

T200 Series Mini AC Drive

Simple instructions

This manual will explain the use and precautions of the product. Please read this manual carefully before installation and use, so as to use the frequency converter correctly and safely.

1) Safety precautions

Safety precautions
<ul style="list-style-type: none"> Qualified professionals shall be invited to carry out installation, operation and maintenance inspection. In this manual, the safety precautions are classified into "warning" and "attention". <ul style="list-style-type: none"> ⚠Warning: Improper operation will cause dangerous situation, which will lead to death or serious injury. ⚠Note: Improper operation can cause dangerous conditions, general or minor injury or object damage.

⚠ Warning
<ul style="list-style-type: none"> Do not open the front cover plate and terminal block of the frequency converter when it is powered on. It is not allowed to operate the frequency converter when the front cover plate and terminal block are removed. Otherwise, it may contact the high voltage terminal and charging part and cause electric shock accident. To change the wiring or check, first turn off the power supply of the converter. Before the seven segment code display of the frequency converter goes out, it indicates that there is still high voltage inside the frequency converter. Please do not touch the internal circuit and components. The inverter must be grounded properly. Please do not use wet hands to operate, touch the radiator, plug and unplug the cable, otherwise it will cause electric shock. Do not replace the cooling fan when it is powered on, otherwise danger may occur. It is dangerous to exchange cooling fans during power on.

⚠ Notes
<ul style="list-style-type: none"> The voltage applied to each terminal can only be the voltage specified in the operation manual, otherwise failure or damage will be caused. Do not carry out voltage withstand test on the components inside the frequency converter, because the semiconductor used by the frequency converter is easily damaged by high voltage breakdown. During power on or shortly after power off, because the converter temperature is high, only touch the operator, otherwise it will cause burns. Do not connect the terminals by mistake, otherwise it will cause failure or damage. Do not mistake the polarity (+, -), otherwise it will cause failure or damage. Please install the frequency converter on the non combustible wall without holes (avoid touching the radiator of the frequency converter from the back). It will cause fire if it is directly installed on or near the inflammables. When the frequency converter fails, please disconnect the power supply of the frequency converter. If the current flows continuously, it will cause fire.

2) T200 series product information

2.1 Naming rules

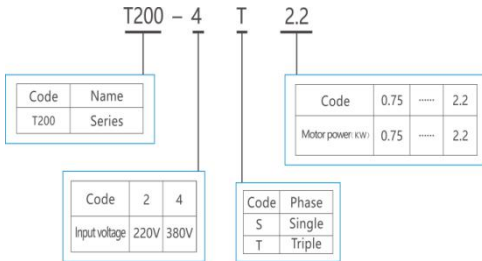


Fig. 2-1 Naming rules

2.2 T200 model and technical data

Model	Rated Capacity (KVA)	Rated Input Current (A)	Rated Output Current (A)	Adaptive Motor (KW)
Single-phase Power 200~240V 50/60Hz				
200-2S0.4	1	5.4	2.3	0.4
200-2S0.75	1.5	8.2	4	0.75
200-2S1.5	3	14	7	1.5
Three-phase Power 380~480V 50/60Hz				
200-4T0.75	1.5/3	3.4/5	2.1/3.8	0.75/1.5
200-4T1.5	3/4	5/5.8	3.8/5.1	1.5/2.2
200-4T2.2	4/4.9	5.8/8.0	5.1/6.8	2.2/3.0

2.3.1 Product outline drawing

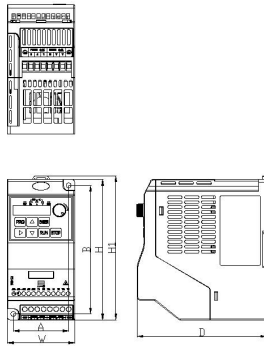


Fig. 2-2 0.4kW~2.2kW Outline dimension and installation dimension

2.3.2 Outline and installation hole size

Table 2-2 T200 outline and installation hole size

Shell Code	Model	Hole Size (mm)		Outline Size (mm)				Aperture (mm)	Weight (kg)
		A	B	H	H1	W	D		
M1	200-2S0.4B	56	130	142	145.5	68	131	5.0	0.8
	200-2S0.75B								
	200-2S1.5B								
	200-4T0.75								
	200-4T1.5								
	200-4T2.2								

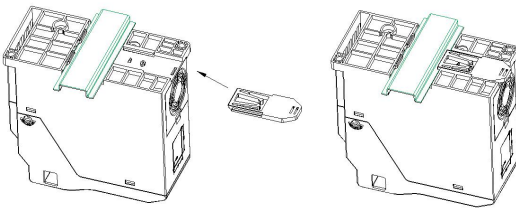
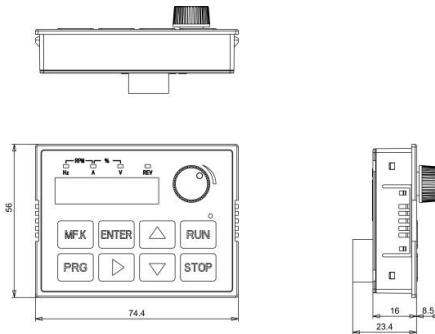


Fig. 一

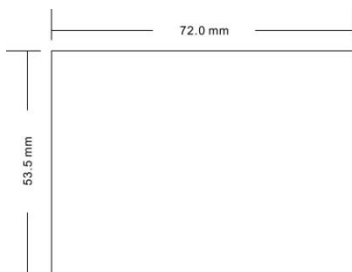
Fig. 二

Fig. 2-3 T200 installation diagram of guide rail

The dimension of external panel KB200:



The installation hole size of external panel KB200:



2.4 Typical connection diagram

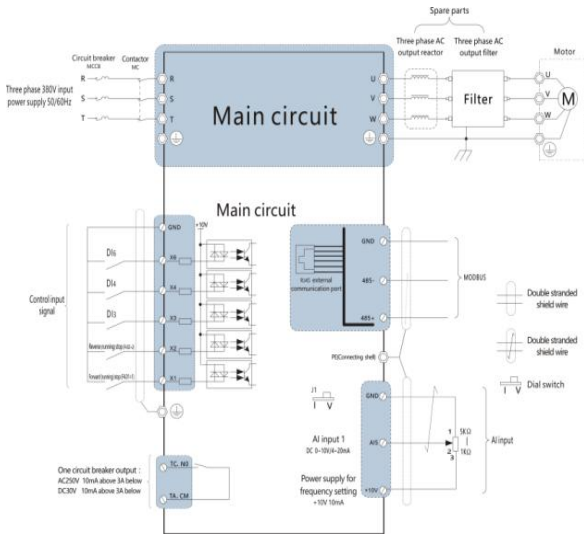


Fig. 2-4 Typical connection diagram

2.5 Terminal layout of control circuit as follows:

485+	485-	+10V	AI5	GND	X1	X2	X3	X4	X6	TA	TC
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Fig. 2-5 Terminal layout of control circuit

2.6 Function description of control terminal:

Table 2-6 T200 function description of control terminal

Type	Symbol	Name	Description
Power	+10V-GND	External + 10V power supply	Provide + 10V power supply outwards, maximum output current: 10mA. It is generally used as the working power supply of external potentiometer, and the resistance range of potentiometer is 1K Ω ~ 5K Ω .
AI	AI5-GND	AI terminal 5	1、 Input range: determined by the selection of the J1 dial switch on the control board. The current is set from the left to the right and the voltage is set from the right. 2、 Input impedance: 22K Ω at voltage input and 250 Ω at current input.
DI	X1-GND	Digital input 1	1. Optocoupler isolation, compatible with bipolar input. 2. Input impedance: 3.3k Ω . 3. Voltage range at level input: 9V ~ 30V
	X2-GND	Digital input 2	
	X3-GND	Digital input 3	
	X4-GND	Digital input 4	
Communication serial port	485+	Positive end of differential signal	Standard RS-485 interface, please use twisted pair or shielded wire, J5 is terminal resistance matching jumper, factory value is off without jumper cap.
	485-	Negative end of differential signal	
Relay output	TA-TC	Normally open terminal	Contact drive capability: AC250V, 3A, COS ϕ =0.4. DC30V 1A
Auxiliary interface	J10	External panel port	485 external panel interface

3) Introduction to operation and display interface

The operation panel can be used to modify the functional parameters of the frequency converter, monitor the working state of the frequency converter and control the operation of the frequency converter (start, stop), etc. its shape and functional area are shown in the following figure:

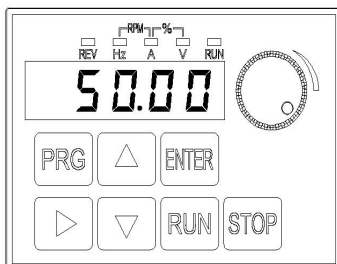











Fig. 4-1 Operation keyboard layout

4) Keyboard button description table

Table 5-1 Keyboard button description

Button	Name	Description
	Program / exit key	Enter or exit shortcut parameter deletion
	Shift / monitor key	In the shutdown display interface and operation display interface, the display parameters can be selected circularly; when modifying the parameters, the modification bits of the parameters can be selected.
	Function / data key	Step by step enter the menu screen and confirm the setting parameters.
	Multi function selection key	See F0.40 (MF. K key function selection) for detailed operation method.
	Forward running key	In the keyboard mode, press this key to make the converter run forward.
	Stop / reset key	In the operation state, press this key to stop the operation; in the fault alarm state, press this key to reset the operation. The characteristics of this key are restricted by the function code F0.05 (stop / res. key function).
	Increment key	Increment of data or function code (when pressed continuously, the increment speed can be increased)
	Decreasing key	Decrement of data or function code (when pressed continuously, the decrement speed can be increased)
	Menu mode selection key	Switch between different menu modes according to the value of F0.35 (display and selection of personality parameter group) (one menu mode by default)

5) Function parameter table

F0.36 is set to a non-zero value, that is, the parameter protection password is set. In the function parameter mode and user change parameter mode, the parameter menu can only be entered after the password is entered correctly. To cancel the password, f0.36 needs to be set to "0".

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

Group F and group A are basic functional parameters, and group L is monitoring functional parameters. The symbols in the function table are as follows: "★": it means that the set value of the parameter can be changed when the frequency converter is in the state of shutdown and operation;

"★" indicates that the set value of the parameter cannot be changed when the frequency converter is in operation state;

"●" indicates that the value of this parameter is the actual test record value and cannot be changed;

"*" indicates that the parameter is a "manufacturer parameter", which is only set by the manufacturer and cannot be operated by the user;

5.1 Brief table of basic function parameters

Table 5-1 Brief table of basic function parameters

Code	Name	Setting Range	Default	Alteration
F0 basic function group				
F0.01	Command source selection	0:Command channel of operation panel (LED off) 1:Terminal command channel (LED on) 2:Communication command channel (LED blinking)	0	☆
F0.02	Main frequency command selection	0:Digital setting (preset frequency F0.09, up / down modifiable, non-retentive at power failure) 1:Digital setting (preset frequency F0.09, up / down modifiable, retentive at power failure) 2:Reserved 3:Reserved 4:Panel potentiometer 5:AI 5 analog input (AI 5) 6:Multistage instruction 7:Simple PLC 8:PID 9:Communication setting Note: when F4.01-F4.07 is set to 56, 57 and 58 functions, when the terminal is valid, the multi-section frequency has the highest priority. See F8.01-F8.07 for the multi-section frequency setting.	4	★
F0.03	Auxiliary frequency command selection	Same as F0.02 (main frequency command selection)	0	★
F0.04	Frequency instruction overlay mode selection	Unit's digit:Frequency instruction selection 0:Main frequency instruction 1:Result of main and auxiliary operations (Operation relationship is determined by ten's digit) 2:Switching between main frequency instruction and auxiliary frequency instruction 3:Switching between main frequency instruction and main and auxiliary operation results 4:Switching between auxiliary frequency instruction and primary and auxiliary operations Ten's digit:Principal and auxiliary operational relations of frequency instructions 0:Master + auxiliary 1:Main - auxiliary 2:Maximum of both 3:Minimum of both	0	☆
F0.05	Selection of auxiliary frequency instruction range in overlay	0:Relative to maximum frequency 1:Relative to the main frequency instruction	0	☆

F0.06	Range of auxiliary frequency instruction in overlay	0%~150%	100%	☆
F0.07	Reserved			
F0.08	Offset frequency of auxiliary frequency source in superposition	0.00Hz ~ maximum frequency (F0.13)	0.00Hz	☆
F0.09	Preset frequency	0.00Hz ~ maximum frequency (F0.13)	50.00Hz	☆
F0.10	Digital setting frequency downtime memory selection	0:Not retentive 1:Retentive	1	☆
F0.11	Frequency instruction resolution	1:0.1Hz (maximum frequency can be adjusted to 320Hz) 2:0.01 Hz (maximum frequency can be adjusted to 3200 Hz)	2	★
F0.12	Run time frequency instruction UP/DOWN benchmark	0:Running frequency 1:Setting frequency	0	★
F0.13	Maximum frequency	50.00Hz~320Hz	50.00Hz	★
F0.14	Upper limit frequency	Lower limit frequency F0.17~maximum frequency F0.13	50.00Hz	☆
F0.15	Upper limit frequency instruction	0:F0.14 setting 1:Reserved 2:Reserved 3:Panel potentiometer 4:AI 5 setting 5:Communication given	0	★
F0.16	Upper limit frequency bias	0.00Hz ~ maximum frequency F0.13	0.00Hz	☆
F0.17	Lower limit frequency	0.00Hz ~upper limit frequency F0.14	0.00Hz	☆
F0.18	Setting frequency below lower limit frequency operation mode	0:Operating at the lower frequency limit 1:Shutdown 2:Zero speed operation (V/F mode, no output below 0.20Hz)	0	☆
F0.19	Carrier frequency	0.5kHz~16.0kHz	Model dependent	☆
F0.20	Carrier frequency adjustment with temperature	0:No 1:Yes	1	☆
F0.21	Acceleration Time 1	0.00s~650.00s(F0.23=2) 0.0s~6500.0s(F0.23=1) 0s~65000s(F0.23=0)	Model dependent	☆
F0.22	Deceleration time 1	0.00s~650.00s(F0.23=2) 0.0s~6500.0s(F0.23=1) 0s~65000s(F0.23=0)	Model dependent	☆
F0.23	Acceleration/ deceleration time unit	0:1 seconds 1:0.1 seconds 2:0.01 seconds	1	★
F0.24	Acceleration/deceleration time reference frequency	0:Maximum frequency (F0.13) 1:Set frequency 2:100Hz	0	★
F0.25	Acceleration/ deceleration mode	0:Linear acceleration and deceleration 1:S Curve acceleration and deceleration A 2:S Curve acceleration and deceleration B	0	★
F0.26	Proportion of S curve starting time	0.0%~ (100.0%-F0.27)	30.0%	★
F0.27	S curve end time ratio	0.0%~ (100.0%-F0.26)	30.0%	★
F0.28	JOG running frequency	0.00Hz~maximum frequency	6.00Hz	☆
F0.29	JOG acceleration time	0.0s~6500.0s	20.0s	☆
F0.30	JOG deceleration time	0.0s~6500.0s	20.0s	☆
F0.31	Terminal JOG priority	0:Invalid 1:Valid	1	☆
F0.32	Running direction	0:Consistent with the set direction 1:Contrary to the set direction	0	☆
F0.33	Anti-inversion control	0:Motor reversal allowed 1:Motor reversal prohibited	0	☆
F0.34	Selection of functional parameter group display	Unit' s digit:Group L display selection 0:No display 1:Display Ten' s digit:Group A display selection 0:No display 1:Display	01	☆
F0.35	Display selection of personality parameter group	Unit' s digit:User customized parametric group display selection 0:No display 1:Display Ten' s digit:User change parametric group display selection 0:No display 1:Display	00	☆
F0.36	User Password	0~65535	0	☆
F0.37	Function code modification properties	0:Modifiable 1:Not modifiable (except F0.36 and F0.37 can modify other parameters can not be modified)	0	☆
F0.38	Selection of terminal protection for power-on starter	0:No protection. When power on, the converter runs directly when the terminal is closed. 1:Protection. When the power is on, the operation terminal is closed, the frequency converter does not run, and the operation terminal needs to be disconnected and closed before it can run.	0	☆
F0.39	Undervoltage point setting	75.0%~140.0%	100.0%	☆
F0.41	STOP/RESET	0:STOP/RES key downtime is effective only in keyboard mode 1:The STOP/RES key downtime function is effective in any mode of operation.	1	☆
F0.49	Application macro instructions	0:Invalid	0	★
F0.50	Parameter initialization	0:No operation 01:Restore factory parameters, excluding motor parameters, F0.11 02:Clear record information 03:Restore all factory parameters, including motor parameters 06:Backup user' s current parameters 888:Restore user backup parameters	0	★

Group F1 first motor parameters				
F1.00	No.1 motor control mode	0:Reversed 1:Reserved 2:V/F control	2	★
F1.02	Rated power Of motor	0.1kW~1000.0kW	Model dependent	★
F1.03	Rated voltage Of motor	1V~2000V	Model dependent	★
F1.04	Rated current of motor	0.01A~655.35A (inverter power≤55kW) 0.1A~6553.5A (inverter power>55kW)	Model dependent	★
F1.05	Rated frequency of motor	0.01Hz~maximum frequency	Model dependent	★
F1.06	Rated speed of motor	1rpm~65535rpm	Model dependent	★
Group F3 V/F control parameters				
F3.00	V/F curve setting	0:Linear V/F 1:Multipoint V/F 2:Square V/F 3:1.2 power V/F 4:1.4 power V/F 6:1.6 power V/F 8:1.8 power V/F 9: Reserved 10:V/F complete separation model 11:V/F semi-separation model	0	★
F3.01	Torque lifting	0.0%: (automatic torque lifting) 0.1%~30.0%	Model dependent	☆
F3.02	Torque lifting cut-off frequency	0.00Hz~maximum frequency	50.00Hz	★
F3.03	Multi-point V/F frequency point 3	F3.05~rated frequency of motor (F1.05)	40.00Hz	★
F3.04	Multi-point V/F voltage point 3	0.0%~100.0%	80.0%	★
F3.05	Multi-point V/F frequency point 2	F3.07~F3.03	25.00Hz	★
F3.06	Multi-point V/F voltage point 2	0.0%~100.0%	50.0%	★
F3.07	Multi-point V/F frequency point 1	0.00Hz~F3.05	10.00Hz	★
F3.08	Multi-point V/F voltage point 1	0.0%~100.0%	20.0%	★
F3.09	V/F slip compensation gain	0.0%~200.0%	0.0%	☆
F3.10	V/F overexcitation gain	0~600	0	☆
F3.11	V/F oscillation suppression gain	0~100	Model dependent	☆
F3.12	Flux braking	0:Invalid 1:Valid Note:If overpressure or overcurrent occurs, please enlarge Fb.06.	0	★
F3.13	V/F separated voltage source	0:Digital setting (F3.14) 3:Panel potentiometer 4:AI5 input setting 5:Multi-reference 6:Simple PLC 7:PID 8:Communication given 9:Multi-segment V/F given (F3.03~F3.08) Note:100.0% corresponding to rated voltage of motor	0	☆
F3.14	Voltage digital setting for V/F separation	0V~rated voltage of motor	0V	☆
F3.15	Voltage acceleration time of V/F separation	0.0s~1000.0s represents the time from 0V to the rated voltage of the motor.	0.0s	☆
F3.16	Voltage deceleration time of V/F separation	0.0s~1000.0s represents the time when the rated voltage of the motor reaches 0V.	0.0s	☆
F3.17	Selection of V/F separation and shutdown mode	0:Frequency/voltage independent reduction to 0 1:Frequency decreases after voltage reduction to 0	0	☆
Group F4 digital input and output terminals function				
F4.00	Terminal command mode	0:Two-line 1 1:Two-line 2 2:Three-line 1 3:Three-line 2 4:Electronic cam two-line 3	0	★
F4.01	Functional selection of X1 terminal	0:No function 1:Forward operation (FWD)	1	★
F4.02	Functional selection of X2 terminal	2:Reverse operation (REV) 3:Three-line operation control	2	★
F4.03	Functional selection of X3 terminal	4:FJOG 5:Reverse point move (RJOG) 6:Terminal UP 7:Terminal DOWN 8:Coast to stop 9:Fault reset (RESET) 10:Operation pause 11:External fault normal open input	41	★

F4.04	Functional selection of X4 terminal	12:Multi-reference terminal 1 13:Multi-reference terminal 2 14:Multi-reference terminal 3 15:Multi-reference terminal 4 16:Acceleration/deceleration time selection terminal 1 17:Acceleration/deceleration time selection terminal 2 18:Frequency instruction switching	9	★
F4.05	Reserved	19:UP/DOWN setting zero (terminal, keyboard) 20:Run command switching terminal 1 21:Acceleration/deceleration ban 22:PID pause 23:PLC state reset 24:Swing pause 25:Counter input 26:Counter reset 27:Length count input 28:Length reduction 29:Torque control ban 32:Direct current brake immediately 33:Normally closed input for external faults 34:Frequency modification enablement 35:The direction of action of PID is reversed 36:External stop terminal 1 37:Run command switching terminal 2 38:PID integral suspension 39: Primary frequency instruction and preset frequency switching 40:Auxiliary frequency instruction and preset frequency switching 41:Forward turn point move 1, point move priority 42:Reverse point move 1, point move priority 43:PID parameter switching 44>User-defined fault 1 45>User-defined fault 2 46:Speed/torque control switching 47:Emergency stop 48:External stop terminal 2 49:Decelerated DC braking 50:The running time cleared. 51:Two-line/three-line switching 52:Reserved 53:Multistage closed-loop terminal 1 (corresponding to FA.00-FA.07) 54:Multistage closed-loop terminal 2 (corresponding to FA.00-FA.07) 55:Multistage closed-loop terminal 3 (corresponding to FA.00-FA.07) 56:Multistage frequency terminal 1 (corresponding to F8.01-F8.07) 57:Multistage frequency terminal 2 (corresponding to F8.01-F8.07) 58: Multistage frequency terminal 3 (corresponding to F8.01-F8.07)	56	★
F4.06	Functional selection of X6 terminal		6	★
F4.11	X filtering time	0.000s~1.000s	0.010s	☆
F4.12	Change rate of terminal UP/DOWN	0.001Hz/s~65.535Hz/s	1.00Hz/s	☆
F4.16	Effective mode selection of X terminal 1	0:High level effective 1: Low level effective Unit' s digit: X1 Ten' s digit: X2 Hundred' s digit: X3 Thousand' s digit: X4	00000	★
F4.17	Effective mode selection of X terminal 1	0:High level effective 1: Low level effective Unit' s digit: X6	00000	★
F4.20	Functional selection of panel potentiometer terminal as X	0~60	0	★
F4.21	Effective mode selection of AI terminal as X.	0:High level effective 1: Low level effective Hundred' s digit: Panel potentiometer	000	★
F4.30	Function selection of control board relay (TA-TC)	10:Length arrives 11:PLC cycle completion 12:Accumulated runtime arrives 13:Frequency limit 14:Torque limit 15:Ready for operation 17:Upper limit frequency arrives 18:Lower limit frequency arrives (operation related) 19:Under-voltage state output	2	☆
F4.36	RELAY1 (TA/B/C) output delay time	0.0s~3600.0s	0.0s	☆
F4.41	Y output effective state selection 1	0:Positive logic 1:Negative logic Ten' s digit:RELAY1 (TA/B/C)	00000	☆
F4.54	Frequency detection value (FDT1)	0.00Hz~maximum frequency	50.00Hz	☆
F4.55	Frequency detection delay value (FDT1)	0.0%~100.0% (FDT1 level)	5.0%	☆
F4.56	Frequency detection width	0.0%~100.0% (maximum frequency)	0.0%	☆
F4.57	Frequency detection value (FDT2)	0.00Hz~maximum frequency	50.00Hz	☆
F4.58	Frequency detection delay value (FDT2)	0.0%~100.0% (FDT2 level)	0.0%	☆
F4.59	Arbitrary arrival frequency detection value 1	0.00Hz~maximum frequency	50.00Hz	☆
F4.60	Arbitrary arrival frequency detection width 1	0.0%~100.0% (maximum frequency)	0.0%	☆

F4.61	Arbitrary arrival frequency detection value 2	0.00Hz~maximum frequency	50.00Hz	☆
F4.62	Arbitrary arrival frequency detection width 2	0.0%~100.0% (maximum frequency)	0.0%	☆
Group F5 input and output function terminal				
F5.14	Maximum input of panel potentiometer	F5.12~+10.00V	9.50V	☆
F5.15	Panel potentiometer maximum input corresponding setting	-100.0%~+100.0%	100.0%	☆
F5.16	Panel potentiometer filtering time	0.00s~10.00s	0.10s	☆
F5.17	A15 minimum input	0.00kHz~F5.19	0.05	☆
F5.18	A15 minimum input corresponding setting	-100.0%~100.0%	0.0%	☆
F5.19	A15 maximum input	F5.17~3.10kHz (3.10kHz corresponding 10.00V)	2.94kHz	☆
F5.20	A15 maximum input setting	-100.0%~100.0%	100.0%	☆
F5.21	A15 filtering time	0.00s~10.00s	0.10s	☆
Group F6 start/stop control				
F6.00	Startup mode	0:Direct start 1:Speed tracking restart 2:Preexcitation startup (AC asynchronous motor)	0	☆
F6.01	Speed tracking mode	0:Start with downtime frequency 1:Start at zero speed 2:Start with the maximum frequency	0	★
F6.02	Speed tracking	1~100	20	☆
F6.03	Startup frequency	0.00Hz~10.00Hz	0.00Hz	☆
F6.04	Startup frequency holding time	0.0s~100.0s	0.0s	★
F6.05	Startup DC braking current/preexcitation current	0%~100%	0%	★
F6.06	Start DC braking time/preexcitation time	0.0s~100.0s	0.0s	★
F6.07	Shutdown time	0:Deceleration to stop 1:Coast to stop	0	☆
F6.08	Shutdown DC braking start frequency	0.00Hz~maximum frequency	0.00Hz	☆
F6.09	Shutdown DC braking holding time	0.0s~100.0s	0.0s	☆
F6.10	Shutdown DC braking current	0%~100%	0%	☆
F6.11	Shutdown DC braking time	0.0s~100.0s	0.0s	☆
F6.12	Braking usage rate	0%~100%	100%	☆
Group F7 keyboard and display function				
F7.02	LED operation monitoring parameter display selection 1	0000 ~1111 Unit' s digit:L0.00- operating frequency 1 (Hz) Ten' s digit:L0.01 - set frequency (Hz) Hundred' s digit:L0.02 - bus voltage Thousand' s digit:L0.03 - output voltage 0:No display 1:Display	0101	☆
F7.03	LED operation monitoring parameter display selection 2	0000~1111 Unit' s digit:L0.04 - output current (A) Ten' s digit:L0.05 - output power (kw) Hundred' s digit:L0.06 - output torque (%) Thousand' s digit:L0.07-X input state 0:No display 1:Display	0001	☆
F7.04	LED operation monitoring parameter display selection 3	0000~1111 Unit' s digit:L0.08-Y output state Thousand' s digit:L0.11 - panel potentiometer voltage (V) 0:No display 1:Display	0000	☆
F7.05	LED operation monitoring parameter display selection 4	0000 ~ 1111 Unit' s digit:L0.12 - count value Ten' s digit:L0.13 - length value Hundred' s digit:L0.14 - load speed display Thousand' s digit:L0.15-PID setting 0:No display 1:Display	0100	☆
F7.06	LED operation monitoring parameter display selection 5	0000 ~ 1111 Unit' s digit:L0.16-PID feedback Ten' s digit:L0.17-PLC stage Hundred' s digit: Reserved Thousand' s digit:L0.19- operating frequency 2 (Hz) 0:No display 1:Display	0000	☆
F7.07	LED operation monitoring parameter display selection 6	0000~1111 Unit' s digit:L0.20 - remaining runtime Thousand' s digit:L0.23-panelp potentiometer precorrection voltage (V) 0:No display 1:Display	0000	☆
F7.08	LED operation monitoring parameter display selection 7	0000 ~ 1111 Unit' s digit:L0.24 - linear speed Ten' s digit:L0.25 - current power-on time (hour) Hundred' s digit:L0.26 - current runtime (min) 0:No display 1:Display	0000	☆

F7.09	LED operation monitoring parameter display selection 8	0000~1111 Unit's digit:L0.28 - communication settings Hundred's digit:L0.30 - main frequency X display (Hz) Thousand's digit:L0.31 - auxiliary frequency Y display (Hz) 0:No display 1:Display	0000	☆
F7.12	LED shutdown parameter display selection 1	0000~1111 Unit's digit:L0.01 - set frequency (Hz) Ten's digit:L0.02 - bus voltage (V) Hundred's digit:L0.07-X input state Thousand's digit:L0.08-Y output state 0: No display 1:Display	0011	☆
F7.13	LED shutdown parameter display selection 2	0000~1111 Hundred's digit:L0.11 - panel potentiometer voltage (V) Thousand's digit:L0.12 - count value 0: No display 1:Display	0000	☆
F7.14	LED shutdown Parameter display selection 3	0000~1111 Unit's digit:L0.13 - length value Ten's digit:L0.17 - PLC stage Hundred's digit:L0.14 - load speed Thousand's digit:L0.15 - PID setting 0: No display 1:Display	0000	☆
F7.15	LED shutdown parameter display selection 4	0000~1111 Ten's digit:L0.16 - PID feedback Thousand's digit:L0.18-A15(3.1kHz corresponding 10.00V) 0:No display 1:Display	0000	☆
F7.22	Load speed display coefficient	0.01~200.00	100.00%	☆
F7.23	Load speed display decimal points	0:0 decimal digit 1:1 decimal digit 2:2 decimal digit 3:3 decimal digit	0	☆
F7.24	Inverter module radiator temperature	0.0°C~100.0°C	-	●
F7.25	Rectifier module radiator temperature	0.0°C~100.0°C	-	●
F7.27	Cumulative running time	0h~65535 hours	-	●
F7.28	Cumulative power-on time	0h~65535 hours	-	●
F7.29	Product ID	-	-	●
F7.30	Software version	-	-	●
F7.31	Cumulative power consumption	0~65535 degrees	-	●
F7.32	Output power correction coefficient	0.00%~200.00%	100.00%	☆
Group F8 auxiliary functional terminal				
F8.00	Forward and reverse dead zone time	0.0s~3000.0s	0.0s	☆
F8.01	Multistage frequency 1	0.00Hz~maximum frequency	10.00Hz	☆
F8.02	Multistage frequency 2	0.00Hz~maximum frequency	15.00Hz	☆
F8.03	Multistage frequency 3	0.00Hz~maximum frequency	20.00Hz	☆
F8.04	Multistage frequency 4	0.00Hz~maximum frequency	25.00Hz	☆
F8.05	Multistage frequency 5	0.00Hz~maximum frequency	30.00Hz	☆
F8.06	Multistage frequency 6	0.00Hz~maximum frequency	35.00Hz	☆
F8.07	Multistage frequency 7	0.00Hz~maximum frequency	40.00Hz	☆
F8.16	Acceleration time 2	0.0s~6500.0s	Model dependent	☆
F8.17	Deceleration time 2	0.0s~6500.0s	Model dependent	☆
F8.18	Acceleration time 3	0.0s~6500.0s	Model dependent	☆
F8.19	Deceleration time 3	0.0s~6500.0s	Model dependent	☆
F8.20	Acceleration time 4	0.0s~6500.0s	Model dependent	☆
F8.21	Deceleration time 4	0.0s~6500.0s	Model dependent	☆
F8.23	Jump frequency 2	0.00Hz~maximum frequency	0.00Hz	☆
F8.24	Jump frequency amplitude	0.00Hz~maximum frequency	0.01Hz	☆
F8.25	Droop control	0.00Hz~10.00Hz	0.00Hz	☆
F8.26	Cooling fan control	0:Running fan 1:The fan is running all the time.	0	☆
F8.27	Set cumulative power-on arrival time	0h~65000h	0h	☆
F8.28	Set accumulated running arrival time	0h~65000h	0h	☆
F8.29	Acceleration/deceleration process jump frequency valid or not	0:Invalid 1:Valid	0	☆
F8.30	Acceleration time 1 / acceleration time 2 switch frequency points	0.00Hz~maximum frequency	0.00Hz	☆
F8.31	Deceleration time 1 / deceleration time 2 switch frequency points	0.00Hz~maximum frequency	0.00Hz	☆
F8.32	Timing function selection	0:Invalid 1:Valid	0	☆
F8.33	Timing running time	0:F8.34 setting	0	☆

	selection	1:Reversed 2:Reversed 3:AI range of panel potentiometer corresponding to F8.34		
F8.34	Timing running time	0.0Min~6500.0Min	0.0Min	☆
F8.35	Arrival time setting of this operation	0.0Min~6500.0Min	0.0Min	☆
Group F9 closed-loop PID and constant pressure water supply special parameter				
F9.00	PID given source	0:F9.01 setting 1:Reserved 2:Reserved 3:Panel potentiometer 4:AI input 5:Communication given 6:Given multistage instructions	0	☆
F9.01	PID value given	0.000~F9.04 (Mpa)	0.200	☆
F9.02	PID feedback source	0:Reserved 1:Reserved 2:Panel potentiometer 3:Reserved 4:AI 5 5:Communication given	0	☆
F9.03	PID action direction	0:Positive effect 1:Reaction	0	☆
F9.04	PID given feedback (distance pressure gauge range for water supply)	0.00~655.35 (water supply for Mpa)	1.00	☆
F9.05	Proportional gain KP1	0.0~100.0	35.0	☆
F9.06	Integral time Ti1	0.01s~10.00s	0.50s	☆
F9.07	Differential time Td1	0.000s~10.000s	0.000s	☆
F9.08	PID reverse cut-off frequency	0.00~maximum frequency	0.00Hz	☆
F9.09	PID deviation limit	0.0%~100.0%	0.0%	☆
F9.10	PID differential limitation	0.00%~100.00%	0.10%	☆
F9.11	PID given change time	0.00~650.00s	0.00s	☆
F9.12	PID feedback filtering time	0.00~60.00s	0.00s	☆
F9.13	PID output filtering time	0.00~60.00s	0.00s	☆
F9.14	PID shutdown given initial value	0:Actual PID setting 1:Equivalent to F9.21, used in conjunction with F9.11	0	☆
F9.15	Proportional gain KP2	0.0~100.0	20.0	☆
F9.16	Integral time Ti2	0.01s~10.00s	2.00s	☆
F9.17	Differential time Td2	0.000s~10.000s	0.000s	☆
F9.18	PID parameter switching conditions	0:No switching 1:Switching through X-terminal 2:Automatic switching according to deviation	0	☆
F9.19	PID parameter switching deviation 1	0.0%~F9.20	20.0%	☆
F9.20	PID parameter switching deviation 2	F9.19~100.0%	80.0%	☆
F9.21	PID initial value	0.0%~100.0%	0.0%	☆
F9.22	PID initial holding time	0.00~650.00s	0.00s	☆
F9.23	Twice output deviation positive maximum	0.00%~100.00%	1.00%	☆
F9.24	Two output deviations reverse maximum	0.00%~100.00%	1.00%	☆
F9.25	PID integral attribute	Unit's digit: Integral separation 0:Invalid 1:Valid Ten's digit: Whether to stop integral after output to limit value 0:Continue to integrate 1:Stop integral	00	☆
F9.26	PID feedback loss detection value	0.0%: Loss of feedback without judgment 0.1%~100.0%	0.0%	☆
F9.27	PID feedback loss detection time	0.0s~20.0s	0.0s	☆
F9.28	PID shutdown operation	0:Stop without operation 1:Downtime operation	0	☆
F9.36	Recovery coefficient	0.0%~100.0% (relative to the target force percentage) pressure recovery calculated by multiplying F9.36 by F9.01	75.0%	☆
F9.37	Delayed recovery time	0.0s~6500.0s	0.0s	☆
F9.38	Sleep frequency	0.00Hz~maximum frequency (Converter belongs to sleep state, LED digital tube will display SLP)	38.00 Hz	☆
F9.39	Sleep delay time	0.0s~6500.0s	0.0s	☆
F9.40	Water supply sleep tolerance	0.0%~100.0%, which is the corresponding percentage of the given pressure. See chapter VI, F9.38, F9.39 for details.	20.0%	☆
F9.41	Closed-loop PID monitoring mode function selection of keyboard UP/DOWN	In the closed-loop PID mode, this function is effective. In the non-closed-loop PID mode, this function code is invalid. 0:Keyboard frequency is set to adjust 1:PID digital setting adjustment	1	☆
Group FA multi-reference, simple PLC, swing frequency, fixed Length and counting				
FA.00	Multireference 0	-100.0%~100.0%	0.0%	☆
FA.01	Multireference 1	-100.0%~100.0%	0.0%	☆
FA.02	Multireference 2	-100.0%~100.0%	0.0%	☆
FA.03	Multireference 3	-100.0%~100.0%	0.0%	☆
FA.04	Multireference 4	-100.0%~100.0%	0.0%	☆

FA.05	Multireference 5	-100.0%~100.0%	0.0%	☆
FA.06	Multireference 6	-100.0%~100.0%	0.0%	☆
FA.07	Multireference 7	-100.0%~100.0%	0.0%	☆
FA.08	Multireference 8	-100.0%~100.0%	0.0%	☆
FA.09	Multireference 9	-100.0%~100.0%	0.0%	☆
FA.10	Multireference 10	-100.0%~100.0%	0.0%	☆
FA.11	Multireference 11	-100.0%~100.0%	0.0%	☆
FA.12	Multireference 12	-100.0%~100.0%	0.0%	☆
FA.13	Multireference 13	-100.0%~100.0%	0.0%	☆
FA.14	Multireference 14	-100.0%~100.0%	0.0%	☆
FA.15	Multireference 15	-100.0%~100.0%	0.0%	☆
FA.16	Reference 0 given mode	0:Function code FA.00 given 1:A11 2:A12 3:Panel potentiometer 4:PULSE pulse 5:PID 6:Given the preset frequency (F0.09), UP/DOWN can be modified.	0	☆
FA.17	Simple PLC running mode	0:Stop at the end of single operation 1:Keep the final value at the end of a single run 2:Continuous cycle	0	☆
FA.18	Simple PLC power-off memory selection	Unit's digit: Power-off memory selection 0:No power failure, no memory 1:Power-off memory Ten's digit: Downtime memory selection 0:No memory of downtime 1:Downtime memory	00	☆
FA.19	Simple PLC section 0 running time	0.0s (h) ~6553.5s (h)	0.0s (h)	☆
FA.20	Simple PLC selection of acceleration and deceleration time in section 0	0~3	0	☆
FA.21	Simple PLC section 1 running time	0.0s (h) ~6553.5s (h)	0.0s (h)	☆
FA.22	Simple PLC selection of acceleration and deceleration time in section 1	0~3	0	☆
FA.23	Simple PLC section 2 running time	0.0s (h) ~6553.5s (h)	0.0s (h)	☆
FA.24	Simple PLC selection of acceleration and deceleration time in section 2	0~3	0	☆
FA.25	Simple PLC section 3 running time	0.0s (h) ~6553.5s (h)	0.0s (h)	☆
FA.26	Simple PLC selection of acceleration and deceleration time in section 3	0~3	0	☆
FA.27	Simple PLC section 4 running time	0.0s (h) ~6553.5s (h)	0.0s (h)	☆
FA.28	Simple PLC selection of acceleration and deceleration time in section 4	0~3	0	☆
FA.29	Simple PLC Section 5 running time	0.0s (h) ~6553.5s (h)	0.0s (h)	☆
FA.30	Simple PLC selection of acceleration and deceleration time in section 5	0~3	0	☆
FA.31	Simple PLC section 6 running time	0.0s (h) ~6553.5s (h)	0.0s (h)	☆
FA.32	Simple PLC selection of acceleration and deceleration time in section 6	0~3	0	☆
FA.33	Simple PLC Section 7 running time	0.0s (h) ~6553.5s (h)	0.0s (h)	☆
FA.34	Simple PLC selection of acceleration and deceleration time in section 7	0~3	0	☆
FA.35	Simple PLC section 8 running time	0.0s (h) ~6553.5s (h)	0.0s (h)	☆
FA.36	Simple PLC selection of acceleration and deceleration time in section 8	0~3	0	☆
FA.37	Simple PLC Section 9 running time	0.0s (h) ~6553.5s (h)	0.0s (h)	☆
FA.38	Simple PLC selection of acceleration and deceleration time in section 9	0~3	0	☆
FA.39	Simple PLC section 10 running time	0.0s (h) ~6553.5s (h)	0.0s (h)	☆
FA.40	Simple PLC selection of acceleration and deceleration time in section 10	0~3	0	☆
FA.41	Simple PLC section 11 running time	0.0s (h) ~6553.5s (h)	0.0s (h)	☆

FA. 42	Simple PLC selection of acceleration and deceleration time in section 11	0~3	0	☆
FA. 43	Simple PLC section 12 running time	0.0s (h) ~6553.5s (h)	0.0s (h)	☆
FA. 44	Simple PLC selection of acceleration and deceleration time in section 12	0~3	0	☆
FA. 45	Simple PLC section 13 running time	0.0s (h) ~6553.5s (h)	0.0s (h)	☆
FA. 46	Simple PLC selection of acceleration and deceleration time in section 13	0~3	0	☆
FA. 47	Simple PLC section 14 running time	0.0s (h) ~6553.5s (h)	0.0s (h)	☆
FA. 48	Simple PLC selection of acceleration and deceleration time in section 14	0~3	0	☆
FA. 49	Simple PLC section 15 running time	0.0s (h) ~6553.5s (h)	0.0s (h)	☆
FA. 50	Simple PLC selection of acceleration and deceleration time in section 15	0~3	0	☆
FA. 51	Simple PLC running time unit	0:s (second) 1:h (hour)	0	☆
Group Fb fault and protection				
Fb. 00	Motor overload protection selection	0:Prohibition 1:Permission	1	☆
Fb. 01	Motor overload protection gain	0.20~10.00	1.00	☆
Fb. 02	Motor overload warning coefficient	50%~100%	80%	☆
Fb. 03	Overvoltage stall gain	0~100	0	☆
Fb. 04	Overvoltage stall Protection voltage/energy consumption braking initial voltage	120%~150%	130%	☆
Fb. 05	Overflow stall gain	0~100	20	☆
Fb. 06	Overflow stall protection current	100%~200%	150%	☆
Fb. 07	Power-on short circuit protection to ground selection	0:Invalid 1:Valid	1	☆
Fb. 08	Fault automatic reset number	0~20	0	☆
Fb. 09	During fault automatic reset, Y action selection	0:No action 1:Action	0	☆
Fb. 10	Fault automatic reset interval	0.1s~100.0s	1.0s	☆
Fb. 11	Input phase shortage and input line fault protection selection	Unit' s digit:Selection of input phase shortage protection Ten' s digit:Selection of input line fault protection 0:Prohibition 1:Permission	11	☆
Fb. 12	Selection of output shortage protection	0:Prohibition 1:Permission	1	☆
Group FC fault recording group				
FC. 00	Previous (the latest) fault type	Same as FC. 03	—	●
FC. 02	The first three fault type	Same as FC. 03	—	●
FC. 03	The first four fault type	0:No fault 2:Accelerated overcurrent 3:Deceleration overcurrent 4:Constant speed overcurrent 5:Accelerated overvoltage 6:Deceleration overvoltage 7:Constant speed overvoltage	—	●
FC. 04	The first five fault type	8:Control power supply overvoltage (Constant speed medium overvoltage) 9:Undervoltage 10:Converter overload 11:Motor overload 12:Input phase shortage 13:Output phase shortage 14:Module overheating 15:External Fault 16:Communication fault	—	●
FC. 05	The first six fault type	18:Current detection fault 21:Parametric read-write exception 22:Frequency converter hardware fault 23:Short circuit between motor and ground 27:User-defined fault 1 28:User-defined fault 2 29:Power-on time arrives 30:Download 31:Loss of PID feedback at running time	—	●
FC. 06	Previous (the latest) fault frequency	—	—	●
FC. 07	Previous (the latest) fault current	—	—	●
FC. 08	Previous (the latest) fault bus voltage	—	—	●

FC.09	Previous (the latest) fault input terminal status	—	—	●
FC.10	Previous (the latest) fault output terminal status	—	—	●
FC.11	Previous (the latest) fault converter status	—	—	●
FC.12	Previous (the latest) fault power-on time	—	—	●
FC.13	Previous (the latest) fault running time	—	—	●
FC.14	Previous (the latest) fault radiator temperature of converter module	—	—	●
FC.15	Previous (the latest) fault set frequency			
FC.16	The first and second fault frequency	—	—	●
FC.17	The first and second fault current	—	—	●
FC.18	The first and second fault bus voltage	—	—	●
FC.19	The first and second fault input terminal status	—	—	●
FC.20	The first and second fault output terminal status	—	—	●
FC.21	The first and second fault converter status	—	—	●
FC.22	The first and second fault power-on time	—	—	●
FC.23	The first and second fault running time	—	—	●
FC.24	The first and second fault converter radiator temperature	—	—	●
FC.25	The first and second fault set frequency	—	—	●
FC.26	The first three fault frequency	—	—	●
FC.27	The first three fault current	—	—	●
FC.28	The first three fault bus voltage	—	—	●
FC.29	The first three faults input terminal status	—	—	●
FC.30	The first three fault output terminal status	—	—	●
FC.31	The first three fault converter status	—	—	●
FC.32	The first three fault power-on time	—	—	●
FC.33	The first three fault running time	—	—	●
FC.34	The first three fault converter radiator temperature	—	—	●
FC.35	The first three fault set frequency	—	—	●

Group Fd communication parameters

Fd.00	Communication baud rate	Unit' s digit:MODBUS 0:300BPS 1:600BPS 2:1200BPS 3:2400BPS 4:4800BPS 5:9600BPS 6:19200BPS 7:38400BPS 8:57600BPS 9:115200BPS	6005	☆
Fd.01	MODBUS data format	0:No check (8-N-2) 1:Dual check (8-E-1) 2:Odd check (8-0-1) 3:No check (8-N-1) (MODBUS valid)	0	☆
Fd.02	Local address	0:Broadcast address 1~247 (MODBUS, profibus, CANlink valid)	1	☆
Fd.03	MODBUS response delay	0ms~20ms (MODBUS valid)	2	☆
Fd.04	Serial Communication overtime	0.0 (invalid) , 0.1s~60.0s (MODBUS, Profibus, CANopen valid)	0.0	☆
Fd.06	Communication read current resolution	0:0.01A 1:0.1A	0	☆

5.2 Summary of Monitoring Parameters

Function Code	Name	Minimum Unit	Communication Address
Group L0 basic monitoring parameters			
L0.00	Running frequency (Hz)	0.01Hz	7000H
L0.01	Set frequency (Hz)	0.01Hz	7001H
L0.02	Bus voltage (V)	0.1V	7002H

L0.03	Output voltage (V)	1V	7003H
L0.04	Output current (A)	0.01A	7004H
L0.05	Output power (kW)	0.1kW	7005H
L0.06	Output torque (%)	0.1%	7006H
L0.07	X input status	1	7007H
L0.08	Y output status	1	7008H
L0.11	Panel potentiometer voltage (V)	0.01V	700BH
L0.12	Counting value	1	700CH
L0.13	Length value	1	700DH
L0.14	Load speed display	1	700EH
L0.15	PID set	0.01	700FH
L0.16	PID feedback	0.01	7010H
L0.18	A15 input (Hz)	0.01kHz (3.1kHz corresponding to 10.00V)	7012H

6) Routine Repair and Maintenance

Fault Name	Display	Possible Causes	Solutions
Acceleration overcurrent	E002	<ol style="list-style-type: none"> 1. Grounded or short circuit of converter output circuit. 2. The control mode is vector without parameter identification. 3. Acceleration time is too short. 4. Inappropriate manual torque lifting or V/F curve. 5. Low voltage. 6. Start the rotating motor. 7. Sudden load during acceleration. 8. Converter selection is too small. 	<ol style="list-style-type: none"> 1. Eliminating peripheral fault. 2. Identification of motor parameters. 3. Increase the acceleration time. 4. Adjusting manual lifting torque or V/F curve. 5. Adjust the voltage to normal range. 6. Select speed tracking start or restart after the machine stops. 7. Cancel sudden load. 8. Choosing converter with higher power level.
Deceleration overcurrent	E003	<ol style="list-style-type: none"> 1. Grounded or short circuit of converter output circuit. 2. The control mode is vector without parameter identification. 3. The deceleration time is too short. 4. Low voltage. 5. Sudden load during deceleration. 6. No brake unit and brake resistance. 	<ol style="list-style-type: none"> 1. Eliminating peripheral fault. 2. Identification of motor parameters. 3. Increase deceleration time. 4. Adjust voltage to normal range. 5. Cancel sudden load. 6. Installation of brake unit and resistor.
Constant speed overcurrent	E004	<ol style="list-style-type: none"> 1. Grounded or short circuit of converter output circuit. 2. The control mode is vector without parameter identification. 3. Low voltage. 4. Whether there is sudden load in operation. 5. Converter selection is too small 	<ol style="list-style-type: none"> 1. Eliminating peripheral fault. 2. Identification of motor parameters. 3. Increase the voltage to normal range. 4. Cancel sudden load. 5. Choosing converter with higher power level.
Acceleration overvoltage	E005	<ol style="list-style-type: none"> 1. High input voltage. 2. Existing external force driving motor operation in acceleration process. 3. Acceleration time is too short. 4. No brake unit and brake resistance. 	<ol style="list-style-type: none"> 1. Adjust the voltage to normal range. 2. Cancel additional power or install brake resistance. 3. Increase the acceleration time. 4. Installing brake unit and resistor.
Deceleration overvoltage	E006	<ol style="list-style-type: none"> 1. High input voltage. 2. Existing external force driving motor operation in deceleration process. 3. Too short deceleration time. 4. Brake unit and brake resistance. 	<ol style="list-style-type: none"> 1. Adjust the voltage to normal range. 2. Cancel additional power or install brake resistance. 3. Increase deceleration time. 4. Installing brake unit and resistor.
Constant speed overvoltage	E007	<ol style="list-style-type: none"> 1. High input voltage. 2. Existing external force driving motor run in running process. 	<ol style="list-style-type: none"> 1. Adjust the voltage to normal range. 2. Cancel additional power or install brake resistance.
Control source fault	E008	<ol style="list-style-type: none"> 1. The input voltage is not within the range specified in the code. 	<ol style="list-style-type: none"> 1. Adjust the voltage to the specification requirements.
Under voltage fault	E009	<ol style="list-style-type: none"> 1. Instantaneous blackout. 2. Converter input voltage is not within the scope of specifications. 3. Abnormal bus voltage 4. Abnormal rectifier bridge and buffer resistance. 5. Abnormal driving plate. 6. Abnormal control board 	<ol style="list-style-type: none"> 1. Reset fault. 2. Adjust voltage to normal range. 3. Seeking technical support.
Converter overload	E010	<ol style="list-style-type: none"> 1. Whether the load is too large or the motor is blocked . 2. Converter selection is too small 	<ol style="list-style-type: none"> 1. Load reduction and inspection of motor and machinery. 2. Choosing a frequency inverter with higher power level.
Motor overload	E011	<ol style="list-style-type: none"> 1. Whether the setting of motor protection parameter Fb.01 appropriate or not . 2. Whether the load is too large or the motor is blocked. 3. Converter selection is too small 	<ol style="list-style-type: none"> 1. Setting this parameter correctly. 2. Load reduction and inspection of motor and machinery. 3. Choosing converter with higher power level.
Input phase shortage	E012	<ol style="list-style-type: none"> 1. Abnormal three-phase input power supply. 2. Drive board abnormality. 3. Abnormal lightning protection plate. 4. Abnormal main control board 	<ol style="list-style-type: none"> 1. Check and eliminate problems in peripheral cable. 2. Seeking technical support
Output phase shortage	E013	<ol style="list-style-type: none"> 1. The lead from the frequency converter to the motor is abnormal. 2. Three-phase output unbalance of frequency converter during motor operation. 3. Drive board abnormality. 4. Module exception. 	<ol style="list-style-type: none"> 1. Eliminating peripheral fault 2. Check whether the three-phase winding of the motor normal or not and troubleshooting. 3. Seeking technical support

Module over heating	E014	1.Excessive ambient temperature. 2.Air duct blockage. 3.Fan damage. 4.Module thermistor damage. 5.Converter module damage.	1.Reducing ambient temperature. 2.Clean up the air duct. 3.Replacement of fans. 4.Replacement of thermistor. 5.Replacement of inverter module.
External equipment fault	E015	1. Input signal of multi-function terminal X external fault. 2. Input signal of virtual IO function external fault.	1. Reset operation.
Communication fault	E016	1.The upper computer is not working properly. 2.Abnormal communication cable 3.Correct setting of communication parameters group Fd .	1. Check PC cable. 2. Check the communication connection. 3. Correct setting of communication parameters.
Input line fault	E017	1. L, N or R, S, T input line problem. 2. Electric shock in power grid.	1. Check the input power line. 2. Put Fb.11 = 00.
Current detection fault	E018	1. Check hall device abnormality. 2. Drive board abnormality.	1. Replacement of hall devices. 2. Replacement of drive plate.
EEPROM reading and writing fault	E021	1、EEPROM chip damage.	1.Replacement of master control board.
Frequency converter hardware fault	E022	1.Existence of overpressure. 2.Existence of overcurrent.	1.Dealing with overvoltage fault. 2. Dealing with overcurrent fault.
Grounded short circuit fault	E023	1.Short circuit of motor to ground.	1.Replacement of cable or motor.
User-defined fault 1	E027	1. Input user-defined fault 1 signal through multi-function terminal X. 3. Input user-defined fault 1 signal through the virtual IO function	1. Reset operation.
User-defined fault 2	E028	1. Input user-defined fault 2 signal through multi-function terminal X. 2. Input user-defined fault 2 signal through virtual IO function	1. Reset operation.
Accumulated power-on time fault	E029	1. Accumulated power-on time to the setting value.	1. Clearing record information with parameter initialization function.
Download fault	E030	1. The operating current of the converter is less than Fb. 31.	1. Verify whether the load is detached or whether the parameters of Fb. 31 and Fb. 32 meet the actual operating conditions.
Runtime PID feedback loss fault	E031	1. PID feedback is less than F9. 26.	1. Check the PID feedback signal or set F9. 26 as a suitable value.
Constant pressure water supply water shortage fault	E069	1. Water sources shortage.	1. Check up water sources.
In sleeping	SLP	1. Constant pressure water supply sleep state.	1. Normal phenomena, If not, please set sleeping-related parameters.
Password protection	-----	1. Converter is set with user password	1. Enter the correct user password or contact the agent.

Among the 60 warning messages, E022 is the signal of hardware over-current or over-voltage. In most cases, hardware over-voltage fault causes E022 alarm.

7) Others

The product keeps improving, parameters and contents are subject to change without notice.

If you have any questions, please seek for agents and distributors.