ZK600 Series High Performance Vector AC Drive Parameters

Preamble

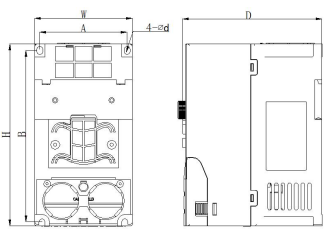
Thank you for choosing the high-performance vector inverter manufactured by our company!

This manual provides users with relevant precautions and guidance for model selection, installation, parameter setting, on-site commissioning, fault diagnosis, and daily maintenance and maintenance. In order to use this series of inverters correctly, please read this manual carefully first, and keep it properly for future use.

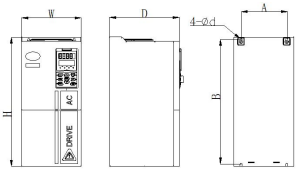
Chapter 1 Product Information

1.1 Product Information

1.1.1 ZK600 Dimension



C01



C02

1.1.2 ZK600 Technical Specifications and Installation Dimension

ZK600 Series										
AC Drive Model ZK600-	Rated Power	Input Current	Output Current	Physical Dimension (mm)			Installation Dimension (mm)			Frame
	kW	(A)	(A)	H	W	D	A	B	Aperture	
4T7R5kW	7.5	18	17	256.8	146	186	131	243	Φ6.2	C01
4T011kW	11	25	24							
4T015kW	15	31.2	30							
4T018kW	18	39.2	38	320	170	208	151	303	Φ5.8	
4T022kW	22	46.5	45							
4T030kW	30	62	60							
4T037kW	37	78	76	380	218	215.5	205	366	Φ6	
4T045kW	45	93	91	456	210	245	160	440	Φ7	C02
4T055kW	55	114.5	112							
4T075kW	75	153.5	150	560	238	315	176	544	Φ7	
4T090kW	90	180	176							
4T110kW	110	214	210	603	270	355	176	580	Φ9	
4T132kW	132	256	253							
4T160kW	160	307	304	710	320	360	210	682	Φ9	
4T185kW	185	360	350							

1.2 Technical Specifications

Item		Specifications
Basic Performance	Control	High performance vector general general inverter
	Driving system	High performance driving for induction motor
	Maximum frequency	Vector control: 0-500Hz V/F control: 0-3200Hz。
	Carrier frequency	0.5KHz~16KHz The carrier frequency can be automatically adjusted based on features of the load
	Frequency resolution	Digital setting: 0.01Hz Analog setting: 0.5%*maximum frequency
	Control mode	SVC V/F control
	Start torque	G type: 0.3Hz/130%(SVC)。 P type: 0.3Hz/100%
	Speed range	1:100(SVC)
	Speed	±0.5%(SVC)
	Overload	120% rated current for 60s,160% rated current for 5s
	Torque boost	Automatic torque boot, 0.1%~30% by manual torque boost
	V/F curve	Straight line type; Multiple point type; N-power V/F type
	V/F separation	V/F complete separation mode, half separation mode.
	Ramp curve	Straight line or S curve; Four ramp times (range: 0.1s to 6500.0s)
	DC braking	Braking frequency: 0.00Hz to Maximum frequency; Braking time: 0.0s to 36.0s; Braking current: 0.0% to 100.0%
	Jog	Frequency: 0.00Hz-50.00Hz； Ramp time: 0.0s-6500.0s
	Multiple speed and simple	Based on built-in PLC or digital input terminals, realize the running of 16 segments speed.
	PID	As common PID, the closed-loop system of process control can be realized easily.
	AVR	When the grid voltage changes, automatically keep the output voltage constant.
	Over-current and Over-voltage	Automatically restrict the current and voltage during running and avoid the frequent fault protection of over-current and over-voltage.
	CBC current limiting	Minimize the over-current fault and keep inverter running normally.
	Torque limit and control	Automatically restrict the torque during running and avoid the frequent fault protection of over-current, closed loop vector mode enables torque control.
Special functions	Power loss ride through	When power loss ride through happens, feedback energy of load compensates for the voltage drop of the DC bus.
	Fast current	Avoid the frequent fault protection of over-current.

Item		Specifications
	limit	
	Timing control	Time range: 0.0~6500.0 min
Running	Run mode	Keypad; Control terminals; Serial communication.Switch-over between these sources in various ways.
	Frequency source	Keypad potentiometer, digital input, analog voltage/current input, serial communication.Switch-over between these sources in various ways.
	Input terminals	5 digital input terminals
		1 analog input terminal
		1 terminal for 0-10V input or 0-20mA output
	Output terminals	1 digital output terminal
		1 relay output terminal
		1 analog output terminal, 0-10V, 0-20mA output
Display and keypad	Keypad potentiometer	Yes
	Protection	Input and output phase loss protection, under voltage protection, over voltage protection, over current protection, over heat protection, over load protection, short-circuit protection.
Environment	Installation location	Indoor, free from direct sunlight, dust,drip, salt, oil smoke, water vapor, combustible gas and corrosive gas.
	Altitude	<1000m
	Ambient temperature	-10℃~+40℃, if the ambient temperature is 40℃ to 50℃, please keep good ventilation and take the action of derating.
	Humidity	<95% RH, without condensing
	Vibration	<5.9m/s (0.6g)

1.3 Terminals Wiring Diagram of AC Drive

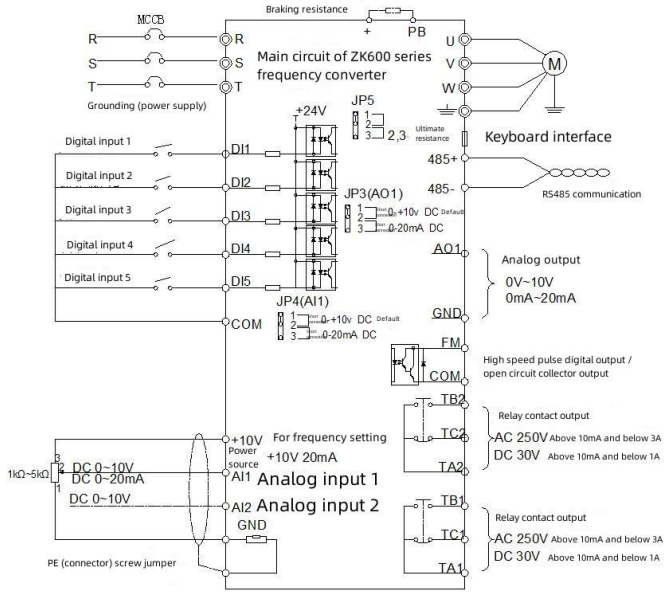


Figure 1-1 7.5kW-185kW wiring diagram

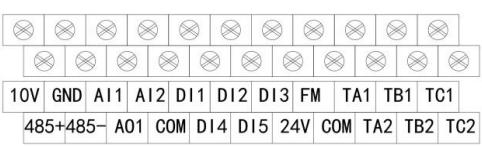
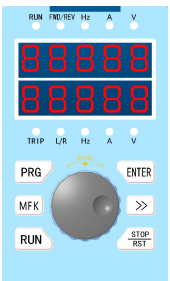


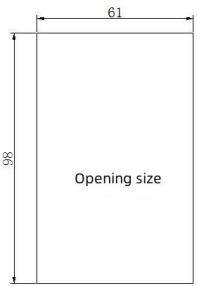
Figure 1-2 Terminals

Item	Terminal Sign	Terminals	Description
Power	+10V-GND	+10V power supply	Provide +10V power supply to the outside, the maximum output current: 10mA, generally used as the working power supply of the external potentiometer, the resistance range of the potentiometer: 1kΩ~5kΩ
Analog Input	AI1-GND	Analog input terminal 1	Input voltage range: DC 0V~10V/0mA~20mA Input resistance: 22kΩ
	AI2-GND	Analog input terminal 2	Input voltage range: DC 0V~10V Input resistance: 22kΩ
Digital Input	DI1. COM	Digital input 1	1. Optocoupler isolation, compatible with bipolar input 2. Input resistance: 2.4kΩ 3. Voltage range at level input: 9V~30V
	DI2. COM	Digital input 2	
	DI3. COM	Digital input 3	
	DI4. COM	Digital input 4	
	DI5. COM	Digital input 5	
Analog Output	AO1-GND	Analog Output	Output voltage range: 0V~10V/0mA~20mA
Digital output	FM-COM	High speed pulse digital output	Optocoupler isolation，Bipolar open collector output Output voltage range: 0V~24V Output current range: 0mA~50mA
Relay output	T/A1-T/C1	Normally closed terminal	Contact driving ability：250Vac，3A，COSØ=0.4 30Vdc，1A
	T/A1-T/B1	Normally open terminal	
	T/A2-T/C2	Normally closed terminal	Contact driving ability：250Vac，3A，COSØ=0.4 30Vdc，1A
	T/A2-T/B2	Normally open terminal	Contact driving ability：250Vac，3A，COSØ=0.4 30Vdc，1A
RS485 signal	485+、485-	RS485 differential signal negative end	Used for communication between host computer and frequency converter

Chapter 2 Keypad and Display

2.1 Keypad Interface





2.2 Keypad Indicators

- Hz: Frequency indicator
- V: Voltage indicator
- A: Current indicator
- TRIP: Frequency converter fault indicator
- FWD/REV: Frequency converter forward indicator light / inverter reverse indicator light
- L/R: Frequency converter communication control indicator
- RUN: Running indicator
- Keyboard cutout size: 98*61mm

Key	Name	Function description
PRG	Programming	Menu entry or exit, parameter modification
ENTER	Enter	Enter the menu, confirm the parameter setting, press and hold the pressure setting
>>	Shift key	Select parameter modification bit and display content
MF.K	Multi-function	Function switching selection according to P08.00
RUN	Run	Start the inverter in keyboard operation mode
STOP	Stop key	Stop operation, limited by P08.01 function code

Chapter 3 Parameters List Table

P00 Monitor				
Function code	Name	Setting range	Default	Step
P00.00	Running frequency（Hz）	0.00 ～ 320.00Hz（P01.22=2）	-	
P00.01	Setting frequency（Hz）	0.0 ～ 3200.0Hz（P01.22=1）	-	
P00.02	DC bus voltage（V）	0.0V ～ 3000.0V	-	
P00.03	Output voltage（V）	0V ～ 1140V	-	
P00.04	Output current（A）	0.00A ～ 655.35A	-	
P00.05	Output power（kW）	0 ～ 32767	-	
P00.06	Output torque（%）Percentage output value of motor rated torque	-200.0% ～ 200.0%	-	
P00.07	DI input state	0 ～ 32767	-	
P00.08	DO output state	0 ～ 1023	-	
P00.09	AI1 voltage(V)	0.01V	-	
P00.10	AI2 voltage (V)/current (mA）	0.00V ～ 10.57V 0.00mA ～ 20.00mA	-	
P00.12	Count value	0 ～ 65535	-	
P00.13	Length value	0 ～ 65535	-	
P00.14	Load speed display	0 ～ 65535	-	
P00.15	PID setting	0 ～ 65535	-	
P00.16	PID feedback	0 ～ 65535	-	
P00.17	PLC stage	0 ～ 65535	-	
P00.18	PULSE input pulse frequency（Hz）	0 ～ 100kHz	-	
P00.19	Feedback speed（Hz）	-320.00Hz ～ 320.00Hz -3200.0Hz ～ 3200.0Hz	-	
P00.20	Remaining run time	0.0 ～ 6500.0Min	-	
P00.21	AI1 voltage before correction	0.000V ～ 10.570V	-	
P00.22	AI2 voltage before correction (V)/current (mA）	0.000V ～ 10.570V 0.000mA ～ 20.000mA	-	
P00.24	Line speed	0 ～ 65535m/Min	-	
P00.25	Current power-on time	0 ～ 6500Min	-	

P00.26	Current running time	0.0 ～ 6500.0Min	-
P00.28	Communication settings	-100.00% ～ 100.00%	-
P00.30	Main frequency X display	0.00Hz ～ 500.00Hz	-
P00.31	Auxiliary frequency Y display	0.00Hz ～ 500.00Hz	-
P00.32	View any memory address value	0 ～ 65535	-
P00.35	Target torque（%）	0.0°～ 359.9°	-
P00.37	Power factor angle		-
P00.39	V/F separate target voltage	0V ～ Motor rated voltage	-
P00.40	V/F separate output voltage	0V ～ Motor rated voltage	-
P00.41	DI visual display of input status	-	-
P00.42	DO visual display of input status	-	-
P00.43	DI visual display of function status1 (function 01. function40）	-	-
P00.44	DI visual display of function status 2 （function 41. function 80）	-	-
P00.45	Fault information	-	-
P00.59	Setting frequency（%）	-100.00% ～ 100.00%	-
P00.60	Running frequency（%）	-100.00% ～ 100.00%	-
P00.61	Inverter status	0 ～ 65535	-

P01 Basic Functions

Function code	Name	Setting range	Default	Step
P01.00	G/L types selection	1. G type 2. L type	1	★
P01.01	1st motor control mode	0：Sensorless vector control（SVC） 2：V/F control	2	★
P01.02	Command source selection	0：Operation panel command channel （"LOCAL/REMOT" Lights off） 1：Terminal command channel （"LOCAL/REMOT" Lights on） 2: Communication command channel （"LOCAL/REMOT" lights flashing） 3：Inlet pressure control channel 4：Power on and run automatically	0	☆

P01.03	Main frequency source X selection	0：Digital setting（preset frequency P01.08，UP/DOWN can be modified，memory when power off） 1：Digital setting（preset frequency P01.08 ，UP/DOWNcan be modified，memory when power off） 2：AI1 3：AI2 4：Potentiometer 5：PULSE Pulse setting（DI5） 6：Multi-segment command 7：Simple PLC 8：PID 9：Communication set	4	★
P01.04	Auxiliary frequency source Y selection	Same as P01.03 （ Main frequency source X selection）	0	★
P01.05	Auxiliary frequency source Y range selection during superimposition	0：Relative to maximum frequency 1：Relative to frequency source X	0	☆
P01.06	Auxiliary frequency source Y range during superimposition	0% ～150%	100%	☆
P01.07	Frequency source superposition selection	Ones place: frequency source selection 0：Main frequency source X 1: Primary and secondary operation results (the operation relationship is determined by tens) 2：Switch between main frequency source X and auxiliary frequency source Y 3 ： Switch between the main frequency source X and the main and auxiliary calculation results 4：Auxiliary frequency source Y and switching between main and auxiliary calculation results Tens place: main and auxiliary operation relationship of frequency source 0：Primary + secondary 1：Primary - secondary 2：Maximum of both 3：Minimum of both	00	☆
P01.08	Preset frequency	0.00Hz ～ maximum frequency（P01 .10）	50.00Hz	☆

P01.09	Running direction	0：Same direction 1：Opposite direction	0	☆
P01.10	Maximum frequency	50.00Hz ～ 3200.00Hz	50.00Hz	★
P01.11	Upper limit frequency source	0：P01.12 setting 1： AI 2： AI2 3：AI3 4：PULSE setting(DI5) 5：Communication set	0	★
P01.12	Upper limit frequency	Lower limit frequency P01.14 ～ maximum frequency P01.10	50.00Hz	☆
P01.13	Upper limit frequency offset	0.00Hz ～ maximum frequency P01.10	0.00Hz	☆
P01.14	Lower limit frequency	0.00Hz ～ upper limit frequency P01.12	0.00Hz	☆
P01.15	Carrier frequency	0.5KHz ～ 16.0KHz	Function point decided by AC drive type	☆
P01.16	Carrier frequency adjusted with temperature	0：No 1：Yes	1	☆
P01.17	Acceleration time1	0.00s ～650.00s（P01.19=2） 0.0s ～ 6500.0s（P01.19=1） 0s ～ 65000s（P01.19=0）	Function point decided by AC drive type	☆
P01.18	Deceleration time1	0.00s ～650.00s（P01.19=2） 0.0s ～ 6500.0s（P01.19=1） 0s ～ 65000s（P01.19=0）	Function point decided by AC drive type	☆
P01.19	Acceleration and deceleration time unit	0：1 sec 1：0.1 sec 2：0.01 sec	1	☆
P01.21	Auxiliary frequency source bias frequency during superposition	0.00Hz ～ maximum frequency P01.10	0.00Hz	☆
P01.22	Frequency command resolution	This parameter is used to determine the resolution of all frequency-related function codes.	2	★
P01.23	Digital setting frequency stop memory selection	0：No memory 1：Memory	0	☆
P01.24	Motor parameter group selection	0：Motor parameter group 1 1：Motor parameter group 2	0	★
P01.25	Acceleration and deceleration time base frequency	0：Maximum frequency（P01.10） 1：Set frequency 2：100Hz	0	★
P01.26	Frequency command UP/DOWN reference during operation	0：Running frequency 1：Set frequency	0	★

P01.27	Command source bundled frequency source	Units: operation panel command binding frequency source selection 0：No binding 1：Digital setting frequency 2：AI1 3：AI2 4：AI3 5：PULSE setting(DI5) 6：Multi speed 7：Simple PLC 8：PID 9：Communication set Tens digit: terminal command binding frequency source selection Hundreds place: communication command binding frequency source selection Thousands place: automatic operation binding frequency source selection	0000	☆
P02 Motor control				
P02.00	Motor Type Selection	0：Asynchronous motor 1：Variable frequency asynchronous motor	0	★
P02.01	Motor rated power	0.1KW ～ 132KW	Function point decided by AC drive type	★
P02.02	Motor rated voltage	1V ～ 2000V	Function point decided by AC drive type	★
P02.03	Motor rated current	0.01A ～ 655.35A （Inverter power<=55kW） 0.1A ～ 6553.5A （Inverter power>55kW）	Function point decided by AC drive type	★
P02.04	Motor rated frequency	0.01Hz ～ maximum frequency	Function point decided by AC drive type	★
P02.05	Motor rated speed	1rpm ～ 65535rpm	Function point decided by AC drive type	★
P02.06	Asynchronous motor stator resistance	0.001Ω ～ 65.535Ω （Inverter power<=55kW） 0.0001Ω ～ 6.5535Ω （Inverter power>55kW）	Tuning parameters	★

P02.07	Asynchronous motor rotor resistance	0.001Ω ～ 65.535Ω （Inverter power<=55kW） 0.0001Ω ～ 6.5535Ω （Inverter power>55kW）	Tuning parameters	★
P02.08	Asynchronous motor leakage inductance	0.01mH ～ 655.35mH （Inverter power<=55kW） 0.001Mh ～ 65.535mH （Inverter power>55kW）	Tuning parameters	★
P02.09	Mutual inductance reactance of asynchronous motor	0.1mH ～ 6553.5mH （Inverter power<=55kW） 0.01mH ～ 655.35mH （Inverter power>55kW）	Tuning parameters	★
P02.10	Asynchronous motor no-load current	0.01A ～ P02.03 （Inverter power<=55kW） 0.1A ～ P02.03 （Inverter power>55kW）	Tuning parameters	★
P02.16	Synchronous motor stator resistance	0.001Ω～65.535Ω （Inverter power<=55KW） 0.0001Ω～6.5535Ω （Inverter power>55KW）	Tuning parameters	★
P02.17	D-axis inductance of synchronous motor	0.01mH～655.35mH （Inverter power<=55KW） 0.001mH～65.535mH （Inverter power>55KW）	Tuning parameters	★
P02.18	Synchronous motor Q-axis inductance	0.01mH～655.35mH （Inverter power<=55KW） 0.001mH～65.535mH （Inverter power>55KW）	Tuning parameters	★
P02.20	Synchronous Motor Back EMF	0.0V～6553.5V	Tuning parameters	★
P02.27	Encoder lines	1～65535	1024	★
P02.28	Encoder type	0：ABZ incremental encoder 1：UVW incremental encoder 2：Rotary transformer 3：Sin-cos encoder 4：Wire-saving UVW encoder	0	★
P02.30	ABZ incremental encoder AB phase sequence	0：Forward 1：Reverse	0	★
P02.31	Encoder mounting angle	0.0～359.9°	0.0°	★
P02.34	Resolver pole pairs	1～65535	1	★
P02.36	Speed feedback PG disconnection detection time	0.0s：No action 0.1s～10.0s	0.0s	★

P02.37	Tuning selection	0: no operation 1: static tuning 2: Full Tuning 3: Full Static Tuning	0	★
P03 Motor vector control				
P03.00	Speed loop proportional gain 1	1～100	20	☆
P03.01	Speed loop integration time 1	0.01s～10.00s	0.50s	☆
P03.02	Switching frequency 1	0.00～P03.05	5.00Hz	☆
P03.03	Speed loop proportional gain 2	1～100	20	☆
P03.04	Speed loop integration time 2	0.01s～10.00s	1.00s	☆
P03.05	Switching frequency 2	P03.02～maximum frequency	10.00Hz	☆
P03.06	Vector control slip gain	50%～200E%	100%	☆
P03.07	Speed loop filter time constant	0.000s～0.100s	0.015s	☆
P03.08	Vector control overexcitation gain	0～200E	64	☆
P03.09	Torque upper limit source in speed control mode	0: Function code P03.10 setting 1: AI1 2: AI2 3: AI3 4: PULSE pulse setting 5: Communication setting 6: MIN (AI1, AI2) 7: MAX (AI1, AI2) The full range of options 1-7 corresponds to P03.10	0	☆
P03.10	Torque upper limit figure in speed control mode	0.0%～200.0%	130.0%	☆
P03.11	Torque upper limit command selection (power generation) in speed control mode	0：Function code P03.12 setting 1：AI1 2：AI2 3：AI3 4：PULSE pulse setting 5：Communication set 6：MIN（AI1,AI2） 7：MAX（AI1,AI2） The full range of options 1-7 corresponds to P03.12	0	☆
P03.12	Torque upper limit digital setting in speed control mode (power generation)	0.0%～200.0%	150.0%	☆
P03.13	Excitation regulation proportional gain	0～60000	200E0	☆
P03.14	Excitation regulation integral gain	0～60000	1300	☆
P03.15	Torque regulation proportional gain	0～60000	200E0	☆
P03.16	Torque adjustment integral gain	0～60000	1300	☆
P03.17	Speed ring integral attribute	Individual position: integral separation 0：Invalid	0	◇

		1：Valid		
P03.21	Maximum torque coefficient in weak magnetic region	50%～200%	100%	◇
P03.22	Generation power limit enabling	0: invalid 1: valid	0	◇
P03.23	Upper limit of generating power	0%～200%	Model determination	◇
P04 V/F control				
P04.00	V/F curve setting	0: Straight line V/F 1: Multi-point 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 10: V/F complete separation mode 11: V/F semi-separated mode	0	★
P04.01	Torque lifting	0.0%（Automatic torque lifting）; 0.1%～30.0%	Model determination	☆
P04.02	Torque lifting cutoff frequency	0.00Hz ～ Maximum frequency	30.00Hz	★
P04.03	Multi-point V/F frequency point 1	0.00Hz ～ P04.05	0.00Hz	★
P04.04	Multi-point V/F voltage point 1	0.0% ～ 100.0%	0.0%	★
P04.05	Multi-point V/F frequency point 2	P04.03 ～ P04.07	0.00Hz	★
P04.06	Multi-point V/F voltage point 2	0.0% ～ 100.0%	0.0%	★
P04.07	Multi-point V/F frequency point 3	P04.05 ～ motor rated frequency（P02.04）	0.00Hz	★
P04.08	Multi-point V/F voltage point 3	0.0% ～ 100.0%	0.0%	★
P04.09	V/F slip compensation gain	0.0% ～ 200.0%	0.0%	☆
P04.10	V/F overexcitation gain	0 ～ 200	64	☆
P04.11	V/F Oscillation suppression gain	0 ～ 100	20	☆
P04.13	V/F separated voltage source	0：Digital setting（P04.14） 1：AI1 2：AI2 3：AI3 4：PULSE pulse setting（DI5） 5：Multi-segment command 6：Simple PLC 7：PID 8： Communication setting Note: 100.0% corresponds to the rated voltage of the motor	0	☆
P04.14	Voltage digital setting with V/F separation	0V ～ motor rated voltage	0V	☆

P04.15	Voltage acceleration time for V/F separation	0.0s ～ 1000.0s Note: Indicates the time from 0V to the rated voltage of the motor	0.0s	☆
P04.16	Voltage deceleration time for V/F separation	0.0s ～ 1000.0s Note: Indicates the time from 0V to the rated voltage of the motor	0.0s	☆
P04.17	V/F separation stop mode selection	0: Frequency/voltage independently reduced to 0 1: After the voltage is reduced to 0, the frequency will be reduced again	0	☆
P04.18	Overcurrent stall action current	50% ～ 200%	125%	★
P04.19	Overcurrent stall suppression enable	0：Invalid 1：Valid	1	★
P04.20	Overflow stall suppression gain	0 ～ 100	20	☆
P04.21	Double speed flow stall action current compensation coefficient	50% ～ 200%	50%	★
P04.22	Overvoltage stall action voltage	650.0V ～ 800.0V	725.0V	★
P04.23	Overvoltage stall enable	0：Invalid 1：Valid	1	★
P04.24	Overvoltage stall suppression frequency gain	0 ～ 100	30	☆
P04.25	Overvoltage stall suppression voltage gain	0 ～ 100	30	☆
P04.26	Overvoltage stall maximum rise frequency limit	0 ～ 50Hz	5Hz	★
P05 Input terminals				
P05.00	DI1 Terminal function selection	0: no function 1: forward run FWD or run command 2: Reverse running REV or forward and reverse running direction 3: Three-wire operation control 4: forward jog (FJOG) 5: Reverse jog (RJOG) 6: Terminal UP 7: Terminal DOWN 8: free parking 9: Fault reset (RESET) 10: Running pause 11: External fault normally open input 12: Multi-segment command terminal 1 13: Multi-segment command terminal	1	★
P05.01	DI2 Terminal function selection		4	★

P05.02	DI3 Terminal function selection	2 14: Multi-segment command terminal 3	9	★
P05.03	DI4 Terminal function selection	15: Multi-segment command terminal 4 16: Acceleration and deceleration time selection terminal 1 17: Acceleration and deceleration time selection terminal 2 18: Frequency source switching 19: UP/DOWN setting reset (terminal, keypad) 20: Control command switching terminal 1 21: Acceleration and deceleration prohibited 22: PID pause 23: PLC status reset 24: Wobble pause 25: Counter input 26: Counter reset 27: Length count input 28: length reset 29: Torque control prohibited 30: PULSE pulse setting (DI5) 31: reserved 32: Immediate DC system 33: External fault normally closed input 34: Frequency modification enable	12	★
P05.04	DI5 Terminal function selection	35: The direction of PID action is reversed 36: External parking terminal 1 37: Control command switching terminal 2 38: PID integral pause 39: Switch between frequency source X and preset frequency 40: Switch between frequency source Y and preset frequency 41: Motor selection terminal 1 43: PID parameter switching 44: User-defined fault 1 45: User-defined fault 2 46: Speed control/torque control switching	13	★

		47: Emergency stop 48: External parking terminal 2 49: Deceleration DC braking 50: The current running time is cleared 51: Two-wire/three-wire switching 52: No reverse		
P05.10	DI Filter time	0.000s ～ 1.000s	0.010s	☆
P05.11	Terminal command mode	0: Two-line type 1 1: Two-line type 2 2: Three-wire type 1 3: Three-wire type 2	0	★
P05.12	Change rate of terminal UP/DOWN	0.001Hz/s ～ 65.535Hz/s	1.00Hz/s	☆
P05.13	AI curve 1 minimum input	0.00V ～ P05.15	0.00V	☆
P05.14	AI curve 1 minimum input corresponding setting	-100.0% ～ +100.0%	0.0%	☆
P05.15	AI Curve 1 maximum input	P05.13 ～ +10.00V	10.00V	☆
P05.16	AI curve 1 maximum input corresponding setting	-100.0% ～ +100.0%	100.0%	☆
P05.17	AI1 filter time	0.00s ～ 10.00s	0.10s	☆
P05.18	AI curve 2 minimum input	0.00V ～ P05.20	0.00V	☆
P05.19	AI curve 2 minimum input corresponding setting	-100.0% ～ +100.0%	0.0%	☆
P05.20	AI Curve 2 maximum Input	P05.18 ～ +10.00V	10.00V	☆
P05.21	AI curve 2 maximum input corresponding setting	-100.0% ～ +100.0%	100.0%	☆
P05.22	AI2 filter time	0.00s ～ 10.00s	0.10s	☆
P05.23	AI curve 3 minimum input	-10.00V ～ P05.25	-10.00V	☆
P05.24	AI curve 3 minimum input corresponding setting	-100.0% ～ +100.0%	0.0%	☆
P05.25	AI curve 3 maximum input	P05.23 ～ +10.00V	10.00V	☆
P05.26	AI curve 3 maximum input corresponding setting	-100.0% ～ +100.0%	100.0%	☆
P05.27	AI3 filter time	0.00s ～ 10.00s	0.10s	☆
P05.28	PULSE curve 3 minimum input	-10.00V ～ P05.25	0.00V	☆

P05.29	PULSE curve 3 minimum input corresponding setting	-100.0% ～ +100.0%	0.0%	☆
P05.30	PULSE curve 3 maximum input	P05.23 ～ +10.00V	10.00V	☆
P05.31	PULSE curve 3 maximum input corresponding setting	-100.0% ～ +100.0%	100.0%	☆
P05.32	PULSE filter time	0.00s ～ 10.00s	0.10s	☆
P05.33	AI curve selection	Units: AI curve selection 1: Curve 1 (2 points, see P05.13 ~ P05.16) 2: Curve 2 (2 points, see P05.18 ~ P05.21) 3: Curve 3 (2 points, see P05.23 ~ P05.26) 4: Curve 4 (4 points, see A6.00 ~ A6.07) 5: Curve 5 (4 points, see A6.08 ~ A6.15) Tens digit: AI2 curve selection (1 to 5, same as above) Hundreds digit: AI3 curve selection (1 to 5, same as above)	321	☆
P05.34	AI below minimum input setting selection	Units: AI1 is lower than the minimum input setting selection 0: corresponding to the minimum input setting 1: 0.0% Tens place: AI2 is lower than the minimum input setting selection (0 ~ 1, same as above) Hundreds place: AI3 is lower than the minimum input setting selection (0 ~ 1, same as above)	000	☆
P05.35	DI1 delay time	0.0s ～ 3600.0s	0.0s	★
P05.36	DI2 delay time	0.0s ～ 3600.0s	0.0s	★
P05.37	DI3 delay time	0.0s ～ 3600.0s	0.0s	★
P05.38	DI terminal effective mode selection 1	0: High level is active 1: Low level is active Units: DI1 Tens: DI2 Hundreds: DI3 Thousands: DI4 Ten thousand digits: DI5	00000	★
P05.39	DI terminal effective mode selection 2	0: High level is active 1: Low level is active Units: DI6 Tens: DI7	00000	★

P05.40	AI2 mode selection	0: input voltage 1: input current	0	★
P06 Output terminals				
P6.00	FM (DO) terminal output mode selection	0: Level output 1: Pulse output	0	☆
P6.01	FMR (DO) terminal output selection		0	
P06.02	Control board relay function selection (T/A1-T/B1-T/C1)	0: No output 1: The inverter is running 2: Fault output (fault for free stop) 3: Frequency level detection P14T1 output 4: Frequency arrival 5: Running at zero speed (no output when stopped) 6: Motor overload pre-alarm 7: Inverter overload pre-alarm 8: The set count value arrives 9: The specified count value arrives 10: length reached 11: PLC cycle completed 12: Accumulated running time is reached 13: Frequency limited 14: Torque limited 15: Ready to run 16: AI1>AI2 17: Upper limit frequency reached 18: The lower limit frequency is reached (related to operation) 19: Undervoltage status output 20: Communication setting 21: Positioning completed (reserved) 22: positioning approach (reserved) 23: Running at zero speed 2 (Also output when stopped) 24: Accumulated power-on time arrives 25: Frequency level detection FDT2 output 26: Frequency 1 arrival output 27: Frequency 2 up to output 28: Current 1 reaches output 29: Current 2 reaches the output 30: Timing arrival output 31: AI1 input over limit 32: Loading	0	☆
P06.03	Control board relay function selection (T/A2-T/B2-T/C2)		0	

		33: Reverse running 34: Zero current state 35: module temperature reached 36: The output current exceeds the limit 37; The lower limit frequency is reached (the output is also output when the machine stops) 38: Alarm output (all faults) 39: Motor over-temperature pre-alarm 40: The running time is reached 41: Fault output (for free stop fault and no output under voltage) 42: Shutdown brake output; 43: reserved; 44: reserved; 45: High water pressure alarm output; 46: Low water pressure alarm output 47: One-to-two relay output; 48: brake control;		
P06.07	AO1 output function selection	0: operating frequency 1: set frequency 2: Output current 3: output torque 4: output power 5: output voltage 6: PLUSE pulse given 7: AI1 8: AI2 9: AI3 10: Length 11: counter value 12: Communication setting 13: motor speed 14: output current (100.0% corresponds to 1000.0A) 15: output voltage (100.0% corresponds to 1000.0V) 16: Motor output torque (actual value, relative to the percentage of the motor) 17: Inverter output torque (actual value, relative to the percentage of the inverter)	0	☆
P06.08	AO2 output function selection		1	☆
P06.10	AO1 zero bias coefficient	-100.0% ～ +100.0%	0.0%	☆

P06.11	AO1 gain	-10.00 ～ +10.00	1.00	☆
P06.12	AO2 zero bias coefficient	-100.0% ～ +100.0%	0.0%	☆
P06.13	AO2 gain	-10.00 ～ +10.00	1.00	☆
P06.17	DO output delay time	0.0s ～ 3600.0s	0.0s	☆
P06.18	RELAY output delay time	0.0s ～ 3600.0s	0.0s	☆
P06.19	RELAY2 output delay time	0.0s ～ 3600.0s	0.0s	☆
P06.22	DO output terminal active state selection	0: Positive logic 1: Anti-logic Units: DO Tens: RELAY1 Hundreds place: RELAY2	00000	☆
P06.23	AO1 mode selection	0: voltage 1: current	0	☆
P07 Run/Stop control				
P07.00	Start mode	0: Direct start 1: Speed tracking restart 2: Pre-excitation start (AC asynchronous machine)	0	☆
P07.01	Speed tracking mode	0: Start from stop frequency 1: Start from power frequency 2: Start from the maximum frequency	0	★
P07.02	Speed tracking	1 ～ 100	20	☆
P07.03	Start frequency	0.00Hz ～ 10.00Hz	0.00Hz	☆
P07.04	Starting frequency hold time	0.0s ～ 100.0s	0.0s	★
P07.05	Start DC braking current / pre-excitation current	0% ～100%	20%	★
P07.06	Start DC braking time/pre-excitation time	0.0s ～100.0s	0.0s	★
P07.07	Acceleration and deceleration mode	0: Linear acceleration and deceleration 1: S-curve acceleration and deceleration A 2: S-curve acceleration and deceleration B	0	★
P07.08	S-curve start period time ratio	0.0% ～ （100.0%-P07.09）	30.0%	★
P07.09	S-curve end time ratio	0.0% ～ （100.0%-P07.08）	30.0%	★
P07.10	Stop mode	0: Decelerate to stop 1: Free stop	0	☆
P07.11	Start frequency of DC braking at stop	0.00Hz ～ maximum frequency	0.00Hz	☆

P07.12	Stop DC braking waiting time	0.0s ～ 100.0s	0.0s	☆
P07.13	Stop DC braking current	0% ～ 100%	20%	☆
P07.14	Stop DC braking time	0.0s ～ 100.0s	0.0s	☆
P07.15	Brake utilization	0% ～ 100%	100%	☆
P07.18	Speed tracking current	30% ～ 200%	Function point decided by AC drive type	★
P07.21	De-excitation time	0.0-5.0s	Function point decided by AC drive type	★
P08 Keypad display				
P08.00	MF.K key function selection	0: M key is invalid 1: Switch between the operation panel command channel and the remote command channel (terminal command channel or communication command channel). If the current command source is keyboard control, the function of this key is invalid. 2: Forward and reverse switching Use the M key to switch the direction of the frequency command. This function is only valid when the command source is the command channel of the operation panel. 3: forward jog Forward rotation jogging (FJOG) is realized by keyboard M key 4: reverse jog Realize reverse jog (RJOG) through keyboard M key	0	★
P08.01	STOP/RESET key function	0: Only in the keyboard operation mode, the stop function of the STOP/RES key is valid 1: In any operation mode, the stop function of STOP/RES key is valid	1	☆

P08.02	LED running display parameter 1	0000~FFFF Bit00: Operating frequency 1 (Hz) Bit01: set frequency (Hz) Bit02: Bus voltage (V) Bit03: output voltage (V) Bit04: Output current (A) Bit05: output power (kW) Bit06: Output torque (%) Bit07: DI input status Bit08: DO output status Bit09: AI1 voltage (V) Bit10: AI2 voltage (V) Bit11: AI3 voltage (V) Bit12: count value Bit13: length value Bit14: load speed display Bit15: PID setting	1F	☆
P08.03	LED running display parameter 2	0000~FFFF Bit00: PID feedback Bit01: PLC stage Bit02: PULSE input pulse frequency (kHz) Bit03: Running frequency 2 (Hz) Bit04: remaining running time Bit05: AI1 voltage before correction (V) Bit06: AI2 voltage before correction (V) Bit07: AI3 voltage before correction (V) Bit08: Line speed Bit09: Current power-on time (Hour) Bit10: current running time (Min) Bit11: PULSE input pulse frequency (Hz) Bit12: Communication setting value Bit13: Encoder feedback speed (Hz) Bit14: main frequency X display (Hz) Bit15: Auxiliary frequency Y display (Hz)	0	☆

P08.04	LED stop display parameter	0000～FFFF Bit00: set frequency (Hz) Bit01: Bus voltage (V) Bit02: DI input status Bit03: DO output status Bit04: AI1 voltage (V) Bit05: AI2 voltage (V) Bit06: AI3 voltage (V) Bit07: count value Bit08: length value Bit09: PLC stage Bit10: load speed Bit11: PID setting Bit12: PULSE input pulse frequency (kHz)	33	☆
P08.05	LED B window (lower row) LED display parameter setting value	The first two digits run (0-32) The last two digits stop (0-32) 0: operating frequency 1: set frequency 2: Bus voltage 3: output voltage 4: Output current 5: output power 6: Output torque 7: DI input status 8: DO output state 9: AI1 voltage 10: AI2 voltage 11: AI3 voltage 12: Count value input 13: Length value input 14: Load speed 15: PID setting 16: PID feedback 17:PLC stage 18: PULSE input pulse frequency 19. Feedback speed 20: remaining running time 21: AI1 voltage before correction 22: AI2 voltage before correction 23: AI3 voltage before correction 24: Line speed 25: Current power-on time 26: Current running time 27: Radiator temperature 28: Communication setting value	4	☆

		29: Actual feedback speed 30: main frequency X display 31: Auxiliary frequency Y display		
P08.06	LED B window (bottom row) stop LED display parameter setting value	The first two bits run (0-32) Last two downtime (0-32) 0: running frequency 1: set the frequency 2: bus voltage 3: output voltage 4: output current 5: output power 6: output torque 7:DI input status 8:DO output statu 9:AI1 voltage 10:AI2 voltage 11:AI3 voltage 12: count value input 13: length value input 14: load speed 15:PID Setting 16:PID feedback 17:PLC stage 18:PULSE input pulse frequency 19. feedback speed 20: remaining run time 21: voltage before AI1 correction 22: voltage before AI2 correction 23: voltage before AI3 correction 24: linear speed 25: current power-up time 26: current running time 27: radiator temperature 28: communication setting value 29: actual feedback speed 30: main frequency X display 31: auxiliary frequency Y display	2	
P08.07	Load speed display factor	0.0001 ～ 6.5000	1.0000	☆
P08.08	Module heat sink temperature	0.0℃ ～ 100.0℃	-	☆
P08.09	Product ID	ZK600	-	☆
P08.10	Cumulative running time	0h～65535h	-	☆
P08.11	Performance software version number	-	-	☆
P08.12	software version number	-	-	☆

P08.13	Load speed shows the number of decimal places	Individual position: The number of decimal points of P00.14 0:0 decimal place. 1:1 decimal place. 2:2 decimal place. 3:3 decimal place. Ten places: the number of decimal places in P00.29. 0:0 decimal place. 1:1 decimal place. 2:2 decimal place	20	★
P08.14	Cumulative power-on time	0h～65535h	-	☆
P08.15	Cumulative power consumption	0～65535 degrees	-	☆
P08.16	Encoder accuracy selection	0：0.01Hz 1：0.1Hz 2：1Hz 3：10Hz	-	☆
P09 Accessibility				
P09.00	Jog running frequency	0.00Hz ～ maximum frequency	2.00Hz	☆
P09.01	Jog acceleration time	0.0s ～ 6500.0s	20.0s	☆
P09.02	Jog deceleration time	0.0s ～ 6500.0s	20.0s	☆
P09.03	Acceleration time 2	0.0s ～ 6500.0s	Function point decided by AC drive type	☆
P09.04	Deceleration time 2	0.0s ～ 6500.0s	Function point decided by AC drive type	☆
P09.05	Acceleration time 3	0.0s ～ 6500.0s	Function point decided by AC drive type	☆
P09.06	Deceleration time 3	0.0s ～ 6500.0s	Function point decided by AC drive type	☆
P09.07	Acceleration time 4	0.0s ～ 6500.0s	Function point decided by AC drive type	☆
P09.08	Deceleration time 4	0.0s ～ 6500.0s	Function point decided by AC drive type	☆
P09.09	Jump frequency 1	0.00Hz ～ maximum frequency	0.00Hz	☆
P09.10	Jump frequency 2	0.00Hz ～ maximum frequency	0.00Hz	☆
P09.11	Jump frequency amplitude	0.00Hz ～ maximum frequency	0.01Hz	☆
P09.12	Forward and reverse dead time	0.0s ～ 3000.0s	0.0s	☆

P09.13	Reverse frequency disabled	0: Allow 1: Disable	0	☆
P09.14	The set frequency is lower than the lower limit frequency operation mode	0: Run at the lower limit frequency 1: Stop 2: Run at zero speed	0	☆
P09.15	Droop control	0.00Hz ～ 10.00Hz	0.00Hz	☆
P09.16	Set the cumulative power-on arrival time	0h ～ 65000h	0h	☆
P09.17	Set the cumulative running arrival time	0h ～ 65000h	0h	☆
P09.18	Startup protection selection	0: no protection 1: protection	0	☆
P09.19	Frequency detection value (FDT1)	0.00Hz ～ maximum frequency	50.00Hz	☆
P09.20	Frequency detection hysteresis value (FDT1)	0.0% ～ 100.0% （FDT1 level）	5.0%	☆
P09.21	Frequency arrival detection width	0.0% ～ 100.0% （maximum frequency）	0.0%	☆
P09.22	Whether the jump frequency is valid during acceleration and deceleration	0: Invalid 1: Valid	0	☆
P09.25	Acceleration time 1 and 2 switching frequency points	0.00Hz ～ maximum frequency	0.00Hz	☆
P09.26	Deceleration time 1 and 2 switching frequency points	0.00Hz ～ maximum frequency	0.00Hz	☆
P09.27	Terminal jog priority	0: invalid 1: valid	0	☆
P09.28	Frequency detection value (FDT2)	0.00Hz ～ maximum frequency	50.00Hz	☆
P09.29	Frequency detection hysteresis value (FDT2)	0.0% ～ 100.0% （FDT2 level）	5.0%	☆
P09.30	Arbitrary arrival frequency detection value 1	0.00Hz ～ maximum frequency	50.00Hz	☆
P09.31	Arbitrary arrival frequency detection width 1	0.0% ～ 100.0% （maximum frequency）	0.0%	☆
P09.32	Arbitrary arrival frequency detection value 2	0.00Hz ～ maximum frequency	50.00Hz	☆
P09.33	Arbitrary arrival frequency detection width 2	0.0% ～ 100.0% （ maximum frequency）	0.0%	☆
P09.34	Zero current detection level	0.0% ～ 300.0% 100.0% Corresponding motor rated current	5.0%	☆
P09.35	Current detection delay time	0.01s ～ 600.00s	0.10s	☆
P09.36	Output current exceeds limit	0.0%（no detection） 0.1% ～ 300.0% （Motor rated current）	200.0%	☆

P09.37	Output current overrun detection delay time	0.00s ～ 600.00s	0.00s	☆
P09.38	Arbitrary arrival current 1	0.0% ～ 300.0%（Motor rated current）	100.0%	☆
P09.39	Arbitrary arrival current 1 width	0.0% ～ 300.0%（Motor rated current）	0.0%	☆
P09.40	Arbitrary arrival current 2	0.0% ～ 300.0%（Motor rated current）	100.0%	☆
P09.41	Arbitrary arrival current 2 width	0.0% ～ 300.0%（Motor rated current）	0.0%	☆
P09.42	Timing function selection	0: invalid 1: valid	0	☆
P09.43	Timing run time selection	0：P09.44 setting 1：AI1 2：AI2 3：AI3 analog input range corresponds to P09.44	0	☆
P09.44	Timing run time	0.0Min ～ 6500.0Min	0.0Min	☆
P09.45	AI1 input voltage protection value lower limit	0.00V ～ P09.46	3.10V	☆
P09.46	AI1 input voltage protection upper limit	P09.45 ～ 10.00V	6.80V	☆
P09.47	Module temperature reaches	0℃ ～ 100 ℃	75℃	☆
P09.48	Cooling Fan Control	0: The fan runs while running 1: The fan runs all the time	0	☆
P09.49	Arrival time setting for this run	0.0 ～ 6500.0Min	0.0Min	☆
P09.50	Output power correction factor	0.00% ～ 200.0%	100.0%	☆
P10 Fault and protection				
P10.00	Motor overload protection selection	0: Disabled 1: Allowed	1	☆
P10.01	Motor overload protection gain	0.20 ～ 10.00	1.00	☆
P10.02	Motor overload warning coefficient	50 ～ 100%	80%	☆
P10.07	Power-on short-circuit protection selection	0: invalid 1: valid	1	☆
P10.08	Starting voltage of brake unit action	650.0V ～ 800.0V	690V	☆
P10.09	Fault automatic reset times	0 ～ 20	0	☆
P10.10	Fault DO action selection during fault automatic reset	0: no action 1: action	0	☆
P10.11	Fault automatic reset interval time	0.1s ～ 100.0s	1.0s	☆
P10.12	Input phase loss/contactor pick-up protection selection	Ones place: input phase loss protection selection 0: disabled	11	☆

		1: allow Tens place: contactor pick-up protection selection		
P10.13	Output phase loss protection selection	0: Disabled 1: Allowed	1	☆
P10.14	First failure type	0: No fault	—	●
P10.15	Second failure type	1: Reserved 2: Acceleration overcurrent E.oC1 3: Deceleration overcurrent E.oC2 4: Constant speed overcurrent E.oC3 5: Acceleration overvoltage E.oU1 6: Deceleration overvoltage E.oU2 7: Constant speed overvoltage E.oU3 8: Buffer resistor overload E.Br 9: Undervoltage E.LU 10: Inverter overload E.oL2 11: Motor overload E.OL1 12: Input phase loss E.PHI 13: Output phase loss E.PHo 14: Module overheating E.oH1 15: External fault E.SET 16: Communication abnormality E.CE 17: Abnormal contactor E.CoN 18: Abnormal current detection E.oCC	—	●
P10.16	Third (latest) failure type	19: Abnormal motor tuning E.TE 21: Parameter reading and writing exception E.EEP 22: Inverter hardware exception E.INT 23: Motor short circuit to ground E.STG 26: Elapsed time reaches E.TIo 27: User-defined fault 1E.USE1 28: User-defined fault 2E.USE2 29: The power-on time reaches E.PUTo 30: Load E.LOAD 31: Runtime PID Feedback loss E.PId 40: Fast current limit timeout E.CBC 41: Switch motor E.SrUN while running 42: Speed deviation is too large E.SDD	—	●

		43: Motor overspeed E.oS		
P10.17	Frequency at third (latest) failure	—	—	●
P10.18	Current at the third (latest) fault	—	—	●
P10.19	Bus voltage at the third (latest) fault	—	—	●
P10.20	Input terminal state at the third (latest) fault	—	—	●
P10.21	Output terminal status at the third (latest) fault	—	—	●
P10.22	Inverter status at the third (latest) fault	—	—	●
P10.23	Power-on time at third (latest) failure	—	—	●
P10.24	Uptime on third (latest) failure	—	—	●
P10.27	Frequency at second failure	—	—	●
P10.28	Current at second fault	—	—	●
P10.29	Bus voltage at second fault	—	—	●
P10.30	Input terminal status at the second fault	—	—	●
P10.31	Output terminal status at the second fault	—	—	●
P10.32	Inverter status at the time of the second fault	—	—	●
P10.33	Power-on time at the second fault	—	—	●

P10.34	Run time on second failure	—	—	●
P10.37	Frequency at first failure	—	—	●
P10.38	Current at the first fault	—	—	●
P10.39	Bus voltage at first fault	—	—	●
P10.40	Input terminal status at the first fault	—	—	●
P10.41	Output terminal status at the first fault	—	—	●
P10.42	Inverter status at the first fault	—	—	●
P10.43	Power-on time at first failure	—	—	●
P10.44	Uptime to first failure	—	—	●
P10.47	Failsafe option 1	Ones place: Motor overload (E.OL2) 0: free stop 1: Stop according to the stop mode 2: keep running Tens place: input phase loss (E.PHI) (same as ones place) Hundreds place: output phase loss (E.PHO) (same as ones place) Thousands place: external fault (E.SET) same as ones place) Ten thousand digit: Communication abnormality (E.CE) (same as unit digit)	00000	☆
P10.48	Failsafe option 2	Ones place: Reserved Tens place: Abnormal function code read and write (E.EEP) 0: free stop 1: stop according to the stop mode Hundreds place: Reserved Thousands place: Reserved Tens of thousands place: elapsed time arrived (E.TIO)	00000	☆

P10.49	Failsafe option 3	Ones place: User-defined fault 1 (E.USE1) Tens place: user-defined fault 2 (E.USE1) Hundreds place: power-on time up (E.PUTO) Thousands place: load off (E.LOAD) 0: Free stop 1: Stop according to the stop mode 2: Jump directly to 7% of the rated frequency of the motor to continue running, and automatically return to the set frequency when the load is not lost Ten thousand place: PID feedback loss during operation (E.PID) (same as P10.47 ones place)	00000	☆
P10.50	Failsafe option 4	Ones place: too large speed deviation (E.SSD) 0: coast to stop 1: stop according to the stop mode 2: continue to run Tens place: Motor overspeed (E.OS) Hundreds place: Reserved Thousands place: Speed feedback error (E.FDB)	00000	☆
P10.54	Run frequency selection in failure	0: Run at the current running frequency 1: Run at the set frequency 2: Run at the upper limit frequency 3: Run at the lower limit frequency 4: Run at abnormal standby frequency	0	☆
P10.55	Abnormal standby frequency	0.0% ～ 100.0%（100.0% corresponding to the maximum frequency P01.10）	100.0%	☆
P10.59	Non-stop function selection	0: Invalid 1: Deceleration 2: Deceleration to stop	0	☆
P10.60	Judgment voltage for momentary power failure	80.0% ～ 100.0%	85.0%	☆
P10.61	Judgment time for instantaneous power failure and non-stop voltage recovery	0.00s ～ 100.00s	0.50s	☆
P10.62	Instantaneous stop non-stop action judgment voltage	60.0% ～ 100.0% （Standard bus voltage）	80.0%	☆
P10.71	Instantaneous non-stop gain KP	0 ～ 100	40	☆

P10.72	Instantaneous stop and non-stop integral coefficient KI	0 ～ 100	30	☆
P10.73	Momentary stop non-stop action deceleration time	0 ～ 300.0s	20.0s	★
P10.63	Load loss protection selection	0: invalid 1: valid	0	☆
P10.64	Load drop detection level	0.0 ～ 100.0%	10.0%	☆
P10.65	Load drop detection time	0.0 ～ 60.0s	1.0s	☆
P10.67	Over speed detection value	0.0 % ～ 50.0 %（maximum frequency）	20.0%	☆
P10.68	Over speed detection time	0.0s：no detection 0.1 ～ 60.0s	1.0s	☆
P10.69	Excessive speed deviation detection value	0.0 % ～ 50.0 %（maximum frequency）	20.0%	☆
P10.70	Excessive speed deviation detection time	0.0s：no detection 0.1 ～ 60.0s	5.0s	☆
P10.71	Instantaneous non-stop gain KP	0-100	40	☆
P10.72	Instantaneous stop and non-stop integral coefficient KI	0-100	30	☆
P10.73	Instantaneous stop non-stop deceleration time	0-300.0S	20.0S	★
P11 PID function				
P11.00	PID reference source	0: P11.01 setting 1: AI1 2: AI2 3: AI3 4: PLUSE pulse given 5: Communication setting 6: Multi-segment instruction given 7: Keyboard encoder setting	7	☆
P11.01	PID pressure numerical setting	0.00 ～ 10.00KG	3.00KG	☆
P11.02	PID feedback source	0：AI1 1：AI2 2：AI3 3：AI1.AI2 4：PLUSE pulse set 5：Communication set 6：AI1+AI2 7：MAX（|AI1|, |AI2|） 8：MIN（|AI1|, |AI2|）	0	☆
P11.03	PID action direction	0: positive action 1: negative action	0	☆
P11.04	PID reference feedback range	0 ～ 100.00KG	10.00KG	☆
P11.05	Proportional gain KP1	0.0 ～ 100.0	10.0	☆
P11.06	Integration time Ti1	0.01s ～ 10.00s	2.00s	☆

P11.07	Derivative time Td1	0.000s ～ 10.000s	0.000s	☆
P11.08	PID inversion cutoff frequency	0.00 ～ maximum frequency	0.00Hz	☆
P11.09	PID deviation limit	0.0% ～ 100.0%	1.0%	☆
P11.10	PID differential limiter	0.00% ～ 100.00%	0.10%	☆
P11.11	PID reference changing time	0.00 ～ 650.00s	0.00s	☆
P11.12	PID feedback filter time	0.00 ～ 60.00s	0.00s	☆
P11.13	PID output filter time	0.00 ～ 60.00s	0.00s	☆
P11.15	Proportional gain KP2	0.0 ～ 100.0	10.0	☆
P11.16	Integration time Ti2	0.01s ～ 10.00s	2.00s	☆
P11.17	Derivative time Td2	0.000s ～ 10.000s	0.000s	☆
P11.18	PID parameter switching condition	0: do not switch 1: switch through DI terminal 2: Automatic switching according to the deviation	0	☆
P11.19	PID parameter switching deviation 1	0.0% ～ P11.20	20.0%	☆
P11.20	PID parameter switching deviation 2	P11.19 ～ 100.0%	80.0%	☆
P11.21	PID initial value	0.0% ～ 100.0%	0.0%	☆
P11.22	PID initial value hold time	0.00 ～ 650.00s	0.00s	☆
P11.23	The maximum value of the positive direction of the two output deviations	0.00% ～ 100.00%	1.00%	☆
P11.24	The reverse maximum value of the two output deviations	0.00% ～ 100.00%	1.00%	☆
P11.25	PID integral properties	Ones place: integral separation 0: invalid 1: valid Tens place: whether to stop integration after the output reaches the limit 0: continue scoring 1: stop integrating	00	☆
P11.26	PID feedback loss detection value	0.0%：No judgment feedback is lost 0.1% ～ 100.0%	0.0%	☆
P11.27	PID feedback loss detection time	0.0s ～ 20.0s	0.0s	☆
P11.28	PID stop operation	0: No operation when stopped 1: Computation at stop	1	☆
P12 Swing frequency, fixed length and counting				
P12.00	Wobble frequency setting mode	0: relative to the center frequency (P01.07 frequency source) 1: relative to the maximum frequency (P01.10)	0	☆
P12.01	Swing frequency	0.0% ～ 100.0%	0.0%	☆
P12.02	Jump frequency amplitude	0.0% ～ 50.0%	0.0%	☆
P12.03	Swing cycle	0.1s ～ 3000.0s	10.0s	☆

P12.04	Triangular wave rise time of wobble frequency	0.1% ～ 100.0%	50.0%	☆
P12.05	Set length	0m ～ 65535m	1000m	☆
P12.06	Actual length	0m ～ 65535m	0m	☆
P12.07	Pulses per meter	0.1 ～ 6553.5	100.0	☆
P12.08	Set count value	1 ～ 65535	1000	☆
P12.09	Specify the count value	1 ～ 65535	1000	☆
P13	**Multi-segment instructions, simple PLC**			
P13.00	Multi-segment command 0	-100.0% ～ 100.0%	0.0%	☆
P13.01	multi-segment command 1	-100.0% ～ 100.0%	0.0%	☆
P13.02	multi-segment command 2	-100.0% ～ 100.0%	0.0%	☆
P13.03	multi-segment command 3	-100.0% ～ 100.0%	0.0%	☆
P13.04	multi-segment command 4	-100.0% ～ 100.0%	0.0%	☆
P13.05	multi-segment command 5	-100.0% ～ 100.0%	0.0%	☆
P13.06	multi-segment command 6	-100.0% ～ 100.0%	0.0%	☆
P13.07	multi-segment command 7	-100.0% ～ 100.0%	0.0%	☆
P13.08	multi-segment command 8	-100.0% ～ 100.0%	0.0%	☆
P13.09	multi-segment command 9	-100.0% ～ 100.0%	0.0%	☆
P13.10	multi-segment command 10	-100.0% ～ 100.0%	0.0%	☆
P13.11	multi-segment command 11	-100.0% ～ 100.0%	0.0%	☆
P13.12	multi-segment command 12	-100.0% ～ 100.0%	0.0%	☆
P13.13	multi-segment command 13	-100.0% ～ 100.0%	0.0%	☆
P13.14	multi-segment command 14	-100.0% ～ 100.0%	0.0%	☆
P13.15	multi-segment command 15	-100.0% ～ 100.0%	0.0%	☆
P13.16	Simple PLC run mode	0: Stop at the end of a single run 1: Keep the final value at the end of a single run 2: Keep looping	0	☆
P13.17	Simple PLC power-down memory selection	Ones place: power-off memory selection 0: no memory when power off 1: memory when power off Tens place: stop memory selection 0: Stop without memory 1: Stop with memory	00	☆
P13.18	Running time of stage 0 of simple PLC	0.0s（h）～6553.5s（h）	0.0s(h)	☆
P13.19	Simple PLC step 0 acceleration and deceleration time selection	0 ～3	0	☆
P13.20	Running time of the first stage of simple PLC	0.0s（h）～ 6553.5s（h）	0.0s(h)	☆

P13.21	Simple PLC first stage acceleration and deceleration time selection	0 ～ 3	0	☆
P13.22	Running time of the second stage of simple PLC	0.0s（h） ～ 6553.5s（h）	0.0s(h)	☆
P13.23	Simple PLC second stage acceleration and deceleration time selection	0 ～ 3	0	☆
P13.24	Running time of the third stage of simple PLC	0.0s（h） ～ 6553.5s（h）	0.0s(h)	☆
P13.25	Selection of acceleration and deceleration time for the third stage of simple PLC	0 ～ 3	0	☆
P13.26	Running time of the fourth stage of simple PLC	0.0s（h） ～ 6553.5s（h）	0.0s(h)	☆
P13.27	Simple PLC step 4 acceleration and deceleration time selection	0 ～ 3	0	☆
P13.28	Running time of the fifth stage of simple PLC	0.0s（h） ～ 6553.5s（h）	0.0s(h)	☆
P13.29	Simple PLC step 5 acceleration and deceleration time selection	0 ～ 3	0	☆
P13.30	Running time of the sixth stage of simple PLC	0.0s（h） ～ 6553.5s（h）	0.0s(h)	☆
P13.31	Simple PLC step 6 acceleration and deceleration time selection	0 ～ 3	0	☆
P13.32	Running time of the seventh stage of simple PLC	0.0s（h） ～ 6553.5s（h）	0.0s(h)	☆
P13.33	Simple PLC step 7 acceleration and deceleration time selection	0 ～ 3	0	☆
P13.34	Running time of the 8th stage of simple PLC	0.0s（h） ～ 6553.5s（h）	0.0s(h)	☆
P13.35	Simple PLC step 8 acceleration and deceleration time selection	0 ～ 3	0	☆
P13.36	Running time of the 9th stage of simple PLC	0.0s（h） ～6553.5s（h）	0.0s(h)	☆
P13.37	Selection of the acceleration and deceleration time of the 9th stage of simple PLC	0 ～ 3	0	☆
P13.38	Running time of the 10th stage of simple PLC	0.0s（h） ～ 6553.5s（h）	0.0s(h)	☆
P13.39	Simple PLC step 10 acceleration and deceleration time selection	0 ～ 3	0	☆
P13.40	Running time of the 11th stage of simple PLC	0.0s（h）～6553.5s（h）	0.0s(h)	☆

P13.41	Simple PLC step 11 acceleration and deceleration time selection	0 ～ 3	0	☆
P13.42	Running time of the 12th stage of simple PLC	0.0s（h） ～ 6553.5s（h）	0.0s(h)	☆
P13.43	Simple PLC step 12 acceleration and deceleration time selection	0 ～ 3	0	☆
P13.44	Running time of the 13th stage of simple PLC	0.0s（h） ～ 6553.5s（h）	0.0s(h)	☆
P13.45	Simple PLC step 13 acceleration and deceleration time selection	0 ～ 3	0	☆
P13.46	Running time of the 14th stage of simple PLC	0.0s（h） ～ 6553.5s（h）	0.0s(h)	☆
P13.47	Simple PLC step 14 acceleration and deceleration time selection	0 ～ 3	0	☆
P13.48	Running time of the 15th stage of simple PLC	0.0s（h） ～ 6553.5s（h）	0.0s(h)	☆
P13.49	Simple PLC step 15 acceleration and deceleration time selection	0 ～ 3	0	☆
P13.50	Simple PLC running time unit	0：s（sec） 1：h（hour）	0	☆
P13.51	Multi-segment command 0 given mode	0：function code P13.00 setting 1：AI1 2：AI 3：AI3 4：PULSE pulse 5：PID 6：preset frequency（P01.08）set，UP/DOWN can be modified	0	☆
P14 Communication				
P14.00	Communication baud rate	Ones place：MODBUS 0：300BPS 1：600BPS 2：1200BPS 3：2400BPS 4：4800BPS 5：9600BPS 6：19200BPS 7：38400BPS 8：57600BPS 9：115200BPS Tens place：PROFIBUS-DP 0：115200BPS 1：208300BPS 2：256000BPS 3：512000BPS	6005	☆

		HUNDREDS PLACE: RESERVED ONE THOUSAND DIGITS: CANLINK BAUD RATE0：20 1：50 2：100 3：125 4：250 5：500 6：1M		
P14.01	MODBUS data format	0: No parity (8.N-2) 1: Even parity (8.E-1) 2: Odd parity (8.O-1) 3: No parity (8.N-1)	0	☆
P14.02	Local address	0：Broadcast address 1 ～ 247（MODBUS）	1	☆
P14.03	MODBUS response delay	0 ～ 20ms	2	☆
P14.04	Serial communication timeout	0.0：Invalid 0.1 ～ 60.0s	0.0	☆
P14.05	MODBUS	Ones place: MODBUS 0: Non-standard MODBUS protocol 1: Standard MODBUS protocol Tens place: Profibus-DP 0: PPO1 format 1: PPO2 format 2: PPO3 format 3: PPO5 format	31	☆
P14.06	Communication reading current resolution	0：0.01A 1：0.1A	0	☆
P15 Special function parameters for constant pressure water supply				
P15.00	Easy macro debugging function	0: no function 1: One for two for water supply 2: Water supply for residential buildings 3: Hotel water supply 4: Fire water supply 5: pressurized water pump water supply 6: Deep water pump water supply	0	☆
P15.01	Wake up stress	0～resting pressure (KG) (P11.04)	0	☆
P15.02	Wake up delay time	0.0s～6500.0s	0s	☆
P15.03	Dormant pressure	Wake-up pressure ~ pressure feedback range	0	☆

P15.04	Sleep delay time	0.0s～6500.0s	0s	☆
P15.05	Enable pressure proportional linkage	0: Proportional linkage enable is off 1: Proportional linkage is enabled	1	☆
P15.06	Wake-up pressure linkage difference setting	0-100.00(Kg)	0.50KG	☆
P15.07	Sleep pressure linkage difference setting	0-100.0(Kg)	0.50KG	☆
P15.08	High pressure alarm value	0.00-Pressure gauge range KG	9.00	☆
P15.09	High pressure alarm value delay time	0-6553.5S	0.0S	☆
P15.10	Low pressure alarm value	0.00-pressure gauge range KG This parameter can be activated for high pressure to reach the relay	0.50	☆
P15.11	Low pressure alarm delay time	0-6553.5S	20.0S	☆
P15.12	Water inlet start pressure	0- pressure gauge range KG Open the water inlet start-stop control by P01.02=3 The water inlet must use the current sensor of AI2 For voltage sensors, please change the AI2 jumper	3.00	☆
P15.13	Inlet shutdown pressure	0- pressure gauge range KG	3.20	☆
P15.14	Number of auxiliary pumps	0-3 pcs	0	☆
P15.15	Auxiliary pump start waiting time	0-1000.0S	60.0S	☆
P15.16	Auxiliary pump switch waiting time	0-1000.0S	5.0S	☆
P15.17	RO1 function relay operating frequency setting	0-50HZ When this value is reached, the relay outputs ON signal	50.00	☆
P15.18	RO1 function relay off frequency setting	0-50HZ When this value is reached, the relay outputs OFF signal	30.00	☆
P15.19	Water level control options	0: Invalid 1: AI1 2: AI2 3: AI3 When the selection is 0, the water level control is invalid. 1~3 are given for the water level control analog signal source. Only after the analog signal source is selected, the settings of P15.15,	0	☆

		P15.16, P15.17, and P15.18 will be valid.		
P15.20	Water level threshold	0.0～100.0% When the detected water level control analog signal is less than the water level threshold, and this state continues after the delay time of P15.16, it will report full water warning (A-tF) and sleep. If it is a non-continuous situation, that is, when the delay time is not reached, the given analog signal is greater than the water level threshold, and the delay time will be automatically cleared. Then when the measured water level control analog signal is less than the water level threshold, the delay timing will be restarted	25.0%	☆
P15.21	Full water delay	0 ～ 1000.0S Full water delay time setting.	6.0S	☆
P15.22	Empty water level delay	0～1000.0S Empty water delay time setting. In the state of full water warning, when the detected water level control analog signal is greater than the water level threshold of P15.15, the delay timer will start, and after the delay time of this parameter continues in this state, the full water warning will be cleared and the normal state will return. In non-continuous situations, the delay timer will be automatically cleared.	60.0S	☆
P15.23	Hydraulic probe damage point	0.0～100.0% 0.0% means invalid When it is not 0.0%, when the detected water level control analog signal is greater than the P15.18 hydraulic probe damage point, it will directly report (E.tSF) fault and stop	0.0%	☆
P15.24	Water shortage protection function	0: On 1: Off, judge by frequency and pressure	0	☆
P15.25	Water shortage fault check value	0.00-Set pressure value KG Valid when P15.19=1	0.50	☆

		When the feedback value is less than this value, it is judged whether there is water shortage		
P15.26	Water shortage protection detection frequency	0-50.00HZ Valid when P15.19=1 The comparison frequency for judging whether there is water shortage. When the operating frequency is greater than or equal to this frequency, and the water shortage detection pressure is lower than or equal to P15.20, it is judged for water shortage。	50.00	☆
P15.27	Water shortage protection detection time	0-6553.5S Delay time of water shortage fault alarm	1.0	☆
P15.28	Incoming water detection pressure	0-Pressure gauge range KG(Bar)	3.0	☆
P15.29	Incoming water detection time	0-9999S water detection time	20.0S	☆
P15.30	Leakage restart deviation	0-Pressure gauge range KG(Bar)	0	☆
P15.31	Water leakage restart feedback value	0-Pressure gauge range KG(Bar)	0	☆
P15.32	Water leakage restart feedback value detection time	0: no function 0.1.10.0 seconds	2.0S	☆
P15.33	Sleep mode	0: Invalid 1: Sleep when the feedback pressure is greater than the sleep pressure 2: Dormancy when the running frequency is lower than the dormancy output frequency (affected by P15.29) 3: Sleep when the feedback pressure is greater than the dormancy pressure and the operating frequency is lower than the dormancy output frequency	0	☆
P15.34	Sleep output frequency	0-P01.12	20.00Hz	☆
P15.35	Sleep mode	0: Decelerate to stop 1: Free stop	0	☆
P15.36	Sleeping pressure percentage	Set pressure(0-100.0%)	0	☆

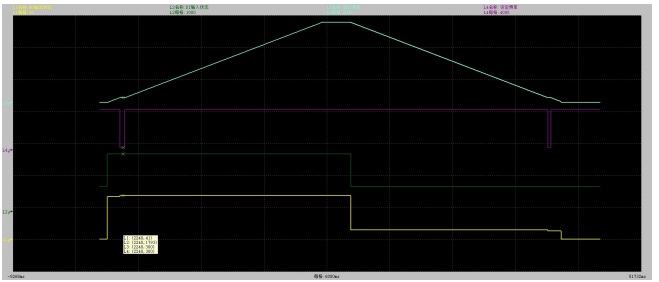
P17 Function code management				
P17.00	User password	0 ～ 65535	0	☆
P17.01	Parameter initialization	0: No operation 01: Restore factory parameters, excluding motor parameters 02: Restore factory parameters, including motor parameters 03: Clear record information	0	★
P17.02	Function parameter group display selection	Ones place: P00 group display selection 0: no display 1: display Tens place: P18-P30 group display selection 0: no display 1: display	11	
P17.03	Personality parameter group display selection	Ones place: User-defined parameter group display 0: no display 1: display Tens place: user change parameter group display 0: no display 1: display	00	
P17.04	Function code to modify attributes	0: Modifiable 1: Can not be modified	0	☆
P17.05	Parameter copy	0: No action 1: Parameter upload 2: Parameter download	0	★
P18 Torque control parameters				
P18.00	Speed/torque control mode selection	0: Speed control 1: Torque control	0	★
P18.01	Torque setting source selection in torque control mode	0: Digital setting 1 (P18.03) 1: AI1 2: AI2 3: AI3 4: PLUSE pulse given 5: Communication setting 6: MIN (AI1,AI2) 7: MAX (AI1,AI2)	0	★
P18.03	Torque digital setting in torque control mode	-200.0% ～ 200.0%	150.0%	☆
P18.05	Torque control forward maximum frequency	0.00Hz ～ maximum frequency	50.00Hz	☆
P18.06	Torque control reverse maximum frequency	0.00Hz ～ maximum frequency	50.00Hz	☆
P18.07	Torque control acceleration time	0.00s ～ 65000s	0.00s	☆
P18.08	Torque control deceleration time	0.00s ～ 65000s	0.00s	☆

P23 Control optimization parameters				
P23.00	DPWM switching upper limit frequency	5.00Hz ～ maximum frequency	8.00Hz	☆
P23.01	PWM modulation method	0: Asynchronous modulation 1: Synchronous modulation	0	☆
P23.03	Random PWM depth	0: random PWM disabled 1 ~ 10: PWM carrier frequency random depth	0	☆
P23.04	Fast current limit enable	0: Disable 1: Enable	1	☆
P23.05	Ooltage overmodulation system	100%-110%	105%	
P23.06	Undervoltage point setting	200.0V ～ 2200.0V	350.0V	☆
P23.09	Overvoltage point setting	200.0V ～ 2200.0V	机型确定	★
P23.10	Low frequency variable carrier enable	0: Enable off 1: Enable open	1	☆
P23.11	Zero speed running output control enable	0: Disable 1: Enable	0	☆
P23.12	Power supply phase loss protection sensitivity	0～30.0%	13.0%	☆
P24 AI curve setting				
P24.00	AI curve 4 minimum input	-10.00V～P24.02	0.00V	☆
P24.01	AI curve 4 minimum input corresponding setting	-100.0%～+100.0%	0.0%	☆
P24.02	AI curve 4 inflection points 1 input	P24.00～P24.04	3.00V	☆
P24.03	AI curve 4 inflection point 1 input corresponding setting	-100.0%～+100.0%	30.0%	☆
P24.04	AI curve 4 inflection point 2 input	P24.02～P24.06	6.00V	☆
P24.05	AI curve 4 inflection point 2 input corresponding setting	-100.0%～+100.0%	60.0%	☆
P24.06	AI curve 4 maximum Input	P24.06～+10.00V	10.00V	☆
P24.07	AI curve 4 maximum input corresponding setting	-100.0%～+100.0%	100.0%	☆
P24.08	AI curve 5 minimum input	-10.00V～P24.10	-10.00V	☆
P24.09	AI curve 5 minimum input corresponding setting	-100.0%～+100.0%	-100.0%	☆
P24.10	AI curve 5 inflection points 1 input	P24.08～P24.12	-3.00V	☆
P24.11	AI curve 5 inflection point 1 input corresponding setting	-100.0%～100.0%	-30.0%	☆

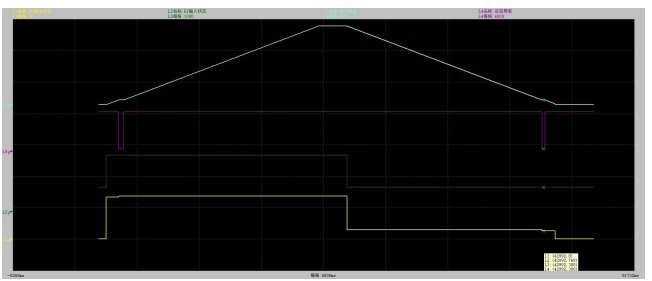
P24.12	AI curve 5 inflection points 2 inputs	P24.10～P24.14	3.00V	☆
P24.13	AI curve 5 inflection point 2 input corresponding setting	-100.0%～100.0%	30.0%	☆
P24.14	AI curve 5 maximum Input	P24.12~+10.00V	10.00V	☆
P24.15	AI curve 5 maximum input	-100.0%～100.0%	100.0%	☆
P24.24	AI1 sets the jump point	-100.0%～100.0%	0.0%	☆
P24.25	AI1 sets the jump range	0.0%～100.0%	0.1%	☆
P24.26	AI2 set jump point	-100.0%～100.0%	0.0%	☆
P24.27	AI2 sets the jump range	0.0%～100.0%	0.1%	☆
P24.28	AI3 set jump point	-100.0%～100.0%	0.0%	☆
P24.29	AI3 set jump range	0.0%～100.0%	0.1%	☆
P27 Group brake function code				
P27.00	Brake control enable	0～1	0	★
P27.01	Brake release frequency	0.00～10.00	2.00	★
P27.02	Release current	0.0～150.0	30.0	★
P27.03	Release time	0.00～10.00	0.50	★
P27.04	Brake release delay time	0.00～10.00	1.00	★
P27.05	Brake frequency	0.00～10.00	2.00	★
P27.06	Brake time	0.00～10.00	0.50	★
P27.07	Brake delay time	0.00～10.00	0.00	★

The braking sequence is as follows：

1. Check whether the output current is satisfied at the brake release frequency, and start to release the brake after it is satisfied, and after extending the release time, accelerate according to the target frequency.



2. After decelerating to the brake frequency, apply the brake directly.



P30 AI AO correction				
P30.00	AI1 Measured voltage1	0.500V～4.000V	Factory	☆
P30.01	AI1 Display voltage1	0.500V～4.000V	Factory	☆
P30.02	AI1 Measured voltage2	6.000V～9.999V	Factory	☆
P30.03	AI1 Display voltage2	6.000V～9.999V	Factory	☆
P30.04	AI2 Measured voltage1	0.500V～4.000V	Factory	☆
P30.05	AI2 Display voltage1	0.500V～4.000V	Factory	☆
P30.06	AI2 Measured voltage2	6.000V～9.999V	Factory	☆
P30.07	AI2 Display voltage2	6.000V～9.999V	Factory	☆
P30.08	AI3 Measured voltage1	-9.999V～10.000V	Factory	☆
P30.09	AI3 Display voltage1	-9.999V～10.000V	Factory	☆
P30.10	AI3 Measured voltage2	-9.999V～10.000V	Factory	☆
P30.11	AI3 Display voltage2	-9.999V～10.000V	Factory	☆
P30.12	AO1 Target voltage1	0.500V～4.000V	Factory	☆
P30.13	AO1 Measured voltage1	0.500V～4.000V	Factory	☆
P30.14	AO1 Target voltage2	6.000V～9.999V	Factory	☆
P30.15	AO1 Measured voltage2	6.000V～9.999V	Factory	☆
P30.16	AO2 Target voltage1	0.500V～4.000V	Factory	☆
P30.17	AO2 Measured voltage1	0.500V～4.000V	Factory	☆
P30.18	AO2 Target voltage2	6.000V～9.999V	Factory	☆
P30.19	AO2 Measured voltage2	6.000V～9.999V	Factory	☆

Chapter 4 Fault Alarm and Countermeasures

Keypad display	Fault name	Keypad display	Fault name
E.oCX	Inverter unit protection	E.EEP	EEPROM Read and write failure
E.oC1	Acceleration overcurrent	E.INv	Inverter hardware failure
E.oC2	Deceleration overcurrent	E.STG	Short circuit fault to ground
E.oC3	Constant speed overcurrent	E.TIo	Cumulative running time reached fault
E.oU1	Acceleration overvoltage	E.USE1	User-defined failure 1
E.oU2	Deceleration overvoltage	E.USE2	User-defined failure 2
E.oU3	Constant speed overvoltage	E.PUTO	Cumulative power-on time reached fault
E.Br	Control power failure	E.LOAD	Load drop failure
E.LU	Undervoltage fault	E.PId	Runtime PID feedback loss failure
E.oL1	Inverter overload	E.CBC	Wave-by-wave current limiting fault
E.oL2	Motor overload	E.SrUN	Switching motor failure while running
E.PHI	Input phase loss	E.SSD	Excessive speed deviation fault
E.PHo	Output phase loss	E.oS	Motor overspeed fault
E.oH1	Module overheating	E.oH2	Motor over temperature fault
E.SET	External device failure	A-LL	Water shortage warning
E.CE	Communication fail	A-tF	Full water warning
E.CoN	Contactor failure	A-HP	High water pressure failure
E.oCC	Current sense failure	A-LP	Low water pressure failure
E.TE	Motor tuning failure		

Setting instructions

P17.00 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 correct password is entered. To cancel the password, P17.00 needs to be set to 0.

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

Groups P01.P23 are basic function parameters and Group P00 are monitoring function parameters.

The symbols in the function table are explained as follows：

"☆": Indicates that the setting value of this parameter can be changed when the inverter is in stop or running state;

"★": Indicates that the set value of this parameter cannot be changed when the inverter is running;

"●": Indicates that the value of this parameter is the actual detection record value and cannot be changed;

"*": Indicates that the parameter is a "manufacturer's parameter", which is limited to the manufacturer's setting, and the user is prohibited from operating it.

485 communication address：

1. Contents of the agreement

The serial communication protocol defines the content and format of information transmitted in serial communication. It includes: host polling (or broadcast) format; host encoding method, including: function codes for required actions, transmission data and error checking, etc. The response of the slave machine also adopts the same structure, including: action confirmation, return data and error checking, etc. If the slave makes an error when receiving information, or cannot complete the action required by the master, it will organize a fault message as a response and feed it back to the master.

The function code address corresponds to the EEPROM address			
Function	**Function code communication access**		**Communication modification function**
P00	0x7000-0x70FF		
P01-P16	0xF000-0xFFFF		0x0000-0x0FFF
P18-P30	0xA000-0xACFF		0x4000-0x4CFF
1000 address			
Parameter	**Description**	**Parameter**	**Description**
1000H	Communication setting	1011H	PID feedback
1001H	Running frequency	1012H	PLC steps
1002H	Bus voltage	1013H	PULSE input pulse frequency, unit 0.01kHz

1003H	Output voltage	1014H	Feedback speed, unit 0.1Hz value
1004H	Output current	1015H	Remaining run time
1005H	Output Power	1016H	AI1 voltage before correction
1006H	Output torque	1017H	AI2 voltage before correction
1007H	Running speed	1018H	AI3 voltage before correction
1008H	DI input flag	1019H	Line speed
1009H	DO output flag	101AH	Current power-on time
100AH	AI1 voltage	101BH	Current running time
100BH	AI2 voltage	101CH	PULSE input pulse frequency, unit 1Hz
100CH	AI3 voltage	101DH	Communication settings
100DH	Count value input	101EH	Actual feedback speed
100EH	Length value input	101FH	Main frequency X display
100FH	Load speed	1020H	Auxiliary frequency Y display
1010H	PID setting		

2000 address

Command input to the inverter: (write only)		**Read inverter status: (read only)**	
Command address	**Function**	**Status address**	**Function**
2000H	0001H:forward run	2001	0001H:forward running
	0002H:reverse run		0002H:reverse running
	0003H:forward jog		0003H:Inverter shutdown
	0004H:reverse jog	Analog output AO1，AO2，PULSE	Status function definition
	0005H:free stop	2002H	0-7FFF means 0-100%
	0006H:deceleration	2003H	0-7FFF means 0-100%
	0007H:fault reset	2004H	0-7FFF means 0-100%

8000 address failure

Fault code	**Fault details**	**Fault code**	**Fault details**
	0000:no fault	E.EEP	0015:EEPROM Operation failure (EEP)
	0001:reserve	E.INT	0016:Inverter hardware failure

E.oC1	0002:acceleration overcurrent（oC1）	E.STG	0017:Motor to ground short circuit fault
E.oC2	0003:deceleration	E.BL	0018:reserve
E.oC3	0004:constant speed overcurrent (oC3)	E.oH2	0019:reserve
E.oU1	0005:acceleration	E.TIo	001A:run time arrives
E.oU2	0006:deceleration	E.USE1	001B:User-defined failure 1
E.oU3	0007:constant speed overvoltage (oU3)	E.USE2	001C:User-defined failure 2
E.Br	0008:snubber resistor overload fault	E.PUTo	001D:Power-on time arrives
E.LU	0009:Bus	E.LOAD	001E:drop load
E.oL2	000A:Inverter overload（oL2）	E.PId	001F:Loss of PID feedback while running (PIDE)
E.Ol1	000B:Motor overload	E.CBC	0028:Fast current limit timeout failure
E.PHI	000C:Input phase loss	E.SrUN	0029:motor stop fault
E.PHo	000D:Output phase	E.SDD	002A:Excessive speed deviation fault
E.oH1	000E:Module overheat	E.oS	002B:Motor over speed fault
E.SET	000F:external failure	E.OH2	002D:Motor over heat fault
E.CE	0010:communication	E.INIT	005A:number of encoder lines is set
E.CoN	0011:contactor failure	E.FDB	005B:Encoder not connected
E.oCC	0012:Current sense	E.INIT	005C:wrong initial position
E.TE	0013:Motor self-learning fault（TE）	E.ESD	005D:speed feedback error
E.Enco	0014:Encoder/PG card		

Communication fault information description data (fault code):

communication failure address	Fault description
8001H	0000: no fault 0001: wrong password 0002: command code error 0003: CRC check error 0004: invalid address 0005: invalid parameter 0006: Invalid parameter change 0007: System locked 0008: EEPROM operating

Product Warranty Agreement

1. The warranty object is the high-energy vector inverter in this manual.

2. After the product leaves the factory, the company will provide free warranty for quality problems that occur during the warranty period and under normal use conditions.

3. If the following situations occur during the warranty period, a certain fee will be charged according to the standard:

a) Faults that occur when the product is not used in accordance with the "User Manual" or exceeds the requirements of standard specifications;

b) Damage caused by drop or improper handling after purchase;

c) Device aging or failure caused by environmental use that does not meet the requirements of the manual;

d) Faults caused by self-repair and modification without permission;

e) Failures caused by poor storage;

f) Failures caused by using this product for abnormal functions;

g) Faults caused by fire, salt corrosion, gas corrosion, earthquake, storm, flood, lightning, abnormal voltage or other natural disasters or accompanying disasters;

h) The product label and product nameplate are torn off without authorization, making it impossible to confirm whether it is within the warranty period.

4. If you encounter any problems in use, you can contact your supplier or our company.