2.2 Electrical Installation

2.2.1 Description of Main Circuit Terminals

Table 2-1 Description of Main Circuit Terminals of AC Drive

Terminal	Name	Description
R, S, T	Three-phase power supply input terminals	Connect the three-phase power supply
R, T	Single-phase power supply input terminals	Connect the single-phase power supply
P1, (+)	Connecting terminals of DC reactor	Connect DC reactor
(+), (-)	Positive and negative terminal of DC bus	Common DC bus input point
(+), PB	Connecting terminals of braking resistor	Connect the braking resistor for the AC drive
U, V, W	AC drive output terminals	Connect a three-phase motor
PE	Grounding terminal	Must be grounded

2.2.2 Wiring of AC Drive Main Circuit

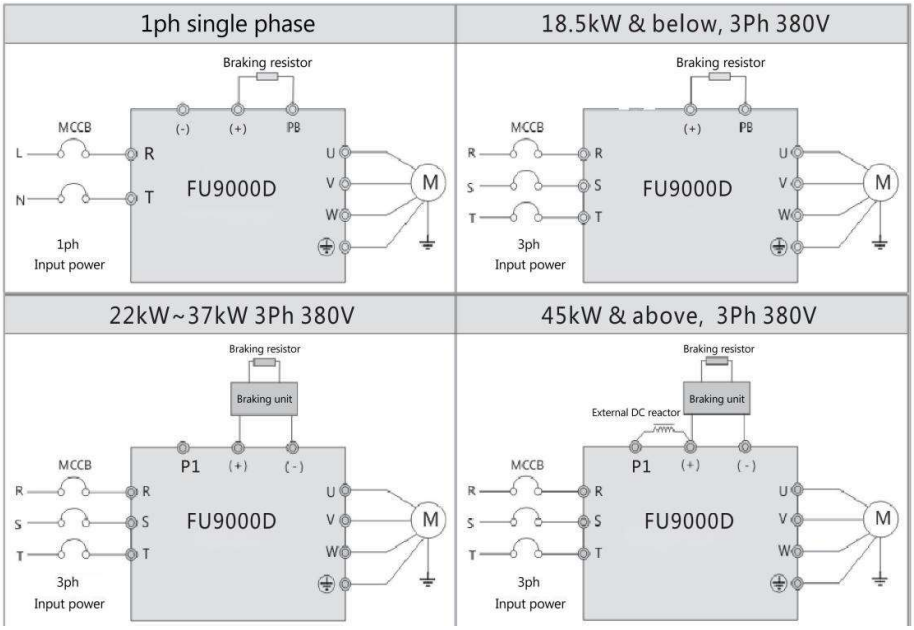


Figure 2-3 Wiring of AC Drive Main Circuit

2.2.3 Description of Control Circuit Terminals

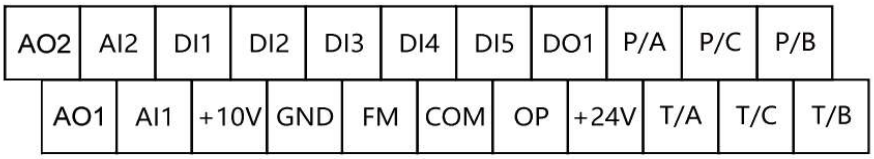


Figure 2-4 Terminal Arrangement of Control Circuit

Table 2-2 FU9000D Description of the Use of Control Circuit Terminals

Type	Terminal	Name	Function Description
Power supply	+10V-GND	External +10V power supply	Provide +10V power supply to external unit. Generally, it provides power supply to external potentiometer with resistance range of 1-5kΩ. Max. output current: 10mA
	+24V-COM	External +24V power supply	Provide +24V power supply to external unit. Generally, it provides power supply to DI/DO terminals and external sensors. Max. output current: 200mA
	OP	External power input terminal	Factory default: connect with +24V. When using external signal to drive DI1~DI5, OP need to connect with external power, disconnect with +24V terminal.
Analog input	AI1-GND AI2-GND	Analog input terminal	1. Input range: 0-10V/0-20mA 2. AI1 decided by jumper J10 on the control board 3. AI2 decided by jumper J9 on the control board
Digital input	DI1	Digital input 1	1. Switch input terminal, work with +24V & COM to form optical coupling isolation input 2. Input resistance: 2.4kΩ 3. Voltage range for level input: 9-30V
	DI2	Digital input 2	
	DI3	Digital input 3	
	DI4	Digital input 4	
	DI5	High speed pulse input	Besides the feature of DI1~DI4, can be high speed pulse input channel. Max. input frequency: 100kHz
Analog output	AO1-GND AO2-GND	Analog output terminal	1. Output range: 0-10V/0-20mA 2. AO1 decided by jumper J7 on the control board 3. AO2 decided by jumper J4 on the control board
Digital ouput	FM-COM	High speed pulse output	It is limited by P5-00 (FM terminal output mode selection). When used as high speed pulse output, max frequency 100kHz; can be used as integrated electric pole open circuit output as well.
Relay output	T/A-T/B	NC terminal	Contact driving capacity: 250VAC, 3A, cos ϕ = 0.4 30VDC, 1A
	T/A-T/C	NO terminal	
	P/A-P/B	NC terminal	
	P/A-P/C	NO terminal	

2.2.4 Wiring of AC Drive Control Circuit

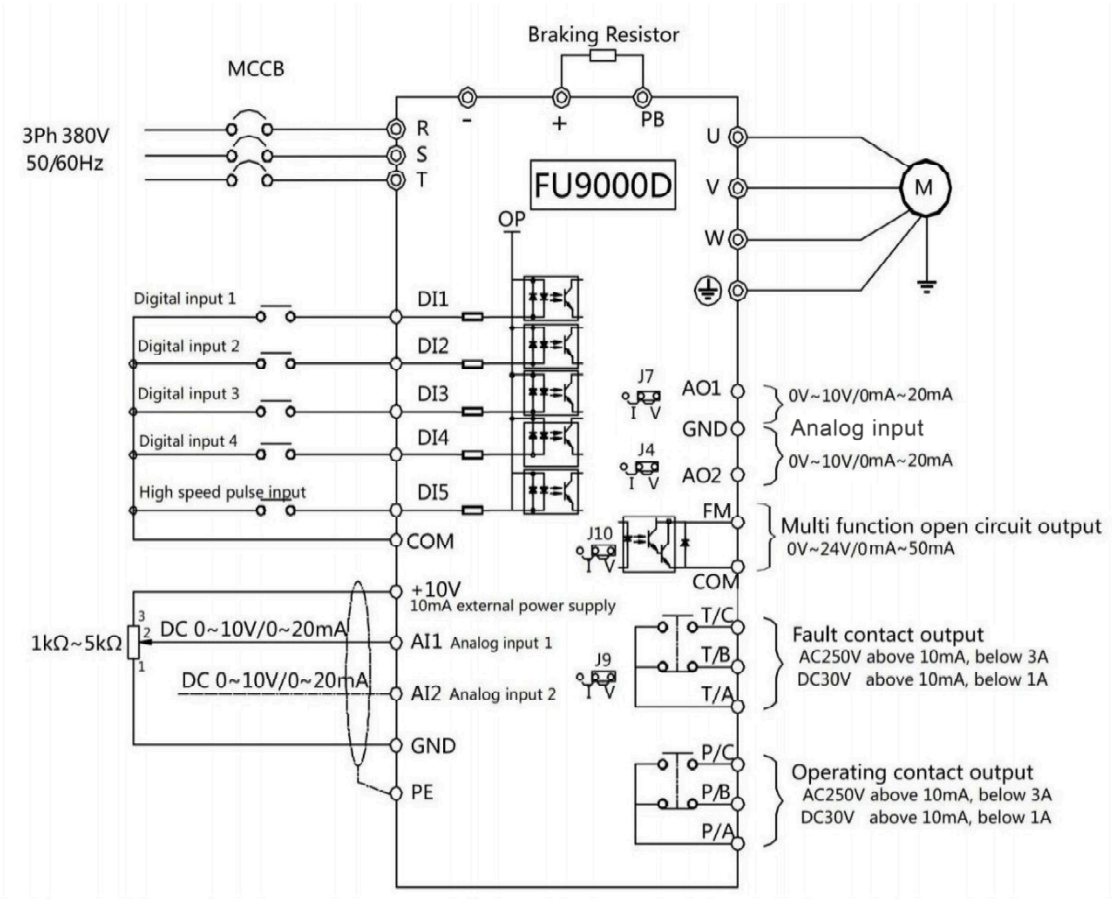


Figure 2-5 Wiring Mode of the AC Drive Control Circuit

• All FU9000D series AC drives have the same wiring mode. The figure here shows the wiring of 3 phase 380 VAC drive. ◎ indicates main circuit terminal, while ○ indicates control circuit terminal.

Description of Wiring of Signal Terminals

1) Wiring of AI terminals:

Weak analog voltage signals are easy to suffer external interference, and therefore the shielded cable must be used and the cable length must be less than 20m, as shown in figure 2-6. In some situations where the analog signal is severely disturbed, a filter capacitor or ferrite core should be added to the analog signal source side, as shown in Figure 2-7.

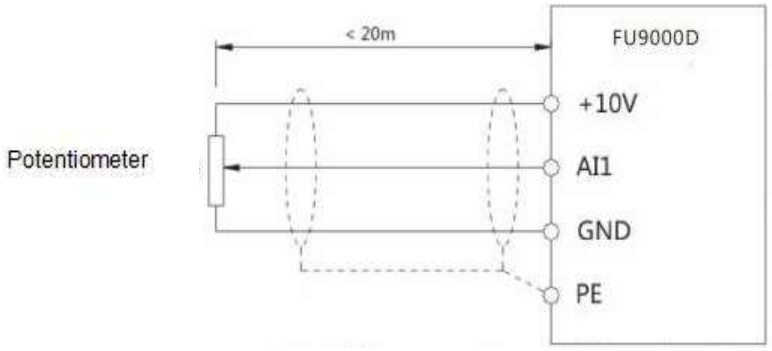


Figure 2-6 Wiring Mode of AI Terminals

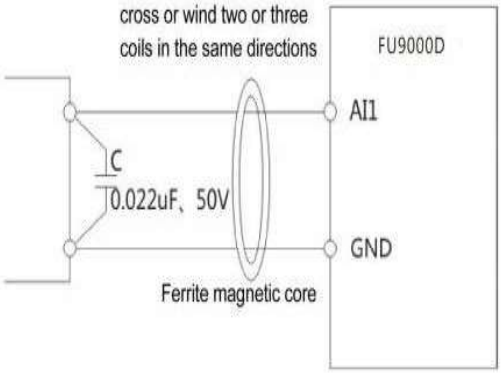


Figure 2-7 Install Filter Capacitor or Ferrite Magnetic Core

2) Wiring of DI terminals:

Generally, select shielded cable no longer than 20m. When active driving is adopted, necessary filtering measures shall be taken to prevent the interference to the power supply. It is recommended to use the contact control mode.

- A SINK wiring

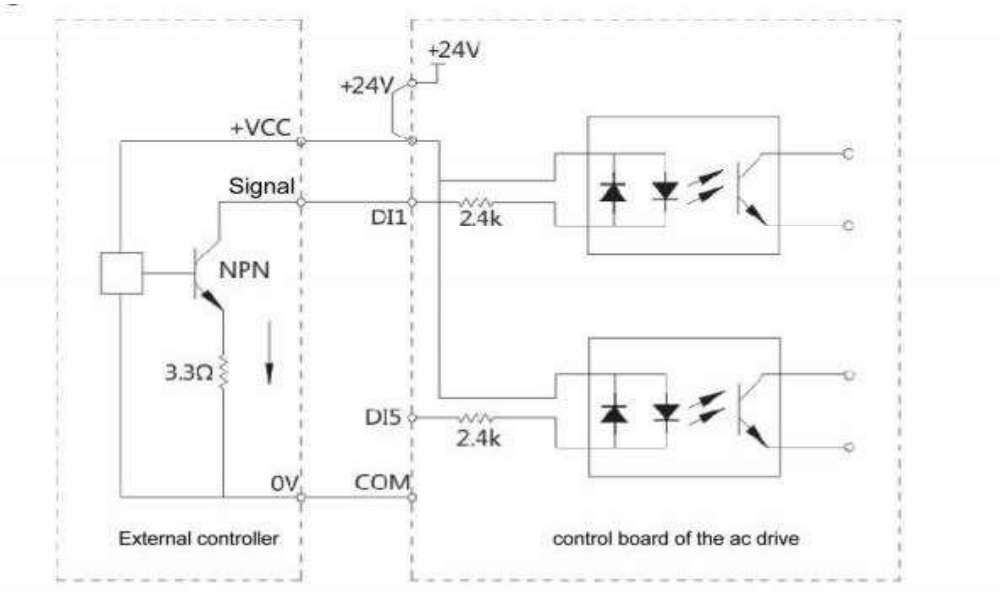


Figure 2-8 Wiring in SINK Mode

Chapter 3 Operation Display and Application Examples

3.1 Operation Panel

You can modify the parameters, monitor the working status and start or stop the FU9000D by operating the operation panel, as shown in the following figure.

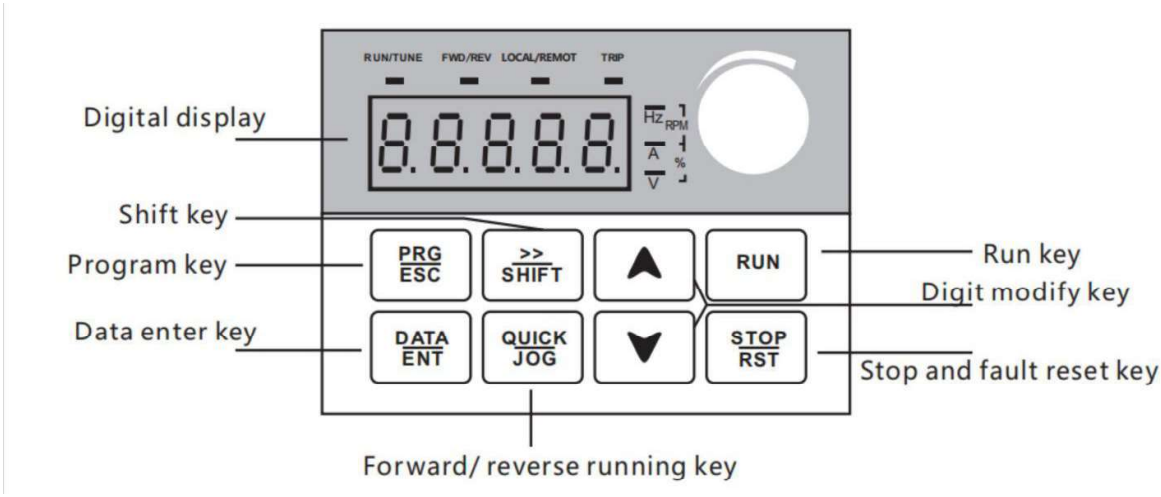


Figure 3-1 Diagram of the Operation Panel

Description of Indicators

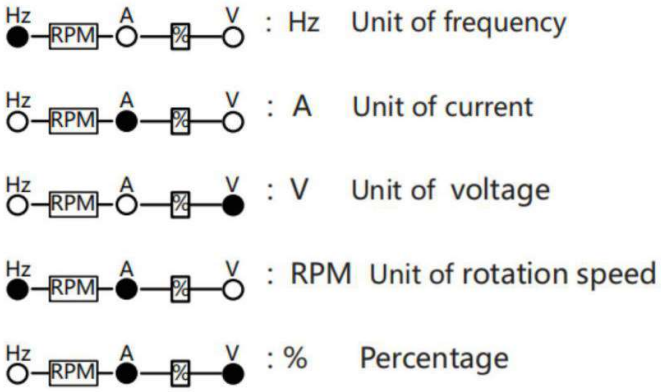
- RUN: ON indicates that the AC drive is in the running state, and OFF indicates that the AC drive is in the stop state.
- LOCAL: It indicates whether the AC drive is operated by means of operation panel, terminals or communication.

○ LOCAL : OFF	PANEL CONTROL MODE
● LOCAL : NORMAL ON	TERMINAL CONTROL MODE
◑ LOCAL : FLASH	COMMUNICATION CONTROL MODE

- REV: Indicates whether the AC drive is controlled by panel, terminal or communication.

Hz ○—RPM— A ○—%— V ○ :Unit Indicators

● means indicators on. ○ means indicators off.



Digital Display

The 5-digit LED display is able to display the set frequency, output frequency, monitoring data and fault codes.

Table 3-1 Description of keys on the operation panel

Key	Name	Function
PRG ESC	Programme	Enter or exit level 1 menu.
DATA ENT	Confirm	Enter the menu interfaces level by level, and confirm the parameter setting.
▲	Increase	Increase data or function code.
▼	Decrease	Decrease data or function code.
>> SHIFT	Shift	Select the displayed parameters in turn in the stop or running state, and select the digit to be modified when modifying parameters.
RUN	Run	Start the AC drive in the operation panel control mode.
STOP RST	Stop/ Reset	Stop the AC drive when it is in the running state; perform the reset operation when in the fault state. The functions of this key are restricted to P7-02.
QUICK JOG	Multifunction	Function selection according to P7-01, can be defined as command source or direction.
	Menu selection	Redirect among menu modes according to PP-03.

3.2 Viewing and Modifying Function Codes

The operation panel of the FU9000D adopts three-level menu.

The three-level menu consists of function code group (Level I), function code (Level II), and function code setting value (level III), as shown in the following figure.

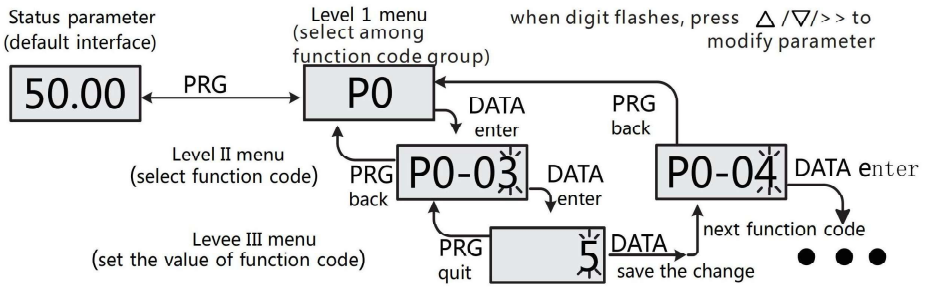


Figure 3-2 Level III Menu Operation Chart

Note: You can return to Level II menu from Level III menu by pressing PRG key or DATA key.

• After press DATA key , the system saves the parameter setting, and goes back to Level II menu and shifts to the next function code.

• After press PRG key, the system directly returns to Level II menu and remains at the current function code, not save the parameter setting.

Example: change P3-02 from 10.00Hz to 15.00 Hz.

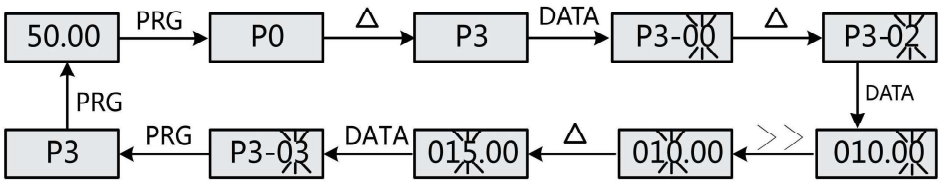


Figure 3-3 Example of changing the parameter value

In Level III menu, if the parameter has no flashing digit, the parameter cannot be modified. Maybe:

• The displayed function code is only readable, such as AC drive model, actually detected parameter and running record parameter.

• The displayed function code is only readable in running state, need to stop running and change parameter.

3.3 Structure of Function Codes

Function Code Group	Function	Description
P0-PP	Standard AC drive function code group	Compatible with FU9000D series function codes and adding some function codes.
D0-DC	Advanced function code group	Multi-motor parameters, AI/AO correction, optimization control, PLC card extension function setting.

U0- U3	Running state function code group	Display of AC drive basic parameters

Table 3-2 Structure of Function Codes

In the function code display state, select the required function code pressing the key ▲ or ▼ , as shown in the following figure.

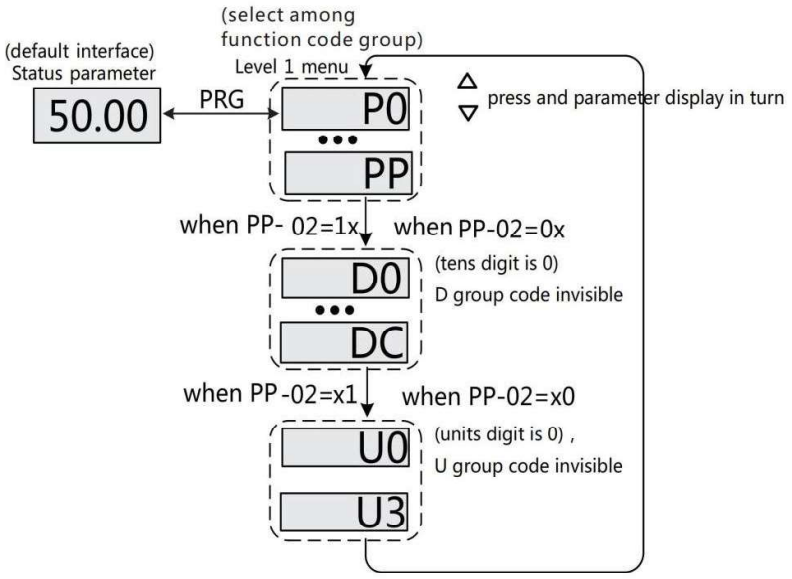


Figure 3-4 Quick View of Function Codes

PP-02 is used to determine whether group D and group U are displayed.

Function Code	Parameter Name	Parameter Name	Default
PP-02	Whether group D and group U are displayed	Unit's digit (group D display selection)	11
		0: Not display 1: Display	
		Unit's digit (group U display selection)	
		0: Not display 1: Display	

3.4 Definition and Operation of the Multifunction Key

You can define the function (command source switchover or rotation direction switchover) of the multifunction key in P7-01. For details, see the description of P7-01.

3.5 Viewing Status Parameters

In the stop or running state, you can press SHIFT key on the operation panel to display status parameters. Whether parameters are displayed is determined by the 16 bits of values converted from the values of P7-03, P7-04. and P7-05 in the binary format.

P7-05	LED display stop parameters	Bit00: Set frequency (Hz) Bit01: Bus voltage (V) Bit02: DI input status Bit03: DO output status Bit04: AI1 voltage (V) Bit05: AI2 voltage (V) Bit06: AI3 voltage (V)	Bit07: Count value Bit08: Length value Bit09: PLC stage Bit10: Load speed Bit11: PID setting Bit12: PULSE setting frequency (kHz)	33

In running state, five running status parameters are displayed by default, and you can set whether other parameters are displayed by setting P7-03 and P7-04, as listed in the following table.

P7-03	LED display running parameters 1	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: DI input status	Bit08: DO output status Bit09: AI1voltage (V) Bit10: AI2voltage (V) Bit11: AI3voltage (V) Bit12: Count value Bit13: Length value Bit14: Load speed display Bit15: PID setting	1F
P7-04	LED display running parameters 2	Bit00: PID feedback Bit01: PLC stage Bit02: Pulse setting frequency (kHz) Bit03: Running frequency 2 (Hz) Bit04: Remaining running time Bit05: AI1 voltage before correction Bit06: AI2 voltage before correction Bit07: AI3 voltage before correction	Bit08: Linear speed Bit09: Current power on- time (Hour) Bit10: Current running time (Minute) Bit11: Pulse setting frequency (Hz) Bit12: Communication setting value Bit13: Encoder feedback speed (Hz) Bit14: Main frequency X display (Hz) Bit15: Auxiliary frequency Y display (Hz)	0

When the AC drive is powered on again after power failure, the parameters that are selected before power failure are displayed.

Select the required parameters by pressing. Set the values of the parameters by referring to the following example.

1. Determine the parameters to be displayed.

Running frequency, Bus voltage, Output voltage, Output current, Output frequency, Output torque, PID feedback, Encoder feedback speed

2. Set the binary data.

P7-03: 0000 0000 0111 1101B, P7-04: 0010 0000 0000 0001B

3. Convert the binary data to hexadecimal data:

P7-03: 007DH, P7-04: 2001H

The values displayed on the operation panel are respectively H.1043 and H.2001 respectively for P7-03 and P7-04.

Chapter 4 Function Parameter Table

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=0.

Group P and Group D are standard function parameters. Group U includes the monitoring function parameters.

The symbols in the function code table are described as follows:

"☆" : It is possible to modify the parameter with the drive in the stop and in the Run status.

"★" : It is not possible to modify the parameter with the drive in the Run status.

"●" : The parameter is the actual measured value and cannot be modified.

"*" : The parameter is a factory parameter and can be set only by the manufacturer.

4.1 Standard Parameter Table

Table4-1 Standard Parameter Table

Function Code	Name	Setting Range	Default	Change
Group P0: Standard Parameters				
P0-00	G/P type display	1: G (constant torque load) 2: P (fan and pump)	Model dependent	●
P0-01	Motor 1 control mode	0: SVC 1: FVC 2: V/F	0	★
P0-02	Command source selection	0: Operating panel 1: Terminal 2. Serial communication	0	☆
P0-03	Main frequency source X selection	0: Digital setting (power off, value deleted) 1: Digital setting (power off, value remained) 2: AI1 3: AI2 4: AI3 (optional) 5: Pulse setting (DI5) 6: Multi-reference 7: Simple PLC 8: PID reference 9: Communication setting 10: Keyboard with potentiometer (power off, value remained) 11: Keyboard with potentiometer (power off, value deleted) 12: Keyboard with potentiometer, change rate 1Hz	10	★
P0-04	Auxiliary frequency source Y selection	Same to P0-03	0	★
P0-05	Base value of range of auxiliary frequency reference for main and auxiliary superposition	0: Relative to max. frequency 1: Relative to main frequency reference	0	☆
P0-06	Range of auxiliary frequency reference for main and auxiliary superposition	0% ~ 150%	100%	☆

Function Code	Name	Setting Range	Default	Change
P0-07	Frequency source superposition selection	Units digit: Frequency reference selection 0: Main frequency reference 1: Main and auxiliary calculation (based on tens digit) 2: Switchover between main and auxiliary 3: Switchover between main and "main & auxiliary calculation" 4: Switchover between auxiliary and "main & auxiliary calculation" Tens digit: Main and auxiliary calculation formula 0: Main + auxiliary 1: Main - auxiliary 2: Max. (main, auxiliary) 3: Min. (main, auxiliary)	00	☆
P0-08	Preset frequency	0.00Hz to Max. frequency (P0-10)	50.00Hz	☆
P0-09	Running direction	0: Run in the default direction 1: Run in the direction reverse to the default direction	0	☆
P0-10	Max. frequency	50.00~500.00Hz	50.00Hz	★
P0-11	Setting channel of frequency upper limit	0: Set by P0-12 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication reference	0	★
P0-12	Frequency reference upper limit	Frequency lower limit (P0-14) to max. frequency (P0-10)	50.00Hz	☆
P0-13	Frequency reference upper limit offset	0.00Hz to max. frequency (P0-10)	0.00Hz	☆
P0-14	Frequency reference lower limit	0.00Hz to frequency upper limit (P0-12)	0.00Hz	☆
P0-15	Carrier frequency	Model dependent	Model dependent	☆
P0-16	Carrier frequency adjustment with temperature	0: No 1: Yes	1	☆
P0-17	Acceleration time 1	0.00-650.00s (P0-19=2) 0.0-6500.0s (P0-19=1) 0-65000s (P0-19=0)	Model dependent	☆
P0-18	Deceleration time 1	0.00-650.00s (P0-19=2) 0.0-6500.0s (P0-19=1) 0-65000s (P0-19=0)	Model dependent	☆
P0-19	Acceleration/Deceleration time unit	0: 1s 1: 0.1s 2: 0.01s	1	★
P0-21	Frequency offset of auxiliary frequency source for X and Y operation	0.00Hz to max. frequency (P0-10)	0.00Hz	☆
P0-22	Frequency reference resolution	1: 0.1Hz 2: 0.01Hz	2	★
P0-23	Retentive of digital setting frequency upon power failure	0: Not retentive 1: Retentive	0	☆

Function Code	Name	Setting Range	Default	Change
P0-24	Motor parameter group selection	0: Motor parameter group 1	0	★
P0-25	Acceleration/Deceleration time base frequency	0: Max. frequency (P0-10) 1: Set frequency 2: 100Hz	0	★
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	Units digit: Binding operation panel command to frequency source 0: No binding 1: Frequency source by digital setting 2: AI1 3: AI2 4: AI3 5: Pulse setting (DI5) 6: Multi-reference 7: Simple PLC 8: PID 9: Communication setting Tens digit: Binding terminal command to frequency source Hundreds digit: Binding communication command to frequency source	0000	☆
P0-28	Communication protocol	0: MODBUS protocol	0	☆
Group P1: Motor 1 Parameters				
P1-00	Motor type selection	1: Common asynchronous motor 2: Permanent magnetic synchronous motor	0	☆
P1-01	Rated motor power	0.1~1000.0kW	Model dependent	☆
P1-02	Rated motor voltage	1~2000V	Model dependent	☆
P1-03	Rated motor current	0.01~655.35A (AC drive power ≤ 55kW) 0.1~6553.5A (AC drive power > 55kW)	Model dependent	☆
P1-04	Rated motor frequency	0.01Hz to max. frequency	Model dependent	☆
P1-05	Rated motor rotational speed	1~65535RPM	Model dependent	☆
P1-06	Stator resistance (asynchronous motor)	0.001~65.535Ω (AC drive power ≤ 55kW) 0.0001~6.5535Ω (AC drive power > 55kW)	tuning parameter	☆

Function Code	Name	Setting Range	Default	Change
P1-07	Rotor resistance (asynchronous motor)	0.001~65.535Ω (AC drive power ≤ 55kW) 0.0001~6.5535Ω (AC drive power > 55kW)	tuning parameter	☆
P1-08	Leakage inductive reactance (asynchronous motor)	0.01~655.35mH (AC drive power ≤ 55kW) 0.001~65.535mH (AC drive power > 55kW)	tuning parameter	☆
P1-09	Mutual inductive reactance (asynchronous motor)	0.1~6553.5mH (AC drive power ≤ 55kW) 0.01~655.35mH (AC drive power > 55kW)	tuning parameter	☆
P1-10	No-load current (asynchronous motor)	0.01A~P1-03 (AC drive power ≤ 55kW) 0.1A~P1-03 (AC drive power > 55kW)	tuning parameter	☆
P1-27	Encoder line number	1~65535	1024	☆
P1-28	Encoder type	0: ABZ encoder 2: Rotational encoder	0	☆
P1-30	AB sequence of ABZ encoder	0: Forward 1: Reverse	0	☆
P1-34	Rotational encoder pole number	1~65535	1	☆
P1-36	Speed feedback PG offline detect time	0.0s: No action 0.1~10.0s	0.0s	☆
P1-37	Auto-tuning selection	0: No auto-tuning 1: Asynchronous motor static auto-tuning 2: Asynchronous motor complete auto-tuning	0	☆
Group P2: Motor 1 Vector Control Parameters				
P2-00	Speed loop proportional gain 1	1~100	30	☆
P2-01	Speed loop integral time 1	0.01~10.00s	0.50s	☆
P2-02	Switchover frequency 1	0.00~P2-05	5.00Hz	☆
P2-03	Speed loop proportional gain 2	1~100	20	☆
P2-04	Speed loop integral time 2	0.01~10.00S	1.00s	☆
P2-05	Switchover frequency 2	P2-02 to max. output frequency	10.00Hz	☆
P2-06	Vector control slip gain	50%~200%	100%	☆
P2-07	SVC speed feedback filter time	0.000~0.100s	0.015s	☆

Function Code	Name	Setting Range	Default	Change
P2-09	Torque limit source in speed control	0: Set by P2-10 1: AI1 2: AI2 3: AI3 4: Pulse (DI5) 5: Set by communication 6: Min. (AI1, AI2) 7: Max. (AI1, AI2) Full scale of 1-7 corresponds to P2-10.	0	☆
P2-10	Digital setting of torque upper limit in speed control	0.0% ~ 200.0%	150%	☆
P2-11	Torque limit source in speed control (generation)	0: Set by P2-10 (same for generating and electric driving) 1: AI1 2: AI2 3: AI3 4: Pulse (DI5) 5: Set by communication 6: Min. (AI1, AI2) 7: Max. (AI1, AI2) Full scale of 1-7 corresponds to P2-12.	0	☆
P2-12	Digital setting of torque upper limit in speed control (generation)	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	☆
P2-17	Speed loop integral property	Units digit: integral separation 0: Disabled 1: Enabled	0	☆
P2-21	Weak magnetic field max torque coefficients	50 ~ 200%	0	☆
P2-22	Power generation limit enable	0: Invalid 1: Effect all the time 2: Effect during constant speed 3: Effect during deceleration	0	☆
P2-23	Upper limit of power generation	0.0% ~ 200.0%	0	☆

Function Code	Name	Setting Range	Default	Change
Group P3: V/F Control Parameters				
P3-00	V/F curve setting	0: Linear V/F 1: Multi-point V/F 2 ~ 9: Reserved 10: V/F complete separation 11: V/F half separation	0	★
P3-01	Torque boost	0.0%: (fixed torque boost) 0.1% ~ 30.0%	Model dependent	☆
P3-02	Cut-off frequency of torque boost	0.00 Hz ~ max output frequency(P0-10)	50.00Hz	★
P3-03	Multi-point V/F frequency 1	0.00 Hz ~ P3-05	0.00Hz	★
P3-04	Multi-point V/F voltage 1	0.0% ~ 100.0%	0.0%	★
P3-05	Multi-point V/F frequency 2 (F2)	P3-03 ~ P3-07	0.00Hz	★
P3-06	Multi-point V/F voltage 2 (V2)	0.0% ~ 100.0%	0.0%	★
P3-07	Multi-point V/F frequency 3 (F3)	P3-05 ~ rated motor frequency (P1-04)	0.00Hz	★
P3-08	Multi-point V/F voltage 3 (V3)	0.0% ~ 100.0%	0.0%	★
P3-10	V/F over-excitation gain	0 ~ 200	64	☆
P3-11	V/F oscillation suppression gain	0 ~ 100	40	☆
P3-13	Voltage source for V/F separation	0: Set by P3-14 1: AI1 2: AI2 3: AI3 4: Pulse setting (DI5) 5: Multi-reference 6: Simple PLC 7: PID reference 8: Set by communication Note: 100.0% corresponds to the rated motor voltage	0	☆
P3-14	Digital setting of voltage for V/F separation	0V ~ rated motor voltage	0V	☆
P3-15	Voltage rise time of V/F separation	0.0s ~ 1000.0s Note: It is the time used for the voltage increases from 0 V ~ motor rated voltage.	0.0s	☆

Function Code	Name	Setting Range	Default	Change
P3-16	Voltage decrease time of V/F separation	0.0s ~ 1000.0s Note: It is the time used for the voltage increases from 0 V ~ motor rated voltage.	0.0s	☆
P3-17	V/F separation stop mode selection	0: Frequency/ voltage separately decrease to 0 1: Voltage decrease to 0, then frequency decrease	0	☆
P3-18	Over-current stall action current	50 ~ 200%	150%	★
P3-19	Enable over-current stall	0: Invalid 1: Valid	1	★
P3-20	Over-current stall suppression gain	0 ~ 100	20	☆
P3-21	Current compensation coefficient for double-speed over-current stall action	50 ~ 200%	50%	★
P3-22	Over-voltage stall action voltage	200.0 ~ 2000.0	380V: 760V 220V: 380V	☆
P3-23	Enable over-voltage stall	0: Invalid 1: Valid	1	★
P3-24	Over-voltage stall suppression frequency gain	0 ~ 100	30	☆
P3-25	Over-voltage stall suppression voltage gain	0 ~ 100	30	☆
P3-26	Max rise frequency limit of over-voltage stall	0 ~ 50Hz	5Hz	☆

Function Code	Name	Setting Range	Default	Change
Group P4: Input Terminals				
P4-00	DI1 function selection	0: No function 1: Forward RUN (FWD) 2: Reverse RUN (REV) (Note: P4-11 shall be set when P4-00 is set to 1 or 2.) 3: Three-wire control 4: Forward JOG (FJOG) 5: Reverse JOG (RJOG) 6: Terminal UP 7: Terminal DOWN 8: Coast to stop 9: Fault reset (RESET) 10: RUN pause 11: External fault normally open (NO) input 12: Multi-reference terminal 1 14: Multi-reference terminal 3 13: Multi-reference terminal 2 15: Multi-reference terminal 4	1	☆
P4-01	DI2 function selection	16: Terminal 1 for acceleration/deceleration time selection 17: Terminal 2 for acceleration/deceleration time selection 18: Frequency command switchover 19: UP and DOWN setting clear (terminal, keypad) 20: Running command switchover terminal 1 21: Acceleration/Deceleration prohibited 22: PID pause 23: PLC status reset	4	☆
P4-02	DI3 function selection	25: Counter input 24: Swing pause 27: Length count input 26: Counter reset 29: Torque control prohibited 28: Length reset 30: Pulse input (enabled only for DI5) 31: Reserved 32: Immediate DC injection braking 33: External fault normally closed (NC) input 34: Frequency modification enabled 35: PID action direction reverse	9	☆
P4-03	DI4 function selection	37: Running command switchover terminal 2 36: External STOP terminal 1 38: PID integral disabled 39: Switchover between main frequency source and preset frequency 40: Switchover between auxiliary frequency source and preset frequency 41: Motor terminal selection 42: Reserved 43: PID parameter switchover 44: User-defined fault 1	12	☆
P4-04	DI5 function selection	45: User-defined fault 2 46: Speed control/Torque control switchover 47: Emergency stop 48: External STOP terminal 2 49: Deceleration DC injection braking 50: Clear the current running time 51: Two-wire/Three-wire mode switchover 52: Reverse frequency forbidden 53-59: Reserved	13	☆

Function Code	Name	Setting Range	Default	Change
P4-10	DI filter time	0.000 ~ 1.000s	0.010s	☆
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 rate	0.001 ~ 65.535 Hz/s	1.00Hz/s	☆
P4-13	Al curve 1 mini. input	0.00V ~ P4-15	0.00V	☆
P4-14	Corresponding setting of Al curve 1 mini. input	-100.0% ~ +100.0%	0	☆
P4-15	Al curve 1 max input	P4-13 ~ +10.00V	10.00V	☆
P4-16	Corresponding setting of Al curve 1 max input	-100.0% ~ +100.0%	100.0%	☆
P4-17	AI1 filter time	0.00 ~ 10.00S	0.10s	☆
P4-18	Al curve 2 mini. input	0.00V ~ P4-15	0.00V	☆
P4-19	Corresponding setting of Al curve 2 mini. input	-100.0% ~ +100.0%	0.0%	☆
P4-20	Al curve 2 max input	P4-18 ~ +10.00 V	10.00V	☆
P4-21	Corresponding setting of Al curve 2 max input	-100% ~ 100%	100.0%	☆
P4-22	AI2 filter time	0.00s ~ 10.00s	0.10s	☆
P4-23	Al curve 3 mini. input	-10.00V ~ P4-25	-10.00V	☆
P4-24	Corresponding setting of Al curve 3 mini. input	-100.0% ~ +100.0%	-100.0%	☆
P4-25	Al curve 3 max input	P4-23 ~ +10.00 V	10.00V	☆
P4-26	Corresponding setting of Al curve 3 max input	-100.0% ~ +100.0%	100.0%	☆
P4-27	AI3 filter time	0.00 ~ 10.00S	0.10s	☆
P4-28	Pulse mini. input	0.00kHz ~ P4-30	0.00kHz	☆
P4-29	Corresponding setting of pulse mini. input	-100% ~ 100%	0.0%	☆
P4-30	Pulse max input	P4-28 ~ 100kHz	50.00kHz	☆
P4-31	Corresponding setting of pulse max input	-100% ~ 100%	100.0%	☆
P4-32	Pulse filter time	0.00 ~ 10.00S	0.10s	☆
P4-33	Al curve selection	Units digit: AI1 curve selection 1: Curve 1(2 points, see P4-13~P4-16) 2: Curve 2(2 points, see P4-18~P4-21) 3: Curve 3(2 points, see P4-23~P4-26) 4: Curve 4(4 points, see D6-00~D6-07) 5: Curve 5(4 points, see D6-08~D6-15) Tens digit: AI2 curve selection Hundreds digit: AI3 curve selection	321	☆

Function Code	Name	Setting Range	Default	Change
P4-34	Setting for Al less than min. input	Units digit: AI1 lower than min. input setting 0: Corresponding percentage of min. input 1: 0.0% Tens digit: AI2 lower than min. input setting Hundreds digit: AI3 lower than min. input setting	000	☆
P4-35	DI1 delay	0.0s ~ 3600.0s	0.0s	☆
P4-36	DI2 delay	0.0s ~ 3600.0s	0.0s	☆
P4-37	DI3 delay	0.0s ~ 3600.0s	0.0s	☆
P4-38	DI active mode selection	0: High level active 1: Low level active Units digit: DI1 active mode Tens digit: DI2 active mode Hundreds digit: DI3 active mode Thousand digit: DI4 active mode Ten thousands digit: DI5 active mode	00000	☆
Group P5: Output Terminals				
P5-00	FM terminal output mode	0: Pulse output (FMP) 1: Switch signal output (FMR)	0	☆
P5-01	FMR function selection (Terminal command mode)	0: No output 1: AC Drive running 2: Fault output (coast to stop) 3: Frequency-level detection FDT1 output 4: Frequency reached 5: Zero-speed running (no output at stop) 6: Motor overload pre-warning 7: AC drive overload pre-warning	0	☆
P5-02	Relay 1 function selection (T/A-T/B-T/C)	8: Set count value reached 9: Designated count value reached 10: Length reached 11: PLC cycle complete 12: Accumulative running time reached 13: Frequency limited 14: Torque limited	2	☆

P5-03	Relay 2 function selection (P/A-P/B-P/C)	15: Ready for RUN 16: AI1>AI2 17: Frequency upper limit reached 18: Frequency lower limit reached (no output at stop) 19: Under-voltage status output 20: Communication setting 21: Reserved 22: Reserved 23: Zero-speed running 2 (having output at stop) 24: Accumulative power-on time reached 25: Frequency level detection FDT2 output 26: Frequency 1 reached 27: Frequency 2 reached 28: Current 1 reached 29: Current 2 reached	0	☆
P5-04	DO1 output function selection	30: Timing reached 31: AI1 input limit exceeded 32: Load becoming 0 33: Reverse running 34: Zero current state 35: Module temperature reached 36: Software current limit exceeded 37: Frequency lower limit reached (having output at stop) 38: Alarm output 39: Motor overheat warning 40: Current running time reached 41: Fault output (There is no output if it is the coast to stop fault and under-voltage occurs.) 42: Reserved 43: Auxiliary pump	1	☆
P5-06	FMP output function selection	0: Running frequency 1: Set frequency 2: Output current 3: Output torque (absolute value) 4: Output power 5: Output voltage 6: Pulse input(100.0%=100.0kHz) 7: AI1 10: Length 11: Count value 12: Communication setting 13: Motor rotational speed 14: Output current(100.0%=1000.0A) 15: Output voltage(100.0%=1000.0V) 16: Output torque (actual value)	0	☆
P5-07	AO1 function selection		0	☆
P5-08	AO2 function selection		1	☆
P5-09	FMP max output frequency	0.01kHz ~ 100.00kHz	50.00 kHz	☆

Function Code	Name	Setting Range	Default	Change
P5-10	AO1 offset coefficient	-100.0% ~ +100.0%	0.0%	☆
P5-11	AO1 gain	-10.00 ~ +10.00	1.00	☆
P5-12	AO2 offset coefficient	-100.0% ~ +100.0%	0.0%	☆
P5-13	AO2 gain	-10.00 ~ +10.00	1.00	☆
P5-17	FMR output delay time	0.0s ~ 3600.0s	0.0s	☆
P5-18	Relay1 output delay time	0.0s ~ 3600.0s	0.0s	☆
P5-19	Relay2 output delay time	0.0s ~ 3600.0s	0.0s	☆
P5-20	Relay3 output delay time	0.0s ~ 3600.0s	0.0s	☆
P5-22	Active mode selection of DO output terminals	0: Positive logic active 1: Negative logic active Units digit: FMR active mode Tens digit: Relay1 active mode Hundreds digit: Relay2 Thousands digit: DO1	00000	☆
Group P6: Start/Stop Control				
P6-00	Start mode	0: Direct start 1: Rotational speed tracking restart 2: Pre-excited start (asynchronous motor)	0	☆
P6-01	Rotational speed tracking mode	0: From frequency at stop 1: From zero speed 2: From max frequency	0	★
P6-02	Rotational speed tracking speed	1 ~ 100	20	☆
P6-03	Startup frequency	0.00 ~ 10.00 Hz	0.00Hz	☆
P6-04	Startup frequency holding time	0.0 ~ 100.0s	0.0s	★
P6-05	Startup DC braking current/ pre-excited current	0% ~ 100%	0%	★
P6-06	Startup DC braking time/ pre-excited time	0.0 ~ 100.0s	0.0s	★
P6-07	Acceleration/Deceleration mode	0: Linear acceleration/ deceleration 1, 2: S-curve acceleration/ deceleration A	0	★
P6-08	Time proportion of S-curve start segment	0.0% ~ (100.0% to P6-09)	30.00%	★
P6-09	Time proportion of S-curve end segment	0.0% ~ (100.0% to P6-08)	30.00%	★
P6-10	Stop mode	0: Decelerate to stop 1: Coast to stop	0	☆
P6-11	Initial frequency of stop DC braking	0.00 Hz to max frequency	0.00Hz	☆
P6-12	Waiting time of stop DC braking	0.0 ~ 100.0s	0.0s	☆
P6-13	Stop DC braking current	0% ~ 100%	0%	☆
P6-14	Stop DC braking time	0.0 ~ 100.0s	0.0s	☆

Function Code	Name	Setting Range	Default	Change
P6-15	Brake use ratio	0% ~ 100%	100%	☆
Group P7: Operation Panel and Display				
P7-00	Digital tube lack of picture inspection enable	0	0	☆
P7-01	QUICK/JQG Key function selection	0: QUICK/JQG key disabled 1: Switchover between operation panel control and remote command control (terminal or communication) 2: Switchover between forward rotation and reverse rotation 3: Forward JOG 4: Reverse JOG	0	★
P7-02	STOP/RESET key function	0: STOP/RESET key enabled only in operation panel control 1: STOP/RESET key enabled in any operation mode	1F	☆
P7-03	LED display running parameters 1	0000 ~ FFFF Bit00: Running frequency 1 (Hz) Bit01: Frequency reference (Hz) Bit02: Bus voltage (V) Bit03: Output voltage (V) Bit04: Output current (A) Bit05: Output power (kW) Bit06: Output torque (%) Bit07: DI input state Bit08: DO output state Bit09: AI1 voltage (V) Bit10: AI2 voltage (V) Bit12: Count value Bit13: Length value Bit14: Load speed display Bit15: PID reference	1F	☆
P7-04	LED display running parameters 2	0000 ~ FFFF Bit00: PID feedback Bit01: PLC stage Bit02: Pulse setting frequency (kHz) Bit03: Running frequency 2 (Hz) Bit04: Remaining running time Bit05: AI1 voltage before correction (V) Bit06: AI2 voltage before correction (V) Bit08: Linear speed Bit09: Current power-on time (Hour) Bit10: Current running time (Min) Bit11: Pulse setting frequency (Hz) Bit12: Communication setting value Bit13: Encoder feedback speed (Hz) Bit14: Main frequency X display (Hz) Bit15: Auxiliary frequency Y display (Hz)	33	☆

Function Code	Name	Setting Range	Default	Change
P7-05	LED display stop parameters	0000 ~ FFFF Bit00: Frequency reference (Hz) Bit01: Bus voltage (V) Bit02: DI state Bit03: DO state Bit04: AI1 voltage (V) Bit05: AI2 voltage (V) Bit07: Count value Bit08: Length value Bit09: PLC stage Bit10: Load speed Bit11: PID reference Bit12: Pulse reference (kHz)	33	☆
P7-06	Load speed display coefficient	0.0001 ~ 6.5000	1.0000	☆
P7-07	Heat sink temperature of inverter module	0.0 ~ 100.0°C	-	●
P7-08	Product number	-	-	●
P7-09	Accumulative running time	0h ~ 65535h	-	●
P7-10	Performance software version	-	-	●
P7-11	Function software version	-	-	●
P7-12	Number of decimal places for load speed display	Units digit: Number of decimal places for U0-14 0: No decimal place 1: One decimal places 2: Two decimal places Tens digit: Number of decimal places of U0-19/U0-29 1: One decimal places 2: Two decimal places	20	☆
P7-13	Accumulative power-on time	0 ~ 65535h	-	●
P7-14	Accumulative power consumption	0 ~ 65535kWh	-	●
Group P8: Auxiliary Function				
P8-00	JOG running frequency	0.00Hz ~ max frequency	2.00Hz	☆
P8-01	JOG acceleration time	0.0 ~ 6500.0s	20.0s	☆
P8-02	JOG deceleration time	0.0 ~ 6500.0s	20.0s	☆
P8-03	Acceleration time 2	0.00 ~ 650.00s (P0-19=2) 0.0 ~ 6500.0s (P0-19=1) 0 ~ 65000s (P0-19=0)	Model dependent	☆
P8-04	Deceleration time 2			
P8-05	Acceleration time 3			
P8-06	Deceleration time 3			
P8-07	Acceleration time 4			
P8-08	Deceleration time 4			

Function Code	Name	Setting Range	Default	Change
P8-09	Jump frequency 1	0.00Hz ~ max frequency	0.00Hz	☆
P8-10	Jump frequency 2			
P8-11	Frequency jump amplitude	0.00Hz ~ max frequency	0.00Hz	☆
P8-12	Forward/Reverse rotation dead-zone time	0.0 ~ 3000.0s	0.0s	☆
P8-13	Reverse 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	0.00% ~ 100.00%	0.00%	☆
P8-16	Accumulative power-on time threshold	0 ~ 65000h	0h	☆
P8-17	Accumulative running time threshold	0 ~ 65000h	0h	☆
P8-18	Startup protection selection	0: Disabled 1: Enabled	0	☆
P8-19	Frequency detection value (FDT1)	0.00 Hz to max frequency	50.00Hz	☆
P8-20	Frequency detection hysteresis (FDT 1)	0.0% ~ 100.0% (FdT1 level)	5%	☆
P8-21	Detection range of frequency reached	0.00 ~ 100% (max frequency)	0.00%	☆
P8-22	Jump frequency during acceleration/deceleration	0: Disabled 1: Enabled	0	☆
P8-25	Frequency switchover point between acceleration time 1 and acceleration time 2	0.00Hz ~ max frequency	0.00Hz	☆
P8-26	Frequency switchover point between deceleration time 1 and deceleration time 2	0.00 ~ max frequency	0.00Hz	☆
P8-27	Terminal JOG preferred	0: Disabled 1: Enabled	0	☆
P8-28	Frequency detection value (FDT2)	0.00 ~ max frequency	50.00Hz	☆
P8-29	Frequency detection hysteresis (FDT hysteresis 2)	0.0% ~ 100.0% (FdT2 level)	5.0%	☆
P8-30	Any frequency reaching detection value 1	0.00Hz ~ max frequency	50.00Hz	☆
P8-31	Any frequency reaching detection amplitude 1	0.0% ~ 100.0% (max frequency)	0.0%	☆
P8-32	Any frequency reaching detection value 2	0.00Hz ~ max frequency	50.00Hz	☆

Function Code	Name	Setting Range	Default	Change
P8-33	Any frequency reaching detection amplitude 2	0.0% ~ 100.0% (max frequency)	0.0%	☆
P8-34	Zero current detection level	0.0% ~ 300.0% (rated motor current)	5.0%	☆
P8-35	Zero current detection delay time	0.01 ~ 600.00s	0.10s	☆
P8-36	Output over-current threshold	0.0% (no detection) 0.1% ~ 300.0% (rated motor current)	200.0%	☆
P8-37	Output over-current detection delay time	0.00 ~ 600.00s	0.00s	☆
P8-38	Any current reaching 1	0.0% ~ 300.0% (rated motor current)	100.0%	☆
F8-39	Any current reaching 1 amplitude	0.0% ~ 300.0% (rated motor current)	0.0%	☆
P8-40	Any current reaching 2	0.0% ~ 300.0% (rated motor current)	100.0%	☆
P8-41	Any current reaching 2 amplitude	0.0% ~ 300.0% (rated motor current)	0.0%	☆
P8-42	Timing function	0: Disabled 1: Enabled	0	★
P8-43	Timing duration source	0: Set by P8-44 1: AI1 2: AI2 3: AI3 100% of analog input corresponds to the value of P8-44	0	★
P8-44	Timing duration	0.0 ~ 6500.0 min	0.0Min	★
P8-45	AI1 input voltage lower limit	0.00V ~ P8-46	3.10 V	☆
P8-46	AI1 input voltage upper limit	P8-45 ~ 10.00 V	6.80V	☆
P8-47	IGBT temperature threshold	0°C ~ 100°C	75°C	☆
P8-48	Cooling fan working mode	0: Working during drive running 1: Working continuously	0	☆
P8-49	Wake-up frequency	Hibernating frequency (P8-51) to max frequency (P0-10)	0.00Hz	☆
P8-50	Wake-up delay time	0.0s ~ 6500.0s	0.0s	☆
P8-51	Hibernating frequency	0.00Hz ~ wake up frequency (P8-49)	0.00Hz	☆
P8-52	Hibernating delay time	0.0s ~ 6500.0s	0.0s	☆
P8-53	Running time threshold this time	0.0 ~ 6500.0min	0.0Min	☆
P8-54	Output power correction cofficient	0.00% ~ 200.0%	100.0%	☆
P8-55	Wake-up level	1% ~ 150%	80.0%	☆
P8-56	High speed frequency	0.00Hz ~ P0-10	25.00	☆
P8-57	High speed frequency delay time	0.0s ~ 600.0s	60s	☆

Function Code	Name	Setting Range	Default	Change
P8-58	Low speed frequency	0.00Hz ~ P0-10	0.00	☆
P8-59	Low speed frequency delay time	0.0s ~ 600.0s	60s	☆
Group P9: Keypad and Display				
P9-00	Motor overload protection	0: Disabled 1: Enabled	1	☆
P9-01	Motor overload protection gain	0.20 ~ 10.00	1.00	☆
P9-02	Motor overload pre-warning coefficient	50% ~ 100%	80%	☆
P9-03	Over-voltage protection gain	0 ~ 100	30	☆
P9-04	Over-voltage protection voltage	200V ~ 2000V	380V: 760V 220V: 380V	☆
P9-07	Detection of short-circuit to ground upon power-on	0: Disabled 1: Enabled	1	☆
P9-08	Brake unit action voltage	200V ~ 2000V	380V: 690V 220V: 360V	★
P9-09	Auto reset times	0 ~ 20	0	☆
P9-10	Selection of DO action during auto reset	0: Not action 1: Action	0	☆
P9-11	Delay of auto reset	0.1s ~ 100.0s	1.0s	☆
P9-12	Input phase loss/pre-charge relay protection	Units digit: Input phase loss protection Tens digit: Pre-charge relay protection 0: Disabled 1: Enabled	11	☆
P9-13	Output phase loss protection	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: Overvoltage during acceleration 6: Overvoltage during deceleration 7: Overvoltage at constant speed 8: Buffer resistor overload 9: Undervoltage 10: AC drive overload 11: Motor overload	-	●

P9-15	2nd fault type	12: Power input phase loss 13: Power output phase loss 14: IGBT overheat 15: External fault 16: Communication fault 17: Contactor fault 18: Current detection fault 19: Motor auto-tuning fault 20: Encoder/PG card fault 21: Parameter read and write fault 22: AC drive hardware fault 23: Motor short circuited to ground 24: Reserved 25: Reserved 26: Accumulative running time reached 27: User-defined fault 1 28: User-defined fault 2 29: Accumulative power-on time reached 30: Load lost 31: PID feedback lost during running 40: Fast current limit timeout 41: Motor switchover error during running 42: Too large speed deviation 43: Motor over-speed 45: Motor overheat 51: Initial position error 55: Slave error in master-slave control	-	●
P9-16	3rd (latest) fault type		-	●
P9-17	Frequency upon 3rd fault	0.00Hz ~ 655.35Hz	0.00Hz	●
P9-18	Current upon 3rd fault	0.00A ~ 655.35A	0.00A	●
P9-19	Bus voltage upon 3rd fault	0.00V ~ 6553.5V	0.0V	●
P9-20	DI state upon 3rd fault	0 ~ 9999	0	●
P9-21	DO state upon 3rd fault	0 ~ 9999	0	●
P9-22	AC drive state upon 3rd fault	0 ~ 65535	0	●
P9-23	Power-on time upon 3rd fault	0s ~ 65535s	0s	●
P9-24	Running time upon 3rd fault	0s ~ 6553.5s	0.0s	●
P9-27	Frequency upon 2nd fault	0.00Hz ~ 655.35Hz	0.00Hz	●
P9-28	Current upon 2nd fault	0.00A ~ 655.35A	0.00A	●
P9-29	Bus voltage upon 2nd fault	0.00V ~ 6553.5V	0.0V	●
P9-30	DI status upon 2nd fault	0 ~ 9999	0	●
P9-31	DO status upon 2nd fault	0 ~ 9999	0	●
P9-32	AC drive status upon 2nd fault	0 ~ 65535	0	●
P9-33	Power-on time upon 2nd fault	0s ~ 65535s	0s	●

Function Code	Name	Setting Range	Default	Change
P9-34	Running time upon 2nd fault	0s ~ 6553.5s	0.0s	●
P9-37	Frequency upon 1st fault	0.00Hz ~ 655.35Hz	0.00Hz	●
P9-38	Current upon 1st fault	0.00A ~ 655.35A	0.00A	●
P9-39	Bus voltage upon 1st fault	0.00V ~ 6553.5V	0.0V	●
P9-40	DI status upon 1st fault	0 ~ 9999	0	●
P9-41	DO status upon 1st fault	0 ~ 9999	0	●
P9-42	AC drive status upon 1st fault	0 ~ 65535	0	●
P9-43	Power-on time upon 1st fault	0s ~ 65535s	0s	●
P9-44	Running time upon 1st fault	0s ~ 6553.5s	0.0s	●
P9-47	Fault protection action selection 1	Units digit: Motor overload (Err11) 0: Coast to stop 1: Stop according to the stop mode 2: Continue to run Tens digit: Power input phase loss (Err12) Hundreds digit: Power output phase loss (Err13) Thousands digit: External equipment fault (Err15) Ten thousands digit: Communication fault (Err16)	00000	☆
P9-48	Fault protection action selection 2	Units digit: Encoder fault (Err20) 0: Coast to stop Tens digit: EEPROM read-write fault (Err21) 0: Coast to stop 1: Stop according to the stop mode Hundreds digit: Overload fault action(Err10) Thousands digit: Motor overheat (Err45) Ten thousands digit: Accumulative running time reached (Err26)	00000	☆
P9-49	Fault protection action selection 3	Units digit: User-defined fault 1 (Err27) 0: Coast to stop 1: Stop according to the stop mode 2: Continue to run Tens digit: User-defined fault 2 (Err28) 0: Coast to stop 1: Stop according to the stop mode 2: Continue to run Hundreds digit: Accumulative power-on time reached (Err29) 0: Coast to stop 1: Stop according to the stop mode 2: Continue to run	00000	☆

Function Code	Name	Setting Range	Default	Change
P9-50	Fault protection action selection 4	Units digit: Too large speed deviation (Err42) 0: Coast to stop 1: Stop according to the stop mode 2: Continue to run Tens digit: Motor over-speed(Err43) Hundreds digit: Initial position fault (Err51)	00000	☆
P9-54	Frequency selection for continuing to run upon fault	0: Current running frequency 1: Run at set frequency 2: Run at upper limit frequency 3: Run at lower limit frequency 4: Backup frequency upon abnormality	0	☆
P9-55	Backup frequency upon fault	0.0% ~ 100.0% (100.0% corresponds to max frequency (P0-10))	100.0%	☆
P9-56	Type of motor temperature sensor	0: No temperature sensor 1: PT100 2: PT1000	0	☆
P9-57	Motor overheat protection threshold	0°C ~ 200°C	110℃	☆
P9-58	Motor overheat pre-warning threshold	0°C ~ 200°C	90℃	☆
P9-59	Power dip ride-through function selection	0: Disabled 1: Bus voltage constant control 2: Decelerate to stop	0	★
P9-60	Threshold of power dip ride-through function disabled	80% ~ 100%	85%	★
P9-61	Judging time of bus voltage recovering from power dip	0.0s ~ 100.0s	0.5s	★
P9-62	Threshold of power dip ride-through function enabled	60% ~ 100%	80%	★
P9-63	Load lost protection	0: Disabled 1: Enabled	0	☆
P9-64	Load lost detection level	0.0% ~ 100.0%	10.0%	☆
P9-65	Load lost detection time	0.0 ~ 60.0s	1.0s	☆
P9-67	Overspeed detection level	0.0% ~ 50.0% (max frequency)	20.0%	☆
P9-68	Overspeed detection time	0.0s: Not detected 0.1 ~ 60.0s	5.0s	☆
P9-69	Detection level of speed error	0.0% ~ 50.0% (max frequency)	20.0%	☆
P9-70	Detection time of speed error	0.0s: Not detected 0.1 ~ 60.0s	5.0s	☆
P9-71	Gain for power dip ride-through Kp	0 ~ 100	40	☆
P9-72	Coefficient for power dip ride-through Ki	0 ~ 100	30	☆
P9-73	Deceleration for power dip ride-through	0 ~ 300.0s	20.0s	★
Group PA: PID Function				
PA-00	PID reference setting channel	0: Set by PA-01 1: AI1 2: AI2 3: AI3 4: Pulse setting (DI5) 5: Communication setting 6: Multi-reference	0	☆
PA-01	PID digital setting	0.0% ~ 100.0%	50.0%	☆

Function Code	Name	Setting Range	Default	Change
PA-02	PID feedback setting channel	0: AI1 1: AI2 2: AI3 3: AI1 - AI2 4: Pulse setting (DI5) 5: Communication setting 6: AI1 + AI2 7: Max. (|AI1|, |AI2|) 8: Min. (|AI1|, |AI2|)	0	☆
PA-03	PID operation direction	0: Forward 1: Reverse	0	☆
PA-04	PID reference and feedback range	0 ~ 65535	1000	☆
PA-05	Proportional gain Kp1	0.0 ~ 1000.0	20.0	☆
PA-06	Integral time Ti1	0.01s ~ 10.00s	2.00s	☆
PA-07	Differential time Td1	0.000s ~ 10.000s	0.000s	☆
PA-08	PID output limit in reverse direction	0.00Hz ~ max frequency	0.00Hz	☆
PA-09	PID error limit	0.0% ~ 100.0%	0.0%	☆
PA-10	PID differential limit	0.00% ~ 100.00%	0.10%	☆
PA-11	PID reference change time	0.00 ~ 650.00s	0.00s	☆
PA-12	PID feedback filter time	0.00 ~ 60.00s	0.00s	☆
PA-13	PID output filter time	0.00 ~ 60.00s	0.00s	☆
PA-14	Reserved	-	-	☆
PA-15	Proportional gain Kp2	0.0 ~ 1000.0	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 switchover condition	0: No switchover 1: Switchover via DI 2: Auto switchover based on PID error 3: Auto switchover based on running frequency	0	☆
PA-19	PID error 1 for auto switchover	0.0% ~ PA-20	20.0%	☆
PA-20	PID error 2 for auto switchover	PA-19 ~ 100.0%	80.0%	☆
PA-21	PID initial value	0.0% ~ 100.0%	0.0%	☆
PA-22	PID initial value active time	0.00 ~ 650.00s	0.00s	☆
PA-23 PA-24	Reversed	-	-	☆
PA-25	PID integral property	Units digit: Integral separation 0: Disabled 1: Enabled Tens digit: Whether to stop integral operation when the PID output reaches the limit 0: Continue integral operation 1: Stop integral operation	00	☆
PA-26	Detection value of PID feedback loss	0.0%: No detection 0.1% ~ 100.0%	0.0%	☆

Function Code	Name	Setting Range	Default	Change
PA-27	Detection time of PID feedback loss	0.0s ~ 20.0s	0.0s	☆
PA-28	PID operation at stop	0: Disabled 1: Enabled	0	☆
Group Pb: Wobble Function, Fixed Length and Count				
Pb-05	Set length	0 ~ 65535 m	1000m	☆
Pb-06	Actual length	0 ~ 65535 m	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	Reference 0	-100.0% ~ 100.0%	0.0%	☆
PC-01	Reference 1	-100.0% ~ 100.0%	0.0%	☆
PC-02	Reference 2	-100.0% ~ 100.0%	0.0%	☆
PC-03	Reference 3	-100.0% ~ 100.0%	0.0%	☆
PC-04	Reference 4	-100.0% ~ 100.2%	0.0%	☆
PC-05	Reference 5	-100.0% ~ 100.2%	0.0%	☆
PC-06	Reference 6	-100.0% ~ 100.0%	0.0%	☆
PC-07	Reference 7	-100.0% ~ 100.0%	0.0%	☆
PC-08	Reference 8	-100.0% ~ 100.0%	0.0%	☆
PC-09	Reference 9	-100.0% ~ 100.0%	0.0%	☆
PC-10	Reference 10	-100.0% ~ 100.0%	0.0%	☆
PC-11	Reference 11	-100.0% ~ 100.0%	0.0%	☆
PC-12	Reference 12	-100.0% ~ 100.0%	0.0%	☆
PC-13	Reference 13	-100.0% ~ 100.0%	0.0%	☆
PC-14	Reference 14	-100.0% ~ 100.0%	0.0%	☆
PC-15	Reference 15	-100.0% ~ 100.0%	0.0%	☆
PC-16	Simple PLC running mode	0: Stop after running one cycle 1: Keep final values after running one cycle 2: Repeat after running one cycle	0	☆
PC-17	Simple PLC retentive selection	Unit digit: Retentive at power down 0: Not retentive 1: Retentive Tens digit: Retentive at stop 0: Not retentive at stop 1: Retentive at stop	00	☆
PC-18	Running time of simple PLC reference 0	0.0s (h) ~ 6553.5s (h)	0.0s (h)	☆
PC-19	Acceleration/deceleration time of simple PLC reference 0	0 ~ 3	0	☆

Function Code	Name	Setting Range	Default	Change
PC-20	Running time of simple PLC reference 1	0.0s (h) ~ 6553.5s (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) ~ 6553.5s (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) ~ 6553.5s (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) ~ 6553.5s (h)	0.0s (h)	☆
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) ~ 6553.5s (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) ~ 6553.5s (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) ~ 6553.5s (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) ~ 6553.5s (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) ~ 6553.5s (h)	0.0s (h)	☆
PC-37	Acceleration/deceleration time of simple PLC reference 9	0 ~ 3	0	☆
PC-38	Running time of simple PLC reference 10	0.0s (h) ~ 6553.5s (h)	0.0s (h)	☆
PC-39	Acceleration/deceleration time of simple PLC reference 10	0 ~ 3	0	☆
PC-40	Running time of simple PLC reference 11	0.0s (h) ~ 6553.5s (h)	0.0s (h)	☆
PC-41	Acceleration/deceleration time of simple PLC reference 11	0 ~ 3	0	☆
PC-42	Running time of simple PLC reference 12	0.0s (h) ~ 6553.5s (h)	0.0s (h)	☆
PC-43	Acceleration/deceleration time of simple PLC reference 12	0 ~ 3	0	☆
PC-44	Running time of simple PLC reference 13	0.0s (h) ~ 6553.5s (h)	0.0s (h)	☆
PC-45	Acceleration/deceleration time of simple PLC reference 13	0 ~ 3	0	☆
PC-46	Running time of simple PLC reference 14	0.0s (h) ~ 6553.5s (h)	0.0s (h)	☆
PC-47	Acceleration/deceleration time of simple PLC reference 14	0 ~ 3	0	☆
PC-48	Running time of simple PLC reference 15	0.0s (h) ~ 6553.5s (h)	0.0s (h)	☆

Function Code	Name	Setting Range	Default	Change
PC-49	Acceleration/deceleration time of simple PLC reference 15	0 ~ 3	0	☆
PC-50	Time unit of simple PLC running	0: s (second) 1: h (hour)	0	☆
PC-51	Reference 0 source	0: Set by PC-00 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: PID 6: Set by preset frequency (P0-08), modified via UP/DOWN key 7. keyboard with electrodeless potentiomter 8. keyboard with electrodeless potentiomter change rate 1 Hz	0	☆
Group Pd: Communication				
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	MODBUS data format symbol	0: No check <8-N-2> 1: Even parity check <8-E-1> 2: Odd parity check <8-O-1> 3: No check, data format <8-N-1> (Valid for MODBUS)	3	☆
Pd-02	Local address	0: Broadcast address 1 ~ 247 (MODBUS)	1	☆
Pd-03	MODBUS response delay	0 ~ 20 ms (Valid for MODBUS)	2	☆
Pd-04	Serial port communication timeout	0.0: Disabled 0.1 ~ 60.0s	0.0	☆
Pd-05	MODBUS protocol selection	Units digit: MODBUS 0: Non-standard MODBUS protocol 1: Standard MODBUS protocol	01	☆
Pd-06	Current resolution read by communication	0: 0.01A 1: 0.1A	0	☆
Group PE: Reserved				
Group PP: Function Parameter Management				
PP-00	User password	0 ~ 65535	0	☆
PP-01	Parameter initialization	0: No operation 01: Restore factory parameters except motor parameters 02: Clear records 04: Backup present parameter of user 501: Restore parameter of user	0	★

Function Code	Name	Setting Range	Default	Change
PP-02	Parameter display property	Units digit: Group U display 0: Not displayed 1: Displayed Tens digit: Group D display 0: Not displayed 1: Displayed	11	★
PP-04	Selection of parameter modification	0: Disabled 1: Enabled	0	☆
Group D0: Torque Control and Restricting Parameters				
D0-00	Speed/Torque control selection	0: Speed control 1: Torque control	0	★
D0-01	Torque reference source in torque control	0: Set by D0-03 1: AI1 2: AI2 4: Pulse reference 5: Communication reference 6: MIN. (AI1, AI2) 7: MAX. (AI1, AI2) (Full range of values 1-7 corresponds to the digital setting of D0-03)	0	★
D0-03	Torque digital setting in torque control	-200.0% ~ 200.0%	150.0%	★
D0-05	Forward max frequency in torque control	0.00Hz ~ max frequency	50.00Hz	☆
D0-06	Reverse max frequency in torque control	0.00Hz ~ max frequency	50.00Hz	☆
D0-07	Acceleration time in torque control	0.00s ~ 65000s	0.00s	☆
D0-08	Deceleration time in torque control	0.00s ~ 65000s	0.00s	☆
Group D1: Reserved				
Group D2: Motor 1 Parameters				
D2-00	Motor type selection	1: Common asynchronous motor 2: Permanent magnetic synchronous motor	0	★
D2-01	Rated motor power	0.1 ~ 1000.0kW	Model dependent	★
D2-02	Rated motor voltage	1 ~ 2000V	Model dependent	★
D2-03	Rated motor current	0.01A ~ 655.35A (AC drive power ≤ 55 kW) 0.1A ~ 6553.5A (AC drive power > 55 kW)	Model dependent	★
D2-04	Rated motor frequency	0.01Hz ~ max frequency	Model dependent	★
D2-05	Rated motor rotational speed	1 ~ 65535RPM	Model dependent	★
D2-06	Stator resistance (asynchronous motor)	0.001 ~ 65.535 Ω (AC drive power ≤ 55 kW) 0.0001 ~ 6.5535 Ω (AC drive power > 55 kW)	Tuning parameter	★
D2-07	Rotor resistance (asynchronous motor)	0.001 ~ 65.535 Ω (AC drive power ≤ 55 kW) 0.0001 ~ 6.5535 Ω (AC drive power > 55 kW)	Tuning parameter	★
D2-08	Leakage inductive reactance (asynchronous motor)	0.01 ~ 655.35mH (AC drive power ≤ 55 kW) 0.001 ~ 65.535mH (AC drive power > 55 kW)	Tuning parameter	★

Function Code	Name	Setting Range	Default	Change
D2-09	Mutual inductive reactance (asynchronous motor)	0.1 ~ 6553.5mH (AC drive power ≤ 55 kW) 0.01 ~ 655.35mH (AC drive power > 55 kW)	Tuning parameter	★
D2-10	No-load current (asynchronous motor)	0.01A ~ D2-03 (AC drive power ≤ 55 kW) 0.1A ~ D2-03(AC drive power > 55 kW)	Tuning parameter	★
D2-27	Encoder line number	1 ~ 65535	1024	★
D2-28	Encoder type	0: ABZ encoder 2: Rotational encoder	0	★
D2-29	Speed feedback PG selection	0: Local PG 1: Extensive PG 2: Pulse input (DI5)	0	★
D2-30	AB sequence of ABZ encoder	0: Forward 1: Reverse	0	★
D2-31	Encoder install angle	0.0 ~ 359.9°	0°	
D2-34	Rotational encoder pole number	1 ~ 65535	1	★
D2-36	Speed feedback PG offline detect time	0.0s: No action 0.1s ~ 10.0s	0.0s	★
D2-37	Auto-tuning selection	0: No auto-tuning 1: Asynchronous motor partly static auto-tuning 2: Asynchronous motor completely dynamic auto-tuning 3: Asynchronous motor static dynamic auto-tuning	0	★
D2-38	Speed loop proportional gain 1	1 ~ 100	30	☆
D2-39	Speed loop integral time 1	0.01 ~ 10.00s	0.50s	☆
D2-40	Switchover frequency 1	0.00 ~ D2-43	5.00Hz	☆
D2-41	Speed loop proportional gain 2	1 ~ 100	20	☆
D2-42	Speed loop integral time 2	0.01 ~ 10.00S	1.00s	☆
D2-43	Switchover frequency 2	D2-02 ~ max output frequency	10.00Hz	☆
D2-44	Vector control slip gain	50% ~ 200%	100%	☆
D2-45	SVC torque filter constant	1 ~ 31	28	☆
D2-47	Torque limit source in speed control	0: Set by D2-10 1: AI1 2: AI2 3: AI3 4: Pulse (DI5) 5: Set by communication 6: Min. (AI1, AI2) 7: Max. (AI1, AI2) Full scale of 1-7 corresponds to D2-48.	0	☆
D2-48	Digital setting of torque upper limit in speed control	0.0% ~ 200.0%	150%	☆

Function Code	Name	Setting Range	Default	Change
D2-49	Torque limit source in speed control (generation)	0: Set by D2-10 (same for generating and electric driving) 1: AI1 2: AI2 3: AI3 4: Pulse (DI5) 5: Set by communication 6: Min. (AI1, AI2) 7: Max. (AI1, AI2) Full scale of 1-7 corresponds to D2-12.	0	☆
D2-50	Digital setting of torque upper limit in speed control (generation)	0.0% ~ 200.0%	150.0%	☆
D2-51	Excitation adjustment proportional gain	0 ~ 60000	2000	☆
D2-52	Excitation adjustment integral gain	0 ~ 60000	1300	☆
D2-53	Torque adjustment proportional gain	0 ~ 60000	2000	☆
D2-54	Torque adjustment integral gain	0 ~ 60000	1300	☆
D2-55	Speed loop integral property	Units digit: integral separation 0: Disabled 1: Enabled	0	☆
D2-59	Weak magnetic field max torque coefficients	50 ~ 200%	100%	☆
D2-60	Power generation limit enable	0: Invalid 1: Effect all the time 2: Effect during constant speed 3: Effect during deceleration	0	☆
D2-61	Upper limit of power generation	0.0% ~ 200.0%	Model dependent	☆
D2-62	Motor 2 control mode	0: SVC 1: FVC 2: V/F	0	★
D2-63	Motor 2 acceleration/ deceleration time selection	0: Same as motor 1 2: Acc/dec time 2 3: Acc/dec time 3 4: Acc/dec time 4	0	☆
D2-64	Motor 2 torque lift	0.0%: Auto torque lift 0.1% ~ 30.0%	Model dependent	☆
D2-66	Motor 2 shock suppression gain	0 ~ 100	40	☆
Group D5: Control optimization parameters				
D5-00	DPWM switchover upper limit frequency	5.00Hz ~ max frequency	8.00Hz	☆
D5-01	PWM adjust method	0: Asynchronous modulation 1: Synchronous modulation	0	☆
D5-02	Dead zone compensation mode	0: No compensation 1: Compensation mode 1	1	☆
D5-03	Random PWM depth	0: Random PWM invalid 1~10: PWM load frequency random depth	0	☆
D5-04	Fast current limit enable	0: Disable 1: Enable	1	☆
D5-05	Current detect compensation	0 ~ 100	0	★

Function Code	Name	Setting Range	Default	Change
D5-06	Under-voltage point setting	200 ~ 2000V	380V: 350V 220V: 200V	☆
D5-08	Dead time adjustment	100% ~ 200%	150%	★
D5-09	Over-voltage point setting	200 ~ 2200V	Model dependent	★
Group D6: AI Curve Setting				
D6-00	AI curve 4 minimum input	-10.00V ~ D6-02	0.00V	☆
D6-01	Corresponding setting of AI curve 4 minimum input	-100.0% ~ 100.0%	0.0%	☆
D6-02	AI curve 4 turning point 1 input	D6-00 ~ D6-04	3.00V	☆
D6-03	Corresponding setting of AI curve 4 turning point 1 input	0.0% ~ 100.0%	30.0%	☆
D6-04	AI curve 4 turning point 2input	D6-02~ D6-04	6.00V	☆
D6-05	Corresponding setting of AI curve 4 turning point 2 input	-100.0% ~ 100.0%	60.0%	☆
D6-06	AI curve 4 max input	D6-04~ 10.00V	10.00V	☆
D6-07	Corresponding setting of AI curve 4 max input	-100.0% ~ 100.0%	100.0%	☆
D6-08	AI curve 5 minimum input	-10.00V ~ D6-10	-10.00V	☆
D6-09	Corresponding setting of AI curve 5 minimum input	-100.0% ~ 100.0%	-100.0%	☆
D6-10	AI curve 5 turning point 1 input	D6-08 ~ D6-12	-3.00V	☆
D6-11	Corresponding setting of AI curve 5 turning point 1 input	-100.0% ~ 100.0%	-30.0%	☆
D6-12	AI curve 5 turning point 2 input	D6-10 ~ D6-14	3.00V	☆
D6-13	Corresponding setting of AI curve 5 turning point 2 input	-100.0% ~ 100.0%	30.0%	☆
D6-14	AI curve 5 max input	D6-12 ~ + 10.00V	10.00V	☆
D6-15	Corresponding setting of AI curve 5 max input	-100.0% ~ 100.0%	100.0%	☆
D6-24	Jump point of AI1 input corresponding setting	-100.0% ~ 100.0%	0.0%	☆
D6-25	Jump amplitude of AI1 input corresponding setting	0.0% ~ 100.0%	0.5%	☆
D6-26	Jump point of AI2 input corresponding setting	-100.0% ~ 100.0%	0.0%	☆
D6-27	Jump amplitude of AI2 input corresponding setting	0.0% ~ 100.0%	0.5%	☆
D6-28	Jump point of AI3 input corresponding setting	-100.0% ~ 100.0%	0.0%	☆
D6-29	Jump amplitude of AI3 input corresponding setting	0.0% ~ 100.0%	0.5%	☆
Group D8 Point-to-point communication				
D8-00	Point to point communication function selection	0: Invalid 1: Valid	0	☆

Function Code	Name	Setting Range	Default	Change
D8-01	Selection of master/ slave	0: Master 1: Slave	0	☆
D8-02	Slave command follow master-slave info exchange	Units digit: Slave command follow 0: Slave running, not follow master command 1: Slave running, follow master command. Tens digit: Slave fault into transmit 0: Slave fault into no transmit 1: Slave fault into transmit Hundreds digit: Master report slave offline 0: Slave offline, master no report fault 1: Slave offline, master report fault (ERR16)	011	★
D8-03	Slave receive data function selection	0: Running frequency 1: Target frequency	0	☆
D8-04	Zero offset of received data	-100.00% ~ 100.00%	0.00%	★
D8-05	Gain of received data	-10.00 ~ 100.00	1.00	★
D8-06	Detect time of point-to-point communication interrupt	0.0 ~ 10.0s	1.0s	☆
D8-07	Master send data cycle of point-to-point communication	0.001 ~ 10.000s	0.001s	☆
D8-08	Synchronous display frequency range	0.20 ~ 10.00Hz	0.50Hz	☆
Group DC AIAO correction				
DC-00	AI1 measured voltage 1	-10.00V ~ 10.000V	Factory calibration	☆
DC-01	AI1 display voltage 1	-10.00V ~ 10.000V	Factory calibration	☆
DC-02	AI1 measured voltage 2	-10.00V ~ 10.000V	Factory calibration	☆
DC-03	AI1 display voltage 2	-10.00V ~ 10.000V	Factory calibration	☆
DC-04	AI2 measured voltage 1	-10.00V ~ 10.000V	Factory calibration	☆
DC-05	AI2 display voltage 1	-10.00V ~ 10.000V	Factory calibration	☆
DC-06	AI2 measured voltage 2	-10.00V ~ 10.000V	Factory calibration	☆
DC-07	AI2 display voltage 2	-10.00V ~ 10.000V	Factory calibration	☆
DC-12	AO1 target voltage 1	-10.00V ~ 10.000V	Factory calibration	☆
DC-13	AO1 display voltage 1	-10.00V ~ 10.000V	Factory calibration	☆
DC-14	AO1 measured voltage 2	-10.00V ~ 10.000V	Factory calibration	☆
DC-15	AO1 display voltage 2	-10.00V ~ 10.000V	Factory calibration	☆
DC-16	AO2 measured voltage 1	-10.00V ~ 10.000V	Factory calibration	☆
DC-17	AO2 display voltage 1	-10.00V ~ 10.000V	Factory calibration	☆
DC-18	AO2 measured voltage 2	-10.00V ~ 10.000V	Factory calibration	☆
DC-19	AO2 display voltage 2	-10.00V ~ 10.000V	Factory calibration	☆