Outstanding Quality
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High Performance Vector Type

PC2000 AC DRIVE

User Manual

Version：V1.0

Preface

Thank you for purchasing the PC2000 series inverter developed by Our company.

For the users who use this product for the first time, read the manual carefully.

Contents

Warranty Agreement

1. The warranty period of the product is 18 months (refer to the bar code on the equipment body). During the warranty period , if the product fails or damaged under the condition of normal use by following the instruction, we will be responsible for free maintenance.

2. Within the warranty period , maintenance will be charged for the damages caused by the following reasons :

The damage caused by improper use or repair/modification without prior permission.

The damage caused by fire , flood , abnormal voltage , other natural disasters and second disaster.

The hardware damage caused by artificial falling or transportation after purchase.

The damage caused by the improper operation.

The damage or failure caused by the trouble out of the equipment (e.g. : External device)

3. If there is any failure or damage to the product, please fill in the information of the Product Warranty Card in details correctly.

4. The maintenance fee is charged according to the newly adjusted Maintenance Price List of our company .

5. In general , the warranty card will not be re-issued. Please keep the card and present it to the maintenance personnel when asking for maintenance .

6. If there is any problem during the service , please contact the agent of our company or our company directly .

7. The company reserves the right to interpret this agreement

Chapter 1 Safety and Cautions

1.1 Safety and Cautions Definition

Read this manual carefully so that you have a thorough understanding. Installation, commissioning or maintenance may be performed in conjunction with this chapter. Our company will assume no ability and responsibility for any injury or loss caused by improper operation.

Danger

Operations which are not performed comply with the requirements may cause severe hurt or even death.

Note

Operations which are not performed comply with requirements may cause personal injury or property damage.

1.2 Safety Cautions

Use Stage	Safety Grade	Precautions
Before Installation	Danger	✦ Do not install the equipment if you find water seepage, component missing or damage upon unpacking. ✦ Do not install the equipment if the packing list does not conform to the product you received.
	Danger	✦ Handle the equipment with care during transportation to prevent damage to the equipment. ✦ Do not use the equipment if any component is damaged or missing. Failure to comply will result in personal injury. ✦ Do not touch the components with your hands. Failure to comply will result in static electricity damage.
During Installation	Danger	✦ Install the equipment on incombustible objects such as metal, and keep it away from combustible materials. Failures to comply may result in a fire. ✦ Do not loosen the fixed screws of the components, especially the screws withe red marks.
	Note	✦ Do not drop wire end or screw into the AC drive. Failure it will result in damage to the AC drive. ✦ Install the AC drive in places free of vibration and direct sunlight. ✦ When two AC drives are laid in the same cabinet ,arrange the installation positions properly to ensure the cooling effect.

Use Stage	Safety Grade	Precautions
At wiring	Danger	✦ A circuit breaker must be used to isolate the power supply and the AC drive. Failure to comply may result a fire. ✦ Ensure that the power supply is cut off before wiring. Failure to comply may result in electric shock. ✦ Never connect the power cables to the output terminals(U,V,W) of the AC drive. Pay attention to the marks of the wiring terminals and ensure correct wiring. Failure to comply may result in damage to the AC drive. ✦ Ensure that the main cable line comply with the standard, the line meets the EMC requirements and the area safety standard. Failure to comply may result in risk or accident. ✦ Never connect the power cables the braking resistor between the DC bus terminals P+, P-. Failure to comply may result in a fire.
At wiring	Danger	✦ Use a shielded cable for the encoder, and ensure that the shielding layer is reliably grounded.
Before Power-on	Danger	✦ Please confirm the peripheral equipment and cable converter is configured in this manual of the recommended model, all the configuration line in accordance with the connection method of the manual provides the correct wiring. Failure to comply will result in accidents. ✦ Check that the voltage class of the power supply is consistent with the rated voltage class of the AC drive.
After Power-on	Danger	✦ Do not open the AC drive's cover after power-on. Failure to comply may result in electric shock. ✦ Do not touch the operation of AC drive during the hands is wet. Failure to comply will result in accident. ✦ Do not touch any I/O terminal of the AC drive. Failure to comply may result in electric shock. ✦ Do not change the default settings of the AC drive. Failure to comply will result in damage to the AC drive. ✦ Do not touch the rotating part of the motor during the motor auto-tuning or running. Failure to comply will result in accident.
During Operation	Danger	✦ Signal detection must be performed only by qualified personnel during operation. Failure to comply will result in personal injury or damage to the AC drive. ✦ Do not touch the fan or the discharging resistor to check the temperature. Failure to comply will result in personal burnt.

Use Stage	Safety Grade	Precautions
During Operation	Danger	✦ Avoid objects falling into the AC drive when it is running. Failure to comply will result in damage to the AC drive. ✦ Do not start or stop the AC drive by turning the contactor ON/OFF. Failure to comply will result in damage to the AC drive.
After Power-on	Danger	✦ Do not repair or maintain the AC drive at power-on. Failure to comply will result in electric shock. ✦ Ensure that the AC drive is disconnected from all power suppliers before staring repair or maintenance on the AC drive. ✦ Repair or maintenance of the AC drive may be performed only by qualified personnel. Failure to comply will result in personal injury or damage to the AC drive.
After Power-on	Danger	✦ Set and check the parameters again after the AC drive is replaced.

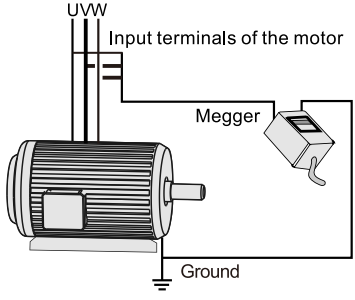
1.3 Cautions

1.3.1 Requirement on Residual Current Device(RCD)

The AC drive generates high leakage current during running, which flows earthing (PE) conductor. Thus install a type-B RCD at the transient and steady-state leakage current to ground that may be generated at startup and during running of the AC drive. You can select a specialized RCD with the function of suppressing high harmonics or general-purpose RCD with relatively large residual current.

1.3.2 Motor Insulation Test

Perform the insulation test when the motor is used for the first time, or when it is reused after being stored for a long time, or in a regular check-up, in order to prevent the poor insulation of motor windings from damaging the AC drive during the insulation test. A 500-V mega-Ohm meter is recommended for the test. The insulation resistance must not be less than 5 MΩ.



1.3.3 Thermal Protection of Motort

If the selected AC drive does not match the rated capacity of the motor , especially when the rated power of the AC drive is higher than that of the motor, adjust the parameters for motor protection in the AC drive or to install thermal relay to protect the motor .

1.3.4 Running Below and Above Rated Frequency

The AC drive provides frequency output of 0 to 500.00Hz. When the users use the frequency converter for a long time, please pay attention to the motor cooling or use of variable frequency motor. If the AC drive is required to run at over 50Hz, consider the capacity of the machine.

1.3.5 Vibration of mechanical device

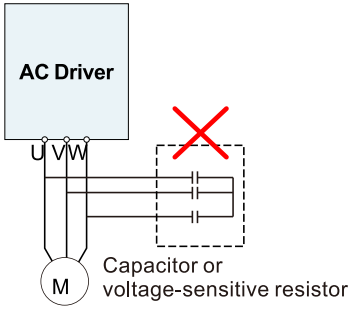
The AC drive may encounter the mechanical resonance point at some output frequencies, which can be avoided by setting the skip frequency. If the operating frequency of the customer coincide with the resonant frequency please modify the operating frequency or change the inherent resonance frequency of the mechanical system.

1.3.6 Motor heat and noise

The output of the AC drive is pulse width modulation (PWM) wave with certain harmonic frequencies, and therefore, the motor temperature, noise, and vibration are slightly greater than those when the AC drive runs at power frequency (50 Hz).

1.3.7 Voltage-sensitive device or capacitor on output side of the AC drive

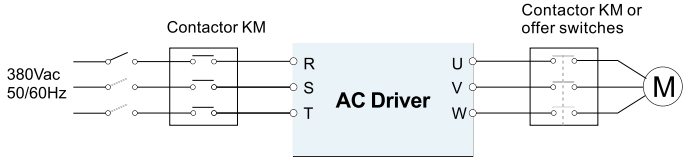
Do not install the capacitor for improving power factor or lightning protection voltage sensitive resistor on the output side of the AC drive because the output of the AC drive is PWM wave. Otherwise, the AC drive may suffer transient overcurrent or even bedamaged.



1.3.8 Contactor at the I/O terminal of the AC drive

When a contactor is installed between the input side of the AC drive and the power supply, the AC drive must not be started or stopped by switching the contactor on or off. If the AC drive has to be operated by the contactor, ensure that the time interval between switching is at least one hour since frequent charge and discharge will shorten the service life of the capacitor inside the AC drive.

When a contactor is installed between the output side of the AC drive and the motor,do not turn off the contactor when the AC drive is active. Otherwise, modules inside the AC drive may be damaged.



Do not start/stop the AC drive by switching the contactor on/off. If the AC drive has to be operated by the contactor, ensure that the tiome interval is at least one hour.

Turn on /off the contactor when the AC drive has no output. Otherwise,modifies inside the AC drive may be damaged.

1.3.9 The Use Occasion of the External Voltage Out of Rated Voltage Rage

The AC drive must not be used outside the allowable voltage range specified in this manual. Otherwise, the AC drive's components may be damaged. If required, use a corresponding voltage step[-up or step-down device.

1.3.10 The Above Derating of the Default

Different power grade frequency converter has its default carrier frequency, when to run at a higher carrier frequency, the AC Drive must to reduce the amount when running.

1.3.11 Change Three Phase Input into Two Phase Input

It is not allowed to change the three phase AC drive into two phase one . Otherwise , it may cause it may cause fault or damage the AC drive.

1.3.12 The Protection of the Lighting Impulse

Although the AC drive has equipped with lightning overvoltage, overcurrent device, which has a certain protection function for the induction lightining. For the lightning prone areas, the user is necessary to install lightning protection device at the front of the AC drive, which will benefit to the service life of the transducer.

1.3.13 Ambient Temperature and De-rating

The normal use of the frequency converter ambient temperature is -10□ ~40□ . Temperature exceeds 40□ , the equipment need to reduce the amount of use. The ambient temperature of each increase is reduced by 1.5%, the maximum use of the ambient temperature is 50□ .

1.3.14 Altitude and Derating

In places where the altitude is above 1000m and the cooling effect reduces due to thin airit is necessary to de-rate the AC drive. Contact Our company for technical support.

1.3.15 Some Special Usages

If writing that is not described in this manual, such as common DC bus is applied, contact the agent or Our company for technical support.

1.3.16 The Cautious of the AC drive Disposal

The electrolytic capacitors on the main circuits and PCB may explore when they are burnt. Poisonous gas is generated when the plastic parts are burn. Treat them as ordinary industrial refer to relevant national laws and regulations.

1.3.17 Adaptable Motor

1. The standard parameters of the adaptable motor is adaptable four-squirrel-cage asynchronous induction motor or PMSM. For other types of motor, select a proper AC drive according to the rated motor current.

2. The cooling fan and rotor shaft of general AC Drive are coaxial, which results in reduced cooling effect when the rotational speed declines. If variable speed is required, add a more powerful fan or replace.

3. The standard parameters of the adaptable motor have been configured inside the AC drive. It is still necessary to perform motor auto-tuning or modify the default values based on actual conditions. Otherwise, the running result and protection performance will be affected.

4. The AC drive may alarm or even be damaged when short-circuit exists on cables or inside the motor. Therefore, perform insulation short-circuit test when the motor and cables are newly installed or during routine maintenance. During the test, make sure that the AC drive is disconnected from the tested parts.

Chapter 2 Product Information

2.1 Naming Rules

PC2000 - 4T - 11 G /15 P C

① ② ③ ④ ③ ④ ⑤

Field	Mark	Explanation	Content
Ac drive series	①	Ac drive series	PC2000 SERIES
Voltage Level	②	Voltage Level	2S:single-phase 220V 2T:Three-phase 220V 4T:Three-phase 380V
Adaptive Power	③	Adaptive Power	0.7KW~500KW
Function Type	④	Function Type	G:General P:Fan pump
braking Unit	⑤	braking Unit	Null:None C:Inbuilt braking unit

Figure 2-1 Name Designation Rules

2.2 Nameplate

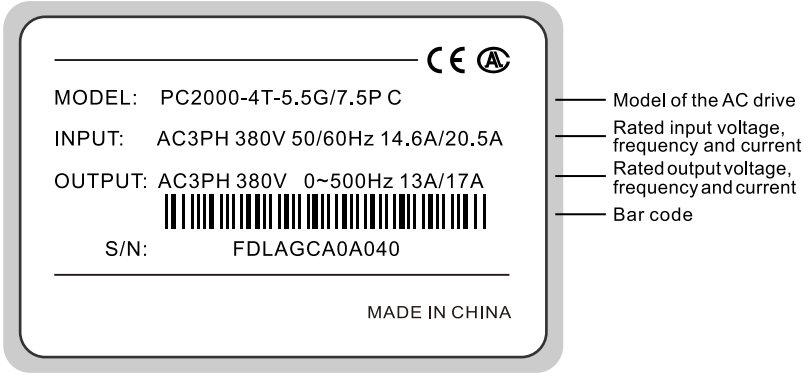


Figure 2-2 Name Designation Rules

2.3 PC2000 Series of AC drive

Model	Power Capacity (KVA)	Input Current (A)	Output Current (A)	Adaptable Motor (KW)
single-phase 220V Range:-15%~20%				
2S-0.7G	1.5	8.2	4.7	0.75
2S-1.5G	3.0	14.0	7.5	1.5
2S-2.2G	4.0	23.0	10.0	2.2
Three-phase 220V Range:-15%~20%				
2T-0.7G	1.5	5.5	4.7	0.75
2T-1.5G	3.0	7.7	7.5	1.5
2T-2.2G	4.0	12.0	10.0	2.2
Three-phase 380V Range:-15%~20%				
4T-0.7G	1.5	3.4	2.3	0.75
4T-1.5G	3.0	5.0	3.7	1.5
4T-2.2G	4.0	5.8	5.1	2.2
4T-4.0G	5.9	10.5	8.5	4.0
4T-5.5G	8.9	14.6	13	5.5
4T-7.5G	11	20.5	17	7.5
4T-11G	17	26.0	25	11
4T-15G	21	35.0	32	15
4T-18.5G	24	38.5	37	18.5
4T-22G	30	46.5	45	22
4T-30G	40	62.5	60	30
4T-37G	57	76.0	75	37
4T-45G	69	92.0	91	45
4T-55G	85	113	112	55
4T-75G	114	157	150	75
4T-90G	134	180	176	90
4T-110G	160	214	210	110
4T-132G	192	256	253	132
4T-160G	231	307	304	160
4T-185G	255	333	330	185
4T-200G	287	380	377	200
4T-220G	311	429	426	220
4T-250G	355	470	465	250
4T-280G	396	525	520	280
4T-315G	439	605	600	315
4T-350G	479	665	660	350
4T-400G	530	730	725	400
4T-450G	600	825	820	450
4T-500G	660	910	900	500

2.4 Braking resistor selection reference

When the equipment driven by the VFD needs to brake quickly, the brake unit is required to release the energy feed back to the DC bus when the motor brakes. The 400V voltage class 0.7~30kW has a built-in braking unit as standard. If you need to stop quickly, please choose a suitable braking unit and braking resistor according to the capacity of the VFD. If you need to stop quickly, you can directly connect the braking resistor.

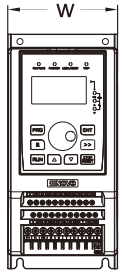
380V braking resistor selection table

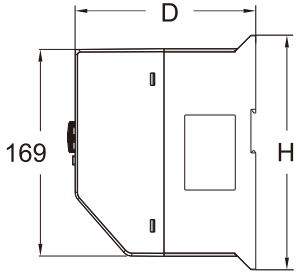
VFD capacity □ KW□	Braking unit		Braking resistor(D=10%)		
	Specification	Quantity(PCS)	Recommended Resistance	Recommended power	Quantity(PCS)
0.7	Standard built-in	1	750Ω	150W	1
1.5		1	400Ω	300W	1
2.2		1	250Ω	400W	1
4.0		1	150Ω	500W	1
5.5		1	100Ω	800W	1
7.5		1	75Ω	1000W	1
11		1	50Ω	1200W	1
15		1	40Ω	2000W	1
18.5		1	32Ω	3000W	1
22		1	27Ω	4000W	1
30		1	22Ω	5000W	1
37	Built-in optional	1	20Ω	6000W	1
45		1	16Ω	7000W	1
55		1	13Ω	10000W	1
75		1	10Ω	14000W	1
90	External braking unit	1	6.8Ω	16000W	1
110		1	6.5Ω	22000W	1
132		1	6.2Ω	24000W	1
160		1	5.4Ω	30000W	1
185		1	4.7Ω	32000W	1
200		2	4.5Ω	17000W	2
220		2	4.1Ω	20000W	2
250		2	3.6Ω	23000W	2
280		2	3.2Ω	27000W	2
315		3	4.3Ω	20000W	3
355		3	3.8Ω	23000W	3
400		3	3.4Ω	25000W	3
450		3	3.0Ω	26000W	3
500		3	2.8Ω	30000W	3

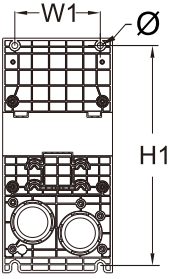
220V braking resistor selection table

VFD capacity □ KW□	Braking unit		Braking resistor(D=10%)		
	Specification	Quantity(PCS)	Recommended Resistance	Recommended power	Quantity(PCS)
0.7	Standard built-in	1	200Ω	120W	1
1.5		1	100Ω	300W	1
2.2		1	75Ω	500W	1
4.0		1	33Ω	800W	1
5.5		1	22Ω	1300W	1
7.5		1	16Ω	1700W	1
11		1	12Ω	2300W	1
15		1	9Ω	3000W	1
18.5	Built-in optional	1	16Ω	3900W	1
22		1	12Ω	4600W	1
30		1	9Ω	5500W	1
37		1	7Ω	6800W	1
45	External braking unit	2	6Ω	5000W	2
55		2	5Ω	6000W	2

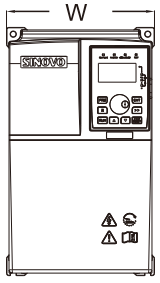
2.5 Product Outline, Installation Hole Size

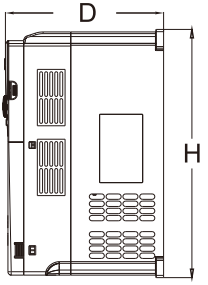


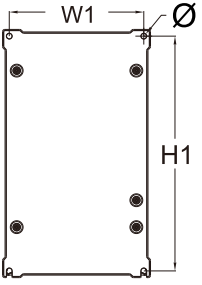




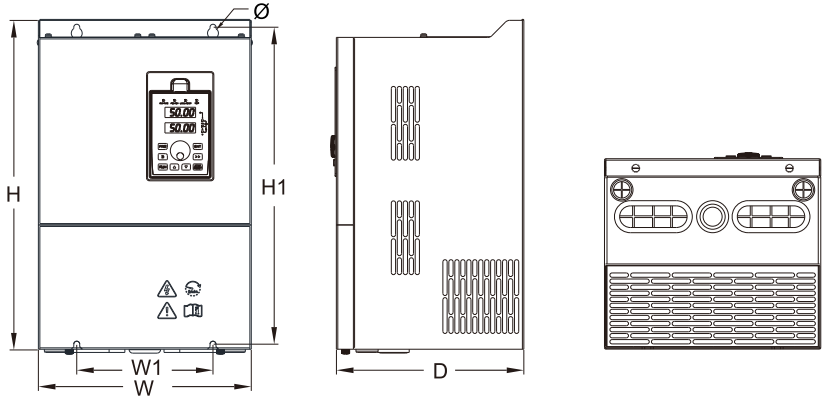
Model	inverter			Installation			GW(kg)
	H (mm)	W (mm)	D (mm)	H1 (mm)	W1 (mm)	Diameter (mm)	
4T-0.7G	192	90	148	180	70	Ø5	1.7
4T-1.5G							
4T-2.2G							
4T-4.0G							



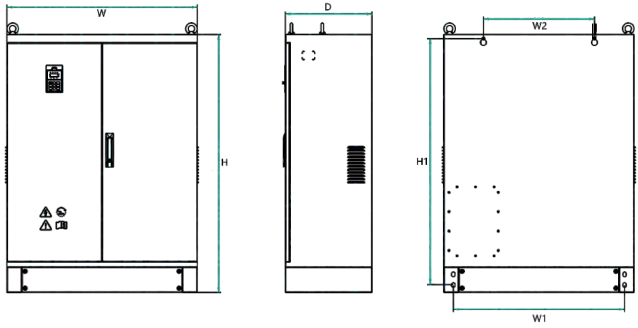




Model	inverter			Installation			GW(kg)
	H (mm)	W (mm)	D (mm)	H1 (mm)	W1 (mm)	Diameter (mm)	
4T-5.5G	190	110	150	179	98	Ø5	2.6
4T-7.5G	210	130	160	198	118	Ø5	3.8
4T-11G	250	155	176	236	141	Ø5	5.0
4T-15G	295	176	188	279	160	Ø7	7.5
4T-18.5G							
4T-22G	337	245	188	320	228	Ø7	10.5
4T-30G							



Model	inverter			Installation			GW(kg)
	H (mm)	W (mm)	D (mm)	H1 (mm)	W1 (mm)	Diameter (mm)	
4T-37G	387	250	220	372	150	Ø7	14
4T-45G	440	270	256	426	180		
4T-55G							25
4T-75G	469	307	263	450	200	Ø10	32
4T-90G	590	340	305	565	200		52
4T-110G							55
4T-132G	740	450	329	715	360	Ø12	96.5
4T-160G							98
4T-185G							98.7
4T-200G	940	500	369	914	400		168.5
4T-220G							170
4T-250G							172
4T-280G	1045	725	390	1012	600	Ø14	222
4T-315G							
4T-350G							



Model	inverter			Installation			GW(kg)
	H(mm)	W(mm)	D(mm)	H1(mm)	W1(mm)	Diameter (mm)	
4T-400G	1810	850	405	1410	513	Ø13	309
4T-450G							
4T-500G							

2.6 External Keypad Installation Dimensions

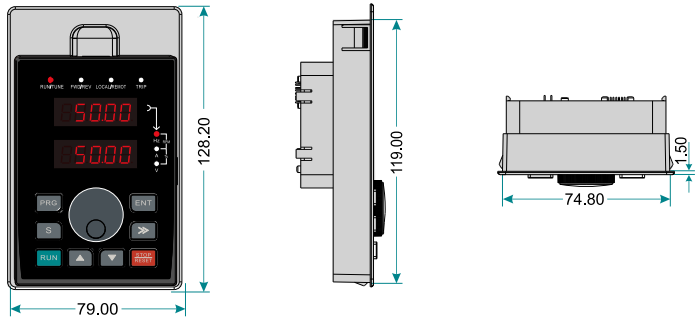


Figure 2-3 Keypad Installation dimensions

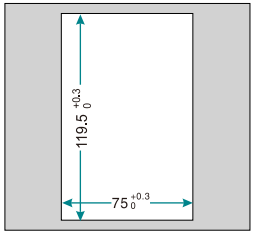
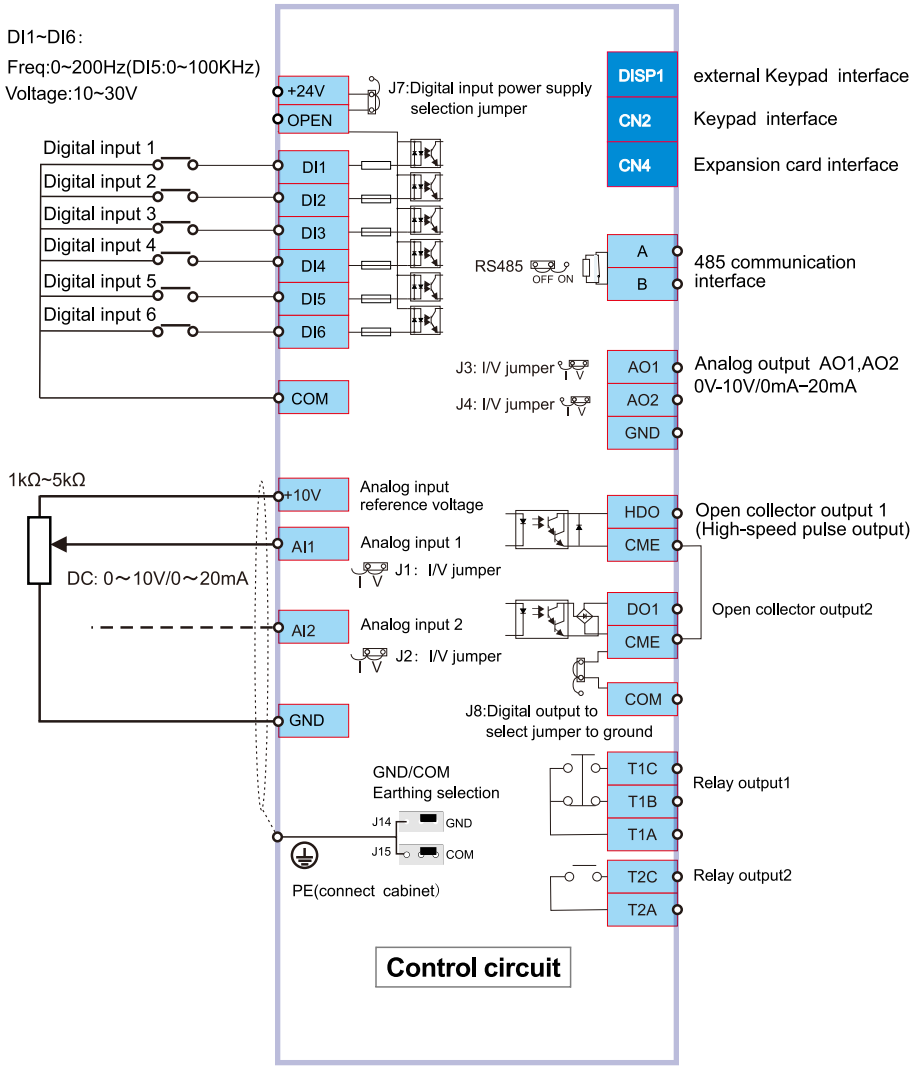


Figure 2-4
Opening dimension diagram
for keypad with base

2.7 Control Circuit Wiring Diagram



NOTE:

The control panel for the power segment below 5.5kW lacks DI6, AO2, DO1, and CME compared to the above figure.

2.8 Main Circuit Wiring Diagram

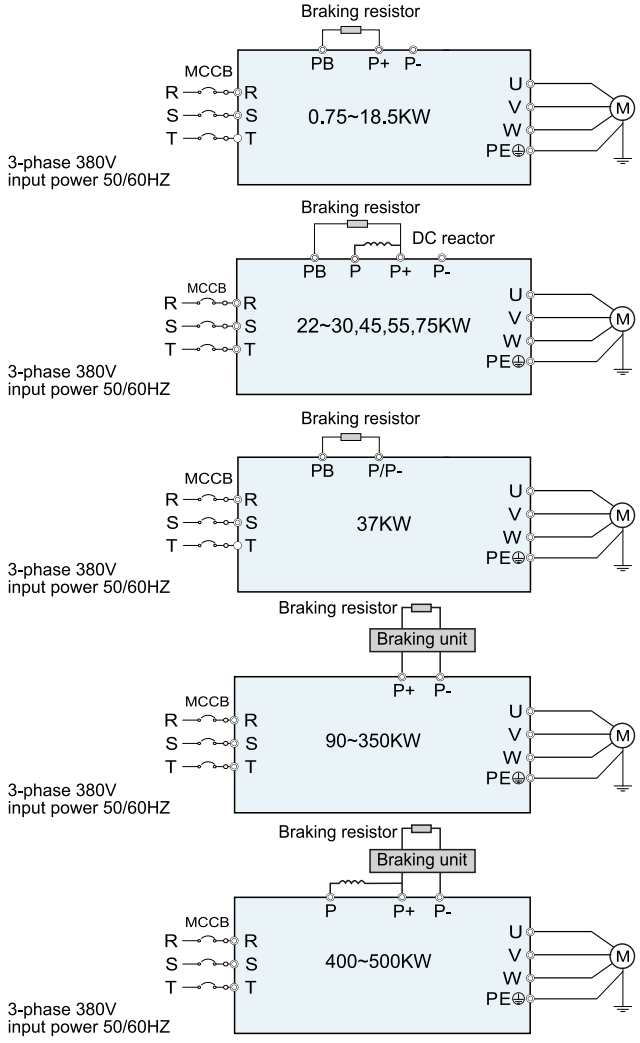


Figure 2-6 Main circuit wiring diagram

Note:

1. DC reactor, braking unit and braking resistor are optional accessories".

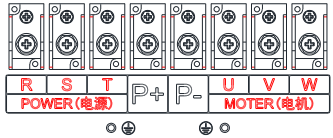
2. P and(+) are short circuited in factory, if need to connect with the DC reactor, please remove the contact tag between P and (+).

3. Do not install capacitor or surge suppressor on the output side of the AC drive. Otherwise, it may cause faults to the AC drive or damage to the capacitor and surge suppressor;

4. Input/output (main circuit) of the AC drive include harmonic components, which may interfere with the AC drive attachment communications equipment. Therefore, install an anti-aliasing filter to minimize the interference;

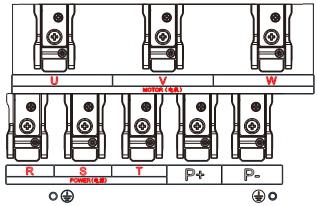
2.9 Terminal wiring diagram

0.7~11KW Schematic diagram
of main circuit terminals



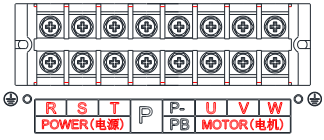
90~110KW Schematic diagram
of main circuit terminals

15~18.5KW Schematic diagram
of main circuit terminals



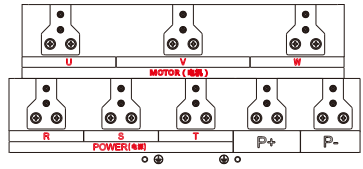
132~250KW Schematic diagram
of main circuit terminals

22~30KW Schematic diagram
of main circuit terminals

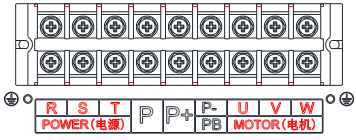


37KW Schematic diagram
of main circuit terminals

G type with P-without PB
GC type without P-with PB

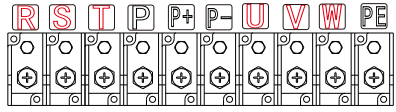


280~350KW Schematic diagram
of main circuit terminals



45~75KW Schematic diagram
of main circuit terminals

G type with P-without PB
GC type without P-with PB



400~500KW Schematic diagram
of main circuit terminals

Chapter 3 Operation And Display

3.1 Introduction of the keypad

The keypad is used to control inverters, read the state data and adjust parameters.

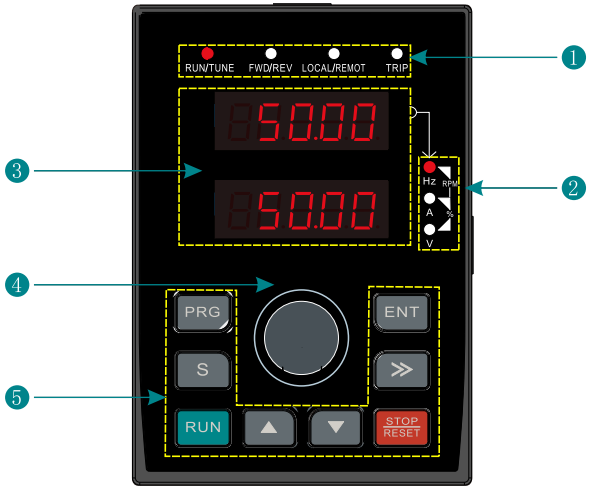
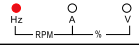
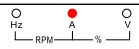
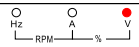
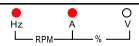
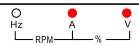


Figure 3-1 Keypad diagram

Note:
Optional LCD keyboard.

No.	Name	Instructions		
1	Status indicator	RUN/TUNE	OFF	The AC drive is in the stopping state;
			ON	The AC drive is in the running state.
		FWD/REV	OFF	The AC drive is in the forward rotation state
			ON	The AC drive is in the reverse rotation state.
			Flash	The AC drive is running from reverse to forward
		LOCAL/ REMOT	OFF	Operation panel control
			ON	Terminals control
			Flash	Communication control
		TRIP	ON	The AC drive in the fault state
			Flash	The AC drive is in pre-alarm state
			OFF	The AC drive is in normal state

No.	Name	Instructions		
2	Unit indicator	It represents the current display of the Keypad		
			Hz	Frequency unit
			A	Current unit
			V	Voltage unit
			RPM	Speed unit
			%	Percentage
3	Code Display Zone	5-figure LED display displays various monitoring data and alarm code such as set frequency and output frequency.		
4	Potent-iometer	When the frequency source X or Y is set to 1, the setting of the frequency source is determined by the analog potentiometer input voltage .		
5	Keypad button zone	PRG	Program key	Enter or escape from the first level menu and remove the parameter quickly
		ENT	Entry key	Enter the menu step-by-step confirm parameters
		▲	Up key	Increase data or function code progressively
		▼	Down key	Decrease data or function code progressively
		>>	Right-Shift key	Move right to select the displaying parameter circularly in stopping and running mode. Select the parameter modifying digit during the parameter modification
		RUN	Run key	The key is used to operate on the AC drive in key operation mode
		STOP RESET	Stop/Reset	This key is used to stop in running state; This key is used to reset all control modes in the fault state.
		S	S Key	Corresponding to P08.00

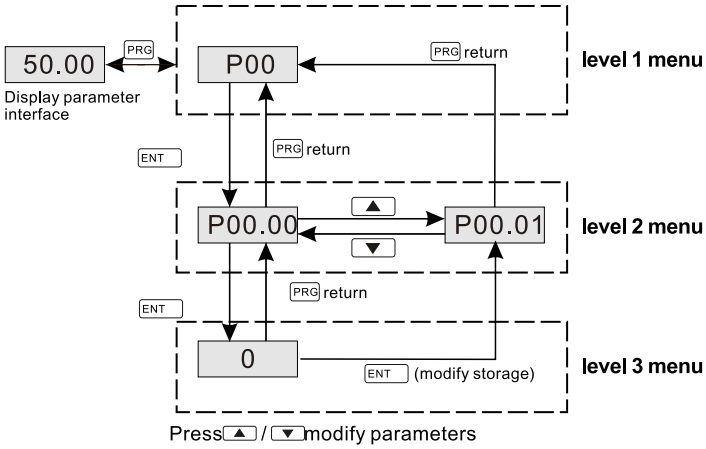
3.2 Keypad Operation

Operate the AC drive via operations panel. See the detailed structure description of function code in the brief diagram of function codes.

The AC drive has three-level menus, they are:

1. Group number of function code(first-level menu)
2. Tab of function code(second-level menu)
3. Set value of function code(third-level menu)

Operation procedure on the operation panel:



Note:

Press both the "PRG" and the "ENT" key to return to level2 menu from the level3 menu. The difference is: pressing "ENT" will save the set parameters into the control panel, and then return to the level2 menu with shifting to the next function code automatically; while pressing "PRG" will directly return to the level 2 menu without saving the parameters, and keep staying at the current function code.

In Level 3 menu, if the parameter has no blinking digit, it means that the parameter cannot be modified. This may be because:

a. Such a function code is only readable, such as, AC drive model, actually detected parameter and running record parameter;

b. Such a function code cannot be modified in the running state and can only be changed to stop.

Example: Set function code P02.08 from 20.00S to 10.00S.

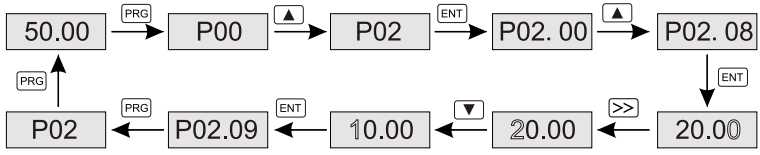


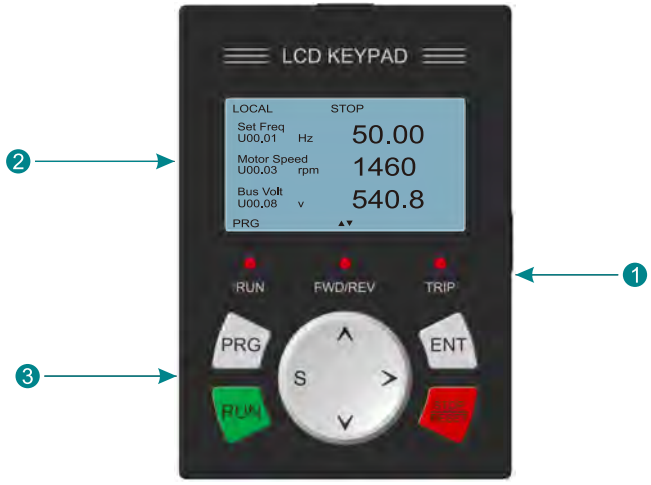
Figure 3-2 Modifying parameters diagram

Note:

If you press PRG key for a long time, you can enter the user customized parameter mode. The parameters in this mode can be set by P30 groups

3.3 Introduction of LCD keyboard

The inverter can be equipped with an LCD keyboard(optional), which can control the start and stop of the inverter, read status data and set parameters.



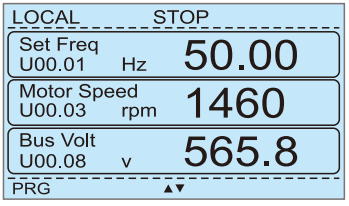
Serial number	Name	Illustrate		
1	Indicator Status	RUN/TUNE	Off	VFD stop
			On	VFD run
		FWD/REV	Off	Forward rotation command state
			On	Reverse rotation command state
			Flashing	Forward and reverse switching state
		LOCAL/REMOT	Off	Panel start-stop control mode
			On	Terminal start and stop control mode
			Flashing	Communication start and stop control mode
		TRIP	On	Torque control mode
			Quick flash	Fault state
			Slow flash	Parameter autotuning status
2	LCD screen	Display screen	Can display 3 Monitoring parameters or 5 Submenu items at the same time	
3	Button area	PRG	Programming key	Enter or exit the menu interface Home page short press: enter the main menu page; Long press on the home page: Enter the shortcut menu page: Short press on the menu page:Return to the previous page; Menu page long press:Return to home page;

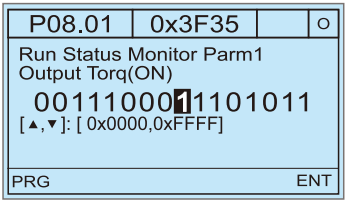
③	Button area	RUN	Run key	Run or confirm before auto tuning
		STOP RESET	Stop/reset key	In the running state, press this key to stop the running operation In the fault alarm state, this key can be used to reset the operation.
		∧	ncrement key	Move up to view the display, the number increments
		∨	Down key	Move down to view the display, the number is decremented
		S	S key	1: Only in the main monitoring page, the S key is restricted by the function code P08.00 (The default S key is the jog function on the main monitoring page); 2: Under the non-main monitoring page Turn the page up, select the functions such as moving the cursor to the left;
		>	Right click	1: Under the main monitoring page Right click to enter the secondary monitoring page; 2: Under the non-main page Flip page down, select functions such as moving the cursor to the right;

3.3.1 Interface introduction

Monitoring interface:

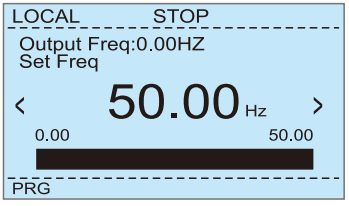
This interface can monitor the relevant parameters in the off or running state, which can be set through P08.01~P08.04, and the corresponding position of the parameter to be displayed is 1 to display the parameter on the monitoring interface.

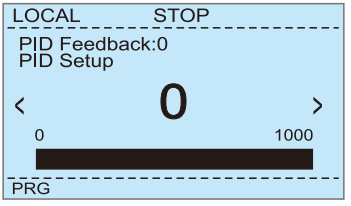




Quick digital setting interface:

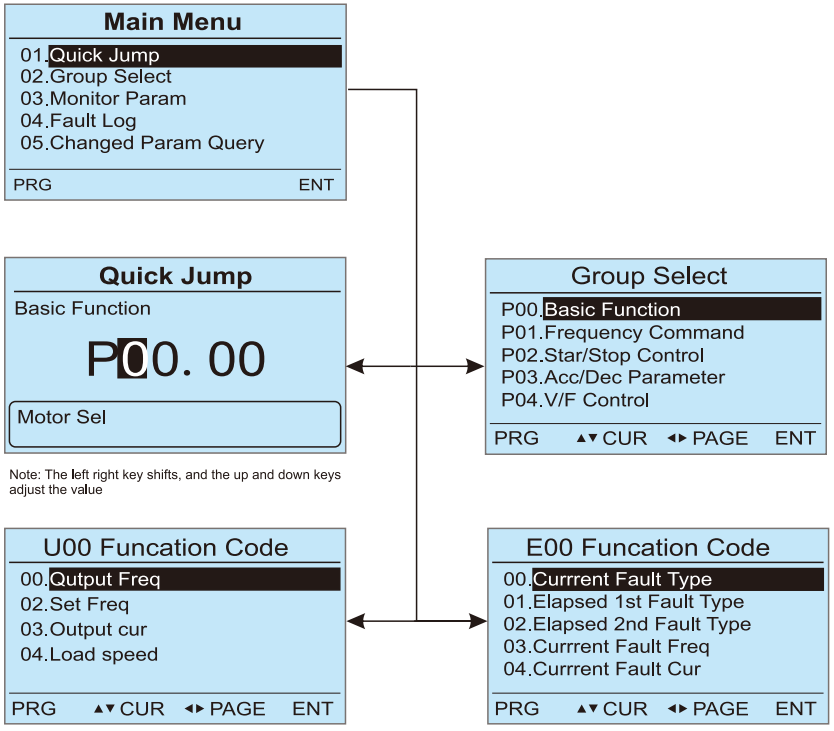
Click the right arrow key in the monitoring interface to enter the digital setting mode, and adjust the digital frequency by pressing the up and down keys; click the right arrow key again to enter the PID digital setting (valid when the PID feedback is not 0).





Main menu:

Click the PRG button in the monitoring interface to enter the main menu, and then select parameters according to requirements



Chapter 4 Function Parameters Table

4.1 Function Parameters Table

1. Below is the instruction of the function lists:

The first line "Function code":codes of function parameter group and parameters;

The second line "Name":full name of function parameters;

The third line "Setting range":effective setting value of the function parameters;

The fourth line "Default value":the original factory values of the function parameter;

The fifth line"Modify":the modifying character of function codes(the parameters can be modified or not and the modifying conditions), below is the instruction:

"○": means the set value of the parameter can be modified on stop and running state;

"X": means the set value of the parameter can not be modified on the running state;

"*": means the value of the parameter is the real detection value which can not be modified.

The sixth line "Address": The address of the function parameter in the communication.

Function code	Name	Setup range	Default Value	Modification	Add.
Group P00 Frequency Instruction Group					
P00.00	X frequency command	0: Keypad digital setting 1: Keypad potentiometer setting 2: Analog AI1 setting 3: Analog AI2 setting 4: Analog AI3 setting 5: High-speed pulse DI5 setting 6: Multi-step Freq running setting 7: Simple PLC setting 8: PID control setting 9: Communication setting	1	X	0x000
P00.01	Y frequency command		3	X	0x001
P00.02	Y frequency command reference	0: MAX. output frequency(P00.07) 1: X frequency command	0	○	0x002
P00.03	Y frequency range	0.0~100.0%	100.0%	○	0x003
P00.04	Combination of the setting codes	Ones: Frequency reference selection 0: X 1: X and Y calculation (based on tens position) 2: Switchover between X and Y 3: Switchover between X and "X&Y calculation" 4: Switchover between Y and "X&Y calculation" Tens: X and Y calculation formula 0: X + Y 1: X - Y 2: Max. (X, Y) 3: Min. (X, Y)	00	○	0x004
P00.05	Keypad digital setting frequency	0.00Hz~P00.07(Max. Freq)	50.00Hz	○	0x005
P00.06	Retentive of digital setting frequency	Ones: Retentive selection of digital setting frequency upon stop 0: Not retentive 1: Retentive Tens: Retentive selection of digital setting frequency upon power-off 0: Not retentive 1: Retentive	11	○	0x006

Function code	Name	Setup range	Default Value	Modification	Add.
P00.07	Max. output frequency	50.00Hz~500.00Hz	50.00Hz	×	0x007
P00.08	Upper limit frequency source selection	0: P00.09 1: AI1 2: AI2 3: AI3 4: Pluse	0	○	0x008
P00.09	Upper limit frequency	P00.10~P00.07(Max. frequency)	50.00Hz	○	0x009
P00.10	Lower limit frequency	0.00Hz~P00.09 (Upper limit frequency)	0.00Hz	○	0x00A
P00.11	Jog frequency	0.00Hz~P00.07(Max. frequency)	5.00Hz	○	0x00B
P00.12	Jog selection in running state	0:allowed 1:prohibited	0	○	0x00C
P00.13	Action if running frequency<lower limit frequency	0: Operating frequency lower limit 1: Zero speed operation 2: Stop	0	○	0x00D
P00.14	Time-delay of stop when running frequency<lower limit frequency	0.0s~6500.0s	0.0s	○	0x00E
P00.15	Jump frequency 1	0.00Hz~P00.07(Max. frequency)	0.00Hz	○	0x00F
P00.16	Jump frequency 1 width	0.00Hz~P00.07(Max. frequency)	0.00Hz	○	0x010
P00.17	Jump frequency 2	0.00Hz~P00.07(Max. frequency)	0.00Hz	○	0x011
P00.18	Jump frequency 2 width	0.00Hz~P00.07(Max. frequency)	0.00Hz	○	0x012

Function code	Name	Setup range	Default Value	Modification	Add.
Group P01 Startup and stop Control					
P01.00	Run command channel	0: Keypad run command channel 1: Terminal command channel (Keypad STOP disabled) 2: Terminal command channel (Keypad STOP enable) 3:Communication command (Keypad STOP disabled) 4:Communication command (Keypad STOP enabled)	0	○	0x100
P01.01	Binding command source to frequency source	Ones: Binding keyboard command to frequency source 0: No function 1: Keypad digital setting 2: Keypad potentiometer setting 3: Analog AI1 setting 4: Analog AI2 setting 5: Analog AI3 setting 6: High-speed pulse DI5 setting 7: Multi-speed running setting 8: Simple PLC program setting 9: PID control setting A: Communication setting Tens: Binding terminal command to frequency source 0–9, same as Ones Hundreds: Binding communication command to frequency source 0–9, same as Ones	000	○	0x101
P01.02	Rotation direction	0: Same direction 1: Reverse direction	0	○	0x102
P01.03	Start-up mode	0: Start-up directly 1: Start-up after Speed tracking 2: Start-up after DC braking/Pre excitation	0	○	0x103
P01.04	Starting frequency of direct start	0.00~10.00Hz	0.00Hz	×	0x104
P01.05	Retention time of the starting frequency	0.0~100.0s	0.0s	×	0x105

Function code	Name	Setup range	Default Value	Modification	Add.
P01.06	DC injection braking level/ Pre excitation level	0.0~100.0%	50.0%	×	0x106
P01.07	DC injection braking active time/ Pre-excitation active time	0.0~1000.0s	0.0s	×	0x107
P01.08	RESERVED			*	—
P01.09	Stop Mode	0: Decelerate to stop 1: Coast to stop	0	○	0x109
P01.10	Starting frequency of DC braking	0.00~P00.07(Max. frequency)	0.00Hz	○	0x10A
P01.11	Waiting time of DC braking	0.0~1000.0s	0.0s	○	0x10B
P01.12	Stopping DC braking current	0.0~100.0%	50.0%	○	0x10C
P01.13	Stopping DC braking time	0.0~1000.0s	0.0s	○	0x10D
P01.14	Reverse disabled	0: Reverse enabled 1: Reverse disabled	0	○	0x10E
P01.15	Dead time of FWD/REV rotation	0.0~3000.0s	0.0s	○	0x10F
P01.16	The protection of the electric terminals	0: Invalid operation command on terminal 1: valid operation command on terminal	0	○	0x110
P01.17	Select restart after power failure	0: prohibit restart 1: allow restart	0	○	0x111
P01.18	RESERVED				—
P01.19	Energy braking seclection	0: Disable 1: Enable	1	○	0x113
P01.20	Energy braking threshold voltage	600.0~800.0V	Model dependent	○	0x114
P01.21	Brake use ratio	0.0%~100.0%	100.0%	○	0x115
P01.22	The coefficient of Magnetic flux braking	1~100%: The bigger the coefficient, the stronger the braking is)	0.0%	○	0x116

Function code	Name	Setup range	Default Value	Modification	Add.
Group P02 Acc/Dec Parameters					
P02.00	Acc-time 1	0.0~6500.0s	Model dependent	○	0x200
P02.01	Dec-time 1	0.0~6500.0s	Model dependent	○	0x201
P02.02	ACC time2	0.0~6500.0s	Model dependent	○	0x202
P02.03	DEC time2	0.0~6500.0s	Model dependent	○	0x203
P02.04	ACC time3	0.0~6500.0s	Model dependent	○	0x204
P02.05	DEC time3	0.0~6500.0s	Model dependent	○	0x205
P02.06	ACC time4	0.0~6500.0s	Model dependent	○	0x206
P02.07	DEC time4	0.0~6500.0s	Model dependent	○	0x207
P02.08	Jogging ACC time	0.0~6500.0s	20.0s	○	0x208
P02.09	Jogging DEC time	0.0~6500.0s	20.0s	○	0x209
P02.10	Switching frequency of ACC time 1, 2	0.00~P00.07(Max. frequency)	0.00Hz	○	0x20A
P02.11	Switching frequency of DEC time 1, 2	0.00~P00.07(Max. frequency)	0.00Hz	○	0x20B
P02.12	ACC/DEC selection	0: Linear type 1: S-curve type	0	×	0x20C
P02.13	S curve start ratio	0.0~(100.0~P02.14)%	30.0%	×	0x20D
P02.14	S curve end ratio	0.0~(100.0~P02.13)%	30.0%	×	0x20E

Function code	Name	Setup range	Default Value	Modification	Modification
Group P03 Digital Input Terminal Group					
P03.00	DI1 terminals function selection	0: No function 1: Forward 2: Reverse 3: Three-wire control operation 4: Forward Jogging 5: Reverse Jogging 6: Coast to stop 7: External STOP terminal 1 8: External STOP terminal 2(DEC time4) 9: Immediate DC injection braking 10: DEC DC injection braking 11: Run Pause 12: Fault reset 13: Shift the command 1 14: Shift the command 2 15: Shift frequency command 16: Terminal UP 17: Terminal DOWN 18: Clear UP/DOWN (including∧/∨ key) adjustment 19: Multi-step speed terminal K1 20: Multi-step speed terminal K2 21: Multi-step speed terminal K3 22: Multi-step speed terminal K4 23: PLC status reset 24: PID parameters switching 25: PID second digital given switching terminal 26: PID action direction reverse 27: PID pause 28: Pulse input (valid only for DI5) 29: Swing pause 30: Counter input 31: Counter reset 32: Length count input 33: Length reset 34: Clear the current running time 35: Reverse prohibited 36: DEC/ACC time 1 37: DEC/ACC time 2 38: DEC/ACC disabling 39: External fault input 1 40: External fault input 2 41: Motor 1/2 switchover 42: Speed control/Torque control switchover 43: Torque control prohibited	1	×	0x300
P03.01	DI2 terminals function selection		2	×	0x301
P03.02	DI3 terminals function selection		4	×	0x302
P03.03	DI4 terminals function selection		12	×	0x303
P03.04	DI5 terminals function selection		0	×	0x304
P03.05	DI6 terminals function selection (extension card function)		0	×	0x305
P03.06	DI7 terminals function selection (extension card function)		0	×	0x306
P03.07	DI8 terminals function selection (extension card function)		0	×	0x307
P03.08	DI9 terminals function selection (extension card function)		0	×	0x308
P03.09	DI10 terminals function selection (extension card function)		0	×	0x309

Function code	Name	Setup range	Default Value	Modification	Add.
P03.10	Filtering time of digital input terminal	0.000~1.000s	0.010s	○	0x30A
P03.11	DI active mode selection 1	0:Positive logic 1:Negative logic Units position: DI1 active mode Tens position: DI2 active mode Hundreds position: DI3 active mode Thousand position: DI4 active mode Ten thousands position: DI5 active mode	00000	X	0x30B
P03.12	DI active mode selection 2	0:Positive logic 1:Negative logic Units position: DI6 active mode Tens position: DI7 active mode Hundreds position: DI8 active mode Thousand position: DI9 active mode Ten thousands position: DI10 active mode	00000	X	0x30C
P03.13	Terminals control running mode	0: 2-wire control 1 1: 2-wire control 2 2: 3-wire control 1 3: 3-wire control 2	0	X	0x30D
P03.14	Terminal UP/DOWN rate	0.001Hz/s ~ 65.000Hz/s	1.000Hz	○	0x30E
P03.15	Switch-on delay of DI1 terminal	0.0~3600.0s	0.0s	X	0x30F
P03.16	Switch-off delay of DI1 terminal	0.0~3600.0s	0.0s	X	0x310
P03.17	Switch-on delay of DI2 terminal	0.0~3600.0s	0.0s	X	0x311
P03.18	Switch-off delay of DI2 terminal	0.0~3600.0s	0.0s	X	0x312
P03.19	Switch-on delay of DI3 terminal	0.0~3600.0s	0.0s	X	0x313
P03.20	Switch-off delay of DI3 terminal	0.0~3600.0s	0.0s	X	0x314

Function code	Name	Setup range	Default Value	Modification	Add.
Group P04 Digital Output Terminal Group					
P04.00	HDO output	0: Open collector pole high speed pulse output(See P06.02 for detailed information of the related function) 1: Open collector pole output (See P04.02 for detailed information of the related function)	0	○	0x400
P04.01	DO1 output	0: Invalid 1: AC drive running 2: Forward running 3: Reverse running 4: Jogging running 5: Zero-speed running 6: Ready for operation 7: AC drive fault 8: AC drive overload pre-alarming 9: Motor overload pre-alarming 10: AC drive underload pre-alarming 11: Frequency arrival 12: Upper limit Freq attained 13: Lower limit Freq attained 14: Frequency detection FDT1 15: Frequency detection FDT2 16: Frequency 1 reached 17: Frequency 2 reached 18: Reserved 19: Completion of PLC stage 20: Completion of PLC Circle 21: PID sleeping 22: Current 1 reached 23: Current 2 reached 24: Load status 25: Setting count value attained 26: Designated count value attained 27: Setting length attained 28: Designated length attained 29: Setting running time reached 30: Communication setting 31: Output DI1 32: Output Di2 33: Limit the output Di1 34: AI1 input limit exceeded 35: Brake control 36: PID feedback offline 37: Motor overheat warning	0	○	0x401
P04.02	HDO output		0	○	0x402
P04.03	Relay T1 output		1	○	0x403
P04.04	Relay T2 output		7	○	0x404
P04.05	Relay T2 output		0	○	0x405
P04.06	Polarity of output terminals	0:Positive logic 1:Negative logic Units position: D01 active mode Tens position: HDO active mode Hundreds position: T1 active mode Thousand position: T2 active mode Ten thousands position: T3 active mode	0	○	0x406

Function code	Name	Setup range	Default Value	Modification	Add.
P04.07	DO1 switch-on delay time	0.0~3600.0s	0.0s	○	0x407
P04.08	DO1 switch-off delay time	0.0~3600.0s	0.0s	○	0x408
P04.09	HDO switch-on delay time	0.0~3600.0s	0.0s	○	0x409
P04.10	HDO switch- off delay time	0.0~3600.0s	0.0s	○	0x40A
P04.11	T1 switch-on delay time	0.0~3600.0s	0.0s	○	0x40B
P04.12	T1 switch-off delay time	0.0~3600.0s	0.0s	○	0x40C
P04.13	T2 switch-on delay time	0.0~3600.0s	0.0s	○	0x40D
P04.14	T2 switch-off delay time	0.0~3600.0s	0.0s	○	0x40E
P04.15	RESERVED				—
P04.16	RESERVED				—
P04.17	Frequency arrival detection value	0.0%~100.0%	0.0%	○	0x411
P04.18	FDT1 frequency detection value	0.00Hz~P00.07(Max. frequency)	50.00Hz	○	0x412
P04.19	FDT1 frequency detection hysteresis	0.0%~100.0%	5.0%	○	0x413
P04.20	FDT2 frequency detection value	0.00Hz~P00.07(Max. frequency)	50.00Hz	○	0x414
P04.21	FDT2 frequency detection hysteresis	0.0%~100.0%	5.0%	○	0x415
P04.22	Detection of any frequency 1	0.00Hz~P00.07(Max. frequency)	50.00Hz	○	0x416
P04.23	Detection width of any frequency 1	0.0%~100.0%(Max. frequency)	0	○	0x417
P04.24	Detection of any frequency 2	0.00Hz~P00.07(Max. frequency)	50.00Hz	○	0x418
P04.25	Detection width of any frequency 2	0.0%~100.0%(Max. frequency)	0	×	0x419

Function code	Name	Setup range	Default Value	Modification	Add.
P04.26	Upper limit of load current	0.0%~300.0%(Motor rated current)	100.0%	×	0x41A
P04.27	Lower limit of load current	0.0%~300.0%(Motor rated current)	50.0%	×	0x41B
P04.28	Any current reaching 1 value	0.0%~300.0%(Motor rated current)	100.0%	○	0x41C
P04.29	Any current reaching 1 amplitude	0.0%~300.0%(Motor rated current)	0.0%	○	0x41D
P04.30	Any current reaching 2 value	0.0%~300.0%(Motor rated current)	100.0%	○	0x41E
P04.31	Any current reaching 2 amplitude	0.0%~300.0%(Motor rated current)	0.0%	○	0x41F
P04.32	AI1 input voltage lower limit	0.0V~P04.33	3. 0V	○	0x420
P04.33	AI1 input upper limit voltage	P04.32~10.00V	7.0V	○	0x421
P04.34	Brake control selection	0: Disabled 1: Enabled（When changing the steering, the brake is in action） 2: Enable（When changing the steering, the brake does not act and the frequency jumps）	0	×	0x422
P04.35	Upward release frequency	0.00~P04.37	2.00Hz	×	0x423
P04.36	Upward release current	0.0%~200.0%(Rated current of motor)	30%	×	0x424
P04.37	Release the delay frequency upward	P04.35~Maxfrq	2.00Hz	○	0x425
P04.38	Release the delay time upward	0.0s~10.0s	0.2S	○	0x426
P04.39	Upward brake frequency	P04.40~Maxfrq	2.00Hz	×	0x427
P04.40	Frequency of upward holding brake against sliding	0.00~P04.39	2.00Hz	×	0x428
P04.41	Upward holding brake anti-slide maintenance time	0.0s~10.0s	0.2S	○	0x429

Function code	Name	Setup range	Default Value	Modification	Add.
P04.42	Downward release frequency	0.00~P04.44	2.00Hz	×	0x42A
P04.43	Downward release current	0.0%~200.0%(Rated current of motor)	30.0%	×	0x42B
P04.44	Release the delay frequency downward	P04.42~Maxfrq	2.00Hz	×	0x42C
P04.45	Release the delay time downward	0.0s~10.0s	0.2S	○	0x42D
P04.46	Downward brake frequency	P04.47~Maxfrq	2.00Hz	×	0x42E
P04.47	Frequency of downward holding brake against sliding	0.00~P04.46	2.00Hz	×	0x42F
P04.48	Downward holding brake anti-slide maintenance time	0.0s~10.0s	0.2S	○	0x430
P04.49	Holding brake start-stop torque limit	0.00%~200.0%	100.0%	○	0x431
P04.50	Change the steering start delay time	0.0~1000.0s	0.5S	○	0x432
P04.51	Jump frequency when changing steering(When P04.34=2)	0.00~Maxfrq	2.00Hz	○	0x433

Function code	Name	Setup range	Default Value	Modification	Add.
Group P05 Analog Curve And Pulse Input Setting Function Group					
P05.00	Lower limit of AI1	0.00V~ P05.02	0.00V	○	0x500
P05.01	Corresponding setting of the lower limit of AI1	-100.0%~100.0%	0.0%	○	0x501
P05.02	Ai1 inflexion 1 input	P05.00~P05.04	10.00V	○	0x502
P05.03	Corresponding percentage of AI1 inflexion 1 input	-100.0%~100.0%	100.0%	○	0x503
P05.04	Ai1 inflexion 2 input	P05.02~P05.06	10.00V	○	0x504
P05.05	Corresponding percentage of AI1 inflexion 2 input	-100.0%~100.0%	100.0%	○	0x505
P05.06	Upper limit of AI1	P05.04~10.00V	10.00V	○	0x506
P05.07	Corresponding setting of the upper limit of AI1	-100.0%~100.0%	100.0%	○	0x507
P05.08	Ai1 input filter time	0.00s~10.00s	0.100s	○	0x508
P05.09	Lower limit of AI2	0.00V~ P05.11	0.00V	○	0x509
P05.10	Corresponding setting of the lower limit of AI2	-100.0%~100.0%	0.0%	○	0x50A
P05.11	Ai2 inflexion 1 input	P05.09~P05.13	10.00V	○	0x50B
P05.12	Corresponding percentage of AI2 inflexion 1 input	-100.0%~100.0%	100.0%	○	0x50C
P05.13	AI2 inflexion 2 input	P05.11~P05.15	10.00V	○	0x50D
P05.14	Corresponding percentage of AI2 inflexion 2 input	-100.0%~100.0%	100.0%	○	0x50E
P05.15	Upper limit of AI2	P05.13~10.00V	10.00V	○	0x50F
P05.16	Corresponding setting of the upper limit of AI2	-100.0%~100.0%	100.0%	○	0x510
P05.17	AI2 input filter time	0.00s~10.00s	0.100s	○	0x511
P05.18	Lower limit of AI3	-10.00V~ P05.20	-10.00V	○	0x512
P05.19	Corresponding setting of the lower limit of AI3	-100.0%~100.0%	-100.0%	○	0x513
P05.20	AI 3 inflexion 1 input	P05.18~P05.22	-3.00V	○	0x514
P05.21	Corresponding percentage of AI3 inflexion 1 input	-100.0%~100.0%	-30.0%	○	0x515

Function code	Name	Setup range	Default Value	Modification	Add.
P05.22	AI3 inflexion 2 input	P05.20~P05.24	3.00V	○	0x516
P05.23	Corresponding percentage of AI3 inflexion 2 input	-100.0%~100.0%	30.0%	○	0x517
P05.24	Upper limit of AI 3	P05.22~10.00V	10.00V	○	0x518
P05.25	Corresponding setting of the upper limit of AI3	-100.0%~100.0%	100.0%	○	0x519
P05.26	Ai3 input filter time	0.00s~10.00s	0.10s	○	0x51A
P05.27	AI lower than Min. input setting selection	000~111 Ones: AI1 lower than minimum input setting selection 0: Corresponding percentage of min. input 1:0. 0% Tens: AI2 lower than minimum input setting selection(As above) Hundreds: AI3 lower than minimum input setting selection(As above)	0x000	○	0x51B
P05. 28	Lower limit frequency of pulse DI5	0.00KHz~P05.30	0.00 KHz	○	0x51C
P05. 29	Corresponding setting of lower limit frequency of pulse DI5	-100.0%~100.0%	0.0%	○	0x51D
P05. 30	Upper limit frequency of pulse DI5	P05.28~100.00KHz	50.00 KHz	○	0x51E
P05. 31	Corresponding setting of upper limit frequency of pulse DI5	-100.0%~100.0%	100.0%	○	0x51F
P05. 32	Input filter time of pulse DI5	0.00s~10.00s	0.10s	○	0x520

Function code	Name	Setup range	Default Value	Modification	Add.
Group P06 Analog Curve And Pulse Output Setting Function Group					
P06.00	AO1 output	0: Running frequency 1: Setting frequency 2: Output current (relative to twice rated current of the motor) 3: Output voltage 4: High speed pulse DI5 input value 5: Analog AI1 input value 6: Analog AI2 input value 7: Analog AI3 input value 8: Length 9: Count value 10: Running time 11: Output torque 12: Output power 13: Communication setting 14: Keypad potentiometer setting	0	○	0x600
P06.01	AO2 output		1	○	0x601
P06.02	HDO output		0	○	0x602
P06.03	Lower output limit of AO1	0.0%~P06.05	0.0%	○	0x603
P06.04	Corresponding AO1 output of lower limit	0.00V~10.00V	0.00V	○	0x604
P06.05	Upper output limit of AO1	P06.03~100.0%	100.0%	○	0x605
P06.06	The corresponding AO1 output of upper limit	0.00V~10.00V	10.00V	○	0x606
P06.07	Lower output limit of AO2	0.0%~P06.09	0.0%	○	0x607
P06.08	Corresponding AO2 output of lower limit	0.00V~10.00V	0.0%	○	0x608
P06.09	Upper output limit of AO2	P06.07~100.0%	100.0%	○	0x609
P06.10	The corresponding AO2 output of upper limit	0.00V~10.00V	10.00V	○	0x60A
P06.11	Lower output limit of HDO	0.0%~P06.13	0.0%	○	0x60B
P06.12	Corresponding HDO output of lower limit	0.00~60.00kHz	0.00Hz	○	0x60C
P06.13	Upper output limit of HDO	P06.11~100.0%	100.0%	○	0x60D
P06.14	Corresponding HDO output of upper limit	0.00~60.00kHz	10.00 kHz	○	0x60E

Function code	Name	Setup range	Default Value	Modification	Add.
Group P07 AI/AO Correction Group					
P07.00	AI,AO corrective active selection	0: No action 1: AI1 channel correction 2: AI2 channel correction 3: AI3 channel correction 4: AO1 channel correction 5: AO2 channel correction	0	○	0x700
P07.01	AI1 measured voltage1	0.000V~10.000V	Correction before delivery	○	0x701
P07.02	AI1 display voltage1	0.000V~10.000V		○	0x702
P07.03	AI1 measured voltage2	0.000V~10.000V		○	0x703
P07.04	AI1 display voltage 2	0.000V~10.000V		○	0x704
P07.05	AI2 measured voltage1	0.000V~10.000V		○	0x705
P07.06	AI2 display voltage1	0.000V~10.000V		○	0x706
P07.07	AI2 measured voltage 2	0.000V~10.000V		○	0x707
P07.08	AI2 display voltage 2	0.000V~10.000V		○	0x708
P07.09	AI3 measured voltage 1	0.000V~10.000V		○	0x709
P07.10	AI3 display voltage 1	0.000V~10.000V		○	0x70A
P07.11	AI3 measured voltage 2	0.00V~10.000V		○	0x70B
P07.12	AI3 display voltage 2	0.00V~10.000V		○	0x70C
P07.13	AO1 measured voltage 1	0.000V~10.000V		○	0x70D
P07.14	AO1 display voltage 1	0.000V~10.000V		○	0x70E
P07.15	AO1 measured voltage 2	0.000V~10.000V		○	0x70F
P07.16	AO1 display voltage 2	0.000V~10.000V		○	0x710
P07.17	AO2 measured voltage1	0.000V~10.000V		○	0x711
P07.18	AO2 display voltage1	0.000V~10.000V		○	0x712
P07.19	AO2 measured voltage 2	0.000V~10.000V		○	0x713
P07.20	AO2 display voltage 2	0.000V~10.000V		○	0x714

Function code	Name	Setup range		Default Value	Modification	Add.
Group P08: Keypad Operation and LED Display						
P08.00	The key of S function selection	0: No function 1: Forward jog 2: Reverse jog 3: Forward/reverse switchover 4: Run command sources shifted 5: Clear the date of exact stop		1	×	0x800
P08.01	Display parameter setting 1 on run status	0~65535 BIT0: Running frequency(Hz ON) BIT1: Setting frequency(Hz flash) BIT2: Bus voltage(V ON) BIT3: Output voltage(V ON) BIT4: Output current(A ON) BIT5: Motor speed(rpm ON) BIT6: Output power(% ON) BIT7: Output torque(% ON) BIT8: PID reference (% ON) BIT9: PID feedback(% ON) BIT10: Input terminal state BIT11: Output terminal state BIT12: AI1(V on) BIT13: AI2(V on) BIT14: AI3(V on) BIT15: Linear speed Note: If you want to display the above parameters, add the corresponding decimal to enter this parameter	2^0=1 2^1=2 2^2=4 2^3=8 2^4=16 2^5=32 2^6=64 2^7=128 2^8=256 2^9=512 2^{10}=1024 2^{11}=2048 2^{12}=4096 2^{13}=8192 2^{14}=16384 2^{15}=32768	53	○	0x801
P08.02	Display parameter setting 2 on run status	0~65535 BIT0: PLC current stage BIT1: Pulse count value BIT2: Length value BIT3: Torque setting value(% ON) BIT4: Pulse Di5 frequency BIT5: Load speed BIT6: IGBT temperature BIT7: AC input voltage BIT8: Encoder feedback speed BIT9~BIT15: Reserve Note: If you want to display the above parameters, add the corresponding decimal to enter this parameter	2^0=1 2^1=2 2^2=4 2^3=8 2^4=16 2^5=32 2^6=64 2^7=128 2^8=256	0	○	0x802
P08.03	RESERVED					–

Function code	Name	Setup range		Default Value	Modification	Add.
P08.04	Display parameter setting on stop status	0~65535 BIT0: Setting frequency(Hz ON) BIT1: Motor speed(rpm ON) BIT2: Bus voltage(V ON) BIT3: AC input voltage BIT4: Input terminal state BIT5: Output terminal state BIT6: PID reference (% ON) BIT7: PID feedback(% ON) BIT8: AI1(V on) BIT9: AI2(V on) BIT10: AI3(V on) BIT11: Length value BIT12: Pulse count value BIT13: PLC current stage BIT14: Load speed BIT15: Pulse Di5 frequency Note: If you want to display the above parameters, add the corresponding decimal to enter this parameter	2^0=1 2^1=2 2^2=4 2^3=8 2^4=16 2^5=32 2^6=64 2^7=128 2^8=256 2^9=512 2^{10}=1024 2^{11}=2048 2^{12}=4096 2^{13}=8192 2^{14}=16384 2^{15}=32768	7	○	0x804
P08.05	RESERVED					0x805
P08.06	Auxiliary Monitoring	The parameter value is consistent with the monitoring parameter group U00		2	○	0x806
P08.07	RESERVED					—
P08.08	RESERVED					—
P08.09	Load speed display coefficient	0.001~ 65. 000		1.000	○	0x809
P08.10	Number of decimal places for loadspeed display	0.Zero decimal point 1.One decimal point 2.Two decimal points 3.Three decimal points		0	○	0x80A

Function code	Name	Setup range	Default Value	Modification	Add.
Group P09 Basic Function Group					
P09.00	Motor selection	0: Motor 1 1: Motor 2	0	X	0x900
P09.01	Motor control technique	Ones: motor 1control parameter 0: V/F control 1: SVC control 2: FVC control Tens: motor 2 control parameter 0: V/F control 1: SVC control 2: FVC control	0	X	0x901
P09.02	Type of drive	0: Type G (applicable to constant-torque load) 1: Type P (applicable to light-duty load)	0	X	0x902
P09.03	LCD display language	0:Chinese 1:English 2:Russian	0	○	0x903
P09.04	RESERVED			*	
P09.05	Parameters copy	0: No operation 1: Displays the modified parameters 2: Upload the parameters 3: Parameters copied(excluding motor parameters)to control board 4: Parameters copied(including motor parameters)to control board	0	○	0x905
P09.06	Parameters protection	0: All parameter programming allowed 1: Only this parameter programming allowed	0	○	0x906
P09.07	Software version	XXXXX		*	0x907
P09.08	User's password	0: No password Other: Password protection	0	○	0x908
P09.09	Supplier's password	XXXXX	Model de-pendent	○	0x909
P09.10	Parameter restoration	0: No operation 1: Restore all parameters to factory default (excluding motor parameters) 2: Clear fault record 3: Restore all parameters to factory default (including motor parameters)	0	X	0x0A

Function code	Name	Setup range	Default Value	Modifi-cation	Modifi-cation
Group P10 V / F Control Group					
P10.00	Motor 1V / F curve setting	0: Straight line V/F curve 1: Multi-dots V/F curve 2: 2.0en power V/F curve 3: V/F separation	0	X	0x0A00
P10.01	V/F frequency 1 of motor 1	0.00Hz~P10.03	0.00Hz	X	0x0A01
P10.02	V/F Voltage 1 of motor 1	0.0%~100.0%(motor1 rated voltage)	0.0%	X	0x0A02
P10.03	V/F frequency 2 of motor 1	P10.01~P10.05	25.00Hz	X	0x0A03
P10.04	V/F Voltage 2 of motor 1	0.0%~100.0%(motor1 rated voltage)	50.0%	X	0x0A04
P10.05	V/F frequency 3 of motor 1	P10.03~P11.04 (motor1 rated frequency)	50.00Hz	X	0x0A05
P10.06	V/F Voltage 3 of motor 1	0.0%~100.0%(motor1 rated voltage)	100.0%	X	0x0A06
P10.07	Torque boost of motor 1	0.0%(automatic torque boost) 0.1%~30.0%(Manual torque boost)	Model de-pendent	○	0x0A07
P10.08	Frequency limit of torque boost of motor1	0.00~P00.07(Max. frequency)	50.00Hz	X	0x0A08
P10.09	V/F oscillation suppres -sion gain of motor 1	0~100	Model de-pendent	○	0x0A09
P10.10	RESERVED				—
P10.11	RESERVED				—
P10.12	RESERVED				—
P10.13	RESERVED				—
P10.14	RESERVED				—
P10.15	RESERVED				—
P10.16	RESERVED				—

Function code	Name	Setup range	Default Value	Modification	Add.
P10.17	Torque boost of motor 2	0.0%(automatic torque boost) 0.1%~30.0%(Manual torque boost)	Model dependent	○	0x0A11
P10.18	Frequency limit of torque boost of motor2	0.00~P00.07(Max. frequency)	50.00Hz	X	0x0A12
P10.19	V/F oscillation suppres-sion gain of motor2	0~100	Model dependent	○	0x0A13
P10.20	V/F slip compensation gain of motor 2	0.0~200.0%	100%	○	0x0A14
P10.21	Droop control	0.0~100.0%	0.0%	○	0x0A15
P10.22	Voltage setting on V/F separated pattern	0: Keypad digital setting(P10.23) 1: Keypad potentiometer setting 2: Analog AI1 setting 3: Analog AI2 setting 4: Analog AI3 setting 5: High-speed pulse DI5 setting 6: Multi-step Freq running setting 7: Simple PLC program setting 8: PID control setting 9: Communication setting	0	○	0x0A16
P10.23	Keypad setting voltage	0.0~Motor rated voltage	0.0v	○	0x0A17
P10.24	Voltage ACC time	0.0~1000.0s	0.0s	○	0x0A18
P10.25	Voltage DEC time	0.0~1000.0s	0.0s	○	0x0A19
P10.26	Automatic current limit action selection	0: Disable 1: Enable	1	X	0x0A1A
P10.27	Automatic current limit	50.0~200.0%	150%	X	0x0A1B
P10.28	RESERVED				—
P10.29	RESERVED				—
P10.30	Over-voltage stall protection	0: Invalid 1: Stall protection mode 1 2: Reserved	1	X	0x0A1E
P10.31	Voltage protection of over-voltage stall	650.0V~800.0V	Model dependent	X	0x0A1F

Function code	Name	Setup range	Default Value	Modification	Add.
Group P11 Motor 1 Parameter Group					
P11.00	Motor 1 type	0: Ordinary asynchronous motor (with low frequency compensation) 1: AC drive motor (without low frequency compensation)	0	×	0x0B00
P11.01	Rated power of motor 1	0.1~1000.0kW	Model dependent	×	0x0B01
P11.02	Rated voltage of motor 1	0~1200V	Model dependent	×	0x0B02
P11.03	Rated current of motor 1	0.1~6000.0A	Model dependent	×	0x0B03
P11.04	Rated frequency of motor 1	0.01~P00.07(Max. frequency)	50.00Hz	×	0x0B04
P11.05	Rated speed of motor1	1~36000rpm	Model dependent	×	0x0B05
P11.06	Stator resistance of motor 1	0.001~65.535Ω	Model dependent	×	0x0B06
P11.07	rotor resistance of motor 1	0.001~65.535Ω	Model dependent	×	0x0B07
P11.08	leakage inductance of motor 1	0.01~655.35mH	Model dependent	×	0x0B08
P11.09	Mutual inductance of motor 1	0.01~655.35mH	Model dependent	×	0x0B09
P11.10	Non-load current of motor 1	0.1A~P11.03	Model dependent	×	0x0B0A
P11.16	Encoder type	0: ABZ incremental encoder 2: Resolver	0	×	0x0B10
P11.17	Encoder pulses per revolution	1~65535	1024	×	0x0B11
P11.18	A/B phase sequence of ABZ incremental encoder	0: Forward 1: Reserve	0	×	0x0B12
P11.19	Number of pole pairs of resolver	1~65535	1	×	0x0B13
P11.25	Encoder disconnection fault detection time	0:No detection 1:0.1s~10.0s	0.0	×	0x0B19
P11.26	Motor 1 parameter autotuning	0: No operation 1: Rotation autotuning 2: Static autotuning	0	×	0x0B1A

Function code	Name	Setup range	Default Value	Modification	Add.
Group P12: Motor 1 Vector Control Parameters					
P12.00	Speed loop proportional gain 1	1~100	30	○	0x0C00
P12.01	Speed loop integral time 1	0.01~10.000s	0.50s	○	0x0C01
P12.02	Low switching frequency	0.00Hz~P12.05	5.00Hz	○	0x0C02
P12.03	Speed loop proportional gain 2	1~100	20	○	0x0C03
P12.04	Speed loop integral time 2	0.01~10.00s	1.0s	○	0x0C04
P12.05	High switching frequency	P12.02~P00.07（Max. frequency）	10.00Hz	○	0x0C05
P12.06	ASR feedback input filtering time	0.000~0.100s	0.015s	○	0x0C06
P12.07	Current loop percentage coefficient KP1	0~60000	Model dependent	○	0x0C07
P12.08	Current loop integral coefficient KI1	0~60000	Model dependent	○	0x0C08
P12.09	Current loop percentage coefficient KP2	0~60000	Model dependent	○	0x0C09
P12.10	Current loop integral coefficient KI2	0~60000	Model dependent	○	0x0C0A
P12.11	Electric torque upper limit setting source selection	0: Keypad digital setting(P12.13) 1: Keypad potentiometer setting 2: Analog AI1 setting 3: Analog AI2 setting 4: Analog AI3 setting 5: High-speed pulse DI5 setting 6: Communication setting Note: Full range of values 1~6 corresponds to the digital setting of P12.13.	Model dependent	○	0x0C0B
P12.12	Braking torque upper limit setting source selection	0: Keypad digital setting(P12.14) 1: Keypad potentiometer setting 2: Analog AI1 setting 3: Analog AI2 setting 4: Analog AI3 setting 5: High-speed pulse DI5 setting 6: Communication setting Note: Full range of values 1~6 corresponds to the digital setting of P12.14.	Model dependent	○	0x0C0C

Function code	Name	Setup range	Default Value	Modification	Add.
P12.13	Keypad digital setting of electric torque	0.0~200.0% (Motor rated current)	150.0%	○	0x0C0D
P12.14	Keypad digital setting of braking torque	0.0~200.0% (Motor rated current)	150.0%	○	0x0C0E
P12.15	Torque limit coefficient influx weakening	50~200	100	○	0x0V0F
P12.16	Compensation coefficient of slip	50%~200%	100%	○	0x0C10

Function code	Name	Setup range	Default Value	Modification	Add.
Group P13 Motor 2 Parameter Group					
P13.00	Motor 2 type	0: Ordinary asynchronous motor (with low-frequency compensation) 1: AC drive motor (without low frequency compensation)	0	×	0x0D00
P13.01	Rated power of motor 2	0.1~1000.0kW	Model dependent	×	0x0D01
P13.02	Rated voltage of motor 2	0~1200V	Model dependent	×	0x0D02
P13.03	Rated current of motor 2	0.1~6000.0A	Model dependent	×	0x0D03
P13.04	Rated frequency of motor 2	0.01~P00.07(Max. frequency)	50.00Hz	×	0x0D04
P13.05	Rated speed of motor2	1~36000rpm	Model dependent	×	0x0D05
P13.06	Stator resistance of motor 2	0.001~65.535Ω	Model dependent	×	0x0D06
P13.07	Rotor resistance of motor 2	0.001~65.535Ω	Model dependent	×	0x0D07
P13.08	leakage inductance of motor 2	0.01~655.35mH	Model dependent	×	0x0D08
P13.09	Mutual inductance of motor 2	0.01~655.35mH	Model dependent	×	0x0D09
P13.10	Non-load current of motor 2	0.1A~P13.03	Model dependent	×	0x0D0A
P13.16	Encoder type	0: ABZ incremental encoder 1: Resolver	0	×	0x0D10
P13.17	Encoder pulses per revolution	1~65535	1024	×	0x0D11
P13.18	A/B phase sequence of ABZ incremental encoder	0: Forward 1: Reserve	0	×	0x0D12
P13.19	Number of pole pairs of resolver	1~65535	1	×	0x0D13
P13.25	Encoder disconnection fault detection time	0: No detection 0.1s~10.0s	0.0	×	0x0D19
P13.26	Motor 2 parameter autotuning	0: No operation 1: Rotation autotuning 2: Static autotuning	0	×	0x0D1A

Function code	Name	Setup range	Default Value	Modification	Add.
Group P14: Motor 2 Vector Control Parameters					
P14.00	Speed loop proportional gain 1	1~100	30	○	0x0E00
P14.01	Speed loop integral time 1	0.01~10.00s	0.50s	○	0x0E01
P14.02	Low switching frequency	0.00Hz~P14.05	5.00Hz	○	0x0E02
P14.03	Speed loop proportional gain 2	1~100	20	○	0x0E03
P14.04	Speed loop integral time 2	0.01~10.00s	1.0s	○	0x0E04
P14.05	High switching frequency	P14.02~P00.07（Max. frequency）	10.00Hz	○	0x0E05
P14.06	ASR feedback input filtering time	0.000~0.100s	0.015s	○	0x0E06
P14.07	Current loop percentage coefficient KP1	0~60000	Model dependent	○	0x0E07
P14.08	Current loop integral coefficient KI1	0~60000	Model dependent	○	0x0E08
P14.09	Current loop percentage coefficient KP2	0~60000	Model dependent	○	0x0E09
P14.10	Current loop integral coefficient KI2	0~60000	Model dependent	○	0x0E0A
P14.11	Electric torque upper limit setting source selection	0: Keypad digital setting(P14.13) 1: Keypad potentiometer setting 2: Analog AI1 setting 3: Analog AI2 setting 4: Analog AI3 setting 5: High-speed pulse DI5 setting 6: Communication setting Note: Full range of values 1~6 corresponds to the digital setting of P14.13.	Model dependent	○	0x0E0B
P14.12	Braking torque upper limit setting source selection	0: Keypad digital setting(P14.14) 1: Keypad potentiometer setting 2: Analog AI1 setting 3: Analog AI2 setting 4: Analog AI3 setting 5: High-speed pulse DI5 setting 6: Communication setting Note: Full range of values 1~6 corresponds to the digital setting of P14.14.	Model dependent	○	0x0E0C

Function code	Name	Setup range	Default Value	Modification	Add.
P14.13	Keypad digital setting of electric torque	0.0~200.0% (Motor rated current)	150.0%	○	0x0E0D
P14.14	Keypad digital setting of braking torque	0.0~200.0% (Motor rated current)	150.0%	○	0x0E0E
P14.15	Torque limit coefficient influx weakening	50~200	100	○	0x0E0F
P14.16	Compensation coefficient of slip	50%~200%	100%	○	0x0E10

Function code	Name	Setup range	Default Value	Modification	Add.
Group P15: Torque Control Parameters					
P15.00	Speed/Torque control selection	0: Speed control 1: Torque control	0	X	0x0F00
P15.01	Torque setting source in torque control	0: Keypad digital setting(P15.02) 1: Keypad potentiometer setting 2: Analog AI1 setting 3: Analog AI2 setting 4: Analog AI3 setting 5: High-speed pulse DI5 setting 6: Communication setting	0	○	0x0F01
P15.02	Torque digital setting in torque control	-200.0%~200.0%	150.0%	○	0x0F02
P15.03	ACC time in torque control	0.00~650.00s	0.00s	○	0x0F03
P15.04	DEC time in torque control	0.00~650.00s	0.00s	○	0x0F04
P15.05	Torque control forward rotation upper limit frequency setting source selection	0: Keypad digital setting(P15.06) 1: Keypad potentiometer setting 2: Analog AI1 setting 3: Analog AI2 setting 4: Analog AI3 setting 5: High-speed pulse DI5 setting 6: Communication setting Note: Full range of values 1~6 corresponds to the digital setting of P15.06	0	○	0x0F05
P15.06	Torque control forward rotation upper limit frequency keyboard limit value	0.00Hz~P00.07（Max. frequency）	50.0Hz	○	0x0F06
P15.07	Torque control reverse rotation upper limit frequency setting source selection	0: Keypad digital setting(P15.08) 1: Keypad potentiometer setting 2: Analog AI1 setting 3: Analog AI2 setting 4: Analog AI3 setting 5: High-speed pulse DI5 setting 6: Communication setting Note: Full range of values 1~6 corresponds to the digital setting of P15.08.	0	○	0x0F07
P15.08	Torque control reverse upper limit frequency keyboard limit value	0.00Hz~P00.07（Max. frequency）	50.0Hz	○	0x0F08

Function code	Name	Setup range	Default Value	Modification	Add.
P15.09	Zero speed torque compensation	0.0~100.0%(rated torque)	0.0%	○	0x0F09
P15.10	Zero speed frequency threshold	0.00Hz~P00.07(Max. frequency)	3.00Hz	○	0x0F0A
P15.11	Sliding friction compensation	0.0~100.0%(rated torque)	0.0%	○	0x0F0B

Function code	Name	Setup range	Default Value	Modifi-cation	Modifi-cation
Group P18 Serial Communication Function Group					
P18.00	Local communication address	0~247 0: Broadcast address 1: Slaver address	1	○	0x1200
P18.01	Communication baud rate	Units position : Modbus Communication baud rate 0: 300 BPS 1: 600 BPS 2: 1200 BPS 3: 2400 BPS 4: 4800 BPS 5: 9600 BPS 6: 19200 BPS 7: 38400 BPS 8: 57600 BPS 9: 115200 BPS Tens position : CAN Communication baud rate 0:20 KBPS 1:50 KBPS 2:100 KBPS 3:125 KBPS 4:250 KBPS 5:500 KBPS 6:1 MBPS	45	○	0x1201
P18.02	Data format symbol	0: No check (8-N-2) 1: Even parity check (8-E-1) 2: Odd parity check (8-O-1) 3: No check, data format (8-N-1)	0	○	0x1202
P18.03	Answer delay	0~20ms	2ms	○	0x1203
P18.04	Fault time of com-munication overtime	0.0s (Invalid); 0.1~60.0s	0.0s	○	0x1204
P18.05	Transmission fault proccessing	0: Alarm and stop freely 1: Alarm and stop according to the stop mode 2: No alarm and continue to run	0	○	0x1205
P18.06	Current resolution readby communication	0: 0.01A 1: 0.1A	0	○	0x1206
P18.07	Modbus Protocol compatibility selection	0: PC2000 protocol 1: PC100 protocol 2: PC200 protocol	0	○	0x1207
P18.08	RESERVE				—

Function code	Name	Setup range	Default Value	Modification	ADD.
P18.09	Communication protocol selection	Units position: Communication run command channel selection 0: Modbus 1: Profibus-DP 2: CAN 3: CANopen Tens position : Communication protocol selection 0: Modbus 1: CANopen	00	○	0x1209
P18.10	PPO type	0: PPO1 format 1: PP02 format 2: PPO3 format 3: PPO4 format 4: PPO5 format	2	×	0x120A
P18.11	DP slave address	1~127	1	×	0x120B
P18.12	PZD3 Write	0: No operation 1: Communication setting frequency 2: PID Given value(0~PID range) 3: PID feedback(0~PID range) 4: Torque setting value(-10000~10000) 5: Forward upper limit frequency setting value (0~10000) 6: Reverse upper limit frequency setting value (0~10000) 7: Electric torque upper limit torque(0~10000) 8: Braking torque upper limit torque(0~10000) 9: Virtual output terminal command 10: Voltage setting (V/F separation purpose)(0~1000) 11: AO1 output setting (0~0X7FFF) 12: AO2 output setting (0~0X7FFF) 13: HDO output setting (0~0X7FFF)	0	○	0x120C
P18.13	PZD4 Write		0	○	0x120D
P18.14	PZD5 Write		0	○	0x120E
P18.15	PZD6 Write		0	○	0x120F
P18.16	PZD7 Write		0	○	0x1210
P18.17	PZD8 Write		0	○	0x1211
P18.18	PZD9 Write		0	○	0x1212
P18.19	PZD10 Write		0	○	0x1213
P18.20	PZD11 Write		0	○	0x1214
P18.21	PZD12 Write		0	○	0x1215
P18.22	PZD3 Read	0: No-operation 1~40: Corresponding to U00.01~U00.40 41: Running frequency at current fault 42: Output current at current fault 43: Output voltage at current fault 44: Bus voltage at current fault 45: The Max. temperature at current fault 46: Input terminal state at current fault 47: Output terminal state at current fault 48: Inverter status at current fault 49: Power on time at current fault 50: Running time at current fault	0	○	0x1216
P18.23	PZD4 Read		0	○	0x1217
P18.24	PZD5 Read		0	○	0x1218
P18.25	PZD6 Read		0	○	0x1219
P18.26	PZD7 Read		0	○	0x121A
P18.27	PZD8 Read		0	○	0x121B
P18.28	PZD9 Read		0	○	0x121C
P18.29	PZD10 Read		0	○	0x121D
P18.30	PZD11 Read		0	○	0x121E
P18.31	PZD12 Read		0	○	0x121F

Function code	Name	Setup range	Default Value	Modification	Add.
Group P19 PID Control Group					
P19.00	PID reference source	Units position: PID reference source 0: Keypad potentiometer setting 1: PID digital setting(P19.02) 2: AI1 3: AI2 4: AI3 5: Pulse DI5 6: Communication setting Tens position: PID feedback source 0: AI1 1: AI2 2: AI3 3: AI1+AI2 4: AI1-AI2 5: MAX(AI1,AI2) 6: MIN(AI1,AI2) 7: Pulse DI5 8: Communication setting	01	○	0x1300
P19.01	PID range	0~65535	1000	○	0x1301
P19.02	PID digital 1 setting	0~P19.01	500	○	0x1302
P19.03	PID digital 2 setting	0~P19.01	500	○	0x1303
P19.04	PID operation direction	0: PID output is positive 1: PID output is negative	0	○	0x1304
P19.05	Proportional gain(P1)	0.00~100.0%	20.0%	○	0x1305
P19.06	Intergal time(I1)	0.0~100.0s	2.0s	○	0x1306
P19.07	Differential time(D1)	0.00~10.00s	0.00s	○	0x1307
P19.08	PID offse limit	0.00~50.0%	0.0%	○	0x1308
P19.09	PID differential limit	0.0%~100.0%	1.0%	○	0x1309
P19.10	PID reference change time	0.00~650.00s	0.00s	○	0x130A
P19.11	PID feedback filter time	0.00~60.00s	0.00s	○	0x130B
P19.12	PID output filter time	0.00~60.00s	0.00s	○	0x130C
P19.13	Proportional gain(P2)	0.00~100.0%	20.0%	○	0x130D
P19.14	Intergal time(I2)	0.0~100.0s	2.0s	○	0x130E
P19.15	Differential time(D2)	0.00~10.00s	0.00s	○	0x130F

Function code	Name	Setup range	Default Value	Modifi-cation	Add.
P19.16	Upper limit Freq when opposite to rotary set direction	0.00Hz~P00.07(max. frequency)	0.00Hz	○	0x1310
P19.17	PID Preset Value	0.0%~100.0%	0.0%	○	0x1311
P19.18	PID Preset Value Keeping time	0.0~650.0s	0.00s	○	0x1312
P19.19	PID Hibernate Frequency	0.00Hz~P00.07(max. frequency)	0.0	○	0x1313
P19.20	PID Hibernate Delay Time	0.0~6500.0s	30.0s	○	0x1314
P19.21	PID Awaken Value	0.0~100.0%	0.0%	○	0x1315
P19.22	PID Awaken Value delay time	0.0~6500.0s	0.5S	○	0x1316
P19.23	Upper protective pressure value	0.0%~100.0%	100.0%	○	0x1317
P19.24	Upper limit protection detection time	0.0s~1000.0s	1.0s	○	0x1318
P19.25	Forced sleep deviation	0.0%~50.0%	0.0%	○	0x1319
P19.26	Forced sleep delay time	0.0~6000.0s	0.0S	○	0x131A
P19.27	Detection value of feedback offline	0.0~100.0%	0.0%	○	0x131B
P19.28	Detection time of feedback offline	0.0~6500.0s	0.0s	○	0x131C
P19.29	PID feedback offline processing	0: Alarm and stop freely 1: Alarm and stop according to the stop mode 2: No alarm and continue to run	0	○	0x131D
P19.30	PID range decimal number	0~4	0	○	0x131E

Function code	Name	Setup range	Default Value	Modification	Add.
Group P20 Swing Frequency, Fixed Length, Count and Timing					
P20.00	Swing Frequency setting mode	0: Relative to center frequency 1: Relative to Max. frequency	0	○	0x1400
P20.01	Swing frequency amplitude	0.0~100.0%	0.0%	○	0x1401
P20.02	Kick frequency amplitude	0.0~50.0%	0.0%	○	0x1402
P20.03	Cycle of swing frequency	0.1s~3000.0s	10.0s	○	0x1403
P20.04	Triangular wave ramp-up time coefficient	0.1%~100.0%	50.0%	○	0x1404
P20.05	Setup length	0~65535m	1000m	○	0x1405
P20.06	Designed length	0~65535m	1m	○	0x1406
P20.07	The number of pulses of each meter	0.1~6553.5	100.0	○	0x1407
P20.08	Set count value	1~65535	1000	○	0x1408
P20.09	Designated count value	1~65535	1	○	0x1409
P20.10	Running time setting	0.0~65535min	0.0Min	○	0x140A
P20.11	Exact stop mode	0: invalid 1: setting length arrive 2: setting count value arrive 3: setting running time arrive	0	○	0x140B

Function code	Name	Setup range	Default Value	Modification	Add.
Group P21 Simple PLC and Multi-step Freq Control Group					
P21.00	Multi-step Freq 0	0.0Hz~P00.07(Max.Freq)	0.00Hz	○	0x1500
P21.01	Multi-step Freq 1	0.0Hz~P00.07(Max.Freq)	0.00Hz	○	0x1501
P21.02	Multi-step Freq 2	0.0Hz~P00.07(Max.Freq)	0.00Hz	○	0x1502
P21.03	Multi-step Freq 3	0.0Hz~P00.07(Max.Freq)	0.00Hz	○	0x1503
P21.04	Multi-step Freq 4	0.0Hz~P00.07(Max.Freq)	0.00Hz	○	0x1504
P21.05	Multi-step Freq 5	0.0Hz~P00.07(Max.Freq)	0.00Hz	○	0x1505
P21.06	Multi-step Freq 6	0.0Hz~P00.07(Max.Freq)	0.00Hz	○	0x1506
P21.07	Multi-step Freq 7	0.0Hz~P00.07(Max.Freq)	0.00Hz	○	0x1507
P21.08	Multi-step Freq 8	0.0Hz~P00.07(Max.Freq)	0.00Hz	○	0x1508
P21.09	Multi-step Freq 9	0.0Hz~P00.07(Max.Freq)	0.00Hz	○	0x1509
P21.10	Multi-step Freq 10	0.0Hz~P00.07(Max.Freq)	0.00Hz	○	0x150A
P21.11	Multi-step Freq 11	0.0Hz~P00.07(Max.Freq)	0.00Hz	○	0x150B
P21.12	Multi-step Freq 12	0.0Hz~P00.07(Max.Freq)	0.00Hz	○	0x150C
P21.13	Multi-step Freq 13	0.0Hz~P00.07(Max.Freq)	0.00Hz	○	0x150D
P21.14	Multi-step Freq 14	0.0Hz~P00.07(Max.Freq)	0.00Hz	○	0x150E
P21.15	Multi-step Freq 15	0.0Hz~P00.07(Max.Freq)	0.00Hz	○	0x150F
P21.16	Simple PLC running method	Ones : PLC runmode 0: Stop after running once 1: Run at the final value after running once 2: Cycle running Tens : Unit of simple PLC runtime 0: Second (s) 1: Minute (min)	00	○	0x1510
P21.17	Simple PLC memory selection when in power loss	Ones: Power loss memory 0:No memory on power loss 1: Memorized on power loss Tens: Stop memory 0:No memory on stop 1: Memorized on stop	00	○	0x1511
P21.18	The running time of step 0	0.0~6553.5s(min)	0.00s (Min)	○	0x1512

Function code	Name	Setup range	Default Value	Modifi-cation	Modifi-cation
P21.19	Setting of multi-step 0	Ones :Run direction 0: Forward 1: Reverse Tens: Accel/Decel time 0: Accel/Decel time 1 1: Accel/Decel time 2 2: Accel/Decel time 3 3: Accel/Decel time 4 Hundreds : Freq setting 0: Multi-step Freq 0 (P21.00) 1: Keypad digital setting 2: Keypad potentiometer setting 3: AI1 setting 4: AI2 setting 5: AI3 setting 6: DI5 pulse input 7: Process PID output 8: Communication setting	000	○	0x1513
P21.20	The running time of step 1	0.0~6553.5s(min)	0.0s	○	0x1514
P21.21	Setting of multi-step 1	Same as P21-19	000	○	0x1515
P21.22	The running time of step 2	0.0~6553.5s(min)	0.0s	○	0x1516
P21.23	Setting of multi-step 2	Same as P21-19	000	○	0x1517
P21.24	The running time of step 3	0.0~6553.5s(min)	0.0s	○	0x1518
P21.25	Setting of multi-step 3	Same as P21-19	000	○	0x1519
P21.26	The running time of step 4	0.0~6553.5s(min)	0.0s	○	0x151A
P21.27	Setting of multi-step 4	Same as P21-19	000	○	0x151B
P21.28	The running time of step 5	0.0~6553.5s(min)	0.0s	○	0x151C
P21.29	Setting of multi-step 5	Same as P21-19	000	○	0x151D
P21.30	The running time of step 6	0.0~6553.5s(min)	0.0s	○	0x151E
P21.31	Setting of multi-step 6	Same as P21-19	000	○	0x151F

Function code	Name	Setup range	Default Value	Modification	Modification
P21.32	The running time of step 7	0.0~6553.5s(min)	0.0s	○	0x1520
P21.33	Setting of multi-step 7	Same as P21-19	000	○	0x1521
P21.34	The running time of step 8	0.0~6553.5s(min)	0.0s	○	0x1522
P21.35	Setting of multi-step 8	Same as P21-19	000	○	0x1523
P21.36	The running time of step 9	0.0~6553.5s(min)	0.0s	○	0x1524
P21.37	Setting of multi-step 9	Same as P21-19	000	○	0x1525
P21.38	The running time of step 10	0.0~6553.5s(min)	0.0s	○	0x1526
P21.39	Setting of multi-step 10	Same as P21-19	000	○	0x1527
P21.40	The running time of step 11	0.0~6553.5s(min)	0.0s	○	0x1528
P21.41	Setting of multi-step 11	Same as P21-19	000	○	0x1529
P21.42	The running time of step 12	0.0~6553.5s(min)	0.0s	○	0x152A
P21.43	Setting of multi-step 12	Same as P21-19	000	○	0x152B
P21.44	The running time of step 13	0.0~6553.5s(min)	0.0s	○	0x152C
P21.45	Setting of multi-step 13	Same as P21-19	000	○	0x152D
P21.46	The running time of step 14	0.0~6553.5s(min)	0.0s	○	0x152E
P21.47	Setting of multi-step 14	Same as P21-19	000	○	0x152F
P21.48	The running time of step 15	0.0~6553.5s(min)	0.0s	○	0x1530
P21.49	Setting of multi-step 15	Same as P21-19	000	○	0x1531
P21.50	PLC model	0: PLC model 1 1: PLC model 2	0	○	0x1532

Function code	Name	Setup range	Default Value	Modification	Modification
Group P28 Strengthen Function Groups					
P28.00	Carrier frequency setting	1.0~16.0	Model dependent	○	0x1C00
P28.01	Carrier frequency adjusted with temperature	0: Invalid 1: Valid	1	○	0x1C01
P28.02	PWM mode	0: Three-phase modulation 1: Three-phase and two-phase modulation switching	0	×	0x1C02
P28.03	Random PWM	0: Fixed PWM 1~10: Random PWM coefficient	0	×	0x1C03
P28.04	Voltage over modulation coefficient	100~110	105	×	0x1C04
P28.05	Cooling fan working mode	0: Working during drive running 1: Working continuously	0	×	0x1C05

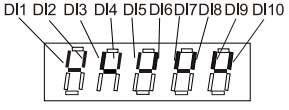
Function code	Name	Setup range	Default Value	Modification	Add.
Group P29 Protection Parameters Group					
P29.00	Phase loss protection	0x00~0x11 Ones: Input phase loss protection 0: Disable 1: Enable Tens: Output phase loss protection 0: Disable 1: Enable	0x11	×	0x1D00
P29.01	Detection of short-circuit to ground	0x00~0x11 Ones: Detection of short-circuit to ground upon power-on 0: Disable 1: Enable Tens: Before running detection of short-circuit to ground 0: Disable 1: Enable	0x01	×	0x1D01
P29.02	Motor overload protection	0: Invalid 1: Valid	1	×	0x1D02
P29.03	Motor overload protection gain	50~300	100	×	0x1D03
P29.04	Overload pre-alarm setting	0x00~0x12 Ones: Overload pre-alarm proccessing 0: Alarm and stop freely 1: Alarm and stop according to the stop mode 2: No alarm and continue to run Tens: Detection mode 0: Detection all the time 1: Detection in constant running	02	○	0x1D04
P29.05	Overload pre-alarm detection	50.0%~200%	150%	○	0x1D05
P29.06	Overload pre-alarm detection time	0.1s~60.0s	1.0s	○	0x1D06
P29.07	Motor underload protection	0: Invalid 1: Valid	0	×	0x1D07
P29.08	Underload pre-alarm detection	0.0%~100%	25%	○	0x1D08
P29.09	Underload pre-alarm detection time	0.1s~60.0s	1.0s	○	0x1D09

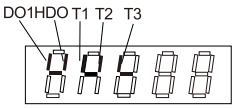
Function code	Name	Setup range	Default Value	Modification	Add.
P29.10	Underload pre-alarm proccessing	0: Alarm and stop freely 1: Alarm and stop according to the stop mode 2: No alarm and continue to run	0	○	0x1D0A
P29.11	Fault reset times	0~20	0	○	0x1D0B
P29.12	Selection of DO action during auto reset	0: Not act 1: Act	0	○	0x1D0C
P29.13	Delay time of auto reset	0.0s~100.0s	1.0s	○	0x1D0D
P29.14	Detection level of speed error	0.0%~50.0%	20.0%	○	0x1D0E
P29.15	Detection time of speed error	0.0:Don't detection 0.1s~60.0s	5.0s	○	0x1D0F
P29.16	Overspeed detection level	0.0%~50.0%	20.0%	○	0x1D10
P29.17	Overspeed detection time	0.0:Don't detection 0.1s~60.0s	1.0s	○	0x1D11
P29.18	Power dip ride-through function selection	0: Disabled 1: Bus voltage constant control 2: Decelerate to stop	0	×	0x1D12
P29.19	Threshold of power dip ride-through function disabled	80.0%~100.0%	85.0%	×	0x1D13
P29.20	Judging time of bus voltage recovering from power dip	0.0s~100.0s	0.5s	×	0x1D14
P29.21	Threshold of power dip ride-through function enabled	60.0%~100.0%	80.0%	×	0x1D15
P29.22	Type of motor temperature sensor	0: No temperature sensor 1: PT100 2: PT1000	0	○	0x1D16
P29.23	Motor overheat protection threshold	0.0~200.0℃	110℃	○	0x1D17
P29.24	Motor overheat pre-warningthreshold	0.0~200.0℃	90℃	○	0x1D18

Function code	Name	Setup range	Default Value	Modification	Add.
Group P30 User-Defined Parameters Group					
P30. 00	User-Defined Parameter 0	P00. 00~P29.XX	–	○	0x1E00
P30. 01	User-Defined Parameter 1	P00. 00~P29.XX	–	○	0x1E01
P30. 02	User-Defined Parameter 2	P00. 00~P29.XX	–	○	0x1E02
P30. 03	User-Defined Parameter 3	P00. 00~P29.XX	–	○	0x1E03
P30. 04	User-Defined Parameter 4	P00. 00~P29.XX	–	○	0x1E04
P30. 05	User-Defined Parameter 5	P00. 00~P29.XX	–	○	0x1E05
P30. 06	User-Defined Parameter 6	P00. 00~P29.XX	–	○	0x1E06
P30. 07	User-Defined Parameter 7	P00. 00~P29.XX	–	○	0x1E07
P30. 08	User-Defined Parameter 8	P00. 00~P29.XX	–	○	0x1E08
P30. 09	User-Defined Parameter 9	P00. 00~P29.XX	–	○	0x1E09
P30. 10	User-Defined Parameter 10	P00. 00~P29.XX	–	○	0x1E0A
P30. 11	User-Defined Parameter 11	P00. 00~P29.XX	–	○	0x1E0B
P30. 12	User-Defined Parameter 12	P00. 00~P29.XX	–	○	0x1E0C
P30. 13	User-Defined Parameter 13	P00. 00~P29.XX	–	○	0x1E0D
P30. 14	User-Defined Parameter 14	P00. 00~P29.XX	–	○	0x1E0E
P30. 15	User-Defined Parameter 15	P00. 00~P29.XX	–	○	0x1E0F
P30. 16	User-Defined Parameter 16	P00. 00~P29.XX	–	○	0x1E10
P30. 17	User-Defined Parameter 17	P00. 00~P29.XX	–	○	0x1E11
P30. 18	User-Defined Parameter 18	P00. 00~P29.XX	–	○	0x1E12
P30. 19	User-Defined Parameter 19	P00. 00~P29.XX	–	○	0x1E13
P30. 20	User-Defined Parameter 20	P00. 00~P29.XX	–	○	0x1E14
P30. 21	User-Defined Parameter 21	P00. 00~P29.XX	–	○	0x1E15
P30. 22	User-Defined Parameter 22	P00. 00~P29.XX	–	○	0x1E16
P30. 23	User-Defined Parameter 23	P00. 00~P29.XX	–	○	0x1E17
P30. 24	User-Defined Parameter 24	P00. 00~P29.XX	–	○	0x1E18
P30. 25	User-Defined Parameter 25	P00. 00~P29.XX	–	○	0x1E19
P30. 26	User-Defined Parameter 26	P00. 00~P29.XX	–	○	0x1E1A
P30. 27	User-Defined Parameter 27	P00. 00~P29.XX	–	○	0x1E1B
P30. 28	User-Defined Parameter 28	P00. 00~P29.XX	–	○	0x1E1C
P30. 29	User-Defined Parameter 29	P00. 00~P29.XX	–	○	0x1E1D
P30. 30	User-Defined Parameter 30	P00. 00~P29.XX	–	○	0x1E1E
P30. 31	User-Defined Parameter 31	P00. 00~P29.XX	–	○	0x1E1F

Function code	Name	Setup range	Default Value	Modification	Modification
Group E00 History Fault					
E00.00	Current fault type	0: No fault 1: Inverter module protection(E.OUT) 2: Current detection fault(E.ICE) 3: Short circuit to ground(E.ERH) 4: Input phase loss(E.SPI) 5: Output phase loss(E.SPO) 6: Overcurrent during acceleration(E.OC1) 7: Overcurrent during deceleration(E.OC2) 8: Overcurrent at constant speed(E.OC3) 9: Overvoltage during acceleration(E.OU1) 10: Overvoltage during deceleration(E.OU2) 11: Overvoltage at constant speed(E.OU3) 12: Undervoltage(E.LU) 13: AC drive overload(E.OL1) 14: Motor overload(E.OL2) 15: Motor overload prealarm(E.OL3) 16: Motor underload(E.LL) 17: AC drive overheated(E.OH) 18: Motor auto-tuning fault(E.TUNE) 19: EEPROM read-write fault(E.EEP) 20: External fault 1(E.EF1) 21: External fault 2(E.EF2) 22: Port communication fault(E.CE) 23: PID feedback loss(E.PID) 24: Speed feedback fault(E.EDU) 25: Imbalance fault(E.STO) 26: Encoder fault(E.ECD) 27: Motor overheated fault(E.PTC) 28: Reserve 29: Magnetic pole initial position detection falut(E.PLR) 30: Motor switchover fault during running(E.CH) 31: RESERVE	-	*	0x2200
E00.01	Previous fault type		-	*	0x2201
E00.02	Previous 2 fault type		-	*	0x2202
E00.03	Running frequency at current fault	---	---	*	0x2203
E00.04	Output current at current fault	---	---	*	0x2204
E00.05	Output voltage at current fault	---	---	*	0x2205
E00.06	Bus voltage at current fault	---	---	*	0x2206
E00.07	IGBT temperature at current fault	---	---	*	0x2207
E00.08	Input terminals state at current fault	---	---	*	0x2208
E00.09	Output terminals state at current fault	---	---	*	0x2209

Function code	Name	Setup range	Default Value	Modification	Modification
E00.10	AC drive state at current fault	----	----	*	0x220A
E00.11	Power-on time at current fault	----	----	*	0x220B
E00.12	Running time at current fault	----	----	*	0x220C
E00.13	Running frequency at previous fault	----	----	*	0x220D
E00.14	Output current at previous fault	----	----	*	0x220E
E00.15	Output voltage at previous fault	----	----	*	0x220F
E00.16	Bus voltage at previous fault	----	----	*	0x2210
E00.17	IGBT temperature at previous fault	----	----	*	0x2211
E00.18	Input terminals state at previous fault	----	----	*	0x2212
E00.19	Output terminals state at previous fault	----	----	*	0x2213
E00.20	AC drive state at previous fault	----	----	*	0x2214
E00.21	Power-on time at previous fault	----	----	*	0x2215
E00.22	Running time at previous fault	----	----	*	0x2216
E00.23	Running frequency at previous 2 fault	----	----	*	0x2217
E00.24	Output current at previous 2 fault	----	----	*	0x2218
E00.25	Output voltage at previous 2 fault	----	----	*	0x2219
E00.26	Bus voltage at previous 2 fault	----	----	*	0x221A
E00.27	IGBT temperature at previous 2 fault	----	----	*	0x221B
E00.28	Input terminals state at previous 2 fault	----	----	*	0x221C
E00.29	Output terminals state at previous 2 fault	----	----	*	0x221D
E00.30	AC drive state at previous 2 fault	----	----	*	0x221E
E00.31	Power-on time at previous 2 fault	----	----	*	0x221F
E00.32	Running time at previous 2 fault	----	----	*	0x2220

Function code	Name	Setup range	Default Value	Modification	Add.
Group U00 Monitoring Function Group					
U00. 00	Output frequency	0.00Hz~P00.09(Upper limit Freq)	----	*	0x2100
U00. 01	Setting frequency	0.00Hz~P00.09(Upper limit Freq)	----	*	0x2101
U00. 02	Output current	0.01~5000.0A	----	*	0x2102
U00. 03	Motor speed	0~65535rpm	----	*	0x2103
U00. 04	Load speed display	0~65535	----	*	0x2104
U00. 05	Output power	0.1~6553.5KW	----	*	0x2105
U00. 06	Output torque	-300.0%~300.0%	----	*	0x2106
U00. 07	Output voltage	0~1000V	----	*	0x2107
U00.08	DC bus voltage	0.0~2000.0V	----	*	0x2108
U00. 09	AC input voltage	0.0~2000.0V	----	*	0x2109
U00. 10	AC drive status	1: Forward 2: Reverse 3: Forward Jogging 4: Reverse Jogging 5: AC drive Fault 6: Under-voltage 7: AC drive stop	----	*	0x210A
U00. 11	Fault information	0~33(Corresponding to E00.00)	----	*	0x210B
U00. 12	AI1 input voltage	0.00~10.00V	----	*	0x210C
U00. 13	AI2 input voltage	0.00~10.00V	----	*	0x210D
U00. 14	AI3 input voltage	0.00~10.00V	----	*	0x210E
U00. 15	AO1 output voltage	0.00~10.00V	----	*	0x210F
U00. 16	AO2 output voltage	0.00~10.00V	----	*	0x2110
U00. 17	DI state	0x00~0xFFF	----	*	0x2111
U00. 18	DI state display	The state of each function end is indicated by the on-off of the specified section of the LED digital tube. The on-off of the digital tube segment means that the corresponding terminal state is valid, while the off-off means that the corresponding terminal state is invalid. 	----	*	0x2112

Function code	Name	Setup range	Default Value	Modifi-cation	Modifi-cation
U00.19	DO state	0x00~0xFFF	----	*	0x2113
U00. 20	DO state display	Same as U00. 18. 	----	*	0x2114
U00. 21	Di5 pulse frequency	0.01~100.00kHz	----	*	0x2115
U00. 22	HDO output frequency	0.01~100.00kHz	----	*	0x2116
U00. 23	PID reference	0~65000	----	*	0x2117
U00. 24	PID feedback	0~65000	----	*	0x2118
U00. 25	Counting value	0~65535	----	*	0x2119
U00. 26	Length value	0~65535	----	*	0x211A
U00. 27	Linear speed	0~65535	----	*	0x211B
U00. 28	Target torque	-300.0%~300.0%	----	*	0x211C
U00. 29	Remaining running time	0.1Min~6553.5Min	----	*	0x211D
U00. 30	PLC step	0~15	----	*	0x211E
U00. 31	Feedback frequency	0. 01Hz~P00. 07(MAX. Freq)	----	*	0x211F
U00. 32	Feedback speed of encode	0. 01Hz~P00. 07(MAX. Freq)	----	*	0x2120
U00. 33	Motor temperature	1~200℃	----	*	0x2121
U00. 34	AC drive temperature	-30~200℃	----	*	0x2122
U00. 35	Current Power-on time	1Min~65535Min	----	*	0x2123
U00. 36	Current Running time	0.1Min~6553.5Min	----	*	0x2124
U00. 37	G/P type	0: G type 1: P type	----	*	0x2125
U00. 38	AC drive power	0.7~500.0KW	----	*	0x2126
U00. 39	Motor seletion	1: Motor 1 2: Motor 2	----	*	0x2127
U00. 40	Accumulative power-on time	1Min~65535Min	----	*	0x2128
U00. 41	Accumulative running time	0.1Min~6553.5Min	----	*	0x2129

Danger

✦ Only qualified electricians are allowed to maintain the AC drive. Read the safety instruction in chapter safety precaution before working on the AC drive.

No.	Code	Fault	Cause	Solution
1	E.OUT	IGBT protection	♦ The acceleration is too fast . ♦ There is damage to the intern-al to IGBT of the phase. ♦ The connection of the driving wires and the grounding is not good.	♦ Increase Acc time. ♦ Change the power unit. ♦ Check the driving wires. ♦ Check if there is strong interference to the external equipment
2	E.ICE	Current-detecting fault	♦ The connection of the control board is not good. ♦ Hoare components is broken ♦ The modifying circuit is abnormal.	♦ Check the connector and repatch. ♦ Change the hoare. ♦ Change the main panel.
3	E.ERH	Grounding shortcut fault	♦ The output of the AC drive is short circuited with the ground. ♦ There is fault in the current detection circuit.	♦ The output of the AC drive is short circuited with the ground. ♦ There is fault in the current detection circuit.
4	E.SPI	Input phase loss	♦ Phase loss or fluctuation of input R,S,T.	♦ Check input power
5	E.SPO	Output phase loss	♦ U,V,W phase loss input (or serious asymmetrical three phase of the load)	♦ Check output power
6	E.OC 1	Accelerating overcurrent	♦ The acceleration or deceleration is too fast. ♦ The voltage of the grid is too low. ♦ The power of the AC drive is too low. ♦ The load transient or abnormal. ♦ The grounding is short circuited or the output is phase loss. ♦ There is strong external interference.	♦ Increase the Acc time. ♦ Check the input power. ♦ Select the AC drive with a large power. ♦ Check if the load is short circuited(the grounding short circuited) or the rotation is not smooth. ♦ Check the output configuration. ♦ Check if there is strong interference.
7	E.OC 2	Decelerating overcurrent		
8	E.OC 3	Constant overcurrent		
9	E.OU 1	Accelerating overvoltage	♦ The input voltage is abnormal. ♦ There is large energy feedback.	♦ Check the input power. ♦ Check if the DEC time of the load is too short or the AC drive starts during the rotation of the motor or it needs to increase the energy consumption components.
10	E.OU 2	Decelerating overvoltage		
11	E.OU 3	Constant overvoltage		

No.	Code	Fault	Cause	Solution
12	E.LU	Under-voltage fault	♦ The voltage of the power supply is too low.	♦ Check the input power of the supply line.
13	E.OL1	AC drive overload	♦ The acceleration is too fast. ♦ Reset the rotating motor. ♦The voltage of the power supply is too low. ♦ The load is too heavy.	♦ Increase the Acc time. ♦ Avoid the restarting after stopping. ♦ Check the power of the supply line, ♦ Select an AC drive with bigger power, ♦ Select a proper motor.
14	E.OL2	Motor overload	♦ The voltage of the power supply is too low.	♦ Check the input power of the supply line.
15	E.oL3	Motor overload prealarm	♦ The AC drive will report the over-load pre-alarm according to the set value.	♦ Check the load and the overload pre-alarm point.
16	E.LL	Motor underload fault	♦ The AC drive will report the unde-rload pre-alarm according to the set value.	♦ Check the load and the underload pre-alarm point.
17	E.OH	AC drive overheated	♦ Air duct jam or fan damage. ♦ Ambient temperature is too high. ♦ The time of overload running is too long	♦ Lower the ambient temperature. ♦ Clean the ventilation. ♦ Replace the cooling fan. ♦ Replace the damaged thermally sensitive resistor. ♦ Replace the AC Drive IGBT.
18	E.TUE	Motor-autotuning fault	♦ The motor capacity does not com-ply with the AC drive capability. ♦ The rated parameter of the motor does not set correctly. ♦ The offset between the paramet-ers from autotune and the stand-ard parameter is huge. ♦ Autotune overtime.	♦ Check the connector and repatch. ♦ Change the hoare. ♦ Change the main panel.
19	E.EEP	EEPROM operation fault	♦ Error of controlling the write and read of the parameters. ♦ Damage to EEPROM.	♦ Press STOP/RESET to reset. ♦ Change the main control panel.
20	E.EF1	User-defined fault 1	User-defined fault 1 is input via DI.	Reset the operation.
21	E.EF2	User-defined fault 2	User-defined fault 2 is input via DI.	Reset the operation.
22	E.CE	Communication fault	♦ The baud rate setting is incorrect. ♦ Fault occurs to the communica-tion wiring. ♦ The communication address is wrong. ♦ There is strong interference to the communication.	♦ Set proper baud rate. ♦ Check the communication connection distribution. ♦ Set proper communication address. ♦ Change or replace the connection distribution or improve the anti-interfere-nce capability.

No.	Code	Fault	Cause	Solution
23	E.PID	PID feedback outline fault	♦ PID feedback offline. ♦ PID feedback source disappear.	♦ Check the PID feedback signal. ♦ Check the PID feedback source.
24	E.EDU	Speed deviation fault	♦ Encoder parameters are set improperly. ♦ Motor auto-tuning is not performed.	♦ Set encoder parameters properly. ♦ Perform motor auto-tuning.
25	E.STO	Maladjustment fault	♦The control parameters of the synchronous motors not set properly. ♦ The autoturn parameter is not right. ♦ The AC drive is not connected to the motor.	♦ Check the load and ensure it is normal. ♦ Check whether the control parameter is set properly or not. ♦ Increase the maladjustment detection time.
26	E.ECD	Encoder fault	♦ Encoder is not matched. ♦ Encoder wiring is incorrect. ♦ Encoder is damaged. ♦ PG card is abnormal.	♦ Set the type of encoder correctly. ♦ Check the PG card power supply and phase sequence. ♦ Replace encoder. ♦ Replace PG card.
27	E.PTC	Motor overheat	♦ Cable connection of temperature sensorbecomes loose ♦ The motor temperature is too high.	♦ Check cable connection of temperature sensor. ♦ Check cable connection of temperature sensor.
28	RESERVE			
29	E.PLR	Motor overheat		
30	E.CH	Motor switchover fault	Motor switchover via terminal during drive running of the AC drive	Perform motor switchover after the AC drive stops

Chapter 6 Rs485 Communication Protocol

6.1 Function Protocol

1.Read a single or multiple data（ 0x03 ）

ADDR	xx
CMD	0x03
High bit of the start	xx
Low bit of the start	xx
High bit of data number	xx
Low bit of data number	xx
Check low bit of CRC	xx
Check high bit of CRC	xx

Read data: Slave responding frame

ADDR	xx
CMD	0x03
Byte number N*2	N*2
High bit of data 1	xx
Low bit of data 1	xx
.....	xx
High bit of data N	xx
Low bit of data N	xx
Check low bit of CRC	xx
Check high bit of CRC	xx

2. Write a single data(0x06)

ADDR	xx
CMD	0x06
High bit of register Add.	xx
Low bit of register Add.	xx
High bit of write data	xx
Low bit of write data	xx
Check low bit of CRC	xx
Check high bit of CRC	xx

Write data response:

ADDR	xx
CMD	0x06
High bit of register Add.	xx
Low bit of register Add.	xx
High bit of write data	xx
Low bit of write data	xx
Check low bit of CRC	xx
Check high bit of CRC	xx

3. Host broadcast frequency and start-stop command(0X08)

ADDR	xx
CMD	0x08
High bit of start-stop commandXX	xx
Low bit of start-stop command XX	xx
High bit of setting frequency value XX	xx
Low bit of setting frequencyvalue XX	xx
Check low bit of CRC	xx
Check high bit of CRC	xx

4. The error message response

Sometimes, errors occurs during the process of the communication. For example, reading or writing data to an illegal address, etc., then the slave will not work as a normal read-write response to reply the host, but send a wrong message frame. Error message frame format is as follows, where the command code is the result of the operation between highest-bit (Bit 7) of host operation and 1 (read error is 0x83 / write error is 0x86).

ADDR	xx
CMD	0x83 or 0x86
Error code	xx
Check low bit of CRC	xx
Check high bit of CRC	xx

The error code define as follows:

Error Code	Error Name	Descriptions
0x01	Illegal CMD	Slave received command code is illegal or does not exist
0x02	Illegal Data Add	Slave receives operation addis cross-border operation or illegal
0x03	Illegal Data	Slave received data is not within the scope of the function or the range set by other functional limitations is illegal.
		Slave received the function of the write operation parameters as read-only
		Slave in operation of the received write operation functions do not modify the parameters in running
		Slave is busy,ttis mainly occurs when data is stored in memory

6.2 Communication Parameters Address

MODBUS communication includes read and write functions of the parameters of the operation of some special registers read and write operations, which include the control register, set register, state register and factory information.

6.2.1. The Definition of Communication Parameter Add.

The function code number and parameter label is the representation rule of the parameter address.

High byte: P00-U00; Low byte: 00-FF

For example, to access P01.12, the access address of the parameter is 0x010C.

Function code group	Absolute Add.	Function code group	Absolute Add.
P00 Group	0x00	P01 Group	0x01
P02 Group	0x02	P03 Group	0x03
P04 Group	0x04	P05 Group	0x05
P06 Group	0x06	P07 Group	0x07
P08 Group	0x08	P09 Group	0x09
P10 Group	0x0A	P11 Group	0x0B
P12 Group	0x0C	P13 Group	0x0D
P14 Group	0x0E	P15 Group	0x0F
P16 Group	0x10	P18 Group	0x12
P19 Group	0x13	P20 Group	0x14
P21 Group	0x15	P28 Group	0x1C
P29 Group	0x1D	P30 Group	0x1E
E00 Group	0x22	U00 Group	0x21

Note: Because EEPROM is frequently stored, it will reduce the life of EEPROM. Therefore, some parameters in the mode of communication don't need to store as long as change the value of RAM. Absolute address in the table corresponds to the high byte of RAM address, to achieve this function, simply add 0X40 to all high bytes in the table.

For example:

The parameter P01.12 is stored in EEPROM , and the address is represented as 0x010C;

The parameter P01.12 is not stored in the EEPROM, and the address is represented as 0x410C;

Read of both EEPROM address and RAM address are valid.

When read the function code parameters, user can only read the maximum of 16 consecutive address parameters.more than 16, the AC drive will return the illegal data.

When writing function parameter, each can only write a parameter. Users should pay attention to the setting value that cannot exceed the set range of function parameters.

Function parameters set permissions and function code attributes related parameters, such as read-only parameter is not writable, the operation cannot be changed in the running also cannot be written.

The password is set by the user, in the case without decryption, all of the parameters cannot write. User password and parameter autotune cannot via communication to write. Otherwise, the AC drive will return the fault information.

6.2.2 The Definition of the Status parameters

Add.	Number	Setting instruction	R/W
2100H	U00.00	Output frequency	R
2101H	U00.01	Setting frequency	W/R
2102H	U00.02	Output current	R
……	……	……	R
210AH	U00.10	AC drive status 1: Forward running 2: Reverse running 3: Forward jogging 4: Reverse jogging 5: AC drive fault 6: Under-voltage status 7: AC drive stop	R
210BH	U00.11	0~10000 0: No fault 1: IGBT protection 2: Current detecting fault 3: Grounding shortcut fault 4: Input phase loss 5: Output phase loss 6: Accelerating over-current 7: Decelerating over-current 8: Constant over-current 9: Accelerating over-voltage 10: Decelerating over-voltage 11: Constant over-voltage 12: Under-voltage fault 13: AC drive overload 14: Motor overload 15: Motor overload prealarm 16: Motor underload fault 17: AC drive overheat 18: Motor autotuning fault 19: EEPROM operation fault 20: User-defined fault 1 21: User-defined fault 2 22: Communication fault 23: PID feedback outline fault 24: Speed deviation fault 25: Maladjustment fault 26: Encoder fault 27: Motor overheat 28: Output signal feed back fault 29: Motor autotuning fault 30: EEPROM operation fault 31: Reserve 32: Power-on time arrive 33: Communi time arrive	R
……	……	……	R
2117H	U00.23	PID reference	W/R
2118H	U00.24	PID feedback	W/R
……	……	……	R

6.2.3 The Definition of the Special Register Address

Register	Function instruction	Add.	Setting instruction	R/W
Control register	Control register	2000H	0001H: Forward running 0002H: Reverse running 0003H: Forward jogging 0004H: Reverse jogging 0005H: Dcclerate stop 0006H: Coast to stop(emergency stop) 0007H: Fault reset	W
Setting register	Torque Setting value	2001H	-10000~10000 (Corresponding to -200.0%~200.0%	W
	Forward upper limit frequency	2002H	0~10000 Correspond to 0.0Hz~P00.07(Max. Freq)	W
	Reverse upper limit frequency	2003H	0~10000 Correspond to 0.0Hz~P00.07(Max. Freq)	W
	Electric torque upper limit value	2004H	0~10000	W
	Brake torque upper limit value	2005H	0~10000	W
	Voltage setting on V/f separated pattern	2006H	0~1000 (Corresponding to 0~Motor rated voltage)	W
	DO control	2007H	0~0X000F	W
	Ao1 control	2008H	0~0X7FFF	W
	Ao2 control	2009H	0~0X7FFF	W
	HDO control	200AH	0~0X7FFF	W

Note:
1. R is read-only, invalid write and error reporting address;
2. W for write only, invalid read and error reporting address.