

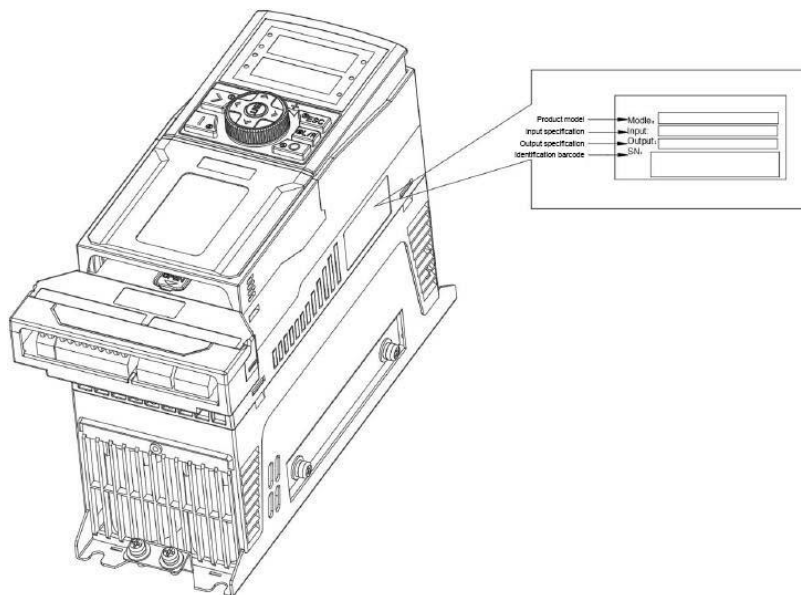


**HV320 (V2) Series Frequency Inverter
User Manual
(Lite Version)**

HNC Electric Limited

Chapter 1 Product Information

1.1 Nameplate and model



HV320 - 7R5 G 3				
①		②	③	④
① HV 320 Series Inverter		③ Code Inverter Type G General Purpose		
② Code Motor R75 0.75kW 7R5 7.5kW 011 11kW 018 18.5kW 110 110kW 400 400kW		④ Code Inverter Type 1 Single phase 220V 2 Three phase 220V 3 Three phase 380V-440V 4 Three phase 460V-480V		
<p>Note: HV320S is Dedicated to PMSM motor. HV320P is Dedicated to solar pump. HV320WU is Dedicated to winding&unwinding.</p>				

Figure 1-2 Nameplate and Product Naming

Chapter 2: Introduction to Components

2.1 Overview

The HV320(V2) series drives are made up of a number of different functional modules, the main modules are listed below:

- PM Power Modules
- CM-Pro Control Module
- OP-Pro Operational Display Module
- EM-Pro Expansion Module (optional)

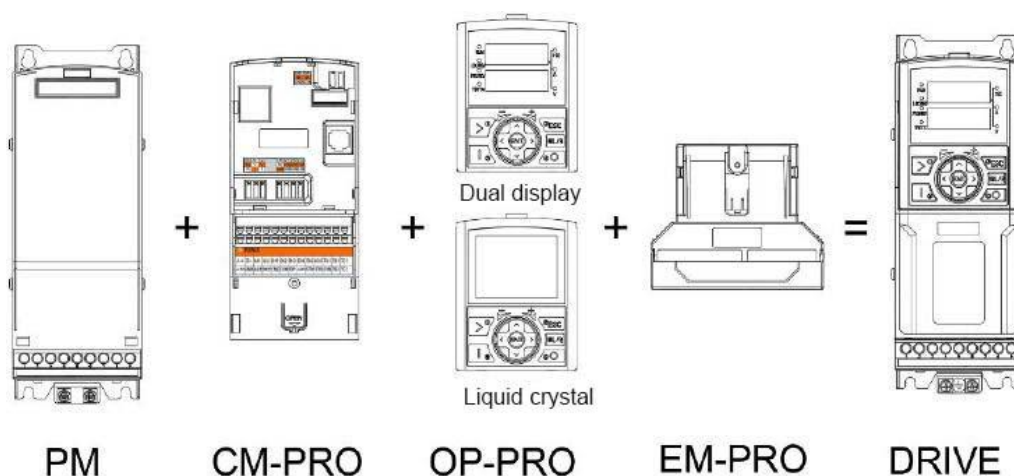
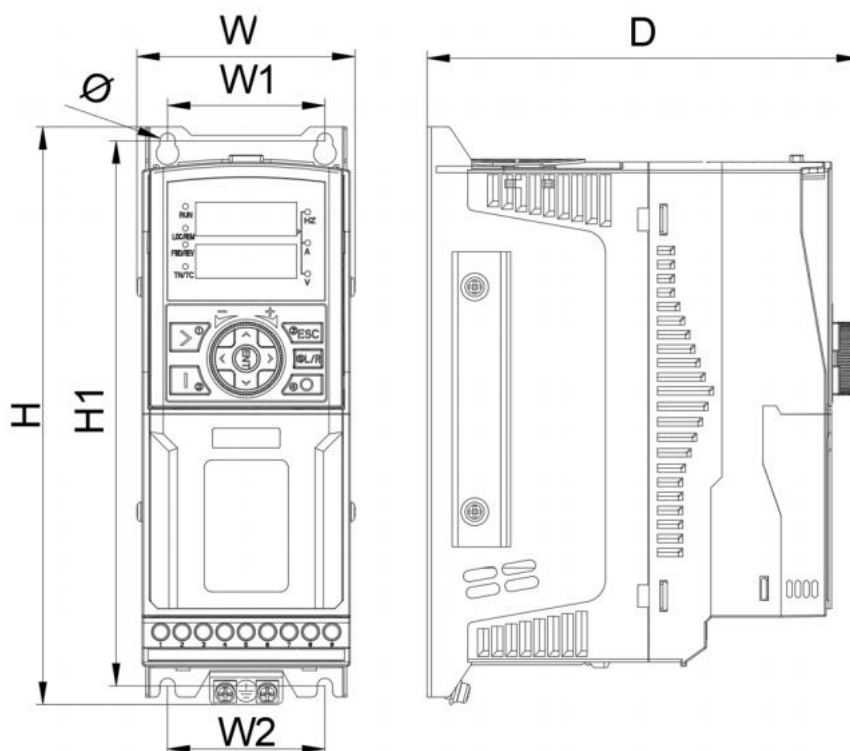


Figure 2-1 Product Modular Composition Diagram

Power Module The power modules range from 0.75kW to 800kW, adopting highly reliable IGBT and isolated drive technology, and the scientific heat dissipation design ensures safe operation under 50°C ambient temperature.

Control Module Support synchronous or asynchronous V/F mode, open loop vector mode, closed loop vector mode and other ways to control and protect the power module and driven load motor. Standard configuration of multiple AO, IO and RS485 communication, and at the same time, reserved for expandable interfaces, convenient for customers to deal with a variety of applications.

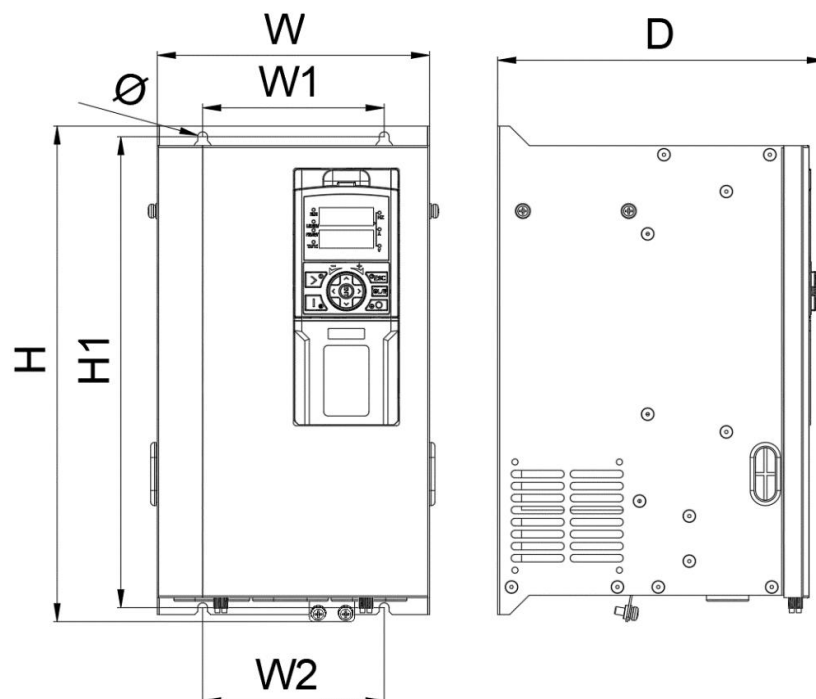
Overall dimensions of the complete drive and installation dimensions figure



A1~A2

Unit:mm

Volume	Drive Model	Installation Dimensions			Overall Dimensions			Installation Hole Diameter
		W1	W2	H1	W	H	D	Φ
A1	HV320-R75G3/4	56	56	194	78	206	154	5.5
	HV320-1R5G3/4							
	HV320-2R2G3/4							
	HV320-004G3/4							
	HV320-R40G2							
	HV320-R75G2							
	HV320-1R5G2							
	HV320-2R2G2							
	HV320-R40G1							
	HV320-R75G1							
	HV320-1R5G1							
HV320-2R2G1								
A2	HV320-5R5G3/4	68	68	219	93	235	154	5.0
	HV320-7R5G3/4							
	HV320-004G2							
	HV320-004G1							



A3~A17

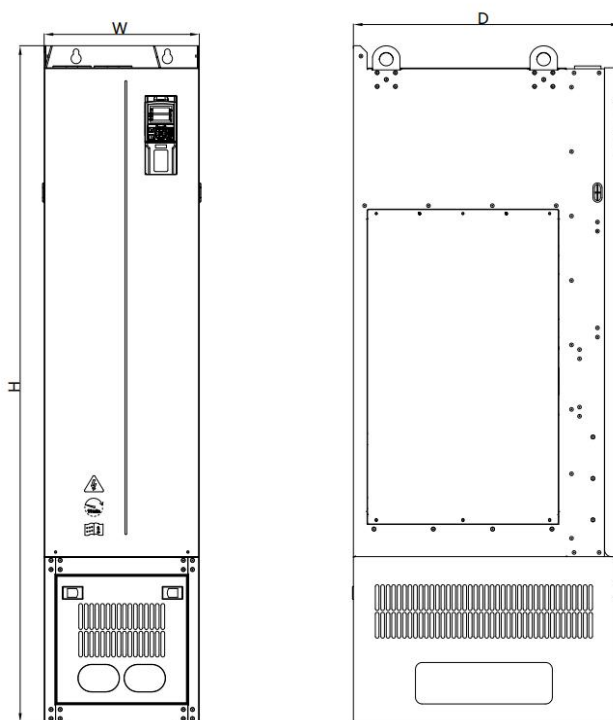
Unit: mm

Volume	Drive Model	Installation Dimensions			Overall Dimensions			Installation Hole Diameter
		W1	W2	H1	W	H	D	Φ
A3	HV320-011G3/4	100	100	265	142	283	195	7
	HV320-015G3/4							
	HV320-5R5G2							
	HV320-7R5G2							
A4	HV320-018G3/4	120	120	289	150	305	210	7
	HV320-022G3/4							
	HV320-011G2							
A5	HV320-030G3/4	120	120	314	180	330	217	6.5
	HV320-015G2							
A6	HV320-037G3/4	160	160	407	240	418	248	6.5
	HV320-018G2							
A7	HV320-045G3/4	220	220	484	307	500	255	10
	HV320-055G3/4							
	HV320-075G3/4							
	HV320-022G2							
	HV320-030G2							
	HV320-037G2							
A8	HV320-075G3/4	220	220	612	307	650	270	10
	HV320-093G3/4							
	HV320-045G2							

Introduction of Components

A9	HV320-110G3/4	220	220	639	317	680	320	10
	HV320-055G2							
A10	HV320-132G3/4	300	300	681	425	720	326	12
	HV320-160G3/4							
	HV320-075G2							
A11	HV320-185G3/4	200	130	885	335	946	537	12
	HV320-200G3/4							
	HV320-220G3/4							
	HV320-093G2							
	HV320-110G2							
A12	HV320-250G3/4	200	130	925	340	986	585	13
	HV320-132G2							
A13	HV320-280G3/4	200	130	1085	340	1140	585	13
	HV320-315G3/4							
	HV320-160G2							
A14	HV320-355G3/4	246.5+246.5	246.5+246.5	1025	700	1058	412	13
A15	HV320-400G3/4	300+300	300+300	1235	800	1264	483	16
	HV320-450G3/4							
	HV320-200G2							
	HV320-220G2							
A16	HV320-500G3/4	350+350	350+350	1365	900	1400	510	16
	HV320-560G3/4							
	HV320-630G3/4							
A17	HV320-710G3/4				120	1800	500	
	HV320-800G3/4							

Overall dimensions drawing of the whole machine with base:



A9-A17

Model	Overall dimensions		
	W	H	D
A9	317	1040	320
A10	425	1065	326
A11	335	1310	537
A12	340	1350	585
A13	340	1470	585
A14	700	1380	412
A15	800	1636	483
A16	900	1756	510
A17	1200	1800	510

Chapter 3 Technical data

3.1 Technical specification

Driver technical specification

Item		Specification
Basic Functions	Maximum frequency	Vector control: 0 ~ 600 Hz; V/F control: 0 ~ 600 Hz (Optional Max.1500Hz)
	Carrier frequency	0.5kHz~16kHz The carrier frequency can be automatically adjusted according to the load characteristics.
	Input frequency resolution	Digital setting: 0.01Hz Analog setting: Maximum frequency × 0.025%
	Control method	Vector Control without speed sensor (SVC) Vector control with speed sensor (FVC) V/F control
	Starting torque	0.5Hz/150% (SVC); 0Hz/180% (FVC)
	Speed adjustment range	1:100 (SVC) 1:1000 (FVC)
	Speed stabilization accuracy	±0.5% (SVC) ±0.02% (FVC)
	Torque control accuracy	±5% (FVC)
	Overload capacity	150% of rated current, 60S 180% of rated current, 3S
	Torque Increase	Automatic torque increase; manual torque increase 0.1%~30.0%
	V/F curve	Three types: Linear; Multi-point; N-square V/F curve (1.2x, 1.4x, 1.6x, 1.8x, 2x)
	V/F separation	2 ways: full separation, half separation
	Acceleration and deceleration curves	Linear or S-curve acceleration and deceleration mode. Four kinds of acceleration and deceleration time, acceleration and deceleration time range 0.0~6500.0s
	DC Brake	DC braking frequency: 0.00Hz~maximum frequency Braking time: 0.0s~36.0s Braking action current value: 0.0%~100.0%
	Jog control	Jog frequency range: 0.00Hz~50.00Hz. Jog acceleration and deceleration time 0.0s~6500.0s.
	Simple PLC/Multi-stage speed running	Up to 16-speed running via built-in PLC or control terminals
Built-in PID	Closed-loop process control systems can be easily realized	

	Automatic voltage regulation (AVR)	Automatically keep the output voltage constant when the grid voltage changes
	Oversvoltage and overcurrent stall control	Automatic limitation of current and voltage during operation to prevent frequent over-current and over-voltage tripping.
	Fast current limiting function	Minimizes overcurrent faults and protects the drive from normal operation
	Torque limiting and control	"Digger" feature, automatic torque limitation during operation to prevent frequent overcurrent trips; closed-loop vector mode for torque control
Running personalized functions	Outstanding performance	Asynchronous and synchronous motor control with high-performance current vector control technology
	When there is an instantaneous power outage, the machine does not stop	Maintains drive operation for a short period of time by feeding energy back to the load in the event of a transient power failure.
	Fast current limiting	Avoid frequent overcurrent faults in drives
	Virtual IO	Five virtual DI/DOs for simple logic control.
	Time control	Timing control function: L setting time range 0.0Min~6500.0Min
	Multi-motor switching	Two sets of motor parameters, can achieve four motor switching control
	Motor overheating protection	Optional motor overheating expansion card accepts motor temperature sensor inputs
	Multi-Encoder Support	Supports differential, open collector and other encoders
	Command source	The command is given from the operation panel, from the control terminal, or from the serial communication port. Command source can be switched in various ways.
	Frequency source	10 types of frequency sources: digital give and take, Analog voltage give and take, Analog current give and take, pulse give and take, serial port give and take. Switchable in various ways
	Auxiliary frequency sources	10 kinds of auxiliary frequency sources. Flexible realization of auxiliary frequency trimming, frequency synthesis
	STO function	Two-way STO (safe Torque Off) function, so that the system has a high degree of security and reliability.

	Input terminal	Standard: 6 digital input terminals (DI1~DI6), HDI5 supports high-speed pulse input up to 100kHz. 2 analog input terminals (AI1~AI2, AI1 only supports 0~10V ;AI2 supports 0~10V/4~20mA Safety function (STO) interface (STO1, STO2)
	Output terminal	Standard: 1 digital output terminal (DO1) 2 relay output terminals (TA1-TB1-TC1, TB2-TC2) 1 analog output terminal (AO1), supports 0~10V/0~20mA
Control	RS485 communication terminal	RS485 communication interface, and supports Modbus-RTU slave communication protocol.
Display and Keypad Operation	LED display	Monitor drive status parameters
	Key lock and function selection	Partial or full locking of keys, defining the scope of action of some keys to prevent misoperation.
	Protective function	Motor short circuit detection, input/output phase loss protection, over-current protection, over-voltage protection, under-voltage protection, over-heat protection, overload protection, etc.
	Optional accessories	Brake Components, IO Expansion Cards, Communication Expansion Cards, PG Expansion Cards, LCD keypad
Environmentally friendly	Location	Indoors, out of direct sunlight, free from dust, corrosive gases, flammable gases, oil mist, water vapour, dripping water or salt, etc.
	Altitude	Below 1000m
	Environmental temperature	-10°C~+40°C (ambient temperature at 40°C~50°C, please use with reduced rating)
	Humidity	Less than 95% RH, no water droplet condensation
	Vibration	Less than 5.9 m/(s ²) (0.6g)
	Storage temperature	-20°C~+60°C

Chapter 4 Installation and Wiring

4.1 Mechanical Installation

4.1.1 Installation environment:

1. Ambient temperature: the surrounding environmental temperature has a great impact on the life of the drive, do not allow the operating environment temperature of the drive to exceed the allowable temperature range: $-10^{\circ}\text{C}\sim 50^{\circ}\text{C}$ (When the temperature exceeds 50°C , it shall derate, reduce the rating by 1.5% for every 1°C increase).

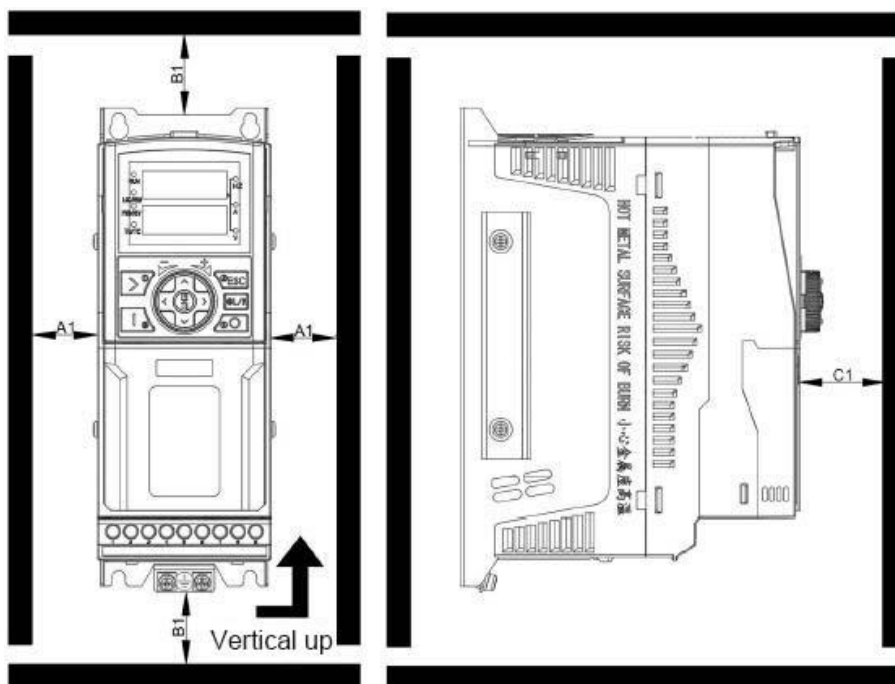
2. The drive will be mounted on the surface of flame-retardant objects, there shall be enough space around the drive for heat dissipation. Drivers are prone to generating a large amount of heat during operation. Mount the driver vertically onto the mounting support with screws.

3. Please install it in a place where it is not easy to vibrate. Vibration shall be no greater than 0.6G . Take special care to keep it away from equipment such as presses.

4. Avoid installing in place with direct sunlight, humidity and water droplets.

5. Avoid installing in the place where there are corrosive, flammable and explosive gases in the air.

6. Avoid installing in the place with oil, dust and metal dust.



Drive Mounting Diagram

Single installation: when the power of the drive is not greater than 22kW, the size can be disregarded, when it is greater than 22KW, A shall be greater than 50mm

For top and bottom mounting: When the drive is mounted top and bottom, install the heat insulation deflector shown in the figure.

Power rating	Installation dimensions	
	B	A
≤15kW	≥100mm	May not be required
18.5kW—30kW	≥200mm	≥50mm
≥37kW	≥300mm	≥50mm

4.1.2 A concern for mechanical installations is heat dissipation, so please note the following:

1. Please install the drive vertically in positive direction, not upside down, to ensure that the heat is emitted upwards. If there are more drives in the cabinet, preferably mounted side by side. Where top and bottom mounting is required, please refer to the diagram, install the heat insulation deflector.

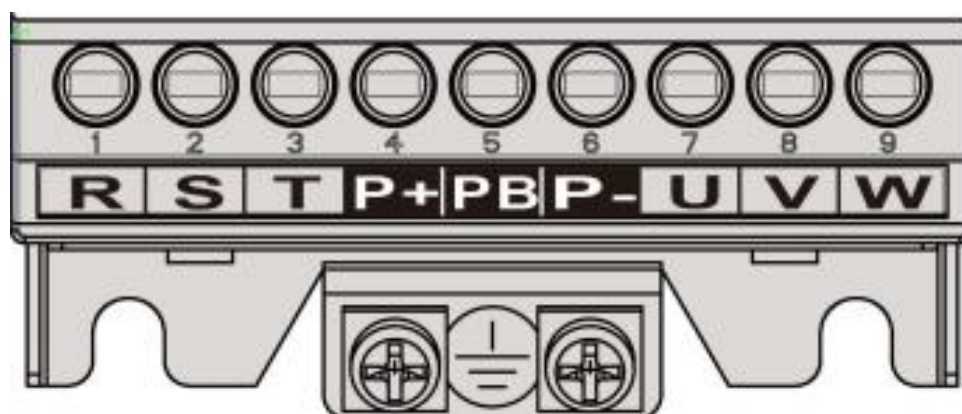
2. The installation space is in accordance with the diagram, to ensure that the drive cooling space. However, when arranging, please consider the heat dissipation of other devices in the cabinet.

3. The mounting bracket must be made of flame retardant material.

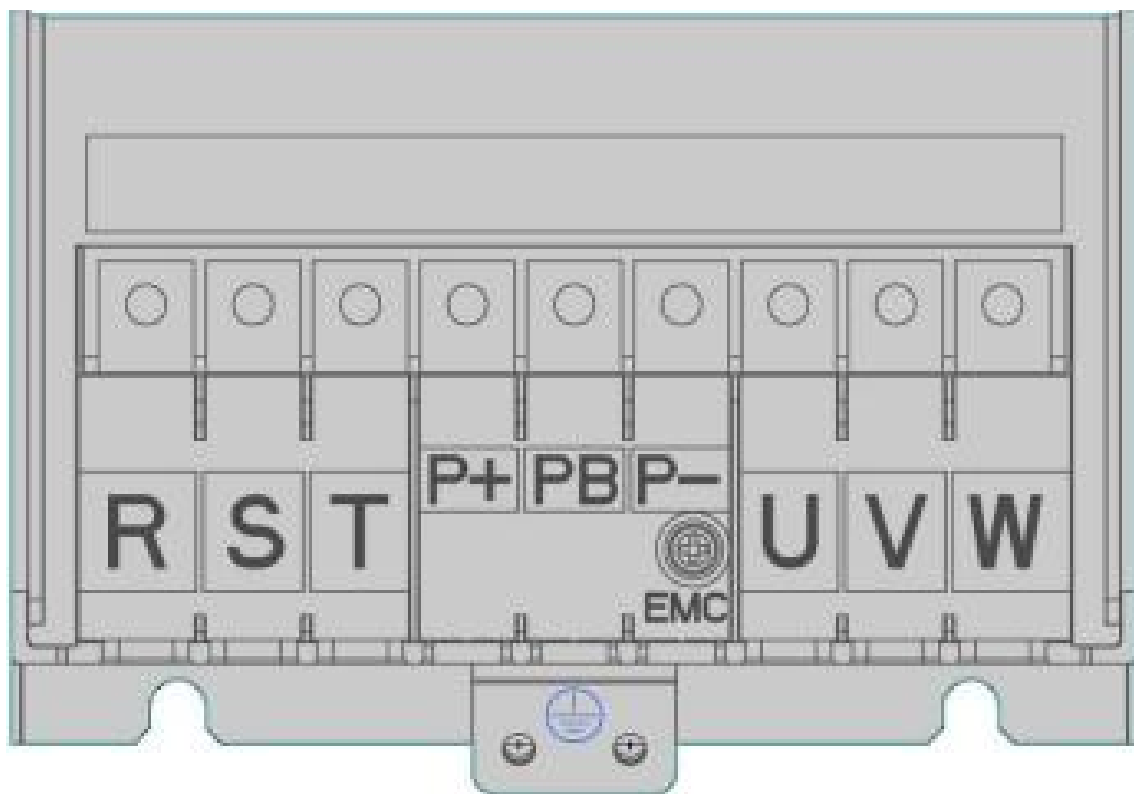
4. For metal dust applications, it is recommended to use the radiator outside the cabinet installation. At this time, the space inside the fully sealed cabinet shall be as large as possible.

4.1.3 Driver main circuit wiring method

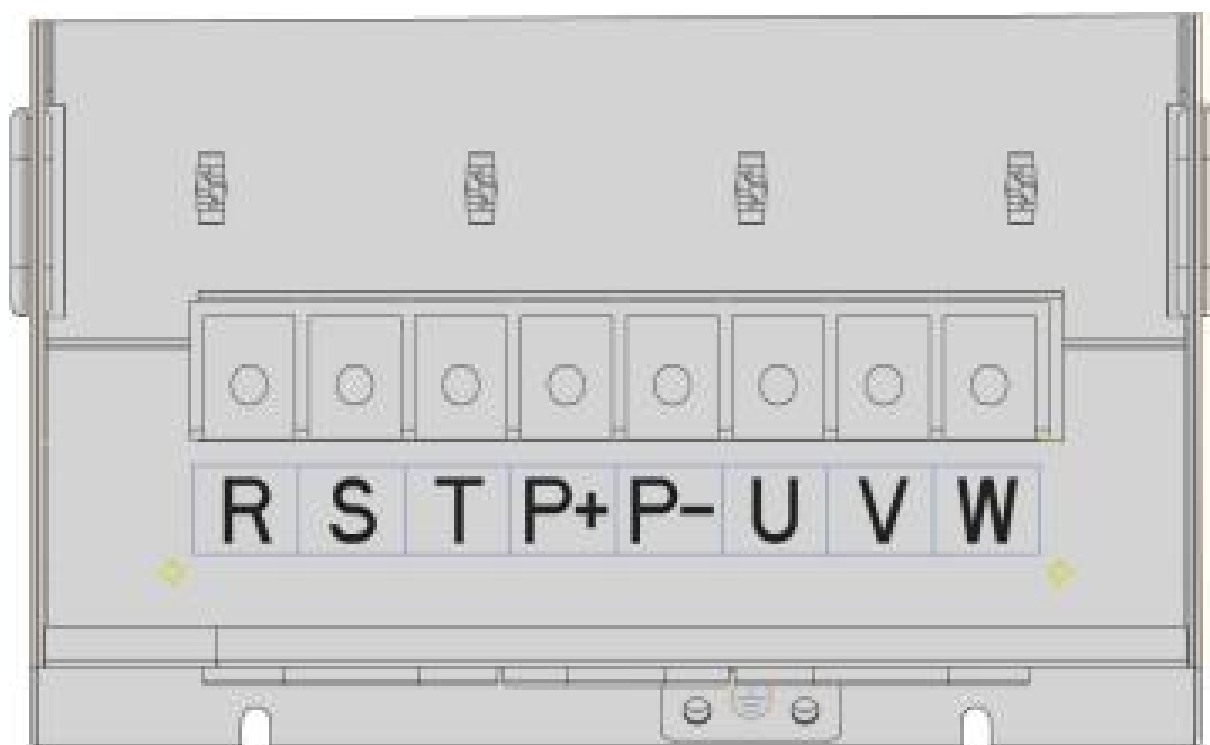
Drive main circuit wiring method



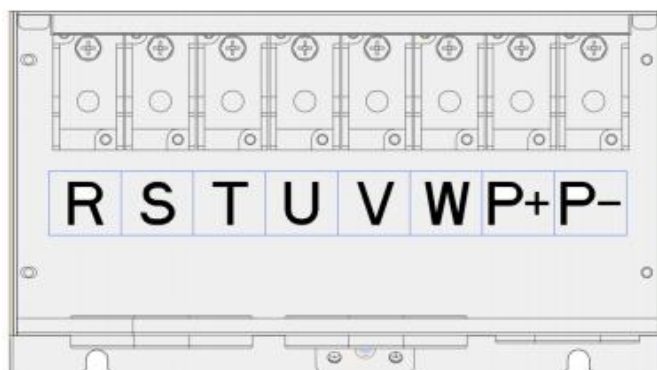
A1~A2 main circuit connecting terminals



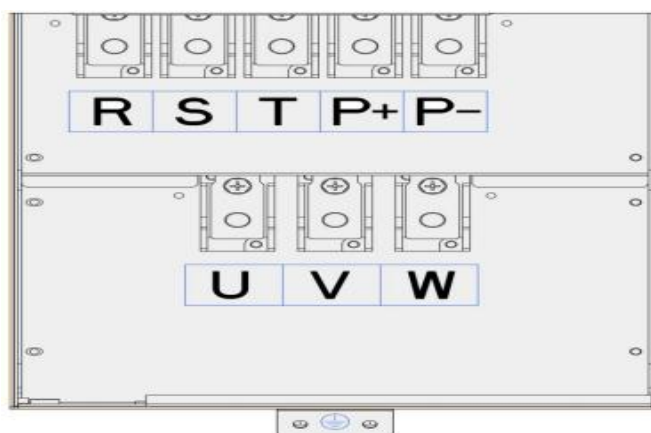
A3~A5 main circuit connecting terminals



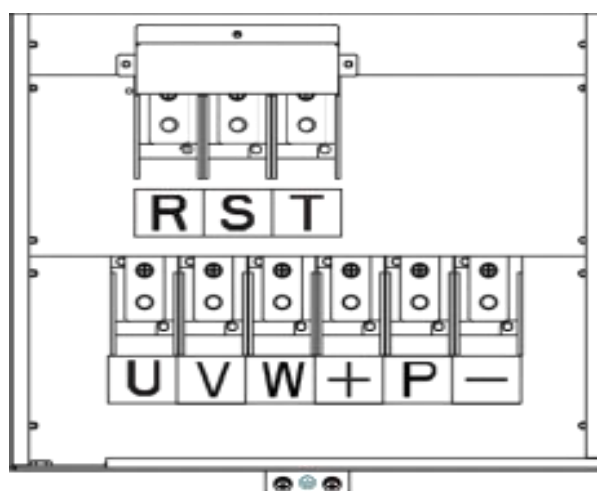
A6 Main circuit connecting terminals



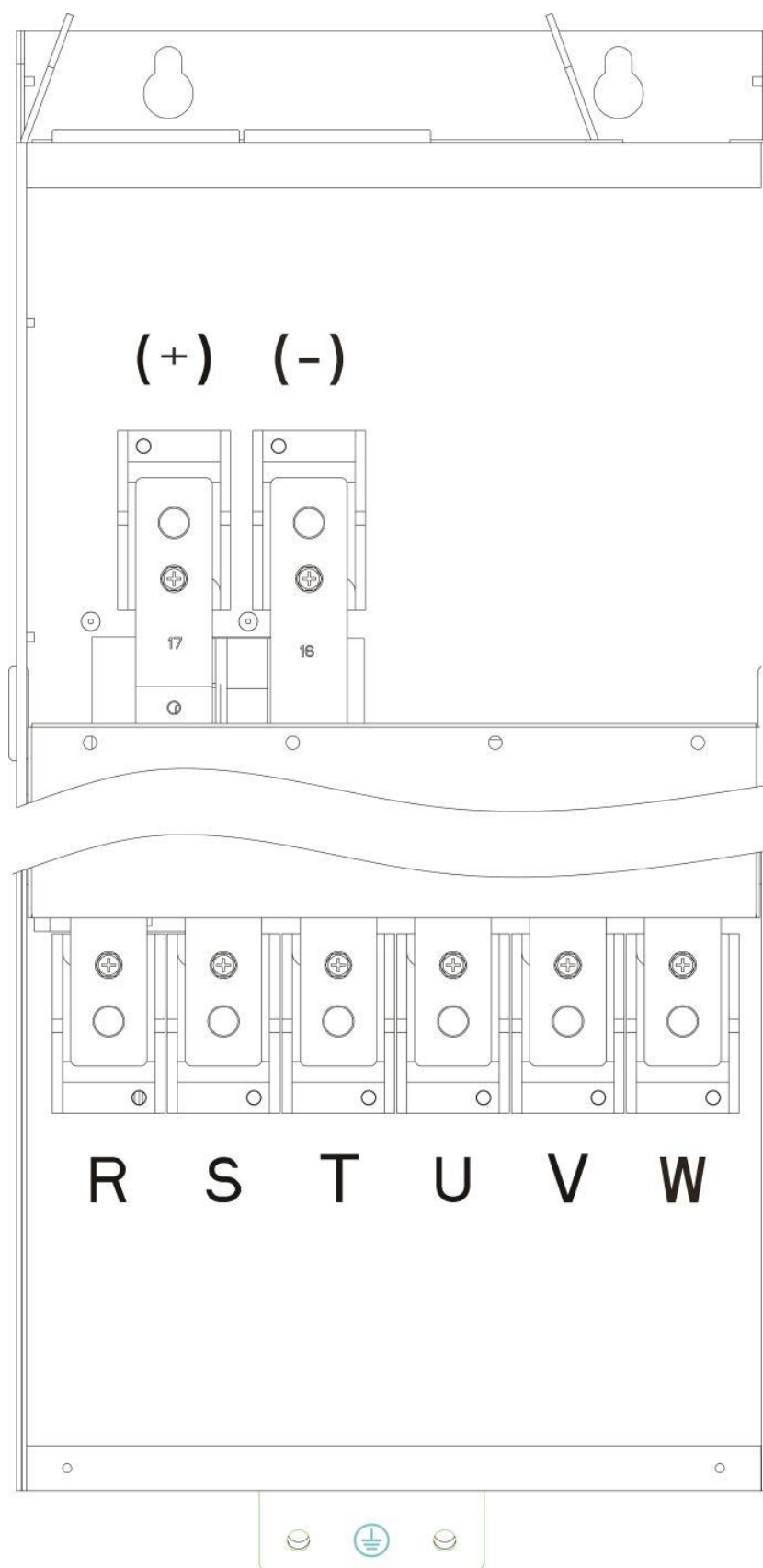
A7 Main circuit connecting terminal



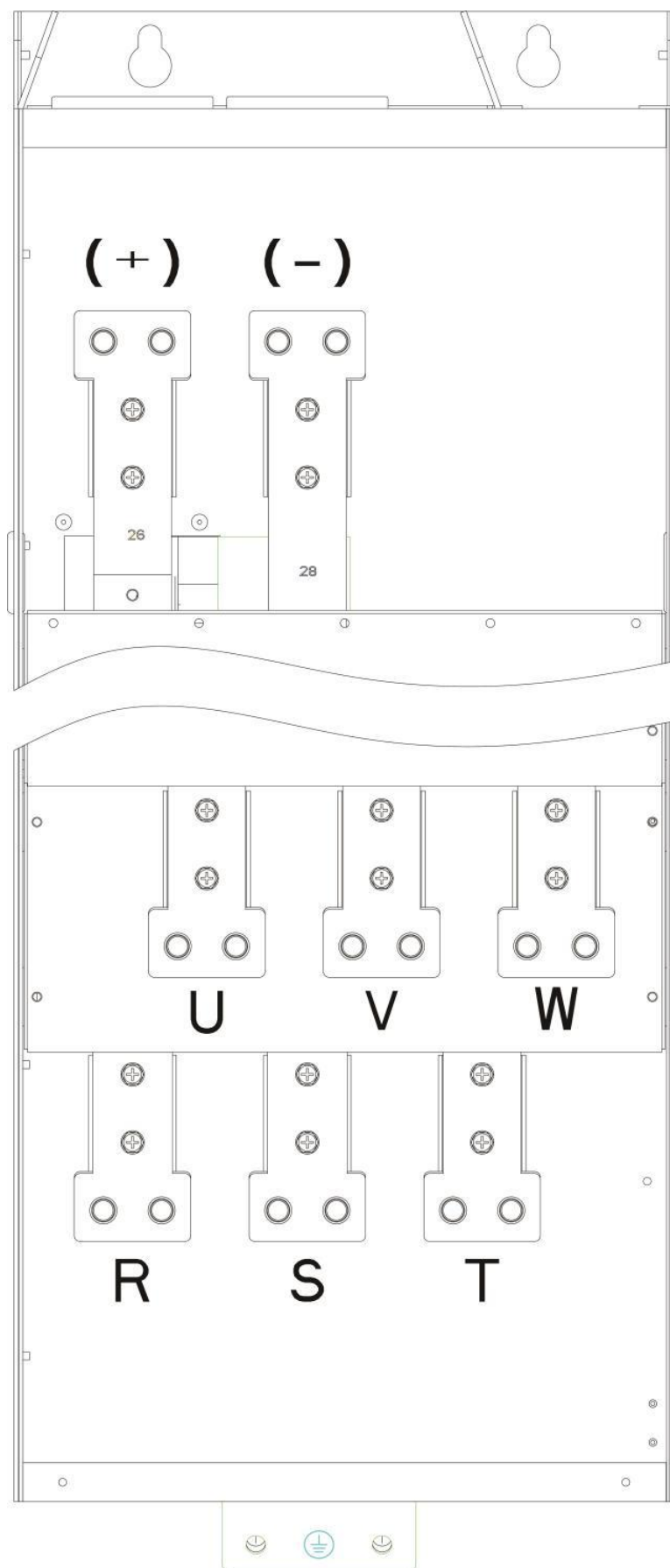
A8~A9 main circuit terminals



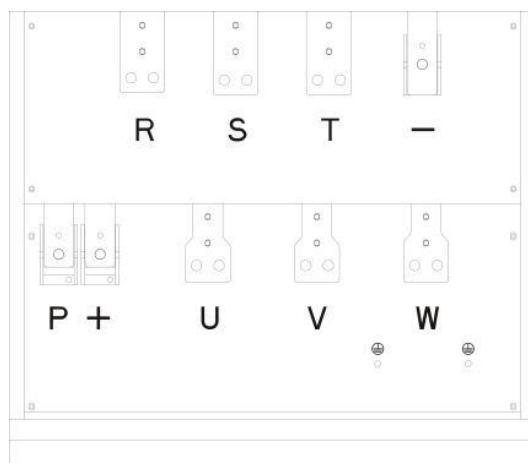
A10 Main circuit connecting terminal



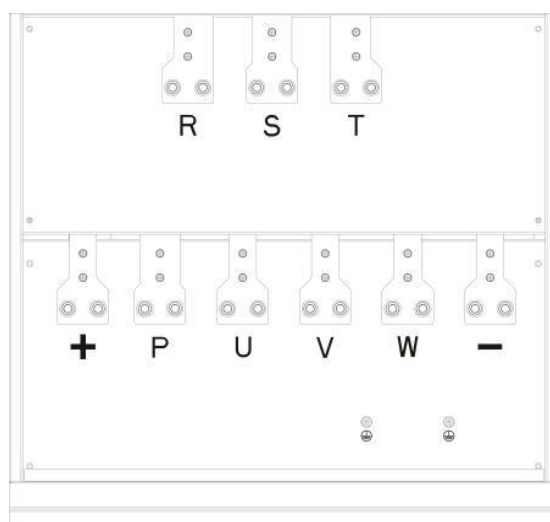
A11 Main circuit connecting terminal



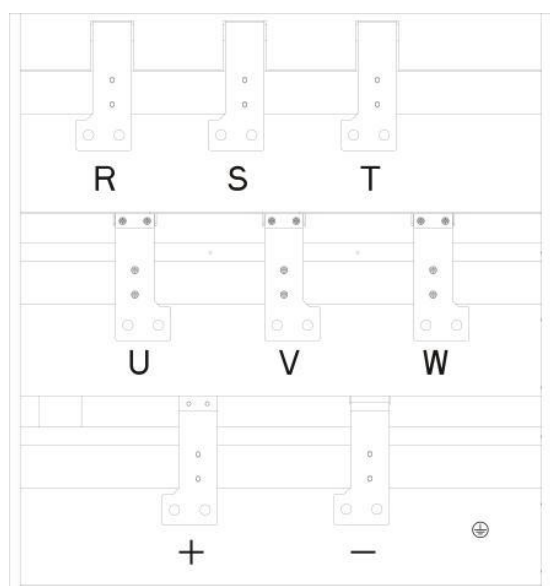
A12-A13 main circuit connecting terminals



A14 Main circuit connecting terminal



A15 Main circuit connecting terminal



A16 Main circuit connecting terminal

4.1.4 Drive main circuit terminal description

Driver Main Circuit Terminal Description

Terminal Marking	Name	Description
R, S, T	Three-phase power input terminals	AC input three-phase power connection point
P+, P-	DC bus positive and negative terminals	DC busbar connection point/external brake unit
P+, PB	Brake Resistor Connection Terminals	External brake resistor connection point (models with built-in brake unit)
P, P+	External Reactor Terminals	External DC reactor connection point
U, V, W	Driver output terminals	Connecting the three-phase motor
E	Ground terminal	Ground terminal

Wiring Notes:

1. Input power supply R . S . T: For the input side wiring of the driver, no phase sequence requirements.

2. DC bus P +, P - terminal: note that just after the blackout DC bus P +, P - terminals has residual voltage, it must confirm that the voltage is less than 36V before contact, otherwise there is a risk of electric shock. For 30kW or more, for the choice of external brake components, note that the P +, P - polarity can not be connected reversely, otherwise it leads to drive damage or even fire.

The wiring length of the brake unit shall not exceed 10m. Twisted-pair or close-twisted shall be used for parallel wiring. Do not connect the braking resistor directly to the DC bus, it may cause damage to the drive or even fire.

3. Braking resistor connection terminals P+ and PB:

The braking resistor connection terminals are only valid for models with built-in braking units up to 22kW. Refer to the recommended values for the braking resistor selection, and the wiring distance shall be less than 5m. Otherwise, the driver may be damaged.

4. External reactor connection terminals P, P+:

185~315KW with built-in DC reactor, 355KW and above models with external optional DC reactor.

5. Drive output side U, V , W:

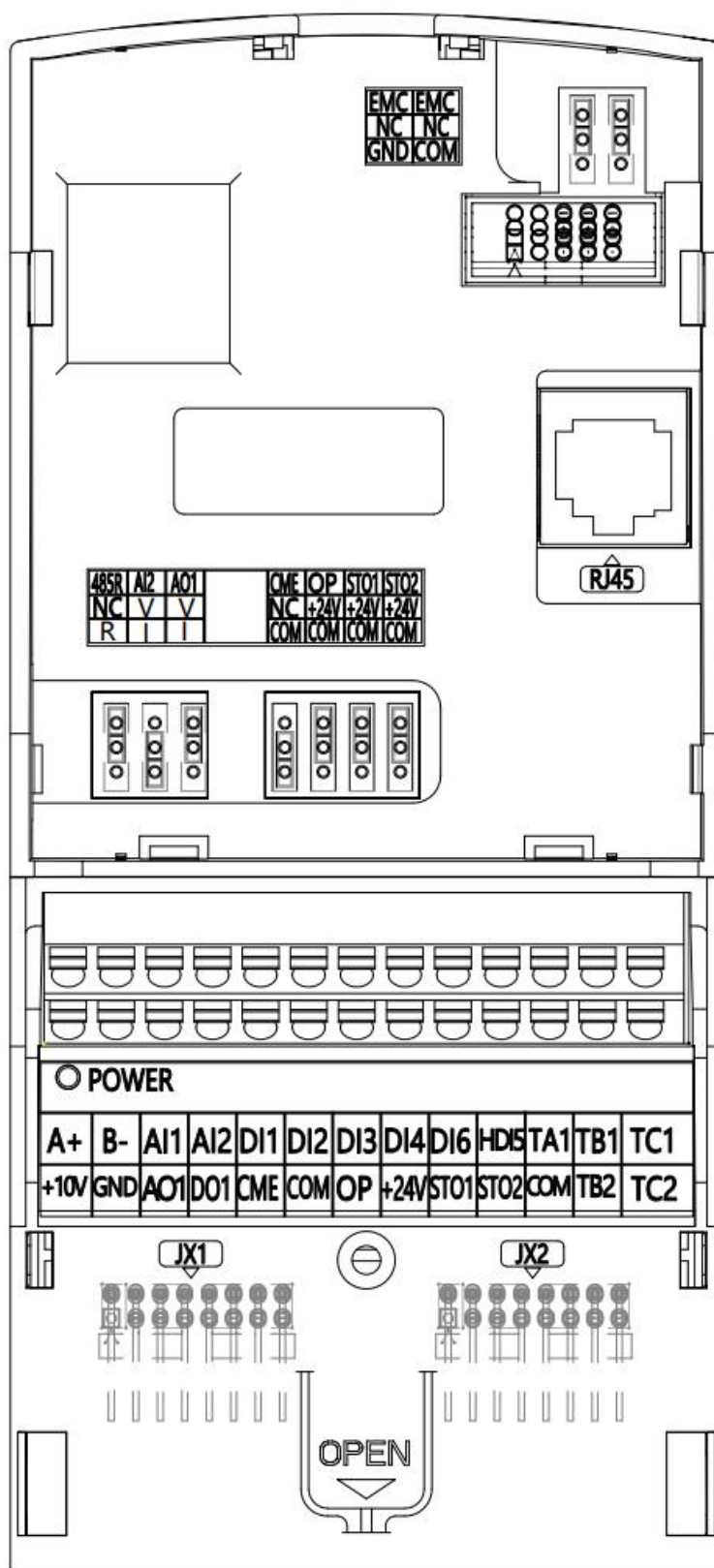
Capacitors or surge absorbers must not be connected to the drive side outlet, otherwise it will cause frequent protection or even damage to the drive. When the motor cable is too long, it is easy to generate electrical resonance due to the influence of distributed capacitance, it will cause motor insulation damage or generate large leakage current to enable the drive overcurrent protection. When the length of the motor cable is greater than 100m, an AC output reactor must be added.

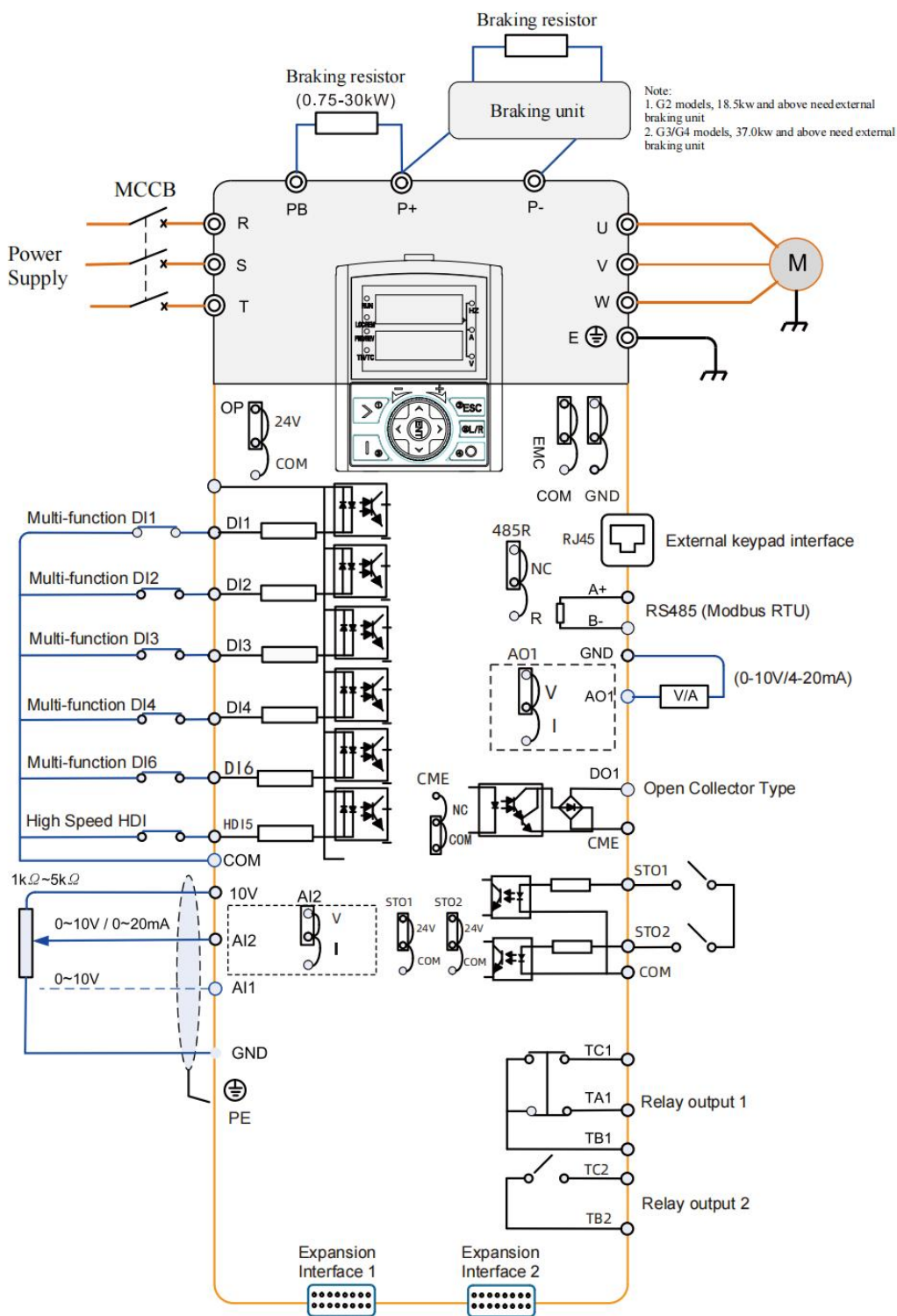
6. Ground terminal:

The terminal must be reliably grounded, and the resistance value of the grounding wire must be less than 0.1Ω. Otherwise, the equipment may work abnormally or even be damaged. Do not share the grounding terminal and the power supply neutral line N terminal.

4.1.5 Control module wiring instructions

Control terminal





Wiring diagram

Description of control terminal functions:

Category	Terminal symbols	Terminal name	Function description
Power supply	+10V-GND	External +10V power supply	Provide +10V power supply, maximum output current: 10mA, generally used as external potentiometer power supply, potentiometer resistance range: 1kΩ~5kΩ.
	+24V-COM	External +24V power supply	Provide +24V external power supply, generally used as digital input/output terminal power supply and external sensor power supply, maximum output current: 100mA.
	OP	External power input terminal	The factory default is to connect to +24V when using external signals to drive DI1~DI6, OP needs to be connected to the external power supply.
Analog input	AI1-GND	Analog input terminal 1	1. Input voltage range: DC 0V~10V 2. Input impedance: 22kΩ
	AI2-GND	Analog input terminal 2	1. Input range: DC0V~10V/0mA~20mA, determined by the J8 jumper selection on the control board. 2. Input impedance: 22kΩ for voltage input, 500Ω for current input.
Digital input	DI1-COM	Digital Input 1	1. Opto-coupler isolation, compatible with bipolar inputs 2. Input impedance: 4kΩ 3. Voltage range at level input: 9V~30V
	DI2-COM	Digital Input 2	
	DI3-COM	Digital Input 3	
	DI4-COM	Digital Input 4	
	DI6-COM	Digital Input 6	
	HDI5-COM	High-speed pulse input terminal	In addition to the characteristics of DI1~DI6, it can also be used as a high-speed pulse input channel . Maximum input frequency: 100kHz
Digital output	DO1-CME	Digital Output 1	Optocoupler isolated, bipolar open collector outputs Output voltage range: 0V~24V Output current range: 0mA~50mA Note: The digital output ground CME is internally isolated from the digital input ground COM, but is factory shorted to COM via the J10 jumper CME on the control board (at this time DO1 is driven at +24V by default). When DO1 wants to be driven by an external power supply, the jumper must be removed.
Analog output	AO1-GND	Analog output 1	Voltage or current output is selected by J5 jumper on the control board. Output Voltage range: 0V~10V Output current range: 0mA~20mA

Category	Terminal Symbols	Terminal Name	Function description	
Relay output	TA1-TB1	Normally closed terminal	Contact drive capability : AC250V, 3A, COS ϕ =0.4. DC 30V, 1A	
	TB1-TC1	Normal open terminal		
	TB2-TC2	Normal open terminal		
Relay output	TB3-TC3	Normal open terminal	Contact drive capability: AC250V, 3A, COS ϕ =0.4. DC 30V, 1A	Expansion Card Option
	TB4-TC4	Normal open terminal		
Safety function (STO) terminal	STO1	STO channel 1	Internal connection: factory STO1 and STO2 are connected to +24V with jumpers by default; External: STO1, STO2 can be connected with external +24V, the specific wiring can refer to the STO related functions.	
	STO2	STO Channel 2		
Communication	A+-B-	Communication terminal	RS485 communication, standard Modbus RTU	
Extended Interface	JX1	Encoder Interface	Connectable to differential encoder PG card (supports differential input, open collector input, push-pull input, voltage input, +5V\+15V selectable), rotary encoder PG card, PT100\PT1000 temperature sensor inputs	
	JX2	Communication Expansion Interface	Can be connected to isolated RS485 card, CANLINK card, Profinetcard, EtherCATcard, ProfibusDP card, Ethernet/IP card, Modbus TCP card,	
External keyboard interface	RJ45	External keyboard interface	LED keyboard debugging, external LCD and PC debugging	

Chapter 5 Examples of Operation and Display Application

5.1 Introduction to the Operation and Display Panel

With the operation panel, you can modify the Function Parameters, monitor the working status and control the operation of the drive (start, stop) and other operations. The shape and functional areas are shown below.



Schematic diagram of operation panel

5.1.1 Description of the function indicator:

RUN: When the light is off, it means that the drive is in the shutdown state, and when the light is on, it means that the drive is in the running state;

FWD/REV: Forward and reverse indicator, light indicates in reverse state;









TN/TC: tuning/torque control/fault indicator, light on means in torque control mode, light flashing slowly means in tuning status, a rapidly flashing lamp indicates a fault condition;

LOC/REM: Start/stop control mode indicator, off means panel control, keeping on means terminal control, flashing means communication control;

Unit indicator: Hz: Frequency unit; A: Current unit; V: Voltage unit; RPM (Hz+A) Speed unit, % (A+V %)

Digital display area: 5-digit LED display, which can display the set frequency, output frequency, various monitoring data and alarm code.

5.1.2 Keyboard button description table

Key	Name	Function
	Menu key	First-level menu entry or exit (Switch with running display interface)
	Confirmation key	Step-by-step access to the menu screen, and confirmation of setting parameters
 Counterclockwise	Incremental key	Incrementing of data or function codes
 Counterclockwise	Decrement key	Decrement of data or function codes
	Shift key	The display parameters can be selected cyclically under the shutdown display screen and the operation display screen; When modifying a parameter, you can select the modified bit of the parameter;
	Run key	For running operations in keyboard operation mode
	Multifunction selection key	Function switching selection according to P7-01, it can be defined as command source or direction switching.
	Stop/Reset	During the running state, pressing this key can be used to stop the running operation; in fault alarm status, this key can be used for reset operation, and the characteristics of this key are limited by function code P7-16.

Chapter 6 Function Parameters Table

PP-00 is set to a non-zero value, i.e., the parameter protection password is set. In the function parameter mode and user change parameter mode, the parameter menu must be accessed after correctly entering the password; for canceling the password, it shall set PP-00 to 0.

The parameter menu in the user-customized parameter mode is not password protected.

Groups P and H are the basic function parameters, and Group U is the monitoring function parameters.

The symbols in the function table are explained as follows:

"☆": Indicates that the setting value of this parameter can be changed when the drive is in the stop state and running state;

"★": Indicates that the setting value of this parameter cannot be changed when the drive is in running state;

"●": Indicates that the value of this parameter is the actual detection record value and cannot be changed;

"*": Indicates that the parameter is a "manufacturer's parameter", only for the manufacturer's use, it prohibits the users from performing operations for such parameter;

(E): Indicates parameters related to synchronous motor control with HV320S models.

6.1 Basic Function Parameter Table

Function code	Name	Setting range	Factory value	Change
P0 Basic Function Group				
P0-00	GP type display	1: G type (constant torque load model) 2: P type (fan and pump load models)	Determined based on the model	●
P0-01	1st motor control method	0: Vector control without speed sensor (SVC) 1: Vector control with speed sensor (FVC) 2: V/F control	Determined based on the model	★
P0-02	Command Source Selection	0: operating panel command channel (LED off) 1 : Terminal command channel (LED on) 2: Communication command channel (LED blinking)	0	☆
P0-03	Main frequency source X selection	0: Digital setting (preset frequency P0-08, can be modified by UP/DOWN, in case of power down, it does not memorize)	1	★

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
		1: Digital setting (preset frequency P0-08, can be modified by UP/DOWN, in case of power down, it memorizes) 2: AI1 3: AI2 4: AI3 5: PULSE pulse setting (DI5) 6: Multi-segment commands 7: Simple PLC 8: PID 9: Communication given 10: Optical multi-speed frequency		
P0-04	Auxiliary frequency source Y range when stacked	Same as P0-03 (main frequency source X selection)	0	★
P0-05	Auxiliary frequency source Y range when stacked	0: Relative to maximum frequency 1: Relative to frequency source X	0	☆
P0-06	Auxiliary frequency source Y range when stacked	0.0%~300.0%	100.0%	☆
P0-07	Frequency source stack selection	Digits: Frequency source selection: 0: Main frequency source X 1: Primary and secondary operation results (operation relationship is determined by the tens digit) 2: Switching between main frequency source X and auxiliary frequency source Y 3: Switching between main frequency source X and main and auxiliary operation results 4: Auxiliary frequency source Y and main and auxiliary operation result switching Tens: Frequency source primary and secondary arithmetic relationships: 0: primary + secondary 1: Primary - Secondary 2: Maximum of both 3: Minimum value of both	00	☆
P0-08	Preset Frequency	0.00Hz~maximum frequency (P0-10)	50.00Hz	☆
P0-09	Running direction	0: same direction 1: opposite direction	0	☆
P0-10	Maximum frequency	50.0 0Hz~500.0Hz	50.00Hz	★
P0-11	Upper Limit Frequency Source	0: P0- 12 setting 1: AI1 2: AI2 3: AI3 4: PULSE pulse setting 5: Communication given	0	★
P0-12	Upper limit frequency	Lower limit frequency P0-14~	50.00Hz	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
		Maximum frequency P0-10		
P0-13	Upper Limit Frequency Bias	0.00Hz~maximum frequency P0-10	0.00Hz	☆
P0-14	Lower limit frequency	0.00Hz~upper limit frequency P0-12	0.00Hz	☆
P0-15	Carrier frequency	0.5kHz~16.0kHz	Determined based on the model	☆
P0-16	Carrier frequency temperature adjustment	0: No 1: Yes	1	☆
P0-17	Acceleration time 1	0.00s~650.00s (P0-19=2) 0.0s~6500.0s (P0-19=1) 0s 6500s (P0-19=0)	Determined based on the model	☆
P0-18	Deceleration time 1	0.00s~65000s	Determined based on the model	☆
P0-19	Acceleration and deceleration time units	0:1 second 1:0.1 second 2:0.01 second	1	★
P0-21	Auxiliary frequency source bias frequency during superposition	0.00Hz~maximum frequency P0-10	0.00Hz	☆
P0-22	Frequency command resolution	1:0.1Hz 2:0.01Hz	2	★
P0-23	Digital set frequency memory selection in shutdown	0:No memory 1:Memory	1	☆
P0-24	Motor Selection	0:Motor 1 1:Motor 2	0	★
P0-25	Acceleration and deceleration time reference frequency	0: Maximum frequency (P0-10) 1: Set frequency 2: 100Hz	0	★
P0-26	Runtime frequency command UP/DOWN Baseline	0: Operating frequency 1: Setting frequency	0	★
P0-27	Command Source Bundle Frequency Source	Digits: operating panel command bound frequency source selection 0: No binding 1: Digital setting frequency 2: AI1 3: AI2 4: AI3	0000	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
		5: PULSE pulse setting (DI5) 6: Multi-speed 7: Simple PLC 8: PID 9: Communication given Tens place: Terminal command bound frequency source selection Hundreds place: Communication Command Bound Frequency Source Selection Thousands place: auto run bound frequency source selection		
P0-28	Communication Expansion Card Type	0: Modbus communication card 1: Bridge communication	0	☆
Group P1 First motor parameters				
P1-00	Motor type selection	0: Normal asynchronous motor 1: Variable frequency asynchronous motors 2: Permanent magnet synchronous motors	Determined based on the model	★
P1-01	Motor rated power	0.1kW~1000.0kW	Determined based on the model	★
P1-02	Motor rated voltage	1V~2000V	Determined based on the model	★
P1-03	Motor rated current	0.01A~655.35A (Inverter power ≤ 55kW) 0.1A~6553.5A (Inverter power > 55kW)	Determined based on the model	★
P1-04	Motor rated frequency	0.01Hz~Maximum Frequency	Determined based on the model	★
P1-05	Rated motor speed	1rpm~65535rpm	Determined based on the model	★
P1-06	Asynchronous motor stator resistance	0.001Ω~65.535Ω (Inverter power ≤ 55kW) 0.0001Ω~6.5535Ω (Inverter power > 55kW)	Tuning parameter	★
P1-07	Asynchronous motor rotor resistance	0.001Ω~65.535Ω (Inverter power ≤ 55kW) 0.0001Ω~6.5535Ω (Inverter power > 55kW)	Tuning parameter	★
P1-08	Leakage reactance of asynchronous motors	0.01mH~655.35mH (Inverter power ≤ 55kW) 0.001mH~65.535mH (Inverter power > 55kW)	Tuning parameter	★

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
		55 kW)		
P1-09	Asynchronous motor mutual inductive resistance	0.1mH~6553.5mH (Inverter power ≤ 55kW) 0.01mH~655.35mH (Inverter power > 55kW)	Tuning parameter	★
P1-10	Asynchronous motor no-load current	0.01A~P1-03 (Inverter power ≤ 55kW) 0.1A~P1-03 (Inverter power > 55kW)	Tuning parameter	★
P1-16	Synchronous motor stator resistance	0.001Ω~65.535Ω (Drive power ≤ 55kW) 0.0001Ω~6.5535Ω (Drive power > 55kW)	Tuning parameter	★(E)
P1-17	Synchronous motor D-axis inductance	0.01mH~655.35mH (Drive power ≤ 55kW) 0.001mH~65.535mH (Drive Power > 55kW)	Tuning parameter	★(E)
P1-18	Synchronous motor Q-axis inductance	0.01mH~655.35mH (Drive power ≤ 55kW) 0.001mH~65.535mH (Drive power > 55kW)	Tuning parameter	★(E)
P1-20	Synchronous motor reverse electromotive force	0.1V~6553.5V	Tuning parameter	★(E)
P1-22	Synchronous motor no-load current	0%~180%	5%	★(E)
P1-27	Number of encoder lines	1~65535	1024	★
P1-28	Encoder Type	0: ABZ incremental encoder 1: UVW incremental encoder 2: Rotary Transformer 3: Sine-cosine encoder 4: Wire-saving UVW encoder	0	★
P1-30	ABZ Incremental Encoder AB Phase Sequence	0: Forward 1: Reverse	0	★
P1-31	Encoder mounting angle	0.0~359.9°	0.0°	★
P1-32	UVW Encoder UVW Phase Sequence	0: Forward 1: Reverse	0	★
P1-33	UVW Encoder Bias Angle	0.0~359.9°	0.0°	★
P1-34	Rotary Transformer Pole Pairs	1~65535	1	★
P1-36	Speed Feedback PG Disconnection Detection Time	0.0s: No action 0.1s~10.0s	0.0	★
P1-37	Tuning Options	0: No operation 1: Static tuning of asynchronous	0	★

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
		motors 2: Complete tuning of asynchronous motors 3: Asynchronous motor stationary complete tuning 11: Synchronous motor static self-learning (E) 12: Synchronous motor no-load dynamic self-learning (E)		
Group P2 First motor vector control parameters				
P2-00	Velocity loop proportional gain 1	1~100	30 (E): 20	☆
P2-01	Velocity loop integration time1	0.01s~10.00s	0.50s	☆
P2-02	Switching frequency 1	0.00~F2-05	5.00Hz	☆
P2-03	Velocity loop proportional gain 2	1~100	20 (E): 10	☆
P2-04	Velocity loop integration time2	0.01s~10.00s	1.00s	☆
P2-05	Switching frequency 2	F2-02~Maximum Frequency	10.00Hz	☆
P2-06	Vector Control Differential Gain	50%~200%	100%	☆
P2-07	Velocity loop filter time constant	0.000s~1.00s	0.015s	☆
P2-09	Torque limit command selection in speed control mode	0: Parameter P2-10 setting 1: AI1 2: AI2 3: AI3 4: Pulse (DI5) 5: Communication given 6: MIN (AI1,AI2) 7: MAX (AI1,AI2) The full scale range of options 1-7 corresponds to P2- 10.	0	☆
P2-10	Digital setting of upper torque limit in speed control mode	0.0%~200.0%	150.0%	☆
P2-11	Torque limit command selection in speed control mode (power generation)	0: Parameter P2-12 setting 1: AI1 2: AI2 3: AI3 4: PULSE Pulse setting 5: Communication given 6: MIN (AI1,AI2) 7: MAX (AI1,AI2) 8: Parameter P2- 12 setting The full scale range of options 1-7 corresponds to P2- 12.	0	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
P2-12	Digital setting of upper torque limit in speed control mode (power generation)	0.0%~200.0%	150.0%	☆
P2-13	Excitation regulation proportional gain	0~60000	2000	☆
P2-14	Excitation Regulation Integral Gain	0~60000	1300	☆
P2-15	Torque adjustment proportional gain	0~60000	2000	☆
P2-16	Integral gain for torque regulation	0~60000	1300	☆
P2-17	Speed Ring Points Properties	0: Valid 1: Invalid	0	☆
P2-18	synchronous motor weak magnetic mode	0~2	1	★(E)
P2-19	synchronous motor weak magnetic coefficient	1~50	5	☆(E)
P2-20	Over-modulation voltage factor	100%~110%	105%	☆
P2-21	Constant power area torque coefficient	50%~200%	100%	☆
P2-23	synchronous motor output voltage saturation margin	0~50%	5%	☆(E)
P2-24	Initial position detection current	10%~180%	80%	☆(E)
P2-25	Whether the initial position is detected	0~3	1	☆(E)
P2-26	Velocity Ring Mode Selection	0~1	0	☆(E)
P2-27	Synchronized machine convex rate adjustment gain	50~500	100	☆(E)
P2-28	Maximum torque to current ratio control enable	0~1	0	☆(E)
P2-29	Feedforward compensation mode	0~2	0	☆(E)
P2-30	Current loop KP during tuning	0~100	6	☆(E)
P2-31	Current loop KI during tuning	0~100	6	☆(E)
P2-32	Z signal correction enable	0~1	1	☆(E)
P2-33	Synchronous motor	10~1000	100	☆(E)

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
	SVC speed filter level			
P2-34	Synchronous motor SVC speed estimation ratio	5~200	40	☆(E)
P2-35	Synchronous motor SVC speed estimation integral	5~500	30	☆(E)
P2-36	Synchronous motor SVC initial excitation current	0~150%	30%	☆(E)
P2-37	Minimum carrier frequency for synchronous motor SVC	0.8~100.0	1.5	☆(E)
P2-38	Low frequency operation mode	0~1	0	☆(E)
P2-39	Low frequency in effect	0.00~10.00	2	☆(E)
P2-40	Low Frequency Step	0.0001~1.0000	0.001	☆(E)
P2-41	Low frequency braking current	30~120	80	☆(E)
P2-42	Synchronous motor SVC speed tracking	0~1	0	☆(E)
P2-43	Zero servo enable	0~1	0	☆(E)
P2-44	Switching frequency	0.00~655.35	0.30	☆(E)
P2-45	Zero servo speed loop proportional gain	1~100	10	☆(E)
P2-46	Zero servo speed loop integration time	0.01~10.00	0.50	☆(E)
P2-47	Stopping the machine, prohibits reversal	0~1	0	☆(E)
P2-48	Stopping Angle	0.0~10.0	0.8	☆(E)
P2-49	On-line tuning enable	0: Close 1: Tuning before powering up for the first run 2: Pre-run tuning	0	☆(E)
P2-50	On-line counter electromotive force identification	0: Close 1: Open	0	☆(E)
P2-51	Initial position compensation angle	0.0~359.9	0.0	☆(E)
Group P3 V/F control parameters				
P3-00	V/F curve setting	0: linear V/F 1: Multi-point V/F 2: Square V/F 3: 1.2 times V/F	0	★

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
		4: 1.4 times V/F 6: 1.6 times V/F 8: 1.8 times V/F 9: Reservations 10: V/F fully separated mode 11: V/F semi-split mode		
P3-01	Torque Increase	0.0%:(automatic torque increase) 0.1%~30.0%	Determined based on the model	☆
P3-02	Torque boost cut-off frequency	0.000Hz~max. frequency	50.00Hz	★
P3-03	Multi-point frequency point 1 V/F	0.00Hz~P3-05	0.00Hz	★
P3-04	Multi-point voltage point 1 V/F	0.0%~100.0%	0.0%	★
P3-05	Multi-point frequency point 2 V/F	P3-03~P3-07	0.00Hz	★
P3-06	Multi-point voltage point 2 V/F	0.0%~100.0%	0.0%	★
P3-07	Multi-point frequency point 3 V/F	P3-05~motor rated frequency (P1-04)	0.00Hz	★
P3-08	Multi-point voltage point 3 V/F	0.0%~100.0%	0.0%	★
P3-09	V/F Differential Compensation Gain	0.0%~200.0%	80.0%	☆
P3-10	V/F overexcitation gain	0~200	64	☆
P3-11	V/F oscillation suppression gain	0~100	Determined based on the model	☆
P3-13	V/F separated voltage source	0: Digital setting (P3- 14) 1: AI1 2: AI2 3: AI3 4: PULSE pulse setting (DI5) 5: Multi-segment instructions 6: Simple PLC 7: PID 8: Communication given Note: 100.0% corresponds to the rated voltage of the motor.	0	☆
P3-14	Digital setting of the voltage for V/F separation	0V~Motor Rated Voltage	0V	☆
P3-15	Voltage rise time for V/F separation	0.0s~1000.0s Note: Indicates the time for 0V to change to the rated voltage of the motor.	0.0s	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
P3-16	Voltage deceleration time for V/F separation	0.0s~1000.0s Note: Indicates the time for 0V to change to the rated voltage of the motor.	0.0s	☆
P3-17	V/F split stop mode	0: Frequency/voltage independently reduced to 0 1: Frequency decreases after voltage decreases to 0	0	☆
P3-18	Divergence compensation time constant	0.1s~10.00s	0.50s	☆
P3-19	Online torque compensation gain	80%~150%	100%	☆
P3-29	Auto Frequency-up Enable	0: Not enabled 1: Enable	0	★
P3-30	Minimum electric torque current	10~100	50	☆
P3-31	Maximum generating torque current	10~100	20	☆
P3-32	Automatic frequency-up KP	0~100	50	☆
P3-33	Auto frequency-up KI	0~100	50	☆
Group P4 Input terminals				
P4-00	DI1 terminal function selection	0: No function 1: Forward to run FWD or run command 2: Reverse run REV or forward and reverse run direction (Note: When set to 1 or 2, it needs to be used in conjunction with P4-11, please refer to Function Code Parameter Description for details.) 3: Three-wire operation control 4: Forward Jog (FJOG) 5: Reverse Jog (RJOG) 6: Terminal UP 7: Terminal DOWN 8: free stop 9: Fault reset (RESET) 10: Operation pause 11: External fault normal open input 12: Multi-segment command terminal 1 13: Multi-segment command terminal 2 14: Multi-segment command terminal 3 15: Multi-segment command terminal 4 16: Acceleration and deceleration time selection terminal 1	1	★
P4-01	DI2 terminal function selection		2	★
P4-02	DI3 terminal function selection		9	★
P4-03	DI4 terminal function selection		12	★
P4-04	DI5 terminal function selection		13	★
P4-05	DI6 terminal function selection		0	★
P4-06	DI7 terminal function selection		0	★
P4-07	DI8 terminal function selection		0	★
P4-08	DI9 terminal function selection		0	★
P4-09	DI10 terminal function selection		0	★

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
		17: Acceleration and deceleration time selection terminal 2 18: Frequency source switching 19: UP/DOWN Setting clear (terminal, keypad) 20: Control command switching terminal 1 21: Acceleration and deceleration disabled 22: PID pause 23: PLC status reset 24: Swing frequency pause 25: Counter input 26: Counter Reset 27: Length Count Inputs 28: Length reset 29: Torque control disabled 30: PULSE frequency input (valid only for DI5) 31: Reserved 32: Immediate DC braking 33: External Fault Normally Closed Input 34: Frequency Modify Enable 35: PID acting direction reversed 36: External stop terminal 1 37: Control command switching terminal 2 38: PID integral pause 39: Frequency source X and preset frequency switching 40: Frequency source Y and preset frequency switching 41: Motor selection terminal 1 42: Motor selection terminal 2 43: PID parameter switching 44: User-defined fault 1 45: User-defined faults 2 46: Speed control/torque control switching 47: Emergency stop 48: External stop terminal 2 49: Deceleration DC brake 50: Zeroing of the current run time 51: Two-wire/three-wire switching 52-59: Reservations		
P4-10	DI digital input terminal Filter time	0.000s~1.000s	0.010s	☆
P4-11	Terminal command method	0: two-form 1 1: 2-wire 2 2: Trinity 1 3: 3-wire 2	0	★
P4-12	Terminal UP/DOWN Rate of Change	0.001Hz/s~65.535Hz/s	1.00Hz/s	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
P4-13	Analog input1 Minimum input	0.00V~P4-15	0.00V	☆
P4-14	Analog input 1 Minimum input setting	-100.0%~+100.0%	0.0%	☆
P4-15	Analog input1 Maximum input	P4-13~+10.00V	10.00V	☆
P4-16	Analog Input 1 Maximum Input Correspondence Setting	-100.0%~+100.0%	100.0%	☆
P4-17	AI1 filter time	0.00s~10.00s	0.10s	☆
P4-18	Analog input 2 Minimum input	0.00V~P4-20	0.00V	☆
P4-19	Analog input 2 Minimum input setting	-100.0%~+100.0%	0.0%	☆
P4-20	Analog input 2 Maximum input	P4-18~+10.00V	10.00V	☆
P4-21	Analog Input 2 Maximum Input Correspondence Setting	-100.0%~+100.0%	100.0%	☆
P4-22	AI2 filter time	0.00s~10.00s	0.10s	☆
P4-23	Analog input 3 Minimum input	-10.00V~P4-25	0.5V	☆
P4-24	Analog input 3 Minimum input setting	-100.0%~+100.0%	0.0%	☆
P4-25	Analog input 3 Maximum input	P4-23~+10.00V	6.6V	☆
P4-26	Analog Input 3 Maximum Input Correspondence Setting	-100.0%~+100.0%	100.0%	☆
P4-27	AI3 filter time	0.00s~10.00s	0.50s	☆
P4-28	PULSE Minimum Input	0.00kHz~P4-30	0.00kHz	☆
P4-29	PULSE Minimum Input Correspondence Setting	-100.0%~100.0%	0.0%	☆
P4-30	PULSE Maximum Input	P4-28~100.00kHz	50.00kHz	☆
P4-31	PULSE Maximum Input Setting	-100.0%~100.0%	100.0%	☆
P4-32	PULSE Filter Time	0.00s~10.00s	0.002s	☆
P4-33	Analog input curve selection	Digit: AI1 curve selection 1: Curve 1 (2 points, see P4-13 to P4-16)	321	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
		2: Curve 2 (2 points, see P4-18 to P4-21) 3: Curve 3 (2 points, see P4-23~P4-26) 4: Curve 4 (4 points, see H6-00~H6-07) 5: Curve 5 (4 points, see H6-08 to H6-15) Tens place: AI2 curve selection, same as above Hundred: AI3 curve selection, ditto		
P4-34	Analog input below minimum input setting selection	Bit: AI1 below minimum input setting selection 0: Corresponds to the minimum input setting 1:0.0% Tens place: AI2 below minimum input setting selection, as above Hundreds place: AI3 below minimum input setting selection, as above	000	☆
P4-35	DI1 delay time	0.0s~3600.0s	0.0s	★
P4-36	DI2 delay time	0.0s~3600.0s	0.0s	★
P4-37	DI3 delay time	0.0s~3600.0s	0.0s	★
P4-38	DI digital input terminal valid mode selection 1	0: active high 1: Active low Ones place: DI1 Tens place: DI2 Hundreds place: DI3 Thousands place: DI4 Ten-thousands place: DI 5	00000	★
P4-39	DI Digital Input Terminal Valid Mode Selection 2	0: active high 1: Active low Ones place: DI6 Tens place: DI7 Hundredth: DI8 Thousands place: DI9 Ten-thousands place: DI10	00000	★
Group P5 Output terminals				
P5-00	FM and AO2 terminal output mode selection	Ones place: FM terminal function selection 0: Pulse output 1: Switching output (TA2-TB2-TC2) Tens place: AO2 terminal function selection 0: Analog output 1: Switching output (TA3-TB3-TC3)	11	☆
P5-01	Relay output function selection	0: No output 1: Inverter in operation	0	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
	(TA2-TB2-TC2)	2: Fault output (fault for free stop)		
P5-02	Control Board Relay Function Selection (TA1-TB1-TC1)	3: Frequency level detection FDT1 output	2	☆
P5-03	Relay output function selection (TA3-TB3-TC3)	4: Frequency arrival 5: In zero-speed operation (no output at shutdown)	0	☆
P5-04	DO1 output function selection	6: Motor overload pre-warning 7: Inverter overload pre-warning 8: Arrival of set notation value 9: Arrival of specified notation value	1	☆
P5-05	Expansion card DO2 output selection	10: Length reached 11: PLC cycle complete 12: Cumulative runtime reached 13: Frequency limited 14: Torque limit in progress 15: Ready for operation 16: AI1>AI2 17: Upper limit frequency reached 18: Lower frequency limit reached (operationally relevant) 19: Undervoltage status output 20: Communication setting 21: Positioning complete (reserved) 22: Positioning close (reserved) 23: In zero-speed operation 2 (also output during shutdown) 24: Cumulative power-up time reached 25: Frequency level detection FDT2 output 26: Frequency 1 arrival output 27: Frequency 2 arrival output 28: Current 1 arrival output 29: Current 2 arrival output 30: Timing arrival output 31: AI1 input overrun 32: Dropout in progress 33: In reverse operation 34: Zero current state 35: Module temperature reached 36: Output current overrun 37: Lower frequency limit reached (output even when stopped) 38: Alarm output (all faults) 39: Motor overtemperature pre-warning 40: Arrival of the current running time 41: Non-undervoltage fault output (free stop fault) 45: Holding brake output	4	☆
P5-06	FMP output function selection	0: Operating frequency 1: Setting frequency	0	☆
P5-07	AO1 Output function selection	2: Output current (100.0% corresponds to 2 times the rated motor current)	0	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
P5-08	AO2 Output function selection	3: Output torque (absolute value of torque) 4: Output power 5: Output voltage 6: PULSE input (100.0% corresponds to 100.0kHz) 7: AI1 8: AI2 9: AI3 (expansion card) 10: Length 11: Memory value 12: Communication setting 13: Motor speed 14: Output current (100.0% corresponds to 1000.0A) 15: Output voltage (100.0% corresponds to 1000.0V) 16: Output torque (actual value of torque)	1	☆
P5-09	FMP Output Maximum Frequency	0.01kHz~100.00kHz	50.00kHz	☆
P5-10	AO1 Zero bias factor	-100.0%~+100.0%	0.0%	☆
P5-11	AO1 Gain	-10.00~+10.00	1.00	☆
P5-12	AO2 zero bias factor	-100.0%~+100.0%	0.0%	☆
P5-13	AO2 gain	-10.00~+10.00	1.00	☆
P5-17	PMR output delay time	0.0s~3600.0s	0.0s	☆
P5-18	TA1-TB1-TC1 Output Delay Time	0.0s~3600.0s	0.0s	☆
P5-19	TA2-TB2-TC2 Output Delay Time	0.0s~3600.0s	0.0s	☆
P5-20	DO1 output delay time	0.0s~3600.0s	0.0s	☆
P5-21	DO2 output delay time	0.0s~3600.0s	0.0s	☆
P5-22	DO output terminal valid state selection	0: positive logic 1: negative logic Ones place: FMR Tens place: TA1-TB1-TC1 Hundreds place: TA3-TB3-TC3 Thousands place: DO1 (TA2-TB2-TC2) Ten Thousands place: DO2	00000	☆
P5-24	FMR delayed shutdown time	0.0s~3600.0s	0.0s	☆
P5-25	TA1-TB1-TC1 delayed shutdown time	0.0s~3600.0s	0.0s	☆
P5-26	TA2-TB2-TC2 delayed shutdown	0.0s~3600.0s	0.0s	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
	time			
P5-27	DO1 delayed shutdown time	0.0s~3600.0s	0.0s	☆
P5-28	DO2 delayed shutdown time	0.0s~3600.0s	0.0s	☆
Group P6 Start-stop control				
P6-00	Activation method	0: Direct start 1: Speed tracking restart 2: Pre-excitation start	0	☆
P6-01	Rotation speed tracking method	0: Starting from the stop frequency 1: From zero speed 2: Starting from the maximum frequency 3: Current frequency start, V/F control active	0	★
P6-02	RPM tracking fast and slow	1~100	20	☆
P6-03	Start-up frequency	0.00Hz~10.00Hz	0.00Hz	☆
P6-04	Start-up frequency hold time	0.0s~100.0s	0.0s	★
P6-05	Starting DC braking current/ Pre-excitation current	0%~100%	0%	★
P6-06	Start DC braking time/ Pre-excitation time	0.0s~100.0s	0.0s	★
P6-07	Acceleration and deceleration mode	0: Linear acceleration and deceleration 1: S-curve acceleration/deceleration A 2: S-curve acceleration/deceleration B	0	★
P6-08	Proportion of time at the beginning of the S-curve	0.0%~(100.0%-P6-09)	30.0%	★
P6-09	Proportion of time at the end of the S-curve	0.0%~(100.0%-P6-08)	30.0%	★
P6-10	Shutdown mode	0: Decelerate and stop 1: Free stop	0	☆
P6-11	Stopping DC braking start frequency	0.00Hz~Maximum Frequency	0.00Hz	☆
P6-12	Shutdown DC braking wait time	0.0s~100.0s	0.0s	☆
P6-13	Stopping DC braking current	0%~180%	0%	☆
P6-14	Stopping DC braking time	0.0s~100.0s	0.0s	☆
P6-15	Brake utilization rate	0%~100%	100%	☆
P6-16	Brake resistor voltage switch-on point	200.0~2000.0V	Determined based on	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
			the model	
P6-18	Speed tracking current size	30%~200%	Determined based on the model	★
P6-19	Speed tracking closed loop current KP	10~1000	500	★
P6-20	Speed tracking closed loop current KI	5~1000	800	★
P6-21	Speed tracking voltage rise time	0~3.0	1.0	★
P6-22	Demagnetisation time	0~5.00	1.00	★
Group P7 Keyboard and Display				
P7-00	Knob FM resolution selection	0: 0.01Hz 1: 0.1Hz 2: 1Hz 3: 10Hz	2	•
P7-01	JOG/QUICK key function selection	0: Menu mode switching 1: Switching between operating panel command channel and remote command channel (terminal command channel or communication command channel) 2: Forward and reverse switching 3: Positive rotation 4: Inverted point movement	3	★
P7-02	STOP/RESET key function	0: Only in keypad operation, the STOP/RESET key stops the machine. 1: STOP/ RESET key stop function is active in all operation modes.	1	☆
P7-03	LED operating display parameter 1	0000~FFFF Bit00: Operation frequency (Hz) Bit01: Setting frequency (Hz) Bit02: Bus voltage (V) Bit03: Output voltage (V) Bit04: Output current (A) Bit05: Output power (kW) Bit06: Output torque (%) Bit07: DI input state Bit08: DO output state Bit09: AI1 voltage (V) Bit10: AI2 voltage (V) Bit11: AI3 voltage (V) Bit12: Count value Bit11: AI3 voltage (V) Bit12: Count value Bit13: Length value Bit14: Load speed display	1F	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
		Bit15: PID setting		
P7-04	LED operating display parameter 2	0000~FFFF Bit00: PID feedback Bit01: PLC stage Bit02: PULSE Input pulse frequency (kHz) Bit03: Operating frequency 2 (Hz) Bit04: Remaining operating time Bit05: AI1 voltage before correction (V) Bit06: AI2 voltage before correction (V) Bit07: Voltage before AI3 correction (V) Bit08: Line speed Bit09: Current power-on time (Hour) Bit10: Current running time (Min) Bit11: PULSE Input pulse frequency (Hz) Bit12: Communication set value Bit13: Encoder feedback speed (Hz) Bit14: Main Frequency X Display (Hz) Bit15: Auxiliary frequency Y display (Hz)	0	☆
P7-05	LED stop display parameters	0000~FFFF Bit00: Setting frequency (Hz) Bit01: Bus voltage (V) Bit02: I input status Bit03: DO output status Bit04: AI1 voltage (V) Bit05: AI2 voltage (V) Bit06: AI3 voltage (V) Bit07: Count value Bit08: Length value Bit09: PLC segment Bit10: Load speed Bit11: PID setting Bit12: PULSE input pulse frequency (kHz)	33	☆
P7-06	Load Speed Display Factor	0.0001~6.5000	1.0000	☆
P7-07	Inverter module heat sink temperature	0.0°C~100.0°C	-	●
P7-08	Cumulative running time (non-resettable)	0h~65535h	-	●
P7-09	Cumulative running time	0h~65535h	-	●
P7-10	Product number	-	-	●
P7-11	Software version number	-	-	●

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
P7-12	Load Speed Display Decimal Digits	20: 0 decimal places 21: 1 decimal place 22: 2 decimal places 23: 3 decimal places	21	☆
P7-13	Cumulative power-up time	0h~65535h	-	●
P7-14	Cumulative power consumption	0kW~65535 degrees	-	●
P7-17	The second row of LEDs displays the parameters	0-16 0: Operating frequency (Hz) 1: Setting frequency (Hz) 2: Bus voltage (V) 3: Output voltage (V) 4: Output current (A) 5: Output power (KW) 6: Output torque (%) 7: DI digital input terminal input status 8: DO output status 9: AI1 voltage (V) 10: AI2 voltage (V) 11: AI3 voltage (V) 12: Count value 13: Length value 14: Load speed display 15: PID setting 16: PID feedback	4	☆
P7-18	UP/DOWN Effective Variable Display Selection	0: Setting variable 1: Current variables UP/DOWN modification is whether the current display variable is switched to the set variable function.	0	☆
Group P8 Auxiliary function parameters				
P8-00	Jog operation frequency	0.00Hz to maximum frequency	2.00Hz	☆
P8-01	Jog acceleration time	0.0s~6500.0s	20.0s	☆
P8-02	Jog deceleration time	0.0s~6500.0s	20.0s	☆
P8-03	Acceleration time 2	0.0s~6500.0s	Determined based on the model	☆
P8-04	Deceleration time 2	0.0s~6500.0s	Determined based on the model	☆
P8-05	Acceleration time 3	0.0s~6500.0s	Determined based on	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
			the model	
P8-06	Deceleration time 3	0.0s~6500.0s	Determined based on the model	☆
P8-07	Acceleration time 4	0.0s~6500.0s	Determined based on the model	☆
P8-08	Deceleration time 4	0.0s~6500.0s	Determined based on the model	☆
P8-09	Jump Frequency 1	0.00Hz to maximum frequency	0.00Hz	☆
P8-10	Jump Frequency 2	0.00Hz to maximum frequency	0.00Hz	☆
P8-11	Hopping frequency amplitude	0.00Hz~Maximum Frequency	0.00Hz	☆
P8-12	Forward and reverse dead time	0.0s~3000.0s	0.0s	☆
P8-13	Reverse Control Enable	0: Permitted 1: Prohibition	0	☆
P8-14	Set frequency below lower limit frequency operation mode	0: Operate at the lower frequency limit 1: Shutdown 2: Zero speed operation	0	☆
P8-15	Sag control	0.00Hz~10.00Hz	0.00Hz	☆
P8-16	Setting the cumulative power-up arrival time	0h~65000h	0h	☆
P8-17	Setting the cumulative running arrival time	0h~65000h	0h	☆
P8-18	Startup Protection Selection	0: No protection 1: Protection	0	☆
P8-19	Frequency detection value (FDT1)	0.00Hz~Maximum Frequency	50.00Hz	☆
P8-20	Frequency Detection Lag (FDT1)	0.0%~100.0% (FDT1 level)	5.0%	☆
P8-21	Frequency Reach Detection Width	0.0%~100.0% (maximum frequency)	0.0%	☆
P8-22	Jumps during acceleration and deceleration Are the frequencies valid?	0: not valid 1: valid	0	☆
P8-25	Frequency point for switching between acceleration time 1 and acceleration time	0.00Hz~Maximum Frequency	0.00Hz	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
	2			
P8-26	Deceleration time 1 and deceleration time 2 switching frequency points	0.000Hz~max. frequency	0.00Hz	☆
P8-27	Terminal jog priority	0: Invalid 1: Effective 2: Entering deceleration and stopping state after jog is invalid during operation	0	☆
P8-28	Frequency Detection Value (FDT2)	0.00Hz~Maximum Frequency	50.00Hz	☆
P8-29	Frequency detection lag	0.0%~100.0% (FDT2 level)	5.0%	☆
P8-30	Any arrival frequency detection value1	0.00Hz~max. frequency	50.00Hz	☆
P8-31	Arbitrary arrival frequency detection width1	0.0%~100.0% (max. frequency)	0.0%	☆
P8-32	Any Arrival Frequency Detection Value 2	0.000Hz~max. frequency	50.00Hz	☆
P8-33	Arbitrary arrival frequency detection width 2	0.0%~100.0% (max. frequency)	0.0%	☆
P8-34	Zero current detection level	0.0%~300.0% 100.0% corresponds to rated motor current	5.0%	☆
P8-35	Zero current detection delay time	0.01s~600.00s	0.10s	☆
P8-36	Output current overrun	0.0% (non-detectable) 0.1% 300.0% (motor rated current)	200.0%	☆
P8-37	Output current overrun detection delay time	0.00s~600.00s	0.00s	☆
P8-38	Arbitrary arrival current 1	0.0%~300.0% (motor rated current)	100.0%	☆
P8-39	Arbitrary arrival current 1 width	0.0%~300.0% (motor rated current)	0.0%	☆
P8-40	Arbitrary arrival current 2	0.0%~300.0% (motor rated current)	100.0%	☆
P8-41	Arbitrary arrival current2 width	0.0%~300.0% (motor rated current)	0.0%	☆
P8-42	Timer function selection	0: Invalid 1: Valid	0	☆
P8-43	Timed runtime selection	0: P8-44 setting 1: AI1 2: AI2 3: AI3 (Analog input range 10V corresponds to P8-44)	0	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
P8-44	Timed Runtime	0.0Min~6500.0Min	0.0Min	☆
P8-45	AI1 Input voltage protection value lower limit	0.00V~P8-46	3.10V	☆
P8-46	AI1 Input voltage protection value upper limit	P8-45~10.00V	6.80V	☆
P8-47	Module temperature reaches	0°C~100°C	75°C	☆
P8-48	Cooling Fan Control	0: Fan runs during operation 1: The fan is running continuously, when the temperature exceeds 40°C, the fan will continue to run in the shutdown state.	0	☆
P8-52	Busbar voltage display correction factor	0-150%	100%	☆
P8-53	Arrival time setting for this run	0.0Min~6500.0Min	0.0Min	☆
Group P9 Fault and Protection				
P9-00	Motor overload protection options	0: Prohibited 1: Permitted	1	☆
P9-01	Motor overload protection gain	0.20~10.00	1.00	☆
P9-02	Motor overload warning factor	50%~100%	80%	☆
P9-03	Overvoltage stall gain	0~100	30	☆
P9-04	Overvoltage stall protection voltage	200~2000	760	☆
P9-05	Overcurrent stall gain	0~100	20	☆
P9-06	Overcurrent stall protection current	50%~200%	150%	☆
P9-07	Powerup to ground short circuit protection selection	Single bit: Power-on short circuit to ground detection 0: Invalid 1: Valid Tens place: short circuit to ground detection before operation 0: Invalid 1: Valid	11	☆
P9-08	V/F Weak Magnetic Zone Current Multiplier Limiting Factor	50%~300%	200%	☆
P9-09	Failure auto reset times	0~20	0	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
P9-10	During automatic fault reset Fault DO action selection	0: No action 1: Action	0	☆
P9-11	Fault auto reset interval	0.1s~100.0s	1.0s	☆
P9-12	Input phase loss/contacter suction protection selection	Bit: Input phase loss protection selection 0: Prohibited 1: Allowed Tens place: Contactor suction protection selection 0: Prohibited 1: Allowed	11	☆
P9-13	Output out-of-phase protection selection	0: Prohibited 1: Allowed	1	☆
P9-14	Type of first failure	0: No fault 1: Reserved 2: Acceleration overcurrent 3: Deceleration overcurrent 4: Constant speed overcurrent 5: Acceleration overvoltage 6: Deceleration overvoltage 7: Constant speed overvoltage 8: Buffer resistor overload 9: Undervoltage 10: Inverter 11: Motor overload 12: Input phase loss 13: Output phase loss 14: Module overheating 15: External fault 16: Communication anomalies 17: Contactor Abnormal 18: Current Detection Abnormal 19: Motor tuning abnormality 20: Encoder/PG card abnormality 21: Parameter reading/writing abnormality 22: Inverter hardware abnormality 23: Motor shorted to ground 24: Reserved 25: Reserved 26: Runtime reached 27: User-defined fault 1 28: User-defined fault 2 29: Power-up time reached 30: Load shedding 31: Loss of PID feedback during operation 40: Fast current limit timeout 41: Switching motor during operation 42: Excessive speed deviation 43: Motor overspeed	-	●
P9-15	Second failure type		-	●
P9-16	Third (most recent) Type of fault		-	●

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
		45: Motor overtemperature 51: Initial position error		
P9-17	Frequency at third (most recent) failure	-	-	•
P9-18	Current at third (latest) failure	-	-	•
P9-19	Busbar voltage at third (latest) fault	-	-	•
P9-20	Input Terminal Status at Third (Latest) Failure	-	-	•
P9-21	Output Terminal Status at Third (Latest) Failure	-	-	•
P9-22	Inverter status at third (most recent) failure	-	-	•
P9-23	Power-up time at third (most recent) failure	-	-	•
P9-24	Runtime at third (most recent) failure	-	-	•
P9-27	Frequency at second failure	-	-	•
P9-28	Current at second fault	-	-	•
P9-29	Busbar voltage at second fault	-	-	•
P9-30	Input terminal status at second fault	-	-	•
P9-31	Output terminal status at second fault	-	-	•
P9-32	Inverter status at second fault	-	-	•
P9-33	Power-up time at second failure	-	-	•
P9-34	Running time at second failure	-	-	•
P9-37	Frequency at first failure	-	-	•

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
P9-38	Current at first fault	-	-	●
P9-39	Busbar voltage at first fault	-	-	●
P9-40	Input terminal status at first fault	-	-	●
P9-41	Output terminal status at first fault	-	-	●
P9-42	Inverter status at first fault	-	-	●
P9-43	Power-up time at first failure	-	-	●
P9-44	Running time at first failure	-	-	●
P9-47	Fail-safe selection 1	action Position: Motor overload (11) 0: Free stop 1: Shutdown by stopping mode 2: Continue to run Tens place: Input out of phase (12) Hundreds place: Output out of phase (13) Thousands place: External faults (15) Ten-thousands place: Communication anomalies (16)	00000	☆
P9-48	Fail-safe selection 2	action Ones place: Encoder/PG card exception (20) 0: Free stop 1: Shutdown by stopping mode 2: Continue to run Tens place: Function code read/write abnormality (21) Hundreds place: reserved Thousands place: Motor overheating (25) Ten-thousands place: Running time arrival (26)	00000	☆
P9-49	Fail-safe selection 3	action Ones place: user-defined fault 1 (27) 0: Free stop 1: Shutdown by stopping mode 2: Continue to run Tens place: User-defined fault 2 (28) Hundreds place: power-up time arrives (29) Thousands place: no-load operation (30) 0: Free stop 1: Decelerate and stop 2: Reduce the speed to 7% of the rated frequency of the motor and continue	00000	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
		running. If there is no no-load operation, it will automatically return to the set frequency for operation Ten-thousands place: Loss of PID feedback during operation (31) 0: Free stop 1: Shutdown by stopping mode 2: Continue to run		
P9-50	Fail-safe selection 4 action	Ones place: excessive speed deviation (42) 0: Free stop 1: Shutdown by stopping mode 2: Continue to run Tens place: Motor overspeed (43) Hundreds place: Initial position error (51)	00000	☆
P9-54	Frequency selection for continued operation in case of failure	0: Running at the current operating frequency 1: Operation at set frequency 2: Operation at upper frequency limit 3: Operating at the lower frequency limit 4: Operation at abnormal standby frequency	0	☆
P9-55	Abnormal Standby Frequency	00.0%~100.0% (100.0% corresponds to maximum frequency P0-10)	100.0%	☆
P9-56	Motor Temperature Sensor Type	0: No temperature sensor 1: PT100 2: PT1000	0	☆
P9-57	Motor overheating protection threshold	0℃~200℃	110℃	☆
P9-58	Motor overheating pre-warning threshold	0℃~200℃	90℃	☆
P9-59	Instantaneous blackout action selection	0: Invalid 1: Decelerate 2: Decelerate and stop	0	☆
P9-60	Instantaneous stop action pause judgement voltage	80.0%~100.0%	85.0%	☆
P9-61	Instantaneous outage voltage recovery judgement time	0.00s~100.00s	0.50s	☆
P9-62	Instantaneous blackout action judgement voltage	60.0%~100.0% (standard bus voltage)	80.0%	☆
P9-63	Load shedding protection options	0: Invalid 1: Valid	0	☆
P9-64	Dropout detection level	0.0~100.0%	10.0%	☆
P9-65	Load Drop Detection	0.0~60.0s	1.0s	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
	Time			
P9-67	Over speed detection value	0.0% to 50.0% (max. frequency)	20.0%	☆
P9-68	Over-speed detection time	0.0s~60.0s	1.0s	☆
P9-69	Excessive speed deviation detection value	0.0%~50.0% (max. frequency)	20.0%	☆
P9-70	Excessive speed deviation detection Time	0.0s~60.0s	5.0s	☆
P9-74	V/F overvoltage suppression rise frequency	5Hz~50Hz	5Hz	☆
P9-75	Initial position fault enable	Ones place: initial position fault 0: Off 1: Enable Tens place: angular tuning fault with load zero position 0: Off 1: Enable	11	☆ (E)
P9-78	Initial position identification initial pulse width time	5~2000	20	☆ (E)
Group PA PID function				
PA-00	PID given source	0: PA-01 setting 1: AI1 2: AI2 3: AI3 4: PULSE Pulse Setting (DI5) 5: Communication Giving 6: Multi-segment command feed 7: Keyboard encoder	0	☆
PA-01	PID value given	0.0%~100.0%	50.0%	☆
PA-02	PID Feedback Source	0: AI1 1: AI2 2: AI3 3: AI1-AI2 4: PULSE pulse setting (DI5) 5: Communication setting 6: AI1+AI2 7: MAX (AI1 , AI2) 8: MIN (AI1 , AI2)	0	☆
PA-03	Direction of PID action	0: positive 1: negative	0	☆
PA-04	PID feedback range	0~65535	1000	☆
PA-05	Proportional gain Kp1	0.0~100.0	20.0	☆
PA-06	Integration time T11	0.01s~10.00s	2.00s	☆
PA-07	Differential time Td1	0.000s~10.000s	0.000s	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
PA-08	PID inversion cut-off frequency	0.00~Maximum Frequency	0.00Hz	☆
PA-09	PID Deviation Limit	0.0%~100.0%	0.0%	☆
PA-10	PID differential limiting	0.00%~100.00%	0.10%	☆
PA-11	PID given change time	0.00~650.00s	0.00s	☆
PA-12	PID feedback filtering time	0.00~60.00s	0.00s	☆
PA-13	PID output filter time	0.00~60.00s	0.00s	☆
PA-14	Number of decimal places for pressure setting and feedback	1: 1 bit 2: 2 bits	1	☆
PA-15	Proportional gain Kp2	0.0~100.0	20.0	☆
PA-16	Integration time Ti2	0.01s~10.00s	2.00s	☆
PA-17	Differential time Td2	0.000s~10.000s	0.000s	☆
PA-18	PID parameter switching conditions	0: No switching 1: Switching via DI terminal 2: Automatic switching according to deviation	0	☆
PA-19	PID parameter switching deviation1	0.0%~PA-20	20.0%	☆
PA-20	PID parameter switching deviation2	PA-19~100.0%	80.0%	☆
PA-21	PID initial value	0.0%~100.0%	0.0%	☆
PA-22	PID initial value holding time	0.00~650.00s	0.00s	☆
PA-23	Deviation of the two outputs towards the maximum value	0.00%~100.00%	1.00%	☆
PA-24	Two output deviation inverse max.	0.00%~100.00%	1.00%	☆
PA-25	PID Integral Properties	Individual: Integral separation 0: Invalid 1: Valid Tens place: whether to stop integrating after the output reaches the limit value 0: Continue to count 1: Stop counting	00	☆
PA-26	PID feedback loss detection value	0.0%: no judgement feedback loss 0.1%~100.0%	0.0%	☆
PA-27	PID feedback loss detection time	0.0s~20.0s	0.0s	☆
PA-28	PID stopping operation	0: No operation during shutdown 1: Operation during shutdown	0	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
PA-29	PID Sampling Time	0~10	1	☆
PA-30	PID feed-forward compensation gain	0~5000	0	☆
PA-31	PID feed-forward compensation lower limit frequency	0.00Hz~P0-10 (max. frequency)	5.00Hz	☆
PA-32	PID power-up delay disconnection detection time	0.0s~200.0s	8.0s	☆
PA-33	Frequency of stop holding brake operation	0.00Hz~P0-12 (upper limit frequency)	1.50Hz	☆
PA-34	Holding brake action delay time s	0.0s~200.0s	5.0s	☆
Group Pb Swing frequency, fixed length and counting				
Pb-00	Oscillation Frequency Setting Method	0: Relative to the centre frequency 1: Relative to the maximum frequency	0	☆
Pb-01	Swing amplitude	0.0%~100.0%	0.0%	☆
Pb-02	Burst frequency amplitude	0.0%~50.0%	0.0%	☆
Pb-03	Oscillation period	0.1s~3000.0s	10.0s	☆
Pb-04	Triangular wave rise of the swing frequency Time	0.1%~100.0%	50.0%	☆
Pb-05	Setting length	0m~65535m	1000m	☆
Pb-06	Actual length	0m~65535m	0m	☆
Pb-07	Pulses per metre	0.1~6553.5	100.0	☆
Pb-08	Setting the count value	1~65535	1000	☆
Pb-09	Specify count value	1~65535	1000	☆
Group PC Multi-segment instruction, simple PLC				
PC-00	Multi-segment instruction 0	-100.0%~100.0%	0.0%	☆
PC-01	Multi-segment instruction 1	-100.0%~100.0%	0.0%	☆
PC-02	Multi-segment instruction 2	-100.0%~100.0%	0.0%	☆
PC-03	Multi-segment instruction 3	-100.0%~100.0%	0.0%	☆
PC-04	Multi-segment instruction 4	-100.0%~100.0%	0.0%	☆
PC-05	Multi-segment instruction 5	-100.0%~100.0%	0.0%	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
PC-06	Multi-segment instruction 6	-100.0%~100.0%	0.0%	☆
PC-07	Multi-segment instruction 7	-100.0%~100.0%	0.0%	☆
PC-08	Multi-segment instruction 8	-100.0%~100.0%	0.0%	☆
PC-09	Multi-segment instruction 9	-100.0%~100.0%	0.0%	☆
PC-10	Multi-segment instruction 10	-100.0%~100.0%	0.0%	☆
PC-11	Multi-segment instruction 11	-100.0%~100.0%	0.0%	☆
PC-12	Multi-segment instruction 12	-100.0%~100.0%	0.0%	☆
PC-13	Multi-segment instruction 13	-100.0%~100.0%	0.0%	☆
PC-14	Multi-segment instruction 14	-100.0%~100.0%	0.0%	☆
PC-15	Multi-segment instruction 15	-100.0%~100.0%	0.0%	☆
PC-16	Simple PLC operation method	0: Shutdown at the end of a single run 1: End of single run holds final value 2: Continuous loop	0	☆
PC-17	Simple PLC Power-down Memory Selection	Bit: Power-down memory selection 0: No memory for power down 1: Memory for power down Tens place: Stop memory selection 0: No shutdown memory 1: Shutdown memory	00	☆
PC-18	Simple PLC segment 0th runtime	0.0s (h)~6553.5s (h)	0.0s (h)	☆
PC-19	Simple PLC 0th Acceleration and Deceleration Time Selection	0~3	0	☆
PC-20	Simple PLC 1st runtime	0.0s (h)~6553.5s (h)	0.0s (h)	☆
PC-21	Simple PLC 1st Acceleration/Deceleration Time Selection	0~3	0	☆
PC-22	Simple PLC 2nd stage operation	0.0s (h)~6553.5s (h)	0.0s (h)	☆
PC-23	Simple PLC 2nd stage acceleration/deceleration time selection	0~3	0	☆
PC-24	Simple PLC segment 3rd run time	0.0s (h)~6553.5s (h)	0.0s (h)	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
PC-25	Simple PLC 3rd stage acceleration/deceleration time selection	0~3	0	☆
PC-26	Simple PLC segment 4th runtime	0.0s (h)~6553.5s (h)	0.0s (h)	☆
PC-27	Simple PLC 4th stage acceleration/deceleration time selection	0~3	0	☆
PC-28	Simple PLC segment 5th runtime	0.0s (h)~6553.5s (h)	0.0s (h)	☆
PC-29	Simple PLC 5th Acceleration/Deceleration Time Selection	0~3	0	☆
PC-30	Simple PLC segment 6th runtime	0.0s (h)~6553.5s (h)	0.0s (h)	☆
PC-31	Simple PLC 6th Acceleration/Deceleration Time Selection	0~3	0	☆
PC-32	Simple PLC segment 7th runtime	0.0s (h)~6553.5s (h)	0.0s (h)	☆
PC-33	Simple PLC 7th Acceleration/Deceleration Time Selection	0~3	0	☆
PC-34	Simple PLC segment 8th runtime	0.0s (h)~6553.5s (h)	0.0s (h)	☆
PC-35	Simple PLC Segment 8th Acceleration and Deceleration Time Selection	0~3	0	☆
PC-36	Simple PLC segment 9th runtime	0.0s (h)~6553.5s (h)	0.0s (h)	☆
PC-37	Simple PLC Segment 9th Acceleration and Deceleration Time Selection	0~3	0	☆
PC-38	Simple PLC 10th runtime	0.0s (h)~6553.5s (h)	0.0s (h)	☆
PC-39	Simple PLC 10th Acceleration/Deceleration Time Selection	0~3	0	☆
PC-40	Simple PLC 11th runtime	0.0s (h)~6553.5s (h)	0.0s (h)	☆
PC-41	Simple PLC 11th Acceleration/Deceleration Time Selection	0~3	0	☆
PC-42	Simple PLC 12th runtime	0.0s (h)~6553.5s (h)	0.0s (h)	☆
PC-43	Simple PLC 12th Acceleration/Decelera	0~3	0	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
	tion Time Selection			
PC-44	Simple PLC 13th runtime	0.0s (h)~6553.5s (h)	0.0s (h)	☆
PC-45	Simple PLC 13 Acceleration and Deceleration Selection Time	0~3	0	☆
PC-46	Simple PLC 14th runtime	0.0s (h)~6553.5s (h)	0.0s (h)	☆
PC-47	Simple PLC 14th Acceleration/Deceleration Time Selection	0~3	0	☆
PC-48	Simple PLC 15th runtime	0.0s (h)~6553.5s (h)	0.0s (h)	☆
PC-49	Simple PLC 15th Acceleration/Deceleration Time Selection	0~3	0	☆
PC-50	Simple PLC Runtime Unit	0: s (seconds) 1: h (hours)	0	☆
PC-51	Multi-segment instruction 0 given way	0: Function code PC-00 given 1: AI1 2: AI2 3: AI3 4: PULSE pulse 5: PID 6: Preset frequency (P0-08) is given, can be modified by UP/DOWN.	0	☆
PC-52	Multi-speed preference	0: No priority 1: Priority	0	☆
PC-53	Multi-band frequency selection speed unit	0:% 1:Hz	1	☆
Group PD Communication parameters				
Pd-00	Baud	Ones place: MODBUS 0: 300 BPS 1: 600 BPS 2: 1200 BPS 3: 2400 BPS 4: 4800 BPS 5: 9600 BPS 6: 19,200 BPS 7: 38,400 BPS 8: 57,600 BPS 9: 115,200 BPS Tens place: ProPibus-DP 0: 115,200 BPS 1: 208,300 BPS 2: 256,000 BPS 3: 512,000 BPS Hundreds place: reserved Thousands place: CANlink baud rate	5005	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
		0: 20k 1: 50k 2: 100k 3: 125k 4: 250k 5: 500k 6: 1M		
Pd-01	Data format	0: No parity (8-N-2) 1: Even parity (8-E-1) 2: Odd check (8-O-1) 3: 8-N-1	0	☆
Pd-02	Local address	1~247, 0 is the broadcast address	1	☆
Pd-03	Latency of reply	0ms~20ms	2	☆
Pd-04	Communication timeout	0.0 (invalid), 0.1s~60.0s	0.0	☆
Pd-05	Data transfer format selection	Digits: MODBUS 0: Non-standard MODBUS protocols 1: Standard MODBUS protocol 2: Non-standard MODBUS protocol (write commands without replying to the host) Tens place: ProPibus-DP 0: PFO1 format 1: PFO2 format 2: PFO3 format 3: PFO5 format	31	☆
Pd-06	Communication reading current resolution	0:0.01A 1:0.1A	0	☆
Pd-08	Canlink communication timeout	0.0s: invalid 0.1~60.0s	0	☆
Group PE User-customized function codes				
PE-00	User function code 0	uP0-00~uPP-xx uH0-00~uHF-xx uU0-00~uU3-xx	uU3-17	☆
PE-01	User function code 1		uU3-16	☆
PE-02	User function code 2		uP0-00	☆
PE-03	User function code 3		uP0-00	☆
PE-04	User function code 4		uP0-00	☆
PE-05	User function code 5		uP0-00	☆
PE-06	User function code 6		uP0-00	☆
PE-07	User function code 7		uP0-00	☆
PE-08	User function code 8		uP0-00	☆
PE-09	User function code 9		uP0-00	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change	
PE-10	User function code 10		uP0-00	☆	
PE-11	User function code 11		uP0-00	☆	
PE-12	User function code 12		uP0-00	☆	
PE-13	User function code 13		uP0-00	☆	
PE-14	User function code 14		uP0-00	☆	
PE-15	User function code 15		uP0-00	☆	
PE-16	User function code 16		uP0-00	☆	
PE-17	User function code 17		uP0-00	☆	
PE-18	User function code 18		uP0-00	☆	
PE-19	User function code 19		uP0-00	☆	
PE-20	User function code 20		uU0-68	☆	
PE-21	User function code 21		uU0-69	☆	
PE-22	User function code 22		uP0-00	☆	
PE-23	User function code 23		uP0-00	☆	
PE-24	User function code 24		uP0-00	☆	
PE-25	User function code 25		uP0-00	☆	
PE-26	User function code 26		uP0-00	☆	
PE-27	User function code 27		uP0-00	☆	
PE-28	User function code 28		uP0-00	☆	
PE-29	User function code 29		uP0-00	☆	
PE-30	User function code 30		uP0-00	☆	
PE-31	User function code 31		uP0-00	☆	
Group PP Function Code Management					
PP-00	User password		0~65535	0	☆
PP-01	Parameter initialization		0: No operation 01: Restore factory parameters, excluding motor parameters 02: Clearing of recorded information 04: Restore User Backup Parameters 501: Backup user's current parameters	0	★
PP-02	Function group selection Parameter display		Digits: Group U display selection 0: Not displayed 1: Displayed Tens place: Group A display selection 0: Not displayed 1: Displayed	11	★
PP-03	Individual Group Options Parameter Display		Digits: user-customized parameter group display selection 0: not displayed 1: displayed Tens place: User change parameter group display selection 0: Not displayed 1: Displayed	00	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
PP-04	Function Code Modification Properties	0: Modifiable 1: Non-modifiable	0	☆
PP-05	Model Setting	1: G-type machine 2: P-type machine	1	★
Group H0 Torque control parameters				
H0-00	Speed/torque control method Selection	0: Speed control 1: Torque control	0	★
H0-01	Torque setting source selection in torque control mode	0: Digital setting (H0-03) 1: AI1 2: AI2 3: AI3 4: PULSE pulse 5: Communication given 6: MIN (AI1, AI2) 7: MAX (AI1, AI2) (Full scale for options 1-7, corresponding to H0-03 digital settings)	0	★
H0-03	Digital setting of torque in torque control mode	-200.0%~200.0%	150.0%	☆
H0-05	Torque control forward maximum frequency	0.000Hz~max. frequency	50.00Hz	☆
H0-06	Torque control reverse maximum frequency	0.000Hz~max. frequency	50.00Hz	☆
H0-07	Torque controlled acceleration time	0.00s~65000s	0.00s	☆
H0-08	Torque controlled deceleration time	0.00s~65000s	0.00s	☆
Group H1 Virtual IO				
H1-00	Virtual VDI1 Terminal Function	0~59	0	★
H1-01	Virtual VDI2 Terminal Functions	0~59	0	★
H1-02	Virtual VDI3 Terminal Features	0~59	0	★
H1-03	Virtual VDI4 Terminal Function Options	0~59	0	★
H1-04	Virtual VDI5 Terminal Function Options	0~59	0	★
H1-05	Virtual VDI Terminal Status Setting Mode	0: VS is active or inactive depending on the state of the virtual VDO x. 1: VS validity is set by function code H1-06.	00000	★

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
		Digits: Virtual VDI1 Ten: Virtual VDI2 Hundreds place: Virtual VDI3 Thousands place: virtual VDI4 Ten-thousands place: virtual VDI5		
H1-06	Virtual VDI Terminal Status Settings	0: Invalid 1: Effective Digits: Virtual VDI1 Ten: Virtual VDI2 Hundreds place: Virtual VDI3 Thousands place: virtual VDI4 Ten-thousands place: virtual VDI5	00000	★
H1-08	Function selection when the AI2 terminal is used as a digital input terminal	0~59	0	★
H1-09	Function selection when the AI3 terminal is used as a digital input terminal	0~59	0	★
H1-10	Effective mode selection when Analog signal terminals are used as digital inputs	0: Active high 1: Active low Ones place: AI1 Tens place: AI2 Hundreds place: AI3	000	★
H1-11	Virtual VDO1 output function selection	0: Internal short to physical S x 1~40: See Physical DO Output Selection in Group P5	0	☆
H1-12	Virtual VDO2 output function selection	0: Internal short to physical S x 1~40: See Physical DO Output Selection in Group P5	0	☆
H1-13	Virtual VDO3 output function selection	0: Internal short to physical S x 1~40: See Physical DO Output Selection in Group P5	0	☆
H1-14	Virtual VDO4 output function selection	0: Internal short to physical S x 1~40: See Physical DO Output Selection in Group P5	0	☆
H1-15	Virtual VDO5 output function selection	0: Internal short to physical S x 1~40: See Physical DO Output Selection in Group P5	0	☆
H1-16	VDO1 Output Delay Time	0.0s~3600.0s	0.0s	☆
H1-17	VDO2 Output Delay Time	0.0s~3600.0s	0.0s	☆
H1-18	VDO3 Output Delay Time	0.0s~3600.0s	0.0s	☆
H1-19	VDO4 Output Delay Time	0.0s~3600.0s	0.0s	☆
H1-20	VDO5 Output delay time	0.0s~3600.0s	0.0s	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
H1-21	VDO output terminal valid state selection	0: Positive logic 1: Anti-logic Ones place: VDO1 Tens place: VDO2 Hundreds place: VDO3 Thousands place: VDO4 Ten-thousands place: VDO5	00000	☆
Group H2 Second motor control				
H2-00	Motor type selection	0: Ordinary asynchronous motor 1: Variable frequency asynchronous motor	0	★
H2-01	Motor rated power	0.1kW~1000.0kW	Determined based on the model	★
H2-02	Motor rated voltage	1V~2000V	Determined based on the model	★
H2-03	Motor rated current	0.01A~655.35A (Drive power ≤ 55kW) 0.1A~6553.5A (drive power > 55kW)	Determined based on the model	★
H2-04	Motor rated frequency	0.01Hz~Maximum Frequency	Determined based on the model	★
H2-05	Rated motor speed	1rpm~65535rpm	Determined based on the model	★
H2-06	Asynchronous motor stator resistance	0.001Ω~65.535Ω (Drive power ≤ 55kW) 0.0001Ω~6.5535Ω (Drive power > 55kW)	Determined based on the model	★
H2-07	Asynchronous motor rotor resistance	0.001Ω~65.535Ω (Drive power ≤ 55kW) 0.0001Ω~6.5535Ω (Drive power > 55kW)	Determined based on the model	★
H2-08	Leakage reactance of asynchronous motors	0.01mH~655.35mH (Drive power ≤ 55kW) 0.001mH~65.535mH (Drive power > 55kW)	Determined based on the model	★
H2-09	Asynchronous motor mutual inductive resistance	0.1mH~6553.5mH (drive power ≤ 55kW) 0.01mH~655.35mH (drive power > 55kW)	Determined based on the model	★
H2-10	Asynchronous motor no-load current	0.01A~H2-03 (drive power ≤ 55kW) 1A~H2-03 (Drive power > 55kW)	Determined based on the model	★
H2-16	Synchronous motor stator resistance	0.001Ω~65.535Ω (Drive power ≤ 55kW) 0.0001Ω~6.5535Ω (Drive power > 55kW)	Tuning parameter	★ (E)
H2-17	Synchronous motor D-axis inductance	0.01mH~655.35mH (Drive power ≤ 55kW) 0.001mH~65.535mH (Drive power > 55kW)	Tuning parameter	★ (E)

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
		55kW)		
H2-18	Synchronous motor Q-axis inductance	0.01mH~655.35mH (Drive power ≤ 55kW) 0.001mH~65.535mH (Drive power > 55kW)	Tuning parameter	★ (E)
H2-20	Synchronous motor reverse electromotive force	0.1V~6553.5V	Tuning parameter	★ (E)
H2-22	Synchronous motor no-load current	0%~180%	5%	★ (E)
H2-27	Number of encoder lines	1~65535	1024	★
H2-28	Encoder Type	0: ABZ incremental encoder 1: UVW incremental encoder 2: Rotary Transformer 3: Sine-cosine encoder 4: Wire-saving method UVW encoder	0	★
H2-29	Speed Feedback PG Selection	0: Local PG 1: Extended PG 2: PULSE pulse input (DI5)	0	★
H2-30	ABZ Incremental Encoder AB Phase Sequence	0: Positive 1: Reverse	0	★
H2-31	Encoder mounting angle	0.0~359.9°	0.0°	★
H2-32	UVW Encoder UVW Phase Sequence	0: Positive 1: Reverse	0	★
H2-33	UVW Encoder Bias Angle	0.0~359.9°	0.0°	★
H2-34	Rotary Transformer Pole Pairs	1~65535	1	★
H2-36	Speed Feedback PG Break Detection Time	0.0: No action 0.1s~10.0s	0.0	★
H2-37	Tuning Options	0: No operation 1: Static tuning of asynchronous motors 2: Complete tuning of asynchronous motors 3: Asynchronous motor stationary complete tuning 11: Synchronous motor static self-learning (E) 12: Synchronous motor no-load dynamic self-learning (E)	0	★
H2-38	Velocity loop proportional gain 1	1~100	30	☆
H2-39	Velocity loop integration time 1	0.01s~10.00s	0.50s	☆
H2-40	Switching frequency 1	0.00~H2-43	5.00Hz	☆
H2-41	Velocity loop	1~100	20	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
	proportional gain 2			
H2-42	Velocity loop integration time 2	0.01s~10.00s	1.00s	☆
H2-43	Switching frequency 2	H2-40~Maximum Frequency	10.00Hz	☆
H2-44	Vector Control Differential Gain	50%~200%	100%	☆
H2-45	Velocity loop filter time constant	0.000s~0.100s	0.050s	☆
H2-46	Vector control overexcitation gain	0~200	64	☆
H2-47	Upper torque limit source in speed control mode	0: H2-48 setting 1: AI1 2: AI2 3: AI3 4: PULSE pulse 5: Communication given 6: MIN (AI1, AI2) 7: MAX (AI1, AI2) 1-7 options of full scale, corresponding to H2-48 digital settings	0	☆
H2-48	Digital setting of upper torque limit in speed control mode	0.0%~200.0%	150.0%	☆
H2-51	Excitation regulation proportional gain	0~20000	2000	☆
H2-52	Excitation Regulation Integral Gain	0~20000	1300	☆
H2-53	Torque adjustment proportional gain	0~20000	2000	☆
H2-54	Integral gain for torque regulation	0~20000	1300	☆
H2-55	Speed Ring Points Properties	Digit: Integral separation 0: Invalid 1: Valid	0	☆
H2-61	2nd motor control method	0: Open loop vector 1: Closed-loop vector 2: V/F control	2	★
H2-62	2nd acceleration deceleration selection and time	0: Same as 1st motor 1: Increase Deceleration Time 1 2: Acceleration and deceleration time 2 3: Acceleration and deceleration time 3 4: Acceleration and deceleration time 4	0	☆
H2-63	2nd Motor Torque Boost	0.0%: Automatic torque increase 0.1%~30.0%	Determined based on the model	☆
H2-65	2nd motor oscillation suppression gain	0~100	Determined based on the model	☆
H2-66	Weak magnetic depth	0~50	5	☆ (E)
H2-67	Initial position	10%~180%	80%	☆ (E)

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
	detection current			
H2-68	Whether the initial position is detected	0~3	1	☆ (E)
H2-69	Velocity Ring Mode Selection	0~1	0	☆ (E)
H2-70	Convexity adjustment factor	50~500	100	☆ (E)
H2-71	Maximum torque to current ratio control enable	0~1	0	☆ (E)
H2-72	Feedforward compensation mode	0~2	0	☆ (E)
H2-73	Current loop KP during tuning	0~100	6	☆ (E)
H2-74	Current loop KI during tuning	0~100	6	☆ (E)
H2-75	Z signal correction enable	0~1	1	☆ (E)
H2-76	Synchronous motor SVC speed filter level	10~1000	100	☆ (E)
H2-77	Synchronous motor SVC speed estimation proportional gain	5~200	40	☆ (E)
H2-78	Synchronous motor SVC Speed Estimation Integral Gain	5~500	30	☆ (E)
H2-79	Synchronous motor SVC initial excitation current limit	0~150	30	☆ (E)
H2-80	Minimum carrier frequency for synchronous motor SVC	0.8~100.0	1.5	☆ (E)
H2-81	Low frequency operation mode	0~1	0	☆ (E)
H2-82	Low frequency in effect	0.00~10.00	2	☆ (E)
H2-83	Low Frequency Step	0.0001~1.0000	0.001	☆ (E)
H2-84	Low frequency braking current	30~120	80	☆ (E)
H2-85	Synchronous motor SVC speed tracking	0~1	0	☆ (E)
H2-86	Zero servo enable	0~1	0	☆ (E)
H2-87	Switching frequency	0.00~655.35	0.30	☆ (E)
H2-88	Zero servo speed loop proportional gain	1~100	10	☆ (E)
H2-89	Zero servo speed	0.01~10.00	0.50	☆ (E)

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
	loop integration time			
H2-90	Stopping the machine, prohibits reversal	0~1	0	☆ (E)
H2-91	Stopping Angle	0.0~10.0	0.8	☆ (E)
Group H5 Control optimization parameters				
H5-00	DPWM switching upper limit frequency	0.00Hz~(P0-10)	8.00Hz	☆
H5-01	PWM modulation mode	0: Asynchronous modulation 1: Synchronous modulation	0	☆
H5-02	Dead zone compensation mode selection	0: No compensation 1: Compensation mode 1 2: Compensation mode 2	1	☆
H5-03	Random PWM depth	0: Random PWM invalid 1~10: PWM carrier frequency random depth	0	☆
H5-04	Fast Current Limit Enable	0: not enabled 1: enabled	1	☆
H5-05	Current Detection Compensation	0~100	0	☆
H5-06	Undervoltage point setting	60.0%~140.0%	350	☆
H5-07	0HZ output function selection	0: No output 1:Normal output 2:DC braking (braking current P6-13)	1	☆
H5-08	Dead zone time adjustment	100%~200%	150%	☆
H5-09	Overvoltage point setting	200.0V~2000.0V	Determined based on the model	☆
Group H6 Analog curve input setting				
H6-00	Analog inputs 4 Minimum input	-10.00V~H6-02	0.00V	☆
H6-01	Analog input 4 Minimum input setting	-100.0%~+100.0%	0.0%	☆
H6-02	Analog inputs 4 Inflection point 1 input	H6-00~H6-04	3.00V	☆
H6-03	Analog input 4 Corresponding setting for inflection point 1 input	-100.0%~+100.0%	30.0%	☆
H6-04	Analog inputs 4 Inflection point 2 inputs	H6-02~H6-06	6.00V	☆
H6-05	Analog input 4	-100.0%~+100.0%	60.0%	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
	Corresponding setting for inflection point 2 inputs			
H6-06	Analog inputs 4 Maximum input	H6-06~+10.00V	10.00V	☆
H6-07	Analog input 4 Maximum input setting	-100.0%~+100.0%	100.0%	☆
H6-08	Analog inputs 5 Minimum input	-10.00V~H6-10	-10.00V	☆
H6-09	Analog input 5 Minimum input setting	-100.0%~+100.0%	-100.0%	☆
H6-10	Analog inputs 5 Inflection point 1 input	H6-08~H6-12	-3.00V	☆
H6-11	Analog input 5 Corresponding setting of inflection point 1 input	-100.0%~+100.0%	-30.0%	☆
H6-12	Analog inputs 5 Inflection point 2 input	H6-10~H6-14	3.00V	☆
H6-13	Analog Input 5 Corresponding setting for inflection point 2 inputs	-100.0%~+100.0%	30.0%	☆
H6-14	Analog inputs 5 Maximum input	H6-12~+10.00V	10.00V	☆
H6-15	Analog input 5 Maximum input setting	-100.0%~+100.0%	100.0%	☆
H6-24	AI1 Setting the jump point	-100.0%~100.0%	0.0%	☆
H6-25	AI1 sets the jump range	0.0%~10.0%	0.5%	☆
H6-26	AI2 Setting the jump point	-100.0%~100.0%	0.0%	☆
H6-27	AI2 sets the jump range	0.0%~100.0%	0.5%	☆
H6-28	AI3 Setting the jump point	-100.0%~100.0%	0.0%	☆
H6-29	AI3 sets the jump range	0.0%~100.0%	0.5%	☆
Group H8 Point-to-Point Communication				
H8-00	Point-to-point communication function options	0: Invalid 1: Effective	0	☆
H8-01	Master-slave control	0: Mainframe 1: Slave	0	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
H8-02	Slave commands follow master-slave message interactions	Bit: Slave command follow 0: Slave does not follow host run command run 1: Slaves follow the master to run the command run Tens place: Slave fault message transmission 0: Slave fault message not transmitted 1: Slave fault information transmission Hundreds place: Host shows slave down 0: Slave drop host does not report faults 1: Slave dropped host reports fault (ERR-16)	11	☆
H8-03	Slave receive data role selection	0: Host operating frequency 1: Host target frequency	0	☆
H8-04	Received data zero bias (torque)	-100.00%~100.00%	0%	☆
H8-05	Receive Data Gain	-10.00~100.00	1.00	★
H8-06	Point-to-point communication interruption detection time	0.0s~10.0s	0	☆
H8-07	Peer-to-peer communication host data sending cycle	0.001s~10.000s	0.050s	☆
H8-08	Frequency receive data zero bias	-100.00~100.00	0.00	☆
H8-09	Frequency Receive Data Gain	-10.00~10.00	1.00	☆
H8-10	Maximum forward deviation of slave frequency	0.00~100.00	10.00	☆
H8-11	Maximum deviation of slave frequency reversal	0.2%~10.00%	0.5%	☆
Group H9 Sleep Wake-up function parameters				
H9-00	Sleep call on	0: Sleep function disabled Controls the hibernate function 1: By PID set value and feedback	0	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
		value 2: Control the Sleep function according to the operating frequency		
H9-01	Sleeping frequency	0.00Hz~P0-10	20.00Hz	☆
H9-02	Sleep delay	0.0s~3600.0s	5.0s	☆
H9-03	Wake-up call difference	0.0%~100.0%	10.0%	☆
H9-04	Wake-up delay	0.0s~3600.0s	3.0s	☆
H9-05	Frequency mode selection during sleep delay	0: PID output 1: Sleep frequency output	0	☆
Group HA Brake parameter group				
HA-00	Holding brake control enable selection:	0: Disable 1: Enable	0	★
HA-01	Holding brake release frequency	0.00Hz~20.00Hz	2.50Hz	☆
HA-02	Holding brake release frequency maintenance time	0.0s~20.0s	1.0s	☆
HA-03	Current limit value during holding	50.0%~200.0%	120.0%	☆
HA-04	Clamping frequency	0.00Hz~20.00Hz	1.50Hz	☆
HA-05	Holding brake suction delay time	0.0s~20.0s	0.0s	☆
HA-06	Holding frequency maintenance time	0.0s~20.0s	1.0s	☆
HA-07	Loosening torque current detection value	0.0%~100.0%	12.0%	☆
Group HC Analog Input and Output Calibration				
HC-00	AI1 measured voltage 1	0.500V~4.000V	Factory calibration	☆
HC-01	AI1 displays voltage 1	0.500V~4.000V	Factory calibration	☆
HC-02	AI1 measured voltage 2	6.000V~9.999V	Factory calibration	☆
HC-03	AI1 display voltage 2	6.000V~9.999V	Factory calibration	☆
HC-04	AI2 measured voltage 1	0.500V~4.000V	Factory calibration	☆
HC-05	AI2 display voltage 1	0.500V~4.000V	Factory calibration	☆
HC-06	AI2 measured voltage 2	6.000V~9.999V	Factory calibration	☆
HC-07	AI2 display voltage 2	6.000V~9.999V	Factory	☆

Function Parameter Table

Function code	Name	Setting range	Factory value	Change
			calibration	
HC-08	AI3 measured voltage 1	-9.999V~10.000V	Factory calibration	☆
HC-09	AI3 display voltage 1	-9.999V~10.000V	Factory calibration	☆
HC-10	AI3 measured voltage 2	-9.999V~10.000V	Factory calibration	☆
HC-11	AI3 display voltage 2	-9.999V~10.000V	Factory calibration	☆
HC-12	AO1 Target voltage 1	0.500V~4.000V	Factory calibration	☆
HC-13	AO1 measured voltage 1	0.500V~4.000V	Factory calibration	☆
HC-14	AO1 Target voltage 2	6.000V~9.999V	Factory calibration	☆
HC-15	AO1 measured voltage 2	6.000V~9.999V	Factory calibration	☆
HC-16	AO2 target voltage 1	0.500V~4.000V	Factory calibration	☆
HC-17	AO2 measured voltage 1	0.500V~4.000V	Factory calibration	☆
HC-18	AO2 target voltage 2	6.000V~9.999V	Factory calibration	☆
HC-19	AO2 measured voltage 2	6.000V~9.999V	Factory calibration	☆
L0 Application macro function selection				
L0-00	Application Selection Macro	0: General settings 1: Special setup for constant pressure water supply 2: Grinder-specific settings 3: Machine-specific settings 7: Dedicated setup for upward-facing spot stop	0	☆

7.2 Summary table of monitoring parameters

Group U0 Basic monitoring parameters		
Function code	Name	Minimum unit
U0-00	Operating frequency (Hz)	0.01Hz
U0-01	Setting frequency (Hz)	0.01Hz
U0-02	Busbar voltage (V)	0.1V
U0-03	Output Voltage (V)	1V
U0-04	Output Current (A)	0.01A
U0-05	Output power (KW)	0.1kW
U0-06	Output torque (%)	0.1%
U0-07	DI digital input terminal input status	1
U0-08	DO output status	1
U0-09	AI1 Voltage (V)	0.01V
U0-10	AI2 Voltage (V)	0.01V
U0-11	AI3 Voltage (V)	0.01V
U0-12	Numerical value	1
U0-13	Length value	1
U0-14	Load speed display	1
U0-15	PID Setting	1
U0-16	PID feedback	1
U0-17	PLC stage	1
U0-18	PULSE Input Pulse Frequency (Hz)	0.01kHz
U0-19	Feedback speed (in 0.1Hz)	0.1Hz
U0-20	Remaining running time	0.1Min
U0-21	AI1 voltage before correction	0.001V
U0-22	AI2 voltage before correction	0.001V
U0-23	AI3 voltage before correction	0.001V
U0-24	Linear velocity	1m/Min
U0-25	Current power-up time	1Min
U0-26	Current Runtime	0.1Min
U0-27	PULSE Input Pulse Frequency	1Hz

Summary table of monitoring parameters

U0-28	Communication set value	0.01%
U0-29	Encoder feedback speed	0.01Hz
U0-30	Mains frequency X display	0.01Hz
U0-31	Auxiliary frequency Y display	0.01Hz
U0-32	View any memory address value	1
U0-33	Synchronous motor rotor position	0.1°
U0-34	Motor temperature value	1°C
U0-35	Target torque (%)	0.1%
U0-36	Position of rotating transformer	1
U0-37	Power factor angle	0.1°
U0-38	ABZ position	1
U0-39	V/F separation target voltage	1V
U0-40	V/F separation output voltage	1V
U0-41	DI digital input terminal input status visual display	1
U0-42	Visual display of DO input status	1
U0-43	DI digital input terminal function status visual display 1 (Function 01 - Function 40)	1
U0-44	DI digital input terminal function status visual display 2 (Function 41 - Function 80)	1
U0-45	Fault information	1
U0-59	Setting frequency (%)	0.01%
U0-60	Operating frequency (%)	0.01%
U0-61	Drive status	1
U0-62	Current fault	1

Chapter 7 Maintenance and Troubleshooting

● Fault Information List

Fault name	Operation panel display	Finding out the reason	Troubleshooting
Inverter unit protection	Err01	<ol style="list-style-type: none"> 1. drive output circuit has short circuit 2. wiring of the motor and drive is too long 3. drive internal wiring is loose 	<ol style="list-style-type: none"> 1. Troubleshooting peripheral faults 2. add a reactor or output filter 3. plug all the connecting wires
Acceleration overcurrent	Err02	<ol style="list-style-type: none"> 1. drive output circuit has grounding or short circuit 2. the control mode is vector and there is no parameter identification 3. the acceleration time is too short 4. manual torque increase or V / F curve is not appropriate 5. Low voltage 6. Start the rotating motor 7. Sudden load during acceleration 8. Selected drive capacity is small 	<ol style="list-style-type: none"> 1. Troubleshooting peripheral faults 2. Conduct motor parameter identification 3. Increase acceleration time 4. Adjust the increased torque or V / F curve 5. Adjust the voltage to the normal range 6. Select the speed tracking start, or wait for the motor to stop and then start. 7. Cancellation of sudden load 8. Select drive with greater power level
Deceleration overcurrent	Err03	<ol style="list-style-type: none"> 1. drive output circuit has grounding or short circuit 2. the control mode is vector and there is no parameter identification 3. deceleration time is too short 4. Low voltage 5. Sudden load during deceleration 6. Not install braking unit and braking resistor 	<ol style="list-style-type: none"> 1. Troubleshooting peripheral faults 2. Conduct motor parameter identification 3. Increase the deceleration time 4. Adjust the voltage to the normal range 5. Cancellation of sudden load 6. Installation of braking unit and resistor
Constant speed overcurrent	Err04	<ol style="list-style-type: none"> 1. drive output circuit has grounding or short circuit 2. the control mode is vector and there is no parameter identification 3. low voltage 4. whether there is a sudden load in operation 5. Selected drive capacity is small 	<ol style="list-style-type: none"> 1. Troubleshooting peripheral faults 2. Conduct motor parameter identification 3. Adjust the voltage to the normal range 4. Cancellation of sudden load 5. Select drive with greater power level
Acceleration overvoltage	Err05	<ol style="list-style-type: none"> 1. input voltage is high 2. During the acceleration process, there is external force pulling the motor to run 3. acceleration time is too short 4. Not install braking unit and braking resistor 	<ol style="list-style-type: none"> 1. Adjust the voltage to the normal range 2. the cancellation of this external power or the installation of braking resistor 3. Increase acceleration time 4. Installation of braking unit and resistor

Deceleration overvoltage	Err06	<ol style="list-style-type: none"> 1. input voltage is high 2. During the deceleration process, there is external force pulling the motor to run 3. deceleration time is too short 4. Not install braking unit and braking resistor 	<ol style="list-style-type: none"> 1. Adjust the voltage to the normal range 2. Cancel this external power or install braking resistor 3. Increase the deceleration time 4. Installation of braking unit and resistor
Constant speed overvoltage	Err07	<ol style="list-style-type: none"> 1. input voltage is high 2. During the running process, there is external force pulling the motor to run 	<ol style="list-style-type: none"> 1. Adjust the voltage to the normal range 2. the cancellation of this external power or the installation of braking resistor
Control power supply failure	Err08	Input voltage is not within specified range	Adjust the voltage to the specified range
Undervoltage fault	Err09	<ol style="list-style-type: none"> 1. Instantaneous power failure 2. drive input end voltage is not in the normal range 3. bus voltage is not normal 4. rectifier bridge and buffer resistor are not normal 5. drive board is abnormal 6. control board is abnormal 	<ol style="list-style-type: none"> 1. Reset the fault 2. Adjust the voltage to the normal range 3. Seek technical support 4. Seek technical support 5. Seek technical support 6. Seek technical support
Drive Overload	Err10	<ol style="list-style-type: none"> 1. whether the load is too large or motor stall occurs 2. selected drive capacity is small 	<ol style="list-style-type: none"> 1. reduce the load and check the motor and machinery conditions 2. Select the drive with greater power level
Motor overload	Err11	<ol style="list-style-type: none"> 1. whether the load is too large or motor stall occurs 2. selected drive capacity is small 	<ol style="list-style-type: none"> 1. reduce the load and check the motor and machinery conditions 2. Select the drive with greater power level
Input phase loss	Err12	<ol style="list-style-type: none"> 1. Three-phase input power is not normal 2. drive board is abnormal 3. Abnormal lightning protection board 4. Abnormal main control board 	<ol style="list-style-type: none"> 1. Check and eliminate problems in the peripheral wiring 2. Seek technical support 3. Seek technical support 4. Seek technical support
Output phase loss	Err13	<ol style="list-style-type: none"> 1. the lead from the drive to the motor is not normal 2. The three-phase output of the drive is unbalanced when the motor is running. 3. drive board is abnormal 4. Module is abnormal 	<ol style="list-style-type: none"> 1. Troubleshooting the peripheral faults 2. Check whether the motor three-phase winding is normal and troubleshoot the fault 3. Seek technical support 4. Seek technical support
Module overheat	Err14	<ol style="list-style-type: none"> 1. the ambient temperature is too high 2. Air duct blockage 3. Fan damage 	<ol style="list-style-type: none"> 1. Reduce the ambient temperature 2. Cleaning of air duct 3. Replacement of fan

		<ul style="list-style-type: none"> 4. Module thermistor damage 5. Damage to the inverter module 	<ul style="list-style-type: none"> 4. Replacement of thermistor 5. Replacement of inverter module
Failure of external equipment	Err15	<ul style="list-style-type: none"> 1. Input external fault signal through terminal DI 2. Input external fault signal through virtual IO 	<ul style="list-style-type: none"> 1. Reset operation 2. Reset operation
Communication fault	Err16	<ul style="list-style-type: none"> 1. the host computer is not working properly 2. Communication line is not normal 3. Incorrect setting of communication expansion card P0-28 4. Incorrect setting of communication parameter group FD 	<ul style="list-style-type: none"> 1. check the host computer wiring 2. Check the communication connection line 3. Correctly set the type of communication expansion card 4. Correctly set communication parameters
Contact failure	Err17	<ul style="list-style-type: none"> 1. the drive board and power supply are not normal 2. Contactor is not normal 	<ul style="list-style-type: none"> 1. Replace the drive board or power board 2. Replacement of contactor
Current detection Fault	Err18	<ul style="list-style-type: none"> 1. Check and find that the Hall device is abnormal 2. drive board is abnormal 	<ul style="list-style-type: none"> 1. Replacement of Hall device 2. Replace the drive board
Motor tuning fault	Err19	<ul style="list-style-type: none"> 1. Motor parameters are not set according to the nameplate 2. Parameter identification process timeout 	<ul style="list-style-type: none"> 1. According to the nameplate, correctly set the motor parameters 2. check the lead from the drive to the motor
Code disc failure	Err20	<ul style="list-style-type: none"> 1. encoder model mismatches 2. encoder wiring error 3. encoder damage 4. PG Card is abnormal 	<ul style="list-style-type: none"> 1. according to the actual situation, correctly set the encoder type 2. Troubleshoot line faults 3. replace the encoder 4. Replacement of PG card
EEPROM read/write failure	Err21	<ul style="list-style-type: none"> 1. EEPROM chip damage 	<ul style="list-style-type: none"> 1. replace the main control board
Drive hardware failure	Err22	<ul style="list-style-type: none"> 1. Existence of overvoltage 2. Existence of overcurrent 	<ul style="list-style-type: none"> 1. Troubleshoot as overvoltage fault 2. Troubleshoot as overcurrent fault
Short circuit to ground fault	Err23	<ul style="list-style-type: none"> 1. Motor short circuit to ground 	<ul style="list-style-type: none"> 1. replace the cable or motor
Cumulative running time arrival failure	Err26	<ul style="list-style-type: none"> 1. Cumulative running time arrives at the set value 	<ul style="list-style-type: none"> 1. Use the parameter initialization function to clear the record information

User-defined fault 1	Err27	<ol style="list-style-type: none"> 1. Input the user-defined fault via terminal DI 2. Input the user-defined fault via virtual IO 	<ol style="list-style-type: none"> 1. Reset operation 2. Reset operation
User-defined fault 2	Err28	<ol style="list-style-type: none"> 1. Input the user-defined fault via terminal DI 2. Input the user-defined fault via virtual IO 	<ol style="list-style-type: none"> 1. Reset operation 2. Reset operation
Cumulative power-up time arrival fault	Err29	<ol style="list-style-type: none"> 1. Cumulative power-up time arrives at the set value 	<ol style="list-style-type: none"> 1. Use the parameter initialization function to clear the record information
No-load fault	Err30	<ol style="list-style-type: none"> 1. drive operating current is less than P9-64 	<ol style="list-style-type: none"> 1. Confirm whether the load is detached, or confirm whether parameter settings of P9-64 and F9-65 can meet the actual operating conditions
PID Feedback Loss Fault During Operation	Err31	<ol style="list-style-type: none"> 1. PID feedback is less than the set value of PA-26 	<ol style="list-style-type: none"> 1. Check the PID feedback signal or set PA-26 to a suitable value.
Wave-by-wave current limiting fault	Err40	<ol style="list-style-type: none"> 1. Whether the load is too large or motor stall occurs 2. Selected drive capacity is small 	<ol style="list-style-type: none"> 1. Reduce load and check motor and mechanical condition 2. Select the drive with higher power level
Power supply cut-off fault during operation	Err41	<ol style="list-style-type: none"> 1. Change the current motor selection via terminals during drive operation 	<ol style="list-style-type: none"> 1. Motor switching operation is performed after the drive stops.
Excessive speed deviation fault	Err42	<ol style="list-style-type: none"> 1. Incorrect encoder parameter setting 2. No parameter identification 3. The excessive speed deviation detection parameters P9-69 and P9-70 are set improperly 	<ol style="list-style-type: none"> 1. Correctly set the encoder parameters 2. Conduct motor parameter identification 3. According to the actual situation, properly set the detection parameters

Motor overspeed fault	Err43	<ol style="list-style-type: none"> 1. Incorrect encoder parameter setting 2. No parameter identification 3. The motor overspeed detection parameters P9-67 and P9-68 are set improperly 	<ol style="list-style-type: none"> 1. Detect temperature sensor wiring and troubleshoot the fault 2. Reduce carrier frequency or take other heat dissipation measures to cool the motor
Motor over-tempera ture fault	Err45	<ol style="list-style-type: none"> 1. Temperature sensor wiring is loose 2. Motor temperature is too high 	<ol style="list-style-type: none"> 1. Detect temperature sensor wiring 2. Reduce the carrier frequency or strengthen the heat dissipation
Initial position error	Err51	<ol style="list-style-type: none"> 1. The deviation between motor parameters and actual conditions is too large 	<ol style="list-style-type: none"> 1. Reconfirm whether the motor parameters are correct, focusing on whether the rated current is set too small.
STO failure	STO1	Abnormal disconnection of the input circuit of STO1. e.g., wiring, power supply, etc.	Detection of STO1 circuit
	STO2	Abnormal disconnection of the input circuit of STO2. e.g., wiring, power supply, etc.	Detection of STO2 circuit

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