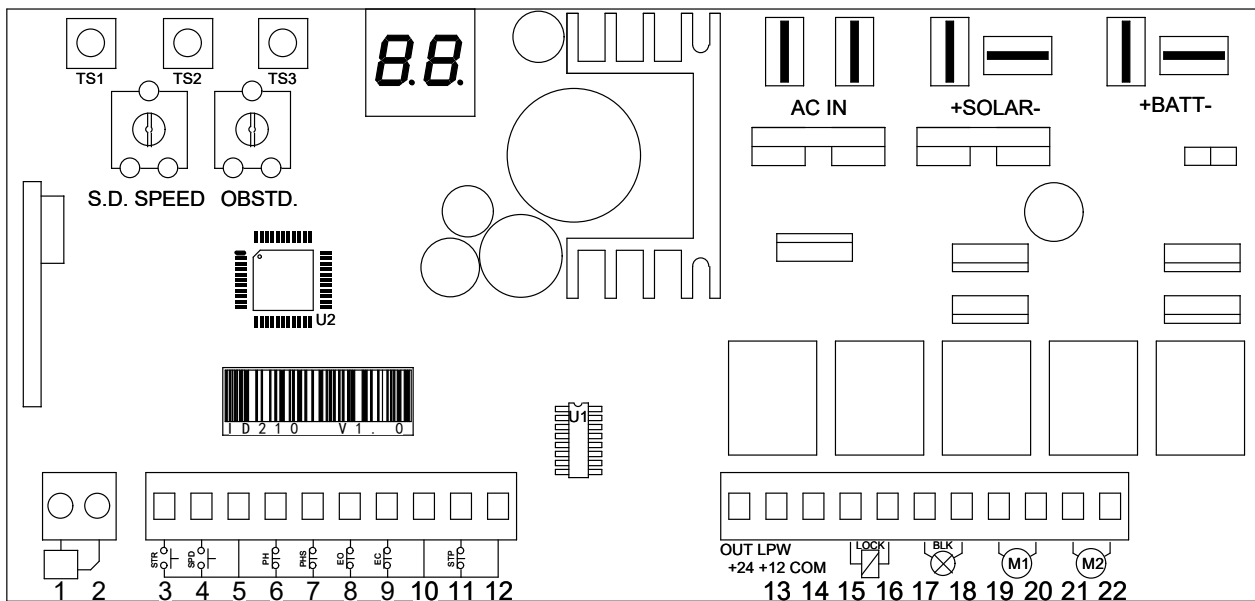
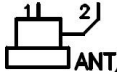
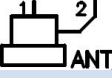










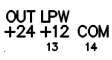





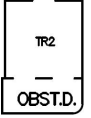
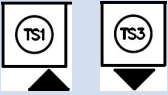



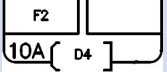
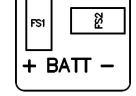



Figure 11

Instructions:

Terminal	Remarks
1. Antenna 	
2. Antenna's shield 	
3. Start input (NO) 	It completely opens the gate
4. Pedestrian start in. (NO) 	It opens just motor 2
5. Common 	
6. Photocell input (NC) 	During pause: Reloads pause During closing: Reverses motors direction
7. Photo stop input (NC) 	During pause: Reloads pause. During closing: Reverses motors direction. During opening: stops the motors and waits till contact returns close.
8. Analog opening edge input (8K2 ohm) 	Waiting an opening command: inhibits opening During opening: reverses motor direction for 1 second. If not used left unconnected.
9. Analog closing edge input (8K2 ohm) 	Waiting a closing command: inhibits closing. During closing: reverses motor direction for 1 second. If not used left unconnected.
10. Common 	
11. Stop input (NC) 	It always stops motors and blocks control unit activity.
12. Common 	
Space-13-14. Power supply output 	24V/12Vdc 250mA
15-16. Electric lock output 	12/24V 1A (fix on MOT2)
17-18. Flashing light output 	12/24V 1A
19-20. Output motor 1 	8A
21-22. Output motor 2 	8A

TR1.		Slowing down speed trimmer
TR2.		Obstacle detection sensibility trimmer
TS1-TS3.		Buttons up/down
TS2.		Enter button
DSP.		Display
FS3-FS4.		Transformer input 12-20Vac / 100-200VA
F2. Battery fuse 10A Fast		The default is 24VDC.
FS1-FS2.		Backup battery input 12/24VDC
J1.		Back up battery voltage selector 12/24V

5.3 Inputs Status

When the control unit is in standby. User can read inputs status on display:

__: No input active.

ST: Stop input active.

P5: Photo stop input active.

PC: Photocells input active.

EO: Analogic edge opening input active.

EC: Analogic edge closing input active.

SB: Start input active.

SP: Pedestrian input active.

OP: Open input active.

CL: close input active.

During pause, the display shows the seconds countdown to closing.

5.4 Travel Setting (VERY IMPORTANT)

To program the working time and auto-reverse force quickly, open both wings fully, then press and hold on 'TS1' till you read **AU** on the display. The door will open and stop in the open position about 5 seconds (learn motor rotor-locked current value), then door will close automatically. Till the door is fully closed, learning process is finished. If slow speed is too slow, please adjust TR1 to increase. If slow speed is not obvious, please adjust TR1 to decrease. After that reprogram working time as above again.

5.5 Trimmers Setting

Slow down speed trimmer regulates the slowdown speed. Do not set speed to low(less than 10 cm/sec on the wing edge) to avoid that gate stops in too cold conditions.

Obstacle sensibility trimmer fine tunes the obstacle detection level learned by the control unit during working times programming .This fine regulation must be do after working times learning.

Normally the trimmer goes in the center, in this position should be possible to respect rules in most of installations. If it's need to resolve problems related to norms or to environmental situations (ex. Strong wind) is it possible to regulate this trimmer increasing or decreasing sensibility.

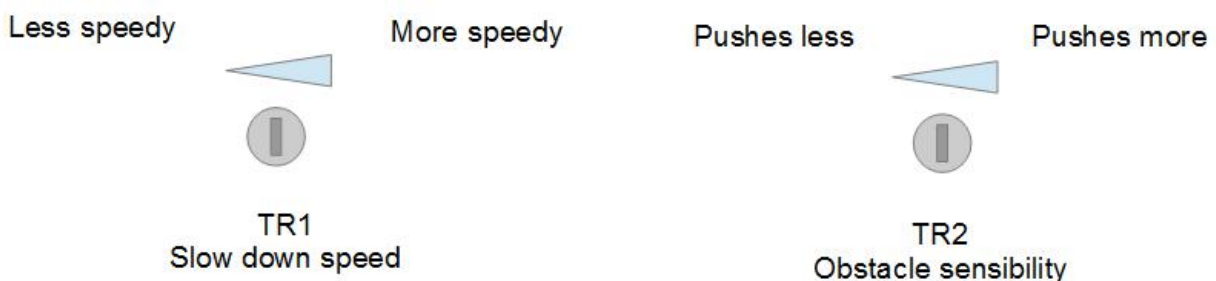


Figure 12

5.6 Learning Transmitter & Delete Transmitter

Press button **TS3**, display shows **C1**, press the button you want to program, and until display shows digital, learning is finished. (The default remote control mode is Step by Step)

Press button **TS3** and hold on until display shows **OK**, all the remotes have been deleted.

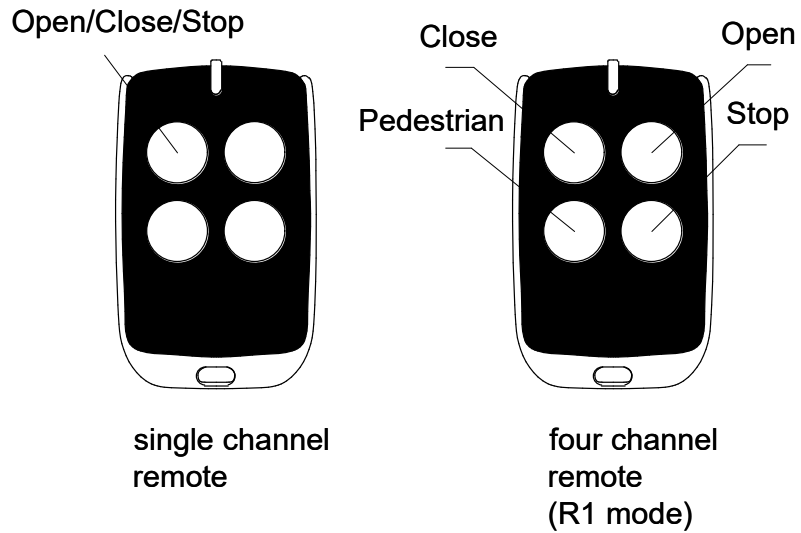


Figure 13

5.7 Control Board Settings

Base Menu

Push button 'TS2' for at least 1 second to enter base menu.

SG is on the display, with up/down it's possible to select other functions of this menu.

To exit this menu select **EH** and push button 'TS2' or push button up 'TS1' and button down 'TS3' together.

After 2 minutes without actions, the control unit exits itself from this menu.

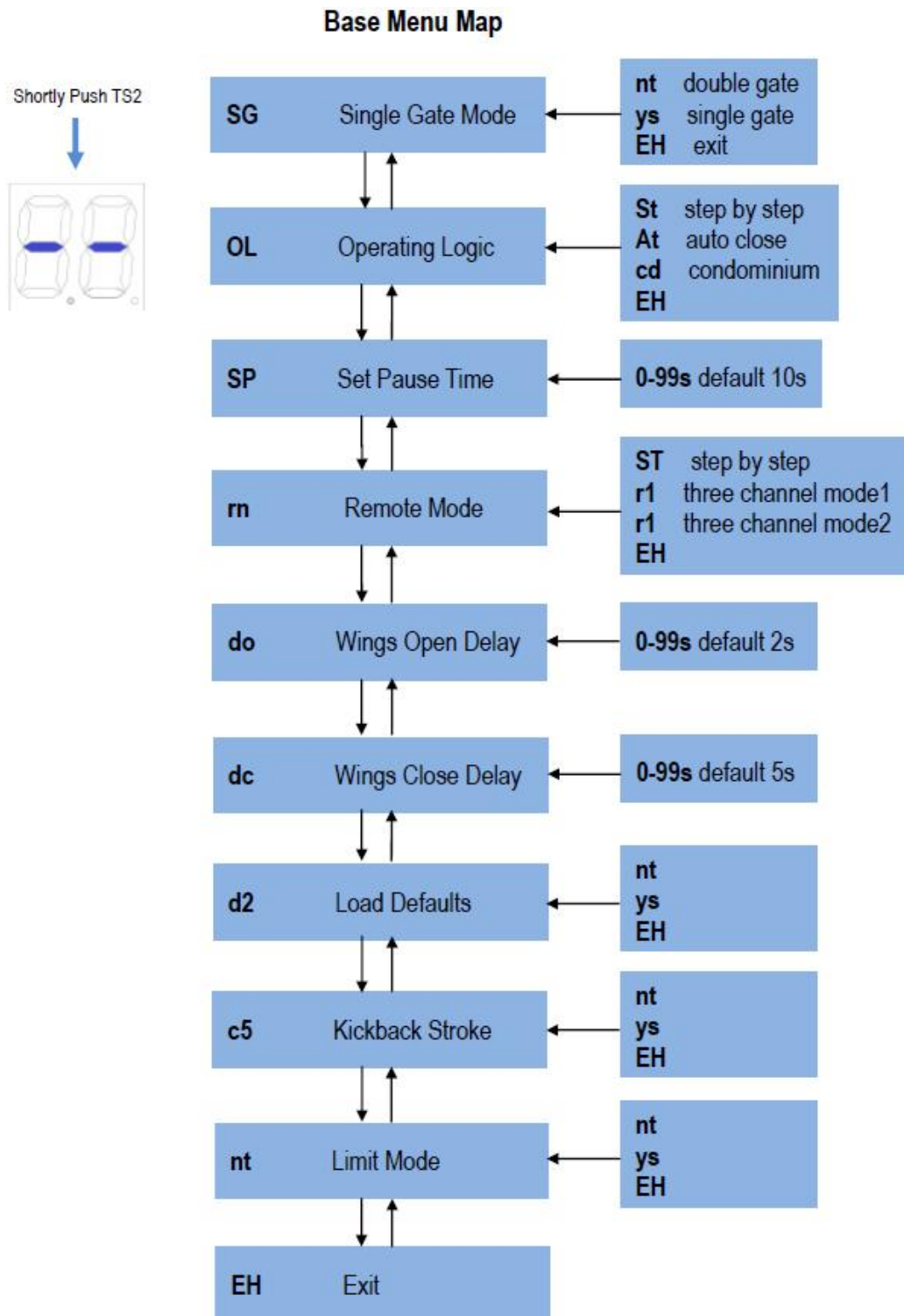


Figure 14

5.8 Base Menu Description

SG Single wing mode:

In this menu it's possible to verify or set if gate works in single wing mode (motor2). Use up/down to choose yes (yS), not (nt) or exit(EH). Push enter 'TS2' to confirm.

Operating logic **OL**:

Select **OL** and push enter, with up/down select wanted logic between following end push once enter. Check tab operating logic for further information.

St: Step by step logic.

At: Automatic closing with stop function.

cd: Automatic closing for condominium function.

To exit this menu select **EH** or push up/down together.

SP Set pause times:

Use up/down to set the pause time between 0 and 99 seconds. Push enter to confirm. To exit without modifications push together up and down.

Attention: setting pause time doesn't enable auto closing, please refer to chapter "OL operating logic" to enable this function.

rN Remote mode:

In this menu it's possible to modify how transmitters work with the control unit.

St- Step by step mode: Each button (code) of the transmitter is entered separated by the others

r1- Learning a code from a transmitter, it enables all the four buttons of transmitter wording with the control unit. Sequence is: Button1=open command, Button2=close command, Button3=Pedestrian command, Button 4=stop command.

r2- Learning a code from a transmitter, it enables all the four buttons of transmitter wording with the control unit. The sequence is as above, except buttons3 and 4 inverted.

do-Motors delay opening (When opening the door, MOT1 start is delayed by a certain time than MOT2)

dc- Motors delay closing (When closing the door, MOT2 start is delayed by a certain time than MOT1)

d2 Load defaults:

Choosing this menu and confirming with yes (yS), set the control unit at factory defaults.

c5 Enable kickback stroke:

In this menu you can enable the stroke at start to unlock electric lock and the final stroke to lock it.

Nt Limit mode:

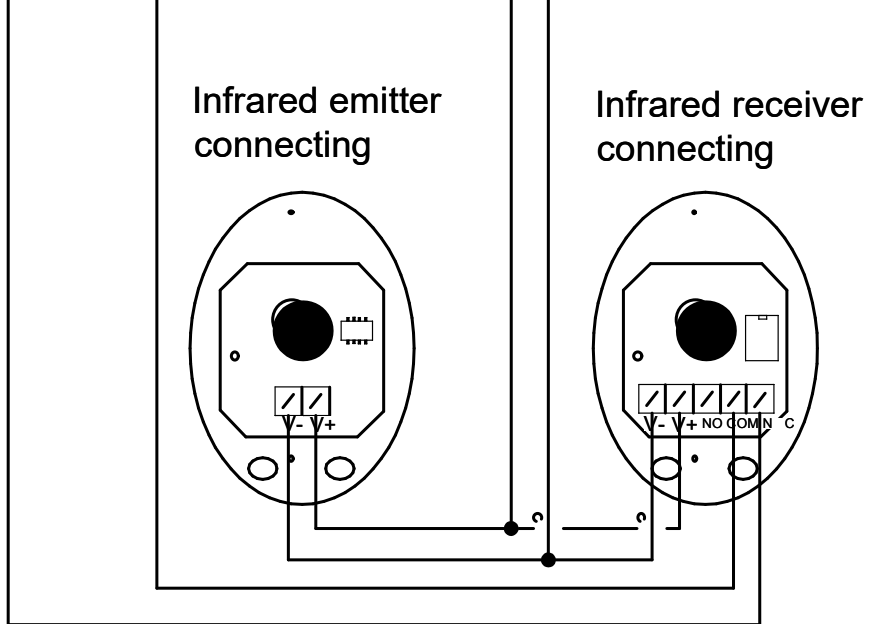
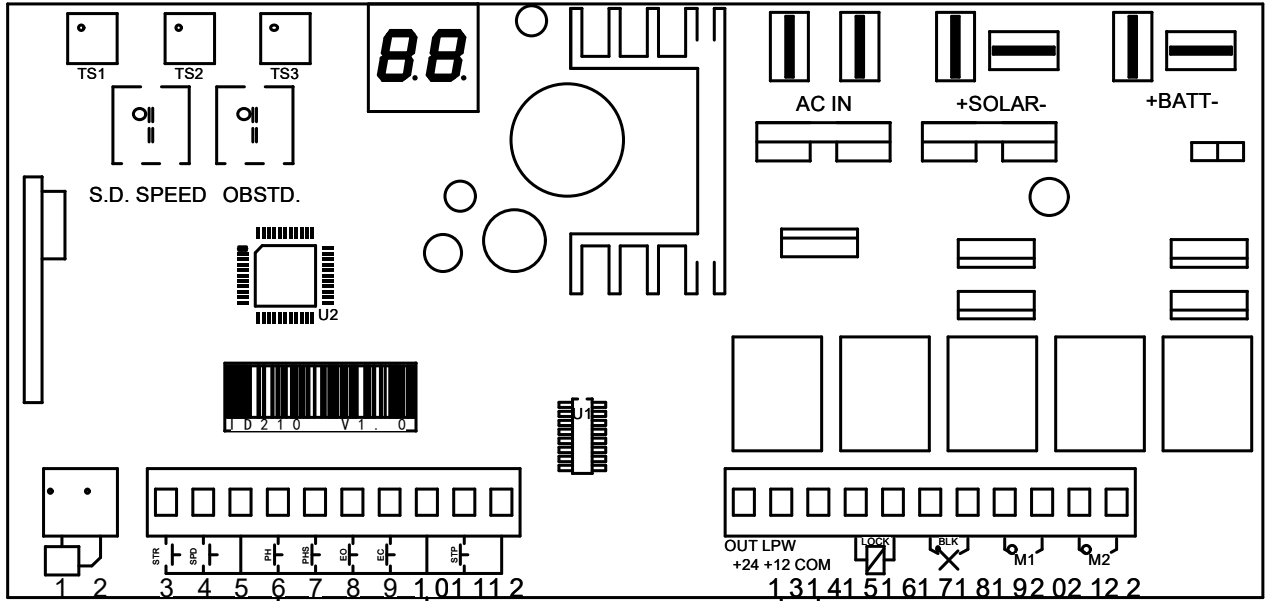
Limit switch mode is series limit with yes (yS); Limit switch mode is obstacle blocked limit with not (nt)

5.9 Infrared Photocell Connection (Optional)

Before connecting the infrared photocell, please remove the jumper wire between terminal 5 and 6 first.

Infrared photocell function: To protect passengers or property from clipping, during gate closing, once infrared photocell ray is cut, the gate will open immediately.

The distance between photocell receiver and emitter should not be less than 2 meters, otherwise will affect the induction of the photocell.



Infrared Photocell

Figure 15

5.10 Solar Panel Connection (Optional)

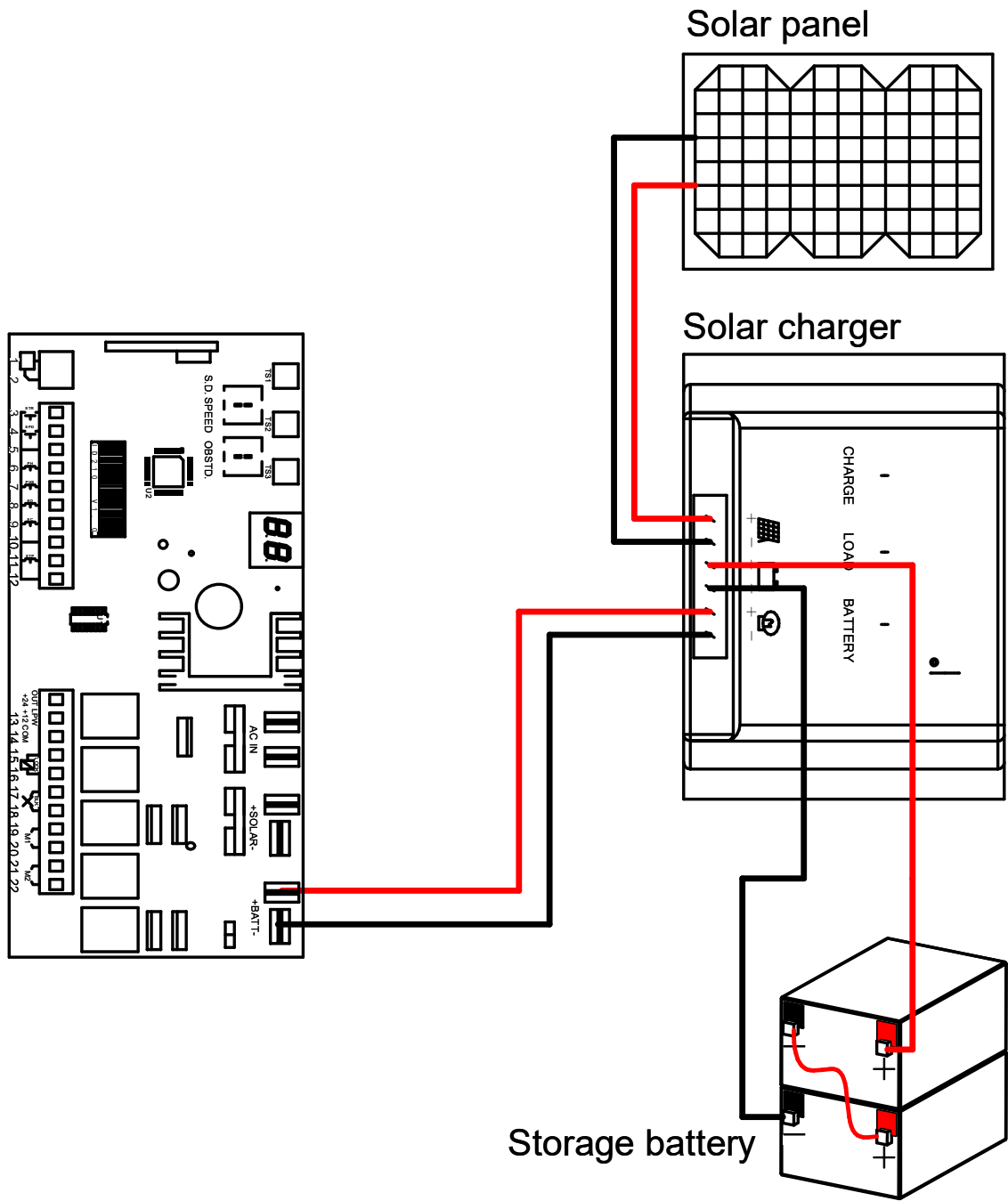


Figure 16

6. Others

6.1 Maintenance

Check whether the gate operates normally every month.

For the sake of safety, each gate is suggested to be equipped with infrared protector, and regular inspection is required as well.

Before installation and operation of the gate opener, please read all instructions carefully.

We reserve the right to change the instruction without prior notice.

6.2 Troubleshooting

Problems	Possible Reasons	Solutions
The gate cannot open or close normally, and Display does not light.	<ol style="list-style-type: none">1.The power is off.2.Fuse is burned.3.Control board power wiring with problem.	<ol style="list-style-type: none">1.Switch on the power supply.2.Check the fuse, change the fuse if burnt.3.Re wiring according to instructions.
The gate can open but cannot close.	<ol style="list-style-type: none">1.Photocell wiring with problem.2.Photocell mounting with problem.3.Photocell is blocked by objects.4.Sensitivity of obstacle is too high.	<ol style="list-style-type: none">1.If not connect photocell, please make sure that the 5 and 6, 5 and 7 short circuit; if connect infrared sensor, please make sure the wiring is correct and the photocell is N.C.2.Make sure that the photocell mounting position can be mutually aligned.3.Remove the obstacle.4.Reduce the sensitivity of obstacle.
Remote control doesn't work.	<ol style="list-style-type: none">1.Battery level of the remote control is low.2.Remote control learning is not completed.	<ol style="list-style-type: none">1.Change the remote control battery.2.Re-conduct remote control learning.
Press OPEN, CLOSE button, the gate is not moving, motor has noise.	Gate moving is not smoothly.	According to the actual situation to adjust the motor or the gate.
Leakage switch tripped.	Power supply line short circuit or motor line short circuit.	Check wiring.
Remote control working distance is too short.	Signal is blocked.	Connect external receiver antenna, 1.5 meters above ground.

<p>The gate moves to the middle position to stop or reverse.</p>	<ol style="list-style-type: none">1.Motor output force is not enough.2.Sensitivity of obstacle is too high.3.Gate meets obstacle.	<ol style="list-style-type: none">1.Check whether the transformer power is normal, if not, change the transformer.2.Adjust the TR2.3.Remove the obstacle.
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