

4.7 Motor Parameters Autotuning

To select the vector control running mode, it must input the nameplate parameter of the motor accurately prior to the running of the inverter. The inverter will select standard motor parameters matching the nameplate parameter. Since the vector control mode relies highly on the motor parameters, it must acquire the accurate parameters of the controlled motor to ensure the good control performance.

The procedures for the automatic tuning of motor parameters are described below:

First, select the command source (P0-02) as the command channel of the operation keypad. Second, input the following parameters in accordance with the actual motor parameters:

Motor selection	Parameters	
Motor 1	P1-00: Motor type selection P1-01: Motor rated power P1-02: Motor rated voltage	P1-03: Motor rated current P1-04: Motor rated frequency P1-05: Motor rated speed
Motor 2	A2-00: Motor type selection A2-01: Motor rated power A2-02: Motor rated voltage	A2-03: Motor rated current A2-04: Motor rated frequency A2-05: Motor rated speed
Motor 3	A3-00: Motor type selection A3-01: Motor rated power A3-02: Motor rated voltage	A3-03: Motor rated current A3-04: Motor rated frequency A3-05: Motor rated speed
Motor 4	A4-00: Motor type selection A4-01: Motor rated power A4-02: Motor rated voltage	A4-03: Motor rated current A4-04: Motor rated frequency A4-05: Motor rated speed

For asynchronous motor

If the motor is completely disconnected from the load, set P1-37(motor 2/3/4 is A2/A3/A4-37), please select 2 (complete tuning of asynchronous motor), and press RUN key on the keyboard keypad, then the inverter will automatically calculate the following parameters:

Motor selection	Parameters
Motor 1	P1-16: Synchronous machine stator resistance P1-17: Synchronous machine D-axis inductance P1-18: Synchronous machine Q-axis inductance
Motor 2	A2-16: Synchronous machine stator resistance A2-17: Synchronous machine D-axis inductance A2-18: Synchronous machine Q-axis inductance
Motor 3	A3-16: Synchronous machine stator resistance A3-17: Synchronous machine D-axis inductance A3-18: Synchronous machine Q-axis inductance
Motor 4	A4-16: Synchronous machine stator resistance A4-17: Synchronous machine D-axis inductance A4-18: Synchronous machine Q-axis inductance

Complete motor parameters auto tuning.

If the motor is not completely disconnected from the load, set P1-37(motor 2/3/4 is A2/A3/A4-37), Please select 1(asynchronous motor static tuning), and press RUN key on the keyboard keypad.

Chapter 5 Function Parameter List

If PP-00 is set to non-zero value, it means parameter protection password is set, and the parameter menu cannot be entered until correct password is input. To cancel the password, please set PP-00 to "0".

The parameter menu in user customized parameter mode is not password protected.

P Group and A Group are basic functional parameters, while U Group is monitoring functional parameter.

The instruction of the symbols in function parameter list is as following:

"☆": means that the parameter setting value can be modified on stop and running status.

"★": means that the parameter setting value cannot be modified on the running status.

"●": means that the value of the parameter is the real detection value which cannot be modified.

"*": means that this parameter is "manufacturer parameter" and is only set by the manufacturer. Users are prohibited from operating it.

Basic Function Parameter Table

Function code	Name	Detailed instruction	Factory default	Modify
P0 Group: Basic Function				
P0-00	GP type display	1: G model (constant torque load model) 2: P model (fan and pump load model)	Model depend	★
P0-01	1st motor control mode	0: Speed sensorless vector control(SVC) 1: Vector control with speed sensor(FVC) 2: V/F control	2	★
P0-02	Running command source	0: Keypad (LED OFF) 1: Terminal (LED ON) 2: Communication (LED flickers)	0	☆
P0-03	Main frequency source X selection	0: Digital settings (Keypad ▲ ▼ settings, preset frequency P0-08, UP and DOWN modifiable, non-recorded) 1: Digital settings (Keypad ▲ ▼ settings, preset frequency P0-08, UP and DOWN recorded) 2: AI1 3: AI2 4: AI3 (Panel potentiometer) 5: PULSE pulse setting (DI5) 6: Multi segment instruction 7: Simple PLC 8: PID 9: Communication given	4	★
P0-04	Auxiliary frequency source Y selection	The same as P0-03 (Main frequency source X selection)	0	★
P0-05	Auxiliary frequency source Y range selection when stacking	0: Relative to maximum frequency 1: Relative to frequency source X	0	☆
P0-06	Auxiliary frequency source Y range when stacking	0% ~ 150%	100%	☆
P0-07	Frequency source superposition selection	Units place: frequency source selection 0: Main frequency source X 1: Calculation result of frequency (determined by tens place) 2: Switching between X and Y 3: Switching between X and calculation result 4: Switching between Y and calculation result Tens place: calculation relationship between frequency X and Y 0: X + Y	00	☆

Function code	Name	Detailed instruction	Factory default	Modify
		1: X - Y 2: Max (X, Y) 3: Min (X, Y)		
P0-08	Preset frequency	0.00Hz ~ maximum frequency (P0-10)	50.00Hz	☆
P0-09	Running direction	0: Forward 1: Reverse	0	☆
P0-10	Maximum frequency	50.00Hz ~ 600.00Hz	50.00Hz	★
P0-11	Frequency source upper limit	0: P0-12 setting 1: AI1 2: AI2 3: AI3 (Panel potentiometer) 4: PULSE pulse setting (DI5) 5: Communication given	0	★
P0-12	Frequency upper limit	P0-14 (frequency lower limit) ~ P0-10 (max. frequency)	50.00Hz	☆
P0-13	Frequency upper limit offset	0.00Hz ~ P0-10 (max. frequency)	0.00Hz	☆
P0-14	Frequency lower limit	0.00Hz ~ P0-12 (frequency upper limit)	0.00Hz	☆
P0-15	Carrier frequency	0.5kHz ~ 16.0kHz	Model depend	☆
P0-16	Carrier frequency adjusting according to temperature	0: No 1: Yes	1	☆
P0-17	Acceleration time 1	0.00s ~ 65000s	Model depend	☆
P0-18	Deceleration time 1	0.00s ~ 65000s	Model depend	☆
P0-19	ACC/DEC time unit	0: 1s 1: 0.1s 2: 0.01s	1	★
P0-21	Auxiliary frequency source offset frequency when stacking	0.00Hz ~ P0-10 (max. frequency)	0.00Hz	☆
P0-22	Frequency command resolution	1: 0.1Hz 2: 0.01Hz	2	★
P0-23	Digital setting frequency storage selection when stop	0: Not store 1: Store	1	☆
P0-24	Motor selection	0: Motor 1 1: Motor 2 2: Motor 3 3: Motor 4	0	★
P0-25	ACC/DEC time reference frequency	0: P0-10 (max. frequency) 1: Setting frequency 2: 100Hz	0	★

Function code	Name	Detailed instruction	Factory default	Modify
P0-26	Running frequency command UP/DOWN reference	0: Running frequency 1: Setting frequency	0	★
P0-27	Command source combination with frequency source	Units place: Operation keypad command combination with frequency source 0: No combination 1: Digitally set frequency 2: AI1 3: AI2 4: AI3 (Panel potentiometer) 5: PULSE pulse setting (DI5) 6: Multi-step speed 7: Simple PLC 8: PID 9: Communication given Tens place: Terminal command combination with frequency source Hundreds place: Communication command combination with frequency source Thousand place: Automatic operation combination with frequency source	0000	☆
P0-28	Communication expansion card type	0: Modbus communication card 1: Profibus-DP communication card 2: CANopen communication card 3: CANlink communication card	0	☆
P1 Group: First Motor Parameters				
P1-00	Motor type	0: Common asynchronous motor 1: Variable frequency asynchronous motor 2: Permanent magnet synchronous motor	0	★
P1-01	Motor rated power	0.1kW ~ 1000.0kW	Model depend	★
P1-02	Motor rated voltage	1V ~ 2000V	Model depend	★
P1-03	Motor rated current	0.01A ~ 655.35A (Inverter power≤55kW) 0.1A ~ 6553.5A (Inverter power>55kW)	Model depend	★
P1-04	Motor rated frequency	0.01Hz ~ max. frequency	Model depend	★
P1-05	Motor rated speed	1rpm ~ 65535rpm	Model depend	★
P1-06	Asynchronous motor stator resistance	0.001Ω ~ 65.535Ω (Inverter power≤55kW) 0.0001Ω ~ 6.5535Ω (Inverter power>55kW)	Tuning parameters	★

Function code	Name	Detailed instruction	Factory default	Modify
P1-07	Asynchronous motor rotor resistance	0.001Ω ~ 65.535Ω (Inverter power≤55kW) 0.0001Ω ~ 6.5535Ω (Inverter power>55kW)	Tuning parameters	★
P1-08	Asynchronous motor leakage inductance	0.01mH ~ 655.35mH (Inverter power≤55kW) 0.001mH ~ 65.535mH (Inverter power>55kW)	Tuning parameters	★
P1-09	Asynchronous motor mutual inductance	0.1mH ~ 6553.5mH (Inverter power≤55kW) 0.01mH ~ 655.35mH (Inverter power>55kW)	Tuning parameters	★
P1-10	Asynchronous motor no-load current	0.01A ~ P1-03 (Inverter power≤55kW) 0.1A ~ P1-03 (Inverter power>55kW)	Tuning parameters	★
P1-16	Synchronous motor stator resistance	0.001Ω ~ 65.535Ω (Inverter power≤55kW) 0.0001Ω ~ 6.5535Ω (Inverter power>55kW)	Tuning parameters	★
P1-17	Synchronous motor D-axis inductance	0.01mH ~ 655.35mH (Inverter power≤55kW) 0.001mH ~ 65.535mH (Inverter power>55kW)	Tuning parameters	★
P1-18	Synchronous motor Q-axis inductance	0.01mH ~ 655.35mH (Inverter power≤55kW) 0.001mH ~ 65.535mH (Inverter power>55kW)	Tuning parameters	★
P1-20	Counter-electromotive force of synchronous motor	0.1V ~ 6553.5V	Tuning parameters	★
P1-27	Number of encoder lines	1 ~ 65535	1024	★
P1-28	Encoder type	0: ABZ incremental encoder 1: UVW incremental encoder 2: Resolver 3: Sine cosine encoder 4: Provincial type UVW encoder	0	★
P1-30	ABZ incremental encoder AB phase sequence	0: Forward 1: Reverse	0	★
P1-31	Encoder installation angle	0.0 ~ 359.9°	0°	★
P1-32	UVW encoder UVW phase sequence	0: Forward 1: Reverse	0	★
P1-33	UVW encoder bias angle	0.0 ~ 359.9°	0°	★
P1-34	Resolver pole pairs	1 ~ 65535	1	★

Function code	Name	Detailed instruction	Factory default	Modify
P1-36	Speed feedback PG disconnection detection time	0.0: No action 0.1s ~ 10.0s	0.0	★
P1-37	Tuning selection	0: No action 1: Asynchronous machine static tuning 2: Asynchronous machine complete tuning 11: Synchronous machine static tuning 12: Synchronizer complete tuning	0	★
P2 Group: First Motor Vector Control Parameters				
P2-00	Speed loop proportional gain 1	1 ~ 100	30	☆
P2-01	Speed loop integration time 1	0.01s ~ 10.00s	0.50s	☆
P2-02	Switching frequency 1	0.00 ~ P2-05	5.00Hz	☆
P2-03	Speed loop proportional gain 2	1 ~ 100	20	☆
P2-04	Speed loop integration time 2	0.01s ~ 10.00s	1.00s	☆
P2-05	Switching frequency 2	P2-02 ~ max. frequency	10.00Hz	☆
P2-06	Vector control slip gain	50% ~ 200%	100%	☆
P2-07	Speed loop filtering time constant	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: P2-10 setting 1: AI1 2: AI2 3: AI3 (Panel potentiometer) 4: PULSE pulse setting (DI5) 5: Communication given 6: Min(AI1, AI2) 7: Max(AI1, AI2) Full scale of 1-7 selection corresponds to P2-10	0	☆
P2-10	Torque upper limit digital setting under speed control mode	0.0% ~ 200.0%	150.0%	☆
P2-13	Excitation regulation proportional gain	0 ~ 60000	2000	☆
P2-14	Excitation regulation integral gain	0 ~ 60000	1300	☆
P2-15	Torque regulation proportional gain	0 ~ 60000	2000	☆
P2-16	Torque regulation integral gain	0 ~ 60000	1300	☆

Function code	Name	Detailed instruction	Factory default	Modify
P2-17	Speed loop integral attribute	Units place: Integral separation 0: Invalid 1: Effective	0	☆
P2-18	Synchronous machine weak magnetic mode	0: Weak magnetic invalid 1: Direct calculation mode 2: Automatic adjustment mode	1	☆
P2-19	Synchronous machine weak magnetic depth	50% ~ 500%	100%	☆
P2-20	Maximum weak magnetic current	1% ~ 300%	50%	☆
P2-21	Automatic gain adjustment for weak magnetic field	10% ~ 500%	100%	☆
P2-22	Weak magnetic integral multiple	2 ~ 10	2	☆
P3 Group: V/F Control Parameters				
P3-00	V/F curve setting	0: Linear V/F 1: Multiple-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: V/F fully separated mode 11: V/F half separation mode	0	★
P3-01	Torque boost	0.0% (Automatic torque increase) 0.1% ~ 30.0%	Model depend	☆
P3-02	Torque boost cutoff frequency	0.00Hz ~ max. frequency	50.00Hz	★
P3-03	V/F frequency point 1	0.00Hz ~ P3-05	0.00Hz	★
P3-04	V/F voltage point 1	0.0% ~ 100.0%	0.0%	★
P3-05	V/F frequency point 2	P3-03 ~ P3-07	0.00Hz	★
P3-06	V/F voltage point 2	0.0% ~ 100.0%	0.0%	★
P3-07	V/F frequency point 3	P3-05 ~ P1-04 (motor rated frequency)	0.00Hz	★
P3-08	V/F voltage point 3	0.0% ~ 100.0%	0.0%	★
P3-09	V/F slip compensation gain	0.0% ~ 200.0%	0.0%	☆
P3-10	V/F over excitation gain	0 ~ 200	64	☆
P3-11	V/F oscillation suppression gain	0 ~ 100	Model depend	☆
P3-13	V/F separated voltage source	0: Digital setting (P3-14) 1: AI1 2: AI2 3: AI3 (Panel potentiometer)	0	☆

Function code	Name	Detailed instruction	Factory default	Modify
		4: PULSE pulse setting (DI5) 5: Multi segment instruction 6: Simple PLC 7: PID 8: Communication given Note: 100.0% corresponds to the rated voltage of the motor		
P3-14	Voltage digital setting for V/F separation	0V ~ Motor rated voltage	0V	☆
P3-15	Voltage rise time for V/F separation	0.0s ~ 1000.0s Note: Refers to the time when 0V changes to the rated voltage of the motor	0.0s	☆
P3-16	Voltage deceleration time for V/F separation	0.0s ~ 1000.0s Note: Refers to the time when 0V changes to the rated voltage of the motor	0.0s	☆
P3-17	V/F separation shutdown mode selection	0: Frequency/Voltage independently reduced to 0 1: Reduce the voltage to 0 and then reduce the frequency again	0	☆
P3-18	Overcurrent stall action current	50 ~ 200%	130%	☆
P3-19	Overcurrent stall suppression	0: Invalid 1: Effective	1	★
P3-20	Overcurrent stall suppression gain	0 ~ 100	20	★
P3-21	Compensation coefficient for double speed overcurrent stall action current	50 ~ 200%	50%	☆
P3-22	Overvoltage stall action voltage	200.0 ~ 2000.0%	Model depend 220V: 380V 380V: 760V 480V: 850V 690V: 1250V 1140V: 1900V	★
P3-23	Overvoltage stall enable	0: Invalid 1: Effective	1	★
P3-24	Overvoltage stall suppression frequency gain	0 ~ 100	30	☆
P3-25	Overvoltage stall suppression voltage gain	0 ~ 100	30	☆
P3-26	Overvoltage stall maximum rise frequency limit	0 ~ 50Hz	5Hz	★
P3-27	Slip compensation time constant	0.1 ~ 10.0s	0.5s	☆

Function code	Name	Detailed instruction	Factory default	Modify
P4 Group: Input Terminal				
P4-00	DI1 terminal function	0: No function	1	★
P4-01	DI2 terminal function	1: Forward (FWD)	4	★
P4-02	DI3 terminal function	2: Reverse (REV)	9	★
P4-03	DI4 terminal function	3: Three-line running control	12	★
P4-04	DI5 terminal function	4: Forward Jog (FJOG)	13	★
P4-05	DI6 terminal function	5: Reverse Jog (RJOG)	0	★
P4-06	DI7 terminal function	6: Terminal UP	0	★
P4-07	DI8 terminal function	7: Terminal DOWN	0	★
P4-08	DI9 terminal function	8: Freely stop	0	★
		9: Fault reset (RESET)		
		10: Pause running		
		11: External fault (normal open) input		
		12: Multi-step speed terminal 1 (As shown in Table 1 on page 89)		
		13: Multi-step speed terminal 2 (As shown in Table 1 on page 89)		
		14: Multi-step speed terminal 3 (As shown in Table 1 on page 89)		
		15: Multi-step speed terminal 4 (As shown in Table 1 on page 89)		
		16: ACC/DEC selection terminal 1 (As shown in Table 2 on page 89)		
		17: ACC/DEC selection terminal 2 (As shown in Table 2 on page 89)		
		18: Main frequency source switching		
		19: UP and DOWN setting clear (terminal and keypad)		
		20: Running command switching terminal		
P4-09	DI10 terminal function	21: ACC/DEC invalid	0	★
		22: PID Pause		
		23: PLC status reset		
		24: Wobble frequency pause		
		25: Counter input		
		26: Counter reset		
		27: Length count input		
		28: Length reset		
		29: Torque control invalid		
		30: PULSE frequency input (only valid for DI5)		
		31: Reserved		
		32: DC braking command		
		33: External fault (normal closed) input		
		34: Frequency modification enabled		
		35: PID action direction reverse		
		36: External stop terminal 1		

Function code	Name	Detailed instruction	Factory default	Modify
		37: Control command switching terminal 2 38: PID integration stop 39: Switch frequency source X to preset frequency 40: Switch frequency source Y to preset frequency 41: Motor selection terminal 1 42: Motor selection terminal 2 43: PID parameter switching 44: Customized fault 1 45: Customized fault 2 46: Speed control / torque control 47: Emergency stop 48: External stop terminal 2 49: Deceleration DC braking 50: Zero the running time this time 51 ~ 59: Reserved		
P4-10	DI filter time	0.000s ~ 1.000s	0.10s	☆
P4-11	Terminal command mode	0: Two-line mode 1 1: Two-line mode 2 2: Three-line mode 1 3: Three-line mode 2	0	★
P4-12	Terminal UP/DOWN change rate	0.001Hz/s ~ 65.535Hz/s	1.00Hz/s	☆
P4-13	AI curve 1 minimum input	0.00V ~ P4-15	0.00V	☆
P4-14	AI curve 1 minimum input corresponding setting	-100.0% ~ +100.0%	0.0%	☆
P4-15	AI curve 1 maximum input	P4-13 ~ +10.00V	10.00V	☆
P4-16	AI curve 1 maximum input corresponding setting	-100.0% ~ +100.0%	100.0%	☆
P4-17	AI1 filter time	0.00s ~ 10.00s	0.10s	☆
P4-18	AI curve 2 minimum input	0.00V ~ P4-20	0.00V	☆
P4-19	AI curve 2 minimum input corresponding setting	-100.0% ~ +100.0%	0.0%	☆
P4-20	AI curve 2 maximum input	P4-18 ~ +10.00V	10.00V	☆
P4-21	AI curve 2 maximum input corresponding setting	-100.0% ~ +100.0%	100.0%	☆
P4-22	AI2 filter time	0.00s ~ 10.00s	0.10s	☆
P4-23	AI curve 3 minimum input	-10.00V ~ P4-25	-10.00V	☆
P4-24	AI curve 3 minimum input corresponding setting	-100.0% ~ +100.0%	-6.0%	☆
P4-25	AI curve 3 maximum input	P4-23 ~ +10.00V	9.7V	☆

Function code	Name	Detailed instruction	Factory default	Modify
P4-26	AI curve 3 maximum input corresponding setting	-100.0% ~ +100.0%	100.0%	☆
P4-27	AI3 filter time	0.00s ~ 10.00s	0.10s	☆
P4-28	Pulse minimum input	0.00kHz ~ P4-30	0.00kHz	☆
P4-29	Pulse minimum input corresponding setting	-100.0% ~ 100.0%	0.0%	☆
P4-30	Pulse maximum input	P4-28 ~ 100.00kHz	50.00kHz	☆
P4-31	Pulse maximum input corresponding setting	-100.0% ~ 100.0%	100.0%	☆
P4-32	Pulse filter time	0.00s ~ 10.00s	0.10s	☆
P4-33	AI curve selection	Units place: AI1 curve selection 1: Curve 1 (see P4-13 ~ P4-16) 2: Curve 2 (see P4-18 ~ P4-21) 3: Curve 3 (see P4-23 ~ P4-26) 4: Curve 4 (see A6-00 ~ A6-07) 5: Curve 5 (see A6-08 ~ A6-15) Tens place: AI2 curve selection, ditto Hundreds place: AI3 curve selection, ditto	321	☆
P4-34	AI below minimum input setting selection	Units place: AI1 below minimum input setting selection 0: Correspond to minimum input setting 1: 0.0% Tens place: AI2 below minimum input setting selection, ditto Hundreds place: AI3 below minimum input setting selection, ditto	000	☆
P4-35	DI1 delay time	0.0s ~ 3600.0s	0.0s	★
P4-36	DI2 delay time	0.0s ~ 3600.0s	0.0s	★
P4-37	DI3 delay time	0.0s ~ 3600.0s	0.0s	★
P4-38	DI terminal valid mode selection 1	0: High level effective 1: Low level effective Units place: DI1 Tens place: DI2 Hundreds place: DI3 Thousands place: DI4 Ten thousands place: DI5	00000	★
P4-39	DI terminal valid mode selection 2	0: High level effective 1: Low level effective Units place: DI6 Tens place: DI7 Hundreds place: DI8 Thousands place: DI9 Ten thousands place: DI10	00000	★

Function code	Name	Detailed instruction	Factory default	Modify
P5 Group: Output Terminal				
P5-00	FM terminal output mode selection	0: Pulse output (FMP) 1: Switching output (FMR)	0	☆
P5-01	FMR output function selection	0: No output 1: Inverter is running	0	☆
P5-02	Control board relay function selection (T/A-T/B-T/C)	2: Fault output (fault stop) 3: FDT1 output 4: Frequency arrival	2	☆
P5-03	Expansion card relay output function selection (P/A-P/B-P/C)	5: Zero-speed running (no output when stop) 6: Motor overload pre-alarm 7: Inverter overload pre-alarm	0	☆
P5-04	DO1 output function selection	8: Setting count value arrival 9: Designated count value arrival 10: Length arrival	1	☆
P5-05	Expansion card DO2 output selection	11: PLC loop completed 12: Accumulated running time arrival 13: Frequency limiting 14: Torque limiting 15: Ready for running 16: AI1>AI2 17: Frequency upper limit arrival 18: Frequency lower limit arrival (run related) 19: Under voltage status output 20: Communication setting 21: Orientation finished (reserved) 22: Orientation approach (reserved) 23: Zero-speed running 2 (output when stop) 24: Accumulated power-on time arrival 25: FDT2 output 26: Frequency 1 arrival output 27: Frequency 2 arrival output 28: Current 1 arrival output 29: Current 2 arrival output 30: Timing arrival output 31: AI1 input over limit 32: Off load 33: Reverse running 34: Zero-current status 35: Module temperature arrival 36: Output current over limit 37: Lower limit frequency arrival (output when stop) 38: Warning output (keep running) 39: Motor over temperature pre-alarm 40: This running time arrival	4	☆

Function code	Name	Detailed instruction	Factory default	Modify
P5-06	FMP output function selection	0: Running frequency (0 ~ max. output frequency)	0	☆
P5-07	AO1 output function selection	1: Setting frequency (0 ~ max. output frequency) 2: Output current (0 ~ 2 times the rated current of the motor) 3: Output torque (0 ~ 2 times the rated torque of the motor) 4: Output power (0 ~ 2 times rated power) 5: Output voltage (0 ~ 1.2 times the rated voltage of the inverter) 6: Pulse input (0.01kHz ~ 100.00kHz) 7: AI1 (0V ~ 10V) 8: AI2 (0V ~ 10V or 0 ~ 20mA) 9: AI3 (0V ~ 10V) 10: Length (0 ~ max. set length) 11: Count value (0 ~ max. count value) 12: Communication settings (0.0% ~ 100.0%) 13: Motor speed (0 ~ speed corresponding to max. output frequency) 14: Output current (0.0A ~ 1000.0A) 15: Output voltage (0.0V ~ 1000.0V)	0	☆
P5-08	Expansion card AO2 output function selection		1	☆
P5-09	FMP output maximum frequency	0.01kHz ~ 100.00kHz	50.00kHz	☆
P5-10	AO1 zero deviation coefficient	-100.0% ~ +100.0%	0.0%	☆
P5-11	AO1 gain	-10.00 ~ +10.00	1.00	☆
P5-12	Expansion card AO2 zero deviation coefficient	-100.0% ~ +100.0%	0.0%	☆
P5-13	Expansion card AO2 gain	-10.00 ~ +10.00	1.00	☆
P5-17	FMR output delay time	0.0s ~ 3600.0s	0.0s	☆
P5-18	Relay 1 output delay time	0.0s ~ 3600.0s	0.0s	☆
P5-19	Relay 2 output delay time	0.0s ~ 3600.0s	0.0s	☆
P5-20	DO1 output delay time	0.0s ~ 3600.0s	0.0s	☆
P5-21	DO2 output delay time	0.0s ~ 3600.0s	0.0s	☆
P5-22	DO output terminal effective state selection	0: Positive logic 1: Negative logic Units place: FMR Tens place: Relay 1 Hundreds place: Relay 2 Thousands place: DO1 Ten thousands place: DO2	00000	☆

Function code	Name	Detailed instruction	Factory default	Modify
P6 Group: Start and Stop Control				
P6-00	Start mode	0: Direct start 1: Speed tracking and restart 2: Pre-excitation start (AC asynchronous motor)	0	☆
P6-01	Speed tracking mode	0: Begin from stop frequency 1: Begin from zero speed 2: Begin from maximum frequency	0	★
P6-02	Speed tracking speed	1 ~ 100	20	☆
P6-03	Start frequency	0.00Hz	0.00Hz	☆
P6-04	Start frequency holding time	0.0s ~ 100.0s	0.0s	★
P6-05	Starting DC braking current /pre-excitation current	0% ~ 100%	0%	★
P6-06	Starting DC braking time /pre-excitation time	0.0s ~ 100.0s	0.0s	★
P6-07	ACC/DEC mode	0: Linear ACC/DEC 1: S-curve ACC/DEC A 2: S-curve ACC/DEC B	0	★
P6-08	Time of S curve's start part	0.0% ~ (100.0% ~ P6-09)	30.0%	★
P6-09	Time of S curve's end part	0.0% ~ (100.0% ~ P6-08)	30.0%	★
P6-10	Stop mode	0: Deceleration to stop 1: Freely stop	0	☆
P6-11	DC braking start frequency after stop	0.00Hz ~ maximum frequency	0.00Hz	☆
P6-12	DC braking delay time after stop	0.0s ~ 100.0s	0.0s	☆
P6-13	DC braking current after stop	0% ~ 100%	0%	☆
P6-14	DC braking time after stop	0.0s ~ 100.0s	0.0s	☆
P6-15	Braking usage ratio	0% ~ 100%	100%	☆
P6-23	Vector control zero frequency current output	0: No current output 1: With current output	0	★
P6-24	Zero frequency with output	0: With output 1: No output	0	★
P7 Group: Keypad and Display				
P7-01	REV/JOG function selection	0: Invalid 1: Switching between keypad command channel and remote command channel (terminal command channel and communication command channel) 2: FDW/REV Switching 3: Forward Jog 4: Reverse Jog	0	★

Function code	Name	Detailed instruction	Factory default	Modify
		5: Switching between panel frequency command channel and remote frequency command channel		
P7-02	STOP/RESET function	0: Valid when keypad control 1: Always valid	0	☆
P7-03	LED running display parameter 1	0000 ~ FFFF Bit00: Running frequency 1 (Hz) Bit01: Setting frequency (Hz) Bit02: Bus voltage (V) Bit03: Output voltage (V) Bit04: Output current (A) Bit05: Output power (kW) Bit06: Output torque (%) Bit07: DI input status Bit08: DO output status Bit09: AI1 voltage (V) Bit10: AI2 voltage (V) Bit11: AI3 voltage (V) Bit12: Count value Bit13: Length value Bit14: Load speed display Bit15: PID setting	1F	☆
P7-04	LED running display parameter 2	0000 ~ FFFF Bit00: PID feedback Bit01: PLC stage Bit02: PULSE input pulse frequency (kHz) Bit03: Running frequency 2 (Hz) Bit04: Remain running time Bit05: AI1 voltage before calibration (V) Bit06: AI2 voltage before calibration (V) Bit07: AI3 voltage before calibration (V) 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)	0	☆
P7-05	LED stop display parameters	0000 ~ FFFF Bit00: Setting frequency (Hz) Bit01: Bus voltage (V) Bit02: DI input status Bit03: DO output status	33	☆

Function code	Name	Detailed instruction	Factory default	Modify
		Bit04: AI1 voltage (V) Bit05: AI2 voltage (V) Bit06: AI3 voltage (V) Bit07: Count value Bit08: Length value Bit09: PLC stage Bit10: Load speed Bit11: PID setting Bit12: PULSE input pulse frequency (kHz)		
P7-06	Load speed display coefficient	0.0001 ~ 6.5000	1.0000	☆
P7-07	IGBT module radiator temperature	0.0℃ ~ 100.0℃	-	☆
P7-09	Accumulated running time	0h ~ 65535h	00000	●
P7-10	Model No.	-	-	●
P7-11	Software version No.	-	-	●
P7-12	Load speed display decimal place	0: 0 decimal place 1: 1 decimal place 2: 2 decimal places 3: 3 decimal places	1	☆
P7-13	Accumulated power on time	0h ~ 65535h	-	●
P7-14	Accumulated power consumption	0kW ~ 65535°	-	●
P8 Group: Auxiliary function				
P8-00	Jog running frequency	0.00Hz ~ max. 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 depend	☆
P8-04	Deceleration time 2	0.0s ~ 6500.0s	Model depend	☆
P8-05	Acceleration time 3	0.0s ~ 6500.0s	Model depend	☆
P8-06	Deceleration time 3	0.0s ~ 6500.0s	Model depend	☆
P8-07	Acceleration time 4	0.0s ~ 6500.0s	Model depend	☆
P8-08	Deceleration time 4	0.0s ~ 6500.0s	Model depend	☆
P8-09	Jump frequency 1	0.00Hz ~ max. frequency	0.00Hz	☆
P8-10	Jump frequency 2	0.00Hz ~ max. frequency	0.00Hz	☆

Function code	Name	Detailed instruction	Factory default	Modify
P8-11	Jump frequency amplitude	0.00Hz ~ max. frequency	0.01Hz	☆
P8-12	FWD/REV dead time	0.0s ~ 3000.0s	0.0s	☆
P8-13	Reverse control enable	0: Enable 1: Disable	0	☆
P8-14	Action when setting frequency lower than frequency lower limit	0: Running at frequency lower limit 1: Stop 2: Zero-speed running	0	☆
P8-15	Droop control	0.00Hz ~ 10.00Hz	0.00Hz	☆
P8-16	Accumulated power-on arrival time	0h ~ 65000h	0h	☆
P8-17	Accumulated running arrival time	0h ~ 65000h	0h	☆
P8-18	Activate protection selection	0: No protection 1: Protection	0	☆
P8-19	Frequency detection value (FDT1)	0.00Hz ~ max. frequency	50.00Hz	☆
P8-20	Frequency detection lagging value (FDT1)	0.0% ~ 100.0% (FDT1 level)	5.0%	☆
P8-21	Frequency arrival detection amplitude	0.0% ~ 100.0% (maximum frequency)	0.0%	☆
P8-22	Jump frequency control during ACC/DEC	0: Invalid 1: Effective	0	☆
P8-25	Acceleration time 1 and acceleration time 2 switching frequency point	0.00Hz ~ max. frequency	0.00Hz	☆
P8-26	Deceleration time 1 and deceleration time 2 switching frequency point	0.00Hz ~ max. frequency	0.00Hz	☆
P8-27	Terminal jog priority	0: Invalid 1: Effective	1	☆
P8-28	Frequency detection value (FDT2)	0.00Hz ~ max. frequency	50.00Hz	☆
P8-29	Frequency detection lagging value (FDT2)	0.0% ~ 100.0% (FDT2 level)	5.0%	☆
P8-30	Any arrival frequency detection value 1	0.00Hz ~ max. frequency	50.00Hz	☆
P8-31	Any arrival frequency detection amplitude 1	0.0% ~ 100.0% (maximum frequency)	0.0%	☆
P8-32	Any arrival frequency detection value 2	0.00Hz ~ max. frequency	50.00Hz	☆

Function code	Name	Detailed instruction	Factory default	Modify
P8-33	Any arrival frequency detection amplitude 2	0.0% ~ 100.0% (maximum frequency)	0.0%	☆
P8-34	Zero-current detection level	0.0% ~ 300.0% 100.0% corresponds to motor rated current	5.0%	☆
P8-35	Zero-current detection delay time	0.01s ~ 600.00s	0.10s	☆
P8-36	Output current over limit value	0.0% (No detection) 0.1% ~ 300.0% (motor rated current)	200.0%	☆
P8-37	Output current over limit detection delay time	0.00s ~ 600.00s	0.00s	☆
P8-38	Any arrival current 1	0.0% ~ 300.0% (motor rated current)	100.0%	☆
P8-39	Any arrival current 1 amplitude	0.0% ~ 300.0% (motor rated current)	0.0%	☆
P8-40	Any arrival current 2	0.0% ~ 300.0% (motor rated current)	100.0%	☆
P8-41	Any arrival current 2 amplitude	0.0% ~ 300.0% (motor rated current)	0.0%	☆
P8-42	Timing function selection	0: Invalid 1: Effective	0	☆
P8-43	Timing running time selection	0: P8-44 setting 1: AI1 2: AI2 3: AI3 (Panel potentiometer) Analog input scale corresponds to P8-44	0	☆
P8-44	Timing running time	0.0Min ~ 6500.0Min	0.0Min	☆
P8-45	AI1 input voltage protection lower limit	0.00V ~ P8-46	3.10V	☆
P8-46	AI1 input voltage protection upper limit	P8-45 ~ 10.00V	6.80V	☆
P8-47	Module temperature arrival	0℃ ~ 100℃	75℃	☆
P8-48	Cooling fan control	0: Fan runs when inverter running 1: Fan always runs	0	☆
P8-49	Wake up frequency	Dormancy frequency (P8-51) ~ max. frequency (P0-10)	0.00Hz	☆
P8-50	Wake up delay time	0.0s ~ 6500.0s	0.0s	☆
P8-51	Dormancy frequency	0.00Hz ~ wake up frequency (P8-49)	0.00Hz	☆
P8-52	Dormancy delay time	0.0s ~ 6500.0s	0.0s	☆
P8-53	Running arrival time setting	0.0Min ~ 6500.0Min	0.0Min	☆

Function code	Name	Detailed instruction	Factory default	Modify
P9 Group: Fault and Protection				
P9-00	Motor overload protection selection	0: Disable 1: Enable	1	☆
P9-01	Motor overload protection gain	0.20 ~ 10.00	1.00	☆
P9-02	Motor overload pre-alarm coefficient	50% ~ 100%	80%	☆
P9-03	Overvoltage stall gain	0 ~ 100	0	☆
P9-04	Overvoltage stall protection voltage	200.0 ~ 2000.0V	760	☆
P9-05	Overcurrent stall gain	1 ~ 100	20	☆
P9-06	Overcurrent stall protection current	100% ~ 200%	150%	☆
P9-07	Short-circuit to ground protection selection when power-on	0: Invalid 1: Effective	1	☆
P9-08	Starting voltage of braking unit action	200.0 ~ 2000.0V	690	☆
P9-09	Fault auto reset times	0 ~ 20	0	☆
P9-10	Fault DO acts selection in fault auto reset	0: No action 1: Action	0	☆
P9-11	Fault automatic reset interval time	0.1s ~ 100.0s	1.0s	☆
P9-12	Input phase failure protection selection (18.5kW and below without)	Units place: Input phase loss detection 0: Disable 1: Enable Tens place: Input power detection 0: Disable 1: Enable	11	☆
P9-13	Output phase failure protection selection	0: Disable 1: Enable	1	☆
P9-14	The first fault type	0: No fault 1: Reserved 2: Over current in ACC process 3: Over current in DEC process 4: Over current in constant speed 5: Over voltage in ACC process 6: Over voltage in DEC process 7: Over voltage in constant speed 8: Buffer resistor overload fault 9: Under voltage 10: Inverter overload 11: Motor overload 12: Input phase failure	—	●

Function code	Name	Detailed instruction	Factory default	Modify
P9-15	The second fault type	13: Output phase failure 14: Module overheat 15: External fault 16: Communication fault 17: Contactor fault 18: Current detection fault 19: Motor autotuning fault 20: Encoder/PG card fault 21: Parameter R/W fault 22: Inverter hardware fault 23: Motor short circuit to ground fault 24: Reserved 25: Reserved	—	●
P9-16	The third (latest) fault type	26: Running time arrival 27: Customized fault 1 28: Customized fault 2 29: Power-on time arrival 30: Off load 31: PID feedback lost when running 40: Fast current limiting over time 41: Switching the motor fault when running 42: Speed deviation oversize 43: Motor over speed 45: Motor overtemperature 51: Initial position error	—	●
P9-17	Frequency at the third (latest) fault	—	—	●
P9-18	Current at the third (latest) fault	—	—	●
P9-19	Bus voltage at the third (latest) fault	—	—	●
P9-20	Input terminal's status at the third (latest) fault	—	—	●
P9-21	Output terminal's status at the third (latest) fault	—	—	●
P9-22	Inverter status at the third (latest) fault	—	—	●
P9-23	Power-on time at the third (latest) fault	—	—	●
P9-24	Running time at the third (latest) fault	—	—	●
P9-27	Frequency at the second fault	—	—	●
P9-28	Current at the second fault	—	—	●

Function code	Name	Detailed instruction	Factory default	Modify
P9-29	Bus voltage at the second fault	—	—	●
P9-30	Input terminal's status at the second fault	—	—	●
P9-31	Output terminal's status at the second fault	—	—	●
P9-32	Inverter status at the second fault	—	—	●
P9-33	Power-on time at the second fault	—	—	●
P9-34	Running time at the second fault	—	—	●
P9-37	Frequency at the first fault	—	—	●
P9-38	Current at the first fault	—	—	●
P9-39	Bus voltage at the first fault	—	—	●
P9-40	Input terminal's status at the first fault	—	—	●
P9-41	Output terminal's status at the first fault	—	—	●
P9-42	Inverter status at the first fault	—	—	●
P9-43	Power-on time at the first fault	—	—	●
P9-44	Running time at the first fault	—	—	●
P9-47	Fault protection action selection 1	Units place: Motor overload (11) 0: Freely stop 1: Stop by stopping 2: Keep running Tens place: Input phase failure (12) Hundreds place: Output phase failure (13) Thousands place: External fault (15) Ten thousands place: communication fault (16)	00000	☆
P9-48	Fault protection action selection 2	Units place: Encoder/PG card fault (20) 0: Freely stop Tens place: Function code R/W fault (21) 0: Freely stop 1: Stop by stopping Hundreds place: Reserved Thousands place: Motor over heat (25) Ten thousands: Running time arrival (26)	00000	☆

Function code	Name	Detailed instruction	Factory default	Modify
P9-49	Fault protection action selection 3	Units place: Customized fault 1 (27) 0: Freely stop 1: Stop by stopping 2: Keep running Tens place: Customized fault 2 (28) 0: Freely stop 1: Stop by stopping 2: Keep running Hundreds place: Power-on time arrival time (29) 0: Freely stop 1: Stop by stopping 2: Keep running Thousands place: Off load (30) 0: Freely stop 1: Stop by stopping 2: Decelerate to 7% of motor rated power, then keep running; run at setting frequency when no off-load Ten thousands place: PID feedback lost when running (31) 0: Freely stop 1: Stop by stopping 2: Keep running	00000	☆
P9-50	Fault protection action selection 4	Units place: Speed deviation oversize (42) 0: Freely stop 1: Stop by stopping 2: Keep running Tens place: motor over speed (43) Hundreds place: Initial place fault (51)	00000	☆
P9-54	Running frequency selection when fault	0: Run at current running frequency 1: Run at setting frequency 2: Run at upper limit frequency 3: Run at lower limit frequency 4: Run at abnormal backup frequency	0	☆
P9-55	Abnormal backup frequency	60.0% ~ 100.0% (100.0% corresponds to maximum frequency P0-10)	100.0%	☆
P9-56	Motor temperature sensor type	0: No temperature sensor 1: PT100 2: PT1000	0	☆
P9-57	Motor overheat protection threshold	0℃ ~ 200℃	110.0℃	☆
P9-58	Motor overheat pre-alarm threshold	0℃ ~ 200℃	90℃	☆
P9-59	Instantaneous power-off action selection	0: Invalid 1: Deceleration 2: Dec-to-stop	0	☆
P9-60	Deceleration switching point when instantaneous power-off	P9-62 ~ 100.0%	85.0%	☆

Function code	Name	Detailed instruction	Factory default	Modify
P9-61	Voltage rise judgment time when instantaneous power-off	0.00s ~ 100.00s	0.50s	☆
P9-62	Action judgment voltage when instantaneous power-off	60.0% ~ 100.0% (standard bus voltage)	80.0%	☆
P9-63	Off-load protection selection	0: Invalid 1: Effective	0	☆
P9-64	Off-load detection level	0.0 ~ 100.0% (Motor rated current)	10.0%	☆
P9-65	Off-load detection time	0.0 ~ 60.0s	1.0s	☆
P9-67	Overspeed detection value	0.0% ~ 50.00% (maximum frequency)	20.0%	☆
P9-68	Overspeed detection time	0.0 ~ 60.0s	1.0s	☆
P9-69	Excessive speed deviation detection value	0.0% ~ 50.00% (maximum frequency)	20.0%	☆
P9-70	Excessive speed deviation detection time	0.0 ~ 60.0s	5.0s	☆
PA Group: PID Function				
PA-00	PID given source	0: PA-01 setting 1: AI1 2: AI2 3: AI3 (Panel potentiometer) 4: PULSE pulse setting (DI5) 5: Communication given 6: Multi-step command 7: A9-01 setting	0	☆
PA-01	PID value given	0.0 ~ 100.0%	50%	☆
PA-02	PID feedback source	0: AI1 1: AI2 2: AI3 (Panel potentiometer) 3: AI1-AI2 4: PULSE pulse setting (DI5) 5: Communication given 6: AI1+AI2 7: MAX (AI1 , AI2) 8: MIN (AI1 , AI2)	0	☆
PA-03	PID action direction	0: Positive 1: Negative	0	☆
PA-04	PID given feedback range	0 ~ 65535	1000	☆
PA-05	Proportional gain Kp1	0.0 ~ 100.0	20.0	☆
PA-06	Integration time Ti1	0.01s ~ 10.00s	2.00s	☆
PA-07	Differential time Td1	0.000s ~ 10.000s	0.000s	☆
PA-08	Cutoff frequency of PID reverse	0.00Hz ~ max. frequency	2.00Hz	☆

Function code	Name	Detailed instruction	Factory default	Modify
PA-09	PID deviation limit	0.0% ~ 100.0%	0.0%	☆
PA-10	PID differential amplitude	0.00% ~ 100.00%	0.10%	☆
PA-11	PID given filter 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-15	Proportional gain Kp2	0.0 ~ 100.0	20.0	☆
PA-16	Integration time Ti2	0.01s ~ 10.00s	2.00s	☆
PA-17	Differential time Td2	0.000s ~ 10.000s	0.000s	☆
PA-18	PID parameter switching condition	0: No switching 1: Switching through DI terminals 2: Automatic switching according to the deviation	0	☆
PA-19	PID parameter switching deviation 1	0.0% ~ PA-20	20.0%	☆
PA-20	PID parameter switching 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	Forward maximum value between two output deviation	0.00% ~ 100.00%	1.00%	☆
PA-24	Reverse maximum value between two output deviation	0.00% ~ 100.00%	1.00%	☆
PA-25	PID integration attribute	Units place: Integration separate 0: Invalid 1: Effective Tens place: Stop integrating or not after output reach limit 0: Keep integrating 1: Stop integrating	00	☆
PA-26	PID feedback lost detection value	0.0%: No judgment for feedback lost 0.1% ~ 100.0%	0.0%	☆
PA-27	PID feedback lost detection time	0.0s ~ 20.0s	0.0s	☆
PA-28	PID stop calculation	0: No calculation when stop 1: Calculation when stop	0	☆
PB Group: Wobble Frequency, Fixed Length, Counting				
PB-00	Wobble frequency setting mode	0: Relative to center frequency 1: Relative to maximum frequency	0	☆
PB-01	Wobble frequency amplitude	0.0% ~ 100.0%	0.0%	☆

Function code	Name	Detailed instruction	Factory default	Modify
PB-02	Sudden jump frequency amplitude	0.0% ~ 50.0%	0.0%	☆
PB-03	Wobble frequency cycle	0.1s ~ 3000.0s	10.0s	☆
PB-04	Triangular wave rise time of wobble frequency	0.1% ~ 100.0%	50.0%	☆
PB-05	Setting 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	Setting count value	1 ~ 65535	1000	☆
PB-09	Designated count value	1 ~ 65535	1000	☆
PC Group: Multi-step Command and Simple PLC				
PC-00	Multi-step command 0	-100.0% ~ 100.0%	0.0%	☆
PC-01	Multi-step command 1	-100.0% ~ 100.0%	0.0%	☆
PC-02	Multi-step command 2	-100.0% ~ 100.0%	0.0%	☆
PC-03	Multi-step command 3	-100.0% ~ 100.0%	0.0%	☆
PC-04	Multi-step command 4	-100.0% ~ 100.0%	0.0%	☆
PC-05	Multi-step command 5	-100.0% ~ 100.0%	0.0%	☆
PC-06	Multi-step command 6	-100.0% ~ 100.0%	0.0%	☆
PC-07	Multi-step command 7	-100.0% ~ 100.0%	0.0%	☆
PC-08	Multi-step command 8	-100.0% ~ 100.0%	0.0%	☆
PC-09	Multi-step command 9	-100.0% ~ 100.0%	0.0%	☆
PC-10	Multi-step command 10	-100.0% ~ 100.0%	0.0%	☆
PC-11	Multi-step command 11	-100.0% ~ 100.0%	0.0%	☆
PC-12	Multi-step command 12	-100.0% ~ 100.0%	0.0%	☆
PC-13	Multi-step command 13	-100.0% ~ 100.0%	0.0%	☆
PC-14	Multi-step command 14	-100.0% ~ 100.0%	0.0%	☆
PC-15	Multi-step command 15	-100.0% ~ 100.0%	0.0%	☆
PC-16	Simple PLC running mode	0: Stop after one cycle 1: Keep last frequency after one cycle 2: Circular running	0	☆
PC-17	Simple PLC storage selection when power-down	Units place: Storage selection when power-off 0: Not store 1: Store Tens place: Storage selection when stop 0: Not store 1: Store	00	☆

Function code	Name	Detailed instruction	Factory default	Modify
PC-18	0 th phase running time	0.0s (h) ~ 6553.5s (h)	0.0s (h)	☆
PC-19	0 th phase ACC/DEC time selection	0 ~ 3	0	☆
PC-20	1 st phase running time	0.0s (h) ~ 6553.5s (h)	0.0s (h)	☆
PC-21	1 st phase ACC/DEC time selection	0 ~ 3	0	☆
PC-22	2 nd phase running time	0.0s (h) ~ 6553.5s (h)	0.0s (h)	☆
PC-23	2 nd phase ACC/DEC time selection	0 ~ 3	0	☆
PC-24	3 rd phase running time	0.0s (h) ~ 6553.5s (h)	0.0s (h)	☆
PC-25	3 rd phase ACC/DEC time selection	0 ~ 3	0	☆
PC-26	4 th phase running time	0.0s (h) ~ 6553.5s (h)	0.0s (h)	☆
PC-27	4 th phase ACC/DEC time selection	0 ~ 3	0	☆
PC-28	5 th phase running time	0.0s (h) ~ 6553.5s (h)	0.0s (h)	☆
PC-29	5 th phase ACC/DEC time selection	0 ~ 3	0	☆
PC-30	6 th phase running time	0.0s (h) ~ 6553.5s (h)	0.0s (h)	☆
PC-31	6 th phase ACC/DEC time selection	0 ~ 3	0	☆
PC-32	7 th phase running time	0.0s (h) ~ 6553.5s (h)	0.0s (h)	☆
PC-33	7 th phase ACC/DEC time selection	0 ~ 3	0	☆
PC-34	8 th phase running time	0.0s (h) ~ 6553.5s (h)	0.0s (h)	☆
PC-35	8 th phase ACC/DEC time selection	0 ~ 3	0	☆
PC-36	9 th phase running time	0.0s (h) ~ 6553.5s (h)	0.0s (h)	☆
PC-37	9 th time selection	0 ~ 3	0	☆
PC-38	10 th phase running time	0.0s (h) ~ 6553.5s (h)	0.0s (h)	☆
PC-39	10 th phase ACC/DEC time selection	0 ~ 3	0	☆
PC-40	11 th phase running time	0.0s (h) ~ 6553.5s (h)	0.0s (h)	☆
PC-41	11 th phase ACC/DEC time selection	0 ~ 3	0	☆
PC-42	12 th phase running time	0.0s (h) ~ 6553.5s (h)	0.0s (h)	☆
PC-43	12 th phase ACC/DEC time selection	0 ~ 3	0	☆
PC-44	13 th phase running time	0.0s (h) ~ 6553.5s (h)	0.0s (h)	☆

Function code	Name	Detailed instruction	Factory default	Modify
PC-45	13 th phase ACC/DEC time selection	0 ~ 3	0	☆
PC-46	14 th phase running time	0.0s (h) ~ 6553.5s (h)	0.0s (h)	☆
PC-47	14 th phase ACC/DEC time selection	0 ~ 3	0	☆
PC-48	15 th phase running time	0.0s (h) ~ 6553.5s (h)	0.0s (h)	☆
PC-49	15 th phase ACC/DEC time selection	0 ~ 3	0	☆
PC-50	Timing unit (Simple PLC mode)	0: s (second) 1: h (hour)	0	☆
PC-51	Multi-step command 0 given mode	0: PC-00 1: AI1 2: AI2 3: AI3 (Panel potentiometer) 4: PULSE pulse setting (DI5) 5: PID 6: Keypad setting frequency (P0-08), can be modified via UP/DOWN	0	☆
PD Group: Communication Parameters				
PD-00	Baud rate	Units place: MODBUS 0: 300BPS 1: 600BPS 2: 1200BPS 3: 2400BPS 4: 4800BPS 5: 9600BPS 6: 19200BPS 7: 38400BPS 8: 57600BPS 9: 115200BPS Tens place: Profibus-DP 0: 115200BPS 1: 208300BPS 2: 256000BPS 3: 512000BPS Hundreds place: Reserved Thousands place: CANlink baud rate 0: 20 1: 50 2: 100 3: 125 4: 250 5: 500 6: 1M	5005	☆
PD-01	Data format	0: No parity check (8-N-2) 1: Even parity check (8-E-1) 2: Odd parity check (8-O-1) 3: No parity check (8-N-1)	0	☆
PD-02	Local address	1 ~ 247, 0 is broadcast address	1	☆
PD-03	Response delay	0ms ~ 20ms	2	☆

Function code	Name	Detailed instruction	Factory default	Modify
PD-04	Communication timeout time	0.0 (invalid) 0.1s ~ 60.0s	0.0	☆
PD-05	Data transmission format selection	Units place: MODBUS 0: Non-standard MODBUS protocol 1: Standard MODBUS protocol Tens place: Profibus-DP 0: PPO1 format 1: PPO2 format 2: PPO3 format 3: PPO5 format	31	☆
PD-06	Communication read current resolution	0: 0.01A 1: 0.1A	0	☆
PE Group: User Customized Function Code				
PE-00	User function code 0	P0-00 ~ PP-xx A0-00 ~ Ax-xx U0-xx ~ U0-xx	P 0.10	☆
PE-01	User function code 1		P 0.02	☆
PE-02	User function code 2		P 0.03	☆
PE-03	User function code 3		P 0.07	☆
PE-04	User function code 4		P 0.08	☆
PE-05	User function code 5		P 0.17	☆
PE-06	User function code 6		P 0.18	☆
PE-07	User function code 7		P 3.00	☆
PE-08	User function code 8		P 3.01	☆
PE-09	User function code 9		P 4.00	☆
PE-10	User function code 10		P 4.01	☆
PE-11	User function code 11		P 4.02	☆
PE-12	User function code 12		P 5.04	☆
PE-13	User function code 13		P 5.07	☆
PE-14	User function code 14		P 6.00	☆
PE-15	User function code 15		P 6.10	☆
PE-16	User function code 16		P 0.00	☆
PE-17	User function code 17		P 0.00	☆
PE-18	User function code 18		P 0.00	☆
PE-19	User function code 19		P 0.00	☆
PE-20	User function code 20		P 0.00	☆
PE-21	User function code 21		P 0.00	☆
PE-22	User function code 22		P 0.00	☆
PE-23	User function code 23		P 0.00	☆
PE-24	User function code 24		P 0.00	☆
PE-25	User function code 25		P 0.00	☆
PE-26	User function code 26		P 0.00	☆
PE-27	User function code 27		P 0.00	☆
PE-28	User function code 28		P 0.00	☆
PE-29	User function code 29		P 0.00	☆

Function code	Name	Detailed instruction	Factory default	Modify
PP Group: Function Code Management				
PP-00	User password	0 ~ 65535	0	☆
PP-01	Parameter initialization	000: No action 001: Restore factory default, but not including motor parameters 002: Clear the record 003: Restore factory default, including motor parameters 004: Restore user backup parameters 501: Backup user's current parameters	000	★
PP-02	Function parameter group display selection	Units place: U group display selection 0: No display 1: Display Tens place: A group display selection 0: No display 1: Display	11	★
PP-03	Personality parameter group display selection	Units place: User customized parameter group display selection 0: No display 1: Display Tens place: User changes parameter group display selection 0: No display 1: Display	00	☆
PP-04	Function code modification attribute	0: Modifiable 1: Not modifiable	0	☆
PP-05	Operating status monitoring parameters	00: Running frequency (Hz) 01: Setting frequency (Hz) 02: Bus voltage (V) 03: Output voltage (V) 04: Output current (A) 05: Output power (kW) 06: Output torque (%) 07: DI input status 08: DO output status 09: AI1 voltage (V) 10: AI2 voltage (V) 11: AI3 voltage (V) 12: Count value 13: Length value 14: Load speed display 15: PID setting 16: PID feedback 17: PLC stage 18: PULSE input pulse frequency (Hz) 19: Feedback speed (unit: 0.1Hz) 20: Remaining running time 21: AI1 voltage before calibration 22: AI2 voltage before calibration 23: AI3 voltage before calibration	04	☆

Function code	Name	Detailed instruction	Factory default	Modify
		24: Linear speed 25: Current power-on time 26: Current running time 27: PULSE input pulse frequency 28: Communication setting value 29: Encoder feedback speed 30: Main frequency X display 31: Auxiliary frequency Y display 32: View any memory address value		
A0 Group: Torque Control Parameters				
A0-00	Speed/torque control mode selection	0: Speed control 1: Torque control	0	★
A0-01	Selection of torque setting source in torque control mode	0: Digital setting 1 (A0-03) 1: AI1 2: AI2 3: AI3 (Panel potentiometer) 4: PULSE pulse setting (DI5) 5: Communication given 6: Min (AI1, AI2) 7: Max (AI1, AI2)(The full range of options 1-7 corresponds to the A0-03 digital setting)	0	★
A0-03	Torque digital setting in torque control mode	-200.0% ~ 200.0%	150.0%	☆
A0-05	Forward maximum frequency in torque control mode	0.00Hz ~ max. frequency	50.00Hz	☆
A0-06	Reverse maximum frequency in torque control mode	0.00Hz ~ max. frequency	50.00Hz	☆
A0-07	ACC time in torque control mode	0.00s ~ 65000s	0.00s	☆
A0-08	DEC time in torque control mode	0.00s ~ 65000s	0.00s	☆
A1 Group: Virtual IO				
A1-00	Virtual VDI1 terminal function selection	0 ~ 59	0	★
A1-01	Virtual VDI2 terminal function selection	0 ~ 59	0	★
A1-02	Virtual VDI3 terminal function selection	0 ~ 59	0	★
A1-03	Virtual VDI4 terminal function selection	0 ~ 59	0	★
A1-04	Virtual VDI5 terminal function selection	0 ~ 59	0	★

Function code	Name	Detailed instruction	Factory default	Modify
A1-05	Virtual VDI terminal status setting mode	0: Whether VDI is valid is determined by the status of virtual VDOx 1: Set whether VDI is valid by function code A1-06 Units place: Virtual VDI1 Tens place: Virtual VDI2 Hundreds place: Virtual VDI3 Thousands place: Virtual VDI4 Ten thousands place: Virtual VDI5	00000	★
A1-06	Virtual VDI terminal status setting	0: Invalid 1: Effective Units place: Virtual VDI1 Tens place: Virtual VDI2 Hundreds place: Virtual VDI3 Thousands place: Virtual VDI4 Ten thousands place: Virtual VDI5	00000	★
A1-07	Function selection when using AI1 terminal as DI	0 ~ 59	0	★
A1-08	Function selection when using AI2 terminal as DI	0 ~ 59	0	★
A1-09	Function selection when using AI3 terminal as DI	0 ~ 59	0	★
A1-10	Effective mode selection when AI terminal is used as DI	0: High level effective 1: Low level effective Units place: AI1 Tens place: AI2 Hundreds place: AI3	000	★
A1-11	Virtual VDO1 output function selection	0: Internal short circuit to physical DIx 1 ~ 40: See F5 group physical DO output selection	0	☆
A1-12	Virtual VDO2 output function selection	0: Internal short circuit to physical DIx 1 ~ 40: See F5 group physical DO output selection	0	☆
A1-13	Virtual VDO3 output function selection	0: Internal short circuit to physical DIx 1 ~ 40: See F5 group physical DO output selection	0	☆
A1-14	Virtual VDO4 output function selection	0: Internal short circuit to physical DIx 1 ~ 40: See F5 group physical DO output selection	0	☆
A1-15	Virtual VDO5 output function selection	0: Internal short circuit to physical DIx 1 ~ 40: See F5 group physical DO output selection	0	☆
A1-16	VDO1 output delay time	0.0s ~ 3600.0s	0.0s	☆
A1-17	VDO2 output delay time	0.0s ~ 3600.0s	0.0s	☆
A1-18	VDO3 output delay time	0.0s ~ 3600.0s	0.0s	☆

Function code	Name	Detailed instruction	Factory default	Modify
A1-19	VDO4 output delay time	0.0s ~ 3600.0s	0.0s	☆
A1-20	VDO5 output delay time	0.0s ~ 3600.0s	0.0s	☆
A1-21	VDO output terminal effective state selection	0: Positive logic 1: Negative logic Units place: VDO1 Tenth place: VDO2 Hundreds place: VDO3 Thousand place: VDO4 Ten thousand place: VDO5	00000	☆
A2-00	Motor type selection	0: Ordinary asynchronous motor 1: Variable frequency asynchronous motor	0	★
A2-01	Motor rated power	0.1kW ~ 1000.0kW	Model depend	★
A2-02	Motor rated voltage	1V ~ 2000V	Model depend	★
A2-03	Motor rated current	0.01A ~ 655.35A(Inverter power≤55kW) 0.1A ~ 6553.5A(Inverter power>55kW)	Model depend	★
A2-04	Motor rated frequency	0.01Hz ~ max. frequency	Model depend	★
A2-05	Motor rated speed	1rpm ~ 65535rpm	Model depend	★
A2-06	Asynchronous motor stator resistance	0.001Ω ~ 65.535Ω (Inverter power≤55kW) 0.0001Ω ~ 6.5535Ω (Inverter power>55kW)	Model depend	★
A2-07	Asynchronous motor rotor resistance	0.001Ω ~ 65.535Ω (Inverter power≤55kW) 0.0001Ω ~ 6.5535Ω (Inverter power>55kW)	Model depend	★
A2-08	Asynchronous motor leakage inductance	0.01mH ~ 655.35mH (Inverter power≤55kW) 0.001mH ~ 65.535mH (Inverter power>55kW)	Model depend	★
A2-09	Asynchronous motor mutual inductance	0.01mH ~ 655.35mH (Inverter power≤55kW) 0.001mH ~ 65.535mH (Inverter power>55kW)	Model depend	★
A2-10	Asynchronous motor no-load current	0.01A ~ A2-03 (Inverter power≤55kW) 0.1A ~ A2-03 (Inverter power>55kW)	Model depend	★
A2-27	Number of encoder lines	1 ~ 65535	1024	★

Function code	Name	Detailed instruction	Factory default	Modify
A2-28	Encoder type	0: ABZ incremental encoder 1: UVW incremental encoder 2: Resolver 3: Sine cosine encoder 4: Provincial line mode UVW encoder	0	★
A2-29	Speed feedback PG selection	0: Local PG 1: Extended PG 2: PULSE pulse input (DI5)	0	★
A2-30	ABZ incremental encoder AB phase sequence	0: Forward 1: Reverse	0	★
A2-31	Encoder installation angle	0.0 ~ 359.9°	0.0°	★
A2-32	UVW encoder UVW phase sequence	0: Forward 1: Reverse	0	★
A2-33	UVW encoder bias angle	0.0 ~ 359.9°	0.0°	★
A2-34	Resolver pole pairs	1 ~ 65535	1	★
A2-36	Speed feedback PG disconnection detection time	0.0: No action 0.1s ~ 10.0s	0.0	★
A2-37	Tuning selection	0: No action 1: Asynchronous machine static tuning 1 2: Asynchronous machine dynamic tuning 3: Asynchronous machine static tuning 2	0	★
A2-38	Speed loop proportional gain 1	1 ~ 100	30	☆
A2-39	Speed loop integration time 1	0.01s ~ 10.00s	0.50s	☆
A2-40	Switching frequency 1	0.00 ~ A2-43	5.00Hz	☆
A2-41	Speed loop proportional gain 2	1 ~ 100	20	☆
A2-42	Speed loop integration time 2	0.01s ~ 10.00s	1.00s	☆
A2-43	Switching frequency 2	A2-40 ~ max. frequency	10.00Hz	☆
A2-44	Vector control slip gain	50% ~ 200%	100%	☆
A2-45	SVC torque filtering constant	1 ~ 31	28	☆
A2-47	Torque upper limit source in speed control mode	0: A2-48 setting 1: AI1 2: AI2 3: AI3(Panel potentiometer)	0	☆

Function code	Name	Detailed instruction	Factory default	Modify
		4: PULSE pulse setting (DI5) 5: Communication given 6: Min(AI1, AI2) 7: Max(AI1, AI2) The full range of options 1-7 corresponds to the A2-48 digital setting		
A2-48	Torque upper limit digital setting in speed control mode	0.0% ~ 200.0%	150.0%	☆
A2-51	Excitation regulation proportional gain	0 ~ 20000	2000	☆
A2-52	Excitation regulation integral gain	0 ~ 20000	1300	☆
A2-53	Torque regulation proportional gain	0 ~ 20000	2000	☆
A2-54	Torque regulation integral gain	0 ~ 20000	1300	☆
A2-55	Speed loop integral attribute	Units place: Integral separation 0: Invalid 1: Effective	0	☆
A2-61	2nd motor control method	0: Speed sensorless vector control (SVC) 1: Vector control with speed sensor (FVC) 2: V/F control	0	★
A2-62	Selection of acceleration and deceleration time for the second motor	0: Same as the first motor 1: ACC and DEC time 1 2: ACC and DEC time 2 3: ACC and DEC time 3 4: ACC and DEC time 4	0	☆
A2-63	2nd motor torque increase	0.0%: Automatic torque increase 0.1% ~ 30.0%	Model depend	☆
A2-65	2nd motor oscillation suppression gain	0 ~ 100	Model depend	☆
A5 Group: Control Optimization Parameters				
A5-00	DPWM switching upper limit frequency	5.00Hz ~max. frequency	8.00Hz	☆
A5-01	PWM modulation method	0: Asynchronous modulation 1: Synchronous modulation	0	☆
A5-02	Deadband compensation mode selection	0: No compensation 1: Compensation mode 1	1	☆
A5-03	Random PWM depth	0: Random PWM invalid 1 ~ 10: PWM carrier frequency random depth	0	☆
A5-04	Fast current limiting enable	0: Not enabled 1: Enable	1	☆

Function code	Name	Detailed instruction	Factory default	Modify
A5-05	Current detection compensation	0 ~ 100	5	☆
A5-06	Undervoltage point setting	200.00V~2000.0V	Model depend 220V: 200V 380V: 350V 480V: 350V 690V: 650V 1140V: 1100V	☆
A5-07	SVC optimization selection mode	1: Optimization mode 1 2: Optimization mode 2	2	☆
A5-08	Dead time adjustment	100% ~ 200%	150%	★
A5-09	Overvoltage point setting	200.0V ~ 2200.0V	Model depend	★
A6 Group: AI Curve Setting				
A6-00	AI curve 4 minimum input	-10.00V ~ A6-02	0.00V	☆
A6-01	AI curve 4 minimum input corresponding setting	-100.0% ~ +100.0%	0.0%	☆
A6-02	AI curve 4 inflection point 1 input	A6-00 ~ A6-04	3.00V	☆
A6-03	AI curve 4 inflection point 1 input corresponding setting	-100.0% ~ +100.0%	30.0%	☆
A6-04	AI curve 4 inflection point 2 input	A6-02 ~ A6-06	6.00V	☆
A6-05	AI curve 4 inflection point 2 input corresponding setting	-100.0% ~ +100.0%	60.0%	☆
A6-06	AI curve 4 maximum input	A6-06 ~ +10.00V	10.00V	☆
A6-07	AI curve 4 maximum input corresponding setting	-100.0% ~ +100.0%	100.0%	☆
A6-08	AI curve 5 minimum input	-10.00V ~ A6-10	-10.00V	☆
A6-09	AI curve 5 minimum input corresponding setting	-100.0% ~ +100.0%	-100.0%	☆
A6-10	AI curve 5 inflection point 1 input	A6-08 ~ A6-12	-3.00V	☆
A6-11	AI curve 5 inflection point 1 input corresponding setting	-100.0% ~ +100.0%	-30.0%	☆
A6-12	AI curve 5 inflection point 2 input	A6-10 ~ A6-14	3.00V	☆
A6-13	AI curve 5 inflection point 2 input corresponding setting	-100.0% ~ +100.0%	30.0%	☆

Function code	Name	Detailed instruction	Factory default	Modify
A6-14	AI curve 5 maximum input	A6-12 ~ +10.00V	10.00V	☆
A6-15	AI curve 5 maximum input corresponding setting	-100.0% ~ +100.0%	100.0%	☆
A6-24	AI1 set jump point	-100.0% ~ 100.0%	0.0%	☆
A6-25	AI1 set jump range	0.0% ~ 100.0%	0.5%	☆
A6-26	AI2 set jump point	-100.0% ~ 100.0%	0.0%	☆
A6-27	AI2 set jump range	0.0% ~ 100.0%	0.5%	☆
A6-28	AI3 set jump point	-100.0% ~ 100.0%	0.0%	☆
A6-29	AI3 set jump range	0.0% ~ 100.0%	0.5%	☆
A7 Group: User Programmable Card Parameters				
A7-00	User programmable function selection	0: Invalid 1: Effective	0	★
A7-01	Control board output terminal control mode selection	0: Inverter control 1: User programmable control card control Units place: FMR (FM terminal as switch output) Tens place: Relay (T/A-T/B-T/C) Hundreds place: DO1 Thousands place: FMP (FM terminal as pulse output) Ten thousands place: AO1	0	★
A7-02	Programmable card extension AIAO terminal function configuration	0: AI3 voltage input, AO2 voltage output 1: AI3 voltage input, AO2 current output 2: AI3 current input, AO2 voltage output 3: AI3 current input, AO2 current output 4: AI3 PTC input, AO2 voltage output 5: AI3 PTC input, AO2 current output 6: AI3 PT100 input, AO2 voltage output 7: AI3 PT100 input, AO2 current output	0	★
A7-03	FMP output	0.0% ~ 100.0%	0.0%	☆
A7-04	AO1 output	0.0% ~ 100.0%	0.0%	☆
A7-05	Switching output	Binary settings Units place: FMR Tens place: Relay 1 Hundreds place: DO	1	☆
A7-06	Programmable card frequency setting	-100.00% ~ 100.00%	0.0%	☆
A7-07	Programmable card torque setting	-200.0% ~ 200.0%	0.0%	☆
A7-08	Programmable card command given	0: No command 1: Forward command	0	☆

Function code	Name	Detailed instruction	Factory default	Modify
		2: Reverse command 3: Forward jog 4: Reverse jog 5: Free shutdown 6: Deceleration shutdown 7: Fault reset		
A7-09	Programmable card given fault	0: No fault 80 ~ 89: Fault codes	0	☆
A8 Group: Point-to-Point Communication				
A8-00	Master slave control function selection	0: Invalid 1: Effective	0	☆
A8-01	Master-slave selection	0: Host 1: Slave machine	0	☆
A9 Group: Constant Pressure Water Supply Parameter Group				
A9-00	Set pressure value	0.001mpa ~ 60.000mpa	0.500mpa	☆
A9-01	Given pressure feedback range	0.001mpa ~ 60.000mpa	1.000mpa	☆
A9-02	Lower limit pressure	0.001mpa ~ 60.000mpa	0.001mpa	☆
A9-03	Upper limit pressure	0.001mpa ~ 60.000mpa	1.000mpa	☆
A9-04	Wake up pressure	0.001mpa ~ 60.000mpa	0.300mpa	☆
A9-05	Sleep pressure	0.001mpa ~ 60.000mpa	0.500mpa	☆
A9-06	Pressure sleep delay time	0s ~ 2500.0s	10s	☆
A9-07	Sleep delay hold frequency	0.00Hz~ max. frequency (P0-10)	40.00Hz	☆
A9-08	Frequency sleep delay duration	0s ~ 2500.0s	10s	☆
A9-09	Wake up delay time	0s ~ 2500.0s	0s	☆
A9-10	Reserve	Reserve	Reserve	
A9-11	Sleep mode selection	0: Invalid sleep 1: Sleep effective	0	☆

Note: 1. This function can be used to directly set the pressure to determine the sleep and wake-up switching of the inverter;
2. Add the up and down keys to set the pressure value.