

AAD03061D

Synchronous and asynchronous integrated door machine controller

(asynchronous control mode)

Ver.2.0

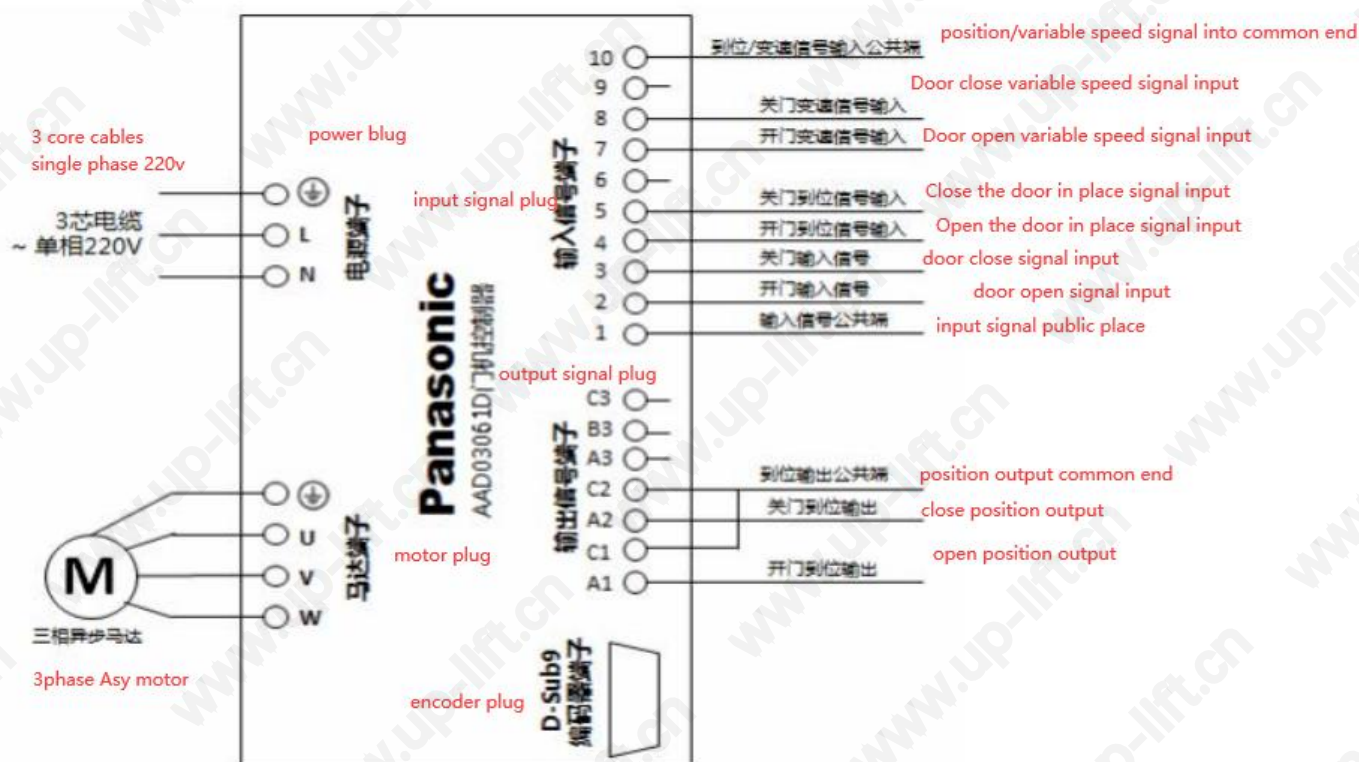
【！】 The controller must be commissioned, serviced or inspected by qualified personnel in accordance with the instructions in this manual. Otherwise unexpected dangers may occur! Including personal injury and equipment damage!

★ The door operator of our company has been debugged according to the following steps before leaving the factory. After the customer has correctly wired the door, the door can be opened and closed.

一. Installation wiring (★ asynchronous 4SW mode)

Before using the AAD03061D controller, please correctly connect the power supply and motor of the controller as required. At the same time, please confirm that the controller and the input/output signal lines are correctly and reliably connected.

Wiring method as shown in the figure:



★Note: In the output terminal of the door open/close limit relay, Note: Input terminal 9 is 24V power supply

A1 is the output signal of the open position; A2 is the output signal of the closed position.

The logic of whether A1 and A2 are normally open or normally closed can be changed through the inverter parameter settings. The settings are as follows: When P033=r10, A1\C1 is the normally closed point (factory default), and when P033=10, A1\C1 For the normally open point. When P034=r11, A2\C2 is the normally closed point (factory default), and when P034=11, A2\C2 is the normally open point.

Please confirm and set the output relay logic according to the received signal logic required by the host.

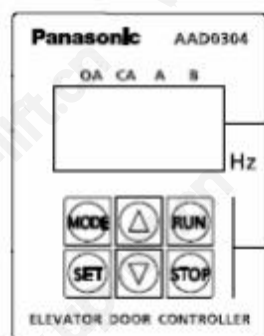
★Note: 4SW mode means 4 magnetic switch modes

二. Operation panel

The user can operate the AAD03061D door operator controller through the operation panel.

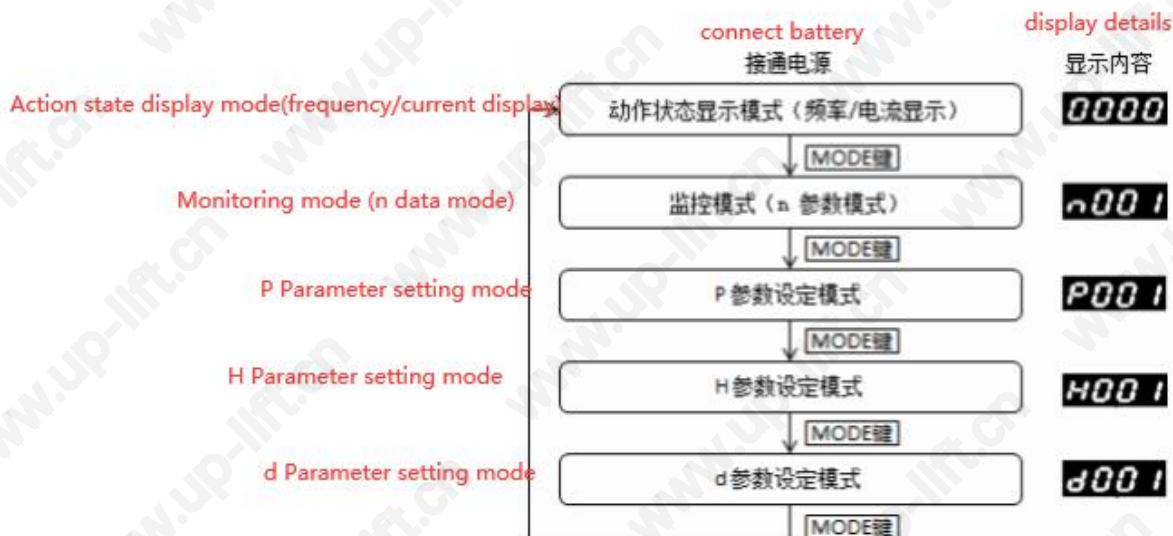
Can carry out parameter setting modification, status monitoring. Door opening/closing action control can also be performed through the operation panel.

Operation panel layout:



KEYPAD	Function Description
MODE	Each mode (P parameter; d parameter; n parameter, etc.) switch
SET	Confirmation of data input, select data monitoring mode
▲	Data or function code increment
▼	Data or function code is decremented
RUN	Used to start running operations under panel control
STOP	For stop and reset operations under panel control

Key switch operation of each mode:



Note: H parameter area is not used in asynchronous mode, please do not set this area parameter.

Door opening/closing action via operation panel:

You can manually open/close the door through the operation panel. The operations are as follows:

Set parameter P003 (run command) =1 (panel operation); P004 (control mode) =4 (door control SW mode)

Simultaneously press: ▲ + RUN button to manually execute the door opening action

Simultaneously press: ▼ + RUN button to manually execute the door closing action

三. Working mode and setting of input and output points (asynchronous 4SW mode)

To make AAD03061D work in asynchronous 4SW control mode, please confirm the setting of the following working mode and input/output point function parameters:

Control mode parameter setting:

DATA	function name	Predetermined area	set value	Remark
P003	Run command selection	0~2	2	When the panel is operated manually: set =1 When controlled by terminal block: set =2 (Controlled by the terminal block during automatic operation)
P004	Control mode selection	0~5	4	4SW mode is set to =4

Signal input point function parameter setting:

Data	function name	Predetermined area	set value	Remark
P026	Input signal logic setting	0~63	27	4个SW all is NC: = 27 4个SW all is NO: = 0 (Factory default)
P027	SW1 Function selection (terminal 4)	0~16	1	=1: Open to the input signal (factory default)
P028	SW2 Function selection (terminal 5)	0~16	2	=2: Off arrival input signal (factory default)
P029	SW3 Function selection (terminal 6)	0~16	0	=0: No function (backup)
P030	SW4 SW3 Function selection (terminal 7)	0~16	3	=3: Open variable speed input signal (factory default)
P031	SW6 SW3 Function selection (terminal 8)	0~16	4	=4: Turn off the speed input signal (factory default)

Relay output function parameter setting:

DATA	function name	Predetermined area	set value	Remark
P033	RY1 function selection (terminal A1\C1)	0~17;r0~r17	r10	A1\C1 is open to reach the normally closed output point: =r10 A1\C1 is open to reach the normally open output point: =10
P034	RY2 function selection (terminal A2\C2)	0~17;r0~r17	r11	A2\C2 is closed to reach normally closed output point: =r11 A2\C2 is closed to reach normally open output point: =11
P035	RY3 function selection (terminal A3\B3\C3)	0~17;r0~r17	4	Alarm signal output: =4

Note: Normally closed point output (P033=r10; P034=r11) is the factory default parameter

四.

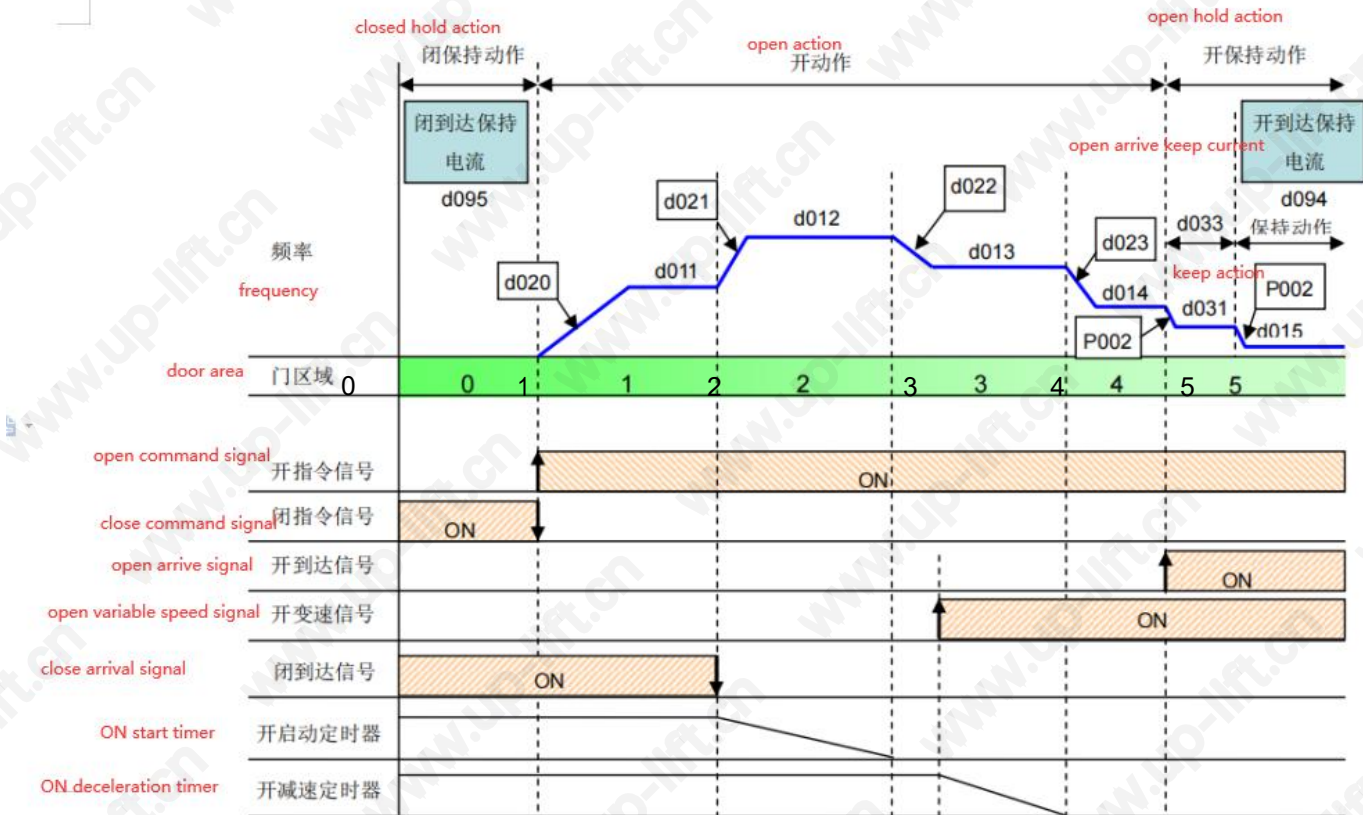
Torque setting in door opening and closing action (asynchronous 4SW mode)

When the door is very heavy or the opening resistance is very large, and the torque is insufficient, the following parameters can be adjusted to appropriately increase the output torque.

DATA	function name	Predetermined area	set value	Remark
P044	Opening torque boost	0~40%	15%	Factory default 15%
P059	door closing torque boost	0~40%	10%	Factory default 10%

五. Door opening/closing curve and setting instructions (asynchronous 4SW mode)

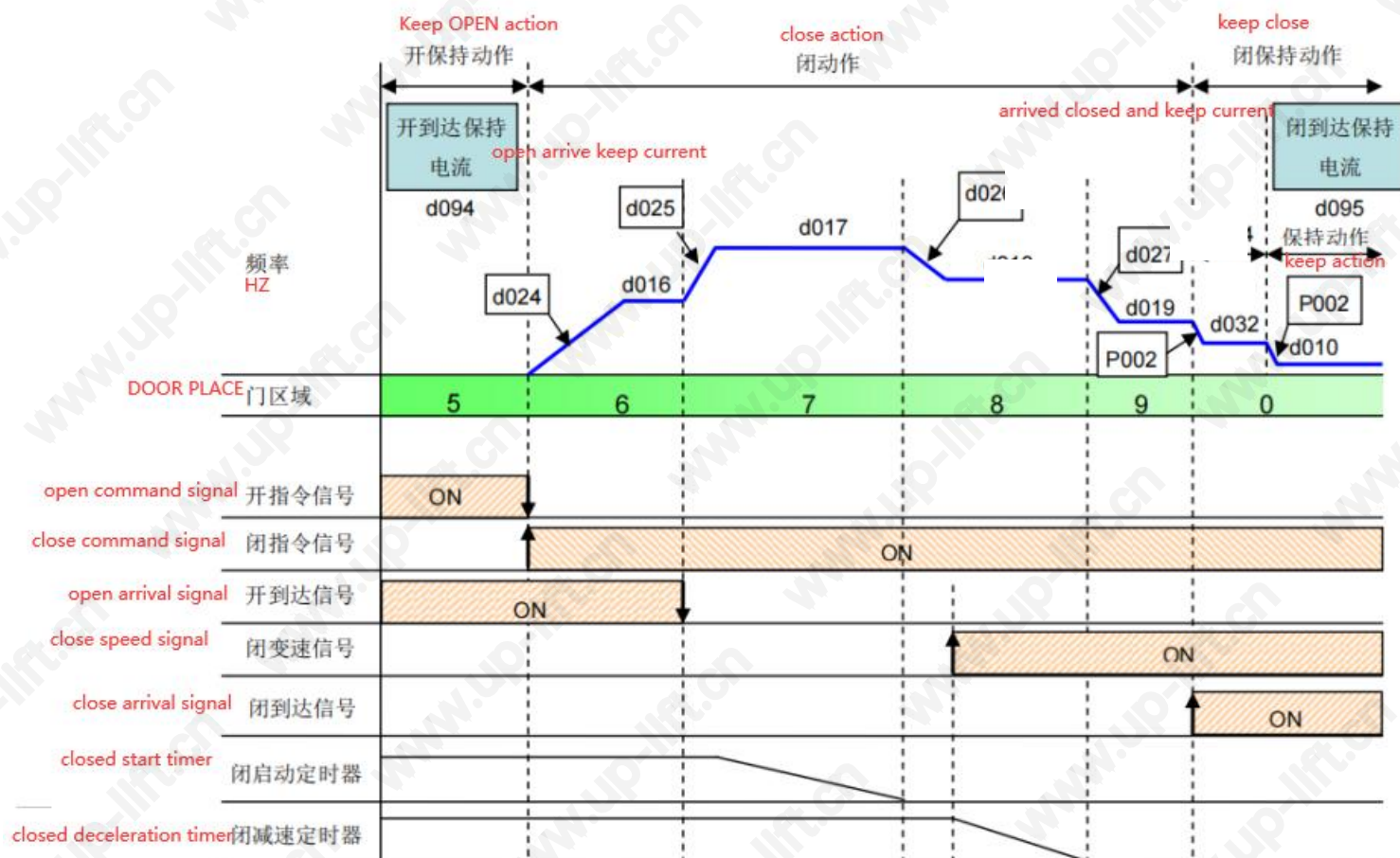
Door opening action curve adjustment and main parameters



The set value of P044 is increased by the torque, and the speed from the opening frequency d011 to the speed set by d014 is run with the acceleration and deceleration time from d020 to d023. After it is in place, keep running with d015 on to the holding frequency. The current of open hold can be adjusted and set by d094. The main parameters are as follows:

DATA	Function Description	Predetermined area	set value	Remark
d011	On Frequency 1	0.5-250.0 Hz	5.0Hz	
d012	On Frequency 2	0.5-250.0 Hz	23.0Hz	
d013	On Frequency 3	0.5-250.0 Hz	23.0Hz	
d014	On Frequency 4	0.5-250.0 Hz	5.0Hz	
d015	On Reach Hold Frequency	0.5-250.0 Hz	3.0Hz	
d020	On Acc/Dec time 1	0.1-999.9 s	0.5s	
d021	On Acc/Dec time 2	0.1-999.9 s	0.5s	
d022	On Acc/Dec time 3	0.1-999.9 s	0.8s	
d023	On Acc/Dec time 4	0.1-999.9 s	0.5s	
d031	Open to hold standby frequency	0.5-250.0 Hz	0.5Hz	
d033	On Arrival Hold Standby Time	0.00-10.00 s	0.0s	
d035	Start the timer	0.00-10.00 s	0.3s	
d092	Start the deceleration timer	0.00-10.00 s	0.25S	
d094	open to holding torque level	0.1-100.0 A	0.5	
P002	first deceleration time	0.1-999.9 s	0.5s	

Door closing action curve adjustment and main parameters



Increase the set value of P059 with the torque, and run from the closing frequency d016 to the speed set by d019, with the acceleration and deceleration time from d024 to d027. After it is in place, hold operation with d010 closed to hold frequency. The current of the closing hold can be adjusted and set by d095. The main parameters are as follows:

DATA	Function Description	Predetermined area	set value	Remark
d016	OFF Frequency 1	0.5-250.0 Hz	5.0Hz	
d017	OFF Frequency 2	0.5-250.0 Hz	19.0Hz	
d018	OFF Frequency 3	0.5-250.0 Hz	19.0Hz	
d019	OFF Frequency 4	0.5-250.0 Hz	3.0Hz	
d010	OFF Reach Hold Frequency	0.5-250.0 Hz	2.0Hz	
d024	OFF Acc/Dec time 1	0.1-999.9 s	0.5s	
d025	OFF Acc/Dec time 2	0.1-999.9 s	0.5s	
d026	OFF Acc/Dec time 3	0.1-999.9 s	1.0s	
d027	OFF Acc/Dec time 4	0.1-999.9 s	1.0s	
d032	Close to reach hold standby frequency	0.5-250.0 Hz	0.5Hz	
d034	Closed Arrival Hold Standby Time	0.00-10.00 s	0.0s	
d036	close start timer	0.00-10.00 s	0.0s	
d093	close deceleration timer	0.00-10.00 s	0.25s	
d095	Close to reach the holding torque current	0.1-100.0 A	0.4	

P002	first deceleration time	0.1-999.9 s	0.5s	
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六. Pinch detection when the door is closed

In asynchronous 4SW mode, the detection of jamming (blocking) during door closing can be performed by the following 2 methods.

The sandwich detection is performed according to the time, and the main parameters are as follows:

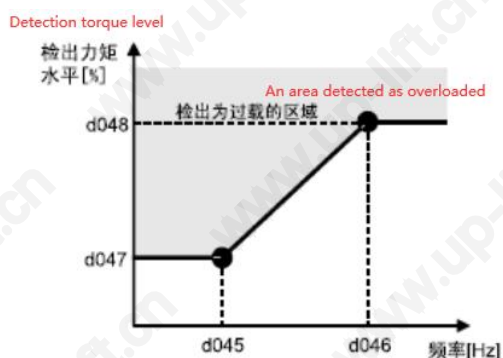
DATA	Function Description	Predetermined area	set value	REMARK
d060	Forced closing action Judgment time	0 • 1-9999 s	0s	

Note: The factory default setting is 0s (this function is closed), if you want to open this function, please set this parameter to a non-zero value.

Pinch detection is carried out according to the overload current, the main parameters are as follows:

DATA	Function Description	Predetermined area	set value	REMARK
d045	Overload detection frequency during closing action 1	0.5-250.0 Hz	10	
d046	Overload detection frequency during closing action 2	0.5-250.0 Hz	50	
d047	Overload detection current during closing action 1	0.1-100.0 A	1.2	
d048	Overload detection current during closing action 2	0.1-100.0 A	1.2	
d049	During closing operation During overload detection judgment	0 • 1-9999 s	0	

By setting the current threshold corresponding to the specified frequency range, and according to whether the operating current during the door closing process is greater than the set value, the judgment of sandwiching (blocking) is carried out. The judgment principle is shown in the figure below.:



In the figure on the left, when the current value during the door closing process reaches the gray area, it is judged that there is a trapped (blocked) situation. Note:

When the door closing pinch (blocked) checkout is enabled, set the parameter

d049 is set to a non-zero value (the smaller the set value is, the more sensitive the detection will be. When it is set to 0, the door-closing clip-in detection function will be disabled)

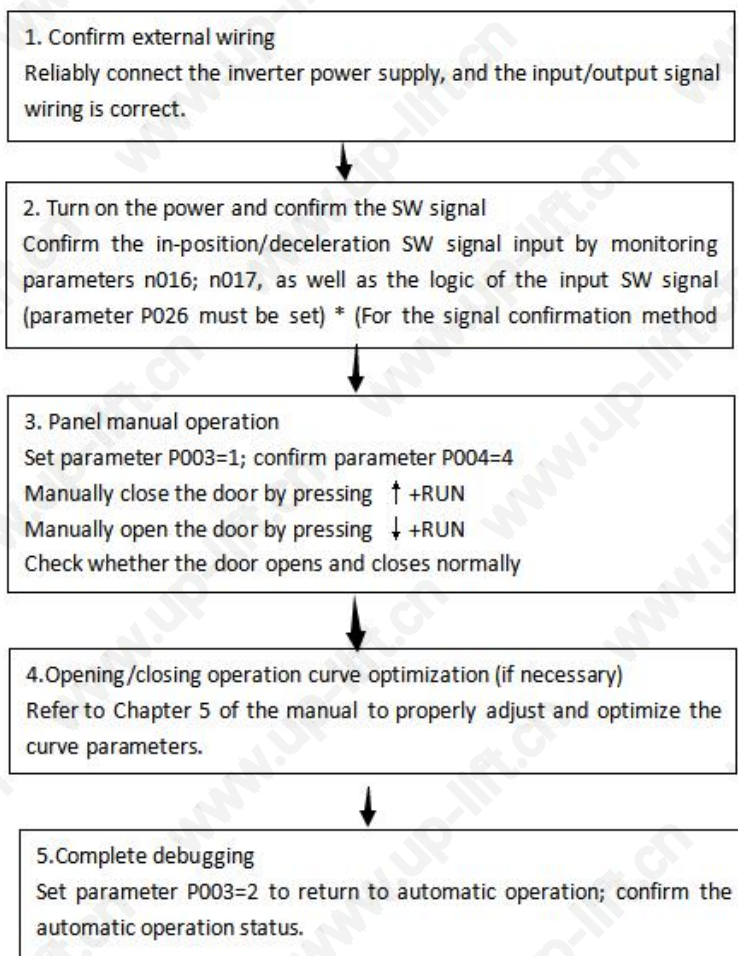
七. Reset all parameters to factory settings

All parameters can be restored to factory default values through parameter P037,

To restore factory parameters, please set P037=2

八. Description of basic steps for on-site debugging (asynchronous 4SW mode)

During on-site installation and commissioning, please follow the steps below for commiss

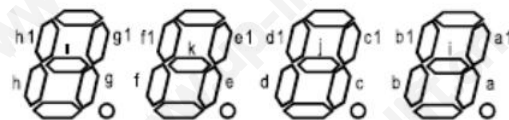


九. Confirmation of In-position/deceleration SW signal and explanation of logic setting

The input status and logic of the four in-position/deceleration SW signals can be confirmed by monitoring parameter n016.






When confirming, you can push the car door by hand. When the door passes through each SW, confirm the on/off status of the corresponding LED in n016. The corresponding situation of LED in parameter n016 and each SW input signal is as follows:

LED Location	Corresponding terminal	Corresponding to the input signal
a1	No.2	door open command signal
b1	No.3	door close command signal
c1	No.4 (SW1)	On arrival SW signal
d1	No.5 (SW2)	off arrival SW signal
e1	No.6 (SW3)	- - -
f1	No.7 (SW4)	Open deceleration SW signal
g1	No.8 (SW5)	Turn off the deceleration SW signal



When the door moves to the corresponding SW position, the corresponding position (c1-g1) in the above LEDs of n016 will turn on or off.

Take the case where all 4 SWs are normally closed signals (moving to the SW position, the corresponding signal is OFF) as an example,
Display of c1-g1 in n016 when the door is in different positions.

door position	4 SW states (all normally closed)		n016 display
open to the position	On reach SW: OFF On shift: OFF OFF Arrival SW: ON OFF Speed: ON		
middle place	Open to reach SW: ON OFF Arrival SW: ON	Open shift: ON Close speed: ON	
door closing deceleration position	Open to reach SW: ON OFF Arrival SW: ON	Open shift: ON Off speed: OFF	
close arrival position	Open reach SW: ON Open shift: ON OFF Reach SW: OFF OFF Speed: OFF		
Door opening deceleration position	Open to reach SW: ON OFF Arrival SW: ON	On shifting: OFF Close speed: ON	

The logic setting of ON/OFF in-position/deceleration SW signal can be set by parameter P026

When all 4 SW signals are normally closed signals: P026 = 27 (factory default value)

When all 4 SW signals are normally open signals: P026 = 0

When the normally open/normally closed logics of the four SW signals are not unified, please calculate and set according to the following table:

NAME	SW6	SW5	SW4	SW3	SW2	SW1
PLUG No.	9	8	7	6	5	4
Bit No.	5	4	3	2	1	0
all groups	0/1	0/1	0/1	0/1	0/1	0/1
added value	32	16	8	4	2	1

When setting, add the added value corresponding to each normally closed SW as the setting value and set it in parameter P026.

十. Common fault codes and solutions

DISPLAY	Abnormal content and reason	deal with
LU	The power supply voltage is less than 70% of the set value	<ul style="list-style-type: none"> ◆ Measure the supply voltage ◆ Confirm input phase loss ◆ Detection of instantaneous stop and restart function
OL	The output current reaches more than 115% of the electronic thermal setting current for more than 1 minute, or more than 140% of the reference current (2.4A) of the elevator door controller	<ul style="list-style-type: none"> ◆ Confirm the electronic thermal setting current (refer to P012) ◆ lighten the load
OH	Abnormal overheating of heat sink	<ul style="list-style-type: none"> ◆ Confirm the ambient temperature ◆ lighten the load
AU	Send abnormal stop command	<ul style="list-style-type: none"> ◆ Confirm the communication processing sequence
OP	Turn on the power while the operation signal is ON In case of timeout detected When the remote operation wants to fall off during operation	<ul style="list-style-type: none"> ◆ Confirm the startup mode (parameter P016) ◆ Confirm the concentric setting and wiring ◆ Reduce distractions around elevator door controllers
En1	The encoder has no pulse	<ul style="list-style-type: none"> ◆ Check the power supply of the encoder ◆ Confirm the wiring of the encoder
En2	The pulse rotation direction of the encoder is different from the command rotation direction	<ul style="list-style-type: none"> ◆ Confirm the wiring of the encoder (A phase B phase)
En3	The opening and closing arrival signals are both ON	<ul style="list-style-type: none"> ◆ Confirmation of opening and closing arrival signal
En4	here is no arrival signal when the door position data is in the open arrival state	<ul style="list-style-type: none"> ◆ Acknowledgment on arrival signal
En5	There is no arrival signal when the door position data is in the closed arrival state	<ul style="list-style-type: none"> ◆ Acknowledgment of closing arrival signal

Display	Abnormal content and reason	deal with
SC1	* Instantaneous excessive current during acceleration or abnormal overheating of the heat sink	<ul style="list-style-type: none"> ◆ Check whether there is output short circuit, ground short circuit ◆ Eliminate excessive sharp changes in load ◆ Extend acceleration and deceleration time (parameters P001, P002, d020-d027)
SC2	Instantaneous excessive current at constant speed or abnormal overheating of heat sink	
SC3	Instantaneous excessive current during deceleration or abnormal overheating of the heat sink	
OC1	Overcurrent during acceleration	<ul style="list-style-type: none"> ◆ Confirm the output phase loss and eliminate the sudden change of the load ◆ Extend the acceleration and deceleration time (parameters P001, P002, d020-d027) ◆ Whether to restart in free running ◆ The opening and closing operation of the magnetic contactor on the load side is not performed
OC2	Overcurrent at constant speed	
OC3	Overcurrent during deceleration	
OU1	Excessive internal DC voltage during acceleration	Extend the acceleration time (parameters P001, P002, d020-d027)
OU2	Excessive internal DC voltage at constant speed	Eliminate sharp changes in load
OU3	Excessive internal DC voltage during deceleration	Extend the deceleration time (parameters P001, P002, d020-d027)