Preface

Thank you for choosing our magnetic flux vector common frequency converter.

This series of frequency converters is a high-performance magnetic flux vector universal frequency converter, mainly used to control and adjust the speed of the three-phase AC asynchronous motor. Adopt high-performance vector control technology, low speed and high torque output, has good dynamic characteristics, super overload capacity, increased user programmable function and background monitoring software, communication bus function, support a variety of PG cards, etc., the combination of rich and powerful functions, stable performance. Can be used in textile, paper, wire drawing, machine tool, packaging, food, fan, water pump and various automatic production equipment drive. In order to use the product well and ensure the safety of users, please read the use instruction manual in detail before you use it, and please keep it properly, for later use.

When you find any problems in your use and this manual cannot provide you with answers, please contact our company dealers everywhere, or contact the company directly, and our professional staff will actively serve you. And please continue to follow and follow the company's products.

catalogue

Instructions for use

The safe operation of this product depends on the proper transportation, installation, operation and maintenance, and please pay attention to the safety tips before proceeding these them.

When wrong use, can cause danger, may cause personal casualties.

When wrong use, can cause danger, may cause personal injury or equipment damage.

 danger
● Do not touch the circuit board and other components after the power is turned off and the charging indicator is off. ● No wiring during power transmission. Do not check the components and signals on the circuit board during operation. ● Do not disassemble or change the internal cables, lines and components of the frequency converter. ● The frequency converter grounding terminal must be grounded correctly. Grade 220V: the third grounding, Class 440V: special grounding.

 pay attention
● Do not conduct voltage resistance on components inside the inverter, which are vulnerable to high voltage damage. ● Never connect the inverter output terminals U, V, and W to the AC power supply. ● The IC of CMOS on the frequency converter circuit board is vulnerable to static influence and damage. Do not touch the main circuit board.

Chapter I: Product Inspection

pay attention
Do not install the damaged inverter and the inverter with missing components, there is the risk of injury.

Although the products of the company have been strictly inspected before leaving the factory, please check them carefully after the purchase.

1.1 Check the items

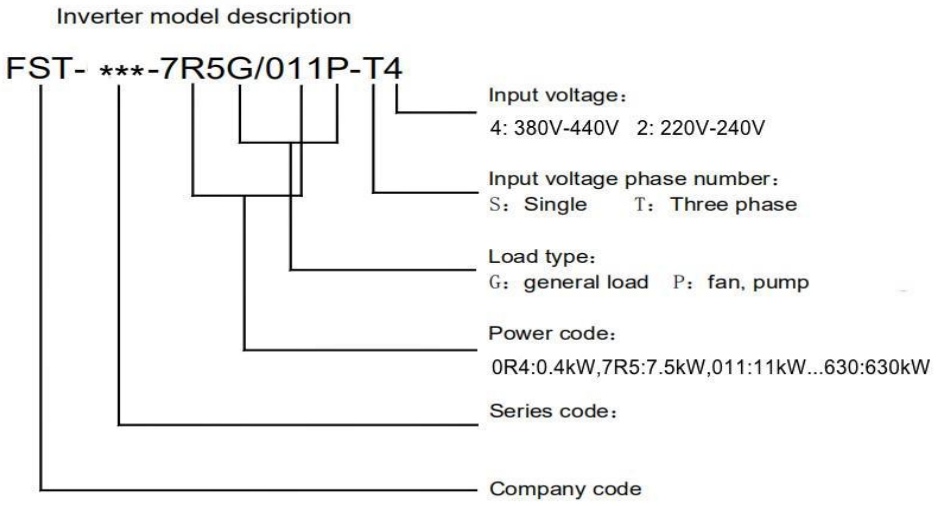
When getting the product, please confirm the following items:

Confirm the project	Confirmation method
Order with the commodity machine type and model is consistent	Please confirm the nameplate on the side
Whether the parts are damaged or damaged in any places	Check the overall appearance and check for damage during transportation
Whether the screws and other fastening parts are loose	When necessary, check with a screwdriver
Instructions, qualification certificate and other accessories	Operating manual and corresponding accessories

For any abnormal situation, please contact the supplier or our Marketing Department directly.

1.2 Nameplate data

.2.1 1 Type description of the frequency converter

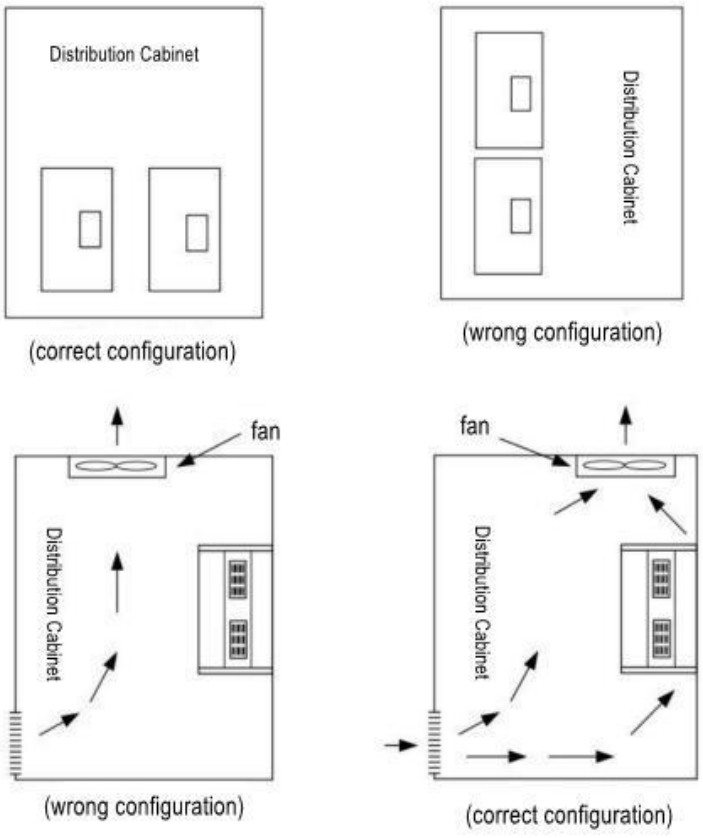


Chapter II: Installation

2.1, Use environment

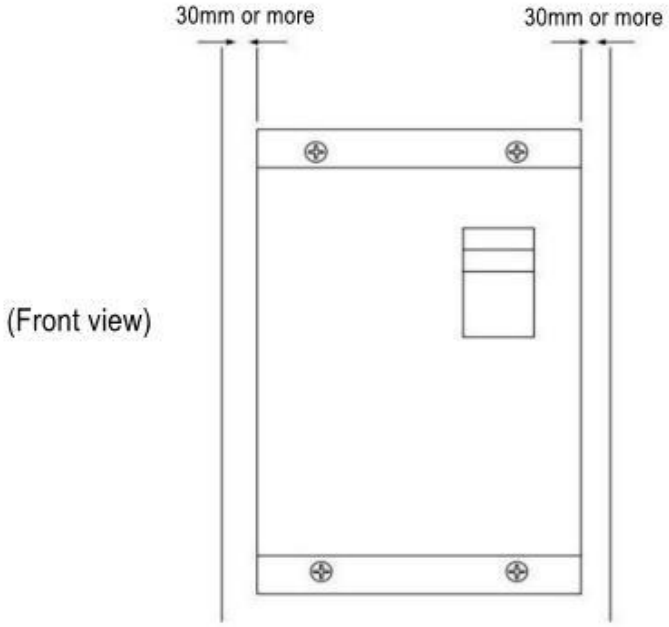
The installation environment of frequency converter has a direct impact on the normal function and its service life, so the installation environment of frequency converter must meet the following conditions.

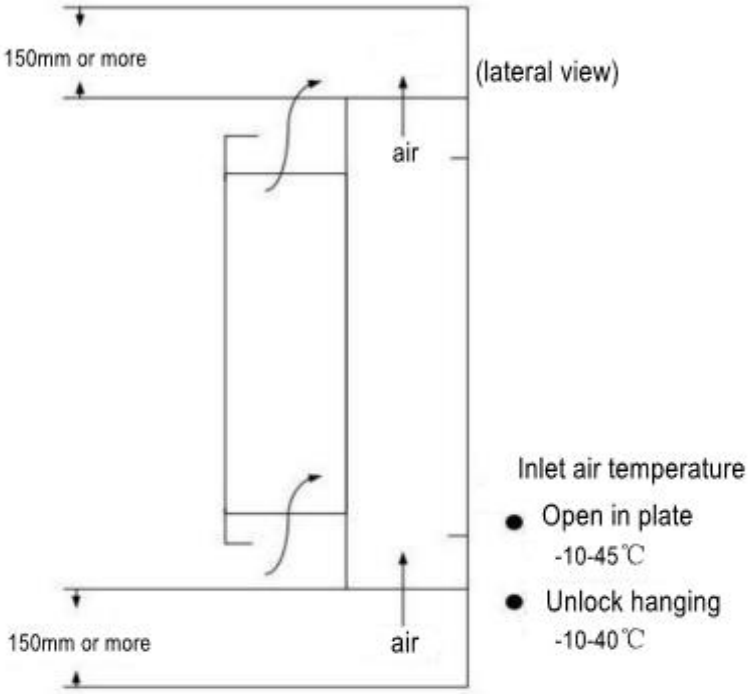
- Surrounding temperature: open type in cabinet (-10~45℃ / + 14~113 ℉); closed wall hanging type (-10~40℃ / + 14~104 ℉) prevents wet or wet environment.
- Avoid direct exposure.
- Prevent oil spray, salt erosion.
- Prevent corrosive liquids, gas.
- Prevent dust, cotton wool and metal debris from entering.
- Stay away from radioactive substances and combustible substances.
- Prevent electromagnetic interference (welding machine, power machine)
- Prevent vibration (punch), and add shock-proof shims to reduce vibration.
- When several frequency converters are installed in the control cabinet, please pay attention to the position for easy heat dissipation. Also, please add a cooling fan to make the temperature around the frequency converter is lower than 45℃.



●Please position the inverter front forward and top up for heat dissipation.

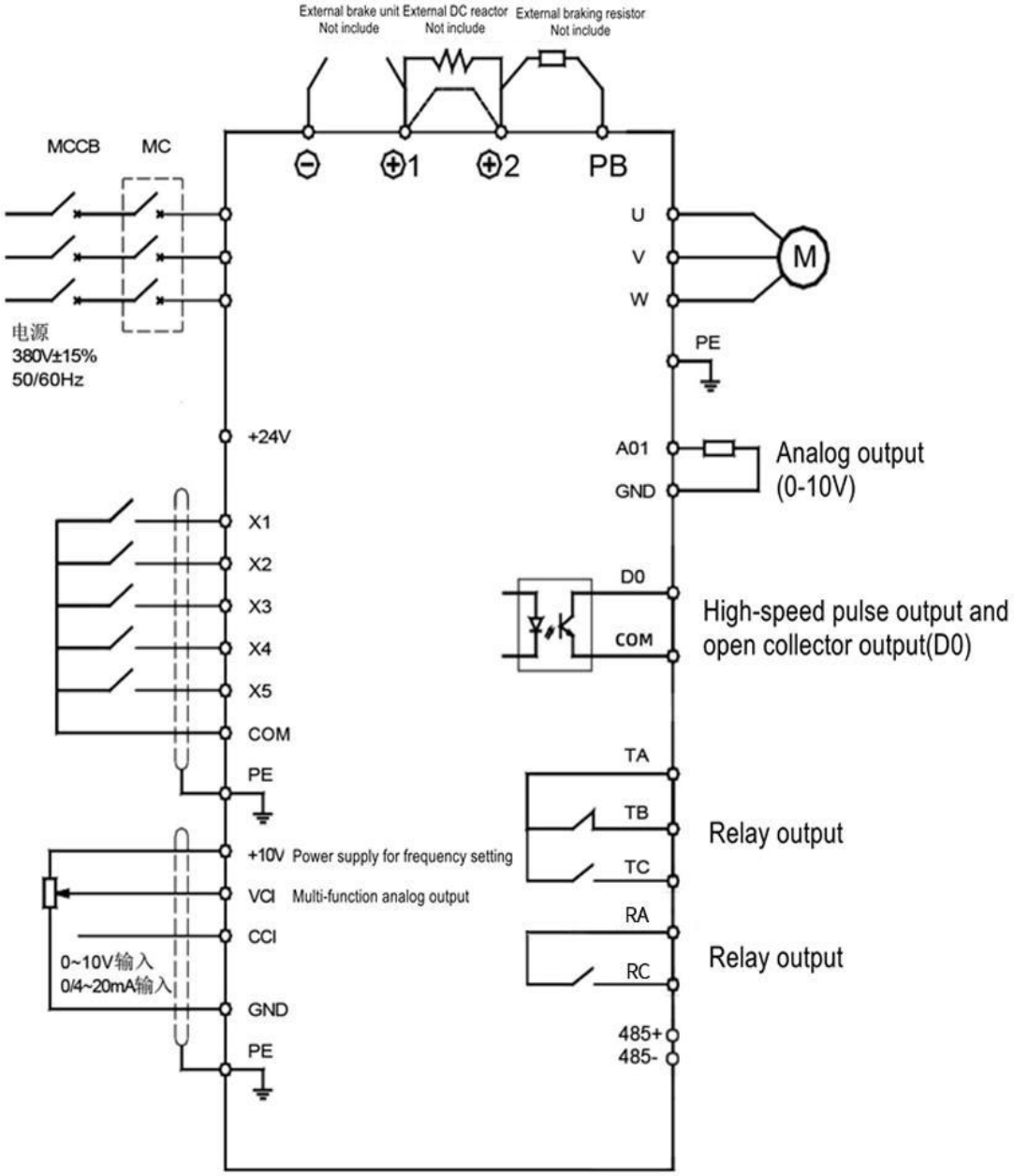
●The installation space must meet the following provisions: (if installed in the cabinet or around the ambient permit, lower the dust upper cover of the converter is recommended for heat dissipation and ventilation of the inverter)





Chapter 3: Wiring

.13 Terminal terminal



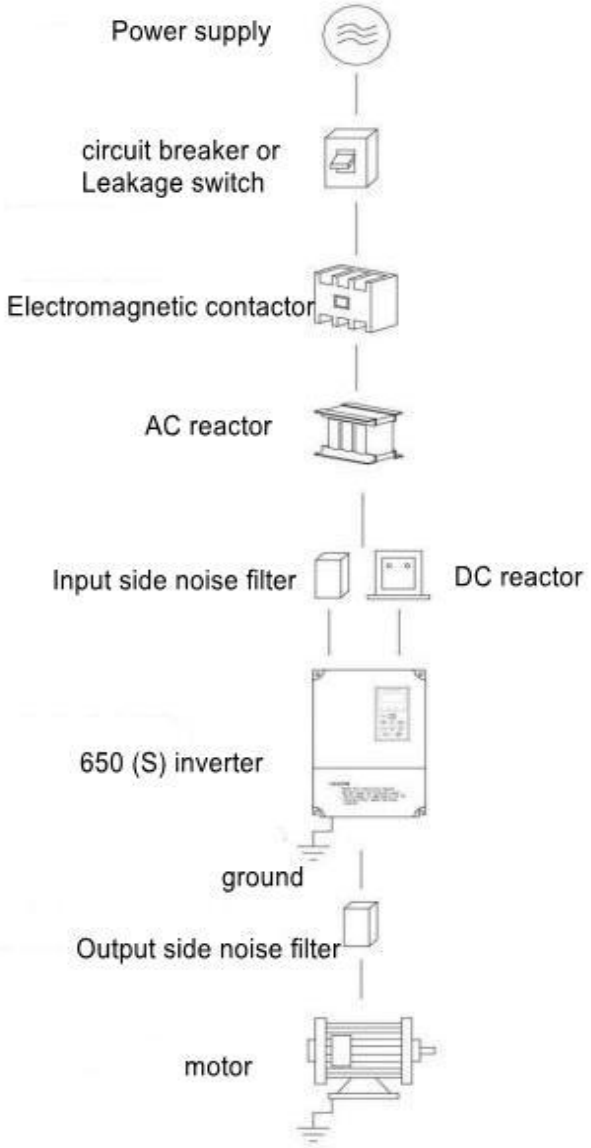
The functions of the terminals of the main loop are described as follows:

Terminal name	function declaration
R 、S 、T	Three-phase power supply input terminal
P,(+),(+)1 、N,(-)	External brake unit reserved terminal
P, (+)、PB	External brake resistance reserved terminal
(+) 1 、 (+) 2	External DC reactor reserved terminal
U 、V 、W	Three-phase AC output terminal
⏚ PE	earth terminal

Description of Control board terminal

Terminal name	Terminal use and description
X 1~X 4	Switch quantity input terminal to form bipolar photocoupling isolation input; input voltage range: 9~30V; input impedance: 2.4k Ω
X 5	High-speed pulse or switch quantity input; pulse input frequency range: 0~100kHz; input voltage range: 9~30V.
+24	Positive 24V power supply for this (current: 150mA)
C OM	For the + 24V, the public end of the
VC I	Analog input, voltage range: 0~10V input impedance: 22K Ω
C CI	Analog input: Current (0~20mA) Input impedance: 500 Ω
+10V	Positive 10V power supply for native
GND	Reference zero potential of positive 10V (note: GND is isolated from COM)
D O	High-speed pulse or collector open-circuit output terminal, corresponding to the common end is the COM output frequency range: 0-100 k H z
AO I	Analog output terminal, output range: voltage (0-10 V)
TA 、TB 、TC	Relay output, TA common end, TB normally closed, TC normally open contact capacity: AC 250V / 3A, DC 30V / 1A
RA 、RC	Relay output, RA common end, RC constant open contact capacity: AC 250V / 3A, DC 30V / 1A
485+	485 Communication interface
485-	

3.2 Application and precautions of peripheral equipment



source:

- Please note that the voltage level is correct to avoid damage to the frequency converter.
- A circuit breaker or a leakage switch must be installed between the AC power supply and the frequency converter.

Circuit breaker or electric leakage switch:

- Use the circuit breaker or leakage switch according to the inverter rated voltage and current level as the frequency converter power switch control, and as the protection of the frequency converter.

- Circuit breaker and leakage switch are not used as operation / stop switching function of frequency converter.
- Please install leakage circuit breaker to prevent misoperation caused by leakage and protect the safety of users.

electromagnetic contactor:

- In use, electromagnetic contactor can not be used, but used as external control, or automatic start after power failure, or in the use of brake controller, must add a side

  The electromagnetic contactor of the.
- Electromagnetic contactors do not use as the operation / stop switching function of the frequency converter.

AC reactor:

- For a frequency converter below 220V / 380V 15KW, a large power capacity (above 600KVA) is used to improve the power supply with A c reactor.

Input-side noise filter:

- When there is an inductive load around the frequency converter, please use it.

Output-side noise filter:

- Reduce the high harmonics generated by the frequency converter to avoid affecting the nearby communication devices.

any power-generating or power-driven machine:

- Please use a three-phase induction motor with a suitable inverter capacity.
- If one converter drives multiple motors, consider that the current of the motor should be less than the capacity of the converter.
- Do not add a phase capacitor between the frequency converter and the motor.
- The frequency converter and the motor must be grounded separately.

frequency transformer:

- The input power terminals R, S, and T can be connected without phase order.
- The output terminals U, V and W are connected to the U, V and W terminals of the motor. If the frequency converter performs the positive rotation, the motor is reversed, and only the terminals U, V and W are included

  Meaning two relative tone can be.
- Output terminals U, V, W, do not connect AC power to avoid inverter damage.

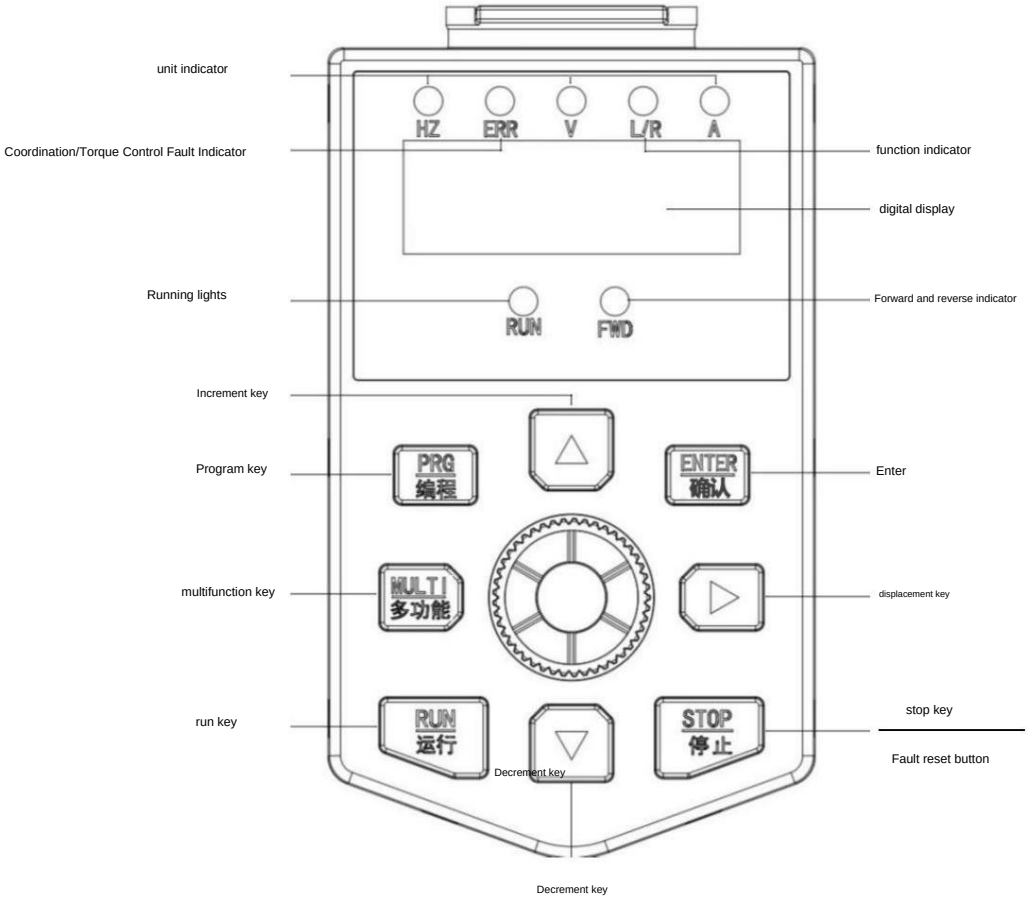
Ground terminal, please correct grounding, 220V: third grounding,

400V: special grounding.

Chapter 4 Operation

4.1 Keyboard Description

4.1.1 Schematic diagram of the keyboard



4.1.2 Button function description

key symbol	name	Function Description
PRG programming	Program key	Level 1 menu entry or exit
ENTER to confirm	Enter	Enter the menu screen step by step set parameters to confirm
∧	UP increment key	Increment of data or function code
∨	DOWN Decrement key	data or function code decrease
>	right shift key	In the stop display interface and the running display interface, you can move to the right to cycle to select the displayed parameters; when modifying the parameters, you can to select the modification bits of the parameter

key symbol	name	Function Description
RUN run	run key	In keyboard operation mode, used to run operation
STOP stop	stop/reset key	In the running state, pressing this key can be used to stop the running operation; this function code is restricted by F7.02. In the fault alarm state, All control modes can use this key to reset operation
MULTI Multifunction	multifunction key	According to F7.01 for function switching selection, it can be defined as command source or direction quick switching

4.1.3 Indicator light description

1) Function indicator description

Indicator name	Indicator light description
RUN	Running status indicator light: when the light is off, it means the inverter is in a stop state; when the light is on, it means the inverter is in a running state;
FWD	Forward/reverse indicator light: if the light is off, it means it is in a forward rotation state; if the light is on, it means it is in a reverse rotation state.
L/R	Control mode indicator light: light off indicates keyboard control status; light flashing indicates communication control status; light on indicates terminal control status.
ERR	Tuning/torque control/fault indicator light, the light is on, it means it is in torque control mode, the light is flashing slowly, it is in the tuning state, and the light is flashing quickly, it is in the torque control mode. fault state.

2) Unit indicator light description

Indicator name	Indicator light description
Hz	frequency unit
A	Current unit
IN	Voltage unit

4.2 Functional Parameter Table

FC	name	Parameter Details	Set the scope	default value	change	order number
F 0 group Basic functional group						
F 0.00	Frequency converter type	1: G; 2: P	1~2	Model setting	•	
F 0.01	1. Motor control mode	0: No speed sensor and no vector control 1: Speed sensor vector control 2: V / F control	0~2	2	◎	
F 0.02	Run the instruction channel	0: Keyboard command channel (LED is off) 1: Terminal command channel (LED lit) 2: Communication instruction channel (LED flashing)	0~2	0	○	
F 0.03	Primary Frequency Source X Selection	0: Keyboard setting (power loss memory) 1: Keyboard setting (power loss memory) 2: Simulation quantity and VCI setting 3: Simulation quantity and CCI setting 4: Panel potentiometer setting 5: High-speed pulse setting (X 5) 6: Multi-segment speed running setting 7: Simple PLC program setting 8: PID control settings 9: Remote communication settings	0~9	4	◎	
F 0.04	Secondary frequency source Y selection	As with F 0.03 (primary frequency source X selection)	0~9	0	◎	
F 0.05	The Y frequency instruction is for reference object selection	0: Relative maximum output frequency 1: Relative main frequency instruction	0~1	0	○	
F 0.06	The Y frequency instruction is the reference object selection range	Determine the regulatory range of the auxiliary frequency sources	0% ~ 150%	100%	○	
		Individual bit: frequency source selection 0: Main frequency instruction 1: Main and auxiliary operations result (operation relationship is determined by ten digits) 2: Switch between main frequency command				

F 0.07	Frequency source superposition selection	and auxiliary frequency command 3: Switch between main frequency command and main and auxiliary operation results 4: Switch between auxiliary frequency instruction and main and auxiliary operation results Ten digits: the frequency source main and auxiliary operation relationship 0: Main + auxiliary 1: Main-auxiliary 2: Maximum value of both cases 3: Minimum value of both cases	Individual bits 0 ~4 ten bits 0 ~3	00	○	

FC	name	Parameter Details	Set the scope	default value	change	order number
F 0.08	Preset frequency	0.00 Hz ~F 0. 10 (Maximum frequency)	0.00~F0. 10	50.00Hz	○	
F 0.09	Run direction selection	0: Run in the default direction; The FWD / REV indicator light goes off; 1: Run in the opposite direction to the default direction; The FWD / REV indicator light is always on;	0~1	0	○	
F 0. 10	maximun-frequency	Maximum set frequency	50.00~500.00Hz	50.00Hz	◎	
F 0. 11	Upper limit frequency instruction	0: F0. 12 Setting 1 ： VCI 2 ： CCI 3: Panel potentiometer 4: X 5 terminal pulse setting 5: Communication is given	0~5	0	◎	
F 0. 12	upper limiting frequency	Lower limit frequency F 0.14 to maximum frequency F0. 10	F0. 14~ F 0. 10	50.00Hz	○	
F 0. 13	Upper bound frequency offset	0.00Hz ~ Maximum frequency F 0. 10	0.00Hz ~F 0. 10	.000Hz	○	
F 0. 14	Lower limit frequency	0.00Hz ~ upper limit frequency F 0. 12	0.00Hz ~F 0. 12	.000Hz	○	
F 0. 15	carrier frequency	0.5~ 16.0kHz	0.5~16.0kHz	Model determination	○	
F 0. 16	Carrier frequency is adjusted with the load size	0: No 1: Is	0~1	1	○	
F 0. 17	Acceleration time: 1	0.00~650.00s(F0. 19=2) 0.0~6500.0s(F0. 19=1) 0~65000s(F0. 19=0)	0.00~65000	Model determination	○	
F 0. 18	Reduced-down time: 1	0.00~650.00s(F0. 19=2) 0.0~6500.0s(F0. 19=1) 0~65000s(F0. 19=0)	0.00~65000	Model determination	○	
F 0. 19	Increase and deceleration time unit	0 ： 1s 1 ： 0. 1s 2 ： 0.01s	0~2	1	◎	
F 0.21	Auxiliary frequency source bias frequency on	0.00Hz ~ Maximum frequency F0. 10	0.00Hz ~F 0. 10	.000Hz	○	

	stacking					
F 0.22	Frequency command resolution	2:0.01Hz	0.00Hz ~F 0. 10	2	○	
F 0.23	Digital setting frequency shutdown memory selection	0: Don't remember 1: memory	0~1	0	○	
F 0.24	Motor parameter group selection	0: Motor parameter group 1; 1: Motor parameter group 2	0~1	0	◎	

FC	name	Parameter Details	Set the scope	default value	change	order number
F 0.25	Increase and deceleration time reference frequency	0: Maximum frequency (F010) 1: Set the frequency 2： 100Hz	0~1	0	◎	
F 0.26	Runtime frequency instruction UP/DOWN baseline	0: Operating frequency 1: Set the frequency	0~1	0	◎	
F 0.27	Run instruction bundle main frequency instruction selection	Individual bit: Operation panel command binding frequency source selection 0: No binding 1: Digital set frequency 2： VCI 3： CCI 4: Panel potentiometer 5: Pulse setting (X 5) 6: Multi-section speed 7: Simple PLC 8： PID 9: Communication is given Ten digit: Terminal command binding frequency source selection 100 bits: communication command binding frequency source selection	0~1	0000	○	
F 0.28	Communication protocol selection	0: The MODBUS-RTU protocol 1: Profibus-DP, protocol or CANopen protocol	0~1	0	◎	
F 1 Group 1 parameters						
F 1.0	Motor type selection	0: Ordinary Asynchronous motor 1: Inverency Asynchronous motor	0~1	Model determination	◎	
F 1.01	Motor power rating	0. 1~1000.0kW	0. 1~1000.0	Model determination	◎	
F 1.02	Motor rated voltage	1~2000V	1~2000	Model determination	◎	
F 1.03	Motor rated current	0.01~655.35A (frequency converter power 55kW) 0. 1~6553.5A (frequency converter power> 55kW)	0.01~6553.5	Model determination	◎	
F 1.04	Motor rated frequency	.010Hz ~ Maximum frequency	0.00~F0. 10	Model determination	◎	
F 1.05	Motor rated speed	1~65535rpm	1~65535	Model determination	◎	
F 1.06	Aynchronous motor stator resistance	0.001~ 65.535 Ω (frequency Inverter power 55kW) 0.0001~6.5535 Ω	0.0001~65.535	Tuning parameter	◎	

		(frequency converter power> 55kW)		s		
F 1.07	Asochronous motor rotor resistance	0.001~ 65.535 Ω (frequency Inverter power 55kW) 0.0001~ 6.5535 Ω (frequency converter power> 55kW)	0.0001~65.535	Tuning parameters	◎	
F 1.08	Leakresistance of asynchronous motor	0.01~ 655.35mH (frequency converter power 55kW) 0.001~65.535mH (frequency converter power> 55kW)	0.001~655.35	Tuning parameters	◎	

FC	name	Parameter Details	Set the scope	default value	change	order number
F 1.09	Aynchronous motor mutual resistance	0. 1~6553.5mH (frequency converter power: 55kW)	0.01~6553.5	Tuning parameters	◎	
F 1. 10	No-load current of Asynchronous motor	Frequency conversion power 0.01~ F 1.03 (, frequency converter power> 55kW)	0.01~F 1.03	Tuning parameters	◎	
F 1.27	Number of encoder lines	1~65535	1~65535	1024	◎	
F 1.28	Encoder type	0: ABZ incremental encoder 2: Rotary transformer	0，2	0	◎	
F 1.30	The ABZ Incremental Encoder	0: Forward; 1: Reverse	0~1	0	◎	
F 1.31	Encoder mounting Angle	0.0°~359.9°	0.0~359.9	0°.0	◎	
F 1.32	UVW, encoder UVW	0: Forward; 1: reverse	0~1	0	◎	
F 1.33	The UVW encoder is offset	.00 ~359.9°	0.0~359.9	0°.0	◎	
F 1.34	Rotary transformer pole-logarithm	1~65535	1~65535	1	◎	
F 1.36	Speed feedback PG disconnection detection time	The 0.0s: Non-action is 0. 1~10.0s	0.0~10.0	0s.0	◎	
F 1.37	Tune selection	0: No operation 1: parameter tuning of asynchronmachine 2: Dynamic and complete tuning of the asynchronous machine 3: Aynchronous static and complete tuning	0~3	0	◎	
First motor vector control parameters of group F 2						
F 2.00	Speed-loop proportional gain of 1	1~100	1~100	30	○	
F 2.01	The velocity loop integral time 1	0.01~10.00s	0.01~10.00	0.50s	○	
F 2.02	Speed loop proportional gain 2	.000Hz ~F 2.05	0.00~F 2.05	5.00Hz	○	
F 2.03	The velocity loop integral time 2	1~100	1~100	20	○	
F 2.04	Switch on the frequency of 2	0.01~10.00s	0.01~10.00	1.00s	○	
F 2.05	Vector-controlled	.02F 2 ~ Maximum output frequency	F 2.02~F0 .10	1 0.00Hz	○	

	transfer gain					
F 2.06	The SVC speed feedback filtering time	50~200%	50~200	100%	○	
F 2.07	Speed-loop proportional gain of 1	0.000~1.000s	0.000~1.000	0.015s	○	

FC	name	Parameter Details	Set the scope	default value	change	order number
F 2.09	Torque upper limit instruction selection under speed control mode	0: Function code F 2. 10 is set 1： VCI 2： CC I 3: Panel potentiometer 4: Pulse setting (X 5) 5: Remote communication settings 6： MIN (VCI ,CCI) 7: The full range of the MAX (VCI, CCI) 1-7 option corresponds to F2. 10	0~7	0	○	
F 2. 10	Set the torque upper limit number under the speed control mode	The upper limit of the torque in the electric state is based on the rated current of the frequency converter	0.0%~ 200.0%	150%	○	
F 2. 11	Torque upper limit instruction selection under speed control mode (power generation)	0: Parameter F 210 setting (no zone Electric power distribution and power generation) 1： VCI 2： CC I 3: Panel potentiometer 4: Pulse setting (X 5) 5: Remote communication settings 6： MIN (VCI ,CCI) 7： MAX (VCI ,CCI) 8: Function code F 2. 12 sets the full range of F 1-7 corresponding to F2. 10	0~8	0	○	
F 2. 12	Number limit limit limit setting under speed control mode (power generation)	The upper limit of the torque in the generating state is based on the rated current of the frequency converter	0.0%~ 200.0%	150%	○	
F 2. 13	Excitation regulation proportional gain	0~ 60000	0~ 60000	2000	○	
F 2. 14	Excitation adjustment integral gain	0~ 60000	0~ 60000	1300	○	
F 2. 15	Torque adjustment proportional gain	0~ 60000	0~ 60000	2000	○	
F 2. 16	Torque adjustment integral gain	0~ 60000	0~ 60000	1300	○	
F 2.20	Maximum output voltage coefficient	100~ 110%	100~ 110	100%	◎	
F 2.21	Maximum torque coefficient in the weak magnetic region	50~ 200%	50~ 200%	100%	○	

F 2.22	Generation power limit enables	0: invalid 1: valid	01	0	○	
F 2.23	Upper generation power limit	Model determination	0~ 200%	20%	○	

FC	name	Parameter Details	Set the scope	default value	change	order number
The F 3 group has the V / F control parameters						
F 3.00	V / F curve setting	0: Line V / F 1: Multipoint V / F 2: Square V / F 3:1.2 Power Party V / F 4:1.4 Power Party V / F 6:1.6 Power Party V / F 8:1.8 Power Party V / F 9: Keep 10: VF, fully separated mode 11: VF, semi-separated mode	0~ 11	0	◎	
F 3.01	Recurrent ascension	0.0%: (Automatic torque increase) 0.1% ~ 30.0%	0.0~30.0	Model determination	○	
F 3.02	Torque lift stop frequency	.00Hz ~ Maximum output frequency	0.00~F.010	50.00Hz	◎	
F 3.03	Multi-point VF frequency point F 1	.000Hz ~F 3.05	0.00~F 3.05	.000Hz	◎	
F 3.04	Multi-point VF voltage point V 1	0.0~100.0%	0.0~100.0	0.0%	◎	
F 3.05	Multi-point VF frequency point F 2	F 3.03~F 3.07	F 3.03~F3.07	.000Hz	◎	
F 3.06	Multi-point VF voltage point V 2	0.0~100.0%	0.0~100.0	0.0%	◎	
F 3.07	Multi-point VF frequency point F 3	F 3.05~ Motor rated frequency (F 1.04)	F 3.05~F1.04	.000Hz	◎	
F 3.08	Multi-point VF voltage point V 3	0.0~100.0%	0.0~100.0	0.0%	◎	
F 3.09	VF transition compensation gain	0~200.0%	0~200.0	0.0%	○	
F 3.10	VF Overexcitation Gain	0~200	0~200	64	○	
F 3.11	The VF oscillations suppress the gain	0~100	0~100	Model determination	○	
F 3.12	Shock suppression mode selection	Select the shock suppression mode	0~4	3	◎	
F 3.13	The VF-separated voltage source	0: Number Settings (F3. 14) 1: VCI 2: CCI 3: the panel potentiometer 4: Pulse setting (X 5) 5: Multiple instructions 6: Simple PLC 7: PID 8: Communication is given Note: 100.0% corresponds to the motor rated voltage	0~ 8	0	○	

FC	name	Parameter Details	Set the scope	default value	change	order number
F 3.14	VF separation	0V ~ Motor rated voltage	0V ~ Motor rated voltage	0V	○	
F 3.15	Voltage rise time for VF separation	0.0~1000.0s Note: When the 0V changes to the motor rated voltage	0.0~1000.0	0s.0	○	
F 3.16	Voltage drop time for VF separation	0.0~1000.0s Note: When the 0V changes to the motor rated voltage	0.0~1000.0	0s.0	○	
F 3.17	VF separation and shutdown mode selection	0: Frequency / voltage is independently reduced to 0 1: The frequency is reduced after the voltage is reduced to 0	0~ 1	0	○	
F 3.18	Over-drain speed action current	50~200%	50~200%	150%		
F 3.19	Excessive loss speed suppression enables	0 Invalid, 1 valid	0~1	1	◎	
F 3.20	Overdrain speed suppression gain	0~100	0~100	20	○	
F 3.21	Compensation coefficient of action current at the excess loss speed	50~200%	50~200%	50%	◎	
F 3.22	Over-voltage stall action voltage	Model determination Three-phase 380-480V model: 330.0V-800.0V Three-phase 200-240V model: 330.0V-800.0V	330.0V -800.0V	Model determination	◎	
F 3.23	Over-pressure stall enables	0 Invalid, 1 valid	0~ 1	1	◎	
F 3.24	Overvoltage stall suppression frequency gain	0~ 100	0~ 100	30	○	
F 3.25	Overvoltage stall suppression voltage gain	0~ 100	0~ 100	30	○	
F 3.26	Maximum rise frequency limit of overvoltage stall	0~ 50Hz	0~ 50	5Hz	◎	
The F 4 group input terminal						
F 4.00	The X 1 terminal function selection	0: No function 1: OK FWD or OK 2: Invert running REV or reverse direction		1	◎	

F 4.01	The X 2 terminal function selection	3: Three-line operation control 4: Forward rotation (FJOG) 5: Reverse movement (RJOG) 6: Terminal UP 7: Terminal DOWN 8: Free parking 9: Fault reset (RESET) 10: Operation is paused 11: External fault often open input 12: Multiparagraph command terminal 1 13: Multi-segment command terminal 2	0~ 59	4	◎	
F 4.02	X 3 terminal function selection			9	◎	
F 4.03	X 4 terminal function selection			12	◎	

FC	name	Parameter Details	Set the scope	default value	change	order number
F 4.04	X 5 terminal function selection	14: Multi-segment command terminal 3 15: Multi-segment command terminal 4 16: Increase and deceleration time to select terminal 1 17: Increase and deceleration time to select terminal 2 18: Frequency source switching 19: UP / DOWN setting reset (terminal, keyboard) 20: Control the command to switch over the terminal 1 21: Prohibition, acceleration and deceleration 22: The PID pause 23: The PLC state is reset 24: Sent-out frequency pause 25: Counter input 26: Counter is reset 27: Length count input 28: Length reset 29: Torque control is prohibited 30: PULSE (pulse), frequency input (valid for X 5 terminals only) 31: Keep 32: Immediately with DC braking 33: Frequent closed input for external faults 34: Frequency modification enables 35: The direction of PID action is reversed 36: External parking terminal 1 37: Control the command to switch over the terminal 2 38: The PID points are suspended 39: Frequency source X and preset frequency switch 40: Switch between the frequency source Y and the preset frequency 41: Motor selection terminal 1 42: Keep 43: PID parameter switching 44: User-defined custom fault 1 45: User-defined custom fault 2 46: Speed control / torque control switch 47: Emergency stop 48: External parking terminal 2 49: Slow down the DC brake 50: The operation time is cleared to zero 51: Two-line system / three-line system switch 52: No reversal is allowed 53-59: Keep it	0~ 59	13	◎	
F 4. 10	The X filter time	0.000~1.000s	0.000~1.000	0.010s	○	
F 4. 11	Terminal command mode	0: Two-line type 1 1: Two-line type 2 2: Three-line type 1 3: Three-line type 2	0~3	0	◎	
F 4. 12	Increchange rate of terminal UP / DOWN frequency	0.001~65.535Hz /s	0.001~65.535	1.00Hz /s	○	
F 4. 13	Simog curve 1 minimum input	0.00V ~F4. 15	0.00~F4. 15	0V.00	○	
F 4. 14	The minimum input of the analog quantity curve 1 corresponds to the	- 100.0% ~ +100.0%	- 100.0%~ 100.0%	0.0%	○	

	setting					
F4.15	Simog curve 1 maximum input	F4.13~10.00V	F4.13~10.00V	10V.00	○	
F4.16	The maximum input corresponds to the setting	-100.00%~+100.0%	-100.0%~+100.0%	100.0%	○	

FC	name	Parameter Details	Set the scope	default value	change	order number
F 4. 17	VCI input filtering time	0.00~10.00s	0.00~10.00	0. 10s	○	
F 4. 18	Simulation quantity curve 2 minimum input	0.00V ~F 4.20	0.00~F 4.20	0V.00	○	
F 4. 19	The minimum input of analog curve 2 corresponds to the setting	- 100.0% ~ +100.0%	- 100.0%~+100.0%	0.0%	○	
F 4.20	Simog curve 2 maximum input	F4. 18~10.00V	F4. 18~10.00V	10V.00	○	
F 4.21	The maximum input corresponds to the setting	- 100.00%~+100.0%	- 100.0%~+100.0%	100.0%	○	
F 4.22	CCI input filtering time	0.00~10.00s	0.00~10.00	0. 10s	○	
F 4.23	Simulation quantity curve 3 minimum input	0.00V ~F 4.25	0.00~F 4.25	2V.35	○	
F 4.24	The minimum input of analog curve 3 corresponds to the setting	- 100.0% ~ +100.0%	- 100.0%~100.0%	0	○	
F 4.25	Simog curve 3 maximum input	F 4.23~10.00V	F 4.23~10.00V	10V.00	○	
F 4.26	The maximum input of the analog quantity curve 3 corresponds to the setting	- 100.00%~+100.0%	- 100.0%~+100.0%	100.0%	○	
F 4.27	Panel potentiometer input filter time	0.00~10.00s	0.00~10.00	0. 10s	○	
F 4.28	X 5 terminal minimum frequency	0.00kHz ~F 4.30	0.00~F 4.30	.000kHz	○	
F 4.29	The minimum frequency of the X 5 terminal corresponds to the setting	- 100.0% ~ +100.0%	- 100.0%~+100.0%	0.0%	○	
F 4.30	X 5 terminal maximum frequency	F 4.28~50.00kHz	F 4.28~50.00kHz	50.00kHz	○	
F 4.31	The maximum frequency of the X 5 terminal corresponds to the setting	- 100.00%~+100.0%	- 100.0%~+100.0%	100.0%	○	
F 4.32	The X 5 terminal frequency input filter time	0.00~10.00s	0.00~10.00	0. 10s	○	
F 4.33	Simulation quantity curve selection	Individual bit: VCI curve selection 1: Curve 1 (2 points, see F4. 13~F4 16) 2: Curve 2 (2, point, see F 4. 18~F 4.21) 3: Curve 3 (2 points, see F4.23~F4.26) 4: Curve 4 (4 points, see A6.00~A6.07) 5: Curve 5 (4, point, see A6.08~A6. 15) Ten places: CCI curve selection, ibid to above Hundred bits: panel	0~5	321	○	

		potentiometer curve selection, same to above				

FC	name	Parameter Details	Set the scope	default value	change	order number
F 4.34	The simulation volume is below the minimum input setting selection	Individual bit: The VCI is below the minimum input setting selection 0: Minimum input setting; 1:0.0% Ten digits: CCI below minimum input setting selection, ibid Hundred bits: panel potentiometer below the minimum input setting selection, as above	0~5	000	○	
F 4.35	X 1 latency time	0.0~3600.0s	0.0~3600.0	0s.0	◎	
F 4.36	X 2 latency time	0.0~3600.0s	0.0~3600.0	0s.0	◎	
F 4.37	X 3 latency time	0.0~3600.0s	0.0~3600.0	0s.0	◎	
F 4.38	The X-terminal valid mode selection is 1	0: Effective at a high power level 1: Effective at the low level One: X 1; ten: X2; one hundred: X3 Thousand: X4; ten thousand: X5	0~1	00000	◎	
F 4.39	The X-terminal valid mode selection is 2	0: Effective at a high power level 1: Effective at the low level One: X 6; ten: X7; one hundred: X8 Thousand: X 9; ten thousand: X 01	0~1	00000	◎	
The F 5 group of output terminals						
F 5.00	DO terminal output mode selection	0: High speed pulse output of open collector: the highest pulse frequency is 100.00kHz. See F5.06 for related functions; 1: Open circuit collector output: see F 5.01 for related functions	0~1	0	◎	
F 5.01	DO function selection (collector open-circuit output terminal)	0: No output 1: frequency converter in operation 2: Fault output (fault for free shutdown fault) 3: Frequency level detection of the FDT 1 output 4: Frequency of arrival 5: Zero-speed operation (no output when shutdown) 6: Motor overload forecast alarm 7: frequency converter overload forecast alarm 8: Set the value arrives 9: Specify that the marked value arrives 10: Length reached 11: The PLC cycle is completed 12: Accumulated running time for arrival 13: Frequency limit is in the	0~ 41	0	○	

		middle 14: Torque limit in 15: Ready to run 16：VCI >CCI 17: Upper bound frequency reaches				

FC	name	Parameter Details	Set the scope	default value	change	order number
F 5.02	Relay output function selection (TA-TB-TC)	18: Lower limit frequency reached (operation related) 19: Undervoltage state output 20: Communication settings 21: Location completed (reserved) 22: Positioning close (reserved) 23: Zero-speed operation 2 (also output when shutdown) 24: Accumulated power supply time arrives 25: Frequency level detection of the FDT 2 output 26: Frequency 1 reaches the output 27: Frequency 2 reaches the output 28: Current 1 reaches the output 29: Current 2 reaches the output 30: Regular arrival of the output 31: The VCI input is overrun 32: In the load 33: Reverse is in operation 34: Zero-current state 35: The module temperature arrives 36: Output current limit 37: Lower frequency reached (shutdown also output) 38: Warning output (all faults) 39:, Motor over-temperature forecast alarm 40: This running time arrives 41: Fault output (free shutdown fault and underoutput)	0~41	2	○	
F 5.03	Extended Card Relay Output Function Selection (RA-RC)			0	○	
F 5.06	DO open-circuit collector electrode high-speed pulse output selection	0: Operating frequency 1: Set the frequency 2: Output current 3: Motor output torque (absolute value, 0 ○ 142. relative motor) 4: Output power 5: Output voltage 6: X input (100.0% corresponding to 100.0kHz) 7： VCI 8： CCI 9: Panel potentiometer	0~17	0	○	

F 5.07	AO 1 output selection	10: Length 11: Remember the value 12: Communication setting 13: Motor rotation speed 14: Output current (100.0% corresponding to 1000.0A) 15: Output voltage (100.0% corresponding to 1000.0V) 16: Motor output torque (actual value, percentage relative to motor) 17: Output torque (actual value, percentage relative to frequency converter)		0	○	

FC	name	Parameter Details	Set the scope	default value	change	order number
F 5.09	DO output maximum frequency	0.01~50.00kHz	0.01~50.00	50.00kHz	○	
F 5. 10	AO 1 zero-bias coefficient	- 100.0% ~ +100.0%	- 100.0% ~ +100.0%	0.0%	○	
F 5. 11	AO 1 gain	- 10.00 ~ +10.00	- 10.00~+10.00	1.00	○	
F 5. 17	Switch volume output delay time for the collector open circuit	0.0~3600.0s	0.0~3600.0	0s.0	○	
F 5. 18	The RELAY 1 output delay time	0.0~3600.0s	0.0~3600.0	0s.0	○	
F 5. 19	The RELAY 2 output delay time	0.0~3600.0s	0.0~3600.0	0s.0	○	
F 5.22	DO output terminal Valid State Selection	0: Positive logic 1: Anti-logic the unit:DO Ten places: RELAY 1 Hundred bits: RELAY 2 Thousand bits: DO 1 Ten thousand bits: DO 2	0~1	00000	○	
Group F 6 starts stops						
F 6.00	Start the stop mode	0: Start up directly 1: Speed tracking and restart 2: Pre-excitation start (AC asynchronous machine) 3: SVC, quick start	0~ 3	0	○	
F 6.01	Speed tracking mode	0: Start with the shutdown frequency 1: Start with the power frequency 2: Start with the maximum frequency	0~ 2	0	◎	
F 6.02	Speed tracking speed is slow	1~100	1~100	20	○	
F 6.03	Direct start start frequency	0.00~10.00 Hz	0.00~10.00	.000Hz	○	
F 6.04	Startup frequency retention time	0.0 ~100.0s	0.0 ~100.0	0s.0	◎	
F 6.05	Start brake current	0~100%	0~100%	50%	◎	
F 6.06	Brake time before starting	0.0~100.0s	0.0~100.0	0s.0	◎	
F 6.07	Increase and deceleration mode	0: Straight-line acceleration and deceleration 1: Static S-curve	0~2	0	◎	

	selection	2: Dynamic S-curve				
F 6.08	S curve start time scale	0.0% ~(70.0%-F 6.09)	0.0% ~(70.0%-F 6.09)	30%	◎	

FC	name	Parameter Details	Set the scope	default value	change	order number
F 6.09	S-curve end period time scale	0.0% ~ (70.0%-F 6.09)	0.0% ~ (70.0%-F 6.09)	30%	◎	
F 6. 10	Selection of shutdown mode	0: Slow down parking 1: Free parking	0~1	0	○	
F 6. 11	Stop the brake start frequency	0.00Hz ~F 0. 10	0.00Hz ~F 0. 10	.000Hz	○	
F 6. 12	Stop the brake waiting time	0.0~100.0s	0.0~100.0	0s.0	○	
F 6. 13	Stop the DC brake current	0.0~100.0%	0.0~100.0%	50%	○	
F 6. 14	Stop the DC brake time	0.0~100.0s	0.0~100.0	0s.0	○	
F 6. 15	Brake utilization rate	0.0~100.0%	0.0~100.0%	100.0%	○	
F 6. 18	Speed tracking current	30~200%	30~200%	Model determination	◎	
F 6.21	Demagnetic time	0.0~5.0s	0.0~5.0	Model determination	◎	
F 7 Group HMI group						
F 7.00	Digital pipe lack drawing inspection enables	0~ 1	0~ 1	0	○	
F 7.01	The MULTI Key function selection	0: Invalid MULTI 1: Operation panel command channel and remote Command channel (Terminal command channel or Communication command channel) switch 2: Forward and reverse switch 3: Positive turning point movement 4: Reverse the dot movement	0~ 4	0	◎	
F 7.02	STOP / RST key Shutdown function selection	0: The STOP / RST key shutdown function is valid only in the keyboard operation mode 1: The STOP / RST key shutdown function is valid in any operation mode	0~ 1	1	○	
		0000~FFFF				

F 7.03	The parameter selection displayed by the running status is 1	Bit 00: Operating Frequency 1 (Hz) Bit 01: Set Frequency (Hz) Bit 02: Bus line voltage (V) Bit 03: Output voltage (V) Bit 04: Output current (A) Bit 05: output power (kW) Bit 06: Output torque, (%)	0000~FFFF	001F	○	

FC	name	Parameter Details	Set the scope	default value	change	order number
		Bit 07: The X-terminal input status Bit 08: DO output status Bit 09: VCI voltage (V) Bit 10: CCI voltage (V) Bit 11: Panel potentiometer voltage (V) Bit 12:, Count value Bit 13:, Length value Bit 14: The load speed display Bit 15: The PID setting				
F 7.04	Run status shows the parameter selection 2	0000~FFFF Bit00:PID feedback Bit 01: The PLC stage Bit 02: X 5 terminal input pulse frequency (kHz) Bit 03: operating frequency 2 (Hz) Bit 04: Remaining running time Bit 05: VCI correction front voltage (V) Bit 06: CCI correction front voltage (V) Bit 07: Panel potentiometer correction front voltage (V) Bit 08: Line speed Bit 09: Current power time (Hour) Bit 10: Current running time (Min) Bit 11: X 5 terminal input pulse frequency (Hz) Bit 12: Communication Setpoint Bit 13: Encoder feedback speed (Hz) Bit 14: Main Frequency X display (Hz) Bit 15: Auxiliary frequency Y display (Hz)	0000~FFFF	0000	◎	
F 7.05	Parameter selection for the	0000~FFFF Bit 00: Set Frequency (Hz) Bit 01: bus voltage (V) Bit 02: X, with the input status Bit 03: DO output status Bit 04: VCI voltage (V) Bit 05: CCI voltage (V) Bit 06: Panel potentiometer	0000~FFFF	0033	◎	

	downtime state display	voltage (V) Bit 07: Count value Bit 08: The length value Bit 09: The PLC stage Bit 10: The load speed Bit 11: The PID setting Bit 12: X 5 terminal input pulse frequency (kHz)				
F 7.06	Speed display coefficient	0.0001~6.5000	0.0001~6.5000	1.0000	○	

FC	name	Parameter Details	Set the scope	default value	change	order number
F 7.07	IGBT, heat sink temperature	-20℃~120.0℃	-	-20℃	•	
F 7.08	Product number	-	-	-	•	
F 7.09	Accumulated run time	0~65535h	0~65535	0h	•	
F 7.10	Performance version number	-	-	-	•	
F 7.11	Functional version number	-	-	-	•	
F 7.12	Load speed shows decimal digits	Individual bit: Number of decimal points of the U 014 The 0:0 decimal places The 1:1 decimal place In the 2:2 decimal places In the 3:3 decimal places Ten digit: U 019 / U 0-29 decimal place number 1:1 decimal place In the 2:2 decimal places	0~3	21	○	
F 7.13	Accumulated power supply time	0~65535h	-	-	•	
F 7.14	Accumulated power consumption	0~65535KWH	-	-	•	
F 7.15	Performance Temporary Software Version No	-	-	-	•	
F 7.16	Functional temporary software version number	-	-	-	•	
F 8 group-enhanced functional group						
F 8.00	Inched operation frequency	0.00~F 0. 10 (Maximum frequency)	0.00~F0. 10	.002Hz	○	
F 8.01	Inched acceleration time	0.0~6500.0s	0.0~6500.0	20s	○	
F 8.02	Inched deceleration time	0.0~6500.0s	0.0~6500.0	20s	○	
F 8.03	Acceleration time: 2	0.0~6500.0s	0.0~6500.0	Model determination	○	

F 8.04	Reduced-down time: 2	0.0~6500.0s	0.0~6500.0	Model determination	○	
F 8.05	Acceleration time: 3	0.0~6500.0s	0.0~6500.0	Model determination	○	
F 8.06	Reduced-down time: 3	0.0~6500.0s	0.0~6500.0	Model determination	○	

FC	name	Parameter Details	Set the scope	default value	change	order number
F 8.07	Acceleration time: 4	0.0~6500.0s	0.0~6500.0	Model determination	○	
F 8.08	Reduced-down time: 4	0.0~6500.0s	0.0~6500.0	Model determination	○	
F 8.09	Jump frequency of 1	0.00Hz ~F 0. 10 (Maximum frequency)	0.00~F0. 10	.000Hz	○	
F 8. 10	Jump frequency of 2	0.00Hz ~F 0. 10 (Maximum frequency)	0.00~F0. 10	.000Hz	○	
F 8. 11	Jump frequency amplitude	0.00Hz ~F 0. 10 (Maximum frequency)	0.00~F0. 10	.010Hz	○	
F 8. 12	Reverreverse dead zone time	0.0~3000.0s	0.0~3000.0	0s.0	○	
F 8. 13	Reverse frequency is prohibited	0: Invalid 1: valid	0~1	0	○	
F 8. 14	Set the frequency is below the lower limit frequency operating mode	0: Run at the lower limit frequency 1: Downtime 2: Zero-speed operation	0~2	0	○	
F 8. 15	The sagging rate	0.00~10%	0.00~10.00	0.00%	○	
F 8. 16	Set the cumulative power arrival time	0~65000h	0~65000	0h	○	
F 8. 17	Sets the cumulative run arrival time	0~65000h	0~65000	0h	○	
F 8. 18	Start the protection selection	0: No protection 1: Protection	0~1	0	○	
F 8. 19	Frequency detection value of 1	0.00Hz ~F 0. 10 (Maximum frequency)	.000Hz ~F 0. 10	050.00Hz	○	
F 8.20	Frequency detection lag rate 1	0.0~100.0%	0.0~100.0%	5.0%	○	
F 8.21	Frequency reaches the detection amplitude	0.0~100.0% (Maximum frequency)	0.0~100.0%	0.0%	○	
F 8.22	Is the jump frequency effective during the acceleration and deceleration process	0: Invalid 1: valid	0~1	0	○	
F 8.25	Acceleration time 1 and acceleration time 2 switch frequency points	0.00Hz ~F 0. 10 (Maximum frequency)	.000Hz ~F 0. 10	.000Hz	○	
F 8.26	Switch the frequency points between deceleration time 1 and deceleration time 2	0.00Hz ~F 0. 10 (Maximum frequency)	.000Hz ~F 0. 10	.000Hz	○	

F 8.27	Terminal point preferred	0: Invalid 1: valid	0~1	0	○	
F 8.28	Frequency detection value of 2	0.00Hz ~F 0. 10 (Maximum frequency)	0.00~F0. 10	50.00Hz	○	
F 8.29	Frequency detection lag value of 2	0.0~100.0%	0.0~100.0%	5.0%	○	
F 8.30	Arbitrary arrival frequency detection value of 1	0.00Hz ~F 0. 10 (Maximum frequency)	0.00~F0. 10	50.00Hz	○	

FC	name	Parameter Details	Set the scope	default value	change	order number
F 8.31	Arbitrary arrival frequency detection width of 1	0.0~100.0%	0.0~100.0%	0.0%	○	
F 8.32	Arbitrary arrival frequency detection value 2	0.00Hz ~F 0. 10 (Maximum frequency)	0.00~F0. 10	50.00Hz	○	
F 8.33	Any arrival frequency detection width 2	0.0~100.0%	0.0~100.0%	0.0%	○	
F 8.34	Zero-current detection level	0.0~300.0% 100.0% corresponds to the motor rated current	0.0~300.0%	5.0%	○	
F 8.35	Zero-current detection delay time	0.00~600.00s	0.00~600.00	0. 10s	○	
F 8.36	Output current limit value	0.0% (Undetected) 0. 1~300.0% (Motor rated current)	0.0~300.0%	200.0%	○	
F 8.37	Output current overrun detection delay time	0.00~600.00s	0.00~600.00	0s.0	○	
F 8.38	Any reach current 1	0.0~300.0% (rated current of the motor)	0.0~300.0%	100.0%	○	
F 8.39	Any reach current 1 width	0.0~300.0% (rated current of the motor)	0.0~300.0%	0.0%	○	
F 8.40	Any reach current 2	0.0~300.0% (rated current of the motor)	0.0~300.0%	100.0%	○	
F 8.41	Any reach current 2 width	0.0~300.0% (rated current of the motor)	0.0~300.0%	0.0%	○	
F 8.42	Time function selection	0: Invalid 1: valid	0~1	0	◎	
F 8.43	Timrunning time selection	0: F 8.44 Settings 1： VCI 2: CCI 3: The panel potentiometer analog input range corresponds to F 8.44	0~3	0	◎	
F 8.44	Time running time	0.0~6500.0Min	0.0~6500.0	0.0Min	◎	
F 8.45	Lower limit of VCI input voltage protection value	0.0V ~F 8.46	0.0V ~F 8.46	3. 10V	○	
F 8.46	CCI input voltage protection cap	F 8.45~11.0V	F 8.45~11.0V	6V.80	○	
F 8.47	The module temperature arrives	0~100℃	0~100℃	75℃	○	
F 8.48	Heat fan control	0: The fan operates during operation 1: The fan is always running	0~1	0	○	

F 8.49	Wake up frequency	F 8.51~ F0. 10	F 8.51~ F0. 10	.000Hz	○	
F 8.50	Wake-up delay time	0.0~6500.0s	0.0~6500.0	0s.0	○	
F 8.51	The dormancy frequency	.000Hz ~F 8.49	.000Hz ~F 8.49	.000Hz	○	

FC	name	Parameter Details	Set the scope	default value	change	order number
F 8.52	Sleep delay time	0.0~6500.0s	0.0~6500.0	0s.0	○	
F 8.53	Arrival time of this operation	0.0~6500.0Min	0.0~6500.0	0.0Min	○	
F 8.54	Output power correction coefficient	0.0~200.0%	0.0~200.0%	100.0%	○	
F 9 group Protection parameter group						
F 9.00	Motor overload protection selection	0: Forbidden 1: allowed	0~1	1	○	
F 9.01	Motor overload protection gain	0.20~10.00	0.20~10.00	1.00	○	
F 9.02	Motor overload early warning factor	50.0~120.0%	50.0~120.0%	80.0%	○	
F 9.03	Overvoltage stall gain	0100	0100	30	○	
F 9.04	Over-voltage stall protection voltage	650V -800V	650V -800V	760V	○	
F 9.07	Short-circuit to the ground protection option	Individual bit: power on short circuit to ground protection selection 0: Invalid 1: valid Ten place: power to ground short circuit protection selection 0: invalid 1: valid				
F 9.08	Brake unit action start voltage	Three-phase 380-480V model: 320.0V-800.0V Three-phase 200-240V model: 320.0V-800.0V	320.0V -800.0V	780V	○	
F 9.09	Number of automatic reset times of failures	0~20	0~20	0	○	
F 9.10	Fault DO action selection during the automatic fault reset	0: No action 1: Action	0~1	1	○	
F 9.11	Automatic fault reset interval time	0.1~100.0s	0.1~100.0	6s.0	○	
F 9.12	Enter the phase absence \ contactor suction protection selection	Individual bit: Enter the missing phase protection selection Ten places: Contactor suction protection selection 0: Prohibit 1: Allow	0~1	11	○	
F 9.13	Output the missing	Individual bit: Output the missing phase protection selection	0~1	1	○	

	phase protection selection	0: Forbidden 1: allowed Ten: before run output missing phase protection selection 0: prohibited 1: allowed				
F9.14	First-time failure type	0: No fault 1: Keep 2: Accelerated overcurrent 3: Slow down the overcurrent	-100.0~100.0	0.0%	•	

FC	name	Parameter Details	Set the scope	default value	change	order number
F9.15	Second failure type	4: Constant-speed over-current 5: Accelerated overvoltage 6: Reduced-down overvoltage 7: Constant speed overvoltage 8: Buffer resistance to overload 9: Underpressure 10: frequency converter overload 11: Motor overload 12: Enter the missing phase 13: Output phase absence 14: The module is overheated 15: External fault 16: Special communication exception 17: The Contactor is abnormal 18: Abnormal current detection 19: Abnormal motor tuning 20: Encoder / PG, card exception 21: parameter read and write exception 22: The frequency converter hardware is abnormal 23: Motor short circuit to ground 24: Keep 25: Keep 26: Runtime arrival 27: User-custom fault 1 28: User-defined custom fault 2 29: Power-on time arrives 30: Loading 31: Runtime PID feedback is lost 40: Fast flow limit timeout 41: Switch the motor during operation 42: Speed deviation is too large 43: Motor overspeed 45: Motor overtemperature 51: Initial position is incorrect 55: Load distribution slave fault				
F9.16	Third time (most recent) fault type		0.0~6553.5	0s.0	•	
F9.17	Frequency at the third (latest)	—	—	—	•	

	failure					
F9.18	Current at the third (most recent) fault	—	—	—	•	
F9.19	Bus voltage at the third (most recent) fault	—	—	—	•	

FC	name	Parameter Details	Set the scope	default value	change	order number
F9.20	Enter the terminal status for the third (latest) failure	—	—	—	•	
F9.21	Output terminal status at the third (latest) failure	—	—	—	•	
F9.22	Frequter status during the third (latest) failure	—	—	—	•	
F9.23	Power time during the third (latest) failure	—	—	—	•	
F9.24	Running time for the third (most recent) failure	—	—	—	•	
F9.27	Second fault time and frequency	—	—	—	•	
F9.28	Current at the second fault	—	—	—	•	
F9.29	Bus voltage at the second fault	—	—	—	•	
F9.30	Input the terminal status for the second fault	—	—	—	•	
F9.31	Output terminal status at the second failure	—	—	—	•	
F9.32	Frequency converter status at the second failure	—	—	—	•	
F9.33	Power-on time during the second failure	—	—	—	•	
F9.34	Running time for the second failure	—	—	—	•	
F9.37	Frequency at the first failure	—	—	—	•	
F9.38	Current at the first fault	—	—	—	•	
F9.39	Bus voltage at the first fault	—	—	—	•	
F9.40	Enter the terminal status for the first failure	—	—	—	•	
F9.41	Output terminal status at the first failure	—	—	—	•	
F9.42	Frequter status during the first failure	—	—	—	•	
F9.43	Power-on time during the first failure	—	—	—	•	
F9.44	Run time on the first failure	—	—	—	•	
F9.47	Fault protection action selection 1	Individual bit: motor overload (11) 0: Free parking 1: Stop by shutdown mode	0~2	00000	○	

FC	name	Parameter Details	Set the scope	default value	change	order number
		2: Continue running Ten digit: input of missing phase (12) Hundred bits: output phase absence (13) Thousand bits: external fault (15) Ten thousand bits: abnormal communication (16)				
F 9.48	Fault protection action selection 2	Individual bit: encoder / PG, card exception (20) 0: Free parking Ten digits: abnormal function code reading and writing (21) 0: Free parking 1: Stop by shutdown mode Hundred bits: frequency converter overload fault action Select a selection (Error 10): 0: Free shutdown 1: reduced operation Thousand: Motor Overheat (25) Ten thousand bits: running time arrival (26)	0~ 1	00000	○	
F 9.49	Fault protection action selection 3	Individual bit: User-custom fault 1 (27) 0: Free parking 1: Stop by shutdown mode 2: Continue running Ten digit: User custom fault 2 (28) 0: Free parking 1: Stop by shutdown mode 2: Continue running Hundred bits: power-on time arrival (29) 0: Free parking 1: Stop by shutdown mode 2: Continue running Thousand: drop (30) 0: Free parking 1: Slow down and stop 2: Jump directly to 7% of the rated frequency of the motor to continue the operation, and automatically return to the set frequency operation when not dropped Ten: Runtime PID feedback loss (31) 0: Free parking 1: Stop by shutdown mode 2: Continue running	0~ 2	00000	○	

F 9.50	Fault protection action selection 4	Individual bits: excessive speed deviation (42) 0: Free parking, fault protection 1: Stop by shutdown mode 2: Continue running Ten-place: Motor overspeed (43) Hundred bits: initial position error (51)	0~ 2	00000	○	

FC	name	Parameter Details	Set the scope	default value	change	order number
F 9.54	Continue running frequency selection when failure	0: Run at the current operating frequency 1: Run at a set frequency 2: Above limit frequency operation 3: Run at the lower limit frequency 4: Run at an abnormal standby frequency	0~ 4	0	○	
F 9.55	Abnormal standby frequency	0.0% corresponds to the maximum frequency ~100.0%(100.0% F 0. 10)	0.0% ~100.0%	100.0%	○	
F 9.56	Motor temperature sensor type	0: No temperature sensor 1： PT 100 2： PT1000	0~2	0	○	
F 9.57	Motor overheat protection threshold	0℃~ 200℃	0℃~ 200℃	110℃	○	
F 9.58	Motor overheating forecast alarm threshold	0℃~ 200℃	0℃~ 200℃	90℃		
F 9.59	Instant stop stop stop function selection	0: invalid 1: Slow down 2: Slow down and shut down	0~2	0	◎	
F 9.60	The transient stop action stops the judging voltage	80.0%~100.0%	80.0%~100.0%	85.0%	◎	
F 9.61	Insient stop and non-stop voltage recovery judgment time	0.0~100.0s	0.0~100.0	0s.5	◎	
F 9.62	Determine the voltage by instantaneous stop	60~100% (Standard bus voltage)	60~100%	80.0%	○	
F 9.63	Load drop protection selection	0: Invalid 1: valid	0~1	0	○	
F 9.64	Load drop detection level	0.0~100.0%	0.0~100.0%	10%	○	
F 9.65	Loload detection time	0.0~60.0s	0.0~60.0	1.0s	○	
F 9.67	Overspeed detection value	0.0~50.0% (Maximum frequency)	0.0~50.0%	20%	○	
F 9.68	Overspeed detection time	0.0s: Non-detection, 0. 1~60.0s	0.0~60.0	1.0s	○	
F 9.69	Excessive velocity deviation	0.0~50.0% (Maximum frequency)	0.0~50.0%	20%	○	
F 9.70	Too large speed deviation and too large detection time	0.0s: Non-detection, 0. 1~60.0s	0.0~60.0	0s.0	○	
F 9.71	Instant stop stop gain Kp	0~100	0.0~100	40	○	
F 9.72	Instsient stop integral coefficient Ki	0~100	0.0~100	30	○	

F 9.73	Insient stop and nonstop action and deceleration time	0~300.0s	0~300.0s	20.0s	◎	
The FA group process control PID function						

FC	name	Parameter Details	Set the scope	default value	change	order number
FA .00	PID, given the source	0: FA-01 setting 1： VCI 2： CCI 3: Panel potentiometer 4: X 5 terminal pulse setting 5: Communication is given 6: Multiple instructions are given	0~6	0	○	
FA .01	The PID values are given for the following time	0.0~100.0%	0.0~100.0%	50.0%	○	
FA .02	The PID, the feedback source	0： VCI 1： CCI 2: Panel potentiometer 3： VCI-CCI 4: High-speed pulse X5 5: Communication 6： VCI +CCI 7： Max (VCI ,CCI) 8： Min (VCI ,CCI)	0~8	0	○	
FA .03	PID application direction	0: Positive action; 1: reverse reaction	0~1	0	○	
FA .04	The PID is given to the feedback range	0~65535	0~65535	1000	○	
FA .05	Proportional gain of Kp 1	0.0~100.0	0.0~100.0	20.0	○	
FA .06	Integral time, Ti 1	0.01~10.00s	0.01~10.00	2.00s	○	
FA .07	Differential time, Td 1	0.01~10.00s	0.00~10.00	0.00s	○	
FA .08	PID Reverse cutoff frequency	0.00Hz ~F 0.10	0.00Hz ~F 0.10	0Hz	○	
FA .09	The PID deviation limit	0.0~100.0%	0.0~100.0%	0.0%	○	
FA .10	PID differential limit amplitude	0.00~100.00%	0.00~100.00%	0.50%	○	
FA .11	PID given the change time	0.00~650.00s	0.00~650.00	0.00s	○	
FA .12	PID feedback filtering time	0.00~60.00s	0.00~60.00	0.00s	○	
FA .13	The PID output filtering time	0.00~60.00s	0.00~60.00	0.00s	○	
FA .14	continue to have	—	—	—	○	
FA .15	Proportional gain of Kp 2	0.0~1000.0	0.0~1000.0	20.0	○	

FC	name	Parameter Details	Set the scope	default value	change	order number
FA.16	Integration time Ti 2	0.01~10.00s	0.01~10.00	2.00s	○	
FA.17	Differential time, Td2	0.000~10.000s	0.000~10.000	0.000s	○	
FA.18	The PID parameter switching condition	0: Don't switch 1: Switch through the X terminal 2: Automatic switch according to the deviation 3: Automatic switch according to the operating frequency	0~ 3	0	○	
FA.19	The PID parameter switching deviation 1	0.0%~FA.20	0.0%~FA.20	20.0%	○	
FA.20	The PID parameter switching deviation 2	FA.19~100.0%	FA.19~100.0%	80.0%	○	
FA.21	PID starter	0.0~100.0%	0.0~100.0%	0.0%	○	
FA.22	The PID initial value retention time	0.00~650.00s	0.00~650.00	0.00s	○	
FA.23	Two output deviation positive maximum values	0.00~100.0%	0.00~100.0%	20.00%	○	
FA.24	Two output deviation reverse maximum	0.00~100.0%	0.00~100.0%	80.00%	○	
FA.25	PID integral attribute	Individual bit: integral separation 0: Invalid; 1: valid Ten places: whether to stop integral after output to the limit 0: Continue integral; 1: stop integral	0~1	00	○	
FA.26	PID feedback loss detection value	0.0%: Do not judge the missing feedback 0.1% ~ 100.0%	0.0~100.0%	0.0%	○	
FA.27	PID feedback on loss of detection value time	0.0~20.0s	0.0~20.0	0s.0	○	
FA.28	The PID shutdown operation	0: Stop time not operation 1: Downtime operation	0~1	1	○	
FB group pendulum frequency, fixed length and calculation						
FB.00	Set setting setting	0: Relative to the center frequency 1: Relative to the maximum frequency	0~1	1	○	
FB.01	The frequency amplitude	0.0~100.0%	0.0~100.0%	100.0%	○	

FB.02	Jump frequency amplitude	0.0~50.0%	0.0~50.0%	0.0%	○	
FB.03	Pop frequency cycle	0.0~3000.0s	0.0~3000.0	100.0s	○	
FB.04	Time coefficient of triangular wave rise	0.0~100.0%	0.0~100.0%	100.0%	○	

FC	name	Parameter Details	Set the scope	default value	change	order number
FB.05	Set the length	0~65535m	0~65535	1000m	○	
FB.06	physical length	0~65535m	0~65535	0m	○	
FB.07	Pulse number per meter	0.1~6553.5	0.1~6553.5	100.0	○	
FB.08	Set the gauge value	1~65535	1~65535	1000	○	
FB.09	Specify the count value	1~65535	1~65535	1000	○	
The FC group of multiple instructions and simple PLC function						
FC.00	Multi-segment speed of 0	-100.0~100.0%	-100.0~100.0%	0.0%	○	
FC.01	Multi-segment speed 1	-100.0~100.0%	-100.0~100.0%	0.0%	○	
FC.02	Multi-segment speed 2	-100.0~100.0%	-100.0~100.0%	0.0%	○	
FC.03	Multi-segment speed of 3	-100.0~100.0%	-100.0~100.0%	0.0%	○	
FC.04	Multi-segment speed 4	-100.0~100.0%	-100.0~100.0%	0.0%	○	
FC.05	Multi-segment speed of 5	-100.0~100.0%	-100.0~100.0%	0.0%	○	
FC.06	Multiple speed 6	-100.0~100.0%	-100.0~100.0%	0.0%	○	
FC.07	Multiple segment speed 7	-100.0~100.0%	-100.0~100.0%	0.0%	○	
FC.08	Multi-segment speed of 8	-100.0~100.0%	-100.0~100.0%	0.0%	○	
FC.09	Multiple speed 9	-100.0~100.0%	-100.0~100.0%	0.0%	○	
FC .10	Multiple speed 10	-100.0~100.0%	-100.0~100.0%	0.0%	○	
FC .11	Multiple speed 11	-100.0~100.0%	-100.0~100.0%	0.0%	○	
FC .12	Multiple speed 12	-100.0~100.0%	-100.0~100.0%	0.0%	○	
FC .13	Multi speed 13	-100.0~100.0%	-100.0~100.0%	0.0%	○	
FC .14	Multi speed 14	-100.0~100.0%	-100.0~100.0%	0.0%	○	
FC .15	Multiple speed 15	-100.0~100.0%	-100.0~100.0%	0.0%	○	
FC .16	Simple PLC operation mode	0: Stop after a single operation 1: Final value is maintained at the end of a single run 2: All the time	0~ 2	0	○	

FC	name	Parameter Details	Set the scope	default value	change	order number
FC.17	Simple PLC power loss memory selection	Individual bit: power loss memory selection 0: Do not remember the power loss 1: Power-off memory Ten places: Stop memory selection 0: Stop without memory 1: Downtime memory	0~ 1	00	○	
FC.18	Easy PLC segment 0 run time	0~6500.0s (h)	0~6500.0s	0.0s (h)	○	
FC.19	Simple PLC segment 0 acceleration and deceleration time	0~3	0~3	0	○	
FC.20	Simple PLC segment 1 runtime	0~6500.0s (h)	0~6500.0s	0.0s (h)	○	
FC.21	Simple PLC paragraph 1 acceleration and deceleration time	0~3	0~3	0	○	
FC.22	Simple PLC segment 2 runtime	0~6500.0s (h)	0~6500.0s	0.0s (h)	○	
FC.23	Simple PLC segment 2 acceleration and deceleration time	0~3	0~3	0	○	
FC.24	Simple PLC segment 3 running time	0~6500.0s (h)	0~6500.0s	0.0s (h)	○	
FC.25	Simple PLC paragraph 3 acceleration and deceleration time	0~3	0~3	0	○	
FC.26	Simple PLC segment 4 running time	0~6500.0s (h)	0~6500.0s	0.0s (h)	○	
FC.27	Simple PLC segment 4 acceleration and deceleration time	0~3	0~3	0	○	
FC.28	Simple PLC segment 5 run time	0~6500.0s (h)	0~6500.0s	0.0s (h)	○	
FC.29	Simple PLC segment 5 acceleration and deceleration time	0~3	0~3	0	○	
FC.30	Easy PLC segment 6 running time	0~6500.0s (h)	0~6500.0s	0.0s (h)	○	
FC.31	Simple PLC segment 6 acceleration and deceleration time	0~3	0~3	0	○	
FC.32	Simple PLC segment 7 runtime	0~6500.0s (h)	0~6500.0s	0.0s (h)	○	
FC.33	Simple PLC segment 7 acceleration and deceleration time	0~3	0~3	0	○	FC.33
FC.34	Easy PLC segment 8 run time	0~6500.0s (h)	0~6500.0s	0.0s (h)	○	FC.34

FC.35	Simple PLC segment 8 acceleration and deceleration time	0~3	0~3	0	○	FC.35
FC.36	Simple PLC segment 9 runtime	0~6500.0s (h)	0~6500.0s	0.0s (h)	○	FC.36
FC.37	Simple PLC paragraph 9 acceleration and deceleration time	0~3	0~3	0	○	FC.37

FC	name	Parameter Details	Set the scope	default value	change	order number
FC.38	Easy PLC segment 10 running time	0~6500.0s (h)	0~6500.0s	0.0s (h)	○	
FC.39	Simple PLC paragraph 10 acceleration and deceleration time	0~3	0~3	0	○	
FC.40	Easy PLC segment 11 running time	0~6500.0s (h)	0~6500.0s	0.0s (h)	○	
FC.41	Simple PLC paragraph 11 acceleration and deceleration time	0~3	0~3	0	○	
FC.42	Simple PLC period 12 running time	0~6500.0s (h)	0~6500.0s	0.0s (h)	○	
FC.43	Simple PLC paragraph 12 acceleration and deceleration time	0~3	0~3	0	○	
FC.44	Simple PLC Period 13 runtime	0~6500.0s (h)	0~6500.0s	0.0s (h)	○	
FC.45	Simple PLC paragraph 13 acceleration and deceleration time	0~3	0~3	0	○	
FC.46	Simple PLC period 14 running time	0~6500.0s (h)	0~6500.0s	0.0s (h)	○	
FC.47	Simple PLC paragraph 14 acceleration and deceleration time	0~3	0~3	0	○	
FC.48	Simple PLC Period 15 running time	0~6500.0s (h)	0~6500.0s	0.0s (h)	○	
FC.49	Simple PLC paragraph 15 acceleration and deceleration time	0~3	0~3	0	○	
FC.50	Easy PLC running time unit	0: s (sec), 1: h (hour)	0~1	0	○	
FC.51	Multi-segment speed 0 is given mode	0: Function code FC is given.00 1： VCI 2： CCI 3: Panel potentiometer 4: High-speed pulse X 5 0~6 0 ○ 5： PID 6: Given the preset frequency (F 0.08), UP / DOWN can be modified	0~6	0	○	
The FD group communication parameters						

FD 0.0	Communication Porter rate	Individual bit: MODBUS 0： 300BPS 1： 600BP S 2： 1200BPS 3： 2400BPS 4： 4800BPS 5： 9600BPS 6： 19200BPS 7： 38400BPS 8： 57600BPS 9： 115200BPS Ten places: Profibus-DP	0~9	5005	○	FD .00

FC	name	Parameter Details	Set the scope	default value	change	order number
The FD group communication parameters						
		0： 115200BPs 1： 208300BPs 2： 256000BPs 3： 512000Bps 100 Positions: Keep Thousand bits: CANlink Porter rate 0： 20 1： 50 2： 100 3： 125 4: 250 5： 500 6： 1M				
FD .01	The MODBUS data format	0: No calibration (8-N-2) 1: Dual (8-E-1) 2: Strange check (8-01) 3: No calibration (8-N1) (MODBUS valid)	0~3	0	○	
FD .02	This machine address	0: Broadcast address 1~247 (MODBUS, Profibus-DP, CANlink are valid)	0~247	1	○	
FD .03	The MODBUS response was delayed	0~20ms (MODBUS is valid)	0~20	2	○	
FD .04	Serial port communication timeout time	0.0s: Invalid, 0. 1 ~ 60.0s (MODBUS, Profibus-DP, CANlink are valid)	0.00~60.00	0.00s	○	
FD .05	MODBUS、Profibus-DP communication data format	Individual bit: MODBUS 0: Non-standard MODBUS-RTU protocol 1: Standard MODBUS-RTU protocol Ten places: Profibus-DP The 0: PPO 1 format 1: The PPO 2 format 2: The PPO 3 format 3: In the PPO 5 format	0~3	31	○	
FD .06	Communication to read the current resolution	0： 0.01A 1： 0. 1A	0~3	0	○	
FD .08	Expansion card (Pfibus, CANopen) interrupt detection time	.00s: invalid 0. 1~60.0s	0.0~60.0	0s.0	○	
FE Group User custom function code						

FE.00	User function code 0		U3.17	U3.17	○	

FC	name	Parameter Details	Set the scope	default value	change	order number
FE.01	User function code: 1			U3. 16	○	
FE.02	User function code 2			F 0.00	○	
FE.03	User function code: 3			F 0.00	○	
FE.04	User function code 4			F 0.00	○	
FE.05	User function code 5			F 0.00	○	
FE.06	User function code 6			F 0.00	○	
FE.07	User function code 7			F 0.00	○	
FE.08	User function code 8			F 0.00	○	
FE.09	User function code 9			F 0.00	○	
FE .10	User Function Code 10			F 0.00	○	
FE .11	User Function Code 11	F 0.00~FP .xx	F 0.00~FP .xx	F 0.00	○	
FE .12	User Function Code 12	A 0.00~AX .xx	A 0.00~AX .xx	F 0.00	○	
FE .13	User Function Code 13	U 0.00~U 0.xx U 3.00~U 3.xx	U 0.00~U 0.xx U 3.00~U 3.xx	F 0.00	○	
FE .14	User Function Code 14			F 0.00	○	
FE .15	User Function Code 15			F 0.00	○	
FE .16	User Function Code 16			F 0.00	○	
FE .17	User Function Code 17			F 0.00	○	
FE .18	User Function Code 18			F 0.00	○	
FE .19	User Function Code 19			F 0.00	○	
FE.20	User function code 20			U 0.68	○	
FE.21	User Function Code 21			U 0.69	○	
FE.22	User Function Code 22			F 0.00	○	
FE.23	User Function Code 23			F 0.00	○	

FC	name	Parameter Details	Set the scope	default value	change	order number
FE.24	User Function Code 24	F 0.00~FP .xx A 0.00~AX .xx U 0.00~U 0.xx U 3.00~U 3.xx	F 0.00~FP .xx A 0.00~AX .xx U 0.00~U 0.xx U 3.00~U 3.xx	F 0.00	○	
FE.25	User Function Code 25			F 0.00	○	
FE.26	User Function Code 26			F 0.00	○	
FE.27	User Function Code 27			F 0.00	○	
FE.28	User Function Code 28			F 0.00	○	
FE.29	User Function Code 29			F 0.00	○	
FP group functional code management						
FP.00	User password	0 ~ 65535	0 ~ 65535	0	○	
FP.01	Parameter initialization	0: No operation 01: Restore the factory parameters, excluding the motor parameters 02: Clear the record information 04: Backup the user parameters 501: Restore the user parameters	0、01、02、01、501	0	◎	
FP.02	Functional parameter group display selection	Individual bit: U group display selection 0: Do not show 1: Show Ten digits: Group A display selection 0: Do not show 1: Show	0 ~ 1	111	◎	
FP.03	Personality parameter group display selection	Individual bit: User customized parameter group display selection 0: No display 1: Show Ten digit: User change parameter group display selection 0: not displayed 1: Show	0 ~ 1	00	○	
FP.04	The Function code modifies the attribute	0: Modifiable 1: Not modifiable	0 ~ 1	0	○	
A 0 Group Torque control parameters						
A 0.00	Speed / torque	0: Speed control	0 ~ 1	0	◎	

	control mode selection	1: Torque control				
A 0.01	Torque setting source selection under the torque control mode	0: Number setting 1 (A0.03) 1： VCI 2： CCI	0 ~ 7	0	◎	

FC	name	Parameter Details	Set the scope	default value	change	order number
		3: Panel potentiometer 4: High-speed pulse X 5 5: Communication is given 6： MIN (VCI ,CCI) 7： MAX (VCI ,CCI) (Full range of 1-7 options, corresponding to A 0.03 number setting)				
A 0.03	Torque number setting under the torque control mode	-200.0~200.0%	-200.0~200.0%	150.0%	○	
A 0.05	Torque controls the forward maximum frequency	0.00Hz ~F 0. 10 (Maximum frequency)	.000Hz ~F 0.10	50.00Hz	○	
A 0.06	Torque control for reverse maximum frequency	0.00Hz ~F 0. 10 (Maximum frequency)	.000Hz ~F 0.10	50.00Hz	○	
A 0.07	Torque acceleration time	0.00~650.00s	0.00~650.00	0.00s	○	
A 0.08	Torent deceleration time	0.00~650.00s	0.00~650.00	0.00s	○	
A 1 group virtual X, virtual DO						
A 1.00	Virtual VX 1 terminal function selection	0~59	0~59	0	◎	
A 1.01	Virtual VX 2 terminal feature selection	0~59	0~59	0	◎	
A 1.02	Virtual VX 3 terminal function selection	0~59	0~59	0	◎	
A 1.03	Virtual VX 4 terminal function selection	0~59	0~59	0	◎	
A 1.04	Virtual VX 5 terminal function selection	0~59	0~59	0	◎	
A 1.05	Virtual VX terminal valid state setting mode	0: The status of the virtual VDOx determines whether the VX is valid 1: Set whether the V X is valid by the function code A1-06 Individual bit: Virtual VX 1 Ten digits: Virtual VX 2 100 bits: virtual VX 3 Thousand-bits: virtual VX 4 Ten thousand bits: virtual VX 5	0 ~ 1	00000	◎	

A 1.06	Virtual VX terminal status settings	0: Invalid; 1: valid Individual bit: Virtual VX 1 Ten digits: Virtual VX 2 100 bits: virtual VX 3 Thousand-bits: virtual VX 4 Ten thousand bits: virtual VX 5	0 ~ 1	00000	◎	

FC	name	Parameter Details	Set the scope	default value	change	order number
A 1.07	VCI terminal as the function of X, can choose	0~59	0~59	0	◎	
A 1.08	The CCI terminal, as the function of the X, can be selected	0~59	0~59	0	◎	
A 1.09	Panel potentiometer as a function of choice when the X	0~59	0~59	0	◎	
A 1.10	The simulation quantity is used as the valid mode selection at X time	0: Effective at a high power level 1: Effective at the low level the unit:VCI decade:CCI Hundred bits: panel potentiometer	0 ~ 1	000	◎	
A 1.11	Virtual VDO 1 output function selection	0: Internal short contact with the physical Xx terminal 1 ~ 40: See F 5 Group physical DO output selection	0 ~ 40	0	○	
A 1.12	Virtual VDO 2 output function selection	0: Internal short contact with the physical Xx terminal 1 ~ 40: See F 5 Group physical DO output selection	0 ~ 40	0	○	
A 1.13	Virtual VDO 3 output function selection	0: Internal short contact with the physical Xx terminal 1 ~ 40: See F 5 Group physical DO output selection	0 ~ 40	0	○	
A 1.14	Virtual VDO 4 output function selection	0: Internal short contact with the physical Xx terminal 1 ~ 40: See F 5 Group physical DO output selection	0 ~ 40	0	○	
A 1.15	Virtual VDO 5 output function selection	0: Internal short contact with the physical Xx terminal 1 ~ 40: See F 5 Group physical DO output selection	0 ~ 40	0	○	
A 1.16	The VDO 1 output delay time	0.0~3600.0s	0.0~3600.0	0s.0	○	
A 1.17	The VDO 2 output delay time	0.0~3600.0s	0.0~3600.0	0s.0	○	
A 1.18	The VDO 3 output delay time	0.0~3600.0s	0.0~3600.0	0s.0	○	
A 1.19	The VDO 4 output delay time	0.0~3600.0s	0.0~3600.0	0s.0	○	
A 1.20	The VDO 5 output delay time	0.0~3600.0s	0.0~3600.0	0s.0	○	

A 1.21	The VDO output terminal valid state selection	0: Positive logic; 1: Counterlogic Individual bit: VDO 1 Ten places: VDO 2 Hundred bits: VDO 3 Thousand bits: VDO 4 Ten thousand bits: VDO 5	0 ~ 1	00000	○	

FC	name	Parameter Details	Set the scope	default value	change	order number
A 5 group control optimization parameters						
A 5.00	DPWM switch limit frequency	5.00Hz ~F 0. 10 (Maximum frequency)	.005Hz ~F 0. 10 (the most Large frequency)	.08Hz	○	
A 5.01	PWM modulation mode	0: Aynchronous modulation 1: Synchronous modulation	0 ~ 1	0	○	
A 5.02	Dead zone compensation mode selection	0: No compensation 1: Compensation model: 1	0 ~ 1	1	○	
A 5.03	Random PWM depth	0: Invalid random PWM 1~10: PWM carrier frequency random depth	0 ~ 10	0	○	
A 5.04	Fast current limiting enables	0: Don't make it 1: Enable	0 ~ 1	1	○	
A 5.05	Maximum output voltage coefficient	100 ~ 110%	100 ~ 110%	105%	○	
A 5.06	Underpressure point setting	Three-phase: 380-480V model: 140.0V-380.0V Three-phase: 200-240V model: 140.0V-380.0V	140.0V -380.0V	350V	○	
A 5.07	SVC optimization mode selection	1: Optimization mode 1 2: Optimization mode 2	1 ~ 2	2	○	
A 5.08	Dead zone time adjustment	100%~200%	100%~200%	150%	◎	
A 5.09	Overpressure point setting	Three-phase: 380-480V model: 200.0V-820.0V Three-phase: 200-240V model: 200.0V-400.0V	200.0V -820.0V	Model determination	◎	
A 6 group of simulation quantity curve setting						
A 6.00	Simulation quantity curve 4 minimum input	- 10.00V ~A 6.02	- 10.00V ~A 6.02	0V.00	○	
A 6.01	The minimum input of the analog quantity curve 4 corresponds to the setting	- 100%~100%	- 100%~100%	0.0%	○	
A 6.02	Simulation volume curve 4 inflection point 1 input	A 6.00~ A 6.04	A 6.00~ A 6.04	3V.00	○	
A 6.03	Simulation curve 4 inflection point 1 input corresponding setting	- 100%~100%	- 100%~100%	30.0%	○	
A 6.04	Simulation volume curve 4 inflection point 2 input	A 6.02~ A 6.06	A 6.02~ A 6.06	6V.00	○	
A 6.05	Simulation curve 4 inflection point 2 input corresponding setting	- 100%~100%	- 100%~100%	60.0%	○	
A 6.06	Simog curve 4 maximum input	A 6.06~10.00V	A 6.06~10.00V	10V.00	○	

A 6.07	The maximum input corresponds to the setting	-100%~100%	100.0%	100.0%	○	
A 6.08	Simulation quantity curve 5 minimum input	-10.00V ~A 6.10	-10.00V ~A 6.10	-10.00V	○	

FC	name	Parameter Details	Set the scope	default value	change	order number
A 6.09	The minimum input of the analog quantity curve 5 corresponds to the setting	-100%~100%	-100%~100%	-100.0%	○	
A 6.10	Simulation volume curve 5 inflection point 1 input	A 6.08~A 6.12	A 6.08~A 6.12	-3.00V	○	
A 6.11	Simulation curve 5 inflection point 1 input corresponding setting	-100%~100%	-100%~100%	-30.0%	○	
A 6.12	Simulation volume curve 5 inflection point 2 input	A 6.10~A6.14	A 6.10~A6.14	3V.00	○	
A 6.13	Simulation curve 5 inflection point 2 input corresponding setting	-100%~100%	-100%~100%	30.0%	○	
A 6.14	Simog curve 5 maximum input	A 6.12~10.00V	A 6.12~10.00V	10V.00	○	
A 6.15	The maximum input corresponds to the setting	-100%~100%	-100%~100%	100.0%	○	
A 6.24	The VCI sets the jump point	-100%~100%	-100%~100%	0.0%	○	
A 6.25	The VCI sets the jump amplitude	0.0%~100.0%	0.0%~100.0%	0.1%	○	
A 6.26	The CCI sets the jump point	-100%~100%	-100%~100%	0.0%	○	
A 6.27	The CCI sets the jump amplitude	0.0%~100.0%	0.0%~100.0%	0.1%	○	
A 6.28	Panel potentiometer sets the jump point	-100%~100%	-100%~100%	0.0%	○	
A 6.29	Panel potentiometer sets the jump range	0.0%~100.0%	0.0%~100.0%	0.1%	○	
The A 7 group of user-programmable card parameters						
A 7.00	User-programmable feature selection	0: invalid 1: valid	0 ~ 1	0	◎	
A 7.01	Control board output terminal control mode selection	0: frequency converter control 1: User-programmable control card control Individual bit: switch volume output Ten-place: Relay (TA-TB-TC hundreds place:DO Thousand bits: pulse output Ten thousand bits: AO 1	0 ~ 1	0	◎	
A 7.03	pulse output	0.0%~100.0%	0.0%~100.0%	0.0%	○	
A 7.04	AO1 output	0.0%~100.0%	0.0%~100.0%	0.0%	○	
		Binary setting 0: disabled; 1: enabled				

A 7.05	Switch output	Individual bit: switch volume output Ten-place: Relay 1 hundreds place:DO	0 ~ 1	1	o	

FC	name	Parameter Details	Set the scope	default value	change	order number
The AIAO correction for group AC						
AC .00	VCI measured voltage 1	0.500~4.000V	0.500~4.000V	Factory correction	○	
AC .01	The VCI shows the voltage of 1	0.500~4.000V	0.500~4.000V	Factory correction	○	
AC .02	VCI measured voltage 2	6.000~9.999V	6.000~9.999V	Factory correction	○	
AC .03	The VCI shows the voltage of 2	6.000~9.999V	6.000~9.999V	Factory correction	○	
AC .04	CCI measured voltage 1	0.500~4.000V	0.500~4.000V	Factory correction	○	
AC .05	The CCI shows the voltage of 1	0.500~4.000V	0.500~4.000V	Factory correction	○	
AC .06	CCI-measured voltage 2	6.000~9.999V	6.000~9.999V	Factory correction	○	
AC .07	The CCI shows the voltage of 2	6.000~9.999V	6.000~9.999V	Factory correction	○	
AC .08	Measured voltage of the panel potentiometer: 1	-9.999~10.000V	-9.999~10.000V	Factory correction	○	
AC .09	Panel potentiometer displays voltage 1	-9.999~10.000V	-9.999~10.000V	Factory correction	○	
AC .10	Measured voltage of the panel potentiometer: 2	-9.999~10.000V	-9.999~10.000V	Factory correction	○	
AC .11	Panel potentiometer displays voltage 2	-9.999~10.000V	-9.999~10.000V	Factory correction	○	
AC .12	A O1 Target Voltage 1	0.500~4.000V	0.500~4.000V	Factory correction	○	
AC .13	A O1 Measured voltage 1	0.500~4.000V	0.500~4.000V	Factory correction	○	
AC .14	A O1 Target Voltage 2	6.000~9.999V	6.000~9.999V	Factory correction	○	
AC .15	A O1. Measured voltage 2	6.000~9.999V	6.000~9.999V	Factory correction	○	

pour:

Column 1 "Function Code": the number of functional parameter group and parameters;

Column 2: Name: the full name of the functional parameter;

Column 3 "Parameter Detailed Description": is a detailed description of this functional parameter;

Column 4 "Set Range": displays the valid set value range of the functional parameters on the keyboard LCD LCD display;

Column 5 "Default Value": the original factory set value for the functional parameters;

Column 6 Changes: Change properties for a functional parameter (i. e. whether to change and change conditions are allowed), as follows:

"○": indicates that the setting value of this parameter can be changed when the frequency converter is in the shutdown and running state;

"◎": indicates that the set value of this parameter cannot be changed when the frequency converter is in the running state;

"●": The value of the parameter is the actual detected record value and cannot be changed;

"*": It means that the parameter is a "manufacturer parameter", which is only set by the manufacturer, and prevents users from operating;

Column 7 serial Number: Arrange the serial number of the function code in the entire function code.

FC	name	Minimum unit	postal address
U 0.00	Operating frequency (Hz)	.010Hz	7000H
U 0.01	Set Frequency (Hz)	.010Hz	7001H
U 0.02	Bus-line voltage (V)	0. 1V	7002H
U 0.03	Output voltage (V)	1V	7003H
U 0.04	Output current (A)	0A.01	7004H
U 0.05	Output power (kW)	0. 1kW	7005H
U 0.06	Output torque (%) Percent output value of the motor rated torque	0. 1%	7006H
U 0.07	X input mode	1	7007H
U 0.08	DO output state	1	7008H
U 0.09	VCI voltage (V)	0V.01	7009H
U0. 10	CCI voltage (V) / current (mA)	0.01V /0.01mA	700AH
U0. 11	Panel potentiometer voltage (V)	0V.01	700BH
U0. 12	count value	1	700CH
U0. 13	Length value	1	700DH
U0. 14	Load speed display	1	700EH
U0. 15	PID setting	1	700FH
U0. 16	PID feedback	1	7010H
U0. 17	PLC stage	1	7011H
U0. 18	X 5 terminal input pulse frequency (Hz)	.010kHz	7012H
U0. 19	Feedback speed (Hz)	.010Hz	7013H
U 0.20	Remaining running time	0. 1Min	7014H
U 0.21	VCI correction front voltage	0V.001	7015H
U 0.22	CCI for correction of the front voltage / current	0.001V /0.01mA	7016H
U 0.23	Panel potentiometer correction front voltage	0V.001	7017H
U 0.24	linear velocity	1m /Min	7018H
U 0.25	Current power up time	1Min	7019H
U 0.26	Current runtime	0. 1Min	701AH
U 0.27	The X 5 terminal input pulse frequency	1Hz	701BH
U 0.28	Communication set value	0.01%	701CH
U 0.29	Encoder feedback speed	.010Hz	701DH
U 0.30	The primary frequency is shown	.010Hz	701EH
U 0.31	Auxiliary frequency display	.010Hz	701FH
U 0.32	View any memory address values	1	7020H
U 0.34	Motor temperature value	1℃	7022H

U 0.35	Target torque	0.1%	7023H
U 0.36	The rotation position	1	7024H
U 0.37	Power factor angle	0.1°	7025H
U 0.38	ABZ position	1	7026H
U 0.39	The VF separates the target voltage	1V	7027H
U 0.40	The VF is used to separate the output voltage	1V	7028H
U 0.41	The X-terminal input status is visually displayed	1	7029H
U 0.42	The DO output status is visually displayed	1	702AH
U 0.43	The X terminal functional status displays visually for 1	1	702BH
U 0.44	The X terminal functional status displays visually for the 2	1	702CH
U 0.45	fault message	1	702DH
U 0.58	Z event counter	1	703AH
U 0.59	Set the frequency of (%)	0.01%	703BH
U 0.60	running frequency	0.01%	703CH
U 0.61	frequency converter operating status	1	703DH
U 0.62	Current fault encoding	1	703EH
U 0.63	Point-to-peer communication transmission value	0.01%	703FH
U 0.64	Number of stations	1	7040H
U 0.65	Cycle upper limit	0.01%	7041H
U 0.66	Communication extension card model	100:CANOpen 200:Profibus -DP 300:CANLink	7042H
U 0.67	Communication extension card version number	indication range	-
U 0.68	DP card frequency converter status	The bit 0-running state The bit 1-Running direction The bit 2-is the frequency converter faulty The bit 3 target frequency was reached The bit 4~bit 7-reserved The bit 8~bit 15 fault code	7043H
U 0.69	Speed of the transfer DP card / 0.01hz	0.00~ F 0. 10 (Maximum frequency)	7044H
U 0.70	Transfer the DP speed / RMP	0~65535	7045H
U 0.71	Special current display for the communication card	indication range	-

U 0.72	Communication card error status	indication range	-
U 0.73	Motor serial number	0: Motor machine 1 1: Motor 2	7046H
U 0.74	Motor actual output torque	-300-300%	7047H

Chapter V Fault Inspection and Investigation

5.1 Fault information and troubleshooting method

Fault code	fault type	Possible causes of the failure	the way to deal with a situation
Err 01	Inverter unit protection	1. Short circuit of the inverter output loop 2. The wiring of the motor and the inverter is too long 3. The module is overheated 4. The internal wiring of the inverter is loose 5. The main control board is abnormal 6. The drive board is abnormal 7. Inverse module is abnormal	1. Troubleshoot the peripheral faults 2. Install the reactor or the output filter 3. Check whether the air duct is blocked, whether the fan works normally, and eliminate the existing problems 4. Plug in all the connecting cables 5. Seek technical support 6. Seek technical support 7. Seek technical support
Err 02	Accelerate over current	1. There is ground or short circuit 2. The control mode is vector and no parameter tuning 3. Acceleration time is too short 4. Manual torque lifting or V / F curve is not appropriate 5. Low voltage 6. Start the rotating motor 7. Sudden loading during acceleration 8. The inverter type selection is too small	1. Troubleshoot the peripheral faults 2. Tune the motor parameters 3. Increase the acceleration time 4. Adjust the manual lifting torque or V / F curve 5. Adjust the voltage to the normal range 6. Select the speed tracking start or wait the motor to stop before starting 7. Cancel the sudden load 8. Choose the frequency converter with a larger power level
Err 03	Slow down over current	1. There is ground or short circuit 2. The control mode is vector and no parameter tuning 3. The deceleration time is too short 4. Low voltage 5. Add the load suddenly during the deceleration process 6. No brake unit and brake resistance are installed	1. Troubleshoot the peripheral faults 2. Tune the motor parameters 3. Increase the deceleration time 4. Adjust the voltage to the normal range 5. Cancel the sudden load 6. Install the brake unit and the resistance
Err 04	Constant speed over current	1. There is ground or short circuit 2. The control mode is vector and no parameter tuning 3. Low voltage 4. Whether there is a sudden adding load in the operation 5. The selection of the inverter is	1. Troubleshoot the peripheral faults 2. Tune the motor parameters 3. Adjust the voltage to the normal range 4. Cancel the sudden load 5. Choose the frequency converter with a larger power level

		too small	
Err 05	Accelerated overvoltage	1. High input voltage 2. There is an external force dragging the motor during the acceleration process 3. The acceleration time is too short 4. No brake unit and brake resistance are installed	1. Adjust the voltage to the normal range 2. Cancel additional power or install brake resistance 3. Increase the acceleration time 4. Install the brake unit and the resistance
Err 06	Slow down over voltage	1. High input voltage 2. There is an external force dragging the motor in the deceleration process 3. The deceleration time is too short 4. No brake unit and brake resistance are installed	1. Adjust the voltage to the normal range 2. Cancel additional power or install brake resistance 3. Increase the deceleration time 4. Install the brake unit and the resistance

Fault code	fault type	Possible causes of the failure	the way to deal with a situation
Err 07	Constant speed overvoltage	1. High input voltage 2. There is external forces dragging the motor during operation	1. Adjust the voltage to the normal range 2. Cancel additional power or install brake resistance
Err 08	Control of the power supply failure	The input voltage is not within the range specified in the specification	Adjust the voltage to the range required by the specification
Err 09	Underpressure failure	1. Instant power outage 2. The input voltage of the inverter is not within the range required by the specification 3. The bus voltage is abnormal 4. The rectifier bridge and the buffer resistance are abnormal 5. The drive board is abnormal 6. The control board is abnormal	1. Reset the fault 2. Adjust the voltage to the normal range 3. Seek technical support 4. Seek technical support 5. Seek technical support 6. Seek technical support
Err 10	Frequency converter overload	1. Whether the load is too large or motor blockage 2. The inverter type selection is too small	1. Reduce the load and check the motor and mechanical conditions 2. Choose the frequency converter with a larger power level
Err 11	Motor overload	1. Whether the motor protection parameter F9-01 is appropriate 2. Whether the load is too large or the motor blocked 3. The selection of the inverter is too small	1. Set this parameter correctly 2. Reduce the load and check the motor and mechanical conditions 3. Choose the frequency converter with a larger power level
Err 12	Input the missing phase	1. Three-phase input power supply is abnormal 2. The drive board is abnormal 3. Abnormal lightning protection plate 4. The main control board is abnormal	1. Check and eliminate the problems existing in the peripheral lines 2. Seek technical support 3. Seek technical support 4. Seek technical support
Err 13	Output lack of phase	1. The lead from the frequency converter to the motor is abnormal 2. The three-phase output of the inverter is unbalanced during the motor operation 3. The drive board is abnormal 4. The Module is abnormal	1. Troubleshoot the peripheral faults 2. Check whether the three-phase winding of the motor is normal and eliminate the fault 3. Seek technical support 4. Seek technical support
Err 14	The module overheating	1. The ambient temperature is too high 2. Air duct is blocked 3. The fan is damaged 4. The module thermistor is damaged 5. The inverter module is damaged	1. Reduce the ambient temperature 2. Clean up the air duct 3. Replace the fan 4. Replace the thermistor 5. Replace the inverter module
Err 15	External equipment failure	1. Input the external fault signal through the multifunctional terminal X terminal 2. Enter the external fault signal through the virtual IO function	1. Reset the operation 2. Reset the operation

Err 16	Communication failure	1. The upper position computer does not work normally 2. The communication line is abnormal 3. The communication extension card F0-28 is not set correctly 4. Communication parameter FD group is not set correctly	1. Check the wiring of the upper position machine 2. Check the communication connection cable 3. Set the communication extension card type correctly 4. Set the communication parameters correctly
Err 17	Contactor failure	1. The drive plate and the power supply are abnormal 2. The contactor is abnormal	1. Replace the drive board or the power supply board 2. Replace the contactor
Err 18	Current detection fault	1. Check the Hall device abnormality 2. The drive board is abnormal	1. Replace the Hall devices 2. Replace the drive plate

Fault code	fault type	Possible causes of the failure	the way to deal with a situation
Err 19	Motor tuning fault	1. Motor parameters are not set according to the nameplate 2. The parameter tuning process is timed out	1. Set the motor parameters correctly according to the nameplate 2. Check the frequency converter to the motor lead line
Err 20	Code disk failure	1. The encoder model does not match 2. Encoder connection error 3. Cocoder is damaged 4. PG, abnormal card abnormality	1. Set the encoder type correctly according to the actual conditions 2. Troubleshoot the line fault 3. Replace the encoder 4. Replace the PG card
Err 21	EEPROM read and write fault	The EEPROM chip is damaged	Replace the main control board
Err 22	frequency converter hardware failure	1. There is overpressure 2. There is an overflow	1. Handle the overvoltage faults 2. Handle the overcurrent fault
Err 23	Short circuit to ground fault	The Motor is short-circuit to the ground	Replace the cable or the motor
Err 26	Cumulative runtime reaches the fault	The cumulative running time reaches the set point	Use the parameter initialization function to clear the record information
Err 27	User-custom fault 1	1. Enter the user-defined custom fault 1 signal through the multi-function terminal X terminal 2. Enter the user self through the virtual IO function 3. Define the signal of fault 1	1. Reset the operation 2. Reset the operation
Err 28	User-custom fault 2	1. Enter the user custom fault 2 signal through the multifunctional terminal X terminal 2. Enter the user for customization through the virtual IO function 3. Signal of the fault 2	1. Reset the operation 2. Reset the operation
Err 29	The cumulative power-on time reaches the fault	The cumulative power-on time reaches the set value	Use the parameter initialization function to clear the record information
Err 30	The load failure	The operating current of the frequency converter is less than F 9.64	Verify whether the load is detached or is F 9.64, F 9.65, and whether the parameter setting meets the actual operating conditions
Err 31	Runtime PID feedback lost fault	The PID feedback is less than the FA setpoint.26	Check the PID feedback signal or set the FA to an appropriate value.26
Err 40	Each wave-limiting flow fault	1. Whether the load is too large or motor blockage 2. The inverter type selection is too small	1. Reduce the load and check the motor and mechanical conditions 2. Choose the frequency converter with a larger power level

Err 41	Switch the motor fault during operation	Change the current motor selection via terminals during frequency converter operation	After the inverter is stopped, the motor is switched over
Err 42	Speed deviation is excessive fault	1. Encoder parameters set correctly (F 0.01=1) 2. Motor blocking and rotation 3. Excessive speed deviation detection parameters F 9.69, F 9 and F 9 are not set properly.70 4. UVW output of frequency converter, the wiring to the motor is not normal	1. Set the encoder parameters correctly 2. Check whether the machinery is abnormal, whether the motor is tuned, and whether the torque setting value F 2. 10 is small 2. The detection parameters F 9.69 and F 9.70 are not set properly 4. Check whether the wiring between the frequency converter and the motor is disconnected

Fault code	fault type	Possible causes of the failure	the way to deal with a situation
Err 43	Motor overspeed fault	1. Encoder parameters are not set correctly 2. No parameter tuning was performed 3. Motor overspeed detection parameters F9.67 and F 9 are not set properly.68	1. Set the encoder parameters correctly 2. Tune the motor parameters 3. Set the test parameters reasonably according to the actual situation
Err 45	Motor overtemperature fault	1. The wiring of the temperature sensor is loose 2. The motor temperature is too high	1. Check the temperature sensor wiring and troubleshooting 2. Reduce the load frequency or take other heat dissipation measures to heat dissipate the motor
Err 51	Initial position error	The motor parameters are too different from the actual ones	Re-confirm whether the motor parameters are correct, and focus on whether the rated current is set too small
Err 60	Brake pipe protection fault	The brake resistance is short-circuit or the brake module is abnormal	Check the brake resistance or seek technical support

5.2 Common faults and their handling methods

The following faults may be encountered during the frequency converter use, please refer to the following methods for simple fault analysis:

No power display on the ●:

The ◆ uses a multimeter to check whether the inverter input power supply is consistent with the inverter rated voltage. Please check and exclude the problem.

The ◆ checks whether the three-phase rectifier bridge is intact. If the rectified bridge has exploded, please seek service.

◆ Check that the CHARGE lamp is on. If this light is not on, please seek a service.

Power supply air switch jumps off after ● power-up:

◆ Check for ground or short circuit between the input power supply to eliminate any problems.

◆ checks if the rectifier bridge has been broken, and if damaged, seek service.

The motor does not rotate after the ● inverter is running:

The ◆ checks for a balanced three-phase output between U, V, and W. If so, check if the motor is damaged or blocked. If not, verify that the motor parameters are set correctly.

◆ can have output but three-phase imbalance, please seek a service.

If the ◆ has no output voltage, please seek a service.

● power converter is normal, the power supply air switch jumps off after operation:

◆ Check for short circuits between the output modules. If so, please seek for services.

◆ Check for a short circuit or ground between the motor leads. If so, please exclude the case.

◆ If the trip is seen occasionally, and the distance between the motor and the frequency converter is relatively far, then consider adding the output AC reactor.

Chapter VI Maintenance and Maintenance

warn
● Maintenance personnel must follow the specified methods of maintenance and maintenance. ● Maintenance personnel shall be conducted by professional and qualified personnel. ● Before maintenance, the power of the frequency converter must be cut off and maintenance can be carried out after 10 minutes. ● Do not directly touch the components on the PCB board, otherwise it is easy to electrostatic damage to the frequency converter. ●After the maintenance, you must confirm that all the screws are tightened.

.16. Daily maintenance

In order to prevent the failure of the frequency converter, ensure the normal operation of the equipment, and extend the service life of the frequency converter, the daily maintenance of the daily maintenance converter is indicated as follows:

inspection item	content
Temperature / humidity	Confirm that the ambient temperature is 0℃ ~40℃ and the humidity is 20-90%
Oil mist and dust	Ensure that there is no oil mist and dust and no condensate in the frequency converter
frequency transformer	Check the frequency converter for any abnormal heating and abnormal vibration
electric fan	Ensure that the fan is running normally and that no debris is stuck
Enter the power supply	Verify that the voltage and frequency of the input power supply are within the allowable range
any power-generating or power-driven machine	Check whether the motor has abnormal vibration, heating, abnormal noise and missing phase problems

.26. Regular maintenance

In order to prevent the inverter from failure and ensure its long-term, high-performance and stable operation, the user must check the inverter regularly (within half a year), and the inspection content is indicated as follows:

inspection item	scope of examination	The exclusion method
Screw for the external terminals	Whether the screws are loose	screw home
PCB board	Dust, stolen goods	Clean up the debris completely with dry compressed air

electric fan	Whether the abnormal noise and vibration and cumulative time exceed 20,000 hours	1. Remove the debris 2. Change the fan
electrolytic capacitor	Whether color change, whether peculiar smell	Replace the electrolytic capacitor
radiator	Dust, dirt	Clean up the debris completely with dry compressed air
Power components	Dust, dirt	Clean up the debris completely with dry compressed air

.36. Replacement of the inverter vulnerable parts

Order fan: The ◆ electrolytic capacitor must be replaced after more than 20,000 hours: after 30,000-40,000 hours

.46. Warranty for the frequency converter

The company provides a 12-month warranty service for this series of frequency converter.

Chapter VII Communication Agreement

.17. Definition of the address of the communication data

Series inverter supports four communication protocols: Modbus-RTU, CANopen, CANlink and Profibus-DP. User programmable card and point-to-point communication are derived from CANlink protocol. Through these communication protocols, the upper computer can control, monitor and modify the functional parameters of the inverter. Communication data can be divided into functional code data and non-functional code data, which includes operation command, running status, operation parameters, alarm information, etc.

7.11, Functional code data

Function code data is the important setting parameters of the frequency converter, as follows:

	Group F (readable and write)	F0、F1、F2、F3、F4、F5、F6、F7、F8、F9、FA、FB、FC、FD、FE、FF
	Group A (readable and write)	A0、A1、A2、A3、A4、A5、A6、A7、A8、A9、AA、AB、AC、AD、AE、AF

The function code data communication address is defined as follows:

1. When reading functional code data for communication

For the functional code data of F 0~FF and A 0~AF groups, the communication address of 16 higher directly is the functional group number, and 16 lower directly numbers the functional code in the functional group. Examples are as follows:

F 0. 16 functional parameter, whose communication address is F 010H, where F 0H represents the functional parameters of group F 0, and 10H represents the functional code of the serial number 16 in the functional group

Make data format

AC .08 Functional parameters, whose communication address is AC 08, where ACH represents the AC group functional parameters, and 08H represents the hexadecimal data format of the function code with the serial number 8 in the functional group

2. When the function code data is written for the communication

For function code data of F 0~FF group, its communication address is 16 years high, which is 00~0F or F 0~FF according to whether EEPROM is written. 1 F 6 years low is directly the serial number of function code in the function group. Examples are as follows:

Write function parameter F 0. 16, its communication address is 0010H; its communication address is F 010H.

For the A 0~AF group function code data, its communication address is 16 years high, distinguished is 40~4F or A 0~AF according to whether it needs to write to EEPROM, and 16 years low is directly the serial number of the function code in the function group. Examples are as follows:

.0Write function parameter AC 8, its communication address is 4C 08H when EEPROM writing is not required; its communication address is AC 08H when EEPROM writing is required.

7.11 Non-functional code data

Non-functional code data of the	Status Data (Read-only)	Monitoring parameters of group U, fault description of frequency converter, and operation form of frequency converter
	Control Parameters (write-only)	Control command, communication setting value, digital output terminal control, analog output AO 1 control, analog output AO 2 control, high-speed pulse (DO) output control, parameter initialization state

1. Status data

Status data is divided into U group monitoring parameters, frequency converter fault description, and frequency converter operating status

U Group parameter monitoring parameters

Group U monitoring data is described in chapters V and 6, with the address defined as follows:

U 0~UF, whose communication address of 16 is 70~7F, and 16 is the serial number of monitoring parameters in the group, as follows:

U 0. 11, with a corresponding address of 700BH

Frequter fault description

When the communication reads the fault description of the frequency converter, the communication address is fixed to 8000H, and the upper computer computer can obtain it by reading the address data

Current inverter fault code, fault code description is defined in Chapter 5 F 9. 14 function code

frequency converter operating status

When the communication reads the operating state of the inverter, the communication address is fixed to 3000H, and the upper computer computer can obtain it by reading the address data

Current operating status information of the frequency converter, as defined as follows:

frequency converter operating status communication address	Read the state word definition
3000H	1: Forward operation 2: reverse operation 3: shutdown

Control parameters are divided into control command, digital output terminal control, analog output AO 1 control, analog output AO 2 control, and high-speed pulse output control

control command

When F 0.02 (command source) is selected as 2: communication control, the upper computer computer can control the start and stop of the frequency converter through the communication address. The control command is defined as follows:

Control command address address	Command function
2000H	1: Forward operation 2: reverse operation 3: forward point movement
	4: Reverse point move 5: free shutdown 6: deceleration shutdown 7: fault complex

Communication set value

Communication setting point The frequency source, torque upper limit source, VF separation voltage source, PID given source, PID feedback source and so on are selected as the given data of the communication to the timing. Its mailing address is 1000H, and when the upper computer sets the mailing address value, the data range is-10000~10000, corresponding to the relative given value of-100.00%~100.00%

Digital output terminal control

When the digital output terminal function is selected as 20: communication control, the upper computer computer can control the digital output terminal of the inverter through the communication address, as defined as follows:

The digital output terminal controls the communication address	Command content
2001H	BIT 0: DO 1 output control BIT 1: DO 2 output control BIT 2: RELAY 1 output control BIT 3: RELAY 2 output control BIT 4: DO, Output control BIT 5: VDO 1 BIT 6: VDO 2 BIT 7: VDO 3 BIT 8: VDO 4 BIT 9: VDO 5

Analog volume output AO 1, AO 2, high-speed pulse output DO control

When the analog amount is output AO 1 and AO 2, and the high-speed pulse output DO output function is selected as 12: when the communication is set, the upper computer computer can realize the pair change through the communication address

Control of frequency device analog quantity and high-speed pulse output, defined as follows:

Output control communication address		Command content
AO 1	2002H	0 ~ 7FFF indicates 0% ~ 100%
AO 2	2003H	
pulse output	2004H	

Parameter initialization

This function is required when the parameter initialization of the inverter is required by the upper position computer.

if FP. If the 2000 (user password) is not 0, the password needs to be verified through communication first. After the verification passes, the upper computer will initialize the parameters within 30 seconds.

The communication address for user password verification is 1F 00H, and if the correct user password is directly written to the address, the password verification communication parameter initial address is 1F 01H, and the data content is defined as follows:

The parameter initializes the address address	Command function
1F 01H	1: Restore factory parameters 2: Clear record information
	4: Restore user backup parameter 501: backup user current parameters

7.2 Modbus communication protocol

Series frequency converters provide RS 485 communication interface and support Modbus-RTU slave communication protocol. Users can realize centralized control through the computer or PLC, set the frequency converter operation command, modify or read the function code parameters, and read the working status and fault information of the frequency converter.

.217. Agreement Content

The serial communication protocol defines the information content and usage format transmitted in the serial communication. Including: host polling (or broadcast) format; host coding method, the content includes: required action function code, transmission data and error verification. The response of the slave also adopts the same structure, including: action confirmation, return data and error verification. If the slave has an error while receiving the information, or it cannot complete the action required by the host, it organizes a failure information and gives feedback to the host as a response.

.21.17 Application mode

The inverter is connected to the "single-master and multi-slave" PC / PLC control network with RS 485 and bus, as a communication slave.

.21.27. Bus structure

(1) Hardware interface

Install the RS 485, extension card-TX 1 hardware into the frequency converter.

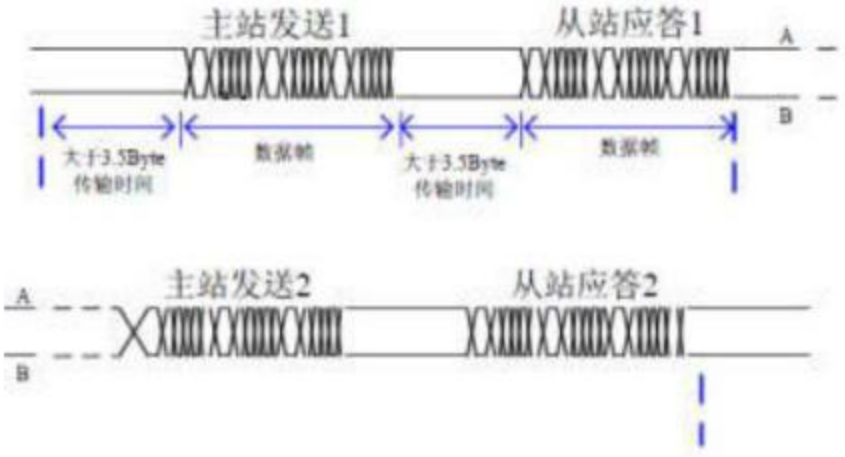
(2) Topology structure

Single-host multi-slave system. Each communication device in the network has a unique station address, in which one device as the communication host (often flat PC upper computer, PLC, HMI, etc.), actively initiate communication, read or write parameters on the slave, other devices in the communication slave, in response to the host host inquiry or communication operations. Only one device can send the data while the other device is in the receiving state.

The slave address is set up from 1 to 247, and 0 is the broadcast communication address. The slave address in the network must be unique.

(3) Communication transmission mode

Aynchronous serial, semi-duplex transmission mode. During serial asynchronous communication, the data is sent once at a time. In the MODBUS-RTU protocol, when the idle time without data on the communication data line is greater than the 3.5Byte transmission time, the start of a new communication frame is indicated.



The communication protocol built-in of the series inverter is the Modbus-RTU slave communication protocol, which can respond to the "query / command" of the host, or make the corresponding actions according to the "query / command" of the host, and make the communication data response. Host can refer to a personal computer (PC), industrial control equipment or programmable logic controller (PLC), etc., host, can not only communicate to a slave alone, but also can release broadcast information to all the lower slave. For the separate access Query / command of the host, the accessed slave returns a response frame; for the host broadcast information, the slave does not need to respond back to the host.

7.22 Communication data structure

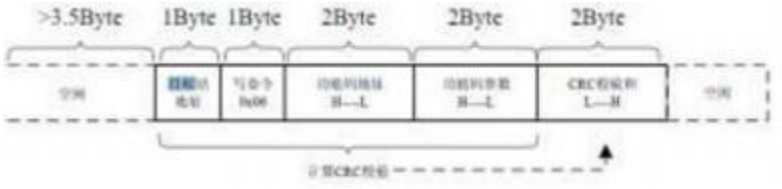
The Modbus-RTU protocol communication data format is as follows. The frequency converter only supports reading or writing of Word parameters, the corresponding communication read command is Ox 03; write command is Ox 06, byte or bit read operation is not supported:

Master station read the command frame

In theory, the upper computer can read several consecutive function codes at a time (that is, the maximum of n is up to 12), but note that it can not cross the last function code of the function code group, otherwise the reply will be wrong.

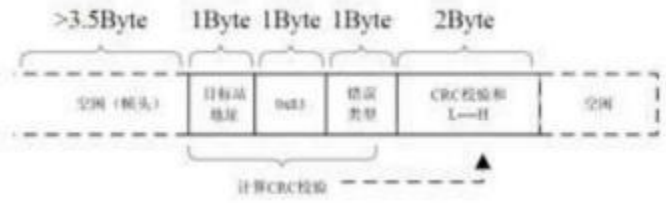
Read the answer frames from the station

Write the answer frames from the station



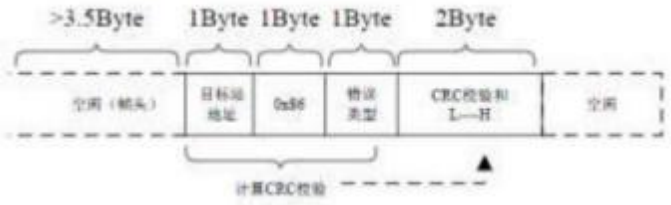
If a communication frame error is detected by the machine or is unsuccessful reading and writing due to other reasons, the wrong frame will be answered.

Station-read answer error frame



type of error
01: Command code error 02: Address error 03: Data error 04: The command cannot be processed

From the station to write the answer error frame



The Data Frame field description:

Frame-head, START	Idle with more than a 3.5-character transfer time
SROM Address ADR	Communication address range: 1 ~247; 0 = Broadcast address
command code CMD	03: Read the slave parameters; 06: Write the slave parameters
Function code address H	The parameter address inside the frequency converter is expressed in 16 decimal system; divided into functional code type and non-functional code type (such as running status parameters, operation commands, etc.) parameters, see the address definition for details. When function code address L is transmitted, high byte is before and low byte is back.
Function code address, L	
Number of function codes: H	The number of functional codes read in this frame, if 1. When transmitting, high bytes before and low bytes after. This protocol can only overwrite one function code at a time, without this field.
Number of function codes, L	
data H	Answer data, or data to be written, is transmitted with high bytes earlier and low bytes later.
data L	
CRC CHK Low Level	Detection value: CRC 16 check value. When transmitting, low bytes before and high bytes after. The CRC CHK high-level calculation method is detailed in the CRC calibration description in this section.
CRC CHK High Level	

EN D	.5When with 3 characters

The CRC calibration mode:

The CRC (Cyclical Redundancy Check) uses the RTU frame format, and the message includes an error detection domain based on the CRC method. The CRC domain detects the content of the entire message. The CRC domain is two bytes that contain a 16-bit binary value. It is calculated by the transmission device and added to the message. The receiving device recalculates the CRC of the received message and compares it with the value in the received CRC domain. If the two CRC values are unequal, there is a transmission error. The CRC first deposits the 0xFFFF, and then calls a procedure to process the consecutive 8-bit bytes in the message with the value in the current register. Only the 8Bit data in each character is valid for the CRC, start and stop bits, and parity calibration

The test position is invalid. During CRC generation, each 8-bit character is separate or (XOR) from the register content, and the result is moving towards the lowest effective bit, with the highest effective bit filled with zero. LSB was extracted for detection, and was not performed if LSB was 1, register alone and preset values were different or, and if LSB was 0. The entire process was repeated 8 times. After the last digit (the 8th digit) is completed, the next 8-bit byte is separate from the current value of the register. The value in the final register is the CRC value after all the bytes in the message are executed. When a CRC is added to a message, low bytes join first, then high bytes. The CRC simple functions are as follows:

```
unsigned int crc _chk _value (unsigned char *data _value ,unsigned char length ){
unsigned int crc _value =0xFFFF ;
int i ;
while (length -- ) {
      crc _value ^=*data _value ++;
      for (i =0;i <8;i ++) {
            if ( crc _value &0x0001)
{
             crc _value = ( crc _value >>1)
^0xa 001;
                  }
                  Else
                  {
                  crc _value =crc _value >>1;
                  }
            }
      }
      return ( crc_value );
}
```

Address definition of the communication parameter

Read and write function code parameters (some function codes cannot be changed, only for the manufacturer or monitoring):

.237 Function code parameter address marking rules

Represents rules with function code group numbers and labels as parameter addresses:

High Level Bytes: F0~FF (Group F), A0~AF (Group A), 70~7F (Group U)

Low Bytes: 00~FF

For example, to access the function code F 3. 12, the access address of the function code is represented 0xF 30C;

Note: FF group: you can neither read nor change parameters; U group: can only read, can not change parameters.

Some parameters cannot be changed when the converter is in running state; some parameters cannot be changed regardless of the converter;

Change the function code parameters, but also pay attention to the parameter range, units, and related instructions.

Function code group number	Communication access address	Communication modifies the function code address in the RAM
The F 0~FE group	0xF 000~0xFEFF	0x 0000~0x 0EFF
The A 0~AC group	0xA 000~0xACFF	0x 4000~0x 4CFF
U 0 group	0x 7000~0x 70FF	Communication modifies the function code address in the RAM

Note that because EEPROM is being stored frequently, it reduces the service life of EEPROM, so some function codes are not stored in communication mode, as long as

Change the RAM, and the value in it works. If it is a group F parameter, to implement this function, just change the high F of the function code address to 0. If the group A parameter, to implement this function, just by changing the high A of the function code address to 4.

The corresponding function code address is indicated as follows:

High Bytes: 00~0F (group F), 40~4F (Group A)

Low Bytes: 00~FF

in compliance with:

The function code F 3. 12 is not stored in the EEPROM, and the address representation is 030C;

Function code A 0.05, not stored in EEPROM, address expressed as 4005;

This address indicates that only can do write RAM, can not do read action, read, is invalid address.

This function can also be implemented using the command code 07H for all parameters.

Stop / Operation Parameters section:

Parameter address	parametric description
1000H	* Communication settings (decimal) 10000 ~ 10000
1001H	running frequency
1002H	busbar voltage
1003H	output voltage
1004H	output
1005H	output power
1006H	output torque
1007H	running speed
1008H	The X-terminal input flag
1009H	DO output flag
100AH	VCI voltage
100BH	CCI voltage
100CH	Panel potentiometer voltage
100DH	Count the numerical input
100EH	Length value input
100FH	loading speed
1010H	PID set up
1011H	PID feedback
1012H	PLC step
1013H	X 5 terminal input pulse frequency per 0.01kHz 1014H feedback speed in 0. 1Hz
1014H	Feedback speed, in a unit of 0. 1Hz

1015H	Remaining running time

1016H	VCI correction front voltage
1017H	The CCI correction front voltage
1018H	Panel potentiometer correction front voltage
1019H	linear velocity
101AH	Current power time
101BH	Current runtime
101CH	The X 5 terminal input pulse frequency, in unit
1Hz 101DH	Communication set value
101EH	Actual feedback speed
101FH	The primary frequency is shown
1020H	The auxiliary frequency is shown

pay attention to:

The communication set-point is the percentage of the relative values, with 10,000 corresponding to 100.00%, and-10,000 corresponding to-100.00%.

For the frequency dimension data, the percentage is the percentage of the relative maximum frequency (F 0. 10); for the torque dimension data, the percentage is F 2. 10, A 2.48 (the torque upper limit number is set, corresponding to the first and second motors respectively).

Control command input to frequency converter: (write only)

Control command address address	Command function
2000H	1: Forward operation 2: reverse operation 3: forward point movement
	4: Reverse point move 5: free shutdown 6: deceleration shutdown 7: fault complex

Read the frequency converter status: (read-only)

status word address	State word function Password Address Enter the content of the password
3000H	0001: forward operation 0002: reverse operation 0003: shutdown

Parameter lock password check: (if 8888H, password verification)

Digital output terminal control: (write-only)

command address	Command content
2001H	BIT 0: DO 1 Output control BIT 1: DO 2 output control BIT 2: RELAY 1 output control
	BIT 3: RELAY 2 Output control BIT 4: DO, and the output control BIT 5: VDO 1 BIT 6: VDO 2
	BIT 7：VDO 3 BIT 8：VDO 4 BIT 9：VDO 5

Analog output AO 1 control: (write-only)

command address	Command content
2002H	0~7FFF representation 0%~100%

Analog output AO 2 control: (write-only)

Comman d address:	Command content
	0~7FFF representation

Pulse (X 5) Output control: (write-only)

2003H	Command content
	0~7FFF representation

frequency converter fault description:

The frequency converter fault address	Frequency converter fault information
8000H	0000: No fault 0001: retention 0002: acceleration overcurrent 0003: deceleration overcurrent
	0004: Constant speed overcurrent 0005: accelerated overvoltage 0006: deceleration overvoltage
	0007: constant speed overvoltage 0008: buffer resistance overload fault 0009: undervoltage fault
	000A: inverter overload 000B: motor overload 000C: input phase absence
	000D: Output phase absence 000E: module overheating 000F: external fault
	0010: Communication anomaly 0011: contactor anomaly 0012: current detection fault
	0013: Motor tuning fault 0014: encoder / PG, card fault 0015: parameter reading and writing
	0016: Frequter hardware failure 0017: Motor short circuit to ground fault 0018: reserved
	0019: Hold 001A: Runtime reaches 001B: User custom fault 1
	001C: User custom fault 2 001D: power time reaches 001E: drop
	001F: Runtime PID feedback loss 0028: Fast flow limit timeout fault
	0029: Switching motor fault 002A: excessive speed deviation 002B: motor overspeed
	002D: Motor over temperature 005A: Encoder line number setting error 005B: No-encoder is connected
	005C: Initial position error 005E: Speed feedback error

7.24 Description of the F D group communication parameters

Fd -00	Porter range	Factory value	6005
	Set the scope	Individual bit: MODBUS Porter rate	
		0： 300BPS 1： 600BPS 2： 1200BPS 3： 2400BPS 4： 4800BPS	
		5： 9600BPS 6： 19200BPS 7： 38400BPS 8： 57600BPS 9： 115200BPS	

This parameter is used to set the data transmission rate between the upper position computer and the frequency converter. Note that the wave rate set by the upper computer and the inverter must be consistent, otherwise, the communication cannot be conducted. The greater the port rate, the faster the communication speed.

Fd-01	data format	Factory value	0
	Set the scope	0: No check: data format <8, N, 2>	
		1: Partial test: data format <8, E, 1>	
		2: Strange check: data format <8, O, 1>	

		3: No calibration: Data format <8-N-1>

The data format set by the upper computer and the inverter must be consistent, otherwise, the communication cannot be carried out.

Fd -02	This machine address	Factory value	1
	Set the scope	1~247,0 For a broadcast address	

When the local address is set to 0, it is the broadcast address, realizing the host computer broadcast function.

Native address is unique (except broadcast address), which is the basis of point-to-point communication between upper computer and frequency converter.

Fd -03	Response delay	Factory value	2ms
	Set the scope	0~20ms	

Response delay: refers to the intermediate interval between the inverter data acceptance end and the data sent by the upward computer. If the response delay is less than the system processing time, the response delay shall be subject to the system processing time. If the response delay is longer than the system processing time after processing, the system will delay to send the data until the response delay time reaches.

Fd -04	Communication timeout time	Factory value	0.0 s
	Set the scope	0.0s (invalid); 0. 1~60.0s	

The communication timeout parameter is invalid when the function code is set to 0.0s. When the function code is set to a valid value, if the interval between one communication and the next communication exceeds the communication timeout time, the system will report a communication fault error (Err 16). Usually, it is set to be invalid. If in the continuous communication system, set, set the secondary parameters, you can monitor the communication status.

Fd -05	Communication protocol selection	Factory value	0
	Set the scope	0: Non-standard Modbus-RTU protocol; 1: Standard Modbus-RTU protocol	

Fd-05=1: Select the standard Modbus protocol.

Fd-05=0: When reading the command, there are one more returned bytes than the standard Modbus protocol, please refer to the "5 Communication Data Structure" section of this protocol.

Fd-06	Communication to read the current resolution	Factory value	0
	Set the scope	0：0.01A；1：0.1A	

Used to determine the output unit of the current value when the communication reads the output current.

Appendix A for Installation and Overall Dimensions (mm)

series	product model	Rated input voltage	Overall dimensions (mm)	Installation size (mm)
	***-0R 4ST 2	220V	89.7*197*145	71.4*184.2
	***-0R 7ST 2	220V		
	***- 1R 5ST2	220V		
	***-2R 2ST 2	220V		
	***-0R 7G / 1R 5PT4	380V		
	***- 1R 5G /2R 2PT4	380V		
	***-2R 2G /4R 0PT 4	380V		
	***-4R 0G /5R 5PT 4	380V		
	***-5R 5G /7R 5PT 4	380V	102*200*165	90*189.8
	***-7R 5G /011PT 4	380V		
	***-011G /015PT 4	380V	125*240*175	108*227.5
	***-015G /018PT 4	380V		
	***-018G /022PT 4	380V	210*345*210	140*320
	***-022G /030PT 4	380V		
	***-030G /037PT 4	380V		
	***-037G /045PT 4	380V	295*525*225	160*505
	***-045G /055PT 4	380V		
	***-055G /075PT 4	380V	340*530*250	200*510
	***-075G /090PT 4	380V	340*580*250	200*560
	***-090G / 110PT4	380V	400*610*290	240*590
	***- 110G/ 132PT4	380V		
	***- 132G/ 160PT4	380V		
	***- 160G/ 185PT4	380V	500*780*350	400*760
	***- 185G/200PT4	380V		
	***-200G /220PT 4	380V		
	***-220G /245PT 4	380V		
	***-245G /280PT 4	380V	750*860*460	500*840
	***-280G /315PT 4	380V		
	***-315G /355PT 4	380V		

	***-355G /400PT 4	380V		

series	product model	Rated input voltage	Overall dimensions (mm)	Installation size (mm)
	***-245G /280PT 4C	380V	1300*750*465	Cabinet machine
	***-280G /315PT 4C	380V		
	***-315G /355PT 4C	380V		
	***-355G /400PT 4C	380V		
	***-400G /450PT 4C	380V	1500*950*515	
	***-450G /500PT 4C	380V		
	***-500G /560PT 4C	380V		
	***-560G /630PT 4C	380V	1600*1050*515	
	***-630G /710PT 4C	380V		

Keyboard opening size (mm)

Model no.	W	H
0R 4G -630G	82	126

U 0.73	Motor serial number	0: Motor machine 1 1: Motor 2	7046H
U 0.74	Actual output torque of the motor	-300-300%	7047H