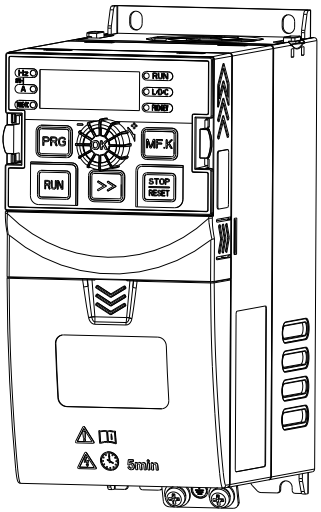
Variable-Frequency Drive|Integration and special machines|
Brake Unit|Servo drive system|PLC

G300 Series Open Loop Vector Control Inverter

G300S Series Permanent Magnet Synchronous Motor Driver

User Manual V2.2



Capacity Range: Single-phase 220V Power supply (2S) 0.4~5.5kW
Three-phase 220V Power supply (2T) 0.4~220kW
Three-phase 380V Power supply (4T) 0.75~500kW

For your safety, please read this user manual carefully.

CONTENTS

Chapter 1 Safety Precautions

Security definitions

In this manual, safety precautions are divided into the following two categories.

 DANGER: Danger caused by failure to comply with requirements, which may result in serious injury or even death.

 CAUTION: Hazards caused by failure to comply with requirements may result in moderate or minor injuries and damage to equipment.

Users are requested to read this chapter carefully when installing, commissioning and servicing the system, and to be sure to operate in accordance with the safety precautions required by the contents of this chapter. If there is any injury or damage caused by illegal operation, it has nothing to do with our company.

Security matters.

Utilization point	Security level	Entry
Pre-install	 DANGER	Do not install the control system if you find water in the control system, missing parts, or any parts are damaged when you open the box! Do not install if the packing list does not match the physical name!
	 CAUTION	It should be lifted and placed gently during handling, otherwise there is a risk of damage to the equipment! Do not use the inverter with damaged drives or defective parts, as there is a risk of injury! Do not touch the components of the control system with your hands, otherwise there is a risk of electrostatic damage!
Installation	 DANGER	Please install on a flame-retardant object such as metal; keep away from combustible materials. Otherwise it may cause fire! Do not unscrew the fixing bolts of the device elements, especially those marked with a red color!
	 CAUTION	Do not allow wire tips or screws to fall into the drive, as this causes damage to the drive! Install the drive in a location with little vibration and out of direct sunlight. When two or more inverters are placed in the same cabinet, please pay attention to the installation position to ensure the heat dissipation effect.
Wiring	 DANGER	The work must be carried out by a professional electrical engineer, otherwise unexpected dangers can occur! The inverter must be separated from the power supply by a circuit breaker, otherwise a fire may occur! Please make sure the power supply is in zero energy state before wiring, otherwise there is a risk of electric shock!

Utilization point	Security level	Entry
		Please correctly regulate the grounding of the inverter according to the standard, otherwise there is a danger of electric shock!
	 CAUTION	Never connect the input power supply to the output terminals (U, V, W) of the inverter. Pay attention to the markings on the terminals and do not connect the wrong wires! Otherwise cause damage to the drive! Never connect the braking resistor directly between the (+) and (-) terminals of the DC bus, otherwise it will cause a fire! Refer to the recommendations in the manual for the wire gauge used, otherwise accidents may occur!
Pre-power-on	 CAUTION	Please confirm whether the voltage level of the input power supply is the same as the rated voltage level of the inverter; whether the wiring position on the power supply input terminals (R, S, T) and output terminals (U, V, W) is correct; and pay attention to checking whether there is any short-circuiting phenomenon in the peripheral circuits connected with the drive, and whether the connected wiring is tightened or not, or else it will cause damage to the drive! No part of the inverter is required to be tested for voltage withstand, the product has been tested for this at the factory, otherwise it may cause accidents!
	 DANGER	The inverter must be covered before powering up, otherwise it may cause electric shock! The wiring of all peripheral accessories must comply with the instructions in this manual and be wired correctly in accordance with the circuit connection methods provided in this manual, or cause accidents!
After-power-on	 DANGER	Do not open the cover after powering up. Otherwise there is a risk of electric shock! Do not touch any input or output terminals of the inverter. Otherwise there is a danger of electric shock!
	 CAUTION	If parameter identification is required, be aware of the danger of injury during motor rotation, which may cause accidents! Do not change the inverter manufacturer's parameters arbitrarily, as this may cause damage to the equipment!
Running	 DANGER	Non-professional technicians should not test the signal during operation, as this may cause personal injury or equipment damage!

Utilization point	Security level	Entry
		Do not touch the cooling fan and discharge resistor to test the temperature, as this may cause burns!
	 CAUTION	During the operation of the inverter, you should avoid anything falling into the device, otherwise it causes damage to the device! Do not use the contactor on/off method to control the start/stop of the drive, or cause equipment damage!

Chapter 2 Product Information

2.1 Naming rules

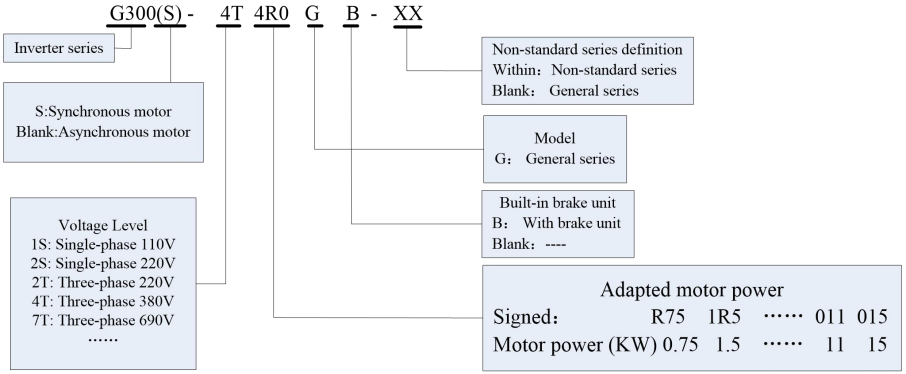


Figure 2-1. Naming Specifications

2.2 Nameplates

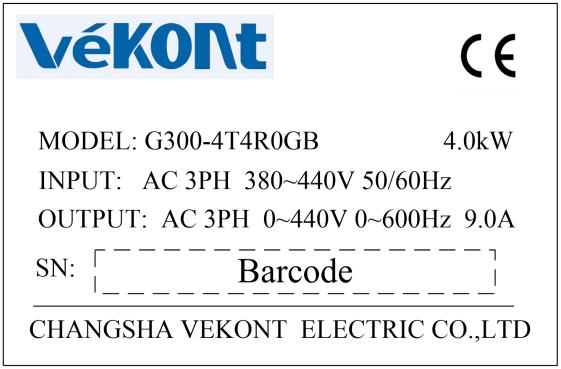


Figure 2-2

2.3 G300/G300S Inverter Series

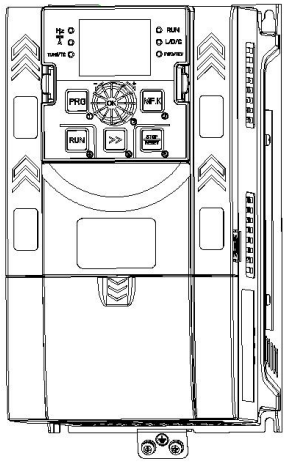
Table 2-1 G300/G300S Inverter Models and Technical Data

Description: 4T: 380V 30kW or less brake unit standard, model number with the letter "B", 37 ~ 93kW brake unit optional, model number without the letter "B", if you need, please specify when ordering, and add the letter "B" to the end of the model number. If required, please specify and add the letter "B" to the model number.

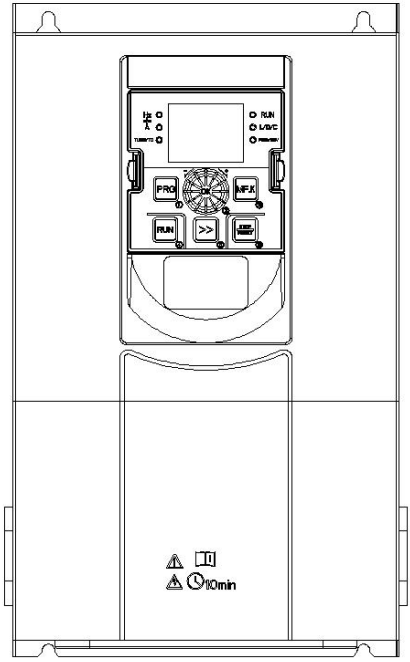
Inverter Model	Input Voltage	Input Current (A)	Output Current (A)	Adapted motor (kW)
G300/G300S-2SR4G	Single-phase 220V Scope: -15% to 20 %	5.4	2.3	0.4
G300/G300S-2SR75G		8.2	4.0	0.75
G300/G300S-2S1R5G		14.0	7.0	1.5
G300/G300S-2S2R2G		23.0	9.6	2.2
G300/G300S-2S4R0GB		35.0	17.0	4.0
G300/G300S-2S5R5GB		52.0	25.0	5.5
G300/G300S-4TR75GB	Three-phase 380V Scope: -20% to 20%	3.4	2.1	0.75
G300/G300S-4T1R5GB		5.0	3.8	1.5
G300/G300S-4T2R2GB		5.8	5.5	2.2
G300/G300S-4T4R0GB		10.5	9.0	4.0
G300/G300S-4T5R5GB		14.6	13.0	5.5
G300/G300S-4T7R5GB		20.5	17.0	7.5
G300/G300S-4T011GB		26.0	25.0	11.0
G300/G300S-4T015GB		35.0	32.0	15.0
G300/G300S/-4T018GB		38.5	37.0	18.5
G300/G300S-4T022GB		46.5	45.0	22.0
G300/G300S-4T030GB		62.0	60.0	30.0
G300/G300S-4T037GB		76.0	75.0	37.0
G300/G300S-4T045G(B)		92.0	90.0	45.0
G300/G300S-4T055G(B)		113.0	110.0	55.0
G300/G300S-4T075G(B)		157.0	152.0	75.0
G300/G300S-4T093G(B)		180.0	176.0	93.0
G300/G300S-4T110G(B)		214.0	210.0	110.0
G300/G300S-4T132G(B)		256.0	253.0	132.0
G300/G300S-4T160G		307.0	304.0	160.0
G300/G300S-4T185G		345.0	340.0	185.0
G300/G300S-4T200G		385.0	380.0	200.0
G300/G300S-4T220G		430.0	426.0	220.0
G300/G300S-4T250G		468.0	465.0	250.0
G300/G300S-4T280G		525.0	520.0	280.0
G300/G300S-4T315G		590.0	585.0	315.0
G300/G300S-4T355G		665.0	650.0	355.0

Inverter Model	Input Voltage	Input Current (A)	Output Current (A)	Adapted motor (kW)
G300/G300S-4T400G		785.0	725.0	400.0
G300/G300S-4T450G		883.0	820.0	450.0
G300/G300S-4T500G		920.0	900.0	500.0
G300/G300S-4T550G		1020.0	1000.0	550.0
G300/G300S-2TR4GB	Three-phase 220V Scope: -15% to 20 %	3.4	2.1	0.4
G300/G300S-2TR75GB		5.0	3.8	0.75
G300/G300S-2T1R5GB		5.8	5.5	1.5
G300/G300S-2T2R2GB		10.5	9.0	2.2
G300/G300S-2T4R0GB		14.6	13.0	4.0
G300/G300S-2T5R5GB		26.0	25.0	5.5
G300/G300S-2T7R5GB		35.0	32.0	7.5
G300/G300S-2T011GB		46.5	45.0	11.0
G300/G300S-2T015GB		62.0	60.0	15.0
G300/G300S-2T018GB		76.0	75.0	18.5
G300/G300S-2T022G		92.0	90.0	22.0
G300/G300S-2T030G		113.0	110.0	30.0
g300/g300s-2t037g		157.0	152.0	37.0
G300/G300S-2T045G		180.0	176.0	45.0
G300/G300S-2T055G		214.0	210.0	55.0
g300/g300s-2t075g		307.0	304.0	75.0
G300/G300S-2T090G		385.0	380.0	90.0
G300/G300S-2T110G		430.0	426.0	110.0
G300/G300S-2T132G		468.0	465.0	132.0
G300/G300S-2T160G		590.0	585.0	160.0
G300/G300S-2T220G		785.0	725.0	220.0

2.4 Dimensions of the external shape and mounting holes



Plastic structure product outline drawing



Sheet metal structure product outline drawing

Figure 2-3. Plastic and Sheet Metal Construction Product Exterior Drawing

2.4.2 Dimensions of G630/G630S shape and mounting holes (mm)

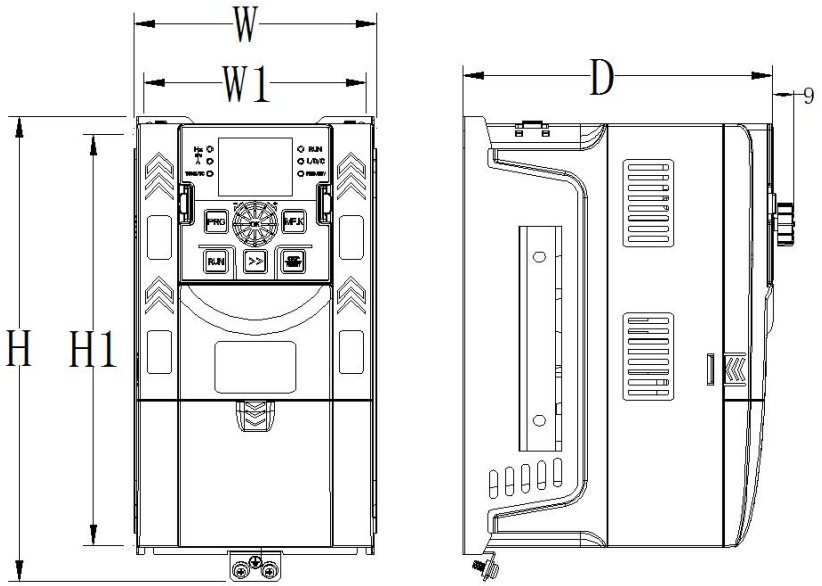


Figure 2-4. Plastic External/Mounting Dimensions for 380V 4T 11KW or less

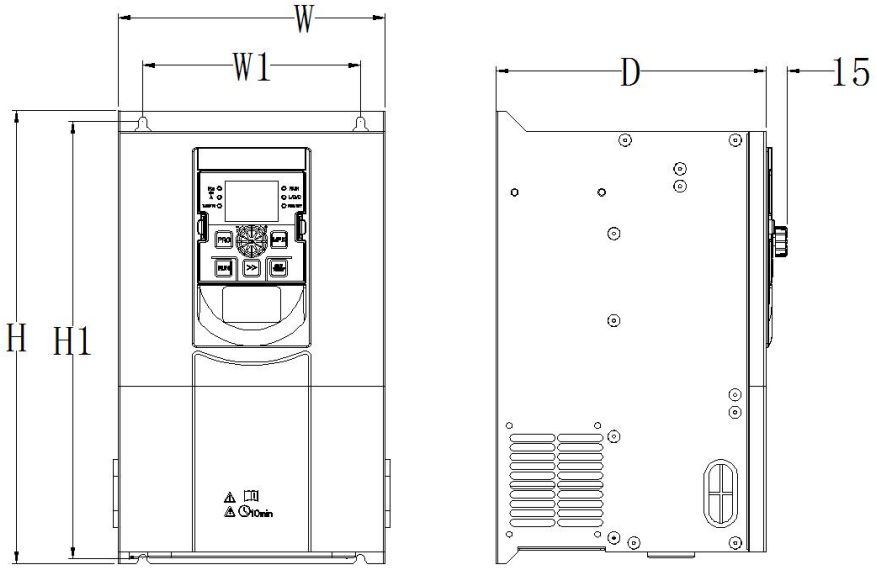


Figure 2-5. Metal External/Installation Dimensions for 380V (4T) 18.5~200kW

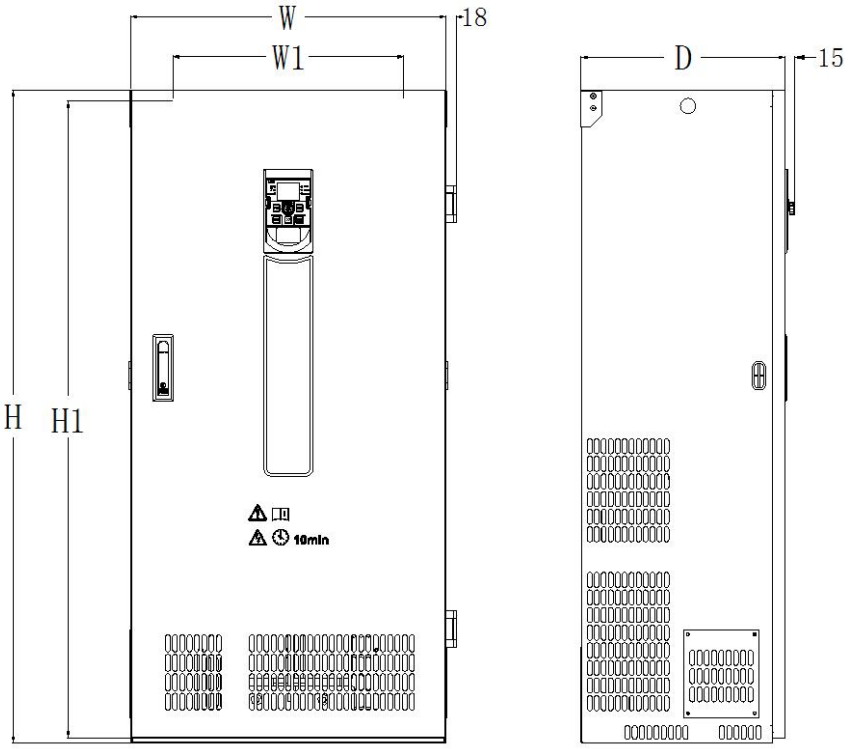


Figure 2-6. External/Mounting dimensions of inverter for 380V 250kW or more

Table 2-2 G300/G300S External Dimensions and Mounting Hole Dimensions

Inverter Model	Mounting holes		Overall dimensions			Mounting Hole Diameter (mm)
	W1 (mm)	H1 (mm)	H (mm)	W (mm)	D (mm)	
G300/G300S-2SR4G	55	160	172	75	130	φ4.5
G300/G300S-2SR75G						
G300/G300S-2S1R5G						
G300/G300S-2S2R2G						
G300/G300S-2S4R0GB	126	244	269.5	138	170	φ5.5
G300/G300S-2S5R5GB						
G300/G300S-4TR75GB	55	160	172	75	130	φ4.5
G300/G300S-4T1R5GB						
G300/G300S-4T2R2GB						
G300/G300S-4T4R0GB	104	204	227	119	155	φ4.5
G300/G300S-4T5R5GB						
G300/G300S-4T7R5GB	126	244	269.5	138	170	φ5.5
G300/G300S-4T011GB						

Inverter Model	Mounting holes		Overall dimensions			Mounting Hole Diameter (mm)
	W1 (mm)	H1 (mm)	H (mm)	W (mm)	D (mm)	
G300/G300S-4T015GB	126	244	269.5	138	170	φ5.5
G300/G300S-4T018GB	150	302	312	184	186	φ6
G300/G300S-4T022GB						
G300/G300S-4T030GB						
G300/G300S-4T037GB	160	342	353	210	200	φ6
G300/G300S-4T045G	200	426	440	257	200	φ7
G300/G300S-4T055G	245	514	530	310	255	φ10
G300/G300S-4T075G						
G300/G300S-4T093G						
G300/G300S-4T110G	290	539	555	350	262	φ10
G300/G300S-4T132G						
G300/G300S-4T160G	320	682	700	430	290	φ10
G300/G300S-4T185G						
G300/G300S-4T200G	360	740	770	470	318	φ12
G300/G300S-4T220G						
G300/G300S-4T250G	380	1048	1075	520	338	φ12
G300/G300S-4T280G						
G300/G300S-4T315G	500	1238	1270	630	425	φ12
G300/G300S-4T355G						
G300/G300S-4T400G		1328	1360	740	410	φ14
G300/G300S-4T450G						
G300/G300S-4T500G						
G300/G300S-4T550G						
G300/G300S-2TR4GB	55	160	172	75	130	φ4.5
G300/G300S-2TR75GB						
G300/G300S-2T1R5GB						
G300/G300S-2T2R2GB						
G300/G300S-2T4R0GB	126	244	269.5	138	170	φ5.5
G300/G300S-2T5R5GB						
G300/G300S-2T7R5GB						
G300/G300S-2T011GB	150	302	312	184	186	φ6
G300/G300S-2T015GB						
G300/G300S-2T018GB	160	342	353	210	200	φ6
G300/G300S-2T022G	200	426	440	257	200	φ7
G300/G300S-2T030G	245	514	530	310	255	φ10
g300/g300s-2t037g						
G300/G300S-2T045G						

Inverter Model	Mounting holes		Overall dimensions			Mounting Hole Diameter (mm)
	W1 (mm)	H1 (mm)	H (mm)	W (mm)	D (mm)	
G300/G300S-2T055G	290	539	555	350	262	φ10
G300/G300S-2T075G	320	682	700	430	290	φ10
G300/G300S-2T090G						
G300/G300S-2T110G	360	973	1000	470	318	φ12
G300/G300S-2T132G	380	1048	1075	520	338	φ12
G300/G300S-2T160G	500	1238	1270	630	425	φ12
G300/G300S-2T220G	500	1328	1360	740	410	φ14

2.4.3 External dimensions of keyboard with/without tray (mm)

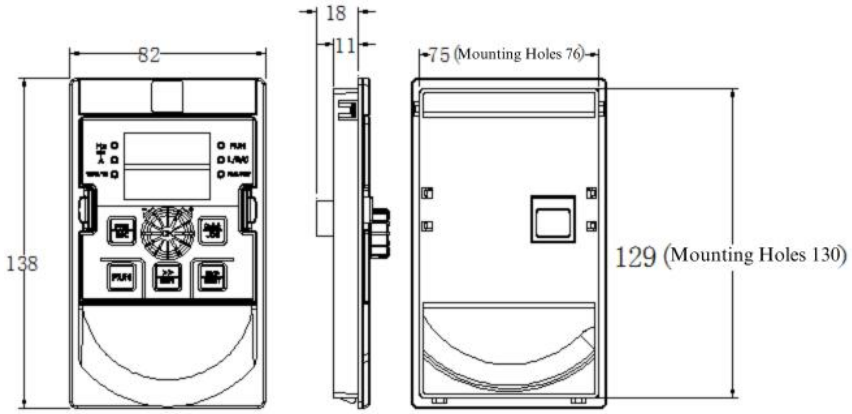


Figure 2-8.1 380V (4T) 4.0kW or more External Keypad with Tray Mounting Dimensions

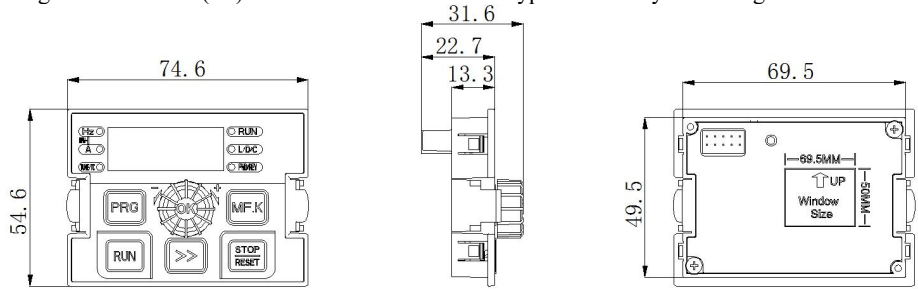


Figure 2-8.2 380V (4T) 2.2kW or less external lead-in keypad without tray mounting dimensions

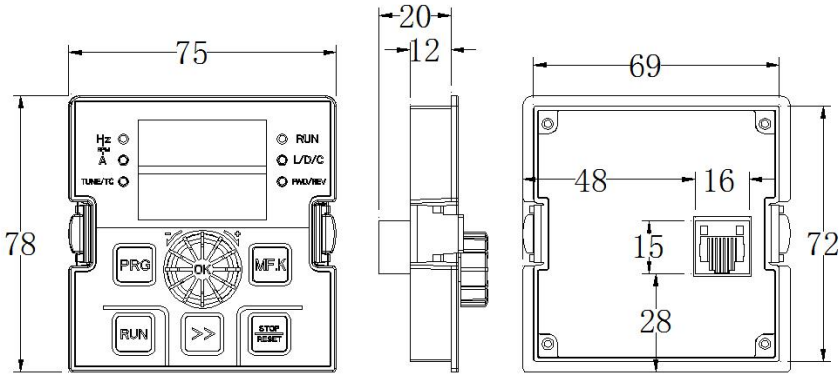


Figure 2-9.1 380V (4T) 4.0kW or more external lead-in keypad without tray mounting dimensions

2.5 Options

For detailed functions and instructions on the use of options, see the relevant option descriptions.
If the above options are required, please specify when ordering.

Table 2-6 G300/G300S Inverter Options

Name	Model	Function	Remarks
Built-in brake unit	Name followed by "B"	Energy consumption for braking	4T:380V 22kW or less built-in brake unit is standard, 4T:380V 30~93kW built-in brake unit is optional.
External LED small operating panel	G300 -LED1	External LED display and operating keypad	G-Series General Purpose RJ45 connector
External LED large operation panel	G300 -LED2	External LED display and operating keypad	G-Series General Purpose RJ45 connector
External LED large operation panel (dual display option)	G300 -LED	External LED display and operating keypad	G Series General Purpose RJ45 interface
External LCD operation panel	G300-LCD	External LCD display and operation keypad	RJ45 interface
Extension cables	G300-CFB	Standard 8-pole network cable, can be connected with G300/G300S-LED, 500-LCD	Available in 4 sizes: 1 meter, 2 meters, 5 meters and 10 meters.
If you need other function modules to extend the function (e.g. I/O card, PG card, EPS card, etc.), please use G680 series inverter and specify the function module card when ordering.			

2.6 Brake assembly selection guide

The following table 2-5 is the guidance data. Customers can choose different resistor resistance value and power according to the actual situation(The resistance value must not be less than the recommended value in the table. However the power could be larger.) The selection of braking resistor needs to be determined according to the power generated by the motor in the actual application system, which is related to the inertia of the system, deceleration time, and the energy of the bit energy load, etc., and needs to be selected by the customer according to the actual situation. The larger the inertia of the system, the shorter the deceleration time required, and more frequent the braking. The larger the power and smaller the resistance value of the braking resistor needs to be selected.

2.6.1 Selection of Resistance Values

When braking, the regenerative energy of the motor is almost entirely consumed in the braking resistor. According to the formula: U * U / R = Pb

U---- Braking voltage for stabilized braking of the system (different systems are different, for 380VFC system generally take 700V)

Pb---- Brake power

2.6.2 Power selection of the braking resistor

Theoretically the power of the braking resistor is the same as the braking power, but considering the derating is 70%. Can be based on the formula: 0.7 * Pr = Pb * D

Pr---- power of the resistor

D---- Braking frequency (the proportion of the regeneration process to the whole working process), generally taken as 10% . Please refer to the following table:

Application Sectors	escalator	unwind and unwind	centrifuges	Occasional braking loads
proportions	20%~ 30%	20~ 30%	50%~ 60%	5%

Table 2-7 G300 inverter braking component selection table (G300S synchronous motor drive series on the basis of G300 series with reference to the previous inverter power selection, i.e., 4.0kW with reference to 5.5kW selection)

Inverter Model	Braking torque 150%, 5S recommended resistor resistance, power and brake unit type	Braking torque 100%, 15S Recommended resistor resistance, power and brake unit type	Braking torque 50%, 15S Recommended resistance value, power and brake unit type
G300-2SR4G	≥220Ω, 100W Brake unit option	≥300Ω, 80W Brake unit option	≥300Ω, 80W Brake unit option
G300-2SR75G	≥200Ω, 100W Brake unit option	≥200Ω, 100W Brake unit option	≥300Ω, 80W Brake unit option
G300-2S1R5G	≥100Ω, 200W Brake unit option	≥200Ω, 100W Brake unit option	≥300Ω, 80W Brake unit option
G300-2S2R2GB	≥75Ω, 0.4kW Brake unit built-in	≥130Ω, 0.2kW Brake unit built-in	≥150Ω, 0.2kW Brake unit built-in

Inverter Model	Braking torque 150%, 5S recommended resistor resistance, power and brake unit type	Braking torque 100%, 15S Recommended resistor resistance, power and brake unit type	Braking torque 50%, 15S Recommended resistance value, power and brake unit type
G300-2S4R0GB	≥60Ω, 0.3kW Brake unit built-in	≥75Ω, 0.4kW Brake unit built-in	≥100Ω, 0.2kW Brake unit built-in
G300-2S5R5GB	≥40Ω, 0.8kW Brake unit built-in	≥50Ω, 1.5kW Brake unit built-in	≥60Ω, 0.3kW Brake unit built-in
G300-4TR75GB	≥300Ω, 0.2kW Brake unit built-in	≥300Ω, 0.2kW Brake unit built-in	≥300Ω, 0.2kW Brake unit built-in
G300-4T1R5GB G300-4T2R2GB	≥150Ω, 0.3kW Brake unit built-in	≥220Ω, 0.25kW Brake unit built-in	≥300Ω, 0.2kW Brake unit built-in
G300-4T4R0GB	≥100Ω, 0.4kW Brake unit built-in	≥130Ω, 0.4kW Brake unit built-in	≥150Ω, 0.3kW Brake unit built-in
G300-4T5R5GB	≥75Ω, 0.5kW Brake unit built-in	≥100Ω, 0.4kW Brake unit built-in	≥130Ω, 0.4kW Brake unit built-in
G300-4T7R5GB	≥60Ω, 0.5kW Brake unit built-in	≥75Ω, 0.5kW Brake unit built-in	≥≥100Ω, 0.4kW Brake unit built-in
G300-4T011GB	≥40Ω, 1.0kW Brake unit built-in	≥50Ω, 0.7kW Brake unit built-in	≥60Ω, 0.5kW Brake unit built-in
G300-4T015GB	≥30Ω, 1.2kW Brake unit built-in	≥40Ω, 1.0kW Brake unit built-in	≥50Ω, 0.7kW Brake unit built-in
G300-4T018GB	≥24Ω, 2kW Brake unit built-in	≥30Ω, 1.2kW Brake unit built-in	≥40Ω, 1.0kW Brake unit built-in
G300-4T022GB	≥13.6Ω, 3.7kW Brake unit built-in	≥30Ω, 1.2kW Brake unit built-in	≥40Ω, 1.0kW Brake unit built-in
G300-4T030GB	≥13.6Ω, 3.7kW Brake unit built-in option	≥24Ω, 2kW Brake unit built-in option	≥30Ω, 2kW Brake unit built-in option
G300-4T037GB	≥10Ω, 4.5kW Brake unit built-in option	≥24Ω, 2kW Brake unit built-in option	≥24Ω, 2kW Brake unit built-in option
G300-4T045G G300-4T055G	≥10Ω, 4.5kW Brake unit built-in option	≥13.6Ω, 3.7kW Brake unit built-in option	≥24Ω, 2kW Brake unit built-in option
G300-4T075G G300-4T093G	≥6.8Ω, 8.0kW Brake unit built-in option	≥10Ω, 4.5kW Brake unit built-in option	≥13.6Ω, 3.7kW Brake unit built-in option
G300-4T110G G300-4T132G	≥2*(6.8Ω,8.0kW)	≥6.8Ω, 8.0kW	≥6.8Ω, 8.0kW
G300-4T160G	≥3* (6.8Ω, 8.0kW)	≥2*(6.8Ω, 8.0kW)	≥2*(6.8Ω, 8.0kW)

Inverter Model	Braking torque 150%, 5S recommended resistor resistance, power and brake unit type	Braking torque 100%, 15S Recommended resistor resistance, power and brake unit type	Braking torque 50%, 15S Recommended resistance value, power and brake unit type
G300-4T185G	BR500-4T315	BR500-4T200	BR500-4T200
G300-4T200G			
G300-4T220G	≥3*(6.8Ω, 8.0kW) BR500-4T315	≥2*(6.8Ω, 8.0kW) BR500-4T315	≥2*(6.8Ω, 8.0kW) BR500-4T315
G300-4T250G			
G300-4T280G			
G300-4T315G			
G300-4T355G	≥5* (6.8Ω, 8.0kW) BR500-4T630	≥4* (6.8Ω, 8.0kW) BR500-4T450	≥3*(6.8Ω, 8kW) BR500-4T450
G300-4T400G			
G300-4T450G			
G300-4T500G	≥6* (6.8Ω, 8.0kW) BR530-4T630	≥4* (6.8Ω, 8.0kW) BR530-4T630	≥4* (6.8Ω, 8kW) BR530-4T630
G300-4T550G			

Attention:

1. The brake resistor resistance can not less than the recommended resistance value in the table.
2. Table ×**2** indicates that two groups of braking resistors are used in parallel. Table ×**3** indicates that three groups of braking resistors are used in parallel, and so on;
3. Inverter model name followed by "B" for the standard built-in braking unit model inverter. Otherwise without built-in braking unit. Choose the corresponding braking unit model according to its braking torque.
4. 45~132kW G-type mechanism braking unit is built-in optional. Please specify when ordering if neccessary. The standard configuration does not come with a braking unit;
5. The 5S,15S listed in the table refers to the continuous braking time.

Chapter 3 Mechanical and Electrical Installations

3.1 Mechanical Installation

3.1.1 Guidance on the selection of peripheral electrical components

This section of the inverter peripheral electrical components selection guide is mainly described in the G-type machine as an example, if you are used as a P-type machine, please refer to the G-type machine with the same power section electrical components selection.

Table 3-1 G300/G300S inverter peripheral electrical components selection guide

Inverter model	Blanking (MCCB)（A）	Contactor (A)	Input side main circuit conductor (mm^2)	Output side main circuit conductor (mm^2)	Control circuit wire (mm^2)	Ground wire（mm^2）
G300/G300S-2SR4G	10	9	0.75	0.75	0.5	2.5
G300/G300S-2SR75G	16	12	0.75	0.75	0.5	2.5
G300/G300S-2S1R5G	25	18	1.5	1.5	0.5	2.5
G300/G300S-2S2R2G	32	25	2.5	2.5	0.5	2.5
G300/G300S-2S4R0GB	50	40	4	4	0.5	4
G300/G300S-2S5R5GB	80	63	4	4	0.5	4
G300/G300S-4TR75GB	6	9	0.75	0.75	0.5	2.5
G300/G300S-4T1R5GB	10	9	0.75	0.75	0.5	2.5
G300/G300S-4T2R2GB	10	9	0.75	0.75	0.5	2.5
G300/G300S-4T4R0GB	16	16	2.5	2.5	0.75	2.5
G300/G300S-4T5R5GB	20	18	2.5	2.5	0.75	2.5
G300/G300S-4T7R5GB	32	25	4.0	4.0	1.0	4
G300/G300S-4T011GB	50	32	4.0	4.0	1.0	6
G300/G300S-4T015GB	63	40	6.0	6.0	1.0	6
G300/G300S-4T018GB	63	40	10	10	1.0	10
G300/G300S-4T022GB	80	50	10	10	1.0	16
G300/G300S-4T030GB	100	65	16	16	1.0	16
G300/G300S-4T037GB	125	80	25	25	1.0	25
G300/G300S-4T045G	160	115	35	35	1.0	25
G300/G300S-4T055G	160	150	50	50	1.0	25
G300/G300S-4T075G	225	170	70	70	1.0	25
G300/G300S-4T093G	250	205	95	95	1.0	25
G300/G300S-4T110G	315	245	120	120	1.0	25

Inverter model	Blanking (MCCB)（A）	Contactor (A)	Input side main circuit conductor (mm^2)	Output side main circuit conductor (mm^2)	Control circuit wire (mm^2)	Ground wire（mm^2）
G300/G300S-4T132G	350	300	120	120	1.0	25
G300/G300S-4T160G	400	400	150	150	1.0	25
G300/G300S-4T185G	500	410	185	185	1.0	25
G300/G300S-4T200G	500	410	185	185	1.0	25
G300/G300S-4T220G	630	475	240	240	1.0	25
G300/G300S-4T250G	630	475	2× 120	2× 120	1.0	25
G300/G300S-4T280G	700	620	2× 120	2× 120	1.0	25
G300/G300S-4T315G	900	700	2× 150	2× 150	1.0	35
G300/G300S-4T355G	1000	800	2× 185	2× 185	1.0	35
G300/G300S-4T400G	1250	900	2× 240	2× 240	1.0	35
G300/G300S-4T450G	1250	1000	2× 240	2× 240	1.0	35
G300/G300S-4T500G	1720	1500	3× 183	3× 183	1.5	35
G300/G300S-4T550G	1900	1500	3× 240	3× 240	1.5	35
G300/G300S-2TR4GB	6	9	2.5	2.5	1.5	2.5
G300/G300S-2TR75GB	10	9	2.5	2.5	1.5	2.5
G300/G300S-2T1R1GB	10	9	2.5	2.5	1.5	2.5
G300/G300S-2T2R2GB	20	12	2.5	2.5	1.5	4
G300/G300S-2T4R0GB	32	25	4	4	1.5	4
G300/G300S-2T5R5GB	40	32	4.0	4.0	1.5	6
G300/G300S-2T7R5GB	50	40	6.0	6.0	1.5	6
G300/G300S-2T011GB	63	50	10	10	1.5	16
G300/G300S-2T015GB	100	65	16	16	1.5	16
G300/G300S-2T018G	100	80	25	25	1.5	25
G300/G300S-2T022G	125	115	35	35	1.5	25
G300/G300S-2T030G	160	150	50	50	1.5	25
G300/G300S-2T037G	225	170	70	70	1.5	25
G300/G300S-2T045G	250	205	95	95	1.5	25
G300/G300S-2T055G	315	245	120	120	1.5	25
G300/G300S-2T075G	500	400	150	150	1.5	25
G300/G300S-2T090G	630	500	240	240	1.5	25

Inverter model	Blanking (MCCB)（A）	Contactor (A)	Input side main circuit conductor (mm^2)	Output side main circuit conductor (mm^2)	Control circuit wire (mm^2)	Ground wire（mm^2）
G300/G300S-2T110G	800	630	150*2	150*2	1.5	25
G300/G300S-2T130G	800	630	150*2	150*2	1.5	25
G300/G300S-2T160G	1000	800	240*2	240*2	1.5	35
G300/G300S-2T220G	1200	1000	185*3	325*2	1.5	35

3.1.2 Instructions for the use of peripheral electrical components

Table 3-3 Instructions of the peripheral electrical components of G300/G300S

Accessory Name	Mounting position	Functional Description
Circuit breaker	The front-end of the input circuit	Disconnect the power supply in case of downstream equipment is over current.
Contactor	Between the circuit breaker and the inverter input side	Power-on and power-off operation of the inverter. Frequent power-on/power-off operation (more than 2 times per minute) on the inverter or direct start shall be avoided.
AC input reactor	Input side of the inverter	1) Improve the power factor of the input side. 2) Eliminate the high order harmonics of the input side effectively, and prevent other equipment from damaging due to voltage waveform deformation. 3) Eliminate the input current unbalance due to the unbalance among the phase of input.
DC reactor	DC reactor is optional for G300	1) Improve the power factor of the input side. 2) Eliminate the high order harmonics of the input side effectively, and prevent other equipment from damaging due to voltage waveform deformation.
EMC input filter	Input side of the inverter	1) Reduce the external conduction and radiation interference of the inverter; 2) Reduce the conduction interference flowing from the power end to the inverter, thus improving the anti-interference capacity of the inverter.
AC output reactor	Between the inverter output side and the motor, close to the inverter	The inverter output side generally has higher harmonic. Armonics will cause resonance in the circuit and bring in the following results: 1）Degrade the motor insulation performance and damage the motor for the long run. 2) Generate large leakage current and cause frequent inverter protection action. 3) In general, if the distance between the inverter and the motor exceeds 100 meters, output AC reactor shall be installed.

3.2 Wiring methods

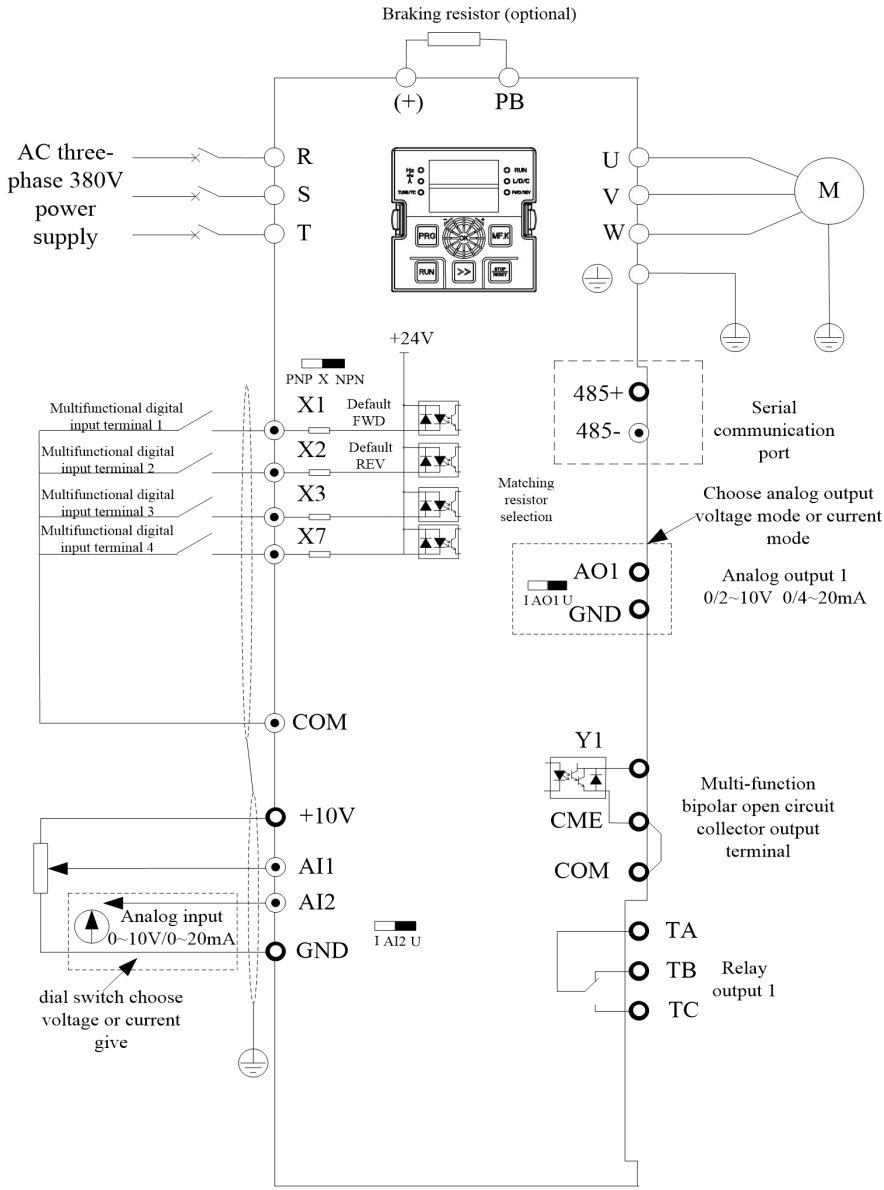


Figure 3-1. Three-phase 380V 2.2kW (4T:380V) and single-phase 220V (3S) 2.2kW (input connected to L N or R T) or less inverter wiring diagrams

Note: Digital input terminal X jumper switch factory default NPN mode (i.e., X short COM is effective), PNP mode is an optional function, three-phase 380V 2.2 kW and single-phase 220V 1.5 kW or less if you need to choose PNP mode. AI2, A01dial switch factory default voltage mode.

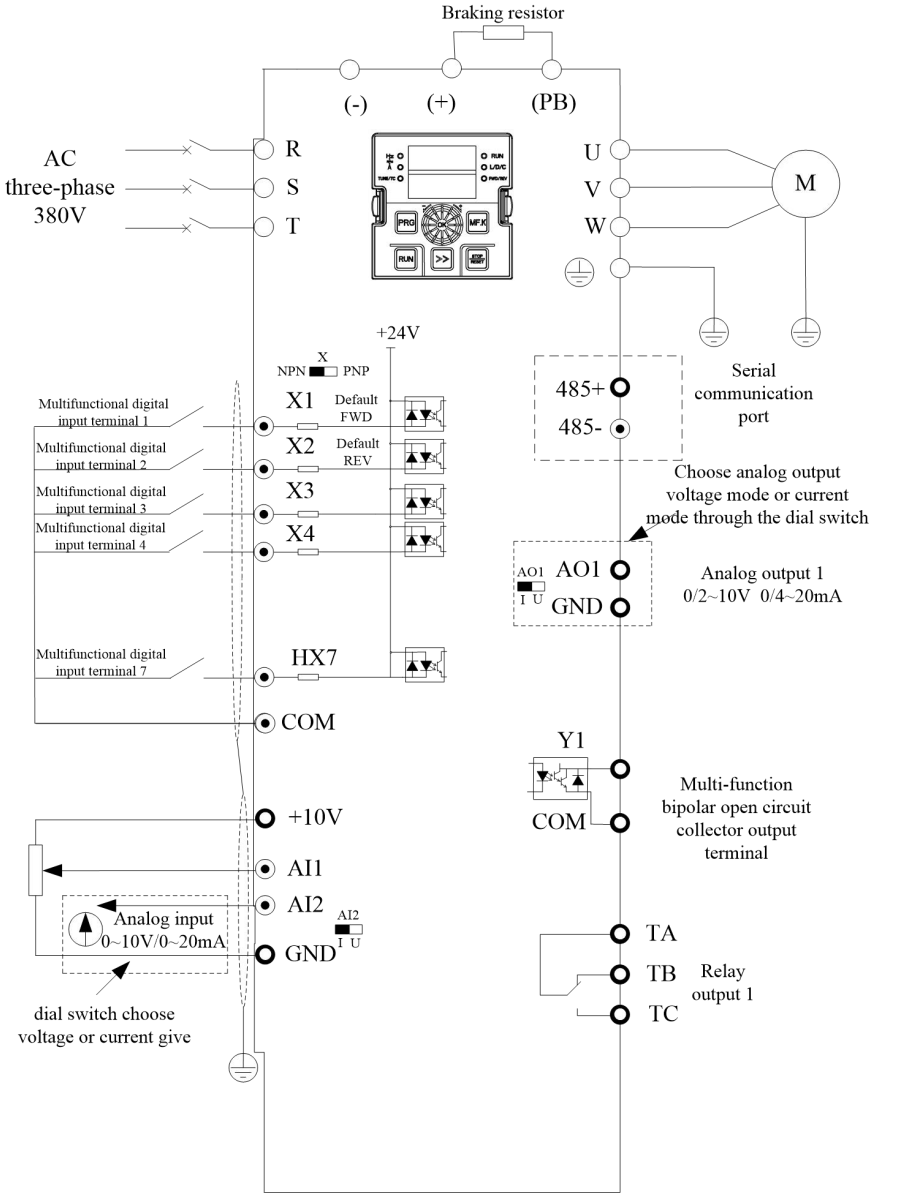


Figure 3-2. Three-phase 380V 4.0~ 37kW (4T:380V) and single-phase 220V (2S) 4.0~ 5.5kW or less (input connected to R T) Inverter Wiring Diagrams

Note: Digital input terminal X jumper switch factory default NPN mode (i.e. X short COM is effective), AI2,AO1,AO2 jumper switch factory default voltage mode.

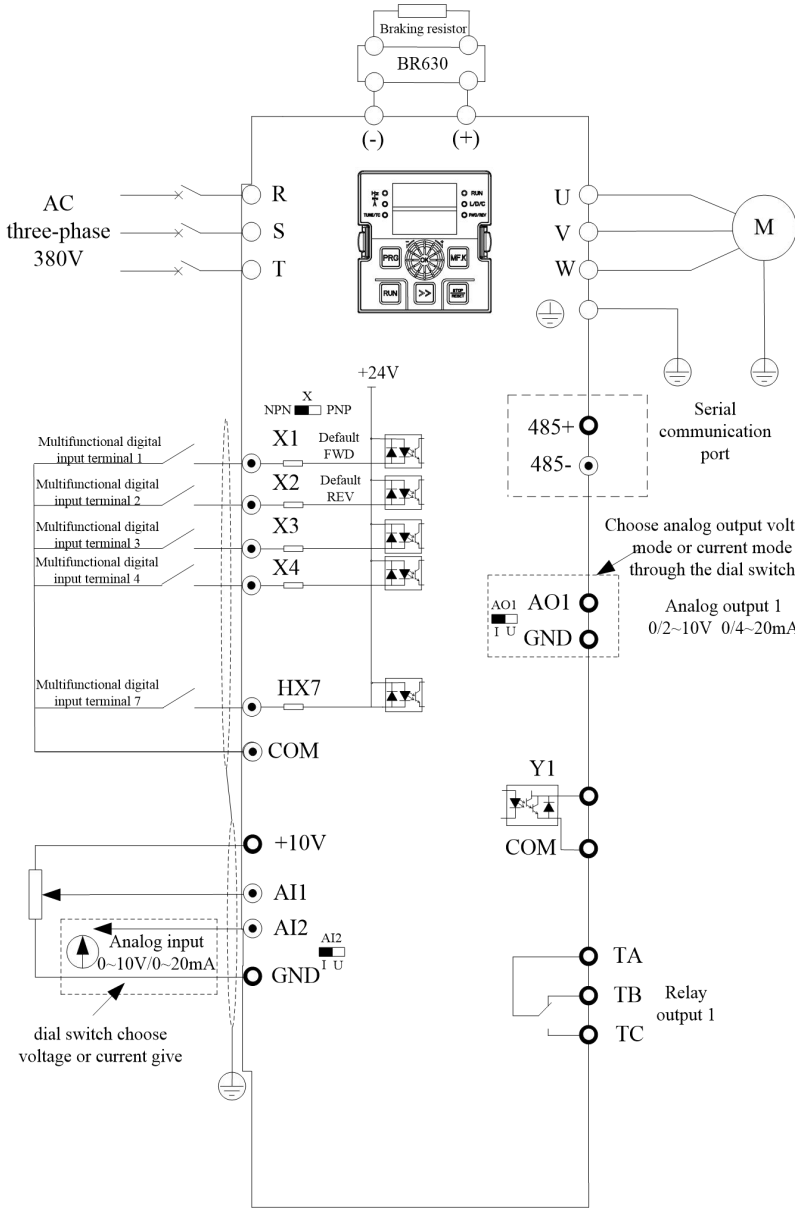


Figure 3-3. Three-phase 380V 55 ~ 110 kW (4T:380V) inverter without brake unit function wiring diagram
Note: Digital input terminal X jumper switch factory default NPN mode (i.e., X short COM is effective), AI2, AO1, AO2 dial switch factory default voltage mode. G300/G300S series 37 ~ 110kW brake unit part of the optional functions. The wiring diagram of the optional brake unit function refer to Figure 3-2.

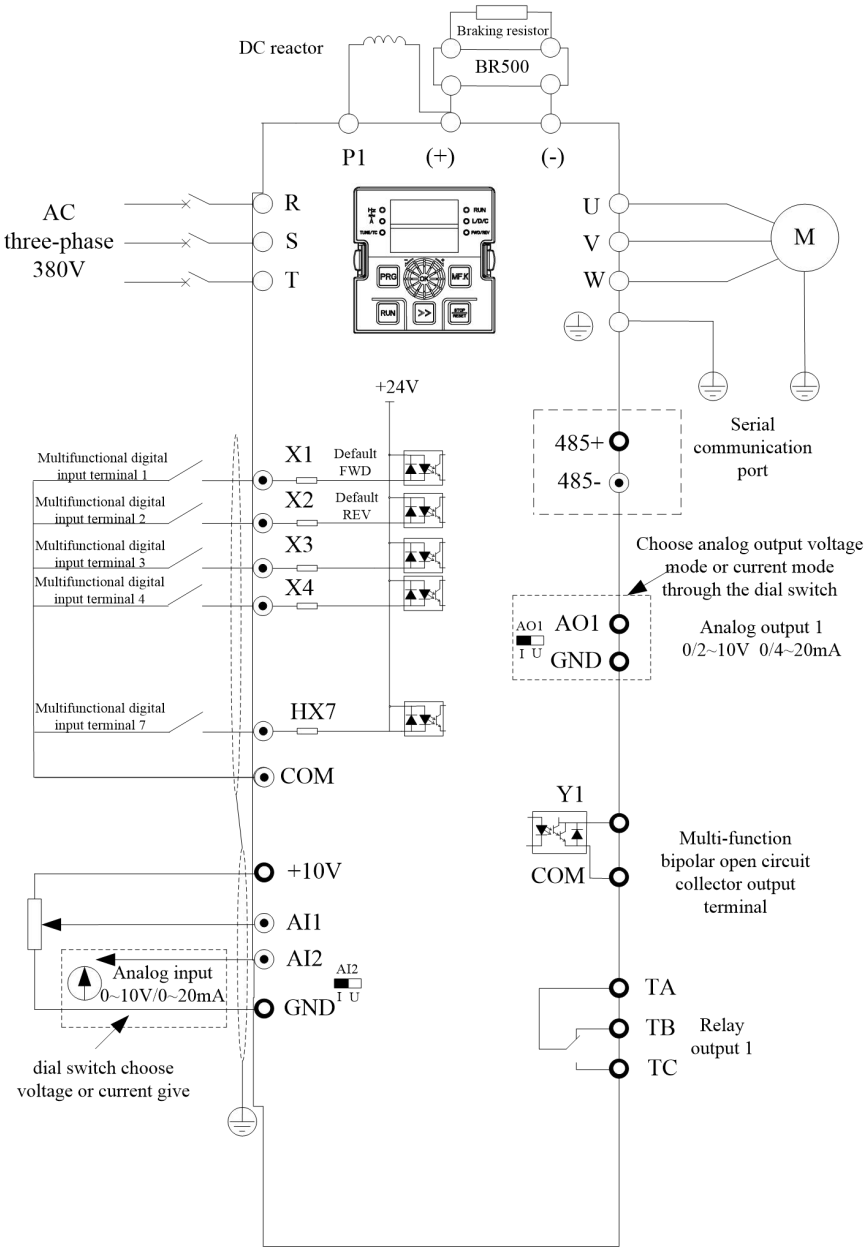


Figure 3-4. 3-Phase 380V 132kW (4T:380V) and Above 3-Phase Inverter Wiring Diagrams
Remarks: Digital input terminal X jumper switch factory default NPN mode (i.e. X short COM is valid), AI2,AO1,AO2 jumper switch factory default voltage mode. G300/G300S (4T:380V) 93~132kW external DC reactor optional, 220kW (including 220kW) or above built-in DC reactor standard.

3.2.1 Main circuit terminals and wiring

Single-phase inverter main circuit terminal description:

Terminal Marking	Name Title	Say
L, N	Single-phase power input terminals	Single-phase 220V AC power connection point
P (+), (-)	DC bus positive and negative terminals	Common DC bus input point
P (+), PB	Brake Resistor Connection Terminal	Connecting the braking resistor
U, V, W	Inverter output terminals	Connecting a three-phase motor
⏚	Ground terminal	Ground terminal

Three-phase inverter main circuit terminal description:

Terminal Marking	Name Title	Suggested
R, S, T	Three-phase power input terminals	AC input three-phase power connection point
P (+), (-)	DC bus positive and negative terminals	Common DC bus input point
P (+), PB	Brake Resistor Connection Terminal	220V up to 7.5kW, other voltage levels up to 18.5kW braking resistor connection point
U, V, W	Inverter output terminals	Connecting a three-phase motor
⏚	Ground terminal	Ground terminal

Wiring Notes:

Input power L, N or R, S, T:

Input side wiring of the inverter without phase sequence requirements.

DC bus P (+), (-):

Note that there is residual voltage at the DC bus P(+), (-) terminals just after power failure, you must wait for the power indicator on the driver board to go out and confirm that the power has been off for 10 minutes before you can carry out the wiring operation, otherwise there is a risk of electric shock.

The wiring length of the brake unit should not exceed 10 m. Twisted-pair or close-twisted parallel wiring should be used.

Do not connect the braking resistor directly to the DC bus, which may cause damage to the inverter or even fire.

Brake resistor connection terminals P(+), PB

Refer to the recommended values for braking resistor selection and the wiring distance should be less than 5 m. Otherwise, it may cause damage to the inverter.

Inverter output side U, V, W:

Capacitors or surge absorbers must not be connected to the output side of the inverter, or they will cause frequent protection or even damage to the inverter.

When the motor cable is too long, due to the influence of the distribution capacitance, it is easy to produce electrical resonance, which can cause the motor insulation damage or produce a large leakage current to make the inverter overcurrent protection. Motor cable length greater than 100m, must be installed near the frequency converter AC output reactor.

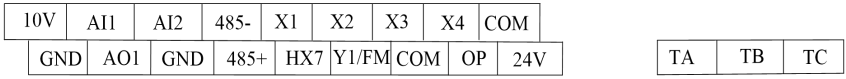
Ground terminal ⏚ PE:

The terminal must be reliably grounded, and the resistance value of the grounding wire must be less than 0.1 Ω. Otherwise, it will cause the equipment to work abnormally or even be damaged.

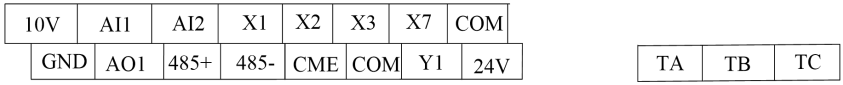
The ground terminal ⏚ must not be shared with the power supply zero N terminal.

3.2.2 Control terminals and wiring

The control circuit terminal arrangement is shown below:



Three-phase 380V (4T) 4.0kW and single-phase 220V (2S) 4.0kW or more



Three-phase 380V (4T) 2.2kW and single-phase 220V (2S) 2.2kW or less

Description of control terminal functions:

Table 3-4 G300/G300S Inverter Control Terminal Function Description

Category	Terminal	Terminal name	Functional description
Power source	+10V-GND	External +10V power supply	Provide +10V power supply externally, maximum output current: 10mA Generally used as an external potentiometer power supply, potentiometer resistance range: 1~ 5kΩ
	24V-COM	External +24V power supply	Provide +24V power supply to the outside, which is generally used as the working power supply of digital input/output terminals and the power supply of external sensors. Maximum output current: 200mA
Analog input	AI1-GND	Analog input terminal 1	1、Input voltage range: DC0~ 10V 2、Input impedance: 100KΩ

Category	Terminal	Terminal name	Functional description
	AI2-GND	Analog input terminal 2	1, input range: DC0~ 10V/4~ 20mA, selected by the J6 (AI2) jumper switch on the control board, factory voltage mode. 2、Input impedance: 100kΩ for voltage input, 500Ω for current input.
Digital input	DI1(X1)-COM	Digital Input 1	1, optical coupling isolation, compatible with bipolar input, through the OP terminal shorting piece (OP shorting 24V for NPN mode, OP shorting 24V for PNP mode), factory for NPN mode; 2. Input impedance: 3.3kΩ; 3. Voltage range at level input: 9~ 30V; 4, of which HX7 can be used as a high-speed input port; 5, of which three-phase 380V (4T) 2.2kW the following four X terminals.
	DI2(X2)-COM	Digital Input 2	
	DI3(X3)-COM	Digital Input 3	
	DI4(X4)-COM	Digital Input 4	
	HDI7(HX7)-COM	Digital Input 7	
Analog output	AO1-GND	Analog Output 1	Voltage or current outputs are selected by the J3 and J4 jumper switches on the control board, respectively. Output voltage range: 0~ 10V Output current range: 0~ 20mA or 4-20mA.
	AO2-GND	Analog Output 2	
Digital output	Y1-CME	Digital Output 1	Optically coupled isolated, bipolar open collector output (OC gate output) Output voltage range: 0~ 24V Output current range: 0~ 50mA Note: The digital output ground CME is internally isolated from the digital input ground COM, but CME and COM are externally shorted at the factory (at this time Y1 is driven by +24V by default). When Y1 wants to be driven by external power supply, the external short connection between CME and COM must be disconnected.
Communic-ation	485+ -485-	Modbus	Modbus communication interface, can be selected

Category	Terminal	Terminal name	Functional description
interface		communication interface	by dip switch CN4 whether communication matching resistor is required or not. For Profibus communication function, please select G680 series inverter with Profibus DP card.
Relay Output 1	TA-TB	normally closed terminal	Contact drive capability: AC250V, 3A, COSφ=0.4. DC30V, 3A
	TA-TC	normal open terminal (math.)	
Relay Output 2	RA-RB	normally closed terminal	Contact drive capability: AC250V, 3A, COSφ=0.4. DC30V, 3A
	RA-RC	normal open terminal (math.)	
Keyboard interface	CN6	external keyboard interface	External lead keyboard, parameter copy keyboard interface, take out the bi-directional crystal head, you can use the standard network cable (network cable wire sequence one-to-one correspondence) for the extension.

Signal input terminal wiring instructions:

AI analog input terminal:

Because of the weak analog voltage signal is particularly vulnerable to external interference, so generally need to use shielded cable, and wiring distance as short as possible, not more than 20m, such as Figure 3-7. In some analog signals are subjected to serious interference occasions, the analog signal source side need to be added to the filter capacitor or ferrite core.

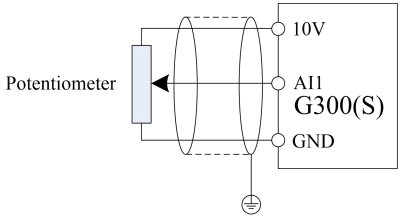


Figure 3-10. Analog Input Terminal Wiring Schematic

X digital input terminals:

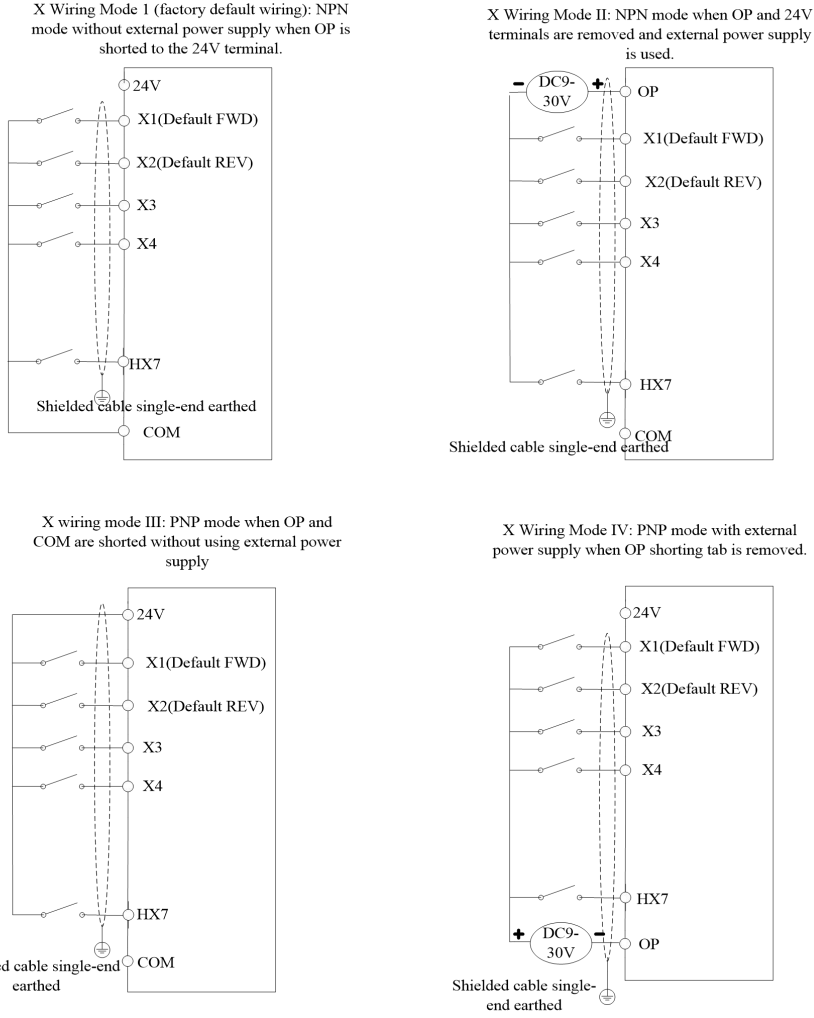


Figure 3-11. Digital Input Terminal Wiring Diagram in Four Different Modes

Shielded cables are generally required and wiring distances are kept as short as possible, not exceeding 20 meters.

When an active drive method is selected, the necessary filtering measures for the crosstalk of the power supply are required.

It is recommended that the contact control method be selected.

Y1 digital output terminal:

When the digital output terminals need to drive the relay, absorbent diodes should be added on both sides of the relay coil, and the driving capacity should not be greater than 50mA. otherwise, it is easy to cause damage to the DC 24V power supply.

Note: Be sure to install the polarity of the absorber diode correctly, as in Figure 3-12, otherwise the DC 24V power supply will be burned out immediately when there is output from the digital output terminals.

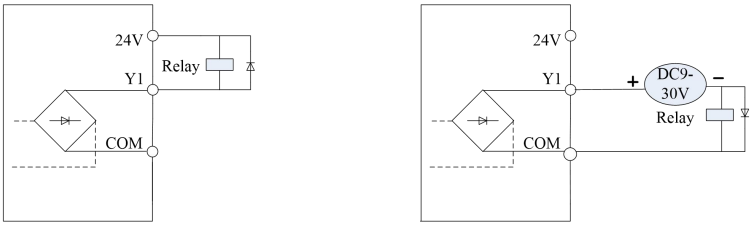


Figure 3-12. Digital output terminal Y1 wiring diagram

3.3 External terminals control four different operating modes

3.3.1 Two-wire operation mode 1 (F5-11=0 factory default): This mode is the most commonly used two-wire mode. The FWD (factory default X1 terminal) and REV (factory default X2 terminal) terminal commands determine the forward and reverse rotation of the motor.

K1	K2	Running Command
0	0	STOP
1	0	Forward rotation
0	1	Reversal
1	1	STOP

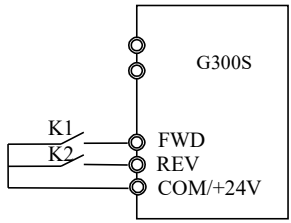


Figure 3-13. Two-wire operation mode 1

3.3.2 2-wire operation mode 2 (F5-11=1): With this mode FWD (factory default X1 terminal) is the enable terminal. The direction is determined by the state of REV (factory default X2 terminal).

K1	K2	Running Command
0	0	STOP
0	1	STOP
1	0	Forward rotation
1	1	Reversal

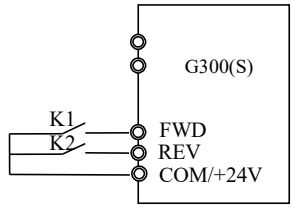


Figure 3-14. Two-wire operation mode 2

3.3.3 Three-wire operation mode 1 (F5-11=2): In this mode, SB1 (Din) is the enable terminal, and the direction is controlled by FWD (factory default X1 terminal) and REV (factory default X2 terminal) respectively. However, the pulse is valid and must be done by disconnecting the signal from SB1 (Din) terminal when stopping.

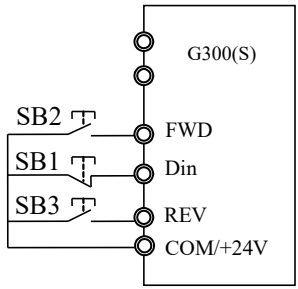


Figure 3-15. 3-Line Operation Mode 1

Among them:

SB1 (Din): stop button (normally closed point, corresponding X terminal function set to 3: 3-wire operation control)

SB2: Forward button (factory default X1 terminal)

SB3: Reverse button (factory default X2 terminal)

3.3.4 3-wire operation mode 2 (F5-11=3): the enable terminal of this mode is SB1 (Din), the run command is given by FWD, the direction is determined by the state of REV, and the stop command is accomplished by disconnecting the signal of SB1 (Din).

K	Direction
0	Forward
1	Reversal

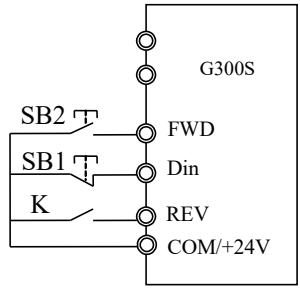


Figure 3-16. 3-Line Operation Mode 2

Among them:

SB1 (Din): stop button (normally closed point, corresponding X terminal function set to 3: 3-wire operation control)

SB2: Run button (factory default X1 terminal)

K: Run direction button (factory default X2 terminal)

Chapter 4 Operation and Display

4.1 Introduction to the operation and display interface

With the operation panel, you can modify the functional parameters of the inverter, monitor the working status of the inverter and control the operation of the inverter (starting and stopping), etc. Its appearance and functions are shown in the figure below.

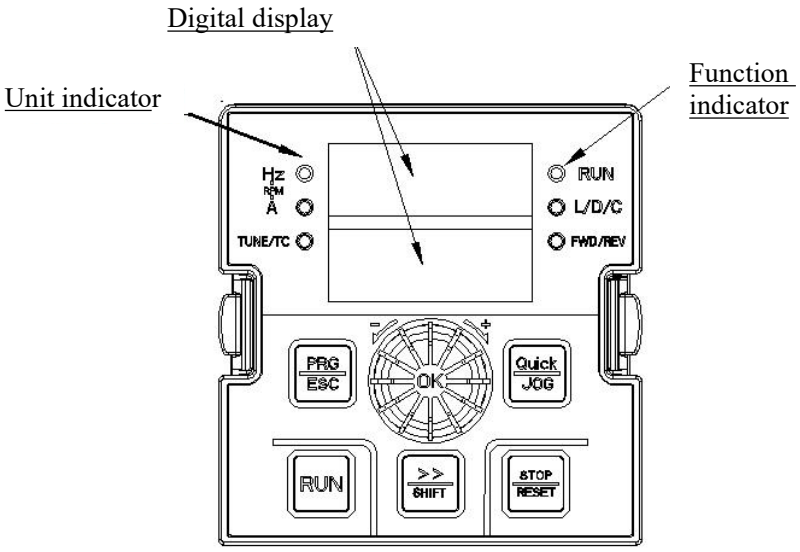


Figure 4-1. Operation Panel Schematic 1 (standard single line display LED keypad 1, optional dual line display 300-LED keypad 1)

4.1.1 Indicator light description

LED Symbol		Unit	Implication	Color
Unit LED	Hz	Freq. Unit	LED on— current parameter is frequency value	Green
	A	Current Unit	LED on— current parameter is current value	Green
	V	Voltage Unit	LED on— current parameter is voltage value	Green
	RPM (Hz+A)	Speed Unit	LED on —current parameter is rotation speed value	Green
Function	% (Hz+V)	Percentage	LED on—current parameter is percentage value	Green

LED Symbol		Unit	Implication	Color
	RUN	Running status LED	LED on—in the status of running Light off—in the status of stop LED flash—in the status of sleep	Green
	L/D/C	Control mode LED	LED off—in the status of keyboard control mode LED on—in the status of terminal control mode LED flash—in the status of remote communication control mode	Red
	FWD/REV	Running direction LED	LED off—in the status of forward rotation LED on—in the status of reverse rotation LED flash—the target frequency is opposite to the actual frequency or in the status of reverse-run prohibition	Red

4.1.2 Digital display area

5-digit LED display, can display the set frequency, output frequency, various monitoring data and alarm code. Function code is usually a decimal number display, such as F0-11 function code value is displayed as "50.00", indicating the decimal number "50.00". When the function code value is displayed in hexadecimal, the highest bit of the digital tube displays "H." indicating that the current function code value is displayed in hexadecimal mode, such as F7-29 function code value is displayed as "H.003F", at this time the value of F7-29 is The value of F7-29 is "0x3f" in hexadecimal.

The user is free to set the monitoring data for stop and run status according to function code F7-29/F7-31, see function code F7-29/F7-31 for details.

4.1.3 Description of keyboard buttons

Table 4-1 Keyboard Menu

Keystrokes	Name	Function
PRG/ESC	Programming Key/Exit	One level menu to enter or exit, return to higher level menu

	Confirmation key (ENTER)	Step-by-step access to the menu screen and confirmation of setup parameters
	Incremental key (+)	Incrementing of data or function codes
	Decrementing key (-)	Decrement of data or function codes
The	Shift key	Under the shutdown display interface and operation display interface, the display parameters can be selected cyclically, see F7-29, F7-30 and F7-31 for the specific display meanings; when modifying the parameters, the modification bit of the parameters can be selected.
RUN	Run key	For running operations in keyboard mode
STOP/RESET	Stop/Reset	During the running state, pressing this key can be used to stop the running operation; during the fault alarm state, it can be used to reset the operation, and the characteristics of this key are governed by the function code F7-27.
QUICK/JOG	Tap the Run button / arrow keys	F7-28 is set to 0 for the point operation button, F7-28 is set to 1 for the direction button, press this button to reverse the direction.

4.2 Organization of Inverter Function Codes

The meaning of each function code group of the G300/G300S inverter is shown in the table below:

Function code group	Functional Description	Explanation
F0 to FF	Basic Function Parameter Set	Refer to the function code planning of mainstream inverter manufacturers
C0 to C3	2nd motor parameter group	2nd motor parameter, acceleration and deceleration time, control method, all can be set independently.
E0 to E6	Enhancements parameter set	System parameter setting, user function code customization, optimized control, AI/AO correction, master-slave control, holding brake function and sleep function;
n0 to nF	The Specialized Functional Options Group	Choose to use different specialized inverter functions.
U0 to U1	monitoring parameter sets	U0 is the fault record parameter group, and U1 is the user monitoring parameter, which is convenient for checking the relevant output status; U0 is the fault record parameter group, and U1 is the user monitoring parameter.

4.3 Explanation of how to view and modify function codes

G300/G300S inverter function code parameters adopt three-level menu structure, which can be viewed and modified through the operation panel. The three-level menu are as follows: Function parameter group (Level I menu)→ Function code (Level II menu)→ Function code set value (Level III menu). The operation flow is shown in Figure 4-2. When in the state parameter interface, you can view different state parameters through the " " key.

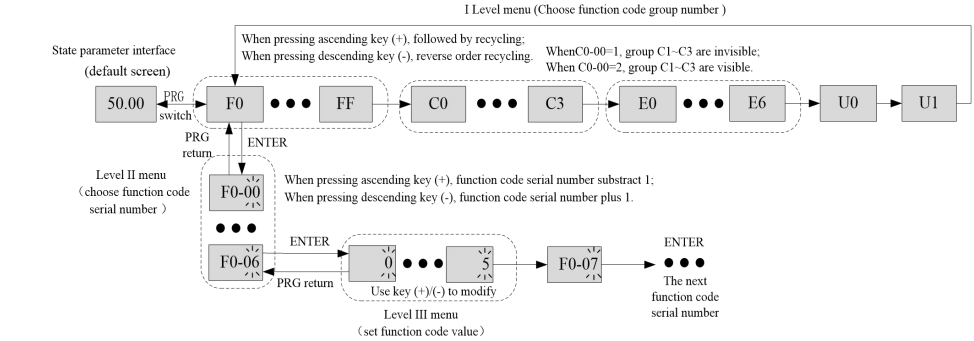


Figure 4-2. Three-level menu operation flowchart

Note: When operating in the three-level menu, you can press either the PRG key or the ENTER key to return to the second-level menu. However, pressing ENTER will save the current parameter modification value and transfer to the next function code; while pressing PRG will abandon the current parameter modification.

Example: Change the setting of function code F2-04 from 0.00Hz to 5.00Hz.

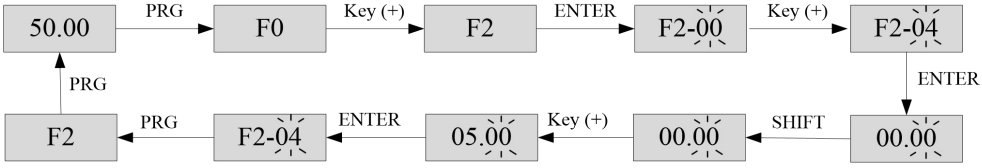


Figure 4-3. Parameter Setting Operation Flowchart

In the third level menu state, if the parameter does not have a blinking bit, it means that the value of the function code parameter cannot be modified, for the specific reason, you can check the description of the function code attribute.

4.4 Function Code Menu Modes and Switching Instructions

4.4.1 Definition and Operation of Multifunction Shortcut Keys

The function of the MF.K button can be defined by the F7-28 function code.

F7-28	**MF.K key function selection**		factory value	0
	Setting range	0	Positive rotation point movement	
		1	Forward and reverse switching	
		2	Reverse point movement	
		3	Switching between panel control and remote control (terminal or communication)	

The MF.K key is a multi-function key and the functions of the MF.K key can be set with this function code. It can be switched by this key both in stopping and in running.

0: Positive rotation point movement

Positive rotation pointing motion (FJOG) is realized with the keyboard MF.K key.

1: Forward and reverse switching,

The frequency command direction is switched via the MF.K key, which is only valid when the command source is an operator panel command channel.

2: Reverse point movement

Reverse Jogging (RJOG) is realized with the keyboard MF.K key.

3: Panel control and remote control (terminal or communication) switching

Refers to command source switching, i.e., switching between the current command source and keyboard control (local operation). If the current command source is keyboard control, this key function is invalid.

4.4.2 Function Code Menu Mode

Menu mode switching operation: the first step E0-03=1 LED menu mode switching is valid, the second step press and hold the confirmation key for more than 2S for menu mode switching.

For easy viewing and operation, G300/G300S series inverters provide three menu mode switching display of function codes.

menu mode	descriptive
-BASE Basic Menu Mode	Function code parameters are displayed in order, F0~ FF, C0~ C3, E0~ E6, F0~ FF, U0~ U1. Among them, C1~ C3 is only displayed when it is the second motor, and F1~ FF is displayed in connection with the parameter setting of F0-00, and is not displayed by default.
-USER User-customized parameter modes	Only user-customized function parameters are displayed (up to 31 customized), which can be freely defined by E1 group. The function code starts with the letter U, and the function code parameter values can be directly modified. The inverter has already defined 19 commonly used user function codes for the user from the factory, while the user can clear the user customized function codes via E1-00 and subsequently redefine E1-01~ E1-31.
-NOTF Factory value change parameter mode	Upon entering this menu mode, only function codes that do not correspond to the factory parameters are displayed, function codes that begin with the letter n, the

4.5 Multi-Segment Speed Switch Combination Instruction Description

Table 4-2 Multi-Segment Speed Command Combination Function Description: K1, K2, K3, and K4 shown in the table correspond to 12: Multi-Segment Speed Command Terminal 1, 13: Multi-Segment Speed Command Terminal 2, 14: Multi-Segment Speed Command Terminal 3, and 15: Multi-Segment Speed Command Terminal 4 of the function code contents of the F6 Group X (DI) Input Terminal, respectively.

Example of application: As shown in the table, the first line when K1-K4 are all disconnected, the frequency of multispeed 0 setting is executed; the second line when only K1 is closed, the frequency of multispeed 1 setting is executed, and so on.

K4	K3	K2	K1	Frequency setting	corresponding parameter
OFF	OFF	OFF	OFF	Multi-speed 0	FC-00
OFF	OFF	OFF	ON	Multi-speed 1	FC-01
OFF	OFF	ON	OFF	Multi-speed 2	FC-02
OFF	OFF	ON	ON	Multi-speed 3	FC-03
OFF	ON	OFF	OFF	Multi-speed 4	FC-04
OFF	ON	OFF	ON	Multi-speed 5	FC-05
OFF	ON	ON	OFF	Multi-speed 6	FC-06
OFF	ON	ON	ON	Multi-speed 7	FC-07
ON	OFF	OFF	OFF	Multi-speed 8	FC-08
ON	OFF	OFF	ON	Multi-speed 9	FC-09
ON	OFF	ON	OFF	Multi-speed 10	FC-10
ON	OFF	ON	ON	Multi-speed 11	FC-11
ON	ON	OFF	OFF	Multi-speed 12	FC-12
ON	ON	OFF	ON	Multi-speed 13	FC-13

K4	K3	K2	K1	Frequency setting	corresponding parameter
ON	ON	ON	OFF	Multi-speed 14	FC-14
ON	ON	ON	ON	Multi-speed 15	FC-15

4.6 Switching Methods between Knob Keyboard and Pure Keyboard

PRG (menu key) and STOP (stop key) key at the same time to press not loose (about waiting for 3S or so), waiting for the display END to release that is the switching success, can be switched with each other.

Chapter 5 Troubleshooting and Countermeasures

5.1 Fault Alarms and Countermeasures

When a fault occurs during system operation, the frequency converter will immediately protect the motor to stop the output, while the corresponding frequency converter fault relay contact operates. The inverter panel displays the fault code, the fault code corresponding to the type of fault and common solutions are detailed in the following table. Listed in the table is for reference only, please do not unauthorized repair, transformation, if you can not troubleshooting, please seek technical support from our company or product agents.

Table 4-1 Fault Alarms and Countermeasures

Fault name	Display	Possible Causes	Solutions
Inverter module protection	Err01	1, the motor connecting end U, V, W have no phase to phase or short circuit to ground 2. Whether the module is overheated 3, inverter internal wiring is loose 4, the main control board, driver board or module is normal	1.Contact short circuit 2. fan, air duct is normal 3. Connect all loose wires 4. Seek technical support
Over-current during acceleration	Err04	1, the inverter output circuit there is a ground or short circuit 2、Incorrect motor parameters 3. Acceleration time is too short 4, V / F torque boost or curve is not appropriate 5、Low input voltage 6. Starting the motor that is rotating 7、Accelerate the process of sudden load 8, inverter selection is small	1. Troubleshooting peripheral faults 2. Check the parameters and parameter identification 3. Increase acceleration time 4. Adjust the V/F lifting torque or curve 5. Adjust the voltage to the normal range 6. Select speed tracking start or wait for the motor to stop and then start again 7. Eliminate sudden loads 8. the choice of power level greater frequency converter

Fault name	Display	Possible Causes	Solutions
Inverter module protection	Err01	1: The output circuit is grounded or short circuited. 2: The module overheats. 3: The internal connections become loose. 4: The main control board is faulty, drive board or module is faulty.	1: Eliminate external faults. 2: Check the air filter and the cooling fan. 3: Connect all cables properly. 4: Contact the agent or the manufacturer for help.
Over-current during acceleration	Err04	1: The output circuit is grounded or short circuited. 2: Motor parameter is not right. 3: The acceleration time is too short. 4: Manual torque boost or V/F curve is not appropriate. 5: The voltage is too low. 6: The startup operation is performed on the rotating motor. 7: A sudden load is added during acceleration. 8: The AC drive of model is too small.	1: Eliminate external faults. 2: Perform the motor auto-tuning. 3: Increase the acceleration time. 4: Adjust the manual torque boost or V/F curve. 5: Adjust the voltage to normal range. 6: Select rotational speed tracking restart or start the motor after it stops. 7: Remove the added load. 8: Select an AC drive of higher power class.
Over-current during deceleration	Err05	1: The output circuit is grounded or short circuited. 2: Motor parameter is not right. 3: The deceleration time is too short. 4: The voltage is too low. 5: A sudden load is added during deceleration. 6: The braking unit and braking resistor are not installed. 7: Magnetic flux brake gain too much	1: Eliminate external faults. 2: Perform the motor auto-tuning. 3: Increase the deceleration time. 4: Adjust the voltage to normal range. 5: Remove the added load. 6:Install the braking unit and braking resistor. 7: Decrease the over-magnetic flux brake gain.
Over-current at constant speed	Err06	1: The output circuit is grounded or short circuited. 2: Motor parameter is not right.	1: Eliminate external faults. 2: Perform the motor auto-tuning. 3: Adjust the voltage to

Fault name	Display	Possible Causes	Solutions
		3: The voltage is too low. 4: A sudden load is added during operation. 5: The AC drive model is of too small.	normal range. 4: Remove the added load. 5: Select an AC drive of higher power class.
Over-voltage during acceleration	Err08	1：The input voltage is too high. 2：External force drives the motor during acceleration. 3：The acceleration time is too short. 4：The braking unit and braking resistor are not installed. 5：Motor parameter is wrong.	1：Adjust the voltage to normal range. 2：Cancel the external force or install a braking resistor. 3：Increase the acceleration time. 4：Install the braking unit and braking resistor. 5：Perform the motor auto-tuning.
Over-pressure during deceleration	Err09	1：The input voltage is too high. 2：External force drives the motor during deceleration. 3：The deceleration time is too short. 4：The braking unit and braking resistor are not installed.	1：Adjust the voltage to normal range. 2：Cancel the external force or install a braking resistor. 3：Increase the deceleration time. 4：Install the braking unit and braking resistor.
Over-voltage at constant speed	Err10	1：The input voltage is too high. 2：External force drives the motor during acceleration.	1：Adjust the voltage to normal range. 2：Cancel the external force or install a braking resistor.
Under-voltage	Err12	1. Instantaneous power failure occurs. 2. The input voltage exceeds the allowed range. 3. The DC bus voltage is too low. 4. The rectifier bridge and Buffer resistor are faulty. 5.The drive board is faulty. 6.The control board is faulty.	1. Reset the fault. 2. Adjust the input voltage to within the allowed range. 3. Seek for maintenance.
Drive Overload	Err13	1. The load is too heavy or the rotor is locked.	1: Reduce the load, or check the motor, or check the

Fault name	Display	Possible Causes	Solutions
		2. The drive is of too small power class.	machine whether it is locking the rotor. 2: Select a drive of higher power class.
Motor overload	Err14	1. Whether the motor protection parameter F9-01 is set appropriately or not 2.Whether the load is too large or the motor is blocked 3. Inverter selection is small	1. Set this parameter correctly 2. Reduce the load and check the motor and mechanical conditions 3. Select the inverter with bigger power level
Drive overheating	Err15	1: The ambient temperature is too high. 2: The air filter is blocked. 3: The cooling fan is damaged. 4: The thermally sensitive resistor of the module is damaged. 5: The inverter module is damaged.	1: Lower the ambient temperature. 2: Clean the air filter. 3: Replace the damaged fan. 4: Replace the damaged thermally sensitive resistor. 5: Replace the inverter module.
Current Detection	Err17	1: The internal connections become loose. 2: The HALL device is faulty. 3: The control or drive board is faulty.	1: Connect all cables properly. 2: Seek for maintenance.
Short circuit	Err20	Motor shorted to ground	Replace the cables or motor.
Input phase	Err23	1: The three-phase power input is abnormal. 2: The drive board is faulty. 3: The lightening board is faulty. 4: The main control board is faulty.	1: Eliminate external faults. 2: Seek for maintenance.
Output phase	Err24	1: The cable connecting the AC drive and the motor is faulty. 2: The AC drive's three-phase outputs are unbalanced when the motor is running.	1: Eliminate external faults. 2: Check whether the motor three-phase winding is normal. 3: Seek for maintenance.

Fault name	Display	Possible Causes	Solutions
		3: The drive board is faulty. 4: The module is faulty.	
Parameter read/write failure	Err25	EEPROM chip damage	Replacement of the main control board
Malfunction of communications	Err27	1: The host computer is in abnormal state. 2: The communication cable is faulty. 3: The communication parameters in group F8 are set improperly.	1: Check cabling of the host computer. 2: Check the communication cabling. 3: Set the communication parameters properly.
External fault	Err28	Through the multi-function X (DI) terminal input external normally open or normally closed fault signal	Reset the fault.
Excessive speed deviation	Err29	1.The load is too heavy and the setup acceleration time is too short 2. Fault detection parameters F9-31, F9-32 set unreasonable	1. Increase the acceleration and deceleration time. 2. Reset F9-31, F9-32
User-defined fault 1	Err30	User-defined fault 1 signal input via multi-function terminal X (DI)	Reset the fault.
User-defined fault 2	Err31	User-defined fault 2 signal input via multi-function terminal X (DI)	Reset the fault.
Loss of PID feedback at runtime	Err32	PID feedback value is less than FA-13 set value	Check the feedback signal or reset FA-13
Fast current limiting	Err33	1.Excessive load or blocking 2.Setting the acceleration time is too short	1.Reduce the load or replace the higher power inverter 2.Appropriately extend the acceleration time
Loss of load	Err34	The detection is reached. Get more details form F9-28 to F9-30.	Reset or reset detection conditions
Input power	Err35	1: The input voltage is not within the allowable range. 2:The power on and off is too frequently.	1: Adjust the input voltage to the allowable range. 2:Extension of power on cycle.
Parameter	Err37	Communication between DSP	1. Replace the main control

Fault name	Display	Possible Causes	Solutions
storage		and EEPROM chip	board 2. Contact the agent or the manufacturer for help.
Current running time reached	Err39	1.Inverter this running time > F7-39 set value	1. Reset the fault.
Cumulative running time reached	Err40	1.Accumulated running time reaches the set value F7-20	Clear the record through the parameter initialization function or set F7-20 to a new value.
Switching motors during operation	Err42	Switching of motors via terminals during operation	Perform motor switchover after the AC drive stops.
PID feedback overrun during operation	Err44	1. The PID feedback value exceeds the FA-16 set value; 2. Used for over-temperature or over-voltage protection in constant temperature or constant pressure control.	1. Check the feedback signal or reset FA-16 2. When FA-17 is set to 0 S, PID overrun protection is invalid.
Master-Slave communicatio n dropout	Err46	1.No master set but slave set 2.Communication line abnormality or incorrect communication parameters	1. Set the host and reset the fault. 2. Check the communication line and communication parameters in F8 group
Permanent magnet synchronous motor reverse potential recognition error faults	Err48	1. Motor parameter setting error 2. Is the motor demagnetized 3. Is there any abnormality in the motor power cord	1. Check the electrical parameters of the motor, or ask the motor manufacturer. 2. Detecting whether the motor is demagnetized with an instrument 3. Detecting abnormalities in the motor power cord

5.2 Common Faults and Their Handling

The following fault conditions may be encountered during the use of the inverter, please refer to the following method for simple fault analysis.

Table 4-2 Common Faults and Their Handling Methods

Serial number	Fault phenomenon	Possible causes	Solutions
1	No display at power-on	1: There is no power supply or the power supply is too low.	1: Check the power supply. 2: Check the bus voltage. 3: Re-connect the keypad and

Serial number	Fault phenomenon	Possible causes	Solutions
		2: The switching power supply on the drive board is faulty. 3: The rectifier bridge is damaged. 4: The buffer resistor of the drive is damaged. 5: The control board or the keypad is faulty. 6: The cable between the control board and the drive board or keypad breaks.	30-core cables. 4: Contact the agent for technical support.
2	"Err20" is displayed at power-on.	1: The motor or the motor output cable is short-circuited to the ground. 2: The AC driver is damage.	1: Measure the insulation of the motor and the output cable with a megger. 2: Contact the agent for technical support.
3	Err15 (module overheating) faults reported	1: The setting of carrier frequency is too high. 2: The cooling fan is damaged, or the air filter is blocked. 3: Components inside the AC drive are damaged (thermal coupler or others).	1: Reduce the carrier frequency (F0-26). 2: Replace the fan and clean the air filter. 3: Contact the agent for technical support.
4	Motor does not rotate after inverter runs	1: Check the motor and the motor cables. 2: The AC drive parameters are set improperly (motor parameters). 3: The cable between the drive board and the control board is in poor contact. 4: The drive board is faulty.	1: Ensure the cable between the AC drive and the motor works. 2: Replace the motor or clear mechanical faults. 3: Check and re-set motor parameters.
5	X(DI)	1. Wrong parameter	1. Check and reset F5 group related

Serial number	Fault phenomenon	Possible causes	Solutions
	terminal failure	setting 2. External signal error 3.X(DI)dial switch is in the wrong position 4.Control board failure	parameters 2.Re-connect the external signal line 3. Re-confirm that the position of the X (DI) dip switch is the same as the wiring method. 4. Contact the agent for technical support.
6	Frequent over-current and over-voltage faults	1.Motor parameters are not set correctly 2.Inappropriate acceleration and deceleration time 3.Load fluctuation	1.Reset motor parameters or motor tuning 2.Set the appropriate acceleration and deceleration time 3. Contact the agent for technical support.

Chapter 6 G300/G300S Modbus Communication Protocol

G300/G300S series inverter provides RS232/RS485 communication interface and supports Modbus communication protocol. Users can realize centralized control through computer or PLC, set inverter operation commands, modify or read function code parameters, read inverter working status and fault information through this communication protocol.

1. Content of the agreement

This serial communication protocol defines the content of the information transmitted in serial communication and the format used. These include: the host polling (or broadcasting) format; the coding method of the host, which includes: the function code of the requested action, the transmitted data and the error check, and so on. The slave's response adopts the same structure, including: action confirmation, return data and error checking. If the slave makes an error in receiving information or fails to complete the action requested by the host, it will organize a fault message as a response back to the host.

2. **Application mode**

The inverter is connected to a PC/PLC control network with RS232/RS485 bus.

3. Bus structure

(1) Interface

RS232/RS485 hardware interface

(2) Transmission method

Asynchronous serial, half-duplex transmission method. At the same time only one of the host and slave can send data and the other can only receive data. Data is sent in the form of telegrams, frame by frame, during serial asynchronous communication.

(3) Topology

A single-master-multiple-slave system. Slave addresses are set in the range of 1~ 247, with 0 being the broadcast communication address. Slave addresses must be unique in the network.

4. Description of the agreement

The communication protocol of G300/G300S series inverter is an asynchronous serial master-slave Modbus communication protocol, only one device (host) in the network can establish the protocol (called "query/command"), and the other devices (slaves) can only respond to the host's "query/command" by providing data or make corresponding actions according to the host's "query/command". The other devices (slaves) can only respond to the host's "query/command" by providing data, or make corresponding actions according to the

host's "query/command". The master here refers to a personal computer (PC), industrial control device or programmable logic controller (PLC), etc., and the slave refers to the G300/G300S inverter. The master can communicate with a slave individually or broadcast messages to all subordinate slaves. For individually accessed "queries/commands" from the master, the slaves all return a message (called a response), and for broadcast messages issued by the master, the slaves do not need to return a response to the master.

5. Communication frame structure

The Modbus protocol communication data format of G300/G300S series inverter is as follows.

Using RTU mode, message sending must begin with a pause interval of at least 3.5 character times. This is easiest to achieve with varied character times at network baud rates (shown in T1-T2-T3-T4 in the following figure). The first field transmitted is the device address. The transmission characters that can be used are the hexadecimal 0... .9,A...F. .F. The network device constantly detects the network bus, including during the pause interval. When the first field (address field) is received, each device decodes it to determine if it is addressed to itself. After the last transmitted character, a pause of at least 3.5 character time marks the end of the message. A new message may begin after this pause.

The entire message frame must be transmitted as a continuous stream. If there is a pause of more than 1.5 characters before the frame is complete, the receiving device refreshes the incomplete message and assumes that the next byte is the address field of a new message. Similarly, if a new message follows the start of the previous message in less than 3.5 character time, the receiving device will assume that it is a continuation of the previous message. This will result in an error because the value in the last CRC field cannot be correct.

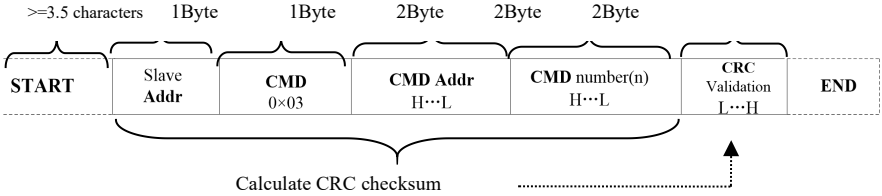
RTU frame format:

<table>
<tr><td>Frame header START</td><td>3.5 character time</td></tr>
<tr><td>Slave address FdR</td><td>Correspondence: 1~ 247 (set by F8-02)</td></tr>
<tr><td>Command Code D</td><td>03: Read slave parameters; 06: Write slave parameters</td></tr>
<tr><td>Data content DATA</td><td rowspan="4">Profile Content:
Function code parameter address, number of function code parameters, function code parameter value, etc.</td></tr>
<tr><td>Data content DATA</td></tr>
<tr><td>.....</td></tr>
<tr><td>Data content DATF0</td></tr>
<tr><td>CRC CHK Low</td><td rowspan="2">Detection value: CRC16 checksum value. Transmitted with the low byte first and the high byte second. See the description of the CRC checksum in this section for details of the calculation</td></tr>
<tr><td>CRC CHK high</td></tr>
<tr><td>END</td><td>3.5 character time</td></tr>
</table>

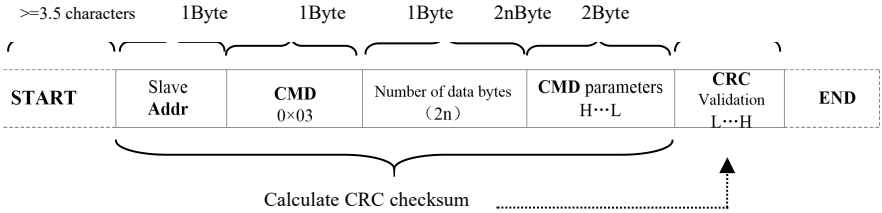
Command Instruction (D) and Data Description (DATA)

Command code: 03H, read N words (Word), up to 12 words and N=1~ 12; 06H, write a word (Word) The specific format is as follows.

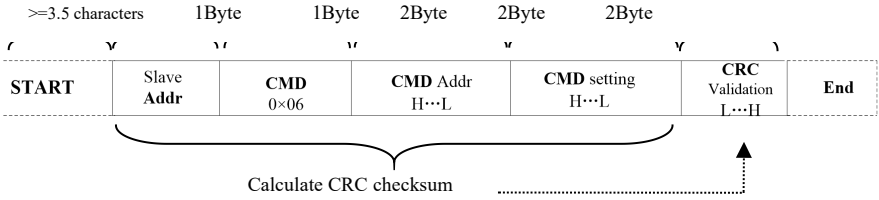
Host Read Command Frame



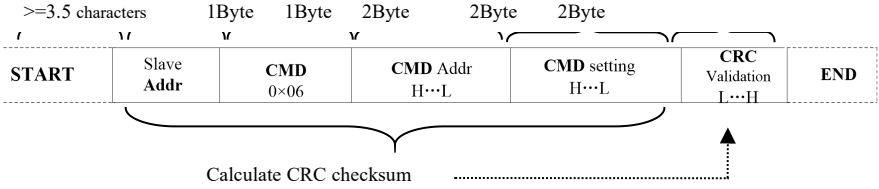
slave reads an answer frame



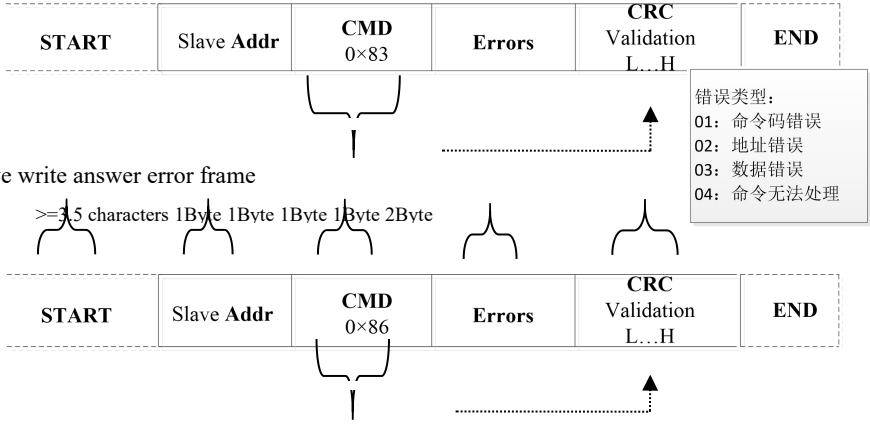
Host Write Command Frame



Slave Write Answer Frame



If the slave detects a communication frame error, or if the read or write is unsuccessful for other reasons, it will reply with an error frame. The slave read replies to the error frame:



Example: Read the contents of 2 consecutive parameters starting from inverter F0-03 with slave address F8-02 as 01.

The host sends frames as shown:

START >=3.5 characters	Slave **Addr** 0x01	**CMD** 0×03	**CMD** Addr 0xF0 0x03	Number of data bytes 0x00 0x02	**CRC** Validation 0x07 0x0B	**END**

The slave reply frame is shown:

START >=3.5 characters	Slave **Addr** 0x01	**CMD** 0×03	Number of data bytes 0×04	F0_03 Parameters 0x00 0x00	F0_04 Parameters 0x00 0x00	**CRC** Validation 0xFA 0x33	**END**

Note: If the write command is unsuccessful it will reply with the reason for the failure.

6. Checksum method (CRC checksum method)

CRC (Cyclical Redundancy Check) Using the RTU frame format, the message includes an error detection field based on the CRC method.The CRC field detects the entire contents of the message.The CRC field is two bytes containing a 16-bit binary value. It is calculated by the transmitting device and added to the message. The receiving device recalculates the CRC of the received message and compares it with the value in the received CRC field. if the two CRC values are not equal, there is an error in transmission.

The CRC is first deposited into 0xFFFF, and then a procedure is called to process the consecutive 8-Bit bytes in the message against the value in the current register. Only the 8Bit data in each character is valid for the CRC; the start and stop bits and the parity bit are invalid.

During CRC generation, each 8-bit character is individually differentiated (XORed) with the register contents and the result is shifted in the direction of the least significant bit and the highest significant bit is filled with 0. The LSB is extracted and detected, and the register is individually differentiated with the preset value if the LSB is 1, or not if the LSB is 0. The process is repeated 8 times, and the register is not differentiated with the value of the preset

value. The whole process is repeated 8 times. After the last bit (8th bit) is completed, the next 8-bit byte is again individually differentiated with the current value of the register. The final value in the register is the CRC value after all the bytes in the message have been executed.

When CRC is added to a message, the low byte is added first, then the high byte. The CRC simple function is as follows:

```
unsigned int crc_chk_value(unsigned char *data_value,unsigned char length){
        unsigned int crc_value=0xFFFF;
        int I;
        while (length--)                {
                crc_value^=*data_value++;
                for (i=0;i<8;i++)                       {
                        if (crc_value&0x0001)                           {
                                crc_value=(crc_value>>1)^0xF001;
                        }
                        else
                        {
                                crc_value=crc_value>>1;
                        }
                }
        }
        return (crc_value).
}
```

7. Address definition of communication parameters

This part is the content of communication, which is used to control the operation of the inverter, inverter status and related parameter settings.

Read and write function code parameters (some function codes cannot be changed and are for factory use or monitoring only):

Function code parameter address labeling rules:

Use the function code group number and labeling as the parameter address representation rule:

Higher bytes: F0~ FF (Group A), C0~ CF (Group C), E0~ EF (Group E), F0~ FF (Group F),

P0~ PF (P group), 70~ 7F (U group) Low byte: 00~ FF

For example, F0-11, the address is indicated as F00B;

Attention:

Group FF: Neither read nor change parameters;

Group U: Read only, no parameter changes.

Some parameters can not be changed when the inverter is in running state; some parameters can not be changed no matter what state the inverter is in; change the function code parameters, but also pay attention to the scope of the parameters, units, and related instructions.

Group number of function code	Access address of communication	Function code address of communication revise the RAM
Groups F0 to FE	0xF000 to 0xFFFF	0x0000 to 0x0EFF
Groups C0 to CF	0xB000 to 0xBFFF	0x4000~0x4FFF
Groups E0 to EF	0xC000 to 0xCFFF	0x5000~0x5FFF
Group U0, U1	0x70xx, 0x71xx	

Note In addition, since the EEPROM is frequently stored, which reduces the life of the EEPROM, some function codes do not need to be stored in the mode of communication, and it is sufficient to change the value in the RAM.

If it is a group A parameter, to realize the function, just turn the high A of the function code address to 0.

If it is a group C parameter, to realize this function, just change the high B of this function code address to 4.

The corresponding function code address is indicated below:

High byte: 00~ 0F (Group A), 40~ 4F (Group C) Low byte: 00~ FF

As:

Function codes F0-11 are not stored in the EEPROM and are indicated by the address 000B;

This address indicates that you can only do write RAM, not read, and when reading, it is an invalid address.

Shutdown/Operation Parameters section:

address	Parameter Description	address	Parameter Description
0x1000/ 0x9000	1000:*Communication set value (-10000~ 10000) (decimal) (unit: 0.01%), readable and writable	0x1014	AI1 Pre-calibration voltage (unit: 0.001V) read-only (computing)
	9000:Communication Setting Frequency: 0HZ~ F0-14 (Minimum Unit: 0.01HZ), Read/Write	0x1015	AI2 Voltage before correction (unit: 0.001V read-only (computing)
0x1001	Setting frequency (unit: 0.01Hz), read-only	0x1016	Actual line speed (unit: 1m/min), read-only
0x1002	Operating frequency (unit: 0.01Hz), read-only	0x1017	Load speed (unit: customized, refer to F7-32 use) , read only
0x1003	Bus voltage (unit: 0.1V), read-only	0x1018	Current power-up time (unit: 1min), read-only
0x1004	Output voltage (unit: 0.1V), read-only	0x1019	Current running time (unit: 0.1min) read-only
0x1005	Output current (unit: 0.01A: power <=30.0kW, 0.1A: power >30.0kW), read-only	0x101A	Input pulse frequency (unit: 1Hz), read-only
0x1006	Output power (unit: 0.1kW), read-only	0x101B	Main frequency X display (unit: 0.01Hz), read-only
0x1007	DI (X) input flag (unit: 1) , read-only	0x101C	Auxiliary frequency Y display (unit: 0.01Hz), read-only
0x1008	DO output flag (unit: 1), read-only	0x101D	Target torque (unit: 0.1%). With 100% of the rated motor torque, read-only
0x1009	PID setting (unit: 1) , read only	0x101E	Output torque (unit: 0.1%). With 100% of the rated motor torque, read-only
0x100A	PID feedback (unit: 1) , read only	0x101F	Output torque (unit: 0.1%). With the rated current of the inverter as 100%, read-only
0x100B	AI1 voltage (unit: 0.01V), read-only	0x1020	Upper torque limit (unit: 0.1%, With the rated current of the inverter at 100%, read-only
0x100C	AI2 voltage (unit: 0.01V), read-only	0x1021	VF Separation target voltage (in 1V), read-only
0x100D	AO1 Output Voltage (Unit: 0.01V) Read Only	0x1022	VF Separation Output Voltage (Unit: 1V), Read Only
0x100E	PLC step (unit: 1), read-only	0x1023	Reserved, read-only
0x100F	Rotation speed (unit: 1rpm), read-only	0x1024	Motor 1\2 indication (unit: 1), read only
0x1010	Count value input (unit: 1), read-only	0x1025	Length value input (unit: 1) Read only
0x1011	Input pulse frequency (unit: 0.01kHz), read-only	0x1026	AO2 output voltage (unit: 0.01V), read-only
0x1012	Feedback rate (unit: 0.1Hz), read-only	0x1027	Inverter status (unit: 1), read-only
0x1013	Remaining running time (unit: 0.1min), read-only	0x1028	Current Fault (Unit: 1) , Read Only

Example 1: Read the operating frequency of the first device: 0x01 0x03 0x10 0x02 0x00 0x01 0x21 0x0A

0x10 0x02 (1002) operating frequency address, 0x00 0x01 (0001) a data

0x21 0x0A (210A) CRC checksum value

Example 2: Read the bus voltage, output voltage and output current of the first device at the same time: 0x01 0x03 0x10 0x03 0x00 0x03 CRC check value, and the meaning of the data is similar to that of Example 1.

Note: The communication setpoint is a percentage of the relative value, 10000 corresponds to 100.00% and -10000 corresponds to -100.00%.

For frequency-range data, the percentage is the percent relative to the maximum frequency

(F0-14); for torque-range data, the percentage is F4-21, F4-23, C3-21, C3-23.

Note: The D0 output terminal requires the 16 (communication control) function to be selected.

The AO output requires the 7 (communication control output) function to be selected.

typology	command address	Order content
Control Command Input (Address: 06 only)	0x2000	0001: Forward running 0002: Reverse running 0003: Forward pointing 0004: Reverse Tap 0005: Free Stop 0006: Deceleration Stop 0007: Fault reset
status reading (read-only)	0x3000	0001: Forward operation 0002: Reverse operation 0003: Shutdown
Digital output terminal control (write-only)	0x2001	BIT0(0001): RELAY1 output control BIT1(0002): RELAY2 output control BIT3(0008): DO1 (Y1) output control
Analog output AO1 control (write only)	0x2002	0~ 7FFF indicates 0% to 100%
Analog output AO2 control (write only)	0x2003	0~ 7FFF indicates 0% to 100%
Inverter Fault Address	0x8000	0000: No fault 0001: Reserved 0002: Reserved 0003: Reserved 0004: Acceleration over-current 0005: Deceleration over-current 0006: Constant speed over-current 0007: Stop over-current 0008: Acceleration over-voltage 0009: Deceleration over-voltage 000A: Constant speed over-voltage 000B: Stop over-voltage 000C: Under-voltage fault 000D: Overload of inverter 000E: Motor overload 000F: Module overheat 0010: Reserved 0011: Current Detection Failure 0012: Reservations 0013: Reservations 0014: Motor short to ground fault 0015: Motor tuning fault 0016: Reserved 0017: Input out of phase 0018: Output out of phase 0019: EEPROM read/write abnormality 001A: Password entered more than times 001B: Communication abnormality 001C: External fault 001D: Excessive speed deviation

typology	command address	Order content
		001E: User-defined fault 1 001F: User-defined fault 2 0020: Loss of PID feedback at runtime 0021: Hardware current limit failure 0022: Load Drop 0023: Buffer Resistor Overload Failure 0024: Contactor abnormality 0025: Agent run time reached 0026: Motor over-temperature (reserved) 0027: Current runtime reached 0028: Cumulative runtime reached 0029: Power-up time reached 002A: Switching motor fault during operation 002B: Motor over-speed 002C: Run-time PID feedback overrun 002D: Reserved 002E: Reserved 002F: Point-to-Point Slave Failure

Return address in case of communication failure: Read failure 83XX,Write failure 86XX

Chapter 7 Functional Parameters Table

The function code symbols are described as follows.

"☆ ": indicates that the inverter parameters can be modified during shutdown and operation (0)

"★ ":Indicates that the inverter is in running state not modifiable (1)

"○ ": indicates that the parameter is a manufacturer's parameter and cannot be changed by the user (3)

"● ":Indicates the actual detected value of the inverter or the manufacturer's cured value, which cannot be changed (2)

The communication addresses in the functional parameter table are written in hexadecimal.

Enhanced function codes: group C0 to group C3, group E0 to group E6, enabled by function parameter F7-76.

Function code	Parameter Name	Element	Default	Property	Address
Group F0 - Basic Function Group					
F0-00	Product Model	Model:5-digit display, 2-digit decimal point	30#. ##	●	F000
F0-01	Inverter GP type display	0: Type G 1: Type P	0	●	F001
F0-02	rated current	0.1A~3000.0A	Model Determination	●	F002
F0-03	control method	01: Asynchronous motor open-loop vector control 02: VF Control 11:Permanent magnet synchronous motor open loop vector	02	★	F003
F0-04	Run command source	0: Operator panel run command channel (LED off) 1: Terminal command channel (LED on) 2: Communication command channel (LED blinking)	0	★	F004

Function code	Parameter Name	Element	Default	Property	Address
F0-05	Runtime Up\Down Modify Frequency Instruction Benchmarks	0: Operating frequency 1: Setting frequency	1	★	F005
F0-06	Main frequency source X selection	0: Up/Down modifies frequency shutdown without memory 1: Up/Down modification frequency power-down memory 2:AI1 3:AI2 4:Multi-Segment Speed 5:Simple PLC 6:PID 7:Communication given 8: PULSE pulse setting 9: Up/Down modification frequency downtime memory power-down not memory	1	★	F006
F0-07	Auxiliary frequency source Y selection	0: Up/Down modifies frequency shutdown without memory 1: Up/Down modification frequency power-down memory 2:AI1 3:AI2 4:Multi-Segment Speed 5:Simple PLC 6:PID 7:Communication Given 8: PULSE pulse setting 9: Up/Down modification frequency downtime memory power-down not memory	0	★	F007

Function code	Parameter Name	Element	Default	Property	Address
F0-08	Auxiliary frequency source Y range selection	0: relative to maximum frequency 1: relative to frequency source X	0	☆	F008
F0-09	Auxiliary frequency source Y range	0% to 100%	100%	☆	F009
F0-10	Frequency source selection	Digit: Frequency source selection 0: Main frequency source X 1: Primary and secondary results (arithmetic relations are determined by the tens place) 2: Switching between main frequency source X and auxiliary frequency source Y 3: Switching between main frequency source X and main and auxiliary operation results 4: Auxiliary frequency source Y with main and auxiliary operation result switching Tenth position: frequency source main and auxiliary arithmetic relations 0: Main + Auxiliary 1: Main - Auxiliary 2: Maximum value of both 3: Minimum value of both	00	☆	F00A
F0-11	Preset Frequency	0.00Hz~ Maximum frequency F0-14	50.00 Hz	☆	F00B

Function code	Parameter Name	Element	Default	Property	Address
F0-13	Motor running direction selection	0: Same direction as current motor 1: Opposite to current motor direction 2: Prohibition of inversion	0	☆	F00D
F0-14	Maximum Output Frequency	When F0-20 = 1, the adjustable range is 50.0 Hz to 1200.0 Hz; When F0-20=2, the adjustable range is 50.00Hz to 600.00Hz;	50.00 Hz	★	F00E
F0-15	Upper Frequency Source	0: Digital given (F0-16) 1: AI1 2: AI2 3: Communication given 4: PULSE setting	0	★	F00F
F0-16	Upper frequency	Lower limit frequency F0-18~Maximum frequency F0-14	50.00 Hz	☆	F010
F0-17	Upper Frequency Bias	0.00 to maximum frequency F0-14	0.00Hz	☆	F011
F0-18	lower frequency	0.00Hz to upper limit frequency F0-16	0.00Hz	☆	F012

Function code	Parameter Name	Element	Default	Property	Address
F0-19	Command Source Binding Selection	Digits: Operator panel commands bind frequency source selection 0: No binding 1: Digital set frequency 2: AI1 3: AI2 4: Multi-Segment Speed 5: Simple PLC 6: PID 7: Communication given 8: PULSE pulse setting (DI7 (X7)) Ten positions: terminal command binding frequency source selection Hundred bits: communication command binding frequency source selection Thousandths digit: reserved	000	☆	F013
F0-20	Frequency Decimal Selection	1: 1 decimal place 2: 2 decimal places	2	★	F014
F0-21	Acceleration and deceleration time unit	0: 1 second 1: 0.1 second 2: 0.01 second	1	★	F015
F0-22	Acceleration and deceleration time reference frequency	0: Maximum frequency (F0-14) 1: Preset frequency (F0-11) 2: Motor rated frequency (F1-05 or C1-05)	0	★	F016
F0-23	Acceleration time 1	0s to 30000s (F0-21=0) 0.0s to 3000.0s (F0-21=1) 0.00s to 300.00s (F0-21=2)	10.0s	☆	F017
F0-24	Deceleration time 1	0s to 30000s (F0-21=0) 0.0s to 3000.0s (F0-21=1) 0.00s to 300.00s (F0-21=2)	10.0s	☆	F018

Function code	Parameter Name	Element	Default	Property	Address
F0-25	Overmodulated voltage boost value	0% to 10%	3%	★	F019
F0-26	carrier frequency	0.5kHz~16.0kHz	Model Determination	☆	F01A
F0-27	Carrier Frequency Adjustment with Temperature	0: not valid; 1: valid;	1	☆	F01B
F0-28	Parameter initialization	0: No operation 1: Restore factory parameters, excluding motor parameters, record information and frequency decimal point F0-20 2: Clearing of recorded information 3: Backup the user's current parameters 4: Restore user backup parameters	0	★	F01C
F0-29	LCD upload and download parameter selection	0: No function 1: Download parameters to LCD 2: Upload only F1 group parameters 3:Uploading parameters other than group F1 4: Upload all parameters	0	☆	F01D
Group F1 - First Motor Parameters					
F1-00	Motor parameter tuning	0: no function 1: static tuning 2: Rotary tuning		★	F100
F1-01	Motor 1 rated power	0.1kw~1000.0kw	Model Determination	★	F101
F1-02	Motor 1 rated voltage	0V to 1500V		★	F102

Function code	Parameter Name	Element	Default	Property	Address
F1-03	Motor 1 Number of motor poles	2 to 64	Model Determination	○	F103
F1-04	Motor 1 rated current	0.01A~600.00A (motor rated power <=30.0kW) 0.1A~6000.0A (motor rated power >30.0kW)	F1-01 Determination	★	F104
F1-05	Motor 1 rated frequency	0.00Hz to F0-14	50.00 Hz	★	F105
F1-06	Motor 1 rated speed	0rpm~60000rpm	F1-01 Determination	★	F106
F1-07	Motor 1 no-load current	0.01A to F1-04 (Motor rated power <=30.0kW) 0.1A to F1-04 (motor rated power >30.0kW)	Model Determination	★	F107
F1-08	Asynchronous motor 1 stator resistance	0.001Ω~65.535Ω	Model Determination	★	F108
F1-09	Asynchronous motor 1 rotor resistance	0.001Ω~65.535Ω	Model Determination	★	F109
F1-10	Asynchronous motor 1 mutual inductance	0.1Mh~6553.5 Mh	Model Determination	★	F10A
F1-11	Asynchronous motor 1 leakage inductance	0.01Mh~655.35Mh	Model Determination	★	F10B
F1-12	Acceleration during dynamic full tuning	1.0s to 6000.0s	10.0s	☆	F10C
F1-13	Deceleration during dynamic full tuning	1.0s to 6000.0s	10.0s	☆	F10D
F1-17	Synchronous motor stator resistance	0.001Ω~65.535Ω	Model Determination	★	F111

Function code	Parameter Name	Element	Default	Property	Address
F1-18	Synchronous motor D-axis inductance	0.01Mh~655.35Mh	Model Determination	★	F112
F1-19	Synchronous motor Q-axis inductance	0.01Mh~655.35Mh	Model Determination	★	F113
F1-20	Synchronous motor reaction potential	1V to 65535V	Model Determination	★	F114
F1-21	Synchronous motor no-load current	0.0% to 50.0%	10.0%	★	F115
Group F2 - Start-Stop Control					
F2-00	activation method	0:Direct start 1:Speed tracking 2:Asynchronous motor pre-excitation starting	0	☆	F200
F2-01	RPM tracking method	0: Starting from the stop frequency 1: Starting from the target frequency 2:Starting from the maximum frequency	0	★	F201
F2-02	Speed tracking current max.	30% to 150%	100%	★	F202
F2-03	RPM tracking fast or slow	1 to 100	20	☆	F203
F2-04	Start-up frequency	0.00Hz to 10.00Hz	0.00Hz	☆	F204
F2-05	Starting frequency hold time	0.0s to 100.0s	0.0s	★	F205
F2-06	Starting DC braking current	0% to 100%	0%	★	F206
F2-07	Start DC braking time	0.0s to 100.0s	0.0s	★	F207

Function code	Parameter Name	Element	Default	Property	Address
F2-08	Acceleration/deceleration frequency curve mode selection	0: Straight line 1: S-curve A 2: S-curve B (F2-09 to F2-12 in 0.01s)	0	★	F208
F2-09	S-curve acceleration start time	0.0% to 100.0%	20.0%	★	F209
F2-10	S-curve acceleration end time	0.0% to 100.0%	20.0%	★	F20A
F2-11	S-curve deceleration start time	0.0% to 100.0%	20.0%	★	F20B
F2-12	S-curve deceleration end time	0.0% to 100.0%	20.0%	★	F20C
F2-13	Stopping mode of machine	0: Deceleration stop 1: Free stop	0	☆	F20D
F2-14	Stopping DC braking start frequency	0.00Hz to F0-14	0.00Hz	☆	F20E
F2-15	Shutdown DC braking wait time	0.0s to 100.0s	0.0s	☆	F20F
F2-16	Stop brake DC current	0% to 100%	0%	☆	F210
F2-17	Stopping DC braking time	0.0s to 36.0s	0.0s	☆	F211
F2-21	demagnetization time	0.01s ~3.00s	0.50s	★	F215
F2-22	Downtime delay	0.00s to 1.00s	0.20s	☆	F216
F2-23	Instant stop non-stop mode selection	0: Invalid 1: Automatic adjustment of deceleration rate 2: Deceleration stop	0	★	F217

Function code	Parameter Name	Element	Default	Property	Address
F2-24	Deceleration time for instantaneous non-stop deceleration stops	0.0s to 100.0s	10.0s	★	F218
F2-25	Voltages in effect without stopping or stopping	60% to 85%	80%	★	F219
F2-26	Instantaneous non-stop recovery voltage	85% to 100%	90%	★	F21A
F2-27	Instantaneous stop non-stop recovery voltage judgment	0.0s to 300.0s	0.3s	★	F21B
F2-28	Automatic gain adjustment without stopping	0 to 100	40	☆	F21C
F2-29	Automatic adjustment of points without stopping	1 to 100	20	☆	F21D
Group F3 - V/F control parameters					
F3-00	V/F curve setting	0: Straight VF curve 1: Multi-point VF curve 2: Square VF curve 3: 1.7 power curve 4: 1.5 power curve 5: 1.3 power curve 6: VF fully separated mode 7: V/F semi separated mode	0	★	F300
F3-01	Torque Increase	0.0% to 30.0%	0.0%	☆	F301
F3-02	Torque boost cutoff frequency	0.00Hz to maximum frequency	45.00 Hz	★	F302
F3-03	V/F frequency point F1	0.00Hz~ F3-05	1.30Hz	★	F303
F3-04	V/F voltage point V1	0.0% to 100.0%	5.2%	★	F304

Function code	Parameter Name	Element	Default	Property	Address
F3-05	V/F frequency point F2	F3-03 to F3-07	2.50Hz	★	F305
F3-06	V/F voltage point V2	0.0% to 100.0%	8.8%	★	F306
F3-07	V/F frequency point F3	0.00 Hz to 50.00 Hz	15.00Hz	★	F307
F3-08	V/F voltage point V3	0.0% to 100.0%	35.0%	★	F308
F3-09	Differential Compensation Factor	0.0% to 200.0%	0.0%	☆	F309
F3-10	Flux Braking Gain	0 to 200	100	☆	F30A
F3-11	Oscillation suppression gain	0 to 100	Model Determination	☆	F30B
F3-13	VF Divergence Compensation Time Constant	0.02s~1.00s	0.30s	☆	F30D
F3-15	Output Voltage Source Selection for VF Separation	0: Digital setting (F3-14) 1: AI1 2: AI2 3: Multi-segment instruction 4: Simple PLC 5: PID 6: Communication given 7: PULSE pulse setting (DI7 (X7)) 100.0% corresponds to the rated voltage of the motor	0	☆	F30F
F3-16	V/F split output voltage digital setting	0V~Motor rated voltage	0V	☆	F310
F3-17	V/F Separation Output Voltage Acceleration Time	0.0 to 3000.0s	1.0s	☆	F311

Function code	Parameter Name	Element	Default	Property	Address
F3-18	V/F split output voltage deceleration time	0.0 to 3000.0s	1.0s	☆	F312
F3-19	V/F Separation Stop Method Selection	0: Frequency and output voltage deceleration time independent 1: Frequency decreases after voltage decreases to 0	0	☆	F313
F3-20	V/F Torque Boost Gain	0.0% to 300.0%	50%	☆	F314
Group F4 - Vector control parameters					
F4-00	Switching frequency F1	1.00 to F4-02	5.00 Hz	☆	F400
F4-02	Switching frequency F2	F4-00 to F0-14	10.00 Hz	☆	F402
F4-04	Low frequency speed proportional gain	0.1 to 10.0	4.	☆	F404
F4-05	Low Frequency Velocity Integration Time	0.01s~10.00s	0.	☆	F405
F4-06	High frequency speed proportional gain	0.1 to 10.0	2.	☆	F406
F4-07	High Frequency Velocity Integration Time	0.01 to 10.00s	1.	☆	F407
F4-08	Speed Ring Points Attribute Selection	0: Points in effect 1: Points separated		★	F408
F4-11	Torque current regulator Kp	0 to 30000		☆	F40B
F4-12	Torque current regulator Ki	0 to 30000		☆	F40C
F4-13	Excitation current regulator Kp	0 to 30000		☆	F40D

Function code	Parameter Name	Element	Default	Property	Address
F4-14	Excitation current regulator Ki	0 to 30000		☆	F40E
F4-15	Flux Braking Gain	0 to 200	0	☆	F40F
F4-16	Weak magnetic torque correction factor	50% to 200%		☆	F410
F4-17	Differential Compensation Gain	50% to 200%		☆	F411
F4-18	Velocity loop feedback filtering time constant	0.000 to 1.000s	0.	☆	F412
F4-19	Velocity loop output filter time constant	0.000 to 1.000s	0.	☆	F413
F4-20	Electric Torque Limit Source	0: F4-21 1: AI1 2: AI2 3: Communication given 4: PLUSE given (Analog range corresponds to F4-21)		☆	F414
F4-21	Upper limit of electric torque	0.0% to 200.0%	150.	☆	F415
F4-22	Braking torque upper limit source	0: F4-23 1: AI1 2: AI2 3: Communication given 4: PLUSE given (Analog range corresponds to F4-23)		☆	F416
F4-23	Upper limit of braking torque	0.0 to 200.0%	150.	☆	F417

Function code	Parameter Name	Element	Default	Property	Address
F4-24	Synchronous motor low speed magnetizing current	0.0% to 50.0%	25.0%	★	F418
F4-25	Synchronous motor magnetizing cut-off frequency	0% to 100%	10%	★	F419
F4-26	Pre-excitation time	0s to 5s	0.1s	★	F41A
F4-27	Synchronous motor initial position recognition enable selection	0: Tested every time 1: No testing 2: Power-on first start-up detection	0 (recommended to be tested every time)	★	F41B
F4-28	Initial voltage value for synchronous motor position recognition	30.0% - 130.0%	80%	★	F41C
F4-29	Carrier frequency setting at SVC startup	2.0K to F0-26	2.0K	★	F41D
F4-30	Synchronous motor weak magnetic mode	0: weak magnetic frequency adjustment 1: automatic adjustment 2: Feed-forward plus automatic adjustment	1	★	F41E
F4-31	Synchronous motor weak magnetic coefficient	0 to 50	5	★	F41F
F4-32	Integral coefficient of weak magnetism for synchronous motors	0 to 10 (Increasing F4-31 and F4-32 increases the weak magnetic response speed)	2	★	F420
F4-33	Synchronous motor output voltage saturation margin	1% to 50% (the higher the value, the easier it is to enter a weak magnetic mode)	5	★	F421

Function code	Parameter Name	Element	Default	Property	Address
F4-34	Synchronous Motor Convexity Gain Coefficient	50~500	100	★	F422
F4-35	Synchronous motor SVC speed filter coefficients	10 to 1000	100	★	F423
F4-42	On-line tuning enable	0:Close 1:Tuning before powering up for the first run 2:Pre-run tuning	0	★	F42A
F4-43	Online Reverse Potential Recognition	0:off 1:on	0	★	F42B
F4-57	Synchronous motor initial position compensation angle	0.0° ~359.9°	0.0°	★	F439
Group F5 - Input terminals					
F5-00	X1 (DI1) terminal function	0: No function 1: Positive rotation operation (FWD) 2: Reverse operation (REV) 3: Three-wire operation control 4: Forward Jogging (FJOG) 5: Reverse Jog (RJOG) 6: Terminal UP 7: Terminal DOWN 8: Free parking 9: Fault reset (RESET) 10: Running pause	1	★	F500
F5-01	X2(DI2) terminal function		2	★	F501
F5-02	X3(DI3) terminal function		9	★	F502

Function code	Parameter Name	Element	Default	Property	Address
F5-03	X4(DI4) terminal function	11: External fault normally open input 12: Multi-segment command terminal 1 13: Multi-segment command terminal 2 14: Multi-segment command terminal 3 15: Multi-segment command terminal 4 16: Acceleration and deceleration selection terminal 1 17: Acceleration and deceleration selection terminal 2 18: Frequency source switching 19: UP/DOWN setting clear (terminal, keypad) 20: Operation command switching terminal 21: Acceleration/deceleration prohibition 22: PID failure (pause) 23: PLC status reset 24: Pendulum Pause 25: Timed Trigger Inputs 26: Immediate DC braking 27: External fault normally closed input 28: Counter input 29: Counter Reset 30: Length Count Inputs 31: Length count reset 32: Torque control disabled 33: PULSE (pulse) frequency input 34: Frequency Modification	12	★	F503
F5-06	X7 (DI7) terminal function		0	★	F506

Function code	Parameter Name	Element	Default	Property	Address
		Prohibition 35: PID action direction reversed 36: External parking terminal 1 37: Control command switching terminal 2 38: PID integral pause terminal 39: Frequency source X and preset frequency switching terminal 40: Frequency source Y and preset frequency switching terminal 41: Switching between motor 1 and motor 2 42: Reservations 43: PID parameter switching terminal 44: Speed control/torque control switching 45: Emergency stops 46: External parking terminal 2 47: Deceleration DC braking 48: This run time is cleared to zero 49: Two-wire/three-wire switching 50: Prohibition of inversion 51: User-defined fault 1 52: User-defined faults 2 53: Sleep input			
F5-10	X(DI) terminal filter time	0.000 to 1.000s	0.010s	☆	F50A

Function code	Parameter Name	Element	Default	Property	Address
F5-11	Terminal command method	0: 2-wire 1 1: 2-wire 2 2: 3-wire 1 3: 3-wire 2	0	★	F50B
F5-12	Terminal UP/DOWN change rate	0.01Hz/s to 100.00Hz/s	1.00Hz/ s	☆	F50C
F5-13	Terminal valid logic 1	0: High level 1: Low level Single digit: DI1 (X1); Tenth digit: DI2 (X2); Hundredths: DI3 (X3); Thousandths: DI4 (X4); Ten Thousandths: DI5 (X5)	00000	★	F50D
F5-15	AI1 minimum input value	0.00V to 10.00V	0.00V	☆	F50F
F5-16	AI1 minimum input setting	-100.0% to 100.0%	0.0%	☆	F510
F5-17	AI1 maximum input value	0.00V to 10.00V	10.00V	☆	F511
F5-18	AI1 maximum input setting	-100.0% to 100.0%	100.0%	☆	F512
F5-19	AI1 input filter time	0.00s~10.00s	0.10s	☆	F513
F5-20	AI2 Minimum Input Value	0.00V to 10.00V	0.00V	☆	F514
F5-21	AI2 minimum input setting	-100.0% to 100.0%	0.0%	☆	F515
F5-22	AI2 Maximum Input Value	0.00V to 10.00V	10.00V	☆	F516
F5-23	AI2 Maximum Input Setting	-100.0% to 100.0%	100.0%	☆	F517
F5-24	AI2 input filter time	0.00s~10.00s	0.10s	☆	F518

Function code	Parameter Name	Element	Default	Property	Address
F5-30	PULSE Input Minimum Frequency	0.00KHz to 50.00KHz	0.00KHz	☆	F51E
F5-31	Minimum frequency setting for PULSE input	-100.0% to 100.0%	0.0%	☆	F51F
F5-32	PULSE Input Maximum Frequency	0.00KHz to 50.00KHz	50.00KHz	☆	F520
F5-33	PULSE (pulse) input max. frequency setting	-100.0% to 100.0%	0.0%	☆	F521
F5-34	PULSE input filter time	0.00s~10.00s	0.10s	☆	F522
F5-35	X1 (DI1) turn-on delay time	0.0s~3600.0s	0.0s	☆	F523
F5-36	X1 (DI1) disconnection delay time	0.0s~3600.0s	0.0s	☆	F524
F5-37	X2 (DI2) turn-on delay time	0.0s~3600.0s	0.0s	☆	F525
F5-38	X2 (DI2) disconnect delay time	0.0s~3600.0s	0.0s	☆	F526
F5-39	X3 (DI3) turn-on delay time	0.0s~3600.0s	0.0s	☆	F527
F5-40	X3 (DI3) disconnect delay time	0.0s~3600.0s	0.0s	☆	F528
F5-41	AI1 as X (DI) terminal function selection	0 to 53, same function as normal DI (X) terminal	0	★	F529

Function code	Parameter Name	Element	Default	Property	Address
F5-42	AI2 as X(DI) terminal function selection	0 to 53, same function as normal DI (X) terminal	0	★	F52A
F5-44	Valid mode selection when AI is used as the X (DI) terminal	Single digit, AI1: 0: active high, 1: active low Ten's digit, AI2: 0: active high, 1: active low	0x00	☆	F52C
F5-45	AI curve selection	AI Multi-Point Curve Selection. Unit's digit: AI1 0: 2-point straight line F5-15 to F5-19 1: Multi-point curve 1: FE-00 to FE-07 2: Multi-point curve 2: FE-08 to FE-15 Ten's digit: AI2 0: 2-point straight line F5-20 to F5-24 1: Multi-point curve 1: FE-00 to FE-07 2: Multi-point curve 2: FE-08 to FE-15	0x00	☆	F52D
F5-46	AI signal input type selection	Single digit: AI1, Ten's digit: AI2 0: Voltage type, 1: Current type	00	☆	F52E
F5-47	Valid mode for X(DI) terminal in 2-wire 1 mode	0: Level valid, 1: Pulse valid	0	☆	F52F
Group F6 - Output terminals					

Function code	Parameter Name	Element	Default	Property	Address
F6-00	Control board relay RELAY1 output selection (TA TB TC relay, TA TB normally closed, TA TC normally open)	0: no output 1: Inverter running signal (RUN) 2: Fault output 3: Frequency level detection FdT1 arrival 4: Frequency Arrival (FAR) 5: Zero speed in operation 6: Motor overload	2	☆	F600

Function code	Parameter Name	Element	Default	Property	Address
F6-01	Reserved (G300 series does not have this terminal function)	pre-warning 7: Inverter overload pre-warning 8: PLC cycle completed 9: Accumulated runtime reached 10: Frequency limit in progress 11: Ready to run 12: AI1 > AI2 13: Upper limit frequency reached 14: Lower limit frequency reached 15: Under-voltage status output 16: Communication setting 17: Timer output 18: Reverse in operation 19: Reserved 20: Set length reached 21: Torque limit in progress 22: Current 1 arrives 23: Frequency 1 arrives 24: Module temperature reached 25: Load off in progress 26: Cumulative power-up time reached 27: Timed arrival output 28: This running time arrives 29: Set count value reached 30: Designated count value reached 31: Motor 1, Motor 2 indication 32: Brake control output 33: Operating at zero speed2 34: Frequency Level Detection FdT2 Arrival 35: Zero current state	Reserved		

Function code	Parameter Name	Element	Default	Property	Address
		36: Software current overrun 37: Lower frequency limit reached, stop also outputs 38: Alarm output 39: Reserved 40: AI1 input overrun 41: Reserved 42: Reservation 43: Frequency reaches 2 44: Current Reach 2 45: Fault Output			
F6-04	FM/Y1 terminal output method selection	0: Pulse output (FMP) 1: Open collector switching output (FMR)	1	☆	F604
F6-05	FM/Y1 output function selection	Same as relay 1 output selection	1	☆	F605
F6-09	AO1 output selection	0: Operating frequency 1: Setting frequency 2: Output current 3: Output power 4: Output voltage 5: Analog AI1 input value	0	☆	F609
F6-10	AO2 output selection		0	☆	F60A

Function code	Parameter Name	Element	Default	Property	Address
F6-11	FMP Output Selection	6: Analog AI2 input value 7: Communication setting 8: Output torque 9: Length 10: Count value 11: Motor speed 12: Bus voltage (0 to 3 times the rated voltage of the inverter) 13: Pulse input 14: Output current 15: Output voltage (100.0% corresponds to 1000.0V) 16: Output torque (actual value of torque -2 times rated to 2 times rated)			F60B
F6-12	FMP Output Maximum Frequency	0.01KHz~100.00KHz	50.00	☆	F60C
F6-13	AO1 output lower limit	-100.0% to F6-15	0.0%	☆	F60D
F6-14	Lower limit corresponds to AO1 output	0.00V to 10.00V	0.00V	☆	F60E
F6-15	AO1 output limit	F6-13 to 100.0%	100.0%	☆	F60F
F6-16	Upper limit corresponds to AO1 output	0.00 to 10.00V	10.00V	☆	F610
F6-17	Reserved (not available for 300 series)				
F6-18	Reserved (not available for 300 series)				
F6-19	Reserved (not available for 300 series)				
F6-20	Reserved (not available for 300 series)				
F6-22	Main Relay RELAY1 Closing Delay	0.0s~3600.0s	0.0s	☆	F616

Function code	Parameter Name	Element	Default	Property	Address
F6-23	Main relay RELAY2 closure delay	0.0 to 3600.0S	0.0s	☆	F617
F6-25	Y1 high level output delay	0.0 to 3600.0S	0.0s	☆	F619
F6-26	Main relay RELAY1 disconnect delay time	0.0s~3600.0s	0.0s	☆	F61A
F6-27	Main relay RELAY2 disconnect delay	0.0 to 3600.0S	0.0s	☆	F61B
F6-29	Y1 low level output delay	0.0 to 3600.0S	0.0s	☆	F61D
F6-31	reservations				
Group F7 - Auxiliary Functions and Keypad Display					
F7-00	Tap operation frequency	0.00Hz to maximum frequency	6.00Hz	☆	F700
F7-01	Tap acceleration time	0.0s~3000.0s	10.0s	☆	F701
F7-02	Tap deceleration time	0.0s~3000.0s	10.0s	☆	F702
F7-03	Acceleration time 2	0.0s~3000.0s	10.0s	☆	F703
F7-04	Deceleration time 2	0.0 to 3000.0s	10.0s	☆	F704
F7-05	Acceleration time 3	0.0 to 3000.0s	10.0s	☆	F705
F7-06	Deceleration time 3	0.0 to 3000.0s	10.0s	☆	F706
F7-07	Acceleration time 4	0.0 to 3000.0s	10.0s	☆	F707
F7-08	Deceleration time 4	0.0 to 3000.0s	10.0s	☆	F708
F7-09	Jump Frequency 1	0.00Hz to maximum frequency	0.00Hz	☆	F709
F7-10	Jump frequency1 amplitude	0.00Hz to maximum frequency	0.00Hz	☆	F70A
F7-11	Jump Frequency 2	0.00Hz to maximum frequency	0.00Hz	☆	F70B

Function code	Parameter Name	Element	Default	Property	Address
F7-12	Jump frequency 2 amplitude	0.00Hz to maximum frequency	0.00Hz	☆	F70C
F7-14	Keyboard Knob Enable	0: Invalid (F0-11) 1: Enable	1	☆	F70D
F7-15	Forward and reverse dead time	0.0s~3000.0s	0.2s	☆	F70F
F7-16	Keyboard Knob Accuracy	0:default mode 1:0.1HZ 2: 0.5HZ 3: 1HZ 4: 2HZ 5: 4HZ 6: 5HZ 7: 8HZ 8: 10HZ	2	☆	F710
F7-17	Frequency below lower limit frequency handling	0: Operate at the lower frequency limit 1: Stop the machine 2: Zero speed operation	0	☆	F711
F7-18	sagging rate	0.0% to 100.0%	0.0%	☆	F712
F7-19	Delay time for frequency below lower limit shutdown	0.0s to 600.0s	0.0s	☆	F713
F7-20	Setting the cumulative running time	0h~65000h	0h	☆	F714

Function code	Parameter Name	Element	Default	Property	Address
F7-21	pointing priority	0: Invalid 1: Tap priority mode 1 2: Tap Priority Mode 2 1) Tap is still valid in case of user failure or PID loss failure 2) The shutdown mode and DC braking can be set, and the JOG key of the panel is valid under any command source.	1	☆	F715
F7-22	Frequency detection value (FdT1 level)	0.00Hz to maximum frequency	50.00 Hz	☆	F716
F7-23	Frequency check ysteresis value (FdT hysteresis)	0.0% to 100.0%	5.0%	☆	F717
F7-24	Frequency Reach Detection Width	0.0% to 100.0%	0.0%	☆	F718
F7-25	Reserved		0	●	F719
F7-26	Fan control	0: Fan running continuously 1: Fan running during inverter operation (Fan operates under shutdown when temperature is above 40°)	1	★	F71A
F7-27	STOP/RESET function	0: valid only for keyboard control 1: Stop or reset function valid in all control modes	1	☆	F71B
F7-28	MF.K key function selection	0: Positive rotation nodding 1: Forward and reverse switching 2: Reverse Tap 3: Panel and Remote Control Switching	0	★	F71C

Function code	Parameter Name	Element	Default	Property	Address
F7-29	LED operation display	0000 to 0xffff (hexadecimal number) 0000 to 0xffff Bit00: Operating frequency 0001 Bit01: Set frequency 0002 Bit02: Bus voltage 0004 Bit03: Output voltage 0008 Bit04: Output current 0010 Bit05: Output power 0020 Bit06: DI (X) Input status 0040 Bit07: DO Output Status 0080 Bit08: AI1 Voltage 0100 Bit09: AI2 Voltage 0200 Bit10: PID setpoint 0400 Bit11: PID feedback value 0800 Bit12: Count value 1000 Bit13: Length value 2000 Bit14: Load speed display 4000 Bit15: PLC Phase 8000	H.441F	☆	F71D

Function code	Parameter Name	Element	Default	Property	Address
F7-30	LED operation display parameter 2	0x0 to Bit00: Target torque % 0001 Bit01: Output torque % 0002 Bit02: Pulse Input pulse frequency (KHz) 0004 Bit03: DI7 (X7) High-speed Pulse Sampling Line Speed (m/min) 0008 Bit04: Motor speed (rmp) 0010 Bit05: AC inlet current (A) 0020 Bit06: Accumulated running time (h) 0040 Bit07: Current running time (min) 0080 Bit08: Cumulative power consumption (kWh) 0100 Bit09 to Bit15: Reserved	0x10	☆	F71E
F7-31	LED stop display	1 to 0x1fff (hexadecimal number) Bit00: Set frequency 0001 Bit01: Bus voltage 0002 Bit02: DI (X) input status 0004 Bit03: DO output status 0008 Bit04: AI1 Voltage 0010 Bit05: AI2 Voltage 0020 Bit06: PID setpoint 0040 Bit07: PID Feedback Value 0080 Bit08: Count value 0100 Bit09: Length value 0200	H.0043	☆	F71F

Function code	Parameter Name	Element	Default	Property	Address
F7-31	LED stop display	Bit10:Load speed display 0400 Bit11:PLC Phase 0800 Bit12: Input pulse frequency 1000 Bit13~ Bit15: Reserved	H.0043	☆	F71F
F7-32	Load Speed Display Factor	0.001 to 655.00	1.000	☆	F720
F7-33	radiator temperature	12℃ ~100℃	measured value	●	F721
F7-34	Cumulative power-up time	0h~65535h	measured value	●	F722
F7-35	Cumulative running time	0h~65535h	measured value	●	F723
F7-37	Current Run Timing Enable Selection	0: not enabled 1: enabled	0	★	F725
F7-38	Current Run Timer Source Selection	0: Digital setting F7-39 1: AI1 2: AI2 (AI at 100% F7-39)	0	★	F726
F7-39	Current sub-run time setting value	0.0min~6500.0min	0.0min	☆	F727
F7-40	High Level Timing Time	0.0s~6000.0s	2.0s	☆	F728
F7-41	Low Level Timing Time	0.0s~6000.0s	2.0s	☆	F729
F7-42	Activation of the protection function	0:Invalid (start terminal command valid for direct start) 1:Effective	1	☆	F72A
F7-44	Frequency reaches detection value 1	0.00Hz to F0-14	50.00 Hz	☆	F72C
F7-45	Frequency Detection Value 1 Arrival Width	0.0% to 100.0%	0.0%	☆	F72D

Function code	Parameter Name	Element	Default	Property	Address
F7-46	Current reaches detection value 1	0.0% to 300.0%	100.0%	☆	F72E
F7-47	Current detection value 1 arrives at the width	0.0% to 300.0%	0.0%	☆	F72F
F7-50	User password	0 to 65535	0	☆	F732
F7-51	Whether the jump frequency is valid during acceleration and deceleration	0: not valid 1: valid	0	☆	F733
F7-52	Setting the power-up arrival time	0h~65530h	0h	☆	F734
F7-54	Acceleration time 1/2 switching frequency point	0.00Hz to maximum frequency (F0-14)	0.00Hz	☆	F736
F7-55	Deceleration time 1/2 switching frequency point	0.00Hz to maximum frequency (F0-14)	0.00Hz	☆	F737
F7-56	Frequency detection value (FdT2 level)	0.00Hz to maximum frequency (F0-14)	50.00 Hz	☆	F738
F7-57	Frequency detection FdT2 hysteresis value	0.0% to 100.0%	5.0%	☆	F739
F7-58	Frequency reaches detection value 2	0.00Hz to maximum frequency (F0-14)	50.00 Hz	☆	F73A
F7-59	Frequency reach detection 2 amplitude	0.0% to 100.0%	0.0%	☆	F73B
F7-60	Zero current detection value	0.0% to 300.0%	10.0%	☆	F73C
F7-61	Zero current detection delay time	0.01s~300.00s	1.00s	☆	F73D
F7-62	Output current amplitude detection	20.0% to 400.0%	200.0%	☆	F73E

Function code	Parameter Name	Element	Default	Property	Address
F7-63	Output current amplitude detection delay time	0.00s~300.00s	0.00s	☆	F73F
F7-64	Current reaches detection value 2	20.0% to 300.0%	100.0%	☆	F740
F7-65	Current arrival detection 2 amplitude	0.0% to 300.0%	0.0%	☆	F741
F7-67	AI1 input voltage lower limit	0.00V to F7-68	2.00V	☆	F743
F7-68	AI1 input voltage upper limit	F7-67 to 11.00V	8.00V	☆	F744
F7-69	Module temperature reaches	0℃ ~90℃	70℃	☆	F745
F7-70	Output power display correction factor	0.001 to 3.000	1.000	☆	F746
F7-71	Linear velocity display correction factor	Line speed = F7-71* number of HDI7 (HX7) pulses sampled per second/FB-07	1.000	☆	F747
F7-72	Motor speed display correction factor	0.0010 to 3.0000	1.0000	☆	F748
F7-73	Cumulative power consumption (kWh)	0 to 65535	measured value	●	F749
F7-74	Performance Software Versions	Performance Software Version Number	#. #.	●	F74A
F7-75	Functional Software Versions	Functional software version number	#. #.	●	F74B

Function code	Parameter Name	Element	Default	Property	Address
F7-76	Enhanced Function Parameter Display Selection	0: Hide enhancement function parameter group: C1 to C3 1: Display enhancement function parameter group: C1 to C3	1	☆	F74C
F7-77	Acceleration time 5	0.0s~3000.0s	10.0s	☆	F74D
F7-78	Deceleration time 5	0.0 to 3000.0s	10.0s	☆	F74E
F7-79	Acceleration time 6	0.0 to 3000.0s	10.0s	☆	F74F
F7-80	Deceleration time 6	0.0 to 3000.0s	10.0s	☆	F750
F7-81	Acceleration time 7	0.0 to 3000.0s	10.0s	☆	F751
F7-82	Deceleration time 7	0.0 to 3000.0s	10.0s	☆	F752
F7-83	Acceleration time 8	0.0 to 3000.0s	10.0s	☆	F753
F7-84	Deceleration time 8	0.0 to 3000.0s	10.0s	☆	F754
Group F8 -- communication parameters					
F8-00	Baud rate setting	0: 300BPS 1: 600BPS 2: 1200BPS 3: 2400BPS 4: 4800BPS 5: 9600BPS 6: 19,200 BPS 7: 38,400 BPS 8:57600BPS 9:115200BPS	5	☆	F800
F8-01	data format	0: no checksum <8,N,2> 1: even checksum <8,E,1> 2: odd checksum <8,O,1> 3: no checksum 1 <8,N,1>	0	☆	F801
F8-02	mail address	0 to 247 (0 is the broadcast address)	1	☆	F802
F8-03	response time	0ms to 30ms	2ms	☆	F803

Function code	Parameter Name	Element	Default	Property	Address
F8-04	Communication timeout	0.0s to 30.0s	0.0s	☆	F804
F8-05	Communication format selection	0: Standard Modbus RTU protocol 1: Non-standard ModBus RTU protocols	0	☆	F805
F8-06	Background software monitoring function	0: Disable, default 485 communication function 1: Open, background software monitoring function, at this time 485 communication function can not be used	0	☆	F806
F8-07	Communication current resolution	0:0.01A 1:0.1A	0	☆	F807
F8-08	Communication readout frequency resolution	0: Controlled by F0-20 1: 0.1 Hz 2: 0.01 Hz	0	☆	F808
Group F9 - Faults and Protection					
F9-00	Motor overload protection options	0: Prohibited 1: Allowed	1	☆	F900
F9-01	Motor overload protection gain	0.20 to 10.00 (1.0 for plants up to 185kW, 0.8 for plants over 200kW)	Model Determined	☆	F901
F9-02	Motor overload warning factor ( )%	50% to 100%	80%	☆	F902
F9-03	Over-voltage stall protection gain	000-100	030	☆	F903
F9-04	Over-voltage stall protection voltage	200.0 to 850.0V	760.0V	★	F904
F9-05	VF over loss speed protection gain	0 to 100	20	☆	F905

Function code	Parameter Name	Element	Default	Property	Address
F9-06	VF over-current stall protection current	100% to 200%	150%	★	F906
F9-07	VF Weak magnetic area current stall protection factor	50% to 200%	100%	★	F907
F9-08	Over-pressure Stall Allowable Rise Limit	0.0% to 100.0%	10.0%	☆	F908
F9-11	Failure auto reset times	0 to 20	0	☆	F90B
F9-12	Fault relay action selection during automatic fault reset	0: No action 1: Action	0	☆	F90C
F9-13	Fault auto reset interval	0.1s~100.0s	1.0s	☆	F90D
F9-14	Input out-of-phase enable selection	0: not valid 1: valid	1	☆	F90E
F9-15	Output out-of-phase enable selection	0: not valid 1: valid	1	☆	F90F
F9-16	Uplink to ground short circuit protection selection	0: not valid 1: valid	1	☆	F910
F9-17	Automatic reset option for under-voltage faults	0: Manual reset fault required after under-voltage faults 1: Self-resetting faults according to bus voltage after under-voltage faults	0	☆	F911

Function code	Parameter Name	Element	Default	Property	Address
F9-18	Over-voltage suppression mode selection	0: Invalid 1: Over-voltage suppression mode 1 2: Over-voltage suppression mode 2	1	★	F912
F9-19	Over-excitation effective state selection	0: Invalid 1: Constant speed during operation, deceleration process effective 2: Valid only during deceleration	2	★	F913
F9-20	Over-voltage suppression mode 2 limit value	1.0%~ 150.0%	100.0%	★	F914
F9-21	Brake unit protection time	0.0s~ 200.0s	0.0s	★	F915
F9-22	Fail-safe action 1	0 to 22202; Bit: Motor overload-Err14 0: Free stop 1: Stop as per stopping mode 2: Keep running Tenth place: reserved Hundredths: Input out of phase-Err23 Thousand bits: Output out of phase - Err24 10,000 bits: parameter read/write exception-Err25	00000	☆	F916

Function code	Parameter Name	Element	Default	Property	Address
F9-23	Fail-safe action 2	0 to 22222; Bit: Communication Failure-Err27 0: Free stop 1: Stop as per stopping mode 2: Keep running Tenth position: external fault-Err28 Hundredths: speed deviation too large fault-Err29 Thousands: User-defined fault 1-Err30 10,000 bits: user-defined fault 2-Err31	00000	☆	F917
F9-24	Fail-safe action 3	0 to 22022; Bit: Missing PID feedback at runtime-Err32 0: Free stop 1: Stop as per stopping mode 2: Keep running Tenth position: dropout fault-Err34 Hundredths: reserved Thousand bits: current sub-continuous runtime reached -Err39 10,000 bits: running time up to -Err40	00000	☆	F918

Function code	Parameter Name	Element	Default	Property	Address
F9-26	Frequency selection for continued operation in case of failure	0: Run at current operating frequency 1: Operation at set frequency 2: Upper frequency operation 3: Operating at the lower frequency limit 4: Operation at standby frequency setting F9-27	1	☆	F91A
F9-27	Abnormal Standby Frequency Setting	0.0% to 100.0%	100.0%	☆	F91B
F9-28	Load shedding protection options	0: not valid 1: valid	0	☆	F91C
F9-29	Dropout detection level	0.0% to 80.0%	20.0%	★	F91D
F9-30	Dropped load detection time	0.0s to 100.0s	5.0s	☆	F91E
F9-31	Excessive speed deviation detection value	0.0% to 100.0%	20.0%	☆	F91F
F9-32	Excessive speed deviation detection time	0.0s to 100.0s	0.0s	☆	F920
F9-33	Over speed detection value	0.0% to 100.0%	20.0%	☆	F921
F9-34	Over speed detection time	0.0s to 100.0s	2.0s	☆	F922
F9-35	Motor overload protection current factor	100% to 200%	100%	☆	F923
F9-39	Under-voltage detection delay time	0.000s~1.000s	0.002s	☆	F927

Function code	Parameter Name	Element	Default	Property	Address
F9-40	Output current amplitude detection1	20.0% to 400.0%	100.0%	☆	F928
F9-41	Output current amplitude detection delay time1	0.00s~300.00s	0.00s	☆	F929
FA group-PID function					
FA-00	PID given source	0: PID function code FA-01 1: AI1 2: AI2 3: Communication given 4: PULSE given 5: Multi-segment instruction given 6: Up/Down modification FA-01 (valid when F0-06=6)	0	☆	FF00
FA-01	PID digital feed	0.0% to 100.0%	50.0%	☆	FF01
FA-02	PID given change time	0.00s to 650.00s	0.	☆	FF02
FA-03	PID Feedback Source	0: AI1 1: AI2 2: AI1-AI2 3: Communication Given 4: PULSE given 5: AI1+AI2 6: MAX(|AI1|, |AI2|) 7: MIN(|AI1|, |AI2|)	0	☆	FF03
FA-04	Direction of PID action	0: positive 1: negative	0	☆	FF04
FA-05	PID Feedback Range	0 to 65535	1000	☆	FF05
FA-06	Proportional gain P	0.0~ 100.0	50.0	☆	FF06
FA-07	Integration time I	0.01s~ 10.00s	1.00s	☆	FF07
FA-08	Differential time D	0.000s~ 10.000s	0.000s	☆	FF08

Function code	Parameter Name	Element	Default	Property	Address
FA-09	PID inversion cutoff frequency	0.00 to maximum frequency (F0-14)	0.00Hz	☆	FF09
FA-10	Deviation limit	0.0% to 100.0%	0.0%	☆	FF0A
FA-11	differential limiting	0.00% to 100.00%	0.10%	☆	FF0B
FA-12	PID feedback filtering time	0.00s~ 60.00s	0.00s	☆	FF0C
FA-13	PID feedback loss detection value	0.0% to 100.0%	0.0%	☆	FF0D
FA-14	PID feedback loss detection time	0.0s~3600.0s (0s not detected)	0.0s	☆	FF0E
FA-15	PID given unit selection	0: Percentage 1: Mpa	0	☆	FF0F
FA-16	PID feedback over limit detection value	0.0% to 100.0%	95.0%	☆	FF10
FA-17	PID feedback overrun detection time	0.0s~3600.0s (0s not detected)	0.0s	☆	FF11
FA-18	Proportional gain P2	0.0 to 100.0	20.0	☆	FF12
FA-19	Integration time I2	0.01s~ 10.00s	2.00s	☆	FF13
FA-20	Differential time D2	0.000s~ 10.000s	0.000s	☆	FF14
FA-21	PID parameter switching conditions	0: No switching 1: DI (X) terminal 2: Automatic switching according to deviation	0	☆	FF15
FA-22	PID parameter switching deviation1	0.0% to FA-23	20.0%	☆	FF16

Function code	Parameter Name	Element	Default	Property	Address
FA-23	PID parameter switching deviation2	FA-22 to 100.0%	80.0%	☆	FF17
FA-24	PID initial value	0.0% to 100.0%	0.0%	☆	FF18
FA-25	PID initial value holding time	0.00s~650.00s	0.00s	☆	FF19
FA-26	Positive maximum of two output deviations	0.00% to 100.00%	1.00%	☆	FF1A
FA-27	Two output deviation reverse max.	0.00% to 100.00%	1.00%	☆	FF1B
FA-28	PID Integral Properties	Individuals: Separation of Points 0: not valid; 1: valid Tenth position: output to the limit value, whether to stop integration 0: continue to count; 1: stop counting	00	☆	FF1C
FA-29	PID stopping operation	0: No calculation at shutdown 1: Calculation at shutdown	0	☆	FF1D
FB Group - Pendulum Frequency, Fixed Length and Counting					
FB-00	Oscillation setting method	0: Relative to the center frequency 1: Relative to the maximum frequency	0	☆	FB00
FB-01	swing amplitude	0.0% to 100.0%	0.0%	☆	FB01
FB-02	Burst frequency amplitude	0.0% to 50.0%	0.0%	☆	FB02
FB-03	oscillation period	0.1s~3000.0s	10.0s	☆	FB03

Function code	Parameter Name	Element	Default	Property	Address
FB-04	Triangular wave rise time coefficient	0.1% to 100.0%	50.0%	☆	FB04
FB-05	Setting length	0m~65535m	1000m	☆	FB05
FB-06	Actual length	0m~65535m	0m	☆	FB06
FB-07	Pulses per m	0.1 to 6553.5	100.0	☆	FB07
FB-08	Setting the count value	1 to 65535	1000	☆	FB08
FB-09	Specify count value	1 to 65535	1000	☆	FB09
FC Group - Multi-Segment Instructions and Simple PLC Functions					
FC-00	Multi-speed 0	-100.0% to 100.0%	0.0%	☆	FC00
FC-01	Multi-speed 1	-100.0% to 100.0%	0.0%	☆	FC01
FC-02	Multi-speed 2	-100.0% to 100.0%	0.0%	☆	FC02
FC-03	Multi-speed 3	-100.0% to 100.0%	0.0%	☆	FC03
FC-04	Multi-speed 4	-100.0% to 100.0%	0.0%	☆	FC04
FC-05	Multi-speed 5	-100.0% to 100.0%	0.0%	☆	FC05
FC-06	Multi-speed 6	-100.0% to 100.0%	0.0%	☆	FC06
FC-07	Multi-Speed 7	-100.0% to 100.0%	0.0%	☆	FC07
FC-08	Multi-Segment Speed 8	-100.0% to 100.0%	0.0%	☆	FC08
FC-09	Multi-speed 9	-100.0% to 100.0%	0.0%	☆	FC09
FC-10	Multi-speed 10	-100.0% to 100.0%	0.0%	☆	FC0A
FC-11	Multi-speed 11	-100.0% to 100.0%	0.0%	☆	FC0B
FC-12	Multi-speed 12	-100.0% to 100.0%	0.0%	☆	FC0C
FC-13	Multi-speed 13	-100.0% to 100.0%	0.0%	☆	FC0D
FC-14	Multi-speed 14	-100.0% to 100.0%	0.0%	☆	FC0E
FC-15	Multi-speed 15	-100.0% to 100.0%	0.0%	☆	FC0F

Function code	Parameter Name	Element	Default	Property	Address
FC-16	PLC operation mode	0: Shutdown at the end of a single run 1: Single run to maintain end value 2: Keep looping	0	☆	FC10
FC-17	PLC power-down memory selection	0: no memory for power down and no memory for shutdown 1: Power down memory and no memory for shutdowns 2: No power-down memory and shutdown memory 3: Power-down memory and shutdown memory	0	☆	FC11
FC-18	PLC segment 0 runtime	0.0 to 6500.0	0.0	☆	FC12
FC-19	PLC segment 0 plus or minus time selection	0 to 3 (indicates acceleration and deceleration times 1 to 4, respectively)	0	☆	FC13
FC-20	PLC segment 1 runtime	0.0 to 6500.0	0.0	☆	FC14
FC-21	PLC segment 1 add/drop time selection	0 to 3 (indicates acceleration and deceleration times 1 to 4, respectively)	0	☆	FC15
FC-22	PLC segment 2 runtime	0.0 to 6500.0	0.0	☆	FC16
FC-23	PLC segment 2 add/drop time selection	0 to 3 (indicates acceleration and deceleration times 1 to 4, respectively)	0	☆	FC17
FC-24	PLC segment 3 runtime	0.0 to 6500.0	0.0	☆	FC18
FC-25	PLC segment 3 add/drop time selection	0 to 3 (indicates acceleration and deceleration times 1 to 4, respectively)	0	☆	FC19
FC-26	PLC segment 4 runtime	0.0 to 6500.0	0.0	☆	FC1A

Function code	Parameter Name	Element	Default	Property	Address
FC-27	PLC segment 4 plus or minus time selection	0 to 3 (indicates acceleration and deceleration times 1 to 4, respectively)	0	☆	FC1B
FC-28	PLC segment 5 runtime	0.0 to 6500.0	0.0	☆	FC1C
FC-29	PLC segment 5 plus or minus time selection	0 to 3 (indicates acceleration and deceleration times 1 to 4, respectively)	0	☆	FC1D
FC-30	PLC segment 6 runtime	0.0 to 6500.0	0.0	☆	FC1E
FC-31	PLC segment 6 plus or minus time selection	0 to 3 (indicates acceleration and deceleration times 1 to 4, respectively)	0	☆	FC1F
FC-32	PLC segment 7 runtime	0.0 to 6500.0	0.0	☆	FC20
FC-33	PLC segment 7 plus or minus time selection	0 to 3 (indicates acceleration and deceleration times 1 to 4, respectively)	0	☆	FC21
FC-34	PLC segment 8 runtime	0.0 to 6500.0	0.0	☆	FC22
FC-35	PLC paragraph 8 plus or minus time selection	0 to 3 (indicates acceleration and deceleration times 1 to 4, respectively)	0	☆	FC23
FC-36	PLC segment 9 runtime	0.0 to 6500.0	0.0	☆	FC24
FC-37	PLC paragraph 9 plus or minus time selection	0 to 3 (indicates acceleration and deceleration times 1 to 4, respectively)	0	☆	FC25
FC-38	PLC segment 10 runtime	0.0 to 6500.0	0.0	☆	FC26
FC-39	PLC paragraph 10 plus or minus time selection	0 to 3 (indicates acceleration and deceleration times 1 to 4, respectively)	0	☆	FC27
FC-40	PLC paragraph 11 runtime	0.0 to 6500.0	0.0	☆	FC28

Function code	Parameter Name	Element	Default	Property	Address
FC-41	PLC paragraph 11 plus or minus time selection	0 to 3 (indicates acceleration and deceleration times 1 to 4, respectively)	0	☆	FC29
FC-42	PLC segment 12 runtime	0.0 to 6500.0	0.0	☆	FC2A
FC-43	PLC paragraph 12 plus or minus time selection	0 to 3 (indicates acceleration and deceleration times 1 to 4, respectively)	0	☆	FC2B
FC-44	PLC paragraph 13 runtime	0.0 to 6500.0	0.0	☆	FC2C
FC-45	PLC paragraph 13 plus or minus time selection	0 to 3 (indicates acceleration and deceleration times 1 to 4, respectively)	0	☆	FC2D
FC-46	PLC paragraph 14 runtime	0.0 to 6500.0	0.0	☆	FC2E
FC-47	PLC paragraph 14 plus or minus time selection	0 to 3 (indicates acceleration and deceleration times 1 to 4, respectively)	0	☆	FC2F
FC-48	PLC paragraph 15 runtime	0.0 to 6500.0	0.0	☆	FC30
FC-49	PLC paragraph 15 plus or minus time selection	0 to 3 (indicates acceleration and deceleration times 1 to 4, respectively)	0	☆	FC31
FC-50	PLC runtime unit selection	0: s (s), 1: h (hour)	0	☆	FC32
FC-51	Multi-speed priority mode selection	0: Multi-speed not prioritized 1: Multi-speed prioritized	0	☆	FC33

Function code	Parameter Name	Element	Default	Property	Address
FC-52	Multiple speed prioritization plus deceleration time selection	0: Acceleration/deceleration time 1 1: Acceleration/deceleration time 2 2: Acceleration and deceleration time 3 3: Acceleration and deceleration time 4	0	☆	FC34
FC-53	Multi-speed FC-00 to FC-15 unit selection	0:% 1:HZ	0	☆	FC35
FC-55	Multi-segment Instruction 0 Giving Mode	0: Function code FC-00 given 1: AI1 2: AI2 3: PULSE Pulse 4: PID 5: preset frequency given (F0-11), UP/DOWN can be modified	0	☆	FC37
Group Fd - Torque control					
Fd-00	Torque Command Source Selection	0: Digital setting (Fd-01) 1: AI1 2: AI2 3: Communication given 4: PULSE pulse frequency setting 5: MIN(AI1,AI2) 6: MAX(AI1,AI2) (Option 1-6 full scale corresponds to Fd-01)	0	★	Fd00
Fd-01	Digital Torque Setting	-200.0% to 200.0%	150.0%	☆	Fd01
Fd-03	Maximum frequency of positive direction of torque control	0.00Hz to maximum frequency (F0-14)	50.00 Hz	☆	Fd03

Function code	Parameter Name	Element	Default	Property	Address
Fd-04	Torque control reverse direction maximum frequency	0.00Hz to maximum frequency (F0-14)	50.00 Hz	☆	Fd04
Fd-06	Torque command filter time	0.00s~10.00s	0.00s	☆	Fd06
Fd-07	Torque mode frequency acceleration time	0.0s~1000.0s	10.0s	☆	Fd07
Fd-08	Torque mode frequency deceleration time	0.0s~1000.0s	10.0s	☆	Fd08
Fd-10	Speed/torque mode selection	0: Speed mode 1: Torque mode	0	★	Fd0A
Fd-12	Torque control accuracy mode selection	0: Torque control mode 1 1: Torque control mode 2 (high torque control accuracy, sensitive to motor parameters)	0	★	Fd0C
FE Group - AI Multi-point Curve Setting					
FE-00	Curve 1 Minimum Input	-10.00V to FE-02	0.00V	☆	FE00
FE-01	Curve 1 Minimum Input Corresponding Setting	-100.0% to 100.0%	0.0%	☆	FE01
FE-02	Curve 1 Inflection Point 1 Input	FE-00 to FE-04	3.00V	☆	FE02
FE-03	Curve 1 Inflection Point 1 Input Corresponding Setting	-100.0% to 100.0%	30.0%	☆	FE03
FE-04	Curve 1 inflection point 2 input	FE-02 to FE-06	6.00V	☆	FE04

Function code	Parameter Name	Element	Default	Property	Address
FE-05	Curve 1 Inflection Point 2 Input Corresponding Setting	-100.0% to 100.0%	60.0%	☆	FE05
FE-06	Curve 1 Maximum Input	FE-06 to 10.00	10.00V	☆	FE06
FE-07	Curve 1 Maximum Input Corresponding Setting	-100.0% to 100.0%	100.0%		FE07
FE-08	Curve 2 Minimum Input	-10.00 to FE-10	0.00V	☆	FE08
FE-09	Curve 2 Minimum Input Correspondence Setting	-100.0% to 100.0%	0.0%	☆	FE09
FE-10	Curve 2 inflection point 1 input	FE-08 to FE-12	3.00V	☆	FE0A
FE-11	Curve 2 Inflection Point 1 Input Corresponding Setting	-100.0% to 100.0%	30.0%	☆	FE0B
FE-12	Curve 2 Inflection Point 2 Input	FE-10 to FE-14	6.00V	☆	FE0C
FE-13	Curve 2 Inflection Point 2 Input Corresponding Setting	-100.0% to 100.0%	60.0%	☆	FE0D
FE-14	Curve 2 Maximum Input	FE-12 to 10.00V	10.00V	☆	FE0E
FE-15	Curve 2 Maximum Input Corresponding Setting	-100.0% to 100.0%	100.0%	☆	FE0F

Function code	Parameter Name	Element	Default	Property	Address
FE-24	AI1 sets the jump point	-100.0% to 100.0%	0.0%	☆	FE18
FE-25	AI1 sets the jump range	0.0% to 100.0%	0.5%	☆	FE19
FE-26	AI2 sets the jump point	-100.0% to 100.0%	0.0%	☆	FE1A
FE-27	AI2 sets the jump range	0.0% to 100.0%	0.5%	☆	FE1B
FF Group - Manufacturer's Parameters					
FF-00	Manufacturer's password	0 to 65535	*****	☆	FF00
Group C0-Second motor parameter setting					
C0-00	Motor Selection	1: Motor No. 1 2: Motor No. 2 (F7-76=1, showing groups C1 to C3)	1	★	B000
C0-01	Second motor control method	1: Open-loop vector control (vector without speed sensor) 2: VF control	2	★	B001
C0-02	Second motor acceleration and deceleration time selection	0: In line with first motor 1: Acceleration and deceleration time 1 2: Acceleration and deceleration time 2 3: Acceleration and deceleration time 3 4: Acceleration and deceleration time 4	0	☆	B002
Group C1 - second motor parameters					
C1-00	Motor parameter tuning	0: No function 1: Static tuning 2: Dynamic full tuning	0	★	B100
C1-01	Motor2 Rated power	0.4 kW to 1000.0kW	Model Determination	★	B101

Function code	Parameter Name	Element	Default	Property	Address
C1-02	Motor 2 rated voltage	0V to 1500V	380V	★	B102
C1-03	Motor 2 Number of motor poles	2 to 64	Model Determination	●	B103
C1-04	Motor 2 rated current	0.01A~600.00A (motor rated power <=30.0kW) 0.1A~6000.0A (motor rated power >30.0kW)	C1-01 Determination	★	B104
C1-05	Motor 2 Rated frequency	0.00Hz to maximum frequency (F0-14)	50.00 Hz	★	B105
C1-06	Motor 2 Rated speed	0rpm~30000rpm	C1-01 Determination	★	B106
C1-07	Motor 2 no-load current	0.01A to C1-04 (motor rated power <=30.0kW) 0.1A to C1-04 (motor rated power >30.0kW)	C1-01 Determination	★	B107
C1-08	Motor 2 stator resistance	0.001ohm~65.535ohm	Model Determination	★	B108
C1-09	Motor 2 rotor resistance	0.001ohm~65.535ohm	Model Determination	★	B109
C1-10	Motor 2 mutual inductive resistance	0.1mH~6553.5mH	Model Determination	★	B10A
C1-11	Motor 2 leakage inductive reactance	0.01mH~655.35mH	Model Determination	★	B10B
C1-12	Acceleration during dynamic full tuning	1.0s to 600.0s	10.0s	☆	B10C
C1-13	Deceleration during dynamic full tuning	1.0s to 600.0s	10.0s	☆	B10D
Group C2 - Second motor VF parameter setting					
C2-00	Torque Increase	0.0% to 30.0%	0.0%	☆	B200
C2-02	Oscillation suppression gain	0 to 100	Model Determination	☆	B202

Function code	Parameter Name	Element	Default	Property	Address
Group C3 - Second Motor Vector Control Parameters					
C3-00	Switching frequency F1	1.00Hz to C3-02	5.00Hz	☆	B300
C3-02	Switching frequency F2	C3-00 to B0-14	10.00Hz	☆	B302
C3-04	Low frequency speed proportional gain	0.1 to 10.0	4.0	☆	B304
C3-05	Low Frequency Velocity Integration Time	0.01s~10.00s	0.50s	☆	B305
C3-06	High frequency speed proportional gain	0.1 to 10.0	2.0	☆	B306
C3-07	High Frequency Velocity Integration Time	0.01s~10.00s	1.00s	☆	B307
C3-08	Speed Ring Points Attribute Selection	0: Points in effect 1: Points separated	0	★	B308
C3-11	Torque current regulator Kp	0 to 30000	2000	☆	B30B
C3-12	Torque current regulator Ki	0 to 30000	1300	☆	B30C
C3-13	Excitation current regulator Kp	0 to 30000	2000	☆	B30D
C3-14	Excitation current regulator Ki	0 to 30000	1300	☆	B30E
C3-15	Flux Braking Gain	100 to 200	110	☆	B30F
C3-16	Weak magnetic torque correction factor	50% to 150%	100%	☆	B310
C3-17	Differential Compensation Factor	50% to 200%	100%	☆	B311

Function code	Parameter Name	Element	Default	Property	Address
C3-18	Velocity loop feedback filtering time constant	0.000s~1.000s	0.015s	☆	B312
C3-19	Velocity loop output filter time constant	0.000s~1.000s	0.000s	☆	B313
C3-20	Electric Torque Limit Source	0: F4-21 2: AI2 1: AI1 (analog range corresponding to F4-21 3: Communication given 4: PLUSE given	0	☆	B314
C3-21	Upper limit of electric torque	0.0% to 200.0%	150.0%	☆	B315
C3-22	Braking torque upper limit source	0: F4-23 1: AI1 (analog range corresponding to F4-23) 2: AI2 3: Communication given 4: PLUSE given	0	☆	B316
C3-23	Upper limit of braking torque	0.0% to 200.0%	150.0%	☆	B317
Group E0 - System Parameters					
E0-00	Function Code Read-Only Selection	0: invalid 1: read-only	0	☆	C000

Function code	Parameter Name	Element	Default	Property	Address
E0-01	LCD top level menu display (Dual-display LED keypad line 2 display for digits E0-01)	The second line displays the variable (digits): 0:Output current 1: Motor speed 2: Load speed 3: Output voltage 4: PID given 5: PID feedback 6: Bus voltage 7: Operating frequency The third line displays the variable (ten digits): 0:Output current 1: Motor speed 2: Load speed 3: Output voltage 4: PID given 5: PID feedback 6: Busbar voltage	10	☆	C001
E0-02	LCD language selection	0: Chinese 1: English	0	☆	C002
E0-03	LED menu switching selection	0: Disable 1: Enable	0	☆	C003
E0-04	Vector operating frequency display selection	0: Real-time frequency 1: Set frequency	0	☆	C004
E0-05	Display selection during UP/DOWN adjustment	0: Display set value 1: Display current variable value	0	☆	C005
Group E1 - User Function Code Customization					
E1-00	Clear customized function code selection	0: not valid 1: valid	0	☆	C100
E1-01	Customized Function Code 1	uF0-00 to uU1-xx	uF0-03	☆	C101
E1-02	Customized Function Code 2	uF0-00 to uU1-xx	uF0-04	☆	C102
E1-03	Customized Function Code 3	uF0-00 to uU1-xx	uF0-06	☆	C103

Function code	Parameter Name	Element	Default	Property	Address
E1-04	Customized Function Code 4	uF0-00 to uU1-xx	uF0-23	☆	C104
E1-05	Customized Function Code 5	uF0-00 to uU1-xx	uF0-24	☆	C105
E1-06	Customized Function Code 6	uF0-00 to uU1-xx	uF1-00	☆	C106
E1-07	Customized Function Code 7	uF0-00 to uU1-xx	uF1-01	☆	C107
E1-08	Customized Function Code 8	uF0-00 to uU1-xx	uF1-02	☆	C108
E1-09	Customized Function Code 9	uF0-00 to uU1-xx	uF1-04	☆	C109
E1-10	Customized Function Code 10	uF0-00 to uU1-xx	uF1-05	☆	C10A
E1-11	Customized Function Code 11	uF0-00 to uU1-xx	uF1-06	☆	C10B
E1-12	Customized Function Code 12	uF0-00 to uU1-xx	uF1-12	☆	C10C
E1-13	Customized Function Code 13	uF0-00 to uU1-xx	uF1-13	☆	C10D
E1-14	Customized Function Code 14	uF0-00 to uU1-xx	uF5-00	☆	C10E
E1-15	Customized Function Code 15	uF0-00 to uU1-xx	uF5-01	☆	C10F
E1-16	Customized Function Code 16	uF0-00 to uU1-xx	uF5-02	☆	C110
E1-17	Customized Function Code 17	uF0-00 to uU1-xx	uF6-00	☆	C111
E1-18	Customized Function Code 18	uF0-00 to uU1-xx	uF6-01	☆	C112
E1-19	Customized Function Code 19	uF0-00 to uU1-xx	uF0-00	☆	C113
E1-20	Customized Function Codes 20	uF0-00 to uU1-xx	uF0-00	☆	C114
E1-21	Customized Function Code 21	uF0-00 to uU1-xx	uF0-00	☆	C115

Function code	Parameter Name	Element	Default	Property	Address
E1-22	Customized Function Code 22	uF0-00 to uU1-xx	uF0-00	☆	C116
E1-23	Customized Function Code 23	uF0-00 to uU1-xx	uF0-00	☆	C117
E1-24	Customized Function Code 24	uF0-00 to uU1-xx	uF0-00	☆	C118
E1-25	Customized Function Code 25	uF0-00 to uU1-xx	uF0-00	☆	C119
E1-26	Customized Function Code 26	uF0-00 to uU1-xx	uF0-00	☆	C11A
E1-27	Customized Function Code 27	uF0-00 to uU1-xx	uF0-00	☆	C11B
E1-28	Customized Function Code 28	uF0-00 to uU1-xx	uF0-00	☆	C11C
E1-29	Customized Function Code 29	uF0-00 to uU1-xx	uF0-00	☆	C11D
E1-30	Customized Function Codes 30	uF0-00 to uU1-xx	uF0-00	☆	C11E
E1-31	Customized Function Code 31	uF0-00 to uU1-xx	uF0-00	☆	C11F
Group E2 - Optimization of control parameters					
E2-00	Deadband compensation enable selection	0: No compensation 1: Compensation	1	☆	C200
E2-01	PWM method	0: Asynchronous modulation 1: Synchronous modulation	0	☆	C201
E2-02	PWM seven band/five band selection (G300S: PWM seven-band/five-band switching frequency)	0: full seven-segment 1:seven-segment/five-segment automatic switching (G300S: 1.00 HZ to F0-14)	0 (G300S: 8.00 HZ)	☆	C202
E2-03	CBC current limit enable selection	0: Disable 1: Enable	1	☆	C203
E2-04	braking point	350.0V to 780.0V	360.0V	☆	C204

Function code	Parameter Name	Element	Default	Property	Address
			690.0V	☆	
E2-05	undervoltage point	150.0V to 500.0V	200.0V	☆	C205
			350.0V	☆	
E2-06	Random PWM depth setting	0 to 6	0	☆	C206
E2-07	0Hz operation mode selection	0: No current output; 1: Normal operation; 2: Output with stopping DC braking current F2-16;	0	☆	C207
E2-08	Low-frequency carrier limiting method selection	0: Restricted mode 0 1: Restricted mode 1 2: Unlimited (consistent carrier in all frequency bands)	0	☆	C208
E2-12	VF high carrier enable	0: not enabled 1: enabled	0	★	C20C
E2-14	Synchronous motor initial position recognition minimum current	0% to 80% (in combination with F4-28)	50	☆	C20E
Group E3 - AIAO calibration parameters					
E3-00	AI1 displays voltage 1	-9.999V to 10.000V	3.000V	☆	C300
E3-01	AI1 measured voltage1	-9.999V to 10.000V	3.000V	☆	C301
E3-02	AI1 display voltage 2	-9.999V to 10.000V	8.000V	☆	C302
E3-03	AI1 measured voltage2	-9.999V to 10.000V	8.000V	☆	C303
E3-04	AI2 display voltage 1	-9.999V to 10.000V	3.000V	☆	C304
E3-05	AI2 measured voltage1	-9.999V to 10.000V	3.000V	☆	C305

Function code	Parameter Name	Element	Default	Property	Address
E3-06	AI2 display voltage 2	-9.999V to 10.000V	8.000V	☆	C306
E3-07	AI2 measured voltage2	-9.999V to 10.000V	8.000V	☆	C307
E3-12	AO1 target voltage 1	-9.999V to 10.000V	3.000V	☆	C30C
E3-13	AO1 measured voltage1	-9.999V to 10.000V	3.000V	☆	C30D
E3-14	AO1 target voltage 2	-9.999V to 10.000V	8.000V	☆	C30E
E3-15	AO1 measured voltage2	-9.999V to 10.000V	8.000V	☆	C30F
E3-16	AO2 target voltage1	-9.999V to 10.000V	3.000V	☆	C310
E3-17	AO2 measured voltage1	-9.999V to 10.000V	3.000V	☆	C311
E3-18	AO2 target voltage2	-9.999V to 10.000V	8.000V	☆	C312
E3-19	AO2 measured voltage2	-9.999V to 10.000V	8.000V	☆	C313
Group E4 - Master-Slave Control Parameters					
E4-00	Master-Slave Control Enable Selection:	0: Disable 1: Enable	0	★	C400
E4-01	Master-slave selection:	0: Master 1: Slave	0	★	C401
E4-02	Host transmit frequency selection:	0: Operating frequency 1: Target frequency	0	★	C402
E4-03	Slave Follows Master Command Source Selection	0: Do not follow 1: Follow	0	★	C403
E4-04	Slave receive frequency factor	0.0%~6000.0%	100.0%	☆	C404

Function code	Parameter Name	Element	Default	Property	Address
E4-05	Slave Receiving Torque Factor	-10.00 to 10.00	1.00	☆	C405
E4-06	Slave Receive Torque Bias	-50.00% to 50.00%	0.00%	☆	C406
E4-07	Frequency deviation threshold	0.20% to 10.00%	0.50%	☆	C407
E4-08	Master-slave communication drop detection time	0.00s to 10.0s	0.1s	☆	C408
E4-09	Slave receive frequency coefficient selection	Receive frequency gain selection 0: Function code setting (E4-04), 1: AI1; 2: AI2	0	☆	C409
Group E5 - Functional parameters of holding brake					
E5-00	Holding brake control enable selection:	0: Disable 1: Enable	0	★	C500
E5-01	Holding brake release frequency	0.00Hz to 20.00Hz	2.50Hz	★	C501
E5-02	Holding brake release frequency maintenance time	0.0s~20.0s	1.0s	★	C502
E5-03	Current limit value during braking	50.0% to 200.0%	120.0%	★	C503
E5-04	Clamping frequency	0.00 Hz to 20.00 Hz	1.50Hz	★	C504
E5-05	Holding brake suction delay time	0.0s~20.0s	0.0s	★	C505
E5-06	Holding frequency maintenance time	0.0s~20.0s	1.0s	★	C506
E5-07	Loosening torque current detection value	0.0% to 100.0%	12.0%	★	C507

Function code	Parameter Name	Element	Default	Property	Address
Group E6 - Sleep Wake Function Parameters					
E6-00	Hibernation Options	0: Hibernation function is disabled 1: Digital input terminal DI (X) control sleep function 2: Sleep function controlled by PID set value and feedback value 3: Control of sleep function according to operating frequency	0	☆	C600
E6-01	Sleeping frequency	0.00Hz to F0-14	0.00Hz	☆	C601
E6-02	hibernation delay	0.0s~3600.0s	20.0s	☆	C602
E6-03	wake-up call difference	0.0% to 100.0% When E6-00=3, the unit becomes HZ	10.0%	☆	C603
E6-04	wake-up delay	0.0s~3600.0s	0.5s	☆	C604
E6-05	Sleep delay frequency output selection	0: PID auto-tuning, 1: Dormant frequency E6-01	0	☆	C605
Function code	Parameter Name	Element	Default	Property	Address
n0 Group - Specialized Application Macros					
n0-00	application macro (computing)	0 to 11	00	☆	D000
n1 group - special function of constant pressure water supply (reserved, communication address D100~D10E)					
Group U0 - Fault Logging Parameters					
U0-00	Type of last failure	00: No fault Err01: Inverter module protection	1	●	7000

Function code	Parameter Name	Element	Default	Property	Address
U0-01	Type of previous failure	Err04: Over-current during acceleration Err05: Over-current during deceleration Err06: Over-current during constant speed operation Err08: Over-voltage during acceleration Err09: Over-voltage during deceleration	1	●	7001
U0-02	Pr-secondary fault type	Err10: Over-voltage during constant speed operation Err12: Under-voltage fault Err13: Drive overload fault Err14: Motor overload fault Err15: Drive overheating Err17: Current detection fault Err20: Short to ground fault Err23: Input out-of-phase fault Err24: Output out-of-phase fault Err25: Eeprom operation failure Err27: Communication failure Err28: External fault Err29: speed deviation Err30: User-defined fault 1 Err33: Fast current limit Err31: User-defined fault 2 Err34: Dropout fault Err32: Loss of PID feedback at runtime Err35: Input power failure Err37: Parameter storage exception Err39: This runtime arrived Err40: Accumulated runtime reached Err42: Switching motors during operation Err44: PID feedback overrun fault during operation (FA-17=0 overrun protection not valid) Err45: Permanent magnet synchronization initial position recognition fault Err46：Master-slave control communication drop out	1	●	7002

Function code	Parameter Name	Element	Default	Property	Address
		Err47: Constant pressure water supply water shortage protection (n1-10=0 protection invalid) Err48: Inverted Potential Recognition Error Fault			
U0-03	Frequency at last failure		0.01Hz	●	7003
U0-04	Current at last fault		0.01A	●	7004
U0-05	Busbar voltage at last fault		0.1V	●	7005
U0-06	Input terminal status at last fault		1	●	7006
U0-07	Output terminal status at last fault		1	●	7007
U0-08	Last Fault Inverter Status		1	●	7008
U0-09	Running time at last fault (minutes from power-up)		1min	●	7009
U0-10	Runtime at last failure (minutes from time of operation)		1min	●	700A
U0-13	Frequency at previous failure		0.01Hz	●	700D
U0-14	Current at previous fault		0.01A	●	700E
U0-15	Busbar voltage at previous fault		0.1V	●	700F
U0-16	Input terminals at previous fault		1	●	7010
U0-17	Output terminals at previous fault		1	●	7011
U0-18	Previous fault inverter status		1	●	7012
U0-19	Running time at previous fault (start time from power-on, minutes)		1min	●	7013
U0-20	Time at previous failure (minutes from time of operation)		1min	●	7014
U0-21	Reserved variable			●	7015
U0-22	Reserved variable			●	7016
U0-23	Frequency at first second failure		0.01Hz	●	7017
U0-24	Current at first secondary fault		0.01A	●	7018
U0-25	Busbar voltage at first secondary fault		0.1V	●	7019

Function code	Parameter Name	Element	Default	Property	Address
U0-26	Input terminals in case of first secondary fault		1	●	701A
U0-27	Output terminals in case of front secondary fault		1	●	701B
U0-28	Former secondary fault inverter status		1	●	701C
U0-29	Running time at the time of the first two failures (power-on start time, minutes)		1min	●	701D
U0-30	Time at first second failure (minutes from time of operation)		1min	●	701E
Group U1-Application Monitoring Parameters					
U1-00	Operating frequency (HZ)		0.01Hz	●	7100
U1-01	Setting frequency (HZ)		0.01Hz	●	7101
U1-02	Bus voltage (V)		0.1V	●	7102
U1-03	Output Voltage (V)		1V	●	7103
U1-04	Output current (0.01A: power <=30.0kW, 0.1A: power >30.0kW)		Model Determined	●	7104
U1-05	Output power (kW)		0.1kW	●	7105
U1-06	DI (X) input status, hexadecimal number		1	●	7106
U1-07	DO output status, hexadecimal number		1	●	7107
U1-08	AI1 corrected voltage		0.01V	●	7108
U1-09	AI2 corrected voltage		0.01V	●	7109
U1-10	PID setpoint, PID setpoint (percentage)*FA-05		1	●	710A
U1-11	PID feedback, PID feedback value (%) *FA-05		1	●	710B
U1-12	numerical value		1	●	710C
U1-13	length value		1	●	710D
U1-14	Motor speed		rpm	●	710E
U1-15	PLC stage, current segment during multi-speed operation		1	●	710F
U1-16	PULSE pulse input frequency		0.01kHz	●	7110
U1-17	Feedback speed, actual motor running frequency		0.1Hz	●	7111

Function code	Parameter Name	Element	Default	Property	Address
U1-18	F7-39 Remaining time of timer time		0.1Min	●	7112
U1-19	AI1 voltage before correction		0.001V	●	7113
U1-20	AI2 voltage before correction		0.001V	●	7114
U1-21	DI7 (X7) High-speed pulse sampling line speed, refer to F7-71 for use.		1m/min	●	7115
U1-22	Load speed display (set load speed at shutdown), refer to F7-32.		Customized	●	7116
U1-23	Current power-up time		1Min	●	7117
U1-24	Current running time		0.1Min	●	7118
U1-25	PULSE pulse input frequency, different from U1-16 only in units		1Hz	●	7119
U1-26	Communication set frequency value		0.01%	●	711A
U1-27	Main Frequency Display		0.01Hz	●	711B
U1-28	Auxiliary frequency display		0.01Hz	●	711C
U1-29	Target torque at 100% of rated motor torque		0.1%	●	711D
U1-30	Output torque, 100% of rated motor torque		0.1%	●	711E
U1-31	Output torque at 100% of inverter rated current		0.1%	●	711F
U1-32	Torque upper limit at 100% of inverter rated current		0.1%	●	7120
U1-33	VF Separation Target Voltage		1V	●	7121
U1-34	VF Separation Output Voltage		1V	●	7122
U1-35	reservations			●	7123
U1-36	Currently used motor serial number		1	●	7124
U1-37	AO1 target voltage		0.01V	●	7125
U1-38	AO2 target voltage		0.01V	●	7126
U1-39	Frequency converter operation status, 0: stop, 1: forward, 2: reverse, 3: failure		1	●	7127
U1-40	Current faults of the inverter		1	●	7128

Function code	Parameter Name	Element	Default	Property	Address
U1-41	Agents Limited Time Remaining		1h	●	7129
U1-42	AC Inlet Current		0.1A	●	712A
U1-43	Time remaining in the current phase of the PLC		0.1	●	712B
U1-47	Cumulative runtime1 (cumulative runtime = U1-47 + U1-48)		1h	●	712F
U1-48	Cumulative runtime2 (cumulative runtime = U1-47 + U1-48)		1min	●	7130
U1-74	carrier wave in effect		Depending on the model	●	714A

G300 series part of the industry-specific machine application macro parameter table (n0-00 communication address: D000**):**

serial number	Application Macro Parameter Settings	View Product Serial Number	Specialized machine models for external use
1	n0-00=0	F0-00=300.00	common program
2	n0-00=1	F0-00=300.01	G301 (circular knitting machine application macro)
3	n0-00=2	F0-00=300.02	G302 (machine tool application macros)
4	n0-00=3	F0-00=300.03	G303 (whipcutter application macro)
5	n0-00=4	F0-00=300.04	G304 (incense maker application macro)
6	n0-00=8	F0-00=300.08	G308 (Lifting Industry\Construction Elevator Application Macro)
7	n0-00=9	F0-00=300.09	G309 485 Communication Compatible with Mogawa MD Series
8	n0-00=10	F0-00=300.10	G310 LCD keypad constant pressure water supply application macro
9	n0-00=11	F0-00=300.11	G311 LED keypad for constant pressure water supply application macros

Appendix C Version Changed Record

Date	Changed version	Changes
2024-04	V1.0	Initial version of the user manual.
2024-05	V2.0	1. dual-display digital tube keypad first line display value (F7-29, F7-30) and the second display value (E0-01 digit setting) can be freely set, and can be set to a unique value; 2. n0-00 = 11 constant pressure water supply application macro can display three quantities at the same time: set pressure, feedback pressure, operating frequency; 3. Changes in naming rules: Changes in accordance with the principle of rounding, the original single-phase 220V "3S" was changed to "2S". The original three-phase 220V "3T" was changed to "2T".
2024-07	V2.1	1. Add E2-12 VF high carrier enable, the maximum carrier can reach 14K; 2. Add monitoring parameter U1-74 Effective carrier; 3. 2.2kW rated current changed from 5.1A to 6.5A; 4. Increase Fd-12 torque control precision mode selection: Mode 2 is upgraded from± 12% to± 5% compared with Mode 1; 5. Increase synchronous motor related function code parameters: F4-57 initial position compensation angle; 6. Chapter 5 to add 300S synchronous motor fault code: Err45 (permanent magnet synchronous initial position identification fault), Err48 (inverse phase electric potential identification error fault); 7. Chapter VI adds the no~n1 group of communication addresses; 8. Increase F8-07 communication current resolution 0:0.01A, 1:0.1A.
2024-12	V2.2	1. Increase F8-08 communication reading frequency resolution 0: controlled by F0-20 1: 0.1 Hz 2: 0.01Hz; 2. The original F6-31 AO output selection through the jumper switch to select the voltage type or current type, has nothing to do with the function code parameters, the parameter is changed to reserved; 3. Add knob keyboard and pure keypad switching method.

Appendix C VERSION CHANGE RECORD

Date	Changed version	Changed content
2024-04	V1.0	Initial version of the user manual.
2024-05	V2.0	1. Dual-display digital tube keyboard the first line of the display value (F7-29, F7-30) and the second display value (E0-01 bit setting) can be freely set, and can be set to a unique value. 2. n0-00 = 11 constant pressure water supply application macro can display three quantities at the same time: set pressure, feedback pressure, operating frequency. 3. Changes in naming rules: in accordance with the principle of rounding, the original single-phase 220V "3S" is changed to "2S". The original three-phase 220V "3T" was changed to "2T".

Warranty

Our company solemnly promises that since the date when the user buys the product from our company (hereinafter referred to as the manufacturer), the user enjoys the following after-sales service of the product.

1. This product is accompanied by a complimentary 15-month warranty from the manufacturer starting from the date of purchase, with an extension to 18 months for products exported overseas or non-standard machines based on their serial number.

2. This product from the user from the date of purchase from the manufacturer within one month of the occurrence of quality problems, the manufacturer package refund, replacement, repair.

3. This product from the user from the date of purchase from the manufacturer within three months of the occurrence of quality problems, the manufacturer package replacement, package repair.

4. This product carries a 6-month warranty at the place of purchase from the date of purchase by the user from the manufacturer for export overseas.

5. This product is entitled to paid lifetime service from the date of purchase by the user from the manufacturer.

6. Disclaimer: Product failures caused by the following reasons are not covered by the manufacturer's 15-month free warranty service commitment:

（1） The user does not follow the procedures listed in the User's Manual for proper operation;

（2） Users without communicating with the manufacturer to repair the product or unauthorized modification caused by product failure;

（3） Product malfunction caused by the user using the product beyond the standard use range of the product;

（4） Due to the user's poor use of the environment leading to abnormal aging or failure of the product device;

（5） Damage to the product due to force majeure such as earthquakes, fires, wind and water damage, lightning strikes, abnormal voltages or other natural disasters;

7. The manufacturer reserves the right not to provide warranty service under the following conditions:

（1） When the manufacturer's brand, trademark, serial number, nameplate, or other markings expressed in the product are destroyed or illegible;

（2） When the user fails to pay for the goods in accordance with the Purchase and Sales Contract signed by both parties;

（3） When the user intentionally conceals from the manufacturer's after-sales service provider unit any undesirable use of the product during installation, wiring, operation, maintenance, or other processes.

VEKONT Electric CO.,LTD

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VEKONT Electric CO.,LTD Warranty Card

Customer:		
Address:		
Contact:	Tel/Fax:	
Model:		
SN:		
Date of purchased:	Date of fault occurred:	
Motor power:	Equipment matched:	
Whether to use the braking unit function □YES □NO	Whether any unusual noise when there is a malfunction □YES □NO	Whether smoke when there is a malfunction □YES □NO
Malfunction description:		

Note: Please send this card with the faulty product to our company, thanks!

VEKONT ELECTRIC CO.,LTD

Certificate of Conformity

Inspector:

Production Date:

The product has passed by our Quality Control and Quality Assurance departments.

Ensuring that its performance parameters meet the standards specified in the accompanying User Manual, thus enabling it to be shipped.

CHANGSHA VEKONT ELECTRIC CO.,LTD
SHENZHEN VEKONT ELECTRIC CO.,LTD
ADDRESS：No.78 Tengfei Rd,Winner Electric Industrial Park
1st Building, P.R.China
WEBSITE：www.vekontcn. com

OFFICIAL WECHAT

Reference Number: G3000001

G300/G3000 USER MANUAL V2.2
VEKONT ELECTRIC CO., LTD