



# **HV380-S Series Single Phase Frequency Inverter User Manual**

**HNC Electric Limited**

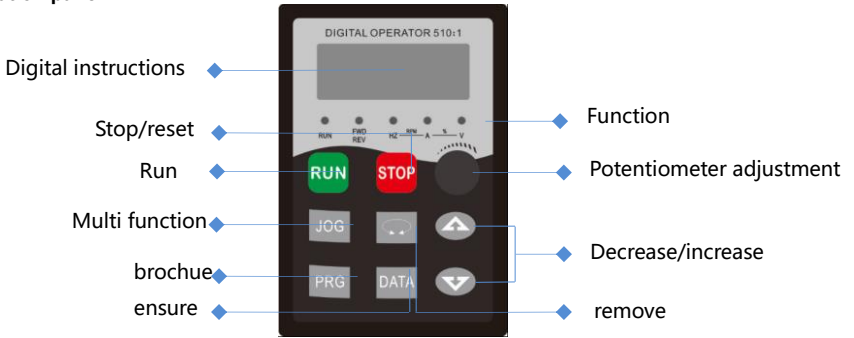
# 1. Selection guide table



Voltage level	Type	Power (KW)	battery capacity (KVA)	Rated output current (A)	Size (mm)		
					D	W	H
220V	HV380S-R40G1	0.4	0.4	3.4	145	125	170
	HV380S-R75G1	0.7	0.7	5.5			
	HV380S-1R5G1	1.5	1.5	10			
	HV380S-2R2G1	2.2	2.2	13.8			
	HV380S-004G1	4	4	20			

## 2. Operation panel description

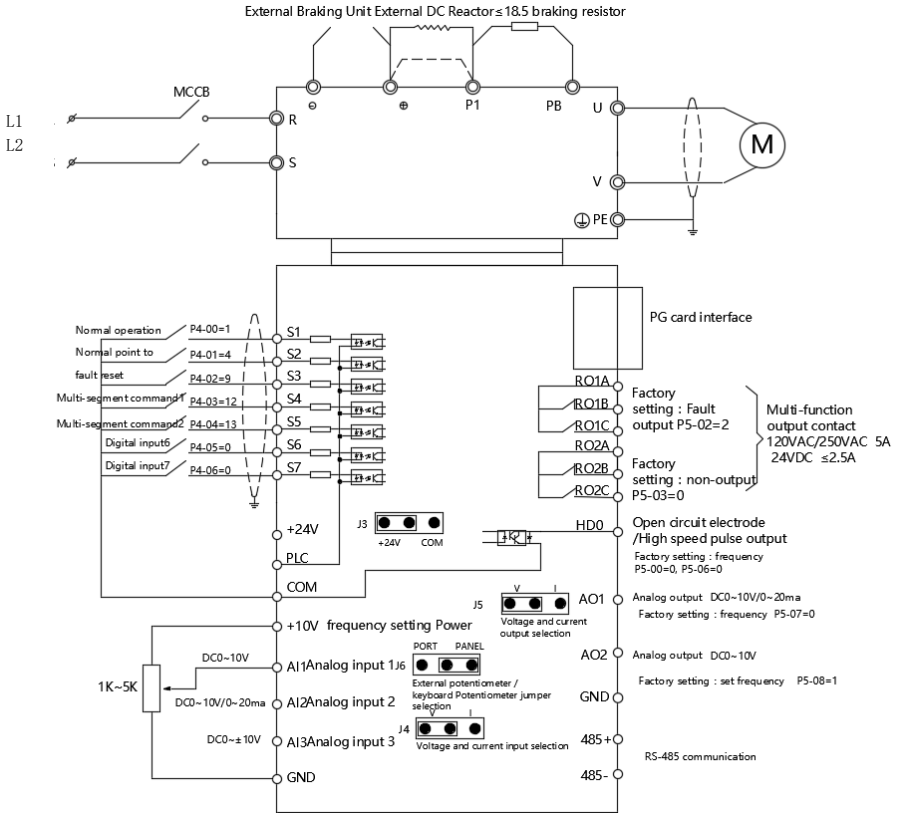
### 2.1 Operation panel



### 2.2 Key description

Key symbol	name	Function description
PRG	Programming key	A level menu to enter or exit, shortcut parameters deleted
DATA	ensure	Step into the menu screen, set the parameters to confirm
▲	UP increase	Data or function code increase
▼	DOWN decrease	Data or function code decrease
↻	Shift key	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	In the keyboard mode of operation, used to run the operation
STOP	Stop/reset	When running, press this key to stop the operation, subject to the function code P7-02 constraints; fault alarm state, you can use this key to reset the fault, not limited by the function code P7-02.
JOG	Fast and more Function key	The key function is determined by function code P7-01 0: invalid 1: Panel and remote communication command channel switching 2: positive jogging 3: reverse jog

### 3. Wiring diagram



## 4. Terminals and wiring instructions

### 4.1 Main circuit terminal description

Terminal	Function description
E	Ground terminal
L1, L2	Then single-phase AC power supply
U, V	connect 220v AC motor
P1	Rectified DC side voltage positive terminal (with + connected DC reactor)
+	Filter capacitor DC side voltage positive terminal 1, and P1 can be connected between the DC reactor. 2, and - between the external braking unit
-	Filter capacitor DC side voltage Negative terminal (with + between external braking unit)
PB or B	And P or + can be connected between the DC braking resistor

### 4.2 Control circuit terminal function description

Terminal name	Terminal use and description
S1 ~ S7	Multifunctional digital input 1, optical lotus isolation, compatible bipolar input 2, the input impedance: 5.1kΩ 3, the level of input voltage range: 9V ~ 30V
+24V-COM	+ 24V power supply for this unit (charge current: 150mA)
+10V-GND	+ 10V power supply for this unit (charge current: 10mA)
PLC	J3 position, PLC and + 24V connection (factory default) When using external signals to drive S1 ~ S7, you must call J3 short cap, the J3 position of the short cap transferred to the PLC and COM
COM	+24V public connect
AI1-GND AI2-GND AI3-GND	Analog input, voltage (0 ~ 10V) / current (0 ~ 20mA) through the motherboard jumper optional Input impedance: 10kΩ (voltage input) / 500Ω (current input)
GND	For + 10V reference zero potential (Note: GND is isolated from COM)
HDO	High-speed pulse or open-collector output terminals, the corresponding common for the COM Output frequency range: 0 ~ 100 kHz
AO1, AO2	Analog output terminal, where AO1 can be selected by jumper J5 voltage or current output; AO2 is the voltage output Output range: voltage (0 ~ 10V) / current (0 ~ 20mA)
RO1A-RO1B- RO1C	RO1 relay output, RO1A common, RO1B normally closed, RO1C normally open Contact capacity: AC250V / 3A, DC30V / 1A
RO2A-RO2B- RO2C	RO2 relay output, RO2A common, RO2B normally closed, RO2C normally open Contact capacity: AC250V / 3A, DC30V / 1A
485+, 485-	485 communication port, 485 differential signal positive, negative, standard 485 communication interface, please use twisted pair or shielded cable

## 5. Function Code 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 to 0.

Group P and Group A are standard function parameters. Group d includes the monitoring function parameters.

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

"☆": The parameter can be modified when the AC drive is in either stop or running state. "★": The parameter cannot be modified when the AC drive is in the running state.

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

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

### 5.1 Standard Function Parameters

Function Code	Parameter Name	Setting Range	Default	Property
Group P0: Standard Function Parameters				
P0-01	Motor 1 control mode	0: Sensorless flux vector control (SFVC) 1: Closed-loop vector control (CLVC) 2: Voltage/Frequency (V/F) control	2	★
P0-02	Command source selection	0: Operation panel control (LED off) 1: Terminal control (LED on) 2: Communication control (LED	0	☆
P0-03	Main frequency source A selection	0: Digital setting (non-retentive at power failure) 1: Digital setting (retentive at power failure) 2: AI1 3: AI2 4: AI3	0	★

P0-03	Main frequency source A selection	5: Pulse setting (DI5) 6: Multi-reference 7: Simple PLC 8: PID 9: Communication setting	0	★
P0-04	Auxiliary frequency source B selection	The same as P0-03 (Main frequency source X selection)	0	★
P0-05	Range of auxiliary frequency Y operation	0: Relative to maximum frequency 1: Relative to main frequency A	0	☆
P0-06	Range of auxiliary frequency Y operation	0%–150%	100%	☆
		Unit's digit (Frequency source selection)		

P0-07	Frequency source selection	0: Main frequency source A 1: A and B operation (operation relationship determined by ten's digit) 2: Switchover between A and B 3: Switchover between A and "A and B operation" 4: Switchover between B and "A and B operation"	00	☆
		Ten's digit (A and B operation relationship)		
		0: A+B 1: A-B 2: Maximum 3: Minimum		
P0-08	Preset frequency	0.00Hz to maximum frequency	50.00 Hz	☆
P0-09	Rotation direction	0: Same direction 1: Reverse direction	0	☆
P0-10	Maximum frequency	50.00–500.00 Hz	50.00 Hz	★
P0-11	Source of frequency upper limit	0: Set by P0-12 1: AI1 2: AI2 3: AI3 4: Pulse setting (s5) 5: Communication setting	0	★

Function Code	Parameter Name	Setting Range	Default	Property
P0-12	Frequency upper limit	Frequency lower limit (P0-14) to maximum frequency (P0-10)	50.00 Hz	☆
P0-13	Frequency upper limit offset	0.00 Hz to maximum frequency (P0-10)	0.00 Hz	☆
P0-14	Frequency lower limit	0.00 Hz to frequency upper limit (P0-12)	0.00 Hz	☆
P0-15	Carrier frequency	0.8–12.0 kHz	Model dependent	☆
P0-16	Carrier frequency adjustment with temperature	0: No 1: Yes	1	☆
P0-17	Acceleration time 1	0–65000s	Model dependent	☆
P0-18	Deceleration time 1	0–65000s	Model	☆
P0-19	Acceleration/Deceleration time unit	0:1s 1: 0.1s 2: 0.01s	1	★
P0-21	Frequency offset of auxiliary frequency source for X and Y operation	0.00 Hz to maximum frequency (P0-10)	0.00 Hz	☆
P0-22	Frequency reference resolution	2: 0.01 Hz	2	★
P0-23	Retentive of digital setting frequency upon power failure	0: Not retentive 1: Retentive	1	☆
P0-24	Motor parameter group selection	0: Motor parameter group 1 1: Motor parameter group 2	0	★
P0-25	Acceleration/Deceleration time base frequency	0: Maximum frequency (P0-10) 1: Set frequency 2: 100 Hz	0	★
P0-26	Base frequency for UP/DOWN modification during running	0: Running frequency 1: Set frequency	0	★



Function Code	Parameter Name	Setting Range	Default	Property
P0-27	Binding command source A to frequency source	Unit's digit (Binding operation panel command to frequency source)	000	☆
		0: No binding 1: Frequency source by digital setting 2: AI1 3: AI2 4: AI3 5: Pulse setting (s5) 6: Multi-reference 7: Simple PLC 8: PID 9: Communication setting		
		Ten's digit (Binding terminal command to frequency source)		
		Hundred's digit (Binding communication command to frequency source)		
P0-28	Serial communication protocol	0: Modbus protocol 1: Profibus-DP bridge	0	☆
<b>Group P1: Motor 1 Parameters</b>				
P1-00	Motor type selection	0: Common asynchronous motor 1: Variable frequency asynchronous motor 2: Permanent magnetic synchronous motor	1	★
P1-01	Rated motor power	0.1–1000.0 kW	Model dependent	★
P1-02	Rated motor voltage	1–2000 V	Model dependent	★
P1-03	Rated motor current	0.01–655.35 A (AC drive power ≤ 55 kW) 0.1–6553.5 A (AC drive power > 55 kW)	Model dependent	★
P1-04	Rated motor frequency	0.01 Hz to maximum frequency	Model dependent	★
P1-05	Rated motor rotational speed	1–65535 RPM	Model dependent	★

Function Code	Parameter Name	Setting Range	Default	Property
P1-06	Stator resistance (asynchronous motor)	0.001–65.535 Ω (AC drive power ≤ 55 kW) 0.0001–6.5535 Ω (AC drive power > 55 kW)	Model dependent	★
P1-07	Rotor resistance (asynchronous motor)	0.001–65.535 Ω (AC drive power ≤ 55 kW) 0.0001–6.5535 Ω (AC drive power > 55 kW)	Model dependent	★
P1-08	Leakage inductive reactance (asynchronous motor)	0.01–655.35 mH (AC drive power ≤ 55 kW) 0.001–65.535 mH (AC drive power > 55 kW)	Model dependent	★
P1-09	Mutual inductive reactance (asynchronous motor)	0.1–6553.5 mH (AC drive power ≤ 55 kW) 0.01–655.35 mH (AC drive power > 55 kW)	Model dependent	★
P1-10	No-load current (asynchronous motor)	0.01 to P1-03 (AC drive power ≤ 55 kW) 0.1 to P1-03 (AC drive power > 55 kW)	Model 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 AB incremental encoder	0: Forward 1: Reserve	0	★

Function Code	Parameter Name	Setting Range	Default	Property
P1-34	Number of pole pairs of resolver	1–65535	1	★
P1-36	Encoder wire-break fault detection 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 11: Synchronous motor with-load auto-tuning 12: Synchronous motor no-load auto-tuning	0	★
<b>Group P2: Vector Control Parameters</b>				
P2-00	Speed loop proportional gain	0–100	30	☆
P2-01	Speed loop integral time 1	0.01–10.00s	0.50s	☆
P2-02	Switchover frequency 1	0.00 to P2-05	5.00 Hz	☆
P2-03	Speed loop proportional gain	0–100	20	☆
P2-04	Speed loop integral time 2	0.01–10.00s	1.00s	☆
P2-05	Switchover frequency 2	P2-02 to maximum output frequency	10.00 Hz	☆
P2-06	Vector control slip gain	50%–200%	100%	☆
P2-07	Time constant of speed loop filter	0.000–0.100s	0.000s	☆
P2-08	Vector control over-excitation gain	0–200	64	☆
P2-09	Torque upper limit source in speed control mode	0: P2-10 1: AI1 2: AI2 3: AI3 4: Pulse setting (s5) 5: Communication setting 6.MIN(AI1,AI2) 7.MAX(AI1,AI2)	0	☆
P2-10	Digital setting of torque upper limit in speed control mode	0.0%–200.0%	150.0%	☆

Function Code	Parameter Name	Setting Range	Default	Property
P2-13	Excitation adjustment proportional gain	0–20000	2000	☆
P2-14	Excitation adjustment integral gain	0–20000	1300	☆
P2-15	Torque adjustment proportional gain	0–20000	2000	☆
P2-16	Torque adjustment integral gain	0–20000	1300	☆
P2-17	Speed loop integral property	Unit's digit: integral separation 0: Disabled 1: Enabled	0	☆
P2-20	Maximum field weakening current	-	-	☆
P2-21	Field weakening automatic adjustment gain	50%–200%	100%	☆
P2-22	Field weakening integral multiple	0:invalid	0	☆
<b>Group P3: V/F Control Parameters</b>				
P3-00	V/F curve setting	0: Linear V/F 1: Multi-point V/F 2: Square V/F 3: 1.2-power V/F 4: 1.4-power V/F 6: 1.6-power V/F 8: 1.8-power V/F 9: Reserved 10: 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 to maximum output frequency	50.00 Hz	★
P3-03	Multi-point V/F frequency 1 (F1)	0.00 Hz to P3-05	0.00 Hz	★
P3-04	Multi-point V/F voltage 1 (V1)	0.0%–100.0%	0.0%	★

Function Code	Parameter Name	Setting Range	Default	Property
P3-05	Multi-point V/F frequency 2 (F2)	P3-03 to P3-07	0.00 Hz	★
P3-06	Multi-point V/F voltage 2 (V2)	0.0%–100.0%	0.0%	★
P3-07	Multi-point V/F frequency 3 (P3)	P3-05 to rated motor frequency (P1-04)	0.00 Hz	★
P3-08	Multi-point V/F voltage 3 (V3)	0.0%–100.0%	0.0%	★
P3-09	V/F slip compensation gain		-	-
P3-10	V/F over-excitation gain	0–200	64	☆
P3-11	V/F oscillation suppression gain	0–100	Model dependent	☆
P3-13	Voltage source for V/F separation	0: Digital setting (P3-14) 1: AI1 2: AI2 3: AI3 4: Pulse setting (s5) 5: Multi-reference 6: Simple PLC 7: PID 8: Communication setting 100.0% corresponds to the rated motor voltage	0	☆
P3-14	Voltage digital setting for V/F separation	0 V to rated motor voltage	0 V	☆
P3-15	Voltage rise time of V/F separation	0.0–1000.0s It indicates the time for the voltage rising from 0 V to rated motor voltage.	0.0s	☆
P3-16	Voltage decline time of V/F separation	0.0–1000.0s It indicates the time for the voltage to decline from rated motor voltage to 0 V.	0.0s	☆
P3-17	Stop mode selection upon V/F separation	0: Frequency and voltage declining to 0 independently 1: Frequency declining after voltage declines to 0	0	☆

Function Code	Parameter Name	Setting Range	Default	Property
Group P4: Input Terminals				
P4-00	S1 function selection	0: No function 1: Forward RUN (FWD) 2: Reverse RUN (REV) 3: Three-line control 4: Forward JOG (FJOG) 5: Reverse JOG (RJOG) 6: Terminal UP	1	★
P4-01	S2 function selection	7: Terminal DOWN 8: Coast to stop 9: Fault reset (RESET) 10: RUN pause 11: Normally open (NO) input of external fault 12: Multi-reference terminal 1 13: Multi-reference terminal 2	4	★
P4-02	S3 function selection	14: Multi-reference terminal 3 15: Multi-reference terminal 4 16: Terminal 1 for acceleration/ deceleration time selection 17: Terminal 2 for acceleration/ deceleration time selection	9	★
P4-03	S4 function selection	18: Frequency source switchover 19: UP and DOWN setting clear (terminal, operation panel) 20: Command source switchover terminal 1 21: Acceleration/Deceleration prohibited 22: PID pause 23: PLC status reset 24: Swing pause 25: Counter input 26: Counter reset	12	★
P4-04	S5 function selection	27: Length count input 28: Length reset 29: Torque control prohibited	13	★

Function Code	Parameter Name	Setting Range	Default	Property
P4-05	S6 function selection	30: Pulse input (enabled only for S5) 31:Reserved 32: Immediate DC braking 33: Normally closed (NC) input of external fault 34: Frequency modification forbidden 35: Reverse PID action direction	0	★
P4-06	S7 function selection	36: External STOP terminal 1 37: Command source switchover terminal 2 38: PID integral pause 39: Switchover between main frequency source A and preset frequency	0	★
P4-07	S8 function selection	40: Switchover between auxiliary frequency source B and preset frequency 41: Motor selection terminal 1 42: Motor selection terminal 2 43: PID parameter switchover	0	★
P4-08	S9 function selection	44: User-defined fault 1 45: User-defined fault 2 46: Speed control/Torque control switchover 47: Emergency stop	0	★
P4-09	S10 function selection	48: External STOP terminal 2 49: Deceleration DC braking 50: Clear the current running time 51: Switchover between two-line mode and three-line mode 52-59: Reserved	0	★
P4-10	S1-S7 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	0.01-65.535 Hz/s	1.00 Hz/s	☆
P4-13	AI curve 1 minimum input	0.00 V to P4-15	0.00 V	☆

Function Code	Parameter Name	Setting Range	Default	Property
P4-14	Corresponding setting of AI curve 1 minimum input	-100.00%–100.0%	0.0%	☆
P4-15	AI curve 1 maximum input	P4-13 to 10.00 V	10.00 V	☆
P4-16	Corresponding setting of AI curve 1 maximum input	-100.00%–100.0%	100.0%	☆
P4-17	AI1 filter time	0.00–10.00s	0.10s	☆
P4-18	AI curve 2 minimum input	0.00 V to P4-20	0.00 V	☆
P4-19	Corresponding setting of AI curve 2 minimum input	-100.00%–100.0%	0.0%	☆
P4-20	AI curve 2 maximum input	P4-18 to 10.00 V	10.00 V	☆
P4-21	Corresponding setting of AI curve 2 maximum input	-100.00%–100.0%	100.0%	☆
P4-22	AI2 filter time	0.00–10.00s	0.10s	☆
P4-23	AI curve 3 minimum input	-10.00 V to P4-25	0.00 V	☆
P4-24	Corresponding setting of AI curve 3 minimum input	-100.00%–100.0%	0.0%	☆
P4-25	AI curve 3 maximum input	P4-23 to 10.00 V	10.00 V	☆
P4-26	Corresponding setting of AI curve 3 maximum input	-100.00%–100.0%	100.0%	☆
P4-27	AI3 filter time	0.00–10.00s	0.10s	☆
P4-28	Pulse minimum input	0.00 kHz to P4-30	0.00 kHz	☆
P4-29	Corresponding setting of pulse minimum input	-100.00%–100.0%	0.0%	☆
P4-30	Pulse maximum input	P4-28 to 50.00 kHz	50.00 kHz	☆
P4-31	Corresponding setting of pulse maximum input	-100.00%–100.0%	100.0%	☆
P4-32	Pulse filter time	0.00–10.00s	0.10s	☆



Function Code	Parameter Name	Setting Range	Default	Property
P4-33	AI curve selection	Unit's digit (AI1 curve selection)	321	☆
		Curve 1 (2 points, see P4-13 to P4-16)		
		Curve 2 (2 points, see P4-18 to P4-21)		
		Curve 3 (2 points, see P4-23 to P4-26)		
		Curve 4 (4 points, see A6-00 to A6-07)		
		Curve 5 (4 points, see A6-08 to A6-15)		
		Ten's digit (AI2 curve selection)		
		Curve 1 to curve 5 (same as AI1)		
		Hundred's digit (AI3 curve selection)		
Curve 1 to curve 5 (same as AI1)				
P4-34	Setting for AI less than minimum input	Unit's digit (Setting for AI1 less than minimum input)	000	☆
		0: Minimum value 1: 0.0%		
		Ten's digit (Setting for AI2 less than minimum input)		
		0, 1 (same as AI1)		
		Hundred's digit (Setting for AI3 less than minimum input)		
		0, 1 (same as AI1)		
P4-35	S1 delay time	0.0–3600.0s	0.0s	★
P4-36	S2 delay time	0.0–3600.0s	0.0s	★
P4-37	S3 delay time	0.0–3600.0s	0.0s	★
P4-38	S1-S5 valid mode selection 1	Unit's digit (S1 valid mode)	00000	★
		0: High level valid 1: Low level valid		
		Ten's digit (S2 valid mode)		
		0, 1 (same as S1)		
		Hundred's digit (S3 valid mode)		
		0, 1 (same as S1)		

Function Code	Parameter Name	Setting Range	Default	Property
P4-38	S1-S5 valid mode selection	Thousand's digit (S4 valid mode)	00000	★
		0, 1 (same as S1)		
		Ten thousand's digit (S5 valid mode)		
		0, 1 (same as S1)		
P4-39	S6,S7 valid mode selection 2	Unit's digit (S6 valid mode)	00000	★
		0, 1 (same as S1)		
		Ten's digit (S7 valid mode)		
		0, 1 (same as S1)		
		Hundred's digit (S8 state)		
		0, 1 (same as S1)		
		Thousand's digit (S9 valid mode)		
		0, 1 (same as S1)		
		Ten thousand's digit (S10 valid mode)		
0, 1 (same as S1)				
Group P5: Output Terminals				
P5-00	HDO terminal output mode	0: Pulse output (HDP) 1: Switch signal output (HDY)	0	☆
P5-01	HDY function (open-collector output terminal)	0: No output 1: AC drive running	2	☆
P5-02	Relay function1 (RO1A-RO2B-RO1C)	2: Fault output (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 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	2	☆

Function Code	Parameter Name	Setting Range	Default	Property
P5-03	Extension card relay function 2 (RO2A-RO2B-R02C)	14: Torque limited 15: Ready for RUN 16: AI1 larger than AI2	0	☆
P5-04	DO output function selection	17: Frequency upper limit reached 18: Frequency lower limit reached (no output at stop) 19: Undervoltage state 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 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 undervoltage occurs.)	1	☆
P5-05	reserved		4	☆

Function Code	Parameter Name	Setting Range	Default	Property
P5-06	HDP function selection	0: Running frequency	0	☆
P5-07	AO1 function selection	1: Set frequency	0	☆
P5-08	AO2 function selection	2: Output current 3: Output torque (absolute value) 4: Output power 5: Output voltage 6: Pulse input 7: AI1 8: AI2 9: AI3 10: Length 11: Count value 12: Communication setting 13: Motor rotational speed 14: Output current 15: Output voltage 16: Output torque (actual value)	1	☆
P5-09	Maximum HDO output frequency	0.01–100.00 kHz	50.00 kHz	☆
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%	0.00%	☆
P5-13	AO2 gain	-10.00–10.00	1.00	☆
P5-17	HDY output delay time	0.0–3600.0s	0.0s	☆
P5-18	Relay 1 output delay time	0.0–3600.0s	0.0s	☆
P5-19	Relay 2 output delay time	0.0–3600.0s	0.0s	☆
P5-20	DO output delay time	0.0–3600.0s	0.0s	☆
P5-21	RESERVED	0.0–3600.0s	0.0s	☆

Function Code	Parameter Name	Setting Range	Default	Property
P5-22	DO valid mode selection	Unit's digit (HDO valid mode)	00000	☆
		0: Positive logic 1: Negative logic		
		Ten's digit (RO1A valid mode)		
		Hundred's digit (RO2A valid mode)		
		Thousand's digit (DO valid mode)		
		Ten thousand's digit (RESERVED)		
<b>Group P6: Start/Stop Control</b>				
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 maximum frequency	0	★
P6-02	Rotational speed tracking speed	1–100	20	☆
P6-03	Startup frequency	0.00–10.00 Hz	0.00 Hz	☆
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: S-curve acceleration/ deceleration A 2: S-curve acceleration/ deceleration B	0	★

Function Code	Parameter Name	Setting Range	Default	Property
P6-08	Time proportion of S-curve start segment	0.0% to (100.0% – P6-09)	30.0%	★
P6-09	Time proportion of S-curve end segment	0.0% to (100.0% – P6-08)	30.0%	★
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 maximum frequency	0.00 Hz	☆
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	☆
P6-15	Brake use ratio	0%–100%	100%	☆
<b>Group P7: Operation Panel and Display</b>				
P7-01	JOG Key function selection	0: JOG 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/RES key enabled only in operation panel control 1: STOP/RES key enabled in any operation mode	1	☆
P7-03	LED display running parameters 1	0000–FFFF Bit00: Running frequency 1 (Hz) Bit01: Set frequency (Hz) Bit02: Bus voltage (V) Bit03: Output voltage (V) Bit04: Output current (A) Bit05: Output power (kW) Bit06: Output torque (%) Bit07: S input status	1P	☆

Function Code	Parameter Name	Setting Range	Default	Property
P7-03	LED display running parameters 1	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	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) Bit07: AI3 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 A display (Hz) Bit15: Auxiliary frequency B display (Hz)	0	☆

Function Code	Parameter Name	Setting Range	Default	Property
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: Pulse setting frequency (kHz)	33	☆
P7-06	Load speed display coefficient	0.0001–6.5000	1.0000	☆
P7-07	Heatsink temperature of inverter module	-20.0–120.0°C	-	●
P7-08	Temporary software version	-	-	●
P7-09	Accumulative running time	0–65535 h	-	●
P7-10	Product number	-	-	●
P7-11	Software version	-	-	●
P7-12	Number of decimal places for load speed display	0: 0 decimal place 1: 1 decimal place 2: 2 decimal places 3: 3 decimal places	1	☆
P7-13	Accumulative power-on time	0–65535 h	0 h	●
P7-14	Accumulative power consumption	0–65535 kWh	-	●
<b>Group P8: Auxiliary Functions</b>				
P8-00	JOG running frequency	0.00 Hz to maximum frequency	2.00 Hz	☆
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	0.0–6500.0s	Model dependent	☆
P8-04	Deceleration time 2	0.0–6500.0s	Model dependent	☆



Function Code	Parameter Name	Setting Range	Default	Property
P8-05	Acceleration time 3	0.0–6500.0s	Model dependent	☆
P8-06	Deceleration time 3	0.0–6500.0s	Model dependent	☆
P8-07	Acceleration time 4	0.0–6500.0s	Model dependent	☆
P8-08	Deceleration time 4	0.0–6500.0s	Model dependent	☆
P8-09	Jump frequency 1	0.00 Hz to maximum frequency	0.00 Hz	☆
P8-10	Jump frequency 2	0.00 Hz to maximum frequency	0.00 Hz	☆
P8-11	Frequency jump amplitude	0.00 Hz to maximum frequency	0.00 Hz	☆
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	Droop control	0.00%–10.00%	0.00 %	☆
P8-16	Accumulative power-on time threshold	0–65000 h	0 h	☆
P8-17	Accumulative running time threshold	0–65000 h	0 h	☆
P8-18	Startup protection	0: No 1: Yes	0	☆
P8-19	Frequency detection value (FDT1)	0.00 Hz to maximum frequency	50.00 Hz	☆
P8-20	Frequency detection hysteresis (FDT hysteresis)	0.0%–100.0% (FDT1 level)	5.0%	☆
P8-21	Detection range of frequency reached	0.00–100% (maximum frequency)	0.0%	☆
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	0.00 Hz to maximum frequency	0.00 Hz	☆
P8-26	Frequency switchover point between deceleration time 1 and deceleration time 2	0.00 to maximum frequency	0.00 Hz	☆
P8-27	Terminal JOG preferred	0: Disabled 1: Enabled	0	☆

Function Code	Parameter Name	Setting Range	Default	Property
P8-28	Frequency detection value (FDT2)	0.00 to maximum frequency	50.00 Hz	☆
P8-29	Frequency detection hysteresis (FDT hysteresis)	0.0%–100.0% (FDT2 level)	5.0%	☆
P8-30	Any frequency reaching detection value 1	0.00 Hz to maximum frequency	50.00 Hz	☆
P8-31	Any frequency reaching detection amplitude 1	0.0%–100.0% (maximum frequency)	0.0%	☆
P8-32	Any frequency reaching detection value 2	0.00 Hz to maximum frequency	50.00 Hz	☆
P8-33	Any frequency reaching detection amplitude 2	0.0%–100.0% (maximum 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 overcurrent threshold	0.0% (no detection) 0.1%–300.0% (rated motor current)	200.0%	☆
P8-37	Output overcurrent detection delay time	0.00–600.00s	0.00s	☆
P8-38	Any current reaching 1	0.0%–300.0% (rated motor current)	100.0%	☆
P8-39	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: P8-44 1: AI1 2: AI2 3: AI3 (100% of analog input corresponds)	0	☆
P8-44	Timing duration	0.0–6500.0 min	0.0 min	☆
P8-45	AI1 input voltage lower limit	0.00 V to P8-46	3.10 V	☆
P8-46	AI1 input voltage upper limit	P8-45 to 10.00 V	6.80 V	☆

Function Code	Parameter Name	Setting Range	Default	Property
P8-47	Module temperature threshold	0–100°C	75°C	☆
P8-48	Cooling fan control	0: Fan working during running 1: Fan working continuously	0	☆
P8-49	Wakeup frequency	Dormant frequency (P8-51) to maximum frequency (P0-10)	0.00 Hz	☆
P8-50	Wakeup delay time	0.0–6500.0s	0.0s	☆
P8-51	Dormant frequency	0.00 Hz to wakeup frequency (P8-49)	0.00 Hz	☆
P8-52	Dormant delay time	0.0–6500.0s	0.0s	☆
P8-53	Current running time reached	0.0–6500.0 min	0.0 min	☆
P8-54	Output power correction coefficient	0.00%–200.0%	100.0%	☆
<b>Group P9: Fault and Protection</b>				
P9-00	Motor overload protection selection	0: Disabled 1: Enabled	1	☆
P9-01	Motor overload protection gain	0.20–10.00	1.00	☆
P9-02	Motor overload warning coefficient	50%–100%	80%	☆
P9-03	Overvoltage stall gain	0 (no stall over voltage)–100	0	☆
P9-04	Overvoltage stall protective voltage	650V–800V	770V	☆
P9-07	Short-circuit to ground upon power-on	0: Disabled 1: Enabled	1	☆
P9-09	Fault auto reset times	0–20	0	☆
P9-10	DO action during fault auto reset	0: Not act 1: Act	0	☆
P9-11	Time interval of fault auto reset	0.1s–100.0s	1.0s	☆
P9-12	Input phase loss protection/ contactor energizing protection selection	Unit's digit: Input phase loss protection Ten's digit: Contactor energizing protection 0: Disabled 1: Enabled	-	☆

Function Code	Parameter Name	Setting Range	Default	Property
P9-13	Output phase loss protection selection	0: Disabled 1: Enabled	1	☆
P9-14	1st fault type	0: No fault	-	●
P9-15	2nd fault type	1: Reserved 2: Overcurrent during acceleration 3: Overcurrent during deceleration 4: Overcurrent at constant speed 5: Overvoltage during acceleration 6: Overvoltage during deceleration 7: Overvoltage at constant speed 8: Buffer resistance overload 9: Undervoltage 10: AC drive overload 11: Motor overload 12: Power input phase loss 13: Power output phase loss 14: Module overheat 15: External equipment fault 16: Communication fault 17: Contactor fault 18: Current detection fault 19: Motor auto-tuning fault 20: Encoder/PG card fault 21: EEPROM read-write fault 22: AC drive hardware fault 23: Short circuit 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 becoming 0 31: PID feedback lost during running	-	●

Function Code	Parameter Name	Setting Range	Default	Property
P9-16	3rd (latest) fault type	40: With-wave current limit fault 41: Motor switchover fault during running 42: Too large speed deviation 43: Motor over-speed 45: Motor overheat 51: Initial position fault	-	●
P9-17	Frequency upon 3rd fault	-	-	●
P9-18	Current upon 3rd fault	-	-	●
P9-19	Bus voltage upon 3rd fault	-	-	●
P9-20	DI status upon 3rd fault	-	-	●
P9-21	Output terminal status upon 3rd fault	-	-	●
P9-22	AC drive status 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 status upon 2nd fault	-	-	●
P9-31	Output terminal status upon 2nd fault	-	-	●
P9-32	Frequency upon 2nd fault	-	-	●
P9-33	Current upon 2nd fault	-	-	●
P9-34	Bus voltage upon 2nd fault	-	-	●
P9-37	DI status upon 1st fault	-	-	●
P9-38	Output terminal status upon 1st fault	-	-	●
P9-39	Frequency upon 1st fault	-	-	●
P9-40	Current upon 1st fault	-	-	●
P9-41	Bus voltage upon 3rd fault	-	-	●
P9-42	DI status upon 1st fault	-	-	●
P9-43	Output terminal status upon 1st fault	-	-	●
P9-44	Frequency upon 1st fault	-	-	●

Function Code	Parameter Name	Setting Range	Default	Property
P9-47	Fault protection action selection 1	Unit's digit (Motor overload, FU11)	00000	☆
		0: Coast to stop 1: Stop according to the stop mode 2: Continue to run		
		Ten's digit (Power input phase loss, FU12)		
		Same as unit's digit		
		Hundred's digit (Power output phase loss, FU13)		
		Same as unit's digit		
		Thousand's digit (External equipment fault, FU15)		
		Same as unit's digit		
		Ten thousand's digit (Communication fault, FU16)		
		Same as unit's digit		
P9-48	Fault protection action selection 2	Unit's digit (Encoder fault, FU20)	00000	☆
		0: Coast to stop 1: Switch over to V/F control, stop according to the stop mode 2: Switch over to V/F control, continue to run		
		Ten's digit (EEPROM read-write fault, FU21)		
		0: Coast to stop 1: Stop according to the stop mode		
P9-48	Fault protection action selection 2	Hundred's digit: reserved	00000	☆
		Thousand's digit (Motor overheat, FU25)		
		Same as unit's digit in F9-47		
		Ten thousand's digit (Accumulative running time reached)		
		Same as unit's digit in F9-47		

Function Code	Parameter Name	Setting Range	Default	Property
P9-49	Fault protection action selection 3	Unit's digit (User-defined fault 1, FU27)	00000	☆
		Same as unit's digit in P9-47		
		Ten's digit (User-defined fault 2, FU28)		
		Same as unit's digit in P9-47		
		Hundred's digit (Accumulative power-on time reached, FU29)		
		Same as unit's digit in P9-47		
		Thousand's digit (Load becoming 0, FU30)		
		0: Coast to stop 1: Stop according to the stop mode 2: Continue to run at 7% of rated motor frequency and resume to the set frequency if the load recovers		
		Ten thousand's digit (PID feedback lost during running, FU31)		
Same as unit's digit in P9-47				
P9-50	Fault protection action selection 4	Unit's digit (Too large speed deviation, FU42)	00000	☆
		Same as unit's digit in P9-47		
		Ten's digit (Motor over-speed, FU43)		
		Same as unit's digit in P9-47		
		Hundred's digit (Initial position fault, FU51)		
		Same as unit's digit in P9-47		
		Thousand's digit (Speed feedback fault, FU52)		
		Same as unit's digit in P9-47		
		Ten thousand's digit: Reserved		
P9-54	Frequency selection for continuing to run upon fault	0: Current running frequency	0	☆
		1: Set frequency		
		2: Frequency upper limit		
		3: Frequency lower limit		
		4: Backup frequency upon abnormality		

Function Code	Parameter Name	Setting Range	Default	Property
P9-55	Backup frequency upon abnormality	0.0%–100.0% (maximum frequency)	100.0%	☆
P9-56	Type of motor temperature sensor	0: No temperature sensor 1: PT100 2: PT1000	1	☆
P9-57	Motor overheat protection threshold	0–200°C	-	☆
P9-58	Motor overheat warning threshold	0–200°C	-	☆
P9-59	Action selection at instantaneous power failure	0: Invalid 1: Decelerate 2: Decelerate to stop	0	☆
P9-60	Action pause judging voltage at instantaneous power failure	80.0%–100.0%	85.0%	☆
P9-61	Voltage rally judging time at instantaneous power failure	0.00–100.00s	0.50s	☆
P9-62	Action judging voltage at instantaneous power failure	60.0%–100.0% (standard bus voltage)	80.0%	☆
P9-63	Protection upon load becoming 0	0: Disabled 1: Enabled	0	☆
P9-64	Detection level of load becoming 0	0.0%–100.0% (rated motor current)	10.0%	☆
P9-65	Detection time of load becoming 0	0.0–60.0s	1.0s	☆
P9-67	Over-speed detection value	0.0%–50.0% (maximum frequency)	20.0%	☆
P9-68	Over-speed detection time	0.0–60.0s	1.0s	☆
P9-69	Detection value of too large speed deviation	0.0%–50.0% (maximum frequency)	20.0%	☆
P9-70	Detection time of too large speed deviation	0.0–60.0s	5.0s	☆
<b>Group PA: Process Control PID Function</b>				
PA-00	PID setting source	0: PA-01 1: AI1 2: AI2 3: AI3 4: Pulse setting (S5) 5: Communication setting 6: Multi-reference	0	☆
PA-01	PID digital setting	0.0%–100.0%	50.0%	☆



Function Code	Parameter Name	Setting Range	Default	Property
PA-02	PID feedback source	0: AI1 1: AI2 2: AI3 3: AI1 – AI2 4: Pulse setting (s5) 5: Communication setting 6: AI1 + AI2 7: MAX ( AI1 ,  AI2 ) 8: MIN ( AI1 ,  AI2 )	0	☆
PA-03	PID action direction	0: Forward action 1: Reverse action	0	☆
PA-04	PID setting feedback range	0–65535	1000	☆
PA-05	Proportional gain Kp1	0.0–1000.0	20.0	☆
PA-06	Integral time Ti1	0.01–10.00s	2.00s	☆
PA-07	Differential time Td1	0.00–10.000	0.000s	☆
PA-08	Cut-off frequency of PID reverse rotation	0.00 to maximum frequency	2.00 Hz	☆
PA-09	PID deviation limit	0.0%–100.0%	0.0%	☆
PA-10	PID differential limit	0.00%–100.00%	0.10%	☆
PA-11	PID setting change time	0.00–650.00s	0.00s	☆
PA-12	PID feedback filter time	0.00–60.00s	0.00s	☆
PA-13	PID output filter time	0.00–60.00s	0.00s	☆
PA-14	Reserved	-	-	☆
PA-15	Proportional gain Kp2	0.0–100.0	20.0	☆
PA-16	Integral time Ti2	0.01–10.00s	2.00s	☆
PA-17	Differential time Td2	0.000–10.000s	0.000s	☆
PA-18	PID parameter switchover condition	0: No switchover 1: Switchover via DI 2: Automatic switchover based on deviation	0	☆
PA-19	PID parameter switchover deviation 1	0.0% to pA-20	20.0%	☆
PA-20	PID parameter switchover deviation 2	pA-19 to 100.0%	80.0%	☆
PA-21	PID initial value	0.0%–100.0%	0.0%	☆
PA-22	PID initial value holding time	0.00–650.00s	0.00s	☆
PA-23	Maximum deviation between two PID outputs in forward direction	0.00%–100.00%	1.00%	☆

Function Code	Parameter Name	Setting Range	Default	Property
PA-24	Maximum deviation between two PID outputs in reverse direction	0.00%–100.00%	1.00%	☆
PA-25	PID integral property	Unit's digit (Integral separated)	00	☆
		0: Invalid 1: Valid		
		Ten's digit (Whether to stop integral operation when the output reaches the limit)		
		0: Continue integral operation 1: Stop integral operation		
PA-26	Detection value of PID feedback loss	0.0%: Not judging feedback loss 0.1%–100.0%	0.0%	☆
PA-27	Detection time of PID feedback loss	0.0–20.0s	0.0s	☆
PA-28	PID operation at stop	0: No PID operation at stop 1: PID operation at stop	0	☆
<b>Group Pb: Swing Frequency, Fixed Length and Count</b>				
Pb-00	Swing frequency setting mode	0: Relative to the central frequency 1: Relative to the maximum frequency	0	☆
Pb-01	Swing frequency amplitude	0.0%–100.0%	0.0%	☆
Pb-02	Jump frequency amplitude	0.0%–50.0%	0.0%	☆
Pb-03	Swing frequency cycle	0.0–3000.0s	10.0s	☆
Pb-04	Triangular wave rising time coefficient	0.0%–100.0%	50.0%	☆
Pb-05	Set length	0–65535 m	1000 m	☆
Pb-06	Actual length	0–65535 m	0 m	☆
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	☆
<b>Group PC: Multi-Reference and Simple PLC Function</b>				
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%–100.0%	0.0%	☆

Function Code	Parameter Name	Setting Range	Default	Property
PC-05	Reference 5	-100.0%–100.0%	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 the AC drive runs one cycle 1: Keep final values after the AC drive runs one cycle 2: Repeat after the AC drive runs one cycle	0	☆
PC-17	Simple PLC retentive selection	Unit's digit (Retentive upon power failure)	00	☆
		0: No 1: Yes		
		Ten's digit (Retentive upon stop)		
		0: No 1: Yes		
PC-18	Running time of simple PLC reference 0	0.0–6553.5s (h)	0.0s (h)	☆
PC-19	Acceleration/deceleration time of simple PLC	0–3	0	☆
PC-20	Running time of simple PLC reference 1	0.0–6553.5s (h)	0.0s (h)	☆
PC-21	Acceleration/deceleration time of simple PLC	0–3	0	☆
PC-22	Running time of simple PLC reference 2	0.0–6553.5s (h)	0.0s (h)	☆
PC-23	Acceleration/deceleration time of simple PLC	0–3	0	☆
PC-24	Running time of simple PLC reference 3	0.0–6553.5s (h)	0.0s (h)	☆
PC-25	Acceleration/deceleration time of simple PLC	0–3	0	☆

Function Code	Parameter Name	Setting Range	Default	Property
PC-26	Running time of simple PLC reference 4	0.0–6553.5s (h)	0.0s (h)	☆
PC-27	Acceleration/deceleration time of simple PLC	0–3	0	☆
PC-28	Running time of simple PLC reference 5	0.0–6553.5s (h)	0.0s (h)	☆
PC-29	Acceleration/deceleration time of simple PLC	0–3	0	☆
PC-30	Running time of simple PLC reference 6	0.0–6553.5s (h)	0.0s (h)	☆
PC-31	Acceleration/deceleration time of simple PLC	0–3	0	☆
PC-32	Running time of simple PLC reference 7	0.0–6553.5s (h)	0.0s (h)	☆
PC-33	Acceleration/deceleration time of simple PLC	0–3	0	☆
PC-34	Running time of simple PLC reference 8	0.0–6553.5s (h)	0.0s (h)	☆
PC-35	Acceleration/deceleration time of simple PLC	0–3	0	☆
PC-36	Running time of simple PLC reference 9	0.0–6553.5s (h)	0.0s (h)	☆
PC-37	Acceleration/deceleration time of simple PLC	0–3	0	☆
PC-38	Running time of simple PLC reference 10	0.0–6553.5s (h)	0.0s (h)	☆
PC-39	Acceleration/deceleration time of simple PLC	0–3	0	☆
PC-40	Running time of simple PLC reference 11	0.0–6553.5s (h)	0.0s (h)	☆
PC-41	Acceleration/deceleration time of simple PLC	0–3	0	☆
PC-42	Running time of simple PLC reference 12	0.0–6553.5s (h)	0.0s (h)	☆
PC-43	Acceleration/deceleration time of simple PLC	0–3	0	☆
PC-44	Running time of simple PLC reference 13	0.0–6553.5s (h)	0.0s (h)	☆
PC-45	Acceleration/deceleration time of simple PLC	0–3	0	☆
PC-46	Running time of simple PLC reference 14	0.0–6553.5s (h)	0.0s (h)	☆

Function Code	Parameter Name	Setting Range	Default	Property
PC-47	Acceleration/deceleration time of simple PLC	0–3	0	☆
PC-48	Running time of simple PLC reference 15	0.0–6553.5s (h)	0.0s (h)	☆
PC-49	Acceleration/deceleration time of simple PLC	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 setting 5: PID 6: Set by preset frequency (P0-08), modified via terminal UP/DOWN	0	☆

Function Code	Parameter Name	Setting Range	Default	Property
Group Fd: Communication Parameters				
Pd-00	Baud rate	Unit's digit (Modbus baud rate)	6005	☆
		0: 300 BPs 1: 600 BPs 2: 1200 BPs 3: 2400 BPs 4: 4800 BPs 5: 9600 BPs 6: 19200 BPs 7: 38400 BPs 8: 57600 BPs 9: 115200 BPs		
		Ten's digit (PROFIBUS-DP baud rate)		
		0: 115200 BPs 1: 208300 BPs 2: 256000 BPs 3: 512000 Bps		
		Hundred's digit (reserved)		
		Thousand's digit (CANlink baud rate)		
		0: 20 1: 50 2: 100 3: 125 4: 250 5: 500 6: 1 M		
Pd-01	Data format	0: No check, data format <8,N,2> 1: Even parity check, data format <8,E,1> 2: Odd Parity check, data format <8,O,1> 3: No check, data format <8,N,1> Valid for Modbus	0	☆
Pd-02	Local address	0: Broadcast address 1–247 Valid for Modbus, PROFIBUS-DP and CANlink	1	☆

Function Code	Parameter Name	Setting Range	Default	Property
Pd-03	Response delay	0–20 ms Valid for Modbus	2 ms	☆
Pd-04	Communication timeout	0.0s (invalid) 0.1–60.0s Valid for Modbus, PROFIBUS-DP and CANopen	0.0s	☆
Pd-05	Modbus protocol selection and data format	Unit's digit: Modbus protocol	30	☆
		0: Non-standard Modbus protocol 1: Standard Modbus protocol		
		Ten's digit: PROFIBUS-DP data format		
		0: PPO1 format 1: PPO2 format 2: PPO3 format 3: PPO5 format		
Pd-06	Communication reading current resolution	0: 0.01A 1: 0.1A	0	☆
Pd-08	CANlink communication timeout time	-	-	☆
<b>Group PE: User-defined Parameters</b>				
PE-00	User-defined function code	P0-00 to PP-xx A0-00 to Ax-xx d0-00 to d0-xx d3-00 to d3-xx	D3-17	☆
PE-01	User-defined function code		D3-18	☆
PE-02	User-defined function code		p0-00	☆
PE-03	User-defined function code		p0-00	☆
PE-04	User-defined function code		p0-00	☆
PE-05	User-defined function code		p0-00	☆
PE-06	User-defined function code		p0-00	☆
PE-07	User-defined function code		p0-00	☆
PE-08	User-defined function code		p0-00	☆
PE-09	User-defined function code		p0-00	☆
PE-10	User-defined function code		p0-00	☆
PE-11	User-defined function code		p0-00	☆
PE-12	User-defined function code		p0-00	☆
PE-13	User-defined function code		p0-00	☆
PE-14	User-defined function code		p0-00	☆

Function Code	Parameter Name	Setting Range	Default	Property
PE-15	User-defined function code	P0-00 to PP-xx A0-00 to Ax-xx d0-00 to d0-xx d3-00 to d3-xx	p0-00	☆
PE-16	User-defined function code		p0-00	☆
PE-17	User-defined function code		p0-00	☆
PE-18	User-defined function code		p0-00	☆
PE-19	User-defined function code		p0-00	☆
PE-20	User-defined function code		p0-00	☆
PE-21	User-defined function code		p0-00	☆
PE-22	User-defined function code		p0-00	☆
PE-23	User-defined function code		p0-00	☆
PE-24	User-defined function code		p0-00	☆
PE-25	User-defined function code		p0-00	☆
PE-26	User-defined function code		p0-00	☆
PE-27	User-defined function code		P0-00	☆
PE-28	User-defined function code		p0-00	☆
PE-29	User-defined function code	p0-00	☆	
<b>Group PP: Function Code Management</b>				
PP-00	User password	0–65535	0	☆
PP-01	Restore default settings	0: No operation 01: Restore factory settings except motor parameters 02: Clear records 04: Restore user backup parameters 501: Back up current user parameters	0	★
PP-02	AC drive parameter display property	Unit's digit (Group d display selection)	11	★
		0: Not display 1: Display		
		Ten's digit (Group A display selection)		
		0: Not display 1: Display		



Function Code	Parameter Name	Setting Range	Default	Property
PP-03	Individualized parameter display property	Unit's digit (User-defined parameter display selection)	00	☆
		0: Not display 1: Display		
		Ten's digit (User-modified parameter display selection)		
		0: Not display 1: Display		
PP-04	Parameter modification property	0: Modifiable 1: Not modifiable	0	☆
<b>Group A0: Torque Control and Restricting Parameters</b>				
A0-00	Speed/Torque control selection	0: Speed control 1: Torque control	0	★
A0-01	Torque setting source in torque control	0: Digital setting (A0-03) 1: AI1 2: AI2 3: AI3 4: Pulse setting (s5) 5: Communication setting 6: MIN (AI1, AI2) 7: MAX (AI1, AI2) Full range of values 1–7 corresponds to the digital setting of A0-03.	0	★
A0-03	Torque digital setting in torque control	-200.0%–200.0%	150.0%	☆
A0-05	Forward maximum frequency in torque control	0.00 Hz to maximum frequency (p0-10)	50.00 Hz	☆
A0-06	Reverse maximum frequency in torque control	0.00 Hz to maximum frequency (p0-10)	50.00 Hz	☆
A0-07	Acceleration time in torque control	0.00–65000s	0.00s	☆
A0-08	Deceleration time in torque control	0.00–65000s	0.00s	☆

Function Code	Parameter Name	Setting Range	Default	Property
<b>Group A2: Motor 2 Parameters</b>				
A2-00	Motor type selection	0: Common asynchronous motor 1: Variable frequency asynchronous motor 2: Permanent magnetic synchronous motor	0	★

A2-01	Rated motor power	0.1–1000.0 kW	Model dependent	★
A2-02	Rated motor voltage	1–2000 V	Model dependent	★
A2-03	Rated motor current	0.01–655.35 A (AC drive power ≤ 55 kW) 0.1–6553.5 A (AC drive power > 55 kW)	Model dependent	★
A2-04	Rated motor frequency	0.01 Hz to maximum frequency	Model dependent	★
A2-05	Rated motor rotational speed	1–65535 RPM	Model dependent	★
A2-06	Stator resistance (asynchronous motor)	0.001–65.535 Ω (AC drive power ≤ 55 kW) 0.0001–6.5535 Ω (AC drive power > 55 kW)	Model dependent	★
A2-07	Rotor resistance (asynchronous motor)	0.001–65.535 Ω (AC drive power ≤ 55 kW) 0.0001–6.5535 Ω (AC drive power > 55 kW)	Model dependent	★
A2-08	Leakage inductive reactance (asynchronous motor)	0.01mH–655.35 mH (AC drive power ≤ 55 kW) 0.001–65.535 mH (AC drive power > 55 kW)	Model dependent	★
A2-09	Mutual inductive reactance (asynchronous motor)	0.1–6553.5 mH (AC drive power ≤ 55 kW) 0.01–655.35 mH (AC drive power > 55 kW)	Model dependent	★
A2-10	No-load current (asynchronous motor)	0.01 A to A2-03 (AC drive power ≤ 55 kW) 0.1 A to A2-03 (AC drive power > 55 kW)	Model dependent	★

Function Code	Parameter Name	Setting Range	Default	Property
A2-27	Encoder pulses per revolution	1–65535	1024	★
A2-28	Encoder type	0: ABZ incremental encoder 2: Resolver	0	★
A2-30	A, B phase sequence of ABZ incremental encoder	0: Forward 1: Reserve	0	★
A2-31	Encoder installation angle	0.0°–359.9°	0.0°	★
A2-34	Number of pole pairs of resolver	1–65535	1	★
A2-36	Encoder wire-break fault detection time	0.0s: No action 0.1–10.0s	0.0s	★
A2-37	Auto-tuning selection	0: No auto-tuning 1: Asynchronous motor static auto-tuning 2: Asynchronous motor complete auto-tuning 11: Synchronous motor with-load auto-tuning 12: Synchronous motor no-load auto-tuning	0	★
A2-38	Speed loop proportional gain 1	0–100	30	☆
A2-39	Speed loop integral time 1	0.01–10.00s	0.50s	☆
A2-40	Switchover frequency 1	0.00 to A2-43	5.00 Hz	☆
A2-41	Speed loop proportional gain	0–100	15	☆

Function Code	Parameter Name	Setting Range	Default	Property
A2-42	Speed loop integral time 2	0.01–10.00s	1.00s	☆
A2-43	Switchover frequency 2	A2-40 to maximum output frequency	10.00 Hz	☆
A2-44	Vector control slip gain	50%–200%	100%	☆
A2-45	Time constant of speed loop filter	0.000–0.100s	0.000s	☆
A2-46	Vector control over-excitation gain	0–200	64	☆
A2-47	Torque upper limit source in speed control mode	0: A2-48 1: AI1 2: AI2 3: AI3 4: Pulse setting (S5) 5: Via communication 6: MIN(AI1,AI2) 7: MIN(AI1,AI2)	0	☆
A2-48	Digital setting of torque upper limit in speed control mode	0.0%–200.0%	150.0%	☆
A2-51	Excitation adjustment proportional gain	0–20000	2000	☆
A2-52	Excitation adjustment integral gain	0–20000	1300	☆
A2-53	Torque adjustment proportional gain	0–20000	2000	☆
A2-54	Torque adjustment integral gain	0–20000	1300	☆
A2-55	Speed loop integral property	Unit's digit: Integral separated 0: Disabled 1: Enabled	0	☆
A2-56	Field weakening mode of synchronous motor	0: No field weakening 1: Direct calculation 2: Adjustment	0	☆
A2-59	Field weakening automatic adjustment gain	50%–200%	100%	☆
A2-60	Field weakening integral multiple	2–10	2	☆

Function Code	Parameter Name	Setting Range	Default	Property
A2-61	Motor 2 control mode	0.0-200.00%	0	☆
A2-62	Motor 2 acceleration/ deceleration time	0: Same as motor 1 1: Acceleration/Deceleration time 1 2: Acceleration/Deceleration time 2	0	☆
A2-63	Motor 2 torque boost	0.0%: Automatic torque boost 0.1%–30.0%	Model dependent	☆
A2-65	Motor 2 oscillation suppression gain	0–100	Model dependent	☆
<b>Group A5: Control Optimization Parameters</b>				
A5-00	DPWM switchover frequency upper limit	5.00–MAX HZ	8.00 Hz	☆
A5-01	PWM modulation mode	0: Asynchronous modulation 1: Synchronous modulation	0	☆
A5-02	Dead zone compensation mode selection	0: No compensation 1: Compensation mode 1 2: Compensation mode 2	1	☆
A5-03	Random PWM depth	0: Random PWM invalid 1–10	0	☆
A5-04	Rapid current limit	0: Disabled 1: Enabled	1	☆
A5-05	Current detection compensation	100-110%	105%	☆
A5-06	Undervoltage threshold	210-420V	350V	☆
A5-08	Dead-zone time adjustment	100%–200%	150%	☆
A5-09	Overvoltage threshold	200.0–2500.0 V		☆
<b>Group A6: AI Curve Setting</b>				
A6-00	AI curve 4 minimum input	-10.00 V to A6-02	0.00 V	☆
A6-01	Corresponding setting of AI curve 4 minimum input	-100.0%–100.0%	0.0%	☆
A6-02	AI curve 4 inflexion 1 input	A6-00 to A6-04	3.00 V	☆
A6-03	Corresponding setting of AI curve 4 inflexion 1 input	-100.0%–100.0%	30.0%	☆
A6-04	AI curve 4 inflexion 1 input	A6-02 to A6-06	6.00 V	☆

A6-05	Corresponding setting of AI curve 4 inflexion 1 input	-100.0%–100.0%	60.0%	☆
A6-06	AI curve 4 maximum input	A6-06 to 10.00 V	10.00 V	☆

Function Code	Parameter Name	Setting Range	Default	Property
A6-07	Corresponding setting of AI curve 4 maximum input	-100.0%–100.0%	100.0%	☆
A6-08	AI curve 5 minimum input	-10.00 V to A6-10	0.00 V	☆
A6-09	Corresponding setting of AI curve 5 minimum input	-100.0%–100.0%	0.0%	☆
A6-10	AI curve 5 inflexion 1 input	A6-08 to A6-12	3.00 V	☆
A6-11	Corresponding setting of AI curve 5 inflexion 1 input	-100.0%–100.0%	30.0%	☆
A6-12	AI curve 5 inflexion 1 input	A6-10 to A6-14	6.00 V	☆
A6-13	Corresponding setting of AI curve 5 inflexion 1 input	-100.0%–100.0%	60.0%	☆
A6-14	AI curve 5 maximum input	A6-14 to 10.00 V	10.00 V	☆
A6-15	Corresponding setting of AI curve 5 maximum input	-100.0%–100.0%	100.0%	☆
A6-16	Jump point of AI1 input corresponding setting	-100.0%–100.0%	0.0%	☆
A6-17	Jump amplitude of AI1 input corresponding setting	0.0%–100.0%	0.5%	☆
A6-18	Jump point of AI2 input corresponding setting	-100.0%–100.0%	0.0%	☆
A6-19	Jump amplitude of AI2 input corresponding setting	0.0%–100.0%	0.5%	☆
A6-20	Jump point of AI3 input corresponding setting	-100.0%–100.0%	0.0%	☆
A6-21	Jump amplitude of AI3 input corresponding setting	0.0%–100.0%	0.5%	☆
<b>Group A8: Point-point Communication</b>				
A8-00	Point-point communication selection	0: Disabled 1: Enabled	0	☆
A8-01	Master and slave selection	0: Master 1: Slave	0	☆
A8-02	Slave following master command selection	0: Slave not following running commands of the master 1: Slave following running	0	☆
A8-03	Usage of data received by slave	0: Torque setting 1: Frequency setting	0	☆
A8-04	Zero offset of received data (torque)	-100.00%–100.00%	0.00%	★
A8-05	Gain of received data (torque)	-10.00–10.00	1.00	★
A8-06	Point-point communication interruption detection time	0.0–10.0s	1.0s	☆

A8-07	Master data sending cycle	0.001–10.000s	0.001s	☆
A8-08	Zero offset of received data zero offset (frequency)	-100.00%–100.00%	0.00%	★
A8-09	Gain of received data gain (frequency)	-10.00–10.00	1.00	★
A8-10	Runaway prevention coefficient	0.00%–100.00%	10.00%	★
Group AC: AIAO Correction				
AC-00	AI1 measured voltage 1	-10.00–10.000 V	Factory corrected	☆
AC-01	AI1 displayed voltage 1	-10.00–10.000 V	Factory corrected	☆
AC-02	AI1 measured voltage 2	-10.00–10.000 V	Factory corrected	☆



Function Code	Parameter Name	Setting Range	Default	Property
AC-03	AI1 displayed voltage 2	-10.00–10.000 V	Factory corrected	☆
AC-04	AI2 measured voltage 1	-10.00–10.000 V	Factory corrected	☆
AC-05	AI2 displayed voltage 1	-10.00–10.000 V	Factory corrected	☆
AC-06	AI2 measured voltage 2	-10.00–10.000 V	Factory corrected	☆
AC-07	AI2 displayed voltage 2	-10.00–10.000 V	Factory corrected	☆
AC-08	AI3 measured voltage 1	-10.00–10.000 V	Factory corrected	☆
AC-09	AI3 displayed voltage 1	-10.00–10.000 V	Factory corrected	☆
AC-10	AI3 measured voltage 2	-10.00–10.000 V	Factory corrected	☆
AC-11	AI3 displayed voltage 2	-10.00–10.000 V	Factory corrected	☆
AC-12	AO1 target voltage 1	-10.00–10.000 V	Factory corrected	☆
AC-13	AO1 measured voltage 1	-10.00–10.000 V	Factory corrected	☆
AC-14	AO1 target voltage 2	-10.00–10.000 V	Factory corrected	☆
AC-15	AO1 measured voltage 2	-10.00–10.000 V	Factory corrected	☆
AC-16	AO2 target voltage 1	-10.00–10.000 V	Factory corrected	☆
AC-17	AO2 measured voltage 1	-10.00–10.000 V	Factory corrected	☆
AC-18	AO2 target voltage 2	-10.00–10.000 V	Factory corrected	☆
AC-19	AO2 measured voltage 2	-10.00–10.000 V	Factory corrected	☆
AC-20	AI2 measured current 1	-10.00–10.000 V	Factory corrected	☆
AC-21	AI2 sampling current 1	-10.00–10.000 V	Factory corrected	☆
AC-22	AI2 measured current 2	-10.00–10.000 V	Factory corrected	☆
AC-23	AI2 sampling current 2	-10.00–10.000 V	Factory corrected	☆

Function Code	Parameter Name	Setting Range	Default	Property
AC-24	AO1 ideal current 1	-10.00–10.000 V	Factory corrected	☆
AC-25	AO1 sampling current 1	-10.00–10.000 V	Factory corrected	☆
AC-26	AO1 ideal current 2	-10.00–10.000 V	Factory corrected	☆
AC-27	AO1 sampling current 2	-10.00–10.000 V	Factory corrected	☆

## 5.2 Monitoring Parameters

Function Code	Parameter Name	Min. Unit	Communication Address
<b>Group U0: Standard Monitoring Parameters</b>			
d0-00	Running frequency (Hz)	0.01 Hz	7000H
d0-01	Set frequency (Hz)	0.01 Hz	7001H
d0-02	Bus voltage	0.1 V	7002H
d0-03	Output voltage	1 V	7003H
d0-04	Output current	0.01 A	7004H
d0-05	Output power	0.1 kW	7005H
d0-06	Output torque	0.1%	7006H
d0-07	DI state	1	7007H
d0-08	DO state	1	7008H
d0-09	AI1 voltage (V)	0.01 V	7009H
d0-10	AI2 voltage (V)/current (mA)	0.01 V/0.01 mA	700AH
d0-11	AI3 voltage (V)	0.01 V	7007BH
d0-12	Count value	1	700CH
d0-13	Length value	1	700DH
d0-14	Load speed	1	700EH
d0-15	PID setting	1	700FH
d0-16	PID feedback	1	7010H
d0-17	PLC stage	1	7011H
d0-18	Input pulse frequency (Hz)	0.01 kHz	7012H
d0-19	Feedback speed	0.01 Hz	7013H
d0-20	Remaining running time	0.1 Min	7014H
d0-21	AI1 voltage before correction	0.001 V	7015H
d0-22	AI2 voltage (V)/current (mA) before correction	0.01 V/0.01 mA	7016H

Function Code	Parameter Name	Min. Unit	Communication Address
Group d0: Standard Monitoring Parameters			
d0-23	AI3 voltage before correction	0.001 V	7017H
d0-24	Linear speed	1 m/Min	7018H
d0-25	Accumulative power-on time	1 Min	7019
d0-26	Accumulative running time	0.1 Min	701AH
d0-27	Pulse input frequency	1 Hz	701BH
d0-28	Communication setting value	0.01%	701CH
d0-29	Encoder feedback speed	0.01 Hz	701DH
d0-30	Main frequency X	0.01 Hz	701EH
d0-31	Auxiliary frequency Y	0.01 Hz	701FH
d0-32	Viewing any register address value	1	7020H
d0-33	Synchronous motor rotor position	0.1°	7021H
d0-34	Motor temperature	1°C	7022H
d0-35	Target torque	0.1%	7023H
d0-36	Resolver position	1	7024H
d0-37	Power factor angle	0.1°	7025H
d0-38	ABZ position	1	7026H
d0-39	Target voltage upon V/F separation	1 V	7027H
d0-40	Output voltage upon V/F separation	1V	7028H
d0-41	DI state visual display	1	7029H
d0-42	DO state visual display	1	702AH
d0-43	DI function state visual display 1	1	702BH
d0-44	DI function state visual display 2	1	702CH
d0-45	Fault information	1	702DH
d0-58	Phase Z counting	1	703AH
d0-59	Current set frequency	0.01%	703BH
d0-60	Current running frequency	0.01%	703CH
d0-61	AC drive running state	1	703DH
d0-62	Current fault code	1	703EH
d0-63	Sent value of point-point communication	0.01%	703FH
d0-64	Received value of point-point communication	0.01%	7040H
d0-65	Torque upper limit	0.1%	7041H

## 6. Fault Diagnosis and Countermeasure

### 6.1 Guidance on the adjustment of the inverter before commissioning

1) V / F control mode (P0-01 = 2 factory default)

This mode is used in applications where the motor has no encoder speed feedback and is not sensitive to motor parameters. Only the rated voltage and rated frequency of the motor must be set correctly.

Error and fault	Settlement
Running motor shock	◆ Increase the shock suppression parameter (P3-11), increase in 10 units (maximum adjustment to 100);
High power start reported overcurrent	◆ Reduce the torque boost (P3-01), in 0.5% units;
Motor noise too big	◆ Appropriate increase in carrier frequency (P0-15), increased in units of 1.0kHz; (Note: increase the carrier frequency motor leakage current will increase)
Running current is too large	◆ Set the rated voltage (P1-02), rated frequency (P1-04) of the motor correctly; ◆ Reduce the torque boost (P3-01), in 0.5% units;
Sudden unloading overload reported over pressure, slow down	◆ (P3-24 / P3-25, factory 30), increase in 10 units (maximum adjustment to 100), increase the overvoltage stall gain (P3-24 / P3-25, factory 30) ; ◆ reduce the overvoltage stall action voltage (P3-22 factory 770V), in 10V units to reduce (minimum adjustment to 700V);
Reported over pressure	◆ Increase the overcurrent stall gain (P3-20 factory 20), increase in 10 units (maximum adjustment to 100); ◆ reduce the over-current stall action current (factory 180%), in 10% units (minimum adjustment to 50%);

### 6.2 Fault alarm and countermeasure

If the following types of faults may be encountered during the inverter operation, please refer to the following methods for simple fault analysis:

Error	display	Error reason	settlement
Over current during acceleration	FU02	1: The output circuit is grounded or short circuited. 2: Motor auto-tuning is not performed. 3: The acceleration time is too short. 4: Manual torque boost or V/F curve is not appropriate. 5: The voltage is too low.  6: The startup operation is performed on the rotating motor.  7: A sudden load is added during acceleration.	1: Eliminate external faults. 2: Perform the motor auto-tuning. 3: Increase the acceleration time. 4: Adjust the manual torque boost or V/F curve. 5: Adjust the voltage to normal range. 6: Select rotational speed tracking restart or start the motor after it stops. 7: Remove the added load. 8: Select an AC drive of higher power class.

<p>Over current during deceleration</p>	<p>FU03</p>	<p>1: The output circuit is grounded or short circuited.  2: Motor auto-tuning is not performed.  3: The deceleration time is too short.  4: The voltage is too low.  5: A sudden load is added during deceleration.  6: The braking unit and braking resistor are not installed.</p>	<p>1: Eliminate external faults.  2: Perform the motor auto-tuning.  3: Increase the deceleration time.  4: Adjust the voltage to normal range.  5: Remove the added load.  6: Install the braking unit and braking resistor.</p>
---	-------------	---	---

Fault Name	Display	Possible Causes	Solutions
Over current at constant speed	FU04	1: The output circuit is grounded or short circuited. 2: Motor auto-tuning is not performed. 3: The voltage is too low. 4: A sudden load is added during operation. 5: The AC drive model is of too small power class.	1: Eliminate external faults. 2: Perform the motor auto-tuning. 3: Adjust the voltage to normal range. 4: Remove the added load. 5: Select an AC drive of higher power class.
Over voltage during acceleration	FU05	1: The input voltage is too high. 2: An external force drives the motor during acceleration. 3: The acceleration time is too short. 4: The braking unit and braking resistor are not installed.	1: Adjust the voltage to normal range. 2: Cancel the external force or install a braking resistor. 3: Increase the acceleration time. 4: Install the braking unit and braking resistor.
Overvoltage during deceleration	FU06	1: The input voltage is too high. 2: An external force drives the motor during deceleration. 3: The deceleration time is too short. 4: The braking unit and braking resistor are not installed.	1: Adjust the voltage to normal range. 2: Cancel the external force or install the braking resistor. 3: Increase the deceleration time. 4: Install the braking unit and braking resistor.
Overvoltage at constant speed	FU07	1: The input voltage is too high. 2: An external force drives the motor during deceleration.	1: Adjust the voltage to normal range. 2: Cancel the external force or install the braking resistor.
Control power supply fault	FU08	The input voltage is not within the allowable range.	Adjust the input voltage to the allowable range.
Undervoltage	FU09	1: Instantaneous power failure occurs on the input power supply. 2: The AC drive's input voltage is not within the allowable range. 3: The bus voltage is abnormal. 4: The rectifier bridge and buffer resistor are faulty. 5: The drive board is faulty. 6: The main control board is faulty.	1: Reset the fault. 2: Adjust the voltage to normal range. 3: Contact the agent or Inovance.
AC drive overload	FU10	1: The load is too heavy or locked-rotor occurs on the motor. 2: The AC drive model is of too small power class.	1: Reduce the load and check the motor and mechanical condition. 2: Select an AC drive of higher power class.

Fault Name	Display	Possible Causes	Solutions
Motor overload	FU11	1: F9-01 is set improperly. 2: The load is too heavy or locked-rotor occurs on the motor. 3: The AC drive model is of too small power class.	1: Set F9-01 correctly. 2: Reduce the load and check the motor and the mechanical condition. 3: Select an AC drive of higher power class.
Power input phase loss	FU12	1: The three-phase power input is abnormal. 2: The drive board is faulty. 3: The lightning board is faulty. 4: The main control board is faulty.	1: Eliminate external faults. 2: Contact the agent or Inovance.
Power output phase loss	FU13	1: The cable connecting the AC drive and the motor is faulty. 2: The AC drive's three-phase outputs are unbalanced when the motor is running. 3: The drive board is faulty. 4: The module is faulty.	1: Eliminate external faults. 2: Check whether the motor three-phase winding is normal. 3: Contact the agent or Inovance.
Module overheat	FU14	1: The ambient temperature is too high. 2: The air filter is blocked. 3: The fan is damaged. 4: The thermally sensitive resistor of the module is damaged. 5: The inverter module is damaged.	1: Lower the ambient temperature. 2: Clean the air filter. 3: Replace the damaged fan. 4: Replace the damaged thermally sensitive resistor. 5: Replace the inverter module.
External equipment fault	FU15	1: External fault signal is input via DI. 2: External fault signal is input via virtual I/O.	Reset the operation.
Communication fault	FU16	1: The host computer is in abnormal state. 2: The communication cable is faulty. 3: F0-28 is set improperly. 4: The communication parameters in group Fd are set improperly.	1: Check the cabling of host computer. 2: Check the communication cabling. 3: Set F0-28 correctly. 4: Set the communication parameters properly.
Contactor fault	FU17	1: The drive board and power supply are faulty. 2: The contactor is faulty.	1: Replace the faulty drive board or power supply board. 2: Replace the faulty contactor.

Fault Name	Display	Possible Causes	Solutions
Current detection fault	FU18	1: The HALL device is faulty. 2: The drive board is faulty.	1: Replace the faulty HALL device. 2: Replace the faulty drive board.
Motor auto-tuning fault	FU19	1: The motor parameters are not set according to the nameplate. 2: The motor auto-tuning times out.	1: Set the motor parameters according to the nameplate properly. 2: Check the cable connecting the AC drive and the motor.
Encoder fault	FU20	1: The encoder type is incorrect. 2: The cable connection of the encoder is incorrect. 3: The encoder is damaged. 4: The PG card is faulty.	1: Set the encoder type correctly based on the actual situation. 2: Eliminate external faults. 3: Replace the damaged encoder. 4: Replace the faulty PG card.
EEPROM read-write fault	FU21	The EEPROM chip is damaged.	Replace the main control board.
Short circuit to ground	FU23	The motor is short circuited to the ground.	Replace the cable or motor.
Accumulative running time reached	FU26	The accumulative running time reaches the setting value.	Clear the record through the parameter initialization function.
User-defined fault 1	FU27	1: The user-defined fault 1 signal is input via S. 2: User-defined fault 1	Reset the operation.
User-defined fault 2	FU28	1: The user-defined fault 2 signal is input via S. 2: The user-defined fault 2 .	Reset the operation.
Accumulative power-on time reached	FU29	The accumulative power-on time reaches the setting value.	Clear the record through the parameter initialization function.
Load becoming 0	FU30	The AC drive running current is lower than P9-64.	Check that the load is disconnected or the setting of P9-64 and P9-65 is correct.
PID feedback lost during running	FU31	The PID feedback is lower than the setting of PA-26.	Check the PID feedback signal or set PA-26 to a proper value.



Fault Name	Display	Possible Causes	Solutions
Pulse-by-pulse current limit fault	FU40	<p>1: The load is too heavy or locked-rotor occurs on the motor.</p> <p>2: The AC drive model is of too small power class.</p>	<p>1: Reduce the load and check the motor and mechanical condition.</p> <p>2: Select an AC drive of higher power class.</p>
Motor switchover fault during running	FU41	Change the selection of the motor via terminal during running of the AC drive.	Perform motor switchover after the AC drive stops.
Too large speed deviation	FU42	<p>1: The encoder parameters are set incorrectly.</p> <p>2: The motor auto-tuning is not performed.</p> <p>3: F9-69 and F9-70 are set</p>	<p>1: Set the encoder parameters properly.</p> <p>2: Perform the motor auto-tuning.</p> <p>3: Set P9-69 and P9-70</p>
Motor over-speed	FU43	<p>1: The encoder parameters are set incorrectly.</p> <p>2: The motor auto-tuning is not performed.</p> <p>3: F9-69 and F9-70 are set incorrectly.</p>	<p>1: Set the encoder parameters properly.</p> <p>2: Perform the motor auto-tuning.</p> <p>3: Set P9-69 and P9-70</p>

Version: 3.1.14

Thanks for choosing HNC product.

Any technique support, PLS feel free to contact our support team

Tel: 86(20)84898493 Fax: 86(20)61082610

URL: [www.hncelectric.com](http://www.hncelectric.com)

Email: [support@hncelectric.com](mailto:support@hncelectric.com)

