- •Thank you very much for your buying WP9 series Constant Pressure Water Supply Inverter.
- •Before use, please read this manual thoroughly to ensure proper usage. Keep this manual at an easily accessible place so that can refer anytime as necessary.

Safety Precautions

Please read this operation manual carefully before installation, operation, maintenance or inspection In this manual, the safety precautions were sorted to -WARNING' or "CAUTION".



Indicates a potentially dangerous situation which, if can not avoid will result in death or serious injury.



Indicates a potentially dangerous situation which, if can not avoid will cause minor or moderate injury and damage the device. This Symbol is also used for warning any un-safety operation.

In some cases, even the contents of "CAUTION" still can cause serious accident. Please follow these important precautions in any situation.

In some cases, even the contents of "CAUTION' still can cause serious accident. Please follow these important precautions in any situation.

In some cases, even the contents of "CAUTION" still can cause serious accident. Please follow these important precautions in any situation.

•NOTE indicate the necessary operation to ensure tha device run properly.

Warning Marks are placed on the front cover of the inverter.

Please follow these indications when using the inverter.

WARNING

- May cause injury or electric shock.
- •Please follow the instructions in the manual before installation or operation.
- •Disconnect all power line before opening front cover of unit. Walt at least 10 minutes until DC Bus capacitors discharge.
 - •Use proper grounding techniques.
 - Never connect AC power to output UVW terminals

Chapter 1 Introduction

1-1 Technology Features

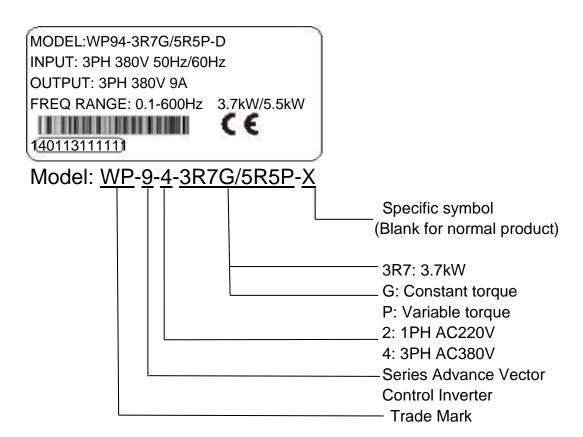
Water Supply Function	Description	Code display
Add pump	If the operating frequency is higher than the Add pump frequency PA.51, and the feedback is less than 95% of the set value, and the duration is longer than the Add pump time PA.52, the current pump will be switched to commercial power supply frequency operation mode, and inverter starts the next pump.	
Reduce Pump	When the operating frequency is less than the Reduce Pump frequency PA.53, and the feedback is higher than 95% of the set value, and the duration is longer than the Reduce Pump time PA.54, the earliest commercial power supply pump will be stopped.	
switch pump	When the inverter pump is running, and the duration reaches the pump replacement time, it will be switched to the next pump.	
The function of terminal stop pump	Stop the water pump function with multi-function terminal 51: Pump 1 invalid 52: Pump 2 invalid 53: Pump 3 invalid 54: Pump 4 invalid When the corresponding input terminal is closed 1) If the pump is running at the commercial power supply frequency, immediately disconnect the motor, 2) If the pump is running at inverter frequency and there are idle pumps, immediately enter the pump switching mode. 3) If the pump is running at inverter frequency and there is no idle pump, the commercial power supply pump will stop, and after the delay time, switch to variable frequency running.	
Auto start when power on	Power-on auto start delay time PA.38, PA.38=0 power-on auto start is invalid; PA.38 factory default value is 0	
Pressure setting and display	Digital tube "setting pressure, feedback pressure" at the same time, the unit is Bar; can shift to display other contents Press the up and down keys to adjust the pressure mode, refer to the parameters of PA.00 PA.00=0: digital target value PA.01 PA.00=3: digital target value PA.01, which can be set with the up and	

	down kove: the pressure screen will be displayed when changing	
DID	down keys; the pressure screen will be displayed when changing	SI D
PID	1) When the pressure is reached, the running frequency is less than the sleeping frequency PA.29 and the duration is longer than the	SLP
sleeping function	sleeping time PA.30, the frequency becoming 0, it enter into sleeping	
TUTIONOTI	state and displays "SLP"	
	2) When the running frequency is higher than the sleeping frequency	
	PA.29, and the frequency is stable, and it will also enter into the	
	sleeping state. Refer to parameters PA.45~PA.48	
	3) If the frequency is higher than PA.49, sleeping function is invalid.	
	4) Sleep only when one inverter pump is running	
PID	Under sleeping mode, if the pressure drop deviation is bigger than the	
wake-up	set pressure setting PA.31, the inverter wakes up and PID function	
or water	starts.	
leak		
detection		
function		
Anti-freeze	Under sleeping mode, if the duration is longer than PA.42, inverter will	
	wake up and run with time of PA.43 at the frequency of PA.42.	
Pressure	When pressure sensor disconnect, inverter will alarm and display	PIDE
sensor	"PIDE", Refer to the parameter of PA26, PA27	
disconnect		
detection		
High water	When the pressure is higher than PA.32 and the duration is longer	HP
pressure	than 0.1S, alarm high pressure fault and stop, the fault code is "HP",	
warning	(after the pressure returns to normal, delay PA.35 and automatically	
1	reset the fault)	
Low water	When the pressure is lower than PA.33 and the duration is longer than	LP
pressure	PA.36, alarm low pressure fault and stop, the fault code is "LP", (after	
warning	the pressure returns to normal, delay PA.35 and automatically reset	
No water	the fault) "Detection frequency A" =maximum frequency P0.12 - 2Hz	LL
warning	If the frequency of the inverter is higher than "detection frequency A",	
wairing	the duration is longer than PA.37 and the pressure is less than PA.34,	
	it will alarm no water fault and stop, and the fault code is "LL"	
No Water	When no water fault occurs, the inverter will automatically reset the	
fault auto	fault and run, and the automatic reset interval time refers to PA.39.	
reset	PA.40.	
function	Auto stop when there is no water, , and automatically resume the water	
	supply when water comes.	
	(In the keyboard operation mode, need to turn on the automatic	
	power-on and automatic operation function)	
	•	

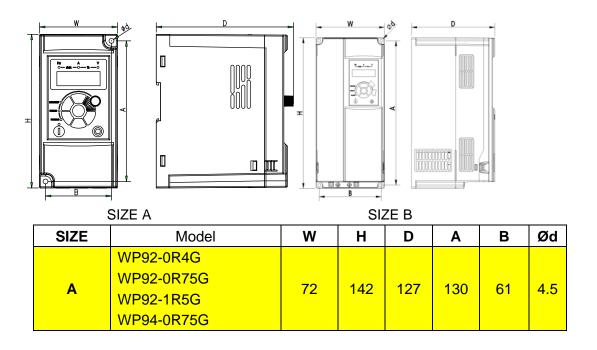
WP9 Water supply inverter technology:

Item		WP9
	Maximum frequency	V/F control: $0\sim$ 600.00Hz
		0.5kHz∼12kHz
	Carrier frequency	The carrier frequency is automatically adjusted based on
		the load features.
	Input frequency	Digital setting: 0.01Hz
	resolution	Analog setting: Maximum frequency ×0.025%
	Control mode	Sensorless flux vector control, V/F control
	Startup torque	G type: 0.5Hz/120%;
	Otartap torque	P type: 0.5Hz/100%
St	Speed range	1: 100
ano		G type: 60s for 150% rated current; 3s for 180% rated
dan	Overload capacity	current.
d fc	o volve our our	P type: 60s for 120% rated current; 3s for 150% rated
Standard function		current.
ion	Torque boost	Auto- boost
	-	Customized boost 0.1%~30.0%
		Straight-line V/F curve Multi-point V/F curve
	V/F curve	N-power V/F curve (1.2-power, 1.4-power, 1.6-power,
		1.8-power, square)
	V/F separation	Two types: complete separation; half separation
	V/I Coparation	Straight-line ramp
		S-curve ramp
	Ramp mode	Four groups of acceleration/deceleration time with the
		range of 0.0–6500.0s
		DC braking frequency: 0.00 Hz to maximum frequency
	DC braking	Braking time: 0.0–100.0s
	_	Braking action current value: 0.0%-100.0%
	JOG control	JOG frequency range: 0.00Hz~50.00Hz.
	JOG CONTO	JOG acceleration/deceleration time of 0.0s~6500.0s.
	Multiple preset	It implements up to 16 speeds via the simple PLC function
	speeds	or by input terminal states
<u> </u>	Built-in PID	It realizes process-controlled closed loop control system
Function		easily.
on on	Auto voltage	It can keep constant output voltage automatically when the
	regulation (AVR)	mains voltage changes.
	Over-voltage/	The current and voltage are limited automatically during the
	Over-current stall	running so as to avoid frequent tripping due to
	control	over-voltage/over-current.
	Rapid current limit	It helps avoid frequent over-current faults
	Torque limit and	It can limit the torque automatically and prevent frequent
	torque control	over-current tripping.

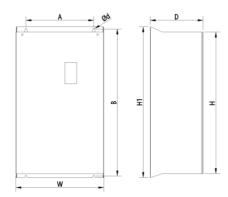
Inverter nameplate description:



1-2.Dimensions and installation dimensions

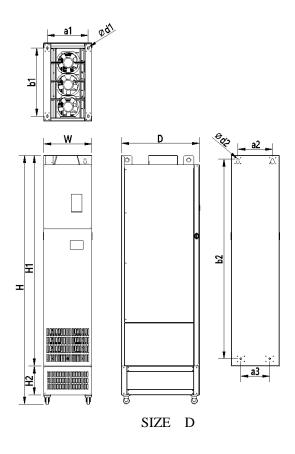


	WP94-1R5G WP94-2R2G						
A	WP92-2R2G WP92-3R7G WP94-3R7G/5R5P WP94-5R5G/7R5P	85	180	131	167	72	5.5
В	WP94-7R5G/11P WP94-11G/15P	106	240	168	230	96	4.5
В	WP94-15G/18.5P WP94-18.5G/22P WP94-22G/30G	151	332	183	318	137	7
В	WP94-30G/37P WP94-37G/45P	217	400	216	385	202	7



SIZE C

SIZE	Model	W	Н	H1	D	Α	В	Ød
	WP94-45G/55P							
С	WP94-55G	300	440	470	240	200	455	9
	WP94-75P							
	WP94-75G/90P							
С	WP94-90G/110P	275	590	630	310	200	612	9
	WP94-110G/132P							
С	WP94-132G/160P	400	675	715	210	220	605	11
	WP94-160G/185P	400	675	715	310	320	695	11



SIZE	变频器型号	外形尺寸			落地安装尺寸			壁挂安装尺寸					
SIZE	文姚命至与	W	Н	H1	H2	D	a1	b1	d1	a2	a3	b2	d2
	WP94-185G/200P												
D	WP94-200G/220P	300	1445	1180	200	500	250	430	14	200	150	1135	13
	WP94-220G/250P												
D	WP94-250G/280P	330	1595	1330	200	545	280	475	14	220	185	1275	13
D	WP94-280G/315P	325	1495	1230	200	545	275	470	14	225	185	1175	14
D	WP94-315G/350P	323	1493	1230	200	343	213	470	14	223	163	1173	14
	WP94-350G/400P												
D	WP94-400G/450P	335	1720	1455	200	545	285	470	14	240	200	1380	14
	WP94-450G/500P												

1-3 Selection guide

Madal	Rated output	Rated input	Rated output	Motor Power	
Model	power(kW)	current(A)	current(A)	(KW)	
Input voltage,V: 1PH AC 220V±15%					
WP92-0R4G	0.4	5.4	2.10	0.4	
WP92-0R75G	0.75	7.2	3.80	0.75	
WP92-1R5G	1.5	10	7.20	1.5	

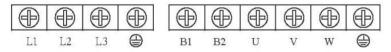
WP92-2R2G	2.2	16	9.00	2.2		
WP92-3R7G	3.7	17	17.00	3.7		
Input voltage V: 3PH AC 380V±15%						
WP94-0R75G	0.75	3.8	2.1	0.75		
WP94-1R5G	1.5	5	3.8	1.5		
WP94-2R2G	2.2	5.8	5.1	2.2		
WP94-3R7G/3R5P	3.7/5.5	10/15	9/13	3.7/5.5		
WP94-5R5G	5.5	15.0	13.0	5.5		
WP94-7R5P	7.5	20	17	7.5		
WP94-7R5G/11P	7.5/11	20/26	17/25	7.5/11		
WP94-11G/15P	11/15	26/35	25/32	11/15		
WP94-15G/18.5P	15/18.5	35/38	32/37	15/18.5		
WP94-18.5G/22P	18.5/22	38/46	37/45	18.5/22		
WP94-22G/30P	22/30	46/62	45/60	22/30		
WP94-30G/37P	30/37	62/76	60/75	30/37		
WP94-37G/45P	37/45	76/92	75/90	37/45		
WP94-45G/55P	45/55	92/113	90/110	45/55		
WP94-55G	55	113	110	55		
WP94-75P	75	157	150	75		
WP94-75G/90P	75/90	157/180	150/176	75/90		
WP94-90G/110P	90/110	180/214	176/210	90/110		
WP94-110G/132P	110/132	214/256	210/253	110/132		
WP94-132G/160P	132/160	256/307	253/300	132/160		
WP94-160G/185P	160/185	307/355	300/340	160/185		
WP94-185G/200P	185/200	355/385	340/380	185/200		
WP94-200G/220P	200/220	385/430	380/420	200/220		
WP94-220G/250P	220/250	430/475	420/470	220/250		
WP94-250G/280P	250/280	475/525	470/520	250/280		
WP94-280G/315P	280/315	525/610	520/600	280/315		
WP94-315G/350P	315/350	610/665	600/640	315/350		
WP94-350G/400P	350/400	665/700	640/690	350/400		
WP94-400G/450P	400/450	700/800	690/790	400/450		
WP94-450G/500P	450/500	800/865	790/860	450/500		

Chapter 2 Wiring

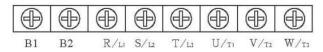
2-1Terminal Configuration

2-1-1 Main circuit terminal

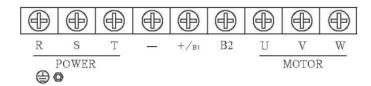
Type a: 3PH 380V 3.7KW-11KW



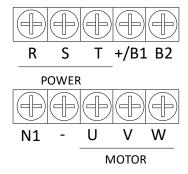
Type b: 3PH 380V 15KW-37KW



Type c : 3PH 380V 45KW-55KW

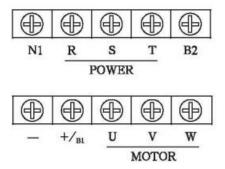


Type d: 3PH 380V 75KW-110KW



**Note: B2 terminal is only available for products with internal brake units. The N1 terminal is optional.

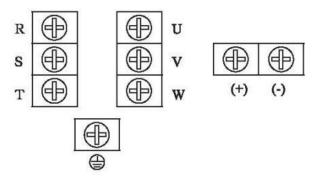
Type e: 3PH 380V 132KW-160KW



**Note: B2 terminal is only available for products with internal brake units.

The N1 terminal is optional.

Type f: 3PH 380V 185KW-450KW



^{**}Note: The R/S/T/U/V/W terminals are on the lower end of the product, and the (+)/(-) terminals are on the upper end of the product.

2-1-2 Main circuit terminal description

Name	Function
	Ground terminal
R/L1 S/L2 T/L3	AC INPUT
U/T1、V/T2、W/T3	Motor
+/B1、B2	Brake resistor(Option)
+/B1、-	Inverter DC positive and negative,
1/015	can be connected to braking unit

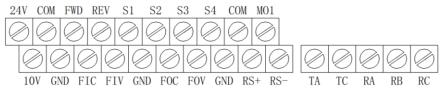
2-1-3 Control circuit terminal

1. 1PH/220V 0.4~3.7KW & 3PH/380V 0.4~5.5KW



Note:S3 terminal only supports NPN function, while other FWD,REV, S1, S2 can support PNP and NPN function.

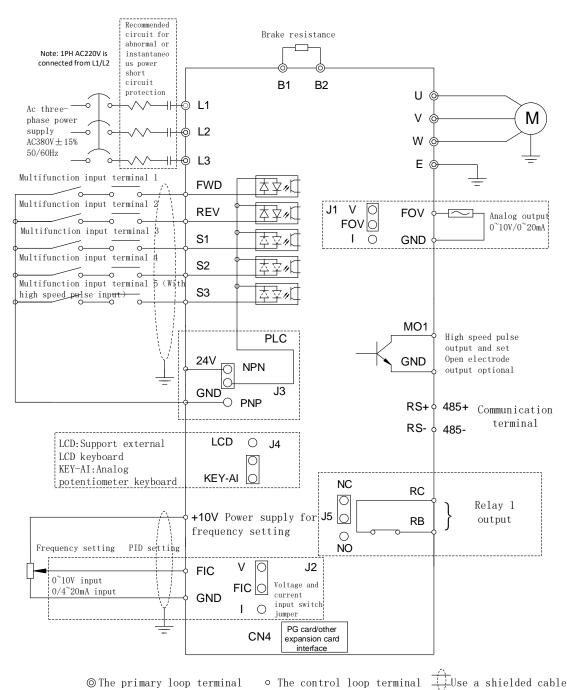
2. Above 5.5KW



2-1-4 Control circuit terminal description

	<u> </u>			
Terminal name	Function Definition Description	Note		
FWD	Forward command input terminal			
FVVD	(multi-function input terminal)	Multi-function input		
REV	Reverse command input terminal	terminal		
KEV	(multi-function input terminal)	S1∼S4, FWD,		
S1		REV, set the terminal		
S2	multi function input torminal	and COM closed is		
S3	multi-function input terminal	valid		
S4				
FOV	Analog output terminal	0~10V/0~20mA		
FOC	Analog output terminal	0~10V/0~20mA		
10V	Power supply for frequency setting			
24V	Auxiliary power			
FIV	Analog voltage command input	0~10V		
FIV	terminal			
FIC	Analog input terminal	0~10V/0~20mA		
GND	Analog signal common terminal			
COM	Digital signal common terminal			
MO1	Multifunctional optocoupler output			
IVIOT	contact			
RA	Relay output contact (normally			
	open)			
RB	Relay output contact (normally			
	close)			
RC	Common terminals of relay output			
	contacts RA and RB			
TA\ TC	Relay output contact (normally			
	open)			
RS+、RS-	RS485 communication terminal			

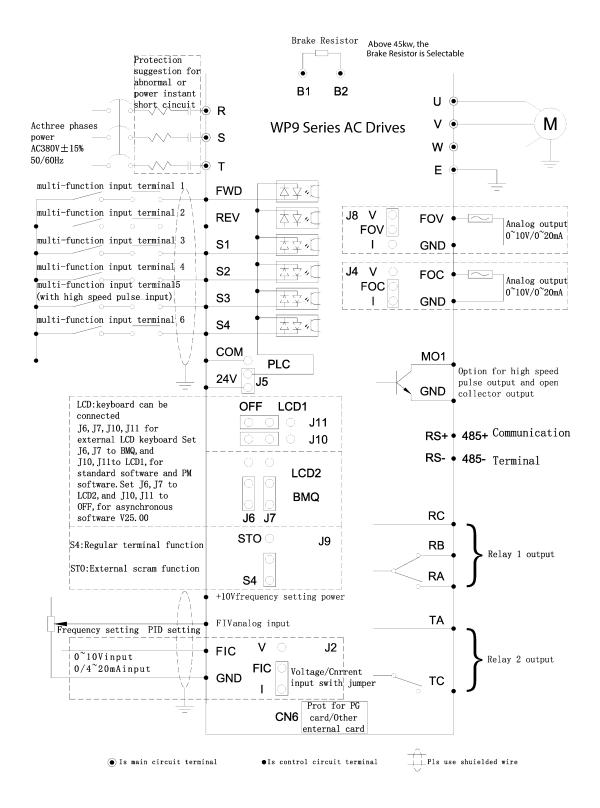
2-2. Wiring Diagram



Note: Terminals B1 and B2 are only available for products above 220V/2.2kW &

2) 380V/7.5KW-450KW

380V/3.7kW.



Note: It is built-in braking unit for below 37kW, the braking unit is optional for 45-160kW

Chapter 3 Operation

3-1 Keypad Description

380V/0.4KW~5.5KW



380V/7.5KW~450KW



1) Function key description

17 I direction not decomplian				
Key	Name	Description		
PRG	Programming key	Entry or escape of first-level menu		
ENTER	Data enter key	Progressively enter menu and confirm		
		parameters		

A	UP Increment Key	Progressively increase data or function codes
▼	DOWN Decrement Key	Progressively decrease data or function codes
	Shift Key	In parameter setting mode, press this button to select the bit to be modified. In stop and running display modes, cyclically displays parameters by shift key.
	Run key	Start to run the inverter in keypad control mode
0	Stop/Fault reset key	In running status, restricted by P7.02, can be used to stop the inverter. When fault alarm, can be used to reset the inverter without any restriction.
JOG	Shortcut Key	Determined by function code P7.01 0:No function 1:Switchover between operation panel command and remote operation command. It indicates the switchover between the current command source and operation panel control (local operation). If the current command source is operation panel control, the key is invalid. 2:Switch between forward and reverse, it only valid when command source is operation panel channel. 3:Forward JOG 4:Reverse JOG
M	No function	

2) Indicator light description

Indicator Light Name	Indicator light description	
Hz	Frequency unit	
Α	Current unit	
V	Voltage unit	
FWD/REV	Extinguished: Forward operation	
FVVD/REV	Light on: Reverse operation	
	Extinguished: Local operation	
LOCAL/REMOT	Light on: Terminal operation	
	Flickering: Communication control	
	Extinguished: Running state	
FUNC/ERR	Flickering: Pre-alarm of overload	
	Light on: Fault	



Extinguished: Stop mode

Flickering: In the process of auto-tuning

Light on: Running mode

Chapter 4 List of Function parameters

If PP.00 is set to a non-zero number, parameter protection is enabled. You must enter the correct user password to enter the menu. To cancel the password protection function, enter with password and set PP.00 to 0.

Parameters menu the user customizes are not protected by password. Group P is the basic function parameters, Group D is to monitor the function parameters. The symbols in the function code table are described as follows:

- "☆": The parameter can be modified when the AC drive is in either stop or running state.
- "★": The parameter cannot be modified when the AC drive is in the running state.
- "•": The parameter is the actually measured value and cannot be modified.
- "*": The parameter is factory parameter and can be set only by the manufacturer.

Standard Function Parameters:

Function code	Parameter name	Setting range	Default	Property
Group P0 S	Group P0 Standard function parameters			
P0.00		1: G type (constant torque load)	depends on inverter	•
	G/P type display	2: P type (variable torque load e.g. fan	model	
		and pump)		
P0.01	Control mode	0: Open loop (speed sensor) vector	2	*
	selection	control		
		1: Reserved		
		2: V/F control		
		0: Operation panel control (LED off)		
P0.02	Command source	1: Terminal control (LED on)	0	*
	selection	2: Communication control (LED linking)		

		0: Digital setting (P0.08 preset frequency,		
		can modify the UP/DOWN, power lost don't		
		memory)		
		1: Digital setting (P0.08 preset frequency,		
		can modify the UP/DOWN, power lost		
P0.03	Main frequency source X	•	0	*
		2: FIV		
		3: FIC		
		4: Keyboard potentiometer		
		5: Reserved		
		6: Multistage instruction		
		7: Simple PLC		
		8: PID		
		9: Communications given		
P0.04	Auxiliary frequency	Same as P0.03 (Main frequency source X	0	*
1 0.04	source Y selection	selection)	0	
	Auxiliary frequency	0: Related to the maximum frequency		☆
P0.05	source addition Y range	1: Related to the main frequency source X	0	
	selection			
	Auxiliary frequency	0%~150%		☆
P0.06	source addition Y range		100%	
		Unit's digit (Frequency source)		
		0: Main frequency source X		
		1: X and Y operation(operation relationship		
		determined by ten's digit)		
P0.07	Frequency source	2: Switch between X and Y		
	addition selection	3: Switch between X and "X and Y operation"	00	☆
		4: Switch between Y and "X and Y operation"		
		Ten's digit (X and Y operation)		
		0: X+Y		
		1: X-Y		
		2: higher one of the 2 sources		
		3: lower one of the 2 sources		
	_			
P0.08	Frequency preset	0.00Hz~maximum frequency (P0.10)	50.00Hz	☆
P0.09		0: Same direction	0	☆
		1: Reverse direction		
P0.10	, ,	50.00Hz~600.00Hz	50.00Hz	*
	Upper limit frequency	0: P0.12 setting		
P0.11	source	1: AI	0	*
		5: Communication setting		

P0.12	Upper limit frequency	Frequency lower limit P0.14~maximum frequency P0.10	50.00Hz	☆
P0.13	Upper limit frequency offset	0.00Hz∼maximum frequency P0.10	0.00Hz	☆
P0.14	Frequency lower limit	0.00Hz \sim upper limit frequency P0.12	0.00Hz	☆
P0.15	Carrier frequency	0.5kHz~16.0kHz	depends on inverter model	☆
P0.16	Carrier frequency adjustment with temperature	0: No 1: Yes	1	አ
P0.17	Acceleration time 1	0.00s~65000s	depends on inverter model	☆
P0.18	Deceleration time 1	0.00s~65000s	depends on inverter model	☆
P0.19	Acceleration/ Deceleration time unit	0: 1s 1: 0.1s 2: 0.01s	1	*
P0.21	Frequency offset of auxiliary frequency source for X and Y operation	0.00Hz∼maximum frequency P0.10	0.00Hz	☆

P0.22	Frequency command resolution	2: 0.01Hz	2	*
P0.23	Digital setting frequency memory selection	0: Not keep when stop 1: keep when stop	0	☆
P0.25	Acceleration/Decelerat ion time base frequency	0: Maximum frequency (P0.10)	0	*
P0.26	Base frequency for UP/DOWN modification during running	0: Running frequency 1: Setting frequency	0	*
P0.27	Frequency source selection	Unit digiit: kepay mode Ten's digit:terminal mode Hundred's digit:communication mode 0:No selection 1:Frequency source by digital setting 2:FIV 3:FIC 4:Reserved 5: Reserved	0000	¥

	6:Multi-Reference	
	7:Simple PLC	
	8:PID	
	9:Communication setting	

P1.00	Motor type	0: Normal asynchronous motor	0	*
	ург	1: Inverter dedicated asynchronous		
		motor		
P1.01	Rated motor power	0.1kW~1000.0kW	depends on inverter	*
			model	
P1.02	Rated motor voltage	1V~2000V	depends on inverter	*
			model	
P1.03	Rated motor current	0.01A∼655.35A	depends on inverter	
			model	*
P1.04	Rated motor frequency	0.01Hz \sim Maximum frequency	depends on inverter	*
			model	
P1.05	Rated motor rotational	1rpm \sim 65535rpm	depends on inverter	*
	speed		model	
	Stator resistance	0.001Ω~65.535Ω		
P1.06	(asynchronous motor)	(inverter power<=55kW)	Motor parameters	*
		0.0001Ω~6.5535Ω		
		(inverter power>55kW)		
	Rotor resistance	0.001Ω~65.535Ω		
P1.07	(asynchronous motor)	(inverter power<=55kW)	Motor parameters	*
		0.0001Ω~6.5535Ω		
		(inverter power>55kW)		
		0.01mH \sim 655.35mH		
P1.08	Leakage inductance	(inverter power<=55kW)	Motor parameters	*
	(asynchronous motor)	0.001mH~65.535mH		
		(inverter power>55kW)		
P1.09	Mutual inductance	0.1mH \sim 6553.5mH		
	(asynchronous motor)	(inverter power<=55kW)	Motor parameters	*
		0.01mH∼655.35mH		
		(inverter power>55kW)		
P1.10	No-load current	0.01A~P2.03(inverter power<=55kW)	Motor parameters	*
	(asynchronous motor)	0.1A~P2.03 (inverter power>55kW)		
P1.37	Motor auto-tuning	0: No operation		
	selection	1:Asynchronous motor static auto-tuning		
		2:Asynchronous motor dynamic		
		auto-tuning		

Functio Param	eter name Setting range	Default	Property
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n code				
Group F	P2 Motor Vector Cont	rol Parameters	·	
P2.00	Speed loop proportional gain 1	1~100	30	☆
P2.01	Speed loop integral time 1	0.01s~10.00s	0.50s	☆
P2.02	Switch frequency 1	0.00~P2.05	5.00Hz	☆
P2.03	Speed loop proportional gain 2	1~100	20	☆
P2.04	Speed loop integral time 2	0.01s~10.00s	1.00s	☆
P2.05	Switch frequency 2	P2.02~maximum frequency	10.00Hz	☆
P2.06	Vector control slip	50%~200%	100%	☆
P2.07	Time constant of speed loop filter	0.000s~0.100s	0.000s	☆
P2.08	Vector control over-excitation gain	0~200	64	☆
P2.09	Torque upper limit source in speed control mode	 0: Function code P2.10 setting 1: FIV 2: FIC 3: Reserved 4: Reserved 5: Communication setting 6: Reserved 7: Reserved 1-7 Full scale to P2.10 	0	☆

	Digital setting of torque upper limit in speed control mode	0.0%~200.0%	150.0%	አ
P2.13	Excitation adjustment proportional gain	0~60000	2000	☆
P2.14	Excitation adjustment integral gain	0~60000	1300	☆
P2.15	Torque adjustment proportional gain	0~60000	2000	☆
P2.16	Torque adjustment integral gain	0~60000	1300	☆
P2.17	Speed loop integral property	Unit's digit: Integral separation 0: Disabled 1: Enabled	0	☆

P3.00	VF curve setting	0: Linear V/F	0	*
		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		
		9: Reserved		
		10: VF complete separation		
		11: VF half separation		
		0.0%: (Automatic torque boost)	depends on inverter	
P3.01	Torque boost	0.1%~30.0%	model	☆
P302	Torque boost invalid	0.00Hz \sim maximum frequency	50.00Hz	*
	frequency	,		
	Multi-point V/F frequency	0.00Hz∼P3.05		
P3.03			0.00Hz	*
P3.04	Multi-point V/F voltage 1	0.0%~100.0%	0.0%	*
	Multi-point V/F frequency	P3.03~P3.07		
P3.05	2		0.00Hz	*
P3.06	Multi-point V/F voltage 2	0.0%~100.0%	0.0%	*
	Multi-point V/F frequency	P3.05 \sim Rated motor frequency		
P3.07	3	(P1.04)	0.00Hz	*
P3.08	Multi-point V/F voltage 3	0.0%~100.0%	0.0%	*
P3.09	VF slip compensation gain	0.0%~200.0%	0.0%	☆
P3.10	VF over-excitation gain	0~200	64	☆
P3.11	VF oscillation suppression	0~100	depends on inverter	
	gain		model	☆
P3.13	Voltage source for V/F	0: Digit setting(P3.14)		
	separation	1: FIV		
		2: FIC		
		3: Reserved		
		4: Reserved		
		5: Multi-reference	0	☆
		6: Simple PLC		
		7: PID		
		8: Communication setting		
		Note: 100.0% corresponding to		
		rated motor voltage		
P3.14	Voltage digital setting for	0V \sim rated motor voltage	0V	☆
J.14	V/F separation	ov Taled motor voltage	UV	Ж
	Voltage rise time of VF	0.0s~1000.0s		
P3.15	separation	Note: It indicates the time for the		☆
		voltage rising from 0 V to rated	0.0s	×
		motor voltage.		

Group	P4 Input Terminals			
P4.00	FWD terminal function	0: No function	1	*
	selection	1: Forward RUN(FWD)		
P4.01	REV terminal function	2: Reverse RUN(REV)	4	*
	selection	3: Three-wire control		
P4.02	S1 terminal function	4: Forward JOG(JOGF)	9	*
	selection	5: Reverse JOG(JOGR)		
P4.03	S2 terminal function	6: Terminal UP	12	*
	selection	7: Terminal DOWN		
P4.04	S3 terminal function	8: Coast to stop	0	*
	selection	9: Fault reset(RESET)		
		10: RUN pause		
		11: Normally open (NO) input of		
		external fault		
		12: Multi-Reference terminal 1		
		13: Multi-Reference terminal 2		
		14: Multi-Reference terminal 3		
		15: Multi-Reference terminal 4		
		16: Terminal 1 for acceleration/		
		deceleration time selection		
		17: Terminal 2 for acceleration/		
		deceleration time selection		
		18: Frequency source		
		Switch		
		19: UP and DOWN setting		
		clear (terminal, operation		
P4.05	S4 terminal function	panel)		
	selection	20: Command source		
		Switch terminal		
		21: Acceleration/Deceleration		
		Prohibition		
		22: PID pause		
		23: PLC status reset		
		24: Swing control pause		
		25: Counter input		
		26: Counter reset		
		27: Length count input		
		28: Length reset		
		29: Torque control prohibited		
		30: Reserved		
		31: Reserved		
		32: Immediate DC braking		
		33: Normally closed (NC) input of		

external fault
34: Frequency modification enable
35: Reverse PID action direction
36: External STOP terminal 1
37: Command source
Switch terminal 2
38: PID integral pause
39: Switch between main frequency
source X and preset frequency
40: Switch between auxiliary
frequency source Y and preset
frequency
41: Reserved
42: Reserved
43: PID param eter Switch
44: Reserved
45: Reserved
46: Speed control/Torque control
Switch
47: Emergency stop
48: External STOP terminal 2
49: Deceleration DC braking
50: Clear the current running time
51: Pump 1 invalid
52: Pump 2 invalid
53: Pump 3 invalid
54: Pump 4 invalid

P4.10	Digital signal filter time	0.000s∼1.000s	0.010s	☆
		0: Two-wire mode 1		
P4.11	Terminal command mode	1: Two-wire mode 2	0	*
		2: Three-wire mode 1		
		3: Three-wire mode 2		
P4.12	Terminal UP/DOWN rate	0.001Hz/s~65.535Hz/s	1.00Hz/s	☆
P4.13	FI curve 1 minimum input	0.00V∼P4.15	0.00V	☆
D4 14	Corresponding setting of	-100.0%~+100.0%	0.0%	
P4.14	FI curve 1 minimum input			☆
P4.15	FI curve 1 maximum input	P4.13~+10.00V	10.00V	☆
D4 16	Corresponding setting of	-100.0%~+100.0%	100.0%	
P4.16	FI curve 1 maximum input	-100.0% +100.0%	100.0%	☆
P4.17	FI curve 1 filter time	0.00s~10.00s	0.10s	☆
P4.18	FI curve 2 minimum input	0.00V∼P4.20	0.00V	☆
P4.19	Corresponding setting of	-100.0%~+100.0%	0.0%	☆

	FI curve 2 minimum input			
P4.20	FI curve 2 maximum input	P4.18~+10.00V	10.00V	☆
P4.21	Corresponding setting of FI curve 2 maximum input	-100.0%~+100.0%	100.0%	\$
P4.22	FI curve 2 filter time	0.00s~10.00s	0.10s	☆
P4.23~p 427	Reserved			
P4.28	PULSE minimum input	0.00kHz~P4.30	0.00kHz	☆
P4.29	Corresponding setting of pulse minimum input	-100.0%~100.0%	0.0%	\$
P4.30	PULSE maximum input	P4.28~100.00kHz	50.00kHz	☆
P4.31	PULSE maximum input setting	-100.0%~100.0%	100.0%	☆

P4.32	PULSE filter time	0.00s~10.00s	0.10s	☆
		Unit's digit: FIV curve selection		
		1: Curve 1(2 points,refer to P4.13 \sim		
		P4.16)		
		2: Curve 2(2points,refer to P4.18 \sim	321	☆
		P4.21)		
		3: Curve 3(2points,refer to P4.23 \sim		
		P4.26)		
P4.33	Al curve selection	4: Curve 4(4points,refer to C6.00 \sim		
P4.33		C6.07)		
		5: Curve 5(4points,refer to C6.08 \sim		
		C6.15)		
		Ten's digit: FIC curve selection		
		Hundred's digit: Reserved		

		1		
		Unit's digit: Setting for FIV less than		
		minimum input		
P4.34	Setting selection for FI less	0: Corresponds to the minimum input	000	☆
4.54	than minimum input	settings 1:0.0%		
		Ten's digit: Setting for FIC less than		
		minimum input		
P4.35	FWD delay time	0.0s~3600.0s	0.0s	*
P4.36	REV delay time	0.0s~3600.0s	0.0s	*
P4.37	S1 delay time	0.0s~3600.0s	0.0s	*
		0: High level valid		
	S terminal valid mode	1: Low level valid		
		Unit's digit: FWD		
P4.38		Ten's digit: REV		
	selection 1	Hundred's digit: S1	00000	_
		Thousand's digit: S2	00000	*
		Ten thousand's digit: S3		
		0: High level valid		
		1: Low level valid		
P4.39	S terminal valid mode	Unit's digit: S4	00000	
	selection 2	Ten's digit: Reserved	00000	*
		Hundred's digit: Reserved		

Group P5	Group P5 Output terminals				
P5.00	MO1 terminal output	0: Pulse output(YOP)	1	☆	
	mode selection	1: Digital output(YOR)			

P5.01	YOR	0: No output	0	☆
. 5.6		1: inverter running		
		2: Fault output (stop)		
		3: Frequency level detection FDT1		
		output		
		4: Frequency reached		
		5: Zero-speed running(no output at		
P5.02	Relay function selection	stop)		☆
	(RA- RB -RC)	6: Motor overload pre-warning	2	
		7: inverter overload pre-warning		
		8: Setting count value Reached		
		9: Designated count value reached		
		10: Length reached		
		11: PLC cycle complete		
P5.03	Relay function selection	12: Accumulative running time	0	
	(TA-TC)	reached		☆
	()	13: Frequency limited		
		14: Torque limited		
		15: Ready for RUN		
		16: Reserved		
		17: Frequency upper limit reached		
		18: Frequency lower limit reached		
P5.04	Relay fucntion selection	(relate to operation status)	1	☆
	(KA- KC)	19: Under voltage state output		
	(Optional card)	20: Communication setting		
		21: Positioning completed		
		(Reserved)		
		22: Positioning closed (Reserved)		
		23: Zero-speed running 2		
		(having output at stop)		
		24: Accumulative power-on time		
		reached		
		25: Frequency level detection FDT2		
		output		
		26: Frequency 1 reached output		
		27: Frequency 2 reached output		
		28: Current 1 reached output		
		29: Current 2 reached output		☆
		30: Timing reached output		
		31: Al input limit exceeded		
		32: no load		
		33: Reverse running		
		34: Zero current state		
•	İ			

36: Output current limit exceeded
37: Frequency lower limit reached
(having output at stop)
38: Alarm output(Keep running)
39: Motor over-temperature
pre-warning
40: Current running time reached
42: Motor contactor 1
43: Motor contactor 2
44: Motor contactor 3
45: Motor contactor 4

		<u></u>		
P5.18	RA-RB-RC output delay time	0.0s~3600.0s	0.0s	☆
P5.19	TA -TC output delay time	0.0s~3600.0s	0.0s	☆
		0: Positive logic		
		1: Negative logic		
	DO output terminal valid	Unit's digit: YOR		
P5.22	mode selection	Ten's digit: RA–RB-RC	00000	☆
	mode selection	Hundred's digit: TA-TC		
		Thousand's digit: Reserved		
		Ten thousand's digit: Reserved		
Group Po	Start / stop control			
P6.00	Start mode	0: Direct start	0	☆
		1: Rotational speed tracking restart		
	Rotational speed	0: From frequency at stop		
P6.01	tracking mode	1: From zero speed	0	*
		2: From maximum frequency		
P6.02	Rotational speed tracking	1~100	20	☆
	speed			
P6.03	Startup frequency	0.00Hz~10.00Hz	0.00Hz	☆
P6.04	Startup frequency holding	0.0s~100.0s	0.0s	*
	time			
	Startup DC braking	0%~100%		*
P6.05	current/Pre-excited		0%	
	current			
	Startup DC braking	0.0s~100.0s		*
P6.06	time/Pre-excited time		0.0s	
P6.07	Acceleration/	0: Linear acceleration/deceleration		
	Deceleration mode	1: S-curve acceleration/deceleration	0	*
		A		
		2: S-curve acceleration/deceleration		
		В		

P6.08	Time proportion of	0.0%~ (100.0%-P6.09)	30.0%	*
	S-curve start			
P6.09	Time proportion of	0.0%~ (100.0%-P6.08)	30.0%	*
	S-curve end			
P6.10	Stop mode	0: Decelerate to stop	0	☆
		1: Coast to stop		
P6.11	DC injection brake	0.00Hz \sim Maximum frequency	0.00Hz	☆
	operation frequency			
P6.12	Waiting time of DC	0.0s~100.0s	0.0s	☆
	injection braking			
P6.13	DC injection braking	0%~100%	0%	☆
	current			
P6.14	DC injection braking time	0.0s~100.0s	0.0s	☆
P6.15	Braking ratio	0%~100%	100%	☆

	Group P7 Operation panel and display				
P7.00	Output power correction	0.0-200.0	100.0		
	factor		100.0	☆	
P7.01	Key "JOG" function	0: No function			
	selection	1: Switch between operation panel control and			
		remote command control. It is invalid if current			
		command source is operation panel			
		2: Switch between forward rotation and	0	*	
		reverse rotation through Func key. Only valid when			
		command source is operation panel.			
		3: Forward Jog			
		4: Reverse Jog			
	STOP/PESET key function	0: Enabled only in operation panel control.,			
P7.02	97.02 STOP/RESET key function selection	STOP/RES key valid when stop	1	☆	
	Selection	1: Enabled in any operation mode			
		0000∼FFFF			
		Bit00: Output frequency 1(Hz)			
		Bit01: Setting frequency(Hz)			
		Bit02: Bus voltage(V)			
		Bit03: Output voltage(V)			
		Bit04: Output current(A)			
		Bit05: Output power(kW)			
		Bit06: Out put torque(%)			
P7.03	LED monitoring parameter	Bit07: DI in put status			
	during output - 2	Bit08: DO output status			
		Bit09: Reserved	1F	☆	
		Bit10: FIC voltage(V)			
		Bit11: Reserved			

		Bit12: Count value		
		Bit13: Length value		
		Bit14: Load speed display		
		Bit15: PID setting		
		0000~FFFF		
		Bit00: PID feedback		
		Bit01: PLC stage		
		Bit02: PULSE input pulse frequency (kHz)		
		Bit03: Running frequency 2 (Hz)		
		Bit04: Remaining running time		
		Bit05: Reserved		
		Bit06: FIC voltage (V)		
P7.04	LED monitoring parameter	Bit07: Reserved	0	☆
	during motor is run	Bit08: Linear 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)		
P7.05	LED monitoring parameter	0000∼FFFF		
	during motor is stopped	Bit00: Setting frequency (Hz)		
		Bit01: Bus voltage(V)		
		Bit02: DI input status		
		Bit03: DO output status		
		Bit04: Reserved		
		Bit05: FIC voltage(V)	33	
		Bit06: Reserved	33	☆
		Bit07: Count value		
		Bit08: Length value		
		Bit09: PLC stage		
		Bit10: Load speed		
		Bit11: PID setting		
		Bit12: PULSE input pulse frequency(kHz)		

P7.06	Load speed display coefficient	0.0001~6.5000	1.0000	☆
P7.09	Accumulative running time	0h \sim 65535h	1	•
P7.10	Product No.	-	-	•
P7.11	Soft version	-	-	•
		0: 0 decimal place		
P7.12	Numbers of decimal	1: 1 decimal place	1	☆

	.1()	2. 2 . 1 . 1 . 1		
	places for load speed	2: 2 decimal places		
	display	3: 3 decimal places		
P7.13	Accumulative power-on time	0h∼65535h	-	•
P7.14	Accumulative power consumption	0kW∼65535 kW	-	•
		Group P8 Auxiliary functions	<u> </u>	
P8.00	JOG frequency	0.00Hz \sim maximum frequency	2.00Hz	☆
P8.01	JOG acceleration time	0.0s∼6500.0s	20.0s	☆
P8.02	JOG deceleration time	0.0s∼6500.0s	20.0s	☆
P8.03	Acceleration time 2	0.0s∼6500.0s	depends on inverter model	☆
P8.04	Deceleration time 2	0.0s~6500.0s	depends on inverter model	☆
P8.05	Acceleration time 3	0.0s~6500.0s	depends on inverter model	☆
P8.06	Deceleration time 3	0.0s∼6500.0s	depends on inverter model	☆
P8.07	Acceleration time 4	0.0s∼6500.0s	depends on inverter	☆
P8.08	Deceleration time 4	0.0s∼6500.0s	depends on inverter model	☆
P8.09	Frequency jump 1	0.00Hz \sim maximum frequency	0.00Hz	☆
P8.10	Frequency jump 2	0.00Hz \sim maximum frequency	0.00Hz	☆
P8.11	Frequency jump amplitude	0.00Hz \sim maximum frequency	0.01Hz	☆
P8.12	Forward/Reverse rotation dead-zone time	0.0s~3000.0s	0.0s	☆
P8.13	Reverse control	0: Enabled 1: Disabled	0	☆
	Operation mode when set	0: Run at frequency lower limit		
P8.14	frequency lower than frequency lower limit	1: Stop 2: Run at zero speed	0	☆
P8.15	Droop control	0.00Hz~10.00Hz	0.00Hz	☆
P8.16	Set accumulative power-on time threshold	0h∼65000h	0h	☆
P8.17	Set accumulative running time threshold	0h∼65000h	0h	☆
P8.18	Startup protection	0: No 1: Yes	0	☆
P8.19	Frequency reaching value (FDT1)	0.00Hz \sim maximum frequency	50.00Hz	☆
P8.20	Frequency detection output lag time (FDT1)	0.0%~100.0% (FDT1 level)	5.0%	☆

P8.21	Detection range of frequency reached	0.0%~100.0%(maximum frequency)	0.0%	☆
P8.22	Frequency jump during acceleration/ deceleration	0: Disabled 1: Enabled	0	☆
P8.25	Frequency Switch point between acceleration time 1 and acceleration time 2	0.00Hz∼maximum frequency	0.00Hz	¥
P8.26	Frequency Switch point between deceleration time 1 and deceleration time 2	0.00Hz∼maximum frequency	0.00Hz	☆
P8.27	Terminal JOG preferred	0: Disabled 1: Enabled	0	☆
P8.28	Frequency detection value (FDT2)	0.00Hz∼maximum frequency	50.00Hz	አ
P8.29	Frequency detection output lag time (FDT2)	0.0%~100.0%(FDT2 电平)	5.0%	☆
P8.30	Frequency Detection value1	0.00Hz∼maximum frequency	50.00Hz	☆
P8.31	Frequency detection amplitude 1	0.0%~100.0%(maximum frequency)	0.0%	☆
P8.32	Frequency detection value 2	0.00Hz \sim maximum frequency	50.00Hz	☆
P8.33	Frequency detection amplitude 2	0.0%~100.0%(maximum frequency)	0.0%	☆
P8.34	Zero current detection level	0.0%~300.0% 100.0% for rated motor current	5.0%	☆
P8.35	Zero current detection delay time	0.01s∼600.00s	0.10s	☆
P8.36	Output over-current threshold	0.0% (no detection) 0.1%~300.0% (rated motor current)	200.0%	☆

P8.37	Output over-current detection delay time	0.00s~600.00s	0.00s	☆
P8.38	Current detection 1	0.0%~300.0% (rated motor current)	100.0%	☆
P8.39	Current detection 1 amplitude	0.0% \sim 300.0% (rated motor current)	0.0%	☆
P8.40	Current detection 2	$0.0\%\sim300.0\%$ (rated motor current)	100.0%	☆
P8.41	Current detection 2 amplitude	0.0%~300.0% (rated motor current)	0.0%	*
P8.42	Timing function selection	0: Disabled 1: Enabled	0	☆
		0: P8.44 setting		
	Timing running time	1: FIV		

P8.43	selection	2: FIC	h	☆
0.15	Selection	3: Reserved		
		Analog input range corresponds to P8.44		
P8.44	Timing running time	0.0Min∼6500.0Min	0.0Min	☆
P8.45	FIV input voltage lower	0.00V~P8.46	3.10V	☆
0.15	limit protection value	0.000	5.10	
P8.46	FIV input voltage upper	P8.45∼10.00V	6.80V	☆
0.10	limit protection value	0.13	0.00 V	
P8.47	Power module	0°C∼100°C	75°C	☆
0.17	temperature		, , ,	
P8.48	Cooling fan control	0: Fan working during running		☆
	Sooming rain contact	1: Fan working continuously	0	
		in an including community	<u> </u>	
P8.49	Wake-up frequency	sleeping frequency (P8.51) ~maximum		☆
	Traine up mequency	frequency	0.00Hz	
		(P0.10)		
P8.50	Wake-up delay time	0.0s∼6500.0s	0.0s	☆
P8.51	sleeping frequency	0.00Hz~Wake-up frequency(P8.49)	0.00Hz	☆
P8.52	sleeping delay time	0.0s~6500.0s	0.0s	☆
P8.53	Current running time	0.0Min∼6500.0Min	0.0Min	☆
	reached			
Group	P9 Fault and protection			
P9.00	Motor overload	0: Disabled 1: Enabled	1	☆
	protection selection			
P9.01	Motor overload	0.20~10.00	1.00	☆
	protection gain			
P9.02	Motor overload warning	50%~100%	80%	☆
	coefficient			
P9.03	Over-voltage stall gain	0~100	30	☆
P9.04	Over-voltage stall	0.0~810.0V	700.0V	☆
	prevention voltage			
P9.05	Over-current stall gain	0~100	20	☆
P9.06	Over-current stall	100%~200%	150%	☆
	prevention current			
P9.07	Short-circuit to ground	0: Disabled 1: Enabled	1	☆
	upon power on			
P9.09	Fault auto reset times	0~20	0	☆
	MO1 action during fault	0: No act		☆
P9.10	auto reset	1: Act	0	
P9.11	Time interval of fault auto	0.1s~100.0s	1.0s	☆
	reset			
P9.12	Input phase loss	0: Disabled 1: Enabled	1	☆
	protection selection			
	reset Input phase loss		1.0s	

P9.13	Output phase loss	0: Disabled 1: Enabled	1	☆
	protection selection			
		0: No fault		
		1: Reserved		
		2: Over-current during acceleration		
		3: Over-current during deceleration		
		4: Over-current at constant speed		
		5: Over-voltage during acceleration		
P9.14	1 at facilit time	6: Over-voltage during deceleration		
P 9.14	1st fault type	7: Over-voltage at constant speed		
		8: Surger resistor overload		
		9: Under voltage		
		10: inverter overload		
		11: Motor overload		
		12: Input phase loss		

		13: Output phase loss		
		14: Power module overheat		
		15: External equipment fault		
P9.15	2nd fault type	16: Communication fault		
		17: Contactor fault		
		18: Current detection fault	_	•
		19: Motor auto-tuning fault		
		20: Encoder/PG card fault		
		21: Parameters read-write fault		
		22: inverter hardware fault		
		23: Motor short circuit to ground		
P9.16	3rd (latest) fault type	24: Low water pressure warning	_	•
		25: Reserved		
		26: Running time reached		
		27: High water pressure warning		
		28: No water warning		
		29: Power-on time reached		
		30: No load		
		31: PID feedback lost during running		
		40: Rapid current limit overtime		
		41: Switch motor during running		
		42: Speed deviation too large		
		43: Motor over speed		
		45: Motor over temperature		
		51: Initial position fault		
P9.17	Frequency upon	_	_	•

	3rd(latest) fault			
	Current upon 3rd			
P9.18	(latest)fault	_	_	•
P9.19	Bus voltage upon			
	3rd(latest) fault	_	_	•
	Input terminal status			
P9.20	upon 3rd(latest) fault	_	_	•
	Output terminal status			
P9.21	upon 3rd (latest)fault	_	_	•
	inverter status upon			
P9.22	3rd(latest) fault	_	_	•
	Power-on time upon 3rd			
P9.23	(latest) fault	_	_	•
	Running time upon 3rd			_
P9.24	(latest) fault	_	_	•
P9.27	Frequency upon 2nd fault	-	_	•
P9.28	Current upon 2nd fault	-	_	•
DO 20	Bus voltage upon 2nd			
P9.29	fault	_	_	•
P9.30	Input terminal status	_	_	
P9.30	upon 2nd fault	_	_	
P9.31	Output terminal status	_		
P9.51	upon 2nd fault			
P9.32	inverter status upon 2nd	_	_	
1 3.32	fault			
P9.33	Power-on time upon	_	_	•
1 3.33	2nd fault			
P9.34	Running time upon 2nd	_	_	•
. 5.5	fault			
P9.37	Frequency upon 1st fault		_	•
P9.38	Current upon 1st fault		_	•
P9.39	Bus voltage upon 1st fault		_	•
P9.40	Input terminal status	_	_	•
	upon 1st fault			
P9.41	Output terminal status	_	_	•
	upon 1st fault			
P9.42	inverter status upon 1st	_	_	•
	fault			
P9.43	Power-on time upon 1st	_	_	•
	fault			
P9.44	Running time upon 1st	_	_	•
	fault			

P9.47	Fault protection action	Unit's digit: Motor overload(11)	00000	☆
	selection 1	0: Coast to stop		
		1: Stop according to the stop mode		
		2: Continue to run		
		Ten's digit: Input phase loss(12)		
		Hundred's digit: output phase loss (13)		
		Thousand's digit: External equipment fault		
		(15)		
		Ten thousand's digit: Communication fault		
		(16)		
P9.48	Fault protection action	Unit's digit: Encoder/PG card error(20)	00000	☆
	selection 2	0: Coast to stop		
		Ten's digit: Function code read-write fault		
		(21)		
		0: Coast to stop		
		1: Stop according to the stop mode		
		Hundred's digit: Reserved		
		Thousand's digit: Motor overheat(25)		
		Ten thousand's digit: Running time		
		reached (26)		
	Fault protection action	Unit's digit: Customized fault 1 (27)		
	selection 3	0: Coast to stop		
		1: Stop according to the stop mode		
		2: Continue to run		
		Ten's digit: Customized fault 2 (28)		
		0: Coast to stop		
		1: Stop according to the stop mode		
P9.49		2: Continue to run		
		Hundred's digit: Power-on time reached		
		(29)	00000	☆
		0: Coast to stop		
		1: Stop according to the stop mode		
		2: Continue to run		
		Thousand's digit: Load becoming 0(30)		
		0: Coast to stop		
		1: Decelerate to stop		
		2: Continue to run at 7% of rated motor		
		frequency and resume to the set frequency	,	
		if the load recovers		
		Ten thousand's digit: PID feedback loss of	f	
		running (31)		

	0: Coast to stop	
	1: Stop according to the stop mode	
	2: Continue to run	

P9.50 Fault protection action Selection 4 Ten's digit: Speed deviation too large (42) 0. Coast to stop 1. Stop according to the stop mode 2. Continue to run Ten's digit: Motor over speed (43) 00000		Т	T	1	1
Fault protection action selection 4 Fault protection 5 Fault protection 4 Fault protection 5 Fault protection 4 Fault Pault Fault Fau			Unit's digit: Speed deviation too large (42)		
P9.50 Fault protection action Selection 4 Ten's digit: Motor over speed (43) 0,0000 1			0: Coast to stop		
P9.50 selection 4 Ten's digit: Motor over speed (43) 00000			1: Stop according to the stop mode		
selection 4 Ten's digit: Motor over speed (43) 00000 Hundred's digit: Initial position error (51) 0. Running at current frequency 1. Running at set frequency 1. Running at abnormal standby f	P9 50	Fault protection action	2: Continue to run		☆
Continue to run Continue to run 1: Running at current frequency 1: Running at set frequency 1: Running at set frequency 1: Running at upper limit frequency 1: Running at upper limit frequency 1: Running at lower limit frequency 1: Running at lower limit frequency 1: Running at upper limit about prequency	1 3.30	selection 4	Ten's digit: Motor over speed (43)	00000	
P9.54 Continue to run 1: Running at set frequency Frequency selection when 2: Running at upper limit frequency 0			Hundred's digit: Initial position error(51)		
P9.54 frequency selection when fault 2: Running at upper limit frequency 3: Running at lower limit frequency 4: Running at abnormal standby frequency 5: Running at abnormal standby frequency 6: 100.0% corresponding to maximum frequency 100.0% 100			0: Running at current frequency		
P9.54 fault 3: Running at lower limit frequency 4: Running at abnormal standby frequency 60.0%~100.0% (100.0% corresponding to maximum frequencyP0.10)		Continue to run	1: Running at set frequency		
Fault 3: Running at lower limit frequency 4: Running at abnormal standby frequency 60.0%~100.0% (100.0% corresponding to maximum frequencyP0.10)	DO E4	frequency selection when	2: Running at upper limit frequency		
P9.55 Abnormal standby frequency 60.0%~100.0% (100.0% corresponding to maximum frequencyP0.10) ★ P9.56 Reserved ★ P9.57 Reserved ★ P9.58 Reserved ★ Action selection at 0: Invalid instantaneous power failure 0 ★ P9.59 Reserved P9.62 Decelerate to stop 1: Decelerate to stop	P9.54	fault	3: Running at lower limit frequency	0	☆
P9.55 Abnormal standby frequency (100.0% corresponding to maximum frequency 100.0%			4: Running at abnormal standby frequency		
P9.55 Reserved P9.59 Reserved P9.62 ~ 100.0% 100.0% Reserved P9.63 100.0% Reserved P9.64 ~ 100.0% 100.0%			60.0%~100.0%		
P9.56 Reserved ★ P9.57 Reserved ★ P9.58 Reserved ★ Action selection at 0: Invalid instantaneous power failure 0 ★ P9.59 failure 2: Decelerate to stop 100.0% ★ P9.60 Reserved P9.62~100.0% 100.0% ★ P9.61 at instantaneous power failure Action judging time 0.00s~100.00s 0.50s ★ P9.62 instantaneous power failure Action judging voltage at instantaneous power failure 0 ★ P9.62 instantaneous power failure 0 ★ P9.63 becoming 0 1: Enabled 0 ★ P9.64 becoming 0 1: Enabled 0 ★ P9.65 Detection level of load becoming 0 0.0~60.0s 1.0s ★ P9.67 Overspeed detection value 0.0%~50.0% (maximum frequency) 20.0% ★ P9.68 Overspeed detection time 0.0s~60.0s 1.0s ★	P9.55	-	(100.0% corresponding to maximum		☆
P9.57 Reserved ☆ P9.58 Reserved ☆ Action selection at0: Invalid instantaneous power failure 0 ☆ P9.59 failure 2: Decelerate to stop 0 ☆ P9.60 Reserved P9.62 ~ 100.0% 100.0% ☆ P9.61 voltage rally judging time at instantaneous power failure 0.00s ~ 100.0% (standard bus voltage) 80.0% ☆ P9.62 instantaneous power failure Action judging voltage at instantaneous power failure 0.00s ~ 100.0% (standard bus voltage) 80.0% ☆ P9.63 Protection upon load becoming 0 0: Disabled 0 ☆ P9.64 Detection level of load becoming 0 0.0~ 100.0% ↑ 10.0% ☆ P9.65 Detection time of load becoming 0 0.0~ 60.0s 1.0s ☆ P9.67 Volvespeed detection value 0.0% ~ 50.0% (maximum frequency) 20.0% ☆ P9.68 Overspeed detection time 0.0s ~ 60.0s 1.0s ☆ Detection value when 0.0s ~ 60.0s 1.0s ☆		frequency	frequencyP0.10)	100.0%	
P9.58 Reserved ★ Action selection at 0: Invalid instantaneous power failure 0 ★ P9.59 failure 2: Decelerate to stop 0 ★ P9.60 Reserved P9.62 ~ 100.0% 100.0% ★ P9.61 at instantaneous power failure 0.00s~100.00s 0.50s ★ P9.62 instantaneous power failure 60.0%~100.0% (standard bus voltage) 80.0% ★ P9.62 instantaneous power failure 0: Disabled 0 ★ P9.63 becoming 0 1: Enabled 0 ★ P9.64 becoming 0 0: Detection level of load becoming 0 0.0~100.0% 10.0% ★ P9.65 becoming 0 0.0 ~ 60.0s 1.0s ★ P9.67 value 0.0 verspeed detection value 0.0%~50.0% (maximum frequency) 20.0% ★ P9.68 Overspeed detection time 0.0s~60.0s 1.0s ★ P9.68 Overspeed detection value when 0.0s~60.0s 1.0s ★	P9.56				☆
Action selection at 0: Invalid instantaneous power 1: Decelerate 2: Decelerate to stop P9.60 Reserved P9.62~100.0% 100.0% \$ P9.61 Voltage rally judging time 0.00s~100.00s	P9.57	Reserved			☆
Action selection at 0: Invalid instantaneous power 1: Decelerate 2: Decelerate to stop P9.60 Reserved P9.62~100.0% 100.0% \$ P9.61 Voltage rally judging time 0.00s~100.00s	P9.58	Reserved			☆
instantaneous power failure P9.60 Reserved P9.62 P0.61 P0.61 Reserved P9.62 P0.61 P0.61 P0.61 P0.61 P0.62 P0.62 P0.62 P0.60 P0.61 P0.61 P0.62 P0.63 P0.64 P0.65 P0.65 P0.65 P0.65 P0.65 P0.65 P0.65 P0.66			0: Invalid		
P9.59 failure P9.60 Reserved P9.62~100.0% Voltage rally judging time 0.00s~100.00s at instantaneous power failure Action judging voltage at instantaneous power failure P9.62 instantaneous power failure P9.63 Protection upon load becoming 0 Detection level of load becoming 0 Detection time of load becoming 0 Detection time of load becoming 0 Overspeed detection value P9.68 Overspeed detection time Detection value when Detection value when				0	☆
P9.60 Reserved P9.62~100.0%	P9.59	·			
Voltage rally judging time 0.00s~100.00s P9.61 at instantaneous power failure Action judging voltage at 60.0%~100.0% (standard bus voltage) P9.62 instantaneous power failure P9.63 Protection upon load becoming 0 1: Enabled P9.64 Detection level of load becoming 0 Detection time of load becoming 0 Detection time of load becoming 0 Overspeed detection value P9.65 Overspeed detection time Detection value when Voltage rally judging time 0.00s~100.00s \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$				100.0%	☆
P9.61 at instantaneous power failure Action judging voltage at instantaneous power failure P9.62 Action judging voltage at instantaneous power failure Protection upon load becoming 0 1: Enabled P9.63 Detection level of load becoming 0 Detection time of load becoming 0 P9.65 Detection time of load becoming 0 P9.67 Overspeed detection value P9.68 Overspeed detection time 0.05~60.0s Detection value when	1 3.00				
Action judging voltage at instantaneous power failure P9.62 Protection upon load becoming 0 1: Enabled P9.64 Detection level of load becoming 0 Detection time of load becoming 0 Overspeed detection value P9.65 Overspeed detection time Detection value P9.66 Overspeed detection time Detection value when	DQ 61		0.003 100.003	0.503	
Action judging voltage at 60.0%~100.0% (standard bus voltage) P9.62 instantaneous power failure P9.63 Protection upon load becoming 0 1: Enabled P9.64 Detection level of load becoming 0 P9.65 Detection time of load becoming 0 P9.67 Overspeed detection value P9.68 Overspeed detection value when Action judging voltage at 60.0%~100.0% (standard bus voltage) 80.0% ** ** ** ** ** ** ** ** **	1 3.01	·			
P9.62 instantaneous power failure P9.63 Protection upon load becoming 0 1: Enabled P9.64 Detection level of load becoming 0 P9.65 Detection time of load becoming 0 P9.67 Overspeed detection value P9.68 Overspeed detection time Detection value Detection value when			60.09/ a 100.09/ (standard bus voltage)	on no/	A.
Failure Protection upon load becoming 0 1: Enabled Detection level of load becoming 0 0.0~100.0% P9.64 Detection time of load becoming 0 0.0~60.0s P9.65 Detection time of load becoming 0 0.0%~50.0% (maximum frequency) 20.0% P9.68 Overspeed detection time 0.0s~60.0s Detection value when	D0 62		00.0% Too.0% (standard bus voitage)	00.076	×
P9.63 Protection upon load becoming 0 1: Enabled P9.64 Detection level of load becoming 0 P9.65 Detection time of load becoming 0 P9.67 Overspeed detection value P9.68 Overspeed detection value when Possible d 1: Enabled 0.0~100.0% 0.0~100.0% 0.0~60.0s 1.0s ** 0.0%~50.0% (maximum frequency) 20.0% ** Detection value when	P9.02	·			
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			0.00	0	
P9.64 Detection level of load becoming 0 Detection time of load becoming 0 P9.65 Detection time of load becoming 0 Overspeed detection value P9.68 Overspeed detection time Detection value when Detection value when	P9.63	·		U	×
P9.64 becoming 0 $0.0 \sim 60.0s$ $1.0s$ $$^{\pm}$ P9.65 Detection time of load becoming 0 0.0 \sim 60.0s 1.0s $^{\pm}$ P9.67 Overspeed detection value 0.0\% \sim 50.0\% (maximum frequency) 20.0\% $^{\pm}$ P9.68 Overspeed detection time 0.0s \sim 60.0s 1.0s $^{\pm}$ Detection value when 0.0s \sim 60.0s 0.0s \sim 60.0s 0.0s \sim 60.0s 0.0s \sim 60.0s $				10.00/	
P9.65 Detection time of load becoming 0 $0.0\sim60.0s$ $1.0s$ P9.67 Overspeed detection value $0.0\%\sim50.0\%$ (maximum frequency) 20.0% P9.68 Overspeed detection time $0.0s\sim60.0s$ $1.0s$ Detection value when $0.0s\sim60.0s$ $0.0s\sim60.0s$	P9.64		0.0~100.0%	10.0%	☆
P9.65becoming 0 $0.0\sim60.0s$ $1.0s$ $$^{\pm}$P9.67Overspeed detection value0.0\%\sim50.0\% (maximum frequency)20.0\%$^{\pm}$P9.68Overspeed detection time0.0s\sim60.0s1.0s$^{\pm}$Detection value when$^{\pm}$$		_			
P9.67 Overspeed detection value 0.0%∼50.0% (maximum frequency) 20.0% ★ P9.68 Overspeed detection time 0.0s∼60.0s 1.0s ★ Detection value when Detection value when 1.0s ★	P9.65		0.0∼60.0s	1.0s	☆
P9.67 value 0.0% ~50.0% (maximum frequency) 20.0% ☆ P9.68 Overspeed detection time 0.0s ~60.0s 1.0s ☆ Detection value when					
value 0.0s~60.0s 1.0s Detection value when	P9.67	·	0.0%~50.0% (maximum frequency)	20.0%	☆
Detection value when					
	P9.68	Overspeed detection time	0.0s∼60.0s	1.0s	☆
1		Detection value when			
P9.69 speed deviation is too $0.0\% \sim 50.0\%$ (maximum frequency) 20.0%	P9.69	speed deviation is too	$0.0\% \sim 50.0\%$ (maximum frequency)	20.0%	☆
large		large			
Detection time when		Detection time when			
P9.70 speed deviation is too 0.0s∼60.0s 5.0s	P9.70	speed deviation is too	0.0s~60.0s	5.0s	☆
large		large			

Grour P	A PID Function			
PA.00	PID setting source	0: PA.01 setting		
		1: FIV		
		2: FIC	0	☆
		5: Communication setting		
		6: Multi-reference		
PA.01	Setting pressure 0.00-50.00bar	0.00bar~PA.04	2.50	☆
		0: FIV		
PA.02	PID feedback source	1: FIC		
		5: Communication setting	1	☆
PA.03	PID action direction	0: Forward action	0	☆
FA.03	FID action direction	1: Reverse action	0	Ж
PA.04	Pressure range	0.00-50.00bar	10.00	☆
PA.05	Proportional gain Kp1	0.0~100.0	80.0	☆
PA.06	Integral time Ti1	0.01s~10.00s	2.00s	☆
PA.07	Differential time Td1	0.000s~10.000s	0.000s	☆
PA.08	Frequency limit of PID reverse	$0.00{\sim}$ maximum frequency	0.00Hz	☆
PA.09	PID deviation limit	0.0%~100.0%	0.1%	☆
PA.10	PID differential limit	0.00%~100.00%	0.10%	☆
PA.11	PID setting change time	0.00~650.00s	0.00s	☆
PA.12	PID feedback filter time	0.00~60.00s	0.00s	☆
PA.13	PID output filter time	0.00~60.00s	0.00s	☆
PA.14	Reserved	-	-	☆
PA.15	Proportional gain Kp2	0.0~100.0	100.0	☆
PA.16	Integral timeTi2	0.01s~10.00s	0.50s	☆
PA.17	Differential time Td2	0.000s~10.000s	0.000s	☆
		0: Not switch		
DA 40	PID parameter switching	1: Switching via X terminal	2	☆
PA.18	condition	2: Automatic switching based on deviation		

PA.19	PID parameter switching deviation1	0.0%∼PA.20	5.0%	☆
PA.20	PID parameter switching deviation 2	PA.19~100.0%	10.0%	☆
PA.21	PID initial value	0.0%~100.0%	0.0%	☆
PA.22	PID initial value holding time	0.00~650.00s	0.00s	*
PA.23	Maximum value of two times forward output deviation	0.00%~100.00%	2.00%	☆

	Maximum value of two			
PA.24		0.00%~100.00%	2.00%	☆
FA.24	times reverse output deviation	0.00% 100.00%	2.00%	×
		Unit's digit: Integral separated		
		0: Invalid		
		1: Valid		
		Ten's digit: Whether to stop integral		
DA 25	DID into aval avanavtu			
PA.25		operation when the output reaches 0: Keep integral operation	00	☆
		1: Stop integral operation		
	Detection value of PID	0.0%: Not judging feedback loss		
PA.26		0.1%~100.0%	0.0%	☆
	Detection time of PID			
PA.27	feedback loss	0.0s~20.0s	1.0s	☆
		0: No PID operation at stop		
PA.28	PID stop operation	1: PID operation at stop	0	☆
PA.29	sleeping frequency	0.00~maximum frequency	25.00HZ	☆
-		0.00~6000S	10S	☆
	<u> </u>	0.00~PA.04		
PA.31	Wake-up value of sleep	Sleeping ,Wake up when lower than	0.50	
	·	target pressure PA.31.		☆
	Upper limit warning value of			
PA.32	feedback signal (e.g high	PA.33~PA.04	5.00	☆
	pressure)			
	Lower limit warning value of			
PA.33	feedback signal : Set as 0, no	0.00~PA.32	0	☆
	warning			
54.24	No water pressure detection	0.00 54.04	0.05	
PA.34	value	0.00 ~ PA.01	0.25	☆
		0~9999S		
DA 25	Delay time for reset water	When the pressure returns to normal,	100	
PA.35	pressure fault	delay PA.35, then automatically reset	10S	☆
		the high pressure or low pressure fault		
PA.36	Low pressure warning	0~9999S	10S	
PA.36	detection time	0~99995	105	☆
DA 27	No water warning detection	0.00005	1005	
PA.37	time	0~9999S	100S	☆
	Auto running when power	0~1		
PA.38	on	(0: No auto running when power on)	0	☆
PA.39	No water auto reset interval	0~65000s	60S	☆
FA.33		0030005	003	м
PA.40	No water pressure auto reset times	0~65000s	10	☆
	reset times			

PA.41	Antifreeze effective:	0~1	0	☆
PA.42	Sleeping, antifreeze waiting time	0~65000s	900s	☆
PA.43	Sleeping, antifreeze running time	0~65000s	30s	☆
PA.44	Sleeping, antifreeze running frequency	0~50.00Hz	15.00 HZ	☆
PA.45	sleeping judging: frequency range <p635 judging<br="" s,="" start="">sleep</p635>		0.50HZ	☆
PA.46	sleeping judging: The pressure allowed for decreasing frequency	0.0~10.0%	0.60%	☆
PA.47	sleeping judging: decreasing frequency per second	0~10.00Hz	0.30HZ	☆
PA.48	sleeping judging:: times for decreasing frequency	0~1000	10 次	☆
PA.49	sleeping judging: frequency >PA.49, not judge sleeping	0~maximum frequencyP0.1	0 42.00HZ	☆
PA.50	Pid sampling time	0~1000 ms	4ms	☆
	Add pump frequency	0.00~maximum frequency	49.00Hz	☆
PA.52	Add pump detection time	0.0~6553.5s	10.0s	☆
PA.53	Reduce Pump frequency	0.00~maximum frequency	25.00Hz	☆
PA.54	Reduce Pump detection time	0.0~6553.5s	10.0s	☆
PA.55	switch pump time	0.0~6553.5min	100.0min	☆
PA.56	Contactor close delay time	0.1~100.0s	0.5s	☆
PA.57	Contactor open delay time	0.1~100.0s	0.5s	☆
PA.58	Effective pump selection	0: Invalid 1: Valid Unit's digit: Pump 1 Ten's digit: Pump 2 Hundred's digit: Pump 3 Thousand's digit: Pump 4	11	*
PA.59	Multi-pump effective	0: Standard mode 1: Multi-pump control mode	0	*
Group Pl	b Swing frequency function	, Fixed length control and Counter	r function	
Pb.00	Swing frequency setting mode	0: Relative to the central frequency	0	☆

		1: Relative to the maximum		
		frequency		
Pb.01	Swing frequency amplitude	0.0%~100.0%	0.0%	☆
Pb.02	Frequency jump amplitude	0.0%~50.0%	0.0%	☆
Pb.03	Swing frequency cycle	0.1s∼3000.0s	10.0s	☆
Pb.04	Triangular wave rising	0.1%~100.0%	50.0%	☆
PD.04	time coefficient	0.176 9 100.076	30.0%	Ж
Pb.05	Setting length	0m \sim 65535m	1000m	☆
Pb.06	Actual length	0m \sim 65535m	0m	☆
Pb.07	Number of pulses per meter	0.1~6553.5	100.0	☆
Pb.08	Set count value	1~65535	1000	☆
Pb.09	Assigned count value	1~65535	1000	☆

Group F	PC Multi-reference and Si	mple PLC		
PC.00	Multi-Reference 0	-100.0%~100.0%	0.0%	☆
PC.01	Multi-Reference 1	-100.0%~100.0%	0.0%	☆
PC.02	Multi-Reference 2	-100.0%~100.0%	0.0%	☆
PC.03	Multi-Reference 3	-100.0%~100.0%	0.0%	☆
PC.04	Multi-Reference 4	-100.0%~100.0%	0.0%	☆
PC.05	Multi-Reference 5	-100.0%~100.0%	0.0%	☆
PC.06	Multi-Reference 6	-100.0%~100.0%	0.0%	☆
PC.07	Multi-Reference 7	-100.0%~100.0%	0.0%	☆
PC.08	Multi-Reference 8	-100.0%~100.0%	0.0%	☆
PC.09	Multi-Reference 9	-100.0%~100.0%	0.0%	☆
PC.10	Multi-Reference 10	-100.0%~100.0%	0.0%	☆
PC.11	Multi-Reference11	-100.0%~100.0%	0.0%	☆
PC.12	Multi-Reference 12	-100.0%~100.0%	0.0%	☆
PC.13	Multi-Reference 13	-100.0%~100.0%	0.0%	☆
PC.14	Multi-Reference 14	-100.0%~100.0%	0.0%	☆
PC.15	Multi-Reference 15	-100.0%~100.0%	0.0%	☆
		0: Stop after the inverter runs one cycle		
PC.16		1: Keep final values after the inverter runs one cycle	0	☆
		2: Repeat		
		Unit's digit: Retentive upon power		
PC.17	Simple PLC	failure selection	00	☆
F C. 17	retentive selection	0: No	00	×
		1: Yes		

		Ten's digit: Retentive upon stop		
		selection		
		0: No		
		1: Yes		
PC.20	Running time of simple PLC reference 1	0.0s (h) ~6553.5s (h)	0.0s (h)	☆
	Acceleration/deceleration			
PC.21	time of simple PLC reference 1	0~3	0	☆
PC.22	Running time of simple PLC reference 2	0.0s (h) ~6553.5s (h)	0.0s (h)	☆
	Acceleration/deceleration			
PC.23	time of simple PLC	0~3	0	☆
	reference 2			
PC.24	Running time of simple PLC reference 3	0.0s (h) ~6553.5s (h)	0.0s (h)	☆
	Acceleration/deceleration			
PC.25	time of simple PLC	0∼3	0	☆
	reference 3			
PC.26	Running time of simple PLC reference 4	0.0s (h) ~6553.5s (h)	0.0s (h)	☆
	Acceleration/deceleration			
PC.27	time of simple PLC	0~3	0	☆
	reference 4			
PC.28	Running time of simple	0.0s (h) ∼6553.5s (h)	0.0s (h)	☆
1 C.20	PLC reference 5	0.03 (117 0333.33 (117	0.03 (11)	^
	Acceleration/deceleration			
PC.29	time of simple PLC	0∼3	0	☆
	reference 5			
PC.30	Running time of simple PLC reference 6	0.0s (h) ∼6553.5s (h)	0.0s (h)	☆
	Acceleration/deceleration			
PC.31	time of simple PLC	0~3	0	☆
	reference 6			
PC.32	Running time of simple	0.0s (h) ~6553.5s (h)	0.0s (h)	
r C.32	PLC reference 7	U.US (II) (~0555.58 (II)	U.US (II)	☆
	Acceleration/deceleration			
PC.33	time of simple PLC	0~3	0	☆
	reference 7			
PC.34	Running time of simple	0.0s (h) ~6553.5s (h)	0.0s (h)	☆
r C.34	PLC reference 8	0.05 (II) **0000.05 (II)	0.05 (11)	м
PC.35	Acceleration/deceleration	0~3	0	☆
. C.33	time of simple PLC	5 5		~

	reference 8			
PC.36	Running time of simple PLC reference 9	0.0s (h) ~6553.5s (h)	0.0s (h)	☆
PC.37	Acceleration/deceleration time of simple PLC reference 9	0~3	0	☆
PC.38	Running time of simple PLC reference 10	0.0s (h) ~6553.5s (h)	0.0s (h)	☆
PC.39	Acceleration/deceleration time of simple PLC reference 10	0~3	0	¥
PC.40	Running time of simple PLC reference 11	0.0s (h) ~6553.5s (h)	0.0s (h)	☆
PC.41	Acceleration/deceleration time of simple PLC reference 11	0~3	0	☆
PC.42	Running time of simple PLC reference 12	0.0s (h) ~6553.5s (h)	0.0s (h)	☆
PC.43	Acceleration/deceleration time of simple PLC reference 12	0~3	0	☆
PC.44	Running time of simple PLC reference 13	0.0s (h) ~6553.5s (h)	0.0s (h)	☆
PC.45	Acceleration/deceleration time of simple PLC reference 13	0~3	0	☆
PC.46	Running time of simple PLC reference 14	0.0s (h) ~6553.5s (h)	0.0s (h)	☆
PC.47	Acceleration/deceleration time of simple PLC reference 14	0~3	0	☆
PC.48	Running time of simple PLC reference 15	0.0s (h) ~6553.5s (h)	0.0s (h)	☆
PC.49	Acceleration/deceleration time of simple PLC reference 15	0~3	0	☆
PC.50	Time unit of simple PLC running	0: s(second) 1: h(hour)	0	☆
PC.51		0: Function code PC.00 setting 1: FIV 2: FIC 3: Reserved 4: Reserved 5: PID	0	ጵ

6: Set by preset frequency	
(P0.08) , Modified via	
UP/DOWN	

Group P	Pd Communication parame	rters		
		Unit's digit: MODBUS		
		0: 300BPS		
		1: 600BPS		
		2: 1200BPS		
		3: 2400BPS		
		4: 4800BPS		
		5: 9600BPS	0005	
		6: 19200BPS	0005	
DD 00		7: 38400BPS		
PD.00	Baud rate	8: 57600BPS		
		9: 115200BPS		
		Ten's digit: Reserved		☆
		Hundred's digit: Reserved		
		Thousand's digit: Reserved		
		0: No check(8-N-2)		
		1: Even parity check(8-E-1)	3	☆
PD.01	Data format	2: Odd parity check(8-O-1)		
		3: 8-N-1		
PD.02	Local address	$1{\sim}247,\;$ 0: Broadcast address	1	☆
PD.03	Response delay	0ms∼20ms	2	☆
PD.04	Communication timeout	0.0 (Invalid) ,0.1s~60.0s	0.0	☆
		Unit's digit: MODBUS		
	Data transfer format	0: Non-standard MODBUS		
PD.05	selection	protocol		
		1: Standard MODBUS protocol	1	☆
		Ten's digit: Reserved		
PD.06	Communication reading	0: 0.01A		☆
F D.00	current resolution	1: 0.1A	1	
Group P	PE Reserved			
Group	PP User-defined Function	Code		
PP.00	User password	0∼65535	0	☆
		0: No operation		
		01: Restore factory settings except		
PP.01	Parameter Initialization	motor parameters		
		02: Clear records	0	*

Group	C5 Control Optimization P	arameters		
C5.00	DPWM Switching	0.00Hz~15.00Hz	12.00Hz	☆

	frequency upper limit			
		0: Asynchronous modulation		
C5.01	PWM modulation mode	1: Synchronous modulation	0	☆
		0: No compensation		
	Dead zone compensation	1: Compensation mode 1		
C5.02	mode selection	2: Compensation mode 2	1	☆
		0: Random PWM invalid		
	Random PWM depth	$1\sim$ 10: PWM carrier frequency		☆
C5.03	·	random depth	0	
		0: Disabled		
C5.04	Rapid current limit	1: Enabled	1	☆
	Current detection			
C5.05	compensation	0~100	5	☆
	Under voltage threshold			
C5.06	setting	100.0V~600.0V	depends on inverter model	☆
	No PG optimization mode	0: No optimization		
	selection	1: Optimization mode 1		
C5.07		2: Optimization mode 2	1	☆
	Dead zone time	-		
C5.08	adjustment	100%~200%	150%	☆
Group		etting	L	
_	FI curve 4 minimum input	1	0.00V	☆
	Corresponding setting of			
C6.01	FI curve 4 minimum input	-100.0%~+100.0%	0.0%	☆
	FI curve 4 inflection 1			
C6.02	input	C6.00~C6.04	3.00V	☆
	Corresponding setting of			
C6.03	FI curve 4 inflection 1	-100.0%~+100.0%	30.0%	☆
	input			
	FI curve 4 inflection 2			
C6.04	input	C6.02~C6.06	6.00V	☆
	Corresponding setting of			
C6.05	FI curve 4 inflection 2	-100.0%~+100.0%	60.0%	☆
	input			
C6.06	FI curve 4 maximum input	C6.06∼+10.00V	10.00V	☆
	Corresponding setting of			
C6.07	FI curve 4 maximum input	-100.0%~+100.0%	100.0%	☆
C6.08	FI curve 5 minimum input		-10.00V	☆
	Corresponding setting of			
C6.09	FI curve 5 minimum input	-100.0%~+100.0%	-100.0%	☆
	FI curve 5 inflection 1			
C6.10	input	C6.08~C6.12	-3.00V	☆
	Corresponding setting of			
C6.11	FI curve 5 inflection 1	-100.0%~+100.0%	-30.0%	☆
		1	1	

	input			
C6.12	FI curve 5 inflection 2 input	C6.10~C6.14	3.00V	☆
C6.13	Corresponding setting of FI curve 5 inflection 2 input	-100.0%~+100.0%	30.0%	☆
C6.14	FI curve 5 maximum input	C6.12~+10.00V	10.00V	☆

C6.15	Corresponding setting of	-100.0%~+100.0%	100.0%	☆
	FI curve 5 maximum input			
C6.16	Jump point of FI setting	-100.0%~100.0%	0.0%	☆
C6.17	Jump amplitude of FI	0.0%~100.0%	0.0%	☆
C6.18	Jump point of FI setting	-100.0%~100.0%	0.0%	☆
C6.19	Jump amplitude of FI	0.0%~100.0%	0.0%	☆

Group (Group CC FIV,FIC Correction					
•				Τ.		
CC.00	FIV measured voltage 1	0.500V~4.000V	Factory-corrected	☆		
CC.01	FIV displayed voltage 1	0.500V~4.000V	Factory-corrected	☆		
CC.02	FIV measured voltage 2	6.000V∼9.999V	Factory-corrected	☆		
CC.03	FIV displayed voltage 2	6.000V∼9.999V	Factory-corrected	☆		
CC.04	FIC measured voltage 1	0.500V~4.000V	Factory-corrected	☆		
CC.05	FIC displayed voltage 1	0.500V~4.000V	Factory-corrected	☆		
CC.06	FIC measured voltage 2	6.000V∼9.999V	Factory-corrected	☆		
CC.07	FIC displayed voltage 2	6.000V∼9.999V	Factory-corrected	☆		
CC.12	FOV target voltage 1	0.500V~4.000V	Factory-corrected	☆		
CC.13	FOV measured voltage 1	0.500V~4.000V	Factory-corrected	☆		
CC.14	FOV target voltage 2	6.000V∼9.999V	Factory-corrected	☆		
CC.15	FOV measured voltage 2	6.000V∼9.999V	Factory-corrected	☆		
CC.16	FOC target voltage 1	0.500V~4.000V	Factory-corrected	☆		
CC.17	FOC measured voltage 1	0.500V~4.000V	Factory-corrected	☆		
CC.18	FOC target voltage 2	6.000V∼9.999V	Factory-corrected	☆		
CC.19	FOC measured voltage 2	6.000V∼9.999V	Factory-corrected	☆		

Monitoring Parameters:

Function Code	Parameter Name	Unit					
Group D0 Basic monit	Group D0 Basic monitoring parameters						
D0.00	Output frequency (Hz)	0.01Hz					
D0.01	Set frequency (Hz)	0.01Hz					
D0.02	DC voltage (V)	0.1V					
D0.03	Output voltage (V)	1V					
D0.04	Output current (A)	0.01A					
D0.05	Output power (kW)	0.1kW					
D0.06	Output torque (%)	0.1%					
D0.07	X input status	1					
D0.08	Y output status	1					
D0.09	Reserved						
D0.10	FIC Voltage (V)	0.01V					

D0.11	Reserved	
D0.12	Count value	1
D0.13	Length value	1
D0.14	Load speed display	1
D0.15	PID Setting	1
D0.16	PID feedback	1
D0.17	PLC stage	1
D0.18	Reserved	0.01kHz
D0.19	Feedback speed (unit 0.1Hz)	0.1Hz
D0.20	Remaining running time	0.1Min
D0.21	Reserved	
D0.22	FIC voltage before correction	0.001V
D0.23	Reserved	
D0.24	Linear speed	1m/Min
D0.25	Current power on time	1Min
D0.26	Current running time	0.1Min
D0.27	Reserved	
D0.28	Communication setting value	0.01%
D0.29	Encoder feedback speed	0.01Hz
D0.30	Main frequency X display	0.01Hz
D0.31	Auxiliary frequency Y display	0.01Hz
D0.32	Monitor any memory address values	1
D0.33	Synchronous motor rotor position	0.1°
D0.34	Motor temperature value	1°C
D0.35	Target torque (%)	0.1%
D0.36	Resolver postion	1
D0.37	Power factor angle	0.1°
D0.38	ABZ position	1
D0.39	Target voltage upon V/F separation	1V
D0.40	Output voltage upon V/F separation	1V
D0.41	Intuitive display of X input status	1
D0.42	Intuitive display of Y input status	1
D0.43	Intuitive display of X function status 1(Function 01-Function40)	1
D0.44	Intuitive display of X function status 2(Function 41-Function80)	1
D0.59	Setting frequency (%)	0.01%
D0.60	Running frequency (%)	0.01%
D0.61	inverter status	1

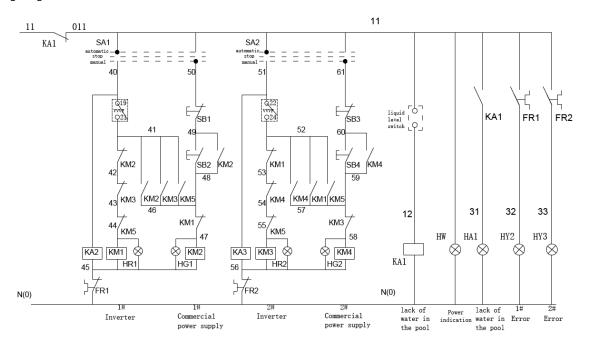
Fault alarm

Fault Name	Display of panel	Fault no.
Over-current during acceleration	oC1	2
Over-current during deceleration	oC2	3
Over-current during constant speed	oC3	4
Over-voltage during acceleration	oU1	5
Over-voltage during deceleration	oU2	6
Over-voltage during constant speed	oU3	7
Snubber resistor overload state	POF	8

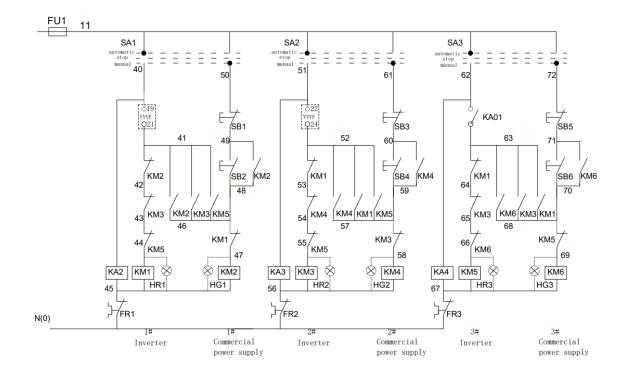
Under voltage	LU	9
Inverter overload	OL2	10
Motor overheat	OL1	11
Power Module overheat	ОН	14
External equipment fault	EF	15
Communication time out	CE	16
Low water pressure warning	LP	24
High water pressure warning	hP	27
No water warning	LL	28
Running time reached	End1	26
Power on time reached	End2	29
PID feedback lost during running	PIDE	31
(Pressure sensor disconnect)		
Tips	Display of panel	
inverter sleeping	SLP	

Appendix Application Notes

Wiring diagram of one inverter control two motors:



Wiring diagram of one inverter control three motors:



Parameter macro:

<u> </u>	rafameter macro .	T	1	<u> </u>	1	_
Function	Description	Setting range	PP.01=1	PP.01=20	PP.01=21	PP.01=22
code	5	04.0	Default	Pump 2	Pump 3	Pump 4
PP.01	Parameter initialization	01: Restore factory defaults	<u></u>	0	<u></u>	<u></u>
PA.00	PID target value	Keypad setting	0	0	0	0
PA.02	PID feedback value	0:FIV,1:FIC	0	0	0	0
PA.04	Feedback range	0-50.00bar	10	10	10	10
P6.10	Stop mode	0: Decelerate to stop;	0	1	1	1
		1: Coast to stop				
P0.02	Command source selection	0: Operation panel control;	0	0	0	0
		1: Terminal command		_		_
P0.03	Frequency setting	8:PID pressure setting	0	8	8	8
P0.14	Minimum frequency		0.00Hz	20.00Hz	20.00Hz	20.00Hz
P5.18	FIC minimum input		0.00V	2.00V	2.00V	2.00V
PA.51	Add pump frequency	0.00~maximum frequency	49.00Hz	49.00Hz	49.00Hz	49.00Hz
PA.52	Add pump detection time	0.0~6553.5s	10.0s	10.0s	10.0s	10.0s
PA.53	Reduce Pump frequency	0.00~maximum frequency	25.00Hz	25.00Hz	25.00Hz	25.00Hz
PA.54	Reduce Pump detection time	0.0~6553.5s	10.0s	10.0s	10.0s	10.0s
PA.55	Pump switching time	0.0~6553.5min	100 min	100 min	100 min	100 min
PA.56	Contactor close delay time	0.1~100.0s	0.5s	0.5s	0.5s	0.5s
PA.57	Contactor open delay time	0.1~100.0s	0.5s	0.5s	0.5s	0.5s
PA.58	Effective pump selection	0: Invalid 1: Valid Unit's digit: Pump 1 Ten's digit: Pump 2 Hundred's digit: Pump 3 Thousand's digit: Pump 4	11	11	111	1111
PA.59	Multi-pump effective	0: Standard 1: Multi-pump control	0	1	1	1
PA.60	Pressure stabilizer pump selection	0: No pressure stabilizer pump 1~4 Select the pressure stabilizer	0	0	0	0
P4.00	FWD terminal function selection	51: Pump 1 invalid	1	1	1	1
P4.01	REV terminal function selection	52: Pump 2 invalid 53: Pump 3 invalid	2	2	2	2
P4.02	S1 terminal function selection	54: Pump 3 invalid	0	51	51	51
P4.03	S2 terminal function selection	1: Forward	0	52	52	52
P4.04	S3 terminal function selection	2: Reverse	0	0	53	53
P4.05	S4 terminal function selection	9: Fault reset	0	0	0	54
P4.38	S terminal valid mode selection 1	S3,S2,S1, REV, FWD	00000	01100	11100	11100
P4.39	S terminal valid mode selection 2	S4	00000	00000	00000	00001

P5.01	MO1 (YOR)		0	00	44	45
P5.02	,	42: Motor contactor 1 43: Motor contactor2	2	42	42	42
P5.03		44: Motor contactor3 45: Motor contactor4	0	43	43	43
P5.04	Relay function selection (KA- KC) (On the expansion card)	0: No output 2: Fault to stop	1	0	0	44