WEIDE

Door System Driver

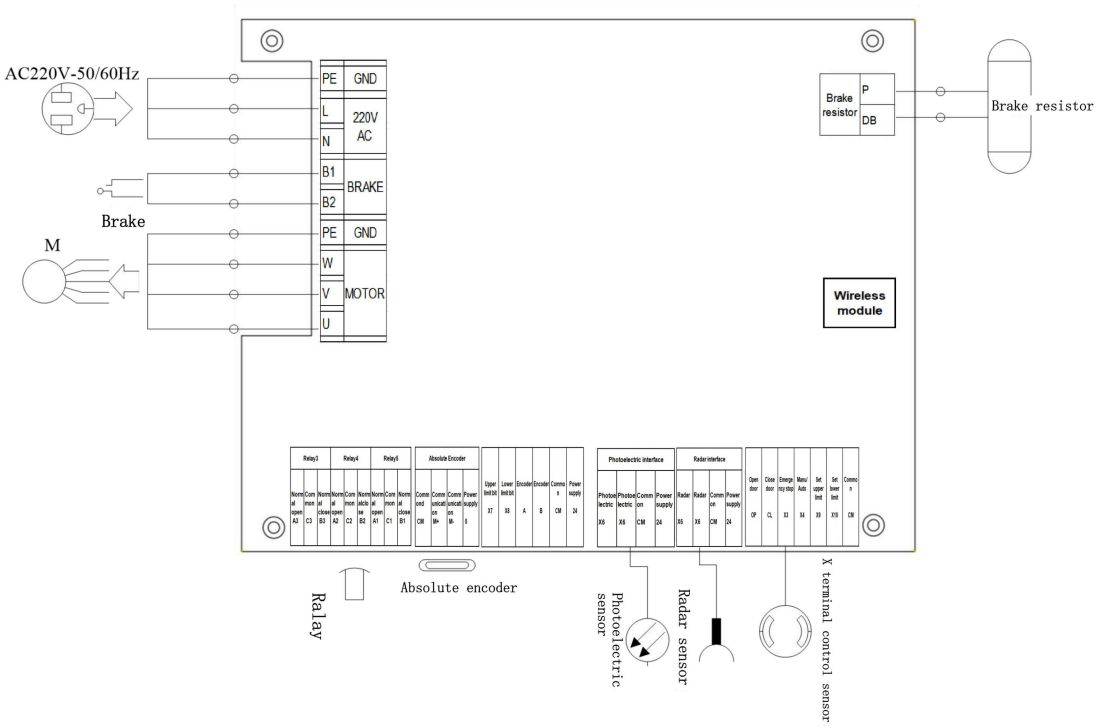
WD-MJ-A1 SERIES

USER SMANUAL

用户手册

广州市韦德电气机械有限公司

GUANGZHOU WEIDE ELECTRIC MACHINERY CO.,LTD.


AC220V-50/60Hz
PE
GND
L
220V AC
N
B1
BRAKE
B2
Brake
PE
GND
M
W
V
MOTOR
U
Brake resistor
P
DB
Brake resistor
Wireless module
Relay3
Relay4
Relay6
Absolute Encoder
Photoelectric interface
Radar interface
Relay
Absolute encoder
Photoelectric sensor
Radar sensor
X terminal control sensor

WD-MJ-A1 Series User Manual

Content

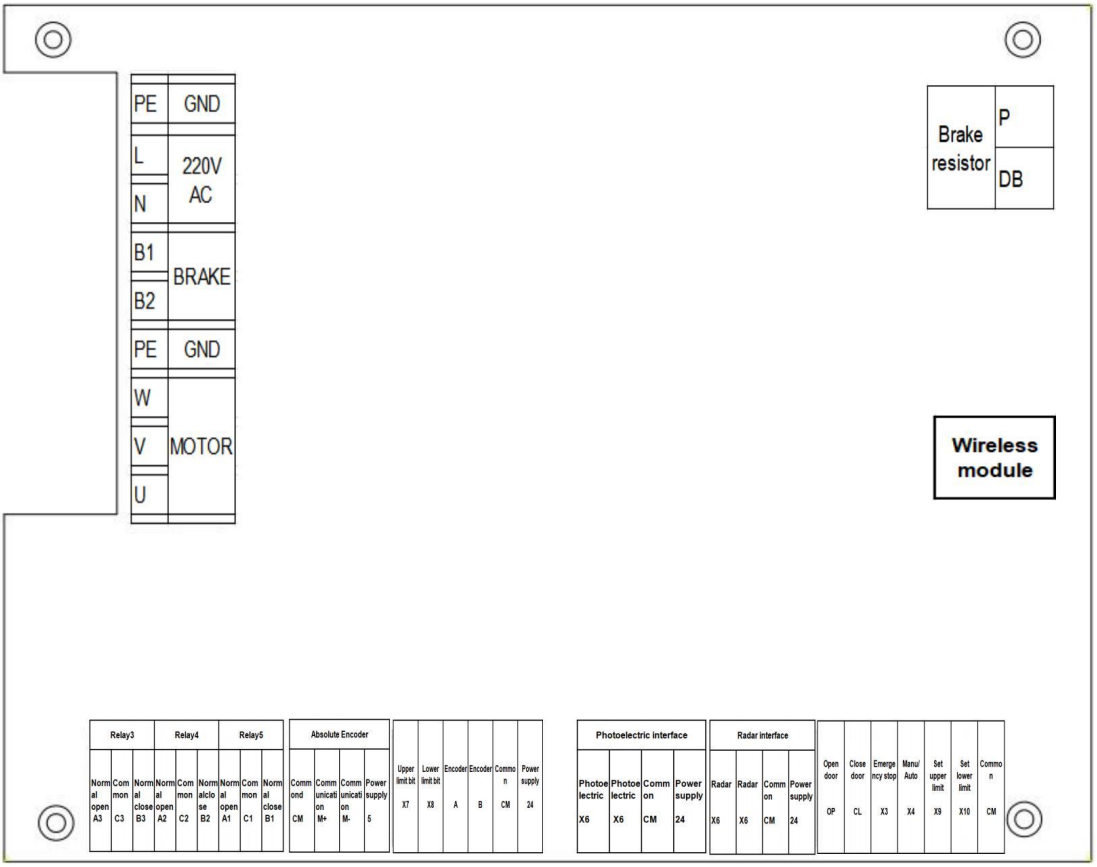
1. Mode Specifications

Item / Model		WD-MJ-A1-075	WD-MJ-A1-10	WD-MJ-A1-15	WD-MJ-A1-22
Adaptive motor power (KW)		0.75	1.0	1.5	2.2
Power Supply	Rated Voltage (V)	AC220V-50Hz/60Hz			
	Allowable Variation Value	Voltage: ±20% Voltage Imbalance Rate <3% Frequency: ±5%			
	Input Current(A)	6.2	7.5	9.5	13.5
Output	Rated Current(A)	4.5	5.5	7.5	10.5
	Maximum Voltage(V)	Corresponds to the input voltage			
	Maximum Power(KW)	2.3			

2.Wiring

2.1Basic Running Wiring Connection

The basic wiring diagram of the controller is shown in the figure:



2.2 Strong Current Terminal Definition

Note: These terminals contain AC220V strong electricity, please do not plug or unplug while the power is on!

Terminal Name	Function Description
PE	Protective ground terminal
L、N	Single-phase AC power input terminal AC220V-50/60Hz
U、V、W	Motor three-phase AC output terminals
B1、B2	Motor brake control terminals
P、DB	Brake resistor

2.3 Control Terminal Connection

2.3.1 Input Control Terminal

Input Terminal	Parameter No.	Function	Default	Description
X1	PA1-0	0=NONE Non-function 1=OPD Open door signal 2=CLD Close door signal 3=EMC Emergency stop signal 4=SUL Set upper limit signal 5=SDL Set lower limit signal 6-31 Reserve 20=SON 21=ALRS 22=FSTP 23=RSTP 24=CLE 25=INH 26=FIL 27=RIL 32=UPL Upper limit switch 33=DNL Lower limit switch 34=FH Fully open/Half open 35=MA Learning mode/Normal working mode 36=RADAR Radar, Geomagnetic signals 37=PHO Photoelectric signal 38=JOG Demo run 39=PURO Rope switch 40=ZERO Origin return switch	1=OPD Open door signal	
X2	PA1-1		2=CLD Close door signal	
X3	PA1-2		3=EMC Emergency stop signal	
X4	PA1-3		35=Learning mode/Normal working mode	In normal mode, both manual/automatic are enabled
X5	PA1-4		36=Radar signal	Radar/Geomagnetic signal: In normal working mode, the controller automatically opens the door after receiving this signal. After a fixed delay time, the door will automatically close. Re-filtering, edge effective.
X6	PA1-5		37=Photoelectric signal	Photoelectric/airbag signal: During the process of closing the door, if this signal is input, the door will be reopened immediately. Re-filtering, edge effective.
X7	PA1-6		32=Upper limit switch	
X8	PA1-7		33=Lower limit switch	
X9	PA1-8		4=SUL Set upper limit signal	
X10	PA1-9		5=SDL Set lower limit signal	

2.3.2 Input Terminal Other Parameters

Parameter No.	Bit4	Bit3	Bit2	Bit1	Bit0
	0010	0008	0004	0002	0001
PA1-20	SDL	SUL	EMC	CLD	OPD
PA1-21	CLE	RSTP	FSTP	ALRS	SON
PA1-22	X	X	RIL	FIL	INH
PA1-23	X	MA	FH	DNL	UPL
PA1-24	RADAR	ZERO	PURO	JOG	PHO

2.3.3 Output Control Terminal

Output Terminal	Parameter No.	Default	Description
Relay 1	PA1-30	11	11=Reach the lower limit
Relay 2	PA1-31	12	12=Leave the lower limit
Relay 3	PA1-32	0	0=No output, forced OFF

2.3.4 Output Control Terminal Optional Parameters

No.	Function	Description
0	NONE: No output, forced OFF	Relay 3 selects this option by default
1	SRDY: Device ready	
2	RUN: Running	
3	ALM: Fault output	
4	Forced ON	
5	COIN	
6	BRK	
7-10	Reserve	
11	ON_LP: Reach the lower limit	Relay 1 selects this option by default
12	OU_LP: Leave the lower limit	Relay 2 selects this option by default
13	ON_TP: Reach the upper limit	
14	OU_TP: Leave the upper limit	
15	OING: Opening the door	
16	CING: Closing the door	
17	LINE: Linked door signal, that is, when one door is closed, the other door automatically opens	
18	TO_LP: When it reaches the lower limit 1, the automatic mode will output	

3. Door System Parameters

3.1 Command Parameters

No.	Parameter Name	Description	Factory Default	
PA1-50	Work mode	0=Learning mode, setting upper and lower limit values, triggering by door switch signal level 1=Normal working mode, responds to opening, closing doors, radar signals, and edge triggering. After opening the door triggered by the radar signal, the door will be closed automatically. During the closing process, there will be a photoelectric signal and the door will be reopened.	0	
PA1-51	Door opening speed	1-4500rpm	2250	Normal mode, manual, automatic, demonstration speed
PA1-53	Door closing speed	1-4500rpm	1500	Normal mode, manual, automatic, demonstration speed
PA1-54	Return to zero reset door closing speed	1-4500rpm	600	Speed during zero return and reset
PA1-55	Opening door acceleration (deceleration) speed	0.0-100.0 s	0.5s	Acceleration (deceleration) speed, the larger the value, the faster the acceleration and deceleration
PA1-57	Closing door acceleration (deceleration) speed	0.0-100.0 s	1s	Acceleration (deceleration) speed, the larger the value, the faster the acceleration and deceleration
PA1-61	Automatic drop delay time	0.0-3600.0 s	10s	In normal working mode, after the radar signal starts opening the door, it will automatically close the door after a delay of this time.
PA1-62	Door opening and closing time limit	0.0-3600.0 s	120s	

PA1-64	Number of pulses at lower limit position	0-32000	0	In learning mode, after the lower limit is set by operation, this value is set to 0
PA1-65	Mid-limit position pulse number	0-32000	10000	After setting the upper and lower limits, it will automatically be calculated based on 50%
PA1-66	Upper limit position pulse number	0-32000	20000	In the learning mode, after the upper limit is set by operation, it is set to the current actual value.

3.2 Advance Parameters

No.	Parameter Name	Description	Factory Default	
PA1-68	Learning mode speed acceleration time	The larger the value, the slower the acceleration.	100	
PA1-70	Limit learning running speed	1-750rpm	600	
PA1-75	Demo door opening and closing delay	Set the delay time for automatic demonstration to open and close the door, 0.0-3600.0	10	Unit 0.1s
PA1-76	Motor running direction	0=Run in default direction 1=Reverse direction	0	
PA1-80	Mode selection	0=Roller door 1=Louvre door		
PA1-82	Brake delay closing time	0.0-100.0s	1.0	
PA1-83	Limited number of door openings	After the number of door openings is reached, the controller will stop running, 0-30000, 0=does not work	0	
PA1-84	Clear the number of door openings	Clear the cumulative number of door openings 0=Do not perform the operation 1=Clear	0	
PA1-85	Language selection	0=Simplified Chinese, 1=Traditional Chinese, 2=English		

PA1-99	Save EEPROM switch during operation	0=Run without storing location. (The system will store the position twice when powering off) 1=When opening and closing the door, the position is saved once every 5 seconds. After the door is opened and closed, the position is saved twice.	0	EEPROM has a storage life

4.Panel Debugging

The panel consists of 9 function buttons and LCD display as shown in the figure below：

4.1 Function Key Description

Menu: This button is used to enter the main menu screen. At the same time, it is used as the return button after modifying parameters to return to the previous menu or exit the menu;

OK: This button is used to enter the submenu of the main menu after entering the menu. After modifying the parameters, confirm the parameter modification and return to the submenu of the modified parameters;

Reset: used for alarm clearing;

Inc/UL: Used to select the corresponding menu upward after entering the menu, and adjust the parameter value to increase after entering the parameter modification interface. In the manual/learning interface, you can press and hold for 2 seconds to set the upper limit position;

Dec/DL: Used to select the corresponding menu downwards after entering the menu, and adjust the parameter value to decrease after entering the parameter modification interface. In the manual/learning interface, you can press and hold for 2 seconds to set the lower limit position;

A/M: Used to switch the mode and status of the door operator. There are two types: ①-Auto/Normal, ②-Manual/Learning;

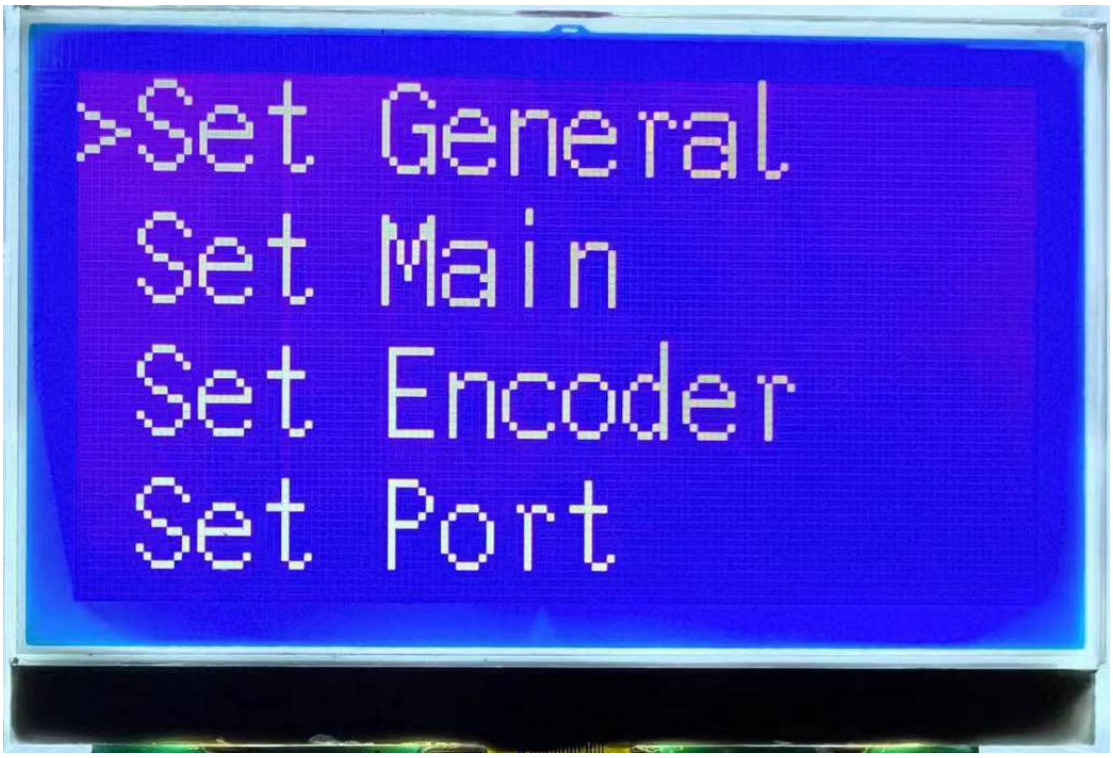
▲：This button is used to control the rapid door opening；

STOP：This button is used to control the rapid door stop;

▼：This button is used to control the fast door closing;

4.2 Debugging Interface Description

Main menu: Press the menu key to enter the main menu as shown below, and press the confirmation key to enter the next-level menu of the main menu. There are 5 main menus in total, including common parameter group, advanced parameter group, encoder parameter group, port parameter group, and motor parameter group.

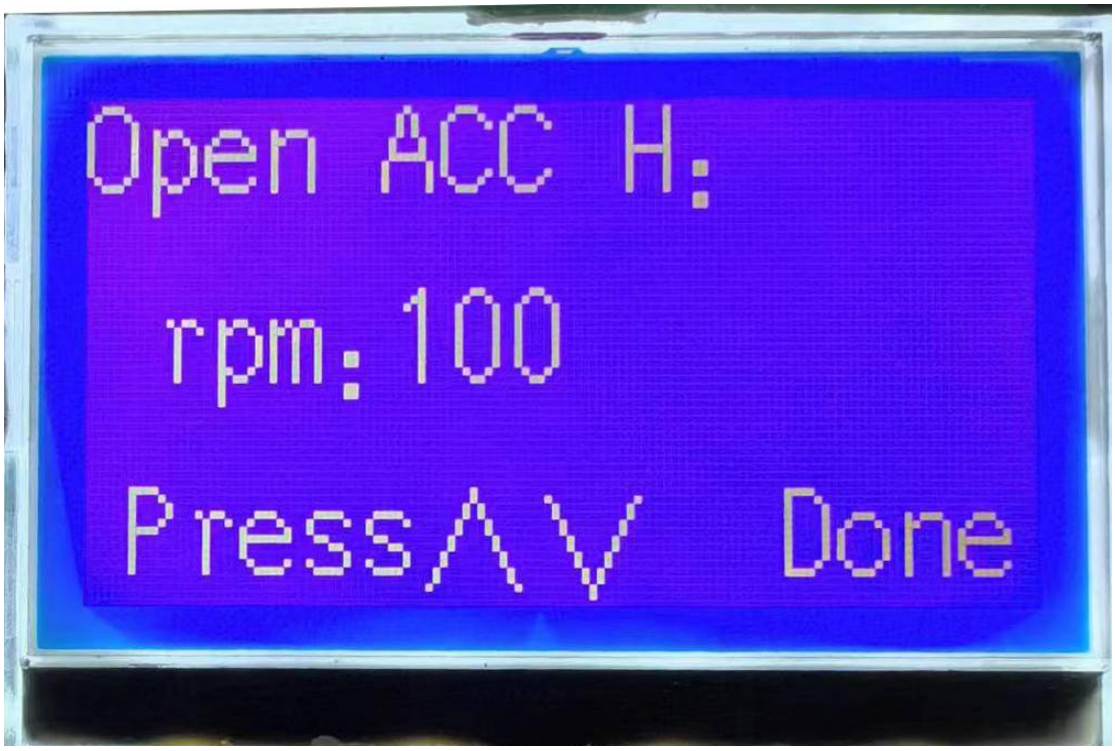


Boot interface: Enter this interface after powering on.

Automatic control interface: Press the automatic/manual button to enter the automatic state mode. In this mode, the door operator can be controlled by remote control, photoelectric, radar and other signals.

Parameter selection interface: This interface can quickly select preset parameters.

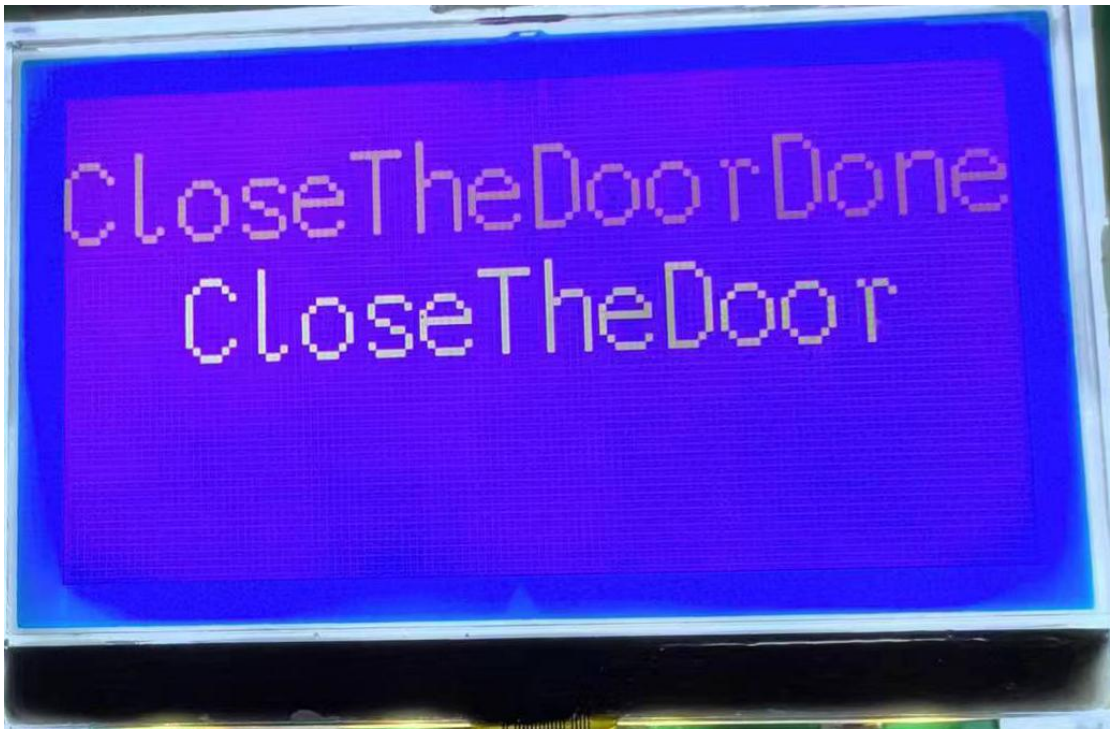
Parameter setting interface: This interface can set corresponding parameter values (such as: door opening and closing speed, door opening and closing acceleration time, encoder parameters, motor parameters, etc.).



Upper limit setting interface: This interface displays whether the upper limit setting is successful.

Lower limit setting interface: This interface displays whether the lower limit setting is successful.

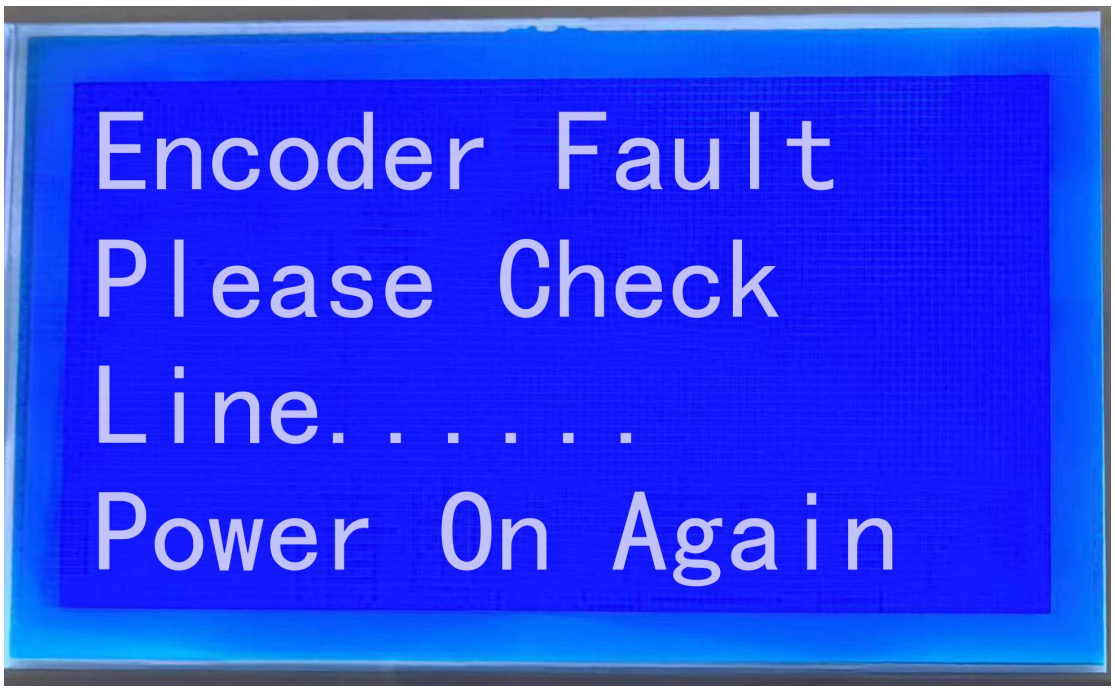
Door closing interface: This interface displays the door closing position.



Door opening interface: This interface displays the door opening position.

Stop interface: This interface displays the stop position.

Alarm display interface: This interface displays various alarm signals. (Such as: encoder failure, encoder disconnection, bus voltage undervoltage, etc.)



5.Control Parameter Setting Process

5.1 Common Parameters

Menu key -> increase/decrease button selection -> confirm -> enter the common menu parameter group -> select the parameters that need to be changed -> increase/decrease button setting -> confirm and exit after completion.

5.2 Advance Parameters

Menu key -> increase/decrease button selection -> confirm -> enter the advanced menu parameter group -> select the parameter that needs to be changed -> increase/decrease button setting -> confirm and exit after completion.

5.3 Encoder Parameters

Menu key -> increase/decrease button selection -> confirm -> enter the encoder menu parameter group -> select the parameters that need to be

changed -> increase/decrease button setting -> confirm and exit after completion.

5.4 Port Parameters

Menu key -> increase/decrease button selection -> confirm -> enter the port menu parameter group -> select the parameters that need to be changed -> increase/decrease button setting -> confirm and exit after completion.

5.5 Motor Parameters

Menu key -> increase/decrease button selection -> confirm -> enter the motor menu parameter group -> select the parameters that need to be changed -> increase/decrease button setting -> confirm and exit after completion.

Appendix Table 1-Alarm Signal:

Alarm Name	Alarm Reason	Alarm Check	Remark
Bus voltage undervoltage	Power supply undervoltage	Check under-voltage settings and voltage measurements on power lines	
Bus voltage overvoltage	Power supply overvoltage	Check over-voltage settings and voltage measurements on power lines	
IPM module failure	IPM module is damaged or over-temperature protection	Power off and restart. If the fault persists, it means the IPM module is damaged.	
Input phase loss	The input power cord is disconnected or has poor contact.	The power cord has poor contact or the line is disconnected or has a power outage.	
Running overcurrent	The current exceeds the limit current	Check the current settings, power off and restart or check the current sampling	
User torque overload	Stalled rotor or overloaded	Check whether the device is stuck	
Running overload	The load exceeds the rated value	Overloaded or replace with a larger drive	

EEPROM error	E^2 ROM chip is damaged or the number of writes exceeds the limit.	Power off and restart.If the fault persists, it means the chip is damaged.	
Encoder failure	Encoder error	Encoder mismatch	
Motor overspeed fault	The speed exceeds the rated speed	Check speed limit settings	
Encoder disconnection	The encoder is damaged or the connecting wire is disconnected	Check that the connecting cable or encoder is damaged	
Bleed brake failure	The bleeder resistor is damaged or has poor contact.	The bleeder resistor is damaged or has poor contact.	

Appendix Table 2-Motor Code:

Setting process: Menu->Motor parameter group->Motor parameter setting->Increase/decrease setting parameters->Confirm and exit.

Motor Type	Encoder Type	Motor Code
0.75KW Absolute motor	Single-turn 17bits	156
1.0KW Absolute motor	Single-turn 17bits	157
1.5KW Absolute motor	Single-turn 17bits	To be confirmed
2.2KW Absolute motor	Single-turn 17bits	To be confirmed