

GT500 Series Variable Frequency Drive Product Manual

Before installation and use, carefully read the product manual
and store it properly for future reference

Contents

Preface.....	- 1 -
Documentation Overview.....	- 1 -
Obtaining the Manual.....	- 1 -
Warranty Statement.....	- 1 -
1. Product Information.....	- 2 -
1.1. Product Positioning and Features.....	- 2 -
1.2. Nameplate and Model Number.....	- 3 -
2. Product Structure.....	- 4 -
2.1. Model Specifications, Dimensions, and Power Rating.....	- 4 -
2.2. Overall Dimensions.....	- 5 -
3. System Configuration.....	- 9 -
3.1. System Connection Diagram.....	- 9 -
4. Optional Accessories.....	- 11 -
4.1. List of Optional Accessories Supplied by Our Company.....	- 11 -
4.2. Braking Assembly.....	- 12 -
5. Technical Data.....	- 15 -
5.1. Electrical Parameters.....	- 15 -
5.2. Technical Specifications.....	- 20 -
6. Wiring.....	- 23 -
6.1. Electrical Wiring Diagram.....	- 23 -
6.2. Main Circuit Cable Wiring.....	- 24 -
6.3. Control Circuit Cable Wiring.....	- 28 -
7. Commissioning and Trial Operation.....	- 32 -
7.1. Onboard LED Control Panel Instructions.....	- 32 -
7.2. Basic Commissioning Procedure.....	- 35 -
8. Expansion Card.....	- 41 -
8.1. I/O Expansion Card.....	- 41 -
8.2. Communication Expansion Card.....	- 42 -
9. Appendix.....	- 43 -
9.1. Appendix 1: Standard 485 Communication (Onboard).....	- 43 -
9.2. Appendix 2: Parameter Listing.....	- 50 -
9.3. Appendix 3: Faults and Troubleshooting.....	- 124 -

Preface

Documentation Overview

The GT500 series variable frequency drive is a universal high-performance, cost-effective open-loop current vector drive, primarily used for controlling and adjusting the speed and torque of three-phase AC asynchronous motors and synchronous motors. It is applicable in textile, papermaking, wire drawing, machine tool, packaging, food processing, fans, pumps, and various automated production equipment drives.

This manual covers product wiring, commissioning, and fault handling procedures. For complete details on function codes and fault codes, refer to the *GT500 Series Universal Variable Frequency Drive Parameter Manual* and related documentation.

Obtaining the Manual

To obtain the electronic PDF version, please use the following methods:

- Scan the QR code on the product body using a mobile phone to access the accompanying user manual.
- Request it directly from your sales manager or distributor.

Warranty Statement

Under normal usage, warranty service is provided for product malfunctions or damages during the warranty period (refer to the purchase order for warranty details). Maintenance costs will apply for repairs beyond the warranty period.

During the warranty period, maintenance costs will be charged for product damages caused by the following circumstances.

- Product damage resulting from improper operation as specified in the manual.
- Product damage caused by fire, flood, or abnormal voltage.
- Product damage resulting from using the product for unintended functions.
- Product damage caused by exceeding the specified operational scope of the product.
- Secondary damage to the product caused by force majeure (natural disasters, earthquakes, lightning strikes).

Relevant service fees shall be calculated according to the manufacturer's unified standards. If a contract exists, the principle of contract priority shall apply.

For detailed warranty information, please refer to the 'Product Service Card'.

1. Product Information

1.1. Product Positioning and Features

This product is a universal high-performance, cost-effective open-loop current vector frequency drive, primarily designed for controlling and adjusting the speed and torque of three-phase AC asynchronous motors and three-phase AC synchronous motors. It incorporates advanced current vector technology while offering outstanding performance, rich functionality, user-friendly operation, and a premium aesthetic design.

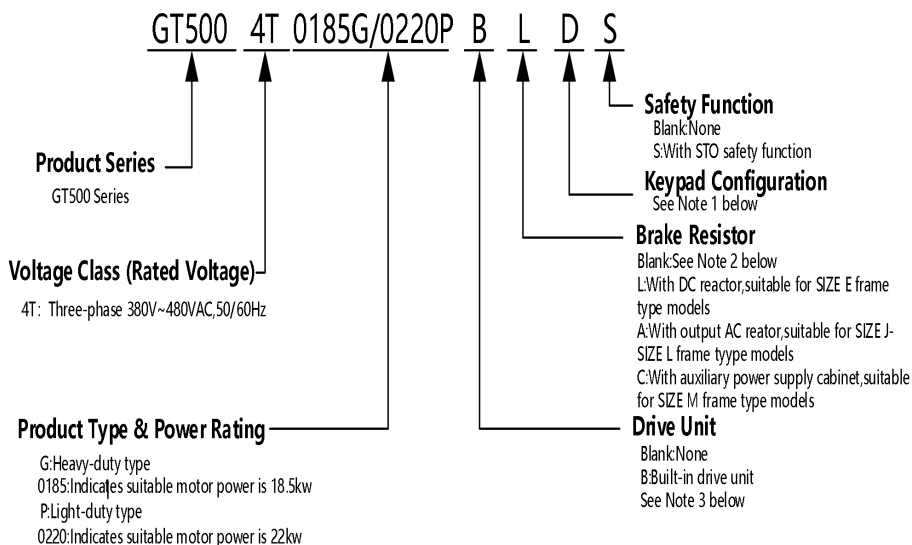


Product Appearance Diagram

This series features the following characteristics:

- Capable of driving three-phase AC asynchronous motors and three-phase AC synchronous motors.
- Enhanced drive performance enables asynchronous motors to achieve 0.25Hz/150% torque without an encoder, simplifying drive and control.
- Easily resolves technical and performance challenges encountered in equipment for industries such as cables, machine tools, metal products, petrochemicals, natural gas, lifting equipment, pulp and paper, textiles, dyeing, ceramics, and more.
- Advanced synchronous motor control algorithm ensures simpler and more stable control, especially for high-speed applications.
- Equipped with abundant functional accessories, including communication cards, I/O expansion cards, etc.

1.2. Nameplate and Model Number



Note 1:

A: GT500L LEDN0 (LED, standard version, with potentiometer);
D: No keyboard;
U: GT500LLCDC0 (LCD, standard version, Chinese);
V: GT500LLCDE0 (LCD, standard version, English).

Note 2:

• For three-phase systems operating at 380V to 480V, models SIZE A to SIZE I do not support optional power reactors; models SIZE J and above come standard with DC reactors.

Note 3:

• Three-phase 380V~480V; SIZE A~SIZE E come standard with a braking unit, while sizes F and above offer an optional braking unit. Models above Size J do not support built-in braking units.

Nameplate diagram

2. Product Structure

2.1. Model Specifications, Dimensions, and Power Rating

Refer to the table below for the correspondence between product models and dimensions.

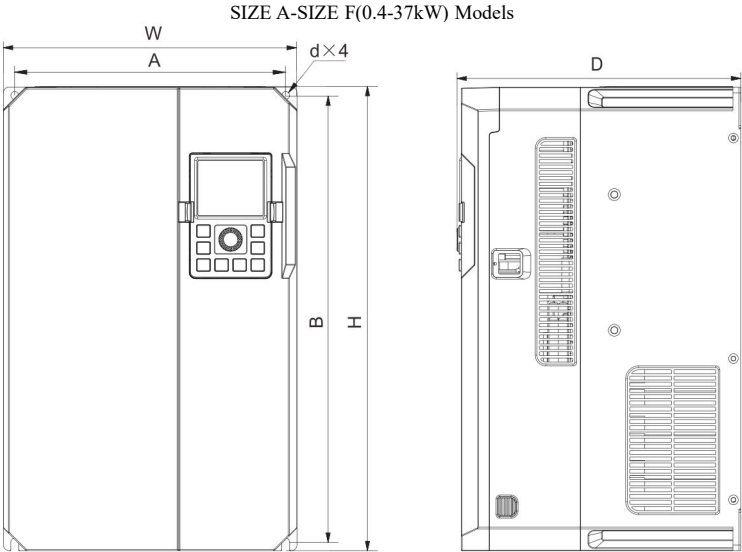
Table of Product Model vs. Dimensions and Power Ratings

Dimensions , Structural model	Product model	Power range (kW)
	Three-phase 380V~480V	
SIZE A	GT500-4T0004G/0007PB	0.4~3.0
	GT500-4T0007G/0011PB	
	GT500-4T0011G/0015PB	
	GT500-4T0015G/0022PB	
	GT500-4T0022G/0030PB	
	GT500-4T0030G/0040PB	
SIZE B	GT500-4T0040G/0055PB	4.0~5.5
	GT500-4T0055G/0075PB	
SIZE C	GT500-4T0075G/0110PB	7.5~11
	GT500-4T0110G/0150PB	
SIZE D	GT500-4T0150G/0185PB	15
SIZE E	GT500-4T0185G/0220PB	18.5~22
	GT500-4T0220G/0300PB	
SIZE F	GT500-4T0300G/0370P	30~37
	GT500-4T0300G/0370PB	
	GT500-4T0370G/0450P	
	GT500-4T0370G/0450PB	
SIZE G	GT500-4T0450G/0550P	45~55
	GT500-4T0450G/0550PB	
	GT500-4T0550G/0650P	
	GT500-4T0550G/0650PB	
SIZE H	GT500-4T0650G/0750P	65~110
	GT500-4T0650G/0750PB	
	GT500-4T0750G/0900P	
	GT500-4T0750G/0900PB	
	GT500-4T0900G/1100P	
	GT500-4T0900G/1100PB	
	GT500-4T1100G/1320P	
	GT500-4T1100G/1320PB	
SIZE I	GT500-4T1320G/1600P	132~160
	GT500-4T1600G/1850P	
SIZE J	GT500-4T1850G/2000PL	185-220
	GT500-4T2000G/2200PL	
	GT500-4T2200G/2500PL	

SIZE K	GT500-4T2500G/2800PL	250-315
	GT500-4T2800G/3150PL	
	GT500-4T3150G/3550PL	
SIZE L	GT500-4T3550G/3750PL	355-450
	GT500-4T3750G/4000PL	
	GT500-4T4000G/4500PL	
	GT500-4T4500G/5000PL	

Note: Models with a total power of 22 kW or below come standard with a braking unit upon factory delivery; braking units are optional for models ranging from 30 kW to 110 kW; built-in braking units are not supported for models of 132 kW and above. Models with a total power of 160 kW or below do not support DC reactors, while models of 185 kW and above come standard with a DC reactor.

2.2. Overall Dimensions



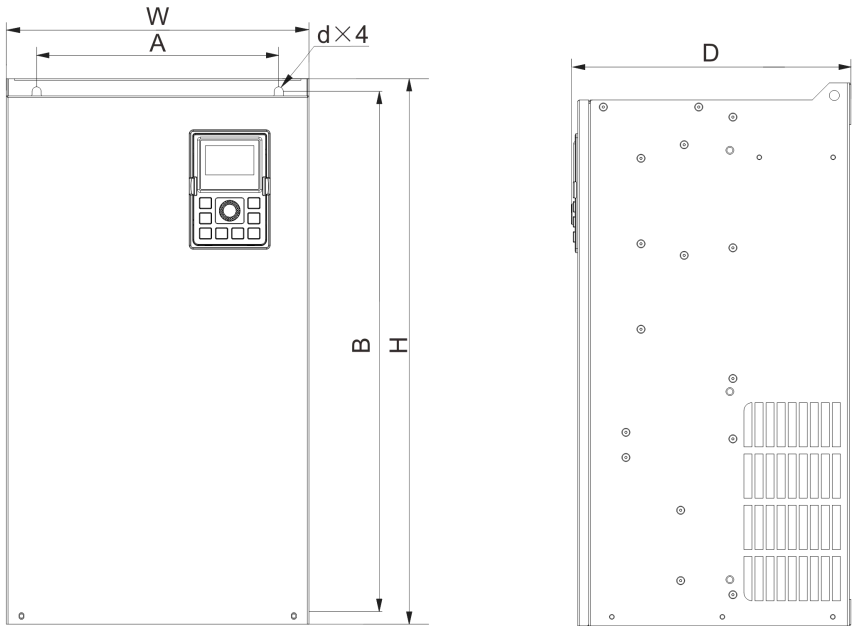
Outline and installation dimensions schematic diagramSIZE A-SIZE F

Outline and mounting hole dimensions for SIZE A-SIZE F models

Structural outline	Mounting hole positions (mm)		Overall dimensions (mm)			Mounting hole diameter	Weight (kg)
	A	B	H	W	D	d×4	
SIZE A	119	194	205	130	160	Ø5	1.92
SIZE B	119	194	205	130	170	Ø5	2.15
SIZE C	144	244	254	155	181.5	Ø5.5	3.69
SIZE D	182	275	285	192	181.5	Ø5.5	4.9
SIZE E	198	338	350	210	210	Ø5.5	8.3
SIZE F	240	395	410	260	248	Ø7	18.5

2. Product Architecture

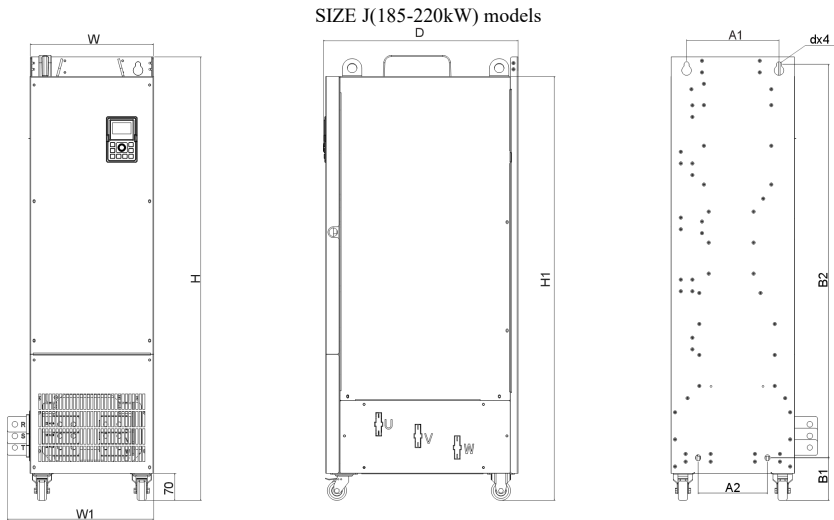
SIZE G-SIZE I(45-160kW) models



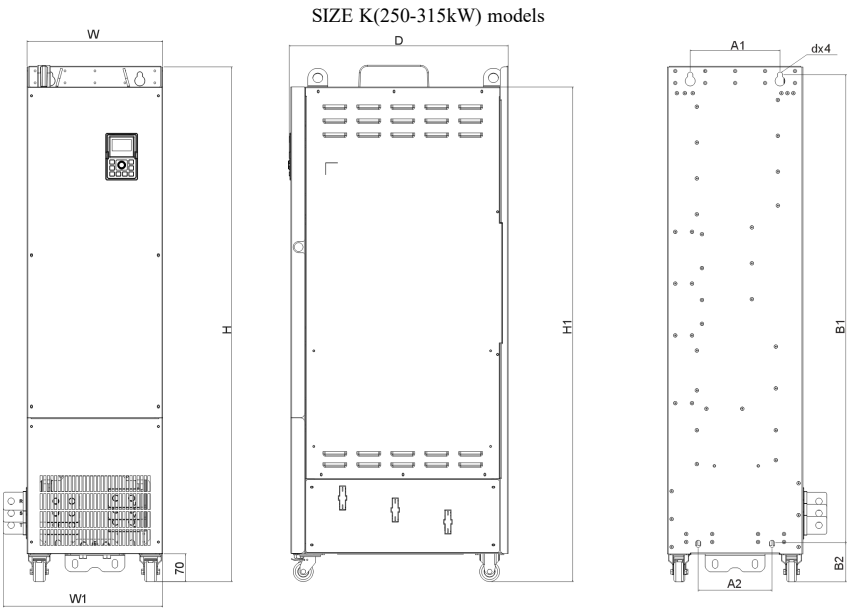
Outline and installation dimensions schematic diagram for SIZE G-SIZE I models

Outline and mounting hole dimensions for SIZE G-SIZE I models

Structural outline	Mounting hole positions (mm)		Overall dimensions (mm)			Mounting hole diameter	Weight (kg)
	A	B	H	W	D	d×4	
SIZE G	240	520	540	300	277	Ø9	32.6
SIZE H	270	560	580	340	314.5	Ø10	48
SIZE I	300	890	915	400	323.5	Ø10	83

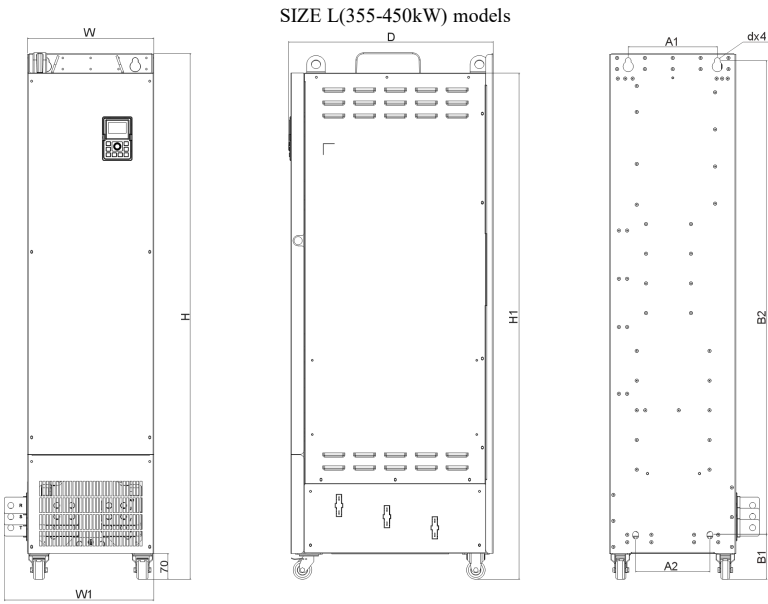


Outline and installation dimensions schematic diagram for SIZE J models



Outline and installation dimensions schematic diagram for SIZE K models

2. Product Architecture



Outline and installation dimensions schematic diagram for SIZE L models

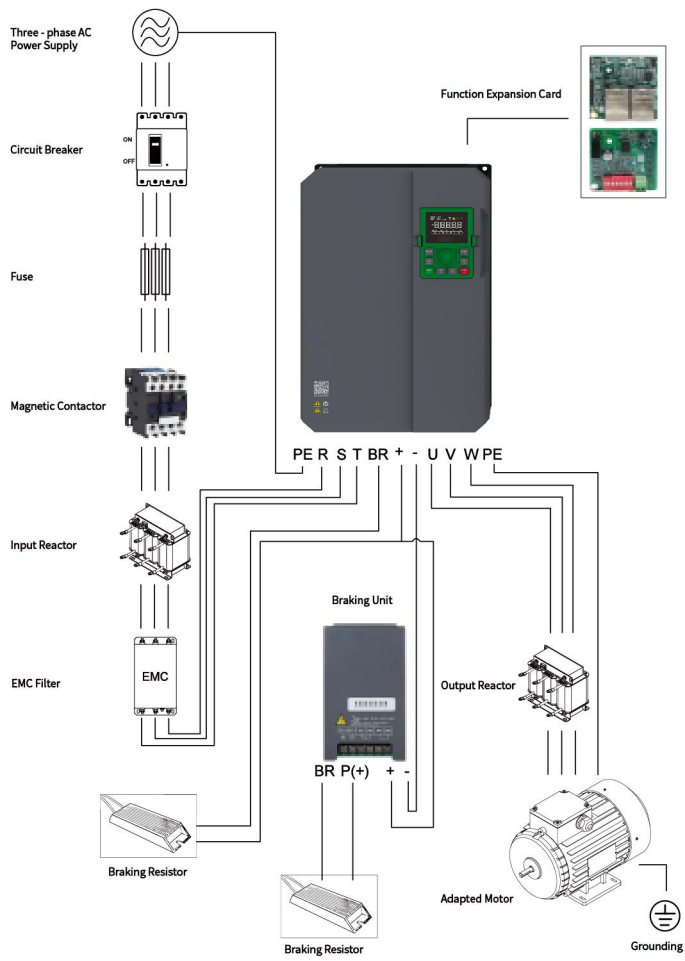
Outline and mounting hole dimensions for SIZE J-SIZE L models

Structural outline	Mounting hole positions (mm)				Overall dimensions (mm)				Mounting hole diameter		Weight (kg)
	A1	A2	B1	B2	H	H1	W	W1	D	d×4	
SIZE J	246.5	180	1016	110	1145	1094	320	380.5	505	Ø13	130
SIZE K	225	185	1175	98	1292	1241.5	340	400	550	Ø13	180
SIZE L	240	200	1276.5	121.5	1417	1364.5	340	403	550	Ø15.5	203

3. System Configuration

3.1. System Connection Diagram

When a variable frequency drive controls an electric motor to form a control system, various electrical components must be installed on the input/output sides to ensure system safety and stability. The system configuration is shown in the diagram below.



System Configuration Diagram

3. System Configuration

Instructions for Peripheral Electrical Components

Component Name	Installation Location	Functional Description
Circuit Breaker	Drive Input Side	Install between the power supply and the inverter input side. Short-circuit breaker: Cuts off power in case of downstream equipment overcurrent to prevent accidents. Residual-current circuit breaker (RCCB): High-frequency leakage currents may occur during inverter operation. To prevent electric shock and potential fire hazards, select and install an appropriate RCCB based on site conditions.
Fuse	Drive Input Side	Prevents accidents caused by short circuits and protects downstream semiconductor devices.
Contactor	Drive Input Side	For power-on/off operations of the frequency drive, avoid frequent power cycling (intervals should not be less than one hour) via contactors or direct start-up operations.
Input reactor	Drive Input Side	Effectively reduces power-frequency harmonics on the grid and improves the power factor of the input side.
EMC filter	Drive Input Side	Reduces conducted and radiated interference emitted by the drive.
Braking resistor	Drive output side	During motor deceleration, regenerative energy is dissipated through the braking resistor.
Braking unit	Drive output side	For product models without the 'B' designation, please use the braking unit recommended by our company. During motor deceleration, regenerative energy is dissipated through the braking resistor.
Output AC reactor	Drive output side	Protects the insulation of the electric motor and extends its service life.
Magnetic rings, magnetic clips	Drive output side	Reduces external interference and lowers bearing currents.
	Signal cables	Enhances signal immunity to interference.
Electric motor	Drive output side	Please select a compatible electric motor according to recommendations.
Note: For peripheral electrical equipment selection, please refer to 'Chapter 4 Optional Accessories'.		

3.1.1. COM/GND grounding screw

When the inverter is properly grounded, it reduces interference levels in external low-voltage cables and minimizes the impact of external cable-induced interference on the control board. Default connection.

On the other hand, when poor site grounding or other factors cause significant interference voltage on the inverter enclosure, this interference may be introduced into the control system. This could affect signals at the inverter terminals and, in severe cases, may lead to failures in communication, current sampling, analog I/O, digital I/O, or even impact other devices externally connected to the control board terminals.

4. Optional Accessories

4.1. List of Optional Accessories Supplied by Our Company

Refer to the table below for optional accessories supplied by our company for the GT500 series. Detailed usage methods are provided in each accessory's manual. Specify required accessories when placing orders.

Name		Model	Supported Models	Description
Braking Assembly	External Braking Unit			External Braking Unit
Installation Accessories	Embedded Mounting Bracket			For Embedded Installation
	Output AC reactor			
Function Expansion Card	I/O Expansion Card	DHEEIO1	GT500 (Applicable to 15kW and above models)	4 channels DI + 1 channel AI + 1 channel DO and 1 channel relay output + CAN + RS485 (Applicable to 15kW and above models)
	I/O Expansion Card	DHEEIO2	GT600, GT500 Full Series	3 channels DI
	I/O Expansion Card	DHEEIO3	GT600, GT500 Full Series	3 channels DI + 1 channel relay + RS485
	I/O Expansion Card	DHEEIO4	GT600, GT500 Full Series	3 channels DI + 1 channel DO + 1 channel relay output
	I/O Expansion Card	DHEEIO5A	GT600, GT500 Full Series	4 channels DI + 2 channels DO + RS485
	I/O Expansion Card	DHEEIO5B	GT600, GT500 Full Series	4 channels DI + 2 channels DO
	I/O Expansion Card	DHEEIO6	GT600, GT500 Full Series	1 channel AI (supports Differential Voltage Input and Thermal Resistor Input)
	I/O Expansion Card	DHEEIO7	GT600, GT500 Full Series	1 channel AI (supports -10V DC to +10V DC input)
	I/O Expansion Card	DHFEIO1	GT500 Full Series	1-channel AI: Input voltage range: -10VDC to 10VDC/4 - 20mA 1-channel AO: Output: 0 - 10V/4 - 20mA 1-relay output
Communication card	RS485 communication card	DHEE485	GT600, GT500 Full Series	RS485 communication card (MODBUS-RTU)
	CAN communication card	DHEECAN	GT600, GT500 Full Series	CAN communication card
	CANopen Communication card	DHEECAN OPEN	GT600, GT500 Full Series	CANopen communication card
	PROFIBUS-DP communication card	DHEEDP	GT600, GT500 Full Series	PROFIBUS-DP communication card

4. Optional Accessories

	PROFINET communication card	DHEEPN	GT600, GT500 Full Series	PROFINET communication card
	EtherCAT communication card	DHEECA T	GT600, GT500 Full Series	EtherCAT communication card
	MODBUS TCP communication card	DHEETCP	GT600, GT500 Full Series	MODBUS TCP communication card
Matching cable	Matching cable for DP expansion card	/	GT600 full series	Male-to-male DB9 cable for connecting DHEEDP card and PROFIBUS master station
	Matching network cable for PROFINET, EtherCAT, and TCP expansion cards	/	GT600 full series	Direct-connect network cable meeting Cat5e or higher standards

Description

The above table lists only optional accessories supplied by our company. For other peripheral electrical components such as circuit breakers, contactors, fuses, EMC filters, AFE units, etc., our company provides recommendations only and does not supply them.

4.2. Braking Assembly

4.2.1. Selection of braking resistor resistance value

During braking, almost all regenerative energy from the electric motor is dissipated by the braking resistor. The resistance value of the braking resistor can be calculated using the formula: $U \times U / R = P_b$:

U—Braking voltage during stable system braking (U varies across different systems; the default braking voltage for this inverter series is 760V);

P_b—Braking power.

4.2.2. Selection of braking resistor power rating

Theoretically, the power rating of the braking resistor equals the braking power. However, considering derating factor K, it can be calculated using the formula:

$$K \times P_r = P_b \times D,$$

K—takes a value around 50%,

P_r—power of the braking resistor,

D—braking frequency, representing the proportion of the regeneration process to the entire working cycle

From the above two equations, we can derive:

$$K \times P_r = P_b \times D = U \times U / R \times D; \quad P_r = (U \times U \times D) / (R \times K),$$

Users can calculate the braking resistor power using this formula.

The K value is the derating coefficient for the braking resistor. A lower K value ensures the braking resistor does not overheat. Under conditions of good heat dissipation, users may appropriately increase the K value, but it is best not to exceed 50%. Otherwise, there is a risk of fire due to resistor overheating.

The braking frequency D should be determined based on the user's actual application scenario. 'Common Application Braking Frequencies' provides typical values for common scenarios:

Braking Frequency in

Common Application Scenarios	Elevator	Uncoiling and Coiling	Centrifuge	Occasional Braking Load	General Applications
Braking Frequency Value Assignment	20 ~30%	20 ~30%	50~60%	5%	10%

4.2.3. Braking Unit Model

Description

The braking resistance values in the table are based on heavy overload models (G-type) with a braking duty cycle (ED) of 10% and a maximum single braking duration of 10 seconds.

Braking Component Selection Table

Inverter Model	Braking Unit Model	Braking Resistance Value (Ω)	Braking Resistor Power (W)
GT500-4T0004G/0007PB	Built-in	1000	80
GT500-4T0007G/0011PB	Built-in	600	160
GT500-4T0011G/0015PB	Built-in	500	210
GT500-4T0015G/0022PB	Built-in	400	250
GT500-4T0022G/0030PB	Built-in	250	400
GT500-4T0030G/0040PB	Built-in	150	600
GT500-4T0040G/0055PB	Built-in	150	750
GT500-4T0055G/0075PB	Built-in	100	1000
GT500-4T0075G/0110PB	Built-in	75	1200
GT500-4T0110G/0150PB	Built-in	50	2000
GT500-4T0150G/0185PB	Built-in	40	2500
GT500-4T0185G/0220PB	Built-in	30	4000
GT500-4T0220G/0300PB	Built-in	30	4000
GT500-4T0300G/0370P	External Option BR-50	20	6000
GT500-4T0300G/0370PB	Built-in	20	6000
GT500-4T0370G/0450P	External Option BR-100	16	9000
GT500-4T0370G/0450PB	Built-in	16	9000
GT500-4T0450G/0550P	External Option BR-100	13.6	9000
GT500-4T0450G/0550PB	Built-in External Option BR-100	13.6	9000
GT500-4T0550G/0650P	External Option BR-100	20/2	12000
GT500-4T0550G/0650PB	Built-in External Option BR-100	20/2	12000
GT500-4T0650G/0750P	External Option BR-200	13.6/2	18000
GT500-4T0650G/0750PB	Built-in External Option BR-200	13.6/2	18000
GT500-4T0750G/0900P	External Option BR-200	13.6/2	18000
GT500-4T0750G/0900PB	Built-in External Option BR-200	13.6/2	18000
GT500-4T0900G/1100P	External Option BR-200	20/3	18000
GT500-4T0900G/1100PB	Built-in External Option BR-200	20/3	18000

4. Optional Accessories

GT500-4T1100G/1320P	External Option BR-200	20/3	18000
GT500-4T1100G/1320PB	Built-in External Option BR-200	20/3	18000
GT500-4T1320G/1600P	External Option BR-200	20/4	24000
GT500-4T1600G/1850P	External Option BR-400	13.6/4	36000
GT500-4T1850G/2000PL	External Option BR-4T0400	13.6/4	36000
GT500-4T2000G/2200PL	External Option BR-400	13.6/5	45000
GT500-4T2200G/2500PL	External Option BR-400	13.6/6	54000
GT500-4T2500G/2800PL	External Option BR-400	13.6/6	54000
GT500-4T2800G/3150PL	External Option BR-400	13.6/6	54000
GT500-4T3150G/3550PL	External Option BR-400	13.6/6	54000
GT500-4T3550G/3750PL	External Option BR-600	13.6/7	63000
GT500-4T3750G/4000PL	External Option BR-600	13.6/7	63000
GT500-4T4000G/4500PL	External Option BR-600	13.6/8	72000
GT500-4T4500G/5000PL	External Option BR-600	13.6/8	72000

- The data in the above table serves as guidance. Users may select braking resistors with different resistance values and power ratings based on actual conditions (however, the resistance value must never be lower than the minimum braking resistor value specified in the table, while the power rating can be larger). The selection of braking resistors should be determined based on the power generated by the electric motor in the actual application system. It relates to factors such as system inertia, deceleration time, and energy from potential loads, requiring users to make appropriate choices according to their specific circumstances.
- Larger system inertia, shorter required deceleration time, and more frequent braking necessitate selecting braking resistors with larger power ratings and smaller resistance values.

5. Technical Data

5.1. Electrical Parameters

Description

The inverter rated power determination conditions in the table below are as follows:

- Three-phase 380V~480V: Inverter rated power is determined at 440V AC input.
- Three-phase 200V~240V: Inverter rated power is determined at 220V AC input.
- Single-phase 200V~240V: Inverter rated power is determined at 220V AC input.

Three-phase 380V~480V

Electrical Parameters (Three-phase 380V~480V) (SIZE A)

Item		Specification					
Model: GT500		4T0004G/ 0007PB	4T0007G/ 0011PB	4T0011G/ 0015PB	4T0015G/ 0022PB	4T0022G/ 0030PB	4T0030G /0040PB
Structural outline		SIZE A					
Output	Power (kW) (Heavy load)	0.4	0.75	1.1	1.5	2.2	3.0
	Rated Output Current (A) (Heavy load)	1.6	3	3.5	4.5	6	7.2
	Power (kW) (Light load)	0.75	1.1	1.5	2.2	3.0	4.0
	Rated Output Current (A) (Light load)	3	3.5	4.5	6	7.2	9.5
	Output Voltage	Three-phase 0~Input voltage					
	Maximum Output Frequency	599Hz (adjustable via parameters)					
	Carrier Frequency	0.5kHz~16.0kHz (carrier frequency automatically adjustable based on load characteristics)					
	Overload Capacity	Heavy load: 150% rated current for 60s; Light load: 120% rated current for 60s					
Input	Rated input current (A) (Heavy load)	2.2	4.4	5.0	6.0	7.5	9.5
	Rated input current (A) (Light load)	4.4	5.0	6.0	7.5	9.5	11
	Rated voltage/Rated frequency	AC: Three-phase 380~480V, 50/60Hz					
	Permissible voltage fluctuation range	-15%~10%; Actual permissible range: AC 323V~528V					
	Permissible frequency fluctuation range	±5%; Actual permissible range: 47.5Hz~63Hz					
	Power supply capacity (kVA)	2	2.8	4.1	5	6.7	9.5
Thermal design	Exhaust air volume (CFM)	-	-	-	9	9	9
Overvoltage category	OVCIII						
Pollution degree		PD2					
Protection rating		IP20 (open type; IP protection rating applies to IEC products)					

5. Technical Data

Electrical Parameters (Three-phase 380V~480V) (SIZE B-SIZE D)

Item		Specification				
Model: GT500		4T0040G/ 0055PB	4T0055G/ 0075PB	4T0075G/ 0110PB	4T0110G/ 0150PB	4T0150G/ 0185PB
Structural outline		SIZE B		SIZE C		SIZE D
Output	Power (kW) (Heavy load)	4.0	5.5	7.5	11	15
	Rated Output Current (A) (Heavy load)	9.5	13	17	25	32
	Power (kW) (Light load)	5.5	7.5	11	15	18
	Rated Output Current (A) (Light load)	13	17	25	32	37
	Output Voltage	Three-phase 0~Input voltage				
	Maximum Output Frequency	599Hz (adjustable via parameters)				
	Carrier Frequency	0.5kHz~16.0kHz (carrier frequency automatically adjustable based on load characteristics)				
	Overload Capacity	Heavy load: 150% rated current for 60s; Light load: 120% rated current for 60s				
Input	Rated input current (A)	11	15.5	20.5	26	35
	Rated voltage/Rated frequency	AC: Three-phase 380~480V, 50/60Hz				
	Permissible voltage fluctuation range	-15%~10%; Actual permissible range: AC 323V~528V				
	Permissible frequency fluctuation range	±5%; Actual permissible range: 47.5Hz~63Hz				
	Power supply capacity (kVA)	12	17.5	22.8	33.4	42.8
Thermal design	Exhaust air volume (CFM)	20	24	30	40	42
Overvoltage category	OVCIII					
Pollution degree	PD2					
Protection rating	IP20 (open type; IP protection rating applies to IEC products)					

Electrical Parameters (Three-phase 380V~480V) (SIZE E, SIZE F)

Item		Specification			
Model: GT500		4T0185G/ 0220PB	4T0220G/ 0300PB	4T0300G/ 0370PB	4T0370G/ 0450PB
Structural outline		SIZE E		SIZE F	
Output	Power (kW) (Heavy load)	18.5	22	30	37
	Rated Output Current (A) (Heavy load)	37	45	60	75
	Power (kW) (Light load)	22	30	37	45
	Rated Output Current (A) (Light load)	45	60	75	90

	Output Voltage	Three-phase 0~Input voltage			
	Maximum Output Frequency	599Hz (adjustable via parameters)			
	Carrier Frequency	0.5kHz~16.0kHz (carrier frequency automatically adjustable based on load characteristics)			
	Overload Capacity	Heavy load: 150% rated current for 60s; Light load:120% rated current for 60s			
Input	Rated Input Current (A) (Heavy load)	38.5	46.5	62	76
	Rated Input Current (A) (Light load)	46.5	62	76	92
	Rated voltage/Rated frequency	AC: Three-phase 380~480V, 50/60Hz			
	Permissible voltage fluctuation range	-15%~10%; Actual permissible range: AC 323V~528V			
	Permissible frequency fluctuation range	±5%; Actual permissible range: 47.5Hz~63Hz			
	Power supply capacity (kVA)	33	39	52	63
Thermal design	Exhaust air volume (CFM)	52	57	118	118
Overvoltage category	OVCHII				
Pollution degree	PD2				
Protection rating	IP20 (open type; IP protection rating applies to IEC products)				

Electrical Parameters (Three-phase 380V~480V) (SIZE G-SIZE I)

Item		Specification							
Model: GT500		4T0450 G/0550P	4T0550 G/0650P	4T0650 G/0750P	4T0750 G/0900P	4T0900 G/1100P	4T1100 G/1320P	4T1320 G/1600P	4T1600 G/1850P
Structural outline		SIZE G		SIZE H			SIZE I		
Output	Power (kW) (Heavy Load)	45	55	65	75	90	110	132	160
	Rated Output Current (A) (Heavy Load)	90	110	130	152	176	210	253	300
	Power (kW) (Light Load)	55	65	75	90	110	132	160	185
	Rated Output Current (A) (Light Load)	110	130	152	176	210	253	300	340
	Output Voltage	Three-phase 0~Input Voltage							
	Maximum Output Frequency	599Hz (Adjustable via parameters)							
	Carrier Frequency	0.5kHz~16.0kHz (Carrier frequency automatically adjustable based on load characteristics)							
	Overload Capability	Heavy Load: 150% Rated Current for 60s; Light Load:120% Rated Current for 60s							
Input	Rated Input Current (A) (Heavy Load)	92	113	134	157	180	214	256	305
	Rated Input Current (A) (Light Load)	113	134	157	180	214	256	305	344
	Rated Voltage/Frequency	AC: Three-phase 380~480V, 50/60Hz							

5. Technical Data

	Permissible Voltage Fluctuation Range	-15%~10%, Actual Permissible Range: AC 323V~528V							
	Permissible Frequency Fluctuation Range	±5%, Actual Permissible Range: 47.5Hz~63Hz							
	Power Supply Capacity (kVA)	81	97	110	127	150	180	220	263
Thermal Design	Exhaust Air Volume (CFM)	122.2	122.2	218.6	218.6	287.2	354.2	547	627
Overvoltage Category	OVCIII								
Pollution Degree	PD2								
Protection Rating	IP20 (open type, IP Protection Rating applies to IEC Products)								

Electrical parameters (Three-phase 380V~480V) (SIZE J-SIZE K)

Item		Specification					
Model: GT500		4T1850G/ 2000PL	4T2000G/ 2200PL	4T2200G/ 2500PL	4T2500G/ 2800PL	4T2800G/ 3150PL	4T3150G/ 3550PL
Outline structure		SIZE J		SIZE K			
Output	Power (kW) (Heavy Duty Load)	185	200	220	250	280	315
	Rated Output Current(A) (Heavy Duty Load)	340	380	420	480	540	600
	Power (kW) (Light Load)	200	220	250	280	315	355
	Rated Output Current(A) (Light Load)	380	420	480	540	600	680
	Output Voltage	Three-phase 0~Input Voltage					
	Maximum Output Frequency	599Hz (adjustable via parameters)					
	Carrier Frequency	0.5kHz~16.0kHz (Carrier frequency automatically adjusted based on load characteristic)					
	Overload Capacity	Heavy Duty Load: 150% rated current for 60s; Light Load: 110% rated current for 60s					
Input	Rated Input Current(A) (Heavy Duty Load)	344	383	425	484	543	605
	Rated Input Current(A) (Light Load)	383	425	484	543	605	683
	Rated Voltage / Rated Frequency	AC: Three-phase 380~480V, 50/60Hz					
	Allowable Voltage Fluctuation Range	-15%~10%, Actual allowable range: AC 323V~528V					
	Allowable Frequency Fluctuation Range	±5%, Actual allowable range: 47.5Hz~63Hz					
	Power Capacity (kVA)	278	334	375	404	453	517
Thermal Design	Exhaust Air Volume (CFM)	861.28	861.28	1291.92	1291.92	1291.92	1291.92
Overvoltage Category	OVCIII						
Pollution Degree	PD2						
Protection Class	IP20 (open type, IP Protection Rating applies to IEC products)						

Electrical parameters (Three-phase 380V~480V) (SIZE L)

Item		Specification			
Model: GT500		4T3550G/3750PL	4T3750G/4000PL	4T4000G/4500PL	4T4500G/5000PL
Outline structure		SIZE L			
Output	Power (kW) (Heavy Duty Load)	355	375	400	450
	Rated Output Current(A) (Heavy Duty Load)	680	710	750	860
	Power (kW) (Light Load)	375	400	450	500
	Rated Output Current(A) (Light Load)	710	750	860	900
	Output Voltage	Three-phase 0~Input Voltage			
	Maximum Output Frequency	599Hz (adjustable via parameters)			
	Carrier Frequency	0.5kHz~16.0kHz (Carrier frequency automatically adjusted based on load characteristic)			
	Overload Capacity	Heavy Duty Load: 150% rated current for 60s; Light Load: 110% rated current for 60s			
Input	Rated Input Current(A) (Heavy Duty Load)	683	714	753	864
	Rated Input Current(A) (Light Load)	714	753	864	905
	Rated Voltage / Rated Frequency	AC: Three-phase 380~480V, 50/60Hz			
	Allowable Voltage Fluctuation Range	-15%~10%, Actual allowable range: AC 323V~528V			
	Allowable Frequency Fluctuation Range	±5%, Actual allowable range: 47.5Hz~63Hz			
	Power Capacity (kVA)	565	596	629	715.5
Thermal Design	Exhaust Air Volume (CFM)	1291.92	1291.92	1291.92	1291.92
Overvoltage Category	OVCIII				
Pollution Degree	PD2				
Protection Class	IP20 (open type, IP Protection Rating applies to IEC products)				

5.2. Technical Specifications

Technical Specifications Table 1

Item			Technical Specifications
Control Performance	Compatible Motor Types		Asynchronous Induction Motors (IM), Permanent Magnet Synchronous Motors (PMSM)
	Control Methods		Sensorless Vector Control (SVC), V/F Control
	Asynchronous Motors VF	Supported Functions	Overvoltage suppression, Overcurrent suppression, Momentary Power Loss Ride-Through, Oscillation Suppression, Torque Boost, Slip Compensation, Multiple V/F Curve Selection, V/F Separation, DC Braking, Random PWM, Over-excitation Fast Deceleration, Droop Control, Parameter auto-tuning, Speed Tracking, etc.
	Asynchronous Motors SVC	Supported Functions	Master-Slave Control, Overvoltage suppression, DC Braking, Torque Control, Momentary Power Loss Ride-Through, Parameter auto-tuning, Speed Tracking, etc.
		Speed Regulation Range	1:250 (SVC)
		Starting Torque	0.25Hz/150% (SVC)
		Torque Step Response	Torque Step Response within 2ms
		Torque Control Accuracy	Torque Control Accuracy $\pm 3\%$ above 5Hz
		Steady-State Speed Accuracy	Within 10% of rated slip
		Field Weakening Ratio	5x Field Weakening

Technical Specifications Table 2

Item			Technical Specifications
Control Performance	Synchronous Motor SVC	Supported Functions	Master-Slave Control, Overvoltage suppression, DC Braking, Torque Control, Momentary Power Loss Ride-Through, Parameter auto-tuning, Speed Tracking, etc.
		Speed Regulation Range	1:100 (SVC)
		Starting Torque	0.5Hz/150% (SVC)
		Torque Step Response	Torque Step Response within 2ms
		Torque Control Accuracy	Torque Control Accuracy $\pm 3\%$ above 5Hz
		Steady-State Speed Accuracy	0.05%

Technical Specifications Table 3

Item			Technical Specifications
Basic Functions	Command Channel		Controls motor start/stop operations, including DI/DO, virtual DI/DO, external expansion card DI/DO, communication reference. Supports switching between 4 sets of different motor parameters and control parameters, and allows free programming for start/stop command configuration.
	Given Channel	Input Frequency Resolution	Digital Setting: 0.01Hz Analog Setting: Maximum Frequency $\times$ 0.1%
		Speed/Torque Given	Acceleration/deceleration curves, dynamic switching of multiple acceleration/deceleration times, S-curve acceleration/deceleration, external PID given, AI (2 channels, supporting 0-10V/0-20mA), communication-based speed/torque given, pulse given (HDI1), multi-step value given, etc.; supports Free Programming setting for speed/torque given
	Communication Methods		Supports 7 communication methods: Modbus (Modbus-RTU, Modbus-TCP), Profibus-DP, CAN, CANopen, Profinet, EtherCAT, 4G-LTE
	Output Limitation		Supports torque limitation, power limitation, current limitation, ultimate torque limitation, speed limitation, frequency hopping
	Process Control	PID	Sleep mode, free configuration of setPoint and feedback sources, 2-stage PID parameter switching, feedback loss detection, free configuration of output limitation, free initialization configuration
	Protection		Inverter and motor protection including overvoltage, overcurrent, overload, motor overtemperature, load shedding protection, fault auto-reset, auto-restart, etc.

Technical Specifications Table 4

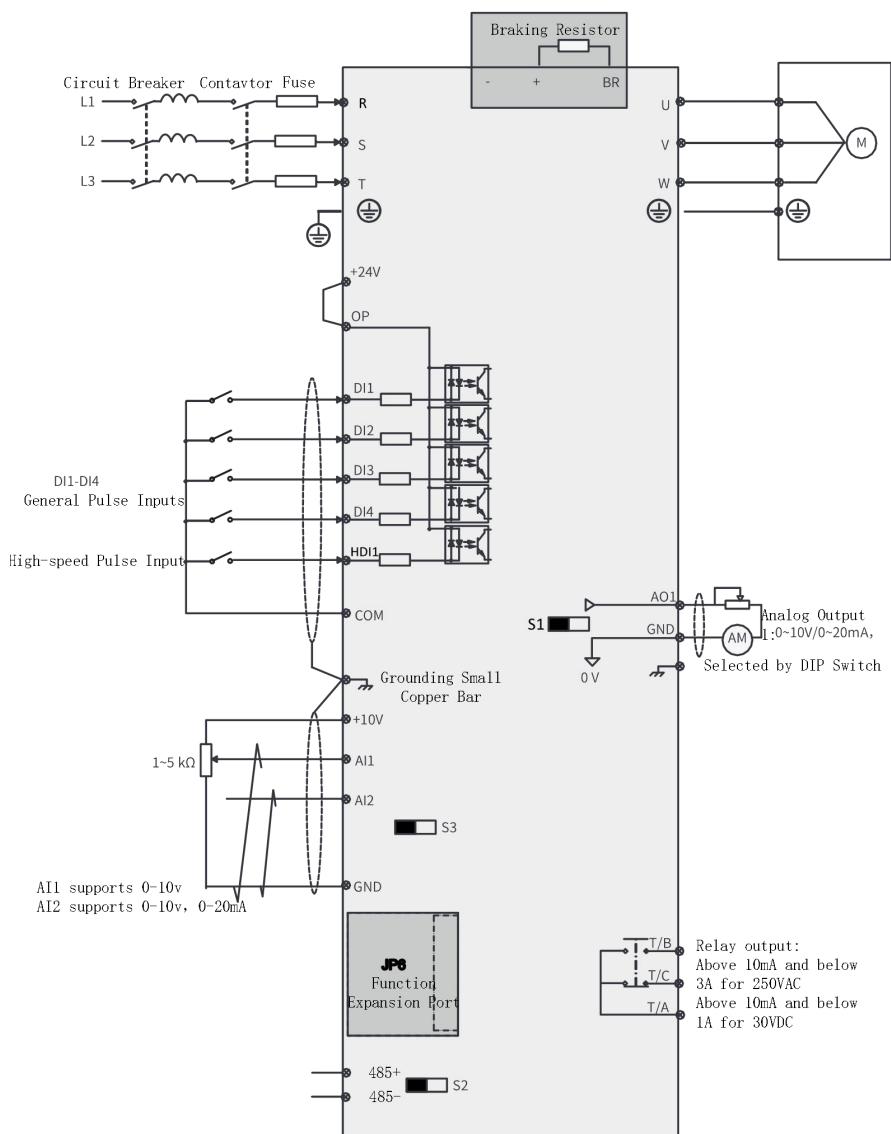
Item			Technical Specifications
Customized Functions	Free Programming		Supports Free Programming. logic operations (AND, OR, NOT, XOR, XNOR), Arithmetic operations (addition/subtraction/multiplication/division, absolute value, numerical comparison), logic delay on/off, multi-Point curve, constant value
	Self-check		Inverter and electric motor detection. Supports IGBT shoot-through, ground short-circuit, phase-loss self-check, and phase-to-phase short-circuit self-check
	Powerful background software		The background software ED.DriveStudio supports Inverter parameter upload/download operations and oscilloscope functionality. Remote debugging and fault diagnosis are supported via the background software. Internal status monitoring of the Inverter can be achieved using the oscilloscope.
Run	Run Command		References: Operator panel, control terminals, communication (switchable via multiple methods).
	Frequency Command		14 Frequency Command types: Digital reference, analog voltage reference, analog current reference, pulse reference, serial port reference (switchable via multiple methods)
	Auxiliary Frequency Command		14 types of auxiliary frequency commands. Enables flexible auxiliary frequency fine-tuning and frequency synthesis.
	Input Terminals		Standard: 4 DI terminals, 1 high-speed DI terminal

5. Technical Data

		2 AI terminals; AI1 supports only 0V~10V voltage mode input, AI2 supports 0V~10V voltage mode input or 0~20mA current mode input
	Output Terminals	Standard: 1 AO terminal, supporting 0~20mA current output or 0~10V voltage output 1 relay output terminal
Display and Keypad Operation	LED operation panel display	Displays and modifies parameters; shows various inverter statuses (Forward Run/Reverse Rotation/Stop, panel/terminal/communication control, speed/torque control, etc.)
	Key Lock and Function Selection	Enables selective key locking and defines functional scope of specific keys to prevent misoperation
Environment	Installation Site	Indoor locations, shielded from direct sunlight, and free from dust, corrosive gases, flammable gases, oil mist, water vapor, dripping water, or salt contamination
	Altitude	No derating required below 1000m. Above 1000m, derate by 1% for every 100m increase. Maximum operational altitude is 3000m. For altitudes exceeding 3000m, contact the manufacturer
	Ambient Temperature	-20°C ~ +50°C. When ambient temperature ranges from 40°C to 50°C, derating is required. For every 1°C increase in ambient temperature, derate by 1.5%.
	Humidity	Less than 95%RH, non-condensing.
	Vibration	Less than 5.9m/s ² (0.6g)
	Storage Temperature	−40°C~+70°C

6. Wiring

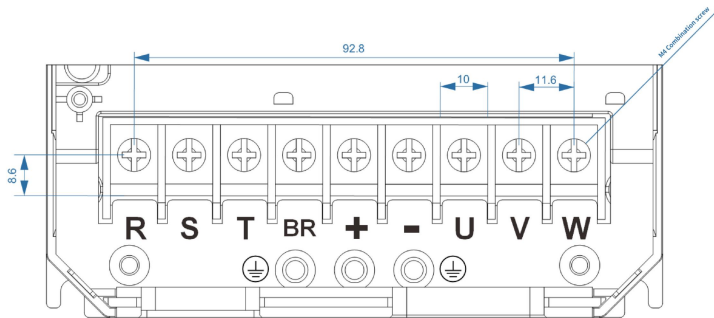
6.1. Electrical Wiring Diagram



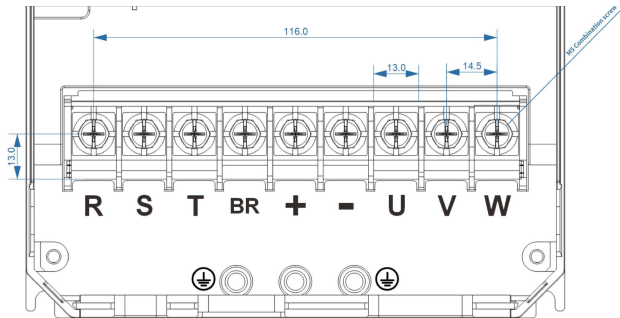
Standard System Wiring Diagram

6.2. Main Circuit Cable Wiring

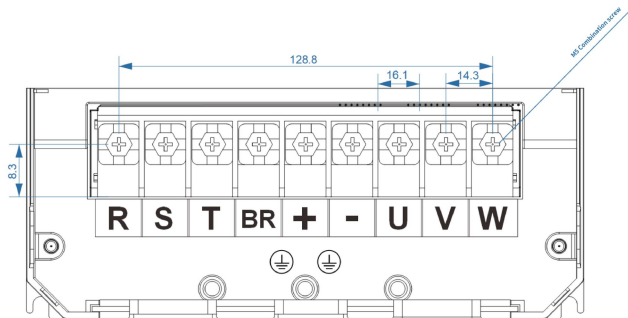
6.2.1. Main Circuit Terminal Dimensions Diagram



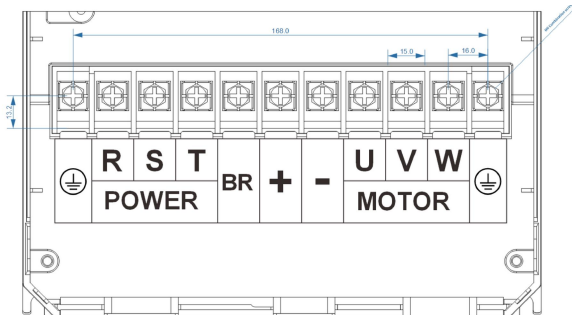
Main Circuit Terminal Layout and Dimensions Diagram for SIZE A-SIZE B Models



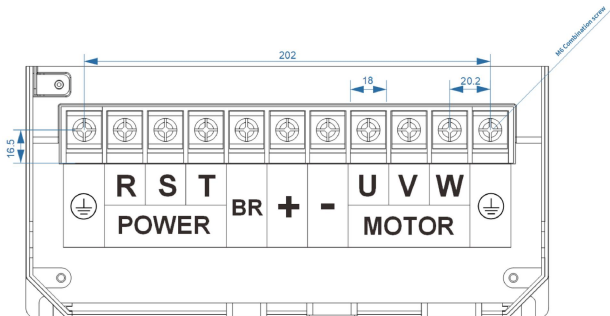
Main Circuit Terminal Layout and Dimensions Diagram for SIZE C Models



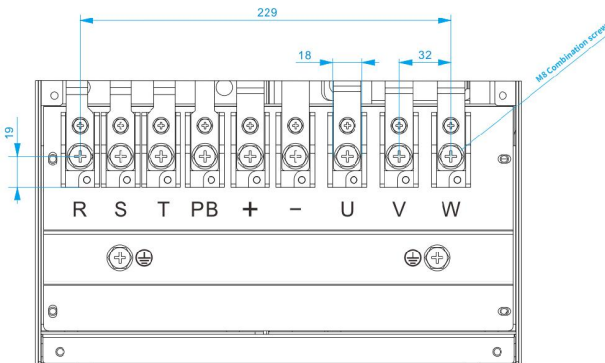
Main Circuit Terminal Layout and Dimensions Diagram for SIZE D Models



Main Circuit Terminal Layout and Dimensions Diagram for SIZE E Models

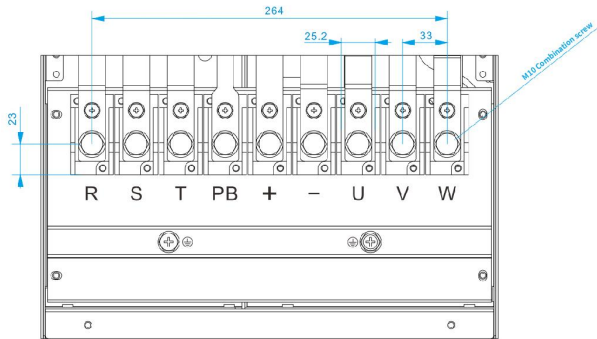


Main Circuit Terminal Layout and Dimensions Diagram for SIZE F Models

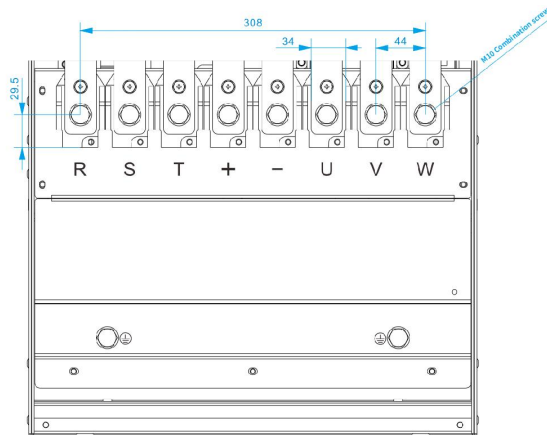


Main Circuit Terminal Layout and Dimensions Diagram for SIZE G Models

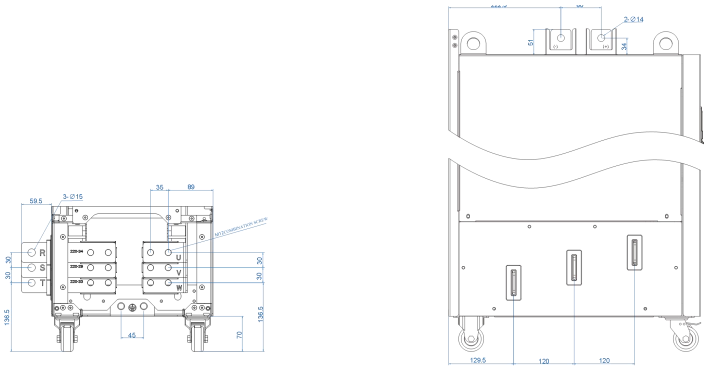
6. Wiring



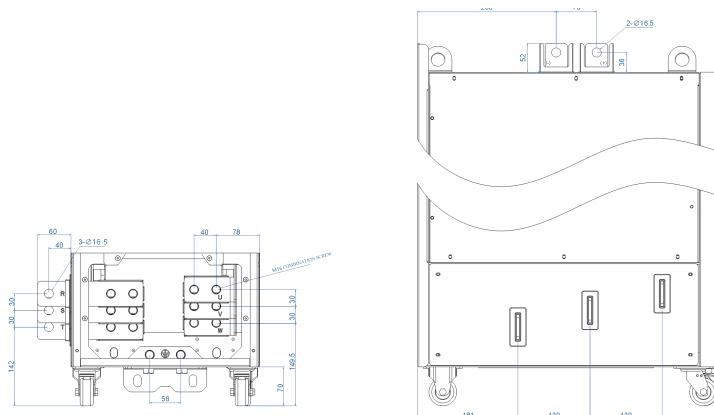
Main Circuit Terminal Layout and Dimensions Diagram for SIZE H Models



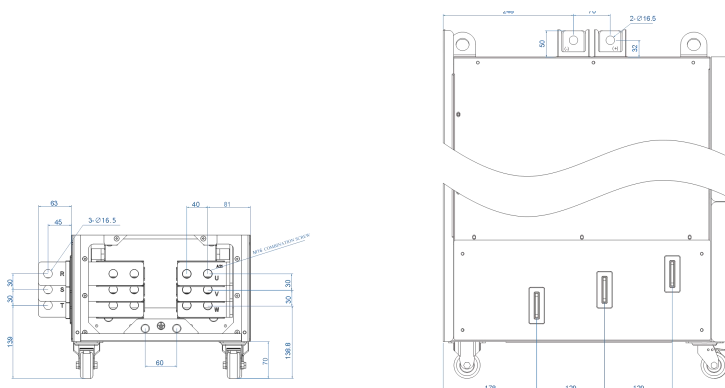
Main Circuit Terminal Layout and Dimensions Diagram for SIZE I Models



Main Circuit Terminal Layout and Dimensions Diagram for SIZE J Models



Main Circuit Terminal Layout and Dimensions Diagram for SIZE K Models



Main Circuit Terminal Layout and Dimensions Diagram for SIZE L Models

6.2.2. Main Circuit Terminal Wiring Instructions

The following section describes the wiring requirements for the main circuit terminals. For requirements regarding the selection, routing, and connection of main circuit cables, refer to '7.4.4.3 Main Circuit Requirements'.

To prevent accidents caused by short circuits, a fuse must be connected on the input side.

Input Power Supply R, S, T

- Wiring on the input side of the equipment has no phase sequence requirement.
- The specifications and installation methods for external main circuit wiring must comply with local regulations and relevant IEC standards.
- For main circuit cable wiring, select copper conductors of the corresponding size based on the recommended main circuit cable selection values.

DC Bus (+), (-), BR

- Residual voltage remains at the DC Bus (+) and (-) terminals immediately after power outage. Wiring operations must only be performed after waiting and confirming 10 minutes of power interruption; otherwise, there is an electric shock hazard.

6. Wiring

- When selecting external braking components for 90kW and above models, ensure (+) and (-) polarities are correctly connected. Reversed connections may cause damage to both the equipment and braking components, potentially leading to fire.
- Braking unit wiring length must not exceed 10m. Use twisted-pair wires or tightly parallel-wired twin conductors.
- Never connect braking resistors directly to the DC Bus. This may cause equipment damage or fire.

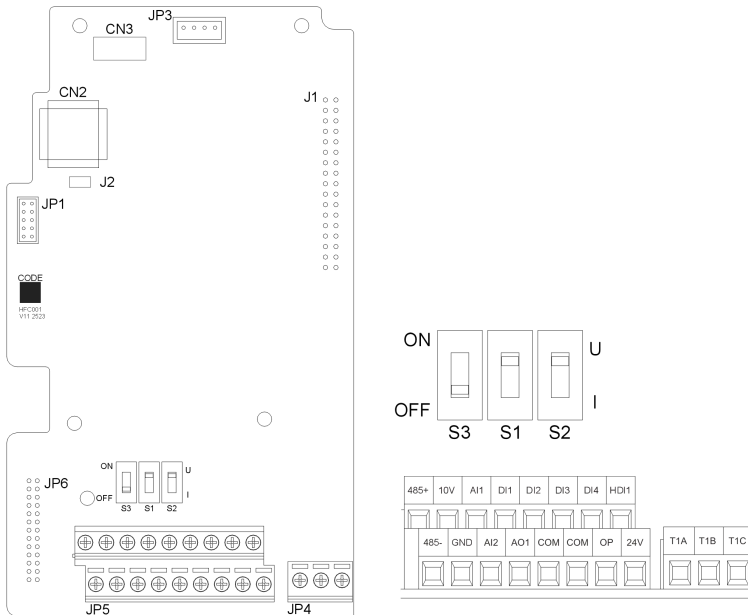
Output terminals U, V, W

- External Main Circuit wiring specifications and installation methods must comply with local regulations and relevant IEC standards.
- Use copper conductors of corresponding dimensions for Main Circuit cable wiring.
- Do not connect capacitors or surge absorbers to the output side, as this may cause frequent device protection or even damage.
- Excessive motor cable length may induce electrical resonance due to distributed capacitance, resulting in motor insulation breakdown or significant leakage current triggering device overcurrent protection. When motor cable length exceeds 100m, an AC output reactor must be installed near the equipment.

Grounding terminal (PE)

6.3. Control Circuit Cable Wiring

6.3.1. Control circuit terminal description



Control circuit terminal layout diagram

Control circuit terminal functions

Category	Terminal Symbol	Terminal Name	Functional Description
Power Supply	10V-GND	External 10V Power Supply	Provides DC 10V power supply voltage, typically used as the operating power source for external potentiometers. Maximum output current: 10mA.
	24V-COM	External 24V Power Supply	Provides DC 24V power supply voltage, typically used as the operating power source for digital input/output terminals or external low-voltage terminals. Maximum output current: 200mA [Note 1].
	OP	External Power Input Terminal	Factory default setting: connected to 24V. When using an external power supply to drive digital input terminals, disconnect OP from the 24V power terminal and short-circuit it to the external power supply.
Analog Input	AI1-GND	Analog Input Terminal 1	Only supports voltage input 0V~10V Input impedance: 22K Ω for voltage input It is recommended to connect using a pair of twisted-pair cables.
	AI2-GND	Analog input terminal 2	Supports both voltage input and current input, with voltage input as the default. Functions as voltage/current input supporting 0V~10V/0mA~20mA, Input impedance: 22K Ω for voltage input, 500 Ω for current input [Note 2]. It is recommended to connect using a pair of twisted-pair cables.
Digital input	DI1-OP	Digital input 1	Opto-isolated, compatible with bipolar input. Input impedance: 1.88K Ω Input voltage range: 9V~30V
	DI2-OP	Digital input 2	
	DI3-OP	Digital input 3	
	DI4-OP	Digital input 4	
	HDI1-OP	High-speed pulse input 1	In addition to the features of DI1~DI4, it can also function as a high-speed pulse input channel. Input impedance: 2.35k Ω Maximum input frequency: 100kHz Operating voltage range: 15V~30V It is recommended to connect using a pair of twisted-pair cables.
Analog output	AO1-GND	Analog output 1	Voltage or current output is selected by the DIP switch on the control board. Default is voltage output. Output voltage range: 0V~10V Output current range: 0~20mA It is recommended to connect using a pair of twisted-pair cables.
Relay Output	T1/A	T1 common terminal	Contact driving capacity: 250VAC, 3A, COS ϕ =0.5 30VDC, 3A
	T1/B	T1 normally open terminal	
	T1/C	T1 normally closed terminal	
RS485	485+	485 positive	R485 port is standard on this unit
	485-	485 negative	
Function expansion card interface	JP6	Function expansion card interface	26-core terminal block serving as the interface for expansion cards (including optional cards such as I/O cards and communication cards).

6. Wiring

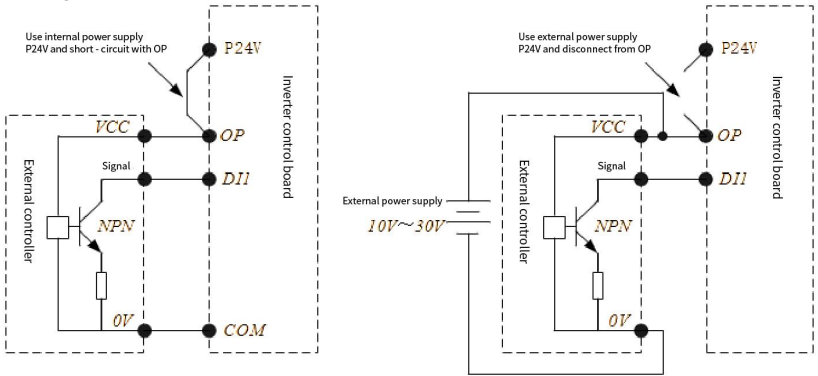
DIP switch	S1		AO1 output current/voltage mode selection. I: Current output mode U: Voltage output mode,factory default status
	S2		A12 input current/voltage mode selection. I: Current mode, 0mA~20mA, input impedance 500Ω U: Voltage input mode, DC 0V~10V,factory default status
	S3		This unit comes standard with an RS485 termination resistor. ON: Termination resistor connected OFF: Termination resistor disconnected,factory default status

Description

- **【Note 1】** : Derating is required when ambient temperature exceeds 23°C. For every 1°C increase in ambient temperature, output current decreases by 1.8mA. Maximum output current is 170mA at 40°C ambient temperature. When users short OP to 24V, the current of digital input terminals must also be considered.
- **【Note 2】**: When using a 500Ω impedance, ensure the maximum output voltage of the signal source is no less than 10V to guarantee that AI can measure currents up to 20mA.

6.3.2. Wiring for Digital Input Terminal DI

● Sink wiring method



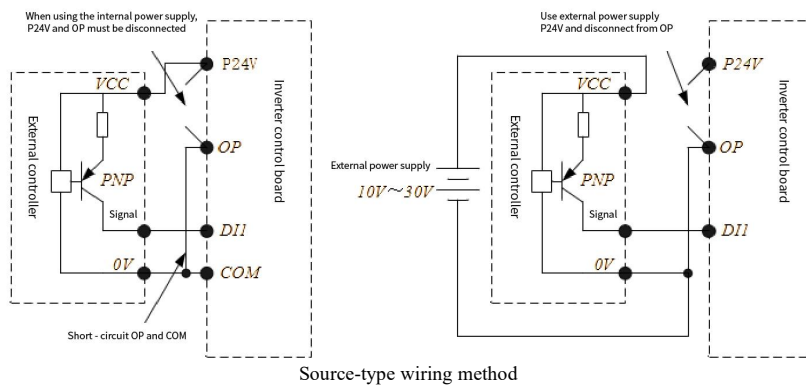
Sink wiring method

Utilizing the inverter's internal 24V power supply is the most common wiring approach. Short-circuit the inverter's OP and 24V terminals, and connect the inverter's COM terminal to the external controller's 0V.

When using an external 24V power supply, remove the jumper between +24V and OP. Connect the positive terminal of the external power supply to the OP terminal, allowing current to flow out from the DI port through the external controller contacts and return to the external voltage 0V.

In this wiring configuration, DI terminals of different inverters cannot be used in parallel; otherwise, it may cause DI malfunctions.

- Source-type wiring method

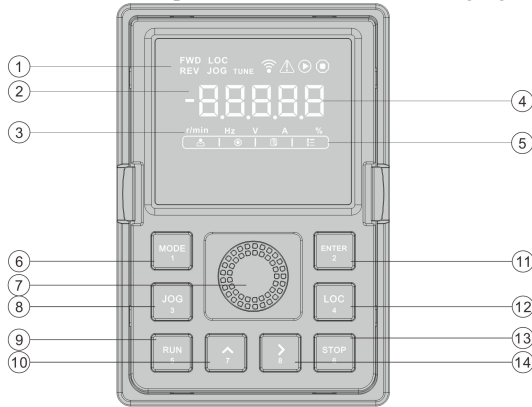


7. Commissioning and Trial Operation

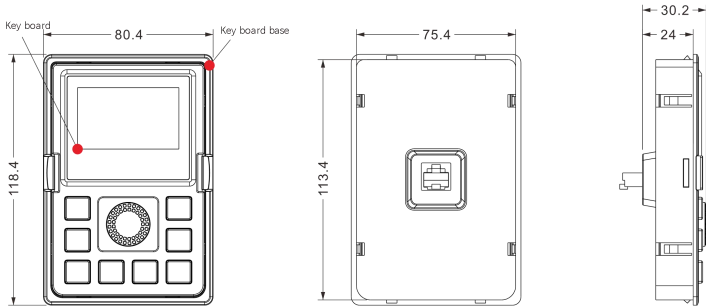
7.1. Onboard LED Control Panel Instructions

7.1.1. Component Description

The onboard LED control panel displays operating status, fault information, and enables parameter configuration. The control panel is shown in the following figure.



Schematic Diagram of Onboard Control Panel Components



Base Installation Size: 75.4*113.4mm

Keyboard and base dimensions

Onboard Control Panel Structure Description

No.	Component Name	Description
1	Status Indicator	Displays forward/reverse rotation status, local/remote control, jog, tuning, warnings/faults, running, stop
2	Main Display Area	Displays function code parameters
3	Unit Display Area	Displays units corresponding to function code values
4	Main Display Area	Displays function code parameters
5	Menu Display Area	Displays Basic Mode, User Mode, Verification Mode
6	MODE Key	Switches display modes; cancels data modification
7	Keyboard Knob	Adjusts frequency; performs data modification and function code modification
8	JOG Key	Multi-function Key (controlled by function code P0.1.35)
9	RUN Key	Initiates equipment operation during local control mode

10	UP Key	Increases frequency; performs data increment and function code increment
11	ENTER Key	Reads and stores set parameters during parameter setting mode
12	LOC Key	Multi-function Key (controlled by function code P0.1.35)
13	STOP Key	Stops equipment during operation; performs fault reset during equipment failure
14	Right Shift Key	Switches displayed data during monitoring; moves data modification position during parameter selection/setting

7.1.2. Key Information

Key Functions

Keys	Name	Description
	MODE Key	Toggle display mode. Cancel data modification
	ENTER Key	Reads and stores set parameters during parameter setting mode
	JOG Key	Multi-function Key (controlled by function code P0.1.35)
	LOC Key	Multi-function Key (controlled by function code P0.1.35)
	RUN Key	Initiates equipment operation during local control mode
	STOP Key	Stops equipment during operation; performs fault reset during equipment failure
	Increment Key	Frequency increment during monitoring; Data increment, Function code increment
	Right Shift Key	Switches displayed data during monitoring; moves data modification position during parameter selection/setting
	Keyboard Knob	Adjusts frequency; performs data modification and function code modification

7.1.3. Status Indicator

Status Indicator		
No.	Component Name	Description
FWD REV	Forward/Reverse status	FWD lit indicates target speed is forward FWD flashing indicates target direction switching to forward REV lit indicates target speed is reverse REV flashing indicates target direction switching to reverse
LOC	Local/Remote status	Continuously lit indicates Local Control Flashing indicates Communication Control Unlit indicates Terminal Control
JOG	Jog status	Lit indicates jog operation in progress
	Master-slave communication status	Steady on indicates normal master-slave communication Blinking indicates master-slave communication fault Off indicates master-slave communication disabled
TUNE	Tuning status/Mains frequency status	Steady on indicates tuning in progress Blinking indicates mains frequency status active
	Alarm Status	Steady on indicates equipment fault Off indicates no equipment fault
	Run/Stop Status	 Off  Steady on, indicating stopped  Steady on  Off, indicating running  Steady on  Flashing, indicating deceleration stop in progress  Flashing  Steady on, indicating standby  Off  Off, indicating reverse rotation prohibited  Steady on  Steady on, indicating DC braking in progress  Flashing  Flashing, indicating DC braking stop in progress
	Symbol Status	Steady on indicates negative value; Off indicates positive value
kW h min s r/min Hz V A %	Unit Status	Unit for main display value corresponds to steadily lit indicator
	Mode Status	The main display area shows the Basic Mode
	Mode Status	The main display area shows the User Mode
	Mode Status	The main display area shows the Verification Mode

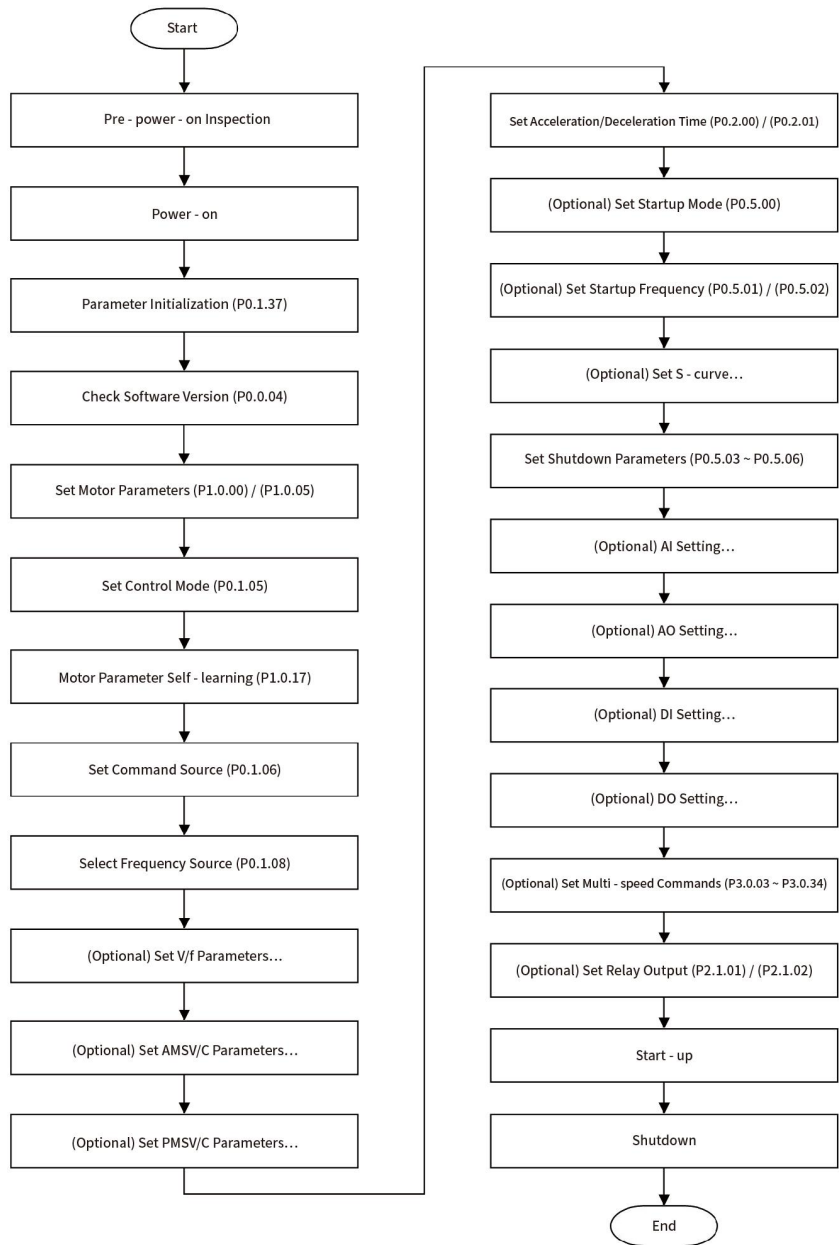
7.2. Basic Commissioning Procedure

Be sure to confirm the following items before turning on the power.

Pre-power On Checklist

Item	Content
Main Circuit Connection Verification	Confirm the power supply voltage is correct (380V AC~480V AC 50/60Hz).
	Confirm the power input terminals are securely connected to the Inverter input terminals (R/S/T).
	Confirm the Electric motor terminals are securely connected to the Inverter output terminals (U/V/W).
	Confirm the Inverter and Electric motor are properly grounded.
	Confirm the wire gauge of the Main Circuit cables meets the requirements.
	Confirm that heat-shrink tubing is applied over the copper tube of the cable lug and the cable core conductor on the Main Circuit wiring, and that the tubing completely covers the cable conductor.
	Confirm the motor output wiring. If the length exceeds 50 meters, reduce the carrier frequency (P0.6.06).
Control circuit connection verification	Confirm that connections between control circuit terminals and other control devices are secure.
	Confirm that shielded twisted-pair wire has been selected for control circuit signal lines.
	Confirm correct wiring of the option card.
	Confirm that control circuit cables are routed separately from main circuit power cables.
	Confirm all inverter control circuit terminals are in the OFF state (inverter not in operating status).
Load verification	Confirm the electric motor is in a no-load condition and disconnected from the mechanical system
Braking resistor verification	When using a braking resistor and braking unit, confirm correct wiring and that the resistance value is appropriate.

7. Debugging and Trial Run

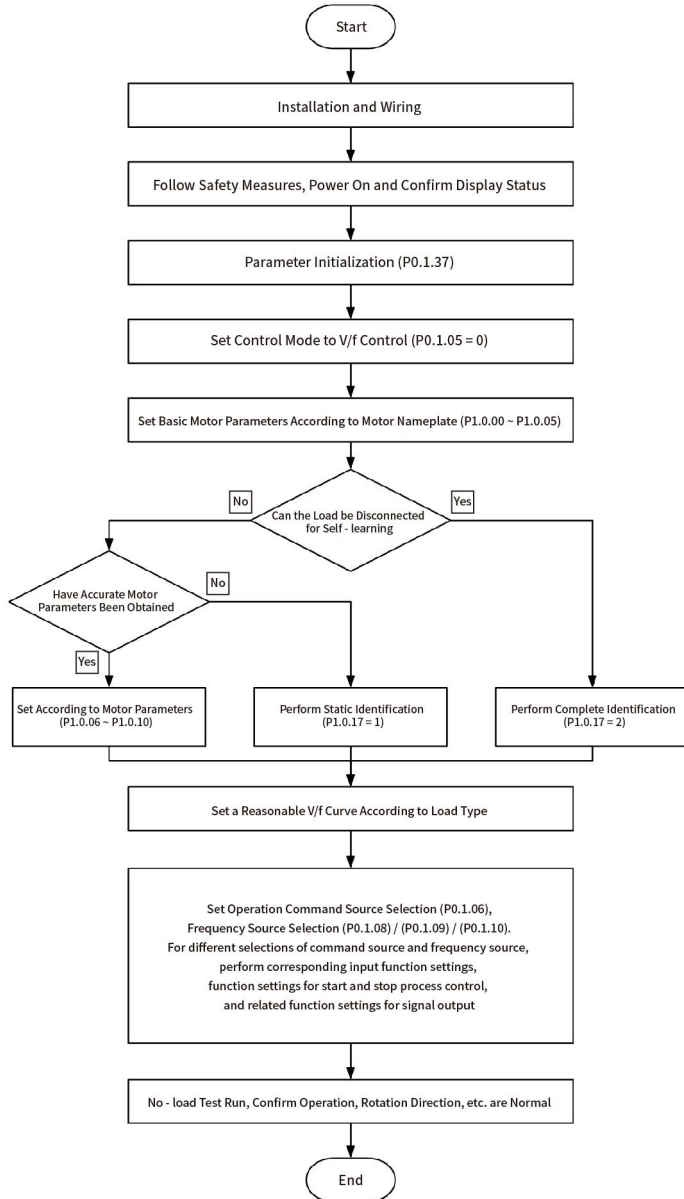


Basic Debugging Flow Diagram

Basic Debugging Flow Table

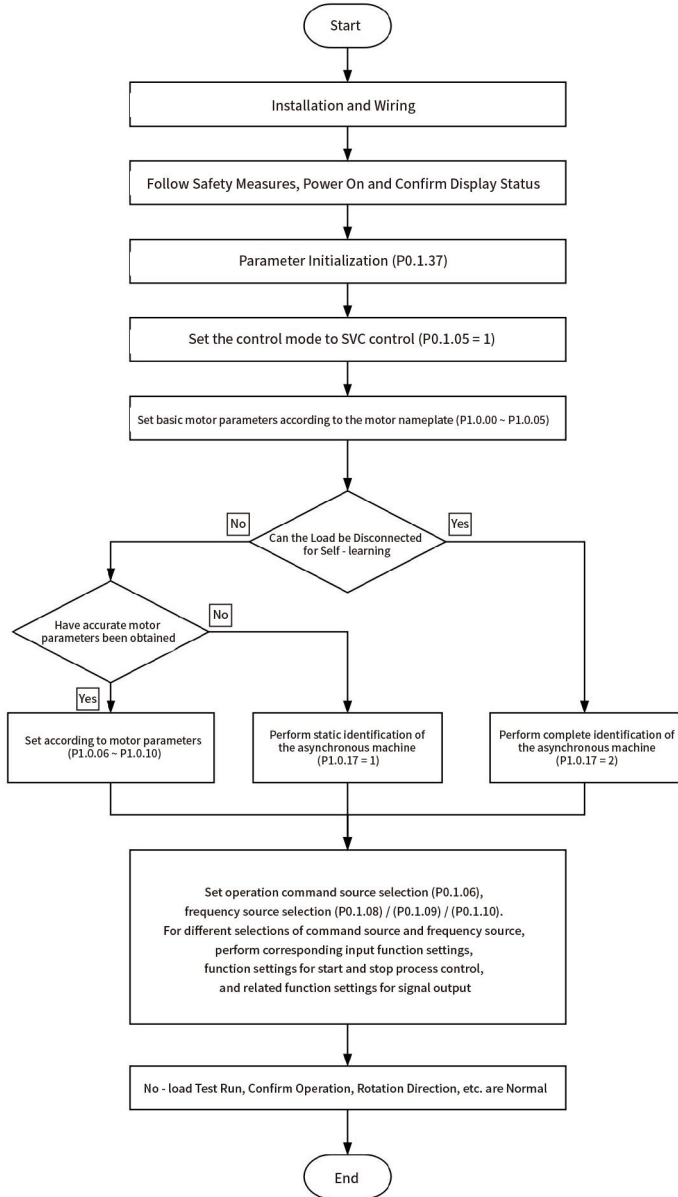
No.	Step	Relevant Parameters
1	Pre-power-on Inspection	None
2	Power On	None
3	Parameter Initialization	P0.1.37
4	Check Software Version	P0.0.04
5	Set Motor Parameters	P1.0.00, P1.0.05
6	Set Control Mode	P0.1.05
7	Motor Parameter Auto-tuning	P1.0.17
8	Set Command Source	P0.1.06
9	Select Frequency Source	P0.1.08
10	Set Acceleration/Deceleration Time	P0.2.00, P0.2.01
11	Set Stop Parameters	P0.5.03~P0.5.06
12	(Optional) Set V/f Parameters	P1.1.00~P1.1.14
13	(Optional) Set AMSVC Parameters	P1.1.15~P1.1.29
14	(Optional) Set PM SVC parameters	P1.1.15~P1.1.29
15	(Optional) Set starting method	P0.5.00
17	(Optional) Set starting frequency	P0.5.01, P0.5.02
18	(Optional) Set S-curve	P0.2.18~P0.2.20
19	(Optional) AI settings	P5.4.17, P5.4.18
20	(Optional) AO settings	P2.3.00, P2.3.01
21	(Optional) DI settings	P2.0.01~P2.0.08
22	(Optional) DO settings	P2.1.00, P2.1.10
23	(Optional) Set multi-step speed command	P3.0.03~P3.0.34
24	(Optional) Set relay output	P2.1.01, P2.1.02
25	Start	None

7.2.1. VF Control Mode Debugging Process



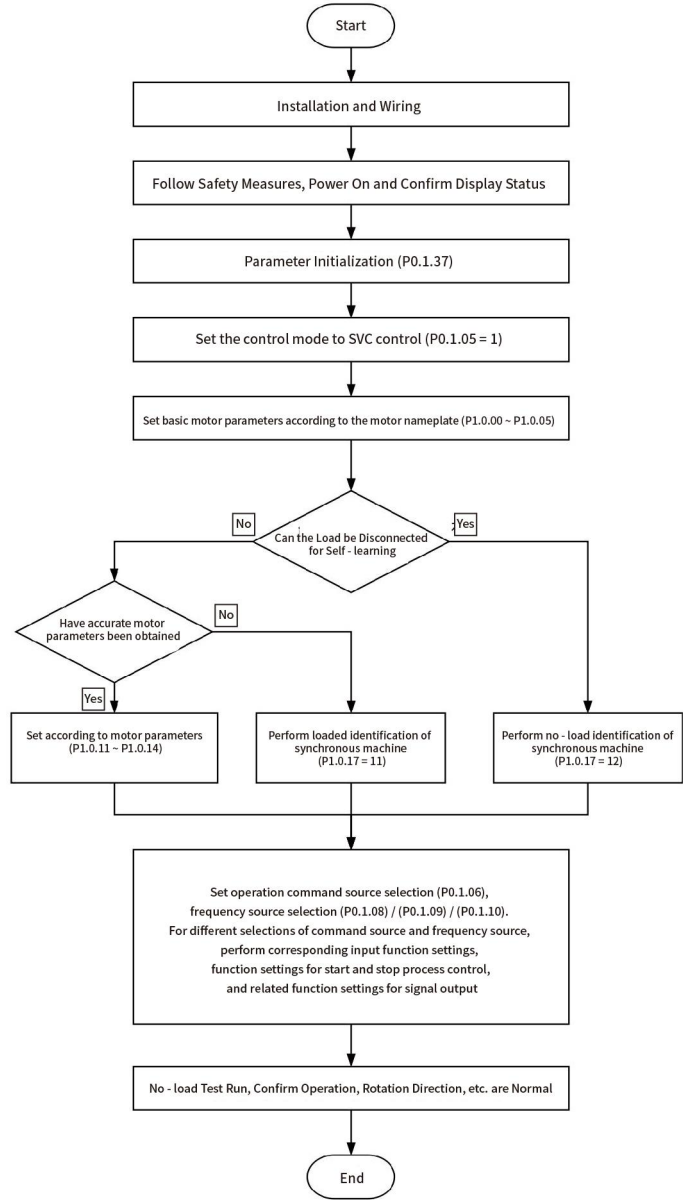
AMVf Control Mode Debugging Flowchart

7.2.2. IM SVC Control Mode Debugging Process



IM SVC Control Mode Debugging Flowchart

7.2.3. PM SVC Control Mode Debugging Process

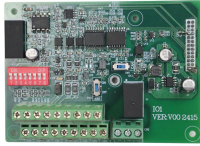


PM SVC Control Mode Debugging Flowchart

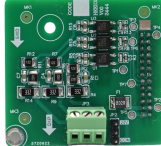
8. Expansion Card

8.1. I/O Expansion Card

Overview



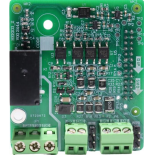
1



2



3



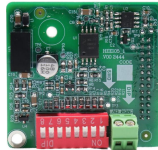
4



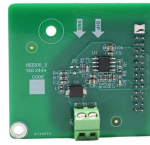
5



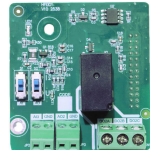
6



7



8



9

I/O 卡示意图

The GT500-compatible I/O Expansion Cards are shown in the table below.

No.	Model	Main Functions
1	DHEEIO1	4 channels DI + 1 channel AI + 1 channel DO and 1 channel relay output + CAN + RS485 (Applicable to 15kW and above models)
2	DHEEIO2	3 channels DI
3	DHEEIO3	3 channels DI + 1 channel relay + RS485
4	DHEEIO4	3 channels DI + 1 channel DO + 1 channel relay output
5	DHEEIO5A	4 channels DI + 2 channels DO + RS485
6	DHEEIO5B	4 channels DI + 2 channels DO
7	DHEEIO6	1 channel AI (supports Differential Voltage Input and Thermal Resistor Input)
8	DHEEIO7	1 channel AI (supports -10V DC to +10V DC input)
9	DHFEIO1	1 channel AI + 1 channel AO + 1 channel relay output

8.2. Communication Expansion Card

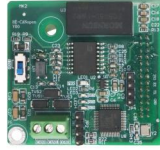
Overview



DHEE4G



DHEECAN



DHEECANOPEN



DHEEDP



DHEEECAT



DHEETCP



DHEEPN



DHEE485

Communication Expansion Card Diagram

The GT500-compatible Communication Expansion Cards are shown in the table below.

Name	Model	Communication Protocol
CANopen Communication Expansion Card	DHEECANOPEN	CANopen
PROFIBUS Communication Expansion Card	DHEEDP	PROFIBUS
PROFINET Communication Expansion Card	DHEEPN	PROFINET
EtherCAT Communication Expansion Card	DHEEECAT	EtherCAT
4G Communication Expansion Card	DHEE4G	LTE
TCP Communication Expansion Card	DHEETCP	MODBUS-TCP Slave Protocol
CAN Communication Expansion Card	DHEECAN	CAN 2.0B Protocol
RS485 Communication Expansion Card	DHEE485	MODBUS-RTU Slave Station

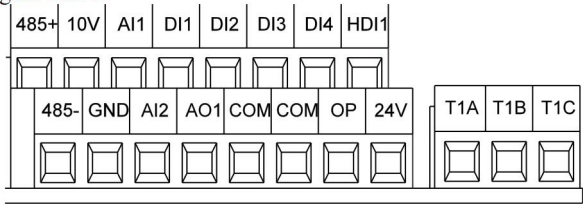
9. Appendix

9.1. Appendix 1: Standard 485 Communication (Onboard)

9.1.1. Standard RS485 Terminals and Networking Topology

9.1.1.1. Standard RS485 Terminal Description

The GT500 series inverter control board comes standard with RS-485 communication terminals, as shown in the figure below

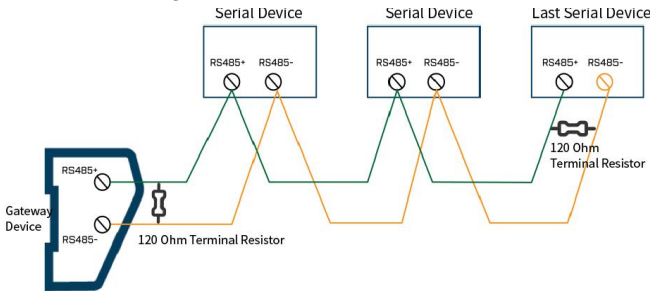


GT500 Terminal Layout Diagram

Terminal Symbol	Terminal Definitions
485+	485 Signal Positive Terminal
485-	485 Signal Negative Terminal

9.1.1.2. RS485 Network Topology

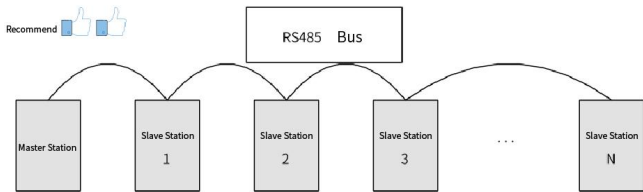
The RS485 bus connection topology is shown below. The 485 bus must use shielded twisted pair wiring, with 485+ and 485- connected via twisted pairs; Connect 120Ω terminating resistors only at both ends of the bus to prevent signal reflection; Connect all nodes' 485 signal reference grounds together; Supports up to 247 nodes. The distance from each node branch to the main bus must be less than 3 meters.



RS485 Bus Half-Duplex Connection Topology

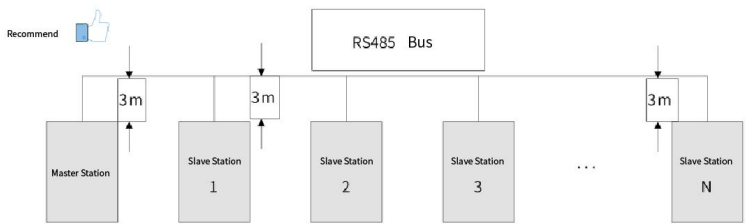
Multi-node Connection Mode

When the number of nodes is large, the 485 bus must adopt a daisy-chain connection topology. If branch-line connections are required, the branch length from the bus to each node should be minimized and is recommended not to exceed 3m. Star topology connections must be absolutely avoided. Common bus structure diagrams are shown below.



Daisy-chain Connection

9.1 Appendix I: Standard 485 Communication



Branch-line Connection

9.1.2. Standard RS485 Parameters

Parameter	Parameter Name	Default Value	Setting Range
P0.1.40	Local Address	1	000 is the Broadcast Address 001~247
P2.8.00	Standard Communication Baud Rate	3	Units digit: MODBUS baud rate 0:1200 1:2400 2:4800 3:9600 4:19200 5:38400 6:57600 7:115200
P2.8.01	Standard Communication Data Format	0	0: No parity (8-N-2) 1: Even parity (8-E-1) 2: Odd parity (8-O-1) 3: No parity (8-N-1)
P2.8.03	Standard communication response delay of this unit	2	0ms~20ms
P2.8.04	Standard communication timeout period of this unit	5.0	0.1s~60.0s
P2.8.05	Standard communication data transmission format of this unit	1	0: ASCII mode (reserved) 1: RTU mode
P2.8.06	Does the standard MODBUS communication of this unit return data?	0	0: Reply 1: No reply
P2.8.07	Standard communication error handling method of this unit	0	0: Disabled 1: Enabled (fault cannot reset automatically) 2: Enabled (fault can reset automatically)

Note [1]:

Response delay: After receiving data, the inverter delays for the time set by function code P2.8.03 before replying.

Communication timeout period: When P2.8.07 communication error handling is enabled, if the interval between received data frames exceeds the time set by function code P2.8.04, the inverter triggers Err47 fault indicating communication abnormality.

9.1.3. Standard MODBUS Communication Format Description

9.1.3.1. Frame Examples

Master Station Write Command String Format

Character Name	Slave Address	Write Command 06H	Function Code Address	Data Content	CRC Check
Character Length	1Byte	1Byte	2Byte	2Byte	2Byte
Example	01H	06H	9300H	0000H	A48EH

Slave Station Write Command Reply String Format

Character Name	Slave Address	Write Command 06H	Function Code Address	Data Content	CRC Check
Character Length	1Byte	1Byte	2Byte	2Byte	2Byte
Example	01H	06H	9300H	0000H	A48EH

Master Station Read Command String Format

Character Name	Slave Address	Read Command 03H	Function Code Start Address	Number of Data	CRC Check
Character Length	1Byte	1Byte	2Byte	2Byte	2Byte
Example	01H	03H	0000H	0003H	05CBH

Slave Station Read Command Reply String Format

Character Name	Slave Address	Read Command 03H	Number of Data	Data Content 1	Data Content 2	Data Content 3	CRC Check
Character Length	1Byte	1Byte	1Byte	2Byte	2Byte	2Byte	2Byte
Example	01H	03H	06H	0000H	0000H	000CH	2170H

Slave Station Write Command Error Reply String Format

Character Name	Slave Address	Exception Response Function Code	Read - Write Error Type	CRC Check
Character Length	1Byte	1Byte	1Byte	2Byte
Example	01H	86H	06H	C262H

Slave Station Read Command Error Reply String Format

Character Name	Slave Address	Exception Response Function Code	Read - Write Error Type	CRC Check
Character Length	1Byte	1Byte	1Byte	2Byte
Example	01H	83H	02H	C0F1H

9.1.4. Additional Settings for Standard 485 Interface

9.1.4.1. Communication Protocol Parameter Address Definition

Function code parameters dedicated to communication access for GT-series inverters. Specific read/write attributes are as follows:

Function Code Parameters	Group P0.1-P0.9; Groups P2-P6; Group P9.3.00-P9.3.49	Readable and Writable
	Group P0.0; Group P8; Group P9.0; Group P9.3.50-P9.3.99	Read-Only

9.1.4.2. Function Code Parameter Read/Write Address Description

The high-order bits of the parameter address are formed by the group and level of the function code parameters, while the low-order bits are composed of the sequence number. Since EEPROM has a limited lifespan, frequent writes to EEPROM must be avoided during communication. Therefore, some function codes only require updating values in RAM during communication without storing to EEPROM.

If writing to EEPROM is necessary, convert the high-order address bits to hexadecimal and transform the low-order address bits from decimal to hexadecimal. Then combine the high-order and low-order addresses into a 4-digit hexadecimal number.

For example, P2.1.12 written to EEPROM has: High-order address as hexadecimal 21 (group 2, level 1). Low-order address as decimal 12, converted to hexadecimal 0CH. Thus the full address is 210CH.

If writing to EEPROM is unnecessary, parameter groups Px.0-Px.5 (x:0-9) can be written to RAM by adding 0A00H to the parameter address. For example, the RAM address for P2.1.12 is 2B0CH. Writing groups Px.6-Px.9 to RAM is not supported.

Example: Address for writing P2.1.12 without saving to EEPROM is

The high-order address is hexadecimal 21; adding 0A00H yields 2BH. The low-order address is decimal 12, converted to hexadecimal as 0CH. Thus, the address is represented as 2B0CH.

9.1.5. Standard RS485 Communication Dedicated Function Code Definition Table and Examples

9.1.5.1. Function Code Definition Table

Definition	Function Code	Parameter Address	Function Description	
Frequency Inverter Command	06H	9300H (corresponding to parameter address P9.3.00)	0001H	Forward Run
			0002H	Reverse Run
			0003H	Forward Jog
			0004H	Reverse Jog
			0005H	Free Stop
			0006H	Decelerated Stop
			0007H	Fault Reset
		9301H (corresponding to parameter address P9.3.01)	Frequency Command (as a percentage of the maximum frequency, not stored) (00.00 to 100.00 represents 0.00% to 100.00%)	
		9302H (corresponding to parameter address P9.3.02)	BIT0	Multifunction Output Terminal HDO (When the HDO terminal is used as a DO, i.e., P2.1.10=1 Open Collector Output DO)
			BIT1	Multifunction output terminal T1
			BIT2	Multifunction output terminal T2
			BIT3	Multifunction output terminal DO1 (extension card)
			BI	Multifunction output terminal DO2 (extension card)
			To activate the multifunction output terminal signal, set its corresponding bit to 1; then convert this binary number to hexadecimal and send it to address 9302H.	
		9303H (corresponding to parameter address P9.3.03)	AO1 output address (00.0 to 100.0 represents 0.0% to 100.0%)	
		9304H (corresponding to	AO2 output address (00.0 to 100.0 represents 0.0% to 100.0%)	

9.1 Appendix I: Standard 485 Communication

Definition	Function Code	Parameter Address	Function Description	
		parameter address P9.3.04)		
		9305H (corresponding to parameter address P9.3.05)	HDO output address (when the HDO terminal is used as a PULSE output, i.e., P2.1.10 = 0 for PULSE output) (0000H–7FFFH represents 0.00%–100.00%, 00.0–100.0 represents 00.0%–100.0%)	
		9306H (corresponding to parameter address P9.3.06)	Upper frequency source (percentage of the maximum frequency, not stored) (00.00–100.00 represents 00.00%–100.00%)	
		9307H (corresponding to parameter address P9.3.07)	Upper torque source (percentage of the torque limit, not stored) (00.00–100.00 represents 00.00%–100.00%)	
		9308H (corresponding to parameter address P9.3.08)	VF separation voltage setting (percentage of the motor rated voltage, not stored) (00.00–100.00 represents 00.00%–100.00%)	
		930AH (corresponding to parameter address P9.3.10)	PID setPoint (percentage of the PID setPoint feedback range, not stored) (00.00 to 100.00 represents 0.00% to 100.00%)	
		930BH (corresponding to parameter address P9.3.11)	PID feedback value (percentage of the PID setPoint feedback range, not stored) (00.00 to 100.00 represents 0.00% to 100.00%)	
Monitor the operating status of the frequency inverter	03H	9332H (corresponding to parameter address P9.3.50)	0001H	Forward Run
			0002H	Reverse Run
			0003H	Stop
Monitor the fault status of the frequency inverter	03H	9333H (corresponding to parameter address P9.3.51)	00	No fault
			01	Overcurrent during constant speed
			02	Overcurrent during acceleration
			03	Overcurrent during deceleration
			04	Overvoltage during constant speed
			05	Overvoltage During Acceleration
			06	Overvoltage During Deceleration
			07	/
			08	Undervoltage
			09	Frequency Inverter Overload
			10	Motor Overload
			11	Input Phase Loss
			12	Output Phase Loss
			13	External Fault
			14	Expansion Card Communication Error
			15	IGBT Temperature Over-Temperature
			16	Frequency Inverter Hardware Fault
			17	Ground Short Circuit Fault Detected on Power-Up
			18	Motor Identification Error
			19	Motor Load Loss

9.1 Appendix I: Standard 485 Communication

Definition	Function Code	Parameter Address	Function Description	
			20	PID Feedback Lost
			21	User-Defined Fault 1
			22	User-Defined Fault 2
			23	Cumulative Power-On Time Reached
			24	Cumulative operating time reached
			25	Encoder fault
			26	Parameter read/write error
			27	Motor overheating
			28	Excessive speed deviation
			29	Motor overspeed
			30	Initial position error
			31	Current detection fault
			32	/
			33	/
			34	Rapid current limiting timeout
			35	Multi-motor control fault
			36	/
			37	/
			38	Output short circuit
			39	Brake pipe short circuit
			40	Snubber resistor
			41	Relay hardware fault
			42	Logic error during synchronous motor pole position identification
			43	Utility frequency to inverter switching error
			44	Motor identification fault
			45	Over torque fault
			46	Stall Protection Fault
			47	Local Device 485 Communication Error
			48	Ethernet Communication Error
			49	Type-C Communication Error

9.1.5.2. Examples

Example 1 Start Inverter #1 in Forward Run

Host Transmits Data Frame

ADR	CMD	ADDRESS		DATA		CRC	
01H	06H	93H	00H	00H	01H	65H	4EH

Slave Replies Data Packet

ADR	CMD	ADDRESS		DATA		CRC	
01H	06H	93H	00H	00H	01H	65H	4EH

Example 2 Set Frequency for Inverter #1 (Non-stored)

Target frequency value for Inverter #1 is 100.00% of Maximum Frequency

Method: Remove decimal Point from 100.00 → 10000D = 2710H

Host Transmits Data Frame

ADR	CMD	ADDRESS		DATA		CRC	
01H	06H	93H	01H	27H	10H	EFH	72H

Slave Replies Data Frame

ADR	CMD	ADDRESS		DATA		CRC	
01H	06H	93H	01H	27H	10H	EFH	72H

Example 3 Query the output frequency of Inverter 1#

Query the 'Output Frequency' of Inverter 1# during its operating status.

Method: The function code parameter for output frequency is P9.0.00, corresponding to address 9000H.

If the 'Output Frequency' of Inverter 1# is 50.00Hz. 5000D=1388H

Host Transmits Data Frame

ADR	CMD	ADDRESS		DATA		CRC	
01H	03H	90H	00H	00H	01H	A9H	0AH

Slave Replies Data Frame

ADR	CMD	Byte Count		DATA		CRC	
01H	03H	02H		13H	88H	B5H	12H

9.2. Appendix 2: Parameter Listing

9.2.1. P0 Basic Functions

9.2.1.1. P0.0 Frequency Inverter Information (Read Only)

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P0.0.00 (0x0000)	Reserved	0~0	0	Any	"P0.0.00"
P0.0.01 (0x0001)	Current Motor Control mode display	Ones: 0:V/F Control 1:SVC Open loop vector control Tens: 0:Asynchronous motor 1:Synchronous motor	0	Read only	"P0.0.01"
P0.0.02 (0x0002)	Inverter Machine	1~3637	Model	Read only	"P0.0.02"
P0.0.03 (0x0003)	GP Type	1: G Type (over load type) 2: P Type (Lightload type)	Manufacturer	Read only	"P0.0.03"
P0.0.04 (0x0004)	software version number	0.01~255.99	0.01	Read only	"P0.0.04"
P0.0.05 (0x0005)	Program Nonstandard Label	0.00~255.99	0.00	Read only	"P0.0.05"
P0.0.06 (0x0006)	Inverter rated power	0.1~2000.0(kW)	Model	Read only	"P0.0.06"
P0.0.07 (0x0007)	Inverter rated voltage	1~2000(V)	Model	Read only	"P0.0.07"
P0.0.08 (0x0008)	Inverter rated current	0.01~655.35(A)	Model	Read only	"P0.0.08"
P0.0.09 (0x0009)	Accumulative Running Time	0~65535(h)	0	Read only	"P0.0.09"
P0.0.10 (0x000A)	Accumulative Power On Time	0~65535(h)	0	Read only	"P0.0.10"
P0.0.11 (0x000B)	Accumulative Power Consumption	0~65535(kWh)	0	Read only	"P0.0.11"
P0.0.12 (0x000C)	Module Temperature	0~999(°C)	0	Read only	"P0.0.12"
P0.0.13 (0x000D)	Last Macro Recovery Value	0~1000	0	Read only	"P0.0.13"
P0.0.14 (0x000E)	Reserved	0~999	500	Read only	"P0.0.14"
P0.0.15 (0x000F)	Reserved	0~999	500	Read only	"P0.0.15"
P0.0.16 (0x0010)	Inverter rated current after derating	0.01~655.35(A)	9.50	Read only	"P0.0.16"

9.2.1.2. P0.1 Basic Parameters

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P0.1.00 (0x0100)	LCD language Switch	0:Chinese 1:English 2:Russian	0	Any	"P0.1.00"

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P0.1.01 (0x0101)	Selection Display of Function Parameter Group	Ones: 0:Only display basic group 1:Display the menus at all levels Tens: 0:Dont display Group P0.9 1:Display Group P0.9 Hundreds: 0:Dont display Group P1.2~P1.9 1:Display Group P1.2~P1.9 Thousands: 0:Dont display Group P9.1~P9.2 1:Display Group P9.1~P9.2	111	Any	"P0.1.01"
P0.1.02 (0x0102)	Type of Frequency inverter	1: G Type (over load type) 2: P Type (Lightload type)	Manufacturer	Limited Param	"P0.1.02"
P0.1.03 (0x0103)	Function Password Protection	0:Modifiable 1:Non-modifiable 2:Modifiable Constrained Parameters	0	Any	"P0.1.03"
P0.1.04 (0x0104)	Display Mode	0:Basic Mode(Prefix with'P') 1>User Mode(Prefix with'U') 2:Verification Mode(Prefix with'C')	0	Limited Param	"P0.1.04"
P0.1.05 (0x0105)	Motor 1 Control Mode	0:V/F Control 1:Open-loop Vector Control	0	Read only in run	"P0.1.05"
P0.1.06 (0x0106)	Operation Command Selection	0:Keyboard Control 1:Terminal Control 2:Communication Control	0	Any	"P0.1.06"
P0.1.07 (0x0107)	Run Command Bound to Frequency Source	Ones:Operation Panel Bound to Frequency Source Selection 0:No bindings 1:Keyboard Reference (Power-off memory function with digital potentiometer or no potentiometer) 2:External Terminal AI1 Reference 3:External Terminal AI2 Reference 4:External Terminal AI3 Reference 5:PULS Reference (HDI1) 6:Multiplex Directive Terminal Reference 7:Simple PLC Reference 8:PID Control Reference 9:Communication Reference A:Reserved B:External keypad analog potentiometer C:Operation Result 3 D:Operation Result 4 Tens:Terminal Command Bound to Frequency Source Selection 0:No bindings 1:Keyboard Reference (Power-off memory function with digital potentiometer or no potentiometer) 2:External Terminal AI1 Reference 3:External Terminal AI2 Reference 4:External Terminal AI3 Reference 5:PULS Reference (HDI1) 6:Multiplex Directive Terminal Reference 7:Simple PLC Reference	H.000	Read only in run	"P0.1.07"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
		8:PID Control Reference 9:Communication Reference A:Reserved B:External keypad analog potentiometer C:Operation Result 3 D:Operation Result 4 Hundreds:Communication Bound to Frequency Source Selection 0:No bindings 1:Keyboard Reference (Power-off memory function with digital potentiometer or no potentiometer) 2:External Terminal AI1 Reference 3:External Terminal AI2 Reference 4:External Terminal AI3 Reference 5:PULS Reference (HDI1) 6:Multiplex Directive Terminal Reference 7:Simple PLC Reference 8:PID Control Reference 9:Communication Reference A:Reserved B:External keypad analog potentiometer C:Operation Result 3 D:Operation Result 4			
P0.1.08 (0x0108)	Option of Frequency Source	0:Frequency Source A 1:Frequency Source B 2:Frequency Source A+B 3:Frequency Source A-B 4:Max. Value of A & B 5:Min. Value of A & B 6:Standby Frequency Source 1 7:Standby Frequency Source 2 8:Switch of Terminal among the above 8 kinds	0	Any	"P0.1.08"
P0.1.09 (0x0109)	Option of A Frequency Source	0:Keyboard Reference(No Power-off Memory) 1:Keyboard Reference(Power-off Memory) 2:External Terminal AI1 Reference 3:External Terminal AI2 Reference 4:External Terminal AI3 Reference 5:PULS Reference (HDI1) 6:Multiplex Directive Terminal Reference 7:Simple PLC Reference 8:PID Control Reference 9:Communication Reference 10:Operation Result 1 11:Operation Result 2 12:Operation Result 3 13:Operation Result 4 14:Reserved 15:External keypad analog potentiometer	1	Read only in run	"P0.1.09"
P0.1.10 (0x010A)	Option of Frequency Source B	Refer to P0.1.09	0	Read only in run	"P0.1.10"
P0.1.11 (0x010B)	B frequency source range selection	0:Relative to the highest frequency 1:Relative to A frequency source	0	Any	"P0.1.11"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P0.1.12 (0x010C)	Adjustment Volume of:Frequency Source B at superposition	0~150(%)	100	Any	"P0.1.12"
P0.1.13 (0x010D)	B frequency offset when superimposed	0.00~P0.1.16(Hz)	0.00	Any	"P0.1.13"
P0.1.14 (0x010E)	Keyboard Frequency Reference	0.00~P0.1.16(Hz)	50.00	Any	"P0.1.14"
P0.1.15 (0x010F)	Running Direction	0:Default direction 1:Negation of Direction 2:Determined by multi-funtion input terminal	0	Any	"P0.1.15"
P0.1.16 (0x0110)	Maximum frequency	5.00~320.00(Hz)	50.00	Read only in run	"P0.1.16"
P0.1.17 (0x0111)	Upper Limit Frequency Source	0:Digital Reference 1: External Terminal AI1 Reference 2: External Terminal AI2 Reference 3: Multiplex Directive Reference 4:PULS Reference (HDI1)) 5: Communication Reference 6: Operation Result 1 7: Operation Result 2 8: Operation Result 3 9: Operation Result 4	0	Read only in run	"P0.1.17"
P0.1.18 (0x0112)	Motor1 Upper frequency Digital Reference	P0.1.20~P0.1.16(Hz)	50.00	Any	"P0.1.18"
P0.1.19 (0x0113)	Upper Limit Frequency Offset	0.00~P0.1.16(Hz)	0.00	Any	"P0.1.19"
P0.1.20 (0x0114)	Lower frequency	0.00~P7.9.37(Hz)	0.00	Any	"P0.1.20"
P0.1.21 (0x0115)	Hopping Frequency 1	0.00~P0.1.16(Hz)	0.00	Any	"P0.1.21"
P0.1.22 (0x0116)	Hopping Frequency 2	0.00~P0.1.16(Hz)	0.00	Any	"P0.1.22"
P0.1.23 (0x0117)	Hopping Frequency scope	0.00~P0.1.16(Hz)	0.00	Any	"P0.1.23"
P0.1.24 (0x0118)	Does the operating frequency jump	0:Operating Frequency Without Jumps 1:Operating Frequency Jump	0	Any	"P0.1.24"
P0.1.25 (0x0119)	Frequency resolution	1:0.1 2:0.01	2	Read only in run	"P0.1.25"
P0.1.26 (0x011A)	Lower frequency operation mode	0:Running at lower limit frequency 1:Stop 2:Zero-speed Running 3:Standby 4:DC braking	0	Any	"P0.1.26"
P0.1.27 (0x011B)	Knob/Up/Down Frequency Setting Action Reference	0:Running Frequency 1:Reference frequency	1	Read only in run	"P0.1.27"
P0.1.28 (0x011C)	Frequency Memory Selection with Knob/Up/Down During Stop	0:No Memory 1:Memory	1	Any	"P0.1.28"
P0.1.29 (0x011D)	Inversion Control Enable	0:Allow 1:Prohibit	0	Any	"P0.1.29"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P0.1.30 (0x011E)	Forward and Reverse Dead Time	0.0~3000.0(s)	0.0	Any	"P0.1.30"
P0.1.31 (0x011F)	Power-on Running Selection	0:Running 1:Not Running	0	Any	"P0.1.31"
P0.1.32 (0x0120)	Motor selection	Ones:Function Code Motor Selection 1:Motor 1 2:Motor 2 3:Motor 3 4:Motor 4 Tens:Motor Selection Source 0:Function Code Selection (Determined by the Units Digit Value) 1:DI Terminal Selection (Determined by the DI Terminal)	H.01	Read only in run	"P0.1.32"
P0.1.33 (0x0121)	S/T Control Mode Selection	0:Speed Control 1:Torque Control 2:Speed Control/Torque Control	0	Read only in run	"P0.1.33"
P0.1.34 (0x0122)	Fan Control	0:Rotate at running 1:Continuous Running 2:Control based on Temperature	0	Read only in run	"P0.1.34"
P0.1.35 (0x0123)	Keyboard multifunction Key Function Reference	Ones:JOG key 0:Valid 1: Forward Jogging 2: Reverse Jogging 3: Forward and Reverse Switch 4:Local/remote switch 5: Backward running 6:Down key 7:Terminal and communication mode selection 8:Keyboard, terminal and communication mode selection 9:Coasting Stop Tens:LOC key 0:Valid 1: Forward Jogging 2: Reverse Jogging 3: Forward and Reverse Switch 4:Local/remote switch 5: Backward running 6:Down key 7:Terminal and communication mode selection 8:Keyboard, terminal and communication mode selection 9:Coasting Stop	41	Read only in run	"P0.1.35"
P0.1.36 (0x0124)	Keyboard STOP Key Stop Function	0:Only valid in Keyboard Operation Mode 1:Valid for any Mode	1	Any	"P0.1.36"
P0.1.37 (0x0125)	Parameter Initialization	0:No Operation 1:Clearance of Record Information 2:Clear Fault Information Only 9:Recover Factory set value, excluding motor parameter, correction group, password group (Reset p0.1.09 to 1) 15:Recover Factory set value, excluding	0	Read only in run	"P0.1.37"

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
		motor parameter, correction group, password group (Reset p0.1.09 to 15) 19:Recover Factory set value, excluding motor parameter, password group (Reset p0.1.09 to 1) 20:Recover Factory set value, excluding password group (Reset p0.1.09 to 1) 30:Users Current Parameter Backup 60>User Backup Parameters Recovery 100:Manufacturer macros1 101:Manufacturer macros2 102:Manufacturer macros3 103:Manufacturer macros4 104:Manufacturer macros5 105:Manufacturer macros6 106:Manufacturer macros7 107:reserve 108:Manufacturer macros9 109:Manufacturer macros10			
P0.1.38 (0x0126)	Purpose Selection	0:No Function 1:Master-Slave Control	0	Read only in run	"P0.1.38"
P0.1.39 (0x0127)	User Password	0~65535	0	Limited Param	"P0.1.39"
P0.1.40 (0x0128)	Local Machine Address	000:Broadcast Address 001~247	1	Any	"P0.1.40"
P0.1.41 (0x0129)	Current Resolution for Communication Reading	0:two decimal place(<75kW),one decimal place(>=75kW) 1:one decimal place	0	Any	"P0.1.41"
P0.1.42 (0x012A)	Communication Settings for User Groups	Ones:Read Mode 0:Read Address 1:Read Address Mapping Function Code Value Ten:Write Mode 0:Write Address 1:Write Address Mapping Function Code Value 2:Write Address (Do Not Save on Power Off) 3:Write Address Mapping Function Code Value (Do Not Save on Power Off)	H.11	Any	"P0.1.42"
P0.1.43 (0x012B)	Model Grid Input Line Voltage	0:380V/400V 1:440V/480V	0	Limited Param	"P0.1.43"
P0.1.44 (0x012C)	UP/DOWN Terminal Change Rate	0.01~655.35(Hz)	1.00	Any	"P0.1.44"

9.2.1.3. P0.2 Acceleration and Deceleration Parameters

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P0.2.00 (0x0200)	Acceleration Time 1	0.0~6500.0(s)	Model	Any	"P0.2.00"
P0.2.01 (0x0201)	Deceleration Time 1	0.0~6500.0(s)	Model	Any	"P0.2.01"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P0.2.02 (0x0202)	Acceleration time 2	0.0~6500.0(s)	Model	Any	"P0.2.02"
P0.2.03 (0x0203)	Deceleration time 2	0.0~6500.0(s)	Model	Any	"P0.2.03"
P0.2.04 (0x0204)	Acceleration time 3	0.0~6500.0(s)	Model	Any	"P0.2.04"
P0.2.05 (0x0205)	Deceleration time 3	0.0~6500.0(s)	Model	Any	"P0.2.05"
P0.2.06 (0x0206)	Acceleration time 4	0.0~6500.0(s)	Model	Any	"P0.2.06"
P0.2.07 (0x0207)	Deceleration time 4	0.0~6500.0(s)	Model	Any	"P0.2.07"
P0.2.08 (0x0208)	Acceleration Time 1 Switch Frequency Point	P0.2.09~P0.1.16(Hz)	0.00	Any	"P0.2.08"
P0.2.09 (0x0209)	Acceleration Time 2 Switch Frequency Point	P0.2.10~P0.1.16(Hz)	0.00	Any	"P0.2.09"
P0.2.10 (0x020A)	Acceleration Time 3 Switch Frequency Point	0.00~P0.1.16(Hz)	0.00	Any	"P0.2.10"
P0.2.11 (0x020B)	Reserved	0~65535	0	Any	"P0.2.11"
P0.2.12 (0x020C)	Deceleration Time 1 Switch Frequency Point	P0.2.13~P0.1.16(Hz)	0.00	Any	"P0.2.12"
P0.2.13 (0x020D)	Deceleration Time 2 Switch Frequency Point	P0.2.14~P0.1.16(Hz)	0.00	Any	"P0.2.13"
P0.2.14 (0x020E)	Deceleration Time 3 Switch Frequency Point	0.00~P0.1.16(Hz)	0.00	Any	"P0.2.14"
P0.2.15 (0x020F)	Acceleration and deceleration time unit	0:s 1:min	0	Read only in run	"P0.2.15"
P0.2.16 (0x0210)	Acceleration/Deceleration Time Decimal Point (Unit Depends on P0.2.15)	0:1 1:0.1 2:0.01	1	Read only in run	"P0.2.16"
P0.2.17 (0x0211)	Benchmark frequency of accelerating and Deceleration time	0: Highest Frequency 1: Reference frequency 2: 100Hz 3: Motor rated frequency 4: 50HZ 5: 60HZ	0	Read only in run	"P0.2.17"
P0.2.18 (0x0212)	Acceleration and Deceleration Curve	0: Straight Line 1: Curve S 1 2: Curve S 2	0	Read only in run	"P0.2.18"
P0.2.19 (0x0213)	Percentage of Starting Phase of Curve S	0.0~100.0(%)	30.0	Read only in run	"P0.2.19"
P0.2.20 (0x0214)	Percentage of Ending Phase of Curve S	0.0~100.0(%)	30.0	Read only in run	"P0.2.20"
P0.2.21 (0x0215)	Acceleration Time	0.0~6500.0(s)	Model	Any	"P0.2.21"

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P0.2.22 (0x0216)	Deceleration Time	0.0~6500.0(s)	Model	Any	"P0.2.22"
P0.2.23 (0x0217)	Acceleration/Deceleration Time Selection for Motor 2	0:same as Motor 1 1:Acceleration/Deceleration Time 1 2:Acceleration/Deceleration Time 2 3:Acceleration/Deceleration Time 3 4:Acceleration/Deceleration Time 4	0	Any	"P0.2.23"
P0.2.24 (0x0218)	Acceleration/Deceleration Time Selection for Motor 3	Same as above	0	Any	"P0.2.24"
P0.2.25 (0x0219)	Acceleration/Deceleration Time Selection for Motor 4	Same as above	0	Any	"P0.2.25"

9.2.1.4. P0.3 Display Parameters

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P0.3.00 (0x0300)	LED Running Display Parameter 1	9000~9099	9001	Any	"P0.3.00"
P0.3.01 (0x0301)	LED Running Display Parameter 2	8999~9099	9000	Any	"P0.3.01"
P0.3.02 (0x0302)	LED Running Display Parameter 3	8999~9099	9002	Any	"P0.3.02"
P0.3.03 (0x0303)	LED Running Display Parameter 4	8999~9099	9003	Any	"P0.3.03"
P0.3.04 (0x0304)	LED Running Display Parameter 5	8999~9099	9004	Any	"P0.3.04"
P0.3.05 (0x0305)	LED Running Display Parameter 6	8999~9099	9005	Any	"P0.3.05"
P0.3.06 (0x0306)	LED Running Display Parameter 7	8999~9099	9006	Any	"P0.3.06"
P0.3.07 (0x0307)	Automatic Time Switch of LED Running Display Parameter	0.0:No Switch 0.1s~100.0s	0.0	Any	"P0.3.07"
P0.3.08 (0x0308)	LED Stop Display Parameter 1	9000~9099	9001	Any	"P0.3.08"
P0.3.09 (0x0309)	LED Stop Display Parameter 2	8999~9099	9004	Any	"P0.3.09"
P0.3.10 (0x030A)	LED Stop Display Parameter 3	8999~9099	9009	Any	"P0.3.10"
P0.3.11 (0x030B)	LED Stop Display Parameter 4	8999~9099	8999	Any	"P0.3.11"
P0.3.12 (0x030C)	LED Stop Display Parameter 5	8999~9099	8999	Any	"P0.3.12"
P0.3.13 (0x030D)	LED Stop Display Parameter 6	8999~9099	8999	Any	"P0.3.13"
P0.3.14 (0x030E)	LED Stop Display Parameter 7	8999~9099	8999	Any	"P0.3.14"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P0.3.15 (0x030F)	Automatic Time Switch of LED Stop Display Parameter	0.0:No Switch 0.1s~100.0s	0.0	Any	"P0.3.15"
P0.3.16 (0x0310)	LCD Line 1 Display at Running	9000~9099	9001	Any	"P0.3.16"
P0.3.17 (0x0311)	LCD Line 2 Display at Running	9000~9099	9000	Any	"P0.3.17"
P0.3.18 (0x0312)	LCD Line 3 Display at Running	9000~9099	9002	Any	"P0.3.18"
P0.3.19 (0x0313)	LCD Line 4 Display at Running	9000~9099	9003	Any	"P0.3.19"
P0.3.20 (0x0314)	LCD Line 5 Display at Running	9000~9099	9004	Any	"P0.3.20"
P0.3.21 (0x0315)	LCD Line 6 Display at Running	9000~9099	9007	Any	"P0.3.21"
P0.3.22 (0x0316)	LCD Line 7 Display at Running	9000~9099	9007	Any	"P0.3.22"
P0.3.23 (0x0317)	LCD Line 8 Display at Running	9000~9099	9007	Any	"P0.3.23"
P0.3.24 (0x0318)	LCD Line 9 Display at Running	9000~9099	9007	Any	"P0.3.24"
P0.3.25 (0x0319)	LCD Line 10 Display at Running	9000~9099	9007	Any	"P0.3.25"
P0.3.26 (0x031A)	LCD Line 1 Display at Stop	9000~9099	9001	Any	"P0.3.26"
P0.3.27 (0x031B)	LCD Line 2 Display at Stop	9000~9099	9004	Any	"P0.3.27"
P0.3.28 (0x031C)	LCD Line 3 Display at Stop	9000~9099	9009	Any	"P0.3.28"
P0.3.29 (0x031D)	LCD Line 4 Display at Stop	9000~9099	9010	Any	"P0.3.29"
P0.3.30 (0x031E)	LCD Line 5 Display at Stop	9000~9099	9004	Any	"P0.3.30"
P0.3.31 (0x031F)	LCD Line 6 Display at Stop	9000~9099	9007	Any	"P0.3.31"
P0.3.32 (0x0320)	LCD Line 7 Display at Stop	9000~9099	9008	Any	"P0.3.32"
P0.3.33 (0x0321)	LCD Line 8 Display at Stop	9000~9099	9007	Any	"P0.3.33"
P0.3.34 (0x0322)	LCD Line 9 Display at Stop	9000~9099	9007	Any	"P0.3.34"
P0.3.35 (0x0323)	LCD top row display selection	Ones:Display selection for Area 1 0:Status Display 1:Operation direction Display 2:Operation command source Display 3:RTC Display 4~E:Reserved F:Water pump application data Display Tens:Display selection for Area 2 0:Status Display 1:Operation direction Display 2:Operation command source Display 3:RTC Display 4~E:Reserved	H.0123	Any	"P0.3.35"

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
		F:Water pump application data Display Hundreds:Display selection for Area 3 0:Status Display 1:Operation direction Display 2:Operation command source Display 3:RTC Display 4~E:Reserved F:Water pump application data Display Thousands:Display selection for Area 4 0:Status Display 1:Operation direction Display 2:Operation command source Display 3:RTC Display 4~E:Reserved F:Water pump application data Display			
P0.3.36 (0x0324)	Customized Display of Coefficient	0.0001~6.5000	1.0000	Any	"P0.3.36"
P0.3.37 (0x0325)	User-defined display control word	Ones:user-defined decimal place displaying 0:zero decimal place 1:one decimal place 2:two decimal places 3:three decimal places Tens:source of user-defined display value 0:determined by hundreds place of user-defined display control word 1:determined by set value of P0.3.36 Hundreds:selection of user-defined displaying coefficient 0:user-defined displaying coefficient is P0.3.36 1:user-defined displaying coefficient is calculation result 1 2:user-defined displaying coefficient is calculation result 2 3:user-defined displaying coefficient is calculation result 3 4:user-defined displaying coefficient is calculation result 4	1	Any	"P0.3.37"
P0.3.38 (0x0326)	Dual-Row LED upper Display Selection	0:Display P9.0 group function codes 1:Local address 2:Motor address	0	Any	"P0.3.38"
P0.3.39 (0x0327)	The upper LED during operation	9000~9099	9002	Any	"P0.3.39"
P0.3.40 (0x0328)	The upper LED at stop	9000~9099	9004	Any	"P0.3.40"
P0.3.41 (0x0329)	Function Code Upload/Download	0:Upload All Parameters Except Motor Parameter Group 1:Upload All Parameters 2:Download Function Code	0	Read only	"P0.3.41"
P0.3.42 (0x032A)	Output display filter coefficient	Ones:Output Current Filtering Tens:Output Voltage / Bus Voltage Filtering Hundreds:Output Torque Filtering Thousands:Output Power Filtering 0x0:No Filtering	0	Any	"P0.3.42"

9.2.1.5. P0.4 Jogging Operation

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P0.4.00 (0x0400)	Jogging running frequency	0.00~P0.1.16(Hz)	2.00	Any	"P0.4.00"
P0.4.01 (0x0401)	Jogging Acceleration time	0.0~6500.0(s)	20.0	Any	"P0.4.01"
P0.4.02 (0x0402)	Jogging Deceleration time	0.0~6500.0(s)	20.0	Any	"P0.4.02"
P0.4.03 (0x0403)	Jogging Priority	0:Valid 1:Invalid	0	Any	"P0.4.03"
P0.4.04 (0x0404)	Point-to-point start-stop mode	Ones:Deceleration Stop Method 0:Set Frequency Stop 1:Constrained by Deceleration Stop Parameters Tens:Stop DC Braking Method 0:Not Supported 1:Constrained by Stop DC Braking Parameters Hundreds:Reserved 0:Reserved 1:Reserved Thousands:Reserved 0:Reserved 1:Reserved Ten Thousands:Reserved 0:Reserved 1:Reserved	0	Read only in run	"P0.4.04"

9.2.1.6. P0.5 Start/Stop Parameters

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P0.5.00 (0x0500)	Start Mode	0:Direct Start 1:Speed Tracking Mode 2:Pre-Excitation Startupt	0	Any	"P0.5.00"
P0.5.01 (0x0501)	Start Frequency	0.00~10.00(Hz)	0.00	Any	"P0.5.01"
P0.5.02 (0x0502)	Hold Time of Start Frequency	0.0~100.0(s)	0.0	Read only in run	"P0.5.02"
P0.5.03 (0x0503)	Stop Mode	0:Stop by Deceleration 1:Free Stop	0	Any	"P0.5.03"
P0.5.04 (0x0504)	Select shutdown frequency	Ones:VF control 0:Set frequency 1: Feedback frequency Tens:SVC control 0:Set frequency 1: Feedback frequency Hundreds: Reserved 0:Set frequency 1: Feedback frequency	10	Any	"P0.5.04"
P0.5.05 (0x0505)	Shutdown frequency	0.00~P0.1.16(Hz)	0.50	Any	"P0.5.05"

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P0.5.06 (0x0506)	Shutdown delay time	0.00~10.00(s)	0.00	Any	"P0.5.06"
P0.5.07 (0x0507)	Enable power failure restart	0:Disabled 1:Enabled	0	Read only in run	"P0.5.07"
P0.5.08 (0x0508)	Power failure restart delay	0.0~500.0(s)	30.0	Read only in run	"P0.5.08"

9.2.1.7. P0.6 Carrier Frequency and PWM Adjustment

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P0.6.00 (0x0600)	Random PWM Model	0:Disable 1:Random PWM Mode 1 (Only valid for VF) 2:Random PWM Mode 2 (Only valid for CPWM) 3:Random PWM Mode 3 (Only valid for CPWM) 4:Random PWM Mode 4 (Only valid for CPWM)	0	Read only in run	"P0.6.00"
P0.6.01 (0x0601)	Dead time compensation switch	Ones:VF control 0:No compensation 1:Compensation method 1 2:Compensation method 2 Tens:SVC control 0:No compensation 1:Compensation method 1 2:Compensation method 2 3:Compensation method 3	H.32	Any	"P0.6.01"
P0.6.02 (0x0602)	Dead time given	100~200(%)	150	Read only in run	"P0.6.02"
P0.6.03 (0x0603)	DPWM switch upper limit frequency	0.00~15.00(Hz)	12.00	Any	"P0.6.03"
P0.6.04 (0x0604)	PWM modulation method	Ones: 0:Asynchronous modulation 1:Synchronous modulation Tens: 0:Both three-phase and two-phase modulation are present 1:All are three-phase modulation	0	Read only in run	"P0.6.04"
P0.6.05 (0x0605)	Adjustment Depth of Random PWM Mode 1	1~10	5	Any	"P0.6.05"
P0.6.06 (0x0606)	Carrier Frequency	0.5~16.0(kHz)	6.0	Any	"P0.6.06"
P0.6.07 (0x0607)	Low-speed carrier wave for open loop vector SVC control	0.5~16.0(kHz)	2.0	Any	"P0.6.07"
P0.6.08 (0x0608)	Switching frequency for low-speed carrier wave of open loop vector SVC	0.00~50.00(Hz)	25.00	Read only in run	"P0.6.08"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P0.6.09 (0x0609)	Does the Carrier Frequency Adjust with Temperature	Ones:Whether to adjust with temperature 0:No 1:Yes Tens:Whether to adjust for overload 0:No 1:Yes Hundreds:the maximum low-frequency carrier limited 0:No 1:Yes	111	Any	"P0.6.09"
P0.6.10 (0x060A)	Current detection compensation	0.000~0.100	0.005	Any	"P0.6.10"
P0.6.11 (0x060B)	Vf control AVR function	0:Valid 1:Invalid	1	Any	"P0.6.11"
P0.6.12 (0x060C)	sampling Method	Ones:Vf control Sampling method 0:Multi-Point sampling 1:Single-Point sampling Tens:Vector control sampling method 0:Multi-Point sampling 1:Single-Point sampling	H.01	Read only in run	"P0.6.12"
P0.6.13 (0x060D)	CPU Selection for PWM	0:slave CPU 1:master CPU	0	Read only in run	"P0.6.13"
P0.6.14 (0x060E)	The minimum multiple ratio of the carrier operating frequency	4.0~100.0	8.0	Read only in run	"P0.6.14"

9.2.1.8. P0.7 DC Braking

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P0.7.00 (0x0700)	Starting DC Brake Current	0~100(%)	0	Any	"P0.7.00"
P0.7.01 (0x0701)	Starting DC Brake Time	0.0~100.0(s)	0.0	Read only in run	"P0.7.01"
P0.7.02 (0x0702)	Stop DC Braking Initial Frequency	0.00~P0.1.16(Hz)	0.00	Any	"P0.7.02"
P0.7.03 (0x0703)	Stop DC Braking Waiting Time	0.0~100.0(s)	0.0	Read only in run	"P0.7.03"
P0.7.04 (0x0704)	Stop DC Braking Current	0~100(%)	0	Any	"P0.7.04"
P0.7.05 (0x0705)	Stop DC Braking Time	0.0~100.0(s)	0.0	Read only in run	"P0.7.05"
P0.7.06 (0x0706)	DC Braking Current During Operation	0~100(%)	0	Any	"P0.7.06"
P0.7.08 (0x0708)	Pre-excitation time	0.00~100.00(s)	2.00	Read only in run	"P0.7.08"
P0.7.09 (0x0709)	Pre-magnetization Broadband Coefficient	0.5~10.0	2.0	Any	"P0.7.09"
P0.7.10 (0x070A)	Pre-excitation current limit	1~200(%)	120	Any	"P0.7.10"

9.2.1.9. P0.8 Revolving Speed Tracking

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P0.8.00 (0x0800)	Revolving speed tracking current	30~200(%)	100	Read only in run	"P0.8.00"
P0.8.01 (0x0801)	Revolving speed tracking KP	0~1000	500	Any	"P0.8.01"
P0.8.02 (0x0802)	Revolving speed tracking KI	0~1000	800	Any	"P0.8.02"
P0.8.03 (0x0803)	Demagnetization time of revolving speed tracking	0.00~10.00(s)	1.00	Any	"P0.8.03"
P0.8.04 (0x0804)	Min. frequency of revolving speed tracking	0.00~10.00(Hz)	1.50	Read only in run	"P0.8.04"
P0.8.05 (0x0805)	Speed Tracking Mode	0:Direct Start 1:Start from power frequency(50HZ) 2:Brake and Restart 3:Magnetic field orientation (parameter identification needed)	2	Read only in run	"P0.8.05"
P0.8.06 (0x0806)	Speed tracking responsiveness	1~100	20	Any	"P0.8.06"

9.2.2. P1 Group Motor Parameters, Control, and Master-Slave Control

9.2.2.1. P1.0 Motor 1 Parameters

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P1.0.00 (0x1000)	Type of Motor 1	0:Common Asynchronous Motor 1:Variable frequency asynchronous motor 2:Permanent magnet synchronous motor	0	Read only in run	"P1.0.00"
P1.0.01 (0x1001)	Motor 1 rated power	0.1~2000.0(kW)	Model	Read only in run	"P1.0.01"
P1.0.02 (0x1002)	Motor 1 rated frequency	0.01~P0.1.16(Hz)	Model	Read only in run	"P1.0.02"
P1.0.03 (0x1003)	Motor 1 rated voltage	1~2000(V)	Model	Read only in run	"P1.0.03"
P1.0.04 (0x1004)	Motor 1 rated current	0.01A~655.35A (power inverter < 75kW) 0.1A~6553.5A (power inverter ≥ 75kW)	Model	Read only in run	"P1.0.04"
P1.0.05 (0x1005)	Motor 1 Rated Rotating Speed	1~65535(rpm)	Model	Read only in run	"P1.0.05"
P1.0.06 (0x1006)	Stator resistance of asynchronous motor 1	0.001Ω~65.535Ω(inverter power < 75kW) 0.0001Ω~6.5535Ω(inverter power < 75kW)	Model	Read only in run	"P1.0.06"
P1.0.07 (0x1007)	Rotor resistance of asynchronous motor 1	Same as above	Model	Read only in run	"P1.0.07"
P1.0.08 (0x1008)	Leakage inductance of asynchronous motor 1	0.01mH~655.35mH (power inverter ≥ 75kW) 0.001mH~65.535mH (power inverter ≥ 75kW)	Model	Read only in run	"P1.0.08"
P1.0.09 (0x1009)	Mutual inductance of asynchronous motor 1	0.1mH~6553.5mH (power inverter ≥ 75kW) 0.01mH~655.35mH (power inverter ≥ 75kW)	Model	Read only in run	"P1.0.09"
P1.0.10	Non-load current of	0.01A~Motor rated current (power	Model	Read only	"P1.0.10"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
(0x100A)	asynchronous motor 1	inverter $\geq$ 75kW) 0.1A~Motor rated current (power inverter $\geq$ 75kW)		in run	
P1.0.11 (0x100B)	Stator Resistance of Synchronous motor 1	0.001 Ω ~65.535 Ω (inverter power<75kW) 0.0001 Ω ~6.5535 Ω (inverter power<75kW)	Model	Read only in run	"P1.0.11"
P1.0.12 (0x100C)	Back EMF of Synchronous motor 1	0.0~6553.5(V)	Model	Read only in run	"P1.0.12"
P1.0.13 (0x100D)	D axis inductance of synchronous motor 1	0.01mH~655.35mH (frequency converter power $\leq$ 55 kW) 0.001mH~65.535mH (frequency converter power > 55 kW)	Model	Read only in run	"P1.0.13"
P1.0.14 (0x100E)	Q axis inductance of synchronous motor 1	Same as above	Model	Read only in run	"P1.0.14"
P1.0.15 (0x100F)	Motor 1 Tuning KP coefficient	1~200(%)	100	Any	"P1.0.15"
P1.0.16 (0x1010)	Motor 1 Tuning KI coefficient	1~200(%)	100	Any	"P1.0.16"
P1.0.17 (0x1011)	Motor 1 Parameter Identification Control	0:No Action 1:Asynchronous motor Static identification 2:Asynchronous motor Complete identification 11:Synchronous motor on-load identification 12:Synchronous motor non-load identification	0	Read only in run	"P1.0.17"

9.2.2.2. P1.1 Motor 1 Vector and V/F Control

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P1.1.00 (0x1100)	V/F Curve Mode of Motor 1	0:Straight Line 1:Multi-Point Broken Line 2:Square V/F Curve 1 3:Square V/F Curve 2 4:Square V/F Curve 3 10:V/F complete isolation 11:V/F partial isolation	0	Read only in run	"P1.1.00"
P1.1.01 (0x1101)	Torque Boost of Motor 1	0.0% (Automatic Torque Boost) 0.1%~30.0%	Model	Any	"P1.1.01"
P1.1.02 (0x1102)	Motor 1 Cutoff Frequency of Torque Boost	0.00~P1.0.02(Hz)	50.00	Read only in run	"P1.1.02"
P1.1.03 (0x1103)	Motor 1 V/F Slip Compensation Gain	0.0~200.0(%)	0.0	Any	"P1.1.03"
P1.1.04 (0x1104)	Motor 1 Broken Line V/F Point 1 Frequency	0.00~P1.1.06(Hz)	0.00	Read only in run	"P1.1.04"
P1.1.05 (0x1105)	Motor 1 Broken Line V/F Point 1 Voltage	0.0~100.0(%)	0.0	Read only in run	"P1.1.05"
P1.1.06 (0x1106)	Motor 1 Broken Line V/F Point 2 Frequency	P1.1.04~P1.1.08(Hz)	0.00	Read only in run	"P1.1.06"
P1.1.07 (0x1107)	Motor 1 Broken Line V/F Point 2 Voltage	0.0~100.0(%)	0.0	Read only in run	"P1.1.07"

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P1.1.08 (0x1108)	Motor 1 Broken Line V/F Point 3 Frequency	P1.1.06~P1.0.02(Hz)	0.00	Read only in run	"P1.1.08"
P1.1.09 (0x1109)	Motor 1 Broken Line V/F Point 3 Voltage	0.0~100.0(%)	0.0	Read only in run	"P1.1.09"
P1.1.10 (0x110A)	Motor 1 V/F Overexcited Gain	0~200	64	Any	"P1.1.10"
P1.1.11 (0x110B)	Motor 1 VF oscillation suppression mode	1~3	3	Read only in run	"P1.1.11"
P1.1.12 (0x110C)	Motor 1 Response time of VF slip compensation	0.0~10.0(s)	0.5	Any	"P1.1.12"
P1.1.13 (0x110D)	Motor 1 VF online torque compensation gain	0~200	150	Any	"P1.1.13"
P1.1.14 (0x110E)	Motor 1 VF oscillation suppression coefficient	0~100	20	Any	"P1.1.14"
P1.1.15 (0x110F)	Motor 1 Velocity Loop Proportional Gain 1	1~100	30	Any	"P1.1.15"
P1.1.16 (0x1110)	Motor 1 Velocity Circulation Integral Time 1	0.01~10.00(s)	0.50	Any	"P1.1.16"
P1.1.17 (0x1111)	Motor 1 Switching Frequency 1	0.00~P1.1.20(Hz)	5.00	Any	"P1.1.17"
P1.1.18 (0x1112)	Motor 1 Velocity Loop Proportional Gain 2	1~100	20	Any	"P1.1.18"
P1.1.19 (0x1113)	Motor 1 Velocity Circulation Integral Time 2	0.01~10.00(s)	1.00	Any	"P1.1.19"
P1.1.20 (0x1114)	Motor 1 Switching Frequency 2	P1.1.17~P0.1.16(Hz)	10.00	Any	"P1.1.20"
P1.1.21 (0x1115)	Motor 1 speed loop integral property	0:Valid 1:Invalid	0	Any	"P1.1.21"
P1.1.22 (0x1116)	Motor 1 Vector Control Torque Upper Frequency	0:Digital Reference (P1.1.23) 1: External Terminal AI1 Reference 2: External Terminal AI2 Reference 3: Multiplex Directive Reference 4:PULS Reference (HDI1)) 5: Communication Reference 6:MIN(AI1,AI2) 7:MAX(AI1,AI2) 8: Operation Result 3 9: Operation Result 4 10:Standby Torque Source 1 11:Standby Torque Source 2	0	Any	"P1.1.22"
P1.1.23 (0x1117)	Motor 1 Torque Upper Limit Reference	0.0~200.0(%)	Type GP	Any	"P1.1.23"
P1.1.24 (0x1118)	Motor 1 vector control slip gain	50~200(%)	100	Any	"P1.1.24"
P1.1.25 (0x1119)	Motor 1 Excitation adjustment ratio	0~60000	2000	Any	"P1.1.25"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P1.1.26 (0x111A)	Motor 1 Excitation adjustment Integral	0~60000	1300	Any	"P1.1.26"
P1.1.27 (0x111B)	Motor 1 Torque adjustment ratio	0~60000	2000	Any	"P1.1.27"
P1.1.28 (0x111C)	Motor 1 Torque adjustment Integral	0~60000	1300	Any	"P1.1.28"
P1.1.29 (0x111D)	Motor 1 Torque filtering coefficient	0~1000	100	Any	"P1.1.29"
P1.1.32 (0x1120)	Reserved	0~65535	0	Any	"P1.1.32"
P1.1.33 (0x1121)	Motor 1 angle adjustment KP	1.0~300.0(%)	100.0	Read only in run	"P1.1.33"
P1.1.34 (0x1122)	Enable power limit for generator operation of Motor 1	0:Disable 1:Enable	0	Any	"P1.1.34"
P1.1.35 (0x1123)	Power limit for generator operation of Motor 1	0.0~200.0(%)	50.0	Any	"P1.1.35"
P1.1.36 (0x1124)	Enable vector over-excitation for motor 1	0:Disabled 1:Enabled	0	Any	"P1.1.36"
P1.1.37 (0x1125)	Motor 1 Vector Field-Weakening Current Limiting	0.0~200.0(%)	120.0	Any	"P1.1.37"

9.2.3. P2 Group Terminal Functions and Optional Cards

9.2.3.1. P2.0 External Terminal DI/DHI Input

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P2.0.00 (0x2000)	External Terminal Running Control Mode	0:Two-line Type 1 1:Two-line Type 2 2:Three-line Type 1 3:Three-line Type 2	0	Read only in run	"P2.0.00"
P2.0.01 (0x2001)	DHI Terminal Function	0:No Function 1:Forward (FWD) 2:Reverse (REV) 3:Three-wire Running Control 4:Forward Jogging 5:Reverse Jogging 6:Terminal UP 7:Terminal DOWN 8:Free Stop 9:Multiplex Directive Terminal 1 10:Multiplex Directive Terminal 2 11: Multiplex Directive Terminal 3 12:Multiplex Directive Terminal 4 13:Fault Reset (RESET) 14:Running Pause 15:External Fault Input 16:Acceleration & Deceleration Time	1	Read only in run	"P2.0.01"

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
		Selection Terminal 1 17:Acceleration & Deceleration Time Selection Terminal 2 18:Frequency Source Selection Terminal 1 19:Frequency Source Selection Terminal 2 20:Frequency Source Selection Terminal 3 21:Running Command Selection Terminal 1 22:Running Command Selection Terminal 2 23:UP/DOWN Reference Reset 24:Prohibition of Acceleration & Deceleration 25:PID Pause 26:PLC State Reset 27:Wobulating Pause 28:Counter Input 29:Counter Reset 30:Length Counting Input 31:Length Reset 32:Torque Control Prohibition 33:Reserved 34:Immediate DC Brake 35:External Fault Normally-closed Input 36:Frequency Modification Enable 37:PID Action Direction Negation 38:External Stop Terminal 1 39:External Stop Terminal 2 40:PID Integral Stop 41:PID Parameter Switch 42:Control Mode Selection Terminal 1 43:Emergency Stop 44:Deceleration DC Brake 45:User-Defined Fault 1 46:User-Defined Fault 2 47:Running Time Reset 48:Timer Input Terminal 1 49:Timer Input Terminal 2 50:Timer Reset Terminal 1 51:Timer Reset Terminal 2 52:Reserved 53:Reserved 54:Reserved 55:Integral Computation Reset 56:User Function 1 57:User Function 2 58:User Function 3 59:User Function 4 60:User Function 5 61:Reserved 62:Reserved 63:Reserved 64:Motor 1 Selection Terminal 65:Motor 2 Selection Terminal 66:Motor 3 Selection Terminal 67:Motor 4 Selection Terminal 68:Enable for switching between variable			

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
		frequency and power frequency 69:Enable for fire mode 1 70:Enable for fire mode 2 71:Fire Mode Output Phase Loss Detection 72:Roll Diameter Reset 73:Initial Roll Diameter Selection Terminal 1 74:Initial Roll Diameter Selection Terminal 2 75:Pre-Drive Input Terminal 76:Winding and unwinding switch 77:Wire break detection for drawing machine 78:Manual/automatic mode switching 79:Counting pulse signal 80:Thickness selection terminal 1 81:Thickness selection terminal 2 82:Cycloidal limit 1 83:Cycloidal limit 2 84:Reserved 85:Reserved			
P2.0.02 (0x2002)	DI2 Terminal Function	Same as above	2	Read only in run	"P2.0.02"
P2.0.03 (0x2003)	DI3 Terminal Function	Same as above	9	Read only in run	"P2.0.03"
P2.0.04 (0x2004)	DI4 Terminal Function	Same as above	10	Read only in run	"P2.0.04"
P2.0.05 (0x2005)	DI5 Terminal Function	Same as above	11	Read only in run	"P2.0.05"
P2.0.06 (0x2006)	DI6 Terminal Function	Same as above	8	Read only in run	"P2.0.06"
P2.0.07 (0x2007)	DI7 Terminal Function	Same as above	0	Read only in run	"P2.0.07"
P2.0.08 (0x2008)	DI8 Terminal Function	Same as above	0	Read only in run	"P2.0.08"
P2.0.09 (0x2009)	DHI1 Terminal Function as DI Input	Same as above	0	Read only in run	"P2.0.09"
P2.0.11 (0x200B)	DI Filtering time	0.000~1.000(s)	0.010	Any	"P2.0.11"
P2.0.12 (0x200C)	Selection of PULSE Pulse Frequency Source	0:PULSE Reference (HD11)	0	Any	"P2.0.12"
P2.0.13 (0x200D)	Minimum Input of PULSE	0.00~P2.0.15(kHz)	0.00	Any	"P2.0.13"
P2.0.14 (0x200E)	Corresponding reference for Minimum Input of PULSE	-100.0~100.0(%)	0.0	Any	"P2.0.14"
P2.0.15 (0x200F)	Maximum Input of PULSE	P2.0.13~100.00(kHz)	50.00	Any	"P2.0.15"
P2.0.16 (0x2010)	Corresponding reference for Maximum Input of PULSE	-100.0~100.0(%)	100.0	Any	"P2.0.16"
P2.0.17 (0x2011)	PULSE Filtering time	0.00~10.00(s)	0.10	Any	"P2.0.17"

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P2.0.18 (0x2012)	AI1 Terminal Function as DI Input	0:Used as a Normal Analog Signal 1:Forward (FWD) 2:Reverse (REV) 3:Three-wire Running Control 4:Forward Jogging 5:Reverse Jogging 6:Terminal UP 7:Terminal DOWN 8:Free Stop 9:Multiplex Directive Terminal 1 10:Multiplex Directive Terminal 2 11: Multiplex Directive Terminal 3 12:Multiplex Directive Terminal 4 13:Fault Reset (RESET) 14:Running Pause 15:External Fault Input 16:Acceleration & Deceleration Time Selection Terminal 1 17:Acceleration & Deceleration Time Selection Terminal 2 18:Frequency Source Selection Terminal 1 19:Frequency Source Selection Terminal 2 20:Frequency Source Selection Terminal 3 21:Running Command Selection Terminal 1 22:Running Command Selection Terminal 2 23:UP/DOWN Reference Reset 24:Prohibition of Acceleration & Deceleration 25:PID Pause 26:PLC State Reset 27:Wobblulating Pause 28:Counter Input 29:Counter Reset 30:Length Counting Input 31:Length Reset 32:Torque Control Prohibition 33:Reserved 34:Immediate DC Brake 35:External Fault Normally-closed Input 36:Frequency Modification Enable 37:PID Action Direction Negation 38:External Stop Terminal 1 39:External Stop Terminal 2 40:PID Integral Stop 41:PID Parameter Switch 42:Control Mode Selection Terminal 1 43:Emergency Stop 44:Deceleration DC Brake 45:User-Defined Fault 1 46:User-Defined Fault 2 47:Running Time Reset 48:Timer Input Terminal 1 49:Timer Input Terminal 2 50:Timer Reset Terminal 1 51:Timer Reset Terminal 2	0	Read only in run	"P2.0.18"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
		52:Reserved 53:Reserved 54:Reserved 55:Integral Computation Reset 56:User Function 1 57:User Function 2 58:User Function 3 59:User Function 4 60:User Function 5 61:Reserved 62:Reserved 63:Reserved 64:Motor 1 Selection Terminal 65:Motor 2 Selection Terminal 66:Motor 3 Selection Terminal 67:Motor 4 Selection Terminal 68:Enable for switching between variable frequency and power frequency 69:Enable for fire mode 1 70:Enable for fire mode 2 71:Fire Mode Output Phase Loss Detection 72:Roll Diameter Reset 73:Initial Roll Diameter Selection Terminal 1 74:Initial Roll Diameter Selection Terminal 2 75:Pre-Drive Input Terminal 76:Winding and unwinding switch 77:Wire break detection for drawing machine 78:Manual/automatic mode switching 79:Counting pulse signal 80:Thickness selection terminal 1 81:Thickness selection terminal 2 82:Cycloidal limit 1 83:Cycloidal limit 2 84:Reserved 85:Reserved			
P2.0.19 (0x2013)	AI2 Terminal Function as DI Input	Same as above	0	Read only in run	"P2.0.19"
P2.0.20 (0x2014)	AI3 Terminal Function as DI Input	Same as above	0	Read only in run	"P2.0.20"
P2.0.21 (0x2015)	Valid Delay for AI1 Terminal as DI Input	0.0~3600.0(s)	0.0	Any	"P2.0.21"
P2.0.22 (0x2016)	Valid Delay for AI2 Terminal as DI Input	0.0~3600.0(s)	0.0	Any	"P2.0.22"
P2.0.23 (0x2017)	Valid Delay for AI3 Terminal as DI Input	0.0~3600.0(s)	0.0	Any	"P2.0.23"
P2.0.24 (0x2018)	Invalid Delay for AI1 Terminal as DI Input	0.0~3600.0(s)	0.0	Any	"P2.0.24"
P2.0.25 (0x2019)	Invalid Delay for AI2 Terminal as DI Input	0.0~3600.0(s)	0.0	Any	"P2.0.25"
P2.0.26 (0x201A)	Invalid Delay for AI3 Terminal as DI Input	0.0~3600.0(s)	0.0	Any	"P2.0.26"
P2.0.27 (0x201B)	DI1 effective delay	0.0~3600.0(s)	0.0	Any	"P2.0.27"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P2.0.28 (0x201C)	DI2 effective delay	0.0~3600.0(s)	0.0	Any	"P2.0.28"
P2.0.29 (0x201D)	DI3 effective delay	0.0~3600.0(s)	0.0	Any	"P2.0.29"
P2.0.30 (0x201E)	DI4 effective delay	0.0~3600.0(s)	0.0	Any	"P2.0.30"
P2.0.31 (0x201F)	DI5 effective delay	0.0~3600.0(s)	0.0	Any	"P2.0.31"
P2.0.32 (0x2020)	DI6 effective delay	0.0~3600.0(s)	0.0	Any	"P2.0.32"
P2.0.33 (0x2021)	DI7 effective delay	0.0~3600.0(s)	0.0	Any	"P2.0.33"
P2.0.34 (0x2022)	DI8 effective delay	0.0~3600.0(s)	0.0	Any	"P2.0.34"
P2.0.35 (0x2023)	Valid Delay for HDI1 Terminal as DI Input	0.0~3600.0(s)	0.0	Any	"P2.0.35"
P2.0.37 (0x2025)	DI1 ineffective delay	0.0~3600.0(s)	0.0	Any	"P2.0.37"
P2.0.38 (0x2026)	DI2 ineffective delay	0.0~3600.0(s)	0.0	Any	"P2.0.38"
P2.0.39 (0x2027)	DI3 ineffective delay	0.0~3600.0(s)	0.0	Any	"P2.0.39"
P2.0.40 (0x2028)	DI4 ineffective delay	0.0~3600.0(s)	0.0	Any	"P2.0.40"
P2.0.41 (0x2029)	DI5 ineffective delay	0.0~3600.0(s)	0.0	Any	"P2.0.41"
P2.0.42 (0x202A)	DI6 ineffective delay	0.0~3600.0(s)	0.0	Any	"P2.0.42"
P2.0.43 (0x202B)	DI7 ineffective delay	0.0~3600.0(s)	0.0	Any	"P2.0.43"
P2.0.44 (0x202C)	DI8 ineffective delay	0.0~3600.0(s)	0.0	Any	"P2.0.44"
P2.0.45 (0x202D)	Invalid Delay for HDI1 Terminal as DI	0.0~3600.0(s)	0.0	Any	"P2.0.45"
P2.0.47 (0x202F)	DI Valid State Option of AI	Ones:AI1 0:Active High Level 1:Active Low Level Tens:AI2 0:Active High Level 1:Active Low Level Hundreds:AI3 0:Active High Level 1:Active Low Level	0	Read only in run	"P2.0.47"
P2.0.48 (0x2030)	Valid Model Selection 1 of Terminal DI	Ones:DI1 0:Active High Level 1:Active Low Level Tens:DI2 0:Active High Level 1:Active Low Level Hundreds:DI3 0:Active High Level 1:Active Low Level Thousands:DI4 0:Active High Level	0	Read only in run	"P2.0.48"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
		1:Active Low Level Ten Thousands:DI5 0:Active High Level 1:Active Low Level			
P2.0.49 (0x2031)	Valid Model Selection 2 of Terminal DI	Ones:DI6 0:Active High Level 1:Active Low Level Tens:DI7 0:Active High Level 1:Active Low Level Hundreds:DI8 0:Active High Level 1:Active Low Level Thousands:HDI1 0:Active High Level 1:Active Low Level	0	Read only in run	"P2.0.49"

9.2.3.2. P2.1 External Terminal D0/DHO Output

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P2.1.00 (0x2100)	HDO Function Selection(Use Terminal HDO as DO)	0:No Function 1:Frequency inverter under Running 2:Fault Stop Output 3:Frequency Level Testing FDT1 Output 4:Frequency Reached 5:Zero-speed Running (no output when shut down) 6:Motor Overload Pre-alarm 7:Frequency inverter Overload Pre-alarm 8:Reference Count Value Reached 9:Designated Count Value Reached 10:Length Reached 11:PLC circulation cycle completed 12:Accumulative Running Time Reached 13:Frequency Limit 14:Torque Limit 15:Ready for Running 16:AI1>AI2 17:Upper Frequency Reached 18:Lower Frequency Reached (no output when shut down) 19:Undervoltage state output 20:Communication Reference 21:AI1 Output less than Lower Limit 22:AI1 Output more Upper Limit 23:Zero-speed Running 2 (also output when shut down) 24:Accumulative Power-on Time Reached 25:Frequency Level Testing FDT2 Output 26:Frequency 1 Reaches Output 27:Frequency 2 Reaches Output 28:Current 1 Reaches Output	0	Any	"P2.1.00"

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
		29:Current 2 Reaches Output 30:Timing Reaches Output 31:All Input Overlimit 32:In Off-load 33:In Reverse Running 34:Zero-current State 35:Module Temperature Reached 36:Output Current Overlimit 37:Lower Frequency Reached (also output when shut down) 38:Alarm Output 39:PLC Phase Completed 40:Current Running Time Reached 41:Fault Output (Not Output for Undervoltage) 42:Time of Timer 1 Reached 43:Time of Timer 2 Reached 44:Time of Timer 1 Reached but Time of Timer 2 not Reached 45:Motor Fan Control 46>User Function 2 47>User Function 3 48>User Function 4 49>User Function 5 50:Synchronization Intermediate Relay M1 51:Synchronization Intermediate Relay M2 52:Synchronization Intermediate Relay M3 53:Synchronization Intermediate Relay M4 54:Synchronization Intermediate Relay M5 55:Distance over Zero 56:Distance Set value 1 Reached 57:Distance Set value 2 Reached 58:Operation Result 2 greater than 0 59:Operation Result 4 greater than 0 60:Motor temperature exceeds the pre-alarm threshold. 61:Frequency Converter Output During Power-Frequency Switching 62:Power frequency output during frequency conversion switching 63:Over Torque Output 64:Stall Output 65:Indication of water supply dormant operation 66:Fire mode activation status 67:Fault of disconnection detection in fire mode 68:Reserved 69:Reserved 70:Reserved 71:Reserved 72:Reserved 73:Reserved 74:Drawbench Cycloidal Direction			
P2.1.01	T1 Relay Function	Same as above	1	Any	"P2.1.01"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
(0x2101)	Selection				
P2.1.03 (0x2103)	Expansion Card DO1 Function Selection	0:No Function 1:Frequency inverter under Running 2:Fault Stop Output 3:Frequency Level Testing FDT1 Output 4:Frequency Reached 5:Zero-speed Running (no output when shut down) 6:Motor Overload Pre-alarm 7:Frequency inverter Overload Pre-alarm 8:Reference Count Value Reached 9:Designated Count Value Reached 10:Length Reached 11:PLC circulation cycle completed 12:Accumulative Running Time Reached 13:Frequency Limit 14:Torque Limit 15:Ready for Running 16:AI1>AI2 17:Upper Frequency Reached 18:Lower Frequency Reached (no output when shut down) 19:Undervoltage state output 20:Communication Reference 21:AI1 Output less than Lower Limit 22:AI1 Output more Upper Limit 23:Zero-speed Running 2 (also output when shut down) 24:Accumulative Power-on Time Reached 25:Frequency Level Testing FDT2 Output 26:Frequency 1 Reaches Output 27:Frequency 2 Reaches Output 28:Current 1 Reaches Output 29:Current 2 Reaches Output 30:Timing Reaches Output 31:AI1 Input Overlimit 32:In Off-load 33:In Reverse Running 34:Zero-current State 35:Module Temperature Reached 36:Output Current Overlimit 37:Lower Frequency Reached (also output when shut down) 38:Alarm Output 39:PLC Phase Completed 40:Current Running Time Reached 41:Fault Output (Not Output for Undervoltage) 42:Time of Timer 1 Reached 43:Time of Timer 2 Reached 44:Time of Timer 1 Reached but Time of Timer 2 not Reached 45:Motor Fan Control 46:User Function 2 47:User Function 3	0	Any	"P2.1.03"

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
		48:User Function 4 49:User Function 5 50:Synchronization Intermediate Relay M1 51:Synchronization Intermediate Relay M2 52:Synchronization Intermediate Relay M3 53:Synchronization Intermediate Relay M4 54:Synchronization Intermediate Relay M5 55:Distance over Zero 56:Distance Set value 1 Reached 57:Distance Set value 2 Reached 58:Operation Result 2 greater than 0 59:Operation Result 4 greater than 0 60:Motor temperature exceeds the pre-alarm threshold. 61:Frequency Converter Output During Power-Frequency Switching 62:Power frequency output during frequency conversion switching 63:Over Torque Output 64:Stall Output 65:Indication of water supply dormant operation 66:Fire mode activation status 67:Fault of disconnection detection in fire mode 68:Reserved 69:Reserved 70:Reserved 71:Reserved 72:Reserved 73:Reserved 74:Drawbench Cycloidal Direction			
P2.1.04 (0x2104)	Expansion Card DO2 Function Selection	Same as above	0	Any	"P2.1.04"
P2.1.05 (0x2105)	HDO effective delay	0.0~3600.0(s)	0.0	Any	"P2.1.05"
P2.1.06 (0x2106)	T1 effective delay	0.0~3600.0(s)	0.0	Any	"P2.1.06"
P2.1.08 (0x2108)	DO1 effective delay	0.0~3600.0(s)	0.0	Any	"P2.1.08"
P2.1.09 (0x2109)	DO2 effective delay	0.0~3600.0(s)	0.0	Any	"P2.1.09"
P2.1.10 (0x210A)	HDO Terminal Function	0:Impulse output(HDO) 1:Open Collector Output(DO)	1	Any	"P2.1.10"
P2.1.11 (0x210B)	Highest Frequency of HDO Output	0.01~100.00(kHz)	50.00	Any	"P2.1.11"
P2.1.12 (0x210C)	Valid State of Multi-functional Output Terminal	Ones:DO 0:Positive Logic 1:Negative Logic Tens:T1 0:Positive Logic 1:Negative Logic Hundreds: Reserved 0:Positive Logic 1:Negative Logic	0	Any	"P2.1.12"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
		Thousands:Expansion Card DO1 0:Positive Logic 1:Negative Logic Ten Thousands:Expansion Card DO2 0:Positive Logic 1:Negative Logic			
P2.1.13 (0x210D)	HDO Output Reference	0:Running Frequency 1:Reference frequency 2:Output Current 3:Output Torque (Absolute Value of Torque) 4:Output Power 5:Output Voltage 6:Impulse Input 7:AI1 Voltage 8:AI2 Voltage 9:AI3 Voltage 10:Actual Length Value 11:Actual Counting Value 12:Communication Reference 13:Motor Speed 14:Output Current 15:Bus line voltage 16:Output Torque 17:Operation Result 1 18:Operation Result 2 19:Operation Result 3 20:Operation Result 4	0	Any	"P2.1.13"
P2.1.14 (0x210E)	Reserved	0~65535	0	Any	"P2.1.14"
P2.1.15 (0x210F)	HDO ineffective delay	0.0~3600.0(s)	0.0	Any	"P2.1.15"
P2.1.16 (0x2110)	T1 ineffective delay	0.0~3600.0(s)	0.0	Any	"P2.1.16"
P2.1.18 (0x2112)	DO1 ineffective delay	0.0~3600.0(s)	0.0	Any	"P2.1.18"
P2.1.19 (0x2113)	DO2 ineffective delay	0.0~3600.0(s)	0.0	Any	"P2.1.19"

9.2.3.3. P2.2 AI Input

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P2.2.00 (0x2200)	Analog Input Curve Selection	Ones:Curve selected for AI1 1:Curve 1 2:Curve 2 3:Curve 3 4:Curve 4 5:Curve 5 Tens:Curve selected for AI2 1:Curve 1 2:Curve 2 3:Curve 3	321	Any	"P2.2.00"

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
		4:Curve 4 5:Curve 5 Hundreds:Curve selected for AI3 1:Curve 1 2:Curve 2 3:Curve 3 4:Curve 4 5:Curve 5			
P2.2.01 (0x2201)	Analog Input resolution Selection	Ones:AI1 Input resolution 0:0.01Hz 1:0.02Hz 2:0.05Hz 3:0.10Hz 4:0.20Hz 5:0.50Hz 6:1.00Hz Tens:AI2 Input resolution 0:0.01Hz 1:0.02Hz 2:0.05Hz 3:0.10Hz 4:0.20Hz 5:0.50Hz 6:1.00Hz Hundreds:AI3 Input resolution 0:0.01Hz 1:0.02Hz 2:0.05Hz 3:0.10Hz 4:0.20Hz 5:0.50Hz 6:1.00Hz	0	Any	"P2.2.01"
P2.2.02 (0x2202)	Selection for Curve less than Min. Reference	Ones:AI1 0: Corresponding Min. Input Reference 1:0.0% Tens:AI2 0: Corresponding Min. Input Reference 1:0.0% Hundreds:AI3 0: Corresponding Min. Input Reference 1:0.0%	0	Any	"P2.2.02"
P2.2.03 (0x2203)	AI1 Filtering time	0.00~10.00(s)	0.10	Any	"P2.2.03"
P2.2.04 (0x2204)	AI2 Filtering time	0.00~10.00(s)	0.10	Any	"P2.2.04"
P2.2.05 (0x2205)	AI3 Filtering time	0.00~10.00(s)	0.10	Any	"P2.2.05"
P2.2.06 (0x2206)	AI1 set jump Point	-100.0~100.0(%)	0.0	Any	"P2.2.06"
P2.2.07 (0x2207)	AI1 set jump amplitude	0.0~100.0(%)	0.5	Any	"P2.2.07"
P2.2.08 (0x2208)	AI2 set jump Point	-100.0~100.0(%)	0.0	Any	"P2.2.08"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P2.2.09 (0x2209)	AI2 set jump amplitude	0.0~100.0(%)	0.5	Any	"P2.2.09"
P2.2.10 (0x220A)	Set jump Point of AI3	-100.0~100.0(%)	0.0	Any	"P2.2.10"
P2.2.11 (0x220B)	Set jump amplitude of AI3	0.0~100.0(%)	0.5	Any	"P2.2.11"
P2.2.12 (0x220C)	Minimum Input of Curve 1	-10.00~P2.2.14(V)	0.00	Any	"P2.2.12"
P2.2.13 (0x220D)	Corresponding reference for Minimum Input of Curve 1	-100.0~100.0(%)	0.0	Any	"P2.2.13"
P2.2.14 (0x220E)	Maximum Input of Curve 1	P2.2.12~10.00(V)	10.00	Any	"P2.2.14"
P2.2.15 (0x220F)	Corresponding reference for Maximum Input of Curve 1	-100.0~100.0(%)	100.0	Any	"P2.2.15"
P2.2.16 (0x2210)	Minimum Input of Curve 2	-10.00~P2.2.18(V)	0.00	Any	"P2.2.16"
P2.2.17 (0x2211)	Corresponding reference for Minimum Input of Curve 2	-100.0~100.0(%)	0.0	Any	"P2.2.17"
P2.2.18 (0x2212)	Maximum Input of Curve 2	P2.2.16~10.00(V)	10.00	Any	"P2.2.18"
P2.2.19 (0x2213)	Corresponding reference for Maximum Input of Curve 2	-100.0~100.0(%)	100.0	Any	"P2.2.19"
P2.2.20 (0x2214)	Minimum Input of Curve 3	-10.00~P2.2.22(V)	-10.00	Any	"P2.2.20"
P2.2.21 (0x2215)	Corresponding reference for Minimum Input of Curve 3	-100.0~100.0(%)	-100.0	Any	"P2.2.21"
P2.2.22 (0x2216)	Maximum Input of Curve 3	P2.2.20~10.00(V)	10.00	Any	"P2.2.22"
P2.2.23 (0x2217)	Corresponding reference for Maximum Input of Curve 3	-100.0~100.0(%)	100.0	Any	"P2.2.23"
P2.2.24 (0x2218)	Min. Input of Curve 4	-10.00~P2.2.26(V)	0.00	Any	"P2.2.24"
P2.2.25 (0x2219)	Corresponding reference for Min. Input of Curve 4	-100.0~100.0(%)	0.0	Any	"P2.2.25"
P2.2.26 (0x221A)	Curve 4 Inflection Point 1 Input	P2.2.24~P2.2.28(V)	3.00	Any	"P2.2.26"
P2.2.27 (0x221B)	Corresponding reference for Curve 4 Inflection Point 1 Input	-100.0~100.0(%)	30.0	Any	"P2.2.27"

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P2.2.28 (0x221C)	Curve 4 Inflection Point 2 Input	P2.2.26~P2.2.30(V)	6.00	Any	"P2.2.28"
P2.2.29 (0x221D)	Corresponding reference for Curve 4 Inflection Point 2 Input	-100.0~100.0(%)	60.0	Any	"P2.2.29"
P2.2.30 (0x221E)	Max. input of Curve 4	P2.2.28~10.00(V)	10.00	Any	"P2.2.30"
P2.2.31 (0x221F)	Corresponding reference for Max. input of Curve 4	-100.0~100.0(%)	100.0	Any	"P2.2.31"
P2.2.32 (0x2220)	Min. Input of Curve 5	P2.2.32~P2.2.34(V)	-10.00	Any	"P2.2.32"
P2.2.33 (0x2221)	Corresponding reference for Min. Input of Curve 5	-100.0~100.0(%)	-100.0	Any	"P2.2.33"
P2.2.34 (0x2222)	Curve 5 Inflection Point 1 Input	P2.2.32~P2.2.36(V)	-3.00	Any	"P2.2.34"
P2.2.35 (0x2223)	Corresponding reference for Curve 5 Inflection Point 1 Input	-100.0~100.0(%)	-30.0	Any	"P2.2.35"
P2.2.36 (0x2224)	Curve 5 Inflection Point 2 Input	P2.2.34~P2.2.38(V)	3.00	Any	"P2.2.36"
P2.2.37 (0x2225)	Corresponding reference for Curve 5 Inflection Point 2 Input	-100.0~100.0(%)	30.0	Any	"P2.2.37"
P2.2.38 (0x2226)	Max. input of Curve 5	P2.2.36~10.00(V)	10.00	Any	"P2.2.38"
P2.2.39 (0x2227)	Corresponding reference for Max. input of Curve 5	-100.0~100.0(%)	100.0	Any	"P2.2.39"

9.2.3.4. P2.3 AO Output

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P2.3.00 (0x2300)	Analog Output AO1 Reference	0:Running Frequency 1:Reference frequency 2:Output Current 3:Output Torque (Absolute Value of Torque) 4:Output Power 5:Output Voltage 6:Impulse Input 7:A11 Voltage 8:A12 Voltage 9:A13 Voltage 10:Actual Length Value 11:Actual Counting Value 12:Communication Reference 13:Motor Speed	0	Any	"P2.3.00"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
		14:Output Current 15:Bus line voltage 16:Output Torque 17:Operation Result 1 18:Operation Result 2 19:Operation Result 3 20:Operation Result 4 21:Performance Data 0 22:Performance Data 1 23:Performance Data 2 24:Performance Data 3 25:Performance Data 4 26:External Taper Output 27:Coil Diameter Output 28:Tension Control Target Torque Output 29:Target Tension Output			
P2.3.01 (0x2301)	Analog Output AO2 Reference	Same as above	1	Any	"P2.3.01"
P2.3.02 (0x2302)	Reserved	0~25	1	Any	"P2.3.02"
P2.3.03 (0x2303)	Analog AO1 Output Offset	-100.0~100.0(%)	0.0	Any	"P2.3.03"
P2.3.04 (0x2304)	Analog AO1 Output Gains	-10.00~10.00	1.00	Any	"P2.3.04"
P2.3.05 (0x2305)	Analog AO2 Output Offset	-100.0~100.0(%)	0.0	Any	"P2.3.05"
P2.3.06 (0x2306)	Analog AO2 Output Gains	-10.00~10.00	1.00	Any	"P2.3.06"

9.2.3.5. P2.4 AI, AO Curve Calibration

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P2.4.00 (0x2400)	AI1 actual voltage 1	0.000~4.000(V)	Manufacturer	Any	"P2.4.00"
P2.4.01 (0x2401)	AI1 indicated voltage 1	0.000~4.000(V)	Manufacturer	Any	"P2.4.01"
P2.4.02 (0x2402)	AI1 actual voltage 2	6.000~11.000(V)	Manufacturer	Any	"P2.4.02"
P2.4.03 (0x2403)	AI1 indicated voltage 2	6.000~11.000(V)	Manufacturer	Any	"P2.4.03"
P2.4.04 (0x2404)	AI2 actual voltage 1	0.000~4.000(V)	Manufacturer	Any	"P2.4.04"
P2.4.05 (0x2405)	AI2 indicated voltage 1	0.000~4.000(V)	Manufacturer	Any	"P2.4.05"
P2.4.06 (0x2406)	AI2 actual voltage 2	6.000~11.000(V)	Manufacturer	Any	"P2.4.06"
P2.4.07 (0x2407)	AI2 indicated voltage 2	6.000~11.000(V)	Manufacturer	Any	"P2.4.07"
P2.4.08 (0x2408)	AI3 actual voltage 1	-1.100~11.000(V)	Manufacturer	Any	"P2.4.08"

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P2.4.09 (0x2409)	AI3 indicated voltage 1	-1.100~11.000(V)	Manufacturer	Any	"P2.4.09"
P2.4.10 (0x240A)	AI3 actual voltage 2	-1.100~11.000(V)	Manufacturer	Any	"P2.4.10"
P2.4.11 (0x240B)	AI3 indicated voltage 1	-1.100~11.000(V)	Manufacturer	Any	"P2.4.11"
P2.4.12 (0x240C)	AO1 target voltage 1	0.000~4.000(V)	Manufacturer	Any	"P2.4.12"
P2.4.13 (0x240D)	AO1 actual voltage 1	0.000~4.000(V)	Manufacturer	Any	"P2.4.13"
P2.4.14 (0x240E)	AO1 target voltage 2	6.000~11.000(V)	Manufacturer	Any	"P2.4.14"
P2.4.15 (0x240F)	AO1 actual voltage 2	6.000~11.000(V)	Manufacturer	Any	"P2.4.15"
P2.4.16 (0x2410)	AO2 target voltage 1	0.000~4.000(V)	Manufacturer	Any	"P2.4.16"
P2.4.17 (0x2411)	AO2 actual voltage 1	0.000~4.000(V)	Manufacturer	Any	"P2.4.17"
P2.4.18 (0x2412)	AO2 target voltage 2	6.000~11.000(V)	Manufacturer	Any	"P2.4.18"
P2.4.19 (0x2413)	AO2 actual voltage 2	6.000~11.000(V)	Manufacturer	Any	"P2.4.19"

9.2.3.6. P2.7 Expansion Communication Card Settings

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P2.7.00 (0x2700)	Expansion card Baud Rate	Ones:MODBUS baud rate 0:1200 1:2400 2:4800 3:9600 4:19200 5:38400 6:57600 7:115200 8:256000 9:460800 A:921600 B:2500000 Tens: Reserved Hundreds: Reserved Thousands:Reserved	H.3	Any	"P2.7.00"
P2.7.01 (0x2701)	Expansion card Data Format	0:No Verification (8-N-2) 1:Even Parity Verification (8-E-1) 2:Odd Parity Verification (8-O-1) 3:No Verification (8-N-1)	0	Any	"P2.7.01"
P2.7.02 (0x2702)	Expansion card relay configuration	Thousands and hundreds place:Relay start address 0x00:Invalid relay 0x01~0x80:Corresponding relay addresses 1 to 128	0	Any	"P2.7.02"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
		Tens place:Relay end address 0x00:Invalid relay 0x81 ~ 0xF8:Corresponding relay addresses 129 to 247			
P2.7.03 (0x2703)	Expansion card Response Delay	0~1000(ms)	2	Any	"P2.7.03"
P2.7.04 (0x2704)	Expansion card Communication Timeout	0.1~60.0(s)	5.0	Any	"P2.7.04"
P2.7.05 (0x2705)	Expansion card Data Transmission Format	Ones:MODBUS data format 0:ASCII Mode (Reserved) 1:RTU Mode Tens:PROFIBUS data format 0:PPO1 1:PPO2 2:PPO3 3:PPO5	1	Any	"P2.7.05"
P2.7.06 (0x2706)	Expansion card MODBUS communication data reply or not	0:Reply 1:No reply	0	Read only in run	"P2.7.06"
P2.7.07 (0x2707)	Expansion card communication error enable	Ones: 0:Disable 1:Enable(The fault can not be automatically reset) 2:Enable(The fault can be automatically reset) Tens: Reserved Hundreds: 0: No processing 1: Inter-board communication timeout, no response to the master station Thousands: Inter-board communication timeout time (in seconds), maximum 15 seconds	H.0	Any	"P2.7.07"
P2.7.08 (0x2708)	first segment of IP Address	1~255	192	Any	"P2.7.08"
P2.7.09 (0x2709)	second segment of IP Address	0~255	168	Any	"P2.7.09"
P2.7.10 (0x270A)	third segment of IP Address(DP Address) (CANopen Address)	IP:0~255 DP:1~126 CANopen:1~127	1	Any	"P2.7.10"
P2.7.11 (0x270B)	fourth segment of IP Address(CANopen Baud Rate)	IP:1~254 CANopen:1,1000K 2,500K 3,250K 4,125K 5,100K 6,50K	100	Any	"P2.7.11"
P2.7.12 (0x270C)	first segment of subnet mask	0~255	255	Any	"P2.7.12"

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P2.7.13 (0x270D)	second segment of subnet mask	0~255	255	Any	"P2.7.13"
P2.7.14 (0x270E)	third segment of subnet mask	0~255	255	Any	"P2.7.14"
P2.7.15 (0x270F)	fourth segment of subnet mask	0~255	0	Any	"P2.7.15"
P2.7.16 (0x2710)	first segment of gateway	0~255	192	Any	"P2.7.16"
P2.7.17 (0x2711)	second segment of gateway	0~255	168	Any	"P2.7.17"
P2.7.18 (0x2712)	third segment of gateway	0~255	1	Any	"P2.7.18"
P2.7.19 (0x2713)	fourth segment of gateway	0~255	1	Any	"P2.7.19"
P2.7.20 (0x2714)	first word of MAC Address	0~H.FFFF	H.4853	Any	"P2.7.20"
P2.7.21 (0x2715)	second word of MAC Address	0~H.FFFF	H.0057	Any	"P2.7.21"
P2.7.22 (0x2716)	last word of MAC Address	0~H.FFFF	H.5500	Any	"P2.7.22"
P2.7.23 (0x2717)	DHCP ENABLE	0:Disable 1:Enable	0	Any	"P2.7.23"
P2.7.24 (0x2718)	TCP Listen timeout reset	0:Disable 1:Enable	0	Any	"P2.7.24"
P2.7.25 (0x2719)	Reserved	0~65535	0	Any	"P2.7.25"
P2.7.26 (0x271A)	Reserved	0~65535	0	Any	"P2.7.26"
P2.7.27 (0x271B)	Reserved	0~65535	0	Any	"P2.7.27"
P2.7.28 (0x271C)	Reserved	0~65535	0	Any	"P2.7.28"
P2.7.29 (0x271D)	Reserved	0~65535	0	Any	"P2.7.29"
P2.7.30 (0x271E)	Reserved	0~65535	0	Any	"P2.7.30"
P2.7.31 (0x271F)	6 in 1 Expansion card communications protocol	0:None 1:PROFINET 2:EtherCAT 3:Modbus TCP 4:EtherNet IP 5:CANopen 6:PROFIBUS 7:Reserved 8:Reserved 9:Reserved 10:Reserved 11:Reserved 12:Reserved 13:Reserved 14:Reserved 15:Reserved	0	Any	"P2.7.31"

9.2.3.7. P2.8 Standard 485 Settings of This Device

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P2.8.00 (0x2800)	Standard Communication Baud Rate of This Device	Ones:MODBUS baud rate 0:1200 1:2400 2:4800 3:9600 4:19200 5:38400 6:57600 7:115200	H.3	Any	"P2.8.00"
P2.8.01 (0x2801)	Standard Communication Data Format of This Device	0:No Verification (8-N-2) 1:Even Parity Verification (8-E-1) 2:Odd Parity Verification (8-O-1) 3:No Verification (8-N-1)	0	Any	"P2.8.01"
P2.8.02 (0x2802)	Standard communication relay configuration of the unit	Thousands and hundreds place:Relay start address 0x00:Invalid relay 0x01 ~ 0x80:Corresponding relay addresses 1 to 128 Tens place:Relay end address 0x00:Invalid relay 0x81 ~ 0xF8:Corresponding relay addresses 129 to 247	0	Any	"P2.8.02"
P2.8.03 (0x2803)	Standard Communication Response Delay of This Device	0~1000(ms)	2	Any	"P2.8.03"
P2.8.04 (0x2804)	Standard Communication Timeout of This Device	0.1~60.0(s)	5.0	Any	"P2.8.04"
P2.8.05 (0x2805)	Standard Communication Data Transmission Format of This Device	0:ASCII Mode (Reserved) 1:RTU Mode	1	Any	"P2.8.05"
P2.8.06 (0x2806)	Does the standard communication of this device using MODBUS protocol return data	0:Reply 1:No reply	0	Read only in run	"P2.8.06"
P2.8.07 (0x2807)	Standard Communication Error enable for This Device's Built-in Communication	0:Disable 1:Enable(The fault can not be automatically reset) 2:Enable(The fault can be automatically reset)	0	Any	"P2.8.07"
P2.8.08 (0x2808)	Reserved	0~1	0	Any	"P2.8.08"

9.2.4. P3 Group Application Function 1

9.2.4.1. P3.0 Multi-segment Speed and Simple PLC

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P3.0.00 (0x3000)	Simple PLC Running Mode	0:End of Single Running and Stop 1:End of Single Running and Save Final Value 2:Continuous Running 3:Cycle N Times	0	Any	"P3.0.00"
P3.0.01 (0x3001)	Cycle number(s), N	0~65000	0	Any	"P3.0.01"
P3.0.02 (0x3002)	Option of PLC Power-off Memory	Ones:Option of Power-off Memory 0:No Power-off Memory 1:Power-off Memory Tens:Stop Memory Selection 0:No Stop Memory 1:Stop Memory	0	Any	"P3.0.02"
P3.0.03 (0x3003)	Phase Directive 0	-100.0~100.0(%)	0.0	Any	"P3.0.03"
P3.0.04 (0x3004)	Phase 0 Running Time	0.0~6500.0(s)	0.0	Any	"P3.0.04"
P3.0.05 (0x3005)	Phase Directive 1	-100.0~100.0(%)	0.0	Any	"P3.0.05"
P3.0.06 (0x3006)	Phase 1 Running Time	0.0~6500.0(s)	0.0	Any	"P3.0.06"
P3.0.07 (0x3007)	Phase Directive 2	-100.0~100.0(%)	0.0	Any	"P3.0.07"
P3.0.08 (0x3008)	Phase 2 Running Time	0.0~6500.0(s)	0.0	Any	"P3.0.08"
P3.0.09 (0x3009)	Phase Directive 3	-100.0~100.0(%)	0.0	Any	"P3.0.09"
P3.0.10 (0x300A)	Phase 3 Running Time	0.0~6500.0(s)	0.0	Any	"P3.0.10"
P3.0.11 (0x300B)	Phase Directive 4	-100.0~100.0(%)	0.0	Any	"P3.0.11"
P3.0.12 (0x300C)	Phase 4 Running Time	0.0~6500.0(s)	0.0	Any	"P3.0.12"
P3.0.13 (0x300D)	Phase Directive 5	-100.0~100.0(%)	0.0	Any	"P3.0.13"
P3.0.14 (0x300E)	Phase 5 Running Time	0.0~6500.0(s)	0.0	Any	"P3.0.14"
P3.0.15 (0x300F)	Phase Directive 6	-100.0~100.0(%)	0.0	Any	"P3.0.15"
P3.0.16 (0x3010)	Phase 6 Running Time	0.0~6500.0(s)	0.0	Any	"P3.0.16"
P3.0.17 (0x3011)	Phase Directive 7	-100.0~100.0(%)	0.0	Any	"P3.0.17"
P3.0.18 (0x3012)	Phase 7 Running Time	0.0~6500.0(s)	0.0	Any	"P3.0.18"
P3.0.19 (0x3013)	Phase Directive 8	-100.0~100.0(%)	0.0	Any	"P3.0.19"
P3.0.20 (0x3014)	Phase 8 Running Time	0.0~6500.0(s)	0.0	Any	"P3.0.20"
P3.0.21 (0x3015)	Phase Directive 9	-100.0~100.0(%)	0.0	Any	"P3.0.21"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P3.0.22 (0x3016)	Phase 9 Running Time	0.0~6500.0(s)	0.0	Any	"P3.0.22"
P3.0.23 (0x3017)	Phase Directive 10	-100.0~100.0(%)	0.0	Any	"P3.0.23"
P3.0.24 (0x3018)	Phase 10 Running Time	0.0~6500.0(s)	0.0	Any	"P3.0.24"
P3.0.25 (0x3019)	Phase Directive 11	-100.0~100.0(%)	0.0	Any	"P3.0.25"
P3.0.26 (0x301A)	Phase 11 Running Time	0.0~6500.0(s)	0.0	Any	"P3.0.26"
P3.0.27 (0x301B)	Phase Directive 12	-100.0~100.0(%)	0.0	Any	"P3.0.27"
P3.0.28 (0x301C)	Phase 12 Running Time	0.0~6500.0(s)	0.0	Any	"P3.0.28"
P3.0.29 (0x301D)	Phase Directive 13	-100.0~100.0(%)	0.0	Any	"P3.0.29"
P3.0.30 (0x301E)	Phase 13 Running Time	0.0~6500.0(s)	0.0	Any	"P3.0.30"
P3.0.31 (0x301F)	Phase Directive 14	-100.0~100.0(%)	0.0	Any	"P3.0.31"
P3.0.32 (0x3020)	Phase 14 Running Time	0.0~6500.0(s)	0.0	Any	"P3.0.32"
P3.0.33 (0x3021)	Phase Directive 15	-100.0~100.0(%)	0.0	Any	"P3.0.33"
P3.0.34 (0x3022)	Phase 16 Running Time	0.0~6500.0(s)	0.0	Any	"P3.0.34"
P3.0.35 (0x3023)	Phase 0 attribution	Ones:Acceleration & Deceleration Time Selection (Invalid Multiplex Directive) 0:Acceleration & Deceleration Time 1 1:Acceleration & Deceleration Time 2 2:Acceleration & Deceleration Time 3 3:Acceleration & Deceleration Time 4 Tens:Frequency Source Selection (Valid Multiplex Directive) 0:Current Phase Directive 1:Keyboard Frequency Reference 2:A11 Input 3:A12 Input 4:A13 Input 5:PULS Reference (HDI1) 6:PID Reference 7:Operation Result 1 8:Operation Result 2 9:Operation Result 3 A:Operation Result 4 Hundreds:running direction 0:Default direction 1:Negation of Direction	H.000	Any	"P3.0.35"
P3.0.36 (0x3024)	Phase 1 attribution	Same as above	H.000	Any	"P3.0.36"
P3.0.37 (0x3025)	Phase 2 attribution	Same as above	H.000	Any	"P3.0.37"
P3.0.38 (0x3026)	Phase 3 attribution	Same as above	H.000	Any	"P3.0.38"

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P3.0.39 (0x3027)	Phase 4 attribution	Same as above	H.000	Any	"P3.0.39"
P3.0.40 (0x3028)	Phase 5 attribution	Same as above	H.000	Any	"P3.0.40"
P3.0.41 (0x3029)	Phase 6 attribution	Same as above	H.000	Any	"P3.0.41"
P3.0.42 (0x302A)	Phase 7 attribution	Same as above	H.000	Any	"P3.0.42"
P3.0.43 (0x302B)	Phase 8 attribution	Same as above	H.000	Any	"P3.0.43"
P3.0.44 (0x302C)	Phase 9 attribution	Same as above	H.000	Any	"P3.0.44"
P3.0.45 (0x302D)	Phase 10 attribution	Same as above	H.000	Any	"P3.0.45"
P3.0.46 (0x302E)	Phase 11 attribution	Same as above	H.000	Any	"P3.0.46"
P3.0.47 (0x302F)	Phase 12 attribution	Same as above	H.000	Any	"P3.0.47"
P3.0.48 (0x3030)	Phase 13 attribution	Same as above	H.000	Any	"P3.0.48"
P3.0.49 (0x3031)	Phase 14 attribution	Same as above	H.000	Any	"P3.0.49"
P3.0.50 (0x3032)	Phase 15 attribution	Same as above	H.000	Any	"P3.0.50"
P3.0.51 (0x3033)	Simple PLC Running Time Unit	0:s 1:min 2:h	0	Any	"P3.0.51"

9.2.4.2. P3.1 Process PID Control

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P3.1.00 (0x3100)	PID Reference Source	0:Digital Reference (P3.1.01) 1: External Terminal AI1 Reference 2: External Terminal AI2 Reference 3:External Terminal AI3 Reference 4:PULS Reference (HDI1)) 5: Communication Reference 6:Multiplex Directive Terminal Reference 7:Simple PLC Reference 8:Operation Result 1 9:Operation Result 2 10:Operation Result 3 11:Operation Result 4	0	Any	"P3.1.00"
P3.1.01 (0x3101)	PID Value Reference	0.0~P3.1.04(Mpa)	50.0	Any	"P3.1.01"
P3.1.02 (0x3102)	PID Feedback Source	0:External Terminal AI1 Reference 1:External Terminal AI2 Reference 2:AI1-AI2 3:AI1+AI2 4:PULS Reference (P2.0.12) 5: Communication Reference	0	Any	"P3.1.02"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
		6:MAX[AI1,AI2] 7:MIN[AI1,AI2] 8:Switch of Multiplex Directive Terminal on the above conditions 9:Operation Result 1 10:Operation Result 2 11:Operation Result 3 12:Operation Result 4			
P3.1.03 (0x3103)	PID Action Direction	0:Direct Action 1:Reverse Action	0	Any	"P3.1.03"
P3.1.04 (0x3104)	PID Reference Feedback Range	0.0~3276.7(Mpa)	100.0	Any	"P3.1.04"
P3.1.05 (0x3105)	Proportional Gains KP1	0.0~100.0	20.0	Any	"P3.1.05"
P3.1.06 (0x3106)	Integral Time TI1	0.01~10.00(s)	2.00	Any	"P3.1.06"
P3.1.07 (0x3107)	Derivative Time TD1	0.000~10.000(s)	0.000	Any	"P3.1.07"
P3.1.08 (0x3108)	PID Deviation Limit	0.0~P3.1.04(Mpa)	0.0	Any	"P3.1.08"
P3.1.09 (0x3109)	PID Feedback Filtering time	0.00~60.00(s)	0.00	Any	"P3.1.09"
P3.1.10 (0x310A)	Proportional Gains KP2	0.0~100.0	20.0	Any	"P3.1.10"
P3.1.11 (0x310B)	Integral Time TI2	0.01~10.00(s)	2.00	Any	"P3.1.11"
P3.1.12 (0x310C)	Derivative Time TD2	0.000~10.000(s)	0.000	Any	"P3.1.12"
P3.1.13 (0x310D)	PID Switch Conditions	0:No Switch 1:Switch through Terminals 2:Switch through Deviation	0	Any	"P3.1.13"
P3.1.14 (0x310E)	PID Switch Deviation 1	0.0~P3.1.15(%)	20.0	Any	"P3.1.14"
P3.1.15 (0x310F)	PID Switch Deviation 2	P3.1.14~100.0(%)	80.0	Any	"P3.1.15"
P3.1.16 (0x3110)	PID Initial Value	0.0~100.0(%)	0.0	Any	"P3.1.16"
P3.1.17 (0x3111)	PID Initial Value Hold Time	0.00~650.00(s)	0.00	Any	"P3.1.17"
P3.1.18 (0x3112)	PID Feedback Loss Test	000.0%:No Judgment on Feedback Loss 000.1%~100.0%	0.0	Any	"P3.1.18"
P3.1.19 (0x3113)	PID Feedback Loss Test Time	0.0~20.0(s)	0.0	Any	"P3.1.19"
P3.1.20 (0x3114)	PID Stop Operation	0:No Operation 1:Operation	0	Any	"P3.1.20"
P3.1.21 (0x3115)	PID reverse cutoff frequency	0.00~P0.1.16(Hz)	0.00	Any	"P3.1.21"
P3.1.22 (0x3116)	PID differential limiter	0.00~100.00(%)	0.10	Any	"P3.1.22"
P3.1.23 (0x3117)	PID given change time	0.00~650.00(s)	0.00	Any	"P3.1.23"
P3.1.24 (0x3118)	PID feedback filter time	0.00~100.00(s)	0.10	Read only in run	"P3.1.24"

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P3.1.25 (0x3119)	PID output filter time	0.00~60.00(s)	0.00	Any	"P3.1.25"
P3.1.26 (0x311A)	Maximum Positive Deviation Between Two Outputs	0.00~100.00(%)	1.00	Any	"P3.1.26"
P3.1.27 (0x311B)	Maximum Negative Deviation Between Two Outputs	0.00~100.00(%)	1.00	Any	"P3.1.27"
P3.1.28 (0x311C)	PID Integral properties	Ones: Integral Separation 0: Valid 1: Invalid Tens: Halt Integral on Output Limit 0: Continue Integration 1: Stop Integration	0	Any	"P3.1.28"
P3.1.29 (0x311D)	Pressure unit	0: % 1: Mpa 2: kPa 3: Pa 4: mbar 5: bar 6: °C 7: PSI 8: °F 9: kg/cm²	0	Read only in run	"P3.1.29"
P3.1.30 (0x311E)	Pressure Accuracy	0: 1 1: 0.1 2: 0.01	1	Read only in run	"P3.1.30"

9.2.4.3. P3.3 Energy-saving Control

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P3.3.00 (0x3300)	Quit sleep mode	0: Disable 1: Sleep and wake up based on frequency 2: Sleep and wake up based on pressure deviation 3: Wake-up from sleep mode based on frequency and pressure accuracy deviation	0	Read only in run	"P3.3.00"
P3.3.01 (0x3301)	Awake delay time	0.0~6500.0(s)	5.0	Any	"P3.3.01"
P3.3.02 (0x3302)	Sleep delay time	0.0~6500.0(s)	5.0	Any	"P3.3.02"
P3.3.03 (0x3303)	Wake-up frequency	P0.1.20~P0.1.16(Hz)	0.00	Any	"P3.3.03"
P3.3.04 (0x3304)	Sleep frequency	P0.1.20~P0.1.16(Hz)	0.00	Any	"P3.3.04"
P3.3.05 (0x3305)	Awake pressure deviation	00.0%~50.0% (Based on PID Reference Feedback Range)	5.0	Any	"P3.3.05"
P3.3.06 (0x3306)	Sleep pressure deviation	00.0%~50.0% (Based on PID Reference Feedback Range)	5.0	Any	"P3.3.06"

9.3.Appendix III: Faults and Troubleshooting

P3.3.07 (0x3307)	Sleep boost frequency	P0.1.20~P7.9.37(Hz)	50.00	Any	"P3.3.07"
P3.3.08 (0x3308)	Sleep boost frequency holding time	When set to 0, the sleep boost function is invalid	0.0	Any	"P3.3.08"
P3.3.09 (0x3309)	Sleep boost tolerance	0~10.0% (When 10% is set, it corresponds to 10% of the PID set value)	10.0	Any	"P3.3.09"
P3.3.10 (0x330A)	Stable Holding Time	0.0~1000s (When the set value is 0, the sleep response is slow)	10.0	Any	"P3.3.10"
P3.3.18 (0x3312)	Energy-saving mode	0:Off 1:Power Factor Optimization for Energy Saving	0	Any	"P3.3.18"
P3.3.20 (0x3314)	Energy-saving start frequency	The output frequency must be higher than the set value of this function code to enter the energy-saving steady-state frequency output judgment	10.00	Any	"P3.3.20"
P3.3.21 (0x3315)	Energy-saving start delay	When the steady-state frequency output is reached and the time exceeds the set value of this function code, the energy-saving mode is entered	5	Any	"P3.3.21"
P3.3.22 (0x3316)	Energy-saving power factor angle	When operating in power factor energy-saving optimization mode, this parameter defines the target power factor angle for energy saving.If the current power factor angle exceeds the target power factor angle for energy saving, the inverter will continuously perform energy-saving adjustments.	40.00	Any	"P3.3.22"
P3.3.23 (0x3317)	Maximum voltage drop for energy saving	Energy-saving effects are most pronounced when the inverter operates under no load or light load conditions.However, the Output Voltage cannot be reduced without limit; this parameter sets the maximum permissible voltage drop ratio for the Output Voltage.	60.00	Any	"P3.3.23"

9.2.4.4. P3.4 Timing Control

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P3.4.00 (0x3400)	Accumulative Power-on Reaches Reference Time	0~65000(h)	0	Any	"P3.4.00"
P3.4.01 (0x3401)	Accumulative Running Reaches Reference Time	0~65000(h)	0	Any	"P3.4.01"
P3.4.02 (0x3402)	Current Running Reaches Reference Time	0.0~6500.0(min)	0.0	Read only in run	"P3.4.02"
P3.4.03 (0x3403)	Timing Function Selection	1:min 2:h	1	Read only in run	"P3.4.03"
P3.4.04 (0x3404)	Fixed Running Time Selection	0:Digital Reference (P3.4.05) 1: External Terminal AI1 Reference 2:External Terminal AI2 Reference(Analog input range corresponds to P3.4.05)	0	Read only in run	"P3.4.04"
P3.4.05 (0x3405)	Fixed Running Time	0000.0~6500.0 (unit depends on P3.4.03)	0.0	Read only in run	"P3.4.05"
P3.4.06 (0x3406)	Enable Timer Function	0:Disable 1:Enable	0	Read only in run	"P3.4.06"

9.2.4.5. P3.5 Frequency Change Switching

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P3.5.00 (0x3500)	Enable Frequency Change Switching	0:Disable 1:Enable via function code 2:Enable via DI terminal	0	Read only in run	"P3.5.00"
P3.5.01 (0x3401)	Maximum Phase-Locked Adjustment Frequency	0.00~15.00(Hz)	3.00	Read only in run	"P3.5.01"
P3.5.02 (0x3502)	Phase-locked KP	0~10000	1000	Read only in run	"P3.5.02"
P3.5.03 (0x3503)	Phase-locked KI	0~10000	1000	Read only in run	"P3.5.03"
P3.5.04 (0x3504)	Delay Time from Wave Blocking to Disconnecting the Inverter Contactor	0.000~5.000(s)	0.002	Read only in run	"P3.5.04"
P3.5.05 (0x3405)	Delay Time from Disconnecting Inverter to Switching to Line Frequency	0.000~5.000(s)	0.020	Read only in run	"P3.5.05"
P3.5.06 (0x3506)	Delay Time from Disconnecting Line Frequency to Switching to Inverter Frequency	0.000~5.000(s)	0.020	Read only in run	"P3.5.06"
P3.5.07 (0x3507)	Shutdown Mode for Frequency Change Switching	0:Inverter Stop 1:Direct shutdown	0	Read only in run	"P3.5.07"

9.2.4.6. P3.6 Torque Control

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P3.6.00 (0x3600)	Torque Reference Source	0:Digital Reference 1: External Terminal AI1 Reference 2: External Terminal AI2 Reference 3: Multiplex Directive Reference 4:PULS Reference (HDI1)) 5: Communication Reference 6:MIN(AI1,AI2) 7:MAX(AI1,AI2) 8:Operation Result 1 9:Operation Result 2 10:Operation Result 3 11:Operation Result 4 12:Standby Torque Source 1 13:Standby Torque Source 2 14:External Terminal AI3 Reference	0	Read only in run	"P3.6.00"
P3.6.01 (0x3601)	Torque Digital Reference	-200.0~200.0(%)	150.0	Any	"P3.6.01"
P3.6.02 (0x3602)	Torque Control FWD Frequency Limit	0.00~P0.1.16(Hz)	50.00	Any	"P3.6.02"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P3.6.03 (0x3603)	Torque Control REV Frequency Limit	0.00~P0.1.16(Hz)	50.00	Any	"P3.6.03"
P3.6.04 (0x3604)	Torque Acceleration Time	0.0~6500.0(s)	0.0	Any	"P3.6.04"
P3.6.05 (0x3605)	Torque Deceleration Time	0.0~6500.0(s)	0.0	Any	"P3.6.05"
P3.6.06 (0x3606)	Torque filtering time	0.00~10.00(s)	0.00	Any	"P3.6.06"
P3.6.07 (0x3607)	Torque control forward frequency upper limit source	1:Function code command(P3.6.02) 2:External terminal AI1 command 3:External terminal AI2 command 4:External terminal AI3 command 5:PULS - pulse command(HDI1) 6:Multi-step command terminal command 7:Simple PLC command 8:Reserved 9:Communication command 10:Computation result 1 11:Computation result 2 12:Computation result 3 13:Computation result 4 14:Reserved 15:External pull-up keyboard analog potentiometer	1	Read only in run	"P3.6.07"
P3.6.08 (0x3608)	Torque control reverse frequency upper limit source	1:Function code command(P3.6.02) 2:External terminal AI1 command 3:External terminal AI2 command 4:External terminal AI3 command 5:PULS - pulse command(HDI1) 6:Multi-step command terminal command 7:Simple PLC command 8:Reserved 9:Communication command 10:Computation result 1 11:Computation result 2 12:Computation result 3 13:Computation result 4 14:Reserved 15:External pull-up keyboard analog potentiometer	1	Read only in run	"P3.6.08"
P3.6.09 (0x3609)	Torque control mode	0:Speed loop saturation mode 1:Upper frequency limit governed solely by torque control	0	Read only in run	"P3.6.09"

9.2.4.7. P3.7 Droop Control

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P3.7.00 (0x3700)	Droop Frequency	0.00~10.00(Hz)	0.00	Any	"P3.7.00"
P3.7.04 (0x3704)	Master-slave control mode	0:Invalid 1:This unit as master, speed control	0	Read only in run	"P3.7.04"

		2:This unit as slave,torque control 3:This unit as slave,speed control(P control) 4:This unit as slave,speed control(offset control)			
P3.7.05 (0x3705)	Enabling of slave following the master operation	0:Disable 1:Enable	1	Any	"P3.7.05"
P3.7.06 (0x3706)	Slave window frequency	0.00~10.00(Hz)	5.00	Any	"P3.7.06"
P3.7.07 (0x3707)	Percentage of slave deviation frequency	0.0~40.0(%)	5.0	Any	"P3.7.07"
P3.7.08 (0x3708)	Maximum frequency selection for slave torque control	0:Subject to torque control parameters(Group P3.6) 1:Subject to master Running Frequency 2:Subject to master target Frequency 3:Subject to master Feedback Frequency	0	Read only in run	"P3.7.08"

9.2.5. P4 Group Special Adjustment

9.2.5.1. P4.0 Asynchronous Motor Vector Control

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P4.0.11 (0x400B)	SVC mode	0:Mode 0 1:Mode 1(New)	1	Read only in run	"P4.0.11"
P4.0.12 (0x400C)	SVC Weak Field Current Regulation	0:Mode 0 1:Mode 1(New)	1	Read only in run	"P4.0.12"

9.2.5.2. P4.1 Synchronous Motor Vector Control

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P4.1.00 (0x4100)	Reserved	0~65535	0	Any	"P4.1.00"
P4.1.01 (0x4101)	DQ inductance calculation method	0:Old method 1:New method	1	Read only in run	"P4.1.01"
P4.1.02 (0x4102)	Max. flux-weakening current	0.0~300.0(%)	110.0	Any	"P4.1.02"
P4.1.03 (0x4103)	Reserved	0~65535	0	Any	"P4.1.03"
P4.1.04 (0x4104)	Voltage margin	0~100(%)	5	Read only in run	"P4.1.04"
P4.1.05 (0x4105)	Flux-weakening proportionality coefficient	0~50	0	Any	"P4.1.05"
P4.1.06 (0x4106)	Flux-weakening Integral coefficient	0~50	5	Any	"P4.1.06"
P4.1.07 (0x4107)	Manufacturer parameters	0~1	0	Read only in run	"P4.1.07"
P4.1.08 (0x4108)	Manufacturer parameters	50~600	100	Any	"P4.1.08"
P4.1.09 (0x4109)	Magnetic pole position identification method before the operation	0:Identification before each run 1:Identification before first run 2:No identification	0	Read only in run	"P4.1.09"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P4.1.10 (0x410A)	Identification current of magnetic pole position before running	30~200(%)	120	Any	"P4.1.10"
P4.1.11 (0x410B)	Manufacturer parameters	5~200	30	Any	"P4.1.11"
P4.1.12 (0x410C)	Manufacturer parameters	5~200	40	Any	"P4.1.12"
P4.1.13 (0x410D)	Manufacturer parameters	0~100	0	Read only in run	"P4.1.13"
P4.1.14 (0x410E)	Manufacturer parameters	0~10	0	Any	"P4.1.14"
P4.1.15 (0x410F)	PMSVC Low-Speed Current Compensation	0~100(%)	30	Read only in run	"P4.1.15"
P4.1.16 (0x4110)	PMSVC Velocity Filtering Coefficient	0~1000	100	Any	"P4.1.16"
P4.1.17 (0x4111)	PMSVC Low-Speed Velocity Filtering Coefficient	0~1000	200	Any	"P4.1.17"
P4.1.18 (0x4112)	PMSVC Low-Speed Current Compensation Mode	0: Limited by torque upper limit 1: Constant value compensation 2: Constant value plus real-time torque compensation	0	Any	"P4.1.18"
P4.1.19 (0x4113)	PMSVC Low-Speed Current Compensation cutoff frequency	20~100(%)	20	Read only in run	"P4.1.19"
P4.1.20 (0x4114)	Identification current of magnetic pole position during tuning	30~200(%)	100	Any	"P4.1.20"
P4.1.21 (0x4115)	The switching torque of PMSVC low-speed current compensation mode 0	1~50(%)	25	Read only in run	"P4.1.21"

9.2.5.3. P4.2 Asynchronous Motor VF Control

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P4.2.00 (0x4200)	Automatic Frequency Increase Enable	0:Disable 1:Enable	0	Read only in run	"P4.2.00"
P4.2.01 (0x4201)	Auto Frequency Increase Kp	0~100	50	Any	"P4.2.01"
P4.2.02 (0x4202)	Auto Frequency Increase Ki	0~100	50	Any	"P4.2.02"
P4.2.03 (0x4203)	Auto Frequency Ramp Minimum Torque Current	10~100(%)	50	Read only in run	"P4.2.03"
P4.2.04 (0x4204)	Auto Frequency Ramp Maximum Regenerative Torque Current	10~100(%)	20	Read only in run	"P4.2.04"

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P4.2.05 (0x4205)	VF Weak Magnetic Field Zone Overcurrent Stall Compensation Coefficient	50~200(%)	50	Read only in run	"P4.2.05"
P4.2.06 (0x4206)	Anti-Stall Maximum Frequency Rise Limit	0~50(Hz)	5	Read only in run	"P4.2.06"
P4.2.07 (0x4207)	Voltage Gain for VF Overvoltage Stall Suppression	0~100	30	Any	"P4.2.07"
P4.2.08 (0x4208)	VF Mode	0:VF Mode 0 1:VF Mode 1(New)	1	Read only in run	"P4.2.08"
P4.2.09 (0x4209)	VF-Separated Voltage Source	0: Digital Reference (P4.2.10) 1: External Terminal AI1 Reference 2: External Terminal AI2 Reference 3: Multiplex Directive Reference 4:PULS Reference (HDI1)) 5: Communication Reference 6: Operation Result 1 7: Operation Result 2 8: Operation Result 3 9: Operation Result 4	0	Read only in run	"P4.2.09"
P4.2.10 (0x420A)	Digital setting of the voltage source for VF separation	0~2000(V)	380	Read only in run	"P4.2.10"
P4.2.11 (0x420B)	The voltage rise time of VF separation	0.0~1000.0(s)	0.0	Read only in run	"P4.2.11"
P4.2.12 (0x420C)	The voltage deceleration time for VF separation	0.0~1000.0(s)	0.0	Read only in run	"P4.2.12"
P4.2.13 (0x420D)	VF separation shutdown mode selection	0:The voltage and frequency decrease at the same time 1:Reduce the voltage first, then the frequency	0	Read only in run	"P4.2.13"

9.2.5.4. P4.3 Vector Control

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P4.3.00 (0x4300)	Over modulation coefficient	100~120(%)	110	Read only in run	"P4.3.00"
P4.3.01 (0x4301)	field weakening torque limit coefficient	30~200	80	Any	"P4.3.01"
P4.3.02 (0x4302)	Flux-weakening method	0: No field weakening 1: Field weakening method 1 2: Field weakening method 2	1	Read only in run	"P4.3.02"
P4.3.03 (0x4303)	Vector control response mode	Ones:Asynchronous Motor SVC Control 0:Slow Response 1:Responding 2:Fast Response Tens:Synchronous Motor SVC Control 0:Slow Response	H.01	Read only in run	"P4.3.03"

9.3.Appendix III: Faults and Troubleshooting

		1:Responding 2:Fast Response			
--	--	---------------------------------	--	--	--

9.2.5.5. P4.4 TypeC Port Settings

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P4.4.00 (0x4400)	TypeC communication baud rate	Ones:MODBUS baud rate 0:1200 1:2400 2:4800 3:9600 4:19200 5:38400 6:57600 7:115200 8:256000 9:460800 A:921600 B:2500000	H.7	Any	"P4.4.00"
P4.4.01 (0x4401)	TypeC communication Data Format	0:No Verification (8-N-2) 1:Even Parity Verification (8-E-1) 2:Odd Parity Verification (8-O-1) 3:No Verification (8-N-1)	0	Any	"P4.4.01"
P4.4.02 (0x4402)	TypeC Communication Relay Mode Configuration	Thousands and hundreds place:Relay start address 0x00:Invalid relay 0x01~0x80:Corresponding relay addresses 1 to 128 Tens place:Relay end address 0x00:Invalid relay 0x81~0xF8:Corresponding relay addresses 129 to 247	0	Any	"P4.4.02"
P4.4.03 (0x4403)	TypeC communication Response Delay	0~1000(ms)	2	Any	"P4.4.03"
P4.4.04 (0x4404)	TypeC Communication Timeout	0.1~60.0(s)	5.0	Any	"P4.4.04"
P4.4.05 (0x4405)	TypeC communication Data Transmission Format	0:ASCII Mode (Reserved) 1:RTU Mode	1	Any	"P4.4.05"
P4.4.06 (0x4406)	TypeC communication MODBUS communication data reply or not	0:Reply 1:No reply	0	Read only in run	"P4.4.06"
P4.4.07 (0x4407)	TypeC Communication Error enable for This Device's Built-in Communication	0:Disable 1:Enable	0	Any	"P4.4.07"
P4.4.08 (0x4408)	Reserved	0~1	0	Any	"P4.4.08"

9.2.5.6. P4.6 Port filtering time

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P4.6.00 (0x4600)	The filtering time of the standard configuration of this machine and HDI1/2	0.0~21.2(us)	0.0	Any	"P4.6.00"
P4.6.01 (0x4601)	Communication Expansion Card Filtering Time	0.0~21.2(us)	0.0	Any	"P4.6.01"
P4.6.02 (0x4602)	TYPE-C filtering time	0.0~21.2(us)	0.0	Any	"P4.6.02"
P4.6.03 (0x4603)	Network port filtering time	0.0~21.2(us)	0.0	Any	"P4.6.03"

9.2.5.7. P4.7 Network port settings

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P4.7.00 (0x4700)	RJ45 communication baud rate	Ones:MODBUS baud rate 0:1200 1:2400 2:4800 3:9600 4:19200 5:38400 6:57600 7:115200	H.7	Any	"P4.7.00"
P4.7.01 (0x4701)	RJ45 communication Data Format	0:No Verification (8-N-2) 1:Even Parity Verification (8-E-1) 2:Odd Parity Verification (8-O-1) 3:No Verification (8-N-1)	0	Any	"P4.7.01"
P4.7.02 (0x4702)	RJ45 communication Relay Mode Configuration	Thousands and hundreds place:Relay start address 0x00:Invalid relay 0x01~0x80:Corresponding relay addresses 1 to 128 Tens place:Relay end address 0x00:Invalid relay 0x81~0xF8:Corresponding relay addresses 129 to 247	0	Any	"P4.7.02"
P4.7.03 (0x4703)	RJ45 communication Response Delay	0~20(ms)	2	Any	"P4.7.03"
P4.7.04 (0x4704)	RJ45 Communication Timeout	0.1~60.0(s)	5.0	Any	"P4.7.04"
P4.7.05 (0x4705)	RJ45 communication Data Transmission Format	0:ASCII Mode (Reserved) 1:RTU Mode	1	Any	"P4.7.05"
P4.7.06 (0x4706)	RJ45 communication MODBUS communication data reply or not	0:Reply 1:No reply	0	Any	"P4.7.06"

9.3.Appendix III: Faults and Troubleshooting

P4.7.07 (0x4707)	RJ45 Communication Error enable for This Device's Built-in Communication	0:Disable 1:Enable(The fault can not be automatically reset) 2:Enable(The fault can be automatically reset)	0	Any	"P4.7.07"
P4.7.08 (0x4708)	Reserved	0~1	0	Any	"P4.7.08"

9.2.5.8. P4.8 Special Performance Adjustment

Function code and Communication address	Function code name	Setting value description	Default Value	Modification method	Page number
P4.8.02 (0x4802)	MBD - model generation	0:No 1:Yes	0	Read only in run	"P4.8.02"

9.2.6. P5 Group Protection Functions

9.2.6.1. P5.0 Fault Recovery and Action Selection

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P5.0.00 (0x5000)	Fault Auto Reset Number	0~20	0	Any	"P5.0.00"
P5.0.01 (0x5001)	Waiting Interval Time of Fault Auto Reset	0.1~100.0(s)	1.0	Any	"P5.0.01"
P5.0.02 (0x5002)	Fault Protective Action Selection 1	Ones:Motor Overload 0: Free Stop 1: Stop by its Mode 2: Continuous Running Tens:Input Default Phase 0: Free Stop 1: Stop by its Mode 2: Continuous Running Hundreds:Output Default Phase 0: Free Stop 1: Stop by its Mode 2: Continuous Running Thousands: External Default 0: Free Stop 1: Stop by its Mode 2: Continuous Running Ten Thousands:expansion card Communication Abnormality 0: Free Stop 1: Stop by its Mode 2: Continuous Running	0	Any	"P5.0.02"
P5.0.03 (0x5003)	Fault Protective Action Selection 2	Ones:Motor Overload 0: Free Stop 1: Stop by its Mode 2: Continuous Running Tens:Feedback Loss 0: Free Stop 1: Stop by its Mode 2: Continuous Running Hundreds:User Customerized Fault 1	0	Any	"P5.0.03"

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
		0: Free Stop 1: Stop by its Mode 2: Continuous Running Thousands:User Customerized Fault 2 0: Free Stop 1: Stop by its Mode 2: Continuous Running Ten Thousands:Power-on Time Reached 0: Free Stop 1: Stop by its Mode 2: Continuous Running			
P5.0.04 (0x5004)	Fault Protective Action Selection 3	Ones:Running Time Reached 0: Free Stop 1: Stop by its Mode 2: Continuous Running Tens: Reserved 0: Free Stop Hundreds:Parameter Read-Write Abnormity 0: Free Stop 1: Stop by its Mode Thousands:Motor Overhear 0: Free Stop 1: Stop by its Mode 2: Continuous Running Ten Thousands:Fault of 24V Power Supply 0: Free Stop 1: Stop by its Mode	0	Any	"P5.0.04"
P5.0.05 (0x5005)	Fault Protective Action Selection 4	Ones: Larger Speed Deviation 0: Free Stop 1: Stop by its Mode 2: Continuous Running Tens: Motor Overspeed 0: Free Stop 1: Stop by its Mode 2: Continuous Running Hundreds: Initial Position Error 0: Free Stop 1: Stop by its Mode 2: Continuous Running Thousands:Inverter overload 0: Free Stop 1: Stop by its Mode 2:Derating run Ten Thousands: There is a communication fault in the RS485 interface of this device 0:Reserved 1:Reserved 2:Reserved	0	Any	"P5.0.05"
P5.0.06 (0x5006)	Fault Protective Action Selection 5	Ones:Over-torque 0: Free Stop 1: Stop by its Mode 2: Continuous Running Tens: Reserved 0: Free Stop 1: Stop by its Mode	0	Any	"P5.0.06"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
		2: Continuous Running Hundreds: Ethernet port communication failure 0: Free Stop 1: Stop by its Mode 2: Continuous Running Thousands: Type-C communication failure 0: Free Stop 1: Stop by its Mode 2: Continuous Running Ten Thousands: Slave failure under master-slave control 0:Free run stop 1:Stop by Stop Mode 2:Continue operation			
P5.0.07 (0x5007)	Fault Protective Action Selection 6	Ones: Reserved 0: Free Stop 1: Stop by its Mode 2: Continuous Running Tens: Reserved 0: Free Stop 1: Stop by its Mode 2: Continuous Running Hundreds: Reserved 0: Free Stop 1: Stop by its Mode 2: Continuous Running Thousands:Reserved 0:Reserved 1:Reserved 2:Reserved Ten Thousands: Reserved 0:Reserved 1:Reserved 2:Reserved	0	Any	"P5.0.07"
P5.0.08 (0x5008)	Fault Protective Action Selection 7	Same as P5.0.07	0	Any	"P5.0.08"
P5.0.09 (0x5009)	Fault Protective Action Selection 8	Same as P5.0.07	0	Any	"P5.0.09"
P5.0.10 (0x500A)	Fault Protective Action Selection 9	Same as P5.0.07	0	Any	"P5.0.10"
P5.0.11 (0x500B)	Fault Protective Action Selection 10	Same as P5.0.07	0	Any	"P5.0.11"
P5.0.12 (0x500C)	Continuous Running Frequency Selection when at Fault	0:Running at Current Frequency 1:Running at Reference frequency 2:Running at Upper Frequency 3:Running at Lower Frequency 4:Running at Back Frequency for Abnormality	0	Any	"P5.0.12"
P5.0.13 (0x500D)	Backup Frequency for Abnormality	0.0~100.0(%)	100.0	Any	"P5.0.13"

9.2.6.2. P5.1 Motor Protection Functions

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P5.1.01 (0x5101)	Motor Overload Protection	0:Disabled 1:Enable	1	Any	"P5.1.01"
P5.1.02 (0x5102)	Motor Overload Protection Level	0.20~10.00	1.00	Any	"P5.1.02"
P5.1.03 (0x5103)	Motor Overload Alarm System	50~100(%)	80	Any	"P5.1.03"
P5.1.04 (0x5104)	Type of motor temperature sensor	0:No temperature sensor 1:PT100 2:PT1000 3:KTY84	0	Any	"P5.1.04"
P5.1.05 (0x5105)	Thermal protection threshold of motor	0~200(°C)	110	Any	"P5.1.05"
P5.1.06 (0x5106)	Overheat pre-alarm threshold of motor	0~200(°C)	90	Any	"P5.1.06"
P5.1.07 (0x5107)	Temperature detection Enable of motor	0: No detection 1:Reserved 2: Pass AI3 3: Combination Detection via AI1 and AO1 4:Combination Detection via AI2 and AO1	0	Any	"P5.1.07"
P5.1.08 (0x5108)	A multiple of the rated current of the maximum output motor	10.0~800.0(%)	300.0	Any	"P5.1.08"
P5.1.09 (0x5109)	A multiple of the rated voltage of the maximum output motor	10.0~400.0(%)	100.0	Any	"P5.1.09"
P5.1.10 (0x510A)	Maximum output voltage mode	Ones:VF control 0:Only the bus voltage is associated 1:Correlate P5.1.09 with bus voltage Tens:SVC vector control 0:Only the bus voltage is associated 1:Correlate P5.1.09 with bus voltage	H.10	Read only in run	"P5.1.10"
P5.1.11 (0x510B)	Over Torque Protection Method	0: No Protection 1: Full Protection 2: Only During Constant Speed Protection	0	Any	"P5.1.11"
P5.1.12 (0x510C)	Over Torque Protection Limit	0.0~800.0(%)	150.0	Any	"P5.1.12"
P5.1.13 (0x510D)	Over Torque Protection Delay Time	0.00~60.00(s)	2.00	Any	"P5.1.13"
P5.1.14 (0x510E)	Stall Protection Enable	0~1	0	Any	"P5.1.14"
P5.1.15 (0x510F)	Stall Protection Feedback Frequency	0.00~20.00(Hz)	5.00	Any	"P5.1.15"
P5.1.16 (0x5110)	Stall Protection Delay Time	0.00~60.00(s)	2.00	Any	"P5.1.16"
P5.1.17 (0x5111)	Stall Protection frequency offset	0.00~10.00(Hz)	2.00	Any	"P5.1.17"

9.2.6.3. P5.2 Momentary Power Interruption Handling (Under-voltage Suppression)

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P5.2.00 (0x5200)	Action Selection for Momentary Interruption	0:Valid 1:Deceleration 2:Stop by Deceleration	0	Read only in run	"P5.2.00"
P5.2.01 (0x5201)	Judgment Time of Momentary Interruption Voltage Recovery	0.0~100.0(s)	0.5	Any	"P5.2.01"
P5.2.02 (0x5202)	Voltage Judgment for Momentary Interruption Action	40%~100% (Standard Bus line voltage)	80	Any	"P5.2.02"
P5.2.03 (0x5203)	Voltage Judgment for Suspension of Momentary Action	60%~100%(Standard Bus line voltage)	85	Read only in run	"P5.2.03"
P5.2.04 (0x5204)	Instantaneous stop non-stop Kp	0~100	40	Any	"P5.2.04"
P5.2.05 (0x5205)	Instantaneous stop non-stop Ki	0~100	30	Any	"P5.2.05"
P5.2.06 (0x5206)	Instantaneous stop and deceleration time	0.0~3000.0(s)	20.0	Any	"P5.2.06"

9.2.6.4. P5.3 Anti-Stall Function

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P5.3.00 (0x5300)	Braking Use Rate	0~100(%)	100	Any	"P5.3.00"
P5.3.01 (0x5301)	Undervoltage Point setting	60.0~140.0(%)	100.0	Any	"P5.3.01"
P5.3.02 (0x5302)	Fast current limit enable	0:Disable 1:Enable	1	Any	"P5.3.02"
P5.3.03 (0x5303)	Overspeed Test	0.0~50.0(%)	20.0	Any	"P5.3.03"
P5.3.04 (0x5304)	Overspeed Test Time	0.0:No Test 00.1s~60.0s	1.0	Any	"P5.3.04"
P5.3.05 (0x5305)	Speed Deviation greater than Test Value	0.0~50.0(%)	20.0	Any	"P5.3.05"
P5.3.06 (0x5306)	Speed Deviation greater than Test Time	0.0:No Test 00.1s~60.0s	5.0	Any	"P5.3.06"
P5.3.07 (0x5307)	Overvoltage Stall Protection Sensitivity	0~100	5	Any	"P5.3.07"
P5.3.08 (0x5308)	Overvoltage Stall Protection Voltage Point	115~150(%)	143	Any	"P5.3.08"
P5.3.09 (0x5309)	vf Overcurrent Stall Protection Sensitivity	0~100	20	Any	"P5.3.09"
P5.3.10 (0x530A)	vf Overcurrent Stall Protection current	50~180(%)	Type GP	Any	"P5.3.10"

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P5.3.11 (0x530B)	Braking voltage on Point	115~150(%)	135	Any	"P5.3.11"
P5.3.12 (0x530C)	Max output current of inverter	10.0~200.0(%)	Type GP	Any	"P5.3.12"
P5.3.13 (0x530D)	Inverter derating selection	Ones:Carrier Signal Derating 0:No 1:Yes	1	Any	"P5.3.13"

9.2.6.5. P5.4 Frequency, Current, and AI Detection

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P5.4.00 (0x5400)	The reference frequency reaches test width	0.0~100.0(%)	0.0	Any	"P5.4.00"
P5.4.01 (0x5401)	Frequency Test FDT1	0.00~P0.1.16(Hz)	50.00	Any	"P5.4.01"
P5.4.02 (0x5402)	FDT1 Lagged Value	0.0~100.0(%)	5.0	Any	"P5.4.02"
P5.4.03 (0x5403)	Frequency Test FDT2	0.00~P0.1.16(Hz)	50.00	Any	"P5.4.03"
P5.4.04 (0x5404)	FDT2 Lagged Value	0.0~100.0(%)	5.0	Any	"P5.4.04"
P5.4.05 (0x5405)	Any reached frequency tested value 1	0.00~P0.1.16(Hz)	50.00	Any	"P5.4.05"
P5.4.06 (0x5406)	Any reached frequency 1 test width	0.0~100.0(%)	0.0	Any	"P5.4.06"
P5.4.07 (0x5407)	Any reached frequency tested value 2	0.00~P0.1.16(Hz)	50.00	Any	"P5.4.07"
P5.4.08 (0x5408)	Any reached frequency 2 test width	0.0~100.0(%)	0.0	Any	"P5.4.08"
P5.4.09 (0x5409)	Zero Current Test Level	000.0%~300.0% (100.0% correspond to rated current of motor)	5.0	Any	"P5.4.09"
P5.4.10 (0x540A)	Delay Time for Zero Current Test	0.01~600.00(s)	0.10	Any	"P5.4.10"
P5.4.11 (0x540B)	Output Current Overlimit Value	0.0%:No Test 000.1%~300.0%	200.0	Any	"P5.4.11"
P5.4.12 (0x540C)	Delay Time for Current Overlimit Test	0.00~600.00(s)	0.00	Any	"P5.4.12"
P5.4.13 (0x540D)	Current Level Test 1	0.0~300.0(%)	100.0	Any	"P5.4.13"
P5.4.14 (0x540E)	Test Width of Current Level 1	0.0~300.0(%)	0.0	Any	"P5.4.14"
P5.4.15 (0x540F)	Current Level Test 2	0.0~300.0(%)	100.0	Any	"P5.4.15"
P5.4.16 (0x5410)	Test Width of Current Level 2	0.0~300.0(%)	0.0	Any	"P5.4.16"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P5.4.17 (0x5411)	AI1 Input Lower Limit	0.00~P5.4.18(V)	3.10	Any	"P5.4.17"
P5.4.18 (0x5412)	AI1 Input Upper Limit	P5.4.17~11.00(V)	6.80	Any	"P5.4.18"
P5.4.19 (0x5413)	Model Temperature Reaches Reference	0~100(°C)	75	Any	"P5.4.19"

9.2.6.6. P5.5 Other Protection

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P5.5.00 (0x5500)	Power-on short circuit to ground enable	0:Disable 1:Enable	1	Any	"P5.5.00"
P5.5.01 (0x5501)	Output Short Circuit Detection Enable	0:Disable 1:Enable	1	Any	"P5.5.01"
P5.5.02 (0x5502)	Input Default Phase Protection Sensitivity	01~10 (The smaller it is, the more sensitivity it is)	5	Any	"P5.5.02"
P5.5.03 (0x5503)	Input Default Phase Protection	Ones:Input phase loss hardware enabled 0:Disabled 1: Enable (Only One Phase Missing) 2: Enable (One Phase Missing, Two Phases Missing, or Three Phases Missing) Tens:Input phase loss software enabled 0:Disabled 1:Enable	H.01	Any	"P5.5.03"
P5.5.04 (0x5504)	Output Default Phase Protection	0:Disabled 1:Enable	1	Any	"P5.5.04"
P5.5.08 (0x5508)	Fault Output Terminal Action Selection during Fault Auto Reset Period	0:No Action 1:Action	0	Any	"P5.5.08"
P5.5.09 (0x5509)	Output power display mode	0:Active power 1:Inactive power 2:Apparent power	0	Any	"P5.5.09"
P5.5.10 (0x550A)	Reserved	0~65535	0	Any	"P5.5.10"
P5.5.11 (0x550B)	Buffer relay protection enabled	0:Disabled 1:Enable	1	Any	"P5.5.11"
P5.5.12 (0x550C)	Output phase loss detection mode before operation	0: No detection 1: Detection before operation only 2: Detection during shutdown only 3: Detection both before operation and during shutdown 4: One-time detection prior to initial operation	0	Read only in run	"P5.5.12"
P5.5.13 (0x550D)	Output phase loss detection interval during shutdown	1~60000(s)	10	Any	"P5.5.13"
P5.5.14 (0x550E)	Fire mode selection	Ones: (Fire mode activation method) 0: Parameter activation (p5.5.15) 1: Terminal activation	H.22	Read only in run	"P5.5.14"

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
		2: Parameter activation or terminal activation Tens: (Enable method of phase loss detection for fire mode output) 0: Parameter enable (p5.5.16) 1: Terminal enable 2: Parameter enable or terminal enable			
P5.5.15 (0x550F)	Parameter activation of the fire mode	0: Exit the fire mode 1: Fire mode 1 is activated 2: Fire mode 2 is activated	0	Any	"P5.5.15"
P5.5.16 (0x5510)	Parameter enable for phase loss detection of the output in fire mode	0:Disable 1:Enable	0	Any	"P5.5.16"
P5.5.17 (0x5511)	Frequency source selection in fire mode	0: The set frequency in the fire mode is set by the parameter p5.5.19. 1: The set frequency in the fire mode is set by the parameter p0.1.08.	0	Any	"P5.5.17"
P5.5.18 (0x5512)	Set frequency in fire mode	P0.1.20~P7.9.37(Hz)	50.00	Any	"P5.5.18"
P5.5.19 (0x5513)	Fault reset time in fire mode	0.5~20.0	5.0	Any	"P5.5.19"

9.2.7. Group P6 Application Function 2

9.2.7.1. P6.4 Tension Control Mode

Function code and Communication address	Function code name	Setting value description	Default Value	Modification method	Page number
P6.4.00 (0x6400)	Tension control mode	0:Invalid 1: Tension Open-loop Torque Mode 2: Tension Open-loop Speed Mode 3: Tension Closed-loop Torque Mode	0	Any	"P6.4.00"
P6.4.01 (0x6401)	Winding/Unwinding Switching	0:Winding 1:Unwinding	0	Any	"P6.4.01"
P6.4.02 (0x6402)	Mechanical transmission ratio	0.00~300.00	10.00	Any	"P6.4.02"
P6.4.03 (0x6403)	Frequency Upper Limit Source for Torque Mode Winding & Unwinding	Ones: 0:Winding Digital Setting (P6.4.04) 1:Winding AI1 2:Winding AI2 3:Winding Keyboard Potentiometer 4:Winding Actual Linear Speed Tens: 0:Unwinding Digital Setting (P6.4.05) 1:Unwinding AI1 2:Unwinding AI2 3:Unwinding Keyboard Potentiometer 4:Unwinding Setting Reverse Tensioning	0	Any	"P6.4.03"
P6.4.04 (0x6404)	Upper limit of winding	0.00~P0.1.16(Hz)	50.00	Any	"P6.4.04"
P6.4.05 (0x6405)	Upper limit of unwinding	0.00~P0.1.16(Hz)	0.00	Any	"P6.4.05"

9.3.Appendix III: Faults and Troubleshooting

Function code and Communication address	Function code name	Setting value description	Default Value	Modification method	Page number
P6.4.06 (0x6406)	Line speed of reverse tightening during unwinding	0.0~6500.0(m/min)	0.0	Any	"P6.4.06"
P6.4.07 (0x6407)	Line speed input source	0:No input 1:AI1 input 2:AI2 input 3:Keyboard key positioner 4:PULSE input 5:Communication setting (1000H)	0	Any	"P6.4.07"
P6.4.08 (0x6408)	Maximum line speed	0.1~6500.0(m/min)	200.0	Any	"P6.4.08"
P6.4.09 (0x6409)	Current line speed	0.0~6500.0(m/min)	0.0	Any	"P6.4.09"
P6.4.10 (0x640A)	Minimum line speed for coil diameter calculation	0.1~1000.0(m/min)	20.0	Any	"P6.4.10"
P6.4.11 (0x640B)	CycloidMode	0:Invalid 1:Left-Right Double Limit 2:Middle Single Limit	0	Any	"P6.4.11"

9.2.7.2. P6.5 Tension Control Coil Diameter Calculation

Function code and Communication address	Function code name	Setting value description	Default Value	Modification method	Page number
P6.5.00 (0x6500)	Selection of coil diameter calculation method	0:Calculated by line speed 1:Calculated by thickness accumulation 2:Time Mode 3:Automatic Estimation Mode 4:Keyboard key positioner 5:PULSE input	3	Any	"P6.5.00"
P6.5.01 (0x6501)	Maximum coil diameter	0.1~3000.0(mm)	500.0	Any	"P6.5.01"
P6.5.02 (0x6502)	Reel diameter	0.1~3000.0(mm)	100.0	Any	"P6.5.02"
P6.5.03 (0x6503)	Initial coil diameter source	0:Roll Diameter 1:Initial Roll Diameter 1 2:Initial Roll Diameter 2 3:Initial Roll Diameter 3 4:AI1 input 5:AI2 input 6:Keyboard potentiometer 7:Communication setting	0	Any	"P6.5.03"
P6.5.04 (0x6504)	Initial coil diameter 1	0.1~6000.0(mm)	100.0	Any	"P6.5.04"
P6.5.05 (0x6505)	Initial coil diameter 2	0.1~6000.0(mm)	100.0	Any	"P6.5.05"
P6.5.06 (0x6506)	Initial coil diameter 3	0.1~6000.0(mm)	100.0	Any	"P6.5.06"
P6.5.07 (0x6507)	Current coil diameter value	0.1~6000.0(mm)	100.0	Any	"P6.5.07"
P6.5.08 (0x6508)	Coil diameter filtering time	0.0~100.0(s)	50.0	Any	"P6.5.08"
P6.5.09 (0x6509)	Rate of change of coil diameter	0.0~100.0(mm)	1.0	Any	"P6.5.09"

Function code and Communication address	Function code name	Setting value description	Default Value	Modification method	Page number
P6.5.10 (0x650A)	Limit of the direction of change of coil diameter	0:Function disabled 1:Winding prohibits decreasing, unwinding prohibits increasing	0	Any	"P6.5.10"
P6.5.11 (0x650B)	Coil diameter reset control	0:Not allowed during operation 1:Allowed during operation 2:Automatically resets when stopped	0	Any	"P6.5.11"
P6.5.12 (0x650C)	Number of pulses per turn	0~60000	1	Any	"P6.5.12"
P6.5.13 (0x650D)	Number of turns per layer	0~10000	1	Any	"P6.5.13"
P6.5.14 (0x650E)	Material density	0~60000	0	Any	"P6.5.14"
P6.5.15 (0x650F)	Material width	0~60000(mm)	0	Any	"P6.5.15"
P6.5.16 (0x6510)	Material thickness setting source	0:Strip material 1:Wire material	0	Any	"P6.5.16"
P6.5.17 (0x6511)	Material thickness 0	0.00~100.00(mm)	0.10	Any	"P6.5.17"
P6.5.18 (0x6512)	Material thickness 1	0.00~100.00(mm)	0.20	Any	"P6.5.18"
P6.5.19 (0x6513)	Material thickness 2	0.00~100.00(mm)	0.01	Any	"P6.5.19"
P6.5.20 (0x6514)	Material thickness 3	0.00~100.00(mm)	0.01	Any	"P6.5.20"
P6.5.21 (0x6515)	Maximum thickness	0~10000(mm)	100	Any	"P6.5.21"
P6.5.22 (0x6516)	diameterChangeTimes	0.0~1000.0(s)	1.0	Any	"P6.5.22"
P6.5.23 (0x6517)	Manual Auto Switching	0:Manual Mode 1:Auto Mode	1	Any	"P6.5.23"

9.2.7.3. P6.6 Tension Control Tension Setting

Function code and Communication address	Function code name	Setting value description	Default Value	Modification method	Page number
P6.6.00 (0x6600)	Tension setting source	0:Digital setting 1:A11 input 2:A12 input 3:Keyboard key positioner 4:PULSE pulse input setting 5:Communication setting	0	Any	"P6.6.00"
P6.6.01 (0x6601)	Tension setting	0.0~100.0(%)	10.0	Any	"P6.6.01"
P6.6.02 (0x6602)	Maximum tension	0~30000	500	Any	"P6.6.02"
P6.6.03 (0x6603)	Output torque display in torque mode	0.0~200.0(%)	100.0	Any	"P6.6.03"
P6.6.04 (0x6604)	Limit adjustment of tension closed-loop control	0.0~100.0(%)	50.0	Any	"P6.6.04"
P6.6.05 (0x6605)	Torque closed-loop bias	0.0~1000.0(%)	0.0	Any	"P6.6.05"

9.3.Appendix III: Faults and Troubleshooting

Function code and Communication address	Function code name	Setting value description	Default Value	Modification method	Page number
P6.6.06 (0x6606)	Frequency acceleration time in torque mode	0.0~6500.0(s)	5.0	Any	"P6.6.06"
P6.6.07 (0x6607)	Frequency deceleration time in torque mode	0.0~6500.0(s)	5.0	Any	"P6.6.07"
P6.6.08 (0x6608)	Selection of tension taper source	0:Digital setting 1:A11 input 2:A12 input 3:Keyboard key positioner	0	Any	"P6.6.08"
P6.6.09 (0x6609)	Tension taper	0.0~100.0(%)	0.0	Any	"P6.6.09"
P6.6.10 (0x660A)	Taper curve	0:Curve 1:Straight line	0	Any	"P6.6.10"
P6.6.11 (0x660B)	Taper compensation correction amount	1~10000(mm)	1	Any	"P6.6.11"
P6.6.12 (0x660C)	tension taper enable	0:Taper is invalid 1:Taper is valid	1	Any	"P6.6.12"
P6.6.13 (0x660D)	Source of the setting of the external taper AO output	0:Digital setting 1:A11 input 2:A12 input 3:Keyboard key positioner	0	Any	"P6.6.13"
P6.6.14 (0x660E)	External taper setting	0.0~100.0(%)	100.0	Any	"P6.6.14"

9.2.7.4. P6.7 Tension Control Material Break Detection

Function code and Communication address	Function code name	Setting value description	Default Value	Modification method	Page number
P6.7.00 (0x6700)	Material break detection mode	0:No detection 1:Based on frequency 2:Based on feedback position (closed-loop) 3:According to DI Pulse	0	Any	"P6.7.00"
P6.7.01 (0x6701)	Lower limit of material break detection frequency	0.01~100.00(Hz)	50.00	Any	"P6.7.01"
P6.7.02 (0x6702)	Lower limit of material break detection feedback	0.1~100.0(%)	0.0	Any	"P6.7.02"
P6.7.03 (0x6703)	Upper limit of material break detection feedback	0.0~100.0(%)	0.0	Any	"P6.7.03"
P6.7.04 (0x6704)	Delay time for material break detection judgment	0.0~20.0(s)	3.0	Any	"P6.7.04"
P6.7.05 (0x6705)	Equipment shutdown time after material break	0.0~100.0(s)	0.0	Any	"P6.7.05"
P6.7.06 (0x6706)	Pre-drive frequency gain	0.0~200.0	100.0	Any	"P6.7.06"

Function code and Communication address	Function code name	Setting value description	Default Value	Modification method	Page number
P6.7.07 (0x6707)	Pre-drive torque limit source	0:Set according to the output torque 1:Direct setting	50	Any	"P6.7.07"
P6.7.08 (0x6708)	Pre-drive torque gain	0~2000	0	Any	"P6.7.08"
P6.7.09 (0x6709)	Pre-drive coil diameter delay	0~65535	0	Any	"P6.7.09"
P6.7.10 (0x670A)	Pre-drive acceleration time	0~65535	0	Any	"P6.7.10"
P6.7.11 (0x670B)	Pre-drive deceleration time	0~65535	0	Any	"P6.7.11"
P6.7.12 (0x670C)	Allow pre-drive coil diameter calculation	0~65535	0	Any	"P6.7.12"
P6.7.13 (0x670D)	Coil diameter reset-free mode	0~65535	0	Any	"P6.7.13"
P6.7.14 (0x670E)	Operating DC braking setting	Ones:Braking current source 0:Invalid 1:AI1 2:AI2 3:Keyboard potentiometer Tens:Braking current gain N/2 times gain (default 3 is 1.5 times)	30	Any	"P6.7.14"

9.2.7.5. P6.8 Tension Control Friction Compensation

Function Code and Communication Address	Function Code Name	Setting Value Description	Default Value	Modification Method	Page Number
P6.8.00 (0x6800)	Upper limit of static friction compensation	0.0~100.0(%)	30.0	Any	"P6.8.00"
P6.8.01 (0x6801)	Zero speed threshold	0.0~20.0(%)	0.0	Any	"P6.8.01"
P6.8.02 (0x6802)	Static friction compensation	0.0~100.0(%)	0.0	Any	"P6.8.02"
P6.8.03 (0x6803)	Dynamic friction compensation	0.0~50.0(%)	0.0	Any	"P6.8.03"
P6.8.04 (0x6804)	High-speed friction compensation curve	0:Frequency 1:Line speed 2:Coil diameter 3:Multi-segment torque curve 4:Multi-segment frequency curve	0	Any	"P6.8.04"
P6.8.05 (0x6805)	High-speed friction compensation coefficient	-50.0~50.0(%)	0.0	Any	"P6.8.05"
P6.8.06 (0x6806)	Multi-segment friction compensation torque 1 (5%)	0.0~50.0(%)	0.0	Any	"P6.8.06"
P6.8.07 (0x6807)	Multi-segment friction compensation torque 2 (20%)	0.0~50.0(%)	0.0	Any	"P6.8.07"
P6.8.08 (0x6808)	Multi-segment friction compensation torque 3 (40%)	0.0~50.0(%)	0.0	Any	"P6.8.08"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Value Description	Default Value	Modification Method	Page Number
P6.8.09 (0x6809)	Multi-segment friction compensation torque 4 (60%)	0.0~50.0(%)	0.0	Any	"P6.8.09"
P6.8.10 (0x680A)	Multi-segment friction compensation torque 5 (80%)	0.0~50.0(%)	0.0	Any	"P6.8.10"
P6.8.11 (0x680B)	Multi-segment friction compensation torque 6 (100%)	0.0~50.0(%)	0.0	Any	"P6.8.11"
P6.8.12 (0x680C)	Multi-segment friction compensation 1	0.00~P0.1.16(Hz)	0.00	Any	"P6.8.12"
P6.8.13 (0x680D)	Multi-segment friction compensation 2	0.00~P0.1.16(Hz)	0.00	Any	"P6.8.13"
P6.8.14 (0x680E)	Multi-segment friction compensation 3	0.00~P0.1.16(Hz)	0.00	Any	"P6.8.14"
P6.8.15 (0x680F)	Multi-segment friction compensation 4	0.00~P0.1.16(Hz)	0.00	Any	"P6.8.15"
P6.8.16 (0x6810)	Multi-segment friction compensation 5	0.00~P0.1.16(Hz)	0.00	Any	"P6.8.16"
P6.8.17 (0x6811)	Multi-segment friction compensation 6	0.00~P0.1.16(Hz)	0.00	Any	"P6.8.17"
P6.8.18 (0x6812)	Inertia compensation coefficient	0~10000	0	Any	"P6.8.18"
P6.8.19 (0x6813)	Acceleration inertia compensation correction	0.0~100.0(%)	100.0	Any	"P6.8.19"
P6.8.20 (0x6814)	Deceleration inertia compensation correction	0.0~100.0(%)	100.0	Any	"P6.8.20"
P6.8.21 (0x6815)	Inertia compensation exit delay	0~2	0	Any	"P6.8.21"
P6.8.22 (0x6816)	Inertia learning	0:No action 1:System mechanical inertia identification 2:Friction coefficient identification	0	Any	"P6.8.22"
P6.8.23 (0x6817)	Self-learning matrix 1	0.0~200.0(%)	0.0	Any	"P6.8.23"
P6.8.24 (0x6818)	Self-learning matrix 2	0.0~200.0(%)	0.0	Any	"P6.8.24"
P6.8.25 (0x6819)	Mechanical gain	0.00~P0.1.16(Hz)	50.0	Any	"P6.8.25"

9.2.8. P8 Fault Records

9.2.8.1. P8.0 Fault Records Overview

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P8.0.00 (0x8000)	Fault Record 1 (Last Time)	0:No Fault 1:Constant Overcurrent 2:Accelerated Overcurrent 3:Decelerated Overcurrent 4:Constant Overvoltage	0.0	Read only	"P8.0.00"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
		5:Accelerated Overvoltage 6:Decelerated Overvoltage 7:Module Fault 8:Undervoltage 9:Frequency inverter Overload 10:Motor Overload 11:Input Default Phase 12:Output Default Phase 13:External Fault 14:Communication Abnormity 15:Frequency inverter Overheat 16:Frequency inverter Hardware Fault 17:Motor-to-ground Short Circuit 18:Motor Identification Error 19:Motor Off-load 20:PID Feedback Loss 21:User Customized Fault 1 22:User Customized Fault 2 23:Power-on Time Reached 24:Running Time Reached 25:Reserve 26:Parameter Read-Write Abnormity 27:Motor Overheat 28:Larger Speed Deviation 29:Motor Overspeed 30:Initial Position Error 31:Current Test Fault 32:Contactor 33:Abnormity of Current Test 34:Fast Current-limiting Timeout 35:Motor Switch at Running 36:24V Power Fault 37:Driving power supply fault 38:Output short circuit 39:Reserve 40:Buffer Resistance Fault			
P8.0.01 (0x8001)	Fault Record 2	Same as above	0.0	Read only	"P8.0.01"
P8.0.02 (0x8002)	Fault Record 3	Same as above	0.0	Read only	"P8.0.02"
P8.0.03 (0x8003)	Fault Record 4	Same as above	0.0	Read only	"P8.0.03"
P8.0.04 (0x8004)	Fault Record 5	Same as above	0.0	Read only	"P8.0.04"
P8.0.05 (0x8005)	Fault Record 6	Same as above	0.0	Read only	"P8.0.05"
P8.0.06 (0x8006)	Fault Record 7	Same as above	0.0	Read only	"P8.0.06"
P8.0.07 (0x8007)	Fault Record 8	Same as above	0.0	Read only	"P8.0.07"
P8.0.08 (0x8008)	Running Time 1 when at fault	0.0~6553.5(min)	0.0	Read only	"P8.0.08"
P8.0.09 (0x8009)	Running Time 2 when at fault	0.0~6553.5(min)	0.0	Read only	"P8.0.09"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P8.0.10 (0x800A)	Running Time 3 when at fault	0.0~6553.5(min)	0.0	Read only	"P8.0.10"
P8.0.11 (0x800B)	Running Time 4 when at fault	0.0~6553.5(min)	0.0	Read only	"P8.0.11"
P8.0.12 (0x800C)	Running Time 5 when at fault	0.0~6553.5(min)	0.0	Read only	"P8.0.12"
P8.0.13 (0x800D)	Running Time 6 when at fault	0.0~6553.5(min)	0.0	Read only	"P8.0.13"
P8.0.14 (0x800E)	Running Time 7 when at fault	0.0~6553.5(min)	0.0	Read only	"P8.0.14"
P8.0.15 (0x800F)	Running Time 8 when at fault	0.0~6553.5(min)	0.0	Read only	"P8.0.15"

9.2.8.2. P8.1 Fault Record 1 (Most Recent Detailed Information)

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P8.1.00 (0x8100)	Fault record 1 master code (Last Time)	Same as P8.0.00	0	Read only	"P8.1.00"
P8.1.01 (0x8101)	Fault record 1 Subcode (Last Time)	0~9	0	Read only	"P8.1.01"
P8.1.02 (0x8102)	Fault Frequency 1	0.00~655.35(Hz)	0.00	Read only	"P8.1.02"
P8.1.03 (0x8103)	Fault Current 1	0.00~655.35(A)	0.00	Read only	"P8.1.03"
P8.1.04 (0x8104)	Bus line voltage 1 when at Fault	0.0~6553.5(V)	0.0	Read only	"P8.1.04"
P8.1.05 (0x8105)	Input Terminal State 1 when at fault	0~9999	0	Read only	"P8.1.05"
P8.1.06 (0x8106)	Output Terminal State 1 when at fault	0~9999	0	Read only	"P8.1.06"
P8.1.07 (0x8107)	Frequency inverter State 1 when at fault	0~65535	0	Read only	"P8.1.07"
P8.1.08 (0x8108)	Power-on Time 1 when at fault	0~65535(min)	0	Read only	"P8.1.08"
P8.1.09 (0x8109)	Running Time 1 when at fault	0.0~6553.5(min)	0.0	Read only	"P8.1.09"
P8.1.10 (0x810A)	Module Temperature 1	0~999(°C)	0	Read only	"P8.1.10"
P8.1.11 (0x810B)	Frequency Decimal Point 1 at Fault	1~2	2	Read only	"P8.1.11"
P8.1.12 (0x810C)	Current Decimal Point 1 at Fault	1~2	2	Read only	"P8.1.12"

9.2.8.3. P8.2 Fault Record 2

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P8.2.00 (0x8200)	Fault record 2 master code	Same as P8.0.00	0	Read only	"P8.2.00"
P8.2.01 (0x8201)	Fault record 1 Subcode	0~9	0	Read only	"P8.2.01"
P8.2.02 (0x8202)	Fault Frequency 2	0.00~655.35(Hz)	0.00	Read only	"P8.2.02"
P8.2.03 (0x8203)	Fault Current 2	0.00~655.35(A)	0.00	Read only	"P8.2.03"
P8.2.04 (0x8204)	Bus line voltage 2 when at Fault	0.0~6553.5(V)	0.0	Read only	"P8.2.04"
P8.2.05 (0x8205)	Input Terminal State 2 when at fault	0~9999	0	Read only	"P8.2.05"
P8.2.06 (0x8206)	Output Terminal State 2 when at fault	0~9999	0	Read only	"P8.2.06"
P8.2.07 (0x8207)	Frequency inverter State 2 when at fault	0~65535	0	Read only	"P8.2.07"
P8.2.08 (0x8208)	Power-on Time 2 when at fault	0~65535(min)	0	Read only	"P8.2.08"
P8.2.09 (0x8209)	Running Time 2 when at fault	0.0~6553.5(min)	0.0	Read only	"P8.2.09"
P8.2.10 (0x820A)	Module Temperature 2	0~999(°C)	0	Read only	"P8.2.10"
P8.2.11 (0x820B)	Frequency Decimal Point 2 at Fault	1~2	2	Read only	"P8.2.11"
P8.2.12 (0x820C)	Current Decimal Point 2 at Fault	1~2	2	Read only	"P8.2.12"

9.2.8.4. P8.3 Fault Record 3

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P8.3.00 (0x8300)	Fault record 3 master code	Same as P8.0.00	0	Read only	"P8.3.00"
P8.3.01 (0x8301)	Fault record 3 Subcode	0~9	0	Read only	"P8.3.01"
P8.3.02 (0x8302)	Fault Frequency 3	0.00~655.35(Hz)	0.00	Read only	"P8.3.02"
P8.3.03 (0x8303)	Fault Current 3	0.00~655.35(A)	0.00	Read only	"P8.3.03"
P8.3.04 (0x8304)	Bus line voltage 3 when at Fault	0.0~6553.5(V)	0.0	Read only	"P8.3.04"
P8.3.05 (0x8305)	Input Terminal State 3 when at fault	0~9999	0	Read only	"P8.3.05"
P8.3.06 (0x8306)	Output Terminal State 3 when at fault	0~9999	0	Read only	"P8.3.06"
P8.3.07 (0x8307)	Frequency inverter State 3 when at fault	0~65535	0	Read only	"P8.3.07"
P8.3.08 (0x8308)	Power-on Time 3 when at fault	0~65535(min)	0	Read only	"P8.3.08"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P8.3.09 (0x8309)	Running Time 3 when at fault	0.0~6553.5(min)	0.0	Read only	"P8.3.09"
P8.3.10 (0x830A)	Module Temperature 3	0~999(°C)	0	Read only	"P8.3.10"
P8.3.11 (0x830B)	Frequency Decimal Point 3 at Fault	1~2	2	Read only	"P8.3.11"
P8.3.12 (0x830C)	Current Decimal Point 3 at Fault	1~2	2	Read only	"P8.3.12"

9.2.8.5. P8.4 Fault Record 4

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P8.4.00 (0x8400)	Fault record 4 master code	Same as P8.0.00	0	Read only	"P8.4.00"
P8.4.01 (0x8401)	Fault record 4 Subcode	0~9	0	Read only	"P8.4.01"
P8.4.02 (0x8402)	Fault Frequency 4	0.00~655.35(Hz)	0.00	Read only	"P8.4.02"
P8.4.03 (0x8403)	Fault Current 4	0.00~655.35(A)	0.00	Read only	"P8.4.03"
P8.4.04 (0x8404)	Bus line voltage 4 when at Fault	0.0~6553.5(V)	0.0	Read only	"P8.4.04"
P8.4.05 (0x8405)	Input Terminal State 4 when at fault	0~9999	0	Read only	"P8.4.05"
P8.4.06 (0x8406)	Output Terminal State 4 when at fault	0~9999	0	Read only	"P8.4.06"
P8.4.07 (0x8407)	Frequency inverter State 4 when at fault	0~65535	0	Read only	"P8.4.07"
P8.4.08 (0x8408)	Power-on Time 4 when at fault	0~65535(min)	0	Read only	"P8.4.08"
P8.4.09 (0x8409)	Running Time 4 when at fault	0.0~6553.5(min)	0.0	Read only	"P8.4.09"
P8.4.10 (0x840A)	Module Temperature 4	0~999(°C)	0	Read only	"P8.4.10"
P8.4.11 (0x840B)	Frequency Decimal Point 4 at Fault	1~2	2	Read only	"P8.4.11"
P8.4.12 (0x840C)	Current Decimal Point 4 at Fault	1~2	2	Read only	"P8.4.12"

9.2.8.6. P8.5 Fault Record 5

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P8.5.00 (0x8500)	Fault record 5 master code	Same as P8.0.00	0	Read only	"P8.5.00"
P8.5.01 (0x8501)	Fault record 5 Subcode	0~9	0	Read only	"P8.5.01"

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P8.5.02 (0x8502)	Fault Frequency 5	0.00~655.35(Hz)	0.00	Read only	"P8.5.02"
P8.5.03 (0x8503)	Fault Current 5	0.00~655.35(A)	0.00	Read only	"P8.5.03"
P8.5.04 (0x8504)	Bus line voltage 5 when at Fault	0.0~6553.5(V)	0.0	Read only	"P8.5.04"
P8.5.05 (0x8505)	Input Terminal State 5 when at fault	0~9999	0	Read only	"P8.5.05"
P8.5.06 (0x8506)	Output Terminal State 5 when at fault	0~9999	0	Read only	"P8.5.06"
P8.5.07 (0x8507)	Frequency inverter State 5 when at fault	0~65535	0	Read only	"P8.5.07"
P8.5.08 (0x8508)	Power-on Time 5 when at fault	0~65535(min)	0	Read only	"P8.5.08"
P8.5.09 (0x8509)	Running Time 5 when at fault	0.0~6553.5(min)	0.0	Read only	"P8.5.09"
P8.5.10 (0x850A)	Module Temperature 5	0~999(°C)	0	Read only	"P8.5.10"
P8.5.11 (0x850B)	Frequency Decimal Point 5 at Fault	1~2	2	Read only	"P8.5.11"
P8.5.12 (0x850C)	Current Decimal Point 5 at Fault	1~2	2	Read only	"P8.5.12"

9.2.8.7. P8.6 Fault Record 6

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P8.6.00 (0x8600)	Fault record 6 master code	Same as P8.0.00	0	Read only	"P8.6.00"
P8.6.01 (0x8601)	Fault record 6 Subcode	0~9	0	Read only	"P8.6.01"
P8.6.02 (0x8602)	Fault Frequency 6	0.00~655.35(Hz)	0.00	Read only	"P8.6.02"
P8.6.03 (0x8603)	Fault Current 6	0.00~655.35(A)	0.00	Read only	"P8.6.03"
P8.6.04 (0x8604)	Bus line voltage 6 when at Fault	0.0~6553.5(V)	0.0	Read only	"P8.6.04"
P8.6.05 (0x8605)	Input Terminal State 6 when at fault	0~9999	0	Read only	"P8.6.05"
P8.6.06 (0x8606)	Output Terminal State 6 when at fault	0~9999	0	Read only	"P8.6.06"
P8.6.07 (0x8607)	Frequency inverter State 6 when at fault	0~65535	0	Read only	"P8.6.07"
P8.6.08 (0x8608)	Power-on Time 6 when at fault	0~65535(min)	0	Read only	"P8.6.08"
P8.6.09 (0x8609)	Running Time 6 when at fault	0.0~6553.5(min)	0.0	Read only	"P8.6.09"
P8.6.10 (0x860A)	Module Temperature 6	0~999(°C)	0	Read only	"P8.6.10"
P8.6.11 (0x860B)	Frequency Decimal Point 6 at Fault	1~2	2	Read only	"P8.6.11"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P8.6.12 (0x860C)	Current Decimal Point 6 at Fault	1~2	2	Read only	"P8.6.12"

9.2.8.8. P8.7 Fault Record 7

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P8.7.00 (0x8700)	Fault record 7 master code	Same as P8.0.00	0	Read only	"P8.7.00"
P8.7.01 (0x8701)	Fault record 7 Subcode	0~9	0	Read only	"P8.7.01"
P8.7.02 (0x8702)	Fault Frequency 7	0.00~655.35(Hz)	0.00	Read only	"P8.7.02"
P8.7.03 (0x8703)	Fault Current 7	0.00~655.35(A)	0.00	Read only	"P8.7.03"
P8.7.04 (0x8704)	Bus line voltage 7 when at Fault	0.0~6553.5(V)	0.0	Read only	"P8.7.04"
P8.7.05 (0x8705)	Input Terminal State 7 when at fault	0~9999	0	Read only	"P8.7.05"
P8.7.06 (0x8706)	Output Terminal State 7 when at fault	0~9999	0	Read only	"P8.7.06"
P8.7.07 (0x8707)	Frequency inverter State 7 when at fault	0~65535	0	Read only	"P8.7.07"
P8.7.08 (0x8708)	Power-on Time 7 when at fault	0~65535(min)	0	Read only	"P8.7.08"
P8.7.09 (0x8709)	Running Time 7 when at fault	0.0~6553.5(min)	0.0	Read only	"P8.7.09"
P8.7.10 (0x870A)	Module Temperature 7	0~999(°C)	0	Read only	"P8.7.10"
P8.7.11 (0x870B)	Frequency Decimal Point 7 at Fault	1~2	2	Read only	"P8.7.11"
P8.7.12 (0x870C)	Current Decimal Point 7 at Fault	1~2	2	Read only	"P8.7.12"

9.2.8.9. P8.8 Fault Record 8

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P8.8.00 (0x8800)	Fault record 8 master code	Same as P8.0.00	0	Read only	"P8.8.00"
P8.8.01 (0x8801)	Fault record 8 Subcode	0~9	0	Read only	"P8.8.01"
P8.8.02 (0x8802)	Fault Frequency 8	0.00~655.35(Hz)	0.00	Read only	"P8.8.02"
P8.8.03 (0x8803)	Fault Current 8	0.00~655.35(A)	0.00	Read only	"P8.8.03"
P8.8.04 (0x8804)	Bus line voltage 8 when at Fault	0.0~6553.5(V)	0.0	Read only	"P8.8.04"

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P8.8.05 (0x8805)	Input Terminal State 8 when at fault	0~9999	0	Read only	"P8.8.05"
P8.8.06 (0x8806)	Output Terminal State 8 when at fault	0~9999	0	Read only	"P8.8.06"
P8.8.07 (0x8807)	Frequency inverter State 8 when at fault	0~65535	0	Read only	"P8.8.07"
P8.8.08 (0x8808)	Power-on Time 8 when at fault	0~65535(min)	0	Read only	"P8.8.08"
P8.8.09 (0x8809)	Running Time 8 when at fault	0.0~6553.5(min)	0.0	Read only	"P8.8.09"
P8.8.10 (0x880A)	Module Temperature 8	0~999(°C)	0	Read only	"P8.8.10"
P8.8.11 (0x880B)	Frequency Decimal Point 8 at Fault	1~2	2	Read only	"P8.8.11"
P8.8.12 (0x880C)	Current Decimal Point 8 at Fault	1~2	2	Read only	"P8.8.12"

9.2.9. P9 Group Monitoring and Special Addresses

9.2.9.1. P9.0 Monitoring Parameters

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P9.0.00 (0x9000)	Running Frequency	0.00~655.35(Hz)	0.00	Read only	"P9.0.00"
P9.0.01 (0x9001)	Reference frequency	0.00~655.35(Hz)	0.00	Read only	"P9.0.01"
P9.0.02 (0x9002)	Output Current	Output current when the frequency inverter runs .01A (inverter Power<75kW) 0.1A (inverter Power≥75kW)	0.00	Read only	"P9.0.02"
P9.0.03 (0x9003)	Output Voltage	Output current when the frequency inverter runs	0	Read only	"P9.0.03"
P9.0.04 (0x9004)	Bus Voltage	Voltage on DC Bus of the frequency inverter	0.0	Read only	"P9.0.04"
P9.0.05 (0x9005)	Output Torque	When the frequency inverter runs, the output torque is the percentage of rated torque of the motor	0.0	Read only	"P9.0.05"
P9.0.06 (0x9006)	Output Power	Output frequency when the frequency inverter runs	0.0	Read only	"P9.0.06"
P9.0.07 (0x9007)	Input Terminal Status	Check whether the input terminal has signal input	0	Read only	"P9.0.07"
P9.0.08 (0x9008)	Output Terminal Status	Check whether the output terminal has signal output	0	Read only	"P9.0.08"
P9.0.09 (0x9009)	AI1 Voltage	Check the voltage between AI1 and GND	0.00	Read only	"P9.0.09"
P9.0.10 (0x900A)	AI2 Voltage	Check the voltage between AI2 and GND	0.00	Read only	"P9.0.10"
P9.0.11 (0x900B)	Custom Display Value	Display coefficient P5.0.15 and the value after conversion of Decimal Point P5.0.16 through customerization	0.00	Read only	"P9.0.11"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P9.0.12 (0x900C)	Actual Counting Value	View actual counting value of the frequency inverter for counting function	0	Read only	"P9.0.12"
P9.0.13 (0x900D)	Actual Length Value	View actual counting value of the frequency inverter for fixed-length function	0	Read only	"P9.0.13"
P9.0.14 (0x900E)	PID Reference	Product of PID reference value and PID reference feedback quantity	0.0	Read only	"P9.0.14"
P9.0.15 (0x900F)	PID Feedback	Product of PID feedback value and PID reference feedback rang	0.0	Read only	"P9.0.15"
P9.0.16 (0x9010)	Impulse frequency	View the frequency of PULSE Impulse Input	0.00	Read only	"P9.0.16"
P9.0.17 (0x9011)	Feedback Speed	-327.68~327.67(Hz)	0.00	Read only	"P9.0.17"
P9.0.18 (0x9012)	PLC Phase	Display which stage the Simple PLC runs at	0	Read only	"P9.0.18"
P9.0.19 (0x9013)	Voltage before AI1 Correction	Voltage between AI1 and GND before AI1 correction	0.000	Read only	"P9.0.19"
P9.0.20 (0x9014)	Voltage before AI2 Correction	Voltage between AI2 and GND before AI2 correction	0.000	Read only	"P9.0.20"
P9.0.21 (0x9015)	Line Speed	The linear velocity of high-speed pulse sampling is equal to the number of pulses collected per minute divided by the number of pulses per meter.	0	Read only	"P9.0.21"
P9.0.22 (0x9016)	Current Power-on Time	Length of current power-on time	0	Read only	"P9.0.22"
P9.0.23 (0x9017)	Current Running Time	Length of current running time	0.0	Read only	"P9.0.23"
P9.0.24 (0x9018)	Residual Running Time	Residual running time at Timing Function of P3.1.00	0.0	Read only	"P9.0.24"
P9.0.25 (0x9019)	Frequency of Frequency Source A	View the frequency given by Frequency A	0.00	Read only	"P9.0.25"
P9.0.26 (0x901A)	Frequency of Frequency Source B	View the frequency given by Frequency B	0.00	Read only	"P9.0.26"
P9.0.27 (0x901B)	Communication Set value	The value set by corresponding communication address A001 is the percentage of the highest frequency	0.00	Read only	"P9.0.27"
P9.0.28 (0x901C)	Impulse frequency	View the frequency of PULSE Impulse Input	0	Read only	"P9.0.28"
P9.0.30 (0x901E)	Actual Distance Value	View actual distance value of the distance value of the frequency inverter	0.0	Read only	"P9.0.30"
P9.0.31 (0x901F)	Voltage before AI3 Correction	Voltage between AI3 and GND before AI3 correction	0.000	Read only	"P9.0.31"
P9.0.32 (0x9020)	Reserved	0~65535	0	Read only	"P9.0.32"
P9.0.33 (0x9021)	Reserved	0.0~6553.5	0.0	Read only	"P9.0.33"
P9.0.34 (0x9022)	Motor temperature	Real-time detection of motor temperature	0	Read only	"P9.0.34"
P9.0.35 (0x9023)	Target Torque	-3276.8~3276.7(%)	0.0	Read only	"P9.0.35"
P9.0.37 (0x9025)	Power Factor Angle	-3276.8~3276.7(°C)	0.0	Read only	"P9.0.37"
P9.0.38 (0x9026)	Power Factor	-1.000~1.000	0.000	Read only	"P9.0.38"

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P9.0.39 (0x9027)	AI3 Voltage	Check the voltage between AI3 and GND	0.00	Read only	"P9.0.39"
P9.0.40 (0x9028)	Output Voltage Value of V/F Separation	0~65535(V)	0	Read only	"P9.0.40"
P9.0.41 (0x9029)	Output Target Voltage Value of V/F Separation	0~65535(V)	0	Read only	"P9.0.41"
P9.0.42 (0x902A)	Reserved	0~65535	0	Read only	"P9.0.42"
P9.0.43 (0x902B)	Reserved	0~65535	0	Read only	"P9.0.43"
P9.0.44 (0x902C)	Reserved	0~65535	0	Read only	"P9.0.44"
P9.0.45 (0x902D)	Reserved	0~65535	0	Read only	"P9.0.45"
P9.0.46 (0x902E)	Operation Result 1	Check the value of operation result 1	0	Read only	"P9.0.46"
P9.0.47 (0x902F)	Operation Result 2	Check the value of operation result 2	0	Read only	"P9.0.47"
P9.0.48 (0x9030)	Operation Result 3	Check the value of operation result 3	0	Read only	"P9.0.48"
P9.0.49 (0x9031)	Operation Result 4	Check the value of operation result 4	0	Read only	"P9.0.49"
P9.0.50 (0x9032)	User Standby Monitoring Value 1	Check the value of user special function	0	Read only	"P9.0.50"
P9.0.51 (0x9033)	User Standby Monitoring Value 2	Check the value of user special function	0	Read only	"P9.0.51"
P9.0.52 (0x9034)	User Standby Monitoring Value 3	Check the value of user special function	0	Read only	"P9.0.52"
P9.0.53 (0x9035)	User Standby Monitoring Value 4	Check the value of user special function	0	Read only	"P9.0.53"
P9.0.54 (0x9036)	User Standby Monitoring Value 5	Check the value of user special function	0	Read only	"P9.0.54"
P9.0.55 (0x9037)	Reserved	0.0~6553.5	0.0	Read only	"P9.0.55"
P9.0.56 (0x9038)	Reserved	0.0~6553.5	0.0	Read only	"P9.0.56"
P9.0.57 (0x9039)	Reserved	0.0~6553.5	0.0	Read only	"P9.0.57"
P9.0.59 (0x903B)	Reserved	0.00~327.67(%)	0.00	Read only	"P9.0.59"
P9.0.60 (0x903C)	Reserved	0.00~327.67(%)	0.00	Read only	"P9.0.60"
P9.0.61 (0x903D)	Inverter Running Status	0~65535	0	Read only	"P9.0.61"
P9.0.62 (0x903E)	Reserved	0~65535	0	Read only	"P9.0.62"
P9.0.63 (0x903F)	Analog AO1 Output Voltage Value	0.00~11.00(V)	0.00	Read only	"P9.0.63"
P9.0.64 (0x9040)	Analog AO2 Output Voltage Value	0.00~11.00(V)	0.00	Read only	"P9.0.64"
P9.0.65 (0x9041)	Reserved	0~65535	0	Read only	"P9.0.65"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P9.0.66 (0x9042)	Timing 1 Running time	0.0~6553.5	0.0	Read only	"P9.0.66"
P9.0.67 (0x9043)	Timing 2 Running time	0.0~6553.5	0.0	Read only	"P9.0.67"
P9.0.68 (0x9044)	Set revolving speed	Set revolving speed of inverter	0	Read only	"P9.0.68"
P9.0.69 (0x9045)	Running speed	Output revolving speed while inverter is running	0	Read only	"P9.0.69"
P9.0.70 (0x9046)	The DI input is 16 bits high	0~65535	0	Read only	"P9.0.70"
P9.0.71 (0x9047)	The DO input is 16 bits high	0~65535	0	Read only	"P9.0.71"
P9.0.72 (0x9048)	Actual Maximum Current Percentage	0.0~500.0(%)	180.0	Read only	"P9.0.72"
P9.0.73 (0x9049)	Actual carrier	0.1~100.0(kHz)	6.0	Read only	"P9.0.73"
P9.0.74 (0x904A)	Inverter Real-Time Overload Ratio	0.00~200.00(%)	0.00	Read only	"P9.0.74"
P9.0.75 (0x904B)	Motor Real-Time Overload Ratio	0.00~200.00(%)	0.00	Read only	"P9.0.75"

9.2.9.2. P9.3 A0 and B0 Parameter Address Mapping

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P9.3.00 (0x9300)	Operation Command(Valid when P0.1.06=2)	0:No command 1:Forward Run 2:Reverse Run 3:Forward Jogging 4:Reverse Jogging 5:Free Stop 6:Shutdown By Speed Reduction 7:Fault Rest 8:Reserved	0	Any	"P9.3.00"
P9.3.01 (0x9301)	Frequency command or upper limit frequency percentage	-100.00~100.00(%)	0.00	Any	"P9.3.01"
P9.3.02 (0x9302)	Multi-functional output terminal	0~65535	0	Any	"P9.3.02"
P9.3.03 (0x9303)	AO1 Output (Valid when P2.3.00=12)	0.0~100.0(%)	0.0	Any	"P9.3.03"
P9.3.04 (0x9304)	AO2 Output(Valid when P2.3.01=12)	0.0~100.0(%)	0.0	Any	"P9.3.04"
P9.3.05 (0x9305)	HDO Output(Valid when P2.1.00=0 and P2.1.13=12)	0.0~100.0(%)	0.0	Any	"P9.3.05"
P9.3.06 (0x9306)	Maximum Frequency Setting(Valid when P0.1.17=5)	-100.00~100.00(%)	0.00	Any	"P9.3.06"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P9.3.07 (0x9307)	Torque upper limit setting	-100.00~100.00(%)	0.00	Any	"P9.3.07"
P9.3.08 (0x9308)	VF separation voltage setpoint(Valid when P4.2.09=5)	-100.00~100.00(%)	0.00	Any	"P9.3.08"
P9.3.10 (0x930A)	PID Setting(Valid when P3.1.00=5)	-3276.7~P3.1.04(Mpa)	0.0	Any	"P9.3.10"
P9.3.11 (0x930B)	PID Feedback(PID Feedback source active when communication is present)	-3276.7~P3.1.04(Mpa)	0.0	Any	"P9.3.11"
P9.3.12 (0x930C)	Communication designation under master-slave communication	32768~32767	0	Any	"P9.3.12"
P9.3.38 (0x9326)	External pull keyboard analog frequency	0.00~P7.9.37(Hz)	0.00	Any	"P9.3.38"
P9.3.39 (0x9327)	Expansion card Software Version	0~65535	0	Any	"P9.3.39"
P9.3.40 (0x9328)	write-back Expansion card Error code	0~9	0	Any	"P9.3.40"
P9.3.41 (0x9329)	Real-time frequency under the keyboard	0.00~P7.9.37(Hz)	50.00	Any	"P9.3.41"
P9.3.42 (0x932A)	The version number of the pull-out keyboard software	0.00~655.35	0.00	Any	"P9.3.42"
P9.3.43 (0x932B)	Communicate in keyboard mode to run commands	0:No command 1:Forward Run 2:Reverse Run 3:Forward Jogging 4:Reverse Jogging 5:Free Stop 6:Shutdown By Speed Reduction 7:Fault Rest 8:Reserved 9:Forward and Reverse Switch 10:Command source selection 11:Jog to cancel	0	Any	"P9.3.43"
P9.3.44 (0x932C)	Mapping 0xA100	0~65535	0	Any	"P9.3.44"
P9.3.45 (0x932D)	Mapping 0xA101	0~65535	0	Any	"P9.3.45"
P9.3.46 (0x932E)	Mapping 0xA102	0~65535	0	Any	"P9.3.46"
P9.3.47 (0x932F)	Mapping 0xA103	0~65535	0	Any	"P9.3.47"
P9.3.48 (0x9330)	Mapping 0xA104	0~65535	0	Any	"P9.3.48"
P9.3.49 (0x9331)	Mapping 0xA200	0~65535	0	Any	"P9.3.49"
P9.3.50 (0x9332)	Mapping 0xB000	0~65535	0	Read only	"P9.3.50"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
P9.3.51 (0x9333)	Fault Master Code (Mapping 0xB001)	0~65535	0	Read only	"P9.3.51"
P9.3.52 (0x9334)	Fault Code	0.0~6553.5	0.0	Read only	"P9.3.52"
P9.3.90 (0x935A)	Mapping 0xB040	Ones:Show fire mode 0:No 1:Yes 2~9:Reserved Tens:Fire mode level 0:Reserved 1:Level 0 2:Level 2 3:Level 3 4~9:Reserved Hundreds:Reserved Thousands:Reserved Ten Hundreds:Reserved	0	Read only	"P9.3.90"
P9.3.91 (0x935B)	Current Error level	0~8	0	Read only	"P9.3.91"
P9.3.92 (0x935C)	Current Motor Serial Number	1~4	1	Read only	"P9.3.92"
P9.3.93 (0x935D)	Mutual inductance units	0:mH	0	Read only	"P9.3.93"
P9.3.94 (0x935E)	Leakage inductance and DQ axis inductance resolution	2:0.01 3:0.001	2	Read only	"P9.3.94"
P9.3.95 (0x935F)	Mutual inductance resolution	1:0.1 2:0.01	1	Read only	"P9.3.95"
P9.3.96 (0x9360)	Resistance resolution	3:0.001 4:0.0001	3	Read only	"P9.3.96"
P9.3.97 (0x9361)	Current resolution	1:0.1 2:0.01	2	Read only	"P9.3.97"
P9.3.98 (0x9362)	Inverter indicator status 1	Bit00~Bit01:S lamp 0:Off 1:On 2:flicker 3:Reserved Bit02~Bit03:P lamp 0:Off 1:On 2:flicker 3:Reserved Bit04~Bit05:T lamp 0:Off 1:On 2:flicker 3:Reserved Bit06~Bit07:Basic Mode Lamp 0:Off 1:On 2:flicker 3:Reserved Bit08~Bit09>User Mode Lamp 0:Off	0	Read only	"P9.3.98"

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
		1:On 2:flicker 3:Reserved Bit10~Bit11:Verification Mode Lamp 0:Off 1:On 2:flicker 3:Reserved Bit12~Bit13:Reserved 0:Off 1:On 2:flicker 3:Reserved Bit14~Bit15:Master-slave communication indicator light 0:Off 1:On 2:flicker 3:Reserved			
P9.3.99 (0x9363)	Inverter indicator status 0	Bit00~Bit01:FWD lamp 0:Off 1:On 2:flicker 3:Reserved Bit02~Bit03:REV lamp 0:Off 1:On 2:flicker 3:Reserved Bit04~Bit05:LOC lamp 0:Off 1:On 2:flicker 3:Reserved Bit06~Bit07:JOG lamp 0:Off 1:On 2:flicker 3:Reserved Bit08~Bit09:TUNE lamp 0:Off 1:On 2:flicker 3:Reserved Bit10~Bit11:WARN lamp 0:Off 1:On 2:flicker 3:Reserved Bit12~Bit13:RUN lamp 0:Off 1:On 2:flicker 3:Reserved Bit14~Bit15:STOP lamp	0	Read only	"P9.3.99"

9.3.Appendix III: Faults and Troubleshooting

Function Code and Communication Address	Function Code Name	Setting Description	Default Value	Modification Method	Page Number
		0:Off 1:On 2:flicker 3:Reserved			

9.3. Appendix 3: Faults and Troubleshooting

Fault code	Fault Name	Fault Cause	Fault Confirmation Method	Fault Solution
Er01.1	Hardware Overcurrent 1 During Constant Speed	Output current exceeds the overcurrent value during constant-speed operation of the inverter	Check whether the inverter output circuit is short-circuited; Check whether the input voltage is too low; Check whether the load experiences sudden changes. Perform parameter identification or increase low-frequency torque compensation. Check whether the rated power of the electric motor or inverter is sufficiently high.	Check whether the inverter output circuit is short-circuited; Check whether the input voltage is too low; Check whether the load experiences sudden changes. Perform parameter identification or increase low-frequency torque compensation. Check whether the rated power of the electric motor or inverter is sufficiently high.
Er01.2	Software overcurrent during constant speed operation	Output current exceeds the overcurrent value during constant-speed operation of the inverter	Check whether the inverter output circuit is short-circuited; Check whether the input voltage is too low; Check whether the load experiences sudden changes. Perform parameter identification or increase low-frequency torque compensation. Check whether the rated power of the electric motor or inverter is sufficiently high.	Check whether the inverter output circuit is short-circuited; Check whether the input voltage is too low; Check whether the load experiences sudden changes. Perform parameter identification or increase low-frequency torque compensation. Check whether the rated power of the electric motor or inverter is sufficiently high.
Er01.3	Hardware overcurrent 2 during constant speed operation	Output current exceeds the overcurrent value during constant-speed operation of the inverter	Check whether the inverter output circuit is short-circuited; Check whether the input voltage is too low; Check whether the load experiences sudden changes. Perform parameter identification or increase low-frequency torque compensation. Check whether the rated power of the electric motor or inverter is sufficiently high.	Check whether the inverter output circuit is short-circuited; Check whether the input voltage is too low; Check whether the load experiences sudden changes. Perform parameter identification or increase low-frequency torque compensation. Check whether the rated power of the electric motor or inverter is sufficiently high.
Er02.1	Hardware overcurrent 1 during acceleration	Output current exceeds the overcurrent threshold during inverter acceleration.	Check for short circuits, grounding, or excessive length in the electric motor or wiring. Check whether the input voltage is too low. Extend the acceleration time. Perform parameter identification, increase low-frequency torque compensation, or adjust the V/F curve. Check whether the load experiences sudden changes. Check whether speed tracking is selected or restart after the motor comes to a complete stop. Check whether the rated power of the electric motor or inverter is sufficiently high.	Check for short circuits, grounding, or excessive length in the electric motor or wiring. Check whether the input voltage is too low. Extend the acceleration time. Perform parameter identification, increase low-frequency torque compensation, or adjust the V/F curve. Check whether the load experiences sudden changes. Check whether speed tracking is selected or restart after the motor comes to a complete stop. Check whether the rated power of the electric motor or inverter is sufficiently high.

Fault code	Fault Name	Fault Cause	Fault Confirmation Method	Fault Solution
Er02.2	Software Overcurrent During Acceleration	Output current exceeds the overcurrent threshold during inverter acceleration.	Check for short circuits, grounding, or excessive length in the electric motor or wiring. Check whether the input voltage is too low. Extend the acceleration time. Perform parameter identification, increase low-frequency torque compensation, or adjust the V/F curve. Check whether the load experiences sudden changes. Check whether speed tracking is selected or restart after the motor comes to a complete stop. Check whether the rated power of the electric motor or inverter is sufficiently high	Check for short circuits, grounding, or excessive length in the electric motor or wiring. Check whether the input voltage is too low. Extend the acceleration time. Perform parameter identification, increase low-frequency torque compensation, or adjust the V/F curve. Check whether the load experiences sudden changes. Check whether speed tracking is selected or restart after the motor comes to a complete stop. Check whether the rated power of the electric motor or inverter is sufficiently high
Er02.3	Hardware Overcurrent 2 During Acceleration	Output current exceeds the overcurrent threshold during inverter acceleration.	Check for short circuits, grounding, or excessive length in the electric motor or wiring. Check whether the input voltage is too low. Extend the acceleration time. Perform parameter identification, increase low-frequency torque compensation, or adjust the V/F curve. Check whether the load experiences sudden changes. Check whether speed tracking is selected or restart after the motor comes to a complete stop. Check whether the rated power of the electric motor or inverter is sufficiently high	Check for short circuits, grounding, or excessive length in the electric motor or wiring. Check whether the input voltage is too low. Extend the acceleration time. Perform parameter identification, increase low-frequency torque compensation, or adjust the V/F curve. Check whether the load experiences sudden changes. Check whether speed tracking is selected or restart after the motor comes to a complete stop. Check whether the rated power of the electric motor or inverter is sufficiently high
Er03.1	Hardware Overcurrent 1 During Deceleration	Output current exceeds overcurrent threshold during inverter deceleration operation.	Check for short circuits, grounding, or excessive length in the electric motor or wiring. Perform parameter identification; Extend deceleration time; Check whether the input voltage is too low; Check whether the load experiences sudden changes. Install braking unit and braking resistor;	Check for short circuits, grounding, or excessive length in the electric motor or wiring. Perform parameter identification; Extend deceleration time; Check whether the input voltage is too low; Check whether the load experiences sudden changes. Install braking unit and braking resistor;
Er03.2	Software Overcurrent During Deceleration	Output current exceeds overcurrent threshold during inverter deceleration operation.	Check for short circuits, grounding, or excessive length in the electric motor or wiring. Perform parameter identification; Extend deceleration time; Check whether the input voltage is too low; Check whether the load experiences sudden changes. Install braking unit and braking resistor;	Check for short circuits, grounding, or excessive length in the electric motor or wiring. Perform parameter identification; Extend deceleration time; Check whether the input voltage is too low; Check whether the load experiences sudden changes. Install braking unit and braking resistor;
Er03.3	Hardware Overcurrent 2 During Deceleration	Output current exceeds overcurrent threshold during inverter deceleration operation.	Check for short circuits, grounding, or excessive length in the electric motor or wiring. Perform parameter identification; Extend deceleration time; Check whether the input voltage is too low; Check whether the load experiences sudden changes. Install braking unit and braking resistor;	Check for short circuits, grounding, or excessive length in the electric motor or wiring. Perform parameter identification; Extend deceleration time; Check whether the input voltage is too low; Check whether the load experiences sudden changes. Install braking unit and braking resistor;

9.3.Appendix III: Faults and Troubleshooting

Fault code	Fault Name	Fault Cause	Fault Confirmation Method	Fault Solution
Er04.2	Overvoltage during constant speed	DC bus voltage exceeds the set value during inverter constant-speed operation. S1 Rating: 240V S2/T2 Rating: 400V Rating: 810V T5 Rating: 820V T6 Rating: 1350V	Check whether input voltage is too high; Check if bus voltage display is normal; Check whether external forces are driving the motor during operation;	Check whether input voltage is too high; Check if bus voltage display is normal; Check whether external forces are driving the motor during operation;
Er05.2	Overvoltage during acceleration	During inverter acceleration, the DC voltage of the main circuit exceeds the set value. Class S1: 240V S2/T2 Rating: 400V Rating: 810V T5 Rating: 820V T6 Rating: 1350V	Check whether the electric motor or its wiring has a ground short circuit Check whether input voltage is too high; Check if bus voltage display is normal; Extend the acceleration time. Check if any external force is driving the motor during acceleration;	Check whether the electric motor or its wiring has a ground short circuit Check whether input voltage is too high; Check if bus voltage display is normal; Extend the acceleration time. Check if any external force is driving the motor during acceleration;
Er06.2	Overvoltage during deceleration	During inverter deceleration, the DC voltage of the main circuit exceeds the set value. Class S1: 240V S2/T2 Rating: 400V Rating: 810V T5 Rating: 820V T6 Rating: 1350V	Check whether input voltage is too high; Check if bus voltage display is normal; Extend deceleration time; Check if any external force is driving the motor during deceleration; Install braking unit and braking resistor	Check whether input voltage is too high; Check if bus voltage display is normal; Extend deceleration time; Check if any external force is driving the motor during deceleration; Install braking unit and braking resistor
Er08.1	Undervoltage	Insufficient DC main circuit voltage during operation, Detect DC undervoltage value: Class S1: 100V Class S2/T2: 200V Class : 350V Class T5: 350V Class T6: 650V	Check whether the power wiring connections are in good contact; Check whether the incoming line voltage is within the specified range; Check for instantaneous power loss; Verify whether the bus voltage display is correct; Check whether the rectifier bridge and charging resistor are functioning normally;	Check whether the power wiring connections are in good contact; Check whether the incoming line voltage is within the specified range; Check for instantaneous power loss; Verify whether the bus voltage display is correct; Check whether the rectifier bridge and charging resistor are functioning normally;
Er09.1	Inverter single-phase current overload	Inverter single-phase current exceeds the allowable overload current	Check whether the motor is locked or reduce the motor load; Replace with a higher-power inverter	Check whether the motor is locked or reduce the motor load; Replace with a higher-power inverter
Er09.2	Inverter output current overload	Inverter output current exceeds the allowable overload current	Check whether the motor is locked or reduce the motor load; Replace with a higher-power inverter	Check whether the motor is locked or reduce the motor load; Replace with a higher-power inverter
Er10.1	Electric motor overload	Motor current exceeds the allowable overload current	Verify whether motor protection parameter P5.1.05 (Motor Overload Protection Level Setting) is appropriately configured; Check whether the electric motor is locked-rotor or reduce the motor load; Correctly set the motor rated current; Replace with a higher-power electric motor;	Verify whether motor protection parameter P5.1.05 (Motor Overload Protection Level Setting) is appropriately configured; Check whether the electric motor is locked-rotor or reduce the motor load; Correctly set the motor rated current; Replace with a higher-power electric motor;

Fault code	Fault Name	Fault Cause	Fault Confirmation Method	Fault Solution
Er11.1	Input phase loss hardware protection (18.5kW and above)	Input phase loss or three-phase imbalance fault	Check whether the input circuit voltage has phase loss or three-phase imbalance Check for loose wiring terminals Seek technical support	Check whether the input circuit voltage has phase loss or three-phase imbalance Check for loose wiring terminals Seek technical support
Er11.2	Input phase loss software protection	Input phase loss or three-phase imbalance fault	Check whether the input circuit voltage has phase loss or three-phase imbalance Check for loose wiring terminals Seek technical support	Check whether the input circuit voltage has phase loss or three-phase imbalance Check for loose wiring terminals Seek technical support
Er11.3	Input phase loss (R-phase) hardware protection (15kW and below)	Input phase loss or three-phase imbalance fault	Check whether the input circuit voltage has phase loss or three-phase imbalance Check for loose wiring terminals Seek technical support	Check whether the input circuit voltage has phase loss or three-phase imbalance Check for loose wiring terminals Seek technical support
Er11.4	Input phase loss (S-phase) hardware protection (15kW and below)	Input phase loss or three-phase imbalance fault	Check whether the input circuit voltage has phase loss or three-phase imbalance Check for loose wiring terminals Seek technical support	Check whether the input circuit voltage has phase loss or three-phase imbalance Check for loose wiring terminals Seek technical support
Er11.5	Input phase loss (T-phase) hardware protection (15kW and below)	Input phase loss or three-phase imbalance fault	Check whether the input circuit voltage has phase loss or three-phase imbalance Check for loose wiring terminals Seek technical support	Check whether the input circuit voltage has phase loss or three-phase imbalance Check for loose wiring terminals Seek technical support
Er11.6	Input loss of two phases or three phases hardware protection	Input phase loss or three-phase imbalance fault	Check whether the input circuit voltage has phase loss or three-phase imbalance Check for loose wiring terminals Seek technical support	Check whether the input circuit voltage has phase loss or three-phase imbalance Check for loose wiring terminals Seek technical support
Er12.1	Output phase loss during normal operation	Output phase loss or three-phase imbalance fault	Check if the output circuit voltage has phase loss or three-phase imbalance; Check for loose wiring terminals; Seek technical support;	Check if the output circuit voltage has phase loss or three-phase imbalance; Check for loose wiring terminals; Seek technical support;
Er12.2	Output phase loss during abnormal operation	Output phase loss or three-phase imbalance fault	Check if the output circuit voltage has phase loss or three-phase imbalance; Check for loose wiring terminals; Seek technical support;	Check if the output circuit voltage has phase loss or three-phase imbalance; Check for loose wiring terminals; Seek technical support;
Er12.3	Output phase loss at low output frequency	Output phase loss or three-phase imbalance fault	Check if the output circuit voltage has phase loss or three-phase imbalance; Check for loose wiring terminals; Seek technical support;	Check if the output circuit voltage has phase loss or three-phase imbalance; Check for loose wiring terminals; Seek technical support;
Er12.4	Output phase loss at low feedback frequency	Output phase loss or three-phase imbalance fault	Check if the output circuit voltage has phase loss or three-phase imbalance; Check for loose wiring terminals; Seek technical support;	Check if the output circuit voltage has phase loss or three-phase imbalance; Check for loose wiring terminals; Seek technical support;
Er12.5	Low output current in asynchronous motor vector control	Output phase loss or three-phase imbalance fault	Check if the output circuit voltage has phase loss or three-phase imbalance; Check for loose wiring terminals; Seek technical support;	Check if the output circuit voltage has phase loss or three-phase imbalance; Check for loose wiring terminals; Seek technical support;
Er12.6	Output phase loss during stator resistance identification	Output phase loss or three-phase imbalance fault	Check if the output circuit voltage has phase loss or three-phase imbalance; Check for loose wiring terminals; Seek technical support;	Check if the output circuit voltage has phase loss or three-phase imbalance; Check for loose wiring terminals; Seek technical support;
Er12.7	Output phase loss during synchronous motor pole position identification	Output phase loss or three-phase imbalance fault	Check if the output circuit voltage has phase loss or three-phase imbalance; Check for loose wiring terminals; Seek technical support;	Check if the output circuit voltage has phase loss or three-phase imbalance; Check for loose wiring terminals; Seek technical support;

9.3.Appendix III: Faults and Troubleshooting

Fault code	Fault Name	Fault Cause	Fault Confirmation Method	Fault Solution
Er12.8	Phase loss detected in V or W output before operation	Output phase loss or three-phase imbalance fault	Check if the output circuit voltage has phase loss or three-phase imbalance; Check for loose wiring terminals; Seek technical support;	Check if the output circuit voltage has phase loss or three-phase imbalance; Check for loose wiring terminals; Seek technical support;;
Er12.9	Phase loss detected in U phase or all three phases before operation	Output phase loss or three-phase imbalance fault	Check if the output circuit voltage has phase loss or three-phase imbalance; Check for loose wiring terminals; Seek technical support;	Check if the output circuit voltage has phase loss or three-phase imbalance; Check for loose wiring terminals; Seek technical support;;
Er13.1	External fault terminal normally open	Faults caused by external control circuits	Inspect the external fault signal input circuit; Reset operation;	Inspect the external fault signal input circuit; Reset operation;
Er13.2	External fault terminal Normally Closed (NC)	Faults caused by external control circuits	Inspect the external fault signal input circuit; Reset operation;	Inspect the external fault signal input circuit; Reset operation;
Er14.1	Expansion card communication abnormal	Communication exception between the inverter and CPU expansion card or other devices	Check external communication lines; Host computer malfunctioning; Incorrect communication parameter settings; Inconsistent communication protocol;	Check external communication lines; Host computer malfunctioning; Incorrect communication parameter settings; Inconsistent communication protocol;
Er14.2	Expansion card communication abnormal	Communication exception between the inverter and CPU expansion card or other devices	Check external communication lines; Host computer malfunctioning; Incorrect communication parameter settings; Inconsistent communication protocol;	Check external communication lines; Host computer malfunctioning; Incorrect communication parameter settings; Inconsistent communication protocol;
Er14.3	Expansion card communication abnormal	Communication exception between CPU expansion card and other devices	Check external communication lines; Host computer malfunctioning; Incorrect communication parameter settings; Inconsistent communication protocol;	Check external communication lines; Host computer malfunctioning; Incorrect communication parameter settings; Inconsistent communication protocol;
Er15.1	IGBT temperature detected too high	IGBT temperature or heat sink temperature detection value exceeds the temperature protection threshold	Check fan operation status and ventilation conditions; Check if ambient temperature is excessively high; cooling measures required; Check whether the thermistor or temperature switch is damaged; Remove dirt from the heat sink exterior and air intake vent;	Check fan operation status and ventilation conditions; Check if ambient temperature is excessively high; cooling measures required; Check whether the thermistor or temperature switch is damaged; Remove dirt from the heat sink exterior and air intake vent;
Er17.1	Ground Short Circuit Fault During Power-On Detection	Electric motor grounding short circuit	Check whether the inverter output circuit or electric motor has a grounding short circuit	Check whether the inverter output circuit or electric motor has a grounding short circuit
Er18.3	Current too low during asynchronous motor rotor resistance identification	An error occurred during motor parameter identification	Verify whether motor parameters match the motor nameplate; Check whether the main cable between the inverter and electric motor is properly connected	Verify whether motor parameters match the motor nameplate; Check whether the main cable between the inverter and electric motor is properly connected
Er18.4	CBC triggered during identification	An error occurred during motor parameter identification	Verify whether motor parameters match the motor nameplate; Check whether the main cable between the inverter and electric motor is properly connected	Verify whether motor parameters match the motor nameplate; Check whether the main cable between the inverter and electric motor is properly connected

9.3.Appendix III: Faults and Troubleshooting

Fault code	Fault Name	Fault Cause	Fault Confirmation Method	Fault Solution
Er19.1	Motor Load Loss	Inverter operating current is less than the load shedding current value (P5.5.06) and persists for the duration specified in P5.5.07	Inspect whether the load has been disconnected; Check whether the values set for parameters P5.5.06 and P5.5.07 conform to actual operating conditions;	Inspect whether the load has been disconnected; Check whether the values set for parameters P5.5.06 and P5.5.07 conform to actual operating conditions;
Er20.1	PID Feedback Loss	The PID feedback value is less than the value set in P3.1.18 and persists for the duration specified in P3.1.19	Check whether the PID feedback signal is normal; Verify if the values set in parameters P3.1.18 and P3.1.19 align with actual operating conditions;	Check whether the PID feedback signal is normal; Verify if the values set in parameters P3.1.18 and P3.1.19 align with actual operating conditions;
Er21.1	User-Defined Fault 1	Fault 1 signal issued by the user via multifunctional terminals or PLC programming function	Check whether the custom fault 1 condition has been resolved, then reset and restart operation	Check whether the custom fault 1 condition has been resolved, then reset and restart operation
Er22.1	User-Defined Fault 2	Fault 2 signal issued by the user via multifunctional terminals or PLC programming function	Check whether the custom fault 2 condition has been resolved, then reset and restart operation;	Check whether the custom fault 2 condition has been resolved, then reset and restart operation;
Er23.1	Total Power-On Time Reached	The inverter's accumulated power-on time has reached the duration specified in P3.4.00	Use the parameter initialization function to clear recorded information	Use the parameter initialization function to clear recorded information
Er24.1	Total Running Time Reached	The inverter's accumulated operation time has reached the duration specified in P3.4.01	Use the parameter initialization function to clear recorded information	Use the parameter initialization function to clear recorded information
Er26.1	Parameter read/write exception: Single write timeout	Parameter Read/Write Exception	Replace the control board; Contact the manufacturer for assistance;	Replace the control board; Contact the manufacturer for assistance;
Er26.2	Parameter read/write exception: Single read timeout	Parameter Read/Write Exception	Replace the control board; Contact the manufacturer for assistance;	Replace the control board; Contact the manufacturer for assistance;
Er26.3	Parameter read/write exception: Read/write timeout	Parameter Read/Write Exception	Replace the control board; Contact the manufacturer for assistance;	Replace the control board; Contact the manufacturer for assistance;
Er26.4	Parameter read/write exception: Write function code count exceeded limit	Parameter Read/Write Exception	Replace the control board; Contact the manufacturer for assistance;	Replace the control board; Contact the manufacturer for assistance;

9.3.Appendix III: Faults and Troubleshooting

Fault code	Fault Name	Fault Cause	Fault Confirmation Method	Fault Solution
Er26.5	Parameter read/write exception: Manufacturer program error	Parameter Read/Write Exception	Replace the control board; Contact the manufacturer for assistance;	Replace the control board; Contact the manufacturer for assistance;
Er27.1	Motor Overheating	Detected electric motor temperature too high	Check if the electric motor temperature is excessively high; Inspect whether the temperature sensor is damaged or has loose wiring;	Check if the electric motor temperature is excessively high; Inspect whether the temperature sensor is damaged or has loose wiring;
Er28.1	Excessive Speed Deviation	Speed deviation exceeds the value of P5.3.05 and persists for the duration set in P5.3.06	Verify whether P5.3.05 and P5.3.06 are configured appropriately; Confirm if motor parameter identification has been performed;	Verify whether P5.3.05 and P5.3.06 are configured appropriately; Confirm if motor parameter identification has been performed;
Er29.1	Motor Overspeed	Speed deviation exceeds the value of P5.3.03 and persists for the duration set in P5.3.04	Check whether P5.3.03 and P5.3.04 are set appropriately; Confirm if motor parameter identification has been performed;	Check whether P5.3.03 and P5.3.04 are set appropriately; Confirm if motor parameter identification has been performed;
Er30.1	Initial Position Error	Motor parameters deviate significantly from actual values	Verify the correctness of motor parameters, especially whether the motor Rated Current is set correctly;	Verify the correctness of motor parameters, especially whether the motor Rated Current is set correctly;
Er31.1	U-phase current abnormality	Current detection circuit malfunction	Check whether the Hall sensor is faulty; Check whether the drive board detection circuit is faulty; Check whether the drive board is faulty;	Check whether the Hall sensor is faulty; Check whether the drive board detection circuit is faulty; Check whether the drive board is faulty;
Er31.2	V-phase current abnormality	Current detection circuit malfunction	Check whether the Hall sensor is faulty; Check whether the drive board detection circuit is faulty; Check whether the drive board is faulty;	Check whether the Hall sensor is faulty; Check whether the drive board detection circuit is faulty; Check whether the drive board is faulty;
Er34.1	U-phase fast current limit timeout	Inverter operating current persistently exceeds the allowable current limit value	Check whether the motor is overloaded or stalled; Verify whether the inverter is undersized;	Check whether the motor is overloaded or stalled; Verify whether the inverter is undersized;
Er34.2	V-phase fast current limit timeout	Inverter operating current persistently exceeds the allowable current limit value	Check whether the motor is overloaded or stalled; Verify whether the inverter is undersized;	Check whether the motor is overloaded or stalled; Verify whether the inverter is undersized;
Er34.3	W-phase current fast limiting timeout	Inverter operating current persistently exceeds the allowable current limit value	Check whether the motor is overloaded or stalled; Verify whether the inverter is undersized;	Check whether the motor is overloaded or stalled; Verify whether the inverter is undersized;
Er35.1	Multi-motor control fault: Motor switched during operation	Motor switching performed during inverter operation	Perform motor switching operation after inverter stops	Perform motor switching operation after inverter stops
Er35.2	Multi-motor control fault: More than 1 motor engaged	DI input indicates multiple motors engaged	Check if multiple motors are connected Check DI input for abnormalities	Check if multiple motors are connected Check DI input for abnormalities
Er38.1	Output short-circuit overcurrent hardware interrupt	Phase-to-phase short circuit or ground fault	Inspect motor cable insulation and motor body insulation If fault persists without motor connection, contact manufacturer	Inspect motor cable insulation and motor body insulation If fault persists without motor connection, contact manufacturer

9.3.Appendix III: Faults and Troubleshooting

Fault code	Fault Name	Fault Cause	Fault Confirmation Method	Fault Solution
Er38.2	Output short-circuit CBC software query	Phase-to-phase short circuit or ground fault	Inspect motor cable insulation and motor body insulation If fault persists without motor connection, contact manufacturer	Inspect motor cable insulation and motor body insulation If fault persists without motor connection, contact manufacturer
Er38.3	Output short-circuit CBC hardware interrupt	Phase-to-phase short circuit or ground fault	Inspect motor cable insulation and motor body insulation If fault persists without motor connection, contact manufacturer	Inspect motor cable insulation and motor body insulation If fault persists without motor connection, contact manufacturer
Er38.4	Output phase-loss detection before operation; Output short-circuit overcurrent hardware interrupt	Phase-to-phase short circuit or ground fault	Inspect motor cable insulation and motor body insulation If fault persists without motor connection, contact manufacturer	Inspect motor cable insulation and motor body insulation If fault persists without motor connection, contact manufacturer
Er38.5	Output phase-loss detection before operation; Output short-circuit CBC software query	Phase-to-phase short circuit or ground fault	Inspect motor cable insulation and motor body insulation If fault persists without motor connection, contact manufacturer	Inspect motor cable insulation and motor body insulation If fault persists without motor connection, contact manufacturer
Er38.6	Output phase-loss detection before operation; Output short-circuit CBC hardware interrupt	Phase-to-phase short circuit or ground fault	Inspect motor cable insulation and motor body insulation If fault persists without motor connection, contact manufacturer	Inspect motor cable insulation and motor body insulation If fault persists without motor connection, contact manufacturer
Er39.1	Brake tube short-circuit during zero drift detection	Braking Tube Short Circuit	Contact the manufacturer	Contact the manufacturer
Er39.2	Brake tube short-circuit when brake tube not enabled	Braking Tube Short Circuit	Contact the manufacturer	Contact the manufacturer
Er39.3	Brake tube short-circuit hardware fault	Braking Tube Short Circuit	Contact the manufacturer	Contact the manufacturer
Er40.1	Buffer resistor overload fault	Significant fluctuations in DC bus voltage	Check whether the power-on buffer contactor functions normally Check input voltage fluctuation conditions	Check whether the power-on buffer contactor functions normally Check input voltage fluctuation conditions
Er41.1	Relay hardware fault - continuously high level	Power-on relay hardware detection fault	Contact the manufacturer	Contact the manufacturer
Er41.2	Relay hardware failure PWM wave	Power-on relay hardware detection fault	Contact the manufacturer	Contact the manufacturer
Er42.1	Logic error 1 during synchronous motor pole position identification	BUG occurred during program execution	Contact the manufacturer	Contact the manufacturer
Er42.2	Logic error 2 during synchronous motor pole position identification	BUG occurred during program execution	Contact the manufacturer	Contact the manufacturer

9.3.Appendix III: Faults and Troubleshooting

Fault code	Fault Name	Fault Cause	Fault Confirmation Method	Fault Solution
Er43.1	Phase sequence error during power/VFD switching	Power input frequency and output frequency are inconsistent	Check operating direction and power frequency phase sequence	Check operating direction and power frequency phase sequence
Er43.2	Prolonged switching time during power/VFD transition	Switching unsuccessful over extended period	Whether target frequency deviation from grid frequency exceeds P6.0.01 value Whether P6.0.02 and P6.0.03 are set unreasonably Contact the manufacturer	Whether target frequency deviation from grid frequency exceeds P6.0.01 value Whether P6.0.02 and P6.0.03 are set unreasonably Contact the manufacturer
Er44.1	Run command source isn't keyboard mode when parameter identification is set	Unreasonable parameter identification setting	Please first set P0.1.06 to keyboard control	Please first set P0.1.06 to keyboard control
Er44.2	Inconsistency between motor type and parameter identification settings	Motor type set incorrectly	Properly configure the motor type and identification method. For example, when P1.0.00 is set to 2 (synchronous motor), P1.0.17 should not be configured with synchronous motor identification methods (11 or 12), but rather should select asynchronous motor identification methods (1 or 2).	Properly configure the motor type and identification method. For example, when P1.0.00 is set to 2 (synchronous motor), P1.0.17 should not be configured with synchronous motor identification methods (11 or 12), but rather should select asynchronous motor identification methods (1 or 2).
Er44.3	Unreasonable configuration of motor selection and parameter identification function codes	Motor selection set incorrectly	Configure the corresponding motor x identification and motor x parameter identification. For instance, if P0.1.32 selects motor 2, but parameter identification is performed using P1.0.17 instead of P1.2.17, this fault will be triggered.	Configure the corresponding motor x identification and motor x parameter identification. For instance, if P0.1.32 selects motor 2, but parameter identification is performed using P1.0.17 instead of P1.2.17, this fault will be triggered.
Er44.4	Unreasonable carrier wave setting for vector control	Carrier frequency setting is incorrect	Under vector control, when the target frequency is high, if the carrier frequency is set too low, increase the value of P0.6.06. It must be greater than the target frequency multiplied by P0.6.14. For example: with a target frequency of 1000Hz and P0.6.14 set to 8.0, P0.6.06 must be set to at least 8.0kHz or higher; otherwise a fault will be reported.	Under vector control, when the target frequency is high, if the carrier frequency is set too low, increase the value of P0.6.06. It must be greater than the target frequency multiplied by P0.6.14. For example: with a target frequency of 1000Hz and P0.6.14 set to 8.0, P0.6.06 must be set to at least 8.0kHz or higher; otherwise a fault will be reported.
Er45.1	Over-torque Fault	Significant fluctuations in DC bus voltage	Has parameter identification been performed under vector control Is the load too heavy Is the model selection appropriate Are the parameters set correctly	Has parameter identification been performed under vector control Is the load too heavy Is the model selection appropriate Are the parameters set correctly
Er46.1	Stall protection	Power-on relay hardware detection fault	Has parameter identification been performed under vector control Is the load too heavy Is the model selection appropriate Are the parameters set correctly	Has parameter identification been performed under vector control Is the load too heavy Is the model selection appropriate Are the parameters set correctly
Er47.1	Local 485 Communication Anomaly	Power-on relay hardware detection fault	Check external communication lines; Host computer malfunctioning; Incorrect communication parameter settings; Inconsistent communication protocol;	Check external communication lines; Host computer malfunctioning; Incorrect communication parameter settings; Inconsistent communication protocol;
Er47.2	Local 485 Communication Anomaly	BUG occurred during program execution	Check external communication lines; Host computer malfunctioning; Incorrect communication parameter settings; Inconsistent communication protocol;	Check external communication lines; Host computer malfunctioning; Incorrect communication parameter settings; Inconsistent communication protocol;

Fault code	Fault Name	Fault Cause	Fault Confirmation Method	Fault Solution
Er48.1	Network port communication anomaly	BUG occurred during program execution	Check external communication lines; Host computer malfunctioning; Incorrect communication parameter settings; Inconsistent communication protocol;	Check external communication lines; Host computer malfunctioning; Incorrect communication parameter settings; Inconsistent communication protocol;
Er48.2	Network port communication anomaly	Power input frequency and output frequency are inconsistent	Check external communication lines; Host computer malfunctioning; Incorrect communication parameter settings; Inconsistent communication protocol;	Check external communication lines; Host computer malfunctioning; Incorrect communication parameter settings; Inconsistent communication protocol;
Er49.1	Type-C communication anomaly	Switching unsuccessful over extended period	Check external communication lines; Host computer malfunctioning; Incorrect communication parameter settings; Inconsistent communication protocol;	Check external communication lines; Host computer malfunctioning; Incorrect communication parameter settings; Inconsistent communication protocol;
Er49.2	Type-C communication anomaly	Unreasonable parameter identification setting	Check external communication lines; Host computer malfunctioning; Incorrect communication parameter settings; Inconsistent communication protocol;	Check external communication lines; Host computer malfunctioning; Incorrect communication parameter settings; Inconsistent communication protocol;

Product Service Card

Documentation

Warranty Card						
User	User Name					
	User Address					
	Contact Person		Telephone		Fax	
	Machine Model		Machine Code			
Agent/ Distributor	Supplier					
	Contact Person		Telephone		Date of Supply	

Warranty Terms

The warranty provisions for our company's products shall be executed in accordance with the "Quality Assurance" section of the User Manual.

1.The warranty period for this product is 18 months from the date of factory shipment of the barcode.

Under normal use, repairs will be provided upon presentation of the warranty card and product barcode.

2.Faults arising from the following causes shall be subject to chargeable repairs even within the warranty period:

2-1.Issues resulting from incorrect operation, or unauthorized repair or modification;

2-2.Issues arising from use of this product beyond the prescribed standard specifications;

2-3.Damage caused by dropping or improper handling after purchase;

2-4.Device aging or malfunction caused by adverse environmental conditions;

2-5.Damage resulting from earthquakes, fire, floods, lightning strikes, abnormal voltage, or other natural disasters;

2-6.Damage occurring during transportation (Note: the transportation method is designated by the customer, and the company assists in handling the transfer procedures of the goods);

2-7.Damage to or illegibility of the brand, trademark, serial number, nameplate, or other manufacturer's markings;

2-8.Failure to pay the full amount as agreed upon in the purchase contract;

2-9.Failure to provide an objective and accurate description of installation, wiring, operation, maintenance, or other usage conditions to the company's service unit.

3.All products manufactured by our company are entitled to paid lifetime service.

Certificate of Conformity

Inspector: _____

Manufacture
Date: _____

Factory Shipment
Number: _____

This product has passed
inspection and is approved
for factory shipment.

Product Service Card

Attention: To ensure the safety of personnel, equipment, and property, and to fully utilize the superior performance of this product, please read the product user manual thoroughly before use. Comply with all instructions during handling, installation, commissioning, operation, and maintenance.

