⚠ WARNING

1. This door machine must be installed and put into operation by professional installer.
2. Corresponding installation and wiring shall be in accordance with the Construction Criteria, and wires diameter ≥ 1.5 mm2. Ensure the power source has earth grounding, and the grounding wire shall tightly connect into grounding plate. Cutting away the grounding wire is prohibited.
3. Earth leakage protection device fulfilling corresponding national criteria shall be firmly set at the front end of the inlet power source.
4. This Industrial Door Machine is only applicable for Spring-Balanced door, or the Machine would likely be destroyed by overloading.
5. The door shall run freely and without any seizure wear. Each end of the door rail shall have one restrictor or a buffer booster to avoid the door slipping from the guide rail.
6. Control box shall be installed on wall or volume from where the door's operation condition can be visually observed, and with at least 1.4 meters distance above floor level so that children could no longer touch it. For the sake of children's safety, remoter shall be kept away from kids. Operating the door remoter at a place invisible of the door's running condition is prohibited.
7. Electricity supply system of both door-opening machine and control box shall be cut off if maintenance and removal required. Door shall be checked before maintenance and removal to ensure it is in lock-up condition and there is no sign of falling risk.
8. No entrance or stay is allowed once the door is moving.
9. Pulling the hand chain of this machine is prohibited when the door machine is in operation, since it will easily damage the door machine.
10. For equipment with shift clutches, pulling ropes of the shift clutches is prohibited unless otherwise the door is in definite close status; and no other conditions are allowed for rope drawing.
11. For the sake of safety of people and vehicle passing thru, safety bottom edge (infra-optical, pneumatic, other) should be installed and

activated. Door can be operated without safety edge, if door is visually controlled by user during operation and activated Hold-to-run function, so door stop operating when push button is released. Door line photocells should be installed and activated if door is in use with remote control. May be other requirements corresponding local operating criteria.

Content

parameter table

TYPE	**RDS50**	**RDS75**	**RDS150**	**RDS200**
Rated Power	300W	370W	650W	800W
Starting Torque	40N.m	75N.m	150N.m	200N.m
Input voltage	AC220V	AC380V		
No-load Operation Time	25min		15min	
No-Load Rotating Speed	24rpm	24rpm	24rpm	24rpm
Protection Temperature	120℃			
No-Load Rotating Speed	24r/min			
Type of Lubricate	Oil Immerged			
Noise	≤55dB			
Max.Limit Range	20 rounds by output shaft			
Output Shaft	Φ25.4mm			
Use Environment	-20℃~+45℃			
Duty Cycle	S2 20% (continuous running with load no more than 10min)			
Protection Classification	IP54			
Electric control model	RDS-52Y, RDS-52SY			

Rapid wiring and programming manual

RDS-50 motor + RDS-52Y control (1 phase)
RDS-75 motor + RDS-52SY control (3 phase)
RDS-150 motor + RDS-52SY control (3 phase)
RDS-200 motor + RDS-52SY control (3 phase)

RDS-52Y Power supply 230V AC (1 phase)

L = brown (230V AC phase) N = blue (zero) PE = Yellow-green (ground)	**Motor connection to control** U=U=blue V=V=brown W=W=black ---------- C1=black (capacitor) C2=black (capacitor)	GND=green B=purple A=pink VCC=red ---------- OP=yellow (mot.thermocontact) CO=white (mot.thermocontact)

RDS-52SY Power supply 380 V AC (3 phase)

PHASES L 1= BROWN L 2 = BLACK L 3 = GRAY N = blue (zero) PE = Yellow-green (ground)	**Motor connection to control** U=U=blue V=V=brown W=W=black	GND=green B=purple A=pink VCC=red ---------- OP=yellow (mot.thermocontact) CO=white (mot.thermocontact)

Dip switch settings

DIP1=OFF electronic limits, ON mechanical
DIP2=OFF factory settings
DIP3=ON (possibility to program parameters)

See ERROR table in down manual if ERROR persist

Diagnostic status
1 = stop (stop button activated, see parameters P2-06)
2 = open (open button activated)
3 = close (close button activated)
4 = infra (photo cells, opto cells, pneumo sensor, see parameters P2-07)
5 = DOR, RAD (pass door contact, see parameters P2-08)
6 = One key (hand transmitter command)
7 = Middle limit (intermediate stop point)
8 = Interlock (2 door system interlocking, block 1 door if 2nd door opened)

LIMITSWITCH SETTINGS
(DIP SWITCH 3 ON)

Press SET 3sec, show *P0*, press SET, show *L0*, push OPEN KEY adjust top limit, press SET, show *L1*, push DOWN KEY adjust bottom limit, press SET

IF OPEN KEY CLOSE DOOR, PLEASE CHANGE V - W WIRES ON MOTOR CONNECTION.

Additional 3 key switch connection

COM-OPEN
COM- CLOSE

COM-STOP (STOP switch with NC CONTACT – parametrs P2-06 switch to 1 (0=NO, 1=NC contact)

Infrared bottom edge sensor connection

Parameters P2-07 set to 1 (NC contacts)
24V=RED
COM=BLUE
INF=WHITE

Pneumatic-air switch connection

Parameters P2-07 set to 0 (NO contacts)
COM=RED
INF=WHITE

Infrared photocells connection

Parameters P2-07 set to 1 (NC contacts)
Power supply 24V – COM (24 Vdc)
Photo contact INF – COM on photocells COM – NC

RADIO Receiver installation

Plug in receiver in control slot, rotete it following marked square
Programming:
Push button on receiver, push buttom on transmitter
Delete all transmitters: long push (+10sec) on receiver buttom.
!!! Parametrs P2-10 set to 1. remote control type: 0 = 3 key mode, 1 = 1key mode.

Pass door protection switch or Slide bolt protection switch

Parameters P2-08 set to 1 (NC contacts)

PASS DOOR switch with NC
COM – RAD

MOTOR Force settings

Parametrs P2-02 set 10 to 70. (motor force maximum 70, minimum 10)

Display

XXX-X manual opening and closing
XXX=X automatic closing (closinf time parametrs P1-01 from 1-600 (sec), default 10 sec.

switch status: long press 6 sec STOP KEY

Parameter setting

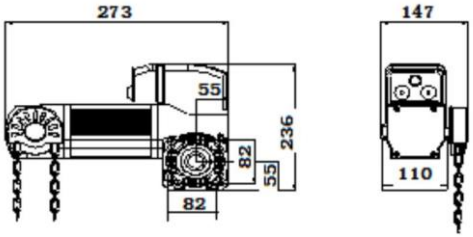
DIP3 switch ON

Long press 3 sec SET KEY, display show ***PO***
OPEN key, show ***P1*** (OPEN KEY show ***P2,*** next ***P3***)
SET key, show ***P1-01***

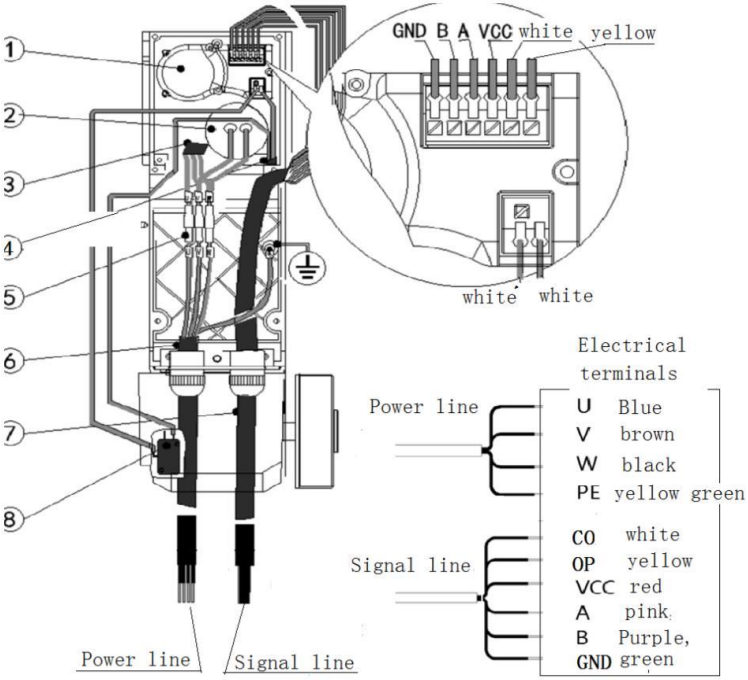
- SET key, entering in ***P1-01*** and adjust value with OPEN or CLOSE keys, SET key to save value.
- **Auto close function ON: long press 6 sec STOP key**
- OPEN, CLOSE key to select other parameter ***P1-02*** or next ***P1-03***
- double click STOP back to main menu.

DIP3 switch turn OFF after parameters settings, to avoid make some not planned settings by mistake of user !!!

Motor size



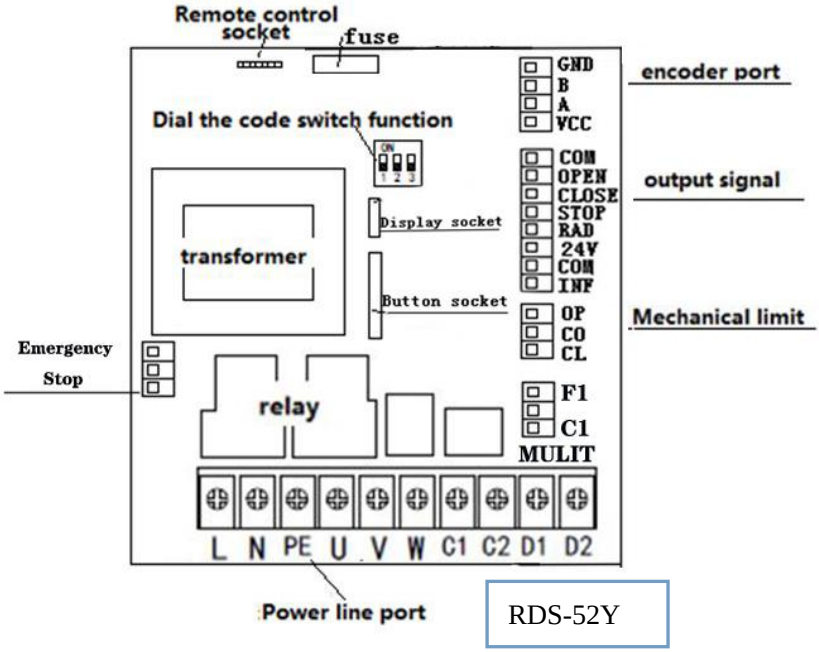
Motor wiring diagram



①Encoder ②Motor thermal protection line ③Motor lead wire

④Number tube ⑤Terminal ⑥Waterproof ⑦ signal line ⑧ Power line

AC220V Circuit board structure：(RDS-52Y)



Power line port:

1， L N : AC 220 V power supply into line,

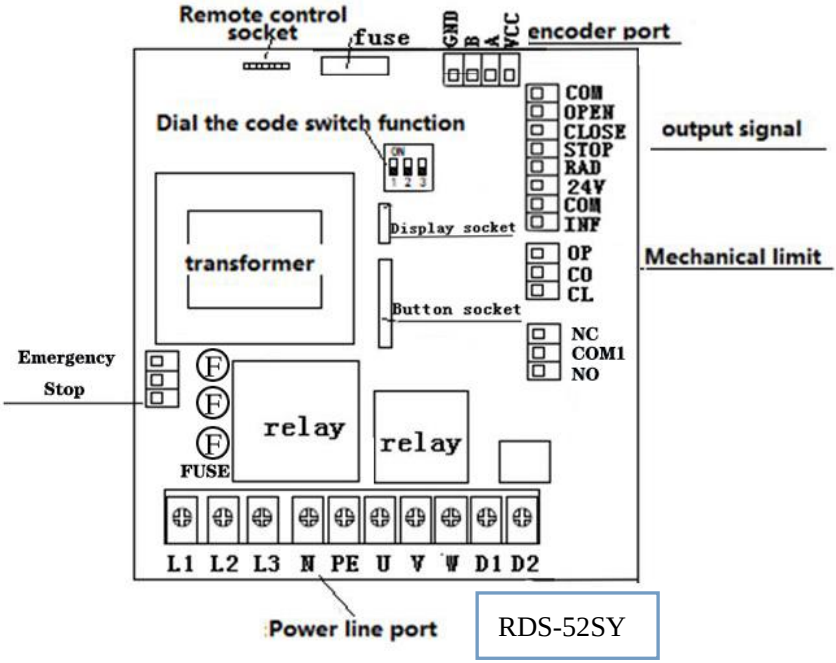
2， PE: Grounding.

3， U V W: Motor line, U (blue), V (brown), W (black) and motor terminals U, V, W corresponding connection.

4， C1 C2: Start the capacitance (6.3Uf)，Optional use

D1 D2: Multifunction output port

AC380V Circuit board structure：(RDS-52SY)



Power line termnal：

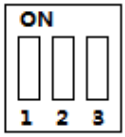
1,L1 L2 L3 N : AC 380 V power supply into line,

2,PE: Grounding.

3,U V W: Motor line, U (blue), V (brown), W (black) and motor terminals U, V, W corresponding connection.

4,D1 D2: Multifunction output port

Dial the code switch Settings：



Dial the code switch 1: limit mode choice.

ON: mechanical limit state,

UNDER: electronic limit state

Dial the code switch 2: closing point choice.

ON : closing point state,

UNDER: continuous running state

Dial the code switch 3: When mechanical limit,

ON : Automatic delay shutdown state

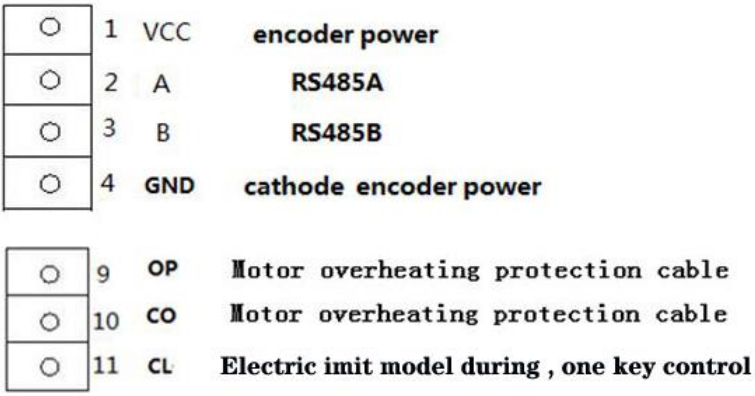
UNDER: Manuallv shutdown state

Dial the code switch 3: Electron limiting time

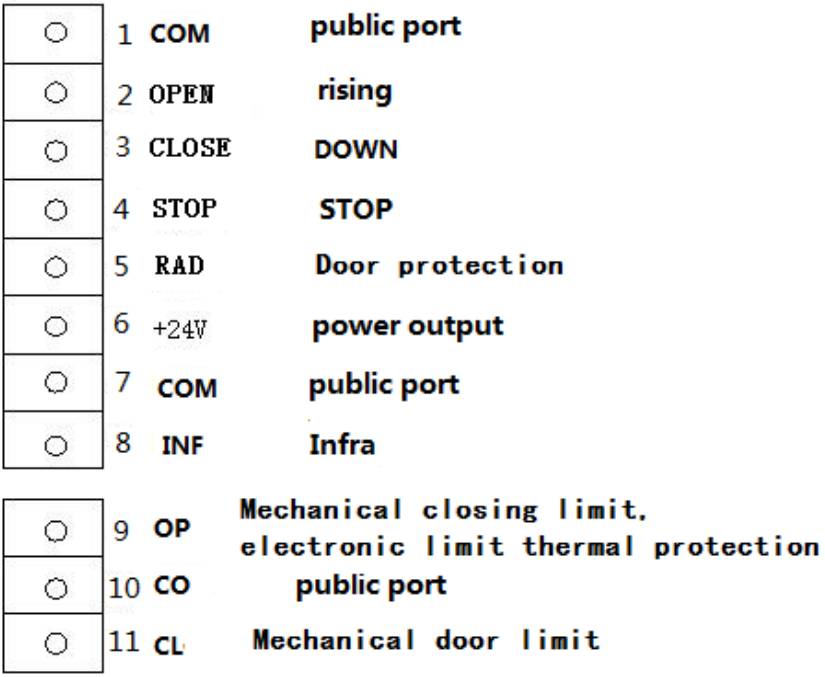
ON : Open the Settings key

UNDER: close the Settings key

Electronic limit connection (encoder port)：



Control signal Control signal port：



Control model of port wiring instructions：

1， Motor overheating protection：

Connect the yellow and white cables to the OP and CO ports of the mechanical limit ports in the circuit board. When the motor temperature above 120 degrees, motor automatic stop working.

2， External three button function：Three button to switch to an external access port 2 (OPEN), 3(CLOSE), 4(STOP) and 1(COM) terminal,

switch state requirements for NO;

3， DC24V power supply output function:

Terminal 6(+24V) and 7 (COM) to DC24v power supply output port;

4， **Protection function** (infrared photocells, infrared bottom edge):

The infrared signal equipment, access to 8 (INF) and 7 (COM), 24V power cord access 6 (+ 24) and 7 (COM).. Enter the input signal is NO, NC can be set up through parameter P2-07..

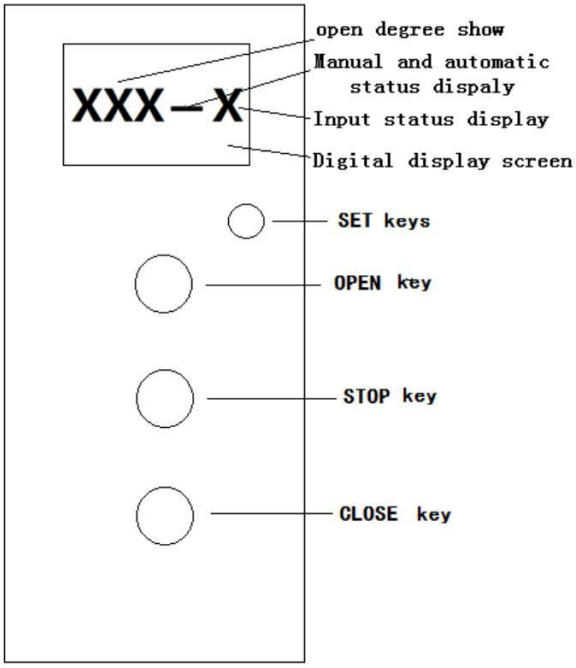
5， **Protection function** (pneumatic-air switch):

Pneumatic-air switch signal equipment, access to 8 (INF) and 7 (COM), 24V power cord access 6(+ 24) and 7 (COM).. Enter the input signal is NO, NC can be set up through parameter P2-07..

6， **Protection function** (pass door switch):

Factory state, the two ports is to use short jumper wire connection good, such as need pass door protection, please remove the short jumper, and to access the door switch line 5 (RAD) and 7 (COM) port . Normally open, normally closed state can be set through the P2-10. At this point, when the door open, switch button without action;

Display Settings button and display symbols：



SET key: for setting key and parameter confirmation key

OPEN key: 1, Open the door button when running,

2, Setting the state is to add a key to the data

STOP key: 1, when running, press the stop button

2, When setting the specific data of the state to adjust the state, it is the shift key

3, When setting the parameter symbol state of a state, is the exit key

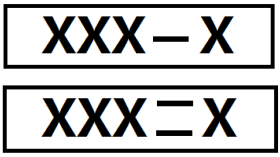
CLOSE key: 1, Close the door button when running,

2, setting the state is to reduce key to the data.

Normal working state, the screen will display open degree, manual and automatic closed state, state of input. This state is called: "main menu"

1, opening degree, according to screen data as the gates open degree, “XXX” data change during 0-100.

2, manual and automatic status display: (Long press the STOP key more than 6 seconds,manual and automatic mode)



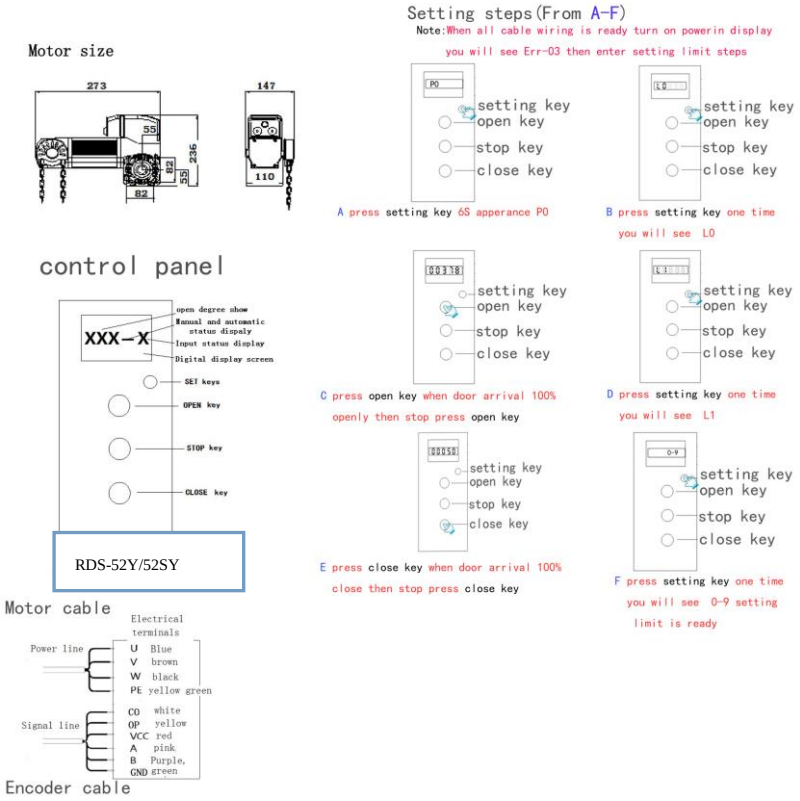
3, “X” Input status will display the current input signal digital code.

4 , Input signal status code:

Input state	
Number	Instructions
1	stop
2	open
3	close
4	infra
5	DOR
6	One key
7	Middle limit
8	interlock

1.Limit the debugging and parameter Settings：

As per the below instruction:



Before setting, adjust the DIP switch No. 3 to the ON position

●Setting of the UP limit:

1) Long press SET key more than 3 seconds, the LED display will shows P0,next step click the SET key, the display will display L0 and show three overline(three overline last shining),it means learning for UP limit status.

2) Then keep pressing the OPEN key (UP) until the door reaches the limit location; if the moving direction of the door is opposite to the direction of the buttons, please change the position of the V and W lines in the control box after the power off before performing limit learning.

3) Press SET key to save the settings. When the door reaches the desired position, immediately release the button.

●Setting of the DOWN limit: Before setting, adjust the DIP switch No. 3 to the ON position

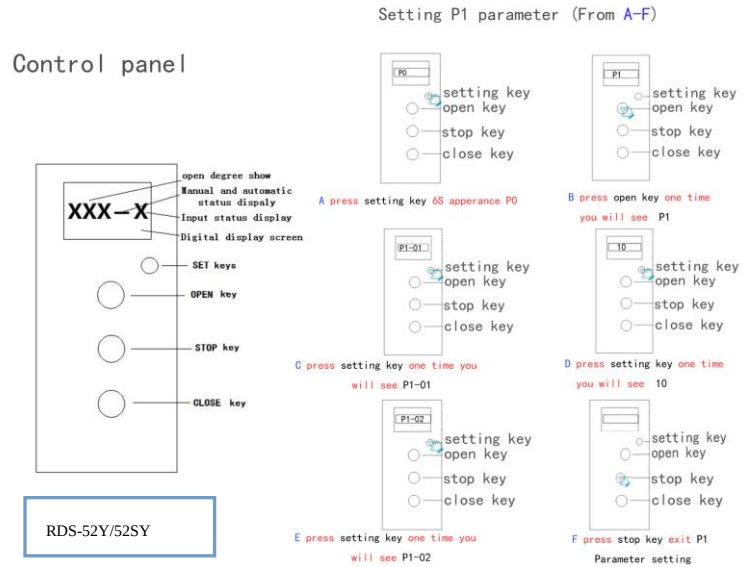
1) Long press SET key more than 3 seconds, the display will shows P0, next step click the SET key, the display will display L0 and show three overline(three overline last shining),it means learning for UP limit status.2) Then keep pressing the CLOSE key (DOWN) until the door reaches the limit location; 3) Press SET key to save the settings. When the door reaches the desired position, immediately release the button. At this time, "O" is displayed on the display screen, indicating that the limit learning is completed.

★Turn the function dial switch No. 3 dial to the OFF position.

Please use the control box button to adjust the limit switch.

2. ●P1 parameter Settings: Before setting, adjust the DIP switch No. 3 to the ON position

As per the below instruction:



1) Main menu, press the "SET" button for more than 3 seconds, the display shows P0;

2) Next step press the "OPEN", the display shows P1;

3) Press the "SET", the display shows P1-01; (At this time, press the "OPEN" or "CLOSE" to select the parameter items that need to be adjusted up or down)

4) Continue to press the "SET" to enter the setting of P1-01 parameter value. Press the "OPEN" and "CLOSE" to adjust the value of the parameter up and down;

4) The adjustment method of other parameters can be deduced by analogy. Note that after each parameter setting is completed, you must

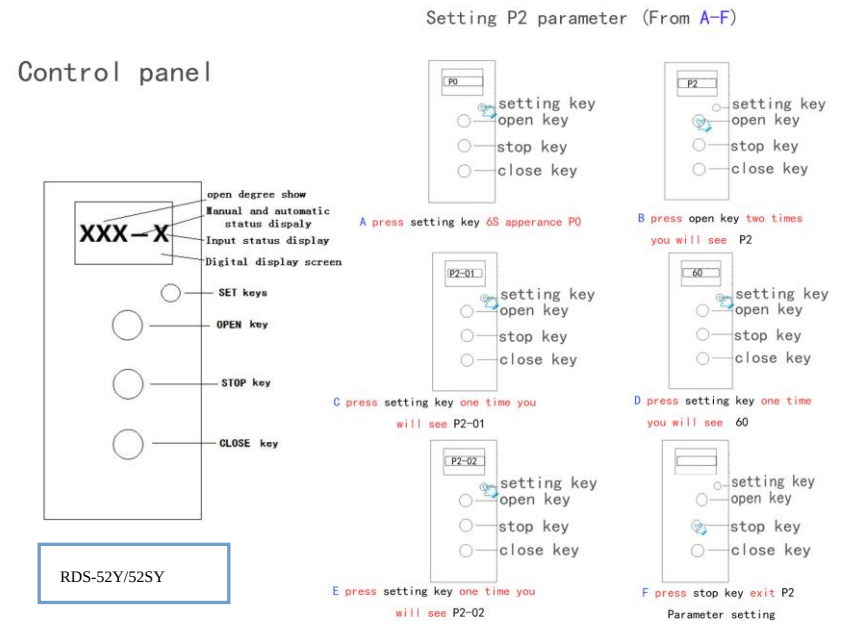
press the "SET" to save, and double-click the "STOP" to back the main menu step by step before starting normal operation.

6）P1 parameter name, scope, and the default value：

P1 parameter			
number	instructions	Parameter range	default value
P1—01	Closing time delay	1S----600S	10
P1—02	Multifunctional output1	0=shut； 1=close；2=open； 3=running；4=windcurtain；5=alarm	3= running
P1—03	Open Limit advance	0—200	30
P1—04	Close Limit advance	0----200	30
P1—05	Openovershoot alarm	10—200	80
P1—06	close overshoot alarm	10—200	80
P1—07	Infrared cut-off distance	1—1500	50
P1—08	UP limit Check	UP data(Read Only)	-
P1—9	DOWN limit Check	DOWN data(read only)	-
P1—10	Encoder current value Check	Current data(read only)	-
P1—11	Multifunctional output2	0=shut； 1=close；2=open； 3=running；4=windcurtain；5=alarm	2=open
P1—12	P1parameterrecovery	1 = recovery	0

●P2 parameter Settings:

As per the below instruction:



1) Main menu, press the "SET" for more than 3 seconds, the LED display shows P1,

2) Next press "OPEN" and "CLOSE" (display data can be changed between P1, P2, P3).

3) Change to P2 parameter, and then press the "SET", the display shows P2-01; (Meanwhile, press the "OPEN" and "CLOSE" to select the parameter items that need to be adjusted UP and DOWN)

3) Continue "SET"; enter into the setting of P2-01 parameter value. The size of the parameter can be adjusted through the "OPEN" and "CLOSE";

4) The adjustment methods of other parameters can be deduced by analogy. Note that after each parameter SET is completed, you must press the "set button" to save, and double-click the "STOP" to back to the main menu step by step before starting normal operation.

5) After adjusting, put the DIP switch 3 and to the OFF position

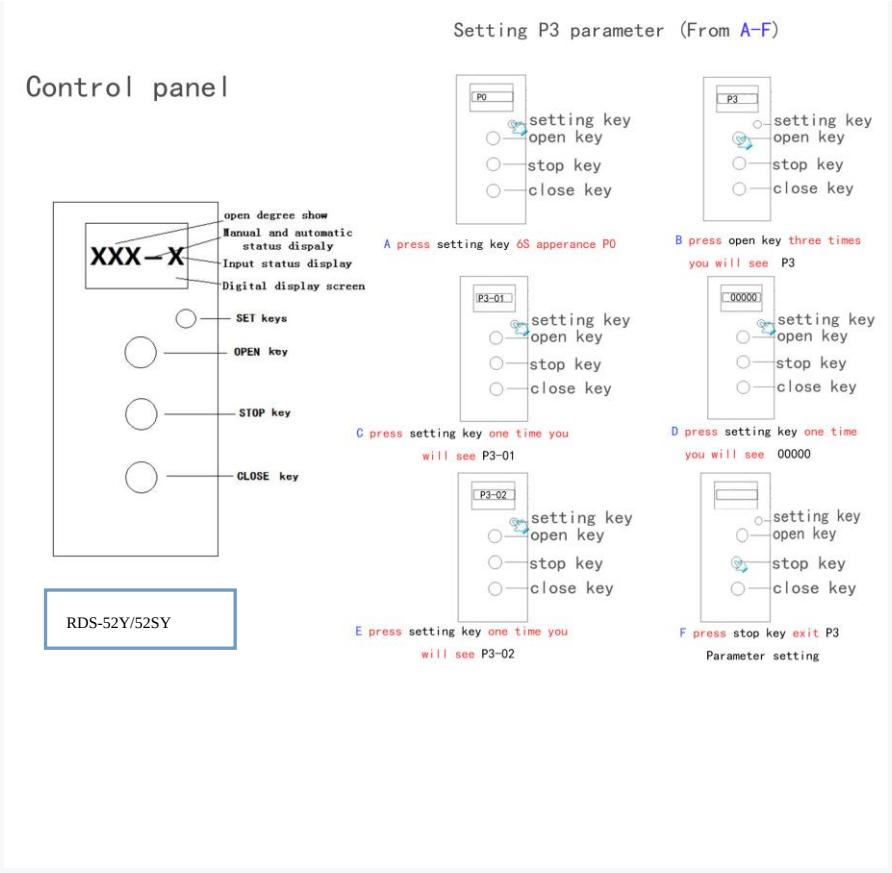
7）P2 parameter name, scope, and the default value：

P2 parameter：			
number	instructions	Parameter range	default value
P2—01	Run time protection	60S-200S (At 200S,close protection)	60
P2—02	Locked-rotor time	10—70 （ At 70S, Blocking protection is off））	70
P2---03	Open point function	0= continuous 1= Point(Dead Man Programmer)	0=continuous
P2—04	Close point function	0= continuous 1=Point(Dead Man Programmer)	0=continuous
P2—05	Mechanical limit level	0=(N.O.)；1=(N.C.)	0=(N.O.)
P2—06	Stop level	0=(N.O.)；1=(N.C.)	0=(N.O.)
P2—07	Infra level	0=(N.O.)；1=(N.C.)	0=(N.O.)
P2—08	Radar level	0=(N.O.)；1=(N.C.)	0=(N.O.)
P2—09	power supply lacks	0=close；1=star；	1
P2—10	Remote control type	0= 3 channel mode， 1=1 channel mode	0
P2—11	P2 Parameters Restore the default	1= restore	0

	value		

- P3 parameter Settings:

As per the below instruction:



P3 parameter adjust steps: before adjust, turn the DIP switch 3 to the ON position

1) Main menu page, press the "SET" for more than 3 seconds, the display shows P1,

2) Next press the "OPEN" or "CLOSE" (display data can be changed between P1, P2, P3).

3) Change to P3 parameter, and then press the "set button", the display shows 00000, meanwhile you need to enter the correct password to enter. The initial password is "00000". (At this time, the "STOP" is the cursor shift key, which can move the digital cursor to the ones place, tens place, hundreds place, thousands place, and then use the "OPEN" or "CLOSE" to adjust the Data.)

3), press the "SET", display P3-01; (At this time, press the "OPEN" or "CLOSE" to select the parameter items that need to be adjusted UP or DOWN)

3) Continue to press the "SET" to enter the setting of P3-01 parameter value. Adjust the size of the parameters through the "OPEN" and "CLOSE";

4) The adjustment method of other parameters can be deduced by analogy. Note that after each parameter setting is completed, you must press the "SET" to save, and then double-click the "STOP" to exit to the main menu step by step before starting normal operation.

5) After debugging, turn the DIP switch 3 and to the OFF position;

6) P3 parameter name, range and default value:

P3 parameter：password **00000**			
number	instructions	**Parameter range**	default value
P3—01	Change password	0—99999	00000
P3—02	Run time Settings(days)	0—99999	99999
P3—03	Run number Settings(number)	0—99999	99999
P3—04	View the total elapsed time (days)	0—99999	current time）
P3—05	View the running number	0—99999	Current number
P3—06	View the running	0—99999	Current

	number (the number of more than ten thousand shows)		number

●**Erase & Adding extra remote controls (Learning)**:

The remote control receiving board is installed on the socket on the circuit board and can be plugged and unplugged. Pay attention to the direction of insertion when installing, and pay attention to insert it in the frame area specified by the circuit board.

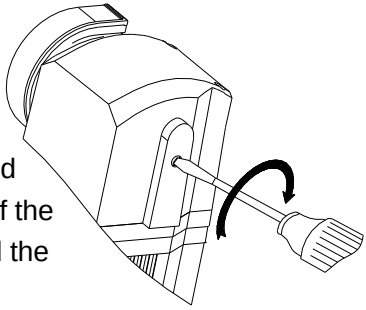
Step 1: power on, press and hold the white button on the remote control receiving board until the red status indicator flash until it turn off, it can be to **erase and** clear the original password;

Step 2: Adding extra remote controls (Learn): Press and hold the white learning button on the receiving board again, and release it to enter the learning state when the red indicator light is on;

Step 3: Press and hold any key of the transmitter, and let go after the red indicator light flashes, until the red indicator light turn off, the learning process ends.

●**Manual chain using method:**

When it is necessary to Operate the door machine by Manually, the loop chain will be used. It is advisable to Operate the chains with even and Continuous force. Sudden jerk of the Chain shall be avoided to avoid the damage to the manual mechanism. Pull the chain to realize the opening and closing of the door. During the pull, the protective switches located in the manual chain mechanism automatically cuts



off the power to avoid accidents. Once the chain is released, the manual chain mechanism will automatically restore to its original position and the industrial door machine is restored to the normal power-driven status. When the loop chains are not in use, please secure the chains fixed on the wall.

Troubleshooting and solution:

Error Code	Instructions	Cause For The Error Analysis
ERR01	power supply lacks	Three-phase 380v lack of L2 phase
ERR02	encoder not connected	Check encoder cables reconnected
ERR03	Limit anomaly	Limit not SET or limit beyond the SET Range
ERR06	More than life	Reset run times or run number
ERR07	Motor blocked	Lack of motor torque (press ENTER reset)
ERR09	Motor heat protection	Allow the motor to cool down or check the hand-chain condition
ERR10	Small door abnormal	Check the wiring or Replace the small door switch
ERR11	Runtime exception	The running time exceeds the set time

Motor Packing List

Number	Name	Quantity	Note
1	Motor	1	standard
2	Bracket	1	standard
3	fixed ring	2	standard
4	Key (1 small, 1 big)	2	standard
5	Hex bolt M10*20	4	standard
6	Cable	1	standard 4*0.75*7m
7	Cable	1	standard 6*0.3*7m

Control Packing List

Number	Name	Quantity	note
1	Electric control	1	standard
2.	Remote control	2	optional
3.	Waterproof connectors	2	standard
4.	Receiver	1	optional