

STEPPERONLINE[®]

User Manual EV200 Series Variable Frequency Drive



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EV200 series high-performance small inverters are the company's new generation of high-quality, high-reliability small inverters. Based on the market demand of low power, small size and simple speed regulation, single-phase 220VAC and three-phase 380VAC small inverters have been launched. It can be widely used in small automated machinery represented by wood carving, glass edging, food filling, medical centrifuges, automated production lines, electronic equipment, logistics equipment, textiles, etc.

Product features:

- ◆ New narrow body design, compact structure layout, smart design, relative to the old product, the installation size is reduced by 30%, and the volume is reduced by 45%, which is more conducive to saving installation space and reducing power distribution costs;
- ◆ Independent air ducts, straight up and down, efficient heat dissipation; can be installed side by side, reasonable use of installation space, greatly reducing the cost of power distribution cabinets;
- ◆ 0.5Hz starting torque can reach 150%;
- ◆ 0.75-2.2kW without built-in braking unit, above 3.7kW with braking unit;
- ◆ 4 digital input terminals, 1 analog input, 1 relay output;
- ◆ The keyboard can be imported, compatible with the company's 510A, 510H inverter keyboard interface.

1.Nameplate specification

<u>EV200 - 0750G - T3</u>	
Product series	Voltage level:
Power code: 0750: 0.75kW G: General	S2: Single-phase 220V T3: three-phase 380V

2. Model specification

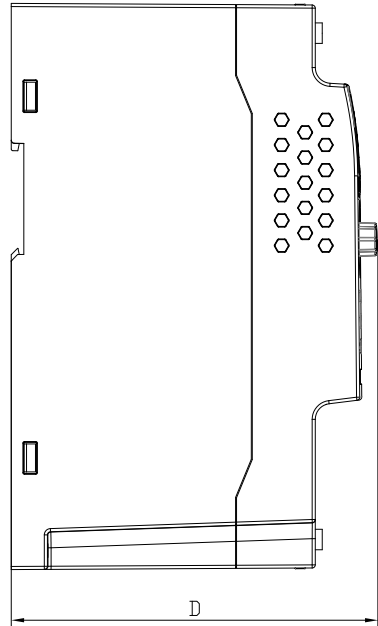
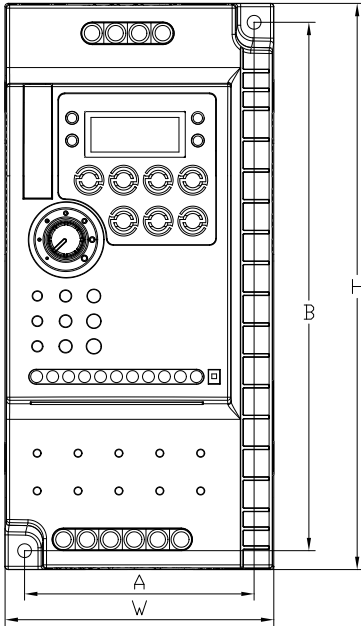
Model type	Power KVA	Input current A	Output current A	Matched motor kW
EV200-0400G-S2	1.0	5.4	2.3	0.4
EV200-0750G-S2	1.5	8.2	4.0	0.75
EV200-1500G-S2	3.0	14.0	7.0	1.5
EV200-2200G-S2	4.0	23.0	9.6	2.2
EV200-0750G-T3	1.5	3.4	2.1	0.75
EV200-1500G-T3	3.0	5.0	3.8	1.5
EV200-2200G-T3	4.0	5.8	5.1	2.2
EV200-3700G-T3	5.9	10.5	9.0	3.7
EV200-5500G-T3	8.9	14.6	13.0	5.5

3. Technical data

Item		Specification
Basic function	Highest frequency	Vector control: 0~500Hz; V/F control: 0~500Hz
	Carrier frequency	0.8kHz ~ 12kHz Carrier frequency can be adjusted automatically according to temperature characteristics
	Input frequency resolution	Digital setting: 0.01Hz Analog setting: maximum frequency × 0.025%
	control mode	without PG Vector(SVC),Feedback vector(FVC) and V/F control
	Start torque	G type: 0.5Hz/150% (SVC) ; 0Hz/180% (FVC) P type: 0.5Hz/100%
	Speed range	1: 100 (SVC) 1: 1000 (FVC)
	Speed control accuracy	±0.5% (SVC) ±0.02% (FVC)
	Torque control accuracy	±5% (FVC)
	Overload capacity	G type: 150% rated current 60sec; 180% rated current 3sec P type: 120% rated current 60sec; 150% rated current 3sec
	Torque boost	Auto-torque boost;manual torque boost 0.1%~30.0%
	V/F curve	Three types:linear type; multi-point type; the nth power of V/F curve
	V/F Separation	Two types:full separation, half separation
	ACC/DEC curve	Linear or S curve of ACC/DEC ways.Four types of ACC/DEC Time, ACC/DEC time range is 0.0~6500.0s
	DC brake	DC brake frequency: 0.00Hz~ max frequency,brake time: 0.0s~36.0s,brake action current: 0.0%~100.0%
	JOG Control	JOG frequency range: 0.00Hz~50.00Hz.JOG speed-up/down time: 0.0s~6500.0.
	Simple PLC,multi-stage speed running	Via built-in PLC or control terminal can realize max 16 stage speed running
	Built-in PID	Can realize process control close-loop system conveniently
	Auto-adjust voltage(AVR)	When grid voltage changes,can keep output voltage steadily automatically
	Over current and over voltage speed control	During running,limit current and voltage automatically,protect from tripping off frequently for over voltage and over current.
	Quick current-limit function	Reduce over current error on max extent,protect inverter normal running
Torque limitation and control	"digger"feature, inverter could limit torque automatically,prevent over current tripping off;close-loop vector can realize torque control.	
Outstanding perform	Using high-perform current vector control	
Instantaneous stop not stop	during instant power-off, by motor feedback energy,inverter compensates voltage-drop to keep	

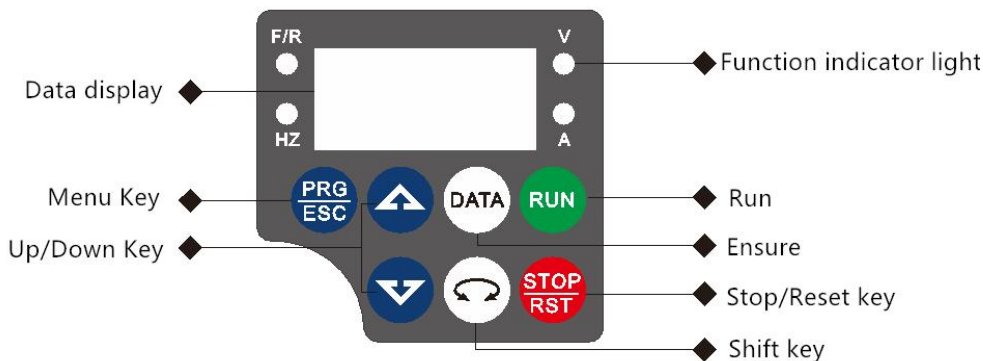
Personable function	Quick current-limit function	running for short time. Reduce overcurrent error on max extent
	Timing control	timing control function: setting time range: 0.0min~6500.0min
	Multi-motor switch	2sets of motor parameter, can realize 2motors switching control
	Multi threading bus support Multi threading bus support	Support multiple fieldbus: Modbus, RS85, CANopen,CANlink
	Multi-encoder support	Support differential, open collector, rotary transformer control panel, control terminal, communication; can be switched by several modes
	Command source	10 types of frequency sources: digital setting, analog voltage setting, analog current setting, pulse setting, communication setting, can be switched by several methods
	Frequency source	10 types of auxiliary frequency source, can realize auxiliary frequency trimming, frequency combining flexiably
	Auxiliary frequency sources	
Running display and keypad	Input terminal	Standard: 7 digital input terminal, one of them support max 100KHz HS pulse input; 2 analog input terminal, one of them support 2 support 0~10V voltage input,one support 0~10V voltage or 0~20mA current input.
	Output terminal	Standard: 1 high-speed pulse output terminal(optional open collector),support 0~100kHzpulse 1 digit output terminals; 2 relay output terminal 2 analog output terminals,one of them support 0~20mA current output;
	LED display	Can display parameter
	Press-key locking and function selection	Realize press-key partial or full locking, define partal press-key function range, to avoid wrong operation
	Protection function	Power-on motor short circuit test,output phase-loss protection, over-current protection, over-voltage protection, under-voltage protection, overheat protection, overload protection etc.
	Optional parts	Differential PG card, open collector PG card,rotary transformer PG card
Environment	Application site	Indoor, without direct sunlight, no powder, corrosive gas, combustion air, oil dust, water steam, water drop or salt etc.
	Altitude level	Less than 1000m
	Environment temperature	-10℃~+40℃ (During 40℃~50℃, please reduce capacity touse)
	Humidity	<95%RH, no water drop condensed
Opotional	Two Panel LED display	LED display;using RJ45 port to connect

4. Outsize



Voltage	Model type	power (kW)	Install size (mm)		outside (mm)			Install hole
			A	B	W	H	D	
Single phase 220V	EV200-0400G-S2	0.4	60	129	73	143	112.6	Φ4.4
	EV200-0750G-S2	0.75						
	EV200-1500G-S2	1.5						
	EV200-2200G-S2	2.2						
Three phase 380V	EV200-0750G-T3	0.75	73	168	85.5	180	116.4	Φ4.4
	EV200-1500G-T3	1.5						
	EV200-2200G-T3	2.2						
	EV200-3700G-T3	3.7						
	EV200-5500G-T3	5.5						

5.Panel diagram



Signal	Name	Function
PRG/ESC	Menu key	Enter or exit Level I menu. Return to the previous menu.
DATA	Ensure	Enter each level of menu interface. Confirm displayed parameter setting.
▲	UP	Data or function code increase
▼	DOWN	Data or function code decrease
↻	Shift	In the shutdown display interface and run the display interface, you can cycle to select the display parameters; modify the parameters, you can select the parameters of the modified bit
RUN	Run	Start the AC drive when using the operating panel control mode.
STOP	Stop/reset key	Stop the AC drive when the drive is in the RUNNING status, controlled by P7-02 Perform a reset operation when the drive is in the FAULT status.not control by P7-02

6. Lighting

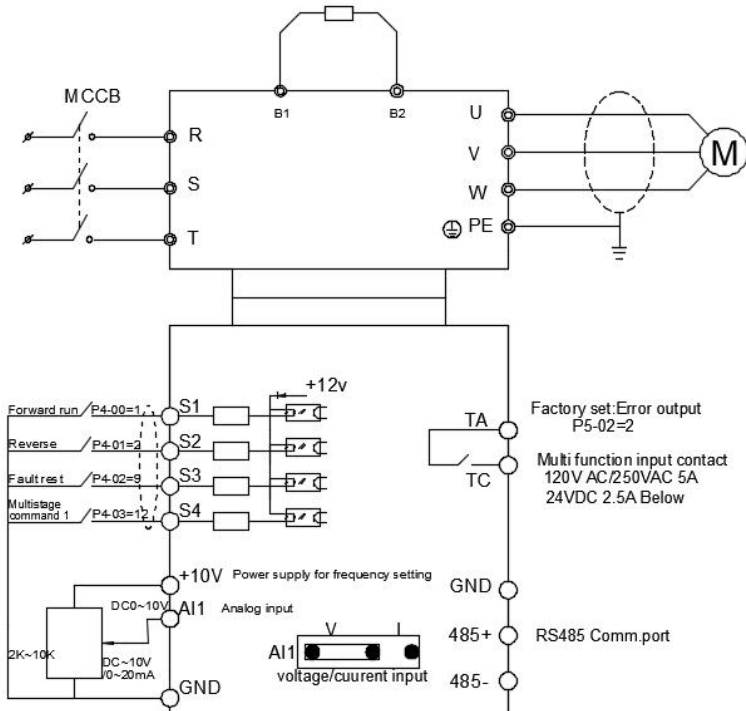
● power off, ● light, ● light flash

Light		Status
F/R		shinning: R
		Light: F

Hz RPM A : Hz
 Hz RPM A : A
 Hz RPM : V voltage
 Hz RPM A : RPM
 Hz RPM A : %

7. Standard Wiring Diagram

external brakeunit(3.7-5.5kw)



8.Function Parameters Table

When PP-00 is set as a non-zero value, that is, the parameter protection password is set. In the function parameter and the user changes the parameter mode, the parameter menu must enter the password correctly. It can cancel the password protection function by setting PP-00 as 0.

The parameter menu in user-defined parameter mode is not password protected. Group P and A include basic function parameters, group d includes the monitoring function parameters. The symbols in the function code table are described as follows:

“☆” : it is possible to modify the parameter when the drive in the stop or in the run status;

“★” :Indicates that the setting value of this parameter cannot be changed when the inverter is running;

“●” : the parameter is the actual measured value and can not be modified.

“**” : the parameter is a “factory parameter”, can be set only by the manufacturer, prohibit the user to operate.

Basic Function Parameters Table

Function Code	Name	Setting Range	Default	Modify
P0 Group: Basic Function				
P0-01	Motor 1 control mode	0: No speed sensor vector control (SVC) 1: Speed sensor vector control (FVC) 2: V/F control	2	★
P0-02	Command source selection	0:Operation panel instruction channel 1:Terminal command channel 2:communication command channel	0	☆

P0-03	Main frequency reference setting A channel selection	<p>0: digital setting (preset frequency P0-08, UP/DOWN) can be modified, power is not Memory)</p> <p>1: digital setting (preset frequency P0-08, UP/DOWN can be modified, power-down memory</p> <p>2: AI1 (Note: J4 jumper in the PANEL and AI1 connected to the keyboard potentiometer input, PORT and AI1 connected to the external terminal AI1 input)</p>	2	★
P0-04	Auxiliary frequency source B command input selection	With P0-03 (main Frequency source A instruction input selection)	0	★
P0-05	Auxiliary frequency source B Reference object selection	<p>0: relative to maximum frequency</p> <p>1: relative to frequency source A</p>	0	☆
P0-06	Auxiliary frequency source B command range	0%~150%	100%	☆
P0-07	Frequency source combination mode selection	<p>Bit: frequency source selection</p> <p>0: Main frequency source A</p> <p>1: main and auxiliary operation results (operation relationship determined by ten)</p> <p>2: Main frequency source A and auxiliary frequency source B switch</p> <p>3: Main frequency source A and master and slave operation result switching</p> <p>4: auxiliary frequency source B and master and slave operation result switching</p> <p>Ten: frequency source main and auxiliary operation relationship</p> <p>0: main + auxiliary 1: main - auxiliary</p> <p>2: the two maximum</p> <p>3: the two minimum</p>	00	☆

Function Code	Name	Setting Range	Default	Modify
P0-08	Preset frequency	0.00Hz~max (P0-10) frequency	50.00Hz	☆
P0-09	Running direction	0: same direction 1: opposite direction	0	☆
P0-10	Max. frequency	50.00Hz~500.00Hz	50.00Hz	★
P0-11	Setting channel of frequency upper limit	0: P0-12 is set 1: AI1 (Note: J6 jumper) 2: AI2 3: AI3 4: High-speed pulse setting (S5) 5: communication given	0	★
P0-12	Frequency reference upper limit	Upper limit frequency P0-10 P0-14~max	50.00Hz	☆
P0-13	Frequency reference upper limit offset	0.00Hz~max Frequency P0-10	0.00Hz	☆
P0-14	Frequency reference lower limit	0.00Hz~frequency upper limit P0-12	0.00Hz	☆
P0-15	Carrier frequency	0.8KHz~12.0KHz	Model dependent	☆
P0-16	Carrier frequency adjusted with temperature	0: Disabled 1: Enabled	1	☆
P0-17	Acceleration time 1	0.00s~65000s	Model dependent	☆
P0-18	Deceleration time 1	0.00s~65000s	Model dependent	☆
P0-19	Acceleration/Deceleration time unit	0: 1s 1: 0.1s 2: 0.01s	1	★
P0-21	Frequency offset of auxiliary frequency setting channel for main and auxiliary calculation	0.00Hz~max.frequency P0-10	0.00Hz	☆
P0-22	Frequency reference resolution	2: 0.01Hz	2	★
P0-23	Retentive of digital setting frequency upon stop	0: do not remember 1: memory	1	☆
P0-24	Motor parameter group selection	0: 1st motor parameter 1: 2nd motor parameter	0	★

Function Code	Name	Setting Range	Default	Modify
P0-25	Acceleration/ Deceleration time base frequency	0:maximum (P0-10) Frequency 1: Set frequency 2: 100Hz	0	★
P0-26	Base frequency for UP/DOW modification during running	0: Run frequency 1: Set frequency	0	★
P0-27	The run command is tied to the main frequency source A command selection	Bit: Operation panel command Bind frequency source selection 0: no binding 1: Digital setting frequency 2: AI1 (Note: J6jumper) 3: AI2 4: AI3 5: High-speed pulse input setting (S5) 6: multi-speed 7: Simple PLC 8: PID 9: communication given Ten: Terminal Command Binding Frequency Source Selection Hundreds: communication command binding frequency source selection	0000	☆
P0-28	Serial port Communication protocol	0: Modbus communication	0	☆
P1 Group: Motor 1 Parameters				
P1-00	Motor type selection	0: ordinary asynchronous motor 1: Variable frequency asynchronous motor	0	★
P1-01	Rated motor power	0.1KW~1000.0KW	Model dependent	★
P1-02	Rated motor voltage	1V~2000V	Model dependent	★
P1-03	Rated motor current	0.01 to 655.35A (AC drive power ≤ 55 KW) 0.1 to 6553.5A (AC drive power > 55 KW)	Model dependent	★
P1-04	Rated motor frequency	0.01Hz~max. frequency	Model dependent	★
P1-05	Rated motor speed	1rpm~65535rpm	Model dependent	★

Funcio Code	Name	Setting Range	Default	Modify
P1-06	Stator resistance	0.001Ω~65.535Ω (AC drive power≤55KW) 0.0001Ω~6.5535Ω (AC drive power>55KW)	Auto-tuning dependent	★
P1-07	Rotor resistance	0.001Ω~65.535Ω (AC drive power≤55KW) 0.0001Ω~6.5535Ω (AC drive power>55KW)	Auto-tuning dependent	★
P1-08	Leakage inductive reactance	0.01mH~655.35mH (AC drive power≤55KW) 0.001mH~65.535mH (AC drive power>55KW)	Auto-tuning dependent	★
P1-09	Mutual inductive reactance	0.1mH~6553.5mH (AC drive power≤55KW) 0.01mH~655.35mH (AC drive power>55KW)	Auto-tuning dependent	★
P1-10	No-load current	0.01A~P1-03 (AC drive power≤55KW) 0.1A~P1-03 (AC drive power>55KW) 0.1A~P1-03 (AC drive power>55KW)	Auto-tuning dependent	★
P1-27	Encoder pulses per revolution	1~65535	1024	★
P1-28	Encoder type	0: ABZ incremental encoder 2: Resolver	0	★
P1-30	A/B phase sequence of ABZ incremental encoder	0: Forward 1: Reserve	0	★
P1-34	Number of pole pairs of resolver	1~65535	1	★
P1-36	Encoder wire-break fault detection time	0.0: no operation 0.1s~10.0s	0.0s	★
P1-37	Motor auto-tuning method selection	0: no operation 1:Asynchronous machine static part of the parameters of self-learning 2: asynchronous machine dynamic complete self-learning 3:asynchronous machine static complete self-learning	0	★
P2 Group: Vector Control Parameters				
P2-00	Speed loop proportional gain 1	1~100	30	☆

Function Code	Name	Setting Range	Default	Modify
P2-01	Speed loop integral time 1	0.01s~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	0.01s~10.00s	1.00s	☆
P2-05	Switchover frequency 2	P2-02~max frequency (P0-10)	10.00Hz	☆
P2-06	SVC/FVC slip compensation gain	50%~200%	100%	☆
P2-07	SVC Speed feedback filter time constant	0.000s~0.100s	0.015s	☆
P2-09	Torque limit source in speed control	0: function code P2-10 setting 1: AI1 2: AI2 3: AI3 4: high-speed pulse input setting (S5) 5: communication given 6: MIN (AI1, AI2) 7: MAX (AI1, AI2) 1-7 option full scale corresponds to P2-10	0	☆
P2-10	Digital setting of torque limit in speed control	0.0%~200.0%	150.0%	☆
P2-11	Torque limit source in speed control (in regenerative state)	0: Function code P2-12 setting (no distinction between electric and power generation) 1: AI1 2: AI2 3: AI3 4: High-speed pulse input setting 5: communication given 6: MIN (AI1, AI2) 7: MAX (AI1, AI2) 8: Function code P2-12 setting 1-7 The full scale of the option corresponds to P2-12	0	☆
P2-12	Digital setting of torque limit in speed control (in regenerative state)	0.0%~200.0%	150.0%	☆
P2-13	Excitation adjustment proportional gain	0~60000	2000	☆

Function Code	Name	Setting Range	Default	Modify
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 separation selection	0: Disabled 1: Enabled	0	☆
P2-20	Max output voltage	-	-	-
P2-21	Max. torque coefficient of field weakening area	50~200%	100%	☆
P2-22	Regenerative power limit selection	0: Disabled 1: Enabled	0	☆
P2-23	Regenerative power limit	0~200%	Model dependent	☆
P3 Group: V/F Control Parameters				
P3-00	V/F curve setting	0: Straight line V/F 1: multipoint V/F 2: square V/F 3: 1.2 Power V/F 4: 1.4 Power V/F 6: 1.6 Power V/F 8: 1.8 power V/F 9: Reserved 10: VF complete separation mode 11: VF semi-separation mode	0	★
P3-01	Torque boost	0.0%: (Ineffective) 0.1%~30.0%	Model dependent	☆
P3-02	Cut-off frequency of torque boost	0.00Hz~max. frequency	50.00Hz	★
P3-03	Multi-point V/F frequency 1	0.00Hz~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	P3-03~P3-07	0.00Hz	★
P3-06	Multi-point V/F voltage 2	0.0%~100.0%	0.0%	★
P3-07	Multi-point V/F frequency 3	P3-05~rated motor frequency (P1-04)	0.00Hz	★
P3-08	Multi-point V/F voltage 3	0.0%~100.0%	0.0%	★

Function Code	Name	Setting Range	Default	Modify
P3-09	Slip compensation gain	-	-	-
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: digital setting (P3-14) 1: AI1 (Note: J6 jumper) 2: AI2 3: AI3 4: High-speed pulse input setting (S5) 5: multi-segment instructions 6: Simple PLC 7: PID 8: communication given Note: 100.0% corresponds to the motor rated 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: 0V to rated motor voltage	0.0s	☆
P3-16	Voltage decline time of V/F separation	0.0s~1000.0s Note: time of 0V to rated motor voltage	0.0s	☆
P3-17	Stop mode selection for V/F separation	0: Frequency and voltage declining to 0 independently 1: Frequency declining after voltage declines to 0	0	☆
P3-18	Current limit level	50~200%	150%	★
P3-19	Current limit selection	0: useless 1: useful	1	★
P3-20	Current limit gain	0~100	20	☆
P3-21	Compensation factor of speed multiplying current limit level	50~200%	50%	★
P3-22	Voltage limit	650V~800.0V	770V	★
P3-23	Voltage limit selection	0: useless 1: useful	1	★
P3-24	Frequency gain for voltage limit	0~100	30	☆
P3-25	Voltage gain for voltage limit	0~100	30	☆
P3-26	Frequency rise threshold during voltage limit	0~50Hz	5Hz	★

Function Code	Name	Setting Range	Default	Modify
P3-27	Slip compensation time constant	0.1~10.0s	0.5s	☆
P4 Group: Input Terminals				
P4-00	S1 function selection	0: no function 1: Forward run (FWD) or run command 2: reverse run (REV) or positive and negative running direction (Note: set 1, 2 to be used with P4-11) 3: three-wire operation control 4: forward jog (FJOG) 5: reverse jog (RJOG) 6: Terminal UP 7: Terminal DOWN 8: free parking 9: Fault reset (RESET) 10: run pause 11: External fault normally open input 12: Multi-step command terminal 1 13: Multi-step command terminal 2 14: Multi-step command terminal 3 15: Multi-step command terminal 4 16: Acceleration/Deceleration time selection terminal 1 17: Acceleration/Deceleration time selection terminal 2 18: Frequency command switching 19: UP/DOWN setting clear (terminal, keyboard) 20: control command to switch terminal 1 21: Acceleration/Deceleration is prohibited 22: PID pause 23: Easy PLC status reset	1	★
P4-01	S2 function selection		4	★
P4-02	S3 function selection		9	★
P4-03	S4 function selection		12	★
P4-08	Reserved		-	★
P4-09	Reserved	-	★	

Function Code	Name	Setting Range	Default	Modify
		29: Torque control disabled 30: High-speed pulse input (only valid for S5) 31: Reserved 32: Immediate DC braking 33: External fault normally closed input 34: Frequency modification enabled 35: PID direction is reversed 36: External parking terminal 1 37: control command to switch terminal 2 38: PID integral is paused 39: Frequency source A and preset frequency switching 40: Frequency source B and preset frequency switching 41: Motor terminal selection function 42: Reserved 43: PID parameter switch 44: User defined fault 1 45: user defined fault 2 46: Speed control/torque control switching 47: Emergency stop 48: External parking terminal 2 49: Deceleration of DC braking 50: This run time is cleared 51:two-wire/three-wireswitch 52:Reverse frequency disabled 53-59: Reserved		
P4-10	S1~S4 filter time	0.000s~1.000s	0.010s	☆
P4-11	Terminal control mode	0: two lines 1 1: two lines 2 2: three lines 1 3: three lines 2	-	★

Function Code	Name	Setting Range	Default	Modify
P4-12	Terminal UP/DOWN rate	0.001Hz/s~65.535Hz/s	1.00Hz/s	☆
P4-13	AI curve 1 min. input	0.00V~P4-15	0.00V	☆
P4-14	Corresponding percentage of AI curve 1 min. input	-100.0%~+100.0%	0.0%	☆
P4-15	AI curve 1 max. input	P4-13~+10.00V	10.00V	☆
P4-16	Corresponding percentage of AI curve 1 max. input	-100.0%~+100.0%	100.0%	☆
P4-17	AI1 filter time	0.00s~10.00s	0.10s	☆
P4-18	AI curve 2 min. input	0.00V~P4-20	0.00V	☆
P4-19	Corresponding percentage of AI curve 2 min. input	-100.0%~+100.0%	0.0%	☆
P4-20	AI curve 2 max. input	P4-18~+10.00V	10.00V	☆
P4-21	Corresponding percentage of AI curve 2 max. input	-100.0%~+100.0%	100.0%	☆
P4-22	AI2 filter time	0.00s~10.00s	0.10s	☆
P4-23	AI3 curve min. input	-10.00V~P4-25	-10.0V	☆
P4-24	Corresponding percentage of AI curve 3 min. input	-100.0%~+100.0%	-100.0%	☆
P4-25	AI curve 3 max. input	P4-23~+10.00V	10.00V	☆
P4-26	Corresponding percentage of AI curve 3 max. input	-100.0%~+100.0%	100.0%	☆
P4-27	AI3 filter time	0.00s~10.00s	0.10s	☆
P4-28	Pulse min. input	0.00kHz~P4-30	0.00kHz	☆
P4-29	Corresponding percentage of pulse min. input	-100.0%~100.0%	0.0%	☆
P4-30	Pulse max. input	P4-28~100.00kHz	50.00kHz	☆
P4-31	Corresponding percentage of pulse max. input	-100.0%~100.0%	100.0%	☆

Function Code	Name	Setting Range	Default	Modify
P4-32	Pulse filter time	0.00s~10.00s	0.10s	☆
P4-33	AI curve selection	Bit: 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 A6-00~A6-07) 5: curve 5 (4 points, see A6-08~A6-15) Ten: AI2 curve selection, ibid Hundreds: AI3 curveselection, ibid	321	☆
P4-34	Setting selection when AI less than min. input	Bit: AI1 is lower than the minimum input setting 0: corresponds to the minimum input setting 1: 0.0% Ten: AI2 is lower than the minimum input setting, ibid Hundreds: AI3 is lower than the minimum input setting, ibid	000	☆
P4-35	S1 delay	0.0s~3600.0s	0.0s	★
P4-36	S2 delay	0.0s~3600.0s	0.0s	★
P4-37	S3 delay	0.0s~3600.0s	0.0s	★
P4-38	S1~S5 active mode selection 1	0: active high 1: active low Bit: S1 Ten: S2 Hundred places: S3 Thousands of bits: S4 Million: S5	00000	★
P4-39	S6, S7 active mode selection 2	0: active high 1: active low Bit: S6 Ten: S7 Hundred places: reserved Thousands of places: reserved Million: reserved	00000	★

P5 Group: Output Terminals				
Function Code	Name	Setting Range	Default	Modify
P5-02	Relay 1 function selection (TA-TC)	0: pulse output (HDP) 1: Switching output (HDY)		
		0: No output 1: The inverter is running 2: fault output (fault stop) 3: Frequency level detection FDT1 output 4: frequency arrives 5: Zero speed operation (no output at shutdown) 6: motor overload pre-alarm 7: Inverter overload pre-alarm 8: Set the count value to reach 9: Specifies that the count value arrives 10: length to reach 11: PLC cycle is complete 12: The cumulative run time arrives 13: Frequency limit 14: Torque limit 15: Ready to run 16: AI1>AI2 17: upper limit frequency arrival 18: Lower frequency arrival (operation related) 19: Under voltage statusoutput 20: communication settings 21: Positioning completed (reserved) 22: positioning close (reserved) 23: zero speed running 2 (also output when stopped) 24: The total power-up time arrives 25: Frequency level detection FDT2 output 26: Frequency 1 reaches the output 27: Frequency 2 reaches the output 28: current 1 reaches the output 29: current 2 reaches the output		

Function Code	Name	Setting Range	Default	Modify
		30: Timing arrival output 31: AI1 input is overrun 32: Underload 33: reverse running 34: zero current state 35: Module temperature arrives 36: Output current is exceeded 37: Lower frequency arrival (shutdown also output) 38: Alarm output (continued) 39: Motor over temperature warning 40: This run time arrives 41: fault output (for free stop fault), and under voltage is not output		
P6 Group: Start/Stop Control				
P6-00	Start mode	0: Direct start 1: Catching a spinning motor 2: Pre-excited start 3: SVC quick start	0	☆
P6-01	Mode of catching a spinning motor	0: From stop frequency 1: From 50Hz 2: From max. frequency	0	★
P6-02	Speed of catching a spinning motor	1~100	20	☆
P6-03	Start frequency	0.00Hz~10.00Hz	0.00Hz	☆
P6-04	Start frequency holding time	0.0s~100.0s	0.0s	★
P6-05	DC injection braking 1 level/pre-excitation level	0%~100%	50%	★
P6-06	DC injection braking 1 active time/pre-excitation active time	0.0s~100.0s	0.0s	★
P6-07	Acceleration/Deceleration mode	0: Linear acceleration/ deceleration 1: S-curve acceleration/ deceleration A (static) 2: S curve acceleration/ deceleration B (dynamic)	0	★

Function Code	Name	Setting Range	Default	Modify
P6-08	Time proportion of S-curve start segment	0.0%~(100.0%-P6-09)	30.0%	★
P6-09	Time proportion of S-curve end segment	0.0%~(100.0%-P6-08)	30.0%	★
P6-10	Stop mode	0: Decelerate to stop 1: Coast to stop	0	☆
P6-11	DC injection braking 2 start frequency	0.00Hz~max.frequency (P0-10)	0.00Hz	☆
P6-12	DC injection braking 2 delay time	0.0s~100.0s	0.0s	☆
P6-13	DC injection braking 2 level	0%~100%	50%	☆
P6-14	DC injection braking 2 active time	0.0s~100.0s	0.0s	☆
P6-15	Braking use ratio	0%~100%	100%	☆
P6-18	Catching a spinning motor current limit	30%~200%	Model dependent	☆
P6-21	Demagnetization time (effective for SVC)	0.00~5.00s	Model dependent	☆
P7 Group: Keypad Operation and LED Display				
P7-02	STOP/RESET key function	0: The STOP/RES key stop function is valid only during keyboard operation 1: STOP/RES key shutdown is active in any mode of operation	1	☆
P7-03	LED display running parameters 1	0000~FFFF Bit00: Operating frequency 1 (Hz) Bit01: Set frequency (Hz) Bit02: Bus voltage (V) Bit03: Output voltage (V) Bit04: Output current (A) Bit05: Output power (kW) Bit06: Output torque (%) Bit07: S terminal input status Bit08: HDO 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	☆

Function Code	Name	Setting Range	Default	Modify
P7-04	LED display running parameters 2	0000~FFFF Bit00: PID feedback Bit01: PLC stage Bit02: High-speed pulse input frequency (kHz) Bit03: Operating frequency 2 (Hz) Bit04: Remaining runtime Bit05: AI1 before correction voltage (V) Bit06: AI2 before correction voltage (V) Bit07: AI3 Correction before voltage (V) Bit08: Line speed Bit09: Current power-on time (Hour) Bit10: Current running time (Min) Bit11: High-speed pulse input frequency (Hz) Bit12: Communication setpoint Bit13: Encoder feedback speed (Hz) Bit14: Main frequency A display (Hz) Bit15: Secondary frequency B display (Hz)	0	☆
P7-05	LED display stop parameters	0000~FFFF Bit00: Set frequency (Hz) Bit01: Bus voltage (V) Bit02: S input status Bit03: HDO 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: High-speed pulse input frequency (kHz)	33	☆
P7-06	Load speed Display coefficient	0.0001~6.5000	1.0000	☆

Function Code	Name	Setting Range	Default	Modify
P7-06	Load speed display coefficient	0.0001~6.5000	1.0000	☆
P7-07	Heatsink temperature of AC Drive IGBT	-20.0°C~120.0°C	-	●
P7-09	Accumulative running time	0h~65535h	-	●
P7-12	Number of decimal places for load speed display	Bit: d0-14 the number of decimal places 0: 0 decimal places 1: 1 decimal place 2: 2 decimal places 3: 3 decimal places Ten: d0-19/d0-29 the number of decimal places 1: 1 decimal place 2: 2 decimal places	21	☆
P7-13	Accumulative power-on time	0h~65535h	-	●
P7-14	Accumulative power consumption	0kW~65535kwh	-	●
P8 Group: Auxiliary Functions				
P8-04	Deceleration time 2	0.0s to 6500.0s	Model dependent	☆
P8-05	Acceleration time 3	0.0s to 6500.0s	Model dependent	☆
P8-06	Deceleration time 3	0.0s to 6500.0s	Model dependent	☆
P8-07	Acceleration time 4	0.0s to 6500.0s	Model dependent	☆
P8-08	Deceleration time 4	0.0s to 6500.0s	Model dependent	☆
P8-09	Frequency jump 1	0.00Hz to max. frequency	0.00Hz	☆
P8-10	Frequency jump 2	0.00Hz to max. frequency	0.00Hz	☆
P8-11	Frequency jump band	0.00Hz to max. frequency	0.00Hz	☆
P8-12	Forward/Reverse run switch over dead-zone time	0.0s to 3000.0s	0.0s	☆
P8-13	Reverse RUN selection	0, 1	0	☆

Function Code	Name	Setting Range	Default	Modify
P8-14	Running mode when frequency reference lower than frequency lower limit	0 to 2	0	☆
P8-15	Droop rate	0.00% to 100.00%	0.00%	☆
P8-16	Accumulative power-on time threshold	0 to 65000h	0h	☆
P8-17	Accumulative running time threshold	0 to 65000h	0h	☆
P8-18	Startup protection selection	0, 1	0	☆
P8-19	Frequency detection value 1	0.00Hz to max. frequency	50.00Hz	☆
P8-20	Frequency detection hysteresis 1	0.0% to 100.0%	5.0%	☆
P8-21	Detection width of target frequency reached	0.0% to 100.0%	0.0%	☆
P8-22	Jump frequency function	0, 1	0	☆
P8-25	Switchover frequency of accel time 1 and accel time 2	0.00Hz to max. frequency	0.00Hz	☆
P8-26	Switchover frequency of decel time 1 and decel time 2	0.00Hz to max. frequency	0.00Hz	☆
P8-27	Set highest priority to terminal JOG function	0, 1	0	☆
P8-28	Frequency detection value 2	0.00Hz to max. frequency	50.00Hz	☆
P8-29	Frequency detection hysteresis 2	0.0% to 100.0%	5.0%	☆

Function Code	Name	Setting Range	Default	Modify
P8-30	Detection of frequency 1	0.00Hz to max. frequency	50.00Hz	☆
P8-31	Detection width of frequency 1	0.0% to 100.0% (max. frequency)	0.0%	☆
P8-32	Detection of frequency 2	0.00Hz to max. frequency	50.00Hz	☆
P8-33	Detection width of frequency 2	0.0% to 100.0% (max. frequency)	0.0%	☆
P8-34	Zero current detection level	0.0% to 300.0% (rated motor current)	5.0%	☆
P8-35	Zero current detection delay	0.01s to 600.00s	0.10s	☆
P8-36	Output overcurrent threshold	1.1% (no detection) 1.2% to 300.0% (rated motor current)	200.0%	☆
P8-37	Output overcurrent detection delay	0.00s to 600.00s	0.00s	☆
P8-38	Detection level of current 1	0.0% to 300.0% (rated motor current)	100.0%	☆
P8-39	Detection width of current 1	0.0% to 300.0% (rated motor current)	0.0%	☆
P8-40	Detection level of current 2	0.0% to 300.0% (rated motor current)	100.0%	☆
P8-41	Detection width of current 2	0.0% to 300.0% (rated motor current)	0.0%	☆
P8-42	Timing function	0, 1	0	★
P8-43	Running time setting channel	0 to 3	0	★
P8-44	Running time	0.0 to 6500.0 min	0.0 min	★
P8-45	AI1 input voltage lower limit	0.00V to F8-46	3.10V	☆

Function Code	Name	Setting Range	Default	Modify
P8-46	AI1 input voltage upper limit	F8-45 to 10.00V	6.80V	☆
P8-47	Sleep mode selection	0:no sleep 1:no sleep pressure judgment 2:sleep pressure= setting pressure*sleep pressure percentage wake up pressure= setting pressure* wake up pressure percentage	0	☆
P8-49	sleep pressure	90%-100%	98%	☆
P8-50	Wake up pressure	0%-100%	60%	☆
P8-51	sleep frequency	0HZ-50HZ	30Hz	☆
P8-52	Wake up frequency	0HZ-50HZ	40HZ	☆
P8-53	wake up delay	0-6500S	3.0S	☆
P8-54	sleep delay	0-6500S	5.0 S	☆
P9 Group: Fault and Protection				
P9-00	Motor overload protection	0: Forbidden 1: Allowed	1	☆
P9-01	Motor overload protection gain	0.20 to 10.00	1.00	☆
P9-02	Motor overload pre-warning coefficient	50% to 100%	80%	☆
P9-03	Overvoltage protection gain	0~100	30	☆
P9-04	Overvoltage protection voltage	650 to 800V	770V	☆

Function Code	Name	Setting Range	Default	Modify
P9-07	Detection of short-circuit to ground upon power-on	Units: Power-to-ground short-circuit protection selection 0: Invalid 1: valid Tens place: Selection of short-to-ground protection before running 0: Invalid 1: valid	01	☆
P9-08	Braking unit applied voltage	650 to 800V	720V	☆
P9-09	Auto reset times	0 to 20	0	☆
P9-10	Selection of DO action during auto reset	0: No action 1: Action	0	☆
P9-11	Delay of auto reset	0.1s to 100.0s	1.0s	☆
P9-12	Input phase loss/pre-charge relay protection	Unit digit: input phase loss protection selection Tenth place: Contactor pull-in protection selection 0: Forbidden 1: Allowed	-	-
P9-13	Output phase loss protection	Unit digits : output phase loss protection selection 0: Forbidden 1: Allowed Tens place: output phase loss protection selection before running	01	☆
P9-14	1st fault type	00-55	-	●
P9-15	2nd fault type		-	●
P9-16	3rd (latest) fault type		-	●
P9-17	Frequency upon 3 rd fault	-	-	●
P9-18	Current upon 3 rd fault	-	-	●
P9-19	Bus voltage upon 3 rd fault	-	-	●

P9-20	DI state upon 3rd fault	-	-	●
P9-21	DO state upon 3rd fault	-	-	●
P9-22	AC drive state upon 3rd fault	-	-	●
P9-23	Power-on time upon 3rd fault	-	-	●
P9-24	Running time upon 3rd fault	-	-	●
P9-27	Frequency upon 2nd fault	-	-	●
P9-28	Current upon 2nd fault	-	-	●
P9-29	Bus voltage upon 2nd fault	-	-	●
P9-30	DI state upon 2nd fault	-	-	●
P9-31	DO state upon 2nd fault	-	-	●
P9-32	AC drive state upon 2nd fault	-	-	●
P9-33	Power-on time upon 2nd fault	-	-	●
P9-34	Running time upon 2nd fault	-	-	●
P9-37	Frequency upon 1st fault	-	-	●
P9-38	Current upon 1st fault	-	-	●
P9-39	Bus voltage upon 1st fault	-	-	●

P9-40	DI state upon 1st fault	-	-	●
P9-41	DO state upon 1st fault	-	-	●
P9-42	AC drive state upon 1st fault	-	-	●
P9-43	Power-on time upon 1st fault	-	-	●
P9-44	Running time upon 1st fault	-	-	●
P9-47	Fault protection action selection 1	0: free 1:stop 2.continue running	00000	☆
P9-48	Fault protection action selection 2	00000 to 11111	00000	☆
P9-49	Fault protection action selection 3	00000 to 22222	00000	☆
P9-50	Fault protection action selection 4	00000 to 22222	00000	☆
P9-54	Frequency selection for continuing to run upon fault	0 to 4	0	☆
P9-55	Backup frequency upon fault	0.0% to 100.0% (max. FrequencyP0-10)	100.0%	☆
P9-56	Type of motor temperature sensor	0: No temperature sensor 1: PT100 2: PT1000	-	-
P9-59	Power dip ride-through function selection	0: Invalid 1: constant bus voltage control 2: deceleration stop	0	☆
P9-60	Threshold of power dip ride through function disabled	80% to 100%	85%	☆

P9-62	Threshold of power dip ride through function enabled	60% to 100%	80%	☆
P9-63	Load lost protection	0: Disabled 1: Enabled	0	☆
P9-64	Load lost detection level	0.0% to 100.0%	10.0%	☆
P9-65	Load lost detection time	0.0s to 60.0s	1.0s	☆
P9-67	Overspeed detection level	0.0% to 50.0% (max.frequency)	20.0%	☆
P9-68	Overspeed detection time	0.0s to 60.0s	1.0s	☆
P9-69	Detection level of speed error	0.0% to 50.0% (max.frequency)	20.0%	☆
P9-70	Detection time of speed error	0.0s to 60.0s	5.0s	☆
P9-71	Power dip ride-through gain Kp	0 to 100	40	☆
P9-72	Power dip ride-through integral coefficient	0 to 100	30	☆
P9-73	Deceleration time of power dip ride-through	0.0s to 300.0s	20.0s	★
PA Group: PID Function				
Function Code	Name	Setting Range	Default	Modify
PA-00	PID reference setting channel	0: PA-01 setting 1: AI1 (Note: J6 jumper) 2: AI2 3: AI3 4: High-speed pulse input setting (S5) 5: Communication given 6: Multi-section instruction given	0	☆

PA-01	PID digital setting	0.0v% to 100.0%	50.0%	☆
PA-02	PID feedback	0: AI1 (Note: J6 jumper) 1: AI2 2: AI3 3: AI1-AI2 4: High-speed pulse input setting (S5) 5: Communication given 6: AI1 + AI2 7: MAX (AI1 , AI2) 8: MIN (AI1 , AI2)	0	☆
PA-03	PID operation direction	0: Positive action 1: reaction	0	☆
PA-04	PID reference and feedback range	0 to 65535	1000	☆
PA-05	Proportional gain Kp1	0.0 to 1000.0	20.0	☆
PA-06	Integral time Ti1	0.01s to 10.00s	2.00s	☆
PA-07	Differential time Td1	0.000s to 10.000s	0.000s	☆
PA-08	PID output limit in reverse direction	0.00 Hz to max. Frequency P0-10	0.00Hz	☆
PA-09	PID error limit	0.0% to 100.0%	0.0%	☆
PA-10	PID differential limit	0.00% to 100.00%	0.10%	☆
PA-11	PID reference change time	0.00s to 650.00s	0.00s	☆
PA-12	PID feedback filter time	0.00s to 60.00s	0.00s	☆
PA-13	PID output filter time	0.00s to 60.00s	0.00s	☆
PA-14	Reserved	-	-	-
PA-15	Proportional gain Kp2	0.0 to 1000.0	20.0	☆
PA-16	Integral time Ti2	0.01s to 10.00s	2.00s	☆
PA-17	Differential time Td2	0.000s to 10.000s	0.000s	☆
PA-18	PID parameter switch over condition	0 to 3	0	☆
PA-19	PID error 1 for auto switch over	0.0% to PA-20	20.0%	☆
PA-20	PID error 2 for auto switch over	PA-19 to 100.0%	80.0%	☆

PA-21	PID initial value	0.0% to 100.0%	0.0%	☆
PA-22	PID initial value active time	0.00s to 650.00s	0.00s	☆
PA-23	Twice output deviation forward maximum	0.0% to 100.0%	1.00%	☆
PA-24	The maximum value of the output deviation is reversed twice	0.0% to 100.0%	1.00%	☆
PA-25	PID integral property	00 to 11	00	☆
PA-26	Detection level of PID feedback loss	0.0%: No detection 0.1% to 100.0%	0.0%	☆
PA-27	Detection time of PID feedback loss	0.0s to 20.0s	0.0s	☆
PA-28	Selection of PID operation at stop	0, 1	0	☆
Pb Group: Wobble Function, Fixed Length and Count				
Pb-00	Wobble setting mode	0, 1	0	☆
Pb-01	Wobble amplitude	0.0% to 100.0%	0.0%	☆
Pb-02	Wobble step	0.0% to 50.0%	0.0%	☆
Pb-03	Wobble cycle	0.1s to 3000.0s	10.0s	☆
Pb-04	Triangular wave rising time coefficient	0.1% to 100.0%	50.0%	☆
Pb-05	Set length	0 to 65535m	1000m	☆
Pb-06	Actual length	0 to 65535m	0m	☆
PC Group: Multi-reference and Simple PLCFunction				
PC-07	Reference 7	-100.0% to 100.0%	0.0%	☆
PC-08	Reference 8	-100.0% to 100.0%	0.0%	☆
PC-09	Reference 9	-100.0% to 100.0%	0.0%	☆
PC-10	Reference 10	-100.0% to 100.0%	0.0%	☆
PC-11	Reference 11	-100.0% to 100.0%	0.0%	☆
PC-12	Reference 12	-100.0% to 100.0%	0.0%	☆
PC-13	Reference 13	-100.0% to 100.0%	0.0%	☆
PC-14	Reference 14	-100.0% to 100.0%	0.0%	☆
PC-15	Reference 15	-100.0% to 100.0%	0.0%	☆

PC-16	Simple PLC running mode	0: Stop at the end of a single run 1: Keep the final value at the end of a single run 2: keep circulating	0	☆
PC-17	Simple PLC retentive selection	Single digit: power-down memory selection 0: No memory when power off 1: power-down memory Tenth place: Stop memory selection 0: Stop memory 1: shutdown memory	00	☆
PC-18	Running time of simple PLC reference 0	0.0s (h) to 6500.0s (h)	0.0s (h)	☆
PC-19	Acceleration/ deceleration time of simple PLC reference 0	0 to 3	0	☆
PC-20	Running time of simple PLC reference 1	0.0s (h) to 6500.0s (h)	0.0s (h)	☆
PC-21	Acceleration/ deceleration time of simple PLC reference 1	0 to 3	0	☆
PC-22	Running time of simple PLC reference 2	0.0s (h) to 6500.0s (h)	0.0s (h)	☆
PC-23	Acceleration/ deceleration time of simple PLC reference 2	0 to 3	0	☆
PC-24	Running time of simple PLC reference 3	0.0s (h) to 6500.0s (h)	0.0s (h)	☆
PC-25	Acceleration/ deceleration time of simple PLC reference 3	0 to 3	0	☆

PC-26	Running time of simple PLC reference 4	0.0s (h) to 6500.0s (h)	0.0s (h)	☆
PC-27	Acceleration/ deceleration time of simple PLC reference 4	0 to 3	0	☆
PC-28	Running time of simple PLC reference 5	0.0s (h) to 6500.0s (h)	0.0s (h)	☆
PC-29	Acceleration/ deceleration time of simple PLC reference 5	0 to 3	0	☆
PC-30	Running time of simple PLC reference 6	0.0s (h) to 6500.0s (h)	0.0s (h)	☆
PC-31	Acceleration/ deceleration time of simple PLC reference 6	0 to 3	0	☆
PC-32	Running time of simple PLC reference 7	0.0s (h) to 6500.0s (h)	0.0s (h)	☆
PC-33	Acceleration/ deceleration time of simple PLC reference 7	0 to 3	0	☆
PC-34	Running time of simple PLC reference 8	0.0s (h) to 6500.0s (h)	0.0s (h)	☆
PC-35	Acceleration/ deceleration time of simple PLC reference 8	0 to 3	0	☆
PC-36	Running time of simple PLC reference 9	0.0s (h) to 6500.0s (h)	0.0s (h)	☆
PC-37	Acceleration/ deceleration time of simple PLC reference 9	0 to 3	0	☆
PC-38	Running time of simple PLC reference 10	0.0s (h) to 6500.0s (h)	0.0s (h)	☆

PC-43	Acceleration/ deceleration time of simple PLC reference 12	0 to 3	0	☆
PC-44	Running time of simple PLC reference 13	0.0s (h) to 6500.0s (h)	0.0s (h)	☆
PC-50	Time unit of simple PLC running	0:s, 1:h	0	☆

Pd Group: Communication

function Code	Name	Setting Range	Default	Modify
Pd-00	Baud rate	Bit: MODBUS 0: 300BPS 1: 600BPS 2: 1200BPS 3: 2400BPS 4: 4800BPS 5: 9600BPS 6: 19200BPS 7: 38400BPS 8: 57600BPS 9: 115200BPS Ten: keep hundred: reserved	005	☆
Pd-01	Data format symbol	0: no parity (8-N-2) 1: Even check (8-E-1) 2: Odd parity (8-O-1) 3: No parity (8-N-1)	0	☆
Pd-02	Local address	0: Broadcast address; 1 to 247	1	☆
Pd-03	Response delay	0 to 20 ms	2	☆
Pd-04	Communication timeout	0.0: invalid 0.1s to 60.0s	0.0	☆

Pd-05	Modbus protocol Selection and PROFIBUS-DP data frame	Bit: MODBUS 0: non-standard MODBUS protocol 1: standard MODBU Sprotocol	30	☆
Pd-06	Current resolution read by communication	0: 0.01 1: 0.1	0	☆
PE Group: User-Defined Parameters				
PE-00	User-defined parameter 0	P0-00 ~ PP-xx A0-00 ~ Ax-xx d0-00 ~ d0-xx d3-00 ~ d3-xx	d3-17	☆
PE-01	User-defined parameter 1		d3-18	☆
PE-02	User-defined parameter 2		P0.00	☆
.....		P0.00	☆
PE-29	User-defined parameter 29		P0.00	☆
PP Group: Function Parameter Management				
PP-00	User password	0 to 65535	0	☆
PP-01	Parameter initialization	0: No operation 1: Restore factory parameters except motor parameters 2: Clear records 4: Back up current user parameters 501: Restore user backup parameters	0	☆

PP-02	Parameter display property	Bit: d group display selection 0: not displayed 1: display Ten: Group A shows the selection 0: not displayed 1: display	11	★
PP-03	Selection of individualized parameter display	Bit: user custom parameter group display selection 0: not displayed 1: display Ten: User Change Parameter Group Display Selection 0: not displayed 1: display	00	☆
PP-04	Selection of parameter modification	0: can be modified 1: can not be modified	0	☆
A0 Group: Torque Control and Limit				
A0-00	Speed/Torque control selection	0: speed control 1: torque control	0	★
A0-01	Torque reference source in torque control	0: Digital setting 1 (A0-03) 1: AI1 (Note: J6 jumper) 2: AI2 3: AI3 4: High-speed pulse input (S5) 5: Communication given 6: MIN (AI1, AI2) 7: MAX (AI1, AI2) (1-7 options Full scale, corresponding to A0-03 digital setting)	0	★
A0-03	Torque digital setting in torque control	-200.0% to 200.0%	150.0%	☆
A0-05	Forward max. Frequency in torquecontrol	0.00Hz to max. Frequency (P0-10)	50.00Hz	☆

A0-06	Reverse max. frequency in torque control	0.00Hz (P0-10) to max. Frequency	50.00Hz	☆
A0-07	Acceleration time in torque control	0.00s to 65000s	0.00s	☆
A0-08	Deceleration time in torque control	0.00s to 65000s	0.00s	☆

A2-47	Torque limit source In speed control	0: A2-48 setting 1: AI1 (Note: J6 jumper) 2: AI2 3: AI3 4: High-speed pulse input (S5) 5: communication given 6: MIN (AI1, AI2) 7: MAX (AI1, AI2) 1-7 option full scale, corresponding to A2-48 digital settings	0	☆
A2-48	Digital setting of torque limit in speed control	0.0% to 200.0%	150.0%	☆
A2-49	Torque limit source in speed control (regenerative)	0: Function code P2-10setting 1: AI1 (Note: J6 jumper)	0	☆
Function Code	Name	Setting Range	Default	Modify
A5 Group: Control Optimization				
A5-00	DPWM switch over frequency upper limit	5.00Hz to max. frequency	8.00Hz	☆
A5-01	PWM modulation pattern	0, 1	0	☆
A5-02	Dead zone Compensation mode selection	0, 1	1	☆

A5-03	Random PWM depth	0 :PWM invalid 1:PWM can choose	0	☆
A5-04	Over current fast prevention	0:enable 1:uncable	1	☆
A5-05	Voltage over modulation coefficient	100% to 110%	105%	★
A5-06	Under voltage threshold	150 to 420V	350V	☆
A5-08	Dead-zone time adjustment	0.0% to 8.0%	0.0%	★
A5-09	Over voltage threshold	650 to 820V	Model dependent	★
A6 Group: AI Curve Setting				
Function Code	Name	Setting Range	Default	Modify
A6-00	AI curve 4 min. input	-10.00V to A6-02	0.00V	☆
A6-01	Corresponding percentage of AI curve 4 min. input	-100.0% to 100.0%	0.0%	☆
A6-02	AI curve 4 inflexion 1 input	A6-00 to A6-04	3.00V	☆
A6-15	Corresponding percentage of AI curve 5 max. input	-100.0% to 100.0%	30.0%	☆
A6-24	Jump point of AI1 input corresponding setting	-100.0% to 100.0%	0.0%	☆
AC Group: AIAO Correction				
AC-00	AI1 measured voltage 1	-10.00 to 10.000V	factory corrected	☆
AC-01	AI1 displayed voltage 1	-10.00 to 10.000V	factory corrected	☆
AC-02	AI1 measured voltage 2	-10.00 to 10.000V	factory corrected	☆
AC-03	AI1 displayed voltage 2	-10.00 to 10.000V	factory corrected	☆

9. Monitoring Parameters

Function Code	Name	Display Range	Communication Address
Group d0: Monitoring Parameters			
d0-00	Running frequency	0.01Hz	7000H
d0-01	Frequency reference	0.01Hz	7001H
d0-02	Bus voltage	0.1V	7002H
d0-03	Output voltage	1V	7003H
d0-04	Output current	0.01A	7004H
d0-05	Output power	0.1kW	7005H
d0-06	Output torque	0.1%	7006H
d0-07	S input state	1	7007H
d0-08	HDO output state	1	7008H
d0-09	AI1 voltage	0.01V	7009H
d0-10	AI2 voltage/current	0.01V/0.01mA	700AH
d0-11	AI3 voltage	0.01V	700BH
d0-12	Count value	1	700CH
d0-13	length value	1	700DH
d0-14	Load speed display	1	700EH
d0-15	PID reference	1	700FH
d0-16	PID feedback	1	7010H
d0-17	PLC stage	1	7011H
d0-18	Pulse reference	0.01kHz	7012H
d0-19	feedback speed	0.01Hz	7013H
d0-20	Remaining running time	0.1Min	7014H
d0-21	AI1 voltage before correction	0.001V	7015H
d0-22	AI2 voltage (V)/ current (MA) before correction	0.001V/0.01mA	7016H
d0-23	AI3 voltage before correction	0.001V	7017H
d0-24	Motor speed	1m/Min	7018H
d0-25	Accumulative power-on time	1Min	7019H
d0-26	Accumulative running time	0.1Min	701AH

10.Fault Display

When a fault occurs during running, The operation panel displays the fault code such as shown in the following figure.

Fault	Display	Fault Reason	Error Settlement
Over current during acceleration	FU02	Ground fault or short circuit exists in the output circuit.	◆ Check whether short-circuit occurs on the motor, motor cable or contactor.
		Control mode is FVC or SVC but motor auto-tuning is not performed.	◆ Set motor parameters according to motor nameplate and perform motor auto-tuning.
		Acceleration time is too short.	Increase acceleration time.
		The over current stall prevention parameters are set improperly.	◆ Ensure that current limit is enabled (P3-19 = 1).
			◆ The setting of current limit level (P3-18) is too large. Adjust it between 120% and 150%.
			◆ The setting of current limit gain (P3-20) is too small. Adjust it between 20 and 40.
		Customized torque boost or V/F curve is not appropriate.	◆ Adjust the customizedtorque boost or V/F curve.
The spinning motor is started.	◆ Enable the catching a spinning motor function or start the motor after it stops.		
The AC drive suffers external interference.	◆ View historical fault records. If the current value is far from the over current level, find interference source.		
	◆ If external interference does not exist, it is the drive board or hall device problem.		
Over current during deceleration	FU03	Ground fault or short circuit exists in the output circuit.	◆ Check whether short-circuit occurs on the motor, motor cable or contactor.
		Control mode is SVC or FVC but motor auto-tuning is not performed.	◆ Set the motor parameters according to the motor nameplate and perform motor auto-tuning.

Fault	Display	Fault Reason	Error Settlement
		Acceleration time is too short.	◆ Increase acceleration time.
		The over current stall prevention parameters are set improperly.	◆ Ensure that current limit is enabled (p3-19 = 1) ◆ The setting of current limit level (P3-18) is too large. Adjust it between 120% and 150%. ◆ The setting of the current limit gain (P3-20) is too small. Adjust it between 20 and 40.
		Braking unit and braking resistor are not installed.	◆ Install braking unit and braking resistor.
		The AC drive suffers external interference.	◆ View historical fault records. If the current value is far from the over current level, find interference source. If external interference does not exist, it is the drive board or hall device problem.
Over current at constant speed	FU04	Ground fault or short circuit exists in the output circuit.	◆ Check whether short-circuit occurs on the motor, motor cable or contactor.
		Control mode is SVC or FVC but motor auto-tuning is not performed.	◆ Set motor parameters according to motor nameplate and perform motor auto-tuning.
		The over current stall prevention parameters are set improperly.	◆ Ensure that current limit is enabled (P3-19). ◆ The setting of current limit level (P3-18) is too large. Adjust it between 120% and 150%. ◆ The setting of current limit gain (P3-20) is too small. Adjust it between 20 and 40.
		The ACdrive power class is small.	◆ If output current exceeds rated motor current or rated output current of the AC drive during stable running, replace a drive of larger power class.

Fault	Display	Fault Reason	Error Settlement
		The drive suffers external interference.	<ul style="list-style-type: none"> ◆ View historical fault records. If the current value is far from the over current level, find interference source. If external interference does not exist, it is the drive board or hall device problem.
Over voltage during acceleration	FU05	Input voltage is too high.	<ul style="list-style-type: none"> ◆ Adjust input voltage to normal range.
		An external force drives motor during acceleration.	<ul style="list-style-type: none"> ◆ Cancel the external force or install a braking resistor.
		The over voltage stall prevention parameters are set improperly.	<ul style="list-style-type: none"> ◆ Ensure that the voltage limit function is enabled (P3-23).
			<ul style="list-style-type: none"> ◆ The setting of voltage limit (P3-22) is too large. Adjust it between 700V and 770V.
			<ul style="list-style-type: none"> ◆ The setting of frequency gain for voltage limit (P3-24) is too small. Adjust it between 30 and 50.
		Braking unit and braking resistor are not installed.	<ul style="list-style-type: none"> ◆ Install braking unit and braking resistor.
Acceleration time is too short.	<ul style="list-style-type: none"> ◆ Increase acceleration time. 		
Over voltage during deceleration	FU06	The over voltage stall prevention parameters are set improperly.	<ul style="list-style-type: none"> ◆ Ensure that the voltage limit function is enabled (P3-23).
			<ul style="list-style-type: none"> ◆ The setting of voltage limit (P3-22) is too large. Adjust it between 700 V and 770V.
			<ul style="list-style-type: none"> ◆ The setting of frequency gain for voltage limit (P3-24) is too small. Adjust it between 30 and 50.
		An external force drives motor during deceleration.	<ul style="list-style-type: none"> ◆ Cancel the external force or install braking resistor.
Deceleration time is too short.	<ul style="list-style-type: none"> ◆ Increase deceleration time. 		
Braking unit and braking resistor are not installed.	<ul style="list-style-type: none"> ◆ Install braking unit and braking resistor. 		
Over voltage at constant speed	FU07	The over voltage stall prevention parameters are set improperly.	<ul style="list-style-type: none"> ◆ Ensure that the voltage limit function is enabled (P3-23) ◆ The setting of voltage limit (P3-22) is too large. Adjust

Fault	Display	Fault Reason	Error Settlement
			<ul style="list-style-type: none"> ◆ it between 700V and 770V. ◆ The setting of frequency gain for voltage limit (P3-24) is too small. Adjust it between 30 and 50. ◆ The setting of frequency rise threshold during voltage limit (P3-26) is too small. Adjust it between 5Hz and 20 Hz.
		An external force drives motor during running.	◆ Cancel the external force or install a braking resistor
Pre-charge resistor fault	FU08	Input voltage is not in arranged range	◆ Arrange voltage in a reasonable range
Under voltage	FU09	Instantaneous power failure occurs	◆ Enable the power dip ride through function (P9-59).
		The AC drive's input voltage is not within the permissible range.	◆ Adjust the voltage to normal range.
		The bus voltage is abnormal.	◆ Contact the agent or Inovance.
		The rectifier bridge, the buffer resistor, the drive board or the control board are abnormal.	◆ Contact the agent or Inovance.
AC drive overload	FU10	Load is too heavy or locked-rotor occurs on motor.	◆ Reduce load or check motor and mechanical conditions.
		The AC drive power Class is small.	◆ Replace a drive of larger power class.
Motor overload	FU11	P9-01 (Motor overload protection gain) is set improperly.	◆ Set P9-01 correctly.
		Load is too heavy or locked-rotor occurs on motor.	◆ Reduce load or check motor and mechanical conditions.
Output phase loss	FU13	Motor winding is damaged.	<ul style="list-style-type: none"> ◆ Check resistance between motor wires. ◆ Replace motor if winding is damaged.
		The cable connecting the AC drive and the motor is abnormal.	◆ Check for wiring errors and ensure the output cable is connected properly. Correct wiring.
		The AC drive's three-phase outputs are unbalanced when the motor is running.	◆ Check whether the motor three-phase winding is normal.

Fault	Display	Fault Reason	Error Settlement
		The drive board or the IGBT is abnormal.	◆ Contact the agent or Inovance.
overheat	FU14	The ambient temperature is too high.	◆ Lower the ambient temperature.
		The ventilation is clogged.	◆ Clean the ventilation.
		The fan is damaged.	◆ Replace the cooling fan.
		Thermally sensitive resistor of IGBT is damaged.	◆ Replace the damaged thermally sensitive resistor.
		The AC Drive Inverter module is damaged.	◆ Replace the AC Drive Inverter module.
Out project fault	FU15	External fault signal is input via S.	◆ Confirm that the mechanical condition allows restart (P8-18) and reset the operation.
Communication fault	FU16	Host computer is in abnormal state.	◆ Check the cable of host computer.
		Communication cable is abnormal.	◆ Check the communication cables.
		The serial port communication protocol (P0-28) of extension communication card is set improperly.	◆ Set extension communication card correctly.
		Communication parameters in group Pd are set improperly.	◆ Set communication parameters in group Pd properly.
		After all the preceding checking are done but the fault still exists, restore the default settings.	
Contactor fault	FU17	Drive board and power Supply are abnormal.	◆ Replace drive board or power supply board.
		Contactor is abnormal.	◆ Replace contactor.
		The lightning protection board is abnormal.	◆ Replace the lightning protection board.
Current detection failure	FU18	The hall is abnormal.	◆ Replace the hall .
		The drive board is abnormal.	◆ Replace the drive board.
Motor self learning malfunction	FU19	Motor parameters are not set according to nameplate.	◆ Set motor parameters correctly according to nameplate.

Fault	Display	Fault Reason	Error Settlement
		Motor auto-tuning times out.	◆ Check the cable connecting AC drive and motor.
		The encoder is abnormal.	◆ Check whether P1-27 (encoder pulses per revolution) is set correctly. Check whether signal lines of encoder are connected correctly and securely.
Encoder fault	FU20	Encoder is not matched.	◆ Set the type of encoder correctly.
		Encoder wiring is incorrect.	◆ Check the PG card power supply and phase sequence.
		Encoder is damaged.	◆ Replace encoder.
		PG card is abnormal.	◆ Replace PG card.
EEPROM read-write fault	FU21	The EEPROM chip is damaged.	◆ Replace the main control board.
Short circuit to ground	FU23	Motor is short circuited to the ground.	◆ Replace cable or motor.
Accumulative running time reached	FU26	Accumulative running time reaches the setting value.	◆ Clear the record through parameter initialization.
User-defined fault 1	FU27	User-defined fault 1 is input Via S.	◆ Reset the operation.
User-defined fault 2	FU28	User-defined fault 2 is input Via virtual S	◆ Reset the operation.
Accumulative power reach error	FU29	Accumulative power-on time reached	◆ Use the parameter initialization function to clear the record information
Load loss	FU30	Working current < P9-64	◆ Check whether the load is off or P9-64, P9-65 parameter set Whether to meet the actual operating conditions
PID feedback lost during running	FU31	PID feedback < PA-26 set value	◆ Check PID feedback or set PA-26 properly.
Pulse-by-pulse current limit fault	FU40	Load is too heavy or locked-rotor occurs on motor.	◆ Reduce load or check motor and mechanical conditions

Fault	Display	Fault Reason	Error Settlement
		The AC drive power class is small.	◆ Replace a drive of larger power class.
Motor switchover fault during running	FU41	Motor switchover via terminal during drive running of the AC drive.	◆ Perform motor switchover after the AC drive stops.
Speed error	FU42	Encoder parameters are set improperly.	◆ Set encoder parameters properly.
		Motor auto-tuning is not performed.	◆ Perform motor auto-tuning.
		P9-69 (detection level of speed error) and P9-70 (detection time of speed error) are set incorrectly.	◆ Set data correctly based on actual condition
Motor over speed	FU43	Encoder parameters are set improperly.	◆ Set encoder parameters properly.
		Motor auto-tuning is not performed.	◆ Perform motor auto-tuning.
		P9-67 (Over speed detection level) and P9-68 (Over speed detection time) are set incorrectly.	◆ Set data correctly based on the actual situation.