



TO USE THIS PRODUCT SAFELY.
PLEASE MAKE SURE TO READ THE USER MANUAL.



FREQUENCY CONVERTER

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USER MANUAL.

300N series Y, D, S, Z models are universal.

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Chapter 1 Product Information

1.1 Safety Information and Precautions

Definition of Safety: Within this manual, safety precautions are classified into the following two categories:

 **DANGER:** Hazards arising from improper operation that may result in serious injury or even death.

 **WARNING:** Hazards arising from improper operation that may result in minor or moderate injury, as well as equipment damage.

Please read this chapter carefully before installing, commissioning or maintaining the system, and strictly follow all safety precautions specified herein. Our company shall not be liable for any injuries or losses caused by improper operation.

1.2 Naming Rule

Figure 1-1 Naming Specifications

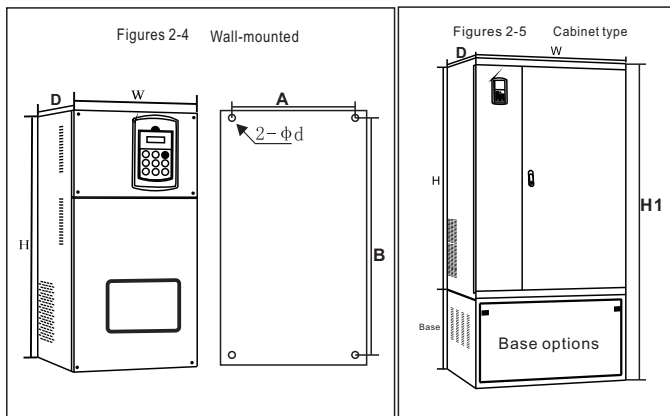
trade mark	Certification Mark
MODEL: 300N-055GB-T4	
INPUT: 3PH AC380-480V 106A 50/60Hz	
OUTPUT: 3PH AC0-480V 112A 0-500Hz	
POWER: 55kW	
S/N: XXXXXXXXXXXXXXXXXXXX	

300N - 055 G B - T4

① ② ③ ④ ⑤ ⑥

① Product lineup. 300N Series	④ Brake unit B: Includes a braking unit. Empty: Does not include the braking unit.
② Power rating. 0.75: 0.75kW ... 800:800kW	⑤ Voltage level. Input Voltage/Output Voltage T4:3PA0380V-480V/3PH0-480V T2: 3PAC200V-240V/3PH0-240V S2: 1PHA0200V-240V/3PH0-240V H2: 1PHAC200V-240V/1PH0-240V S3: 1PHA0200V-240V/3PH0-400V
③ Compatible motor type. G: Universal model. P: Fan/water pump models. PV: Specialized model for photovoltaic applications.	⑥ inductor Empty: Does not include an inductor. -L: Includes an AC output choke. -T: Includes a DC reactor.

1.3 Dimensions of the casing



Dimensions of the frequency converter. C denotes a plastic casing. T denotes an iron casing.

Appearance and structure.	Mounting hole locations.		Physical dimensions.				Mounting aperture.
	mm		mm				mm
	A	B	H	H1	W	D	d
C1	74	153	168	—	88	125	Φ 4.3
C2	86	175	184	—	97	135	Φ 4.3
C3	110	205	219	—	125	171	Φ 5
C4	130	243	255	—	145	195	Φ 6
C5	303	151	320	—	171	215	Φ 6
T1	135	230	280	—	150	196	Φ 6
T2	115	310	330	—	170	235	Φ 6
T3	120	365	375	—	180	215	Φ 8
T4	200	490	510	—	260	270	Φ 8
T5	180	510	535	—	260	272	Φ 10
T6	240	575	600	1100	340	280	Φ 10
T7	250	770	800	1300	380	310	Φ 12
T8	320	880	920	1420	500	315	Φ 12
T9	450	1010	1050	1550	650	360	Φ 12
T10	640	1170	1250	1750	850	350	Φ 13
T11	800	1315	1350	1850	1000	400	Φ 13
T12	600	1415	1450	1950	850	430	Φ 13

1.4 Variable Frequency Drive Model

Model	Rated voltage and frequency	Rated Power (kW)	Horse Power (HP)	Rated Input Current (A)	Rated Output Current (A)	Structure
000-0.75G-H2	INPUT: 1PH AC200V-240V 50/60Hz OUTPUT: 1PH AC 0-240V 0-500Hz	0.75	1	4.5	4	C1
000-1.5G-H2		1.5	2	8	7	C1
000-2.2G-H2		2.2	3	11	9.6	C1
000-003G-H2		3.00	4	14	12	C2
000-0.75GB-S2	INPUT: 1PH 200V-240V 50/60Hz OUTPUT: 3PH AC 0-240V 0-500Hz	0.75	1	8.2	4	C1
000-1.5GB-S2		1.5	2	14	7	C1
000-2.2GB-S2		2.2	3	23	9.6	C1
000-003GB-S2		3.00	4	27	12	C2
000-0.75PB-S3	INPUT: 1PH AC200V-240V 50/60Hz OUTPUT: 3PH AC 0-400V 0-500Hz	0.75	1	8.0	2.5	C1
000-1.5PB-S3		1.5	2	14	3.8	C1
000-2.2PB-S3		2.2	3	23	5.1	C1
000-003PB-S3		3.0	4	27	7.2	C1
000-004PB-S3		4.0	5	39.7	9	C2
000-5.5PB-S3		5.5	7.5	41.3	13	C2
000-7.5PB-S3		7.5	10	44	17	C2
000-011PB-S3		11.0	15	59	25	C3
000-015PB-S3		15.0	20	75	32	C3
000-18.5PB-S3		18.5	25	87	37	C4
000-0.75GB-T2	INPUT: 3PH AC200V-240V 50/60Hz OUTPUT: 3PH AC 0-240V 0-500Hz	0.75	1	4.5	4	C1
000-1.5GB-T2		1.5	2	8	7	C1
000-2.2GB-T2		2.2	3	11	10	C1
000-003GB-T2		3	4	14	12	C2
000-004GB-T2		4	5	22.0	17	C2
000-5.5GB-T2		5.5	7.5	32	25	C3
000-7.5GB-T2		7.5	10	39	32	C3
000-011GB-T2		11	15	59.0	45	T2
000-015G-T2		15	20	65	60	T3
000-18.5G-T2		18.5	25	76	75	T3
000-022G-T2		22	30	92	91	T4
000-030G-T2		30	40	113	112	T4
000-037G-T2		37	50	157	150	T5
000-045G-T2		45	60	180	176	T5
000-055G-T2		55	75	196	210	T6
000-075G-T2		75	100	239	253	T7

Model	Rated voltage and frequency	Rated Power (kW)	Horse Power (HP)	Rated Input Current (A)	Rated Output Current (A)	Structure
□□□-0.75GB-T4	INPUT: 3PH AC 380V-480V 50/60Hz OUTPUT: 3PH AC 0-480V 0-600Hz	0.75	1	3.4	2.5	C1
□□□-1.5GB-T4		1.5	2	5	3.8	C1
□□□-2.2GB-T4		2.2	3	5.8	5.1	C1
□□□-003GB-T4		3.0	4	6.8	7.2	C1
□□□-004GB-T4		4.0	5	10.5	9	C2
□□□-5.5GB-T4		5.5	7.5	14.6	13	C2
□□□-7.5GB-T4		7.5	10	20.5	17	C2
□□□-011GB-T4		11	15	32	25	C3
□□□-015GB-T4		15	20	41	32	C3
□□□-18.5GB-T4		18.5	25	38.5	37	C4/T1
□□□-022GB-T4		22	30	46.5	45	T2
□□□-030G-T4		30	40	62	60	T3
□□□-037G-T4		37	50	76	75	T3
□□□-045G-T4		45	60	92	91	T4
□□□-055G-T4		55	75	113	112	T4
□□□-075G-T4		75	100	157	150	T5
□□□-090G-T4		90	120	180	176	T5
□□□-110G-T4		110	150	214	210	T6
□□□-132G-T4		132	180	256	253	T7
□□□-160G-T4		160	220	307	304	T7
□□□-185G-T4		185	250	340	330	T7
□□□-200G-T4		200	280	385	377	T7
□□□-220G-T4		220	300	430	426	T8
□□□-250G-T4		250	330	468	465	T8
□□□-285G-T4		285	370	525	520	T8
□□□-315G-T4		315	420	590	585	T9
□□□-355G-T4		355	469	665	650	T9
□□□-400G-T4		400	530	687	725	T10
□□□-450G-T4		450	600	782	820	T10
□□□-500G-T4		500	670	838	900	T10
□□□-560G-T4		560	745	952	1020	T11
□□□-630G-T4		630	850	1044	1120	T11
□□□-720G-T4		720	960	1150	1220	T12
□□□-800G-T4		800	960	1300	1350	T12

1.5.2 Cutout Size for External Keypad

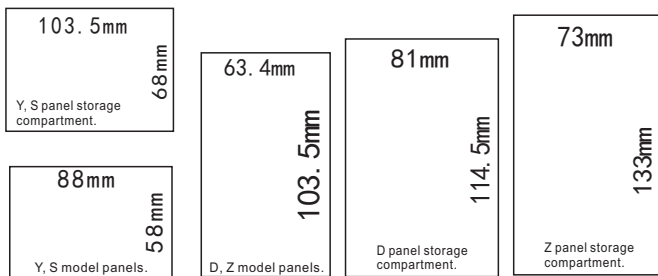


Figure 1-4: Cutout Dimensions for External Keypad

1.6 Inverter Warranty Terms

Warranty coverage applies solely to the inverter unit. We offer a 12-month warranty under normal operating conditions for failures or defects arising from manufacturing issues. The warranty period starts from the production date marked by the barcode on the product. Repair services will be charged at standard rates once the warranty expires. Even within the 12-month warranty period, repair fees will be charged for damages resulting from the following situations:

1. Damage resulting from operation not in accordance with the user manual;
2. Damage caused by fire, water immersion, abnormal supply voltage or other accidental incidents;
3. Damage incurred from operating the inverter outside its specified operating parameters;
4. Service charges are subject to the manufacturer's official pricing standard. Any signed formal contract shall prevail if conflicting with these terms.

Chapter 2 Electrical Installation

2.1.1 Main Circuit Terminals and Wiring

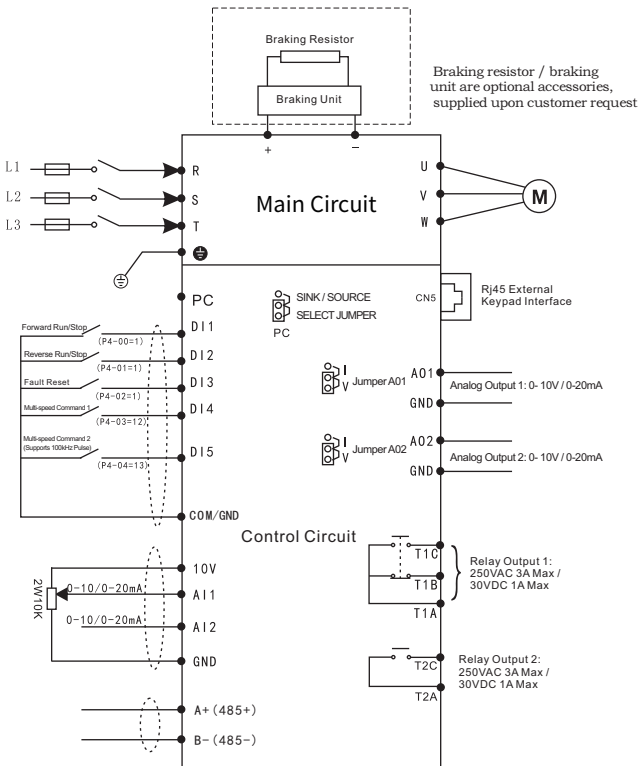
1) Description of Inverter Main Circuit Terminals:

Terminal Label	Name	Explanation
R, S, T	Main Power Input Terminals	Connection terminals for three-phase AC power supply
P+, PB	Braking Resistor Terminals	Used for connecting external braking resistor
U, V, W	Inverter Output Terminals	Used for connecting three-phase motor
	Protective Earth Terminal	Equipment protective grounding point

2. 1.3 Description of Control Terminal Functions:

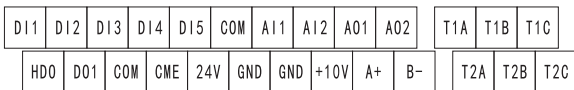
A11	A12	A01	A02	GND	DI1	DI2	T1A	T1B	T1C
A+	B-	10V	GND	PC	DI3	DI4	DI5	T2A	T2C

Table 2-1: Description of Functions of Inverter Control Terminoinals

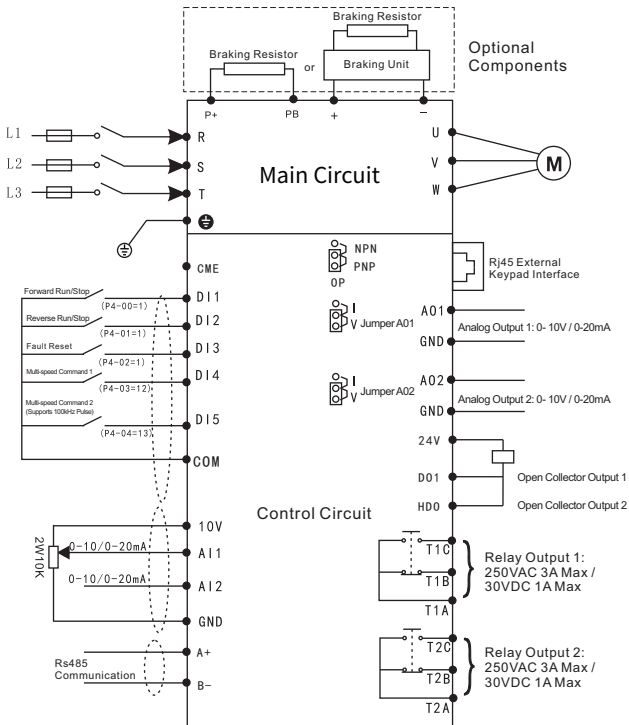


2.1.4 Functional Dxplication of Control Terminals:

The layout of the control circuit terminals is shown below:



2.1.2 Wiring Method of Inverter Control Loop



T1-T12 Wiring Diagram

Class	Terminal Symbol	Terminal Name	Function Description
Power Supply	+10V-GND	External +10V Power Supply	Supplies external +10V power with a maximum output current of 150mA (short-circuit protected). It is commonly used to power external potentiometers, with applicable potentiometer resistance ranging from 1kΩ to 5kΩ.
	PC	External +24V Power Supply	Supplies external +24V power, generally used as the power source for digital input/output terminal and external sensors. Maximum output current: 200mA.
	Jumper Set to Sink (NPN) Position	Digital Input Sink (NPN) Mode	1. When the jumper is set to this position, the GND terminal cooperates with DI1-DI5 input terminals to enable NPN (Sink) input mode. 2. In NPN mode, the PC terminal can output 24V/0.3A for external power supply.
	Jumper Set to Source (PNP) Position	Digital Input Source (PNP) Mode	When the jumper is set to this position, the PC terminal works with DI1-DI5 input terminals to enable PNP (Source) input mode.
Class	Terminal Symbol	Terminal Name	Function Description
Analog Terminals	AI1, AI2	Analog Input Terminals	1. Input range: DC 0V~10V or 0mA~20mA, configured via parameter P4-37 for each channel. 2. Input impedance: 22kΩ for voltage input, 500Ω for current input.
Analog Terminals	AO1, AO2	Analog Output Terminals	Output voltage range: 0V~10V/Output current range: 0~20mA or 4~20mA (selected via parameter P5-23). The voltage/current mode of AO1 and AO2 is set separately by their respective AO jumper caps on the control board.
Class	Terminal Symbol	Terminal Name	Function Description
Digital Input	DI1	Digital Input 1	General-purpose digital input terminal, share unified electrical specifications as below: 1. Input impedance: 1 kΩ. 2. Level input voltage range: 5 V ~ 30 V
Digital Input	DI2	Digital Input 2	Same electrical specifications as DI1
Digital Input	DI3	Digital Input 3	Same electrical specifications as DI1
Digital Input	DI4	Digital Input 4	Same electrical specifications as DI1
Digital Input	DI5 (HDI)	Digital Input 5 (High-Speed Pulse Input Terminal)	1. Supports all general digital input functions same as DI1-DI4; 2. Can be configured as high-speed pulse input channel, maximum input frequency: 50 kHz; 3. Electrical parameters: Input impedance: 1 kΩ, level input voltage range: 5 V ~ 30 V
Digital Input	COM	Common Terminal	
RS485 Communication	A+, B-	RS485 Communication Terminals	A+ is the positive terminal of RS485 differential communication signal; B- is the negative terminal of RS485 differential communication signal.
Class	Terminal Symbol	Terminal Name	Function Description
Digital Output	T1A-T1B-T1C	Relay Output 1	Contact Rating: AC 250V, 3A (cosφ=0.4) DC 30V, 1A A: Common terminal; B: Normally Closed (NC) contact; C: Normally Open (NO) contact
Digital Output	T2A-T2B T2A-T2B-T2C	Relay Output 2	Shares the same contact rating as Relay Output 1. 1. (Confirm actual definition: either Normally Open or Normally Closed pair)

2.1.5 Signal Input Terminal Wiring Instructions

Due to the vulnerability of weak analog voltage signals to external electromagnetic interference, shielded cables are generally required for wiring, and the wiring length shall be kept as short as possible and shall not exceed 20 meters. In environments with severe interference on analog signals, filter capacitors or ferrite cores must be installed at the signal source side.

2.1.6 Mainboard LED Status

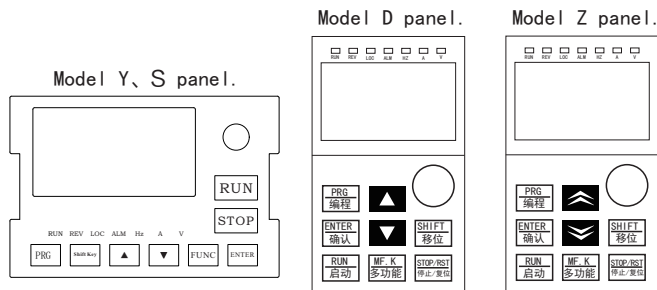
1. Flashes at an interval of 0.5s: Asynchronous motor standby state
2. Flashes at an interval of 0.2s: Synchronous motor standby state
3. Flashes at an interval of 0.1s: Fault indication state
4. Constantly on: Running state

2.1.7 Drive Board LED Status

1. Flashes at an interval of 0.5s: Operating in asynchronous motor mode
2. Flashes at an interval of 0.2s: Operating in synchronous motor mode

Chapter 3 Operation Display

Introduction to the Operation and Display Interface



Using the control panel, users can modify the inverter's operational parameters, monitor its operating status, and perform operational controls (such as starting or stopping). Its layout and functional areas are shown in the figure below:

Figure 3-1 Schematic Diagram of the Operation Panel

1) Function Indicator Description:

- RUN: The light turns off when the inverter is shut down, and turns on when it is operating.
- Local/Remote: Keyboard operation, terminal operation, and remote operation (communication control) indicator lights:
 - •LOCAL/REMOTE Off → Panel Start/Stop Control
 - •LOCAL/REMOTE Steady On → Terminal Start/Stop Control
 - •LOCAL/REMOTE Flashing → Communication Start/Stop Control
- FWD/REV: Forward/Reverse indicator light; when illuminated, it indicates forward rotation; when the reverse light is on, it indicates reverse rotation.
- TUNE/TC: Tuning/Torque Control/ Fault Indicator Light - On indicates torque control mode; slow blinking indicates tuning mode; rapid blinking indicates fault mode.

2) Unit Indicator Light:

Indicator Symbol	Description
HZ	Frequency Unit
A	Current Unit
V	Voltage Unit
RPM (Hz + A illuminated together)	Rotational Speed Unit
% (A + V illuminated together)	Percentage Value

3) Digital Display Area:

Upper digital display: A 5-digit LED main screen displaying set frequency, output frequency, various monitoring data and alarm codes.

Lower digital display: It is used for monitoring functions. Its display content can be set via parameters P7-17 and P7-18, whose parameter numbers correspond to menu items of Group U0 (Refer to Group U0 in the Function Parameter Table).

4) Keyboard Button Description Table

Table 3-1 Keyboard Function Table

Key	Name	Function
PRG	Programming Key	Enter or exit the main parameter menu
ENTER	Confirm Key	Enter menu levels step by step and confirm set values
△	Up /Increment Key	Increase data values or function code numbers
▽	Down / Decrement Key	Decrease data values or function code numbers
Shift	Shift key	Toggle and cycle through different display parameters
RUN	Run Key	Start the inverter under panel local control mode
STOP/RES	Stop/ResetKey	Stops inverter running during normal operation; resets fault alarms when the drive is in fault state
MF.K	Multi-function Selection Key	Its switching function is defined by parameter P7-01

Chapter 4 Functional Parameter Table

4.1 Brief Summary of Basic Functional Parameters

☆: This parameter can be modified whether the inverter is stopped or running.					
★: This parameter cannot be changed while the inverter is in operation.					
●: This parameter displays actual test data and is read-only, not editable.					
P0 group Basic parameters					
Function code	Name	Set range	Factory value	Property	DEC address
P0-00	G / P model	1: G type 2: P type	1		61440
P0-01	Motor control methods and Motor type selection	Units digit: Electrical control method 0: Open-loop vector control 2: Open-loop V/F control Tens Motor type 0: Three-phase asynchronous motor 1: Three-phase permanent magnet synchronous motor	02	★	61441
P0-02	Command source selection	0: Panel command channel (LED off) 1: Terminal command channel (LED lit) 2: Communication command channel (LED flash)	0	★	61442
P0-03	Main frequency source X selection	0: Digital setting (preset frequency P0-08, UP / DOWN can be modified (Does not remember if power is lost)) 1: Digital settings (preset frequency P0-08) UP / DOWN can be modified (Power-off memory) 2: AI 1 3: AI 2 4: AI 3 Keyboard Potentiometer 5: HDI Pulse Setting (X5) 6: Multi-segment instructions 7: simple PLC 8: PID 9: Communication given Note: 1. AI 3 is completely disabled when using an encoder keyboard. Automatically switch to 1 (Digital Setting)	4	★	61443
P0-04	Auxiliary frequency source Y selection	Same as P0-03 (Main Frequency Source X Selection)	0	★	61444
P0-05	Selection of frequency source range during superposition	0: Relative to the maximum frequency 1: Relative to frequency source X	0	☆	61445
P0-06	Superposition of frequency source Y range	0% ~ 150%	100%	☆	61446
P0-07	Frequency sources superposition method selection	Units digit: Frequency source selection 0: Primary frequency source X 1: Primary-secondary operation (operation method determined by the tens digit) 2: Switching between primary frequency source X and secondary frequency source Y 3: Switching between primary frequency source X and the result of primary-secondary operation 4: Switching between secondary frequency source Y and the result of primary-secondary operation Tens digit: Frequency source primary-secondary operation relationship 0: Primary + Secondary 1: Primary - Secondary 2: Maximum value of both 3: Minimum value of both 4: Primary x Secondary 5: Primary / Secondary Note: When using primary / secondary, ensure the primary is adjusted to its minimum value first, and the secondary to its maximum value.	00	☆	61447
P0-08	Preset frequency	0.00 Hz ~ Maximum frequency (P0-10)	50.00 Hz	☆	61448
P0-09	Direction of movement	0: Same direction 1: Opposite directions	0	☆	61449
P0-10	Direction of movement	50.00 Hz ~ 320.00 Hz (P0-22-2) 50.00 Hz ~ 3200.0 Hz (P0-22-1)	50.00 Hz	★	61450

P0-11	Upper limit frequency source	0: P0-12 setting 1: AI1 2: AI2 3: AI3 External keyboard potentiometer 4: HDI pulse setting 5: Communication input	0	★	61451
P0-12	Upper limiting frequency	Lower limit frequency P0-14 Maximum frequency P0-10	50.00 Hz	☆	61452
P0-13	Upper Frequency Bias	0.00 Hz ~ Maximum frequency P0-10	0.00 Hz	☆	61453
P0-14	Lower Limit Frequency	0.00 Hz ~ Upper limit frequency P0-12	0.00 Hz	☆	61454
P0-15	Carrier frequency	0.5 kHz ~ 16.0 kHz	Model confirmed	☆	61455
P0-16	The carrier frequency is adjusted according to temperature.	0: No 1: yes	0	☆	61456
P0-17	Acceleration Time 1	0s~65000s (P0-19=0) 0.0s~6500.0s (P0-19=1) 0.00s~650.00s (P0-19=2)	Model confirmed	☆	61457
P0-18	Reduction Time 1				61458
P0-19	Acceleration and deceleration time unit	0: 1 seconds 1: 0.1 seconds 2: 0.01 seconds	1	★	61459
P0-21	During superposition, the auxiliary frequency source has a bias frequency	0.00 Hz ~ Maximum frequency P0-10	0.00 Hz	☆	61461
P0-22	Frequency Instruction Resolution	1: 0.1 Hz 2: 0.01Hz Note: changed to 1. It can achieve high-frequency output.	2	★	61462
P0-23	Digital setting for frequency based shutdown memory	0: No memory 1: Memory	1	☆	61463
P0-24	Keep	-	0	★	61464
P0-25	Reference frequency for acceleration and deceleration times	0: Maximum frequency (P0-10)	0	★	61465
P0-26	Runtime Frequency Instruction UP/DOWN Benchmark		0	★	61466
P0-27	Command Source Bundling Frequency Source	Units digit Operation panel command binding frequency source selection 0: No binding 1: Digital frequency setting 2: AI 1 3: AI 2 4: AI 3 External Keyboard Potentiometer 5: HDI Pulse Setting (X5) 6: Multi-speed 7: Simple PLC 8: PID 9: Communication given Tens Terminal command binding frequency source selection Hundreds Communication command binding frequency source selection Thousands: Automatically run frequency source selection binding	0000	☆	61467
P0-29	Application Macro	Setting range: 0 65535 1: Variable frequency single pump constant pressure water supply macro 4: Variable frequency single pump discharge pressure water supply macro 6: Variable frequency single pump constant pressure macro. The first line displays the frequency. The second line displays: Set pressure - Feedback pressure. 7: Fire Inspection & Water Supply Macro 11: CNC Machine Tool 100Hz Macro 1 12: CNC Machine Tool 100Hz Macro 2 17: Spindle Engraving 300Hz Macro 1 (Linear Multi-segment) 18: Spindle Engraving 300Hz Macro 2 (Multi-point Multi-segment) 19: Spindle Engraving 300Hz Macro 3 (17 + Sleep) 20: Spindle Engraving 300Hz Macro 4 (18 + Sleep) 21: Spindle Engraving 400Hz Macro 1 (Linear Multi-segment) 22: Spindle Engraving 400Hz Macro 2 (Multi-point Multi-segment) 23: Spindle Engraving 400Hz Macro 3 (Linear Multi-segment Sleep) 24: Spindle Engraving 400Hz Macro 4 (Multi-point Multi-segment Sleep) 29: Spindle Engraving 600Hz Macro 1 (Linear Multi-segment Sleep) 30: Spindle Engraving 600Hz Macro 2 (Multi-point Sleep) 31: Spindle Engraving 800Hz Macro 1 (Linear Multi-segment Sleep) 32: Spindle Engraving 800Hz Macro 2 (Multi-point Multi-segment Sleep) 33: Spindle Engraving 1000Hz Macro 1 (Linear Multi-segment Sleep) 34: Spindle Engraving 1000Hz Macro 2 (Multi-point Multi-segment Sleep) 35: Spindle Engraving 1333Hz Macro 1 (Linear Multi-segment Sleep) 36: Spindle Engraving 1333Hz Macro 2 (Multi-point Multi-segment Sleep) 5xx: Photovoltaic MPPT Water Pump Macro (Request from Manufacturer) Note 1: Before selecting a macro number, first execute PP-01 to restore factory settings, then select the macro number.	0	★	61469

Group P1 Basic Parameters					
Function Code	Name	Set range	Factoryvalue	Property	DEC address
P 1-00	Motor Type Query	0: Ordinary asynchronous motor 1: Variablefrequency asynchronous motor 2: Permanent Magnet Synchronous Motor	0	●	6 1696
P 1-01	Motor rated power	0.1 ~ 1000KW	Model Selec-tion	★	6 1697
P 1-02	Motor rated voltage	1 ~ 380V	Model Selec-tion	★	6 1698
P 1-03	Motor rated current	0.01 ~ 100.00A	Model Selec-tion	★	6 1699
P 1-04	Motor rated frequency	0.01 Hz to maximumfrequency	Model Selec-tion	★	6 1700
P 1-05	Motor rated speed	1 ~ 65535rpm	Model Selec-tion	★	6 1701
P 1-06	Asynchronous motor stator resistance	0.001 Ω to 65.535Ω (inverter power ≤ 55 kW); 0.0001 Ω to 6.5535 Ω (inverter power > 55 kW)	Tuning Parameter	★	6 1702
P 1-07	Asynchronous motor rotor resistance	0.001 Ω to 65.535Ω (inverter power ≤ 55 kW); 0.0001 Ω to 6.5535 Ω (inverter power > 55 kW)	Tuning Parameter	★	6 1703
P 1-08	Asynchronous motor leakage inductance resistance	0.01 mH to 655.35mH (inverter power ≤ 55 kW); 0.001 mH to 65.535 mH (inverter power > 55 kW)	Tuning Parameter	★	6 1704
P 1-09	Asynchronous motor mutual inductance	0.1mH to 6553.5mH (inverter power ≤ 55 kW); 0.01 mH to 655.35 mH (inverter power > 55 kW)	Tuning Parameter	★	6 1705
P1- 10	No-load current of an asynchronous motor	0.01 ~ P 1-03	Tuning Parameter	★	6 1706
P1- 16	Synchro machine stator resistance	0.001 ~ 65.535Ω (≤ 55KW) 0.0001 ~ 6.5535Ω (>55KW)	Tuning Parameter	★	6 1712
P1- 17	Synchronous Machine D-Axis Inductor	0.01 ~ 655.35mH (≤ 55KW) 0.001 ~ 65.535 mH (>55KW)	Tuning Parameter	★	6 1713
P1- 18	Synchronous Machine Q-Axis Inductor	0.01 ~ 655.35mH (≤ 55KW) 0.001 ~ 65.535 mH (>55KW)	Tuning Parameter	★	6 1714
P1- 19	Keep	-	-	★	6 1715
P 1-20	Counter electromotive force of a synchronous machine	0.0 ~ 6553.5V	Tuning Parameter	★	6 1716
P 1-37	Tuning Selection	00: No action 01: Asynchronous machine static tuning 02: Complete Tuning of the Asynchronous Machine 11: Synchronous machine tuning under load 12: Synchronous machine no-load tuning	00	★	6 1733

P2 Group Vector Parameters					
Function Code	Name	Set Range	Factory Value	Attribute	DEC Address
P2-00	Speed Range Proportional Gain 1	1 ~ 100	30	☆	61952
P2-01	Speed loop integral time 1	0.01 ~ 10.00s	0.50s	☆	61953
P2-02	Switch Frequency 1	0.00 ~ P2-05	5.00Hz	☆	61954
P2-03	Speed Range Proportional Gain 2	1 ~ 100	20	☆	61955
P2-04	Speed loop integral time 2	0.01s ~ 10.00s	1.00s	☆	61956
P2-05	Switch Frequency 2	P2-02 ~ Maximum Frequency	10.00Hz	☆	61957
P2-06	Vector-controlled slip gain	50 ~ 200%	150%	☆	61958
P2-07	Speed Loop Filter Time Constant	0.000 ~ 0.100s	0.050s	☆	61959
P2-08	Vector-controlled over-excitation gain	0 ~ 200	64	☆	61960
P2-09	Torque Upper Limit Source under Speed Control Mode	0: Function Code P2-10 Setting 1: AI1 2: AI2 3: Keyboard Potentiometer 4: PULSE Setting 5: Communication Given 6: MIN (AI1, AI2) 7: The full range of options 1 ~ 7 for MAX (AI1, AI2) corresponds to P2 ~ 10.	0	☆	61961
P2-10	Digital setting of the maximum torque under speed control mode	0.0% ~ 200.0%	150.0%	☆	61962
P2-13	Excitation regulation proportional gain	0 ~ 60000	2000	☆	61965
P2-14	Excitation regulation integral gain	0 ~ 60000	1300	☆	61966
P2-15	Torque adjustment ratio gain	0 ~ 60000	2000	☆	61967
P2-16	Torque adjustment integral gain	0 ~ 60000	1300	☆	61968
P2-17	Speed Loop Integral Property	Unit digit: Point separation 0: Invalid 1: valid	0	☆	61969
P2-18	Keep	-	-	●	61970
P2-19	Keep	-	-	●	61971
P2-20	Keep	-	-	●	61972
P2-21	Maximum torque coefficient in the weak magnetic region	50 ~ 200	100	☆	61973
P2-22	Power generation capacity restrictions are enabled	0 ~ 1	0	☆	61974
P2-23	Maximum Power Generation Capacity	0.0 ~ 200.0%	20.0	☆	61975
P2-24	PM Weak Magnetic Mode	0 ~ 2	1	☆	61976
P2-25	PM Weak Magnetic Coefficient	1 ~ 50	5	☆	61977
P2-26	Maximum weak magnetic current of PM	0 ~ 300	50	★	61978
P2-27	PM Weak Magnetic Automatic Tuning Coefficient	10 ~ 500	100	☆	61979
P2-28	PM Weak Magnetic Integration Factor	0 ~ 1	0	★	61980
P2-29	PM Output Voltage Upper Limit Margin	1 ~ 50	05	☆	61981
P2-30	PM Initial Position Detection Current	50 ~ 180%	80%	☆	61982
P2-31	PM Initial Position Detection	0 ~ 2	0	☆	61983
P2-32	Speed Loop Mode Selection	0 ~ 1	0	●	61984
P2-33	PM Convex Pole Rate Adjustment Gain	50 ~ 500	100	☆	61985
P2-34	Maximum Torque Current Ratio Control	1	1	☆	61986
P2-35	Feedforward Compensation Mode	0	0	★	61987
P2-36	Current loop KP during tuning	1 ~ 100	6	☆	61988
P2-37	Current loop KI during tuning	1 ~ 100	6	☆	61989

P2-38	Enable Z Signal Cor-recton	0 ~ 1	1	☆	61990
P2-39	PM SVC Speed Filter-ringLevel	10 ~ 1000	100	★	61991
P2-40	PM SVC Speed Est-imationProportionaGain	5 ~200	40	★	61992
P2-41	PM SVC Speed Est-imationIntegralGain	5 ~200	30	☆	61993
P2-42	PM SVC Initial Excita-tion CurrentLimitation	0 ~80%	20	☆	61994
P2-43	PM SVC MinimumCarrierFrequency	0.8 ~P0-15	1.5	☆	61995
P2-44	Low-frequency operating mode	0 ~ 1	0	☆	61996
P2-45	Low-frequency activa-tion	0 ~ 1000	200	☆	61997
P2-46	Low-frequency Frequency Step Size	0.0 ~ 1000.0	1.0	☆	61998
P2-47	Low-frequency braking current	0 ~80%	50	☆	61999
P2-48	PM SVC Speed Tracking	0 ~ 1	0	☆	62000
P2-49	Zero Servo Enable	0 ~ 1	0	☆	62001
P2-50	SwitchingFrequency	0.00 ~ P2-02	0.30	☆	62002
P2-51	Zero-servo speedloop proportionalgain	1~ 100	10	☆	62003
P2-52	Zero-servo speedloop integrationtime	0.01~10.00	0.50	☆	62004
P2-53	During shutdown, re-versal is prohibited.	1~ 1	0	☆	62005
P2-54	StopAngle	0.0 ~ 10.0	0.8	☆	62006
P2-55	Online Tuning enabled	0: Close 1: Tuning before the first operationafter power on 2: Tuning Before Operation	0	☆	62007
P2-56	Onlineidentificationof back electromotive force	0: Close 1: Enable	0	★	62008
P2-57	SVC Initial PositionCompensationAngle	0.0 ~360.0	0.0	☆	62009

P3 GroupV/F ControlParameters

Function Code	Name	Set Range	FactoryValue	Attribute	DEC Address
P3-00	V/F curve setting	0: Linear V/F 1: Multi-point V/F 2: SquareV/F 3: V/F raised to the power of 1.2 4: V/F raised to the power of 1.4 6: 1.6 raised to the power 8: V/F raised to the power of 6 (V/F) of 1.8; 9: retained 10: Complete separationof VF 11: VF semi-separation	0	★	62208
P3-01	Torqueincrease	0.0%: (Automatic torqueincrease)0.1~30.0%	Model Selection	☆	62209
P3-02	Torqueincrease cutofffrequency	0.00 Hz to maximum fr-equency	15.00Hz	★	62210
P3-03	Multiple-point VF FrequencyPoint 1	0.00Hz~P3-05	1.30Hz	★	62211
P3-04	Multi-point VF VoltagePoint 1	0.0% ~ 100.0%	15.0%	★	62212
P3-05	Multi-point VF FrequencyPoint 2	P3-03 ~P3-07	5.00Hz	★	62213
P3-06	Multi-point VF VoltagePoint 2	0.0% ~ 100.0%	20.0%	★	62214
P3-07	Multi-point VF FrequencyPoint 3	P3-05: Motor's rated frequency(P1-04)	70.00Hz	★	62215
P3-08	Multi-point VF VoltagePoint 3	0.0% ~ 100.0%	100.0%	★	62216
P3-09	VF Slippage Compe-nsationGain	0.0% ~200.0%	0.0%	☆	62217
P3-10	VF Over-excitationGain	0~ 200	64	☆	62218
P3-11	VF Oscillation Suppression Gain	0~ 100	Model Selec-	☆	62219
P3-34	AVR FS	0: Close AVR 1: AVR enabled	1	☆	62242

GroupP4 InputTerminal					
FunctionCode	Name	Set Range	Factory Value	Attribute	DEC Address
P4-00	S1 Terminal Function Selection	0: No function 1: Forwarddrive (FWD) 2: Reverse Operation (REV) 3: Threeline operationcontrol 4: Forwardjog (FJOG) 5: Reversal Point Signal (RJOG) 6: TerminalUP 7: TerminalDOWN	01	★	62464
P4-01	S2 Terminal Function Selection	8: Free Parking 9: Fault Reset (RESET) 10: Operationpaused 11: Externalfault normally open input 12: Multi-stage InstructionTerminal 1 13: Multi-stage InstructionTerminal 2 14: Multi-stage InstructionTerminal 3	02	★	62465
P4-02	S3 Terminal Function Selection	15: Multi-stage InstructionTerminal 4 16: Acceleration and deceleration time selectionterminal 1 17: Acceleration and Deceleration Time SelectionTerminal 2 18: FrequencySourceSwitching 19: Reset UP/DOWN settings (via terminal/kernelboard) 20: Run Command to Switch Terminal 1 21: Acceleration and deceleration are prohibited 22: PID pause	04	★	62466
P4-03	S4 Terminal Function Selection	23: PLC State Reset 24: Pause of oscillation frequency 25: CounterInput 26: Counterreset 27: LengthCountInput 28: Lengthreset 29: Torque control is prohibited 30: HDI Pulse FrequencyInput(X5)	09	★	62467
P4-04	S5 Terminal Function Selection	31: Retain 32: Immediate DC braking 33: External Fault Normally Closed Input 34: Frequency modification enabled 35: The direction of PID operation is reversed. 36: External Parking Terminal 1 37: Run Command to Switch Terminal 2	12	★	62468
P4-05	Keep	38: PID IntegrationPause 39: Frequency source X switches to the preset frequency 40: Frequency source Y switches to the preset frequency 43: PID Parameter Switching 44: User-defined Fault 1 45: User-defined Fault 2 46: Switching between Speed Control and Torque Control	00	★	62469
P4-06	Keep	47: Emergency Stop 48: External Parking Terminal 249: Deceleration DC braking 50: Reset the run time to zero 51: Switching between two-wire and three-wire configurations 52: Reversal is prohibited 53: Single-terminal UP/DOWN enable, frequency source switching (same as function 18) 54: The terminal is activated when UP, not activated when DOWN.	00	★	62470

Function Code	Name	Set Range	Factory Value	Attribute	DEC Address
P4-10	S-terminal filtering time	0.000s ~ 1.000s	0.010s	☆	62474
P4-11	Terminal Command Method	Unit digit: choose between two-line or three-line format 0: Two-line 1 1: Two-line configuration 2 2: Three-wire configuration 1 3: Three-wire Type 2 Position 10: Multi-stage quick terminal start enable 0: Invalid 1: Enable	00	★	62475
P4-12	Terminal UP/DOWN Change Rate	0.001Hz/s ~ 65.535Hz/s	1.00Hz/s	☆	62476
P4-13	AI Curve 1 Minimum Input	0.00V ~ P4-15	0.00V	☆	62477
P4-14	AI Curve 1: Minimum Input Value Settings	-100.0% ~ +100.0%	0.0%	☆	62478
P4-15	AI Curve 1 Maximum Input	P4-13 ~ +10.00V	10.00V	☆	62479
P4-16	AI Curve 1: Maximum Input Value Setting	-100.0% ~ +100.0%	100.0%	☆	62480
P4-17	AI1 Filtering Time	0.00s ~ 10.00s	0.10s	☆	62481
P4-18	AI Curve 2 Minimum Input	0.00V ~ P4-20	0.00V	☆	62482
P4-19	AI Curve 2: Minimum Input Setting	-100.0% ~ +100.0%	0.0%	☆	62483
P4-20	AI Curve 2 Maximum Input	P4-18 ~ +10.00V	10.00V	☆	62484
P4-21	AI Curve 2 Maximum Input Corresponding Setting	-100.0% ~ +100.0%	100.0%	☆	62485
P4-22	AI2 Filtering Time	0.00s ~ 10.00s	0.10s	☆	62486
P4-23	AI Curve 3 Minimum Input	0.00V ~ P4-25	0.50V	☆	62487
P4-24	AI Curve 3: Minimum Input Value Settings	-100.0% ~ +100.0%	0.0%	☆	62488
P4-25	AI Curve 3 Maximum Input	P4-23 ~ +10.00V	9.70V	☆	62489
P4-26	AI Curve 3 Maximum Input Correspondence Setting	-100.0% ~ +100.0%	100.0%	☆	62490
P4-27	AI3 Filtering Time	0.00s ~ 10.00s	0.10s	☆	62491
P4-28	Minimum Input Pulse for HDI	0.00kHz ~ P4-30	0.00kHz	☆	62492
P4-29	Minimum input value for HDI pulse	-100.0% ~ 100.0%	0.0%	☆	62493
P4-30	Maximum Input Pulse for HDI	P4-28 ~ 50.00kHz	50.00kHz	☆	62494
P4-31	Maximum Input Setting for HDI Pulse	-100.0% ~ 100.0%	100.0%	☆	62495
P4-32	HDI Pulse Filtering Time	0.00s ~ 10.00s	0.10s	☆	62496
P4-33	AI Curve Selection	Unit digit: AI1 Curve Selection 1: Curve 1 (2 points, P4-13 to P4-16) 2: Curve 2 (2 points, P4-18 to P4-21) 3: Curve 3 (2 points, P4-23 to P4-26) - Tenth digit: AI2 curve selection, as above Hundreds place: AI3 curve selection, same as above	H.321	☆	62497
P4-34	AI below the minimum input threshold selection	Unit digit: AI1 - below the minimum input setting; select 0: correspond to the minimum input setting 1: 0.0% 10th position: AI2 is below the minimum input setting; same as above Hundreds place: AI3 is below the minimum input setting; same as above	H.000	☆	62498
P4-35	Effective Mode Selection for S Terminal 1	0: High level is valid 1: Low-level valid unit digit: S1 Tenth place: S2 Hundreds: S3 Thousands: S4 Ten Thousand Position: S5	00000	★	62499

P4-36	S-terminal Effective Mode Selection 2	0: High level is valid 1: Low-level valid unit digit S1 Tenth place: S2 Hundreds: S3 Thousands: S4 Ten Thousand Position: S5	00000	★	62499
P4-37	AI Input Voltage/Current Selection	Unit: AI1 Tenth place: AI2 0: Voltage Input 1: Current Input	10	★	62501
P4-38	S1 Conduction Delay Time	0.0s ~ 6553.5s	0.0S	★	62502
P4-39	S2 Conduction Delay Time	0.0s ~ 6553.5s	0.0S	★	62503
P4-40	S3 Conduction Delay Time	0.0s ~ 6553.5s	0.0S	★	62504
P4-41	S4 Conduction Delay Time	0.0s ~ 6553.5s	0.0S	★	62505
P4-42	S5 Conduction Delay Time	0.0s ~ 6553.5s	0.0S	★	62506
P4-43	Keep	0.0s ~ 6553.5s	0.0S	★	62507
P4-44	Keep	0.0s ~ 6553.5s	0.0S	★	62508
P4-48	S1 Disconnection Delay Time	0.0s ~ 6553.5s	0.0S	★	62512
P4-49	S2 Disconnection Delay Time	0.0s ~ 6553.5s	0.0S	★	62513
P4-50	S3 Disconnection Delay Time	0.0s ~ 6553.5s	0.0S	★	62514
P4-51	S4 Disconnection Delay Time	0.0s ~ 6553.5s	0.0S	★	62515
P4-52	S5 Disconnection Delay Time	0.0s ~ 6553.5s	0.0S	★	62516
P4-53	Keep	0.0s ~ 6553.5s	0.0S	★	62517
P4-54	Keep	0.0s ~ 6553.5s	0.0S	★	62518
P4-58	Frequency Up/Down Automatic Zeroing Mode	0: No automatic reset function 1: Reset when powered on 2: Reset upon failure 3: Reset upon reversal	0	★	62522

Group P5 Output Terminal

Function Code	Name	Set Range	Factory Value	Attribute	DEC Address
P5-00	HDO Terminal Output Mode Selection	0: High-speed PulseOutput (HDO) 1: Terminal switch output (Y3)	0	☆	62720
P5-01	HDO Terminal Switching Quantitative Output Function Selection (Y3)	0: No output 1: During the operation of the frequency converter 2: Fault Output (Failure Shutdown) 3: Frequency Level Detection (FDT1Output) 4: Frequency Arrival 5: Operating at zero speed (no output when stopped) 6: Motor overload pre-alarm 7: Inverter Overload Pre-alarm 8: Set value when reached 9: Specified value reached 11: PLC cycle completed 12: Cumulative operation time reached 13: Frequency restrictions applied 14: Torque limit set 15: Operation ready 16: AI1>AI2 17: Upper frequency reached 18: Lower limit frequency reached (related to operation) 19: Output in lowvoltage state 20: Communication Settings 23: Operating at zero speed	00	☆	62721
P5-02	Relay RY1 Function Selection (K1A - K1B - K1C)	(output also during shutdown) 24: Cumulative power-on time reached 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 30: Timed arrival output 31: AI1 input exceeds limit 32: Loading in progress 33: Running in reverse 34: Zero-current state 35: Module temperature reached 36: Output current exceeds limit 37: Lower limit frequency reached	02	☆	62722
P5-03	Relay RY2 Function Selection (K2A - K2B - K2C)	(output also during shutdown) 38: Alert Output(Continue Running) 40: The run time has reached 41: Fault output (for faults causing voluntary shutdown; undervoltage conditions are not detected) 42: Frequency 1 <=Operating Frequency<= Frequency 2 43: Frequency 1>=Operating Frequency>= Frequency 2 44: Frequency 1 <=Set Frequency <=Frequency 2 45: Frequency 1 >=Set Frequency >=Frequency 2 (Note:Frequencies 1 and 2 refer to P8-30 and P8-32) 46: Link to S1 Terminal Output 47: Connect to the S2terminal output 48: Link to S3 Terminal Output	00	☆	62723
P5-04	Y1 Output Function Selection		01	☆	62724

		49: Connect to the S4 terminal out put 50: Auxiliary Motor Water Pump 1 51: Auxiliary Motor Water Pump 2 52: Auxiliary Motor Water Pump 3 53: Auxiliary Motor Water Pump 4 54: Sleeping			
P5-06	HDO High-Speed Pulse Output Function Selection	0: Operating Frequency 1: Set Frequency 2: Output Current 3: Output Torque 4: Output Power 5: Output Voltage	00	☆	62726
P5-07	AO1 Output Function Selection	6: HDI pulse input (100% corresponds to 100.0 kHz) 7: AI1 8: AI2 9: AI3 11: Number Value 12: Communication Settings 13: Motor Speed	00	☆	62727
P5-08	Keep	14: Output current (100.0% corresponds to 1000.0 A) 15: Output Voltage (100.0% corresponds to 1000.0 V) 16: Save 17: Inverter output torque	01	☆	62728
P5-09	Maximum Output Frequency of HDO	0.01kHz ~ 50.00kHz	50.00kHz	☆	62729
P5-10	AO1 Zero Bias Coefficient	-100.0% ~ +100.0%	0.0%	☆	62730
P5-11	AO1 Gain	-10.00 ~ +10.00	1.00	☆	62731
P5-12	Keep	-100.0% ~ +100.0%	0.0%	☆	62732
P5-13	Keep	-10.00 ~ +10.00	1.00	☆	62733
P5-17	Y3 Delayed closure time	0.0s ~ 6553.5s	0.0s	☆	62737
P5-18	RY1 delayed closure time	0.0s ~ 6553.5s	0.0s	☆	62738
P5-19	Keep	0.0s ~ 6553.5s	0.0s	☆	62739
P5-20	Y1 delayed closure time	0.0s ~ 6553.5s	0.0s	☆	62740
P5-21	Keep	-	-	-	62741
P5-22	Y Terminal Output Valid State Selection	0: Positive logic 1: Negative logic Unit digit: HDO terminal Tenth position: RY1 Hundreds: retained Thousands: Y1 Ten Thousand Position: Retain	00000	☆	62742
P5-23	AO Output Current Selection	Unit: AO1 10th place: AO2 0: 0-20mA 1: 4-20mA	0	☆	62743
P5-24	Y3 Delayed Disconnection Time	0.0s ~ 6553.5s	0.0s	☆	62744
P5-25	RY1 Delayed Disconnection Time	0.0s ~ 6553.5s	0.0s	☆	62745
P5-26	Keep	0.0s ~ 6553.5s	0.0s	☆	62746
P5-27	Y1 Delayed Disconnection Time	0.0s ~ 6553.5s	0.0s	☆	62747

Function Code	Name	Set Range	Factory Value	Attribute	DEC Address
Group P6: Start/Stop Control					
P6-00	Starting mode	0: Start directly 1: Speed tracking restarted 2: Pre-excitation startup (AC asynchronous motor)	0	☆	62976
P6-01	Speed Tracking Method	0: Starting from downtime frequency 1: Start from zero speed 2: Start from the highest frequency	0	★	62977
P6-02	Speed tracking speed	1~ 100	20	☆	62978
P6-03	Activation Frequency	0 ~ P0-10	0.00Hz	☆	62979
P6-04	Activation Frequency Maintenance Time	0.0s ~ 100.0s	0.0s	★	62980
P6-05	Start-up DC braking current/Pre-excitation current	0% ~ 100%	0%	★	62981
P6-06	Time for starting DC braking/pre-excitation	0.0s ~ 100.0s	0.0s	★	62982
P6-07	Acceleration and Deceleration Methods	0: Linear acceleration and deceleration 1: S-curve acceleration and decelerationA 2: S-curve acceleration and decelerationB Note: The simplified motherboard M41H1 does not have items 1 and 2.	0	★	62983
P6-08	Proportion of the initial phase duration for the S curve	0.0% ~ (100.0%-P6-09)	30.0%	★	62984
P6-09	Proportion of time at the end of the S curve	0.0% ~ (100.0%-P6-08)	30.0%	☆	62985
P6-10	Downtime Method	0: Slow down and stop 1: Free Parking	0	☆	62986
P6-11	Starting frequency for DC braking during shutdown	0.00 Hz to Maximum Frequency	0.00Hz	☆	62987
P6-12	DC braking shutdown waiting time	0.0s ~ 100.0s	0.0s	☆	62988
P6-13	Shut-down DC braking current	0% ~ 100%	0%	☆	62989
P6-14	DC braking time during shutdown	0.0s ~ 100.0s	0.0s	☆	62990
P6-15	Braking Usage Rate	0% ~ 100%	100%	☆	62991
P6-16	Speed-tracking closed-loop current KP	0~ 1000	500	★	62992
P6-17	Fast-tracking closed-loop current KI	0~ 1000	800	★	62993
P6-18	Size of the closed-loop current for speed tracking	30 ~ 200	100	★	62994
P6-19	Lower limit value for the closed-loop current in speed tracking mode	10 ~ 100	30	★	62995
P6-20	Rotational speed tracking voltage rise time	0.5 ~ 3.0s	1.1s	★	62996
P6-21	Demagnetization Time	0.00~ 5.00s	0.50s	☆	62997
P6-22	Keep	-	-	★	62998
P6-23	Keep	-	-	★	62999
P6-24	Keep	-	-	★	63000
P6-25	Keep	-	-	★	63001
P6-26	Keep	-	-	★	63002
Group P7: Keyboard and Display					
Function Code	Name	Set Range	Factory Value	Attribute	DEC Address
P7-00	Display Function Extension 1	Unit digit: Power supply voltage monitoring method 0: DC bus voltage 1: Input AC voltage (with the letter U before it)	00000	☆	63232
P7-01	M.F.K Key Function Selection	0: M.F.K Invalid 1: Switch between the Panel Command Channel and the Remote Command Channel (Terminal Command Channel or Communication Command Channel) 2: Forward/Reverse Switch 3: Forward rotation point movement 4: Reversal Point Dot 5: Free Parking 6: Reversal Mode	0	☆	63233

		7: Run commands (press the RUN/ STOP keys together; use the MFK function key as RUN)			
P7-02	STOP/RESET Key Functions	0: The STOP/RES key stop functions only active in keyboard operation mode 1: The STOP/RES key function remains effective under all operating modes	1	☆	63234
P7-03	LED Operation Display 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: X Input State Bit08: Y Output Status Bit09: AI1 Voltage (V) Bit10: AI2 Voltage (V) Bit11: Potentiometer voltage (V) for the AI3 panel Bit12: Numerical Value Bit13: Left Bit14: Load speed display Bit15: PID settings (pressure value displayed by the water supply mac-no)	H.001F	☆	63235
P7-04	LED Operation Display Parameters 2	0000 ~FFFF Bit00: PID feedback (pressure value displayed by the water supply mac-no) Bit01: PLC Phase Bit02: HDI Input Pulse Frequency (kHz) Bit03: Operating Frequency 2 (Hz) Bit04: Remaining runtime Bit05: Pre-calibration voltage of AI1 (V) Bit06: Voltage before AI2 calibration (V) Bit07: Voltage (V) of the AI3 panel potentiometer before calibration Bit08: Line Speed Bit09: Current power-on time (Hour) Bit10: Current runtime (min) Bit11: HDI input pulse frequency (Hz) Bit12: Communication Setting Value Bit13: Encoder feedback speed (Hz) Bit14: Main frequency X display (Hz) Bit15: Auxiliary frequency Y display (Hz)	H.0000	☆	63236
P7-05	LED Power Off Display Parameters	0000 ~FFFF Bit00: Set Frequency (Hz) Bit01: Bus voltage (V) Bit02: X Input State Bit03: Y Output Status Bit04: AI1 Voltage (V) Bit05: AI2 Voltage (V) Bit06: AI3 Panel Potentiometer Voltage (V) Bit07: Numerical Value Bit08: Length value Bit09: PLC Stage Bit10: Load Speed Bit11: PID Setting (Pressure) Bit12: HDI input pulse frequency (kHz) Bit13: PID Feedback (Pressure)	H.0033	☆	63237

P7-06	Load SpeedMeasurementCoefficient	0.0001 ~6.5000	1.0000	☆	63238
P7-07	Inverter Modulatorator Temperature	0.0°C ~ 100.0°C	-	●	63239
P7-09	Total RunningTime	0h~ 65535h	-	☆	63241
P7-12	Load speedshows number ofdecimal places	0: 0 decimal places 2: 2 decimal places 1: 1 decimal place 3: 3 decimal places	1	☆	63244
P7-13	Total Power-OnTime	0~ 65535h	-	●	63245
P7-14	Total ElectricityConsumption	0 to 65,535 degrees	-	●	63246
P7-17	Digital Display 2Stop MonitoringSelection	00 ~ 99 (corresponding to parameter number U0 group)	02	☆	63249
P7-18	Digital Display 2Operation Monitoring Selection	00 ~ 99 (corresponding to parameter number U0 group)	04	☆	63250
P7-23	Parameter CopySelection	0: No action 1: Upload the frequency converter parameters to the keyboard. 2: Download keyboard parameters to the frequency converter	0	★	63256
P7-24	Key error prevention: Prevent accidental locking selection	0: No action 1: All keys except RUN/STOP are locked. 2: Lock all Note: Hold the ENTER key for 3 seconds to unlock	0	★	63257
Group P8: Auxiliary Functions					
Function Code	Name	Set Range	Factory Value	Attribute	DEC Address
P8-00	Click-to-run frequency	0.00 Hz to maximum frequency	6.00Hz	☆	63488
P8-01	Click Acceleration Time	0.0s ~6500.0s	20.0s	☆	63489
P8-02	Click-based deceleration time	0.0s ~6500.0s	20.0s	☆	63490
P8-03	Acceleration Time 2	0.0s ~6500.0s	Model Selection	☆	63491
P8-04	Reduction Time 2	0.0s ~6500.0s	Model Selection	☆	63492
P8-05	Acceleration Time 3	0.0s ~6500.0s	Model Selection	☆	63493
P8-06	Reduction Time 3	0.0s ~6500.0s	Model Selection	☆	63494
P8-07	Acceleration Time 4	0.0s ~6500.0s	Model Selection	☆	63495
P8-08	Reduction Time 4	0.0s ~6500.0s	Model Selection	☆	63496
P8-09	Jump Frequency 1	0.00 Hz to maximum frequency	0.00Hz	☆	63497
P8-10	Jump Frequency 2	0.00 Hz to maximum frequency	0.00Hz	☆	63498
P8-14	Run in mode with the set frequency below the lower limit frequency	0: Operate at the lower frequency 1: Stop 2: Operating at arm speed	0	☆	63502
P8-15	Hang Control	0.00Hz ~ 10.00Hz	0.00Hz	☆	63503
P8-16	Set cumulative power-on completion time	0h~65000h	0h	☆	63504
P8-17	Set cumulative run arrival time	0h~65000h	0h	☆	63505
P8-18	Enable Protection Options	0: No Protection 1: Protection	0	☆	63506
P8-19	Frequency Measurement Value(FDT1)	0.00 Hz to maximum frequency	50.00Hz	☆	63507
P8-20	Frequency Detection Lag Value	0.0% to 100.0% (FDT1 level)	5.0%	☆	63508
P8-21	Frequency Detection Width Upon Arrival	0.0% to 100.0% (maximum frequency)	0.0%	☆	63509
P8-25	Acceleration Time 1 and Acceleration Time 2 Switching Frequency Point	0.00 Hz to maximum frequency	0.00Hz	☆	63513
P8-26	Reduction Time 1 and Reduction Time 2 Switch Frequency Point	0.00 Hz to maximum frequency	0.00Hz	☆	63514
P8-27	Terminal point activation priority	0: Invalid 1: Valid	0	☆	63515
P8-28	Frequency Measurement Value(FDT2)	0.00 Hz to maximum frequency	50.00Hz	☆	63516
P8-29	Frequency Detection Lag Value	0.0% to 100.0% (FDT2 level)	5.0%	☆	63517
P8-30	Arbitrary arrival frequency detection value 1	0.00 Hz to maximum frequency	50.00Hz	☆	63518
P8-31	Arbitrary arrival frequency detection width 1	0.0% to 100.0% (maximum frequency)	0.0%	☆	63519
P8-32	Arbitrary arrival frequency detection value 2	0.00 Hz to maximum frequency	50.00Hz	☆	63520
P8-33	Arbitrary arrival frequency detection width 2	0.0% to 100.0% (maximum frequency)	0.0%	☆	63521
P8-34	Zero-current detection level	0.0% ~300.0%	5.0%	☆	63522
P8-35	Zero-current detection delay time	0.01s ~ 600.00s	0.10s	☆	63523
P8-36	Output Current Out-of-Tolerance Value	0.0% (Not detected)	200.0%	☆	63524

P8-37	Detection delay time for exceeding output current limits	0.00s ~600.00s	0.00s	☆	63525
P8-38	Arbitrary arrival current 1	0.0% to 300.0% (motor rated current)	100.0%	☆	63526
P8-39	Arbitrary arrival current 1 width	0.0% to 300.0% (motor rated current)	0.0%	☆	63527
P8-40	Arbitrary arrival current 2	0.0% to 300.0% (motor rated current)	100.0%	☆	63528
P8-41	Arbitrary arrival current 2 width	0.0% to 300.0% (motor rated current)	0.0%	☆	63529
P8-42	Timing Function Options	0: Invalid 1: Valid	0	☆	63530
P8-43	Regular Run Time Selection	0: P8-44 Settings 1: A11 2: A12 3: A13 Note: The analog input range corresponds to P8-44	0	☆	63531
P8-44	Regular Run Time	0.0Min ~6500.0Min	0.0Min	☆	63532
P8-45	Lower limit of the A1 input voltage protection value	0.00V ~P8-46	3.10V	☆	63533
P8-46	Upper limit of A1 input voltage protection value	P8-45 ~ 10.00V	6.80V	☆	63534
P8-47	Module temperature reached	0°C ~ 100°C	75°C	☆	63535
P8-48	Fan Control	0: Fan speed during operation 1: The fan is running continuously 2: Set the fan to start at the temperature specified on page 8-57. Note: The fan starts when	0	☆	63536
P8-49	Wake-up Frequency	Sleep frequency (P8 ~ 51) to maximum frequency (P0 ~ 10)	0.00Hz	☆	63537
P8-50	Wake-up delay time	0.0s ~6500.0s	0.0s	☆	63538
P8-51	Hibernation Frequency	0.00 Hz to Wake Frequency (P8-49)	0.00Hz	☆	63539
P8-52	Sleep latency time	0.0s ~6500.0s	0.0s	☆	63540
P8-53	Arrival time set forth its run	0.0Min ~ 6500.0Min	0.0Min	☆	63541
P8-57	Set temperature to start the fan	0°C ~ 120°C	30°C	☆	63542
Group P9: Defects and Protection Mechanisms					
Function Code	Name	Set Range	Factory Value	Attribute	DEC Address
P9-00	Motor Overload Protection Selection	0: Prohibited 1: Allowed	1	☆	63744
P9-01	Motor Overload Protection Gain	0.20 ~ 10.00	1.00	☆	63745
P9-02	Motor Overload Warning Coefficient	50% ~ 100%	80%	☆	63746
P9-03	Overvoltage stall gain	0 ~ 100	30	☆	63747
P9-04	Overvoltage stall action voltage	200.0 ~ 2000.0V 220V: 380V 380V:760V	Model Selection	☆	63748
P9-05	From a rapid increase in flow rate gain	0 ~ 100	20	☆	63749
P9-06	Protective current for excessive flow rate	100% ~ 200%	150%	☆	63750
P9-07	Selection of short-circuit protection between the power supply and ground	0: Invalid 1: Valid	1	☆	63751
P9-08	Voltage required for the energy consumption braking operation	200.0 ~ 2000.0V	220V:360V 380V:700V	☆	63752
P9-09	Number of automatic fault reset attempts	0 ~ 65535	0	☆	63753
P9-10	During automatic fault reset, select the fault DO action	0: No action 1: Action	0	☆	63754
P9-11	Automatic fault reset interval	0.1s ~ 100.0s	1.0s	☆	63755
P9-12	Enter the phase loss protection selection Note: The 2S model has this function disabled by default	0: Prohibited 1: Allowed	1	☆	63756
P9-13	Output Phase Loss Protection Selection	0: Prohibited 1: Allowed	1	☆	63757
P9-14	First Fault Type	0: No faults 1: Retain 2: Acceleration overcurrent 3: Slow-down overcurrent 4: Constant-speed overcurrent 5: Acceleration overvoltage 6: Derating Overvoltage 7: Constant-speed overvoltage	--	●	63758

		8: Buffer resistor overload 9: Low voltage 10: Inverter overload 11: Motor overload 12: Missing phase input 13: Output phase loss 14: Module overheating 15: External Fault 16: Communication error 17: Contactor malfunction 18: Abnormal current detection 19: Abnormal motor tuning 20: Save 21: Parameter read/write exception 22: Hardware malfunction in the frequency converter 23: The motor is short-circuited to ground. 24: Save 25: Retain 26: Run time reached 27: User-defined Fault 1 28: User-defined Fault 2			
P9-15	Second Type of Failure	29: The power-on time has arrived 30: Load Drop 31: PID feedback loss during operation 40: Rapid rate limiting timeout 41: Switch motor during operation 42: Excessive speed deviation 43: Motor overspeed 45: Retain 51: Incorrect initial position of the synchronization device 70: Water pressure deficiency fault 71: Overpressure fault	--	●	63759
P9-16	Third (most recent) fault type		--	●	63760
P9-17	Frequency during the third (most recent) failure	--	--	●	63761
P9-18	Current during the third (most recent) failure	--	--	●	63762
P9-19	Bus voltage during the third (most recent) failure	--	--	●	63763
P9-20	State of input terminals during the third (most recent) failure	--	--	●	63764
P9-21	State of the output terminals during the third (most recent) failure	--	--	●	63765
P9-22	Inverter status during the third (most recent) failure	--	--	●	63766
P9-23	Power-on time during the third (most recent) failure	--	--	●	63767
P9-24	Running time during the third (most recent) failure	--	--	●	63768
P9-27	Frequency during the second failure	--	--	●	63771
P9-28	Current during the second fault	--	--	●	63772
P9-29	During the second fault, the bus voltage was...	--	--	●	63773
P9-30	State of input terminals during the second failure	--	--	●	63774
P9-31	State of the output terminal during the second fault	--	--	●	63775
P9-32	State of the frequency converter during the second fault	--	--	●	63776
P9-33	Power-on time during the second failure	--	--	●	63777
P9-34	Running time during the second failure	--	--	●	63778
P9-37	Frequency during the first fault	--	--	●	63781
P9-38	Current during the first fault	--	--	●	63782

P9-39	During the first fault, the busvoltage was...			●	63783
P9-40	State of input terminals during the first fault	--	--	●	63784
P9-41	State of the output terminal during the first fault	--	--	●	63785
P9-42	State of the frequency converter during the first fault occurrence	--	--	●	63786
P9-43	Power-on time during the first failure	--	--	●	63787
P9-44	Running time during the first failure	--	--	●	63788
P9-47	Fault Protection Action Selection 1	Unit digit: Motor overload (11) Position 10: Missing phase input (12) Hundreds place: Output phase deficiency (13) Thousands: External Fault (15) Ten-thousand position: Communication error (16) 0: Free Parking 1: Stop according to the shutdown method 2: Continue running	00000	☆	63791
P9-54	Frequency Selection for Continued Operation During Failure	0: Run at the current frequency 1: Run at the set frequency 2: Operate at the upper frequency limit 3: Operate at the minimum frequency 4: Operate at an abnormal standby frequency	0	☆	63798
P9-55	Abnormal Reserve Frequency	60.0% ~ 100.0% (100.0% corresponds to the maximum frequency P0 ~ 10)	100.0%	☆	63799
P9-59	Instantaneous Power Disconnection Operation Selection	0: Invalid 1: Reduce speed 2: Reduce speed and stop the machine	0	☆	63803
P9-60	Voltage for determining when a stop action should be paused	P9-62 ~ 100.0%	85.0%	☆	63804
P9-61	Time required to determine when the voltage recovers after a temporary power outage	0.00s ~ 100.00s	0.50s	☆	63805
P9-62	Voltage for determining the instantaneous power-off operation	60.0% to 100.0% (standard bus voltage)	80.0%	☆	63806
P9-63	Offload Protection Selection	0: Invalid 1: valid	0	☆	63807
P9-64	Load Off Detection Level	0.0 ~ 100.0%	10.0%	☆	63808
P9-65	Load Off Detection Time	0.0 ~ 60.0s	1.0s	☆	63809
P9-74	Overcurrent Fault Resolution Mode	0: Can be canceled 1: The lock can be released after 5 seconds. If all three fault records are identical, it will take 10 seconds to release. 2: The system remained locked; it was unlocked after power restoration.	1	☆	63818

PA Group PID Function					
Function Code	Name	Set Range	Factory Value	Attribute	DEC Address
PA-00	Given PID Source	0: PA-01 Settings 1: AI1 2: AI2 3: AI3 External Keyboard Potentiometer 4: HDI Input Pulse Setting (XS) 5: Communication Given 6: Given Multi-Step Instructions 7: Pressure setting for Water Supply Group b0-01	0	☆	64000
PA-01	Given PID value	0.0 ~ 100.0%	50.0%	☆	64001
PA-02	PID Feedback Source	0: AI1 1: AI2 2: AI3 External Keyboard Potentiometer 3: AI1-AI2 4: HDI Input Pulse Setting (XS) 5: Communication Given 6: AI1-AI2 7: MAX (AI1 , AI2) 8: MIN (AI1 , AI2)	0	☆	64002
PA-03	PID application direction	0: Positive Effect 1: Negative Effect	0	☆	64003
PA-04	PID setpoint feedback range	0 ~ 65535	1000	☆	64004
PA-05	Proportional Gain KP1	0.0 ~ 100.0	20.0	☆	64005
PA-06	Integration Time TI1	0.01 ~ 10.00s	2.00s	☆	64006
PA-07	Differential time Td1	0.000 ~ 10.000s	0.000s	☆	64007
PA-08	PID Inversion Reverse Frequency	0.00 ~ maximum-frequency	0.00Hz	☆	64008
PA-09	PID Error Limit	0.0 ~ 100.0%	0.0%	☆	64009
PA-10	PID Differential Limiting	0.00 ~ 100.00%	0.10%	☆	64010
PA-11	Given change time for PID control	0.00 ~ 650.00s	0.00s	☆	64011
PA-12	PID Feedback Filtering Time	0.00 ~ 60.00s	0.00s	☆	64012
PA-13	PID Output Filter Time	0.00 ~ 60.00s	0.00s	☆	64013
PA-15	Proportional Gain KP2	0.0 ~ 100.0	20.0	☆	64015
PA-16	Integration Time TI2	0.01s ~ 10.00s	2.00s	☆	64016
PA-17	Differential Time Td2	0.000s ~ 10.000s	0.000s	☆	64017
PA-18	PID Parameter Adjustment Conditions	0: Do not switch 1: Switch via Terminal X 2: Auto-switch based on deviation	0	☆	64018
PA-19	PID parameter adjustment deviation 1	0.0% ~ PA-20	20.0%	☆	64019
PA-20	PID parameter adjustment deviation 2	PA-19 ~ 100.0%	80.0%	☆	64020
PA-21	PID Initial Value	0.0 ~ 100.0%	0.0%	☆	64021
PA-22	PID Initial Value Holding Time	0.00 ~ 650.00s	0.00s	☆	64022
PA-23	Maximum positive deviation between two outputs	0.00 ~ 100.00%	1.00%	☆	64023
PA-24	Maximum reverse deviation value for two output measurements	0.00 ~ 100.00%	1.00%	☆	64024
PA-25	PID Property Value	Unit digit: Point separation 0: Invalid 1: valid Position 10: Stop integrating after reaching the limit value? 0: Continue accumulating points 1: Stop integration	00	☆	64025
PA-26	PID feedback loss detection value	0.0%: No feedback loss detected 0.1 ~ 100.0%	0.0%	☆	64026
PA-27	PID feedback loss detection time	0.0s ~ 20.0s	0.0s	☆	64027
PA-28	PID shutdown operation	0: Stop computation during shutdown 1: Computing during shutdown	1	☆	64028

Group Pb: Oscillation, fixed-length, and counting					
Function Code	Name	Set Range	Factory Value	Attribute	DEC Address
Pb-00	Frequency Range Setting Method	0: Relative to the center frequency 1: Relative to the maximum frequency	0	☆	64256
Pb-01	Amplitude of oscillation frequency	0.0 ~ 100.0%	0.0%	☆	64257
Pb-02	Sudden jump frequency amplitude	0.0 ~ 50.0%	0.0%	☆	64258
Pb-03	Amplitude Frequency Period	0.1 ~ 3000.0s	10.0s	☆	64259
Pb-04	The rise time of the triangular wave in frequency modulation	0.1 ~ 100.0%	50.0%	☆	64260
Pb-05	Set Length	0 ~ 65535m	1000m	☆	64261
Pb-06	Physical length	0 ~ 65535m	0m	☆	64262
Pb-07	Pulse count per meter	0.1 ~ 6553.5	100.0	☆	64263
Pb-08	Set Value	1 ~ 65535	1000	☆	64264
Pb-09	Specify the count value	1 ~ 65535	1000	☆	64265
PC Group: Multi-stage Instructions and Simple PLC					
Function Code	Name	Set Range	Factory Value	Attribute	DEC Address
PC-00	Multi-stage Instruction0	-100.0% ~ 100.0%	0.0%	☆	64512
PC-01	Multi-stage Instruction1	-100.0% ~ 100.0%	0.0%	☆	64513
PC-02	Multi-stage Instruction2	-100.0% ~ 100.0%	0.0%	☆	64514
PC-03	Multi-stage Instruction3	-100.0% ~ 100.0%	0.0%	☆	64515
PC-04	Multi-stage Instruction4	-100.0% ~ 100.0%	0.0%	☆	64516
PC-05	Multi-stage Instruction5	-100.0% ~ 100.0%	0.0%	☆	64517
PC-06	Multi-stage Instruction6	-100.0% ~ 100.0%	0.0%	☆	64518
PC-07	Multi-stage Instruction7	-100.0% ~ 100.0%	0.0%	☆	64519
PC-08	Multi-stage Instruction8	-100.0% ~ 100.0%	0.0%	☆	64520
PC-09	Multi-stage Instruction9	-100.0% ~ 100.0%	0.0%	☆	64521
PC-10	Multi-stage Instruction10	-100.0% ~ 100.0%	0.0%	☆	64522
PC-11	Multi-stage Instruction11	-100.0% ~ 100.0%	0.0%	☆	64523
PC-12	Multi-stage Instruction12	-100.0% ~ 100.0%	0.0%	☆	64524
PC-13	Multi-stage Instruction13	-100.0% ~ 100.0%	0.0%	☆	64525
PC-14	Multi-stage Instruction14	-100.0% ~ 100.0%	0.0%	☆	64526
PC-15	Multi-stage Instruction15	-100.0% ~ 100.0%	0.0%	☆	64527
PC-16	Simple PLC Operating Mode	0: Stop after a single run 1: Maintain final value after a single run 2: Continuous Loop	0	☆	64528
PC-17	Easy PLC power-off memory selection	Unit digit: Power-off memory selection 0: No memory retention upon power-off 1: Power-off Memory Tens Digit: Shutdown Memory Selection 0: No shutdown memory 1: Shutdown Memory	00	☆	64529
PC-18	Simple PLC0 segment execution time	0.0s (h) ~ 6553.5s (h)	0.0s(h)	☆	64530
PC-19	Simple PLC0 segment for selecting acceleration/deceleration times	0 ~ 3	0	☆	64531
PC-20	Simple PLC1 segment operation time	0.0s (h) ~ 6553.5s (h)	0.0s(h)	☆	64532
PC-21	Simple PLC1-stage acceleration/deceleration time selection	0 ~ 3	0	☆	64533
PC-22	Simple PLC with 2 stages: Operating time	0.0s (h) ~ 6553.5s (h)	0.0s(h)	☆	64534
PC-23	Simple PLC 2-stage Acceleration and Deceleration Time Selection	0 ~ 3	0	☆	64535
PC-24	Simple PLC with 3 stages - Running time	0.0s (h) ~ 6553.5s (h)	0.0s(h)	☆	64536
PC-25	Simple PLC for selecting acceleration/deceleration times for three stages	0 ~ 3	0	☆	64537

PC-26	Simple PLC4 segment execution time	0.0s (h) ~6553.5s (h)	0.0s(h)	☆	64538
PC-27	Simple PLC4-stage acceleration/deceleration time selection	0~ 3	0	☆	64539
PC-28	Simple PLC5 segment operation time	0.0s (h) ~6553.5s (h)	0.0s(h)	☆	64540
PC-29	Simple selection of acceleration/deceleration times for PLC5 segments	0~ 3	0	☆	64541
PC-30	Simple PLC6 segment execution time	0.0s (h) ~6553.5s (h)	0.0s(h)	☆	64542
PC-31	Simple PLC6 segment selection for acceleration and deceleration times	0~ 3	0	☆	64543
PC-32	Simple PLC7 segment execution time	0.0s (h) ~6553.5s (h)	0.0s(h)	☆	64544
PC-33	Simple PLC7 segment-based acceleration/deceleration time selection	0~ 3	0	☆	64545
PC-34	Simple PLC8 segment execution time	0.0s (h) ~6553.5s (h)	0.0s(h)	☆	64546
PC-35	Simple PLC8 segment acceleration/deceleration time selection	0~ 3	0	☆	64547
PC-36	Simple PLC16-bit operation time	0.0s (h) ~6553.5s (h)	0.0s(h)	☆	64548
PC-37	Simple PLC 7-bit selection of acceleration/deceleration time	0~ 3	0	☆	64549
PC-38	Simple PLC with 10 segments - Operating Time	0.0s (h) ~6553.5s (h)	0.0s(h)	☆	64550
PC-39	Simple PLC-based selection of acceleration/deceleration times for 10 segments	0~ 3	0	☆	64551
PC-40	Simple PLC11 segment operation time	0.0s (h) ~6553.5s (h)	0.0s(h)	☆	64552
PC-41	Simple PLC11-based selection of acceleration/deceleration time intervals	0~ 3	0	☆	64553
PC-42	Simple PLC with 12 segments - Operating Time	0.0s (h) ~6553.5s (h)	0.0s(h)	☆	64554
PC-43	Simple PLC-based selection of acceleration/deceleration times for 12 segments	0~ 3	0	☆	64555
PC-44	Simple PLC with 13 segments - Operating Time	0.0s (h) ~6553.5s (h)	0.0s(h)	☆	64556
PC-45	Simple PLC-based selection of acceleration/deceleration times for 13 segments	0~ 3	0	☆	64557
PC-46	Simple PLC with 14 segments - Operating Time	0.0s (h) ~6553.5s (h)	0.0s(h)	☆	64558
PC-47	Simple PLC-based selection of acceleration/deceleration times for 14 segments	0~ 3	0	☆	64559
PC-48	Simple PLC with 15 segments - Operating Time	0.0s (h) ~6553.5s (h)	0.0s(h)	☆	64560
PC-49	Simple PLC-based selection of acceleration/deceleration times for 15 segments	0~ 3	0	☆	64561
PC-50	Simple PLC Execution Time Unit	0: s (seconds) 1: h (hours)	0	☆	64562
PC-51	Multi-stage Instruction 0: Specified Mode	0: Function code PC-00 assigned 1: A1 2: A2 3: A13 External Keyboard Potentiometer 4: HDI Input Pulse 5: PID 6: The preset frequency (P0-08) is fixed, but UP/DOWN can be adjusted	0	☆	64563

Pd Group Communication Parameters					
Function Code	Name	Set Range	Factory Value	Attribute	DEC Address
Pd-00	Baud rate	Unit digit: RS485 AMODBUS baud rate 2: 1200BPS 3: 2400BPS 4: 4800BPS 5: 9600BPS 6: 19200BPS 7: 38400BPS 8: 57600BPS 9: 115200BPS Position 10: RS485B MODBUS baud rate Same as above Hundreds: Keep Thousands: retained Ten Thousand Position: Retain	5	☆	64768
Pd-01	MODBUS Data Format	Unit digit: RS485A data format 10th bit: RS485B data format 0: No parity (8-N-2) 1: Parity check (8-E-1) 2: Odd Parity Check (8-O-1) 3: No validation (8-N-1)	3	☆	64769
Pd-02	RS485A Local Address	1~ 247	1	☆	64770
Pd-03	Answering delay	0~ 20ms	2	☆	64771
Pd-04	Communication timeout time	0.0 (Invalid), 0.1s to 60.0s	0.0	☆	64772
Pd-05	Data Transmission Format Selection	Unit digit: RS485A transmission format 10th position: RS485B transmission format 1: Standard MODBUS Protocol	1	☆	64773
Pd-06	Communication Reading Current Resolution	Unit digit: RS485A current resolution Position 10: RS485B current resolution 0: 0.01 A; 1: 0.1 A	0	☆	64774
Pd-07	RS485 Master-Slave Selection	Keep	0	☆	64775
Pd-08	RS485B Local Address	1~ 247	2	☆	64778
PP Group Function Code Management					
Function Code	Name	Set Range	Factory Value	Attribute	DEC Address
PP-00	User Password	0~ 65535	00000	☆	7936
PP-01	Parameter Initialization	0: No action 01: Restore factory settings, excluding motor parameters 02: Clear Record Information 03: Save 04: Save 10: Switch to 60Hz mode20 1: 50Hz Multi-point VF Curve Macro 202: 60Hz Multi-point VF Curve Macro 203: 100Hz Multi-point VF Curve Macro 204: 200Hz Multi-point VF Curve Macro 205: 300Hz Multi-point VF Curve Macro 206: 400Hz Multi-point VF Curve Macro 207: 500Hz Multi-point VF Curve Macro 208: 600Hz Multi-point VF Curve Macro 209: 800Hz Multi-point VF Curve Macro 210: 900Hz Multi-point VF Curve Macro 211: 1000 Hz Multi-point VF Curve Macro	000	★	7937

PP-02	Function Parameter Group Selection Display	Unit: Group U shows selection Tenth position: Group A shows the selection Hundreds place: Group B shows selection 0: Not displayed 1: Display	111	★	7938
PP-04	Function Code Modification Properties	0: Modifiable 1: Non-modifiable	0	☆	7940
PP-05	Keep	-	-	-	-
Group A0: Torque control parameters					
Function Code	Name	Set Range	Factory Value	Attribute	DEC Address
A0-00	Speed/Torque Selection	0: Speed Control 1: Torque Control	0	☆	40960
A0-01	Torque Setting Source	0: A0-03 Settings 1: A1 Settings 2: A2 Settings 3: A3 Keyboard Potentiometer Settings 4: HDI High-Speed Pulse Setting 5: Communication Settings 6: MIN(A1,A2) 7: MAX(A1,A2) Note: The full range values from 1 to 7 correspond to the digital settings of A0-03.	0	★	40961
A0-02	Keep	-	-	-	-
A0-03	Torque Digital Setting	-200.0% ~200.0%	150.0%	☆	40963
A0-04	Keep	-	-	-	-
A0-05	Maximum forward torque frequency	0.00 Hz to maximum frequency (PO - 10)	50.00Hz	☆	40965
A0-06	Maximum frequency for reverse torque reversal	0.00 Hz to maximum frequency (PO - 10)	50.00Hz	☆	40966
A0-07	Angular acceleration time	0~ 655.35s	0.00s	☆	40967
A0-08	Rectangular motion deceleration time	0~ 655.35s	0.00s	☆	40968
Group A1 Virtual I/O					
A1-00	Virtual VDI1 Port Function Selection	Same function as the input terminal (S terminal) of the P4 group	0	★	41216
A1-01	Virtual VDI2 Terminal Function Selection		0	★	41217
A1-02	Virtual VDI3 Terminal Function Selection		0	★	41218
A1-03	Virtual VDI4 Port Function Selection		0	★	41219
A1-04	Virtual VDI5 Terminal Function Selection		0	★	41220
A1-05	Source of the valid status for virtual VDI ports	0: Internal connection to virtual VDOx 1: The validity of VDI is determined by function code A1-06 (unit digit: Virtual VDI1) 10th: Virtual VDI2 Hundreds: Virtual VDI3 Thousands: Virtual VDI4 Ten Thousand Position: Virtual VDI5	00000	★	41221
A1-06	Virtual VDI Port Status Settings	0: Invalid 1: valid Unit: Virtual VDI1 10th: Virtual VDI2 Hundreds: Virtual VDI3 Thousands: Virtual VDI4 Ten Thousand Position: Virtual VDI5	00000	★	41222
A1-07	A1 Terminal as the selection of S-terminal functionality	0~59	0	★	41223
A1-08	The A12 terminal serves as the option for selecting S-terminal functionality.		0	★	41224
A1-09	The A13 terminal serves as the option for selecting S-terminal functionality.		0	★	41225
A1-10	A1 terminal as S for time-sensitive mode selection	0: High level is valid 1: Low-level valid unit digit: A1 Tenth place: A12 Hundreds: A13	000	★	41226

A1-11	Virtual VDO1 Output Function Selection		0	☆	41227
A1-12	Virtual VDO2 Output Function Selection	0: Short-circuit inside physical Sx	0	☆	41228
A1-13	Virtual VDO3 Output Function Selection	1 ~ 59: See Group PS for physical	0	☆	41229
A1-14	Virtual VDO4 Output Function Selection	DO output selection	0	☆	41230
A1-15	Virtual VDO5 Output Function Selection		0	☆	41231
A1-16	Virtual VDO1 Delayed Closure Time	0.0s ~ 6553.5s	0.0s	☆	41232
A1-17	Virtual VDO2 delay closure time	0.0s ~ 6553.5s	0.0s	☆	41233
A1-18	Virtual VDO3 Delayed Closure Time	0.0s ~ 6553.5s	0.0s	☆	41234
A1-19	Virtual VDO4 Delayed Closure Time	0.0s ~ 6553.5s	0.0s	☆	41235
A1-20	Virtual VDO5 Delayed Closure Time	0.0s ~ 6553.5s	0.0s	☆	41236
A1-21	Selection of the valid state for the VDO output terminal	0: Positive Logic 1: Anti-logical units: VDO1; Tens place: VDO2; Hundreds place: VDO3; Thousands place: VDO4; Tens of thousands place: VDO5	00000	☆	41237
A1-22	Virtual VDO1 Delayed Closure Time	0.0s ~ 6553.5s	0.0s	☆	41237
A1-23	Virtual VDO2 delay closure time	0.0s ~ 6553.5s	0.0s	☆	41238
A1-24	Virtual VDO3 Delayed Closure Time	0.0s ~ 6553.5s	0.0s	☆	41239
A1-25	Virtual VDO4 Delayed Closure Time	0.0s ~ 6553.5s	0.0s	☆	41240
A1-26	Virtual VDO5 Delayed Closure Time	0.0s ~ 6553.5s	0.0s	☆	41241
Group A5: Control optimization parameters					
A5-00	DPWM Switching Upper Frequency	0.00Hz ~ 15.00Hz	12.00Hz	☆	42240
A5-01	PWM modulation mode	0: Asynchronous Modulation 1: Synchronous Modulation	0	☆	42241
A5-02	Dead Zone Compensation Mode Selection	0: No compensation 1: Compensation Mode 1 2: Compensation Mode 2	1	☆	42242
A5-03	Random PWM Depth	0: Random PWM is invalid 1 ~ 10: Randomization depth of PWM carrier frequency	0	☆	42243
A5-04	Enable Quick Rate Limiting	0: Disabled 1: Enabled	1	☆	42244
A5-05	Current Measurement Compensation	0 ~ 100	5	☆	42245
A5-06	Under-voltage Point Setting	100.0 ~ 2000.0V	Model Selection	☆	42246
A5-07	SVC Optimization Mode Selection	0: Not optimized 1: Optimization Mode 1 2: Optimization Mode 2	1	☆	42247
A5-08	Dead Zone Time Adjustment	100 ~ 200%	150%	☆	42248
A5-09	Overvoltage Point Setting	200.0-2500.0V	Model Selection	★	42249
Group A8 (Retained)					
AC Group: A1A0 Calibration Group					
AC-00	Actual measured voltage of AI1: 1	-10.00V ~ 10.00V	Factory Calibration	☆	44032
AC-01	AI1 Display Voltage 1	-10.00V ~ 10.00V	Factory Calibration	☆	44033
AC-02	AI1's actual measured voltage: 2	-10.00V ~ 10.00V	Factory Calibration	☆	44034
AC-03	AI1 Display Voltage2	-10.00V ~ 10.00V	Factory Calibration	☆	44035
AC-04	Actual measured voltage of AI2: 1	-10.00V ~ 10.00V	Factory Calibration	☆	44038
AC-05	AI2 Display Voltage 1	-10.00V ~ 10.00V	Factory Calibration	☆	44037
AC-06	Actual measured voltage of AI2: 2	-10.00V ~ 10.00V	Factory Calibration	☆	44038
AC-07	AI2 Display Voltage2	-10.00V ~ 10.00V	Factory Calibration	☆	44039
AC-08	Keep	-	-	☆	44040
AC-09	Keep	-	-	☆	44041
AC-10	Keep	-	-	☆	44042
AC-11	Keep	-	-	☆	44043

AC-12	A01 Target Voltage 1	-10.00V ~ 10.00V	Factory Calibration	☆	44044
AC-13	A01 Actual measured voltage: 1	-10.00V ~ 10.00V	Factory Calibration	☆	44045
AC-14	A01 Target Voltage:2	-10.00V ~ 10.00V	Factory Calibration	☆	44046
AC-15	A01 Actual measured voltage: 2	-10.00V ~ 10.00V	Factory Calibration	☆	44047
AC-16	A02 Target Voltage 1	-10.00V ~ 10.00V	Factory Calibration	☆	44048
AC-17	A02 Actual measured voltage of A02: 1	-10.00V ~ 10.00V	Factory Calibration	☆	44049
AC-18	A02 Target Voltage:2	-10.00V ~ 10.00V	Factory Calibration	☆	44050
AC-19	A02 Actual measured voltage of A02: 2	-10.00V ~ 10.00V	Factory Calibration	☆	44051
Group B0 Intelligent Constant Pressure Water Supply Parameter Table (For constant temperature control) (Specifically for M41P model)					
Function Code	Name	Set Range	Factory Value	Attribute	DEC Address
b0-00	Pressure Sensor Range	0~ 99.99Bar (kg)	10.00	☆	45056
b0-01	Target Pressure Value Given Note: The target pressure is selected by P4-01	0~ 99.99Bar (kg)	5.00	☆	45057
b0-02	Dormancy Stress	0 ~ 150.0% (linked to the target pressure ratio) Note: The maximum value is limited by (b0-00/b0-01) *100%.	100.0%	☆	45058
b0-03	Wake Up Pressure	0 ~ 100.0% (linked to the target pressure ratio)	95.0%	☆	45059
b0-04	Pressure Deviation/Amount	0 ~ 100.0% (linked to the target pressure ratio)	2.0%	☆	45060
b0-05	Sleep delay	0 ~ 6553.5s (0: Close hibernation)	20.0s	☆	45061
b0-06	Wake-up delay	0~ 6553.5s	0.0s	☆	45062
b0-07	Pressure Upper Limit Protection Value	0 ~ 200.0% (linked to the target pressure ratio)	120.0%	☆	45063
b0-08	Pressure Upper Limit Protection Shutdown Delay	0 ~ 6553.5s (0: Detection off)	0.0s	☆	45064
b0-09	Constant-pressure forced dormancy delay	0 ~ 6553.5s (0: Detection off)	0.0s	☆	45065
b0-10	Number of auxiliary pumps set	0 ~ 4 (0: Turn off one-to-many)	0	☆	45066
b0-11	Pressure tolerance of the auxiliary pump	0 ~ 100.0% (linked to the target pressure ratio)	5.0%	☆	45067
b0-12	Add a delay for the auxiliary pump	0~ 6553.5s	30.0s	☆	45068
b0-13	Pressure tolerance of the auxiliary pump	0 ~ 100.0% (linked to the target pressure ratio)	5.0%	☆	45069
b0-14	Auxiliary pump delay	0~ 6553.5s	30.0s	☆	45070
b0-15	Emergency delay of the pressure-limiting auxiliary pump (overwriting the normal pump deactivation time at B0-14)	0~ 6553.5s	3.0s	☆	45071
b0-16	Water shortage protection pressure	0 ~ 100.0% (linked to the target pressure ratio) Note: Detection begins when exceeding the upper limit frequency	20.0%	☆	45072
b0-17	Water shortage protection delay	0 ~ 6553.5s (0: Detection off)	0.0s	☆	45073
b0-18	Sleep Mode Selection	0: Close Sleep Mode 1: Stress sleep (feedback pressure > b0-02) 2: Frequency sleep mode (output frequency < b0 - 19) 3: Dormancy pressure (b0-02) + Dormancy frequency (b0-19)	1	★	45074
b0-19	Hibernation Detection Frequency	0.00 Hz to maximum frequency (P0 ~ 10) Note: Valid only for b0 ~ 18 ~ 2	20.00Hz	☆	45075
b0-20	Pressure Protection Fault Selection	00~ 11 Unit digit: Overpressure limit protection (b0-07) Position 10: Water Deficiency and Pressure Deficit Protection (b0-16) 0: No fault reported 1: Report a fault Note: Undervoltage fault Err70, Overvoltage fault Err71	00	★	45076
b0-21	Hibernation shutdown method	0: Slow down and stop 1: Free Parking	0	★	45077

300N PV MPPT menu table.

Func.Code	Description	Range	Default	Explanation	Comm.Address
b1-00	MPPT Tracking Mode	0: Disable 1: MPP 2: CVT	3	CVT adjusts b1-04 for seasonal sunlight; MPPT tracks max power precisely for high PV efficiency. CVT supports dual PV inputs to balance current via b1-04 voltage.	B100H
b1-01	PV Open-Circuit Voltage Source	0: Set by b1-03 1: Auto detect PV voltage	1	CVT mode recommends 0 for fixed voltage via b1-03. Set to 1 for auto MPPT reference voltage (b1-03 invalid).	B101H
b1-02	Auto PV VOC Capture Interval	0-63335s	3600s	When b1-01=1, re-detect PV VOC every this interval as new reference voltage.	B102H
b1-03	Preset PV Open-Circuit Voltage	0-2000.0V	Depends on model	Set value close to actual PV input voltage measured by multimeter; otherwise drive runs at min frequency.	B103H
b1-04 CVT	CVT Target Voltage Ratio	0.0-100.0%	82.00%	CVT control voltage = b1-04 x b1-03	B104H
b1-05 MPPT	Min Reference Voltage Ratio	50.0-100.0%	70.00%	Value = b1-05 x VOC	B105H
b1-06 MPPT	Max Reference Voltage Ratio	0.0-100.0%	99.90%	Value = b1-06 x VOC	B106H
b1-07	Initial MPPT Reference Ratio	0.0-100.0%	90.00%	MPPT starts perturbation tracking at b1-07 x VOC	B107H
b1-08	Vmppt Adjust Step	1.0-300.0V	3.0V	Auto voltage step for MPPT & CVT output control	B108H
b1-09	Vmppt Adjust Cycle	0.00-10.00s	1.00s	Time interval of automatic Vmppt adjustment	B109H
b1-10 MPPT-KP1	PID Proportional Gain	0-65535	5000	PID P parameter	B10AH
b1-11 MPPT-KI1	PID Integral Gain	0-65535	300	PID I parameter	B10BH
b1-12 MPPT-Kd1	PID Derivative Gain	0-65535	0	PID D parameter	B10CH
b1-13	Reserved	—	—	Reserved parameter	B10DH
b1-14	Reserved	—	—	Reserved parameter	B10EH
b1-15	Reserved	—	—	Reserved parameter	B10FH
b1-16	Current Control Voltage	—	—	Monitor only	B110H
b1-17	Current Output Power	—	—	Monitor only	B111H
b1-18	Low-Light Sleep Frequency	0.00 - Max Freq P0-10	13.00Hz	Low speed frequency under weak sunlight	B112H
b1-19	Low-Light Wake-Up Voltage Ratio	0.0-100.0%	80.00%	Wake-up voltage = b1-19 x VOC	B113H
b1-20 MPPT	MPPT Status Flag	—	—	Read only status	B114H
b1-21	Sleep Status Flag	—	—	Read only status	B115H
b1-22	Low-Light Sleep Delay Time	0-63335s	30s	Set to 0 to disable sleep function	B116H
b1-23	Sleep Stop Count	1-6	1	Wake-up interval matches count value: 1=10s, 2=30s, 3=60s, 4=10min, 5=30min, 6=60min. Wake interval extends automatically with sleep count	B117H
b1-24 MPPT	MPPT→CVT Switch Voltage	100-750	0	Threshold voltage switching MPPT to CVT mode	B118H
b1-25 CVT	CVT→MPPT Switch Voltage	100-750	0	Threshold voltage switching CVT to MPPT mode	B119H
b1-26	Application Macro	13006: Restore General VFD M	0	Set P0-29=511/512 in general mode to re-enter PV mode (only group b1 available)	B11AH
b1-27	Acceleration Time	0-65000	60	Time from 0 to maximum frequency	B11BH
b1-28	Deceleration Time	0-65000	3	Time from maximum frequency to 0	B11CH
b1-29	PV Under-Voltage Threshold	100.0-2000.0V	Depends on model	PV under-voltage alarm point, -20V hysteresis to avoid main relay chattering	B11DH
b1-30	PV Over-Voltage Threshold	200.0-2500.0V	Depends on model	Protection cut-off voltage for overvoltage	B11EH
b1-31 MPPT	MPPT Run Mode	0: Auto Run 1: Manual Run	0	Manual mode runs based on P0-02 setting	B11FH

300N PV MPPT menu table.

Notes

1. PV undervoltage threshold: A5-06, ~20V hysteresis voltage to avoid main relay chattering.
2. Default MPPT undervoltage: A5-06; Default MPPT overvoltage: A5-09.
3. MPPT Mode: P0-29=501, auto detect PV open-circuit voltage.
4. CVT Mode: P0-29=502, b1-01=0; open-circuit voltage manually set at b1-03.
5. If b1-23≠0, sleep delay timer runs. Unit wakes up & restarts after sleep time; wake-up interval rises with b1-23 count.
6. If b1-01=1, open-circuit voltage auto acquired; b1-05, b1-07, b1-19 change proportionally.
7. P0-29=501 / 502 enables PV macro, inverter auto runs & restarts after undervoltage recovery.
8. System starts sleep timing if output voltage is 20V below bus voltage, enters sleep when time out.
9. P0-29=511 / 512 locks all parameter groups except Group b1. Run b1-26 to general mode to unlock full menus.

b0-20	Pressure Protection Fault Selection	00~ 11 Unit digit: Overpressure limit protection (b0-07) Position 10: Water Deficiency and Pressure Deficit Protection (b0-16) 0: No fault reported 1: Report a fault Note: Undervoltage fault Err70, Overvoltage fault Err71	00	★	45076
b0-21	Hibernation shutdown method	0: Slow down and stop 1: Free Parking	0	★	45077
Group B1: Intelligent control system for solar photovoltaic MPPT water pumps (specifically designed for the M41 H2 model) (Please request additional industry-specific materials from the manufacturer.)					
U0 Group: Parameter Monitoring Group					
Function Code	Name	Set Range	Factory Value	Attribute	DEC Address
U0-00	Running frequency (Hz)	--	0.01Hz	●	28672
U0-01	Set Frequency (Hz)	--	0.01Hz	●	28673
U0-02	Busbar voltage (V)	Note: When the P7-00 unit digit is set to 1, this value displays the AC input voltage, preceded by the letter U.	0.1V	●	28674
U0-03	Output voltage (V)	--	1V	●	28675
U0-04	Output (A)	--	0.01A	●	28676
U0-05	Output power (kW)	--	0.1kW	●	28677
U0-06	Output torque (%)	--	0.1%	●	28678
U0-07	X input mode	--	1	●	28679
U0-08	Y output state	--	1	●	28680
U0-09	A1 Voltage (V)	--	0.01V	●	28681
U0-10	A2 Voltage (V)	--	0.01V	●	28682
U0-11	A13 Panel Potentiometer Voltage	--	0.01V	●	28683
U0-12	Count value	--	1	●	28684
U0-13	Length Value	--	1	●	28685
U0-14	Load Speed Display	--	1	●	28686
U0-15	PID Setting (Dimensionless) Set PID pressure value (water supply activation)	--	1 0.01kg	●	28687
U0-16	PID Feedback (Dimensionless) PID Feedback Pressure Value (Water Supply Activation)	--	1 0.01kg	●	28688
U0-17	PLC stage	--	1	●	28689
U0-18	HDI Input Pulse Frequency (kHz)	--	0.01kHz	●	28690
U0-19	Feedback Speed (unit: 0.1 Hz)	--	0.1Hz	●	28691
U0-20	Remaining runtime	--	0.1Min	●	28692
U0-21	A1 Voltage Before Calibration	--	0.001V	●	28693
U0-22	A2 Voltage Before Calibration	--	0.001V	●	28694
U0-23	Voltage before calibration of the panel potentiometer	--	0.001V	●	28695
U0-24	Linear velocity	--	1m/Min	●	28696
U0-25	Current power-on time	--	1Min	●	28697
U0-26	Current runtime	--	0.1Min	●	28698
U0-27	HDI input at a given frequency	--	1Hz	●	28699

U0-28	Communication Settings	--	0.01%	●	28700
U0-30	Main Frequency XDisplay	--	0.01Hz	●	28702
U0-31	Display auxiliary frequency Y	--	0.01Hz	●	28703
U0-32	View any memory addressvalue	--	1	●	28704
U0-35	TargetTorque (%):	--	0. 1%	●	28707
U0-36	Current number of auxiliarypumps	--	0	●	28708
U0-37	Power Factor Angle	--	0.1°	●	28709
U0-39	Keep	--	1V	●	28711
U0-40	Keep	--	1V	●	28712
U0-41	X: Intuitive display of inputstatus	--	1	●	28713
U0-42	Y InputStatus Display	--	1	●	28714
U0-43	X Function Status Display In-tuitively 1	--	1	●	28715
U0-44	X Function Status Display In-tuitively 2	--	1	●	28716
U0-45	Faultmessage	--	1	●	28717
U0-59	SetFrequency (%):	--	0.01%	●	28731
U0-60	Running frequency (%)	--	0.01%	●	28732
U0-61	Inverter Status	--	1	●	28733
U0-62	CurrentFaultCode	--	1	●	28734
U0-65	Torque Upper Limit	--	0. 1%	●	28737
U0-66	U-phase currentdisplay (A)	--	0.01A	●	28738
U0-67	V-phase currentdisplay (A)	--	0.01A	●	28739
U0-68	W Phase CurrentDisplay (A)	--	0.01A	●	28740

Chapter 5: Fault Diagnosis and Countermeasures

5.1 Fault Alarm and Mitigation Measures

4 The frequency converter is equipped with various warning messages and protection functions. In the event of a fault, the protection functions activate, the converter stops outputting power, the fault relay contacts engage, and a fault code appears on the display panel. Before seeking service, users may follow the instructions in this section to perform a self-check, identify the cause of the fault, and determine a solution. If the issue falls under any of the causes listed within the dashed box, please contact your authorized dealer for the purchased frequency converter or directly reach out to our company.

In alarm messages, Err22 indicates a hardware overcurrent or overvoltage condition; in most cases, Err 22 alarms are triggered by hardware overvoltage faults.

Power loss during fault conditions can be recorded in P9-14, P9-15, and P9-16, and combined with P9-17 to P9-44 for detailed documentation to facilitate troubleshooting

Fault Name	Hitch Code	Fault Cause Diagnosis	Fault Handling Measures
Inverter Unit Protection	Err01	1、 Short circuit in the frequency converter's output circuit 2、 The wiring between the motor and the frequency converter is too long. 3、 Module overheating 4、 The internal wiring of the frequency converter is loose. 5、 Main Board Abnormality 6、 Drive Board Abnormality 7、 Inverter module malfunction	1、 Remove peripheral faults 2、 Install a reactor or an output filter. 3、 Check whether the air duct is blocked, verify that the fan is functioning properly, and resolve any issues. 4、 Connect all cables 5、 Request Technical Support 6、 Request Technical Support 7、 Request Technical Support
Accelerated Overcurrent	Err02	1、 There is a ground fault or short circuit in the frequency converter's output circuit. 2、 The control method is vector-based and no parameter identification has been performed. 3、 Acceleration time is too short 4、 Manual torque increase or inappropriate V/F curve 5、 Low voltage 6、 Start the rotating motor 7、 Sudden load increase during acceleration	1、 Remove peripheral faults 2、 Perform motor parameter identification 3、 Increase acceleration time 4、 Adjust manual rotation torque or V/F curve 5、 Set the voltage to the normal range 6、 Select rotation speed tracking startup or wait for the motor to stop before starting 7、 Cancel sudden load increase 8、 Use a frequency converter with a higher power rating.
Overcurrent reduction	Err03	1、 There is a ground fault or short circuit in the frequency converter's output circuit. 2、 The control method is vector-based and no parameter identification has been performed. 3、 Reduction time is too short	1、 Remove peripheral faults 2、 Perform motor parameter identification 3、 Reduce deceleration time 4、 Set the voltage to the normal range 5、 Cancel sudden load increase 6、 Install a braking unit and resistors.
Constant-speed overcurrent	Err04	1、 There is a ground fault or short circuit in the frequency converter's output circuit. 2、 The control method is vector-based and no parameter identification has been performed. 3、 Low voltage	1、 Remove peripheral faults 2、 Perform motor parameter identification 3、 Set the voltage to the normal range 4、 Cancel sudden load increase 5、 Use a frequency converter with a higher power rating.
Accumulated overvoltage	Err05	1、 Input voltage is too high 2、 During the acceleration process, an external force is used to drive the motor. 3、 Too short acceleration time	1、 Set the voltage to the normal range 2、 Cancel additional power or install a brake resistor 3、 Increase acceleration time 4、 Install a braking unit and resistors.
Overvoltage reduction	Err06	1、 Input voltage is too high 2、 During the acceleration process, an external force is applied to drive the motor. 3、 Insufficient reduction time 4、 No braking unit or braking resistor has been installed.	1、 Set the voltage to the normal range 2、 Cancel additional power or install a brake resistor 3、 Increase acceleration time 4、 Install a braking unit and resistors.

Constant-speed over-voltage	Err07	1、 Input voltage is too high 2、 During operation, an external force is exerting a drag on the motor.	1、 Set the voltage to the normal range 2、 Cancel additional power or install a brake resistor
Control power supply failure	Err08	1、 The input voltage is outside the specified range.	1、 Set the voltage within the specified range
Undervoltage fault	Err09	1、 Instantaneous power outage 2、 The input voltage of the frequency converter does not fall within the specified range. 3、 The busbar voltage is abnormal. 4、 The rectifier bridge and buffer resistor are abnormal. 5、 Drive Board Abnormality 6、 Control Board Abnormality	1、 Reduction failure 2、 Adjust the voltage to the normal range 3、 Request Technical Support 4、 Request Technical Support 5、 Request Technical Support 6、 Request Technical Support
Inverter overload	Err10	1、 The load is too high or the motor has stalled. 2、 The selected frequency converter is too small in size.	1、 Reduce the load and check the condition of the motor and machinery. 2、 Use a frequency converter with a higher power rating.
Motor overload	Err11	1、 Is the setting of motor protection parameter P9-01 appropriate? 2、 The load is too high or the motor has stalled 3、 The selected frequency converter is too small in size.	1、 Set this parameter correctly 2、 Reduce the load and check the condition of the motor and machinery. 3、 Use a frequency converter with a higher power rating.
Enter missing phase	Err12	1、 The three-phase input power supply is abnormal. 2、 Drive Board Abnormality 3、 Abnormality in the lightning protection panel 4、 Main Board Abnormality	1、 Check and resolve issues in the peripheral circuits 2、 Request Technical Support 3、 Request Technical Support 4、 Request Technical Support
Output Phase Deficit	Err13	1、 The wiring from the frequency converter to the motor is abnormal. 2、 During motor operation, the three-phase output of the frequency converter is unbalanced. 3、 Drive Board Abnormality 4、 Module Error	1、 Remove peripheral faults 2、 Check whether the motor's three-phase windings are functioning properly and trouble shoot any issues. 3、 Request Technical Support 4、 Request Technical Support
Module overheating	Err14	1、 The ambient temperature is too high. 2、 Air duct blockage 3、 Fan damage 4、 The module's thermistor is damaged. 5、 The inverter module is damaged.	1、 Lower the ambient temperature 2、 Clean the air duct 3、 Change the fan 4、 Replace the thermistor 5、 Change the inverter module
External device failure	Err15	1、 Multi-functional terminal: X inputs external fault signals; 2、 Virtual IO function - inputs external fault signals.	1、 Reduction Operation 2、 Reduction Operation
Communication Failure	Err16	1、 The host computer is not functioning properly. 2、 The communication line is abnormal. 3、 Keep 4、 Communication parameters: The PD group settings are incorrect	1、 Check the wiring of the host computer. 2、 Check the communication cable 3、 Correctly set the communication expansion card type 4、 Correct Communication Parameters
Contactor fault	Err17	1、 The drive board and power supply are malfunctioning. 2、 The contactor is malfunctioning.	1、 Replace the drive board or power board 2、 Change the contactor
Current measurement failure	Err18	1、 Check for abnormalities in the Hall effect device 2、 Drive Board Abnormality	1、 Replace the Hall device 2、 Change the drive board
Motor tuning fault	Err19	1、 Motor parameters are not set according to the nameplate specifications 2、 Parameter identification process timed out	1、 Set the motor parameters correctly according to the nameplate information. 2、 Check the wiring between the frequency converter and the motor.
EEPROM read/write failure	Err21	1、 EEPROM chip is damaged	1、 Replace the main board

Hardware fault in the frequency converter	Err22	1、 Overvoltage has occurred 2、 Overcurrent has occurred	1、 Overvoltage Fault Handling Procedure 2、 Overcurrent Fault Handling Procedure
Short-circuit fault to ground	Err23	1、 The motor is short-circuited to ground.	1、 Replace the cable or mo-tor.
The cumulative operating time has reached the failure threshold.	Err26	1、 The cumulative operation time has reached the set value	1、 Use the parameter initialization function to clear record information
User-defined Fault 1	Err27	1、 Using the multi-functional terminal X to input user defined faults 1 The signal 2、 Enter the signal for User Custom Fault 1 using the virtual IO function	1、 Reduction Operation 2、 Reduction Operation
User-Defined Failure 2	Err28	1、 Using the multi-functional terminal X to input user-defined faults 2 The signal 2、 Enter user-defined faults using the virtual IO functionality 2 The signal	1、 Reduction Operation 2、 Reduction Operation
The cumulative power-on time has reached the failure threshold.	Err29	1、 The cumulative power-on time has reached the set value	1、 Use the parameter initialization function to clear record information
Load-off fault	Err30	1、 The operating current of the frequency converter is less than P9-64.	1、 Confirm whether the load is disconnected or whether the parameter settings of P9-64 and P9-65 match actual operating conditions.
PID feedback loss during operation Hitch	Err31	1、 The PID feedback is lower than the PA-26 set value.	1、 Check the PID feedback signal or set PA-26 to an appropriate value
No data to upload from keyboard copy	Err35	1、 The menu data of the frequency converter has been modified.	1、 After modifying the new menu data, execute P7-23= 1 upload. 2、 Set P7-23 to 0 and press the STOP button to clear the fault.
Keyboard copy upload overflow error	Err36	1、 The uploaded content passed directly with 200 approvals	1、 Reduce modified menu content.
Keyboard copy upload error	Err37	1、 The menu data of the frequency converter has been modified.	1、 P7-23=0: Press the STOP button to clear the fault.
Keyboard copy download error	Err38	1、 Ensure the keyboard contains uploaded data	1、 If no data is uploaded to the keyboard, upload the target machine's data first and save it.
Dual-core communication failure	Err39	1、 Check whether the motherboard power supply is functioning properly and whether the LED on the motherboard is lit or flashing. 2、 Check whether the power supply of the driver board is normal and whether the LED next to the CPU is lit or flashing. 3、 Is the dual-core isolation chip on the drive board damaged?	1、 Check the 5V powersupply on the motherboard. 2、 Check the 3.3V power supply on the CPU side of the driver board 3、 Check whether the dualcore isolation chip on the driver board is damaged.
Wave-based current limiting fault	Err40	1、 The load is too high or the motor has stalled. 2、 The selected frequency converter is too small in size.	1、 Reduce the load and check the condition of the motor and machinery. 2、 Use a frequency converter with a higher power rating.
Motor failure during runtime switching	Err41	3、 Change the selected motor during inverter operation by adjusting the terminals.	1、 Perform the motor switching operation after the frequency converter has been shut down.

Motor overheating Hitch	Err45	1、 The temperature sensor wiring is loose. 2、 The motor temperature is too high.	1、 Test the temperature sensor wiring and troubleshoot any issues. 2、 Reduce the carrier frequency or implement other cooling measures to dissipate heat from the motor.
Initial position error	Err51	1、 The parameters of the permanent magnet motor deviate significantly from the actual values. 2、 The motor line is missing a phase or not connected to the motor.	1、 Recheck that the motor parameters are correct, especially ensuring the rated current is not set too low 2、 Check the electrical wiring of the motor.
Excessive low water level protection	Err70	1、 The on-site water pressure is below the preset water-deficiency protection pressure of b0-16.	1、 Check whether the set value of b0-16 is appropriate, and whether the water pipe has burst. 3、 Is the water pump damaged?
Supercritical Hydrostatic Protection	Err71	1、 The on-site water pressure exceeds the set pressure value of b0-07.	1、 1. Check whether the set value of b0-07 is appropriate; 2. Verify that the outlet valve is closed. 3、 Is the pressure sensor damaged?
System switches to reset the motor type	rESet	1、 When executing the P0-01 command to switch motor types (asynchronous or permanent magnet synchronous), a "Resetting in approximately 2 seconds" prompt will appear indicating the motor type reset. After completion, the interface returns to its normal display.	1、 If "rESet" persists, simply power off and then restart the device to switch motor types normally.
Parameter Self-Learning	tUnE	Display after executing P1-37 with a non-zero value	Not have
Lock Key Prompt	-LOC-	1、 Flash display-LOC-, indicating keyboard function locked	1、 Refer to P7-24 for handling.

5.2 Common Faults and Their Resolution Methods

During operation, the frequency converter may encounter the following faults. Refer to the methods below for a simple fault analysis:

Table 4-1 Common Faults and Their Resolution Methods

Order number	Fault phenomenon	Possible Reasons	Resolvent
1	No display when powered on	The grid voltage is absent or too low; Malfunction in the switching power supply on the frequency converter drive board; damage to the rectifier bridge. The buffer resistor of the frequency converter is damaged. Malfunction of the control board, keyboard, or keyboard cable; The connection between the control board, drive board, and keyboard is broken.	Check the power supply; Seek assistance from the manufacturer; Check the busbar voltage; Seek assistance from the manufacturer; Replace the keyboard cable or contact the manufacturer; seek assistance from the manufacturer.
2	The power supply displays [] repeatedly	Poor contact between the connection wires between the drive board and the control board; damage to components on the control board. The grid voltage is too low; Problems with the driver board's switching power supply;	Reconnect the motherboard pins; contact the manufacturer for assistance. Check the power grid voltage; Seek assistance from the manufacturer;
3	The power supply displays the "Err23" alarm.	The motor or output wire is short-circuited to ground; the frequency converter is damaged.	Use a megohmmeter to measure the insulation of the motor and output lines; seek assistance from the manufacturer.
4	Power supply displays normal; after startup, it shows "[]" and immediately shuts down.	Fan damaged or stuck; There is a short circuit in the wiring of the peripheral control terminals.	Replace the fan; 排除外部 short-circuit faults; contact the manufacturer for assistance.
5	Frequent Err14 errors (module overheating)	The carrier frequency is set too high. Fan damage or air duct blockage. Internal components of the frequency converter are damaged (thermocouple or other components).	Reduce the carrier frequency (P0-15). Replace the fan and clean the air duct. Contact the manufacturer for assistance.
6	After the frequency converter is turned on, the motor does not rotate.	The motor wire is not connected properly; Incorrect frequency converter parameter settings (motor parameters); poor contact between the drive board and control board; drive board malfunction;	Recheck the wiring between the frequency converter and the motor; replace the motor or resolve any mechanical faults. Check and reset the motor parameters;
7	The frequency converter has frequently reported overcurrent and overvoltage faults.	The motor parameter settings are incorrect; Inappropriate acceleration/deceleration times; load fluctuations;	Reset the motor parameters or perform motor tuning; Set appropriate acceleration and deceleration times; Seek assistance from the manufacturer;
8	Shanghai Electric Display 	The relevant components on the control board are damaged.	Change the control board;

Warranty Terms

1. This product is covered by a 12-month warranty period, determined by the barcode printed on the unit. Within the warranty period, our company provides free repair services for product malfunctions or failures arising from normal operation in strict accordance with the user manual.
2. Repair charges will apply for damage incurred within the warranty period under the following circumstances:
 - A. Damage resulting from improper operation, unauthorized disassembly, repair or modification of the unit;
 - B. Damage caused by fire, flood, abnormal voltage, other natural disasters or subsequent secondary disasters;
 - C. Hardware damage caused by accidental dropping or improper transportation after purchase; none
 - D. Damage arising from failure to comply with the operating requirements specified in our official user manual;
 - E. Malfunctions and damage induced by external factors unrelated to the product's own mechanical components (e.g., issues from peripheral external equipment).
3. In the event of product malfunction or damage, please fill out all entries on the Product Warranty Card completely and accurately.
4. All out-of-warranty maintenance fees shall be charged in accordance with our company's latest revised Maintenance Price List.
5. This warranty card is generally non-replaceable. Please retain it properly and present it to our service technician when applying for warranty service.
6. Should any disputes or problems occur during after-sales service, please promptly contact our authorized agent or our headquarters directly.