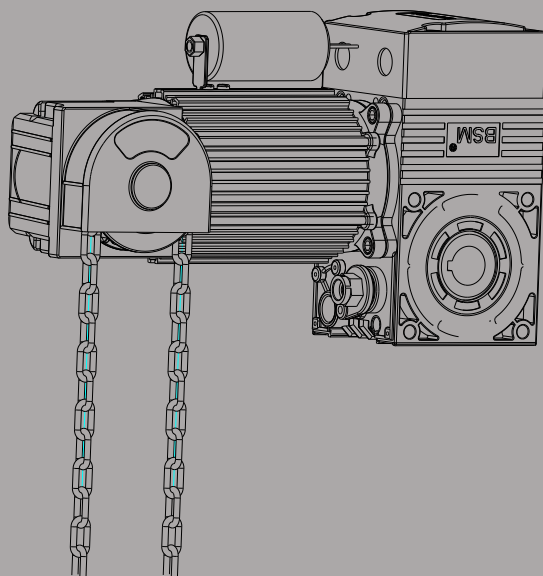


INDUSTRIAL SECTIONAL DOOR OPERATOR

INSTALLING AND OPERATING MANUAL



MODEI:KGT6

**PLEASE READ THE MANUAL CAREFULLY
BEFORE INSTALL AND USE**

A. WARNING TO THE INSTALLER AND USER



Before installing the machine, the Torsion spring should be balance with the weight of the door, The door is sure to be opened and closed manually.

- 1) CAUTION! For personal safety it is important to follow all the instructions carefully. Incorrect installation or misuse of the product may cause serious harm to people .
 - 2) Keep the instructions in a safe place for future reference.
 - 3) This product was designed and manufactured strictly for the use indicated in this document. Any other usage not expressly indicated in this Document, may damage the product and/or be a source of danger.
 - 4) BS accepts no responsibility due to improper use of the automatic machine (opener) or use other than that intended.
 - 5) Do not install the machine in an area subject to explosion hazard. Inflammable gasses or fumes are a serious safety hazard.
 - 6) BS will not accept responsibility if the rules of good workmanship are disregarded in installig the closing elements to be motorised, if any deformation occurs during use of the said elements.
 - 7) Before carrying out any work on the system, turn off the electricity supply.
 - 8) The safety devices(e.g.photocells,sensitive edges, etc...) may be used to prevent any potential risk in dangerous areas where the moving mechanism is located , such as crushing, dragging, or shearing.
 - 9) BS accepts no responsibility regarding safety and correct operation of the machine, should components made by manufacturers other than we be used in the system.
 - 10) Do not make any alterations to the components of the automatic machine (opener and accessory).
 - 11) The installer must supply full information regarding operation manual of the system in the event of any emergency and provide the system user with the "INSTRUCTION" included with the product.
 - 12) Do not allow children or other people to stand near any moving part of the opener or door construction while in operation.
 - 13) Keep transmitters away from children to prevent the machine from being activated accidentally.
 - 14)The user must refrain from attempting to repair or adjust the system personally and should only contact professional personnel .
 - 15) The safety beam sensors must be installed when the auto close feature is enabled.
 - 16) Connect the system to a properly earthed general purpose 230V mains power outlet installed by a qualified electrician.
 - 17) In door use only.
-

Emergency Release device



It is used only in emergency;
It is turned only when the door is open;

Lift device



Do not pull the hand chain when the motor is working ,
Otherwise it may damage the product and cause serious
harm to people!

B. Technical specifications

1. Specification of Control Box: _____

Model	DGT
Power supply	220V \pm 10% 50HZ
Absorbed power	5W
Accessories output	\leq 0.2A
Normal environment	-20 $^{\circ}$ C ~ +50 $^{\circ}$ C

2. Specifications of all models of operator: _____

Model	KGT6. 35-Z	KGT6. 50-Z
Power supply	220V \pm 10% 50HZ	
Motor power	370W	450W
Capacitor	C=18 μ F	C=25 μ F
Thermal protection	120 $^{\circ}$ C	
Normal environment	-20 $^{\circ}$ C ~ +50 $^{\circ}$ C	
Lift height	>5 m	
Maximum output torque	35N. m	50N. m
Output aperture	ϕ 25.4mm : ϕ 31.8mm	
Output speed	24r/min	

Model	KGT6. 35S-Z	KGT6. 50S-Z
Power supply	380V±10% 50HZ	
Motor power	370W	450W
Thermal protection	120℃	
Normal environment	-20℃ ~+50℃	
Lift height	≤5 m	
Maximum output torque	35N. m	50N. m
Output aperture	φ25.4mm ; φ31. 8mm	
Output speed	23r/min	



Before installing the machine, the Torsion spring should be balance with the weight of the door, The door is sure to be opened and closed manually.

C. Descriptions of product

1. KGT6

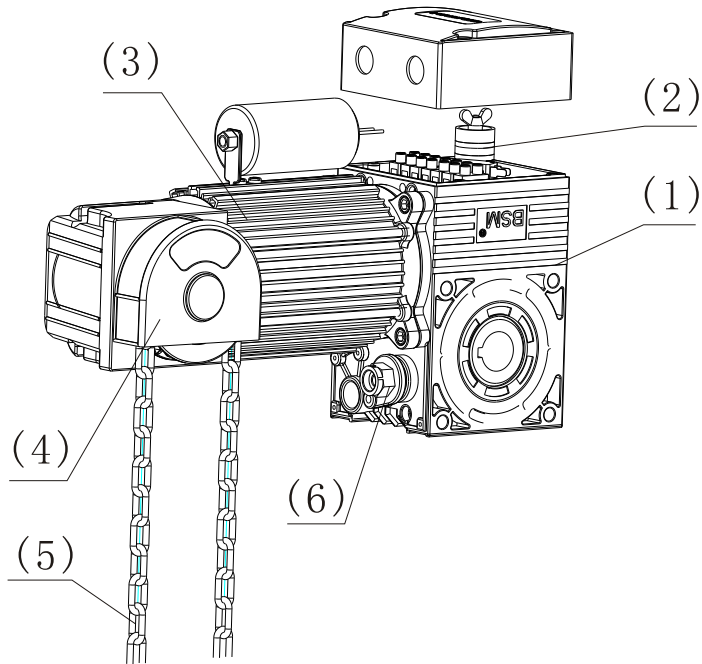








Fig 3.1

- ① Gear reducer
- ② Gear of fine limit device
- ③ AC motor
- ④ Lift device
- ⑤ Chainlet
- ⑥ Clutch

Gear of limit device

2. Installation fittings:

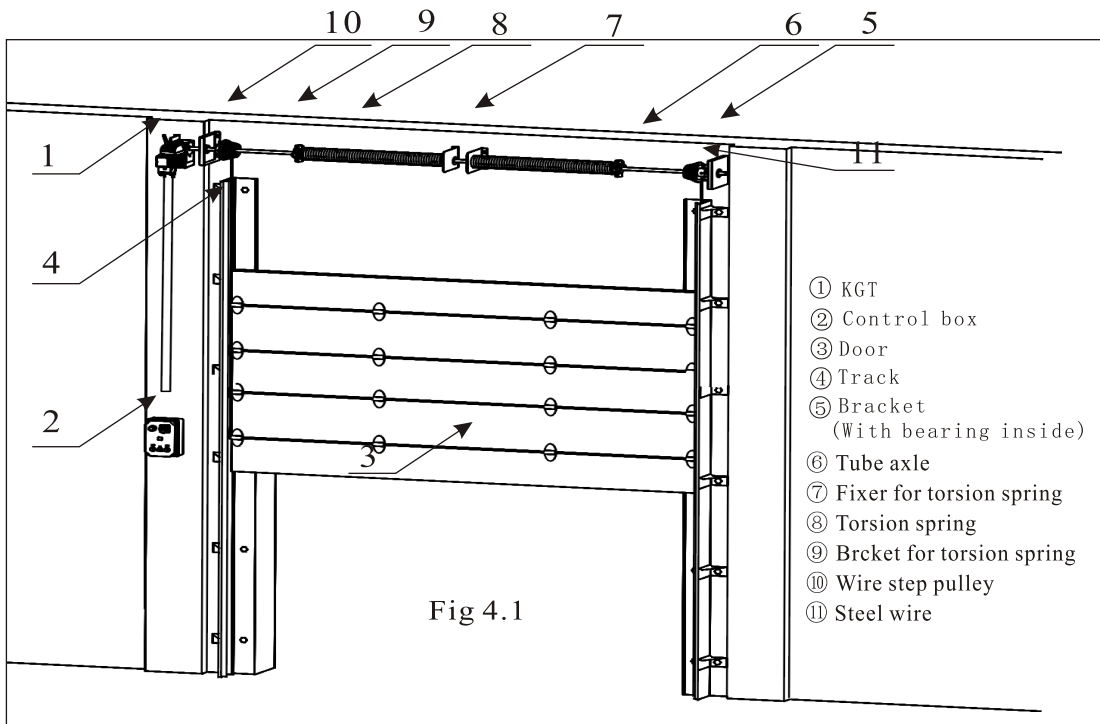
Picture	Name	Spec	Quantity
1 	Mounting Bracket		1
2 	Straight key	6.4×100 or 8X100	1
3 	Expand bolt	M10	4
4 	Socket cap screw	M10×20	4
5 	Coil spring washer	φ 10	4
6 	Flat washer	φ 10	4

D. Guide of installation

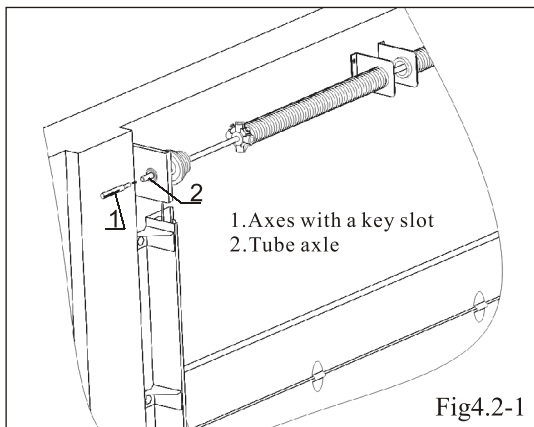


Before installing the machine of KGT, the door must be installed completely and be balanced with torsional spring.

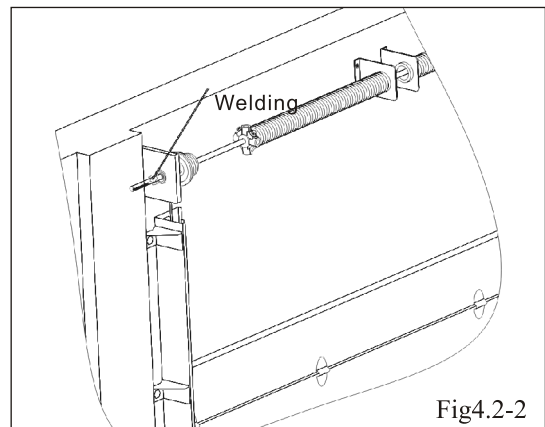
1. Standard installation layout:



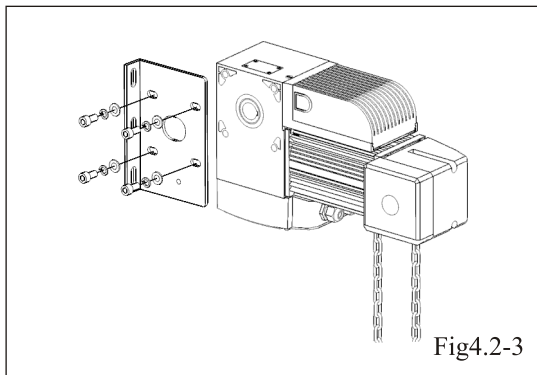
2. Installing the operator:



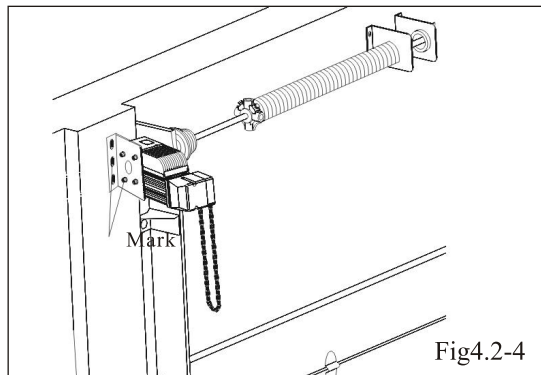
(1) Insert the Axes into the tube.



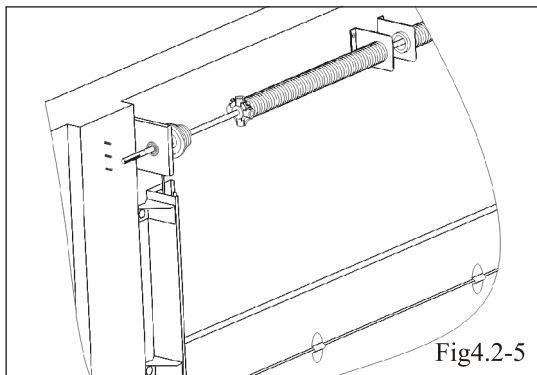
(2) Connect the Axes with the tube axle by welding or bolts.



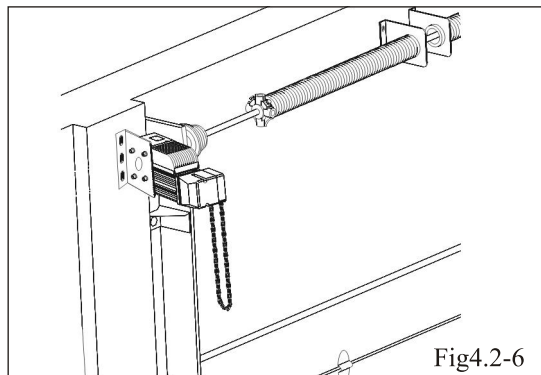
(3) Join the operator with the bracket, but don't tighten the screws here.



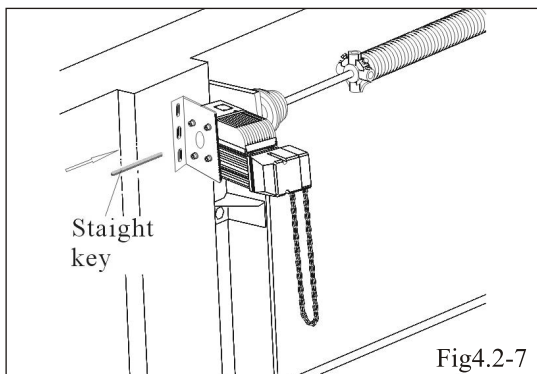
(4) Hang the operator on the tube axle, then locate the exact position of mounting the operator on the wall and mark on the wall.



(5) Move the operator away, drill on the marks, and put the expand bolt into the hole.



(6) Hang the operator on the tube axle again, mount the bracket.



(7) Insert the straight key (A6.4X100) into the Axes, tighten the screw on the bracket.

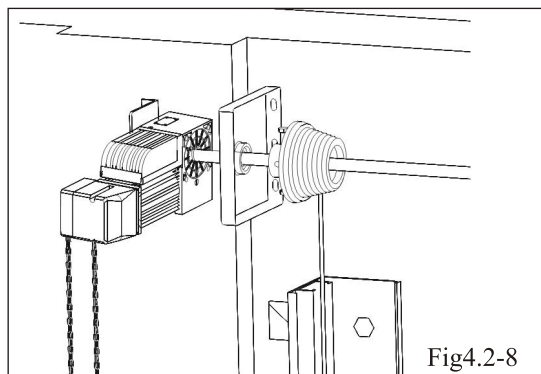


Fig4.2-8

3. Mounting the control box on the wall

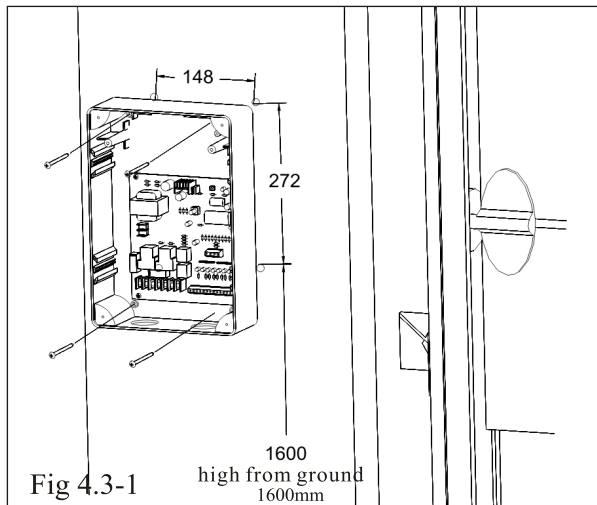


Fig 4.3-1

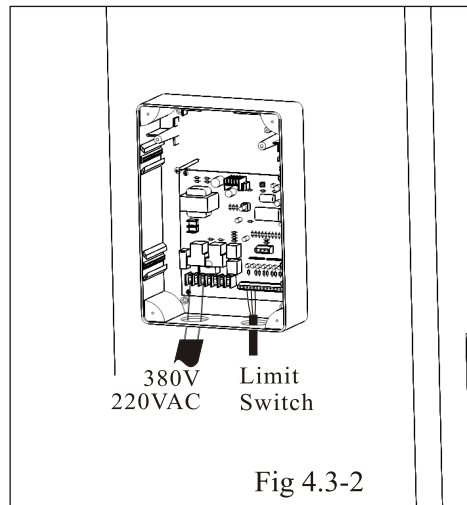


Fig 4.3-2

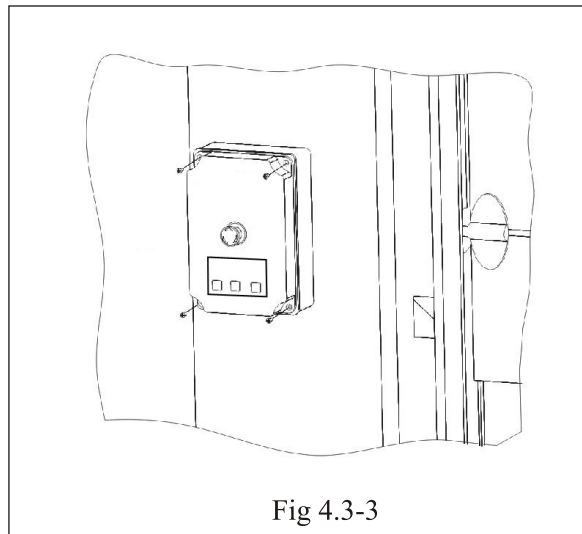


Fig 4.3-3

E. Control system

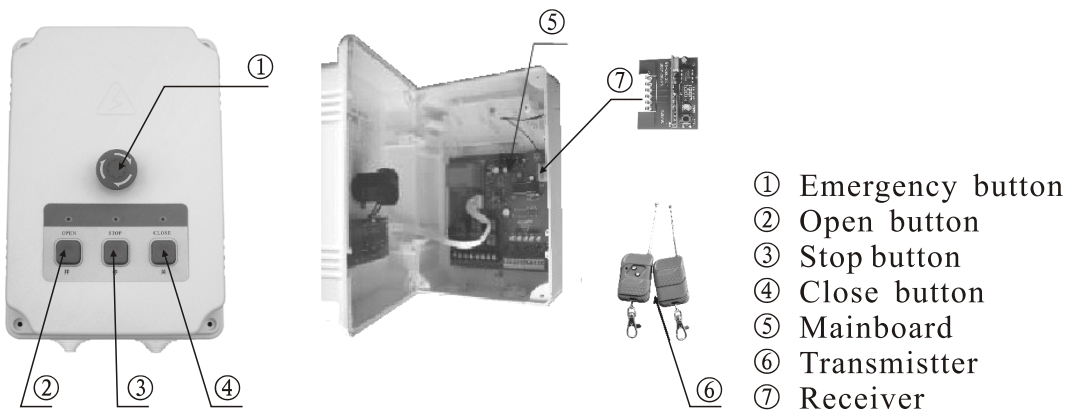
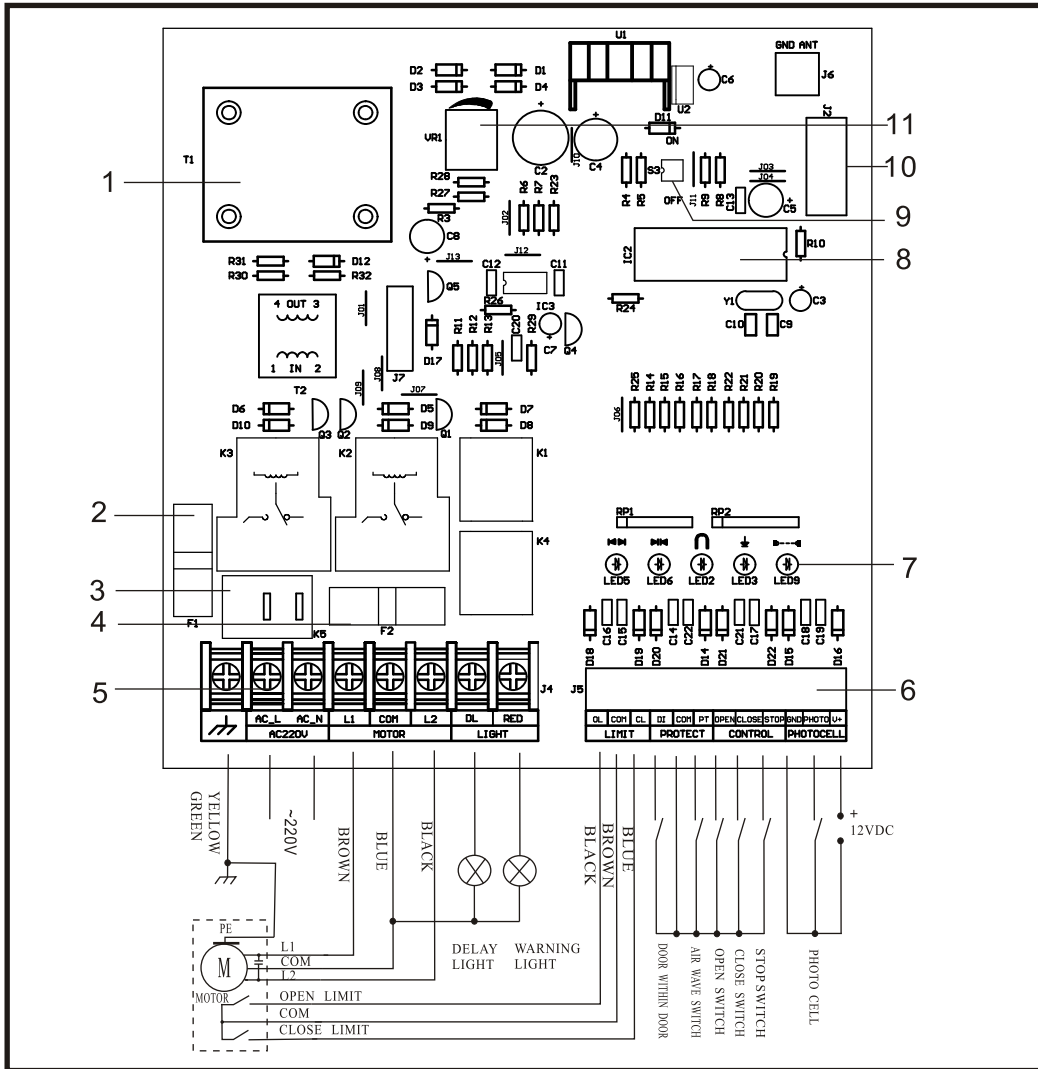


Fig 5-1 Control Box

1. 220VAC Control Box



Technical data

Power supply	AC 220V 50HZ
Max. consumption	10W
Accessories power supply	AC24V 0.4A max
Operating temperature range	-20°C ~+55°C
Operating mode	Soft start & stop
Frequency	433MHZ

Discription of main board

1. Transformer
2. 0. 5A Fuse
3. Power switch
4. 10A Fuse(motor)
5. Power terminal strip
6. Low voltage terminal strip
7. LED
8. MCU
9. DIP switch
10. Receiver connector
11. Potertiometer for delay time

DIP switch setup

DIP1 :

ON: DI. PT. PHOTO for N.C. mode

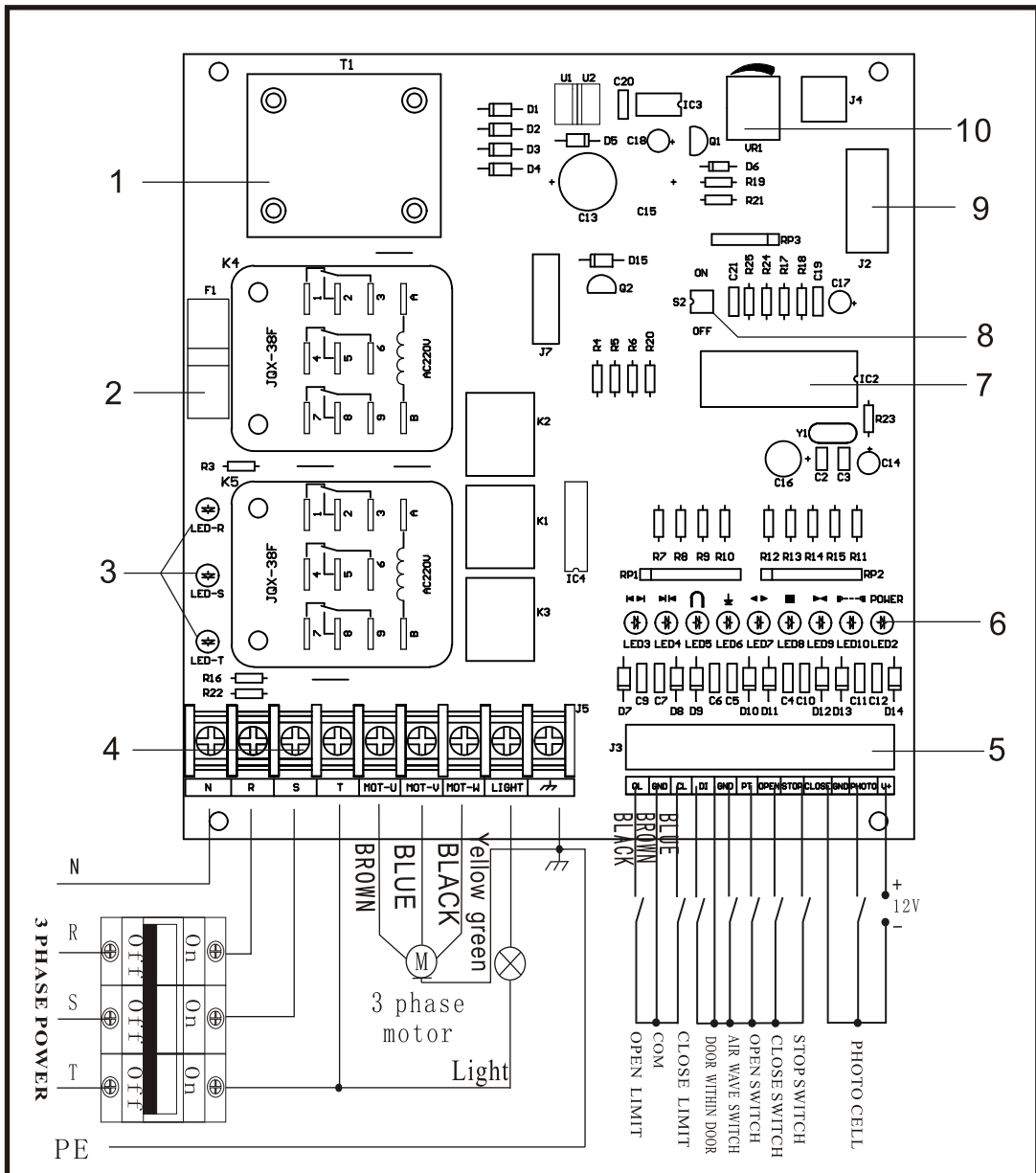
OFF: DI. PT. PHOTO for N.O. Mode(Factory setting)

DIP2:

ON: Enable auto closing, the delay time is adjustable when rotating potentiometer

OFF: Disable auto closing (factory setting)

2. 380VAC Control Box



Technical data

Power supply	AC 380V 50HZ
Max. consumption	10W
Accessories power supply	AC24V 0.4A max
Operating temperature range	-20°C ~+55°C
Operating mode	Automatic / human mode
Frequency	433MHZ

Discription of main board

1. Transformer
2. 10A Fuse
3. LED for 3 phase power
4. Power terminal strip
5. Low voltage terminal strip
6. LED
7. MCU
8. DIP switch
9. Receiver connector
10. Potertiometer for delay time

DIP switch setup

DIP1 :

ON: DI. PT. PHOTO for N.C. mode

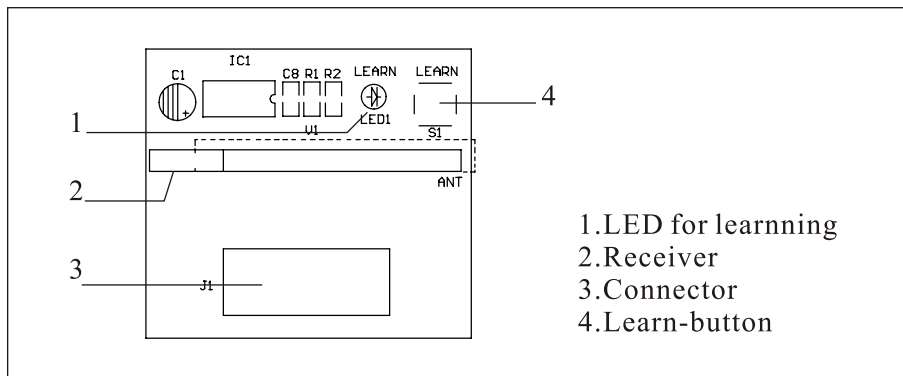
OFF: DI. PT. PHOTO for N.O. Mode(Factory setting)

DIP2:

ON: Enable auto closing, the delay time is adjustable when rotating potentiometer

OFF: Disable auto closing (factory setting)

3. Description of remote module



- 1.LED for learning
- 2.Receiver
- 3.Connector
- 4.Learn-button

Learning transmitter code

- To set transmitter codes: press "learn "button for 1 second , the "LED" light, then, press the button on the transmitter, the "LED" on the main board should flash and then go out, the transmitter's code has been stored.
- **Repeat the above steps for other transmitters.**

Erasing transmitter codes

- press and hold "learn" button on the main board for approx 8 seconds, release when "learn" button from light to go out, all codes are now erased.

F.Limit switch adjustable

Attention: If the operator move in an opposition way, you should change the connection as follow:

Change two connection inside the control box which connect with the motor: $L1 \rightleftharpoons L2$.

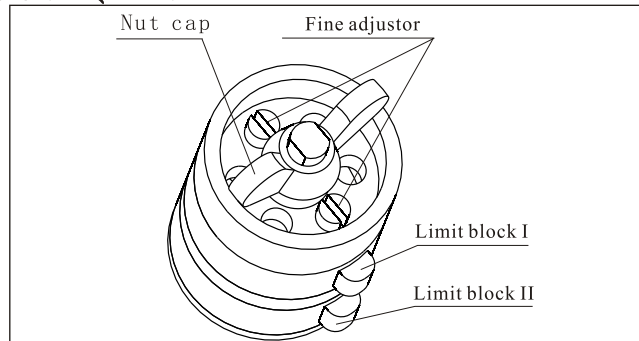


Fig 6.1 Planetary gear limit switch

1 Adjust Close Limit

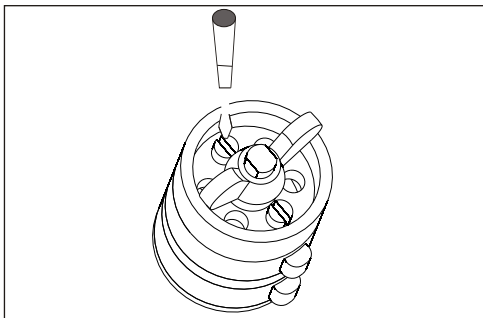


Fig6. 2

Step1, Close the door completely, and confirm which is the one of Close Limit Block according to the situation, then loosen the screw adjustor on Close Limit Block.

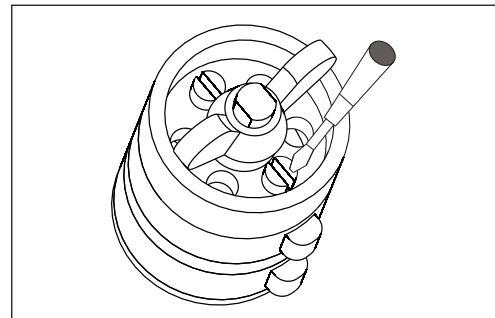


Fig6. 3

Step2, Adjust the fine adjuster till the Close Limit Block touch the micros witch. and LED4 on control box is out.

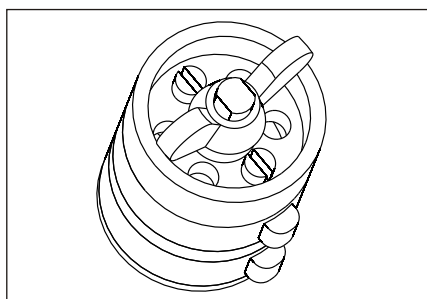


Fig6. 4

Step3, fasten the screw adjustor on Close Limit Block

Step4, start the operator, inspect if the Close Limit point is in accord with the door closed totally, If not ,readjust from step2.

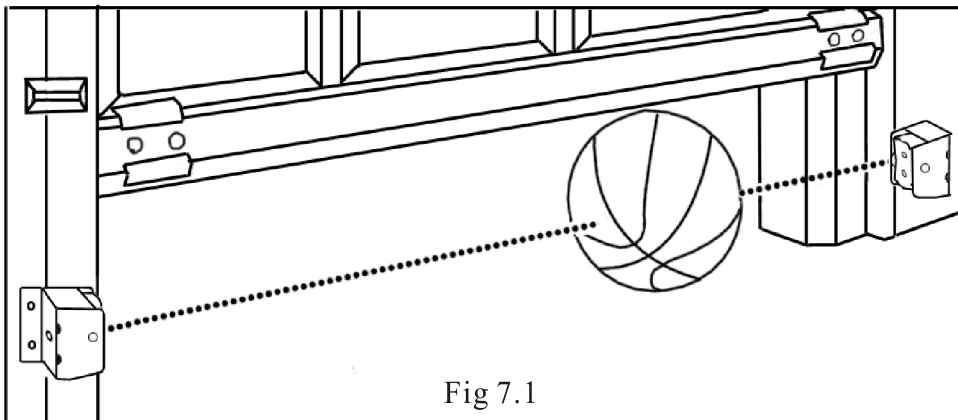
Attention: If the motor reverses, you should exchange the connector $L1 \rightleftharpoons L2$.

G:Installing safety device.

1. Installing Photocell

Note: Photocell should be installed after all installation and test have been done.

- (1) Photocell should be installed at the two sides of the doorframe, 100mm height from the ground.
- (2) Switch off the power, connect Beam receiver and Beam emitter with the controller. Switch on power, adjust carefully the location of Beam receiver and Beam transmitter, the beam of Receiver and Emitter should aim at each other. The red-light in receiver is dim, while the beams collimate, then, the door operator could work normally.
- (3) Fixed by screw to ensure that the photocell would not shift easily.



2. Installing Air Wave Switch

- 2.1. Working principle: the power from the air compress in soft tube transportation to Air wave switch.

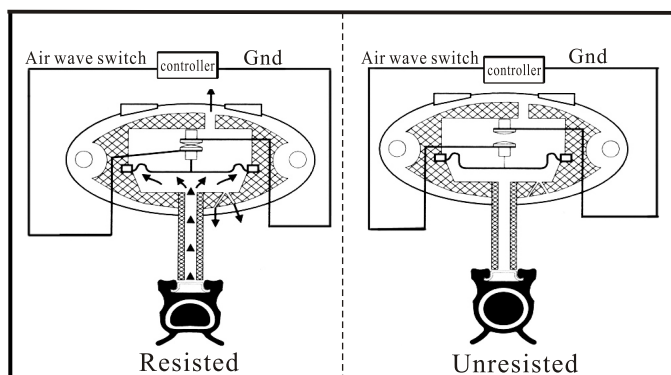
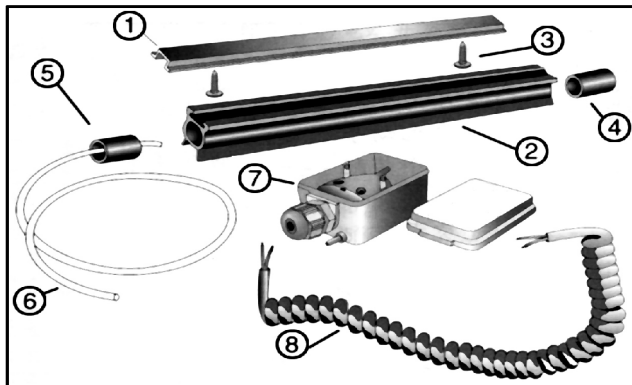


Fig 7.2

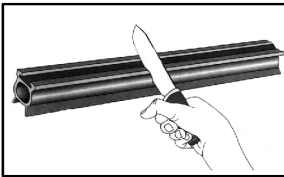
2.2. Products explanation



- ① Aluminium groove
- ② Rubber tube
- ③ Screw
- ④ Seamless solid plug
- ⑤ Seamless hollow plug
- ⑥ PVC soft tube
- ⑦ Air wave switch
- ⑧ Spiral cable

Fig 6.3

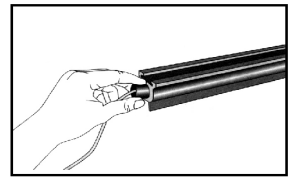
2.3. Installation.



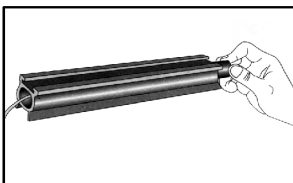
1) cut the rubber tube into proper length as you need.



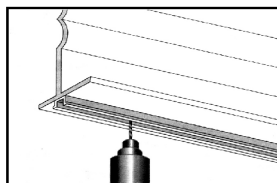
2) cut the aluminium groove into proper length as you need.



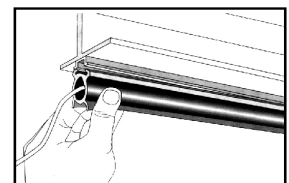
3) put the seamless hollow plug and PVC soft tube into rubber tube.



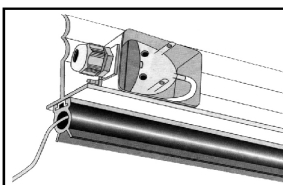
4) put the seamless solid plug into rubber tube.



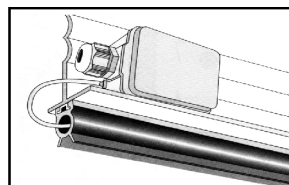
5) fix up the aluminium groove.



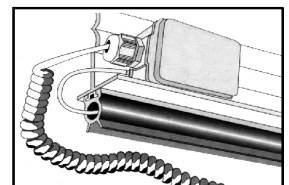
6) put the Rubber tube which is well assembled into aluminium groove.



7) Install the Air wave electric switch.



8) connect the PVC soft tube with switch.



9) connect spiral cable with controller.

H:Usage and Maintenance.

1. There are switch buttons(one Emergency Stop, one Open button and one Close button) on the controller. Press the Emergency stop button, the running doors tops immediately and shut off power supply. Turn the button according to direction marked to reposit the button .
2. Ordinary operation: User could control the door by pressing the open or close button on controller. When the door is moving, press any button to make it stop.
3. Termly check the balance of extension spring and the torsional force to ensure the door could move up/down smoothly by manual force when release the clutch in Gear reducer.

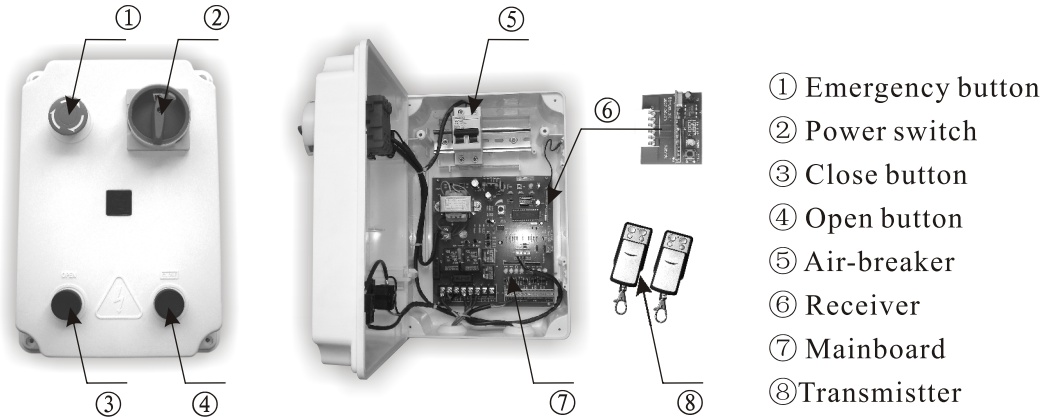
I. trouble shooting

Number	Trouble	Possible cause	Troubles shooting
1	Motor can't turn on	<ul style="list-style-type: none"> ● No power supply ● Fuse IS broken ● Capacity is broken down ● overload protect ● overheating protect ● microswitch is inoperative 	<ul style="list-style-type: none"> ● Check power supply ● Change fuse ● Change capacitor ● Check if any barrier on the rack ● Restart after 20 minutes ● Pull the hand chain
2	Open(close) but can't close(open)	<ul style="list-style-type: none"> ● whether L1、COM、L2 wires are connected wrong 	<ul style="list-style-type: none"> ● connect correctly according to wiring diagram
3	Can not limit position	<ul style="list-style-type: none"> ● limit switch is damaged 	<ul style="list-style-type: none"> ● change the limit switch
4	Release device can not work	<ul style="list-style-type: none"> ● The gears are jammed ● The spring in gear reducer is damaged 	<ul style="list-style-type: none"> ● turn the gear double direction ● change a new spring
5	Push "open", but the door is down	<ul style="list-style-type: none"> ● whether L1、L2wires are connect wrong 	<ul style="list-style-type: none"> ● connect according to wiring diagram
6	Motor can turn but operator not work	<ul style="list-style-type: none"> ● Spring in gear reducer ● Whether gears are released 	<ul style="list-style-type: none"> ● change or adjust stress of spring ● check the position of handle

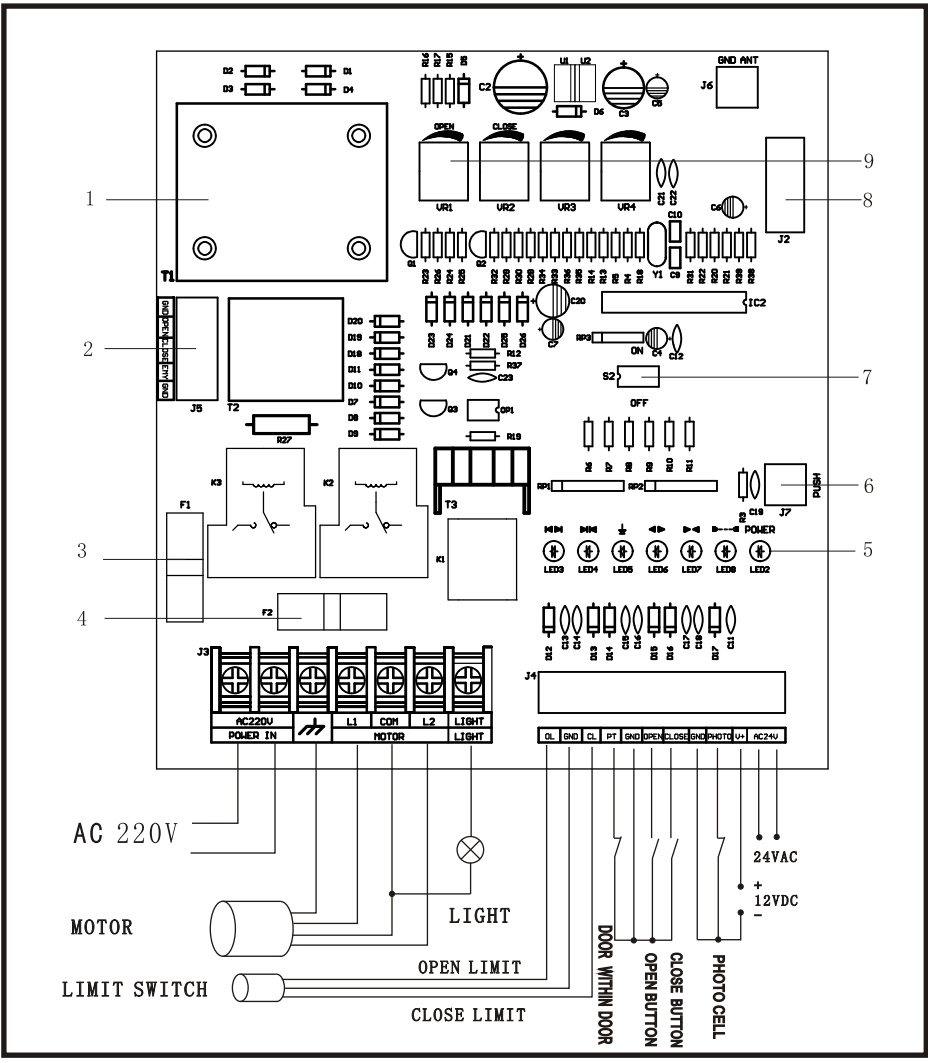
The design right is kept by our company.

No prior notification when we revise the product.

J. Control system (Optional)



1. 220VAC Control Box



Technical data

Power supply	AC 220V 50HZ
Max. consumption	10W
Accessories power supply	AC24V 0.4A max
Operating temperature range	-20°C ~+55°C
Operating mode	Soft start & stop
Frequency	433MHZ

Discription of main board

1. Transformer
 2. Button connector
 3. 0. 5A fuse
 4. 10A fuse
 5. LED
 6. Push button connector
 7. DIP switch
 8. Receiver connector
 9. Potentiomer
- Vr1: potentiomer for opening force
Vr2: potentiomer for closing force
Vr3: potentiomer for auto closing time
Vr4 potentiomer for running time

DIP switch setup

DIP1 : ON : Enable auto closing, the delay time is adjustable when rotating Vr3 potentiometer

OFF : Disable auto closing

DIP2 : ON : Human mode , the button should be pressed continuously when closing the door

OFF : Automatic mode

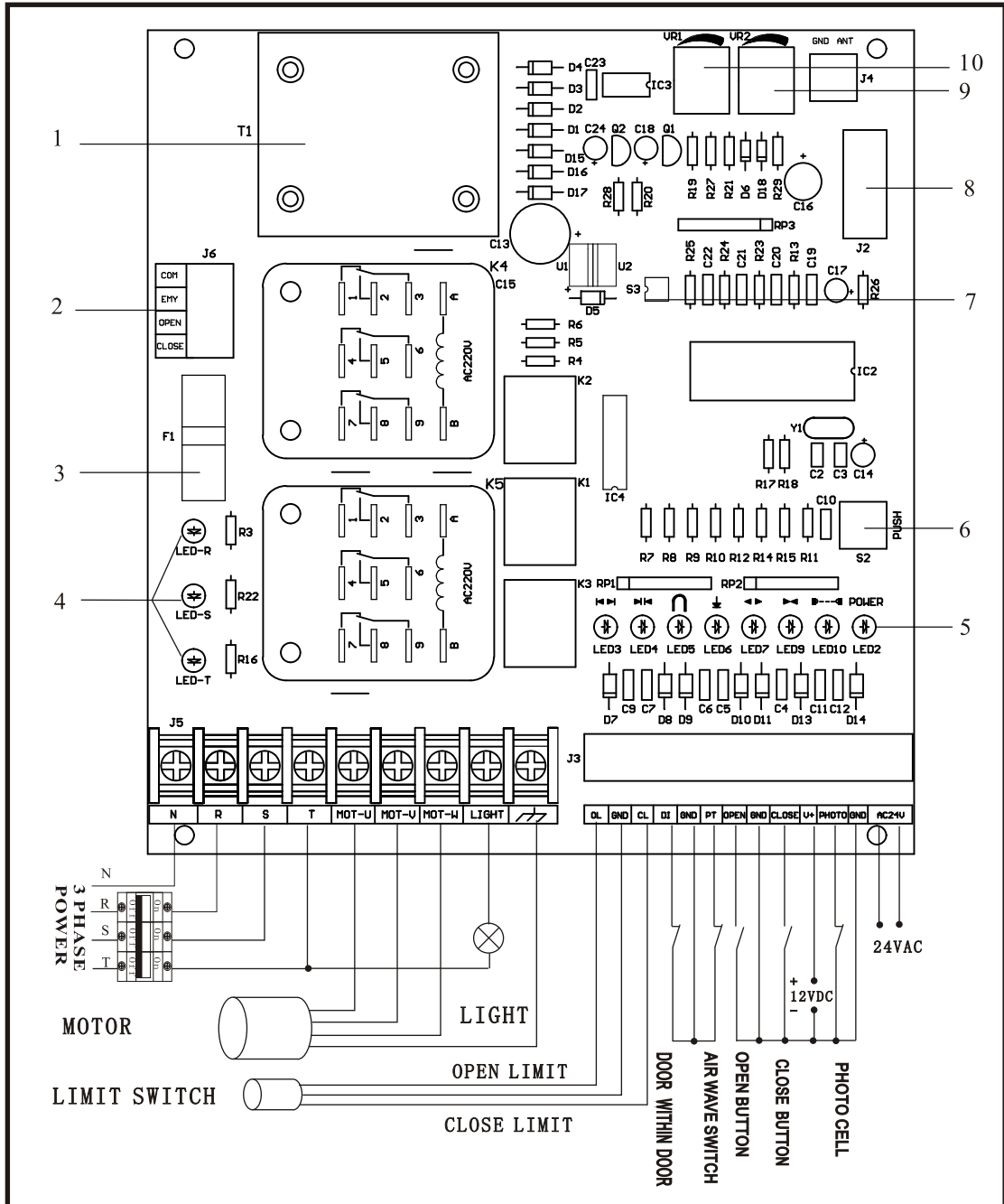
DIP3 : ON : Enable force detecting, in this situation, when the door meets obstacle, it will reverse. The force can be adjusted by Vr1 & Vr2

OFF: Disable force detecting

DIP4: ON: Enable soft start & stop

OFF: Disable soft start & stop

2. 380VAC Control Box



Discription of main board

1. Transformer
2. Button connector
3. 10A fuse
4. 3 phase power LED
5. Power LED
6. Push button connector
7. DIP switch
8. receiver connector
9. Potentiomer for working time
10. Potentiomer for auto closing time

