350 Series High Performance Vector AC Drive

English Manual

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Enterprise standard: Q/913703SSC002-2019

Contents

Chapter 1 Safety and Notes

1.1 Safety Notes

1. The AC drive should be installed and adjusted by professional electrical technicians, otherwise there is a danger of electric shock!

2. Make sure the power is off before wiring, otherwise there is a danger of electric shock!

3. Ground terminal must be reliably grounded, ground resistance should be less than 0.1Ω!

4. Do not connect the input power to the output U, V, W, otherwise the AC drive will be damaged!

5. Make sure wires diameter be accord with technical standards, otherwise fault will happen.

6. No voltage test is required for AC drive, this item has been tested when leave the factory.

7. Do not touch the AC drive terminal (Includes control terminal) after power on, otherwise there is a danger of electric shock!

8. If you want to do parameter self-learning, please be aware of the risk of injury during motor rotation, otherwise it may cause an accident!

9. Do not control the start and stop of the ac drive by the contactor on or off, otherwise the equipment will be damaged!

10. AC drive cannot be repaired or maintained immediately because there is still high voltage on the filter capacity after the power off. It needs to wait for more than 5 minutes before using a multimeter to measure the bus voltage (the voltage between (+) and (-)) should not exceed 36V.

11. Do not share the ground terminal PE with the power line terminal N!

1.2 Notes

1. Insulation checking of motors

Make sure to separate the motor connection from the AC drive during insulation test(checking), It is recommended to use 500V voltage megohm meter and should guarantee the measured insulation resistance is not less than 5 m Ω.

2. About motor thermal and noise

The output voltage of the AC drive is PWM wave, which contains certain harmonics, so the temperature rise, noise and vibration of the motor will increase slightly compared with the operation of power frequency.

3. The output side cannot connect to the pressure sensitive device or improved the power factor of capacity.

4. Protection against lightning strike

This series AC drive is equipped with lightning overcurrent protection device, which has certain self-protection ability for inductive lightning. For frequent lightning, users should also install lightning protection at the front of the AC drive.

5. Disposing unwanted drive

The electrolytic capacitor of the main circuit and the electrolytic capacitor on the printed board may

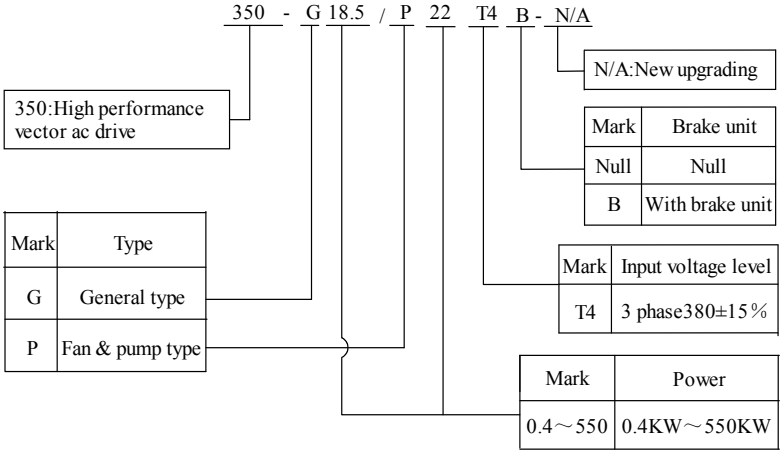
explode during incineration. The incineration of plastic will produce poisonous gas, please deal with it as industrial waste.

6. Pay attention when the cable length is too long

When the motor cable length is longer than 50m, it is recommended to install an output reactor or output filter. If the motor cable length exceeds 100m,An output reactor or output filter must be installed, otherwise the motor insulation is easily damaged.

Chapter 2 Product Information

2.1 Naming Rule



2.2 Nameplate

Specification	MODEL：350-G18.5/P22T4B-N
Input	INPUT：AC 3PH 380V ±15% 50/60Hz
Output	OUTPUT：AC 3PH 0-380V 0-3000HZ 37/45A
Lot identification	S/N：

2.3 Electric Data

Model	Power Capacity KVA	Input Current A	Output Current A	Adaptive Motor KW
350-G0.4T4B-N 350-G0.4T4B-2N	1.0	2.4	1.2	0.4
350-G0.75T4B-N 350-G0.75T4B-2N	1.5	3.4	2.1	0.75
350-G1.5T4B-N 350-G1.5T4B-2N	3.0	5.0	3.8	1.5
350-G2.2/P3.0T4B-N 350-G2.2/P3.0T4B-2N	4.0	5.8	5.1/7.0	2.2/3.0
350-G3.0/P3.7T4B-N 350-G3.0/P3.7T4B-2N	5.0	8.0	7/9	3.0/3.7
350-G3.7/P5.5T4B-2N 350-G3.7/P5.5T4B-A	5.9	10.5	9/13	3.7/5.5

350-G5.5/P7.5T4B-2N	8.9	14.6	13/17	5.5/7.5
350-G5.5/P7.5T4B-A				
350-G7.5/P11T4B-3N	11.0	20.5	17/25	7.5/11
350-G11/P15T4B-N	17.0	26.0	25/32	11/15
350-G11/P15T4B-A				
350-G15/P18.5T4B-N	21.0	35.0	32/37	15/18.5
350-G15/P18.5T4B-A				
350-G18.5/P22T4B-N	24.0	38.5	37/45	18.5/22
350-G18.5/P22T4B-A				
350-G22/P30T4B-2N	30.0	46.5	45/60	22/30
350-G22/P30T4B-A				
350-G22/P30T4B-2A				
350-G30/P37T4-2N	40.0	62.0	60/75	30/37
350-G30/P37T4B-2N				
350-G37/P45T4-2N	57.0	76.0	75/91	37/45
350-G37/P45T4-A				
350-G45/P55T4-N	69.0	92.0	91/112	45/55
350-G45/P55T4-A				
350-G45/P55T4-2A				
350-G55/P75T4-N	85.0	113.0	112/150	55/75
350-G75/P93T4-A	114.0	157.0	150/176	75/93
350-G75/P93T4-N				
350-G93/P110T4-N	134.0	180.0	176/210	93/110
350-G110/P132T4-N	160.0	214.0	210/253	110/132
350-G132/P160T4-N	192.0	256.0	253/304	132/160
350-G160/P185T4-N	231.0	307.0	304/340	160/185
350-G185/P200T4-N	242.0	350.0	340/377	185/200
350-G200/P220T4-N	250.0	385.0	377/426	200/220
350-G220/P250T4-N	280.0	430.0	426/465	220/250
350-G250/P280T4-N	355.0	468.0	465/520	250/280
350-G280/P315T4-N	396.0	525.0	520/585	280/315
350-G315/P350T4-N	445.0	590.0	585/650	315/350
350-G350/P400T4-2N	500.0	665.0	650/725	350/400
350-G400/P450T4-2N	565.0	785.0	725/820	400/450
350-G450/P500T4-2N	650.0	825.0	820/860	450/500
350-G500/P550T4-N	700.0	883.0	860/950	500/550
350-G550T4-N	770.0	975.0	950	550

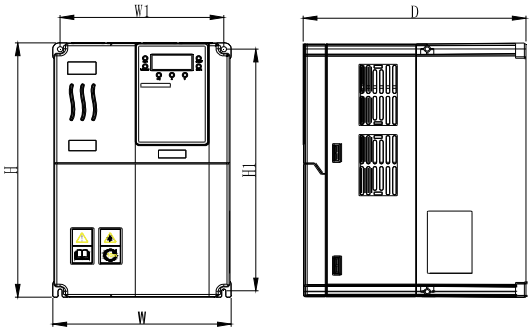
2.4 Technology Specifications

Item		Specifications
Input	Rated voltage	T4 series: three phase 380V±15%
	Frequency	50/60Hz ±5%
Output	Voltage	T4 series: three phase 0～380V
	Frequency	0～3000Hz
	Overload capacity	G type: 150% rated current 1 minute;180 rated current 3s; P type: 120% rated current 1 minute;150% rated current3s.
Control performance	Control mode	Open loop vector control、V/F control、torque control
	Start torque	Open loop vector control: 0.5Hz 180%,VF control: 0.5Hz 150%
	Speed adjustable range	Open loop vector control: 1:200,VF control: 1:100
	Speed control accuracy	Open loop vector control: ±0.2%,VF control: ±0.5%
Protection performance	25 protection functions	Including over voltage, over current, over heat, over load, under voltage, short circuit, ground fault, input and output lack of equal, all-directional protection AC drive reliable operation.
Installation environment requirements	Working storage environment temperature	Working temperature:-10～40℃(Ambient temperature 40℃～50℃,please derating for usage),free from the direct sunlight. Storage temperature:-20～60℃
	Ambient environment	Humidity within 90% (no condensation), vibration less than 0.6G
		Non (corrosive, flammable, explosive, water-absorbent dust material), all kinds of lint cannot be accumulated.
	Altitude	0～1000m. each rises 1000 m, derating 10% for usage.

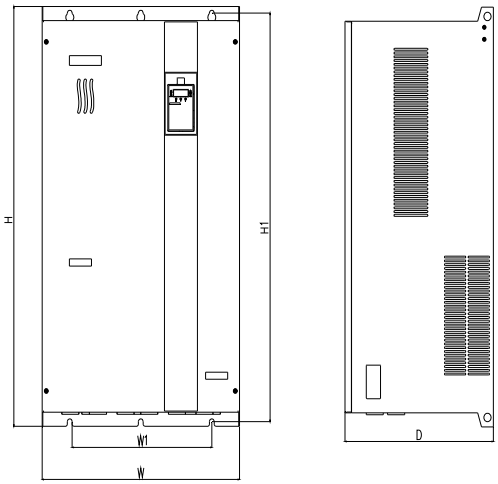
2.5 Product Outline and Installation Hole Sizes

2.5.1 350 Series High performance Vector AC Drive Outline

1. G0.4～G45KW (Plastic Casing) Outline and Outer Size



2. G45～G550KW (Metal Casing) Outline and Outer Size



2.5.2 350Series The Dimension and Installation Hole Size

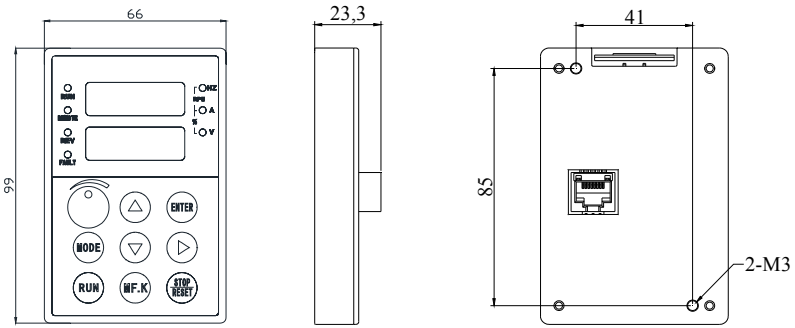
Model	The Dimension mm(mm)					Installation Aperture(mm)	Weight (kg)
	H	W	D	H1	W1		
350-G0.4T4B-N	170	100	140	160	90	Ø5	1.8
350-G0.4T4B-2N							
350-G0.75T4B-N							
350-G0.75T4B-2N							
350-G1.5T4B-N							
350-G1.5T4B-2N							

350-G2.2/P3.0T4B-N							
350-G2.2/P3.0T4B-2N							
350-G3.0/P3.7T4B-N							
350-G3.0/P3.7T4B-2N							
350-G3.7/P5.5T4B-2N	187	125	166	177	115	Ø5	2.5
350-G3.7/P5.5T4B-A							
350-G5.5/P7.5T4B-2N							
350-G5.5/P7.5T4B-A							
350-G7.5/P11T4B-3N	248	160	184	239	150	Ø5	4
350-G11/P15T4B-A							
350-G11/P15T4B-N	320	208	190	307	193	Ø6	7.2
350-G15/P18.5T4B-N							
350-G15/P18.5T4B-A							
350-G18.5/P22T4B-N							
350-G18.5/P22T4B-A							
350-G22/P30T4B-A							
350-G22/P30T4B-2A							
350-G22/P30T4B-2N	400	250	230	380	230	Ø7	12
350-G30/P37T4-2N							
350-G30/P37T4B-2N							
350-G37/P45T4-2N							
350-G37/P45T4-A							
350-G45/P55T4-A							
350-G45/P55T4-2A							
350-G45/P55T4-N	605	300	290	582	200	Ø8	48
350-G55/P75T4-N							
350-G75/P93T4-A							
350-G75/P93T4-N	650	340	330	630	200	Ø10	52
350-G93/P110T4-N							
350-G110/P132T4-N							
350-G132/P160T4-N	830	500	376	806	180+	Ø12	107

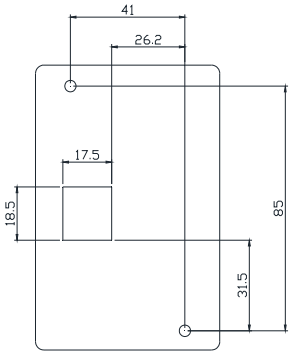
350-G160/P185T4-N					180		
350-G185/P200T4-N	890	500	376	866	180+ 180	Ø12	126
350-G200/P220T4-N							
350-G220/P250T4-N							
350-G250/P280T4-N	1080	683	396	1050	250+ 250	Ø12	177
350-G280/P315T4-N							
350-G315/P350T4-N							
350-G350/P400T4-2N	1320	810	450	1290	280+ 280	Ø14	262
350-G400/P450T4-2N							
350-G450/P500T4-2N							
350-G500/P550T4-N							
350-G550T4-N							

2.5.3 Keyboard Outline and Size

1. **Keyboard outer size**



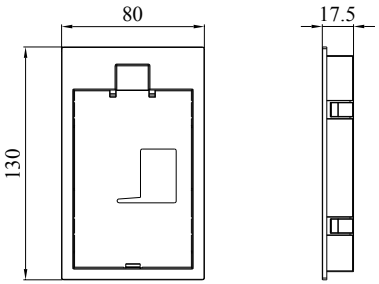
2.The fixed aperture size of operation panel back(without operation panel tray)



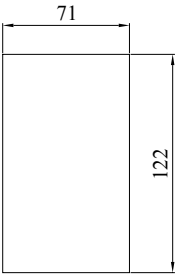
2.5.4 Keyboard Tray Outline and Size

1. Keyboard Tray Outline and Size

When you need pull out operation panel and fixed on the door or platform, please choose the TJ500-X2.0 type operation panel tray and extend wire group, and the aperture size is as follows;



The outline size of keyboard tray



Aperture size of keyboard tray

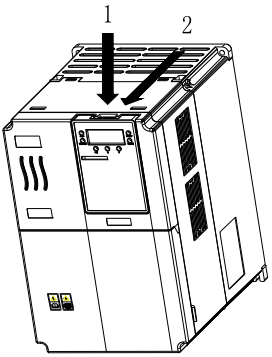
2.5.5 The Disassembly and Installation of the Keyboard

1. Disassembly the keyboard

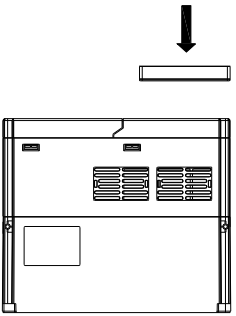
According to the indication of Figure 1,please press the operation panel clip down with the index finger, then put up the operation panel as the direction of the Figure 2.

2. Install the keyboard

According to the direction, please push down the panel vertically after aiming at the panel tray during the installation, when you hear the sound “ka” it means the installation is finished.



Remove the operation panel



Install the operation panel

2.6 Brake Optional Parts of AC Drive

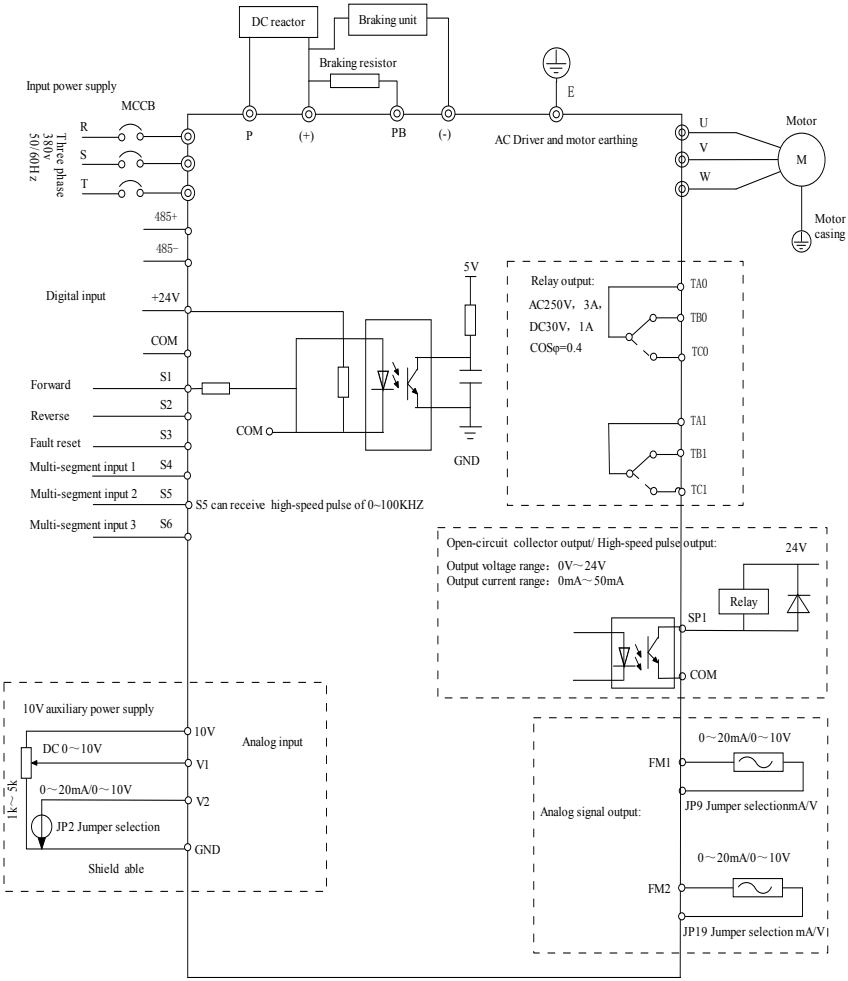
Power (KW)	Recommended Braking Resistor Power(KW)	Recommended Braking Resistor Resistance(Ω)	Brake Unit	Note
0.4KW～0.75KW	0.2KW	≥300Ω	Standard build-in	
1.5KW～2.2KW	0.5KW	≥220Ω		
3.0KW～3.7KW	1.0KW	≥130Ω		
5.5KW	1.0KW	≥90Ω		
7.5KW	2.0KW	≥65Ω		
11KW	2.0KW	≥43Ω		
15KW	3.0KW	≥32Ω		
18.5KW	3.0KW	≥25Ω		
22KW	6.0KW	≥22Ω		
30～45KW	6.0KW	≥13Ω	Optional built-in	
45KW～550KW	According to brake unit	According to brake unit	External	Choose our brake unit

Chapter 3 Mechanical and Electrical Installation

3.1 Selection Guidance of Peripheral Electrical Components

Power (KW)	Air Switch (MCCB)	Recommend Contactor(A)	Recommend input main circuit wire (mm^2)	Recommend output main circuit wire (mm^2)	Recommend control circuit wire (mm^2)
0.4	6	9	0.75	0.75	0.5
0.75	6	9	0.75	0.75	0.5
1.5	10	9	0.75	0.75	0.5
2.2	10	9	0.75	0.75	0.5
3.0	16	12	1.5	1.5	0.5
3.7	16	12	1.5	1.5	0.5
5.5	20	18	2.5	2.5	0.75
7.5	32	25	4.0	4.0	0.75
11	40	32	4.0	4.0	0.75
15	50	38	6.0	6.0	0.75
18.5	50	40	10	10	1.0
22	63	50	10	10	1.0
30	100	65	16	16	1.0
37	100	80	25	25	1.0
45	123	95	35	35	1.0
55	160	115	50	50	1.0
75	225	170	70	70	1.0
93	250	205	95	95	1.0
110	315	245	120	120	1.0
132	350	300	120	120	1.0
160	400	300	150	150	1.0
185	500	410	150	150	1.0
200	500	410	185	185	1.0
220	630	475	240	240	1.0
250	630	475	2*120	2*120	1.0
280	700	620	2*120	2*120	1.0
315	800	800	2*150	2*150	1.0
350	1000	800	2*185	2*185	1.0
400	1250	1000	2*240	2*240	1.0
450	1250	1000	2*240	2*240	1.0
500	1250	1000	4*150	4*150	1.0
550	1250	1000	4*150	4*150	1.0

3.2 Main Circuit Terminals and Wiring



1. Three-phase ac drive main circuit terminal instructions

Symbol	Name	Description
R、S、T	Three-phase power input	AC input three phase power connection point
(+)、(-)	DC bus positive and negative terminal	Common dc bus input point (G37kW and above power ac drive external brake unit connection point; G30KW or less power converters cannot be connected to external braking units. Please buy our products(-B) if necessary.)
(+)、PB	Brake resistance connecting terminal	G30kW and below brake resistance connection points; Optional built-in brake resistance connection point for G37KW, G45KW plastic case.

P、(+)	External reactor connection terminal	G132KW and above ac drive external reactor connection point
U、V、W	Output terminal	Connect the three-phase motor
⏚	Grounding terminal PE	The ground terminal cannot be connected with the neutral wire of the power supply

2. Control Terminals and Wiring

1) The terminal layout of CPU control loop is shown as follows:

485-	485+	10V	FM2	S1	S2	S3	S4	S5
V1	V2	GND	FM1	COM	COM	S6	SP1	24V

TA0	TB0	TC0
TA1	TB1	TC1

2) Control terminal function description

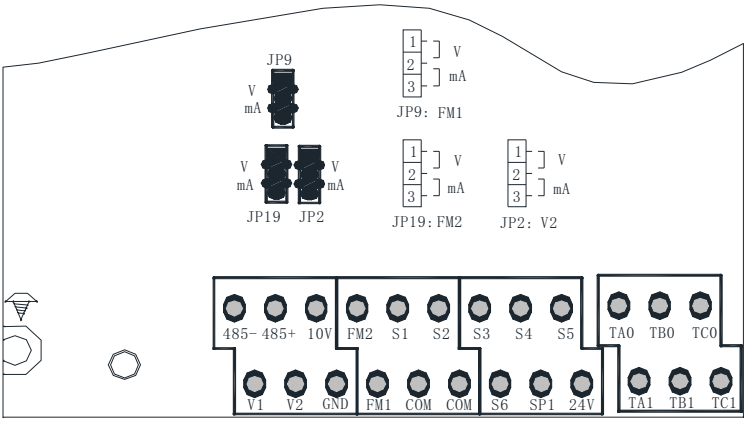
Item	Symbol	Name	Description
Power supply	10V-GND	10V power supply	Provides 10V power supply, maximum output current: 10 mA. Generally used as power of external potentiometer, potentiometer resistance range:1kΩ～5kΩ
	24V-COM	24V power supply	Provide 24V power supply, generally used as power supply of digital input and output terminal and external sensor, maximum output current: 200mA.
Analog input	V1-GND	Analog input terminal 1	1. Input voltage range: DC 0V～10V 2. Input impedance:22kΩ
	V2-GND	Analog input terminal 2	1.Input range: DC 0V～10V/4mA～20mA,etermined by the jp2 jumper on the control board 2.Input impedance: voltage input: 22 kΩ, current input: 500Ω.
Digital input	S1-COM	Digital input 1	1.Optocoupler isolation 2.Input impedance:2.4kΩ 3.The S5 can also be used as high speed pulse input and the factory default supports maximum 20.00KHz.The maximum input frequency is 100 KHz, but it needs to change the U16 as the high-speed optical coupling, at the same time, the RS5 resistance was re-welded to the RHDI.
	S2-COM	Digital input 2	
	S3-COM	Digital input 3	
	S4-COM	Digital input 4	
	S5-COM	Digital input 5	
	S6-COM	Digital input 6	
Analog output	FM1-GND	Analog output 1	The JP9 jumper on the control board determines the voltage or current output. Output voltage range:0V～10V Output current range:0mA～20mA
	FM2-GND	Analog output 2	The JP19 jumper on the control board determines the voltage or current output. Output voltage range:0V～10V Output current range:0mA～20mA

Digital output	SP1-COM	Digital output	When the open collector output/high speed pulse output, it is constrained by the function code H5-00; As high speed pulse output, the factory default supports maximum 10.00KHz.The maximum output frequency is 100KHz, but it needs to change the U9 as the high-speed optical coupling, at the same time, the RSP1 resistance was re-welded to the RHDO. Output voltage range: DC 0V～24V Maximum output current:50mA
Relay output	TA0-TB0-TC0	Normal closed TA0-TB0 Normal open TA0-TC0	Contact drive capability: AC 250V,3A,COSø=0.4 DC 30V,1A, Note:(CPU360A V1.5 and future version, relay T1 has normal closed terminals)
	TA1-TB1-TC1	Normal closed TA1-TB1 Normal open TA1-TC1	
Auxiliary interface	J2	Display keyboard interface	RJ45 interface, external connection is possible
Communication terminal	485- 485+	RS485 hardware circuit	Support the standard MODBUS communication

3) Control board jumper description

Jumper no.	Position	Description
JP2	Short connect 1. 2 pin V (factory setting)	V2 analog input selection-voltage V
	Short connect 2, 3 pin mA	V2 Analog input selection - current mA
JP9	Short connect 1.2 pin V(factory setting)	FM1output selection - voltage V
	Short connect 2、3 pin mA	FM1 output selection - current mA
JP19	Short connect 1、2 pin V(factory setting)	FM2 output selection - voltage V
	Short connect 2、3 pin mA	FM2output selection - current mA

4) Jumper position is shown as follows:



Chapter 4 Operation and Display

4.1 Introduction of Operation and Display Interface

When the panel is operated by a keyboard, the function parameters of ac drives, the ac drive working condition monitoring and operation control (such as start, stop) can be modified, its appearance and function as shown below:

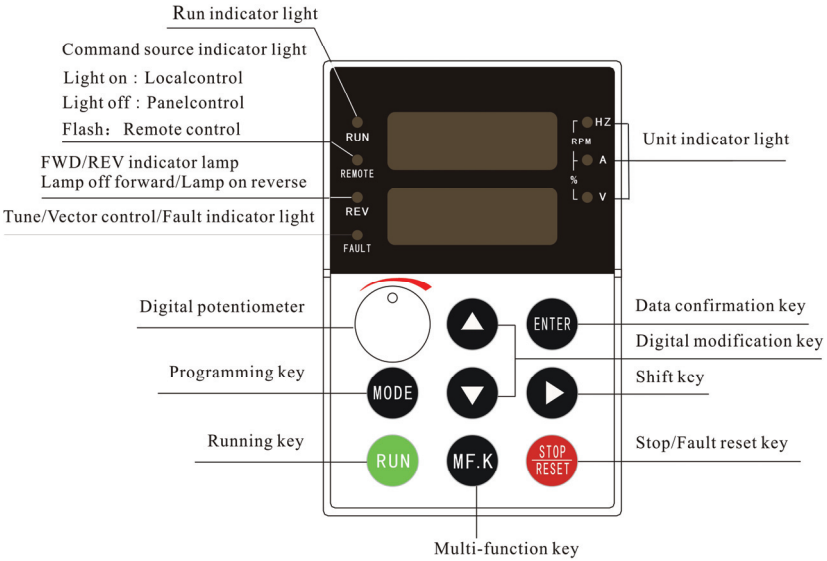
Keyboard: Double line display, Model: JP300-1

H7-00 LED The first line operation display selection

H7-01 LED The first line stop display selection

H7-02 LED The second line normal status display selection

The digital potentiometer can be used to set digital frequency or target setting.



4.2 Function Indicator Light Description

RUN: When light off, the ac drive is in stop status, when light on, the drive is in running status.

REMOT: Keyboard operation, terminal operation and remote operations (communication control) indicator lights, light-off indicates keyboard control, light-on indicates terminal operation control , lights flash is in a state of remote communication control

REV: Forward and reverse indicator, light-on means the reverse state.

FAULT: Tuning/torque control/fault indicator light, light-on indicates the torque control mode, the light slowly-flash indicates the state of tuning, light fast-flash indicates that it is in a state of faulty.

Hz: Frequency unit

A: Current unit

V: Voltage unit

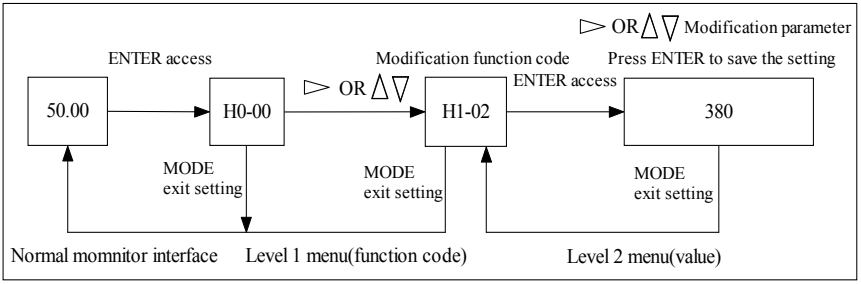
RMP(Hz+A): Speed unit

%(A+V): Percentage

4.3 Basic Function Code Inspection and Modification Method Description

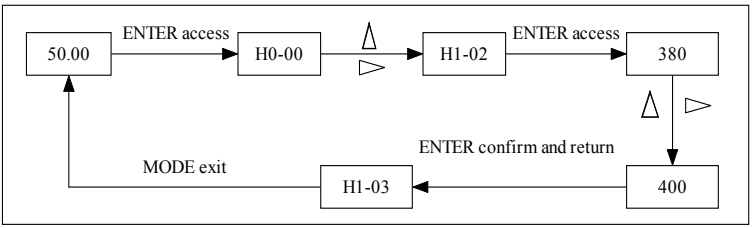
The basic function code group is the whole function code of the ac drive, Enter to access the Level 1 menu. And press the ENTER again then access to the Level 2 menu.

The operation process is shown in figure.



Note: When performing parameter modification operations in the -level 2 menu, it needs to press ENTER to save the setting parameters; if press MODE to return to level 1 menu directly, the current modified parameters are not saved.

For example: An example of modifying the function code H1-02 from 380V to 400V.



In the level 2 menu state, if the parameter has no flashing bit, it means that the function code cannot be modified. The possible reasons are as below:

1. The function code is not modifiable such as the actual detected parameters, operation record parameters, etc.

2. The function code cannot be modified in the running state and can be modified after stop.

Chapter 5 Functional Parameters Table

H7-03 is set to a non-zero value, that is, the user password is set. Please remember the password in order to enter the parameter setting. After setting the password, press the ENTER key on the normal interface, and display 0.0.0.0.0. It prompts to enter the correct password for parameter setting; if it needs to cancel the password, please set H7-03 to 0 after enter the correct password.

Group H is the basic function parameter, and group d is the monitoring function parameter. The symbol description in the function table is as follows:

"√": Indicates that the set value of this parameter can be changed when the ac drive stop or operate;

"×"; Indicates that the set value of this parameter cannot be changed when the ac drive is in operation;

"○": Indicates that the parameter is the actual value and cannot be changed.

"*": Remarks with * indicate that there are parameter explanations in Chapter 6.

Basic function parameters:

Function Code	Name	Setting Range	Factory Default	Modification
H0 Group Basic function group				
H0-00	Main frequency source A selection	0: Digital setting (H0-08,UP/DOWN can be modified, no record after power off) 1: Digital setting(H0-08,UP/DOWN can be modified, record kept after power off) 2: V1 3: V2 4: Reserved 5: HDI pulse setting(S5) 6: Multiple instructions 7: Simple PLC 8: PID 9: Communication given(Communication address 1000H) Note: 1) The keyboard UP/DN and terminal UP/DN are only for the main frequency source, and they are valid when set to 0, 1, 8; 2) When the main and auxiliary frequencies are superimposed, try not to use UP/DN to adjust the setting;	1	√*
H0-01	Auxiliary frequency source B selection		0	√*
H0-02	Auxiliary frequency source B reference at superimposed	0: Relative to the maximum frequency 1: Relative to frequency source A	0	√*
H0-03	Auxiliary frequency source B range selection at superposition	0%～150%	100%	√*
H0-04	Frequency source superposition selection	Unit: Frequency source selection. 0: Main frequency source A 1: Main and auxiliary operation results.(The	02	√*

		operation relationship is determined by the tens place) 2: Switch between main frequency source A and auxiliary frequency source B.(terminal function 18) 3: Switch between main frequency source A and (A+B)operation results(terminal function 18) 4: Switch between B and(A+B)operation results terminal function 18) Ten digit: The operation relationship between main and auxiliary frequency source 0: A+B 1: A-B 2: Max(A,B) 3: Min(A,B)		
H0-05	Maximum frequency	1.00Hz～3000.0Hz	50.00Hz	×
H0-06	Upper limit frequency	Lower limit frequency H0-07～Maximum frequency H0-05	50.00Hz	√
H0-07	Lower limit frequency	0.00Hz～Upper limit frequency H0-06	0.00Hz	√
H0-08	Digital frequency setting	0.00Hz～Maximum frequency(H0-05)	50.00Hz	√
H0-09	GP type selection (≥2.2KW has the P type)	1: G Type(Constant torque load type) 2: P Type(Fan、Pump Type Load)	1	×
H0-10	Acceleration time 0	0.00s～3200.0s	Model dependent	√*
H0-11	Deceleration time 0	0.00s～3200.0s	Model dependent	√*
H0-12	Command source selection	0: Keyboard command channel (LED off) 1: Terminal command channel (LED on) 2: Communication command channel(LED flash, communication address 2000H)	0	√
H0-13	Terminal command mode	0: Two-wire 1 (Forward terminal forward start and stop , reverse terminal reverse start and stop) 1: Two-wire 2 (The forward rotation terminal starts and stops, the reverse terminal changes direction) 2: Three-wire 1 (Forward terminal pulse start and stop, reverse terminal pulse start and stop, three-wire terminal normally closed (stop when disconnected) 3: Three-wire 2 (Three-wire control 2, forward terminal pulse start and stop, reverse terminal selects direction, three-wire terminal normally closed (stop when disconnected)	0	×*

		4: Three-wire 3 (Three-wire control 3, forward terminal pulse starts and stops forward rotation, reverse terminal pulse starts and stops reverse rotation, three-wire terminal normally open (stop when closed)		
H0-14	Motor control mode	0: Speed sensorless vector control SVC) (It needs to set H1 group motor parameters and perform parameter auto-learning) 1: Reserved 2: V/F control(See H6 group VF parameters) 3: SVC3 Vector control(It needs to set H1 group motor parameters and perform parameter auto-learning)	2	×
H0-15	Running direction	0: Same direction 1: Opposite direction(Equivalent to motor exchange any two-phase wiring)	0	×
H0-16	Upper limit frequency source	0: H0-06 setting 1: V1 2: V2 3: Reserved 4: HDI pulse setting 5: Communication given	0	×
H0-17	Upper limit frequency bias	0.00Hz～300.0Hz	0.00Hz	√
H0-18	Main and auxiliary frequency source offset frequency	0.00Hz～300.0Hz A+B or A-B or Max(A,B) or Min(A,B) valid	0.00Hz	√
H0-19	UP/DN set stop memory record selection	0: No memory record, UP/DN superimposed value is cleared to 0 1: With Memory	1	√
H0-21	Acceleration/ deceleration time benchmark frequency	0: Maximum frequency(H0-05) 1: Motor rated frequency(H1-04) 2: 100Hz	0	×*
H0-22	Carrier frequency	0.600kHz～16.00kHz (the maximum carrier is related to model type) By increasing the carrier frequency, the motor noise can be reduced, and the leakage current of the line to the ground can be reduced. But it will increase the heating and affect the life of the ac drive.	Model dependent	√
H0-23	Brake voltage operating point	110%～150%(Relative to standard bus voltage) 220V series,100% relative to 311V 380V series,100% relative to 537V 690V series,100% relative to 975V	123%	√
H0-24	Zero or set frequency is lower than the	0: Running in lower limit frequency(H0-07) 1: Zero frequency standby operation, no voltage	0	√

	lower limit frequency mode	running light flashes 2: Zero speed torque hold(Controlled by H6-01 torque boost)		
H0-25	Acceleration and deceleration time unit	1: 0.1s 2: 0.01s	1	×
H0-26	Frequency command resolution	1: 0.1Hz 2: 0.01Hz Note: When this function parameter is modified, the decimal places of all frequency-related parameters will change.	2	×
H0-27	Carrier frequency adjusted with temperature	0: NO 1: YES	1	√
H0-29	Carrier frequency is adjusted with operating frequency	0: NO 1: YES	0	√
H0-33	Frequency fine-tuning source selection	0: No fine-tuning 1: V1 fine-tuning 2: V2 fine-tuning	0	×
H0-34	Fine tuning frequency maximum	00.00Hz～50.00Hz	5.00Hz	×
H0-35	Calibrate the zero drift of AD current (V3670 and future version)	0: No operation 1: Calibrate the zero drift	0	×
H1 Group Motor parameters				
H1-00	Motor type selection	0: Ordinary asynchronous motor. 1: Variable frequency asynchronous motor.	0	×
H1-01	Motor rated power	0.1kW～1000.0kW	Model depends	×*
H1-02	Motor rated voltage	1V～1000V	Model depends	×*
H1-03	Motor rated current	0.01A～320.00A(ac drive power<=55kW) 0.1A～3200.0A(ac drive power>55kW)	Model depends	×*
H1-04	Motor rated frequency	0.01Hz～Maximum frequency	Model depends	×*
H1-05	Motor rated speed rotation	1rpm～32000rpm	Model depends	×*
H1-06	Asynchronous motor stator resistance	0.001Ω～32.000Ω(ac drive power<=55kW) 0.0001Ω～3.2000Ω(ac drive power>55kW)	Tuning parameters	×*
H1-07	Asynchronous motor rotor resistance	0.001Ω～32.000Ω(ac drive power<=55kW) 0.0001Ω～3.2000Ω(ac drive power>55kW)	Tuning parameters	×*
H1-08	Asynchronous motor leakage inductance reactance	0.01mH～320.00mH(ac drive power<=55kW) 0.001mH～32.000mH(ac drive power>55kW)	Tuning parameters	×*
H1-09	Asynchronous motor	0.1mH～3200.0mH(ac drive power<=55kW)	Tuning	×*

	mutual inductance resistance	0.01mH～320.00mH(ac drive power>55kW)	parameters	
H1-10	Asynchronous motor no-load current.	0.01A～H1-03(ac drive power<=55kW) 0.1A～H1-03(ac drive power>55kW)	Tuning parameters	×*
H1-11	Suspended deceleration voltage percentage	50.0%～140.0%(relative to standard bus voltage)	115.0%	√
H1-13	Vector control automatic voltage stabilization	0: Invalid 1: Valid for all process 2: Invalid only for deceleration	0	√
H1-37	Tuning(motor parameters auto-learning) selection	0: No operation 1: Asynchronous motor static tuning 2: Asynchronous motor complete tuned (The motor static auto-learning first, then auto-learns in rotating)	0	×*
H2 Group Motor vector control parameters				
H2-00	Speed loop proportional gain 1	1～100	50	√
H2-01	Speed loop integral time 1	0.01s～10.00s	1.00s	√
H2-02	Switching frequency 1	0.00～H2-05	5.00Hz	√
H2-03	Speed loop proportional gain 2	1～100	30	√
H2-04	Speed loop integral time 2	0.01s～10.00s	1.00s	√
H2-05	Switching frequency 2	H2-02～Maximum frequency	10.00Hz	√
H2-06	Vector control slip gain	50%～200%	100%	√
H2-07	Speed loop filter coefficient	2～100	50	√
H2-08	VC low frequency excitation boost	80.0%～150.0%	125.0%	√
H2-09	Torque upper limit source in speed control mode	0: Function code H2-10 setting 1: V1 2: V2 3: Reserved 4: HDI pulse setting 5: Communication given 6: MIN(V1,V2) 7: MAX(V1,V2) 1-7he full range of option corresponds toH2-10	0	√
H2-10	Digital setting of electric torque upper limit	50.0%～300.0%(Relative to motor rated torque)	200.0%	√

H2-11	Digital setting of generator torque upper limit	50.0%～300.0%(Relative to motor rated torque)	140.0%	√
H2-13	Excitation adjustment proportional gain	1～32000	500	√
H2-14	Excitation adjustment integral gain	1～32000	250	√
H2-15	Torque adjustment proportional gain	1～32000	500	√
H2-16	Torque adjustment integral gain	1～32000	250	√
H2-19	DPWM Switching frequency	0.00 Hz～300.00Hz	15.00Hz	√
H2-20	Overvoltage boost mode enabled voltage	0: Disable 1: Enable	1	√
H2-21	Overvoltage boost frequency action voltage	200.0V～1500.0V	750.0V	√
H2-22	Maximum frequency of overvoltage boost frequency	0.00Hz～50.00Hz	6.00Hz	√
H2-23	Frequency gain of overvoltage boost frequency	0～100	30	√
H2-24	Voltage gain of overvoltage boost frequency	0～100	30	√
H3 Group Start and stop control				
H3-00	Start mode	0: Direct start(H3-03、H3-04) 1: Speed software tracking start(H3-02、H3-36) 2: Start DC brake(H3-05、H3-06)	0	√
H3-02	Rotation speed tracking frequency setting	0.00Hz～100.00Hz	25.00Hz	√
H3-03	Start frequency	0.00Hz～50.00Hz	0.00Hz	√
H3-04	Start frequency maintain time	0.0s～32.000s	0.000s	×
H3-05	Start DC brake	0%～100%	0%	×
H3-06	Start DC brake time	0.0s～32.000s	0.000s	×
H3-07	Acceleration/ deceleration mode	0: Linear acceleration/deceleration. 1: S curve acceleration/deceleration	0	×*
H3-08	S-curve start time ratio	0.0%～(100.0%-H3-09)	30.0%	×*

H3-09	S-curve finish t time ratio	0.0%～(100.0%-H3-08)	30.0%	×*
H3-10	Normal stop mode	0: Deceleration stop 1: Free stop	0	√*
H3-11	Stop DC braking start frequency	0.00Hz～Maximum frequency	0.00Hz	√*
H3-12	Stop DC brake wait time	0.0s～32.000s	0.000s	√*
H3-13	Stop DC brake current	0%～100%	0%	√*
H3-14	Stop DC braking time	0.0s～32.000s(when it is 0.0s,no DC brake)	0.000s	√*
H3-15	Command source binding frequency source	Digit: Keyboard command binding frequency source selection 0: No binding 1: Digit setting frequency 2: V1 3: V2 4: Reserved 5: HDI pulse setting(S5) 6: Multiple Speed 7: Simple PLC 8: PID 9: Communication given Ten digit: Terminal command binding frequency source selection(same as above) Hundred digit : Communication command binding frequency source selection(same as above)	0000	√
H3-16	Enable to resume operation after automatic reset	0: Disable 1: Enable, It was running before the fault, it will run automatically after reset	1	√
H3-18	Jog stop mode	0: Deceleration stop 1: Free to stop	0	√
H3-24	Restart automatically after power on again	0: Disable 1: Enable It indicates that the drive will automatically restore the running state when it is powered on after power failure. That is, if it is in the running state before power failure, it will automatically restart running after the restart waiting time set by H3-27 is delayed after power-on. If it is in the stop state before power off, the drive will not start automatically after power on again. This function is valid for keyboard control only. Note: The user must choose this function in cautiously, otherwise it will cause serious	0	√

		results.		
H3-25	Restart after momentary power failure	0: Disable 1: Enable(After the ac drive reports running undervoltage, the keyboard is not extinguished and the power is applied again, after the waiting time of H3-26, it will automatically start to run)	0	√
H3-26	Restart waiting time after instantaneous power failure	0.000s～10.000s	1.000s	√
H3-36	Track voltage soft start time	0.000s～32.000s	1.000s	√
H3-37	Auto-start wait time	0.0s～3200.0s	2.0s	√
H4 Group Input terminals				
H4-00	S1 Terminal function selection	0: No function 1: Forward running(FWD) 2: Reverse running(REV) (setting 1,2cooperates with H0-13 for use) 3: Three-wire operation control 4: Forward Jog(FJOG) 5: Reverse Jog(RJOG) 6: Terminal UP 7: Terminal DOWN 8: Free stop for all the channels 9: Faulty Reset(RESET)for all the channels 10: Operation Pause (Valid for all the channels) 11: External fault normal open input (E015) 12: Multi-segment instruction terminal 1 13: Multi-segment instruction terminal 2 14: Multi-segment instruction terminal 3 15: Multi-segment instruction terminal 4 16: Acceleration/deceleration time selection terminal 1 17: Acceleration/deceleration time selection terminal 2 18: Frequency source combination switching (2、3、4 is valid during H0-04 is digit unit) 19: UP/DOWN setting clear(terminal、keyboard) 20: Control command switch terminal 1 (H0-12 is terminal or communication channel, switch to keyboard control during closed) 21: Acceleration/deceleration forbidden 22: PID pause 23: PLC status reset 24: Swing frequency Pause 25: Counter input 26: Counter reset 27: Length count input	1	×*
H4-01	S2 Terminal function selection		2	×*
H4-02	S3 Terminal function selection		9	×*
H4-03	S4 Terminal function selection		0	×*
H4-04	S5 Terminal function selection		0	×*
H4-05	S6 Terminal function selection		0	×*
H4-06	Reserved			
H4-07	Reserved			

		28: Length reset 29: Torque control forbidden 30: HDI(pulse)frequency input(only valid for S5,More than 20.00KH, it needs to change the high-speed optical coupling) 31: Reserved 32: Immediate DC braking. 33: External faulty normal closed input(E015 emergency stop) 34: Frequency modify enabled 35: PID negative direction action 36: External stop terminal 1(Only the keyboard control is valid, the terminal is closed to stop, which is equivalent to the function of the STOP key on the keyboard) 37: Control command switch terminal 2(When H0-12 is terminal control, the terminal is closed and switched to communication control; When H0-12 is communication control, the terminal is closed and switched to terminal control. When H7-09 = 1, the terminal is closed invalid) 39: Frequency source A and digital frequency switch 40: Frequency source B and digital frequency switch 44: User-defined fault 1(E027) 45: User-defined fault 2(E028) 46: Speed control /torque control switch 48: External stop terminal2 49: Deceleration DC braking (first decelerate to the braking frequency and then DC brake. 50: Running time clear		
H4-10	Digital terminal input filter	0: Disable 1: Enable	1	√
H4-12	Terminal UP/DOWN change rate	0.01Hz/s～100.0Hz/s	2.00Hz/s	√
H4-13	V1Curve minimum input	0.00V～H4-15	0.10V	√
H4-14	V1Curve minimum input corresponding setting	-100.0%～+100.0%	0.0%	√
H4-15	V1Curve maximum input	H4-13～+10.00V	9.90V	√
H4-16	V1Curve1maximuminput corresponding setting	-100.0%～+100.0%	100.0%	√

H4-17	V1 Input filter coefficient	0～20(When PID pressure is unstable, increase appropriately; when CNC machine tool requires rapid response, decrease appropriately)	6	√
H4-18	V2 Curve minimum input	0.00V～H4-20	0.10V	√
H4-19	V2Curve minimum input corresponding setting	-100.0%～+100.0%	0.0%	√
H4-20	V2 Curve maximum input	H4-18～+10.00V	9.90V	√
H4-21	V2 Curve maximum input corresponding setting	-100.0%～+100.0%	100.0%	√
H4-22	V2 Input filter coefficient	0～20(When PID pressure is unstable, increase appropriately; when CNC machine tool requires rapid response, decrease appropriately)	6	√
H4-28	HDI minimum input	0.00kHz～H4-30	0.00kHz	√
H4-29	HDI minimum input corresponding setting	-99.99%～100.00%	0.00%	√
H4-30	HDI maximum input	H4-28～100.00kHz	20.00kHz	√
H4-31	HDI maximum input corresponding setting	-99.99%～100.00%	100.00%	√
H4-32	HDI Filter time	0～20	3	√
H4-34	V1、V2、HDI lower than minimum input setting selection	0: Corresponding minimum input setting 1: 0.0%	0	√
H5 Group Output terminal				
H5-00	SP1 terminal output mode selection	0: Pulse output(HDO,H5-09～H5-12 setting) 1: Open collector output(SP1,H5-01 setting)	1	√*
H5-01	Control board SP1 open collector output function selection.	0: No output 1: Ac drive operation 2: Faulty output (Faulty stop) 3: FDT1 output of frequency level detection (H8-19、H8-20) 4: Frequency reached (H8-21) 5: Zero speed operation (No output during stop) 6: Motor overload pre-alarm(H9-02) 7: Ac drive overload pre-alarm(H9-51) 8: Set count value reached.(H8-11) 9: Specified count value reached(H8-12) 10: Length reached(H8-08～H8-10) 11: PLC cycle is completed. 13: Frequency limitation 15: Running preparation ready 16: V1>V2 17: Upper limit frequency reached	0	√*
H5-02	Relay output function selection (TA0-TB0-TC0)		2	√*
H5-03	Relay output function selection (TA1-TB1-TC1)		1	√*
H5-04	Reserved		0	√

		18: Lower limit frequency reached (operation related) 19: Under voltage state output. 20: Communication setting(Address2001H) 23: Zero speed operation 2(also output when stop) 24: Cumulative power-on time reached (H7-06>=H8-16) 25: FDT2 output of frequency level detection(H8-28、H8-29) 26: Frequency 1 reached output (H8-30、H8-31) 27: Frequency 2 reached output(H8-32、H8-33) 28: Current 1 reached output(H8-38、H8-39) 29: Torque level detection FDT output(H8-40、H8-41) 30: Timing reaches output.(H8-42～H8-44) 31: V1 input over limit (H8-45、H8-46) 33: Reverse running 34: Zero current state(H8-34、H8-35) 35: Module temperature reached(H8-47) 36: The output current exceeds the limit(H8-36、H8-37) 37: Lower frequency limit (even output when stop) 40: Present running time reach(H8-53) 41: Faulty output(no output when undervoltag) 42: Multi-speed frequency reached output(No operation in Zero speed) 45: Output finish in PLC stage 46: Digital output specified value(H5-22) 47: At least one multi-speed terminal is closed 48: In forward running (Jog forward running not included) 49: In reverse running(Jog reverse running not include) 50: Jog running 51: In running(Not jog running) 52: Output current reached (H6-13、H6-14 control) 53: Input terminal S1 state 54: Input terminal S2 state 55: Input terminal S3 state 56: Input terminal S4 state 57: Input terminal S5 state 58: Input terminal S6 state		
H5-06	HDO high speed pulse output function	0: Operation frequency (10Vcorresponding to the maximum frequency)	0	√

	selection	1: Set frequency (10Vcorresponding to maximum frequency) 2: Output current (10V corresponding to 2 times motor rated current) 3: Output torque (10V corresponding to 2 times motor rated torque) 4: Output power(10Vcorresponding to 2 times motor power) 5: Output voltage (10V corresponding to 1.2 times drive rated voltage) 6: HDI high speed pulse ((10V corresponding to 20.0kHz) 7: V1 8: V2 10: Length(0～Maximum set length) 11: Count value(0～Maximum count value) 12: Communication set (Address2004H、2002H、2003H) 13: Motor rotation(0～Rotation speed corresponding to maximum output frequency) 14: Output current(100.0% corresponding to 1000.0A) 15: Output voltage(100.0% corresponding to 1000.0V) 16: Output torque (-2 times motor rated torque~ 2 times motor rated torque) 17: Output percentage specified value(H5-23)		
H5-07	FM1analog output function selection		0	√
H5-08	FM2 analog output function selection		1	√
H5-09	HDO output maximum frequency	0.00kHz～100.00kHz(exceed 20.00KHz needs to replace high-speed optocoupler)	20.00kHz	√
H5-10	HDO upper limit percentage	0.00%～100.00%	100.00%	√
H5-11	HDO Minimum output frequency	0.00kHz～100.00kHz	0.00kHz	√
H5-12	HDO lower limit percentage	0.00%～100.00%	0.00%	√
H5-13	FM1maximum output	0.00V～10.00V	10.00V	√
H5-14	FM1upper limit percentage	0.0%～100.0%	100.0%	√
H5-15	FM1 minimum output	0.00V～10.00V	0.00V	√
H5-16	FM1 lower limit percentage	0.0%～100.0%	0.0%	√
H5-17	FM2 maximum output	0.00V～10.00V	10.00V	√
H5-18	FM2 upper limit	0.0%～100.0%	100.0%	√

	percentage			
H5-19	FM2 minimum output	0.00V～10.00V	0.00V	√
H5-20	FM2 lower limit percentage	0.0%～100.0%	0.0%	√
H5-21	Below lower limit output selection	0: Output 0V 1: Output lower limit	1	√
H5-22	Digital output specified value	0: Closed 1: Disconnect	1	√
H5-23	FM1、FM2、HDO output percentage specified value	0.0%～100.0%	0.0%	√
H5-24	SP1 closed delay	0.0s～3200.0s	0.0s	√
H5-25	SP1disconnect delay	0.0s～3200.0s	0.0s	√
H5-26	T0 closed delay	0.0s～3200.0s	0.0s	√
H5-27	T0 disconnect delay	0.0s～3200.0s	0.0s	√
H5-28	T1 closed delay	0.0s～3200.0s	0.0s	√
H5-29	T1disconnect delay	0.0s～3200.0s	0.0s	√
H5-30	T2 closed delay	0.0s～3200.0s	0.0s	√
H5-31	T2 disconnect delay	0.0s～3200.0s	0.0s	√
H5-32	Digital output logic inversion	0: Positive logic 1: Antilogic Digit: SP1 logic negation Ten digit: TA0 output logic negation Hundred digit: TA1 output logic negation Thousand digit: TA2 output logic negation	0000	√
H6 Group V/F Control parameter				
H6-00	VF Curve setting	0: Liner V/F(Constant torque occasion) 1: Multiple-point V/F(H6-03～H6-08, High-frequency motors, industrial washing machines, centrifuges, etc.) 2: Square V/F(Light load occasions such as fans and water pumps) 3: 1.2 power V/F 4: 1.4 power V/F 6: 1.6 power V/F 8: 1.8 power V/F 10: VF separation mode(H6-16～H6-19, Induction heating power supply, film blowing machine, torque motor and other occasions)	0	×
H6-01	Torque boost	0.1%～50.0%	Model depends	√*
H6-02	Torque boost cutoff frequency	0.00Hz～Maximum frequency	50.00Hz	×*
H6-03	Multipoint VF frequency point 1	0.00Hz～Motor rated frequency(H1-04)	5.00Hz	×*

H6-04	Multipoint VF voltage point 1	0.0%～100.0%	15.0%	×*
H6-05	Multipoint VF frequency point 2	0.00Hz～Motor rated frequency(H1-04)	17.50Hz	×*
H6-06	Multipoint VF voltage point 2	0.0%～100.0%	45.0%	×*
H6-07	Multipoint VF frequency point 3	0.00Hz～Motor rated frequency(H1-04)	35.00Hz	×*
H6-08	Multipoint VF voltage point 3	0.0%～100.0%	80.0%	×*
H6-09	VF slip compensation gain	0.0%～200.0%	0.0%	√
H6-10	VF overexcitation gain	0～200 During the deceleration of the AC Drive, this parameter can suppress the rise of bus voltage and avoid over-voltage faults. The larger the overexcitation gain, the stronger the suppression effect, but it is easy to cause the output current to increase or the speed to fluctuate, which needs to be weighed in the application. For occasions with small inertia, it is recommended to set the over-excitation gain to 0; for the occasions with braking resistors, the over-excitation gain needs to be set as 0。	32	√
H6-11	VF oscillation suppression gain	0～100 Only when the motor oscillates obviously, it is necessary to increase the gain appropriately. The larger the gain, the more obvious the suppression of oscillation.	Model depends	√
H6-13	Output current reached setting	0～3200.0A(No judgment when it is 0)	0.0A	√
H6-14	Output current reached judgment time	0～320.00s	0.00s	√
H6-15	AVR Automatic voltage regulation	0: Invalid 1: Valid for all process 2: Only invalid in decelerating	0	√
H6-16	Separation voltage acceleration time	0.0s～3200.0s	10.0s	√
H6-17	Separation voltage deceleration time	0.0s～3200.0s	10.0s	√
H6-18	VF Separation voltage source	0: Digital setting H6-19 1: V1 setting 2: V2 setting 3: Reserved (no function) 4: HDI setting	0	√

		5: Multi-speed instrument setting 6: PLC setting 7: Reserved (no function) 8: Communication setting Note: 100.0% corresponding to motor rated voltage H1-02		
H6-19	VF Separation voltage settings.	0V～1000V	0V	√
H7 Group Keyboard and display				
H7-00	LED first line running display selection	00: Running frequency 01: Setting frequency 02: DC bus voltage	0	√
H7-01	LED first line stop display selection	03: Output voltage 04: Output current 05: Output power(kW) 06: Output torque(%) 07: S input terminal status 08: DO output terminal status 09: V1 voltage(V) 10: V2 voltage(V) 11: Reserved (no function) 12: Count value 13: Length value 14: Load speed display 15: PID Setting 16: PID feedback 17: PLC status 18: HDI input (S5terminal)pulse frequency(kHz) 19: Feedback frequency(Hz) 20: The remaining running time. 21: FM1output voltage(V) 22: FM2 output voltage(V) 23: HDO pulse output frequency(KHZ) 24: Reserved (no function) 25: Accumulated power-on time(Hour) 26: Timing elapsed time(Min) 27: Timing setting time(Min) 28: Communication setting value 29: Reserved (no function) 30: Main frequency A display(Hz) 31: Auxiliary frequency B display(Hz) 32: Multi-speed present stage speed 33: PLC total set time 34: PLC elapsed time 35: Torque target value 36: PLC remaining running time	1	√
H7-02	LED second line	Same as H7-00 parameter definition	4	√

	normal status selection			
H7-03	User password (Used to lock the keyboard)	0～32766 (After setting up, be sure to keep in mind)	0	√
H7-05	Power-on time cycle Min	0.0Min～59.9Min	-	○
H7-06	Cumulative power-on time H	0H～32767H	-	○
H7-07	Inverse module radiator temperature	0.0℃～100.0℃	-	○
H7-09	MF.K key function selection	0: MF.K invalid 1: Switch between the command channel of the operation panel and the remote command channel (terminal command channel or communication command channel) 2: Forward/Reverse switching. 3: Forward Jog 4: Reverse Jog	0	×
H7-10	STOP/RESET key function	0: Only in keyboard mode, STOP/RESET key stop function is enabled. 1: In any operating mode, STOP/RESET key stop function is enabled (when controlled by terminal or communication, it is free to stop) 2: In any operating mode, STOP/RESET key stop function is enabled (when controlled by terminal or communication, E037 external faulty occurs)	2	√
H7-12	Accumulative power consumption	0KW.H～32767KW.H	-	○
H7-13	Load speed display coefficient	0.001～32.0000	1.000	√
H8 Group auxiliary functions				
H8-00	Jog running frequency	0.00Hz～Maximum frequency	2.00Hz	√
H8-01	Jog acceleration time	0.1s～3200.0s	Model depends	√
H8-02	Jog deceleration time	0.1s～3200.0s	Model depends	√
H8-03	Pendulum frequency setting mode	0: Relative to the center frequency 1: Relative to maximum frequency	0	√*
H8-04	Pendulum frequency range	0.0%～100.0%	0.0%	√*
H8-05	Jump frequency range	0.0%～50.0%	0.0%	√*
H8-06	Pendulum cycle	0.1s～3000.0s	10.0s	√*

H8-07	Pendulum frequency triangular wave rise time coefficient	0.1%～100.0%	50.0%	√*
H8-08	Setting length	0m～32000m	1000m	√*
H8-09	Actual length	0m～32000m	0m	√*
H8-10	Number of pulses per meter	0.1～3200.0	100.0	√*
H8-11	Setting count value	1～32000	1000	√*
H8-12	Specified count value	1～32000	1000	√*
H8-13	Reverse control forbidden	0: Allowed 1: Not allowed (it is invalid in torque control)	0	√
H8-15	Droop control	0.00Hz～10.00Hz This function is generally used for load distribution when multiple motors are driving the same load. Droop control means that as the load increases, the output frequency of the ac drive is reduced, and realize the load uniformity of multiple motors.This parameter refers to the output frequency drop value when the ac drive outputs the rated load.	0.00Hz	√
H8-16	Set the accumulative power-on arrival time	0h～32000h	0h	√
H8-18	Start protection selection	Unit: Power on start protection 0: No protection(The terminal is closed before power-on to allow operation) 1: Protection (The terminal is closed before power-on and it is not allowed to run) Hundred units: Normal terminal protection 0: No protection(Normal state, it can run as long as the terminal is closed) 1: Protection(Normal state, if the terminal is closed before starting, it needs to disconnect the terminal first, then close the terminal and start)	101	√
H8-19	Frequency detection value(FDT1)	0.00Hz～Maximum frequency	50.00Hz	√*
H8-20	Frequency detection lag value (FDT1)	0.0%～100.0%(FDT1electrical level)	5.0%	√*
H8-21	Frequency reached detection width	0.0%～100.0%(maximum frequency)	0.0%	√*
H8-22	Whether the jumping frequency is effective during acceleration and deceleration	0: Disabled 1: Enabled	0	√*
H8-25	Acceleration time 2 and acceleration time 1 switch frequency	0.00Hz～Maximum frequency	0.00Hz	√*

	point			
H8-26	Deceleration time 1 and deceleration time 2 switch frequency point	0.00Hz～Maximum frequency	0.00Hz	√*
H8-27	Terminal jog priority	0: Disabled 1: Enabled	1	×
H8-28	Frequency detection value(FDT2)	0.00Hz～Maximum frequency	50.00Hz	√
H8-29	Frequency detection lag value(FDT2)	0.0%～100.0%(FDT2 electrical level)	5.0%	√
H8-30	Any reached frequency detection value1 1	0.00Hz～Maximum frequency	50.00Hz	√
H8-31	Any reached frequency detection width 1	0.0%～100.0%(Maximum frequency)	0.0%	√
H8-32	Any reached frequency detection value 2	0.00Hz～Maximum frequency	50.00Hz	√
H8-33	Any reached frequency detection width 2	0.0%～100.0%(Maximum frequency)	0.0%	√
H8-34	Zero current detection level	0.0%～100.0% 100.0% corresponding to motor rated current	5.0%	√*
H8-35	Zero current detection delay time	0.01s～60.00s	0.10s	√*
H8-36	Output current exceeds the limit value	0.0%(No detection) 0.1%～300.0%(Motor rated current)	200.0%	√*
H8-37	Output current exceeds the limit detection delay time	0.00s～60.00s	0.00s	√*
H8-38	Any reached current 1	0.0%～300.0%(Motor rated current)	100.0%	√*
H8-39	Any reached current 1 width	0.0%～300.0%(Motor rated current)	0.0%	√*
H8-40	Torque level detection value(FDT)	0.0%～200.0%(Motor rated current)	100.0%	√
H8-41	Torque level lagged value(FDT)	0.0%～100.0%(Motor rated current)	5.0%	√
H8-42	Timing function selection	0: Invalid 1: Valid	0	√
H8-4	Timing run time selection(Automatic stop to timing run time reaches)	0: H8-44 setting 1: V1 2: V2 3: Reserved (no function)	0	√

		Analogue input range corresponding to H8-44		
H8-44	Timing run time	0.0Min～3200.0Min	0.0Min	√
H8-45	V1 input voltage protection value lower limit	0.00V～H8-46 When the value of analog input V1 is greater than H8-46, or V1 input is less than H8-47, the ac drive multi-function DO outputs "V1 input over limit ON signal, which is used to indicate whether the input voltage of V1 is within the set range.	3.10V	√
H8-46	V1 input voltage protection value upper limit	H8-45～10.00V	6.80V	√
H8-47	Module temperature reaches	0.0℃～100.0℃	75.0℃	√
H8-48	Reserved			
H8-49	PWM Modulation Mode	0: Asynchronous Modulation 1: Synchronizing modulation	0	√
H8-50	Dead zone compensation mode selection	0: No compensation 1: Compensation	1	√
H8-51	Random PWM depth	0: Random PWM invalid 1～10: PWM Carrier frequency random depth	0	√
H8-52	Hardware current limit enable	0: Disable 1: Enable	1	√
H8-53	Present running reaching time setting	0.0Min～3200.0Min	0.0Min	√
H8-54	Hardware current limit level	150.0%～230.0%(Relative ac drive rated current)	185.0%	√
H9 Group Faulty and protection				
H9-00	Motor overload protection selection	0: Not allowed 1: Allowed	1	√
H9-01	Motor overload protection coefficient	50.0%～120.0%(Relative motor rated current)	100.0%	√
H9-02	Motor overload pre-alarm coefficient	20%～100%(Relative to the maximum value of accumulated number of motor overload) It is used to give an early alarm signal to the control system through DO before the motor overload fault protection. The pre-alarm coefficient is used to determine the degree of pre-alarm before the motor overload protection. The larger the value, the smaller the warning advance.	50%	√
H9-03	Overvoltage stall gain	0～200 The larger the value, the stronger the ability to suppress overvoltage, but the actual deceleration time will be longer. Under the premise of no overvoltage, the smaller the gain setting, the	0	√

		better.		
H9-04	Overvoltage stall protection voltage	115%～150% During the deceleration of the ac drive, when the DC bus voltage exceeds the overvoltage stall protection voltage, the ac drive stops decelerating and maintains the current operating frequency, and continues to decelerate after the bus voltage drops.	133%	√
H9-05	Over current stall gain	0～200 (when it is 0, the over-current stall function is cancelled) the larger the value, the stronger the over-current suppression capability. For the load with small inertia, the over-current stall gain should be small, otherwise the system dynamic response will slow down. For loads with large inertia, this value should be large, otherwise the suppression effect is not good, and over-current faults may occur.	5	√*
H9-06	Over current stall protection current	10.0%～210.0% During the acceleration and deceleration of the ac drive, when the output current exceeds the over-current stall protection current, the ac drive stops the acceleration and deceleration process, and continues to accelerate and decelerate after the output current drops.	180.0%	√*
H9-09	Automatic failure reset times	0～20	0	√
H9-10	Fault DO output terminal action selection during automatic reset	0: No action 1: Action	0	√
H9-11	Faulty automatic reset interval time	0.100s～32.000s	1.000s	√
H9-12	Input phase loss protection selection (7.5KW and bigger power)	0: Not allowed 1: Allowed	1	√
H9-13	Output phase loss /output current unbalance protection selection	0: Not allowed 1: Allowed	1	√
H9-14	The first fault type	0: No fault 1: IGBT Short circuit fault 2: Acceleration overcurrent 3: Deceleration overcurrent 4: Constant speed overcurrent 5: Acceleration overvoltage	—	○
H9-15	The second fault type		—	○
H9-16	The third (latest) fault type		—	○

		6: Deceleration overvoltage 7: Constant speed overvoltage 8: Stop drive overvoltage 9: Under voltage 10: Ac drive overload 11: Motor overload 12: Input phase loss 13: Output phase loss or three phase unbalance 14: Module overheating 15: External fault 16: Abnormal communication 19: Motor tuning abnormally 21: Read/write parameter abnormally 22: rive hardware abnormally(clear the latch timeout) 23: Motor short circuit with ground 24: AD too large null shift 26: Temperature sensor disconnection fault 27: User-self define faulty 1 28: User-self define faulty 2 29: Power on time arrival 31: PID feedback disconnect faulty 37: Keyboard STOP Key fault 40: Rapid current limitation timeout 41: Automatic reset times over limit		
H9-17	The third (latest) fault frequency	—	—	○
H9-18	The third (latest) fault current	—	—	○
H9-19	The third (latest) fault bus voltage	—	—	○
H9-23	The third (latest) fault accumulative power on time	—	—	○
H9-27	The second fault frequency	—	—	○
H9-28	The second fault current	—	—	○
H9-29	The second fault bus voltage	—	—	○
H9-33	The second fault accumulative power on time	—	—	○
H9-37	The first fault frequency	—	—	○
H9-38	The first fault current	—	—	○

H9-39	The first fault Bus voltage	—	—	○
H9-43	The first fault power accumulative on time	—	—	○
H9-49	Three consecutive failure pause time	1.0s～600.0s	30.0s	√
H9-50	Hardware overcurrent elimination time	0.1s～600.0s	1.0s	√
H9-51	AC drive overload warning coefficient	0～100%(Relative to the maximum value of the cumulative number of ac drive overloads)	50%	√
H9-52	Software current limit and frequency reduction enable	0: Enable 1: Disable	0	√
H9-53	Software current limiting and frequency reduction level	120.0%～220.0%(Relative ac drive rated current)	170.0%	√
H9-54	Maximum drop rate when current is limited	0.00Hz～100.00Hz	2.50Hz	√
H9-55	Current limit cut off frequency	0.00Hz～Maximum Frequency H0-05	10.00Hz	√
H9-59	Instantaneous stop deceleration power generation enable	0: Invalid 1: Decelerate power generation to maintain bus voltage (Deceleration time is set by H9-66)	0	√*
H9-60	Instantaneous stop power generation recovery judgment voltage	70.0%～100.0%	90.0%	√*
H9-61	Instantaneous stop power generation recovery judgment time	0.0s～100.0s	0.5s	√*
H9-62	Deceleration power generation start action voltage	60.0%～100.0%(Stand bus voltage)	80.0%	√*
H9-63	Load loss protection selection	0: Invalid 1: Valid Then when the ac drive output current is less than the load loss detection level H9-64 and the duration is greater than the load loss detection time H9-65, the ac drive will report a load loss fault E030.	0	√
H9-64	Load loss detection level	0.0%～100.0%	10.0%	√

H9-65	Load loss detection time	0.0s～60.0s	1.0s	√
H9-66	Instantaneous power failure deceleration time	0.0s～3200.0s	3.0S	√*
H9-71	Hall anomaly detection time	0.0s～60.0s (0.0s no detection)	5.0s	√
H9-72	Temperature disconnection detection time	0.0s～60.0s (0.0s no detection)	10.0s	√
HA Group PID Function				
HA-00	PID given source	0: HA-01 setting 1: V1 2: V2 3: Reserved 4: HDI pulse setting(S5) 5: Communication setting (communication address 1000H) 6: Multi-segment instrument given	0	√
HA-01	PID value given	0.0%～100.0%(100.0% corresponds to the pressure gauge range) For example: If the pressure gauge is 1.6MPA and the target pressure is 0.2MPA (2 kg), then HA.01 = 0.2MPA*100.0%/1.6MPA = 12.5%; If the pressure gauge is 1.0MPA and the target pressure is 0.2MPA (2 kg), then HA.01 = 0.2MPA*100.0%/1.0MPA = 20.0%;	20.0%	√
HA-02	PID feedback source	0: V1 1: V2 2: Reserved 3: V1-V2 4: HDI pulse setting(S5) 5: Communication given (communication address 1000H) 6: V1+V2 7: MAX(|V1|, |V2|) 8: MIN(|V1|, |V2|)	0	√
HA-03	PID effect direction	0: Positive effect(The smaller the PID feedback, the bigger the frequency output 1: Negative effect(The smaller the PID feedback, the smaller the frequency output	0	√
HA-05	Proportional gain Kp	0～32000(The larger the value, the faster the response and the bigger the oscillation)	4096	√
HA-06	Integral gain Ki	0～32000(The larger the value, the faster the response and the bigger the overshoot)	1500	√

HA-09	PID deviation limit	0.0%～100.0%(The deviation between PID setting and feedback is less than this setting, PID adjustment is suspended)	0.0%	√
HA-10	PID maximum output	0.0%～100.0%(Relative maximum frequency)	100.0%	√
HA-26	PID feedback loss detection value	0.0%: No judgement feedback loss 0.1%～100.0% Feedback disconnection detection: When the feedback value is less than the feedback loss detection value HA-26, the system starts the detection timing. When the timing time exceeds HA-27, the ac drive reports E031 feedback disconnection fault.	0.0%	√
HA-27	PID feedback loss detection time	0.0s～200.0s	1.0s	√
Hb Group Control Optimization Parameters				
Hb-00	Wake up pressure deviation	0.0%～100.0% When the current feedback pressure is lower than (pressure set value * Hb-00), the wake-up timing will be performed. When the wake-up timing exceeds the Hb-02 wake-up delay time, the ac drive will exit the sleep state.	80.0%	√
Hb-01	Start torque setting	-200.0%～200.0% (Valid during torque control)	0	√
Hb-02	Wake up delay time	0.0s～600.0s	2.0s	√
Hb-03	Dormancy frequency	0.00Hz (No dormancy)～Maximum frequency (H0-05)	0.00Hz	√
Hb-04	Dormancy delay time	0.0s～600.0s During the operation of the ac drive, when the running frequency is less than or equal to the Hb-03 dormancy frequency, after the Hb-04 delay time, the ac drive enters the dormancy state, automatically stops, and the running indicator light flashes.	10.0s	√
Hb-06	Undervoltage point setting	60.0%～140.0% (220V Series,100.0% corresponding to 200V) (380V Series,100.0% corresponding to 350V) (690V Series,100.0%对 corresponding to 650V)	100.0%	√
Hb-07	Start torque maintain time	0.00s～5.00s (valid in torque control)	0	√
Hb-08	Dead zone gain adjustment	0～200	80	√
HC Group Multi-segment Instrument, Simple PLC				
HC-00	Multi-segment instrument 0	-100.0%～100.0% (When it is a negative value, regardless of the forward rotation command or the reverse rotation command, it is the reverse operation); (When it is a positive value, the forward	0.0%	√

		command is for forward running, and the reverse command is for reverse running);		
HC-01	Multi-segment instrument 1	-100.0%～100.0%	0.0%	√
HC-02	Multi-segment instrument 2	-100.0%～100.0%	0.0%	√
HC-03	Multi-segment instrument 3	-100.0%～100.0%	0.0%	√
HC-04	Multi-segment instrument 4	-100.0%～100.0%	0.0%	√
HC-05	Multi-segment instrument 5	-100.0%～100.0%	0.0%	√
HC-06	Multi-segment instrument 6	-100.0%～100.0%	0.0%	√
HC-07	Multi-segment instrument 7	-100.0%～100.0%	0.0%	√
HC-08	Multi-segment instrument 8	-100.0%～100.0%	0.0%	√
HC-09	Multi-segment instrument 9	-100.0%～100.0%	0.0%	√
HC-10	Multi-segment instrument 10	-100.0%～100.0%	0.0%	√
HC-11	Multi-segment instrument 11	-100.0%～100.0%	0.0%	√
HC-12	Multi-segment instrument 12	-100.0%～100.0%	0.0%	√
HC-13	Multi-segment instrument 13	-100.0%～100.0%	0.0%	√
HC-14	Multi-segment instrument 14	-100.0%～100.0%	0.0%	√
HC-15	Multi-segment instrument 15	-100.0%～100.0%	0.0%	√
HC-16	Simple PLC running mode	0: Once time running drive stop 1: Keep the final value at the end of a single run 2: Keeping circulating	0	√
HC-17	Simple PLC power loss memory record selection	Digit: Power loss memory record selection 0: Power loss no memory record 1: Power loss with memory record Ten digit: Stop memory record selection 0: No memory record 1: Stop with memory record	00	√
HC-18	Simple PLC segment 0 running time	0.0～3200.0(s、h、Min)	0.0	√
HC-19	Simple PLC segment 0 acceleration/ deceleration time	0～3	0	√

	selection			
HC-20	Simple PLC segment 1 running time	0.0～3200.0(s、 h、Min)	0.0	√
HC-21	Simple PLC segment 1 acceleration /deceleration time	0～3	0	√
HC-22	Simple PLC segment 2 running time	0.0～3200.0(s、 h、Min)	0.0	√
HC-23	Simple PLC segment 2 acceleration /deceleration time selection	0～3	0	√
HC-24	Simple PLC segment 3 running time	0.0～3200.0(s、 h、Min)	0.0	√
HC-25	Simple PLC segment 3acceleration/deceleration time selection	0～3	0	√
HC-26	Simple PLC segment 4 running time	0.0～3200.0(s、 h、Min)	0.0	√
HC-27	Simple PLC segment 4 acceleration /deceleration time selection	0～3	0	√
HC-28	Simple PLC segment 5 running time	0.0～3200.0(s、 h、Min)	0.0	√
HC-29	Simple PLC segment 5acceleration/deceleration time selection	0～3	0	√
HC-30	Simple PLC segment 6 running time	0.0～3200.0(s、 h、Min)	0.0	√
HC-31	Simple PLC segment 6 acceleration /deceleration time selection	0～3	0	√
HC-32	Simple PLC segment 7 running time	0.0～3200.0(s、 h、Min)	0.0	√
HC-33	Simple PLC segment 7 acceleration /deceleration time selection	0～3	0	√
HC-34	Simple PLC segment 8 running time	0.0～3200.0(s、 h、Min)	0.0	√
HC-35	Simple PLC segment 8 acceleration /deceleration time	0～3	0	√

	selection			
HC-36	Simple PLC segment 9 running time	0.0～3200.0(s、 h、Min)	0.0	√
HC-37	Simple PLC segment 9 acceleration /deceleration time selection	0～3	0	√
HC-38	Simple PLC segment 10 running time	0.0～3200.0(s、 h、Min)	0.0	√
HC-39	Simple PLC segment 10 acceleration /deceleration time selection	0～3	0	√
HC-40	Simple PLC segment 11 running time	0.0～3200.0(s、 h、Min)	0.0	√
HC-41	Simple PLC segment 11 acceleration /deceleration time selection	0～3	0	√
HC-42	Simple PLC segment 12 running time	0.0～3200.0(s、 h、Min)	0.0	√
HC-43	Simple PLC segment 12 acceleration /deceleration time selection	0～3	0	√
HC-44	Simple PLC segment 13 running time	0.0～3200.0s(s、 h、Min)	0.0	√
HC-45	Simple PLC segment 13 acceleration /deceleration time selection	0～3	0	√
HC-46	Simple PLC segment 14 running time	0.0～3200.0(s、 h、Min)	0.0	√
HC-47	Simple PLC segment 14 acceleration /deceleration time selection	0～3	0	√
HC-48	Simple PLC segment 15 running time	0.0～3200.0(s、 h、Min)	0.0	√
HC-49	Simple PLC segment 15 acceleration /deceleration time selection	0～3	0	√
HC-50	Simple PLC running time unit	0: s(s); 1: h(h); 2: Min(Min)	0	√
HC-51	Multi-segment	0: Function HC-00 setting	0	√

	instruction 0 given mode	1: V1 2: V2 3: Reserved (no function) 4: HDI pulse 5: PID 6: Digit frequency (H0-08)setting		
HC-52	Multi-speed priority enable	0: No priority 1: Priority(In other frequency modes, as long as one stage speed terminal is closed, it will run at multi-stage speed)	1	√
HC-53	Multi-segment instruction 3 given mode	0: Function HC-03 setting 1: V1 2: V2 3: Reserved (no function) 4: HDI pulse 5: PID 6: Digit frequency (H0-08)given	0	√
Hd Group Communication Parameters				
Hd-00	Baud rate	3: 2400BPS 4: 4800BPS 5: 9600BPS 6: 19200BPS 7: 38400BPS 8: 57600BPS	5	√
Hd-01	MODBUS data format	0: No check(8-N-2) 1: Parity check(8-E-1) 2: Odd check(8-O-1) 3: No check 8-N-1(MODBUS valid)	0	√
Hd-02	Drive address	0～247,0 broadcast address	1	√
Hd-03	Response delay	0.000s～1.000s(MODBUS valid)	0.003s	√
Hd-04	Communication timeout fault time	0.000～30.000s 0.0(No judgement communication failure) If the correct communication data is not received beyond this set time, the ac drive will report a communication failure(E016)	0.000s	√
Hd-06	Communication read current resolution	0:0.01A 1:0.1A	1	√
Hd-13	Frequency selection from the master to the slave	0: Set frequency 1: Output frequency	0	×
Hd-14	Communication frequency modification factor	0.00～10.00	1.00	×
Hd-15	Host and slave selection	0: No set 1: Set as slave（Slave set: H0-00=9, after the REMOTE light flashes, it is the slave）	0	×

		2: Set as host (Related parameters H0-33/ H0-34/Hd-13/Hd-15）		
HF Group Factory parameter group				
HP Group Function management				
HP-00	Software version	-	-	○
HP-01	Parameter initialization	00: No operation 01: Restore factory parameters, excluding motor parameters 02: Clear record information 03: Restore factory parameters (all)	0	×
HP-04	Parameter locked	0: Not locked(Parameters can be read and written) 1: Locked (In addition to this parameter, the parameter lock can only be read)	0	
HH Group Torque control parameter				
HH-00	Speed/torque control selection	0: Speed control 1: Torque control(Valid when H0-14 is 0)	0	×
HH-01	Torque setting source selection under torque control	0: Digit setting1(HH-03) 1: V1 2: V2 3: Reserved (no function) 4: HDI Pulse 5: Communication given (communication address1000H) 6: MIN(V1,V2) 7: MAX(V1,V2)(Full range of 1-7, corresponding to HH-03 digit setting)	0	×
HH-03	Torque digit setting under torque control mode	-200.0%～200.0%	100.0%	√
HH-05	Torque control forward maximum frequency	0.00Hz～maximum frequency	50.00Hz	√
HH-06	Torque control reserve maximum frequency	0.00Hz～maximum frequency	50.00Hz	√
HH-07	Torque control acceleration time	0.01s～320.00s	0.01s	√
HH-08	Torque control deceleration time	0.01s～320.00s	0.01s	√
HH-09	Torque frequency acceleration time	0.01s～3200.0s	2.0s	√
HH-10	Torque frequency deceleration time	0.01s～3200.0s	2.0s	√
Hn Group Auxiliary function				
Hn-00	Acceleration time 1	0.1s～3200.0s	Model	√

			dependent	
Hn-01	Deceleration time 1	0.1s～3200.0s	Model dependent	√
Hn-02	Acceleration time 2	0.1s～3200.0s	Model dependent	√
Hn-03	Deceleration time 2	0.1s～3200.0s	Model dependent	√
Hn-04	Acceleration time 3	0.1s～3200.0s	Model dependent	√
Hn-05	Deceleration time 3	0.1s～3200.0s	Model dependent	√
Hn-06	Jump frequency 1	0.00Hz～Maximum frequency	0.00Hz	√
Hn-07	Jump frequency 2	0.00Hz～Maximum frequency	0.00Hz	√
Hn-08	Jump frequency range	0.00Hz～Maximum frequency	0.00Hz	√
Hn-09	Forward/reverse dead zone time	0.000s～32.000s Set the transition time at the output 0Hz during the transition process of the drive's forward and reverse rotation	0.000s	√
Hn-10	Current display initial value	0.0A～10.0A(it must display if exceed the current setting current)	1.0A	√

Monitoring parameters list:

Function code	Name	Minimum unit	Communication address
d0 Group Basic monitoring parameters			
d0-00	Running frequency(Hz)	0.01Hz	7000H
d0-01	Set frequency (Hz)	0.01Hz	7001H
d0-02	Bus voltage (V)	0.1V	7002H
d0-03	Output voltage (V)	1V	7003H
d0-04	Output current (A)	0.1A	7004H
d0-05	Output power (kW)	0.1kW	7005H
d0-06	Output torque (%)	0.1%	7006H
d0-07	S terminal input state	1	7007H
d0-08	DO terminal output state	1	7008H
d0-09	V1 voltage(V)	0.01V	7009H
d0-10	V2 voltage(V)	0.01V	700AH
d0-11	IGBT temperature	0.1℃	700BH
d0-12	Count value	1	700CH
d0-13	Length value	1	700DH
d0-14	Load speed display	1 RPM	700EH
d0-15	PID setting	0.1	700FH

d0-16	PID feedback	0.1	7010H
d0-17	PLC stage	1	7011H
d0-18	HDI input pulse frequency (Hz)	0.01kHz	7012H
d0-19	Feedback speed (Unit 0.01Hz)	0.01Hz	7013H
d0-20	Timing remaining running time	0.1Min	7014H
d0-21	FM1 output voltage	0.01V	7015H
d0-22	FM2 output voltage	0.01V	7016H
d0-23	HDO pulse output frequency	0.01kHz	7017H
d0-25	Accumulated power-on time	1h	7019H
d0-26	Timing elapsed time	0.1Min	701AH
d0-27	Timing set time	0.1Min	701BH
d0-28	Communication set value	1%	701CH
d0-30	Main frequency A display	0.01Hz	701EH
d0-31	Auxiliary frequency B display	0.01Hz	701FH
d0-32	Multi-stage current stage speed	1	7020H
d0-33	PLC total set time	0.1	7021H
d0-34	PLC elapsed time	0.1	7022H
d0-35	Target torque(%)	0.1%	7023H
d0-36	PLC segment 0 elapsed time	0.1s	7024H
d0-37	PLC segment 1 elapsed time	0.1s	7025H
d0-38	PLC segment 2 elapsed time	0.1s	7026H
d0-39	PLC segment 3 elapsed time	0.1s	7027H
d0-40	PLC remained time	0.1s	7028H
d0-41	S terminal input status visual display	1	7029H
d0-42	DO terminal output status visual display	1	702AH
d0-43	Sleep timekeeping	0.1s	702BH
d0-45	AC drive overload count (count to 100 and report E010)		702DH
d0-46	Motor overload count (count to 100 and report E011)		702EH
d0-49	Cumulative power consumption	KW.H	7031H
d0-51	U phase current effective value	0.1A	7033H
d0-52	V phase current effective value	0.1A	7034H
d0-53	W phase current effective value	0.1A	7035H
d0-54	Power percentage (equivalent to motor rated)	0.1%	7036H

Chapter 6 Main Parameter Function Description

H0-00	Main frequency Source A selection	0: Digit setting(H0-08,UP/DOWN can be modified, power off without memory record) 1:Digit setting (H0-08,UP/DOWN UP/DOWN can be modified, power off with memory record) 2: V1; 3: V2; 5: HDI Pulse setting(S5) 6: Multi-segment instrument; 7: Simple PLC 8: PID; 9: Communication given (Communication given 1000H)	1
H0-01	Auxiliary frequency source B selection		0
H0-02	Auxiliary frequency source B reference at superimposed	0: Relative to the maximum frequency 1: Relative to the main frequency source A	0
H0-03	Auxiliary frequency source B range selection at superposition	0%～150%	100%
H0-04	Frequency source superposition selection	Digit: Frequency source selection 0: Main frequency source A 1: Main and auxiliary operation results (the operation relationship is determined by the tens place.) 2: Main frequency source A and auxiliary frequency source B switch 3: The main frequency source A switches with main and auxiliary operation results 4: The auxiliary frequency source B switches with main and auxiliary operation results Ten digits: Main frequency source and auxiliary operation relationship. 0: A+B 1: A-B 2: Max(A,B) 3: Min(A,B)	00

The frequency given channel is selected by these parameters. The frequency is given by the combination of the main frequency source A and the auxiliary frequency source B, please check the figure 6-1.

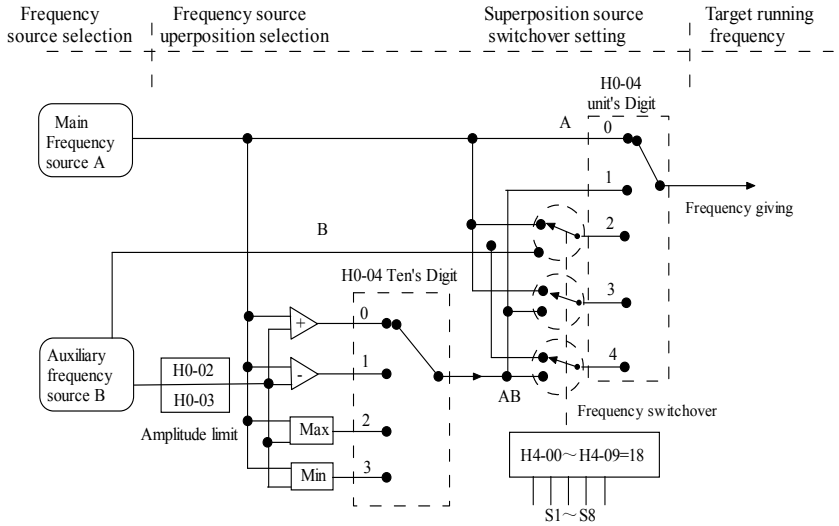


Figure 6-1 Schematic diagram of main and auxiliary frequency combination

When the main/auxiliary operation is selected as the frequency source, the offset frequency can be set by H0-18 and superimposed on the main and auxiliary operation results to meet all kinds of requirements.

H0-10	Acceleration time 0	0.00s～3200.0s	Model dependent
H0-11	Deceleration time 0	0.00s～3200.0s	Model dependent
H0-21	Acceleration/ deceleration time benchmark frequency	0: Maximum frequency H0-05 1: Motor rated frequency H1-04 2: 100Hz	0

The acceleration time refers to the time required for the drive to accelerate from the zero frequency to the acceleration/deceleration base frequency (via H0-21). See t1 in figure 6-2.

Deceleration time refers to the time required for the drive to decelerate to zero frequency from the acceleration/deceleration base frequency (via H0-21), as shown t2 in figure 6-2.

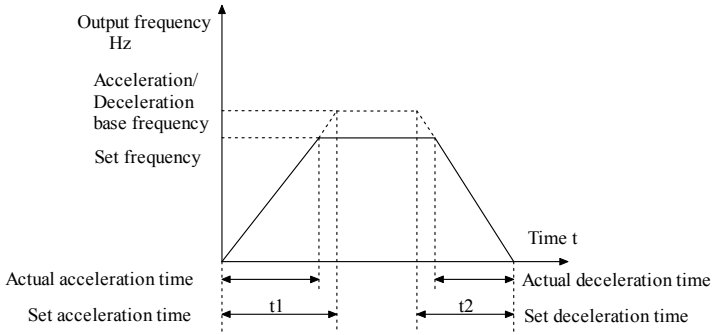


Figure 6-2 Acceleration/deceleration time figure

350 series offer 4 group acceleration/deceleration time, the user can select via the digital input terminal S

switchover selection. and the four groups of acceleration/deceleration time are set by the following function code: Zero Group: H0-10、H0-11; First Group: Hn-00、Hn-01;
Second Group: Hn-02、Hn-03; Third Group: Hn-04、Hn-05.

H0-13	Terminal command channel	0: Two-wire 1 (Forward terminal forward start and stop , reverse terminal reverse start and stop) 1: Two-wire 2(The forward rotation terminal starts and stops, the reverse terminal changes direction) 2: Three-wire 1 (Forward terminal pulse start and stop, reverse terminal pulse start and stop, three-wire terminal normally closed ,stop when disconnected) 3: Three-wire 2 (Forward terminal pulse start and stop, reverse terminal selects direction, three-wire terminal normally closed ,stop when disconnected) 4: Three-wire 3 (Forward terminal pulse starts and stops forward rotation, reverse terminal pulse starts and stops reverse rotation, three-wire terminal normally open ,stop when closed)	0

The parameter defines four different ways to control the operation of the ac drive via external terminals.
Note: For easy description, the three terminals S1, S2, and S3 in the multi-function input terminals of S1 to S6 are arbitrarily selected as external terminals. That is, the functions of the three terminals S1, S2, and S3 are selected by setting the values of H4-00 to H4-02.
Terminal command mode 0: Two wire mode 1,this is the most normal mode.The motor forward and reverse running are determined by S1、S2. The function code setting as below:

Function code	Name	Setting value	Function description
H0-13	Terminal command mode	0	Two wire mode1
H4-00	S1 terminal function selection	1	Forward running (FWD)
H4-01	S2 terminal function selection	2	Reverse running(REV)

K1	K2	Running command
1	0	Forward
0	1	Reverse
1	1	stop
0	0	stop

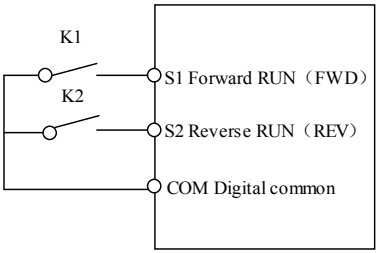


Figure 6-3 Two wire mode 1

As the figure above, under this mode, K1 closed, the ac drive forward runs. K2 closed, the ac drive reverse runs. K1 and K2 closed or disconnect at the same time, the ac drive stop running.
Terminal command mode 1; Two wire mode 2, in this mode, S1 terminal function is enabled, and running

direction is determined by S2 terminal.The function code is as below:

Function code	Name	Setting value	Function description
H0-13	Terminal command mode	1	Two wire mode 2
H4-00	S1terminal function selection	1	Running enable
H4-01	S2 terminal function selection	2	Forward/Reverse running direction

K1	K2	Running command
1	0	Forward
1	1	Reverse
0	0	Stop
0	1	Stop

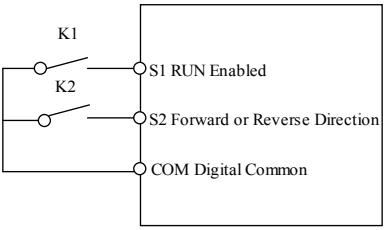


Figure 6-4 Two wire mode 2

As above pictures shown, under this control mode, the ac drive will forward running when the K1 closed, K2 disconnect, and the ac drive will reverse running when K2 closed. When the K1 disconnect, the ac drive stops running.

Terminal command mode 2: Three wire control mode 1, in this mode, S3 is enabled terminal. S3 direction is control by S1, S2

The function code setting as below:

Function code	Name	Setting value	Function description
H0-13	Terminal command mode	2	Three wire mode 1
H4-00	S1 terminal function selection	1	Forward running(FWD)
H4-01	S2 terminal function selection	2	Reverse running(REV)
H4-02	S3 terminal function selection	3	Three wire mode running control

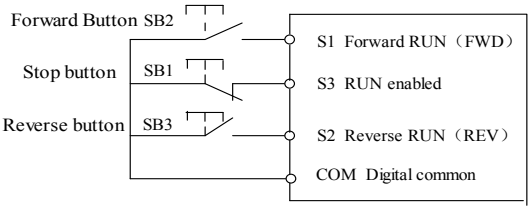


Figure 6-5 Three wire mode control 1

As above shown, In SB1 button closed status, press SB2 button, the ac drive will forward running. Press SB3 button, the ac drive will reverse running. SB1button disconnects suddenly, the ac drive will stop. During normal start and running, the SB1button must keep closed .SB2、SB3 button command will be valid when SB1is closed. The ac drive running status is finally determined by the 3 buttons actions.

Terminal command mode 3: Three wire control mode 2,in this mode, S3 terminal is enabled. The running

command is given by S1, the direction is determined by S2.

The function code setting as below:

Function code	Name	Setting value	Function description
H0-13	Terminal command mode	3	Two wire mode 2
H4-00	S1 terminal function selection	1	Running enabled
H4-01	S2 terminal function selection	2	Forward and reversed runing direction
H4-02	S3 terminal function selection	3	Three wires running mode

K	Running direction
0	Forward running
1	Reverse running

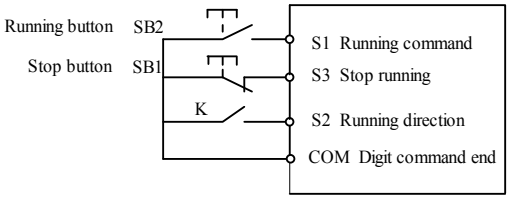


Figure 6-6 Three wire control mode2

As above shown, In SB1 button closed status, press SB2 button, the ac drive will start to run. It will forward running when K disconnects and it reverses running when K is closed. The drive will stop when the SB1 button is sudden disconnected. During normal startup and operation, the SB1 button must be kept in the closed state, and the command of the SB2 button will take effect at the edge of the closing action.

Terminal command mode 4: Three wire control mode 3, The function is the same as the three wire control mode 1, except that the three-wire running terminal is normally open (stop when closed).

H1-01	Motor rated power	0.1kW～1000.0kW	Model Depends
H1-02	Motor rated voltage	1V～1000V	Model Depends
H1-03	Motor rated current	0.01A～320.00A(Drive power<=55kW) 0.1A～3200.0A(Drive power>55kW)	Model Depends
H1-04	Motor rated frequency	0.01Hz～maximum frequency	Model Depends
H1-05	Motor rated rotation	1rpm～32000rpm	Model Depends

The above function code is the motor ratingplate parameter, regardless of VF control or vector control the relevant parameters need to be set according to the motor ratingplate.

H1-06	Asynchronous motor stator resistance	Factory setting	Model depends
	Setting range	0.001Ω～32.000Ω	
H1-07	Asynchronous motor.rotor resistance	Factory setting	Model depends
	Setting range	0.001Ω～32.000Ω(Drive power <=55kW) 0.0001Ω～3.2000Ω(Drive power >55kW)	
H1-08	Asynchronous motor leakage reactance	Factory setting	Model depends
	Setting range	0.01mH～320.00mH(Drive power<=55kW) 0.001mH～32.000mH(Drive power >55kW)	
H1-09	Asynchronous motor mutual reactance	Factory setting	Model depends
	Setting range	0.1mH～3200.0mH(Drive power <=55kW)	

		0.01mH～320.00mH(Drive power >55kW)	
H1-10	Asynchronous motor no-load current	Factory setting	Model depends
	Setting range	0.01A～H1-03(Drive power <=55kW) 0.1A～H1-03(Drive power >55kW)	

The H1-06 ~ H1-10 is the parameter of the asynchronous motor which is usually not on the ratingplate of the motor, and can be accessed by automatic tuning of the drive. Among them, the "
"Asynchronous motor static tuning' can only obtain H1-06 - H1-08 parameters, the " Asynchronous motor complete tuning" can get all five parameters

When changing the rated power of the motor (H1-01) or the motor rated voltage (H1-02), the ac drive will automatically modify the H1-06 ~ H1-10 parameter values and restore the 5 parameters to the common standard Y series motor parameters.

If the asynchronous motor can not be tuned on site, the corresponding function code can be input according to the parameters provided by the motor manufacturer.

H1-37	Tuning selection		Factory setting	0
	Setting range	0	No operation	
		1	Asynchronous motor static tuning	
		2	asynchronous motor complete tuned	

In order to obtain better vector control performance, motor parameter tuning is required.

0: No operation, no tuning.

1: Asynchronous motor static tuning.

Applicable to asynchronous motor and load not easy to remove or complete tune.Before carrying out the static tuning of the asynchronous motor, the motor type and the motor ratingplate parameters H1-00～H1-05 must be set correctly, the ac drive can get H1-06～H1-08 three parameters for Asynchronous machine static tuning.

Action description: set the function code to 1, then press the RUN key, and the ac drive will start static tuning.

2: The asynchronous motor complete tuning

To ensure the dynamic control performance of the drive, please select complete tuning. and the motor must be disconnected with the load to keep the motor in no-load condition. During complete tuning, the static tuning should be done first and then according to H0-10 accelerated motor to 80% of the rated frequency, after a period of time, in accordance with H0-11 decelerated to stop and end tuning.

Before the complete tuning of the asynchronous motor, it is necessary to set the motor type and motor nameplate parameters H1-00～1-05.

The asynchronous motor complete tuning, the ac drive can obtain the five motor parameters of H1-06 ~ H1-10.

Action description: Set the function code as 2, and then press the RUN key, the drive will perform a complete tuning.

H3-07	Acceleration/Deceleration mode	0: Linear acceleration/deceleration 1: S curve acceleration/deceleration	0
H3-08	S curve start time proportion	0.0%～(100.0%-H3-09)	30.0%
H3-09	S curve stop time proportion	0.0%～(100.0%-H3-08)	30.0%

The function code H3-08 and H3-09defines respectively the ratio of the start and stop time of the S curve acceleration and deceleration , and the two functional codes should be met the condition of: H3-08 + H3-09 ≤ 100.0%.

In figure 6-7, t1 is the time defined by parameter H3-08, and the slope of the output frequency increases gradually during this period. t2 is the time defined by parameter H3-09, and the slope of the output frequency tends gradually to 0 during this period. Between t1 and t2, the slope of the output frequency variation is fixed, that is linear acceleration/deceleration.

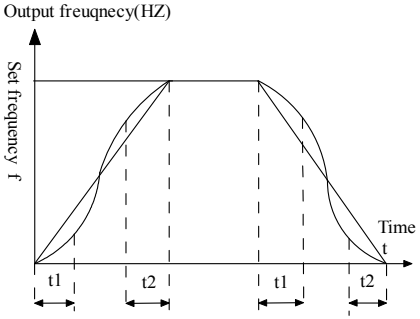


Figure 6-7 S curve acceleration/deceleration diagram

H3-10	Normal stop mode	0: Deceleration stop 1: Free stop	0
H3-11	Start frequency of DC brake stop	0.00Hz～maximum frequency	0.00Hz
H3-12	DC braking waiting time for deceleration to stop	0.0s～32.000s	0.000s
H3-13	Deceleration stop DC braking current	0%～100%	0%
H3-14	Deceleration stop DC braking time	0.0s～32.000s(When it is 0.0s, no DC braking)	0.000s

Stop DC braking start frequency: during deceleration stop, when the operating frequency is reduced to this frequency, the DC braking process begins.

Stop DC braking wait time: after the operating frequency is reduced to the starting frequency of the stop DC braking, the drive will stop the output for a period of time and then start the DC braking process. It is used to prevent overcurrent and other faults caused by DC braking at high speed.

Stop DC brake current: means the output current of the DC braking is relative to the percentage of the rated current of the motor. The larger the value is, the stronger the DC braking effect is, but the greater the heating of the motor and drive.

Stop DC braking time: the duration of DC braking. This value is 0 and the DC braking process is cancelled. Stop DC braking process as shown in figure 6-8.

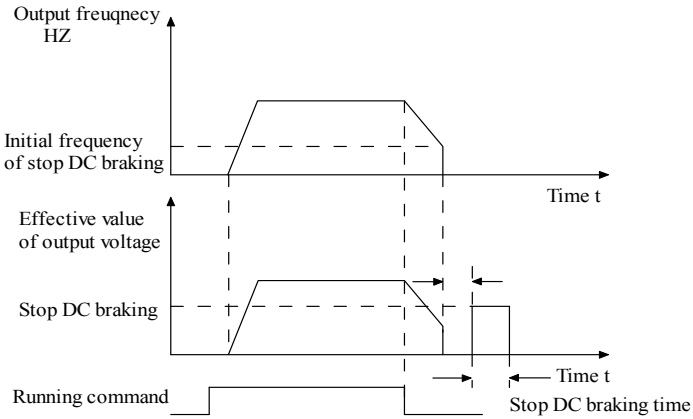


Figure 6-8 Stop DC braking diagram.

H4-00	S1 terminal function selection	Factory setting	1(Forward running)
H4-01	S2 terminal function selection	Factory setting	2(Reverse Running)
H4-02	S3 terminal function selection	Factory setting	9(Faulty reset)
H4-03	S4 terminal function selection	Factory setting	0(No function)
H4-04	S5 terminal function selection	Factory setting	0(No function)
H4-05	S6 terminal function selection	Factory setting	0(No function)

These parameters are used to set the function of the digital multifunction input terminal, which can be selected as shown in the following table:

Set value	Function	Description
0	No function	The unused terminal can be set to "no function" to prevent miss operation.
1	Forward(FWD)	The drive rotation can be controlled by external terminals.
2	Reverse(REV)	
3	Three-wire operation control	To determine the drive is running under three -wire control mode. For details, please refer to the description of function code H0-13 (" terminal command mode ").
4	Forward jog(FJOG)	FJOG is jog forward running, RJOG is jog reverse running. Refer to the description of function codes H8-00, H8-01, and H8-02 for the jog operation frequency and jog acceleration/deceleration time.
5	Reverse jog(RJOG)	
6	Terminal UP	When the frequency is given by the external terminal, the frequency increment and decrement commands are modified. When the frequency source is set as digital setting, the set frequency can be adjusted up and down.
7	Terminal DOWN	
8	All Free stop	The ac drive blocks the output, and the stopping process of the motor is not controlled by the drive at this time. This method has the same meaning as the free stop described in H3-10.

9	Failure reset((RESET)	The function of using the terminal to reset the fault. It has the same function as the RESET key on the keyboard. It can use this function to realize remote fault reset.
10	Running suspend	The drive decelerates to stop, but all operating parameters are memorized. Such as PLC parameters, swing frequency parameters, PID parameters. After this terminal signal disappears, the drive returns to the running state before stopping.
11	External faults normal open input	When the signal is sent to the drive, the drive reports fault E015
12	Multi-segment speed terminal 1	The 16 states of the four terminals can be used to achieve 16 speed or 16 other instructions. See the table below for details.
13	Multi-segment speed terminal 2	
14	Multi-speed terminal 3	
15	Multi-speed terminal 4	
16	Acceleration/deceleration time selection terminal 1	Through the 4 states of these two terminals, 4 kinds of acceleration and deceleration time can be selected, See the table below for details.
17	Acceleration/deceleration time selection terminal 2	
18	Frequency source switching (It is valid when H0-04 digit unit is 2、3、4)	For selecting different frequency source according to frequency source function code H0-04 settings. When set a switch between two frequency source as frequency source, this terminal is used to switch between the two frequency sources.
19	UP/DOW terminal, keyboard)	When the frequency setting is a digital frequency setting, this terminal can clear the terminal frequency value changed by UP/DOWN or keyboard UP/DOWN.
20	Operation command switch terminal. 1	When the command source is set to terminal control (H0-12=1), this terminal can perform switching between terminal control and keyboard control. When the command source is set to communication control (H0-12=2), this terminal can perform switching between communication control and keyboard control.
21	Acceleration/deceleration disable	Ensure that the frequency converter is not affected by external signal (except the stop command), and maintain the current output frequency.
22	PID pause	The PID is temporarily disabled, the ac drive maintains the current output frequency, and the PID control of the frequency source is disable.
23	PLC state reset	The PLC is suspended during operating, and the druve can be restored to the initial state of the simple PLC by this terminal.
24	Swing frequency pause	The ac drive output at the center frequency and the swing frequency function is paused.
25	Counter input	The input terminal of the count pulse.
26	Counter reset	The counter state is cleared.
27	Length count input	Input terminal of Length count value

28	Length reset	The length cleared
29	Torque control disabled.	Torque control is disabled, and the ac drive switches to the speed control mode.
30	HDI(pulse) frequency input (only effective for S5)	S5 functions as a pulse input terminal.
32	Immediate DC braking	When the terminal is enabled, the drive switches directly to the DC braking state.
33	External failures NC input	When the external fault NC signal is sent to the ac drive, the drive will report the fault E015 and stop.
34	Frequency modification forbidden	If the function is enabled, when the frequency varies, the drive does not respond to the changing until the terminal state is ineffective.
35	PID action reversed.	When the terminal is enabled, the PID act direction is opposite to the direction set by HA-03.
36	External stop terminals 1	When controlled by keyboard, the terminal can be used to STOP the ac drive, which is equivalent to the function of the STOP button on the keyboard.
37	Control command switch terminal 2	Used to switch between terminal control and communication control. If the terminal control is selected as command source, the system can be switched to communication control, vice versa.
39	Frequency source A and preset frequency switching	The terminal is effective and frequency source A is replaced by preset frequency (H0-08).
40	Frequency source B and preset frequency switch.	The terminal is effective and frequency source B is replaced by preset frequency (H0-08).
44	User-defined fault 1	When user-defined faults 1 and 2 are valid, the drive will alarm E027 and E028 respectively.
45	User-defined fault 2	
46	Speed control/torque control switch	Switch between torque control and speed control mode. When the terminal is ineffective, the drive runs in the mode defined by HH-00 (speed/torque control) and switches to another mode when it is effective.
48	External stop terminals 2	In any control mode (panel control, terminal control, communication control), this terminal can be used to slow down and stop the drive, and the deceleration time is fixed as deceleration time 4.
49	Deceleration DC braking	When the terminal is effective, the drive decelerates to the starting frequency of the DC braking, and then switches to the DC braking state.
50	Running time clear	When the terminal is effective, the timing value of the operation of the drive is cleared, and the function needs to be used with the timing operation (H8-42) and the running time (H8-53).

Multi-segment instruction description: Four multi-stage instruction terminals can be combined into 16 states, which correspond to value of 16 instructions, as shown in the table below.

K4	K3	K2	K1	Instruction set	Parameter
OFF	OFF	OFF	OFF	Multi-segment instruction 0	HC-00

OFF	OFF	OFF	ON	Multi-segment instruction 1	HC-01
OFF	OFF	ON	OFF	Multi-segment instruction 2	HC-02
OFF	OFF	ON	ON	Multi-segment instruction 3	HC-03
OFF	ON	OFF	OFF	Multi-segment instruction 4	HC-04
OFF	ON	OFF	ON	Multi-segment instruction 5	HC-05
OFF	ON	ON	OFF	Multi-segment instruction 6	HC-06
OFF	ON	ON	ON	Multi-segment instruction 7	HC-07
ON	OFF	OFF	OFF	Multi-segment instruction 8	HC-08
ON	OFF	OFF	ON	Multi-segment instruction 9	HC-09
ON	OFF	ON	OFF	Multi-segment instruction 10	HC-10
ON	OFF	ON	ON	Multi-segment instruction 11	HC-11
ON	ON	OFF	OFF	Multi-segment instruction 12	HC-12
ON	ON	OFF	ON	Multi-segment instruction 13	HC-13
ON	ON	ON	OFF	Multi-segment instruction 14	HC-14
ON	ON	ON	ON	Multi-segment instruction 15	HC-15

When multi-segment speed is set as the frequency source, the 100.0% of function code HC-00 ~ HC-15 corresponds to the maximum frequency H0-05. the multi-stage instruction can be used as a source of PID or a voltage source for VF separation control, to meet the need of switching between different set values.

The selection of terminal function of acceleration/deceleration time is shown as follows:

Terminal 2	Terminal 1	Acceleration or deceleration time selection	Parameter
OFF	OFF	Acceleration time 1	H0-10、H0-11
OFF	ON	Acceleration time 2	Hn-00、Hn-01
ON	OFF	Acceleration time 3	Hn-02、Hn-03
ON	ON	Acceleration time 4	Hn-04、Hn-05

H5-00	SP1 Terminal output mode		Factory setting	1
	Setting range	0	Pulse output(HDO)	
		1	Open collector output(SP1)	

The SP1terminal is a programmable reusable terminal, which can be used as a high speed pulse output terminal (HDO), or as a switching output terminal (SP1) of the open collector circuit. As the pulse output HDO, the highest frequency of the output pulse is 100kHz.

H5-01	Open collector output SP1 function selection	Factory setting	0
H5-02	Relay 0 output function selection(TA0-TB0-TC0)	Factory setting	2
H5-03	Relay 1output function selection(TA1-TB1-TC1)	Factory setting	1

Function description of DO multi-function output terminal is as follows:

Set value	Function	Description
0	No output	No function
1	Drive is in running	Indicates that the drive is in a running state and has an output

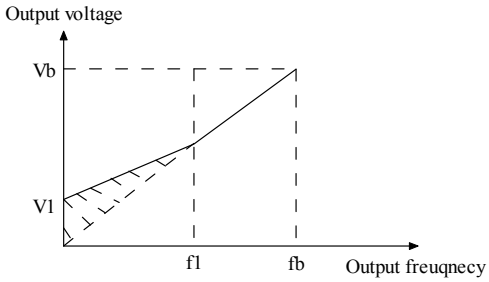
		frequency (which can be zero), outputs ON signal.
2	Fault output(fault stop)	Output ON signal when the frequency converter fails and stops.
3	Frequency level detects FDT1 output	Please refer to the description of function code H8-19 and H8-20.
4	Frequency reaches	Please refer to the description of function code H8-21.
5	Zero speed running (no output during shutdown)	When the drive runs and the output frequency is 0, output ON signal. The signal is OFF when the drive is down.
6	Motor overload pre-alarm	Before the motor overload protection action, according to the threshold value of the overload prediction alarm, the ON signal is output after the warning threshold is exceeded. Motor overload parameter setting see function code H9-00 ~ H9-02.
7	Drive overload pre-alarm	Before the drive overload protection action, judge according to the overload pre-alarm threshold H9-51, and output the ON signal after exceeding the pre-alarm threshold.
8	Set counter reaches	When counter reaches the value set by H8-11, the ON signal is output.
9	Specified counter reaches	When the count value reaches the value set by H8-12, the ON signal is output.
10	Length reaches	When the actual length detected exceeds the length set by H8-08, the ON signal is output. Refer to H8-08～H8-10.
11	PLC cycle finished	When the simple PLC runs for a cycle, it outputs a width of 250ms pulse signal.
13	Frequency being limited	When the set frequency exceeds the upper limit frequency or the lower limit frequency, and the output frequency of the drive also reaches the upper limit frequency or the lower limit frequency, the ON signal is output
15	Run ready	When the main circuit of the drive and the control circuit are stable, and the drive does not detect any fault information, the converter is in a running state and output ON signal.
16	V1>V2	When the value of the analog input V1 is greater than the input value of V2, output ON signal.
17	Upper Limit frequency reached	When the running frequency reaches the upper limit frequency, output ON signal.
18	Lower limit frequency (no output when stopped)	When the running frequency reaches the lower limit frequency, output ON signal. The signal is OFF when the machine is stop
19	Undervoltage state output	When the drive is in under-voltage state, output ON signal
20	Communication set	Communication address 2000H
23	Zero speed running 2 (output when stop)	When the frequency of frequency converter is 0, output ON signal. The signal is also ON when the machine is stop
24	Cumulative power-on time reaches	When the frequency converter accumulates time (H7-06) exceeds the set time of H8-16, the ON signal is output.
25	Frequency level detection of FDT2 output	Please refer to the description of function code H8-28 and H8-29.
26	Frequency 1 reaches the output	Please refer to the description of function code H8-30 and H8-31.
27	Frequency 2 reaches the output	Please refer to the description of function code H8-32and H8-33.
28	Current 1 reaches the output	Please refer to the description of function codes H8-38 and

		H8-39.
29	Torque level detection FDT output	Please refer to the description of function codes H8-40 and H8-41.
30	Timing reaches output	When the timing function selection (H8-42) is effective, the ac drive will output the ON signal after the running time is set.
31	V1 Input over limit	When the value of the analog input V1 is greater than that of H8-46 (V1 input protection upper limit) or less than H8-45 (V1 input protection lower limit), output ON signal.
32	Load loss	When the drive is in the load loss state, output ON signal.H9-63～H9-65
33	Reverse operation	When the drive is in reverse operation, output ON signal.
34	Zero current state	Please refer to the description of function codes H8-34 and H8-35.
35	Module temperature reached	The drive module radiator temperature (H7-07) reaches the set module temperature arrival value (H8-47) and outputs ON signal.
36	Software current over-limit	Please refer to the description of function codes H8-36 and H8-37.
37	Lower limit frequency reached(output when stop)	When the running frequency reaches the lower limit frequency, output ON signal. The signal is also ON in the stop state.
40	Running time reached	When the ac drive starts to run more than the time set by H8-53, then output ON signal.
41	Fault output	No output for free stop failure and under-voltage.
42	Multi-speed frequency reach output	No action at stage 0
45	PLC stage complete output	When the simple PLC runs for a stage, it outputs a pulse signal with a width of 250ms.
46	Digital output specified value	H5-22 setting
47	At least one multi-speed terminal is closed	
48	In forward running(Jog forward running not included)	
49	In reverse running(Jog reverse running not included)	
50	In jog running	
51	In running(Not Jog running)	
52	Output current reaches	H6-13、H6-14 control
53	Input terminal S1 state	When the corresponding input S terminal is closed, output ON
54	Input terminal S2 state	
55	Input terminal S3 state	
56	Input terminal S4 state	
57	Input terminal S5 state	
58	Input terminal S6 state	

H6-01	Torque boost	0.1%～50.0%	Model dependent
H6-02	Torque boosts cutoff frequency	0.00Hz~maximum output frequency	50.00Hz

In order to compensate the low-frequency torque characteristics of V/F control, some boost compensation is made for the drive output voltage at low frequency. However, if the torque boost is set too large, the motor will easily overheat and the drive will be easily overcurrent.

When the load is heavy and the motor starting torque is not enough, it is recommended to increase this parameter. The torque boost can be reduced when the load is lighter. Torque boost torque cut-off frequency: below this frequency, the torque boost torque is valid, if the set frequency is exceeded, the torque boost is invalid, as shown in Figure 6-9.



V1: Voltage of manual torque boost Vb: Maximum output voltage

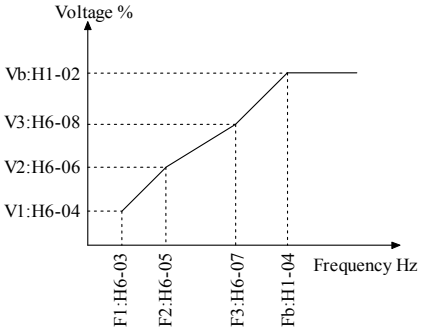
f1: Cutoff frequency of manual torque boost fb: Rated frequency

Figure 6-9 Schematic diagram of manual torque boost

H6-03	Multipoint VF frequency point 1	0.00Hz～Motor rated frequency(H1-04)	5.00Hz
H6-04	Multipoint VF voltage point 1	0.0%～100.0%	15.0%
H6-05	Multipoint VF frequency point 2	0.00Hz～Motor rated frequency(H1-04)	17.50Hz
H6-06	Multipoint VF voltage point 2	0.0%～100.0%	45.0%
H6-07	Multipoint VF frequency point 3	0.00Hz～Motor rated frequency(H1-04)	35.00Hz
H6-08	Multipoint VF voltage point 3	0.0%～100.0%	80.0%

The multi-point V/F curve should be set according to the load characteristics of the motor. It should be noted that the relationship between the three voltage points and the frequency points must satisfy: V1<V2<V3, F1<F2<F3. Figure 6-10 is a schematic diagram of multi-point VF curve setting.

Too high voltage at low frequency may cause the motor to overheat or even burn, the drive may overcurrent stall or indicates current protection error.



V1-V3: Multi-segment V/F 1st~3rd stage voltage percentage

F1-F3: Multi-segment V/F 1st~3rd stage frequency

Vb: Motor rated voltage

Fb: Motor rated frequency

Figure 6-10 Multi-point V/F curve setting schematic

H8-03	Pendulum frequency setting mode		Factory setting	0
	Setting range	0	Relative to the center frequency	
		1	Relative to maximum frequency	

This parameter is used to determine the base value of the pendulum amplitude.

0: Relative to central frequency(H0-04 frequency source), it is a variable pendulum amplitude system. 。The pendulum amplitude varies with the change of the central frequency (set frequency).

1: Relative to the maximum frequency (H0-05),it is fixed pendulum amplitude system. pendulum amplitude is fixed.

H8-04	Pendulum frequency range	Factory setting	0.0%
	Setting range	0.0%～100.0%	
H8-05	Jump frequency range	Factory setting	0.0%
	Setting range	0.0%～50.0%	

This parameter is used to determine the value of pendulum amplitude and jump frequency.

When setting the swing relative to the center frequency (H8-03 = 0), the swing AW = frequency source H0-04 × swing amplitude H8-04. When setting the swing amplitude with respect to the maximum frequency (H8-03 = 1), swing AW = maximum frequency H0-05 × swing amplitude H8-04.

The sudden jump frequency amplitude is the frequency percentage of the sudden jump frequency relative to the swing amplitude when the swing frequency is running, That is: the jump frequency = swing AW × jump frequency amplitude H8-05. If you choose to swing relative to the center frequency (H8-03 = 0), the pitch frequency is a change. If you choose to swing relative to the maximum frequency (H8-03 = 1), the trigger frequency is a fixed value.

Swing frequency operating frequency is subject to upper limit frequency and lower limit frequency.

H8-06	Pendulum frequency cycle	Factory setting	10.0s
	Setting range	0.0s～3000.0s	
H8-07	Triangle wave rise time coefficient	Factory setting	50.0%
	Setting range	0.0%～100.0%	

Pendulum frequency cycle: A complete swing cycle time value.

The triangular wave rise time coefficient H8-07 is the percentage of the triangular wave rise time relative to the swing frequency cycle H8-06. The triangular wave rise time =swing cycle H8-06 × triangle wave rise time coefficient H8-07 , the time unit is second (S)

The triangular wave falling time = swing frequency cycle H8-06 × (1-triangular wave rising time coefficient H8-07), the time unit is second (S)

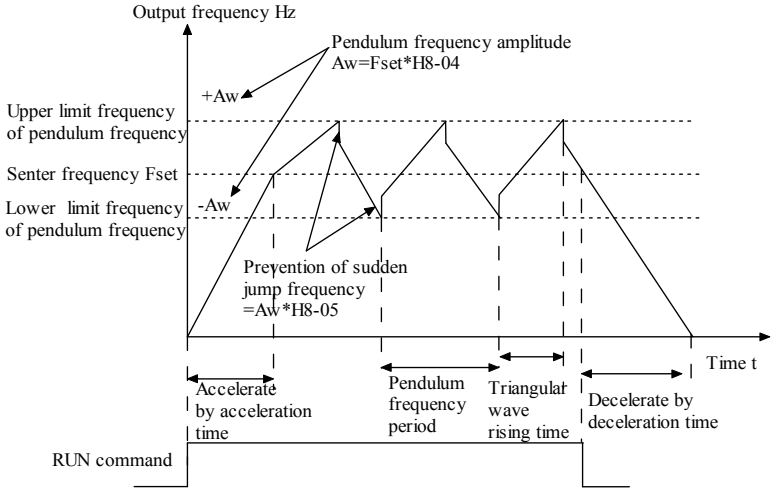


Figure 6-11 Pendulum frequency operation schematic diagram

H8-08	Setting length	Factory setting	1000m
	Setting range	0m～32000m	
H8-09	Actual length	Factory setting	0m
	Setting range	0m～32000m	
H8-10	Pulses permeter	Factory setting	100.0
	Setting range	0.1～3200.0	

The above function code is used for fixed length control.

The length information needs to be collected through the multi-function digital input terminal. The number of pulses sampled by the terminal is divided by the number of pulses per meter H8-10, and the actual length H8-09 can be calculated. When the actual length is greater than the set length H8-08, the multi-function digital DO outputs the "length reached" ON signal.

During the fixed-length control process, the length reset operation can be performed through the multi-function input terminal (S function selection is 28). For details, refer to H4-00 to H4-09.

In the application, it is necessary to set the corresponding input terminal function to “length count input” (function 27). When the pulse frequency is high, the S5 port must be used.

H8-11	Setting count value	Setting Range	1000
	Setting range	1～32000	
H8-12	Specified count value	Setting Range	1000
	Setting range	1～32000	

The count value needs to be collected through the multifunctional digital input terminal. In the application, it is necessary to set the corresponding input terminal function to “counter input” (function 25). When the pulse frequency is high, the S5 port must be used.

When the count value reaches the set count value H8-11, the multi-function digital output "set count value reaches" ON signal, and then the counter stops counting.

When the count value reaches the specified count value H8-12, the multi-function digital output "specified count value reaches" ON signal, at this point the counter continues to count until the counter stops when "set count value".

The specified count value H8-12 should not be greater than the set count value H8-11. Figure 6-12 is a schematic diagram of setting the count value arrival and the specified count value arrival function.

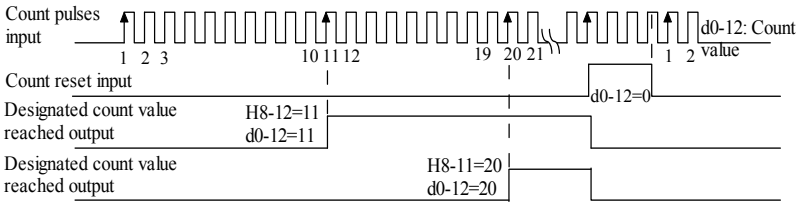


Figure6-12 Setting count value given and specified count value given diagram

H8-19	Frequency detection value(FDT1)	Factory setting	50.00Hz
	Setting range	0.00Hz～maximum frequency	
H8-20	Frequency detection lag value(FDT1)	Factory setting	5.0%
	Setting range	0.0%～100.0%(FDT1 electrical level)	

When the running frequency is higher than the frequency detection value, the multi-function output DO outputs ON signal, and when the frequency is lower than a certain frequency of the detected value, the DO output ON signal is cancelled.

The above parameters are used to set the detection value of the output frequency and the lag value of the output action release, where H8-20 is the percentage of the hysteresis frequency relative to the frequency detection value H8-19. Figure 6-13 shows the function of FDT.

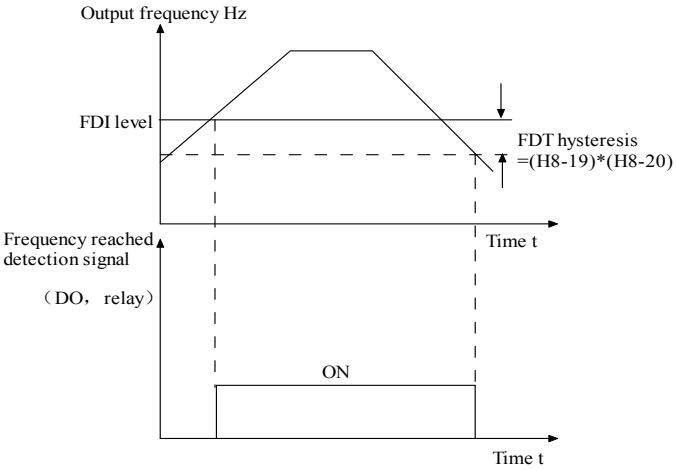


Figure6-13 frequency FDT diagram

H8-21	Frequency reaches detection width	Factory setting	0.0%
	Setting range	0.00～100%maximum frequency	

When operation frequency of the drive is in a certain range of target frequency the drive multifunction DO outputs ON signal.

This parameter is used to set the detection range of the reached frequency, which is the percentage of the maximum frequency. Figure 6-14 is a schematic diagram of reached frequency.

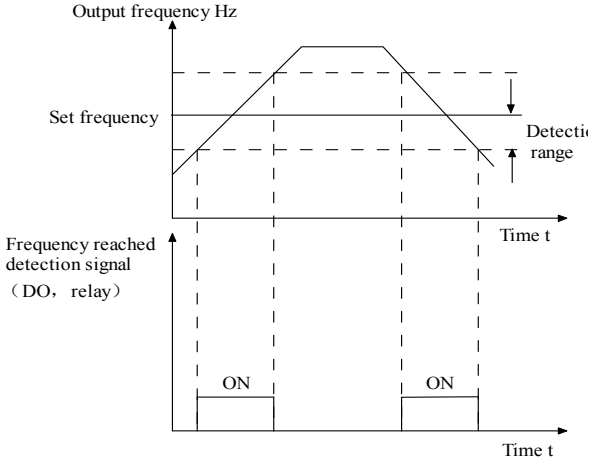


Figure 6-14 Frequency reached detection amplitude

H8-22	Whether the jumping frequency is effective during acceleration and deceleration.	Factory setting	0
	Setting range	0: Ineffective 1: Effective	

The function code is used to set the jump frequency in the acceleration\deceleration process.

When it is set to be effective, when the running frequency is in the range of the jump frequency, the actual running frequency will skip the specified jump frequency boundary.

Figure 6-15 is a schematic diagram of the effective jumping frequency during acceleration/deceleration.

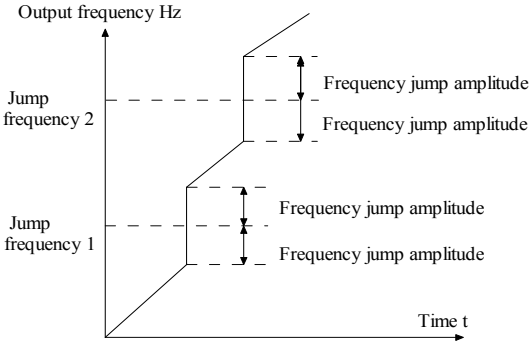


Figure 6-15 Schematic diagram of effective jump frequency during acceleration/ deceleration

H8-25	Acceleration time 1 and acceleration time2 switch frequency points	Factory setting	0.00Hz
	Setting range	0.00Hz～Maximum frequency	
H8-26	Deceleration time 1 and deceleration time2 switch frequency point	Factory setting	0.00Hz
	Setting range	0.00Hz～Maximum frequency	

This function is effective when the selection of acceleration/deceleration time has not been switched through the input terminal, used in the process of drive operation, not by S input terminals but according to the operating frequency range, choose different acceleration/deceleration time.

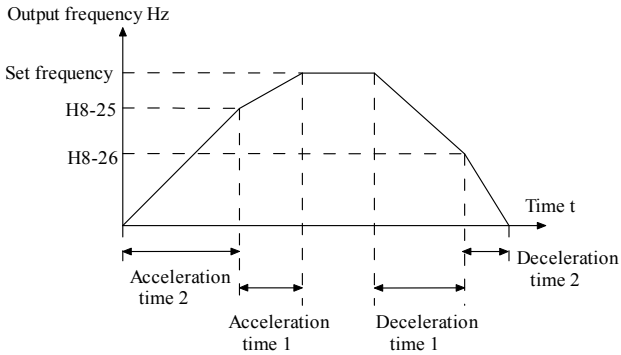


Figure 6-16 Schematic diagram of acceleration/deceleration time switching

Figure 6-16 shows the schematic diagram of the accecleration/deceleration time switching. In the acceleration process, if the operating frequency is less than H8-25, the acceleration time 2 is selected; If the running frequency is greater than H8-25, acceleration time 1 is selected.

In the deceleration process, if the operating frequency is greater than H8-26, deceleration time 1 is selected, and if the operating frequency is less than H8-26, deceleration time 2 is selected.

H8-34	Zero current detection level	Factory setting	5.0%
	Setting range	0.0%～300.0%(Motor rated current)	
H8-35	Zero current detection delay time	Factory setting	0.10s
	Setting range	0.00s～60.00s	

When the output current of the converter is less than or equal to zero current detection level, and the duration exceeds zero current detection delay time, the drive multi-function DO outputs ON signal. Figure 6-17 shows the schematic diagram of zero current detection.

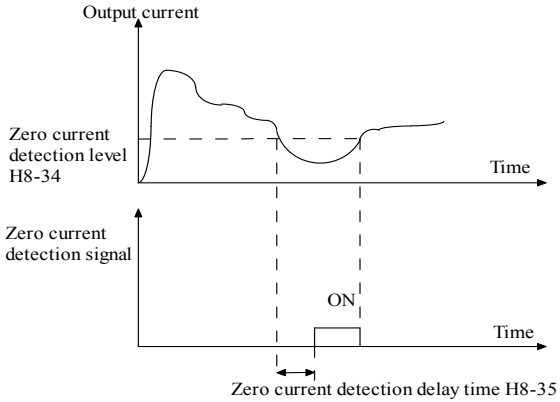


Figure 6-17 Schematic diagram of zero current detection

H8-36	Output current over-limit value	Factory setting	200.0%
	Setting range	0.0%(no detection),0.1%～300.0%(Motor rated current)	
H8-37	Output current over-limit detection delay time	Factory setting	0.00s
	Setting range	0.00s～60.00s	

When the drive output current is greater than over-limit detection point, and the duration is longer than the delay time of the software overcurrent detection, the drive multi-function DO outputs ON signal, figure 6-18 schematic for the output current over-limit function.

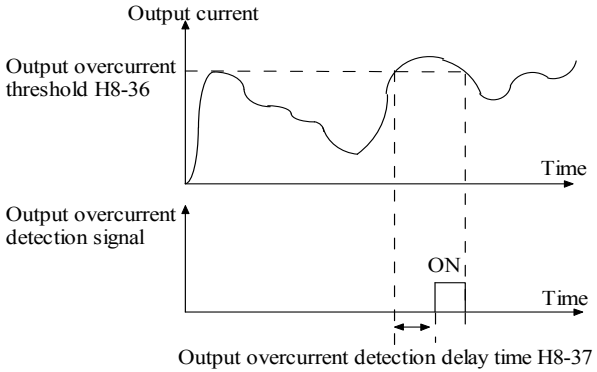


Figure 6-18 Output current over-limit function detection

H8-38	Random reached current 1	Factory setting	100.0%
	Setting range	0.0%～300.0%(Motor rated current)	
H8-39	Random reached current width 1	Factory setting	0.0%
	Setting range	0.0%～300.0%(Motor rated current)	

When output current of the drive is within positive/negative detection width of the set random reached current, the drive multi-function DO outputs ON signal. Figure 6-19 is the function diagram.

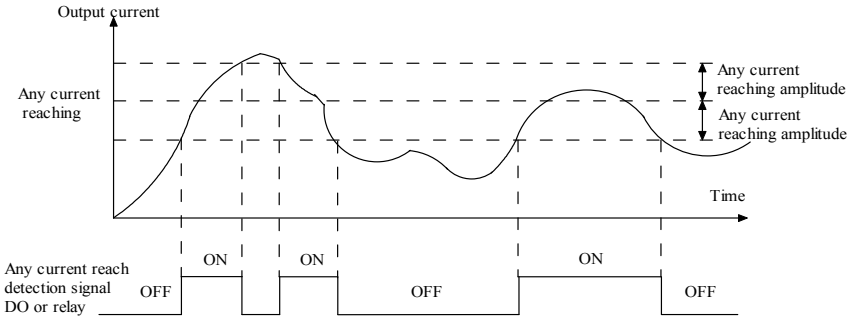


Figure 6-19 Schematic diagram of random reached current

H9-05	Overcurrent stall gain	0～200	5
H9-06	Overcurrent stall protection current	10.0%～210.0%	180.0%

The output current exceeds the overcurrent stall protection current, the drive stops the acceleration and deceleration process and keeps at the current operating frequency, and then continues to accelerate and decelerate after the output current drops.

Overcurrent stall gain, used to adjust the drive's ability to suppress overcurrent during acceleration and deceleration. The larger this value is, the stronger the suppression capacity is. Without overcurrent, the smaller the gain is, the better. For the load with small inertia, the gain of overcurrent stall should be small, otherwise the dynamic response of the system will slow down. For large inertia load, this value should be large, otherwise the suppression effect is not good, overcurrent fault may occur. When the overcurrent stall gain is set to 0, the overcurrent stall function is cancelled.

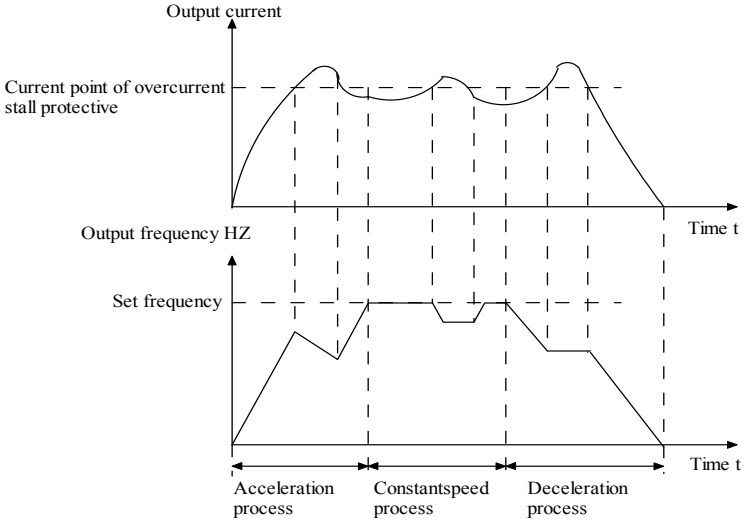


Figure 6-20 Schematic diagram of overcurrent stall protection

H9-59	Instantaneous stop deceleration power generation enable	0: Invalid 1: Decelerate power generation to maintain bus voltage	0
H9-60	Instantaneous stop power generation recovery judgment voltage	70.0%～100.0%	90.0%
H9-61	Instantaneous stop power generation recovery judgment time	0.0s～100.0s	0.5s
H9-62	Deceleration power generation start action voltage	60.0%～100.0%(Stand bus voltage)	80.0%
H9-66	Instantaneous power failure deceleration time	0.0s～3200.0s	3.0S

This function means that, in the instantaneous power-failure or sudden reduction of voltage, the drive compensates the load feedback energy for the reduction of DC bus voltage of the drive by reducing the output speed, so as to maintain the drive running continuously.

If H9-59 = 1, the drive slows down when the power is cut off or the voltage drops suddenly, and when the bus voltage returns to normal, the drive normally accelerates to set frequency operation. The basis of judging bus voltage return to normal is that bus voltage is normal and its duration longer than setting time H9-61.

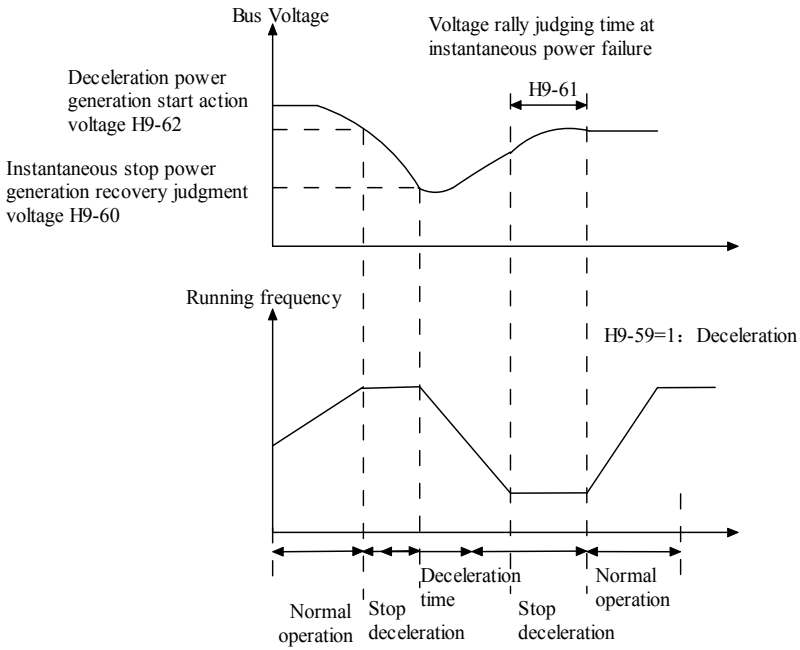


Figure 6-21 Schematic diagram of instantaneous power-off action

Chapter 7 Communication Protocol

1. Communication configuration

All data are in hexadecimal. The communication baud rate is set by Hd-00, and data form set by Hd-01.

2. Slave address

The address of the drive is set by Hd-02, and 0 is the broadcast address. slave address can be set 1 ~ 247.

3. Function code 03: The function code for reading variable.

1. Readable parameter address distribution:

Function name	Address	Data and implications
Running status	3000H	0001: Forward
		0002: Reverse
		0003: Stop
Monitoring parameter	1000H	Frequency /PID/Torque communication set value(-10000～10000)(Decimal)
	1001H	Operating frequency
	1002H	Bus voltage
	1003H	Output voltage
	1004H	Output current
	1005H	Output power
	1006H	Output torque
	1007H	Running speed
	1008H	S Terminal input flag
	1009H	DO Terminal output flag
	100AH	V1 voltage
	100BH	V2 voltage
	100CH	IGBT temperature
	100DH	Count value input
	100EH	Length value input
	100FH	Load speed
	1010H	PID setting
	1011H	PID feedback
	1012H	PLC step
	1013H	HDI input pulse frequency , Unit 0.01kHz
	1014H	Feedback speed, Unit 0.1Hz
	1015H	Remaining running time

	1016H	V1 Input voltage
	1017H	V2 Input voltage
	1018H	Reserved (no function)
	1019H	Line speed
	101AH	Present Power-on time
	101BH	Present running time
	101CH	HDI input pulse frequency, unit 1Hz
	101DH	Communication set value
	101EH	Actual feedback speed
	101FH	Main frequency A display
	1020H	Auxiliary frequency B display
Error	8000H	0000: No fault
		0001: IGBT short circuit
		0002: Acceleration overcurrent
		0003: Deceleration overcurrent
		0004: Constant speed overcurrent
		0005: Acceleration overvoltage
		0006: Deceleration overvoltage
		0007: Constant speed overvoltage
		0008: Reserved (no function)
		0009: Under-voltage fault
		000A: Drive overload
		000B: Motor overload
		000C: Input phase-loss
		000D: Output phase-loss/ output current unbalanced
		000E: IGBT overheating
		000F: External fault
		0010: Communication anomaly
		0012: Current detection fault
		0013: Motor tuning fault
		0014: Reserved (no function)
		0015: Parameter read-write anomaly
		0016: Drive hardware fault
		001A: Operating time reached
		001B: User-defined fault 1

		001C: User-defined fault 2
		001D: Power-on time reached
		001E: Load loss
		001F: PID feedback loss in running
		0028: Fast speed limit timeout failure
Function parameters	FX.YZ	Corresponding to the current value of the function code, high address: FX, low address: YZ
H0～HE	F000H～FEFFH	The function code is HC.21, The address is FC15H
HP	1F00H～1F04H	
HH	A000H～A008H	
HL	A100H～A115H	
Hn	A500H～A509H	
d0	0x7000～0x70FF	

2. Communication frame content

The upper computer reads 2 data from the drive as the running frequency and the bus voltage. The address is 1001H and 1002H. The upper computer needs to send the following data to the drive:

Slave address	Function code	Parameter address high byte	Parameter address low byte	Read Data high byte	Read data low byte	CRC Parity bit high byte	CRC Parity bit low byte
01	03	10	01	00	02	91	0B

The drive frequency set value is 50.00Hz (hexadecimal is 1388H), and the bus voltage is 540.0V (hexadecimal is 1518H). The drive feedback the following data to the upper computer: where n=2 is the number of read variables.

Slave address	Function code	Read byte quantity (2*n)	The first data high byte	The first data low byte	The second data high byte	The second data low byte	CRC Parity high byte	CRC Parity low byte
01	03	04	13	88	15	18	70	07

4. Function code 06: The function code that represents the write variable.

1. Writable parameter address distribution:

Function name	Address	Data and implications
Communication control command	2000H	0001: Forward
		0002: Reverse
		0003: Jog forward
		0004: Jog reverse
		0005: Free stop
		0006: Deceleration stop
		0007: Fault reset

Frequency /PID/ Torque communication set frequency value address	1000H	0.00%～100.00%,when setting 10000(Hexadecimal: 2710H),corresponding maximum frequency or Maximum PID setting or maximum torque.
Password address	1F00H	0.0%～100.0%
Relay setting	2001H	BIT2: TA0-TB0-TC0relay output control BIT3: TA1-TB1-TC1relay output control BIT4: SP1output control
FM1output control	2002H	0～7FFFequates 0%～100%
FM2 output control	2003H	0～7FFFequates 0%～100%
Pulse(HDI)output control	2004H	0～7FFFequates0%～100%
Function code group Number	Communication Address	The function code address in RAM modified by Communication
H0～HE Group	F000H～FEFFH	0000H～0EFFH If the function code is HC.21, the address is expressed as 0C15H;
HP Group	1F00H～1F04H	0F00H～0F04H
HH Group	A000H～A008H	4000H～4008H
HL Group	A100H～A115H	4100H～4115H
Hn Group	A500H～A509H	4500H～4509H

 Note: Frequently writing function code parameters will reduce EPROM service life. Some parameters need not be stored in the communication mode, only the values in RAM need to be modified.

 Note: The communication set value is the percentage of relative value, 10000 corresponds to 100.00%, and -10000 corresponds to -100.00%.

The percentage is the percentage of the maximum frequency (H0-05) for the frequency dimension. For the data of the torque dimension, the percentage is value of H2-10 (the torque upper limit digital setting).

2. Communication frame content

Example1:

The acceleration time of the drive is modified by the upper computer to 30.0s, which corresponding to the hexadecimal of 012CH, and the setting value is automatically saved when power-off. The acceleration time H0.10 corresponding to the hexadecimal address:F00AH.

Then the upper computer sends the following data to the drive:

Slave address	Function code	Parameter address high byte	Parameter address low byte	Data high byte	Data low byte	CRC parity high byte	CRC parity low byte
01	06	F0	0A	01	2C	9A	85

The drive responds the following data to the upper computer:

Slave address	Function code	Parameter address high byte	Parameter address low byte	Data high byte	Data low byte	CRC parity high byte	CRC parity low byte
01	06	F0	0A	01	2C	9A	85

Example 2:

The deceleration time of the drive is modified by the upper computer to 30.0s, which corresponds to the hexadecimal data: 012CH, but set value will not be saved . The deceleration time H0.11 corresponds to the hexadecimal address: 000BH.

Then the upper computer sends the following data to the drive:

Slave address	Function code	Parameter address high byte	Parameter address low byte	Data high byte	Data low byte	CRC parity high byte	CRC parity low byte
01	06	00	0B	01	2C	F8	45

The drive responds the following data to the upper computer.

Slave address	Function code	Parameter address high byte	Parameter address low byte	Data high byte	Data low byte	CRC parity high byte	CRC parity low byte
01	06	00	0B	01	2C	F8	45

Chapter 8 Fault Diagnosis and Countermeasures

8.1 Fault Alarm and Countermeasures

8.1 Fault Alarm and Countermeasures

Fault code	Fault type	Troubleshooting	Countermeasures
E001	Inverse unit protection	1.Short circuit of frequency converter output 2.The wiring of motor and frequency converter is too long 3.The internal wiring of the drive is loose 4.Driving board anomaly	1.Eliminate peripheral faults 2.Install reactor or output filter 3.Plug in all connections reliably 4. Change the board
E002	Acceleration overcurrent	1.The acceleration time is too short 2.Vector control mode and no parameter identification is performed 3.Manual torque boost or V/F curve is not suitable 4.Start the rotating motor 5.Impact Load during acceleration 6.The drive capacity is small	1.Increase the acceleration time 2.dentify the motor parameters 3.Adjust the torque or V/F curve manually 4.Select speed tracking to start or wait for the motor to stop before starting 5.Cancel the impact load 6.Select the frequency converter with higher power level
E003	Deceleration overcurrent	1.The deceleration time is too short. 2.Vector control mode and no parameter identification is performed. 3. Impact load during deceleration. 4. No braking unit and brake resistance are installed.	1.Increase deceleration time. 2.Identify the motor parameters. 3.Cancel the impact load. 4. Install the brake unit and resistance.
E004	Constant speed overcurrent	1.Vector control mode and no parameter identification is performed. 2.Whether there is a impact load in the operation. 3.Lower capacity of frequency converter.	1.Identify the motor parameters. 2. Cancel the impact load. 3.Select the frequency converter with higher power level.
E005	Acceleration overvoltage	1.High input voltage. 2.Drag the motor to run in the acceleration process. 3.The acceleration time is too short. 4. No braking unit and brake resistance are installed.	1. Adjust the voltage to normal range. 2.Cancel the force or install the braking resistance. 3. Increase the acceleration time. 4.Install the braking unit and resistance.
E006	Deceleration overvoltage	1.High input voltage. 2.Drag the motor to operate during the deceleration process. 3.The deceleration time is too short. 4.No braking unit and brake resistance are installed.	1. Adjust the voltage to normal range. 2. Cancel the force or install the braking resistance. 3. Increase deceleration time. 4. Install the braking unit and resistance.

E007	Constant speed overvoltage	1. High input voltage. 2. There are external forces to drive the motor during operation.	1. Adjust the voltage to normal range. 2. Cancel the force or install the braking resistance.
E008	Stop overvoltage	1. Bus voltage detection disconnection, bus voltage detection circuit failure	1. check the bus voltage wire connection and change the powerboard
E009	Under-voltage fault	1. Instantaneous power failure 2. The input voltage of the converter is not in the scope of the specification 3. The bus voltage is abnormal 4. The rectifier bridge and buffer resistance are abnormal. 5.Abnormal powerboard and control board	1. Reset failure. 2. Adjust voltage to normal range. 3. Seek technical support.
E010	Drive overloaded	1. Whether the load is too large or the motor is blocked. 2. The drive capacity is small.	1. Reduce load and check motor and mechanical conditions. 2. Select the drive with higher power
E011	Motor overload	1. Whether the setting of the motor protection parameter H9-01 is appropriate. 2. Whether the load is too large or the motor is blocked. 3. The drive capacity is small	1. Set this parameter correctly. 2. Reduce load and check motor and mechanical conditions. 3. Select the drive with higher power
E012	Input phase loss	1.The three-phase input power supply is abnormal. 2.Abnormal driving board, lightning protection board and control board.	1. Check and solve the problems existing in the peripheral circuit. 2. Seek technical support.
E013	Output phase loss and three phase output unbalanced	1.Abnormal leads of the converter to the motor. 2.Unbalanced three-phase output of drive during motor operation. 3.Abnormal driving board and IGBT	1. Eliminate peripheral faults. 2. Check whether the three-phase winding of the motor is normal and eliminate. 3.Change the boards
E014	IGBT overheating	1.The environment is too hot. 2.Air duct obstruction. 3.Fan damage 4.Thermal resistance of the IGBT is damaged. 5.the drive IGBT damage	1.Reduce the ambient temperature. 2.Clear the air duct. 3.Replace the fan 4.Replace the thermal resistor. 5.Replace the drive IGBT.
E015	External equipment failure	1.Input the signal of external fault via the multi-function terminal S.	1.Reset operation.
E016	Communication failure	1.The upper computer is not working properly. 2.The communication line is abnormal. 3.The communication parameter group HD is not set correctly.	1.Check the upper computer connection. 2.Check the communication cable. 3.Set the communication parameters correctly.

E019	Motor tuning fault	1. The motor parameters are not set according to the rating plate. 2. Parameter identification process time out.	1. Set motor parameters correctly according to the rating plate. 2. Check wiring from the drive to the motor
E021	EEPROM Read/write failure	1. EEPROM chip damage	1.Replace main control board
E022	Drive hardware failure.(Clear latch timeout)	1. Overvoltage 2. Overcurrent	1. Overvoltage fault treatment. 2. Overcurrent fault treatment.
E023	Short circuit to ground	1.The motor is short circuit to the ground.	1. Replace cable or motor.
E024	AD Zero drift is too large	1.Check Hall device abnormal 2. Powerboard abnormal	1.Change the hall devices 2.Change the powerboard
E026	Temperature sensor disconnection fault	1.Temperature sensor bad connection	1.Check the temperature sensor wire connection
E027	User-defined fault. 1	1. Input the signal of user-defined fault 1 via the multi-function terminal S.	1.Reset operation.
E028	User-defined fault. 2	1.Input the signal of user-defined fault 2 via the multi-function terminal S.	1.Reset operation.
E029	Accumulated power-on time reached fault	1.Accumulated power-on time reached the set value.	1.Use parameter initialization to clear record information.
E031	PID feedback disconnection fault	1.PID feedback is less than HA-26 setting value	1. Check PID feedback signal or set HA-26 as one suitable value
E037	STOP key on keyboard stop fault	1.In terminal running channel or communication running channel, press the stop key on the keyboard	1.Check whether it is human operation
E040	Hardware current limit over time faulty	1. Whether the load is too large or the motor is blocked 2.The drive capacity is too small	1.Reduce the load and check the motor and mechanical conditions 2.Choose a frequency converter with a higher power rating
E041	Automatic resets times exceeds the limit	1.External fault or ac drive fault	1.Check the fault record for corresponding troubleshooting

8.2 Common Faults and Solutions

The following faults may be encountered during the operating of the drive. Please refer to the following methods for simple failure analysis:

Number	Fault phenomenon	Possible reasons	Solutions
1	Power-on and no display	No grid voltage or too low; Failure of switch-power supply on frequency converter drive board; The rectifier bridge is damaged; Frequency converter buffer resistance damage; Control board, keyboard failure; The control board is disconnected from the driver board and the keyboard.	Check the input power; Check the bus voltage; Replug 8 cores and 28 core ribbon cable; Seek factory service;
2	Display software version	The connection between the drive board and the control board is poor; Damage of components on the control board; The motor or motor line is short-circuited to ground; Hall failure; The grid voltage is too low;	Replug 8 cores and 28 core ribbon cable; eek factory service;
3	Power-on and display "E023" alarm	The motor or output wires are short-circuited to ground Frequency converter damage;	Measuring the insulation of the motor and the output line with a megger; Seek factory service;
4	The drive display normally, and the "program version" is displayed during operation and immediately stopped	Fan damaged or blocked; The peripheral control terminal wiring has a short circuit to ground.	Replace the fan; Eliminate external short circuit fault
5	Frequently report E014 (IGBT overheating)	High carrier frequency setting; Fan damage or duct blockage; Internal device damage (thermocouple or other);	Reduce carrier frequency (H0-22); Replace fan and clean air duct; Seek factory service;
6	The motor does not rotate after the drive running.	Motor and motor line; Parameter setting error of frequency converter (motor parameter); Poor connection between the drive board and the control board; Driver board failure;	Reconfirm the connection between the drive and the motor; Replace the motor or eliminate mechanical failure; Check and reset the motor parameters;

7	Input terminal disabled	Parameter setting error; External signal error; The OP and 24V jumper is loose; Control board failure;	Check and reset the H4 group related parameters; Reconnect external signal lines; Reconfirm OP and 24V jumper; Seek factory service;
8	Frequency converter frequently display overcurrent and overvoltage fault	The motor parameter setting is not correct; The acceleration/deceleration time is not suitable; Load fluctuation;	Reset motor parameters or carry out motor tuning; Set appropriate acceleration/deceleration time; Seeking factories and services;
9	Power-on display 88888	Damage of related devices on the control board;	Replace the control board;

Guarantee Agreement

Warranty of the company products executes in accordance with "the quality assurance" in instructions.

1. Warranty period is 12 months from the date of purchasing the product
2. Even within 12 months, maintenance will also be charged in the following situations:

2.1.Incorrect operation (according to the manual) or the problems are caused by unauthorized repair or transformation.

2.2.The problems are caused by exceeding the requirements of standards specifications to use the drive.

2.3 After purchase, loss is caused by falling damage or improper transportation.

2.4 The devices' aging or failure is caused by bad environment (corrosive gas or liquid).

2.5 Earthquake, fire wind disaster, lightning, abnormal voltage or other accompanied natural disasters cause the damage.

2.6 Damage is caused during transport (note: the mode of transportation is determined by customers, the company helps to handle the transferring procedures of goods).

2.7 Unauthorized tearing up the product identification (e.g.: Nameplate, etc.); the serial number does not match the warranty card.

2.8 Failing to pay the money according purchase agreement.

2.9 Cannot objectively describe the installation, wiring, operation, maintenance or other using situation to the company's service units.