preface

First of all, thank you for buying a high-performance universal frequency converter!

This is a general high-performance current vector inverter to control the AC asynchronous motor, which can be used for textile, paper, wire drawing, machine tools, packaging, food, fans, water pumps and a variety of automated production equipment to drive.

This manual introduces the functional characteristics and use methods of high-performance general frequency converter, including product selection, parameter setting, operation debugging, maintenance inspection, etc. Please read this manual carefully before use. The equipment supporting manufacturer should send this manual to the end user along with the equipment to facilitate the subsequent use of reference.

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matters need attention

◆ To illustrate the detailed part of the product, the legend in this specification is sometimes the status of the cover or safety cover.

◆ When using this product, be sure to install the shell and cover according to the instructions.

◆ The legend in this instruction are for illustration only and may differ from the product you order.

◆ The company is committed to continuous product improvement, functionality and upgrading, and the information provided is subject to change without notice.

◆ If you have problems with your use, please contact our regional agents, or contact our customer service center directly

catalogue

Chapter I Safety Notes

Safety definition: In this manual, the safety precautions are divided into the following two categories:

⚡ Hazanger: serious injury or even death.

⚠ Note: The danger caused by no required operation may lead to moderate or minor injuries, and equipment damage.

When installing, commissioning and repairing the system, please read this chapter carefully and be sure according to the safety precautions required in this chapter. Any damage or loss caused by the illegal operation is not related to the Company.

1.1 Safety matters

Use the stage	security classification	item
Before installation	⚡ danger	➢ When unpacking the packing water, parts are missing or damaged, please do not install! ➢ When the outer package logo does not comply with the physical name, please do not install it!
	⚠ pay attention to	➢ Handling should be carried lightly and put gently, otherwise there is a danger of damage to the equipment! ➢ Do not use damaged drives or missing drives, there is a risk of injury! ➢ Do not touch the components of the control system by hand, otherwise there is a danger of static damage!
When installing	⚡ danger	➢ Please install on flame retardant objects such as metal away from combustible, otherwise fire may alarm!
	⚠ pay attention to	➢ Do not let the wire head or screw fall into the drive, otherwise cause drive damage! ➢ Install the drive where there is less vibration to avoid direct sunlight. ➢ When the driver is placed in a closed cabinet or closed space, please pay attention to the installation gap to ensure the heat dissipation effect.
When wiring	⚡ danger	➢ The instructions of this manual must be followed and used by professional electrical engineers, otherwise unexpected dangers will occur! ➢ There must be a circuit breaker separated between the drive and the power supply, otherwise a fire alarm may occur!

Use the stage	security classification	item
		➢ Ensure that the power supply is at zero energy before wiring, otherwise there is a danger of electric shock! ➢ Please ground the drive properly according to the standard, otherwise electric shock risk!
	⚠ pay attention to	➢ Never connect the input power to the output terminal of the drive (U, V, W). Note the mark of the terminals, do not connect the wrong line! Otherwise, cause drive damage! ➢ The brake resistance must not be connected directly between the DC bus + and-terminals. Otherwise, it will cause a fire! ➢ Refer to the recommendations in the manual. Otherwise, an accident may occur! ➢ Do not remove the connection cables inside the drive, otherwise it may cause damage inside the drive.
Before the electricity	⚡ danger	➢ Please confirm that the voltage level of the input power supply is consistent with the rated voltage level of the driver; the wiring position on the power input terminal (R, S, T) and output terminal (U, V, W) is correct; and check whether the peripheral circuit connected to the driver is fastened, otherwise the drive is damaged! ➢ Any part of the drive is not subjected to withstand pressure test from the factory. Otherwise, it may cause an accident!
	⚠ pay attention to	➢ The drive must be covered before electrification, otherwise it may cause electric shock! ➢ The wiring of all peripheral accessories must follow the instructions of this manual and correctly follow the circuit connection method provided in this manual. Otherwise, it may cause an accident!
After the electricity	⚡ danger	➢ Do not open the cover plate after the power supply, otherwise there is a danger of electric shock! ➢ If the indicator light does not turn on and the keyboard does not display, please turn off the power switch immediately, do not touch any input and output terminal of the drive, otherwise there is a danger of electric shock!
	⚠ pay attention to	➢ If parameter identification is required, please eliminate the possible risk of injury during motor rotation! ➢ Do not change the drive manufacturer parameters, otherwise equipment damage may occur!

Use the stage	security classification	item
in service	⚡ danger	➢ Do not touch the cooling fan, radiator and discharge resistance to test the temperature, otherwise it may cause burns! ➢ Non-professional technicians do not detect signals during operation, otherwise it may cause personal injury or equipment damage!
	⚠ pay attention to	➢ During drive operation, something should avoid falling into the device, otherwise it will cause equipment damage! ➢ Do not use the contactor on-break method to control the drive start and stop, otherwise it will cause equipment damage!
Maintenance	⚡ danger	➢ Do not repair and maintain the equipment with live power, otherwise there is a danger of electric shock! ➢ Cut off the input power supply for 10 minutes, the drive can be maintained and repaired, otherwise the residual charge on the capacitor will cause damage to people! ➢ Without professional training do not repair and maintain the drive, otherwise personal injury or equipment damage! ➢ All pluggable plug-ins must be plugged under power failure! ➢ Parameters must be set and checked after replacing the drive.
	⚠ pay attention to	➢ Before maintaining the drive, ensure that the motor is disconnected from the drive to prevent the motor from returning electricity to the driver due to accidental rotation.

Chapter II: Product Information

2.1 Nnameplate and model description

data plate:

Figure 2-1 The nameplate

demonstration of the type:
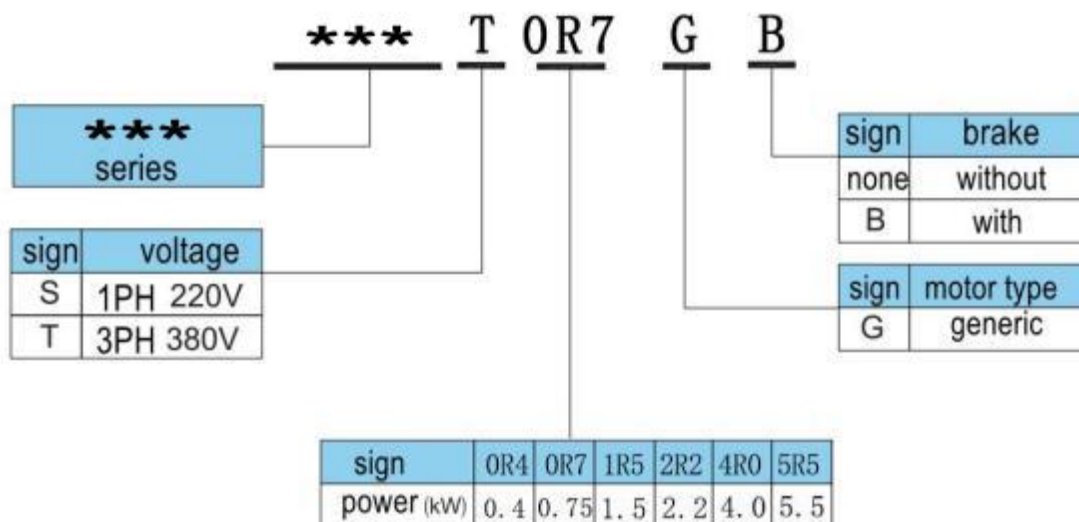
Figure 2-2 Model Description

2.2 Product Series Description

Table 2-1 Model and technical data of high-performance general frequency converter

Frequency converter model	Power capacity (K VA)	input currenton (A)	output (A)	Adaptation motor	
				K W	HP
Single-phase power supply: 220V, 50 / 60Hz					
***S 0R 4GB	1	8.2	4.0	0.4	0.5
***S 0R 7GB	1.5	8.2	4.0	0.75	1.0
***S 1R 5GB	3.0	14.0	7.0	1.5	2.0

Frequency converter model	Power capacity (K VA)	input currenton (A)	output (A)	Adaptation motor	
				K W	HP
Three-phase power supply: 380V, 50 / 60Hz					
***T 0R 7GB	1.5	3.4	2.1	0.75	1
***T 1R 5GB	3.0	5.0	3.8	1.5	2
***T 2R 2GB	4.0	5.8	5.1	2.2	3
***T 4R 0GB	5.0	10.5	9.0	4.0	4
***T 5R 5GB	8.9	14.6	13.0	5.5	7.5

2.3 Product Technical Specifications

Table 2-2 Technical specifications of high-performance general-purpose inverter

project		specifications
source	Input power voltage	Single-phase / 3-phase 220V model: 200V ~240V Three-phase 380V model: 380V ~440V
	Voltage allowable fluctuation range	-15% ~ 10%
	Input power frequency	50Hz or 60Hz, with a fluctuation of less than 5%
output	maximum output voltage	Phase 3:0~ Input voltage
	overload capacity	150% rated output current for 60 seconds, 180% rated output current for 10 seconds, and 200% rated output current for 1 second
accuse make particular nature	control method	VVVF control Speed sensor-free vector control (FOC Sensorless)
	running mode	Speed control, torque control (FOC Sensorless)
	Speed range	1：100（VVVF） 1：200（FOC Sensorless）
	Speed control accuracy	±0.5%（VVVF） ±0.2%（FOC Sensorless）
	Speed response	5Hz（VVVF） 20Hz（FOC Sensorless）
	Frequency control range	.000~630.00Hz

	Input the frequency resolution	Digital input: 0.01Hz Analog input: 0.1% of the maximum frequency
	starting torque	150%/0.5Hz （VVVF ） 150%/0.25Hz （FOC Sensorless)
	Torque control accuracy	FOC Sensorless：10%
	VVVF characteristic	VVVF curve type: straight line, multipoint, power function, V / F separation; Torque lifting support: automatic torque lifting (factory setting), manual torqu lifting
	Frequency given the slope	Support straight line and S-curve increase and deceleration; 4 Groups of acceleration and deceleration time, with a set range of 0.0s ~3600.0s
	DC bus voltage control	OVC (bus overvoltage control), LVC (bus undervoltage control)
	carrier frequency	1K Hz ~15K Hz
	starting mode	Direct start (superimposed DC brake); speed tracking start
	Stop the way	Reducate stop (DC brake); free stop
function	communication	MODBUS communication
	input terminal	Five digital input terminals, one of which is a high-speed pulsed HDI input Two analog quantity input terminals;
	leading-out terminal	2 Digital output terminals;, one of which is a high-speed pulse HDO output Two relay output terminals; One analog output terminal, supporting 0~20mA current output or 0~10V voltage output;
protect	Protection function, see Chapter 6, Fault Analysis and Handling	
environmen	Where to use	Indoor, free from direct sunlight, no dust, corrosive gas, combustible gas, oil mis water vapor, dripping water or salt, etc
	above sea level	At 0 ~ 3,000 m. More than 1000 meters should be used, every 100 meter increased, the rated output current reduced by 1%
	ambient temperature	-10℃ ~ + 40℃, up to 50℃. From 40℃, the rated output current was reduced b 1.5% for every 1℃ increase
	humidity	Less than 95%RH, no condensation
	vibrate	Less than 5.9 m/s^2 （0.5g)
	storage temperature	-20℃ ~ +60℃
else	way to install	Wall-mounted type, floor electric control cabinet type, wall-permeable type
	levels o protection	IP20
	cooling-down method	forced air cooling

Chapter III: Electrical Installation

3.1 Overall size and installation hole position of the frequency converter
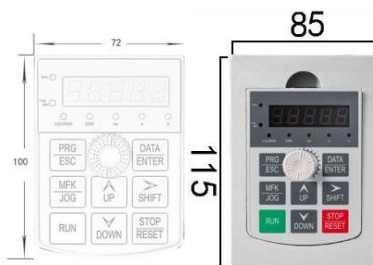
Figure 3-1 Keyboard and opening dimensions
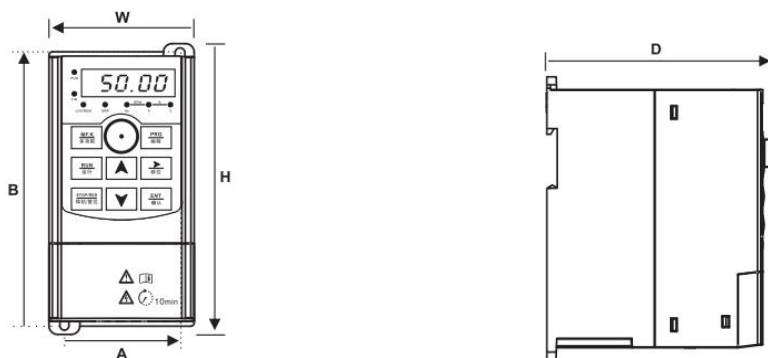
Figure 3-2 Outline dimensions of frequency converter

product model	Installation hole position (mm)		outline dimension (mm)			Installation aperture	Net quantity	remarks
	A	B	H	W	D	(mm)	(Kg)	
Single phase 220V								
***S0R4GB	67.5	157	170	85	140	φ5.0	1.28	D potentiometer Knob height 10mm
***S0R7GB								
***S1R5GB								
Three phase 380V								
***T0R7GB	67.5	157	170	85	140	φ5.0	1.28	D potentiometer Knob height 10mm
***T1R5GB								
***T2R2GB								
***T4R0GB	85	185	195	100	155	φ5.0	1.57	D potentiometer
***T5R5GB								

Table 3-1 High Performance General Outline Dimensions and Installation Size

3.2 Wiring

3.2.1, standard wiring diagram
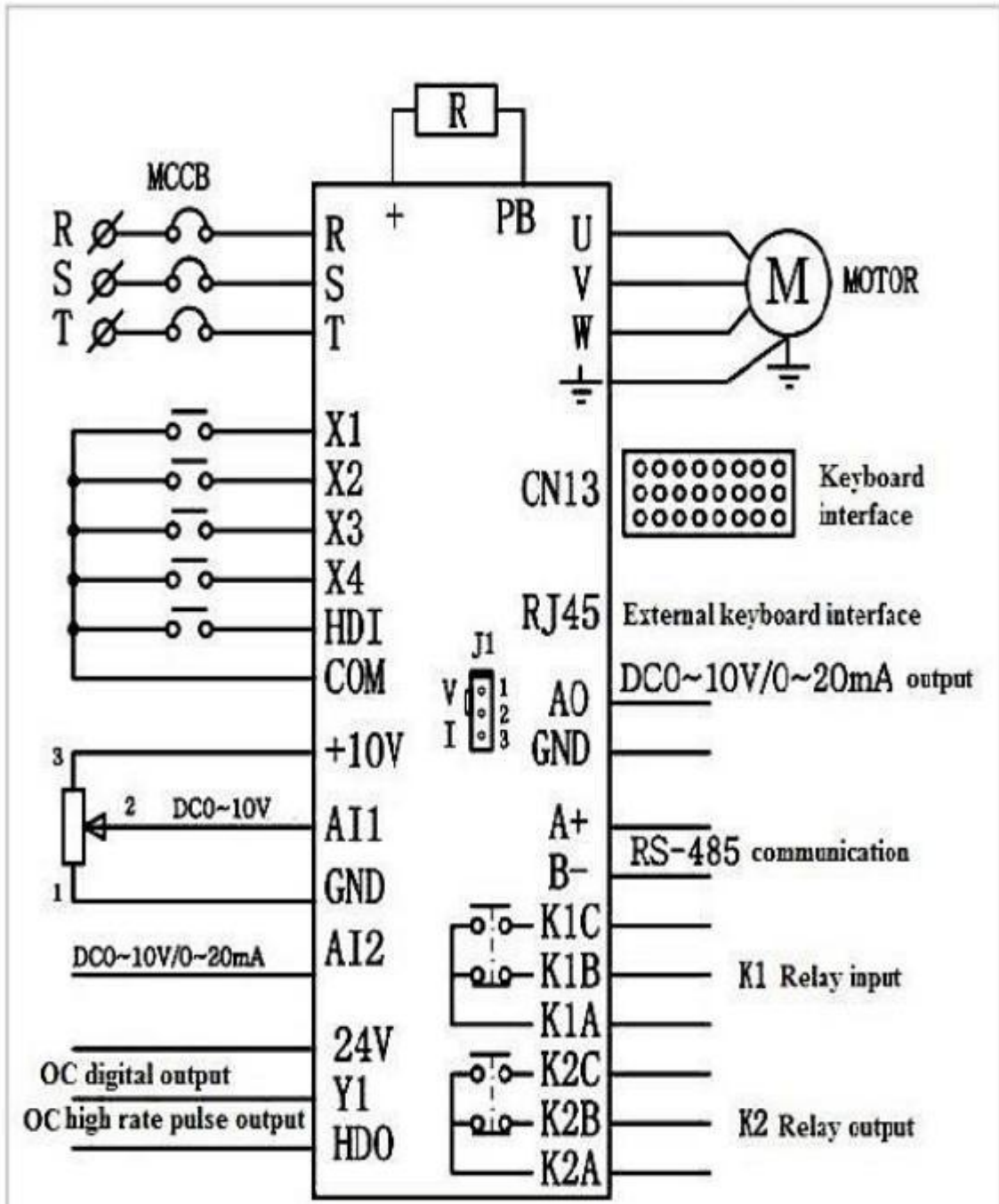
Figure 3-3 Standard wiring diagram (K2 relay is not installed by default and can be selected according to customer requirements)

3.2.2 Main circuit wiring terminal

1) Description of the main loop terminal of the single-phase frequency converter:

Terminal mark	name	explain
R 、S	Single-phase power supply input terminal	Single-phase 220V AC power connection point, T terminal suspended
(+) 、 (-)	Positive and negative DC bus terminals	The common DC bus input point can also be used for the external brake unit
(P +) 、PB	Brake resistance connection terminal	Connect brake resistance
U、V、W	Frequency converter output terminal	Connect to the three-phase motor
⏚	earth terminal	earth terminal

2) Description of the main loop terminal of the three-phase frequency converter

Terminal mark	name	explain
R、S、T	Three-phase power supply input terminal	AC input three-phase power connection point
(+) 、 (-)	Positive and negative DC bus terminals	The common DC bus input point can also be used for the external brake unit
(P+) 、PB	Brake resistance connection terminal	Below: 30 K W(The 220V is below 15 K W)Brake resistance connection point
P、 (+)	External reactor connection terminal	External electric reactor connection point
U、V、W	Frequency converter output terminal	Connect to the three-phase motor
⏚	earth terminal	earth terminal

The main loop terminals of each power section are shown in the figure below.
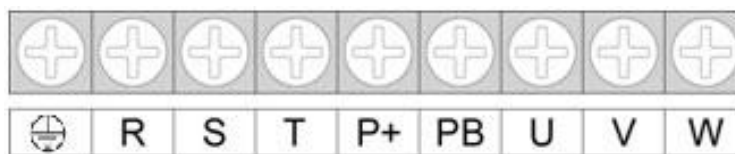
(a) 0.4-7.5K w main loop terminal

Figure 3-4 Schematic diagram of the main loop terminal

3.2.3 Control loop wiring terminal
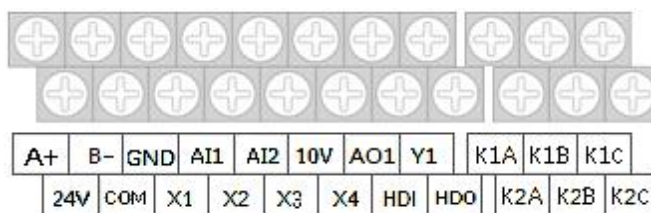
Figure 3-5 Schematic diagram of the inverter control loop terminal

Table 3-2 Definition description of terminal of inverter control circuit

class	Terminal symbol	Terminal name	function declaration
source	10V -GND	Output of 10V power supply	Provide 10V power supply outward, with the maximum output current: 50mA. Generally used as the external potentiometer working power supply, the potentiometer resistance value range: 1K Ω ~10K
	24V -COM	Output of 24V power supply	Provide 24V power supply outward, generally used as a digital input and output terminal working power supply and external sensor. Maximum power supply output current: 100mA
imitate import	AI1-GND	Analog quantity input terminal 1	1. Input range: DC 0V~10V / 0mA~20mA, and the voltage / current is selected by the (06-10) menu.
	AI2-GND	Analog quantity input terminal 2	2. Input impedance: voltage input impedance 20K, current input impedance 510.
figure import	X1-COM	Digital input 1	1. Light lotus root isolation, 2. Input impedance: 3.3K 3. Voltage range at level input: 9V~30V 4. HDI can be used as a digital input or as a high-speed pulse input
	X 2-COM	Digital input 2	
	X 3-COM	Digital input 3	
	X 4-COM	Digital input 4	
	HDI -COM	digital input	
imitate output	AO1-GND	Analog output 1	The J 1 line selection on the control board determines the voltage or current output. Output voltage range: 0V~10V Output current range: 0mA~20mA
figure output	DO1-COM	Digital output 1	Light lotus root isolation, unipolar OC output Output voltage range: 0V~24V Output current range: 0mA~50mA Note: The HDO can be used as a digital output or as a high-speed pulse output
	HDO -COM	Digital output 2	
electric relay output	K 1A-K 1B K 2A-K 2B	Often closed terminal	Contact Drive Capacity: AC250V，3A，COSø=0.4。 DC 30V，1A
	K 1A-K 1C K 2A-K 2C	Often start	

Chapter 4: Keyboard Display and Operation

4.1 Introduction of the L E D keyboard interface

Use the operation panel to modify the functional parameters, monitor the working status and control the operation control (start and stop) of the converter. The appearance and functional areas are shown in the following figure:
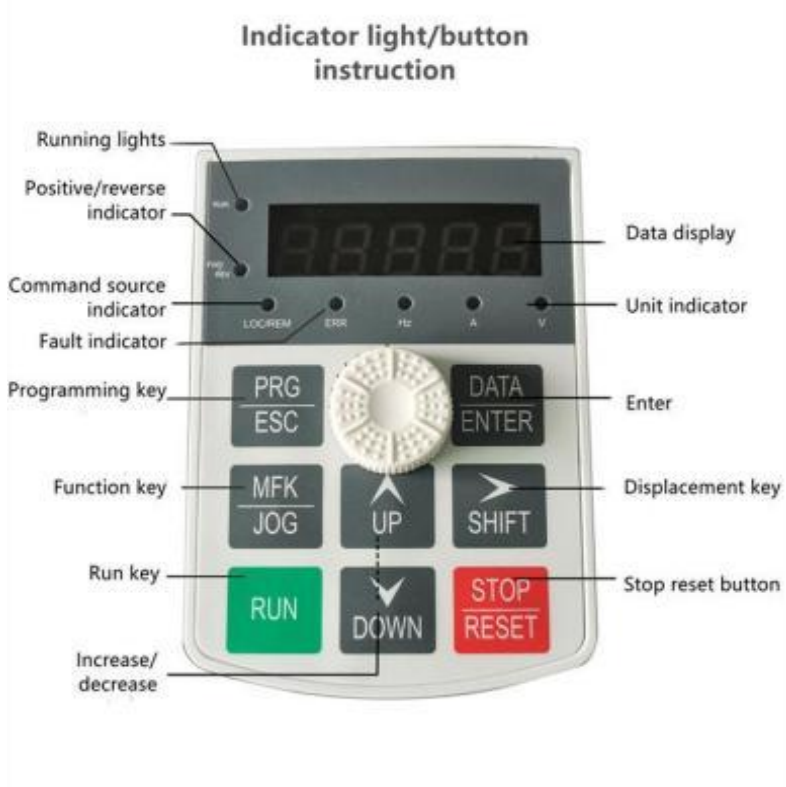
Figure 4-1 Schematic diagram of the operation panel

1) Function indicator light instructions:

RUN: when the lamp is out, the converter is down, and when the lamp is on, the converter is in operation.
LOCAL / REMOT E: Keyboard operation, terminal operation, and remote operation (communication control) indicator lamp:

○ LOCAL/REMOTE熄灭	面板启停控制
● LOCAL/REMOTE常亮	端子启停控制
◓ LOCAL/REMOTE闪烁	通讯启停控制

FWD / REV: reverse indicator indicating reverse state.
ERR: tuning / torque control / fault indicator light, light on means in torque control mode, light slow flash means in tuning state, and light flash means in fault state.

2) Unit indicator lamp:

Hz	Frequency unit
A	unit of current

V	voltage unit
RPM(Hz+A)	Speed unit
%(A+V)	percentage

3) Digital display area:

The 5-bit LED display can display the set frequency, output frequency, various monitoring data and alarm code, etc.

4) Description of the key function

key	name	function
PRG	Programming key	Level 1 menu to enter or exit
ENTER	Confirm the key	Enter the menu screen step by step and confirm the setting parameters
△	Increased key	Increment of the data or function code
▽	Degradation key	Declining number of the data or function codes
▷	shift key	Under the shutdown and running display interface, select the display parameter; when modifying the parameter, select the parameter
RUN	Run the key	In keyboard operation mode, used for running operations
STOP/ RES ET	Stop / reset	When running the state, pressing this key is used to stop the operation, and to reset the operation, the function of the key is restricted by the function code (STOP / RESET function key).
MF K	Multi-function key	Select the functions according to the function code (MF K key function selection)

4.2 Description of function code viewing and modification method

The display of the digital keyboard is divided into three layers, which are from top to bottom are: monitoring status, function code selection status, and parameter editing / view status, as shown in Figure 4-2.
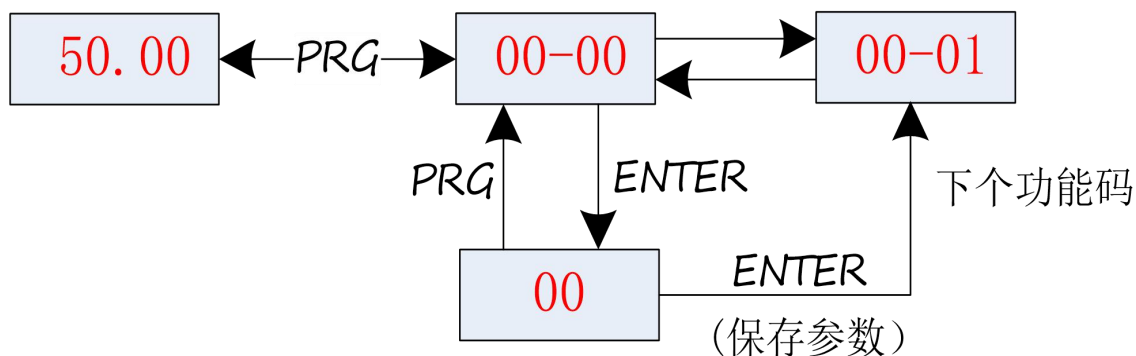
Figure 4-2 Keyboard operation diagram

Chapter V Functional Parameter Table

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

"●" indicates that the set point of this parameter can not be changed when the frequency converter is in operation.

"※" indicates that the value of this parameter is the actual detected record value and cannot be changed.

FC	name	description	Factory value	attribute
00 Group of basic parameters				
00-00	Inverter type G / P	Type 0: G: constant torque load 1: P type: fan water pump type load	0	●
00-01	Motor control mode	0: Keep 1: No speed sensor vector control 2 (with torque control) 2: V / F control	2	●
00-02	Run the command source selection	0: Keyboard command (the L / R light is off) 1: Terminal command (L / R light flash) 2: Communication command (the L / R light is on)	0	●
00-03	Frequency source A selection	0: Digital setting (preset frequency 00-08, UP / DOWN Or keyboard encoder can be modified, power memory) 1：AI1 2：AI2 3: AI3 (extension) 4：HDI 5: Simple PLC 6: Multi-section speed 7：PID 8: RS-485 communication 9: Keyboard analog potentiometer	0	●
00-04	Frequency source B selection	Same 一 as above (00-03)	3	●
00-05	Frequency source B reference range selection	0: Maximum frequency 1: Frequency source A	0	○
00-07	Frequency source	0: Frequency source A	0	○

FC	name	description	Factory value	attribute
	combination	1: Frequency source B 2: frequency source A + frequency source B 3: frequency source A-frequency source B 4: Maximum value of both: MAX (A, B) 5: Minimum value of both: MIN (A, B)		
00-08	Keyboard preset frequency	0.00Hz～(00-08)	50.00Hz	○
00-09	Motor operation direction	0: The direction is the same 1: The opposite direction 2: No reversal	0	●
00-10	maximun-frequency	00-09～630.00Hz	50.00Hz	●
00-12	upper limiting frequency	00-10～(00-08)	50.00Hz	●
00-14	Lower limit frequency	0.00Hz～(00-09)	0.00Hz	●
00-15	carrier frequency	1.0～15.0K Hz	Model determination	○
00-16	Zero frequency output selection	0: No output 1: There is output 2: DC brake output (size from 05-11)	0	○
00-17	Acceleration time 0	0.0～3600.0s	Model determination	○
00-18	Slow down time 0	0.0～3600.0s	Model determination	○
00-19	Industry application macro selection	0~65535	0	○
01 Set of motor parameters				
01-01	Automatic measurement of the motor parameters	0: No function 1: Dynamic testing 2: Stationary Test 1 3: Stationary Test 2	0	●
01-02	The motor is rated power	0.1～1000.0K W	Model determination	●

FC	name	description	Factory value	attribute
01-03	Rated frequency of motor	0.01Hz~ Maximum frequency (00-08)	50.00Hz	●
01-04	Motor rated speed	1～36000rpm	Model determination	●
01-05	The motor is rated voltage	0~2000V	Model determination	●
01-06	Rated current of motor	0.1～6553.5A	Model determination	●
01-07	Motor stator resistance	0.001~65.535Ω	Model determination	○
01-08	Motor rotor resistance	0.001~65.535Ω	Model determination	○
01-09	Motor leakage resistance	0.1~6553.5mH	Model determination	○
01-10	Motor mutual resistance	0.1~6553.5mH	Model determination	○
01-11	No-load current of motor	0.1~6553.5A	Model determination	○
02 Group V / F control				
02-00	V/F curve setting	0: Line V / F 1: Multipoint V / F (V1 <V <V3, F1 <F2 <F3) 2:1.3 Power Party V / F 3:1.7 Power Party V / F 4:2.0 Power V / F 5:V/F separation 6: Keep	0	●
02-01	V / F torque lift	0.0%: Automatic torque lifting 0.1~10.0%: Manual Settings	0.0%	○
02-02	V / F torque lift cutoff frequency accuracy	0.0～50.0%	20.0%	○
02-03	Multi-point V / F maximum frequency F3	0.00Hz～(01-02)	0.00Hz	○
02-04	Multi-point V / F	0.0%～110.0%	0.0%	○

FC	name	description	Factory value	attribute
	maximum voltage V3			
02-05	Multipoint V / F intermediate frequency F2	0.00Hz～F3	0.00Hz	○
02-06	Multi-point V / F intermediate voltage V2	0.0%～V3	0.0%	○
02-07	Multipoint V / F minimum frequency F1	0.00Hz～F2	0.00Hz	○
02-08	Multi-point V / F minimum voltage V1	0.0%～V2	0.0%	○
02-09	V / F transition compensation gain	0.0～200.0%	100.0%	○
02-10	The V / F low-frequency oscillatory suppression coefficient	0~100	10	○
02-11	V / F high-frequency oscillation suppression coefficient	0～100	10	○
02-12	The V / F oscillations inhibit the frequency switching	0.00Hz~ Maximum frequency	30.00Hz	○
02-13	Automatic voltage stabilization function, AVR	0: Cancel the AVR 1: Full AVR 2: Keep	1	○
02-14	Automatic power saving operation	0: No function 1: Turn on the automatic power-saving operation	0	○
02-15	V / F constant power weak	1.00~1.30	1.00	○

FC	name	description	Factory value	attribute
	magnetic constant			
02-16	V / F to separate the voltage source	0: Number setting (02-17) 1：AI1 2：AI2 3: AI3 (extension) 4：HDI 5: Multi-section speed 6：PID 7: RS-485 communication 8: Keyboard analog potentiometer	0	○
02-17	V / F separation voltage number setting	0.0~100.0%	0.0%	○
02-18	V / F separation voltage acceleration time	0.0～3600.0s	0.0s	○
02-19	V / F separation voltage deceleration time	0.0～3600.0s	0.0s	○
02-20	V / F separation voltage upper limit	(02-21)~100.0%	100.0%	●
02-21	V / F separation voltage lower limit	0.0~(02-20)	0.0%	●
03 Group of motor vector control parameters				
03-00	The ASR proportional gain of P1	0.0~200.0	20.0	○
03-01	The ASR integration is of time I1	0.000～10.000s	0.200s	○
03-02	The ASR proportional gain of P2	0.0~200.0	20.0	○
03-03	ASR integration time I2	0.000～10.000s	0.200s	○

FC	name	description	Factory value	attribute
03-04	ASR switching frequency 1	0.00Hz~(03-22)	5.00Hz	○
03-05	ASR switching frequency 2	(03-21) ~ Maximum frequency	10.00Hz	○
03-06	The ASR low-pass filtering constant	0~10	0	○
03-07	Electric transfer differential compensation gain	50~200%	100%	○
03-08	Brake differential compensation gain	50~200%	100%	○
03-09	The ACR current loop, K P	0~65535	1000	○
03-10	The ACR current loop K I	0~65535	1000	○
03-11	Vector 2 constant power weak magnetic constant	0.1~2.0	0.3	○
03-12	Constant power minimum weak magnetic quasi-bit	10%~100%	20%	○
03-13	Weak magnetic proportion gain	0~8000	1000	○
03-14	Vector output voltage cap	0.0~120.0%	100.0%	○
03-15	Motor pre-excitation time	0.000~10.000s	0.300s	○
04 Group of torque control parameters				
04-00	Torque setting for source selection	0: Speed control (invalid torque) 1: Torque number setting (04-01) 2: Torque is set by the AI1 3: Torque is set by the AI2 4: Torque is set by the AI3	0	○

FC	name	description	Factory value	attribute
		5: Torque is set by the HDI 6: The torque is set by multiple speeds 7: Torque RS-485 communication setting 8: Keyboard analog potentiometer setting		
04-01	Recurrent number setting	-300.0~300.0%	50.0%	○
04-02	Recurrent filtering time	0.000~10.000s	0.010s	○
04-03	Forward torque upper limit frequency source	0: Upper frequency number setting (04-05 and 04-06) 1：AI1 2：AI2 3：AI3 4：HDI 5: Multi-section speed 6: RS-485 communication 7: Keyboard analog potentiometer	0	○
04-04	Reverse torque ceiling frequency source	ditto	0	○
04-05	Forward torque upper limit frequency Digital setting	0.00Hz ~ Maximum frequency	50.00Hz	○
04-06	Reverse torque ceiling frequency Digital setting	0.00Hz ~ Maximum frequency	50.00Hz	○
04-07	Electric dynamic torque limit mode selection	0: Upper torque limit number setting (04-09 and 04-10) 1：AI1 2：AI2 3：AI3 4：HDI 5: RS-485 communication 6: Keyboard analog potentiometer		○
04-08	Brake torque limit mode selection	ditto		○
04-09	Electric motor torque limit	0.0~300.0%	180.0%	○

FC	name	description	Factory value	attribute
	number setting			
04-10	Brake torque limit number setting	0.0~300.0%	180.0%	○
04-11	Vector low-frequency torque compensation	0.0~100.0%	0.0%	○
04-12	Vector high-frequency torque compensation	0.0~100.0%	0.0%	○
05 Group start-stop control parameters				
05-00	starting mode	0: Direct start 1: First, use the DC brake and then start it 2: Speed tracking to start	0	●
05-01	Start frequency	0.00~50.00Hz	0.50Hz	●
05-02	Startup frequency retention time	00.0~50.0s	0.0s	●
05-03	Start the DC brake current	0.0~100.0%	0.0%	●
05-4	Start the DC brake time	0.00~50.00s	0.00s	●
05-05	Add deceleration mode	0: Straight-line acceleration and deceleration 1: S-curve acceleration and deceleration	0	●
05-06	S-curve start-segment acceleration time	0.0~50.0s	0.1s	○
05-07	End time of S curve	0.0~50.0s	0.1s	○
05-08	Downtime method	0: Slow down 1: Free shutdown	0	○
05-09	Stop the DC brake start frequency	0.00~ Maximum frequency	0.00Hz	○
05-10	Stop the DC brake waiting time	0.00~50.00s	0.00s	○

FC	name	description	Factory value	attribute
05-11	Stop the DC brake current	0.0~100.0%	0.0%	○
05-12	Stop the DC brake time	0.00~50.00s	0.00s	○
05-16	Reverse the dead zone time	0.0~3600.0s	0.00s	○
05-17	Reverse the switch mode	0: Zero frequency switch 1: Start the frequency switching 2: Stop the speed switching	0	●
05-18	Stop the speed	0.00~100.00Hz	0.50Hz	●
05-19	Stop the speed check-out mode	0: Check out by the speed setting value 1: Check the feedback value by speed	1	●
05-20	Feedback speed detection time	0.00~100.00s	0.05s	●
05-21	Start delay	0.0~60.0s	0.0s	○
05-22	Stop speed delay	0.0~100.0s	0.0s	○
05-23	Brake unit action	0: Disable 1: enabled	1	○
05-24	Brake unit action voltage	200.0~2000.0V (220V: 380V, 380V: 700V)	Model determination	○
05-25	Excitation braking strength	0~150 0: Disable Greater than 0: the greater the value, the better the braking effect	0	○
06 Group of input terminal parameters				
06-00	HDI input pattern	0: High-speed pulse input 1: Terminal switch quantity input	1	●
06-01	X1 terminal function selection	0: No function 1: Forward turn operation (FWD) 2: Reverse operation (REV) 3: Three-line operation control 4: Forward turn-inch move (FJOG) 5: Reverse motion (RJOG) 6: Free parking 7: Fault reset	1	●

FC	name	description	Factory value	attribute
06-02	The X2 terminal function selection	8: Operation is paused 9: External fault input 10: Increased frequency setting (UP) 11: Falling frequency setting (DOWN) 12: Frequency increase or decrease setting clearance 13: Switch between A settings and B settings 14: Combine setting and A setting switch 15: Combine setting and B setting switch	2	●
06-03	The X3 terminal function selection	16: Multistage speed terminal 1 17: Multistage speed terminal 2 18: Multistage speed terminal 3 19: Multistage speed terminal 4 20: Multi-segment speed pause 21: Increase and deceleration time selection 1 22: Increase and deceleration time selection 2 23: Simple PLC shutdown and reset	4	●
06-04	X4 terminal function selection	24: Simple PLC suspension 25: The PID control is paused 26: Suspension pause (stop at current frequency) 27: Swing frequency reset (back to center frequency) 28: Counter reset 29: Torque / speed control switch 30: Prohibition, acceleration and deceleration 31: Counter trigger	5	●
06-09	HDI terminal function selection	32: Length is reset 33: Frequency increase or decrease setting is temporarily cleared 34: DC brake 35: Retention (motor 1 switching motor 2) 36: The command switches to the keyboard 37: The command switches to the terminal 38: The command switches to the communication 39: Pre-excitation command 40: Zero clearance of electricity consumption 41: Electricity consumption is maintained	0	●
06-10	Input terminal logical selection	B it0~3：X1~X4， B it8：HDI 0 It is positive logic, and 1 it is negative logic;	000	○
06-11	Input the terminal filter time	0.000~1.000s	0.010s	○

FC	name	description	Factory value	attribute
06-12	Virtual terminal setting	0x000~0x1FF 0: Disable, 1: Use Bit0~bit3：X1~X4 Bit8：HDI	0x000	●
06-13	Terminal command mode	0: Two-line 1 1: Two lines 2 2: Three-line 1 3: Three-line 2	0	●
06-14	X1 terminal opening delay	0.00~50.000s	0.000s	○
06-15	The X1 terminal will disconnect the delay	0.00~50.000s	0.000s	○
06-16	X2 terminal opening delay	0.00~50.000s	0.000s	○
06-17	The X2 terminal will disconnect the delay	0.00~50.000s	0.000s	○
06-18	X3 terminal opening delay	0.00~50.000s	0.000s	○
06-19	The X3 terminal will disconnect the delay	0.00~50.000s	0.000s	○
06-20	X4 terminal opening delay	0.00~50.000s	0.000s	○
06-21	The X4 terminal will disconnect the delay	0.00~50.000s	0.000s	○
06-30	HDI terminal opening delay	0.00~50.000s	0.000s	○
06-31	The HDI terminal disconnect delay	0.00~50.000s	0.000s	○
06-33	Terminal start protection selection when power	0: Protection 1: No protection	0	○
06-34	The UP / DOWN	Individual bit: The UP / DOWN terminal enables	000	○

FC	name	description	Factory value	attribute
	terminal control settings	0: valid 1: invalid Ten digits: The frequency source control is selected 0: Only number settings for frequency sources A, B 1: All of the frequency sources are valid 2: Multiple speed is invalid when multiple speed is preferred Hundred bits: shutdown selection 0: Set effectively 1: Effective operation, clear after shutdown 2: Effective operation, shutdown instruction clearance		
06-35	UP terminal frequency change rate	0.01~50.00H z/s	0.50H z/s	○
06-36	Rate of change in DOWN terminal frequency	0.01~50.00H z/s	0.50H z/s	○
06-37	HDI input limit	0.000K Hz~(06-35)	0.000K Hz	○
06-38	The HDI lower limit is set accordingly	-100.0%~100.0%	0.0%	○
06-39	HDI input cap	(06-33)~50.000K Hz	50.000K Hz	○
06-40	The HDI upper limit is set accordingly	-100.0%~100.0%	100.0%	○
06-41	The HDI filtering time was used	0.000s~10.000s	0.100s	○
06-42	Lower limits of AI1	0.00V~(06-44)	0.00V	○
06-43	The lower limit of AI1 is set accordingly	-100.0%~100.0%	0.0%	○
06-44	AI1 upper limit	(06-42)~10.00V	10.00V	○
06-45	The upper limit of AI1 is set accordingly	-100.0%~100.0%	100.0%	○

FC	name	description	Factory value	attribute
06-46	AI1 Input filtering time	0.000s~10.000s	0.100s	○
06-47	Lower limits of AI2	0.00V~(06-39)	0.00V	○
06-48	The lower limit of AI2 is set accordingly	-100.0~100.0%	0.0%	○
06-49	AI2 upper limit	(06-47)~10.00V	10.00V	○
06-50	The upper limit of AI2 is set accordingly	-100.0~100.0%	100.0%	○
06-51	AI2 input filtering time	0.000s~10.000s	0.100s	○
06-52	Lower limits of AI3	-10.00V ~(06-54)	0.00V	○
06-53	The lower limit of AI3 is set accordingly	-100.0~100.0%	0.0%	○
06-56	AI3 upper limit	(06-54)~10.00V	10.00V	○
06-57	The upper limit of AI3 is set accordingly	-100.0~100.0%	100.0%	○
06-58	AI3 input filtering time	0.000s~10.000s	0.100s	○
06-59	AI Enter IV Type selection	Individual bit: AI1 Ten: AI2 0: AI terminal voltage input, 1: AI terminal current input	10	○
07 Group of output terminal parameters				
07-00	The HDO terminal output mode	0: High-speed pulse output 1: Terminal switch quantity output	1	●
07-01	The Y1 terminal output function selection	0: invalid 1: In operation 2: Turn forward and is in operation 3: Inversion is in operation 4: Click and in operation 5: The frequency converter is faulty	0	○

FC	name	description	Factory value	attribute
07-02	HDO terminal output function selection	6: The FDT1 was detected by the frequency level 7: The FDT2 was detected by the frequency level 8: Frequency reaches 9: Running at zero speed 10: Upper limit frequency reaches 11: Lower limit frequency reaches	0	○
07-03	K 1 relay output function selection	12: Ready to run 13: Pre-excitation in the field 14: Overload alarm 15: Under-load alarm 16: Simple PLC stage is completed 17: Simple PLC cycle is completed 18: Set the record value to arrive	1	○
07-04	K 2 relay output function selection	19: Specify that the marked value arrives 20: External fault 22: Running time arrival 23: Communication virtual terminal output	5	○
07-05	AO1 output function selection	0: Run frequency 1: Set the frequency 2: Given the frequency of the slope 3: Run speed 4: Output current (2 times the rated value of the frequency converter)	4	○
07-07	HDO pulse output function selection	5: Output current (2 x motor rating) 6: Output voltage 7: Output power 8: Set torque 9: Output torque 10: Simulate the AI1 input values 11: Simulate the AI2 input values 12: Simulate the AI3 input values 13: High-speed pulse HDI input value 14: Communication Setpoint output 15: Keep 22: Torque current (3 times the motor rating)	0	○
07-08	AO1 output limit	-100.0%~(07-10)	0.0%	
07-09	Corresponding value of the lower output limit of	0.00~10.00V	0.00V	○

FC	name	description	Factory value	attribute
	AO1			
07-10	AO1 output cap	(07-08)~100.0%	100.0%	○
07-11	AO1 output upper limit corresponding value	0.00~10.00V	10.00V	○
07-12	AO1 output filtering time	0.000s~10.000s	0.000s	○
07-18	HDO bottoming	-100.0%~(07-20)	0.0%	○
07-19	HDO output	0.00~50.00K Hz	0.00K Hz	○
07-20	HDO output cap	(07-18)~100.0%	100.0%	○
07-21	HDO output limit limit	0.00~50.00K Hz	50.00K Hz	○
07-22	HDO output filtering time	0.000s~10.000s	0.000s	○
07-23	Y1 opening delay	0.00~50.000s	0.000s	○
07-24	Y1 disconnection delay	0.00~50.000s	0.000s	○
07-25	HDO opening delay	0.00~50.000s	0.000s	○
07-26	The HDO disconnect delay occurs	0.00~50.000s	0.000s	○
07-27	K 1 opening delay	0.00~50.000s	0.000s	○
07-28	K 1 Disconnect delay	0.00~50.000s	0.000s	○
07-29	K 2 opening delay	0.00~50.000s	0.000s	○
07-30	K 2 Disconnect delay	0.00~50.000s	0.000s	○
07-31	Output terminal polarity selection	0~F (Bit0~3：Y1, HDO, K 1, K 2)	0	○
08 Group keyboard display parameters				
08-00	User password	0~65535 (00000: No password)	00000	○

FC	name	description	Factory value	attribute
08-01	MF K / JOG key function selection	0: No function 1: Point up and run the JOG 2: Shift-based key (SHIFT) 3: Forward / reverse switch 4: Clear the UP / DOWN setting 5: Free parking 6: Run command source switch in sequence (08-02)	1	●
08-02	The MF K key runs the command source switching	0: Keyboard control terminal controls the communication control 1: Keyboard control and terminal control 2: Keyboard control and communication control 3: Terminal control and communication control	0	○
08-03	The STOP / RESET key function	0: Only valid for the panel controls 1: Effective for both panel and terminal control 2: Effective for both panel and communication control 3: Effective for all control modes	0	○
08-04	Restore factory parameters	0: No operation 1: Restore the default values 2: Clear the fault record 3: Keyboard lock	0	●
08-05	Keyboard number control settings	0000~1223 **Individual bit: Frequency enables selection** The 0: / Key and the encoder are valid 1: Only the / key is valid 2: Only, the encoder 3: / Both the key and the encoder are invalid **Ten digits: Frequency control selection** 0: Set is valid for keyboard numbers only 1: All frequency modes are valid 2: Invalid for multiple speed when multiple speed is preferred **Hundred bits: action selection when shutdown** 0: Set effectively 1: Effective during operation and cleared after shutdown 2: Valid in operation and cleared after receiving	0000	○

FC	name	description	Factory value	attribute
		the shutdown command **Thousand bits: / key and encoder integration function** 0: Integration function is valid 1: The integral function is invalid		
08-06	Keyboard encoder and UP / DOWN key resolution adjustment selection	1~4	2	○
08-07	Action selection when the frequency is set	00~11 **Individual bit: action selection when the encoder adjusts the frequency of power loss** **Ten digits: communication setting frequency drop power action selection** 0: Storage when the power drops 1: Zero zero when the power is dropped	00	○
08-08	Function code parameter replication	0: No operation 1: Function parameters are uploaded to the keyboard 2: Download the keyboard function parameters to this computer (including the motor parameters) 3: Download the keyboard function parameters to this machine (excluding the motor parameters) 4: Download the keyboard function parameters to this machine (motor parameters only)	0	●
08-09	The LED running status display parameter 1	0000~FFFF BIT0: Operating Frequency (Hz Bright) BIT1: Set frequency (Hz flashing) BIT2: Bus line voltage (V bright) BIT3: Output voltage (V bright) BI: Output current (A bright) BIT5: Running speed (rpm bright) BIT6: output power (% bright) BIT7: Output torque (% bright) BIT8: PID given value (% flashing) BIT9: PID feedback value (% bright)	033F	○

FC	name	description	Factory value	attribute
		BIT10: Input terminal status BIT11: Output terminal status BIT12: Torque setting value (% bright) BIT13: Pulse count value BIT15: PLC and multiple speed current segments		
08-10	The LED running status display parameter 2	0000~FFFF BIT0: Analog quantity AI1 value (V bright) BIT1: analog quantity AI2 value (V bright) BIT2: analog quantity AI3 value (V bright) BIT3: High-speed pulse HDI frequency BI: Motor overload percentage (% bright) BIT5: inverter overload percentage (% bright) BIT6: ramp frequency given value (Hz bright) BIT7: Line speed BIT8: AC incoming line current BIT 9: Upper limit frequency	0000	○
08-11	LED shutdown display parameters	0000~FFFF BIT0: Set frequency (Hz bright, frequency slow flash) BIT1: Bus line voltage (V bright) BIT2: Input terminal status BIT3: Output terminal status BI: PID given value (% flashing) BIT5: PID feedback value (% bright) BIT 6: Torque setting value (% bright) BIT7: analog quantity AI1 value (V bright) BIT8: Analog quantity AI2 value (V bright) BIT9: Analog quantity AI3 value (V bright) BIT10: High-speed pulse HDI frequency BIT11: PLC and multiple speed current segments BIT12: Pulse count value BIT13: Length value BIT14: Upper limit frequency	038B	○
08-12	software release	0.00~655.35	-	※

FC	name	description	Factory value	attribute
08-13	Rectifier temperature	0~120℃.0	-	※
08-14	Inverter temperature	0~120℃.0	-	※
08-15	Frequency display coefficients	0.01~10.00	1.00	○
08-16	Speed display coefficient	0.1~999.9%	97.3%	○
08-17	Line speed display coefficient	0.1~999.9%	1.0%	○
08-18	Input the work factor display coefficient	0.00~1.00	0.56	○
08-19	Cumulative running time	0~65535h	-	※
08-20	Monitor the high cumulative power consumption	Cumulative power consumption = (08-20) * 1000 + (08-21)	0K Wh	※
08-21	Monitor the low cumulative power consumption		0.0K Wh	※
08-22	Set the high initial value of electricity consumption	Initial value of power consumption = (08-22) * 1000 + (08-23)	0K Wh	○
08-23	Set the low initial value of power consumption		0.0K Wh	○
08-24	B arcode1			※
08-25	B arcode2			※
08-26	B arcode3			※
08-27	B arcode4			※
08-28	B arcode5			※
08-29	B arcode6			※
08-30	Motor power displays the	0.00~3.00	1.00	○

FC	name	description				Factory value	attribute
	calibration coefficient						
09 Group fault recording parameters							
09-00	Current fault coding	Fault code	Fault name	Fault code	Fault name		※
09-01	Previous front fault coding						※
09-02	Top two front fault coding	0	trouble-free	29	-		※
09-03	Top three front fault codes	1	Inverter unit protection	30	Overload failure		※
09-04	Top four front fault coding	2	Accelerate over current	31	PID feedback disconnection		※
09-05	Top five front fault codes	3	Slow down over current	40	Rapid flow limit failure		※
09-06	Current fault operating frequency	4	Constant speed over current	42	The speed deviation is too large		※
09-07	Given the frequency of the current fault slope	5	Accelerated overvoltage	48	Electronic overload failure		※
09-08	Current fault output voltage	6	Slow down over voltage	51	The initial position is dysregulated		※
09-09	Current fault output current	7	Constant speed overvoltage	60	Brake pipe protection		※
09-10	Current fault bus voltage	8	-				※
09-11	Current fault module temperature	9	The bus is under pressure				※
09-12	Current fault input terminal status	10	Frequency converter overload				※
09-13	Current fault output terminal status	11	Motor overload				※

FC	name	description				Factory value	attribute
09-14	Operating frequency of the previous failure	12	Input the missing phase				※
09-15	Given the frequency of the previous fault slope	13	Output lack of phase				※
		14	IGBT superheat				
09-16	The previous fault output voltage	15	External failure				※
09-17	Previous fault output current	16	Communication failure				※
09-18	Previous fault bus voltage	17	-				※
09-19	Previous fault module temperature	18	Current detection failure				※
09-20	Previous fault input terminal status	19	Motor tuning fault				※
		20	-				
09-21	Previous fault output terminal status	21	EEPROM hitch				※
09-22	Operating frequency of the previous second failure	23	Short circuit to ground fault				※
		26	Running time arrives				
09-23	Given frequency of the first second fault slope						※
09-24	The first secondary fault output voltage						※
09-25	The first secondary fault output current						※
09-26	First secondary fault bus voltage						※

FC	name	description	Factory value	attribute
09-27	First secondary fault module temperature			※
09-28	First secondary fault input terminal status			※
09-29	First secondary fault output terminal status			※
10 Groups of protection parameters				
10-00	Motor overload protection selection	0: Do not move 1: Ordinary motor 2: Frequency conversion motor	2	●
10-01	Motor overload protection factor	20.0%~120.0%	100.0%	○
10-02	Overvoltage stall protection enables	0: Invalid 1: valid	1	○
10-03	Over-voltage stall action voltage	The 220V model: 120~150%	120%	○
		The 380V model: 120~150%	140%	
10-04	Overflow protection options	Individual bit: Overcurrent protection enables 0 Invalid, 1 valid Ten digits: the hardware current-limiting protection is enabled 0 is Valid, and 1 is invalid 100 bits: inverter unit overcurrent fault unblocking selection 0: Can be lifted 1: The blockade can be lifted after 60 seconds 2: Keep blocking, and the re-power is lifted	101	●
10-05	Over-drain speed protection current	50.0~200.0%	Model determination	●
10-06	Excessive loss rate decline rate	0.00~50.00Hz (value per second)	10.00Hz	●
10-07	Insufficient input and output phase	Individual bit: Enter the default phase protection enabled	11	○

FC	name	description	Factory value	attribute
	protection	Ten digits: the output lack of phase protection enabling 0 Invalid, 1 valid		
10-08	Overload and overload protection action	Individual bit: Overload overload warning selection 0: Motor is under overload warning 1: The frequency converter lacks the overload warning Ten places: under-overload overload action for choice 0: The frequency converter lacks the overload warning and continues to operate 1: frequency converter overload warning, shutdown after overload 2: The frequency converter has overload warning and continue to run, and stop after underload 3: Stop ter stops after underload Hundred: under overload protection can be 0: The whole process is effective 1: Effective at a constant speed	000	○
10-09	Overload detection quasi-position	(10-11)~200%	Model determination	○
10-10	overload detection time	0.1~3600.0s	1.0s	○
10-11	Warload detection quasi-position	0~(10-09)	50%	○
10-12	Time to check out the load	0.1~3600.0s	1.0s	○
10-13	Number of automatic reset times of failures	0~10	0	○
10-14	Automatic fault reset interval	0.1~3600.0s	1.0s	○
10-15	Overpressure point setting	0~800V	Model determination	○
10-16	Underpressure point setting	0~350V	Model determination	○

FC	name	description	Factory value	attribute
10-17	Special function selection	Individual bit: voltage instability automatic drop frequency Ten places: the frequency reaches the second acceleration and deceleration time 0: Invalid, 1: valid	00	○
10-18	Output terminal fault action selection	Individual bit: underpressure fault action Ten places: action during automatic reset 0: valid, 1: Invalid	00	○
10-19	Selection of instantaneous power outage operation	0: Do not continue to operate 1: Keep running	0	○
10-20	Insient power outage and operation waiting time	0.0~3600.0s	1.0s	○
10-21	Insient power drop and frequency drop enables	0: Invalid, 1: valid	0	○
10-22	Insient power drop frequency reduction constant	0.00Hz~ Maximum frequency (second change value)	10.00Hz	○
10-23	Speed deviation detection value	0.0~50.0%	10.0%	○
10-24	Time of speed deviation detection	0.0~10.0s	0.5s	○
11 Groups of auxiliary function parameters				
11-00	Point movement operation frequency	0.00Hz~ Maximum frequency	5.00Hz	○
11-01	Point motion acceleration time	0.0~3600.0s	Model determination	○
11-02	Point motion deceleration time	0.0~3600.0s	Model determination	○

FC	name	description	Factory value	attribute
11-03	Acceleration time 1	0.0~3600.0s	Model determination	○
11-04	Slow down time 1	0.0~3600.0s	Model determination	○
11-05	Acceleration time 2	0.0~3600.0s	Model determination	○
11-06	Slow down time 2	0.0~3600.0s	Model determination	○
11-07	Acceleration time 3	0.0~3600.0s	Model determination	○
11-08	Slow down time 3	0.0~3600.0s	Model determination	
11-09	The running frequency is lower than Lower limit frequency operating mode	0: Run at the lower limit frequency 1: Downtime 2: Sleep	0	○
11-10	Sleep recovery delay	0.0~3600.0s	0.0s	○
11-11	Drop frequency	0.00~10.00Hz	0.00Hz	○
11-12	Heat dissipation fan control	0: Follow the frequency converter to operation 1: Keep running	0	○
11-19	Set the gauge value	(11-20)~65535	0	○
11-20	Specify the count value	0~(11-19)	0	○
11-21	Time running time	0~65535min	0min	○
11-22	Jump frequency 1	0.00~ Maximum frequency	0.00Hz	○
11-23	Jump frequency amplitude of 1	0.00~ Maximum frequency	0.00Hz	○
11-24	Jump frequency 2	0.00~ Maximum frequency	0.00Hz	○
11-25	Jump frequency amplitude of 2	0.00~ Maximum frequency	0.00Hz	○
11-26	Jump frequency 3	0.00~ Maximum frequency	0.00Hz	○

FC	name	description	Factory value	attribute
11-27	Jump frequency amplitude of 3	0.00~ Maximum frequency	0.00Hz	○
11-28	The frequency amplitude	0.0~100.0% (Relative set frequency)	0.0%	○
11-29	The amplitude of the jump frequency	0.0~50.0% (swing frequency amplitude)	0.0%	○
11-30	The time of swing frequency rise	0.1~3600.0s	5.0s	○
11-31	The drop time of swing frequency	0.1~3600.0s	5.0s	○
11-32	The FDT1 frequency check value	0.00~ P00.03	50.00Hz	○
11-33	The FDT1 frequency detection lag value	0.0~100.0%	5.0%	○
11-34	FDT2 frequency check value	0.00~ Maximum frequency	50.00Hz	○
11-35	The FDT2 frequency check lag value	0.0~100.0%	5.0%	○
11-36	Frequency reaches the detection value	0.0~ Maximum frequency	.000Hz	○
11-37	Overmodulation selection	Individual bit: Overmodulation enables 0: Invalid, 1: valid Ten places: Overmodulation intensity selection 0: Mild, 1: Depth	01	○
11-38	PWM mode selection	Individual bit: PWM mode selection 0: Two-phase and three-phase modulation 1: Three-phase modulation Ten digits: low-speed load frequency limit selection The 0:2K Hz limit is applied 1:4K Hz Limit 2: No restrictions	00	○

FC	name	description		Factory value	attribute
12 Groups of process PID parameters					
12-00	PID for a given source	0: Number given 1: AI1 2: AI2 3: AI3	4: HDI 5: Multi-section speed 6: RS-485 communication 7: Keyboard analog potentiometer	0	○
12-01	The PID numbers are given for the	-100.0～100.0%		0.0%	○
12-02	PID feedback source	0: AI1 1: AI2 2: AI3	3: HDI 4: RS-485 communication 5: Keyboard analog potentiometer	0	○
12-03	PID application direction	0: Positive effect	1: Counteraction	0	○
12-04	Proportional gain of K P1	0.00～100.00		1.00	○
12-05	Integral time TI1	0.01～10.00s		0.10s	○
12-06	Differential time, TD1	0.00s～10.00s		0.00s	○
12-07	The PID sampling period is T1	0.000~10.000s		0.100s	○
12-08	The PID parameter switching deviation	0.0～100.0%		0.0%	○
12-09	PID output cap	(12-10)～100.0%		100.0%	○
12-10	PID bottoming	-100.0%～(12-09)		0.0%	○
12-11	The PID instruction acceleration and deceleration time	0.0~1000.0s		0.0s	○
12-12	PID output filtering time	0.000~10.000s		0.000s	○

FC	name	description	Factory value	attribute
12-13	Low frequency ratio gain	0.00~100.00	1.00	○
12-14	PID feedback loss detection value	0.0% (not detected) ~100.0%	0.0%	○
12-15	PID feedback loss detection time	0.0s~3600.0s	1.0s	○
12-16	PID regulating function	the unit: 0: The frequency reaches the upper and lower limits and continues to make an integral adjustment 1: The frequency reaches the upper and lower limits decade: 0: Consistent with the set direction 1: Opposite to the set direction hundreds place: 0: Reference to the maximum frequency limit 1: Reference frequency source A limit kilobit: 0: A + B, the frequency source A acceleration and deceleration time is invalid 1: A + B, the frequency source A is determined by the acceleration and deceleration time 4	0001	○
13 Groups of multisegment speed and simple PLC parameters				
13-00	Multistage speed-0 frequency Setpoint	-100.0%~100.0%	0.0%	○
13-01	Multistage speed-1 frequency setting value	-100.0%~100.0%	0.0%	○
13-02	Multistage speed-2 frequency setting value	-100.0%~100.0%	0.0%	○
13-03	Multistage speed-3	-100.0%~100.0%	0.0%	○

FC	name	description	Factory value	attribute
	frequency setting value			
13-04	Multiple-segment speed-4 frequency setting value	-100.0%~100.0%	0.0%	○
13-05	Multiple speed-5 frequency setting value	-100.0%~100.0%	0.0%	○
13-06	Multiple-segment speed-6 frequency setting value	-100.0%~100.0%	0.0%	○
13-07	Multistage speed-7 frequency setting value	-100.0%~100.0%	0.0%	○
13-08	Multiple segment speed 8 frequency setting value	-100.0%~100.0%	0.0%	○
13-09	Multistage speed-9 frequency Setpoint	-100.0%~100.0%	0.0%	○
13-10	Multistage speed of 10 frequency setting value	-100.0%~100.0%	0.0%	○
13-11	Multistage speed: 11 frequency setting value	-100.0%~100.0%	0.0%	○
13-12	Multistage speed: 12 frequency setting value	-100.0%~100.0%	0.0%	○
13-13	Multistage speed: 13 frequency setting value	-100.0%~100.0%	0.0%	○
13-14	Multistage speed: 14 frequency	-100.0%~100.0%	0.0%	○

FC	name	description	Factory value	attribute
	setting value			
13-15	Multistage speed of 15 frequency setting value	-100.0%~100.0%	0.0%	○
13-16	PLC segment 0 run time	0.0~6553.5 s(min)	0.0s(min)	○
13-17	PLC segment 1 runtime	0.0~6553.5 s(min)	0.0s(min)	○
13-18	PLC segment 2 runtime	0.0~6553.5 s(min)	0.0s(min)	○
13-19	PLC segment 3 runtime	0.0~6553.5 s(min)	0.0s(min)	○
13-20	PLC segment 4 runtime	0.0~6553.5 s(min)	0.0s(min)	○
13-21	PLC segment 5 runtime	0.0~6553.5 s(min)	0.0s(min)	○
13-22	PLC segment 6 runtime	0.0~6553.5 s(min)	0.0s(min)	○
13-23	PLC segment 7 runtime	0.0~6553.5 s(min)	0.0s(min)	○
13-24	PLC segment 8 runtime	0.0~6553.5 s(min)	0.0s(min)	○
13-25	PLC segment 9 runtime	0.0~6553.5 s(min)	0.0s(min)	○
13-26	PLC segment 10 runtime	0.0~6553.5 s(min)	0.0s(min)	○
13-27	PLC segment 11 runtime	0.0~6553.5 s(min)	0.0s(min)	○
13-28	PLC segment 12 runtime	0.0~6553.5 s(min)	0.0s(min)	○
13-29	PLC segment 13 runtime	0.0~6553.5 s(min)	0.0s(min)	○
13-30	PLC segment 14 runtime	0.0~6553.5 s(min)	0.0s(min)	○
13-31	PLC segment 15	0.0~6553.5 s(min)	0.0s(min)	○

FC	name	description	Factory value	attribute
	runtime			
13-32	Period 0 to 7 of PLC	Value range: 0x0000~0xFFFF Section 0: B it0-1: two bit values, selected acceleration and deceleration time 1,2,3,4 Paragraph 1: B it2-3: Selected acceleration and deceleration time 1,2,3,4 Paragraph 2: B i-5: Selected acceleration and deceleration time, 1,2,3,4 Paragraph 3: B it6-7: Selected acceleration and deceleration time 1,2,3,4 Paragraph 4: B it8-9: Two bit values selected acceleration and deceleration time 1,2,3,4 Paragraph 5: B it11-10: two bit values selected acceleration and deceleration time 1,2,3,4 Section 6: B it12-13: two bit values selected acceleration and deceleration time 1,2,3,4 Section 7: B it14-15: two bit values selected acceleration and deceleration time 1,2,3,4	0000	○
13-33	PLC periods 8 to 15	Value range: 0x0000~0xFFFF Paragraph 8: B it0-1: two bit values selected acceleration and deceleration time 1,2,3,4 Paragraph 9: B it2-3: Selected two bit times 1,2,3,4 Paragraph 10: B i-5: selected acceleration and deceleration time of two bit values 1,2,3,4 Paragraph 11: B it6-7: Two bit values for selected acceleration and deceleration time 1,2,3,4 Paragraph 12: B it8-9: Two bit values for selected acceleration and deceleration time 1,2,3,4 Paragraph 13: B it11-10: Selected acceleration and deceleration time 1,2,3,4 Section 14: B it12-13: selected acceleration and deceleration time 1,2,3,4 Section 15: B it14-15: Selected acceleration and deceleration time 1,2,3,4	0000	○
13-34	PLC runtime unit	0: seconds (s) 1: Minutes (min)	0	●
13-35	PLC run mode	0: Stop after the end of a single operation 1: Keep the final value running at the end of a single run 2: Run in a loop	0	●

FC	name	description		Factory value	attribute
13-36	PLC drop memory selection	0: Do not remember the power loss 1: ELECTRIC memory		0	○
13-37	PLC Downtime memory start selection	0: Rerun from the first paragraph 1: Continue the operation from the stage frequency at the downtime time		0	○
13-38	Multi-segment speed 0 frequency is given to the source	0:13-00 Given 1: AI1 2: AI2 3: AI3	4: HDI 5: PID 6: Keyboard analog potentiometer 7: The preset frequency can be fine-tuned	0	○
14 Groups of SCI communication parameters					
14-00	Address of this machine	0 Broadcast address, 1~247		1	○
14-01	Communication Porter rate	0: 1200BPS 1: 2400BPS 2: 4800BPS 3: 9600BPS 4: 19200BPS 5: 38400BPS 6: 57600BPS		3	○
14-02	The MODBUS data format	0: No check (N, 8,1) for RTU 1: Duality check (E, 8,1) for RTU 2: Strange check (O, 8,1) for RTU 3: No check (N, 8,2) for RTU 4: Duality check (E, 8,2) for RTU 5: Strange check (O, 8,2) for RTU		3	○
14-03	MODBUS communication response delay	0~200ms		5	○
14-04	Serial port communication timeout time	0.0: Invalid, 0.1~60.0s		0.0s	○
14-05	Communication error action	0: Alarm and shut down freely 1: Do not alarm and continue running		0	○

FC	name	description	Factory value	attribute
	selection	2: Stop without alarm (communication control mode) 3: Stop according to shutdown mode without alarm (all control modes)		
14-06	Communication processing action selection	LED the unit: 0: Write the operation with a response 1: No response to the writing operation	0	○
14-07	Communication protocol selection	0: Compatible with 380 protocol (including 00 groups, 30 groups of partial menus) 1: Compatible with GD protocol (communication control only)	0	○

FC	name	Minimum unit	Address / Address (HEX)	Address Address (DEC)
30 Groups of monitoring parameters				
30-00	running frequency	0.01H z	0x7000	28672
30-01	Set the frequency	0.01H z	0x7001	28673
30-02	busbar voltage	0.1V	0x7002	28674
30-03	output voltage	1V	0x7003	28675
30-04	output	0.1A	0x7004	28676
30-05	power of motor (%)	0.1%	0x7005	28677
30-06	output torque (%)	0.1%	0x7006	28678
30-07	Enter terminal status	See the 30 sets for detailed instructions	0x7007	28679
30-08	Output terminal status	See the 30 sets for detailed instructions	0x7008	28680
30-09	AI1 Input voltage	0.01V	0x7009	28681
30-10	AI2 Input Voltage	0.01V	0x700A	28682
30-11	AI3 input voltage	0.01V	0x700B	28683
30-12	count value	1	0x700C	28684
30-13	Length value	1	0x700D	28685
30-14	motor speed	1rpm	0x700E	28686

30-15	PID set point	0.1%	0x700F	28687
30-16	PID feedback values	0.1%	0x7010	28688
30-17	PLC and multisegment current segments	1	0x7011	28689
30-18	HDI incoming frequency	0.01K Hz	0x7012	28690
30-19	continue to have		0x7013	28691
30-20	Frequency converter model	1	0x7014	28692
30-21	Rated power of the frequency converter	0.1K W	0x7015	28693
30-22	Power converter rated voltage	1V	0x7016	28694
30-23	Power converter rated current	0.1A	0x7017	28695
30-24	linear velocity	1m/Min	0x7018	28696
30-25	This operation time	1Min	0x7019	28697
30-26	The slope gives a given frequency	0.01Hz	0x701A	28698
30-27	The torque is quantified	0.1%	0x701B	28699
30-28	output torque	0.1Nm	0x701C	28700
30-29	Digital regulation	0.01Hz	0x701D	28701
30-30	torque current	0.1A	0x701E	28702
30-31	exciting current	0.1A	0x701F	28703
30-32	Motor power factor	0.01	0x7020	28704
30-33	Estimate motor frequency	0.01Hz	0x7021	28705
30-34	AC incoming current	0.1A	0x7022	28706
30-35	Motor overload count value	1	0x7023	28707

Chapter VI Fault Diagnosis and Countermeasures

The following fault types will be encountered during the use of the frequency converter. Please refer to the following table for simple fault analysis and handling. If the fault cannot be resolved, please contact the technical support promptly.

Digital fault code and English letter fault code comparison are listed, convenient for users with different habits to compare.

hitch code	Fault name	Troubleshooting	Troubleshooting countermeasures
Err 01 (O ut)	Inverter unit protection	1. Short circuit of the inverter output loop 2. The wiring of the motor and the inverter is too long 3. Overheating of modules 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 8, Motor wire or motor leakage or short circuit	1. Troubleshoot the peripheral faults 2. Install the reactor or the output filter 3. Check the air duct and fan and eliminate the existing problems 4. Plug in all the connecting cables 5. Seek technical support 6. Seek technical support 7. Seek technical support 8. Check the motor wire or motor to ensure its normal operation
Err02 (OC1)	Accelerate over current	1. There is ground or short circuit 2. The control mode is a vector and has no parameter identification 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. Identify 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. Speed tracking start or start after the motor stops 7. Cancel the sudden load 8. Choose the frequency converter with a larger power level
Err03 (OC2)	Slow down over current	1. There is ground or short circuit 2. The control mode is a vector and has no parameter identification 3. The deceleration time is too short 4. Low voltage 5. Add a sudden load during the deceleration process 6. No brake unit and brake resistance are installed	1. Troubleshoot the peripheral faults 2. Identify 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
Err04 (OC3)	Constant speed over current	1. There is ground or short circuit 2. The control mode is a vector and has no	1. Troubleshoot the peripheral faults 2. Identify the motor parameters

hitch code	Fault name	Troubleshooting	Troubleshooting countermeasures
		parameter identification 3. Low voltage 4. Whether there is a sudden adding load in the operation 5. The inverter type selection is too small	3. Adjust the voltage to the normal range 4. Cancel the sudden adding load 5. Choose the frequency converter with a larger power level
Err05 (Ov1)	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
Err06 (Ov2)	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
Err07 (Ov3)	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
Err09 (Uv)	The bus is under pressure	1. Instantaneous power failure 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. Resignation failure 2. Adjust the voltage to the normal range 3. Seek technical support 4. Seek technical support 5. Seek technical support 6. Seek technical support
Err10 (oL2)	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
Err11 (oL1)	Motor overload	1. Whether the motor protection parameters are appropriate 2. Whether the load is too large or the motor blocked 3. Motor, the selection is too small	1. Set this parameter correctly 2. Reduce the load and check the motor and mechanical conditions 3. Choose motors with larger power level
Err12	Input the missing	1. Three-phase input power supply is abnormal	1. Check and eliminate the problems

hitch code	Fault name	Troubleshooting	Troubleshooting countermeasures
(SPI)	phase	2. The drive board is abnormal 3. Abnormal lightning protection plate 4. The main control board is abnormal	existing in the peripheral lines 2. Seek technical support 3. Seek technical support 4. Seek technical support
Err13 (Spo)	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. Abnormal modules	1. Troubleshoot the peripheral faults 2. Check whether the motor winding is normal and troubleshooting 3. Seek technical support 4. Seek technical support
Err14 (oH2)	IGBT superheat	1. The ambient temperature is too high 2. The air duct is blocked 3. Fan damage 4. The module thermistor is damaged 5. The inverter module is damaged	1. Reduce the ambient temperature 2. Clean the air duct 3. Change the fan 4. Replace the thermistor 5. Replace the inverter module
Err 15 (EF)	External failure	The X i terminal inputs an external fault signal	Check the external wiring to remove the faulty operation
Err16 (CE)	485 Communication fault	1. The upper position computer does not work normally 2. The communication line is abnormal 3. Communication parameter group is not set correctly	1. Check the wiring of the upper position machine 2. Check the communication connection cable 3. Set the communication parameters correctly
Err18 (ItE)	Current detection failure	1. Check the Hall device abnormality 2. The drive board is abnormal 3. The main control board is abnormal	1. Replace the Hall devices 2. Replace the drive plate 3. Seek technical support
Err19 (tE)	Motor tuning fault	1. Motor parameters are not set according to the nameplate 2. The parameter identification process is timed out	1. Set the motor parameters correctly according to the nameplate 2. Check the inverter to the motor lead line
Err21 (E EP)	EEPROM read and write fault	1. The EEPROM operation is too much too frequent 2. The EEPROM chip is damaged	1. The upper computer shall operate the EEPROM reasonably 2. Replace the main control board
Err23 (E TH)	Short circuit to ground fault	Motor short circuit to ground Motor wiring UVW lap iron The frequency converter module is damaged	Replace the motor Replace the motor line or troubleshoot the short circuit Replace the module or the drive panel
Err26 (End)	Cumulative runtime arrives	The cumulative running time reaches the set point	Reset the run time

hitch code	Fault name	Troubleshooting	Troubleshooting countermeasures
Err30 (LL)	Overload failure	1. The operating current of the frequency converter is less than the set parameters	1. Check whether the load is detached 2. Whether the parameter setting conforms to the actual operating conditions
Err31 (PIdE)	PID feedback disconnection	1. The PID feedback signal is disconnected 2. The PID feedback loss detection value setting is not reasonable	1. Check the PID feedback signal 2. Check the reasonable value of PID feedback loss setting
Err40 (oL 4)	Fast current limiting 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
Err42 (dEU)	The speed deviation is too large	1. No parameter identification was performed 2. The detection parameters of excessive speed deviation are unreasonable 3. Overload or blocked rotation	1. Motor parameter identification 2. Speed deviation detection parameters are reasonably reset 3. Check the load to ensure that the load is normal
Err 48 (oL3)	Electronic overload failure	The inverter overreports the fault according to the setting value of the electronic overload parameter	Check the load or adjust the electronic overload value reasonably
Err51 (Sto)	Initial position alignment fault	1. Motor parameters are set up unreasonable 2. No parameter identification was made 3. The motor wire is not well connected	1. Set the motor parameters and identify the motor parameters 2. Identify the motor parameters 3. Check the motor wiring to ensure the normal operation
Err60 (bCE)	Brake pipe protection fault	Short circuit to brake resistance or abnormal brake module	Check the brake resistance or seek technical support
P-Lu	The power supply is under pressure	The inverter power supply voltage is insufficient frequency converter internal switch power supply or bus detection fault The motherboard power segment or voltage segment does not match with the current power supply	Check the power supply of the frequency converter Check the internal power or bus circuit Check if the rated voltage matches for support

Chapter VII. The Modbus Communication Agreement

A.0 Network mode

There are two networking modes of frequency converter: single host / multi-slave mode and single host / single-slave mode.
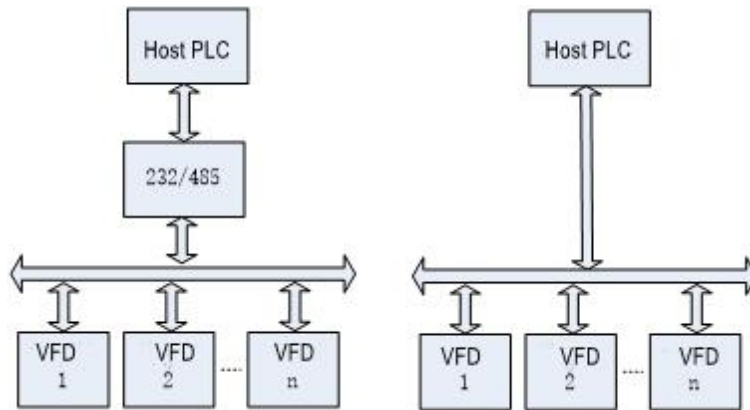

Figure A-1 Single host mostly from the unit network mode

Figure A-2 Single host single from the unit network mode

A.1. Interface mode

RS485 asynchronous half-duplex.
The RS485 terminal default data format is detailed in the SCI group parameters.

A.2. Communication mode

. 1 Frequency converter is a slave, the main and slave peer-to-point communication. When the host uses the broadcast address to send commands, the slave does not respond;
. 2. Set the local address, wave rate and data format of the frequency converter by the slave operation panel or serial communication mode;
. 3. The slave reports the current fault information in the latest response frame to the host poll;
. 4 The frequency converter adopts the local RS-485 interface mode.

A.3. Message format
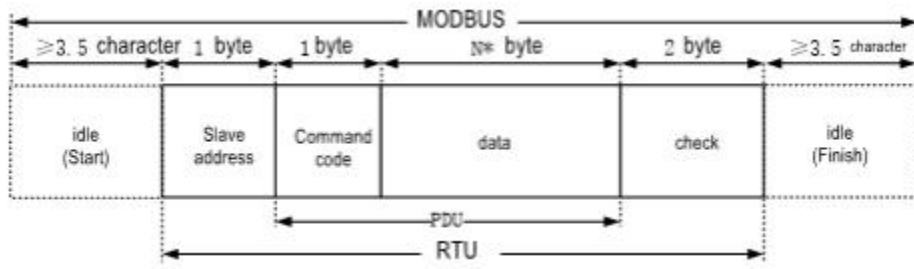
The Modbus message includes the start sign, the RTU message, and the end sign.

The RTU message includes the address code, PDU, and CRC check. The PDU includes the command code and the data section.

The Data Frame field description:

Frame Start START	Idle with more than a 3.5-character transfer time.	
From the station address, AD D R	Communication address range: 1~247 slave address, 0 is the broadcast address.	
command code CMD	command code	description
	0x03	Read multiple registers.
	0x06	Write a single register to the frequency converter.
	0x10	Write multiple registers to the frequency converter.
data	It mainly includes register address, register number and register content, etc. For the specific format, see A.4 Chapters.	
CRC L	CRC16 check value. When transmitting, low bytes in front and high bytes after.	
CRC H		
Frame-end END	Idle with more than a 3.5-character transfer time.	

A.4. Command code interpretation

A.4.1 Command code 0x03 reads multiple registers (supports 16 consecutive addresses)

- ask PDU

device address	1 Bytes	0x01
command code	1 Bytes	0x03
start address	Two bytes	0x0000~0X FFFF (high 8-bit address at first)
Number of registers	Two bytes	0x0001~0x0010 (1~16, high 8 bits in front)
CRC check code	Two bytes	

- respond PDU

device address	1 Bytes	0x01
command code	1 Bytes	0x03
Byte number	1 Bytes	2 * N (N is the number of registers)
Register value	2 * N bytes	Register value is 8 bits higher; Send the register value for the starting address first.
CRC check code	Two bytes	CRC low 8 in the anterior and high 8 in the posterior

Note: Currently, the Modbus protocol 0x03 command code does not support reading multiple function codes across groups.

Example: Host send: 01 03 00 08 00 01 05 C8 (read 00-08 function code)

Inverter response: 01 03 02 13 88 B5 12 (return to 0x1388 (5000), or 50.00H z)

A.4.2 Command code 0x06 Write a single register

- ask PDU

device address	1 Bytes	0x01
command code	1 Bytes	0x06
start address	Two bytes	0x0000~0xFFFF (high 8-bit address at first)
Register value	Two bytes	0x0000~0xFFFF (register value 8 bit higher at first)
CRC check code	Two bytes	CRC low 8 in the anterior and high 8 in the posterior

- respond PDU

device address	1 Bytes	0x01
command code	1 Bytes	0x06
Register address	Two bytes	0x0000~0xFFFF (high 8-bit address at first)
Register value	Two bytes	0x0000~0xFFFF (register value 8 bit higher at first)
CRC check code	Two bytes	CRC low 8 in the anterior and high 8 in the posterior

Example: Host Send: 01 06 00 08 27 10 12 34 (write 0x2710 (10000) to the 00-08 functionality code, or 100.00Hz)

Inverter response: 01 06 00 08 27 10 12 34 (same as send frame)

A.4.3 Command code 0x10 writes multiple registers (supports 16 consecutive addresses)

- ask PDU

device address	1 Bytes	0x01
command code	1 Bytes	0x10
start address	Two bytes	0x0000~0xFFFF (high 8-bit address at first)
Number of registers	Two bytes	0x0001~0x0010 (1~16, high 8 bits in front)
Byte number	1 Bytes	2 * N (N is the number of registers)
Register value	2 * N bytes	Register value is 8 bits higher; Send the register value for the starting address first.
CRC check code	Two bytes	CRC low 8 in the anterior and high 8 in the posterior

- respond PDU

device address	1 Bytes	0x01
command code	1 Bytes	0x10
start address	Two bytes	0x0000~0xFFFF (high 8-bit address at first)
Number of registers	Two bytes	0x0001~0x0010 (1~16, high 8 bits in front)
CRC check code	Two bytes	CRC low 8 in the anterior and high 8 in the posterior

Example: Host send: 01 10 00 01 00 02 00 04 00 02 00 01 72 91 (function code 00-01=2,00-02=1)

Inverter response: 01 10 00 01 00 02 10 08 (response start register address 0x0001 and number of written registers 0x0002)

A.5 Command code 0x08 ping communication

This function is used for the inverter ping communication to test the communication for normal response.

- The request and response content are the same

device address	1 Bytes	0x01
command code	1 Bytes	0x08
start address	Two bytes	0x0000~0xFFFF (high 8-bit address at first)
Data content	Two bytes	0x0001~0x0010 (1~16, high 8 bits in front)
CRC check code	Two bytes	CRC low 8 in the anterior and high 8 in the

		posterior

give an example: Host send: 01 08 00 00 12 34 ED 7C

Frequency converter response: 01 08 00 00 12 34 ED 7C

0x08 command code, write 0x1234 to 0X0000 address. The frequency converter response is exactly the same content.

A.6. C R C calibration

Considering the need to improve the speed, CRC-16 is usually implemented in a tabular way. The following is the implementation C language source code of CRC-16, noting that the final result has been exchanged with high and low bytes, that is, the result is the CRC checksum to be sent:

```
Uint16 CRC16(const Uint16 *data, Uint16 len)
{
    Uint16 crcValue = 0xffff;
    Uint16 i;
    while (len--)
    {
        crcValue  ^=  *data++;
        for (i = 0; i <= 7; i++)
        {
            if (crcValue & 0x0001)
            {
                crcValue = (crcValue >> 1) ^ 0xa001;
            }
            else
            {
                crcValue = crcValue >> 1;
            }
        }
    }
     return (crcValue);
}
```

A.7 Register address

The register address is 16 bit data, 8 higher indicates the functional code group number, and 8 lower indicates the serial number within the group. In function code register writing, to avoid memory damage, the high level of the register address indicates whether EEPROM is stored, the highest bit is 0x8000 indicates memory EEPROM, and 0 indicates only RAM left. For example: to 00-02 function code write operation, 0x 0002 means write RAM power does not save; 0x 8002 means write EEPROM power save.

14-07 Select two compatible mailing address protocols, 0 is the 380 address mode, and 1 is the GD address mode.

The Register address table is as follows:

address space		description
FC	0x0000 ~ 0x1F0A	The correspondence address is a hexadecimal representation. High 8 bits indicates the group number (00 ~ 1F), and low 8 bits indicates the serial number within the group (0 ~ 1F). For example: the function code is 10-17, whose address is 0x 0A11 (0x 0A =10,0x 11=17).
Downtime / run Parameter reading and writing	0x 1000	Communication to set the percentage ratio of-10000~10000, corresponding to-100.00~100.00%, negative motor reversal
	0x 1001	running frequency
	0x 1002	busbar voltage
	0x 1003	output voltage
	0x 1004	output
	0x 1005	output power
	0x 1006	output torque
	0x 1007	running speed
	0x 1008	DI input mode
	0x 1009	DO output state
	0x 100A	AI1 voltage
	0x 100B	AI2 voltage
	0x 100C	AI3 voltage
	0x 100D	Count the numerical input
	0x 100E	Length value input
	0x 100F	loading speed
	0x 1010	PID set point
	0x 1011	PID feedback values
	0x 1012	PLC step
	0x 1013	HDI Input pulse frequency (input pulse wave frequency) at 0.01R H z
	0x 1014	Feedback speed (min / turn, rpm)
	0x 1015	Remaining running time (min min)
	0x1016	AI1 correction front voltage (0.01V)
	0x1017	AI2 correction front voltage (0.01V)
	0x1018	AI3 correction front voltage (0.01V)

	0x1019	linear velocity
	0x101A	Current power time
	0x101B	Current run time
	0x101C	HDI input pulse frequency (relative to maximum frequency) at 1H z
	0x101D	Communication SetPoint View
	0x101E	Actual feedback speed
	0x101F	Frequency source A is shown
	0x1020	Frequency source B is shown
	0x2000	Communication control command, as defined as follows: 0x0000: Invalid command 0x0001: Forward running 0x0002: reverse operation 0x0003: Positive rotation 0x0004: reverse tting 0x0005:14-00=0 is free parking; 14-00=1 is deceleration parking The 0x0006:14-00=0 is deceleration stop; the 14-00=1 is free stop 0x0007: Fault reset 0x0008: Stop parking
	0x2001	Output terminal function value 23 (Bit0: Y1, Bit1: HDO, Bit2: R 1, Bit3: R 2) 14-07=0, DO output terminal control 14-07=1, the communication setting frequency, 0~Fmax, in unit: 0.01Hz
	0x2002	14-07=0, AO1 analog output setting (0 to 0 x 7FFF for 0 to 100%) 14-07=1, PID given, range (0-1000, corresponding to 100.0%)
	0x2003	14-07=0, AO2 analog output setting (0~0x 7FFF for 0 to 100%) 14-07=1, PID feedback, range (0~1000, corresponding to 100.0%)
	0x2004	14-07=0, HDO high-speed pulse output control (0-0 x 7FFF corresponding to 0~100%) 14-07=1, torque setting value (-3000~3000,1000 for 100.0% motor rated current)
Fault code	0x2102	14-07=0 or 1. See Group 09 Group Fault Record Parameters
native identification code	0x2103	14-07=0 or 1. continue to have
Frequency converter status 1	0x3000	14-07=0 This address is 0x3000, 14-07=1 This address is 0x2100. 1: Forward turn 2: reverse 3: shutdown 4: fault 5: power undervoltage

Frequency converter status 2	0x3001	14-07=0 This address is 0x3001, 14-07=1 This address is 0x2101. B it0:0-Run Not ready 1-Ready to run B it3:0-asynchronous motor 1-Synchronous motor B i: 0-No overload 1-Overload warning B it 5:0-Afree 1-magnetic
Monitor parameter groups	0x 7000	See the monitoring parameter group function code
Fault code	0x8000	14-07=0. Failure code address corresponds to 0x8000, At 14-07=1, when the fault code address corresponds to 0x5000. See the 09 Group Fault Record Parameters.

Note: The communication address fault code is not saved, and the fault clearance operation is zero. If you read the power protected fault code, please read the Group 09 Fault Record Parameters.

A.8 Communication error response

Communication error code list:

error code	name	description
0x01	The command code is illegal	The command code received by the frequency converter is invalid
0x02	Register address is illegal	The register address received by the frequency converter is invalid
0x03	The data value is illegal	Data values are out of range
0x04	Data values cannot be modified	This error code is returned when some parameters of the frequency converter are unsuccessful
0x05	User password error	User password is inconsistent
0x06	Frame error	In a frame packet sent by the host, the data length is incorrect, or the CRC check code is wrong
0x07	Functional code values are read-only	The function code of the read-only attribute is read by the host
0x08	Running cannot be modified	Function code attribute is written when not modifiable at runtime

0x09	User password protection	When the user password is set, the host does not unlock the password operation to directly read and write the function code

Communication error command code table:

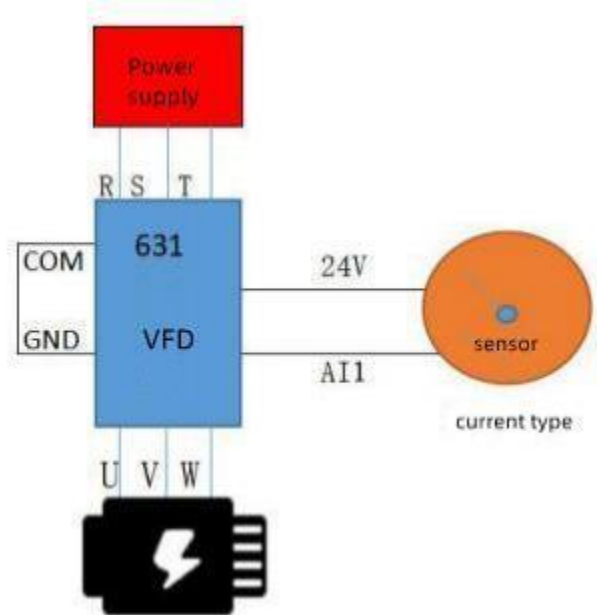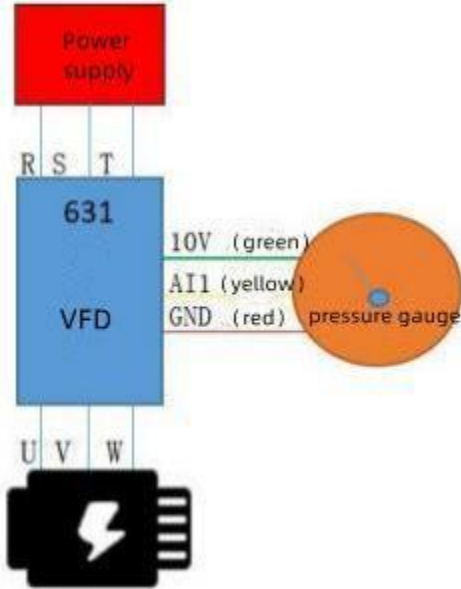| Error command	name	description
0x 83	0x03 Read error	During the 0x03 error while reading the command, the command code in the responding data frame changes from 0x03 + 0x80 to 0x83
0x 86	0x06 Write error	When 0x06 When an error writes a command, the command code in the responding data frame changes from 0x06 + 0x80 to 0x86
0x 90	0x 10 Read error	When the responding data frame is 0x 10 + + reads the command with an error, the command code in the responding data frame changes from 0x 10 + 0x80 to 0x 90

give an example:

Host send: 01 06 00 03 00 05 B9 C9 (function code write operation 00-03=5)

Frequency converter response: 01 86 04 43 A3

The maximum value of function code 00-03 is 2. When 5 is written with 0x06 command code, the inverter will have communication error command code 0x86 and error code 0x04, and writing 00-03=5 fails

Chapter VIII Special Parameter Group for Continuous Pressure Water Supply (with hibernation)

High Performance General Water Supply Description:

00-02=0 / 1 (Keyboard / terminal start)	00-02=0 / 1 (Keyboard / terminal start)
00-19=3 (Constant pressure water supply parameter macro)	00-19=3 (Constant pressure water supply parameter macro)
00-03=7 (PID control)	00-03=7 (PID control)
06-59=10	06-59=11
06-60=1 (Pressure sensor supply voltage 10V)	06-42=2.00v (AI1 lower limit)
20-00=10 / 16 kg	20-00=10 / 16 kg
20-01=5 (Target pressure)	20-01=5 (Target pressure)
20-02=5 (dormant pressure)	20-02=5 (dormant pressure)
20-03=3 (wake-up pressure)	20-03=3 (wake-up pressure)
20-04=0.05 (stable pressure deviation)	20-04=0.05 (stable pressure deviation)
20-05=10.0 seconds (sleep delay)	20-05=10.0 seconds (sleep delay)
20-06=0.00 (wake-up delay)	20-06=0.00 (wake-up delay)

Appendix to the Warranty Agreement

1) The warranty period of this product is twelve months (subject to the body barcode information). During the warranty period, if the product fails or damages when normally used according to the operating manual.

2) During the warranty period, certain maintenance costs will be charged for any damage due to the following reasons:

A. Damage caused by errors in use and unauthorized repair and modification by oneself;

B. Machine damage caused by fire, flood, abnormal voltage, other natural disasters and secondary disasters;

C. Hardware damage caused by artificial fall and transportation after the purchase;

D. Damage caused by not following the user manual provided by our company;

E. Failure and damage caused by obstacles other than the machine (such as external equipment factors);

3) If the product fails or damages, please fill in the Product Warranty Card correctly and in detail.

4) The maintenance fee shall be charged in accordance with the latest adjusted "Maintenance Price List" of our company.

5) This warranty card will not be reissued under normal circumstances, please keep this card, and show it to the maintenance personnel during the warranty.

6) If you have any questions during the service process, please contact our agent or our company timely.

7) The Company reserves the right to interpret this Agreement.

Product Warranty Card

customer information	Address:		
	Unit name: Postal Code:		contacts:
			contact number:
on-product information	product model:		
	Body barcode (paste here):		
	Agent Name:		
fault message	(Maintenance time and content):		