NZ200T
Vector Control Frquency Inverter for Synchronous Motor

Parameter List

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Parameter List

NZ200T is special frequency inverter for 3-phase AC permanent magnet synchronous motor with open control mode.

1. Technical Specification

Item	Specification
Max. Frequency	0 ~ 600Hz
Carrier Frequency	0.5KHz ~ 16KHz
Input frequency resolution	Digital setting: 0.01Hz Analog setting: max. Frequency X 0.025%
Control Mode	Sensorless flux vector control (SVC)
Startup torque	0.5Hz/150% (SVC)
Speed range	1:200(SVC)
Speed stability	±0.5% (SVC)
Overload capacity	60s for 150% of rated current,3s for 180% of rated current.

2.Parameter List

Function Code	Name	Setting range	Factory setting	modify
Group P0: Basic Parameters				
P0.00	G/P type display	1: G type (constant torque load) 2: P type (variable torque load e.g. Fan & pump)	Depends on application	●
P0.01	Control mode selection	0: open loop without PG card	0	★
P0.02	Command channel selection	0: operation panel control (LED off) 1: terminal control (LED on) 2: communication control(LED spark)	0	☆

Function Code	Name	Setting range	Factory setting	modify
P0.03	Main frequency source X selection	0: Digital Setting (P0.08preset frequency,can modify by UP/DOWN,power-off without memory function) 1: Digital Setting (P0.08preset frequency,can modify by UP/DOWN,power-off with memory function) 2: FIV 3: FIC 4: Reserved 5: PULSE setting (S3) 6: Multistage instruction 7: PLC 8: PID 9: Communication given	0	★
P0.04	Auxiliary frequency selection	Same as P0.03 (Main frequency source X selection)	0	★
P0.05	Auxiliary frequency source superposition Y range selection	0: relative to the maximum frequency 1: relative to the main frequency source X	0	☆
P0.06	Auxiliary frequency source superposition Y setting range	0%~150%	100%	☆
P0.07	Frequency source setting range	Unit's digit: frequency source 0: main frequency source X 1: X and Y operation (operation relationship determined by ten's digit) 2: switchover between X and Y 3: switchover between X and "X and Y" "operation " 4: switchover between Y and " X and Y" "operation" 0: X + Y 1: X - Y 2: Maximum of X and Y 3: Minimum of X and Y	00	☆
P0.08	Frequency preset	0.00Hz~max. frequency (P0.10)	50.00Hz	☆

Function Code	Name	Setting range	Factory setting	modify
P0.09	Rotation direction	0: same direction 1: reverse direction	0	☆
P0.10	Maximum frequency	5.00Hz~600.00Hz	50.00Hz	★
P0.11	Upper limit frequency source	0: P0.12 setting 1: FIV 2: FIC 3: reserved 4: PULSE Setting 5: Communication Setting	0	★
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~Upper limit frequencyP0.12	0.00Hz	☆
P0.15	Carrier frequency	0.5kHz~16.0kHz	Model depended	☆
P0.16	Carrier frequency adjustment with temperature	0: No 1: Yes	1	☆
P0.17	Acceleration time 1	0.00s~65000s	Model depended	☆
P0.18	Deceleration time1	0.00s~65000s	Model depended	☆
P0.19	Acceleration/ deceleration time unit	0: 1s 1: 0.1s 2: 0.01s	1	★
P0.21	Frequency offset of auxillary frequency source for X and Y operation	0.00Hz~maximum frequency P0.10	0.00Hz	☆
P0.22	Frequency reference	2: 0.01Hz	2	★
P0.23	Retentive of digital setting frequency upon power	0: no memory 1: memory	0	☆
P0.25	Acceleration/ Deceleration time base frequency	0: maximum frequency (P0.10) 1: set frequency 2: 100Hz	0	★

Function Code	Name	Setting range	Factory setting	modify
P0.26	Base frequency for UP/DOWN modification during running	0: running frequency 1: set frequency	0	★
P0.27	Binding command source to frequency source	Unit's digit: Binding operation panel command to frequency source 0: No binding 1: Frequency source by digital setting 2: FIV 3: FIC 4: Reserved 5: PULSE setting (S3) 6: Muli-reference 7: Simple PLC 8: PID 9: communication setting Ten's digit: binding terminal command to frequency source (0~9, same as unit's digit) hundred's digit: Binding communication command to frequency source (0~9, same as unit's digit) Thousand's digit: Binding auto-running command to frequency source (0~9, same as unit's digit)	0000	☆
Group P1: Motor parameters				
P1.00	Motor type selection	Permanent magnet synchronous motor	2	★
P1.01	Rated motor power	0.1kW~1000.0kW	Model depended	★
P1.02	Rated motor voltage	1V~2000V	Model depended	★
P1.03	Rated motor current	0.1A~6553.5A	Model depended	★
P1.04	Rated Motor frequency	0.01Hz~Maximum frequency	Model depended	★
P1.05	Rated motor rotational speed	1rpm~65535rpm	Model depended	★

Function Code	Name	Setting range	Factory setting	modify
P1.16	Stator resistance (synchronous motor)	0.001Ω~65.535Ω (VFD capacity <=55kW) 0.0001Ω~6.5535Ω (VFD capacity>55kW)	Auto-tuning	★
P1.17	Shaft D inductance (synchronous motor)	0.01mH~655.35mH (VFD capacity<=55kW) 0.001mH~65.535mH (VFD capacity>55kW)	Auto-tuning	★
P1.18	Shaft Q inductance (synchronous motor)	0.01mH~655.35mH (VFD capacity<=55kW) 0.001mH~65.535mH (VFD capacity>55kW)	Auto-tuning	★
P1.20	Back EMF (synchronous motor)	0.0V~6553.5V	Auto-tuning	★
P1.37	Auto-tuning selection	0: No auto-tuning 11: SVC Synchronous motor static auto-tuning 12: SVC Synchronous motor fully auto-tuning	0	★
Group P2: Vector Control Parameters				
P2.00	Speed loop proportional gain 1	1~100	20	☆
P2.01	Speed loop integral time1	0.01s~10.00s	0.50s	☆
P2.02	Switchover frequency 1	0.00~P2.05	5.00Hz	☆
P2.03	Speed loop proportional gain2	1~100	15	☆
P2.04	Speed loop integral time2	0.01s~10.00s	1.00s	☆
P2.05	Switchover frequency2	P2.02~maximum frequency	10.00Hz	☆
P2.09	Torque upper limit source in speed control mode	0: P2.10 1: FIV 2: FIC 3: Reserved 4: PULSE setting 5: Communication setting 6: MIN (FIV,FIC) 7: MAX (FIV,FIC)	0	☆

Function Code	Name	Setting range	Factory setting	modify
P2.10	Digital setting of torque upper limit in speed control mode	0.0%~200.0%	150.0%	☆
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	☆
P2.18	Field weakening mode of synchronous motor	0: No field weakening 1: automatic adjustment 2: direct calculation	1	☆
P2.19	Field weakening depth of synchronous motor	0~50	10	☆
P2.22	Field weakening integral	2~10	2	☆
P2.23	Synchronous motor output voltage saturation margin	0.0%~50%	5%	☆
P2.24	The initial position detection current synchronous motor	50%~120%	120%	☆
P2.25	Synchronous motor initial position angle detection	0 (detected each running) , 1 (no detection) , 2 (detect for the first running after power on)	0	☆
P2.27	Salient pole synchronous motor rate adjustment gain	50~500	100	☆

Function Code	Name	Setting range	Factory setting	modify
P2.28	Maximum torque current ratio control	0 (off) ,(on)	0	☆
P2.36	No-load current (synchronous motor)	0~80%	30%	☆
P2.37	Start carrier frequency	0.8KHz~P0.15	4.0KHz	☆
P2.38	SVC low frequency break	0 (no action) 1 (break when stop)	0	☆
P2.39	SVC frequency of low-frequency braking effect	0~10.00Hz	2.00Hz	☆
P2.40	SVC low-frequency braking step frequency change	0.0005~1.0000Hz	0.0010Hz	☆
P2.41	SVC low-frequency braking current	0~80%	50%	
P2.42	SVC speed tracing	0 (off) ,1 (on)	0	
P2.43	Zero servo enable	0 (off) ,1 (on)	0	
P2.44	Switch frequency	0.00~P2.02	0.30Hz	
P2.45	Zero speed servo loop proportional gain	1~100	10	
P2.46	Zero speed servo loop integral time	0.01s~10.00s	0.50s	
P2.47	Stop ban reversal	0 (off) ,1 (on) (prevent the reversal when the motor decelerates to 0 HZ)	0	
P2.48	Stop angle	0.0°~10.0° (increase the value when it is reverse under the factory setting)	0.8°	

Function Code	Name	Setting range	Factory setting	modify
Group P4: Terminals				
P4.00	FWD function selection	0: no function 1: FWD 2: REV 3: three-line running control 4FWD JOG 5: REVJOG 6: UP 7: DOWN 8: Coast to stop 9: 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 acc/dec time selection 17: terminal 2 for acc/dec time selection 18: Frequency source switchover 19: UP/DOWNsetting clear (terminal, operation panel) 20: Command source switchover terminal 21: Acc. /Dec. 22: PID pause 23: PLC status reset 24: Swing pause 25: Counter input 26: Counter reset 27: Length count input 28: Length reset 29: Torque control prohibited 30: PULSE input (Enabled only for S3) 31: Reserved 32: Immediate DC braking 33: Normally closed (NC) input of external fault 34: Frequency modification forbidden 35: Reverse PID action direction 36: External Stop Terminal 1	1	★
P4.01	REV function selection		4	★
P4.02	S1 function selection		9	★
P4.03	S2 function selection		12	★

Function Code	Name	Setting range	Factory setting	modify
P4.04	S3 function selection	37: Command source switchover terminal2 38: PID integral pause 39: switchover between main frequency source X and preset frequency 40: switchover between auxiliary frequency Y and preset frequency 41~42: Reserved 43: PID parameter swithover 44~45: Reserved 46: Speed control/ torque control switchover 47: Emergency stop 48: External Stop terminal 2 49: Deceleration DC Braking 50: Clear the current running time 51-59: Reserved	13	★
P4.05	S4 function selection		0	★
P4.10	Switch filter time	0.000s~1.000s	0.010s	☆
P4.11	Terminal command mode	0: two-line control 1 1: two-line control 2 2: three-line control 1 3: three-line control 2	0	★
P4.12	UP/DOWN Change rate	0.001Hz/s~65.535Hz/s	1.00Hz/s	☆
Group P5: Output terminals				
P5.00	M01 terminal output mode	0: Pulse output (YOP) 1: switch signal output (YOR)	0	☆
P5.01	YOR function selection	0: No output 1: AC drive running 2: Fault output (stop) 3: Frequency-level detection FDT 1 output 4: Frequency reached 5: Zero-speed running (no output at stop) 6: Motor overload pre-warning 7: Ac drive overload pre-warning 8: Set count value reached 9: Designated count value reached 10: Length reached 11: PLC cycle complete	0	☆
P5.02	control board relay function selection(RA/ RB/RC)		2	☆

Function Code	Name	Setting range	Factory setting	modify
P5.06	YOP output function selection	0: Running frequency 1: Setting frequency 2: Output current 3: Output torque 4: Output power 5: Output voltage 6: PULSE input (100.% corresponds 100.0kHz) 7: FIV 8: FIC 9: Reserved 10: Length 11: The count value 12: Communication setting 13: Motor speed 14: Output current (100% corresponds 1000A) 15: Output voltage (100% correspond 1000V) 16: Reserved	0	☆
P5.07	FOVoutput function selection		0	☆
P5.08	FOCoutput function selection		1	☆
P5.09	YOP output maximum frequency	0.01kHz~100.00kHz	50.00kHz	☆
P5.10	FOVoffset coeffcient	-100.0%~+100.0%	0.0%	☆
P5.11	FOV gain	-10.00~+10.00	1.00	☆
P5.12	FOC offset coeffcient	-100.0%~+100.0%	0.0%	☆
P5.13	FOC gain	-10.00~+10.00	1.00	☆
P5.18	RA-RB-RC output delay time	0.0s~3600.0s	0.0s	☆
P5.20	MO1 output delay time	0.0s~3600.0s	0.0s	☆
P5.22	output terminal valid state selection	0: Positive logic 1: Negative logic Unit's digit: YOR Ten's digit: RA-RB-RC	00000	☆
P5.23	Factory setting		0	☆
Group P6: Start / Stop Control				
P6.00	Start mode	0: Direct start	0	☆
P6.03	Startup frequency	0.00Hz~10.00Hz	0.00Hz	☆

Function Code	Name	Setting range	Factory setting	modify
P6.04	Startup frequency holding time	0.0s~100.0s	0.0s	★
P6.07	Acc. /Dec. mode	0: Linear acceleration / deceleration 1: S-curve acceleration / deceleration A 2: S-curve acceleration / deceleration B	0	★
P6.08	Time proportion of S-curve start segment	0.0%~ (100.0%-P6.09)	30.0%	★
P6.09	Time proportion of S-curve end segment	0.0%~ (100.0%-P6.08)	30.0%	★
P6.10	Stop mode	0: Dec. To stop 1: coast to stop	0	☆
P6.15	Brake use ratio	0%~100%	100%	☆
Group P7:Operation panel and Display				
P7.00	Factory parameter		reserved	
P7.01	JOG Function parameter	0: invalid 1: Switch from keypad command and remote operation .Refer to the switch of command resource,it means the switch of current command resource and keypad control (local operation) . If the current command resource is keypad control ,then this button function invalid . 2: FWD/REV switch Through the JOG button to switch the direction of frequency command . This function is valid only when the command recourse is operation panel command . 3: FJOG Through keypad JOG button to realize FJOG(JOG-FWD) 4: RJOG Through keypad JOG button to realize RJOG(JOG-REV)	0	★

Function Code	Name	Setting range	Factory setting	modify
P7.02	STOP/RESET button function	0: Only under keypad operation mode, the stop function is valid by STOP/ RES . 1: Under any operation mode ,the stop function is valid by STOP/RES.	1	☆
P7.03	LED display running parameter 1	0000~FFFF Bit00: Running 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:X Input status Bit08:Y Output status Bit09: FIV voltage (V) Bit10: FIC voltage (V) Bit11: Reserved Bit12: Count value Bit13: Length value Bit14: Load speed display Bit15: PID setting	1F	☆

Function Code	Name	Setting range	Factory setting	modify
P7.04	LED display running parameter 2	0000~FFFF Bit00: PID Feedback Bit01: PLC stage Bit02: PULSE setting frequency (kHz) Bit03: Running frequency 2 (Hz) Bit04: Remaining running time Bit05: FIV voltage before correction (V) Bit06: FIC voltage before correction (V) Bit07: Reserved Bit08: Linear speed Bit09: Current power-on time (Hour) Bit10: Current running time (Min) Bit11: PULSE setting frequency (Hz) Bit12: Communication setting value Bit13: Speed feedback from encoder (Hz) Bit14: Main frequency X display (Hz) Bit15: Auxiliary frequency Y display (Hz)	0	☆

Function Code	Name	Setting range	Factory setting	modify
P7.05	LED display stop parameters	0000~FFFF Bit00: Set frequency (Hz) Bit01: Bus voltage (V) Bit02: X Input status Bit03: YO Output status Bit04: FIV voltage (V) Bit05: FIC voltage (V) Bit06: Reserved Bit07: Count value Bit08: Length value Bit09: PLC Stage Bit10: Load speed Bit11: PID Set Bit12: PULSE setting frequency (kHz)	33	☆
P7.06	Load speed display coeffcient	0.0001~6.5000	1.0000	☆
P7.07	Heatsink temperature of inverter module	0.0°C~100.0°C	-	●
P7.08	Factory parameters		Reserved	
Group P8 : Auxiliary Functions				
P8.00	JOG running frequency	0.00Hz~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	Model confirmation	☆
P8.04	Deceleration time 2	0.0s~6500.0s	Model confirmation	☆
P8.05	Acceleration time3	0.0s~6500.0s	Model confirmation	☆
P8.06	Acceleration time3	0.0s~6500.0s	Model confirmation	☆
P8.07	Acceleration time 4	0.0s~6500.0s	Model confirmation	☆
P8.08	Acceleration time4	0.0s~6500.0s	Model confirmation	☆

Function Code	Name	Setting range	Factory setting	modify
P8.09	Jump frequency 1	0.00Hz~maximum frequency	0.00Hz	☆
P8.10	Jump frequency 2	0.00Hz~maximum frequency	0.00Hz	☆
P8.11	Frequency jump amplitude	0.00Hz~maximum frequency	0.00Hz	☆
P8.12	FWD/REV rotation dead-zone time	0.0s~3000.0s	0.0s	☆
P8.13	REV control	0: Enabled 1: Disabled	0	☆
P8.14	Running mode when set frequency lower than frequency lower limit	0: Run at frequency lower limit 1: Stop 2: Run at zero speed	0	☆
P8.15	Drop control	0.00Hz~10.00Hz	0.00Hz	☆
P8.16	Accumulative power-on time threshold	0h~65000h	0h	☆
P8.17	Accumulative running time threshold	0h~65000h	0h	☆
P8.18	Start up protection	0: NO 1: YES	0	☆
P8.19	Frequency detection value (FDT1)	0.00Hz~maximum frequency	50.00Hz	☆
P8.20	Frequency detection hysteresis (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	Jump frequency during acceleration/ deceleration	0: Disabled 1: Enable	0	☆
P8.25	Frequency switch over point between acceleration time 1 and acceleration time 2	0.00Hz~maximum frequency	0.00Hz	☆

Function Code	Name	Setting range	Factory setting	modify
P8.26	Frequency switch over point between deceleration time 1 and deceleration time 2	0.00Hz~maximum frequency	0.00Hz	☆
P8.27	Terminal JOG preferred	0: Disabled 1: Enable	0	☆
P8.28	Frequency detection value (FDT2)	0.00Hz~maximum frequency	50.00Hz	☆
P8.29	Frequency detection hysteresis (FDT2)	0.0%~100.0% (FDT2 level)	5.0%	☆
P8.30	Any frequency reaching detection value 1	0.00Hz~maximum frequency	50.00Hz	☆
P8.31	Any frequency reaching detection amplitude 1	0.0%~100.0% (maximum frequency)	0.0%	☆
P8.32	Any frequency reaching detection value 2	0.00Hz~maximum frequency	50.00Hz	☆
P8.33	Any frequency reaching detection amplitude 2	0.0%~100.0% (maximum frequency)	0.0%	☆
P8.34	Zero current detection delay time	0.0%~300.0% 100.0% accordingly motor rated 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% (motor rated current)	200.0%	☆
P8.37	Output over current detection delay time	0.00s~600.00s	0.00s	☆
P8.38	Any current reaching 1	0.0%~300.0% (motor rated current)	100.0%	☆

Function Code	Name	Setting range	Factory setting	modify
P8.39	Any current reaching 1 amplitude	0.0%~300.0% (motor rated current)	0.0%	☆
P8.40	Any current reaching 2	0.0%~300.0% (motor rated current)	100.0%	☆
P8.41	Any current reaching 2 amplitude	0.0%~300.0% (motor rated current)	0.0%	☆
P8.42	Timing function	0: Disabled 1: Enable	0	☆
P8.43	Timing running time option	0: P8.44 set 1: FIV 2: FIC 3: Reserved 100% of analog input corresponds to the value of P8.44	0	☆
P8.44	Timing duration	0.0Min~6500.0Min	0.0Min	☆
P8.45	FIV input voltage lower limit	0.00V~P8.46	3.10V	☆
P8.46	FIV input voltage upper limit	P8.45~11.00V	6.80V	☆
P8.48	Cooling fan control	0: Fan working during running 1: Fan working continuously	0	☆
P8.49	Wake up frequency	Dormant frequency (P8.51) ~maximum frequency (P0.10)	0.00Hz	☆
P8.50	Wake up delay time	0.0s~6500.0s	0.0s	☆
P8.51	Dormant frequency	0.00Hz~wake up frequency (P8.49)	0.00Hz	☆
P8.52	Dormant delay time	0.0s~6500.0s	0.0s	☆
P8.53	Current running time reached	0.0Min~6500.0Min	0.0Min	☆
P8.55	Factory parameter	0~200%	100%	☆
P8.56	Factory parameter	0~1	0	☆
Group P9 : Fault and Protection				
P9.00	Motor overload protection selection	0: Disabled 1: Enabled	1	☆
P9.01	Motor overload protection gain	0.20~10.00	1.00	☆

Function Code	Name	Setting range	Factory setting	modify
P9.02	Motor overload warning coeffcient	50%~100%	80%	☆
P9.03	Over voltage stall gain	0~100	50	☆
P9.04	Over voltage stall protective voltage	120%~150%	130%	☆
P9.05	Over current stall gain	0~100	20	☆
P9.06	Over current stall protective current	100%~200%	150%	☆
P9.07	Short-circuit to ground upon power-on	0: Disabled 1: Enabled	1	☆
P9.09	Fault auto reset times	0~20	0	☆
P9.10	YO action during fault auto reset	0: Not act 1: Act	0	☆
P9.11	Time interval of fault auto reset	0.1s~100.0s	1.0s	☆
P9.12	Input lost phase protection option	0: Disabled 1: Enabled	1	☆
P9.13	Output lost phase protection option	0: Disabled 1: Enabled	1	☆
P9.14	1st fault type	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 6: Over voltage during deceleration 7: Over voltage at constant speed 8: Buffer resistance overload 9: Under voltage 10: Inverter overload 11: Motor overload 12: Input lost phase	-	●

Function Code	Name	Setting range	Factory setting	modify
P9.15	2nd fault type	13: Output lost phase 14: Module overheat 15: External equipment fault 16: Communication fault 17: Contactor fault 18: Current detection fault 19: Motor auto-tuning fault 20: Encoder/PG card fault 21: EEPROM read-write fault 22: Inverter hardware fault	-	●
P9.16	3rd (latest) fault type	23: Motor short-circuit to ground 24: Reserved 25: Reserved 26: Running time reached 27: User-defined fault 1 28: User-defined fault2 29: Accumulative running time reached 30: Load becoming 0 31: PID feedback lost during running 40: With-wave current limit overtime 41: Switch motor when running 42: Big deviation at speed 43: Motor over speed 45: Motor over heat 51: The initial position fault	-	●
P9.17	Frequency upon 3rd (latest) fault	-	-	●
P9.18	Current upon 3rd (latest) fault	-	-	●
P9.19	Bus voltage upon 3rd (latest) fault	-	-	●
P9.20	Input terminal status upon 3rd (latest) fault	-	-	●
P9.21	Output terminal status upon 3rd (latest) fault	-	-	●
P9.22	Inverter status upon 3rd (latest) fault	-	-	●

Function Code	Name	Setting range	Factory setting	modify
P9.23	Power-on time upon 3rd (latest) fault	-	-	●
P9.24	Running time upon 3rd (latest) fault	-	-	●
P9.27	Frequency upon 2nd fault	-	-	●
P9.28	Current upon 2nd fault	-	-	●
P9.29	Bus voltage upon 2nd fault	-	-	●
P9.30	Input terminal status upon 2nd fault	-	-	●
P9.31	Output terminal status upon 2nd fault	-	-	●
P9.32	Inverter status upon 2nd fault	-	-	●
P9.33	Power-on time upon 2nd fault	-	-	●
P9.34	Running time upon 2nd 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	-	-	●

Function Code	Name	Setting range	Factory setting	modify
P9.47	Fault protection action selection 1	Unit's digit : motor overload (11) 0: Coast to stop 1: Stop according to the stop mode 2: Continue to run Ten's digit : Input lost phase (12) Hundred's digit: output lost phase (13) Thousand's digit: External equipment fault (15) Ten thousand's digit: Communication fault (16)	00000	☆
P9.48	Fault protection action selection 2	Unit's digit: Encoder /PG card fault (20) 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)	00000	☆

Function Code	Name	Setting range	Factory setting	modify
P9.49	Fault protection action selection 3	Unit's digit: user-defined fault 1 (27) 0: Coast to stop 1: Stop according to the stop mode 2: Continue to run Ten's digit: user-defined fault 2 (28) 0: Coast to stop 1: Stop according to the stop mode 2: Continue to run Hundred's digit: Accumulative power-on time reached (29) 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: Deceleration 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 running (31) 0: Coast to stop 1: Stop according to the stop mode 2: Continue to run	00000	☆
P9.50	Fault protection action selection 4	Unit's digit : Big deviation of speed (42) 0: Coast to stop 1: Stop according to the stop mode 2: Continue to run Ten's digit : motor over speed (43) Hundred's digit: Initial position fault (51)	00000	☆
P9.54	Frequency selection for continuing to run	0: Current running frequency 1: Set frequency 2: Frequency upper limit 3: Frequency lower limit 4: Back up frequency upon abnormality	0	☆

Function Code	Name	Setting range	Factory setting	modify
P9.55	Back up frequency upon abnormality	60.0%~100.0% (100.0% accordingly maximum frequency P0.12)	100.0%	☆
P9.56	Reserved			☆
P9.57	Reserved			☆
P9.58	Reserved			☆
P9.59	Action selection at instantaneous power failure	0: Invalid 1: Decelerate 2: Decelerate to stop	0	☆
P9.60	Reserved	P9.62~100.0%	9.0%	☆
P9.61	Voltage rally judging time at instantaneous power failure	0.00s~100.00s	0.50s	☆
P9.62	Action judging voltage at instantaneous power failure	60.0%~100.0% (standard bus voltage)	80.0%	☆
P9.63	Protection upon load becoming 0	0: Disabled 1: Enabled	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	Detection value of over-speed	0~20Hz	15	☆
P9.68	Detection time of over-speed	0.0s~6.0s	0.01s	☆
P9.69	Detection value of big speed deviation	0.0%~50.0% (maximum)	20.0%	☆
P9.70	Detection time of big speed deviation	0.0s~60.0s	5.0s	☆
P9.71	UVW encoder fault	0 (OFF) ,1 (ON)	1	

Function Code	Name	Setting range	Factory setting	modify
P9.72	Fault protection action selection 5	Unit's digit: Identify fault of initial position angle (51) 0: Continue to run 1: Coast to stop Ten's digit : On load tuning fault (19) 0: Continue to run 1: Coast to stop	11	
		Group PA PID Function		
PA.00	PID setting source	0: PA.01setting 1: FIV 2: FIC 3: Reserved 4: PULSE setting (S3) 5: Communication setting 6: Multi-reference	0	☆
PA.01	PID digital setting	0.0%~100.0%	50.0%	☆
PA.02	PID feedback source	0: FIV 1: FIC 2: Reserved 3: FIV-FIC 4: PULSE setting (S3) 5: Communication setting 6: FIV+FIC 7: MAX (|FIV|, |FIC|) 8: MIN (|FIV|, |FIC|)	0	☆
PA.03	PID action direction	0: Forward action 1: Reverse action	0	☆
PA.04	PID setting feedback range	0~65535	1000	☆
PA.05	Proportional gain Kp1	0.0~100.0	20.0	☆
PA.06	Integral timeTi1	0.01s~10.00s	2.00s	☆
PA.07	Differential time Td1	0.000s~10.000s	0.000s	☆
PA.08	Cut-off frequency of PID reverse rotation	0.00~maximum frequency	2.00Hz	☆
PA.09	PID deviation limit	0.0%~100.0%	0.0%	☆
PA.10	PID differential limit	0.00%~100.00%	0.10%	☆
PA.11	PID setting change time	0.00~650.00s	0.00s	☆

Function Code	Name	Setting range	Factory setting	modify
PA.12	PID feedback filter time	0.00~60.00s	0.00s	☆
PA.13	PID output feedback filter time	0.00~60.00s	0.00s	☆
PA.14	Reserved	-	-	☆
PA.15	Proportional gain KP1	0.0~100.0	20.0	☆
PA.16	Integral time Ti2	0.01s~10.00s	2.00s	☆
PA.17	Differential time Td2	0.000s~10.000s	0.000s	☆
PA.18	PID parameter switch over condition	0: No switch over 1: Switch over via S 2: Automatic switch over based on deviation	0	☆
PA.19	PID parameter switch over deviation 1	0.0%~PA.20	20.0%	☆
PA.20	PID parameter switch over deviation 2	PA.19~100.0%	80.0%	☆
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 deviation between two PID outputs in forward	0.00%~100.00%	1.00%	☆
PA.24	Maximum deviation between two PID outputs in reverse	0.00%~100.00%	1.00%	☆
PA.25	PID integral property	Unit's digit: Integral separated 0: Invalid 1: Valid Ten's digit: Whether to stop integral operation when the output reaches 0: Continue integral operation 1: Stop integral operation	00	☆
PA.26	Detection value of PID feedback loss	0.0%: No judging feedback loss 0.1%~100.0%	0.0%	☆

Function Code	Name	Setting range	Factory setting	modify
PA.27	Detection time of PID feedback loss	0.0s~20.0s	0.0s	☆
PA.28	PID operation at stop	0: No PID operation at stop 1: PID operation at stop	0	☆
Group PB Swing Frequency, Fixed Length and Count				
PB.00	Swing frequency setting mode	0: Relative to the central frequency 1: Relative to the maximum frequency	0	☆
PB.01	Swing frequency amplitude	0.0%~100.0%	0.0%	☆
PB.02	Jump frequency amplitude	0.0%~50.0%	0.0%	☆
PB.03	Swing frequency cycle	0.1s~3000.0s	10.0s	☆
PB.04	Triangular wave rising time coefficient	0.1%~100.0%	50.0%	☆
PB.05	Set length	0m~65535m	1000m	☆
PB.06	Actual length	0m~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	Designated count value	1~65535	1000	☆
Group PC Multi-Reference and Simple PLC Function				
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-reference 11	-100.0%~100.0%	0.0%	☆
PC.12	Multi-reference 12	-100.0%~100.0%	0.0%	☆

Function Code	Name	Setting range	Factory setting	modify
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%	☆
PC.16	Simple PLC running function	0: Stop after the AC drive runs one cycle 1: Keep final values after the AC drive runs one cycle 2: Repeat after the AC drive runs one cycle	0	☆
PC.17	Simple PLC retentive selection	Unit's digit: Retentive upon power failure 0: No 1: Yes Ten's digit: Retentive upon stop 0: No 1: Yes	00	☆
PC.20	Running time of simple PLC reference 1	0.0s (h) ~6500.0s (h)	0.0s (h)	☆
PC.21	Acceleration/ deceleration time of simple PLC reference 1	0~3	0	☆
PC.22	Running time of simple PLC reference 2	0.0s (h) ~6500.0s (h)	0.0s (h)	☆
PC.23	Acceleration/ deceleration time of simple PLC reference 2	0~3	0	☆
PC.24	Running time of simple PLC reference 3	0.0s (h) ~6500.0s (h)	0.0s (h)	☆
PC.25	Acceleration/ deceleration time of simple PLC reference 3	0~3	0	☆
PC.26	Running time of simple PLC reference 4	0.0s (h) ~6500.0s (h)	0.0s (h)	☆

Function Code	Name	Setting range	Factory setting	modify
PC.27	Acceleration/ deceleration time of simple PLC reference 4	0~3	0	☆
PC.28	Running time of simple PLC reference 5	0.0s (h) ~6500.0s (h)	0.0s (h)	☆
PC.29	Acceleration/ deceleration time of simple PLC reference 5	0~3	0	☆
PC.30	Running time of simple PLC reference 6	0.0s (h) ~6500.0s (h)	0.0s (h)	☆
PC.31	Acceleration/ deceleration time of simple PLC reference 6	0~3	0	☆
PC.32	Running time of simple PLC reference 7	0.0s (h) ~6500.0s (h)	0.0s (h)	☆
PC.33	Acceleration/ deceleration time of simple PLC reference 7	0~3	0	☆
PC.34	Running time of simple PLC reference 8	0.0s (h) ~6500.0s (h)	0.0s (h)	☆
PC.35	Acceleration/ deceleration time of simple PLC reference 8	0~3	0	☆
PC.36	Running time of simple PLC reference 9	0.0s (h) ~6500.0s (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) ~6500.0s (h)	0.0s (h)	☆
PC.39	Acceleration/ deceleration time of simple PLC reference 10	0~3	0	☆

Function Code	Name	Setting range	Factory setting	modify
PC.40	Running time of simple PLC reference 11	0.0s (h) ~6500.0s (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) ~6500.0s (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) ~6500.0s (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) ~6500.0s (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) ~6500.0s (h)	0.0s (h)	☆
PC.49	Acceleration/ deceleration time of simple PLC reference 15	0~3	0	☆
PC.50	Time unit of simple PLC	0: s 1: h	0	☆

Function Code	Name	Setting range	Factory setting	modify
PC.51	Reference 0 source	0: set by PC.00 1: FIV 2: FIC 3: Reserved 4: PULSE setting 5: PID 6: Set by present frequency (P0.08),modified via terminal UP/DOWN	0	☆
Group PD Communication parameters				
PD.00	Baud rate	Units' digit: MODBUS 0: 300BPS 1: 600BPS 2: 1200BPS 3: 2400BPS 4: 4800BPS 5: 9600BPS 6: 19200BPS 7: 38400BPS 8: 57600BPS 9: 115200BPS	0005	☆
PD.01	The data format	0: The factory value (8-N-2) 1: Even-parity (8-E-1) 2: Odd parity (8-O-1) 3: 8-N-1	3	☆
PD.02	The machine address	1~247,0 is the broadcast address	1	☆
PD.03	Response latency	0ms~20ms	1	☆
PD.04	Communication timeout	0.0 (invalid) ,0.1s~60.0s	0.0	☆
PD.05	Communication protocol selection	1: The standard MODBUS protocol	1	☆
PD.06	Read the current resolution	0: 0.01A 1: 0.1A	1	☆
Group PP User-Defined Function Codes				
PP.00	User password	0~65535	0	☆
PP.01	Restore default settings	0: No operation 01: Restore factory settings except motor parameters	0	★
Group L5 Control Optimization parameters				
L5.00	DPWM switch over frequency upper limit	0.00Hz~100.00Hz	8.00Hz	☆

Function Code	Name	Setting range	Factory setting	modify
L5.01	PWM modulation mode	0: Asynchronous modulation 1: Synchronous modulation	0	☆
L5.02	Dead compensation way	0: No compensation 1: compensation mode 1 2: compensation mode 2	1	☆
L5.03	Random PWM depth	0: Random PWM invalid 1~10: PWM carrier frequency random depth	0	☆
L5.04	Fast current limiting open	0: Not open 1: Open	1	☆
L5.05	Current detection compensation	0~100	5	☆
L5.06	Under voltage setting	60.0%~140.0%	100.0%	☆
L5.07	No PG optimization mode selection	2: optimization 2	2	☆
L5.08	Dead time adjustment	100%~200%	150%	☆
L5.09	Over voltage point set	200.0V~2500.0V		

Group D0: Monitoring Parameter		
Function Code	Parameter name	Unit
D0.00	Running frequency (Hz)	0.01Hz
D0.01	Set frequency (Hz)	0.01Hz
D0.02	Bus 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 state	1
D0.08	Y output state	1
D0.09	FIV voltage (V)	0.01V
D0.10	FIC voltage (V)	0.01V
D0.11	Reserved	
D0.12	Count value	1
D0.13	Length	1
D0.14	Load speed	1
D0.15	PID setting	1

D0.16	PID feedback	1
D0.17	PLC stage	1
D0.18	Pulse input frequency (Hz)	0.01kHz
D0.19	Feedback speed (Unit0.1Hz)	0.1Hz
D0.20	Remaining running time	0.1Min
D0.21	FIV voltage before correction	0.001V
D0.22	FIC voltage before correction	0.001V
D0.23	Reserved	
D0.24	Linear speed	1m/Min
D0.25	On the current time	1Min
D0.26	The current running time	0.1Min
D0.27	Pulse input frequency	1Hz
D0.28	Communication setting value	0.01%
D0.29	The encoder feedback speed	0.01Hz
D0.30	Main frequency X	0.01Hz
D0.31	Auxillary frequency Y	0.01Hz
D0.32	View any memory address values	1
D0.33	Synchro rotor position	0.1°
D0.34	The motor temperature value	1° C
D0.35	Target torque (%)	0.1%
D0.36	Resolver position	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	X input state display	1
D0.42	Y input state display	1
D0.43	X Function stage display 1 (Function01-Function40)	1
D0.44	X Function stage display 2 (Function41-Function80)	1
D0.59	Set frequency (%)	0.01%
D0.60	Running frequency (%)	0.01%
D0.61	Frequency inverter stage	1

The fault code table		
Function code	Name	Remark
OC	Inverter unit protection	
OC1	Over current during acceleration	
OC2	Over current during deceleration	
OC3	Over current at constant speed	
OU1	Over voltage during acceleration	

OU2	Over voltage during deceleration	
OU3	Over voltage at constant speed	
POFF	Control power supply fault	
LU	Lack of voltage	
OL2	AC drive overload	
OL1	Motor overload	
LI	Power input phase loss	
LO	Power output phase loss	
OH	Module overheat	
EF	External equipment fault	
CE	Communication fault	
IE	Current detection fault	
TE	Motor auto-tuning fault	
EEP	EEPROM read-write fault	
OUOC	AC drive hardware fault	
GND	Short circuit to ground fault	
END1	Accumulative running time reached	
END2	Accumulative power-on time reached	
LOAD	Load becoming 0	
PIDE	PID feedback loss during running fault	
CBC	Pulse-by-pulse current limit fault	
ESP	Too large speed deviation fault	
oSP	Motor over-speed fault	
PG	PG Card fault	

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 and Group L are the 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 the 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. Users are not allowed.