SUMO
More Value for your Motor

User's Manual

SU200 Series
Frequency Inverter



SUMO DRIVE CO.,LTD

Catalogue

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Chapter1 Safety Precautions

1.1 Contents of this chapter

Before handling, installation, operation and maintenance, please read the operation manual carefully and follow all safety precautions in the manual. If ignored, it may cause personal injury or equipment damage, or even death.

Our company will not be responsible for the injury and equipment damage caused by your company or your customers' failure to comply with the safety precautions in the operating instructions.

1.2 Warning signs

Warnings are used to warn of situations that may cause serious personal injury or death or equipment damage, and give advice to avoid danger. The following warning signs are used in this manual:

Identification	Name	Explain	Abbreviation
 Danger	Danger	Failure to comply with the relevant requirements may cause serious personal injury or even death.	
 Warning	Warning	Failure to comply with the relevant requirements may result in personal injury or equipment damage.	
 Prohibit	Electrostatic Sensitivity	Failure to comply with the relevant requirements may cause damage to the PCBA board.	
 High Temperature	Pay Attention To High Temperature	The inverter base has high temperature, and it is forbidden to touch.	
Be Careful	Be Careful	The steps taken to ensure correct operation.	Be Careful

1.3 Safety guidelines



- Only qualified electricians are allowed to operate
- Do not carry out any wiring and inspection or changing components when the power supply is applied. Ensure all input power supply is disconnected before wiring and checking and always wait for at least the time designated on the or until the DC bus voltage is less than 36V.Below is the table of the waiting time:

Model	Minimum Waiting Time
380V 0R7G~110G/132P	5 minutes
380V 132G/160P~315G/355P	15 minutes
380V 355G/400P and higher	25 minutes



- D unauthorized; otherwise fire, electric shock or other injury may occur.



- The base of the heat sink may become hot during running. Do not touch to avoid hurt.



- The electrical parts and components inside the are e lectrostatic. Take measurements to avoid electrostatic discharge during relevant operation.

1.3.1 Delivery and installation



- ✧ Please install the on fire-retardant material and keep the away from combustible materials.
- ✧ Connect the braking optional parts (braking resistors, braking units or feedback units) according to the wiring diagram.
- ✧ Do not operate on the if there is any damage or components loss
- ✧ Do not touch the with wet items or body, otherwise electric shock mayoccur.

1.3.2 Commission and running



- ✧ Disconnect all power supplies applied to the before the terminal wiringand wait for at least the designated time after disconnecting the power supply.
- ✧ High voltage is present inside the during running. Do not carry out anyoperation except for the keypad setting.
- ✧ The may start uE by itself when E01.21=1. Do not get close to theand motor.
- ✧ Cannot be used as"Emergency-stop device".
- ✧ Cannot be used to break the motor suddenly. A mechanical brakingdevice should be provided.

1.3.3 Maintenance and replacement of components



- ✧ Only qualified electricians are allowed to perform the maintenance,inspection, and components replacement.
- ✧ Disconnect all power supplies to the before the terminal wiring. Wait forat least the time designated on the after disconnection.
- ✧ Take measures to avoid screws, cables and other conductive materials to fall in to the during maintenance and component replacement.

Note:

✧Please select proper torque to tighten screws.

✧Keep parts and components away from combustible materials during maintenanceand component replacement.

✧Do not carry out any insulation voltage-endurance test and do not measure thecontrol circuit of by megameter.

✧Carry out a sound anti-electrostatic protection and its internal components duringmaintenance and component replacement.

1.3.4 Scrap treatment



- ✧ There are heavy metalsDeal with it as industrial waste.

Chapter 2 Product Overview

2.1 Product specifications

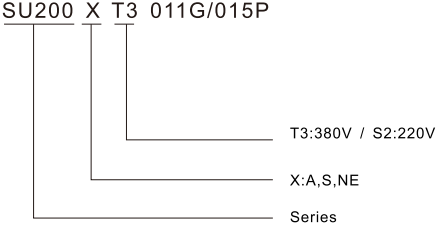
Function description		Specifications
Power input	Input voltage (V)	AC 3PH 220V(-15%)~240V(+10%) default 220V AC 3PH 380V(-15%)~440V(+10%) default 380V AC 3PH 520V(-15%)~690V(+10%) default 660V
	Input current (A)	Please refer to "Product Rating"
	Input frequency (Hz)	50Hz or 60Hz, allowable range 47~63Hz
Power Output	Output voltage (V)	0~input voltage
	Output current (A)	Please refer to "Product Rating"
	Output power (kW)	Please refer to "Product Rating"
	Output frequency (Hz)	0~400Hz
Technical control performance	control mode	Space voltage vector control mode, without PG vector control mode
	Motor type	Asynchronous motor,
	Speed regulation ratio	Asynchronous motor 1: 100 (SVC)
	Speed control accuracy	+0.2% (without PG vector control)
	Velocity fluctuation	± 0.3% (without PG vector control)
	Torque response	<20ms (without PG vector control)
	Torque control accuracy	10% (without PG vector control)
	Starting torque	Asynchronous motor: 0.5Hz/150% (without PG vector control)
	Overload capacity	150% rated current for 1 minute, 180% rated current for 10 seconds, and 200% rated current for 1 second (G type machine); 120% rated current for 1 minute, 150% rated current for 10 seconds, 180% rated current for 1 second (P type machine);
Operation control performance	Frequency setting mode	Digital setting, analog setting, pulse frequency setting, multi speed operation setting, simple PLC setting, PID setting, MODBUS communication setting. Realize the combination of settings and the switching of settings channels.
	Automatic voltage adjustment function	When the grid voltage changes, it can automatically keep the output voltage constant
	Fault protection function	More than 30 kinds of fault protection functions: over-current, over-voltage, undervoltage, over temperature, phase loss, overload and other protection functions
Peripheral interface	Terminal analog input resolution	Not more than 20mV
	Terminal switching input resolution	Not more than 2ms
	Analog input	One (AI1) 0~10V, one (AI2) 0~10V/0~20mA, one (AI3) - 10~10V
	Analog Output	2-way (AO1, AO2) 0~10V/0~20mA
	Digital input	8-way common input, maximum frequency 1kHz, internal impedance: 3.3kΩ;
		One high-speed input, maximum frequency 50kHz
	Digital output	One channel of high-speed pulse output, with the maximum frequency of 50kHz;

Function description		Specifications
		1 circuit DO terminal open collector output
	Relay output	Two programmable relay outputs RO1A common terminal, RO1B normally closed, RO1C normally open RO2A common terminal, RO2B normally closed, RO2C normally open Contact capacity: 3A/AC250V, 1A/DC30v
Other	Installation method	Supports wall mounted, floor mounted and flange mounted installation
	Operating ambient temperature	When the ambient temperature exceeds 40℃, the rated output current will decrease by 1% every time the temperature increases by 1 ℃.
	Degree of protection	IP20
	class of pollution	Level 2
	Cooling mode	Forced air cooling
	Brake Unit	037G/045P and below models are built-in, and other optional \ external ones
	EMC filter	380V series products can meet the requirements of EC61800-3 C3 Optional external filter: meet IEC61800-3C2 level requirements

Note: 0.75kW-4kW frequency converter is standard without AI3, AO2, HDO, S6~S8 terminals and RO2 group relays. Please consult our company if necessary

2.2 Product model description

The type designation contains information . The user can find the type designation on the type designation label attached or the simple nameplate.



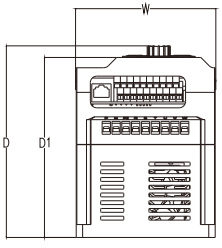
2.3 Product rating

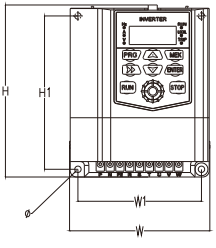
VFD Model	Constant torque			Variable torque		
	Output power (kW)	Input current (A)	Output current (A)	Output power (kW)	Input current (A)	Output current (A)
SU200xT3 1R5G	0.75	3.4	2.5	/	/	/
SU200xT3 1R5G	1.5	5.0	3.7	/	/	/
SU200xT3 2R2G	2.2	5.8	5	/	/	/
SU200xT3 004G/5R5P	4	13.5	9.5	5.5	19.5	14
SU200xT3 5R5G/7R5P	5.5	19.5	14	7.5	25	18.5
SU200xT3 7R5G/011P	7.5	25	18.5	11	32	25
SU200xT3 011G/015P	11	32	25	15	40	32
SU200xT3 015G/018P	15	40	32	18.5	47	38
SU200xT3 018G/022P	18.5	47	38	22	56	45
SU200xT3 022G/030P	22	56	45	30	70	60
SU200xT3 030G/037P	30	70	60	37	80	75
SU200xT3 037G/045P	37	80	75	45	94	92
SU200xT3 045G/055P	45	94	92	55	128	115
SU200xT3 055G/075P	55	128	115	75	160	150
SU200xT3 075G/090P	75	160	150	90	190	180
SU200xT3 090G/110P	90	190	180	110	225	215
SU200xT3 110G/132P	110	225	215	132	265	260
SU200xT3 132G/160P	132	265	260	160	310	305
SU200xT3 160G/185P	160	310	305	185	345	340
SU200xT3 185G/200P	185	345	340	200	385	380
SU200xT3 200G/220P	200	385	380	220	430	425
SU200xT3 220G/250P	220	430	425	250	485	480
SU200xT3 250G/280P	250	485	480	280	545	530
SU200xT3 280G/315P	280	545	530	315	610	600
SU200xT3 315G/355P	315	610	600	355	625	650
SU200xT3 355G/400P	355	625	650	400	715	720
SU200xT3 400G	400	715	720	/	/	/
SU200xT3 450G	450	840	820	/	/	/
SU200xT3 500G	500	890	860	/	/	/

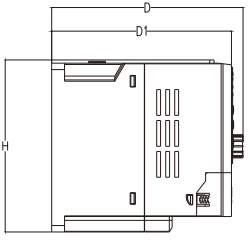
Chapter 3 Installation Guidance

This chapter gives the dimensional drawing of the frequency converter.
The unit in the dimension drawing is mm

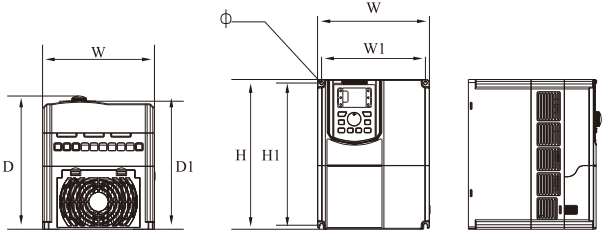
Dimension drawing of product installation hole position





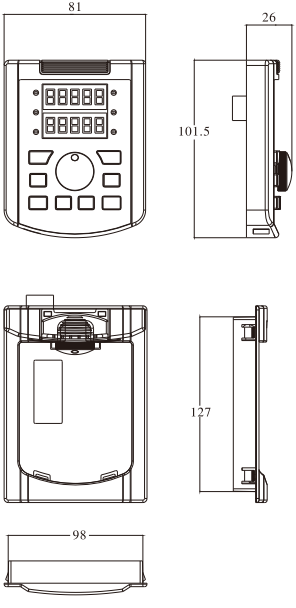


VFD Model	Boundary and installation dimensions (mm)						
	W	W1	H	H1	D	D1	Φd
SU200NE S2-0R75G	109	96	134	119	149	140	5
SU200NE S2-1RSG							
SU200NE S2-2R2G							
SU200NE T3-0R75G							
SU200NE T3-1R5G							
SU200NE T3-2R2G							
SU200NE T3-004G							



VFD Model	Boundary and installation dimensions (mm)						
	W	W1	H	H1	D	D1	Φd
SU200A T3-5R5G	180	167	240	228	211	205	5.5
SU200A T3-7R5G							
SU200A T3-011G							
SU200A T3-015G	225	200	354	330	211	205	6.2
SU200A T3-18R5G							
SU200A T3-022G							
SU200A T3-030G	240	165	450	433	236	230	7
SU200A T3-037G							
SU200S T3-5R5G	208	168	308	291	218	212	8
SU200S T3-7R5G							
SU200S T3-011G							
SU200S T3-015G	270	230	437	419.5	220	214	8
SU200S T3-18R5G							
SU200S T3-022G							
SU200S T3-030G	264	224	437	419.5	251	245	8
SU200S T3-037G							

Outline and installation opening dimensions of external keyboard (keyboard bracket)



Outline and installation opening dimensions of external keyboard (keyboard bracket) of nixie tube

3.1 Standard wiring diagram

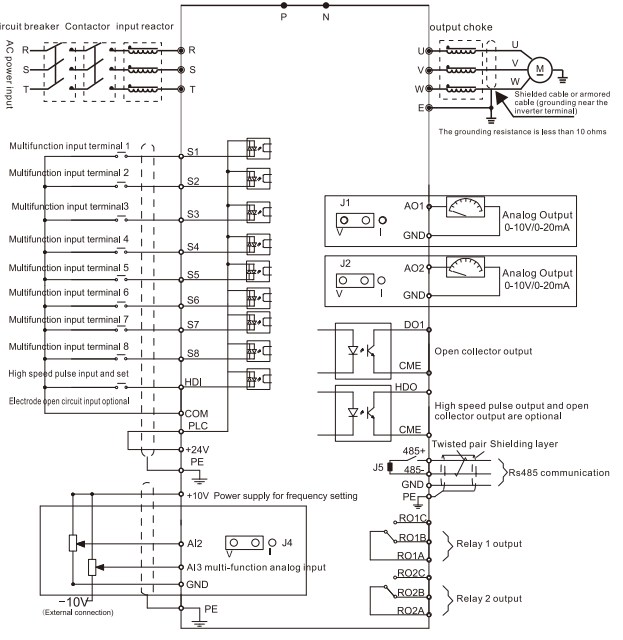


Figure 3.1 Standard Wiring Diagram

Note: If the frequency converter needs external braking resistor, braking unit and DC reactor, please consult our company for details Division.

3.2 The function description of the main circuit terminal is as follows:

Terminal symbol	Terminal na me and function description
P、N	DC power input terminal
PE	Grounding terminal
R、S、T	Three-phase AC input terminal
U、V、W	Three-phase AC output terminal

3.3 Schematic diagram of control terminal

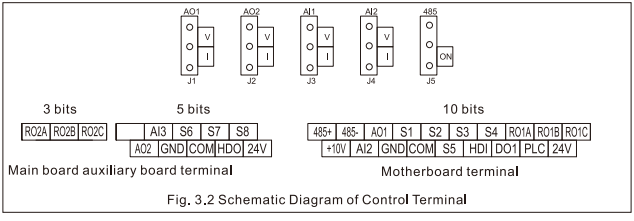


Fig. 3.2 Schematic Diagram of Control Terminal

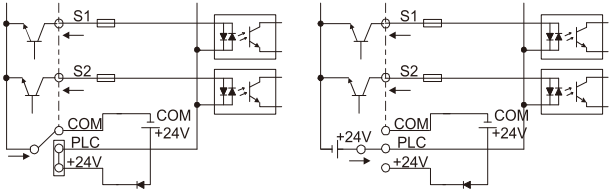
Note: 1. The idle terminals on the control terminals are reserved terminals and cannot be used.
2. 0.75k W-4kW frequency converter is equipped with standard terminal without auxiliary board. Please consult our company if necessary.

Terminal name	Explain
HDO	1. Switch capacity: 50mA/30V 2. Output frequency range: 0~50kHz
COM	+24V common terminal
CME	Common terminal of open collector output
DO1	1. Switch capacity: 50mA/30v 2. Output frequency range: 0~1kHz
485+	485 communication port, 485 differential signal port and standard 485 communication interface shall use twisted pair or shielded wire.
485-	
+10V	+10V power supply provided by the machine.
AI2	1. Input range: AI1 voltage 0-10V, current 0-20mA are optional and switched through jumper J3; AI2 voltage and current can be 0~10V/0~20mA; AI2 switches through jumper J4; AI3: - 10V~+10V voltage; 2. Input impedance: 20kΩ for voltage input and 500kΩ for current input. 3. Resolution: when 10V corresponds to 50Hz, the minimum resolution is 5mV. 4. The error is ± 1% at 25 ℃.
AI3	

<table>
<tr><th>Terminal name</th><th colspan="2">Explain</th></tr>
<tr><td>GND</td><td colspan="2">+10V reference zero potential.</td></tr>
<tr><td>AO1</td><td colspan="2" rowspan="2">1. Output range: 0~10V voltage or 0~20mA current; AO1 switches through jumper J1, and AO2 switches through jumper J2;
2. Error ± 1%, 25 ℃</td></tr>
<tr><td>AO2</td></tr>
<tr><td>PE</td><td colspan="2">Grounding terminal</td></tr>
<tr><td>PLC</td><td colspan="2">The input switching power supply is supplied from the outside to the inside.
Voltage range: 12~30V.</td></tr>
<tr><td>24V</td><td colspan="2">Frequency converter provides power for users, with maximum output current of 200mA</td></tr>
<tr><td>COM</td><td colspan="2">+24V common terminal.</td></tr>
<tr><td>S1</td><td>Switch input 1</td><td rowspan="8">1. Internal impedance: 3.3kΩ
2. 12~30V voltage input acceptable
3. This terminal is a two-way input terminal, which supports both NPN and PNP connection
4. Maximum input frequency: 1kHz
5. All are programmable digital input terminals, and users can set terminal functions through function codes</td></tr>
<tr><td>S2</td><td>Switch input 2</td></tr>
<tr><td>S3</td><td>Switch input 3</td></tr>
<tr><td>S4</td><td>Switch input 4</td></tr>
<tr><td>S5</td><td>Switch input 5</td></tr>
<tr><td>S6</td><td>Switch input 6</td></tr>
<tr><td>S7</td><td>Switch input 7</td></tr>
<tr><td>S8</td><td>Switch input 8</td></tr>
<tr><td>HDI</td><td colspan="2">In addition to S1~S8 functions, it can also be used as high-frequency pulse input channel.
Maximum input frequency: 50kHz</td></tr>
<tr><td>RO1A</td><td colspan="2" rowspan="3">Ro1 relay output, RO1C normally open, RO1B normally closed, RO1A common terminal
Contact capacity: 3A/AC250V, 1A/DC30v</td></tr>
<tr><td>RO1B</td></tr>
<tr><td>RO1C</td></tr>
<tr><td>RO2A</td><td colspan="2" rowspan="3">Ro2 relay output, RO2C normally open, RO2B normally closed, RO2A common terminal
Contact capacity: 3A/AC250V, 1A/DC30v</td></tr>
<tr><td>RO2B</td></tr>
<tr><td>RO2C</td></tr>
</table>

3.4 Input/output signal connection diagram

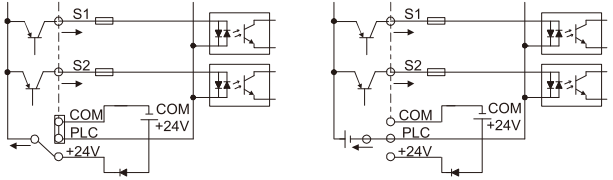
Please set the NPN mode/PNP mode and the selection of internal/external power supply with the U-shaped short connector. It is set to NPN internal mode at the factory. When the input signal comes from NPN transistor, please set the U-shaped short connector between+24V and PLC according to the power supply used.



Internal power supply (NPN mode) External power supply (NPN mode)

Figure 3.4 Schematic Diagram of NPN Mode

When the input signal comes from the PNP transistor, please set the U-shaped short connector as shown in the figure according to the power used.



Internal power supply (PNP mode) External power supply (PNP mode)

Figure 3.4.1 Schematic Diagram of PNP Mode

Chapter 4 Keyboard Operation Instructions

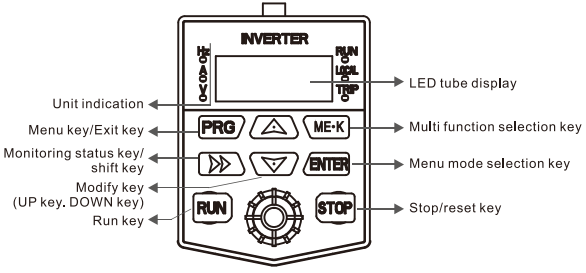
4.1 Contents of this chapter

This chapter describes the operation of keyboard keys, indicators and displays; It also describes how to use the keyboard to view and modify the function code settings.

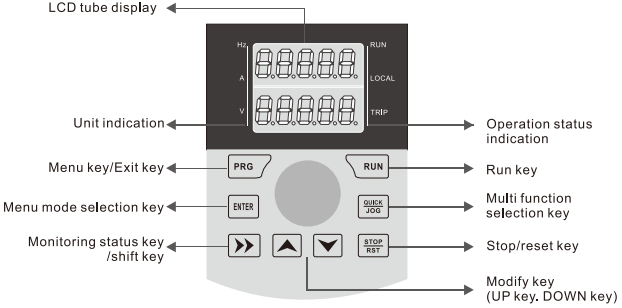
4.2 Keyboard introduction

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 and stop),

Its appearance and functions are shown in the figure below:



Schematic Diagram of 0.75KW-4KW Frequency Converter Operation Panel



Schematic diagram of operation panel of frequency converter above 4KW

1) Function indicator description:

RUN: When the light is off, it means that the inverter is in shutdown state; when the light is on, it means that the inverter is in operation state.

LOCAL: keyboard operation, terminal operation and remote operation (communication control) indicators. The light is off, indicating the keyboard operation control status, and the light is on It indicates the terminal operation control status, and the flashing light indicates the remote operation control status.

DIR: forward and reverse rotation indicator light, when it is on, it indicates that it is in forward rotation state.

TRIP: tuning/torque control/fault indicator. Light on indicates torque control mode, light flashing slowly indicates tuning state, light flashing quickly indicates Indicates that it is in fault state.

2) Unit indicator:

Hz: frequency unit;

A: Current unit

5: Voltage unit

3) Digital display area:

5-digit LED display, which can display the set frequency, output frequency, various monitoring data, alarm code, etc.

4.3 Keyboard Menu

Key	Name	Function
PRG/ESC or PRG	Programming key	Entering or exiting the primary menu
DATA/ENT or ENTER	Confirm key	Step by step to enter the menu screen and confirm the setting parameters
△	Incremental key	Increment of data or function code
▽	Decrement key	Decrement of data or function code
▷▷	Shift key	Under the shutdown display interface and operation display interface, display parameters can be selected circularly; When modifying a parameter, you can select the modification bit of the parameter.
RUN	Run key	In keyboard operation mode, it is used to run operations.
STOP/RESET or STOP	Stop/Reset	In the running state, press this key to stop the running operation; In case of fault alarm, it can be used for reset operation. The characteristics of this key are restricted by function code EO7.04.
ME.K	Multi function selection key	Function switching selection according to EO7.02

Chapter 5 List of Functional Parameters

5.1 Contents of this chapter

This chapter only provides the function summary table. Please consult our company for detailed function description.

5.2 List of functional parameters

" ○ ": It indicates that the set value of this parameter can be changed when the inverter is in shutdown and running state;

" ◎ ": Indicates that the set value of this parameter cannot be changed when the inverter is in operation;

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

" ◆ ": Indicates that the value of this parameter is hidden and cannot be viewed or changed

Function code	Name	Set value range and definition	Default	Change
E00 Group basic function group				
E00.00	Speed control mode	1: No PG vector control mode 1 (applicable to AM) 2: Space voltage vector control mode (applicable to AM)	2	◎
E00.01	Run command channel	0: Keyboard operation command channel 1: Terminal operation command channel 2: communication operation command channel	0	○
E00.02	Communication operation command channel selection	0: MODBUS communication channel	0	○
E00.03	Maximum output frequency	Setting range: E00.04~400.00Hz	50.00Hz	◎
E00.04	Upper limit of operating frequency	Setting range: E00.05~E00.03	50.00Hz	◎
E00.05	Lower limit of operating frequency	Setting range: 0.00Hz~E00.04	0.00Hz	◎
E00.06	A Frequency command selection		0	○

Function code	Name	Set value range and definition	Default	Modify
E00.07	B Frequency command selection	0: keyboard number setting 1:Potentiometer on keypad(Only the SU200NE frequency converter has this channel. When terminalAI1 is connected to the signal, this channelisused as AI1;Please adjust the keyboardpotentiometer to zero frequency and modifyE05.34) 2: Analog quantity AI2 setting 3: Analog quantity AI3 setting(option card) 4: High speed pulse HDI setting 5: Simple PLC program setting 6: Multi speed operation setting 7: PID control setting 8:MODBUS communication setting 9: The voltage changes with the busbar voltage	2	○
E00.08	B Selection of frequency command reference object	0: Maximum output frequency; 1: A Frequency command;	0	○
E00.09	Set source combination mode	0: A, the current frequency is set as A frequency command. 1: B, the current frequency is set as B frequency command. 2: A+B, the current frequency is set as A frequency command+B frequency command. 3: A-B, the current frequency is set as A frequency instruction - B frequency instruction. 4: Max (A,B) 5: Min (A,B)	0	○
E00.10	Keyboard setting frequency	Setting range: 0.00 Hz~E00.03 (maximum output frequency)	50.00Hz	○
E00.11	Acceleration time 1	Setting range of E00.11 and E00.12: 0.0~3600.0s	Depend on model	○
E00.12	Deceleration time 1		Depend on model	○
E00.13	Running direction selection	0: Running in the default direction; The frequency converter operates in forward direction, 1: Running in the opposite direction;Inverted operation offrequency converter, 2: Reverse operation is prohibited	0	○

Function code	Name	Set value range and definition	Default	Modify
E00.14	Carrier frequency setting	Setting range: 1.0~15.0kHz	Depend on model	○
E00.15	Self learning of motor parameters	0: No operation 1: Rotation self-learning 2: Static self-learning 1; 3: Static self-learning 2;	0	◎
E00.16	AVR function selection	0: Invalid 1: Effective in the whole process	1	○
E00.17	Frequency converter type	0: G machine; 1: Type P machine;	0	◎
E00.18	Function parameter recovery	0: No operation 1: Restore Defaults 2: Clear fault file 3: Keyboard lock	0	◎
E01 Group Start and stop control				
E01.00	Start mode	0: Direct start; 1: DC braking before starting; 2: Speed tracking restart **Note**: 4kW and above have speed tracking restart function.	0	◎
E01.01	Starting frequency of direct start	Setting range: 0.00~50.00Hz	0.50Hz	◎
E01.02	Retention time of the starting frequency	Setting range: 0.0~50.0s	0.0s	◎
E01.03	The braking current before starting	Setting range: 0.0~100%	0.0%	◎
E01.04	Braking time before starting	Setting range: 0.00~50.00s	0.00s	◎

Function code	Name	Set value range and definition	Default	Modify
E01.05	Acceleration and deceleration mode selection	0: linear type; 1: S-curve	0	◎
E01.06	Acceleration time at the beginning of S curve	Setting range: 0.0~50.0s	0.1s	○
E01.07	Deceleration time at the end of S curve		0.1s	○
E01.08	Shutdown mode selection	0: Slow down and stop; 1: Free parking;	0	○
E01.09	Start frequency of shutdown braking	E01.09 setting range:0.00Hz~E00.03 (maximum output frequency) E01.10 setting range:0.00~50.00s E01.11 Setting range:0.0~100.0% E01.12 Setting range:0.00~50.00s	0.00Hz	○
E01.10	Stop brake waiting time		0.00s	○
E01.11	Shutdown DC braking current		0.0%	○
E01.12	Shutdown DC braking time		0.00s	○
E01.13	Deadband time from positive to negative	Setting range: 0.0~3600.0s	0.0s	○
E01.14	Forward and reverse switching mode	0: Zero ton switching 1: Starting frequency switching 2: Stop speed switching	1	◎
E01.15	Stop speed	0.00~100.00Hz	0.50 Hz	◎
E01.16	Stop speed detection mode	0: Detect out according to the speed setting value (no shutdown delay) 1: Detect out according to the speed feedback value (only valid for vector control)	1	◎

Function code	Name	Set value range and definition	Default	Modify
E01.17	Feedback speed detection time	Setting range: 0.00~100.00s (valid only for E01.16=1)	0.50s	◎
E01.18	Power on terminal operation protection selection	0: The terminal running command is invalid when power on. 1: The terminal operation command is valid when the power is on.	0	○
E01.19	Action when the operating frequency is lower than the lower frequency limit (valid when the lower frequency limit is greater than 0)	0: Run at lower frequency limit 1: Shutdown 2: Sleep Standby 3: Sleep Standby 2 Setting range 0~3	0	◎
E01.20	Sleep recovery delay time	Setting range: 0.0~3600.0s (valid when E01.19 is 2)	0.0s	○
E01.21	Power failure restart selection	0: No restart 1: Restart is allowed;	0	○
E01.22	Wait time for restart after power failure	Setting range: 0.0~3600.0s (valid when E01.21 is 1)	1.0s	○
E01.23	Start delay time	Setting range: 0.0~60.0s	0.0s	○
E01.24	Stop speed delay time	Setting range: 0.0~100.0s	0.0s	○
E01.25	0Hz output selection	0: No voltage output 1: Voltage output 2: Output of DC braking current according to shutdown	0	○

Function code	Name	Set value range and definition		Default	Modify
E02 Group Motor 1 parameter group					
E02.01	Rated power of AM 1	0.1~3000.0kW	Set the parameters of the controlled asynchronous motor. In order to ensure the control performance, be sure to correctly set according to the nameplate parameters of the asynchronous motor E02.01~E02.05. Cheek changer for parameter self-study Learning function. Accurate parameter self-learning comes from the correct setting of motor nameplate parameters. In order to ensure the control performance, please configure the motor according to the standard motor of the frequency converter. If the difference between the motor power and the standard motor is too large, the control performance of the frequency converter will be significantly reduced. **Note: Re setting the motor rated power (E02.01) can initialize E02.02~E02.10 motor parameters.**	Depend on model	◎
E02.02	Rated frequency of AM 1	0.01Hz~ E00.03 (the max frequency)		50.00Hz	◎
E02.03	Rated speed AM 1	1~36000rpm		Depend on model	◎
E02.04	Rated voltage AM 1	0~1200V		Depend on model	◎
E02.05	Rated current AM 1	0.8~6000.0A		Depend on model	◎
E02.06	Stator resistor of AM 1	0.001~65.535Ω	After the motor parameter self-learning is completed normally, the set value (E02.06~E02.10) can be updated automatically under the rotating self-learning and static self-learning 1 modes. In the static self-learning 2 mode, the set values of E02.06~E02.08 can be updated automatically. These parameters are the reference parameters for inverter control,	Depend on model	○
E02.07	Rotor resistor of AM 1	0.001~65.535Ω		Depend on model	○
E02.08	Leakage inductance of AM 1	0.1~655 3.5mH		Depend on model	○
E02.09	Mutual inductance of AM 1	0.1~6553.5mH		Depend on model	○
E02.10	Non-oadcurrent of AM 1	0.1~6553.5A		Depend on model	○
E02.26	Motor 1 overload protection	0: No protection 1: Ordinary motor 2: Variable frequency motor		2	◎
E02.27	Motor 1 Overload protection factor	Setting range: 20.0%~120.0%		100.0%	○
E02.28	Motor 1 Power display correction factor	Setting range: 0.00~3.00		1.00	○

Function code	Name	Set value range and definition	Default	Modify
E03 Group Vector control				
E03.00	Speed loop proportional gain1	Setting range of E03.00:0-200.0 Setting range of E03.01: 0.000-10.000s Setting range of E03.02: 0.00Hz-E03.05 Setting range of E03.03: 0-200.0 Setting range of E03.04: 0.000-10.000s Setting range of E03.05: E03.02-E00.03 (the max.output frequency)	20.0	○
E03.01	Speed loop integral time1		0.200s	○
E03.02	Low switching frequency		5.00Hz	○
E03.03	Speed loop proportional gain 2		20.0	○
E03.04	Speed loop integral time 2		0.200s	○
E03.05	High switching frequency		10.00Hz	○
E03.06	Speed loop output filter	0-8 (corresponds to o-28/10ms)	0	○
E03.07	compensation coefficient of electro motion slip	Setting range:50-200%	100%	○
E03.08	Compensation coefficient of braking slip		100%	○
E03.09	Current loop percentage coefficient P	Setting range:0-65535	1000	○
E03.10	Current loop integral coefficient 1		1000	○
E03.11	Torque setting method	0: Torque control is invalid 1: Keypad setting torque (E03.12) 2:AnalogAI1 setting torque	0	○

Function code	Name	Set value range and definition	Default	Modify
		3: Analog AI2 setting torque 4: Analog AI3 setting torque 5: Pulse frequency HDI setting torque 6: Multi-step torque setting 7: MODBuS communication setting torque 8-10: Reserved		
E03.12	Keypad setting torque	Setting range:-300.0%-300.0%	50.0%	○
E03.13	Torque reference filter time	0.000-10.000s	0.010s	○
E03.14	Upper frequency of forward rotation in vector control	0: Keyboard setting upper limit cheek rate 1: Analog quantity AI1 setting upper limit frequency 2: Analog AI2 setting upper limit frequency 3: Analog AI3 setting upper limit frequency 4: Pulse frequency HDI setting upper limit frequency 5: Multi segment setting upper limit frequency 6: MODBUS communication setting upper limit frequency	0	○
E03.15	Upper freaquency of reverse rotation in vector control		0	○
E03.16	Keypad setting for upper frequency of forward rotation	Setting range: 0.00 Hz~EO0.03 (maximum output frequency)	50.00Hz	○
E03.17	Keypad setting for upper frequency of reverse rotation		50.00Hz	○
E03.18	Upper electro motion torque source	0: Keyboard setting torque upper limit 1: Analog quantity AI1 setting torque upper limit 2: Analog AI2 setting torque upper limit 3: Analog AI3 setting torque upper limit 4: Pulse frequency HDI setting torque upper limit 5: MODBUS communication setting torque upper limit	0	○
E03.19	Upper braking torque source		0	○
E03.20	Keypad setting of electromotion torque	Setting range: 0.0~300.0% (motor rated current)	180.0%	○
E03.21	Keypad setting of braking torque		180.0%	○

Function code	Name	Set value range and definition	Default	Modify
E03.22	weakening coefficient in constant power zone	E03.22 is only valid for vector mode 1, ' setting range: 0.1~2.0 E03.23 Setting range: 10%~100%	0.3	○
E03.23	Lowest weaKening point in constant power zone		20%	○
E03.24	Max.voltage limit	Setting range: 0.0~120.0%	100.0%	○
E03.25	Pre-exciting time	Setting range: 0.000~10000s	0.300s	○
E03.26	Weak magnetic proportional gain	0~8000	1000	○
E03.27	Vector control speed	0: Display by actual value 1: Display by set value	0	○
E03.28	Compensation coefficient of static friction	0.0~100.0%	0.0%	○
E03.29	Compensation coefficient of dynamic friction	0.0~100.0%	0.0%	○
E04 Group SVPWM control				
E04.00	Motor 1 VIF curve setting	0: Straight V/F curve: applicable to constant torque load 1: Multipoint VIF curve 2: 1.3 Power drop torque VF curve 3: 1.7 Power reduced torque VIF curve 4: 2.0 Power Drop Torque V/F Curve 5: Custom VIF CVIF separation);	0	◎
E04.01	Motor 1 torque boost	E04.01 setting range: 0.0%: (automatic) 0.1%~10.0% E04.02 Setting range: 0.0%~50.0%	0.0%	○
E04.02	Motor 1 torque boost close		20%	○

Function code	Name	Set value range and definition	Default	Modify
E04.03	V/F frequency 1 of motor 1	Setting range of E04.03:0.00Hz-E04.05 Setting range of E04.04:0.0%-110.0% Setting range of E04.05:E04.03—E04.07 Setting range of E04.06:0.0%-110.0% Setting range of E04.07:E04.05-E02.02 Setting range of E04.08:0.0%-110.0%	0.00Hz	○
E04.04	V/F voltage 1 of motor 1		00.0%	○
E04.05	V/F frequency 2 of motor 1		00.00Hz	○
E04.06	V/F voltage 2 of motor 1		00.0%	○
E04.07	V/F frequency 3 of motor 1		00.00Hz	○
E04.08	V/F voltage 3 of motor 1		00.0%	○
E04.09	V/F slip compensation gain of motor 1	Setting range: 0.0~200%	100.0%	○
E04.10	Motor 1 low frequency vibration control factor	E04.10 Setting range: 0~100 E04.11 Setting range: 0~100 E04.12 Setting range: 0.00Hz~E00.03	10	○
E04.11	Motor 1 high frequency vibration control factor		10	○
E04.12	Motor 1 vibration control threshold		30.00Hz	○
E04.26	Energy-saving operation selection	0: Do not act 1: Automatic energy-saving operation	0	◎
E04.27	Voltage setting channel	0: keyboard setting voltage; The output voltage is determined by E04.28. 1: AI1 set voltage 2: AI2 set voltage 3: AI3 set voltage 4: HDI1 set voltage 5: Multi section setting voltage 6: PID set voltage 7: MODBUS communication setting voltage	0	○

Function code	Name	Set value range and definition	Default	Modify
E04.28	Keypad setting voltage	Setting range: 0.0%~100.0%	100.0%	○
E04.29	Voltage increasing time	Setting range: 0.0~3600.0s	5.0s	○
E04.30	Voltage decreasing time		5.0s	○
E04.31	Maximum output voltage	Setting range of E04.31: E04.32~100.0% (rated voltage of motor)	100.0%	◎
E04.32	Minimum output voltage	Setting range of E04.32: 0.0%~E04.31 (rated voltage of motor)	0.0%	◎
E04.33	Flux weakening coefficient at constant power	E04.33 setting range: 1.00~1.30	1.00	○
E04.34	Reserved			
E05 Group Input terminals				
E05.00	HdI input	0: HDI is high pulse input 1: HDI is switch input	0	◎
E05.01	S1 terminal function selection	0: No function 1: Forward rotation 2: Reverse rotation 3: 3-wire control 4: Forward jogging 5: Reverse jogging 6: Coast to stop 7: Fault reset 8: Operation pause 9:External fault input 10: Increasing frequency setting(UP) 11: Decreasing frequency setting(DOWN) 12: Cancel the frequency change setting 13: Shift between A setting and B setting 14: Shift between combination setting and Asetting 15: Shift between combination setting and Bsetting	1	◎
E05.02	S2 terminal function selection		4	◎
E05.03	S3 terminal function selection		7	◎
E05.04	S4 terminal function selection		0	◎
E05.05	S5 terminal function selection		0	◎
E05.06	S6 terminal function selection		0	◎
E05.07	S7 terminal function selection		0	◎
E05.08	S8 terminal function selection		0	◎

Function code	Name	Set value range and definition	Default	Modify
E05.09	HDI terminal function selection	16: Multi segment speed terminal 1 17: Multi segment speed terminal 2 18: Multi segment speed terminal 3 19: Multi segment speed terminal 4 20: Multi speed pause 21: Acceleration/deceleration time selection terminal 1 22: Acceleration/deceleration time selection terminal 2 23: Simple PLC shutdown reset 24: Simple PLC pause 25: PID control suspended 26: Frequency swing pauses (stops at the current frequency) 27: Swing frequency reset (return to center frequency) 28: Counter reset 29: Torque control prohibited 30: Acceleration and deceleration prohibited 31: Counter triggering 33: Frequency increase/decrease setting is cleared temporarily 34: DC braking 36: Command switch to keyboard 37: Command switch to terminal 38: Command switching to communication 39: Pre excitation command 40: Power consumption reset 41: Power consumption retention 61: PID polarity switching	0	◎
E05.10	Input terminal polarity selection	Setting range: 0x000~0x1FF	0x000	○
E05.11	Switching value filtering time	0.000~1.000s	0.010s	○

Function code	Name	Set value range and definition	Default	Modify
E05.12	Virtual terminal ssetting	0x000~0x1FF (0: prohibited, 1: enabled) BIT0: S1 virtual terminal enable BIT1: S2 virtual terminal enable BIT2: S3 virtual terminal enable BIT3: S4 virtual terminal enable BIT4: S5 virtual terminal enable BIT5: S6 virtual terminal enable BIT6: S7 virtual terminal enable BIT7: S8 virtual terminal enable BIT8: HDI virtual terminal enable	0x000	◎
E05.13	Terminals control running mode	0: two-wire control 1; 1: Two wire control 2; 2: Three wire control 1; 3: Three wire control 2;	0	◎
E05.14	S1 terminal switching-on delay time	Setting range: 0.000~50.000s	0.000s	○
E05.15	S1 terminal switching-off delay time		0.000s	○
E05.16	S2 terminal switching-on delay time		0.000s	○
E05.17	S2 terminal switching-off delay time		0.000s	○
E05.18	S3 terminal switching-on delay time		0.000s	○
E05.19	S3 terminal switching-off delay time		0.000s	○
E05.20	S4 terminal switching-on delay time		0.000s	○
E05.21	S4 terminal switching-off delay time		0.000s	○
E05.22	S5 terminal switching-on delay time		0.000s	○
E05.23	S5 terminal switching-off delay time		0.000s	○
E05.24	S1 terminal switching-on delay time		0.000s	○

Function code	Name	Set value range and definition	Default	Modify
E05.25	S1 terminal switching-off delay time	Setting range: 0.000~50.000s	0.000s	○
E05.26	S2 terminal switching-on delay time		0.000s	○
E05.27	S2 terminal switching-off delay time		0.000s	○
E05.28	S3 terminal switching-on delay time		0.000s	○
E05.29	S3 terminal switching-off delay time		0.000s	○
E05.30	S4 terminal switching-on delay time		0.000s	○
E05.31	S4 terminal switching-off delay time		0.000s	○
E05.32	Lower limit of AI1	Setting range of E05.32:0.00V—E05.34 Setting range of E05.33:-100.0%-100.0% Setting range of E05.34:E05.32-10.00V Setting range of E05.35: -100.0%-100.0% Setting range of EO5.36: 0.000s—10.000s Setting range of E05.37: 0.00V-E05.39 Setting range of E05.38: -100.0%-100.0% Setting range of E05.39: E05.37-10.00V Setting range of E05.40:-100.0%—100.0% Setting range of E05.41:0.000s-10.000s Setting range of EO5.42:-10.00V_E05.44 Setting range of E05.43:-100.0%—100.0%	0.00V	○
E05.33	Corresponding setting of the lower limit of AI1		0.0%	○
E05.34	Upper limit of AI1		10.00V	○
E05.35	Corresponding setting of the upper limit of AI1		100.0%	○
E05.36	AI1 input filter time		0.100s	○
E05.37	Lower limit of AI2		0.00V	○
E05.38	Corresponding setting of the lower limit of AI2		0.0%	○
E05.39	Upper limit of AI2		10.00V	○
E05.40	Corresponding setting of the upper limit of AI2		100.0%	○
E05.41	AI2 input filter time		0.100s	○
E05.42	Lower limit of AI3		-10.00V	○
E05.43	Corresponding setting of the lower limit of AI3		-100.0%	○

Function code	Name	Set value range and definition	Default	Modify
E05.44	Middle value of AI3	Setting range of E05.44: E05.42-E05.46 Setting range of E05.45:-100.0%—100.0% Setting range of E05.46:E05.44-10.00v Setting range of E05.47:-100.0%—100.0% Setting range of E05.48: 0.000s-10.000s	0.00V	○
E05.45	Corresponding middle setting of AI3		0.0%	○
E05.46	Upper limit of AI3		10.00V	○
E05.47	Corresponding setting of the upper limit of AI3		100.0%	○
E05.48	AI3 input filter time		0.100s	○
E05.50	Lower limit frequency of HDI	0.000kHz~E05.52	0.000 kHz	○
E05.51	Corresponding setting of Hdl low frequency setting	100.0%~100.0%	0.0%	○
E05.52	Upper limit frequency of HDI	E05.50~50.000kHz	50.000 kHz	○
E05.53	Corresponding setting of upper limit frequency of HDI	100.0%~100.0%	100.0%	○
E05.54	Hdl frequency input filter time	0.000s~10.000s	0.100s	○
E06 Group Output terminals				
E06.00	HDO output	0: Open collector high-speed pulse output: 1: Open collector output:	0	◎
E06.01	DO1 output	0: Invalid 1: Running 2: Forward running	0	○
E06.02	HDO output		0	○
E06.03	Relay RO1 output		1	○

Function code	Name	Set value range and definition	Default	Modify
E06.04	Relay RO2 output	3: Reverse rotation 4: Jogging 5: fault 6: Frequency degree test FDT1 7: Frequency degree test FDT2 8: Frequency arrival 9:Zero speed running 10: Upper limit frequency arrival 11: Lower limit frequency arrival 12: Ready for operation 13: Pre-magnetizing 14: Overload pre-alarm 15: Underload pre-alarm 16: Completion of simple PLC step 17: Completion of simple PLC cycle 18: Setting count value arrival 19: Defined count value arrival 20: External fault valid 22: Running time arrival 23: MODBUS communication virtual terminals output 26: DC bus voltage establishment 27:Auxiliary motor 1 28: Auxiliary motor 2	5	○
E06.05	Polarity selection of output terminals	Setting range: 0~F	0	○
E06.06	Y1switching-on delay time	Setting range: 0.000~50.000s	0.000s	
E06.07	Y1switching-off delay time		0.000s	○
E06.08	HDO switching-on delay time		0.000s	○
E06.09	HDO switching-off delay time		0.000s	○
E06.10	RO1 switching-on delay time		0.000s	○

Function code	Name	Set value range and definition	Default	Modify
E06.11	RO1 switching-off delay time	Setting range: 0.000~50.000s	0.000s	○
E06.12	RO1 switching-on delay time		0.000s	○
E06.13	RO1 switching-off delay time		0.000s	○
E06.14	AO1 output	0: Running frequency 1: Setting frequency 2: Ramp reference frequency 3: Operating speed (relative to twice the synchronous speed of motor) 4: Output current (relative to twice the rated current of frequency converter) 5: Output current (relative to twice the rated motor current) 6: Output voltage (relative to 1.5 times the rated voltage of frequency converter) 7: Output power (relative to 2 times of motor rated power) 8: Set torque value (relative to twice the rated motor torque) 9: Output torque (relative to twice the rated motor torque) 10: Analog AI1 input value 11:Analog AI2 input value 12: Analog AI3 input value 13: High speed pulse HDI input value 14: MODBUS communication set value 1 15: MODBUS communication set value 2 22:Torque current (relative to triple the motor rated current) 23: Ramp reference frequency(with sign)	0	○
E06.15	AO2 output		0	○
E06.16	HDO high-speed pulse output selection		0	○
E06.17	Lower limit of AO1 output	Setting range of E06.17:-100.0%-E06.19 Setting range of E06.18: 0.00V-10.00v Setting range of E06.19: E06.17-100.0% Setting range of E06.20: 0.00V-10.00V Setting range of E06.21: 0.000s-10.000s Setting range of E06.22:-100.0%-E06.24 Setting range of E06.23: 0.00V-10.00V	0.0%	○
E06.18	Corresponding AO1 output to the lower limit		0.00V	○
E06.19	Upper limit of AO1 output		100.0%	○
E06.20	Corresponding AO1 output to the upper limit		10.00V	○
E06.21	Ao1 output filter time		0.000s	○
E06.22	Lower limit of AO2 output		0.0%	○
E06.23	Corresponding AO2 output to the lower limit		0.00V	○

Function code	Name	Set value range and definition	Default	Modify
E06.24	Upper limit of AO2 output	Setting range of E06.24: E06.22-100.0% Setting range of E06.25:0.00V-10.00V Setting range of E06.26: 0.000s-10.000s Setting range of E06.27:-100%-E06.29 Setting range of E06.28: 0.00-50.00kHz Setting range of E06.29: E06.27-100.0% Setting range of E06.30: 0.00-50.00kHz Setting range of E06.31: 0.000s-10.000s	100.0%	○
E06.25	Corresponding AO2 output to the upper limit		10.00V	○
E06.26	Ao2 output filter time		0.000s	○
E06.27	Lower limit of HDO output		0.00%	○
E06.28	Corresponding HDO output to the lower limit		0.00 kHz	○
E06.29	Upper limit of HDO output		100.0%	○
E06.30	Corresponding HDO output to the upper limit		50.00 kHz	○
E06.31	HDO output filter time		0.000s	○
E07 Group Human-Machine Interface				
E07.00	User's password	0~65535 00000: Clear the previously set user password value and make the password protection function invalid	0	○
E07.01	Parameter copy	0: No operation 1: Uploading local function parameters to keyboard 2: Download keyboard function parameters to the machine (including motor parameters) 3: Download the keyboard function parameters to the machine (excluding EO2 group motor parameters) 4: Download the keyboard function parameters to the machine (only limited to EO2 group motor parameters)	0	◎
E07.02	ME.K function selection	0: No function 1: Jog operation. 2: Shift key switches display status. 3: Forward and reverse switching. 4: Clear the UP/DOWN setting. 5: Free parking. 6: The given mode of running command can be switched in order.	0x01	◎

Function code	Name	Set value range and definition	Default	Modify
		7: Quick debugging mode (debugging according to non factory parameters). Ten digit: keyboard lock selection 0: The keyboard keys are not locked 1: Full lock of keyboard keys 2: The keyboard keys are partially locked (only PRG/ESC keys are locked) Setting range: 0x00~0x27		
E07.03	ME.K Shifting sequence selection of commands	0: keyboard control → terminal control → communication control 1: Keyboard control → terminal control 2: Keyboard control → communication control 3: Terminal control → communication control	0	○
E07.04	STOP/RST stop function	0: Only valid for keyboard control 1: Effective for keyboard and terminal control 2: Effective for keyboard and communication control 3: Valid for all control modes	0	○
E07.05	Parameters state 1	0x0000-0xFFFF BIT0: running frequency (Hz on) BIT1: set frequency (Hz flickering) BIT2: bus voltage (V on) BIT3: output voltage (V on) BIT4: output current (A on) BIT5: running rotation speed (rpm on) BIT6: output power (% on) BIT7: output torque (% on) BIT8:PID reference (% flickering) BIT9: PID feedback value (% on) BIT10: input terminals state BIT11: output terminals state BIT12: torque set value (% on) BIT13: pulse counter value BIT14: length value BIT15:PLC and the current stage in multi-step speed	0x03FF	○

Function code	Name	Set value range and definition	Default	Modify
E07.06	Parameters state 2	0x0000~0xFFFF BIT0: analog quantity AI1 value (V on) BIT1: analog quantity AI2 value (V on) BIT2: analog AI3 value (V on) BIT3: High speed pulse HDI frequency BIT4: Motor overload percentage (% on) BIT5: Overload percentage of frequency converter (% on) BIT6: slope frequency setting value (Hz on) BIT7: linear speed BIT8: AC incoming line current (A on) BIT9: upper limit frequency (Hz on)	0x0000	○
E07.07	The parameter in the stop state	0x0000~0xFFFF BIT0: set frequency (Hz on, frequency flashing slowly) BIT1: bus voltage (V on) BIT2: input terminal status BIT3: output terminal status BIT4: PID setting value (% flashing) BIT5: PID feedback value (% on) BIT7: analog quantity AI1 value (V on) BIT8: Analog AI2 value (V on) BIT9: analog AI3 value (V on) BIT10: High speed pulse HDI frequency BIT11: Current segment number of PLC and multi segment speed BIT12: Pulse count value BIT14: upper limit frequency (Hz on)	0x00FF	○
E07.08	Frequency coefficient	0.01~10.00	1.00	○
E07.09	Rotation speed coefficient	0.1~999.9%	100.0%	○
E07.10	Linear speed coefficient	0.1~999.9% Linear speed= Mechanical rotation speed×E07.10	1.0%	○
E07.11	Rectifier bridge module temperature	0~100.0℃	/	●
E07.12	IGBT module temPerature	0~100.0℃	/	●
E07.13	Software version	1.00~655.35	/	●
E07.14	Local accumulative running time	0~65535h	/	●

Function code	Name	Set value range and definition	Default	Modify
E07.15	High bit of power consumption	Setting range of E07.15:0-65535 kWh (*1000) Setting range of E07.16:0.0-999.9 kWh	/	●
E07.16	Low bit of power consumption		/	●
E07.17	type	0: G type 1:P type	/	●
E07.18	Rated power	0.4-3000.0kW	/	●
E07.19	Rated voltage	50-1200V	/	●
E07.20	Rated current	0.1-6000.0A	/	●
E07.21	Factory bar code 1	0x0000—0xFFFF	/	●
E07.22	Factory bar code 2	0x0000—0xFFFF	/	●
E07.23	Factory bar code 3	0x0000—0xFFFF	/	●
E07.24	Factory bar code 4	0x0000—0xFFFF	/	●
E07.25	Factory bar code 5	0x0000—0xFFFF	/	●
E07.26	Factory bar code 6	0x0000—0xFFFF	/	●
E07.27	Type of present fault	0: No fault 1: IGBT U phase protection (Out1) 2:IGBT V phase protection (Out2) 3:IGBTW phase protection (Out3) 4: OC1 5: OC2 6: OC3 7:OV1 8: OV2 9: OV3 10: UV 11:Motor overload (OL1) 12: overload(OL2) 13: Input side phase loss (SPI) 14:Output side phase loss (SPO) 15: Overheat of the rectifier module (OH1)	/	●
E07.28	Type of the last fault		/	●
E07.29	Type of the last but one fault		/	●
E07.30	Type of the lastbut two fault		/	●

Function code	Name	Set value range and definition	Default	Modify
E07.31	Type of the last but three fault	16: Overheat fault of the inverter module (OH2) 17:External fault(EF) 18:485 communication fault (CE) 19: Current detection fault (ItE) 20: Motor autotune fault (tE) 21:EEPROM operation fault (EEP) 22: PID response offline fault (PIDE) 23: Braking unit fault (bCE)	/	●
E07.32	Type of the last but four fault	24: Running time arrival (END) 25: Electrical overload (OL3) 26: Panel communication fault (PCE) 27: Parameter uploading fault(UPE) 28: Parameter downloading fault (DNE) 32: Grounding short circuit fault 1(ETH1) 33: Grounding short circuit fault 2 (ETH2) 36: Undervoltage fault (LL)	/	●
E07.33	Running frequency at present fault		0.00Hz	●
E07.34	Ramp reference frequency at present fault		0.00Hz	●
E07.35	Output voltage at the present fault		0V	●
E07.36	Output current at present fault		0.0A	●
E07.37	Bus voltage at present fault		0.0V	●
E07.38	The max. temperature at present fault		0.0℃	●
E07.39	Input terminals state at present fault		0	●
E07.40	Output terminals state at present fault		0	●
E07.41	Running frequency at the last fault		0.00Hz	●
E07.42	Ramp reference frequency at the last fault		0.00Hz	●
E07.43	Output voltage at the last fault		0V	●
E07.44	The output current at the last fault		0.0A	●
E07.45	Bus voltage at the last fault		0.0V	●
E07.46	The max. temperature at the last fault		0.0℃	●
E07.47	Input terminals state at the last fault		0	●
E07.48	Output terminals state at the last fault		0	●
E07.49	Running frequency at the last but one fault		0.00Hz	●
E07.50	Output voltage at the last but one faults		0.00Hz	●

Function code	Set value range and definition		Default	Modify
E07.51	Output current at the last but one faults		0V	●
E07.52	Output current at the last but one fault		0.0A	●
E07.53	Bus voltage at the last but one fault		0.0V	●
E07.54	The max. temperature at the last but one fault		0.0℃	●
E07.55	Input terminals state at the last but one fault		0	●
E07.56	Output terminals state at the last but one fault		0	●
E08 Group Enhanced function				
E08.00	ACC time 2	Setting range: 0.0~3600.0s	Depend on model	○
E08.01	DEC time 2			○
E08.02	ACC time 3			○
E08.03	DEC time 3			○
E08.04	ACC time 4			○
E08.05	DEC time 4			○
E08.06	Jogging frequency	Setting range: 0.00Hz~E00.03 (maximum output frequency)	5.00Hz	○
E08.07	Jogging ACC time	Setting range: 0.0~3600.0s	Depend on model	○
E08.08	Jogging DEC time			○
E08.09	Jumping frequency 1	Setting range: 0.00Hz~E00.03 (maximum output frequency)	0.00Hz	○
E08.10	Jumping frequency range 1		0.00Hz	○
E08.11	Jumping frequency 2		0.00Hz	○
E08.12	Jumping frequency range 2		0.00Hz	○
E08.13	Jumping frequency 3		0.00Hz	○
E08.14	Jumping frequency range 3		0.00Hz	○

Function code	Name	Set value range and definition	Default	Modify
E08.15	Traverse range	E08.15 setting range: 0.0~100.0% (relative setting frequency) E08.16 setting range: 0.0~50.0% (relative swing amplitude) Setting range of E08.17: 0.1~3600.0s Setting range of E08.18: 0.1~3600.0s Digits: decimal places of linear speed	0.0%	○
E08.16	Sudden jumping frequency		0.0%	○
E08.17	Traverse boost time		5.0s	○
E08.18	Traverse declining time		5.0s	○
E08.19	Number of the displayed decimal points	0: No decimal point 1: 1 decimal point 2: 2 decimal points 3: 3 decimal points Ten digits: frequency decimal places 0: 2 decimal points 1: 1 decimal point Range: 0x00~0x13	0x00	○
E08.20	Correcting analog input and output	0: Correction 1: No correction Setting range 0~1	0	◎
E08.25	Setting counting value	Setting range of E08.25: E08.26~65535 Setting range of E08.26: 0~E08.25	0	○
E08.26	Reference counting value		0	○
E08.27	Set running time	Setting range: 0~65535min	0m	○
E08.28	Fault reset-times	E08.28 Setting range: 0~10 E08.29 Setting range: 0.1~3600.0s	0	○
E08.29	Interval time of automatic fault reset		1.0s	○

Function code	Name	Set value range and definition	Default	Modify
E08.30	Frequency decreasing ratio of the dropping control	Setting range: 0.00~10.00Hz	0.00Hz	○
E08.32	FDT1 electrical level detection value	Setting range of E08.32: 0.00Hz~E00.03 (maximum output frequency) E08.33 setting range: 0.0~100.0% (FDT1 level) Setting range of E08.34: 0.00Hz~E00.03 (maximum output frequency) E08.35 setting range: 0.0~100.0% (FDT2 level)	50.00Hz	○
E08.33	FDT1 retention detection value		5.0%	○
E08.34	FDT2 electrical level detection value		50.00Hz	○
E08.35	FDT2 retention detection value		5.0%	○
E08.36	Amplitude value for frequency arrival detection	Setting range: 0.00Hz~E00.03 (maximum output frequency)	0.00Hz	○
E08.37	Energy braking enable	0: Energy consumption braking prohibited 1: Energy consumption braking enabling	0	○
E08.38	Threshold voltage	Setting range: 200.0~2000.0v	For 220V: 380.0V For 380V: 700.0V For 660V: 1120.0V	○
E08.39	Cooling cooling fan operation mode	0: Normal operation mode: 1: The fan runs all the time after power on (generally used in high temperature and humidity situations, not recommended for others) 2: When the inverter slope frequency is greater than 0Hz, the fan runs. If it is equal to 0Hz or changes from running to shutdown, the fan will stop after 1 minute, and the setting range is 0~2.	0	○

Function code	Name	Set value range and definition	Default	Modify
E08.40	PWM selection	0x00~0x21 LED bits: PWM mode selection 0: PWM mode 1, three-phase modulation and two-phase modulation 1: PWM mode 2, three-phase modulation LED ten bit: low speed carrier frequency limit mode 0: Low speed carrier frequency limitation mode 1; 1: Low speed carrier frequency limitation mode 2; 2: Unlimited low speed carrier frequency	00	◎
E08.41	Over modulation selection	0x00~0x11 LED bit 0: Invalid overmodulation 1: Overmodulation valid LED ten bit 0: Slight overmodulation; 1: Depth overmodulation;	0x01	◎
E08.42	Keypad data control	0x000~0x1223 LED bits: frequency enable selection 0: Both / key and digital potentiometer are valid 1: Only eight I √ keys can be adjusted effectively 2: Digital potentiometer adjustment only 3: / key and digital potentiometer adjustment are invalid LED ten bit: frequency control selection 0: Valid only for E00.06=0 or E00.07=0 1: All frequency modes are valid 2: When multistage speed is given priority, it is invalid for multistage speed LED hundreds: action selection during shutdown 0: The setting is valid 1: Valid during operation, cleared after shutdown 2: Valid during operation, cleared after receiving shutdown command LED thousands: enter/leave key and digital potentiometer integration function 0: The integral function is valid 1: The integral function is invalid	0x0000	○
E08.43	Integral ratio of the keypad potentiometer	0.01~10.00s	0.10s	○

Function code	Name	Set value range and definition	Default	Modify
E08.44	UP/DOWN terminals control	0x00~0x221 LED bits: frequency enable selection 0: UP/DOWN terminal setting is valid 1: Invalid UP/DOWN terminal setting LED ten bit: frequency control selection 0: Valid only for E00.06=0 or E00.07=0 1: All frequency modes are valid 2: When multistage speed is given priority, it is invalid for multistage speed LED hundreds: action selection during shutdown 0: The setting is valid 1: Valid during operation, cleared after shutdown 2: Valid during operation, cleared after receiving shutdown command	0x000	○
E08.45	UP terminals frequency incremental change rate	0.01~50.00Hz/s	0.50 Hz/s	○
E08.46	DOWN terminals frequency incremental change rate	0.01~50.00 Hz/s	0.50 Hz/s	○
E08.47	Action when the frequency setting is off	0x000~0x111 LED bits: action selection in case of power failure of digital regulation frequency 0: Stored in case of power failure 1: Reset in case of power failure LED 10 bits: action selection in case of power failure of MODBUS set frequency 0: Stored in case of power failure 1: Reset in case of power failure LED hundreds: action selection in case of power failure of other communication set frequencies 0: Stored in case of power failure 1: Reset in case of power failure	0x000	○

Function code	Name	Set value range and definition	Default	Modify
E08.48	High bit of initial power consumption	E08.48 setting range: 0~59999 E08.49 setting range: 0.0~999.9	0	○
E08.49	Low bit of initial power consumption		0.0	○
E08.50	Magnetic flux braking	0: Invalid 100~150: the greater the coefficient, the greater the braking strength	0	○
E08.51	Current regulation coefficient on input side	Setting range: 0.00~100	0.56	○
E09 Group PID control				
E09.00	PID reference source	0: keyboard fixed number given (EO9.01) 1: Analog channel AI1 given 2: Analog channel AI2 setting 3: Analog channel AI3 setting 4: High speed pulse HDI setting 5: Multi segment given 6: MODBUS communication setting	0	○
E09.01	Keypad PID preset	Setting range: - 100.0%~100.0%	0.0%	○
E09.02	PID feedback source	0: Analog channel AI1 feedback 1: Analog channel AI2 feedback 2: Analog channel AI3 feedback 3: High speed pulse HDI feedback 4: MODBUS communication feedback 5:MAX (AI2、AI3)	0	○
E09.03	PID output feature	0: PID output is positive: 1: PID output is negative characteristic:	0	○
E09.04	Proportional gain (Kp)	Setting range: 0.00~100.00	1.00	○
E09.05	Integral time (Ti)	Setting range: 0.01~10.00s	0.10s	○
E09.06	Differential time(Td)	Setting range: 0.00~10.00s	0.00s	○

Function code	Name	Set value range and definition	Default	Modify
E09.07	Sampling cycle(T)	Setting range: 0.00~10.000s	0.100s	○
E09.08	PID control deviation limit	Setting range: 0.0~100.0%	0.0%	○
E09.09	output upper limit of PID	E09.09 Setting range: E09.10~100.0% E09.10 Setting range: - 100.0%~E09.09	100.0%	○
E09.10	Output lower limit of PID		0.0%	○
E09.11	Feedback offline detection value	E09.11 Setting range: 0.0~100.0% E09.12 Setting range: 0.0~3600.0s	0.0%	○
E09.12	Feedback offline detection time		1.0s	○
E09.13	PID regulation selection	0x0000~0x1111 LED bit: 0: Continue integral adjustment when the frequency reaches the upper and lower limits; 1: Stop integral regulation when the frequency reaches the upper and lower limits; LED ten bit: 0: Consistent with the set direction; 1: Opposite to the setting direction; LED hundreds: 0: Amplitude limiting according to the maximum frequency 1: Amplitude limiting according to frequency A LED thousands: 0: A+B frequency, 1: A+B frequency,	0x0001	○
E09.14	Proportional gain at low frequency (Kp)	0.00~100.00	1.00	○
E09.15	PID command of ACC/DEC time	0.0~1000.0s	0.0s	○
E09.16	PID output filter time	0.000~10.000s	0.000s	○

Function code	Name	Set value range and definition	Default	Modify
E10 Group Simple PLC and multi-step speed control				
E10.00	Simple PLC	0: Stop the machine after running once. 1: Keep the final value running after running once. 2: Cycle operation.	0	○
E10.01	Simple PLC memory	0: Power loss without memory 1: Power loss memory;	0	○
E10.02	Multi-step speed 0	E10. (2n, 1<n<17) setting range: - 100.0~100.0% E10. (2n+1, 1<n<17) setting range: 0.0~6553.5s (min)	0.0%	○
E10.03	Running time of step o		0.0s	○
E10.04	Multi-step speed 1		0.0%	○
E10.05	Running time of step 1		0.0s	○
E10.06	Multi-step speed 2		0.0%	○
E10.07	Running time of step 2		0.0s	○
E10.08	Multi-step speed 3		0.0%	○
E10.09	Running time of step 3		0.0s	○
E10.10	Multi-step speed 4		0.0%	○
E10.11	Running time of step 4		0.0s	○
E10.12	Multi-step speed 5		0.0%	○
E10.13	Running time of step 5		0.0s	○
E10.14	Multi-step speed 6		0.0%	○
E10.15	Running time of step 6		0.0s	○
E10.16	Multi-step speed 7		0.0%	○
E10.17	Running time of step 7		0.0s	○
E10.18	Multi-step speed 8		0.0%	○
E10.19	Running time of step 8		0.0s	○

Function code	Name	Set value range and definition	Default	Modify
E10.20	Multi-step speed 9		0.0%	○
E10.21	Running time of step 9		0.0s	○
E10.22	Multi-step speed 10		0.0%	○
E10.23	Running time of step 10		0.0s	○
E10.24	Multi-step speed 11		0.0%	○
E10.25	Running time of step 11		0.0s	○
E10.26	Multi-step speed 12		0.0%	○
E10.27	Running time of step 12		0.0s	○
E10.28	Multi-step speed 13		0.0%	○
E10.29	Running time of step 13		0.0s	○
E10.30	Multi-step speed 14		0.0%	○
E10.31	Running time of step 14		0.0s	○
E10.32	Multi-step speed 15		0.0%	○
E10.33	Running time of step 15		0.0s	○
E10.34	Simple PLC 0-7 step ACC /DEC time	Setting range: 0x0000~0xFFFF	0x0000	○
E10.35	Simple PLC 8-15 step ACC /DEC time		0x0000	○
E10.36	PLC restart	0: Rerun from the first segment; 1: Continue running from the phase frequency at the time of interruption;	0	◎
E10.37	Multi-step time unit	0: seconds; 1: Minutes;	0	◎

Function code	Name	Set value range and definition	Default	Modify
E11 Group Protective parameters				
E11.00	Phase loss protection	0x000~0x111 LED bit: 0: Input phase loss protection prohibited 1: Input phase loss protection allowed LED ten bit: 0: Output phase failure protection prohibited 1: Output phase loss protection allowed LED hundreds: 0: Input phase failure hardware protection prohibition 1: Input phase loss hardware protection allowed	111	○
E11.01	Sudden power loss frequency decrease	0: Prohibit 1: Allow	0	○
E11.02	Frequency decrease ratio of sudden power loss	Setting range: 0.00Hz/s~E00.03 (maximum output frequency)	10.00 Hz/s	○
E11.03	Overvoltage stall protection	0: Prohibit 1: Allow	1	○
E11.04	Protection voltage at overvoltage stall	120~150% (standard bus voltage) (380V)	136%	○
		120~150% (standard bus voltage) (220V)	120%	
E11.05	current limit action selection	E11.05 setting range: 0x00~0x11 Individual position: current limiting action selection 0: The current limiting action is invalid 1: The current limiting action is always effective Ten digits: hardware current limiting overload alarm selection 0: Hardware current limiting overload alarm is valid 1: Hardware current limiting overload alarm invalid E11.06 setting range: 50.0~200.0% Setting range of E11.07: 0.00~50.00Hz/s	01	◎
E11.06	Automatic eurrent lirit		G type: 160.0% P type: 120.0%	◎
E11.07	The decreasing ratio during current limit		10.00 Hz/s	◎
E11.08	Overload pre-alarm of the motor		0x000	○

Function code	Name	Set value range and definition	Default	Modify
E11.09	Overload pre-alarm test level	LED bit: 0: Motor overload and underload pre alarm, relative to the rated current of the motor 1: Frequency converter overload and underload prealarm, relative to the rated current of frequency converter LED ten bit: 0: Frequency converter continues to operate after overload and underload alarm 1: The frequency converter continues to operate after an under load alarm and stops after an overload fault 2: The inverter continues to operate after the overload alarm, and stops after the underload fault 3: The inverter stops operation after reporting overload and underload fault LED hundreds: 0: Always detect 1: Detection during constant speed operation LED thousand bit: overload integral selection 0: Overload integral is invalid 1: Overload integral valid Setting range: 0000~1131	G type: 150.0% P type: 120.0%	○
E11.10	Overload pre-alarm detection time		0x0000	○
E11.11	Underload pre alarm detection level	E11.11setting range: 0~E11.09 E11.12 setting range: 0.1~3600.0s	50%	○
E11.12	Detection time of under load pre alarm		1.0s	○
E11.13	Output terminal action during fault	LED bit: 0: Action in case of undervoltage fault 1: No action in case of undervoltage fault LED ten bit: 0: Action during automatic reset 1: No action during automatic reset	0x00	○
E11.16	Extension functions selection	0x00~0x11 LED bit: automatic frequency reduction selection for voltage drop 0: The selection of automatic frequency reduction for voltage drop is invalid 1: Automatic frequency reduction of voltage drop is effective LED ten digit: second acceleration/deceleration time selection 0: The second acceleration/deceleration time detection selection is invalid 1: The second acceleration/deceleration time detection selection is valid. When the operation is higher than the E08.36 value, the acceleration/deceleration time switches to the second acceleration/deceleration time.	00	○

Function code	Name	Set value range and definition	Default	Modify
E13 Group Enhanced function parameters				
E13.13	Braking current of short-circuit	E13.13 Setting range: 0.0~150.0% (frequency converter) E13.14 Setting range: 0.00~50.00s E13.15 Setting range: 0.00~50.00s	0.0%	○
E13.14	Braking retention time before starting		0.00s	○
E13.15	Braking retention time when stopping		0.00s	○
E14 Group Serial communication				
E14.00	Local communication address	Setting range: 1~247	1	○
E14.01	Communication baud ratio	1：2400BPS 2：4800BPS 3：9600BPS 4：19200BPS 5：38400BPS 6：57600 BPS	4	○
E14.02	Data bit verification settings	0: No check (N,8,1) for RTU 1: Even check (E,8,1) for RTU 2: Odd check (O,8,1) for RTU 3: No check (N,8,2) for RTU 4: Even check(E,8,2) for RTU 5: Odd check(O,8,2) for RTU 6: No check (N,7,1) for ASCII 7: Even check (E,7,1) for ASCII 8: Odd check (O,7,1) for ASCII 9: No check (N,7,2) for ASCII 10: Even check (E,7,2) for ASCI 11: Odd check(O,7,2) for ASCII 12: No check (N,8,1) for ASCII 13: Even check(E,8,1) for ASCII 14: Odd check (O,8,1) for ASCII 15: No check (N,8,2) for ASCII 16: Even check (E,8,2) for ASCII 17: Odd check(O,8,2) for ASCII	1	○
E14.03	Communication response delay	0~200ms	5	○
E14.04	Fault time of communication overtime	0.0 (invalid), 0.1~60.0s	0.0s	○
E14.05	Transmission fault processing	0: Alarm and free stop 1: Do not alarm and continue running 2: Shutdown without alarm (only in communication control mode) 3: Shutdown without alarm (under all control modes)	0	○

Function code	Name	Set value range and definition	Default	Modify
E14.06	Communication processing	LED bit: 0: Write operation responded; 1: No response to the write operation; LED ten bit: communication encryption processing 0: Invalid communication encryption settings 1: Communication encryption settings are valid LED hundreds: 485 communication machine type selection 0: 1: Custom address 2: CHF100A	0x000	○
E14.07	User-defined address of running commands	0x0000~0xffff	0x1000	○
E14.08	User-defined address of frequency setting	0x0000~0xffff	0x2000	○
E17 Group Monitoring function				
E17.00	Setting frequency	Range: 0.00Hz~E00.03	/	●
E17.01	Output frequency	Range: 0.00Hz~E00.03	/	●
E17.02	Ramp reference frequency	Range: 0.00Hz~E00.03	/	●
E17.03	Output voltage	Range: 0~1200v	/	●
E17.04	Output current	Range: 0.0~3000.0A	/	●
E17.05	Motor speed	Range: 0~65535RPM	/	●
E17.08	Motor power	Range: - 300.0~300.0% (relative to rated power of motor)	/	●
E17.09	Output torque	Range: - 250.0~250.0%	/	●
E17.10	Evaluated motor frequency	Range: 0.00Hz~E00.03	/	●
E17.11	DC bus voltage	Range: 0.0~2000.0v	/	●
E17.12	ON-OFF input terminals state	Range: 0000~01FF	/	●
E17.13	ON-OFF output terminals state	Range: 0000~000F	/	●

Function code	Name	Set value range and definition	Default	Modify
E17.14	Digital adjustment	Range: 0.00Hz~E00.03	/	●
E17.15	Torque reference	Range: - 300.0%~300.0%	/	●
E17.16	Linear speed Length	Range: 0~65535	/	●
E17.17	Length	Range: 0~65535	/	●
E17.18	Counting value	Range: 0~65535	/	●
E17.19	AI1 input voltage	Range: 0.00~10.00v	/	●
E17.20	AI2 input voltage	Range: 0.00~10.00V	/	●
E17.21	AI3 input voltage	Range: -10.00~10.00V	/	●
E17.22	HdI input frequency	Range: 0.000~50.000kHz	/	●
E17.23	PID reference value	Range: - 100.0~100.0%	/	●
E17.24	PID feedback value	Range: - 100.0~100.0%	/	●
E17.25	Power factor of the motor	Range: -1.00~1.00	/	●
E17.26	Current running time	Range: 0~65535min	/	●
E17.27	Simple PLC and the current step of multi-step	Range: 0~15	/	●
E17.35	AC input current	Range: 0.0~5000.0A	/	●
E17.36	Output torque	Range: -3000.0Nm-3000.0Nm	/	●
E17.37	Counting of the motor overload	0~100 (100 trip OL1 fault)	/	●
E17.38	PID output	-100.00~100.00%	0.00%	●
E17.39	Wrong download of parameters	0.00~99.99	0.00	●

Function code	Name	Set value range and definition	Default	Modify
E24.00	Water supply selection	0: Invalid 1: Valid	0	◎
E24.01	Press feedback source	0: AI1 set value 1: AI2 setpoint 2: AI3 setpoint 3: HDI setpoint	0	○
E24.02	Hibernation check	0: Sleep as the set frequency is less than the sleep start frequency (E24.03) 1: Sleep in the way that the feedback pressure value is greater than the set value of sleep start pressure (E24.04)	0	◎
E24.03	Starting frequency of the hibernation	0.00~E00.03 (maximum output frequency)	10.00Hz	○
E24.04	Starting pressure of hibernation	0.00~100.0%	50.0%	○
E24.05	Hibernation delay time	0.0~3600.0s	5.0s	○
E24.06	Hibernation awake	0: Wake up as the set frequency is greater than the sleep wake-up frequency (E24.07) 1: Wake up in the way that the feedback pressure value is lower than the set value of sleep wake-up pressure (E24.08)	0	◎
E24.07	Awake frequency	0.00~E00.03 (maximum output frequency)	20.00Hz	○
E24.08	Setting value of hibernation awake	0.00~100.0%	10.0%	○
E24.09	Mini hibernation time	0.0~3600.0s	5.0s	○
E24.10	Valid auxiliary motor	E24.10 Used to Select Valid Auxiliary Motors 0: No auxiliary motor 1: Auxiliary motor 1 is valid 2: Auxiliary motor 2 valid 3: Both auxiliary motors 1 and 2 are valid E24.11 setting range: 0.0~3600.0s E24.12 setting range: 0.0~3600.0s	0	○
E24.11	Start/stop delay time of auxiliary motor 1		5.0s	○
E24.12	Start/stop delay time of auxiliary motor 2		5.0s	○

Fault Code Table

No.	Fault Code	Fault Type	No.	Fault Code	Fault Type
1	OUt1	U phase protection of inverter unit	2	OUt2	Inverter unit V phase protection
3	OUt3	W phase protection of inverter unit	4	OC1	Acceleration overcurrent
5	OC2	Deceleration overcurrent	6	OC3	Constant speed overcurrent
7	OV1	Accelerating overvoltage	8	OV2	Deceleration overvoltage
9	OV3	Constant speed overvoltage	10	UV	Bus undervoltage fault
11	OL1	motor overload	12	OL2	Frequency converter overload
13	SPI	Phase loss at input side	14	SPO	Phase loss at output side
15	OH1	Rectifier module overheating	16	OH2	Overtemperature fault of inverter module
17	EF	External fault	18	CE	485 communication failure
19	ItE	Current detection fault	20	tE	Motor self-learning fault
21	EEP	EEPROM operation fault	22	PIDE	PID feedback disconnection fault
23	bCE	Brake unit failure	24	END	Running time arrives
25	OL3	Electronic overload fault	26	PCE	Keyboard communication error
27	UPE	Parameter upload error	28	DNE	Parameter download error
29	ETH1	Short circuit to ground fault 1	30	ETH2	Short circuit to ground fault 2
31	LL	Electronic underload fault			