

# High performance general purpose AC drive user manual

## Safety Precautions



Warning

" Warning " Indicates that if you do not follow the regulations, it may result in death or serious bodily injury




Danger

" Danger " Indicates that if you do not follow the regulations, it will result in death or serious bodily injury


### Security statement

- 1) When installing, operating, and maintaining the product, please read and follow these safety precautions first.
- 2) In order to ensure the safety of people and equipment, please follow all safety precautions described on the product and in the manual when installing, operating and maintaining the product.
- 3) The "Caution", "Warning" and "Danger" items in the manual do not represent all the safety items that should be followed, but only as a supplement to all the safety precautions.
- 4) This product should be used in an environment that meets the design specifications, otherwise it may cause malfunctions, and malfunctions or component damage caused by non-compliance with relevant regulations are not within the scope of product quality assurance.
- 5) Our company will not bear any legal responsibility for personal safety accidents and property losses caused by illegal operation of the product.


## 1. Purpose

 <p>Danger</p>	<p>This series is suitable for controlling the variable speed operation of three-phase AC motors, and cannot be used for single-phase motors or other purposes, otherwise it may cause inverter failure or fire.</p> <p>This series of inverters cannot be simply applied to occasions directly related to personal safety, such as medical devices.</p>
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## 2. Goods Inspection

 <p>Warning</p>	<p>When unpacking, it is found that the product and its accessories are damaged, rusted, signs of use, etc., please do not install!</p> <p>When unpacking, if water is found inside the product, parts missing, or parts damaged, please don't install it!</p> <p>Please check the packing list , if you find that the packing list does not match the product name, please do not install it!</p>
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## 3. Safe operation

 <p>Warning</p>	<p>It is strictly forbidden for non-professionals to install, connect, maintain, inspect or replace parts of the product!</p> <p>The installation, wiring, maintenance, inspection or component replacement of this product can only be carried out by professionals who have received relevant training in electrical equipment and have sufficient electrical knowledge.</p> <p>The installer must be familiar with the product installation requirements and related technical information.</p> <p>When it is necessary to install equipment with strong electromagnetic interference such as a transformer, please install a shielding protection device to avoid malfunction of this product !</p>
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## 4. Operation and maintenance

 <p>Danger</p>	<p>When the function of automatic fault reset or restart after power failure is set, safety isolation measures should be taken for the mechanical equipment, otherwise it may cause equipment damage and personal safety accidents.</p> <p>After the inverter is connected to the power supply, even if it is in the stop state, the terminals of the inverter are still live and cannot be touched, otherwise there is a danger of electric shock.</p> <p>In the occasions where there is power frequency and variable frequency switching, the two contactors that control the power frequency and variable frequency should be interlocked, otherwise the inverter will be damaged.</p> <p>Wait at least 5 minutes after power off to ensure that the electrolytic capacitor of the main circuit is fully released, otherwise there is a danger of electric shock.</p>
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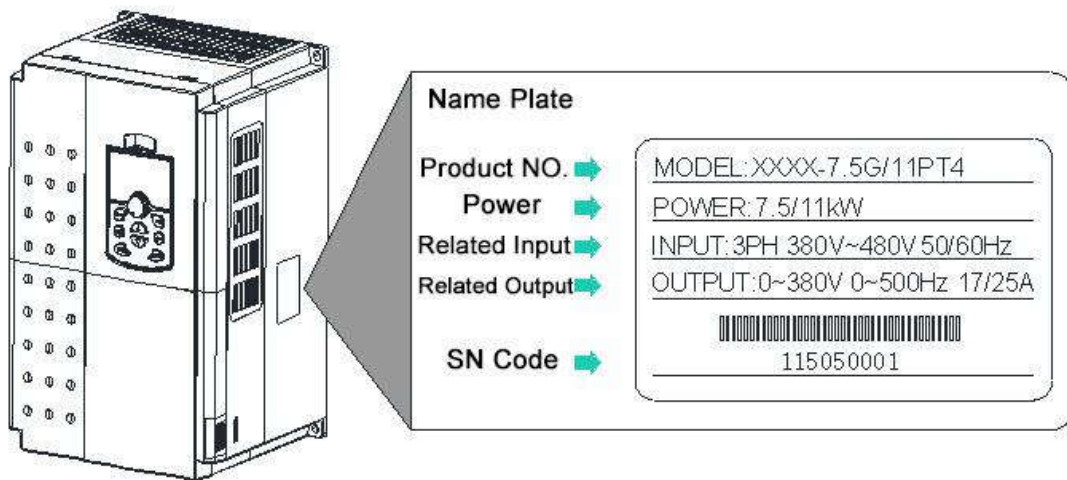
# Product Information

## 1. Inverter checking

Before leaving the factory, each inverter has undergone strict quality control and strengthened anti-collision packaging. After unpacking, please check the following items:

- Check whether the inverter has been damaged during transportation
- Check whether there are instructions in the packing box (with certificate of conformity attached)
- Check the nameplate of the inverter and confirm that it is the model of the product you ordered
- If you have ordered the optional accessories of the inverter, please check to confirm

### 1-1 Inverter name plate



### 1-2 Model Number description

Model	Power Capacity	Input Current	Output Current	Adaptable Motor		INVERTER SIZE
	(KVA)	(A)	(A)	KW	HP	MM (H*W*D)
<b>Single-phase 220V, 50/60Hz</b>						
KDE600S-0R4GS2	1	5.4	2.3	0.4	0.5	152*89*123
KDE600S-R75GS2	1.5	8.2	4	0.75	1	152*89*123
KDE600S-1R5GS2	3	14	7	1.5	2	152*89*123
KDE600S-2R2GS2	4	23	9.6	2.2	3	152*89*123
<b>Three-phase 380V, 50/60Hz</b>						
KDE600S-R75GT4	1.5	3.4	2.1	0.75	1	152*89*123
KDE600S-1R5GT4	3	5	3.8	1.5	2	152*89*123
KDE600S-2R2GT4	4	5.8	5.1	2.2	3	152*89*123
KDE600S-3R7GT4	5.9	10.5	9	3.7	5	152*89*123

Model	Power Capacity	Input Current	Output Current	Adaptable Motor		Inverter Size
	(KVA)	(A)	(A)	KW	HP	MM (H*W*D)
				Three-phase 380V, 50/60Hz		
KDE600-R75GT4	1.5	3.4	2.1	0.75	1	185*118*167
KDE600-1R5GT4	3	5	3.8	1.5	2	185*118*167
KDE600-2R2GT4	4	5.8	5.1	2.2	3	185*118*167
KDE600-3R7G/5R5PT4	5.9	10.5	9	3.7	5	185*118*167
KDE600-5R5G/7R5PT4	8.9	14.6	13	5.5	7.5	185*118*187
KDE600-7R5G/011PT4	11	20.5	17	7.5	10	247*160*190
KDE600-011G/015PT4	17	26	25	11	15	247*160*190
KDE600-015G/018PT4	21	35	32	15	20	320*220*205
KDE600-018G/022PT4	24	38.5	37	18.5	25	320*220*205
KDE600-022/030PGT4	30	46.5	45	22	30	320*220*205
KDE600-030G/037PT4	40	62	60	30	40	432*255*235
KDE600-037G/045PT4	57	76	75	37	50	432*255*235
KDE600-045G/055PT4	69	92	91	45	60	518*300*260
KDE600-055G/075PT4	85	113	112	55	75	518*300*260
KDE600-075G/090PT4	114	157	150	75	100	620*390*300
KDE600-090G/110PT4	134	180	176	90	125	620*390*300
KDE600-110G/132PT4	160	214	210	110	150	620*390*300
KDE600-132G/160PT4	192	256	253	132	175	780*480*360
KDE600-160G/185PT4	231	307	304	160	210	780*480*360
KDE600-185G/200PT4	240	340	335	185	250	855*500*360
KDE600-200G/220PT4	250	385	377	200	260	855*500*360
KDE600-220G/250PT4	280	430	426	220	300	1320*650*418
KDE600-250G/280PT4	355	468	465	250	350	1320*650*418
KDE600-280G/315PT4	396	525	520	280	370	1320*650*418
KDE600-315G/355PT4	445	590	585	315	420	1320*650*418
KDE600-355G/400PT4	500	665	650	355	470	1720*800*490
KDE600-400G/450PT4	565	785	725	400	530	1720*800*490
KDE600-450G/500PT4	630	883	820	450	600	1720*800*490
KDE600-500G/560PT4	710	1000	930	500	660	1720*800*490

Model	Power Capacity	Input Current	Output Current	Adaptable Motor		Inverter Size
	(KVA)	(A)	(A)	KW	HP	MM (H*W*D)
				3phase 200V-240V , 50/60Hz		
KDE600-R75GT2	3	5	3.8	0.75	1	185*118*167
KDE600-1R5GT2	4	5.8	5.1	1.5	2	185*118*167
KDE600-2R2GT2	5.9	10.5	9	2.2	3	185*118*167

KDE600-3R7GT2	8.9	14.6	13	3.7	5	185*118*187
KDE600-5R5GT2	17	26	25	5.5	7.5	247*160*190
KDE600-7R5GT2	21	35	32	7.5	10	320*220*205
KDE600-011GT2	30	46.5	45	11	15	320*220*205
KDE600-015GT2	40	62	60	15	20	432*255*235
KDE600-018GT2	57	76	75	18.5	25	432*255*235
KDE600-022GT2	69	92	91	22	30	518*300*260
KDE600-030GT2	85	113	112	30	40	518*300*260
KDE600-037GT2	114	157	150	37	50	620*390*300
KDE600-045GT2	134	180	176	45	60	620*390*300
KDE600-055GT2	160	214	210	55	75	620*390*300
KDE600-075GT2	231	307	304	75	100	780*480*360

### 1-3 Specification model, technical specification

Functions	Description	
Highest frequency	Vector control: 0 ~ 300Hz V/F control: 0 ~ 500Hz (general purpose); 0 ~ 3200Hz (high frequency)	
Carrier frequency	0.5kHz ~ 16kHz The carrier frequency can be automatically adjusted according to the load characteristics.	
Input frequency resolution	Digital setting: 0.01Hz Analog setting: highest frequency ●0.025%	
control method	Open loop vector control (SVC) Closed loop vector control (FVC) V/F control	
Starting torque	0.5Hz/150% (SVC); 0Hz/180% (FVC)	
Speed range	1:100 (SVC) 1:1000 (FVC)	1:100 (SVC) 1:1000 (FVC)
Stable speed accuracy	±0.5% (SVC) ±0.02% (FVC)	±0.5% (SVC) ±0.02% (FVC)
Torque control accuracy	±5% (FVC)	
Overload capacity	G type machine: 150% rated current 60s; 180% rated current 3s.	
Torque boost	P type machine: 120% rated current 60s; 150% rated current 3s.	
V/F curve	Automatic torque boost; manual torque boost 0.1% ~ 30.0%	
V/F separation	Three methods: linear type; multi-point type; N-th power V/F curve	
Acceleration and deceleration curve	Linear or S-curve acceleration and deceleration mode. Four kinds of acceleration and deceleration time 0.0 ~ 6500.0s	
DC braking	DC braking frequency: 0.00Hz ~ maximum frequency braking time: 0.0s ~ 36.0s	
Jog control	Braking current value: 0.0% ~ 100.0%	
PLC, multi-speed operation	Jog frequency range: 0.00Hz ~ 50.00Hz. Jog acceleration/deceleration time is 0.0s ~ 6500.0s.	
Built-in PID	Through the built-in simple PLC or control terminal to achieve up to 16-speed operation	
Automatic voltage adjustment (AVR)	It is convenient to realize the process control closed-loop control system	
Over voltage and over	When the grid voltage changes, it can automatically keep the output voltage constant	

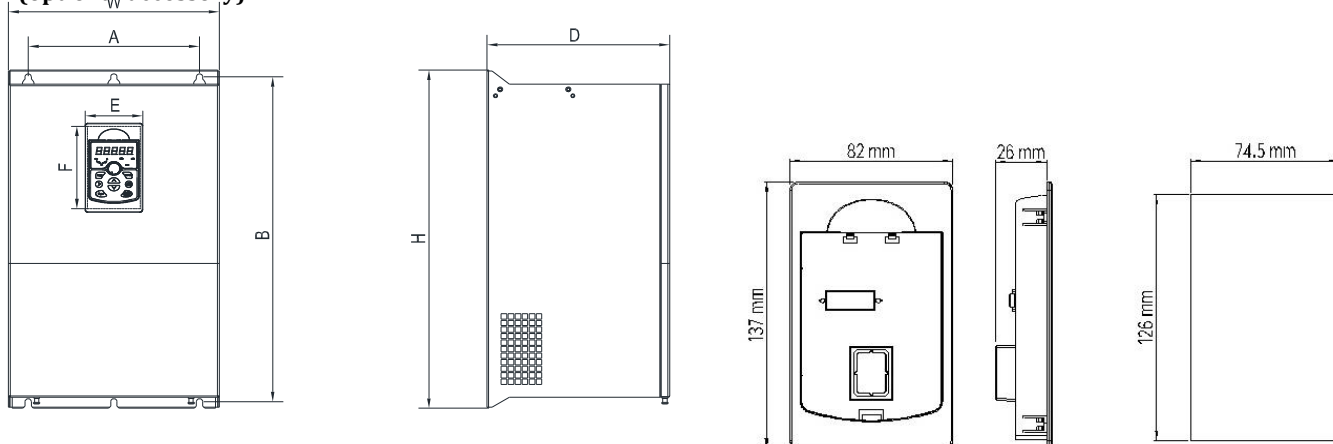
	current stall speed control	
	Fast current limiting function	Minimize over-current faults to protect the normal operation of the inverter
	Torque limit and control	The "shovel" feature automatically limits the torque during operation to prevent frequent over-current trips; closed-loop vector mode can realize torque control
	<b>Functions</b>	<b>Description</b>
Mainly functions	Outstanding performance	Realize asynchronous motor and synchronous motor control with high-performance current vector control technology
	Stop momentarily	When instantaneous power failure occurs, the load feedback energy is used to compensate for the voltage drop, and maintain the inverter to continue running for a short period of time
	Fast current limit	Avoid frequent over-current faults of the inverter
	Virtual IO	Five groups of virtual input and output can realize simple logic control
	Timing control	Timing control function: set time range 0.0Min~6500.0Min
	Multi-motor switching	Two sets of motor parameters can realize switching control of two motors
	Multi-threaded bus support	Support a variety of field buses: R S-4 8 5, C A N I n k, CANopen, etc.
	Motor overheat protection	Extended analog input A I 3 Motor temperature sensor input PT100, PT1000
	Multi-encoder support	Support differential, open collector, UVW, resolver, sine and cosine encoders
	Command source	Operation panel setting, control terminal setting, communication setting and there are many ways to switch
	Frequency source	10 kinds of frequency sources: digital setting, analog voltage setting, analog current setting, pulse setting, serial port setting. Can be switched in a variety of ways
Running	Auxiliary frequency source	10 kinds of auxiliary frequency sources. Flexible realization of auxiliary frequency fine-tuning and frequency synthesis
	Input terminal	standard: 6 digital input terminals, one of which supports high-speed pulse input up to 100kHz 2 analog input terminals, 1 only supports 0~10V voltage input, 1 supports 0~10V voltage input or 4~20mA current input Expansion: 3 digital input terminals 1 analog input terminal, support -10~10V voltage input (PT100\PT1000)
	Output terminal	standard: 1 high-speed pulse output terminal (open-collector type is optional), supports 0~100kHz square wave signal output 1 digital output terminal 1 relay output terminal 1 analog output terminal, support 0~20mA current output or 0~10V voltage output Expansion: 1 digital output terminal 1 relay output terminal 1 analog output terminal, support 0~20mA current output or 0~10V voltage output
Key and display	LED display	Display parameters, status information, fault information, etc.
	Key lock and function selection	Realize partial or full lock of keys, define the range of some keys
	Protective function	Power-on motor short circuit detection, input and output phase loss protection, overcurrent protection, overvoltage protection, undervoltage protection, overheat protection, overload protection, etc.
Environment	Use place	Indoor, not exposed to direct sunlight, free of dust, corrosive gas, flammable gas, oil mist, water vapor, dripping water or salt, etc., the altitude is less than 1000m
	Ambient temperature	-10℃~+50℃ (Ambient temperature is 40℃~50℃, please use with derating)
	Humidity vibration	Humidity is less than 95%RH, no condensation, vibration is less than 5.9m/s <sup>2</sup> (0.6g)
	storage temperature	-20℃~+60℃

# Installation

## 2.1 Product dimensions and installation dimensions

## 2. Bottom drag installation size of external operation

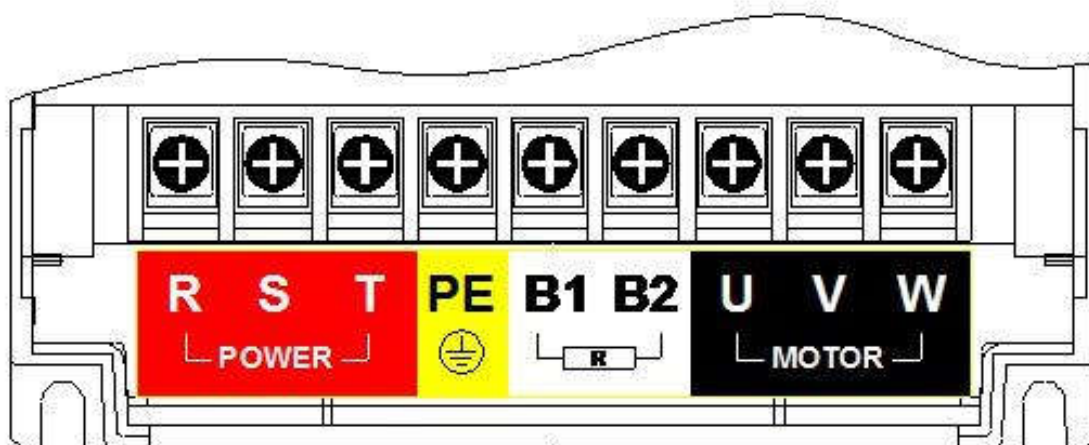
box (optional accessory)



Model Type	Installation Dimensions		Inverter Dimensions			Installation aperture(mm)	
	A(mm)	B(mm)	H(mm)	W(mm)	D(mm)		
KDE600-R75GT4	107	175	185	118	167	4.5	
KDE600-1R5GT4							
KDE600-2R2GT4							
KDE600-3R7G/5R5PT4	107	175	185	118	187	4.5	
KDE600-5R5G/7R5PT4							
KDE600-7R5G/011PT4	148	235	247	160	190	5.5	
KDE600-011G/015PT4							
KDE600-015G/018PT4	205	305	320	220	205	5.5	
KDE600-018G/022PT4							
KDE600-022/030PGT4							
KDE600-030G/037PT4	180	416	432	255	234.5	7	
KDE600-037G/045PT4							
KDE600-045G/055PT4	244	497	518	300	260	9	
KDE600-055G/075PT4							
KDE600-075G/090PT4	300	598	620	390	300	11	
KDE600-090G/110PT4							
KDE600-110G/132PT4							
KDE600-132G/160PT4	350	745	780	480	360	12	
KDE600-160G/185PT4							
KDE600-185G/200PT4	Hanging	400	830	855	500	360	12
KDE600-200G/220PT4							
KDE600-220G/250PT4	Cabinet	/	/	1138.4	500	360	/
KDE600-250G/280PT4							
KDE600-280G/315PT4	Hanging	480	942	970	650	418	13

KDE600-315G/355PT4							
KDE600-355G/400PT4							
KDE600-400G/450PT4							
KDE600-450G/500PT4	Cabinet						
KDE600-500G/560PT4							
KDE600-185G/200PT4		/	/	1320	650	418	/
KDE600-200G/220PT4							
KDE600-220G/250PT4							
KDE600-250G/280PT4	Cabinet						
KDE600-280G/315PT4							
KDE600-315G/355PT4		/	/	1720.4	800	490	/
KDE600-315G/355PT4							
KDE600-355G/400PT4							

## 2.2, Schematic diagram of main circuit terminals

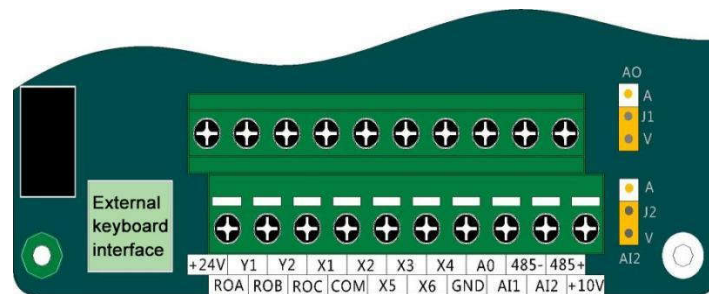


## 2.3 Main circuit power input terminal

Terminal	Terminal Name			Terminal function description
	22KW and below	30-37KW	45KW and above	
R S T	Main circuit power input terminal			AC 380V 3 phase input terminal
L N				AC 220V 1 phase input terminal
U V W	Inverter output terminal			Connect with 3 phase AC motor
P	no this terminal	no this terminal	DC reactor terminal 1	B1,B2 connect with braking resistor terminal,(+),(-) connect with braking unit terminal,P,(+) connect with DC reactor,need to remove the Short link between P and (+)when do connection
(+) or B1	Braking resistor terminal 1	/	DC reactor terminal 2	
(-)	no this terminal	Braking Unit terminal 1	Braking Unit terminal 2	

B2	Braking resistor terminal 2	no this terminal	
PE	Ground Terminal		make sure terminal do ground

## 2.4 Control circuit power input terminal



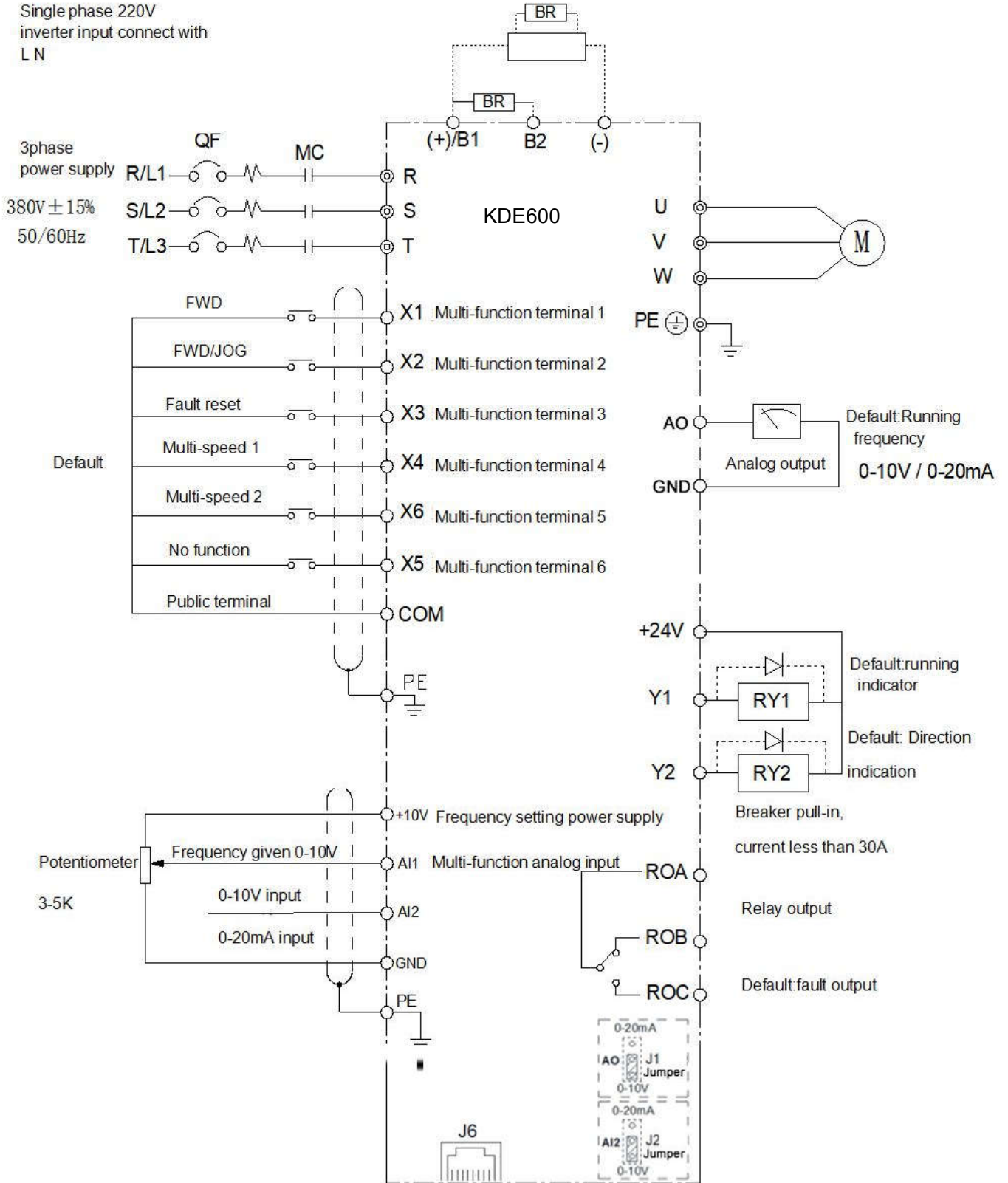
Type	Terminal	Terminal Name	Description and default
Multi-input terminal	X1	Multi-function terminal 1	input Default: forward
	X2	Multi-function terminal 2	input Default: reverse
	X3	Multi-function terminal 3	input Default: No function
	X4	Multi-function terminal 4	input Default: No function
	X5	Multi-function terminal 5	input Default: No function
	X6	Multi-function terminal 6	input Default: No function, can be used as high-speed pulse input
	COM	Common terminal	Multi-function input common terminal, +24V power reference ground
Analog input	AI1	Analog input 1	0~10V input
	AI2	Analog input 2	0~10V/0~20mA input (J2 jumper is optional)
	+10V	Power supply for analog quantity setting	+10V DC 10mA (potentiometer 3~5K)
	GND	Analog reference ground	Analog input and output reference ground
Multi-function output	Y1	Multi-function terminal 1	output Default: running status
	Y2	Multi-function terminal 2	output Default: no output, can be used as high-speed pulse output
	ROA	Relay output	normally closed ROA-ROC normally open Default: inverter fault output
	ROB	ROA-ROB	
ROC	ROA-ROC		
Analog output	AO		0~10V/0~20mA output (J1 jumper is optional)
Input	+24V		GND is the reference ground



Communication	485+	Analog output terminal	+24V DC 100mA COM is the power ground.
	485-	+24V power supply	

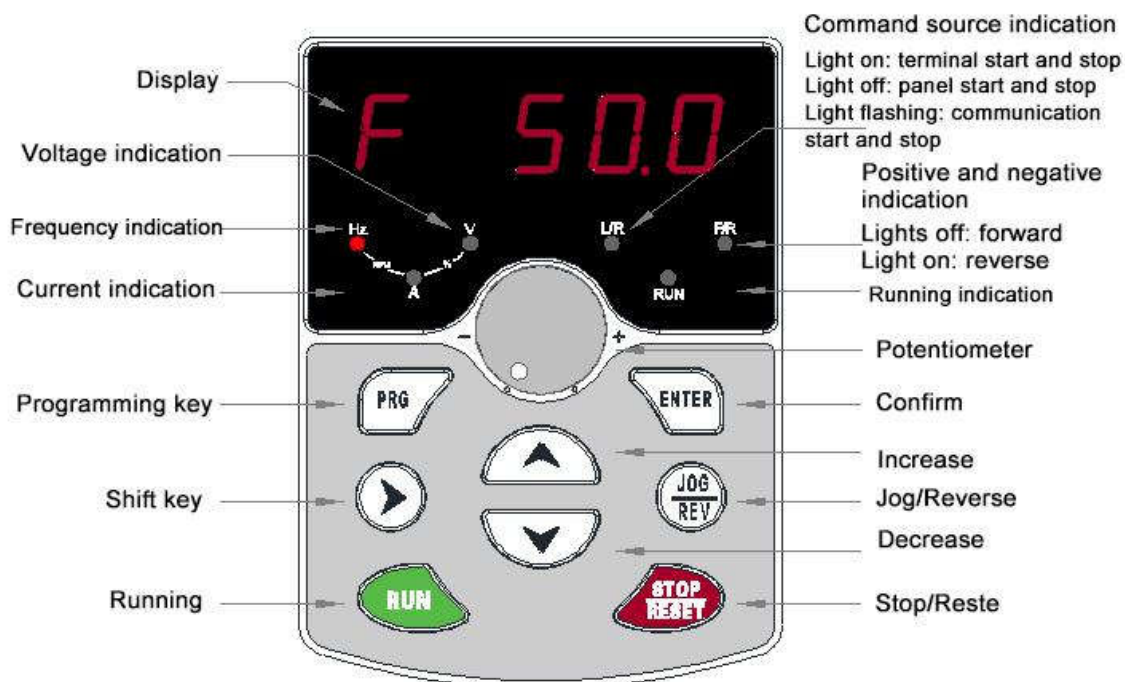
### 3. Standard wiring

Single phase 220V  
inverter input connect with  
L N

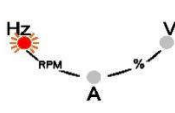


## 4. Basic operation and trial run

### 4.1 Keypad description






### 4.2 Keypad indicator light description

Indicator status		Status Description
<b>RUN</b> Running lights	● RUN	Light off: stop
	☀ RUN	Light on: Running
<b>L/R</b> Run command indicator	● L/R	Light off: Keypad control
	☀ L/R	Light on: Terminal control
	⚡ L/R	Flashing: Communication control
<b>F/R</b> Positive and negative indicator	● F/R	Light off: Forward running
	☀ F/R	Light on: Reverse
 Unit indicator	☀ Hz — RPM — ● A — % — ● V	Light on: shows frequency
	● Hz — RPM — ☀ A — % — ● V	Light on: shows current
	● Hz — RPM — ● A — % — ☀ V	Light on: shows voltage
	☀ Hz — RPM — ☀ A — % — ● V	Hz/A light on: show motor running RPM
	● Hz — RPM — ☀ A — % — ☀ V	A/V light on: shows percentage

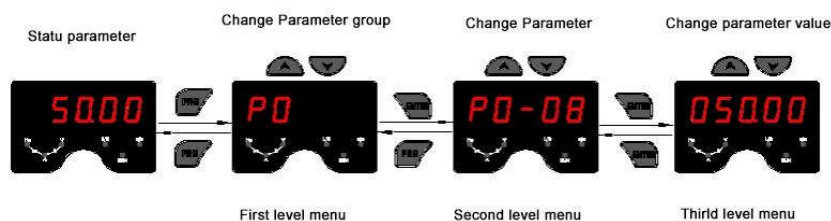
## a) 1. Keyboard instructions

### Button function description

Button	Name	Function
PRG	Programming key	Enter or exit the first level menu.
ENTER	Enter	Enter the menu screen step by step and confirm the setting parameters.
	Increment key	Increment of data or function code.
	Decrement key	Decrement of data or function codes.
	Shift key	In the stop display interface and the running display interface, the display parameters can be selected cyclically; when modifying the parameters, the modification position of the parameters can be selected.
RUN	Run key	In keyboard operation mode, it is used for running operation.
STOP/RESET	Stop/reset	In the running state, pressing this key can be used to stop the running operation; in the fault alarm state, it can be used to reset the operation; the characteristics of this key are restricted by the function code P7-02.
JOG/REV	Multi-function selection key	According to P7-01 for function switching selection, it can quickly switch the command source and direction.

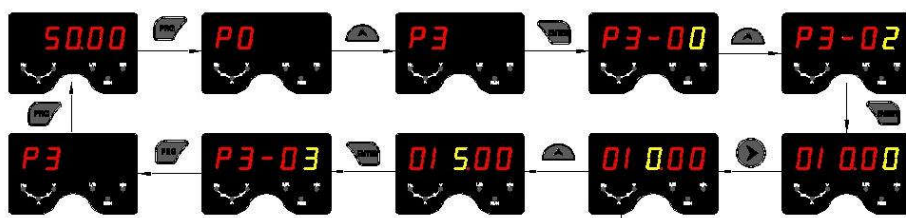
## b) Function code modification instructions

The operation panel of the inverter adopts a three-level menu structure for parameter setting and other operations. The three-level menus are: function parameter group (first-level menu) → function code (second-level menu) → function code setting value (third-level menu). The operation flow is shown in the figure below.



Note: When operating in the third-level menu, you can press PRG or ENTER to return to the second-level menu. The difference between the two is: press the ENTER key to save the set parameters and return to the secondary menu and automatically transfer to the next function code; while pressing the PRG key will directly return to the secondary menu without storing the parameters, and return to the current function code .

Example: An example of changing the function code P3-02 from 10.00Hz to 15.00Hz. (Black characters indicate flashing bits)



In the third level menu, if the parameter has no flashing bit, it means that the function code cannot be modified. The possible reasons are:

- 1) This function code is an unmodifiable parameter. Such as actual test parameters, running record parameters, etc.
- 2) This function code cannot be modified in the running state, and can be modified only after stopping.

## Function parameter

PP-00 is set to a non-zero value, that is, the parameter protection password is set. The parameter menu must be entered after the password is entered correctly. To cancel the password, set PP-00 to 0.

“☆”: Indicates that this parameter can be changed while the inverter is running or stopped.

“★”: Indicates that this parameter cannot be changed while the inverter is running.

“●”: Indicates that this parameter is only the actual detected record value and cannot be changed.

### 5-1 Basic function parameter

P0 Basic function parameter				
Function code	Parameter Name	Setting Range	Default	Property
P0-00	GP type	1: G (Constant torque load model) 2: P (Fan, pump type load model)	1	★
P0-01	Speed control mode selection	0: Speed sensorless vector control (SVC) 1: Speed sensor vector control (FVC) 2: V/F control	2	★
P0-02	Run command source selection	0: Operation panel command channel (LED close) 1: Terminal command channel (LED open) 2: Communication command channel (LED Flashing)	0	☆
P0-03	Main frequency source X selection	0: Digital setting (UP/DOWN) non-record at power failure 1: Digital setting (UP/DOWN) record at power failure 2: AI1 3: AI2 4: panel potentiometer 5: Pulse setting (X6) 6: Multi-segment instruction 7: Simple PLC 8: PID 9: Communication given	1	★
P0-04	Auxiliary frequency source Y selection	Same as P0-03 (main frequency source X selection)	0	★
P0-05	Frequency offset of auxiliary frequency source for X operation	0: relative to the maximum frequency 1: relative to the frequency source X	0	☆
P0-06	Frequency offset of auxiliary frequency source for Y operation	0%~150%	100%	☆
P0-07	Frequency source overlay selection	Unit position: frequency source selection 0: main frequency source X 1: primary and secondary operations (the operation relationship is determined by ten bits) 2: Main frequency source X and auxiliary frequency source Y are switched 3: Main frequency source X and main and auxiliary operation result switching 4: Auxiliary frequency source Y and main and auxiliary operation result switching Ten digits: frequency source primary and secondary operation relationship 0: main + auxiliary 1: main - auxiliary 2: the maximum of the two 3: the minimum of the two	00	☆
P0-08	Preset frequency	0.00Hz~Maximum frequency (P0-10)	50.00Hz	☆
P0-09	Running direction	0: Consistent direction 1: Opposite direction	0	☆
P0-10	Maximum frequency	50.00Hz~600.00Hz	50.00Hz	★
P0-11	Upper frequency source	0: Set by P0-12 1: AI1 2: AI2 3: AI3 4: Pulse setting 5: Communication given	0	★
P0-12	Source of frequency upper limit	Lower limit frequency P0-14~Maximum frequency P0-10	50.00Hz	☆
P0-13	Frequency upper limit offset	0.00Hz~Maximum frequency P0-10	0.00Hz	☆
P0-14	Frequency lower limit	0.00Hz~Upper limit frequency P0-12	0.00Hz	☆
P0-15	Carrier frequency	0.5kHz~16.0kHz	depending	☆
P0-16	Carrier frequency is adjusted with temperature	0: no 1: yes	0	☆
P0-17	acceleration time 1	0.00s~65000s	depending	☆
P0-18	deceleration time 1	0.00s~65000s	depending	☆

P0-19	Acceleration/deceleration unit	0: 1S 1: 0.1S 2: 0.01S	1	★
P0-21	Frequency offset of auxiliary frequency source for X and Y operation	0.00Hz~Maximum frequency P0-10	0.00Hz	☆
P0-22	Frequency command resolution	1: 0.1Hz 2: 0.01Hz	2	★
P0-23	Digital setting frequency shutdown memory selection	0: non-record 1: record	1	☆
P0-24	Motor parameter group selection	0: motor parameter1 1: motor parameter 2	0	★
P0-25	Acceleration/deceleration time reference frequency	0: Maximum frequency (P0-10) 1: Setting frequency 2: 100Hz	0	★
P0-26	Runtime frequency command UP/DOWN benchmark	0: running frequency 1: setting frequency	0	★
P0-27	Command source bundle frequency source	Single digit: operation panel command binding frequency source selection 0: No binding 1: Digital setting frequency 2: AI1 3: AI2 4: AI3 5: Pulse X6 6: Multi-speed 7: Simple PLC 8: PID 9: Communication given Tens place: terminal command binding frequency source selection Hundreds place: communication command binding frequency source selection Thousands: automatic operation binding frequency source selection	0000	☆

### P1 motor parameter

Function code	Parameter Name	Setting Range	Default	Property
P1-00	Motor type selection	0: Ordinary asynchronous motor 1: Variable frequency asynchronous motor	0	★
P1-01	Motor rated power	0.1kW~1000.0kW	depending	★
P1-02	Motor rated voltage	1V~2000V	depending	★
P1-03	Motor rated current	0.1A~6553.5A	depending	★
P1-04	Motor rated frequency	0.01Hz~Maximum frequency	depending	★
P1-05	Motor rated speed	1rpm~65535rpm	depending	★
P1-06	Asynchronous motor stator resistance	0.001Ω~65.535Ω	auto tuning	★
P1-07	Synchronous motor stator resistance	0.001Ω~65.535Ω	auto tuning	★
P1-08	Leakage inductive reactance(asynchronous motor)	0.01mH~655.35mH	auto tuning	★
P1-09	Mutual inductive reactance(asynchronous motor)	0.1mH~6553.5mH	auto tuning	★
P1-10	No-load current (asynchronous motor)	0.01A~P1-03	auto tuning	★
P1-27	Encoder line number	1~65535	1024	★
P1-28	Encoder type	0: ABZ Incremental encoder 1: UVW Incremental encoder 2: Resolver	0	★
P1-30	A/B phase sequence of ABZ incremental encoder	0: forward 1:reserve		
P1-31	Encoder mounting angle	0.0 ~ 359.9°	0	★
P1-32	UVW incremental encoder	0: forward 1:reserve	0.0°	☆
P1-33	UVW Encoder offset angle	0.0 ~ 359.9°	0	★
P1-34	Rotary transformer pole pair	1~65535	1	★
P1-36	Speed feedback PG disconnection detection time	0.0: no act 0.1s~10.0s	0.0s	★
P1-37	Tuning selection	0:no act 1: Static tuning 2: Complete tuning 3: Static full tuning	0	★

### Group P2 Motor vector control parameter

Motor code	Parameter Name	Setting Range	Default	Property
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P2-00	Speed loop proportional gain 1	1~100	30	☆
P2-01	Speed loop integration time 1	0.01s~10.00s	0.50s	☆
P2-02	Switching frequency 1	0.00~P2-05	5.00Hz	☆
P2-03	Speed loop proportional gain 2	1~100	20	☆
P2-04	Speed loop integration time 2	0.01s~10.00s	1.00s	☆
P2-05	Switching frequency 2	P2-02~Maximum frequency	10.00Hz	☆
P2-06	Vector control slip gain	50%~200%	100%	☆
P2-07	Speed loop filter time constant	0.000s~0.100s	0.055s	☆
P2-08	Vector controlled overexcitation gain	0~200	64	☆
P2-09	Torque upper limit source in speed control mode	0: function code P2-10 set 1: AI1 2: AI2 3: AI3 4: Pulse setting 5: Communication given 6: MIN (AI1,AI2) 7: MAX (AI1,AI2) 1-7 option correspond to P2-10	0	☆
P2-10	Torque upper limit in speed control mode	0.0%~200.0%	160.0%	☆
P2-13	Excitation adjustment proportional gain	0~60000	2000	☆
P2-14	Excitation regulation integral gain	0~60000	1300	☆
P2-15	Torque adjustment proportional gain	0~60000	2000	☆
P2-16	Torque adjustment integral gain	0~60000	1300	☆
P2-17	Speed loop integral separation	0: Invalid 1: Valid	0	☆
P2-20	Maximum output voltage coefficient	100%~110%	105%	★
P2-21	Weak magnetic zone maximum torque factor	50%~200%	100%	☆

### P3 Group V/FControl parameters

Function code	Parameter Name	Setting Range	Default	Property
P3-00	VF Curve setting	0: Linear V/F 1: V/F 2: Square V/F 3: 1.2-power V/F 4: 1.4-power V/F 6: 1.6-power 8: 1.8-power V/F 9: Reserved 10: V/F complete separation 11: V/F half separation	0	★
P3-01	Torque boost	0.0% (Auto) 0.1%~30.0%	Model dependent	☆
P3-02	Torque boost cutoff frequency	0.00Hz~Maximum frequency	50.00Hz	★
P3-03	Multi-point VF frequency point 1	0.00Hz~P3-05	0.00Hz	★
P3-04	Multi-pointVF voltage 1	0.0%~100.0%	0.0%	★
P3-05	Multi-pointVF frequency 2	P3-03~P3-07	0.00Hz	★
P3-06	Multi-pointVF voltage 2	0.0%~100.0%	0.0%	★
P3-07	Multi-pointVF frequency3	P3-05~Motor rated frequency (P1-04)	0.00Hz	★
P3-08	Multi-pointVF voltage 3	0.0%~100.0%	0.0%	★
P3-09	VF Slip compensation gain	0.0%~200.0%	0.0%	☆
P3-10	VF Overexcitation gain	0~200	120	☆
P3-11	VF Oscillation suppression gain	0~100	40	☆
P3-12	Oscillation suppression mode selection	0~4	3	★
P3-13	Voltage source for V/F separation	0: Digital setting(d3-12) 1: AI1 2: AI2 3: AI3 4: Pulse setting(HDI) 5: Multi-function 6: Simple PLC 7: PID 8: Communication setting Note:100.0% corresponds to the rated motor voltage	0	☆

P3-14	Voltage digital setting for V/F separation	0 V ~ rated motor voltage	0V	☆
P3-15	Voltage rise time of V/F separation	0.0s~1000.0s	0.0s	☆
P3-16	V/F Separate voltage deceleration time	0.0s ~ 1000.0s note: Indicates the time from 0V changes to the rated voltage of the motor	0.0s	☆
P3-17	V/F Separate shutdown mode selection	0: frequency / voltage is independently reduced to 0 1: After the voltage is reduced to 0, the frequency is reduced again.	0	☆
P3-18	Overcurrent stall operating current	50~200%	150%	★
P3-19	Over-current suppression	0 Invalid、1 Valid	1	★
P3-20	Over current stall gain	0~100	20	☆
P3-21	Double speed overrun speed action current compensation coefficient	50~200%	50%	★
P3-22	Overvoltage stall operating voltage	200.0V~2000.0V	Model dependent 220V: 380V 380V: 760V 480V: 850V 690V: 1250V 1140V: 1900V	★
P3-23	Overvoltage stall enable	0 Invalid、1 Valid	1	★
P3-24	Overvoltage stall suppression frequency gain	0~100	30	☆
P3-25	Overvoltage stall suppression voltage gain	0~100	30	☆
P3-26	Overvoltage stall maximum rising frequency limit	0~50Hz	5Hz	★
P3-27	Slip compensation time constant	0.1~10.0s	0.5	☆
P3-34	Water supply mode selection	0: Turn off the water supply mode 1: Turn on the water supply mode	0	★
P3-35	Pressure gauge range	Range: 0.00~5.00Mpa Set according to the actual pressure gauge range	1.00MPa	☆
P3-36	Target pressure	Range: 0.00~P3-35 target pressure value (Mpa)	0.50MPa	☆
P3-37	Sleep frequency	Range: 0.00~upper limit frequency P0-10	25.00HZ	☆
P3-38	Sleep delay	Range: 0.0~3600.0s	0.0S	☆
P3-39	Percentage of wake-up stress	When the feedback pressure is greater than the target pressure and the operating frequency is less than P3-38 sleep delay, it will enter the sleep state	80.00%	☆
P3-40	Wake-up delay	Range: 0.0~100%, percentage of target pressure P3-36	0.0s	☆

### Group P4 Input terminal

function code	Parameter Name	Setting Range	Default	Property
P4-00	X1 Terminal function selection	0: No function	1	★
P4-01	X2 Terminal function selection	1: Forward running	2	★
P4-02	X3 Terminal function selection	2: Reverse running	0	★
P4-03	X4 Terminal function selection	3: Three-line running	0	★
P4-04	X6 Terminal function selection	4: Forward turning	0	★
P4-05	X5 Terminal function selection	5: Reverse jog	0	★
P4-06	X7 Terminal function selection	6: Terminal UP	0	★
P4-07	X8 Terminal function selection	7: Terminal DOWN	0	★
P4-08	X9 Terminal function selection	8: Free stop 9: Fault reset 10: Run pause 11: External fault normally open input 12: Multi-speed 1 13: Multi-speed 2 14: Multi-speed 3 15: Multi-speed 4 16: Acceleration/deceleration time selection 1 17: Acceleration/deceleration time selection 2 18: Frequency source switching 19: Keyboard UP/DOWN setting is cleared (terminal\keyboard) 20: Run command switch 21: Acceleration/deceleration prohibition 22: PID pause 23: PLC reset 24: swing frequency pause 25: counter input 26: Counter reset 27: Length count input 28: Length reset 29: Torque control prohibited	0	★

		30: Pulse frequency input 32: Immediate DC braking 33: External fault normally closed input 34: If this terminal is valid, frequency modification is allowed; if the terminal status is invalid, frequency modification is prohibited. 35: PID action direction is reversed 36: External parking terminal 1 37: Control command switch 2 38: PID integration pause 39: Frequency source X and preset frequency switching 40: Frequency source Y and preset frequency switching 43: PID parameter switching 44: User-defined fault 1 45: User-defined fault 2 46: Speed/torque control switching 47: Emergency stop 48: External parking terminal 2 49: Deceleration DC braking 50: This running time is cleared. 51: Two-wire/three-wire switching 52: Reverse rotation is prohibited		
P4-10	Input terminal filter time	0.000s~1.000s	0.10s	☆
P4-11	Terminal command mode	0: two-wire type 1: two-wire type 2 2: Three-wire type 1 3: Three-wire type 2	0	★
P4-12	Terminal UP/DOWN rate of change	0.001Hz/s~65.535Hz/s	1.00Hz/s	☆
P4-13	AI Curve 1 minimum input	0.00V~P4-15	0.00V	☆
P4-14	AI Curve 1 minimum input corresponding value	-100.0%~+100.0%	0.0%	☆
P4-15	AI Curve 1 maximum input	P4-13~+10.00V	10.00V	☆
P4-16	AI Curve 1 maximum input corresponding value	-100.0%~+100.0%	100.0%	☆
P4-17	AI1 Filtering time	0.00s~10.00s	0.10s	☆
P4-18	AI Curve 2 minimum input	0.00V~P4-20	0.00V	☆
P4-19	AI Curve 2 minimum input corresponding value	-100.0%~+100.0%	0.0%	☆
P4-20	AI Curve 2 maximum input	P4-18~+10.00V	10.00V	☆
P4-21	AI Curve 2 maximum input corresponding value	-100.0%~+100.0%	100.0%	☆
P4-22	AI2 Filtering time	0.00s~10.00s	0.10s	☆
P4-23	AI Curve 3 minimum input	-10.00V~P4-25	0V	☆
P4-24	AI Curve 3 minimum input corresponding value	-100.0%~+100.0%	0%	☆
P4-25	AI Curve 3 maximum input	P4-23~+10.00V	10.00V	☆
P4-26	AI Curve 1 maximum input corresponding value	-100.0%~+100.0%	100.0%	☆
P4-27	AI3 Filtering time	0.00s~10.00s	0.10s	☆
P4-28	Pulse minimum input	0.00kHz~P4-30	0.00kHz	☆
P4-29	Pulse minimum input corresponding value	-100.0%~100.0%	0.0%	☆
P4-30	Pulse maximum input	P4-28~100.00kHz	50.00kHz	☆
P4-31	Pulse maximum input corresponding value	-100.0%~100.0%	100.0%	☆
P4-32	Pulse input filtering time	0.00s~10.00s	0.10s	☆
P4-33	AI Curve selection	Unit: AI1 curve selection 1: curve 1 (2 points, P4-13 to P4-16) 2: Curve 2 (2 points, P4-18 to P4-21) 3: Curve 3 (2 points, P4-23 to P4-26) 4: Curve 4 (4 points, A6-00 to A6-07) 5: Curve 5 (4 points, A6-08 to A6-15) Ten: AI2 curve selection, ibid. Hundreds: AI3 curve selection, ibid.	H.321	☆
P4-34	AI Below the minimum input setting selection	Unit digit: AI1 is lower than the minimum input setting selection 0: corresponding to the minimum input setting 1:0.0% Ten digits: AI2 is lower than the minimum input setting selection, the same as above hundreds: AI3 is lower than the minimum input setting selection, the same as above	H.000	☆
P4-35	Input terminal X1 delay time	0.0s~3600.0s	0.0s	★
P4-36	Input terminal X2 delay time	0.0s~3600.0s	0.0s	★
P4-37	Input terminal X3 delay time	0.0s~3600.0s	0.0s	★
P4-38	Input terminal valid mode selection 1	Unit's digit: X1 Ten's digit: X2	00000	★



		Hundred's digit: X3 Thousands digit: X4 million: X6 0: The X terminal is connected to COM and the disconnection is invalid. 1: X terminal and COM connection are invalid, the disconnection is valid.		
P4-39	Input terminal valid mode selection 2	Unit's: X5 Ten's: X7 Hundred's: X8 Thousand's: X9 0: The X terminal is connected to COM and the disconnection is invalid. 1: X terminal and COM connection are invalid, the disconnection is valid.	00000	★

### P5 Group Output terminal

function code	Parameter Name	Setting Range	Default	Property
P5-00	Y2 Output mode selection	0: Pulse output 1: Switch output	1	☆
P5-01	Y2 Switch output function selection	0: No function 1: The inverter is running 2: Fault shutdown output 3: Frequency level detection FDT1 4: Frequency arrival 5: Zero speed operation 6: Motor overload pre-alarm 7: Inverter overload pre-alarm 8: Set the value to arrive 9: Specify the value to arrive 10: Length reached 11: PLC cycle completed 12: Accumulated running time reaches	0	☆
P5-02	Relay output function selection	13: Frequency limit 14: Torque limit 15: Ready to run 16:A11>A12 17: Upper limit frequency arrival 18: Lower limit frequency arrives (no output when stopped) 19: Undervoltage status output 20: Communication setting 23: 2 in zero speed operation (also output when stopping) 24: Accumulated power-on time arrives 25: Frequency level detection FDT2 26: Frequency 1 reaches output 27: Frequency 2 reaches output 28: Current 1 reaches the output 29: Current 2 reaches the output 30: Timing arrives at output	2	☆
P5-03	Relay output function selection 2(Optional)	31: A11 input exceeds limit 32: Offload 33: Reverse running 34: Zero current state	0	☆
P5-04	Y1 switch output function selection	35: Module temperature reached 36: Output current overrun 37: Lower limit frequency arrives (stop output also) 38: Fault warning output (continue to run)	1	☆
P5-05	Y3 switch output function selection (optional)	39: Motor overheat pre-alarm 40: This running time arrives	4	☆
P5-06	Y2 Pulse output function selection	0: running frequency 1: setting frequency 2: Output current 3: Output torque (absolute value) 4: Output power 5: Output voltage	0	☆
P5-07	AO Output function selection	6: Pulse input (100.0% corresponds to 100.0kHz) 7: AI1 8: AI2 9: AI3 (extended) 10: length	0	☆
P5-08	AO2 Output function selection (optional)	11: Record the value 12: Communication settings 13: Motor speed 14: Output current (Output current 55KW and below 100% corresponds to 100.0A, 75KW and above 100% corresponds to 1000.0A) 15: Output voltage (According to the bus voltage 1000.0V corresponding to 100%)	1	☆
P5-09	Y2 Pulse output Maximum frequency	0.01kHz~100.00kHz	50.00kHz	☆
P5-10	AO Zero offset coefficient	-100.0%~+100.0%	0.0%	☆

P5-11	AO Gain	-10.00~+10.00	1.00	☆
P5-12	Extended AO2 zero bias coefficient	-100.0%~+100.0%	0.0%	☆
P5-13	Extended AO2 gain	-10.00~+10.00	1.00	☆
P5-17	Y2 output delay time	0.0s~3600.0s	0.0s	☆
P5-18	Relay output delay time	0.0s~3600.0s	0.0s	☆
P5-19	Relay 2 delay time	0.0s~3600.0s	0.0s	☆
P5-20	Y1 Output delay time	0.0s~3600.0s	0.0s	☆
P5-21	Y3 Delay time (expansion)	0.0s~3600.0s	0.0s	☆
P5-22	Output terminal valid state selection	Unit's: Y2 Ten's: Relay Hundred's: Relay 2 Thousand's: Y1 Ten thousand's digit: Y3 0: The output terminal is connected to COM and the disconnection is invalid. 1: The output terminal is not connected to COM, and the disconnection is valid.	00000	☆

### P6 Group Start and stop control

function	Parameter Name	Setting Range	Default	Property
P6-00	Startup mode	0: Direct start 1: Speed tracking restart 2: Pre-excitation start (AC asynchronous machine)	0	☆
P6-01	Speed tracking method	0: Start from stop frequency 1: Start at zero speed 2: Starting with Maximum frequency	0	★
P6-02	Speed tracking	1~100	20	☆
P6-03	Starting frequency	0.00Hz~10.00Hz	0.00Hz	☆
P6-04	Start frequency hold time	0.0s~100.0s	0.0s	★
P6-05	Start DC braking current	0%~100%	50%	★
P6-06	Start DC braking time	0.0s~100.0s	0.0s	★
P6-07	Acceleration and deceleration	0: Linear acceleration/deceleration 1: S-curve acceleration/deceleration A 2: S curve acceleration and deceleration B	0	★
P6-08	S curve starting time ratio	0.0%~ (100.0%-P6-09)	30.0%	★
P6-09	S curve stop time ratio	0.0%~ (100.0%-P6-08)	30.0%	★
P6-10	Stop mode	0: slow down stop 1: free stop	0	☆
P6-11	Stop DC braking start frequency	0.00Hz~Maximum frequency	0.00Hz	☆
P6-12	DC brake waiting time	0.0s~100.0s	0.0s	☆
P6-13	DC braking current at stop	0%~100%	50%	☆
P6-14	DC braking time at stop	0.0s~100.0s	0.2s	☆
P6-15	Brake usage rate	0%~100%	100%	☆
P6-18	Speed tracking current	30%~200%	Model dependent	★
P6-21	Demagnetization time	0.0~5.0s	Model dependent	★
P6-23	AVR function	0: Not effective 1: Only deceleration effective 2: Fully effective	2	☆

### P7 Group Keypad and display

function code	Parameter Name	Setting Range	Default	Property
P7-01	JOG/REV button	0: JOG/REV key is invalid 1: Keyboard command and terminal (communication) command switching 2: Forward and reverse switching 3: Forward rotation 4: Reverse jog	0	★
P7-02	Function selection	0: Only the button command under the keyboard command is valid. 1: Button stop is valid under any circumstances	1	☆
P7-03	STOP/RESET button	0000~FFFF Bit0: Operating frequency 1 (Hz) Bit1: Setting frequency (Hz) Bit2: Bus voltage (V) Bit3: Output voltage (V) Bit4: Output current (A) Bit5: Output power (kW) Bit6: Output torque (%) Bit7: Input status Bit8: Output Status Bit9: AI1 Voltage (V) Bit10: AI2 voltage (V) Bit11: AI3 voltage (V) Bit12: Count value Bit13: Length value Bit14: Load speed display Bit15: PID setting	1F	☆
P7-04	LED operation display parameter 2	0000~FFFF Bit0: PID feedback Bit1: PLC stage Bit2: Pulse input frequency (kHz) Bit3: Operating frequency 2 (Hz) Bit4: remaining running time Bit5: AI1 pre-correction voltage (V) Bit6: AI2 pre-correction voltage (V) Bit7: AI3 pre-correction voltage (V) Bit8: Line speed Bit9: Current power-on time (Hour)	0	☆

		Bit10: Current running time (Min) Bit11: PULSE input pulse frequency (Hz) Bit12: Communication setting value Bit13: Encoder feedback speed (Hz) Bit14: Main frequency X Display (Hz) Bit15: Auxiliary frequency Y display (Hz)		
P7-05	LED stop display parameters	0000~FFFF Bit00: Set frequency (Hz) Bit01: Bus voltage (V) Bit02: X input status Bit03: Output status Bit04: AI1 voltage (V) Bit05: AI2 voltage (V) Bit06: AI3 voltage (V) Bit07: count value Bit08: Length value Bit09: PLC stage Bit10: Load speed Bit11: PID setting Bit12: PULSE input pulse frequency (kHz)	33	☆
P7-06	Load speed display factor	0.0001~6.5000	1.0000	☆
P7-07	Module heat sink temperature	0.0°C~100.0°C	-	●
P7-08	Product ID	-	-	●
P7-09	Cumulative running time	0h~65535h	-	●
P7-10	Product ID	-	-	●
P7-11	Software version number	-	-	●
P7-12	Load speed display	0: 0 decimal place 1:1 decimal place 2: 2 decimal places 3: 3 decimal places	1	☆
P7-13	Decimal point	0~65535h	-	●
P7-14	Cumulative power-on time	0~65535 degree	-	●

### P8 Group Auxiliary Functions

function code	Parameter Name	Setting Range	Default	Property
P8-00	Jog running frequency	0.00Hz~Maximum frequency	2.00Hz	☆
P8-01	Jog acceleration time	0.0s~6500.0s	20.0s	☆
P8-02	Jog deceleration time	0.0s~6500.0s	20.0s	☆
P8-03	Acceleration time 2	0.0s~6500.0s	Model dependent	☆
P8-04	Deceleration time 2	0.0s~6500.0s	Model dependent	☆
P8-05	Acceleration time 3	0.0s~6500.0s	Model dependent	☆
P8-06	Deceleration time 3	0.0s~6500.0s	Model dependent	☆
P8-07	Acceleration time 4	0.0s~6500.0s	Model dependent	☆
P8-08	Deceleration time 4	0.0s~6500.0s	Model dependent	☆
P8-09	Jump frequency 1	0.00Hz~Maximum frequency	0.00Hz	☆
P8-10	Jump frequency 2	0.00Hz~Maximum frequency	0.00Hz	☆
P8-11	Jump frequency amplitude	0.00Hz~Maximum frequency	0.01Hz	☆
P8-12	Positive reversal dead time	0.0s~3000.0s	0.0s	☆
P8-13	Reverse control enable	0: Allow 1: Prohibit	0	☆
P8-14	The set frequency is lower than the lower limit frequency.	0: Run at the following frequency limit 1: stop 2: Zero speed operation	0	☆
P8-15	Droop control	0.00Hz~10.00Hz	0.00Hz	☆
P8-16	Set the cumulative power-on arrival time	0h~65000h	0h	☆
P8-17	Set cumulative run arrival time	0h~65000h	0h	☆
P8-18	Start protection selection	0: no protection 1: protection	0	☆
P8-19	Frequency detection value FDT1	0.00Hz~Maximum frequency	50.00Hz	☆
P8-20	Frequency detection hysteresis value (FDT1)	0.0%~100.0% (FDT1)	5.0%	☆
P8-21	Frequency arrival detection width	0.0%~100.0% (Maximum frequency)	0.0%	☆

P8-22	Whether the jump frequency is effective during acceleration and deceleration	0: Invalid 1: Valid	0	☆
P8-25	Acceleration time 1 and acceleration time 2 switch frequency points	0.00Hz~Maximum frequency	0.00Hz	☆
P8-26	Deceleration time 1 and deceleration time 2 switch frequency points	0.00Hz~Maximum frequency	0.00Hz	☆
P8-27	Terminal jog priority	0: Invalid 1: Valid	1	☆
P8-28	Frequency detection value FDT2	0.00Hz~Maximum frequency	50.00Hz	☆
P8-29	Frequency detection hysteresis value (FDT2)	0.0%~100.0% (FDT2)	5.0%	☆
P8-30	Arbitrary arrival frequency detection value 1	0.00Hz~Maximum frequency	50.00Hz	☆
P8-31	Arbitrary arrival frequency detection width 1	0.0%~100.0% (Maximum frequency)	0.0%	☆
P8-32	Arbitrary arrival frequency detection value 2	0.00Hz~Maximum frequency	50.00Hz	☆
P8-33	Arbitrary arrival frequency detection width 2	0.0%~100.0% (Maximum frequency)	0.0%	☆
P8-34	Zero current detection level	0.0%~300.0% 100.0% Corresponding motor rated current	5.0%	☆
P8-35	Zero current detection delay time	0.01s~600.00s	0.10s	☆
P8-36	Output current limit	0.0% (Not detecting) 0.1%~300.0% (Motor rated current)	200.0%	☆
P8-37	Output current overrun detection delay time	0.00s~600.00s	0.00s	☆
P8-38	Arbitrary arrival current 1	0.0%~300.0% (Motor rated current)	100.0%	☆
P8-39	Arbitrary current 1 width	0.0%~300.0% (Motor rated current)	0.0%	☆
P8-40	Arbitrary arrival current 2	0.0%~300.0% (Motor rated current)	100.0%	☆
P8-41	Arbitrary current 2 width	0.0%~300.0% (Motor rated current)	0.0%	☆
P8-42	Timing function selection	0:Invalid 1:Valid	0	★
P8-43	Timing run time selection	0: P8-44 setting 1: AI1 2: AI2 3: AI3 Analog input range corresponding P8-44	0	★
P8-44	Timed running time	0.0Min~6500.0Min	0.0Min	★
P8-45	AI1 input voltage protection value lower limit	0.00V~P8-46	3.10V	☆
P8-46	AI1 input voltage protection value upper limit	P8-45~10.00V	6.80V	☆
P8-47	Module temperature reached	0℃~100℃	75℃	☆
P8-48	Cooling fan control	0: The fan is running during operation 1: The fan is always running	0	☆
P8-49	Wake-up frequency	Sleep frequency (P8-51) ~Maximum frequency (P0-10)	0.00Hz	☆
P8-50	Wake-up delay time	0.0s~6500.0s	0.0s	☆
P8-51	Sleep frequency	0.00Hz~Wake-up frequency (P8-49)	0.00Hz	☆
P8-52	Sleep delay time	0.0s~6500.0s	0.0s	☆
P8-53	This run arrival time setting	0.0Min~6500.0Min	0.0Min	★
P8-54	Output power correction factor	0.00% ~ 200.0%	100.0%	☆
<b>P9 Group Failure and protection</b>				
function code	Parameter Name	Setting Range	Default	Property
P9-00	Motor overload protection option	0: Not allow 1: Allow	1	☆

P9-01	Motor overload protection gain	0.20~10.00	1.00	☆
P9-02	Motor overload warning coefficient	50%~100%	80%	☆
P9-03	Overvoltage stall gain	0~100	30	☆
P9-04	Overvoltage stall protection voltage	650~800	760V	☆
P9-05	Over-current stall suppression gain	0~100,same as P3-20	20	☆
P9-06	Over-current stall action current	50% ~ 200%, same as P3-18	150%	☆
P9-07	Power-on short circuit protection option	0: Invalid 1: Valid	1	☆
P9-08	Brake unit action starting voltage	200.0~2000.0V 220V: 360V 380V: 690V	690V	☆
P9-09	Number of automatic resets	0~20	0	☆
P9-10	Fault DO action selection during automatic fault reset	0: no act 1: act	0	☆
P9-11	Fault auto reset interval	0.1s~100.0s	1.0s	☆
P9-12	Input phase loss / contactor suction protection option	Unit's: Input phase loss protection option Ten's: Contactor suction protection option 0: Disable 1: Allow	11	☆
P9-13	Output phase loss protection option	0: Disable 1: Allow	1	☆
P9-14	First failure type	0: no fault 2: accelerated overcurrent 3: Deceleration over current 4: Constant speed over current 5: Accelerated overvoltage 6: Deceleration overvoltage 7: Constant speed overvoltage 8: Buffer resistor overload 9: Under voltage 10: Inverter overload 11: Motor overload 12: Input phase loss	—	●
P9-15	Second failure type	13: Output phase loss 14: Module overheating 15: External fault 16: Communication error 17: Contactor abnormality 18: Abnormal current detection 19: Tuning error 20: PG card is abnormal 21: Parameter read and write error 22: Inverter hardware is abnormal 23: Motor short circuit to ground 24: Reserved	—	●
P9-16	Third (most recent) fault type	26: Run time arrives 27: User Defined Fault 1 28: User-defined fault 2 29: Power on time arrives 30: Offload 31: Loss of PID feedback at runtime 40: Fast current limit timeout 41: Switching motor during operation 42: Speed deviation is too large 43: Motor overspeed 45: Motor overheating 51: Initial position error	—	●
P9-17	Frequency at the third failure	—	—	●
P9-18	Current at the third fault	—	—	●
P9-19	Bus voltage at the third fault	—	—	●

P9-20	Third fault input terminal status	—	—	●
P9-21	Third fault output terminal status	—	—	●
P9-22	Inverter status at the third fault	—	—	●
P9-23	Power-on time during the third fault	—	—	●
P9-24	Run time at the third fault	—	—	●
P9-27	Frequency at the second failure	—	—	●
P9-28	Current at the second fault	—	—	●
P9-29	Bus voltage at the second fault	—	—	●
P9-30	Second fault input terminal status	—	—	●
P9-31	Second fault output terminal status	—	—	●
P9-32	Inverter status at the second fault	—	—	●
P9-33	Power-on time during the second fault	—	—	●
P9-34	Run time at the second fault	—	—	●
P9-37	Frequency at the first failure	—	—	●
P9-38	Current at the first fault	—	—	●
P9-39	Bus voltage at the first fault	—	—	●
P9-40	First fault input terminal status	—	—	●
P9-41	First fault output terminal status	—	—	●
P9-42	Inverter status at the first fault	—	—	●
P9-43	Power-on time at the first failure	—	—	●
P9-44	Run time at the first failure	—	—	●
P9-47	Fault protection action selection 1	Unit's: Motor overload (Err 11) 0: free stop 1: Stop by stop mode 2: Keep running Ten's: Input phase loss (Err12) as above Hundred's: Output phase loss (Err13) as above Thousand's: External fault (Err15) is the same as above Ten Thousand's digits: communication abnormality (Err16) is the same as above	00000	☆
P9-48	Fault protection action selection 2	Unit's digit: Encoder/PG card incorrect (Err20) 0: free stop 1: Stop by stop mode 2: keep running Ten's digit: function code reading and writing incorrect (Err21) 0: free stop 1: stop by stop mode Thousand's digit: motor too hot (Err25) same as P9-47 Ten Thousand's digit: Run time arrives (Err26) with P9-47	00000	☆
P9-49	Fault protection action selection 3	Unit's: Custom Fault 1 (Err27) Same as P9-47 Ten's: Custom Fault 1 (Err27) Same as P9-47 Hundred's: Power-on time arrives (Err29) with P9-47 Thousand's: Offload (Err30) 0: Free parking 1: slow down parking 2: Deceleration to 7% of the rated frequency, automatically return to the set frequency when no load is lost Ten Thousand's digit: PID feedback loss (Err31) with P9-47	00000	☆
P9-50	Fault protection action selection 4	Unit's: Speed deviation is too large (Err42) with P9-47 Ten's: Motor overspeed (Err43) with P9-47 Hundred's: Initial position error (Err51) Same as P9-47 Thousand's: Speed feedback error (Err52) with P9-47	00000	☆

P9-54	Continue to run frequency selection when fault occurs	0: Run at the current operating frequency 1: run at the set frequency 2: Run at the upper limit frequency 3: Run at the following frequency limit 4: Run at abnormal standby frequency	0	☆
P9-55	Abnormal backup frequency	60.0%~100.0% (100.0% correspond Maximum frequencyP0-10)	100.0%	☆
P9-56	Motor temperature sensor type	0: No temperature sensor 1: PT100 2: PT1000	0	☆
P9-57	Motor overheat protection threshold	0℃~200℃	110℃	☆
P9-58	Motor overheat pre-alarm threshold	0℃~200℃	90℃	☆
P9-59	Instantaneous power failure action selection	0: Invalid 1: deceleration 2: Deceleration stop	0	☆
P9-60	Instantaneous stop action pause judgment voltage	80.0~100.0%	85.0%	☆
P9-61	Instantaneous power failure voltage rise judgment time	0.00s~100.00s	0.50s	☆
P9-62	Instantaneous power failure action judgment voltage	60.0%~100.0% (Standard bus voltage)	80.0%	☆
P9-63	Drop protection option	0: Invalid 1: Valid	0	☆
P9-64	Drop detection level	0.0~100.0%	10.0%	☆
P9-65	Drop detection time	0.0~60.0s	1.0s	☆
P9-67	Overspeed detection value	0.0%~50.0% (Maximum frequency)	20.0%	☆
P9-68	Overspeed detection time	0.0s~60.0s	5.0s	☆
P9-69	Speed deviation excessive detection value	0.0%~50.0% (Maximum frequency)	20.0%	☆
P9-70	Speed deviation too large detection time	0.0s~60.0s	5.0s	☆
P9-71	Instantaneous stop non-stop gain Kp	0~100	40	☆
P9-72	Instantaneous stop non-stop integral coefficient Ki	0~100	30	☆
P9-73	Instantaneous stop and stop motion deceleration time	0~300.0s	20.0s	★

### PA Group PID function

function code	Parameter Name	Setting Range	Default	Property
PA-00	PID given source	0: PA-01 set 1: AI1 2: AI2 3: AI3 (panel potentiometer) 4: Pulse setting 5: Communication given 6: Multi-speed given	0	☆
PA-01	PID value given	0.0%~100.0%	50.0%	☆
PA-02	PID feedback source	0: AI1 1: AI2 2: AI3/ Panel potentiometer 3: AI1-AI2 4: Pulse setting (X6) 5: Communication given 6: AI1+AI2 7: MAX ( AI1 ,  AI2 ) 8: MIN ( AI1 ,  AI2 )	0	☆
PA-03	PID action direction	0: Positive action 1: Negative	0	☆
PA-04	PID given feedback range	0~65535	1000	☆
PA-05	Proportional gain Kp1	0.0~100.0	40.0	☆
PA-06	Integration time Ti1	0.01s~10.00s	1.00s	☆
PA-07	Derivative time Td1	0.000s~10.000s	0.000s	☆

PA-08	PID reverse cutoff frequency	0.00~Maximum frequency	2.00Hz	☆
PA-09	PID deviation limit	0.0%~100.0%	0.0%	☆
PA-10	PID differential limiting	0.00%~100.00%	0.10%	☆
PA-11	PID given change time	0.00~650.00s	0.00s	☆
PA-12	PID feedback filter time	0.00~60.00s	0.00s	☆
PA-13	PID output filtering time	0.00~60.00s	0.00s	☆
PA-15	Proportional gain Kp2	0.0~100.0	20.0	☆
PA-16	Integration time Ti2	0.01s~10.00s	2.00s	☆
PA-17	Derivative time Td2	0.000s~10.000s	0.000s	☆
PA-18	PID parameter switching condition	0: Do not switch 1: Switch through the input terminal 2: Automatic switching according to deviation	0	☆
PA-19	PID parameter switching deviation 1	0.0%~PA-20	20.0%	☆
PA-20	PID parameter switching deviation 2	PA-19~100.0%	80.0%	☆
PA-21	PID initial value	0.0%~100.0%	60%	☆
PA-22	PID initial value hold time	0.00~650.00s	5s	☆
PA-25	PID integral attribute	Unit's: Integral separation 0: Invalid 1: Valid Ten's: Whether to stop integration after output to the limit 0: Continue to integrate 1: Stop the points	00	☆
PA-26	PID feedback loss detection value	0.0%: no judge feedback loss 0.1%~100.0%	0.0%	☆
PA-27	PID feedback loss detection time	0.0s~20.0s	0.0s	☆
PA-28	PID shutdown operation	0: stop does not operate 1: stop operation	1	☆

### Pb Group Swing frequency, fixed length and counting

function code	Parameter Name	Setting Range	Default	Property
Pb-00	Swing frequency setting method	0: Relative to the center frequency 1: Relative to the Maximum frequency	0	☆
Pb-01	Swing frequency range	0.0%~100.0%	0.0%	☆
Pb-02	Kick frequency amplitude	0.0%~50.0%	0.0%	☆
Pb-03	Wobble cycle	0.1s~3000.0s	10.0s	☆
Pb-04	Swing frequency triangle wave rise time	0.1%~100.0%	50.0%	☆
Pb-05	Set length	0m~65535m	1000m	☆
Pb-06	Actual length	0m~65535m	0m	☆
Pb-07	Pulse number per meter	0.1~6553.5	100.0	☆
Pb-08	Set count value	1~65535	1000	☆
Pb-09	Specified count value	1~65535	1000	☆

### PC Group Multi-segment instruction, simple PLC

function code	Parameter	Setting Range	Default	Property
PC-00	Multi-segment instruction 0	0.0Hz ~ ±P0-10	0.0Hz	☆
PC-01	Multi-segment instruction 1	0.0Hz ~ ±P0-10	0.0Hz	☆
PC-02	Multi-segment instruction 2	0.0Hz ~ ±P0-10	0.0Hz	☆
PC-03	Multi-segment instruction 3	0.0Hz ~ ±P0-10	0.0Hz	☆
PC-04	Multi-segment instruction 4	0.0Hz ~ ±P0-10	0.0Hz	☆



PC-05	Multi-segment instruction 5	0.0Hz ~ ±P0-10	0.0Hz	☆
PC-06	Multi-segment instruction 6	0.0Hz ~ ±P0-10	0.0Hz	☆
PC-07	Multi-segment instruction 7	0.0Hz ~ ±P0-10	0.0Hz	☆
PC-08	Multi-segment instruction 8	0.0Hz ~ ±P0-10	0.0Hz	☆
PC-09	Multi-segment instruction 9	0.0Hz ~ ±P0-10	0.0Hz	☆
PC-10	Multi-segment instruction 10	0.0Hz ~ ±P0-10	0.0Hz	☆
PC-11	Multi-segment instruction 11	0.0Hz ~ ±P0-10	0.0Hz	☆
PC-12	Multi-segment instruction 12	0.0Hz ~ ±P0-10	0.0Hz	☆
PC-13	Multi-segment instruction 13	0.0Hz ~ ±P0-10	0.0Hz	☆
PC-14	Multi-segment instruction 14	0.0Hz ~ ±P0-10	0.0Hz	☆
PC-15	Multi-segment instruction 15	0.0Hz ~ ±P0-10	0.0Hz	☆
PC-16	Simple PLC operation mode	0: Single run end shutdown 1: Keep the final value at the end of a single run 2: Always cycle	0	☆
PC-17	Simple PLC power-down memory selection	Unit's: Power-down memory selection 0: No power loss, no memory 1: Power failure memory Ten's: Stop memory selection 0: Stop without memory 1: Stop memory	00	☆
PC-18	0th run time	0.0s (h) ~6553.5s (h)	0.0s(h)	☆
PC-19	The 0th section acceleration and deceleration time selection	0~3	0	☆
PC-20	First run time	0.0s (h) ~6553.5s (h)	0.0s(h)	☆
PC-21	The first stage acceleration and deceleration time selection	0~3	0	☆
PC-22	2nd run time	0.0s (h) ~6553.5s (h)	0.0s(h)	☆
PC-23	The second stage acceleration and deceleration time selection	0~3	0	☆
PC-24	Third run time	0.0s (h) ~6553.5s (h)	0.0s(h)	☆
PC-25	The third stage acceleration and deceleration time selection	0~3	0	☆
PC-26	Stage 4 run time	0.0s (h) ~6553.5s (h)	0.0s(h)	☆
PC-27	Section 4 acceleration and deceleration time selection	0~3	0	☆
PC-28	5th run time	0.0s (h) ~6553.5s (h)	0.0s(h)	☆
PC-29	Section 5 acceleration and deceleration time selection	0~3	0	☆
PC-30	Run time of paragraph 6	0.0s (h) ~6553.5s (h)	0.0s(h)	☆
PC-31	Section 6 acceleration and deceleration time selection	0~3	0	☆
PC-32	Run time of paragraph 7	0.0s (h) ~6553.5s (h)	0.0s(h)	☆
PC-33	Section 7 acceleration and deceleration time selection	0~3	0	☆
PC-34	8th run time	0.0s (h) ~6553.5s (h)	0.0s(h)	☆
PC-35	Section 8 acceleration and deceleration time selection	0~3	0	☆
PC-36	9th run time	0.0s (h) ~6553.5s (h)	0.0s(h)	☆

PC-37	The 9th paragraph acceleration and deceleration time selection	0~3	0	☆
PC-38	Run time of paragraph 10	0.0s (h) ~6553.5s (h)	0.0s(h)	☆
PC-39	Section 10 acceleration and deceleration time selection	0~3	0	☆
PC-40	Run time in paragraph 11	0.0s (h) ~6553.5s (h)	0.0s(h)	☆
PC-41	The 11th paragraph acceleration and deceleration time selection	0~3	0	☆
PC-42	Run time in paragraph 12	0.0s (h) ~6553.5s (h)	0.0s(h)	☆
PC-43	The 12th paragraph acceleration and deceleration time selection	0~3	0	☆
PC-44	Run time of paragraph 13	0.0s (h) ~6553.5s (h)	0.0s(h)	☆
PC-45	The 13th paragraph acceleration and deceleration time selection	0~3	0	☆
PC-46	Run time in paragraph 14	0.0s (h) ~6553.5s (h)	0.0s(h)	☆
PC-47	The 14th paragraph acceleration and deceleration time selection	0~3	0	☆
PC-48	Run time in paragraph 15	0.0s (h) ~6553.5s (h)	0.0s(h)	☆
PC-49	The 15th paragraph acceleration and deceleration time selection	0~3	0	☆
PC-50	Simple PLC runtime unit	0: s (second) 1: h (hour)	0	☆
PC-51	Multi-segment instruction 0 given mode	0: given by PC-00 1: given by AI1 2: AI2 given 3: AI3 given (panel potentiometer) 4: Pulse given 5: PID given 6: PO-08 can be modified by UP/DOWN	0	☆

### Pd Group Communication parameter

function code	Parameter	Setting Range	Default	Property
Pd-00	Baud rate	Unit's: MODBUS 0: 300BPS 1: 600BPS 2: 1200BPS 3: 2400BPS 4: 4800BPS 5: 9600BPS 6: 19200BPS 7: 38400BPS 8: 57600BPS 9: 115200BPS Ten's: Profibus-DP 0: 115200BPs 1: 208300BPs 2: 256000BPs 3: 512000Bps Thousand's : CANlink Baud rate (Hundred's : Reserved) 0: 20 1: 50 2: 100 3: 125 4: 250 5: 500 6: 1M	5005	☆
Pd-01	Data Format	0: no checking (8-N-2) 1: even checking (8-E-1) 2: odd checking (8-O-1) 3: 8-N-1	0	☆
Pd-02	Local address	1~247, 0 Broadcast address	001	☆
Pd-03	Response delay	0ms~20ms	02	☆
Pd-04	Communication timeout	0.0 (Invalid) , 0.1s~60.0s	0.0	☆
Pd-05	Data transfer format selection	Unit's: 0: Non-standard MODBUS protocol 1: Standard MODBUS protocol	31	☆
Pd-06	Communication read current resolution	0: 0.01A 1: 0.1A	0	☆
Pd-08	Canlink communication timeout	0.0s: Invalid 0.1~60.0s	0.0	☆

### PE Group Customized function code

function code	Parameter Name	Setting Range	Default	Property
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PE-00	User function code 0	P0-00 ~ PP-xx A0-00 ~ Ax-xx U0-xx ~ U0-xx U3-00~U3-xx	U3-17	☆
PE-01	User function code 1		U3-16	☆
PE-02	User function code 2		P0.00	☆
Reserved	Reserved		Reserved	☆
PE-28	User function code 28		P0.00	☆
PE-29	User function code 29		P0.00	☆

### PP Group function code management

function code	Parameter Name	Setting Range	Default	Property
PP-00	user password	0~65535	0	☆
PP-01	Parameter initialization	0: no operation 1: Restore factory value, excluding motor parameters 2: Clear record information 3: Restore factory values, including motor parameters 4: Backup user current parameters 501: Restore user backup parameters	0	★
PP-02	Function parameter group display selection	Unit's digit: U group display 0: not displayed 1: display Ten's digit: A group display 0: not displayed 1: display	11	★
PP-03	Personality parameter group display selection	Unit's digit: User customization 0: Do not display 1: Display Ten's digit: User change 0: Do not display 1: Display	00	☆
PP-04	Function code	0: Can be modified 1: Cannot be modified	0	☆

### A0 Group Torque control parameter

function code	Parameter Name	Setting Range	Default	Property
A0-00	Speed/torque control selection	0: speed control 1: torque control	0	★
A0-01		0: Digital setting (A0-03) 1: AI1 2: AI2 3: AI3 4: Pulse setting 5: Communication reference 6: MIN (AI1, AI2) 7: MAX (AI1, AI2) (1-7 options full scale, Corresponding to A0-03 number setting)	0	★
A0-03	Torque setting source selection in torque control mode	-200.0%~200.0%	150.0%	☆
A0-05	Torque digital setting	0.00Hz~Maximum frequency	50.00Hz	☆
A0-06	Torque control forward maximum frequency	0.00Hz~Maximum frequency	50.00Hz	☆
A0-07	Torque control reverse maximum frequency	0.00s~65000s	0.00s	☆
A0-08	Torque control acceleration time	0.00s~65000s	0.00s	☆

### A5 Group Control optimization parameter

function code	Parameter Name	Setting Range	Default	Property
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A5-00	DPWM switching upper limit frequency	5.00Hz ~ Maximum frequency	8.00Hz	☆
A5-01	PWM modulation method	0: Asynchronous modulation 1: Synchronous modulation	0	☆
A5-02	Dead zone compensation mode selection	0: No compensation 1: Compensation mode 1 2: Compensation mode 2	1	☆
A5-03	Random PWM depth	0: Invalid 1~10: Random PWM depth	0	☆
A5-04	Fast current limiting	0: Invalid 1: Valid	1	☆
A5-05	Current detection compensation	0~100	5	☆
A5-06	Under voltage setting	60.0%~140.0%	100.0%	☆
A5-07	SVC optimization mode selection	0: Not optimized 1: Optimized mode 1 2: Optimized mode 2	1	☆
A5-08	Dead time adjustment	100%~200%	150%	★
A5-09	Overvoltage setting	200.0V ~ 2200.0V	Model dependent	★

### A6 Group AI Curve setting

function code	Parameter Name	Setting Range	Default	Property
A6-00	AI curve 4 minimum input	-10.00V ~ A6-02	0.00V	☆
A6-01	AI curve 4 minimum input correspondence setting	-100.0% ~ +100.0%	0.0%	☆
A6-02	AI curve 4 inflection point 1 input	A6-00 ~ A6-04	3.00V	☆
A6-03	AI curve 4 inflection point 1 input corresponding setting	-100.0% ~ +100.0%	30.0%	☆
A6-04	AI curve 4 inflection point 2 input	A6-02 ~ A6-06	6.00V	☆
A6-05	AI curve 4 inflection point 2 input corresponding setting	-100.0% ~ +100.0%	60.0%	☆
A6-06	AI curve 4 maximum input	A6-06 ~ +10.00V	10.00V	☆
A6-07	AI curve 4 maximum input corresponding setting	-100.0% ~ +100.0%	100.0%	☆
A6-08	AI curve 5 minimum input	-10.00V ~ A6-10	-10.00V	☆
A6-09	AI curve 5 minimum input corresponding setting	-100.0% ~ +100.0%	-100.0%	☆
A6-10	AI curve 5 inflection point 1 input	A6-08 ~ A6-12	-3.00V	☆
A6-11	AI curve 5 inflection point 1 input corresponding setting	-100.0% ~ +100.0%	-30.0%	☆
A6-12	AI curve 5 inflection point 2 input	A6-10 ~ A6-14	3.00V	☆
A6-13	AI curve 5 inflection point 2 input corresponding setting	-100.0% ~ +100.0%	30.0%	☆
A6-14	AI curve 5 maximum input	A6-12 ~ +10.00V	10.00V	☆

A6-15	AI curve 5 maximum input corresponding setting	-100.0% ~ +100.0%	100.0%	☆
A6-24	AI1 sets the jump point	-100.0% ~ 100.0%	0.0%	☆
A6-25	AI1 sets the jump range	0.0% ~ 100.0%	0.5%	☆
A6-26	AI2 sets the jump point	-100.0% ~ 100.0%	0.0%	☆
A6-27	AI2 sets the jump range	0.0% ~ 100.0%	0.5%	☆
A6-28	AI3 sets the jump point	-100.0% ~ 100.0%	0.0%	☆
A6-29	AI3 sets the jump range	0.0% ~ 100.0%	0.5%	☆

### AC Group AIO checking

function code	Parameter Name	Setting Range	Default	Property
AC-00	AI1 measured voltage 1	0.500V ~ 4.000V	factory reset	☆
AC-01	AI1 display voltage 1	0.500V ~ 4.000V	factory reset	☆
AC-02	AI1 measured voltage 2	6.000V ~ 9.999V	factory reset	☆
AC-03	AI1 display voltage 2	6.000V ~ 9.999V	factory reset	☆
AC-04	AI2 measured voltage 1	0.500V ~ 4.000V	factory reset	☆
AC-05	AI2 display voltage 1	0.500V ~ 4.000V	factory reset	☆
AC-06	AI2 measured voltage 2	6.000V ~ 9.999V	factory reset	☆
AC-07	AI2 display voltage 2	6.000V ~ 9.999V	factory reset	☆
AC-08	AI3 measured voltage 1	-9.999V ~ 10.000V	factory reset	☆
AC-09	AI3 display voltage 1	-9.999V ~ 10.000V	factory reset	☆
AC-10	AI3 measured voltage 2	-9.999V ~ 10.000V	factory reset	☆
AC-11	AI3 display voltage 2	-9.999V ~ 10.000V	factory reset	☆
AC-12	AO1 target voltage 1	0.500V ~ 4.000V	factory reset	☆
AC-13	AO1 measured voltage 1	0.500V ~ 4.000V	factory reset	☆
AC-14	AO1 target voltage 2	6.000V ~ 9.999V	factory reset	☆
AC-15	AO1 measured voltage 2	6.000V ~ 9.999V	factory reset	☆
AC-16	AO2 target voltage 1	0.500V ~ 4.000V	factory reset	☆
AC-17	AO2 measured voltage 1	0.500V ~ 4.000V	factory reset	☆
AC-18	AO2 target voltage 2	6.000V ~ 9.999V	factory reset	☆
AC-19	AO2 measured voltage 2	6.000V ~ 9.999V	factory reset	☆

#### 5-2 Monitoring parameter

### U0 Group Basic monitoring parameter

function code	Parameter name	Display range	Instruction	Communication address
U0-00	Operating frequency	0.01~320.00Hz	Display operating frequency and set frequency (Hz)	7000H
U0-01	Setting frequency			7001H
U0-02	bus voltage	0.0~3000.0V	Display bus voltage (V)	7002H
U0-03	The output voltage	0~1140V	Display inverter output voltage (V)	7003H
U0-04	Output current	0.0~6553.5A	Display inverter output current (A)	7004H
U0-05	Output Power	0~32767kW	Display inverter output power (kW)	7005H
U0-06	Output torque	-200.0~200.0%	Display inverter output torque during operation	7006H
U0-07	Input terminal status	0~32767	Input status: X1~X9 corresponds to Bit0~Bit8	7007H
U0-08	Output terminal status	0~1023	Output terminal status: Y2, relay,	7008H
U0-09	AI1 voltage	0.01V	Y1 corresponds to Bit0, Bit1, Bit3	7009H

U0-10	AI2 voltage	0.01V	Display input AI1 voltage (V)	700AH
U0-11	AI3 voltage	0.01V	Display input AI2 voltage (V)	700BH
U0-12	Count value	0~65535	Display input AI3 voltage (V)	700CH
U0-13	Length value	0~65535	Display count value	700DH
U0-14	Load speed display	0~65535	Display length value	700EH
U0-15	PID setting	0~65535	Display load speed	700FH
U0-16	PID feedback value	0~65535	Display PID settings	7010H
U0-17	PLC stage	0~16	Display PLC operation phase	7011H
U0-18	Input pulse frequency	0.00~10.00kHz	Display X6 input pulse frequency (kHz)	7012H
U0-19	Feedback speed	-320.0~+320.0	Display the actual output frequency of the inverter Hz	7013H
U0-20	Remaining running time	0.0~6500.0 Minutes	Show remaining runtime	7014H
U0-21	AI1 pre-correction voltage	0.01~10.20V	Display AI1 pre-correction voltage	7015H
U0-22	AI2 pre-correction voltage	0.01~10.20V	Display AI2 pre-correction voltage	7016H
U0-23	AI3 pre-correction voltage	0.01~10.20V	Display AI3 pre-correction voltage	7017H
U0-24	Line speed	0~65535m/Min	The number of pulses per minute and	7018H
U0-25	Current power-on time	1Min	PB-07, calculate the line speed value	7019H
U0-26	Current running time	0.1Min	Display current cumulative power-on time	701AH
U0-27	Input pulse frequency	1Hz	Display PULSE input pulse frequency	701BH
U0-28	Communication setting	0.01%	Display communication settings	701CH
U0-29	Encoder feedback speed	0.01Hz	Display encoder feedback speed	701DH
U0-30	Main frequency X	0.01Hz	Display main frequency X display	701EH
U0-31	Auxiliary frequency Y	0.01Hz	Display auxiliary frequency Y display	701FH
U0-32	View memory address values	1	Display to view any memory address value	7020H
U0-33	Synchronous machine rotor position	0.0°	Display synchronous machine rotor position	7021H
U0-34	Motor temperature value	1 °C	Display motor temperature value	7022H
U0-35	Target torque	0.1%	Display target torque (%)	7023H
U0-36	Rotational position	1	Display the position of the rotation	7024H
U0-37	Power factor angle	0.1	Display power factor angle	7025H
U0-38	ABZ position	0.0	Show ABZ position	7026H
U0-39	VF separation target voltage	1V	Display VF separation target voltage	7027H
U0-40	VF separation output voltage	1V	Display VF separate output voltage	7028H
U0-41	Input status visual display	1	Display input status visual display	7029H
U0-42	Output status visual display	1	Display output status visual display	702AH

U0-43	Input status visual display 1	1	Display input status visual display 1	702BH
U0-44	Input status visual display 2	1	Display input status visual display 2	702CH
U0-45	accident details	0	Display fault information	702DH
U0-58	Z signal counter	-	1	703AH
U0-59	Set frequency (%)	-	0.01%	703BH
U0-60	Operating frequency (%)	-	0.01%	703CH
U0-61	Inverter status	-	1	703DH
U0-62	Current fault code	-	1	703EH
U0-64	Number of slaves	-	1	7040H
U0-65	Torque limit	-	0.01%	7041H
U0-73	Motor serial number	-	0: motor 1 1: motor 2	7046H
U0-74	Actual output torque of the motor	-	-300-300%	7047H

### Inverter braking resistor selection table

AC drive power	Braking Unit	Recommended resistance power	Minimum resistance value	QTY
0.75kW-220V	Built-in Braking unit as standard	80W	$\geq 80\Omega$	1
1.5kW-220V		200W	$\geq 55\Omega$	1
2.2kW-220V		200W	$\geq 35\Omega$	1
3.7kW-220V		300W	$\geq 25\Omega$	1
0.75kW-380V		150W	$\geq 300\Omega$	1
1.5kW-380V		150W	$\geq 220\Omega$	1
2.2kW-380V		250W	$\geq 200\Omega$	1
3.7kW-380V		400W	$\geq 130\Omega$	1
5.5kW-380V		500W	$\geq 90\Omega$	1
7.5kW-380V		800W	$\geq 65\Omega$	1
11kW-380V		1kW	$\geq 43\Omega$	1
15kW-380V		1.3kW	$\geq 32\Omega$	1
18.5kW-380V		1.5kW	$\geq 25\Omega$	1
22kW-380V		1.5kW	$\geq 22\Omega$	1
30kW and above		External		

Note: There is high voltage and high temperature on the surface of the braking resistor when it is working. Please consider the safety and flammability of the surrounding environment when installing.

The connection of multiple braking resistors is parallel. Please consult the brake manufacturer for specific information on the selection of external brake units and resistors.

## Fault alarm and Solutions

When the inverter fails during operation, the inverter will immediately protect the motor from output, and the inverter fault relay contact will act and display the fault code on the inverter display panel. Before seeking service, users can perform self-checking according to the tips in this section to analyze the cause of the fault. If the fault cannot be solved, please seek technical support from our company or product agent.

Fault name	display	Troubleshoot the cause	solutions
Inverter unit protection	Err01	<ol style="list-style-type: none"> <li>1, the inverter output circuit is short circuit</li> <li>2. The motor and inverter are too long.</li> <li>3, the module is overheated</li> <li>4, the internal wiring of the inverter is loose</li> <li>5. The main control board or driver board is abnormal.</li> <li>6, the inverter module is abnormal</li> </ol>	<ol style="list-style-type: none"> <li>1, eliminate peripheral faults</li> <li>2, install reactor or output filter</li> <li>3. Check if the air duct is blocked and the fan is normal.</li> <li>4, plug in all the cables</li> <li>5, seeking technical support</li> <li>6, seeking technical support</li> </ol>
Accelerating overcurrent	Err02	<ol style="list-style-type: none"> <li>1. There is grounding or short circuit in the output circuit of the inverter.</li> <li>2. The control mode is vector and there is no parameter identification.</li> <li>3, the acceleration time is too short</li> <li>4. Manual torque boost or V/F curve is not suitable</li> <li>5, the voltage is low</li> <li>6. Start the motor that is rotating</li> <li>7. Sudden load during acceleration</li> <li>8, the frequency converter selection is too small</li> </ol>	<ol style="list-style-type: none"> <li>1, eliminate peripheral faults</li> <li>2. Perform motor parameter identification</li> <li>3, increase the acceleration time</li> <li>4, adjust the manual lift or V / F curve</li> <li>5, adjust the voltage to the normal range</li> <li>6, select the speed tracking start or wait for the motor to stop and then start</li> <li>7, cancel the sudden load</li> <li>8, select the inverter with a larger power level</li> </ol>
Deceleration over current	Err03	<ol style="list-style-type: none"> <li>1. There is grounding or short circuit in the output circuit of the inverter.</li> <li>2. The control mode is vector and there is no parameter identification.</li> <li>3, the deceleration time is too short</li> <li>4, the voltage is low</li> <li>5, sudden load during deceleration</li> <li>6, no brake unit and brake resistor installed</li> </ol>	<ol style="list-style-type: none"> <li>1, eliminate peripheral faults</li> <li>2. Perform motor parameter identification</li> <li>3, increase the deceleration time</li> <li>4, adjust the voltage to the normal range</li> <li>5, cancel the sudden load</li> <li>6, install the brake unit and resistor</li> </ol>
Constant speed over current	Err04	<ol style="list-style-type: none"> <li>1. There is grounding or short circuit in the output circuit of the inverter.</li> <li>2. The control mode is vector and there is no parameter identification.</li> <li>3, the voltage is low</li> <li>4. Is there a sudden load during operation?</li> <li>5, the frequency converter selection is too small</li> </ol>	<ol style="list-style-type: none"> <li>1, eliminate peripheral faults</li> <li>2. Perform motor parameter identification</li> <li>3. Adjust the voltage to the normal range</li> <li>4, cancel the sudden load</li> <li>5, select the inverter with a larger power level</li> </ol>
Accelerated over voltage	Err05	<ol style="list-style-type: none"> <li>1, the input voltage is too high</li> <li>2. There is an external force drag motor running during the acceleration process.</li> <li>3, the acceleration time is too short</li> <li>4, no brake unit and brake resistor installed</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust the voltage to the normal range</li> <li>2, cancel the additional power or install braking resistor</li> <li>3, increase the acceleration time</li> <li>4, install the brake unit and resistor</li> </ol>
Deceleration over voltage	Err06	<ol style="list-style-type: none"> <li>1, the input voltage is too high</li> <li>2. There is external force drag motor running during deceleration</li> <li>3, the deceleration time is too short</li> <li>4, no brake unit and brake resistor installed</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust the voltage to the normal range</li> <li>2, cancel the additional power or install braking resistor</li> <li>3, increase the deceleration time</li> <li>4, install the brake unit and resistor</li> </ol>
Constant speed over voltage	Err07	<ol style="list-style-type: none"> <li>1, the input voltage is too high</li> <li>2. There is an external force drag motor running during the running process.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust the voltage to the normal range</li> <li>2, cancel the additional power or install braking resistor</li> </ol>
Control power	Err08	<ol style="list-style-type: none"> <li>1. The input voltage is not within the range specified</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust the voltage to the</li> </ol>



failure		by the specification.	specification
Under voltage fault	Err09	1, instantaneous power outage 2. The input voltage of the inverter is not within the scope of the specification. 3, the bus voltage is not normal 4, rectifier bridge and buffer resistor are not normal 5, the driver board or control board is abnormal	1, reset failure 2. Adjust the voltage to the normal range 3. Ask for technical support 4, Ask for technical support 5, Ask for technical support
Inverter overload	Err10	1. Is the load too large or the motor is blocked? 2, the inverter selection is too small	1. Reduce the load and check the motor and mechanical conditions. 2, select the inverter with a larger power level
Motor overload	Err11	1. Is the motor protection parameter P9-01 suitable? 2. Is the load too large or the motor stalls? 3, the frequency converter selection is too small	1, set this parameter correctly 2. Reduce the load and check the motor and mechanical conditions 3. Select a frequency converter with a larger power level
Input phase loss	Err12	1, three-phase input power is not normal 2. The drive board or lightning protection board is abnormal.	1. Troubleshooting the peripheral lines 2, seeking technical support
Output phase loss	Err13	1. The lead of the inverter to the motor is not normal. 2. The three-phase output is unbalanced when the motor is running. 3. The driver board or module is abnormal.	1, eliminate peripheral faults 2. Check if the three phases of the motor are normal. 3. Seek technical support
Module overheating	Err14	1, the ambient temperature is too high 2. Air duct blockage or fan damage 3, module thermistor is damaged 4, the inverter module is damaged	1, reduce the ambient temperature 2, clean the air duct or replace the fan 3, replace the thermistor 4. Replace the inverter module
External device failure	Err15	Check external terminal input fault signal	Reset operation
communication fail	Err16	1, the host computer is not working properly 2, the communication line is not normal 3. The communication parameter PD group setting is incorrect.	1. Check the wiring of the upper computer 2, check the communication cable 3, correctly set the communication parameters
Contact failure	Err17	1. The driver board and power supply are abnormal. 2, the contactor is not normal 3, three-phase input power shortage	1. Replace the driver board or power board 2, replace the contactor 3, check the three-phase input power
Current detection fault	Err18	1, check the Hall device is abnormal 2, the driver board is abnormal	1, replace the Hall device 2, replace the driver board
Motor tuning failure	Err19	1. The motor parameters are not set according to the nameplate. 2. The parameter identification process times out.	1. Set the motor parameters correctly according to the nameplate 2. Check the inverter to the motor lead
Code disk failure	Err20	1, the encoder model does not match 2, the encoder connection error 3, the encoder or PG card is damaged	1, correctly set the encoder type 2, eliminate line faults 3. Replace the encoder or PG card
EEPROM read and write failure	Err21	1, EEPROM chip damage	1. Replace the main control board
Inverter hardware failure	Err22	Overvoltage or overcurrent	According to overvoltage or overcurrent fault handling
Short circuit to ground	Err23	Motor short to ground	Replace cable or motor
Accumulated running time to failure	Err26	Cumulative running time reaches the set value	Parameter initialization clear record information

User-defined fault 1	Err27	Check the signal of the terminal input custom fault 1	Reset operation
User-defined fault 2	Err28	Check the signal of the terminal input custom fault 2	Reset operation
Accumulated power-on time to failure	Err29	Cumulative power-on time reaches the set value	Parameter initialization clear record information
Download fault	Err30	The inverter running current is less than P9-64	Check if the load is out of range or whether the P9-64 and P9-65 settings are in accordance with the actual working conditions.
Runtime PID feedback loss failure	Err31	PID feedback is less than PA-26 set value	Check the PID feedback signal or set PA-26 to a suitable value
Wave-by-wave current limiting fault	Err40	1. Is the load too large or the motor is blocked? 2. the inverter selection is too small	1. Reduce the load and check the motor and mechanical conditions. 2. Select the inverter with higher power level.
Switching motor failure during operation	Err41	Change the current motor selection through the terminal while the inverter is running	After the inverter stops, the motor is switched.
Speed deviation is too large	Err42	1. Encoder parameter setting is incorrect 2. no parameter identification 3. The parameters P9-69 and P9-60 are unreasonable.	1, set the encoder parameters correctly 2. Perform motor parameter identification 3. Set the detection parameters according to the actual conditions.
Motor overspeed failure	Err43	1. Encoder parameter setting is incorrect 2. no parameter identification 3. The parameters P9-69 and P9-60 are unreasonable.	1, set the encoder parameters correctly 2. Perform motor parameter identification 3. Set the detection parameters reasonably
Motor over temperature fault	Err45	1, the temperature sensor wiring is loose 2, the motor temperature is too high	1, detecting temperature sensor wiring 2. Reduce the carrier frequency or take other heat dissipation measures to dissipate the motor
Initial position error	Err51	The motor parameters are too different from the actual deviation	Check if the motor parameters are correct and pay attention to whether the rated current is set too small.

## Common faults and solution

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

Table 8-1 Common faults and solutions

No.	Fault phenomenon	Possible Causes	solutions
1	No display after power on	The grid voltage is not or too low; The switching power supply on the inverter drive board is faulty; The control board is disconnected from the driving board and the keyboard; The internal components of the inverter are damaged.	Check the input power or bus voltage; Re-insert 8-core and 34-core cable; Seek factory services;
2	Power on display FZKJ	Poor contact between the drive board and the control board; The relevant device on the control board is damaged; The motor or motor line is shorted to ground; Hall failure or grid voltage is too low;	Re-insert 8-core and 34-core cable; Seek factory services;
3	Power on display "Err23" alarm	The motor or output line is shorted to ground; The inverter is damaged;	Use a shaker to measure the insulation of the motor and the output line; seek factory service;
4	The power-on inverter is normal, and it displays "FZKJ" after running and stops immediately.	The fan is damaged or blocked; The peripheral control terminal wiring has a short circuit; The internal components of the inverter are damaged.	Replace the fan; Eliminate external short circuit faults; Seek factory services;
5	Frequently reported Err14 module overheat fault	The carrier frequency setting is too high. The fan is damaged or the air duct is blocked. Inverter internal device damage	Reduce the carrier frequency (P0-15). Replace the fan and clean the air duct. Seek factory to replace.
6	The motor does not rotate after the inverter is running.	Motor and motor line; Inverter parameter setting error (motor parameter); Poor contact between the driver board and the control board;	Reconfirm the connection between the inverter and the motor; Replace the motor or remove mechanical problems; Check and reset the motor parameters;
7	The input terminal is invalid.	The parameter setting is incorrect; External signal error; Control board failure;	Check and reset the P4 group parameters; Reconnect the external signal line; Seek factory services;
8	When closed loop vector control, the motor speed cannot be increased.	Encoder failure; The encoder is connected to the wrong line or has poor contact; PG card or drive board failure;	Replace the code wheel and reconfirm the wiring; replace the PG card; Seeking service;
9	The inverter frequently reports over current and over voltage faults.	Motor parameter setting is incorrect; The acceleration and deceleration time is not suitable Load fluctuations;	Reset motor parameters or motor tuning; Set the appropriate acceleration and deceleration time; Seek factory services;
10	Power up (or run) to report Err17	The soft start contactor is not attracted; Phase loss of three-phase input power supply;	Check if the contactor cable is loose; Check if the contactor is faulty; Check if the 24V power supply of the contactor is normal.;
11	Power on display <b>EEEE</b>	The relevant device on the control board is damaged;	Replace the control panel;



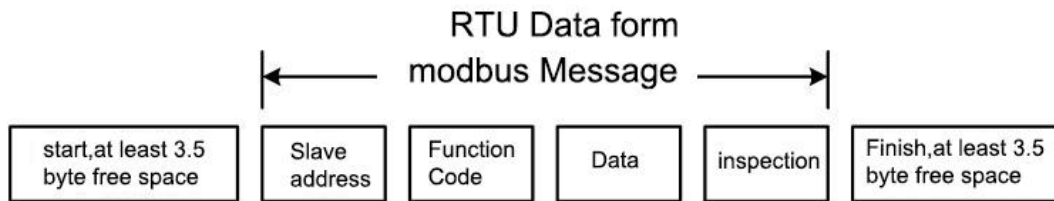
# KDE600 Modbus communication

KDE600 adopts the international standard Modbus communication protocol and supports master-slave communication in RTU format. Users can realize centralized control through PC/PLC, screen and other upper computers (setting inverter control commands, operating frequency, modification of related function code parameters, monitoring of inverter working status and fault information, etc.) to meet specific application requirements .

一、 Communication frame structure and function code parameter address reading and writing rules

1. Communication frame structure

The Modbus protocol communication data format of the inverter is RTU (Remote Terminal Unit) mode



Standard structure of RTU frame:

Frame header START	Idle with more than 3.5 character transmission time
Slave address ADR	Mailing address range: 1 ~ 247;
Command code CMD	03: read slave parameters; 06: write slave parameters
Function code address H	The internal parameter address of the inverter is expressed in hexadecimal; it is divided into function code type and non-function code type (such as running state parameters,
Function code address L	Run commands, etc.) parameters, etc., please refer to the address definition; when transmitting, the high byte is first and the low byte is last.
Number of function codes H	
Number of function codes L	The number of function codes read in this frame, if it is 1, it means to read 1 function code. When transmitting, high byte first, low byte
Data H	In the back.
Data L	
CRC CHK low bit	The response data, or the data to be written, is transmitted with the high byte first and the low byte last.
CRC CHK high bit	
END	Detection value: CRC16 check value. When transmitting, the low byte is in front and the high byte is in the back. For the calculation method, please refer to the CRC calibration in this section.

1. Function code parameter address read and write rules

Use function code group number and label as parameter address expression rule:



High byte: F0~FF (P group), A0~AF (A group), 70~7F (U group); low byte: 00~FF

as:

P0-16 function parameter, its communication address is F010H, where F0H represents the function parameter of group P0, 10H represents the hexadecimal data format of the serial number 16 of the function code in the function group

AC-08 function parameter, its communication address is AC08, where ACH stands for the AC group function parameter, 08H stands for the serial number of the function code in the function group

8 hexadecimal data format

Note: PF group: can neither read the parameters nor change the parameters; U group: can only read and cannot change the parameters.

Some parameters cannot be changed when the inverter is in the running state; some parameters cannot be changed no matter what state the inverter is in; to change the function code parameters, pay attention to the parameter range, unit, and related instructions.

Function code group number	Correspondence access address	Communication to modify the function code in RAM
P0~PE group	0xF000 ~ 0xFEFF	0x0000 ~ 0x0EFF
A0 ~ AC group	0xA000 ~ 0xACFF	0x4000 ~ 0x4CFF
U0 group	0x7000 ~ 0x70FF	

Note that because the EEPROM is frequently stored, it will reduce the service life of the EEPROM. Therefore, some function codes do not need to be stored in the communication mode, just change the value in the RAM: if it is a P group parameter, to achieve this function, It can be realized as long as the high bit F of the function code address becomes 0.

If it is a group A parameter, to realize this function, it can be realized by changing the high bit A of the function code address to 4; the corresponding function code address is expressed as follows: High byte: 00~0F (P group), 40~4F( Group A) Low byte: 00~FF

For example: function code P3-12 is not stored in EEPROM, the address is expressed as 030C; function code A0-05 is not stored in EEPROM, and the address is expressed as 4005; this address means that only RAM can be written, not read, read , It is an invalid address. For all parameters, the command code 07 can also be used to realize this function.

## Inverter parameter and function address description

### 1. Pd group communication parameter description

Pd-00	Baud rate	Factory value	5005
	Setting range	One's place: MODUBS baud rate (above the one's place is omitted) 0: 300BPS 5: 9600BPS 1: 600BPS 6: 19200BPS 2: 1200BPS 7: 38400BPS 3: 2400BPS 8: 57600BPS 4: 4800BPS 9: 115200BPS	

This parameter is used to set the data transmission rate between the host computer and the inverter. Note that the baud rate set by the host computer and the inverter must be the same, otherwise, the communication cannot be carried out.



Pd-01	Data Format	Factory value	0
	Setting range	0: No parity: data format <8, N, 1> 1: Even inspection: data format <8, E, 1> 2: Odd parity: data format <8, O, 1> 3: No check: data format <8, N, 2>	

The data format set by the host computer and the inverter must be consistent, otherwise, the communication cannot be carried out.

Pd-02	Local address	Factory value	1
	Setting range	1~247	

The address of this machine is unique (except the broadcast address), which is the basis for realizing the point-to-point communication between the host computer and the inverter.

Pd-03	Response delay	Factory value	2ms
	Setting range	0~20ms	

Response delay: It refers to the intermediate time from the end of the inverter data receiving to the sending of data to the upper computer. If the response delay is less than the system processing time, the response delay is subject to the system processing time. If the response delay is longer than the system processing time, the system will wait after processing the data until the response delay time expires before going to the upper computer. Send data.

Pd-04	Communication timeout	Factory value	0.0 s
	Setting range	0.0 s (invalid) 0.1~60.0s	

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When the function code is set to 0.0 s, the communication timeout time parameter is invalid.

When the function code is set to a valid value, if the interval between one communication and the next communication exceeds the communication timeout time, the system will report a communication failure error (Err16). Under normal circumstances, it is set to invalid. If you set this parameter in a continuous communication system, you can monitor the communication status.

Pd-05	Communication protocol selection	Factory value	30
	Setting range	30: Non-standard Modbus protocol 31: Standard Modbus protocol	

Pd-05=31: Select the standard Modbus protocol.

Pd-05=30: Non-standard Modbus protocol. When reading the command, the number of bytes returned by the slave is one byte more than that of the standard Modbus protocol

Pd-06	Communication reading current Resolution	Factory value	0
	Setting range	0: 0.01A 1: 0.1A	

Used to determine the output unit of the current value when the communication reads the output current.

## 1. 1. Address description of other functions

### a) a) Shutdown/operation parameter section

Parameter address	Parameter description	Parameter address	Parameter description
0X 1000	* Communication setting value (decimal) -10000~10000	0X 1011	PID feedback
0X 1001	Operating frequency	0X 1012	PLC steps
0X 1002	Bus voltage	0X 1013	PULSE input pulse frequency, unit 0.01kHz
0X 1003	The output voltage	0X 1014	Feedback speed, unit 0.1Hz
... ..See the manual for details			

The U0 parameter group and related addresses can be read when monitoring the inverter.

Function code	Name	Smallest unit	mailing address
U0-00	Operating frequency (Hz)	0.01Hz	0X 7000
U0-01	Setting frequency (Hz)	0.01Hz	0X 7001
U0-02	Bus voltage (V)	0.1V	0X 7002
U0-03	Output voltage (V)	1V	0X 7003
U0-04	Output current (A)	0.01A	0X 7004
U0-05	Output power (kW)	0.1kW	0X 7005
U0-06	Output torque (%) Percentage of motor rated torque	0.1%	0X 7006
U0-07	X input state	1	0X 7007
U0-08	Output state	1	0X 7008
U0-09	AI1 voltage (V)	0.01V	0X 7009
U0-10	AI2 voltage (V)	0.01V	0X 700A
U0-11	AI3 voltage (V)	0.01V	0X 700B
.....See the manual for details			

**Notice:**

The communication setting value is the percentage of the relative value, 10000 corresponds to 100.00%, -10000 corresponds to -100.00%. For the frequency dimension data, the percentage is relative to the maximum frequency (P0-10); for the torque dimension data, the percentage is relative to P2-10 (the torque upper limit digital setting).

**b) Control commands**

When P0-02 (command source) is selected as 2: communication control, the host computer can realize the control of the inverter's start and stop and other related commands through the communication address. The control commands are defined as follows:

Command word address	Command function
0X 2000	0001: Forward running 0002: Reverse running 0003: Forward jog 0004: Reverse jog 0005: Free stop 0006: Decelerate to stop 0007: fault reset

**c) Digital output terminal control**

When the digital output terminal function is selected as 20: communication control, the host computer can realize the control of the inverter's digital output terminal through the communication address, which is defined as follows:

Digital output terminal control pass News address	Command content
0X 2001	BIT0: Y1 output control BIT1: Y3 output control BIT2: RELAY1 output control BIT3: RELAY2 output control BIT4: Y2 output control

Analog output AO, AO2, high-speed pulse output Y2 control

When the analog output AO, AO2, high-speed pulse output Y2 output function is selected as 12: communication setting, the upper computer can realize the control of the inverter's analog and high-speed pulse output through the communication address, which is defined as follows:

Output control communication address	Command content
AO1      0X2002	0~7FFF means 0%~100%
AO2      0X2003	
Y2        0X2004	

**d) Inverter running status**

When the communication reads the running status of the inverter, the communication address is fixed at 3000H, and the upper computer can obtain the current running status information of the inverter by reading the address data, which is defined as follows:

Inverter running status communication address	Read status word definition
0X 3000	1: Forward running 2: Reverse running 3: Shutdown





e) Parameter initialization

This function needs to be used when it is necessary to realize the parameter initialization operation of the inverter through the upper computer.

If PP-00 (user password) is not 0, you need to verify the password through communication first. After the verification is passed, the upper computer will initialize the parameters within 30 seconds.

Passwor d address	Enter the content of the password
1F00	*****

The communication address for user password verification is 1F00H. Write the correct user password directly to this address to complete the password verification.

The communication address for parameter initialization is 1F01H, and its data content is defined as follows:

Parameter initialization communication address	Comman d function
0X 1F01	1: Restore factory parameters 2: Clearly record information 4: Restore user backup parameters 501: Backup user current parameters

f) Inverter fault description:

Inverter fault	Inverter fault
0x8000	0000: No fault                      0015: Abnormal reading and writing of parameters 0001: reserved                      0016: inverter hardware failure 0002: Accelerating over current                      0017: Short-circuit fault of the motor to the ground 0003: Deceleration over current                      0018: reserved 0004: Constant speed over current                      0019: reserved 0005: Accelerating over voltage                      001A: Running time reached 0006: Deceleration over voltage                      001B: User-defined fault 1 0007: Constant speed over voltage                      001C: User-defined fault 2 0008: Buffer resistor overload fault                      001D: Power-on time reached 0009: Under voltage fault                      001E: Load drop 000A: Inverter overload operation                      001F: PID feedback lost during operation 000B: Motor overload fault                      0028: Fast current limit overtime 000C: Input phase loss during operation                      0029: Switching motor failure 000D: Output phase loss large                      002A: Speed deviation is too large 000E: Module overheating                      002B: Motor overspeed 000F: External fault                      002D: Motor over temperature

Modbus Address

Function code	Description	Communication address (decimal)	Communication address (hexadecimal)
P0-00	G P type setting	61440	F000
P0-01	Speed control mode selection	61441	F001
P0-02	Run command source selection	61442	F002
P0-03	Main frequency source X selection	61443	F003
P0-04	Auxiliary frequency source Y selection	61444	F004
P0-05	Auxiliary frequency source Y range selection when	61445	F005
P0-06	Auxiliary frequency source Y range when superimposed	61446	F006
P0-07	Frequency source overlay selection	61447	F007
P0-08	Preset frequency	61448	F008
P0-09	Running direction selection	61449	F009
P0-10	maximum frequency	61450	F00A
P0-11	upper limit frequency source	61451	F00B
P0-12	upper limit frequency	61452	F00C
P0-13	Upper limit frequency offset	61453	F00D
P0-14	lower frequency	61454	F00E
P0-15	carrier frequency	61455	F00F
P0-16	The carrier frequency is adjusted with temperature	61456	F010
P0-17	Acceleration time 0	61457	F011
P0-18	Deceleration time 0	61458	F012
P0-19	Acceleration and deceleration time unit	61459	F013
P0-21	Auxiliary frequency source offset frequency when superimposed	61461	F015
P0-22	Frequency command resolution	61462	F016
P0-23	Digital setting frequency stop memory selection	61463	F017
P0-24	Motor parameter group selection	61464	F018
P0-25	Acceleration and deceleration time reference frequency	61465	F019
P0-26	Runtime frequency command UP/DOWN reference	61466	F01A
P0-27	Command source bundle frequency source	61467	F01B
P0-28	Serial communication protocol selection	61468	F01C
P1-00	Motor type selection	61696	F100
P1-01	Motor rated power	61697	F101
P1-02	Motor rated voltage	61698	F102
P1-03	Motor rated current	61699	F103
P1-04	Motor rated frequency	61700	F104
P1-05	Motor rated speed	61701	F105
P1-06	Asynchronous motor stator resistance	61702	F106
P1-07	Asynchronous motor rotor resistance	61703	F107
P1-08	Asynchronous motor leakage inductance	61704	F108
P1-09	Asynchronous motor mutual inductance	61705	F109
P1-10	Asynchronous motor no-load current	61706	F10A

Modbus Address

Function code	Description	Communication address (decimal)	Communication address (hexadecimal)
P1-27	Number of encoder lines	61723	F11B
P1-28	Encoder type	61724	F11C
P1-29	reserve	61725	F11D
P1-30	ABZ Incremental encoder AB phase sequence	61726	F11E
P1-31	Encoder mounting angle	61727	F11F
P1-32	UVW encoder UVW phase sequence	61728	F120
P1-33	UVW encoder offset angle	61729	F121
P1-34	Number of pole pairs of resolver	61730	F122
P1-36	Speed feedback PG disconnection detection time	61731	F123
P1-37	Motor self-learning selection	61733	F125
P2-00	Speed loop proportional gain 1	61952	F200
P2-01	Speed loop integral time 1	61953	F201
P2-02	switching frequency 1	61954	F202
P2-03	Speed loop proportional gain 2	61955	F203
P2-04	Speed loop integral time 2	61956	F204
P2-05	switching frequency 2	61957	F205
P2-06	Vector control slip gain	61958	F206
P2-07	SVC speed feedback filter time	61959	F207
P2-08	Vector control overexcitation gain	61960	F208
P2-09	Torque upper limit source in speed control mode	61961	F209
P2-10	Digital setting of torque upper limit in speed control mode	61962	F20A
P2-11	reserve	61963	F20B
P2-12	reserve	61964	F20C
P2-13	Excitation adjustment proportional gain	61965	F20D
P2-14	Excitation adjustment integral gain	61966	F20E
P2-15	Torque adjustment proportional gain	61967	F20F
P2-16	Torque adjustment integral gain	61968	F210
P2-17	Velocity Loop Integral Properties	61969	F211
P2-20	Output voltage coefficient	61972	F214
P2-21	Maximum torque coefficient in field weakening area	61973	F215
P2-22	reserve	61974	F216
P3-00	V/F curve setting	62208	F300
P3-01	Torque boost	62209	F301
P3-02	Torque boost cut-off frequency	62210	F302
P3-03	Multipoint V/F Frequency Point 1	62211	F303
P3-04	Multipoint V/F Voltage Point 1	62212	F304
P3-05	Multi-point V/F frequency point 2	62213	F305
P3-06	Multipoint V/F Voltage Point 2	62214	F306
P3-07	Multi-point V/F frequency point 3	62215	F307
P3-08	Multipoint V/F Voltage Point 3	62216	F308

Modbus Address

Function code	Description	Communication address (decimal)	Communication address (hexadecimal)
P3-09	V/F slip compensation gain	62217	F309
P3-10	V/F overexcitation gain	62218	F30A
P3-11	V/F oscillation suppression gain	62219	F30B
P3-12	reserve	62220	F30C
P3-13	V/F separated voltage source	62221	F30D
P3-14	Voltage digital setting for V/F separation	62222	F30E
P3-15	Voltage acceleration time for V/F separation	62223	F30F
P3-16	Voltage deceleration time for V/F separation	62224	F310
P3-17	V/F separation and stop mode selection	62225	F311
P3-18	Overcurrent stall action current	62226	F312
P3-19	Over-current stall suppression enable	62227	F313
P3-20	Overcurrent Stall Suppression Gain	62228	F314
P3-21	Double-speed over-current stall action current compensation coefficient	62229	F315
P3-22	Overvoltage stall action voltage	62230	F316
P3-23	Overvoltage Stall Enable	62231	F317
P3-24	Overvoltage stall suppression frequency gain	62232	F318
P3-25	Overvoltage Stall Suppression Voltage Gain	62233	F319
P3-26	Overvoltage stall maximum rising frequency limit	62234	F31A
P3-27	Slip Compensation Time Constant	62235	F31B
P3-34	Water supply mode selection	62242	F322
P3-35	Pressure gauge range	62243	F323
P3-36	target pressure	62244	F324
P3-37	Sleep frequency	62245	F325
P3-38	sleep delay	62246	F326
P3-39	wake up stress	62247	F327
P3-40	Wake up delay	62248	F328
P4-00	X1 terminal function selection	62464	F400
P4-01	X2 terminal function selection	62465	F401
P4-02	X3 terminal function selection	62466	F402
P4-03	X4 terminal function selection	62467	F403
P4-04	X5 terminal function selection	62468	F404
P4-05	X6 terminal function selection	62469	F405
P4-06	X7 terminal function selection	62470	F406
P4-07	X8 terminal function selection	62471	F407
P4-08	X9 terminal function selection	62472	F408
P4-09	X10 terminal function selection	62473	F409
P4-10	X filter time	62474	F40A
P4-11	Terminal command method	62475	F40B
P4-12	Terminal UP/DOWN change rate	62476	F40C

Modbus Address

Function code	Description	Communication address (decimal)	Communication address (hexadecimal)
P4-13	AI curve 1 minimum input	62477	F40D
P4-14	AI curve 1 minimum input corresponding setting	62478	F40E
P4-15	AI curve 1 maximum input	62479	F40F
P4-16	AI curve 1 maximum input corresponding setting	62480	F410
P4-17	AI1 filter time	62481	F411
P4-18	AI curve 2 minimum input	62482	F412
P4-19	AI curve 2 minimum input corresponding setting	62483	F413
P4-20	AI curve 2 maximum input	62484	F414
P4-21	AI curve 2 maximum input corresponding setting	62485	F415
P4-22	AI2 filter time	62486	F416
P4-23	AI curve 3 minimum input	62487	F417
P4-24	AI curve 3 minimum input corresponding setting	62488	F418
P4-25	AI curve 3 maximum input	62489	F419
P4-26	AI curve 3 maximum input corresponding setting	62490	F41A
P4-27	Keyboard potentiometer filter time	62491	F41B
P4-28	PULSE minimum input	62492	F41C
P4-29	PULSE minimum input corresponding setting	62493	F41D
P4-30	PULSE max input	62494	F41E
P4-31	PULSE maximum input setting	62495	F41F
P4-32	PULSE filter time	62496	F420
P4-33	AI curve selection	62497	F421
P4-34	AI below minimum input setting selection	62498	F422
P4-35	X1 delay time	62499	F423
P4-36	X2 delay time	62500	F424
P4-37	X3 delay time	62501	F425
P4-38	X terminal mode selection 1	62502	F426
P4-39	X terminal mode selection 2	62503	F427
P5-00	Y2 terminal output mode selection	62720	F500
P5-01	Y2 switch output function selection	62721	F501
P5-02	Relay 1 (control board) function selection (ROA/ROB/ROC)	62722	F502
P5-03	Relay 2 (expansion card) function selection (ROA2/ROC2)	62723	F503
P5-04	Y1 output function selection	62724	F504
P5-05	Expansion card Y3 output selection	62725	F505
P5-06	Y2 pulse output function selection	62726	F506
P5-07	AO1 output function selection	62727	F507
P5-08	Expansion card AO2 output function selection	62728	F508
P5-09	Y2 pulse output maximum frequency	62729	F509
P5-10	AO zero bias coefficient	62730	F50A

Modbus Address

Function code	Description	Communication address (decimal)	Communication address (hexadecimal)
P5-11	AO gain	62731	F50B
P5-12	Expansion card AO2 zero offset coefficient	62732	F50C
P5-13	Expansion card AO2 gain	62733	F50D
P5-17	Y2 switch output delay time	62736	F510
P5-18	Relay output delay time	62737	F511
P5-19	Relay 2 output delay time	62739	F513
P5-20	DO output delay time	62740	F514
P5-21	DO2 output delay time	62741	F515
P5-22	Output terminal valid state selection	62742	F516
P6-00	Start method	62976	F600
P6-01	Speed tracking method	62977	F601
P6-02	Speed tracking speed	62978	F602
P6-03	Start frequency	62979	F603
P6-04	Start frequency hold time	62980	F604
P6-05	Start DC braking current / pre-excitation current	62981	F605
P6-06	Start DC braking time / pre-excitation time	62982	F606
P6-07	Acceleration and deceleration method	62983	F607
P6-08	The time ratio of the beginning of the S-curve	62984	F608
P6-09	The time ratio of the end of the S-curve	62985	F609
P6-10	stop mode	62986	F60A
P6-11	DC braking starting frequency at stop	62987	F60B
P6-12	DC braking waiting time at stop	62988	F60C
P6-13	Stop DC braking current	62989	F60D
P6-14	DC braking time at stop	62990	F60E
P6-15	brake usage	62991	F60F
P6-16	reserve	62992	F610
P6-17	reserve	62993	F611
P6-18	Speed tracking current	62994	F612
P6-19	reserve	62995	F613
P6-20	reserve	62996	F614
P6-21	Demagnetization time	62997	F615
P6-23	AVR function	62999	F617
P6-24	Overexcitation suppression current value	63000	F618
P6-25	Overexcitation gain	63001	F619
P7-01	JOG/REV key function selection	63233	F701
P7-02	STOP/RESET key function	63234	F702
P7-03	LED running display parameter 1	63235	F703
P7-04	LED running display parameter 2	63236	F704
P7-05	LED stop display parameters	63237	F705
P7-06	Load speed display factor	63238	F706

Modbus Address

Function code	Description	Communication address (decimal)	Communication address (hexadecimal)
P7-07	Inverter module heat sink temperature	63239	F707
P7-08	Product ID	63240	F708
P7-09	Cumulative running time	63241	F709
P7-10	Performance version number	63242	F70A
P7-11	Feature version number	63243	F70B
P7-12	Load speed display decimal places	63244	F70C
P7-13	Cumulative power-on time	63245	F70D
P7-14	Cumulative power consumption	63246	F70E
P7-15	Performance Temporary Software Version Number	63247	F70F
P7-16	Function Temporary software version number	63248	F710
P8-00	Jog running frequency	63488	F800
P8-01	Jog acceleration time	63489	F801
P8-02	Jog deceleration time	63490	F802
P8-03	Acceleration time 1	63491	F803
P8-04	Deceleration time 1	63492	F804
P8-05	Acceleration time 2	63493	F805
P8-06	Deceleration time 2	63494	F806
P8-07	Acceleration time 3	63495	F807
P8-08	Deceleration time 3	63496	F808
P8-09	Hop Frequency 1	63497	F809
P8-10	Hop Frequency 2	63498	F80A
P8-11	Hop Frequency Amplitude	63499	F80B
P8-12	Forward and reverse dead time	63500	F80C
P8-13	Reverse frequency prohibited	63501	F80D
P8-14	The set frequency is lower than the lower limit frequency operation mode	63502	F80E
P8-15	sag control	63503	F80F
P8-16	Set the cumulative power-on arrival time	63504	F810
P8-17	Set the cumulative operation arrival time	63505	F811
P8-18	Boot protection selection	63506	F812
P8-19	Frequency detection value (FDT1)	63507	F813
P8-20	Frequency detection hysteresis value (FDT1)	63508	F814
P8-21	Frequency arrival detection width	63509	F815
P8-22	Whether the jump frequency is valid during acceleration and deceleration	63510	F816
P8-25	Acceleration time 1 and acceleration time 2 switch frequency points	63513	F819
P8-26	Deceleration time 1 and deceleration time 2 switch frequency points	63514	F81A
P8-27	Terminal jog priority	63515	F81B
P8-28	Frequency detection value (FDT2)	63516	F81C

Modbus Address

Function code	Description	Communication address (decimal)	Communication address (hexadecimal)
P8-29	Frequency detection hysteresis value (FDT2)	63517	F81D
P8-30	Arbitrary arrival frequency detection value 1	63518	F81E
P8-31	Arbitrary arrival frequency detection width 1	63519	F81F
P8-32	Arbitrary arrival frequency detection value 2	63520	F820
P8-33	Arbitrary arrival frequency detection width 2	63521	F821
P8-34	Zero current detection level	63522	F822
P8-35	Zero current detection delay time	63523	F823
P8-36	The output current exceeds the limit	63524	F824
P8-37	Output current overrun detection delay time	63525	F825
P8-38	Arbitrary arrival current 1	63526	F826
P8-39	Arbitrary arrival current 1 width	63527	F827
P8-40	Arbitrary arrival current 2	63528	F828
P8-41	Arbitrary arrival current 2 width	63529	F829
P8-42	Timing function selection	63530	F82A
P8-43	Timing run time selection	63531	F82B
P8-44	Timing run time	63532	F82C
P8-45	AI1 input voltage protection value lower limit	63533	F82D
P8-46	AI1 input voltage protection value upper limit	63534	F82E
P8-47	Module temperature reached	63535	F82F
P8-48	Cooling Fan Control	63536	F830
P8-49	wake up frequency	63537	F831
P8-50	Wake up delay time	63538	F832
P8-51	Sleep frequency	63539	F833
P8-52	sleep delay time	63540	F834
P8-53	Arrival time setting for this operation	63541	F835
P8-54	Output power correction factor	63542	F836
P9-00	Motor overload protection selection	63744	F900
P9-01	Motor overload protection gain	63745	F901
P9-02	Motor overload warning factor	63746	F902
P9-03	Overvoltage Stall Gain	63747	F903
P9-04	Overvoltage stall protection voltage	63748	F904
P9-05	Overcurrent Stall Suppression Gain	63749	F905
P9-06	Overcurrent stall action current	63750	F906
P9-07	Power-on to ground short-circuit protection selection	63751	F907
P9-08	Braking unit action starting voltage	63752	F908
P9-09	Fault automatic reset times	63753	F909
P9-10	Fault DO action selection during fault automatic reset	63754	F90A
P9-11	Fault automatic reset interval time	63755	F90B
P9-12	Input phase loss \ contactor pick-up protection selection	63756	F90C



Modbus Address

Function code	Description	Communication address (decimal)	Communication address (hexadecimal)
P9-13	Output phase loss protection selection	63757	F90D
P9-14	Type of first failure	63758	F90E
P9-15	Second fault type	63759	F90F
P9-16	Third (most recent) failure type	63760	F910
P9-17	3rd (most recent) failure frequency	63761	F911
P9-18	Current at the third (most recent) fault	63762	F912
P9-19	Bus voltage at the third (most recent) fault	63763	F913
P9-20	Input terminal status at the third (last) fault	63764	F914
P9-21	Output terminal status at the third (last) fault	63765	F915
P9-22	Inverter status at the third (most recent) fault	63766	F916
P9-23	Power-on time at the third (most recent) fault	63767	F917
P9-24	3rd (most recent) failure time	63768	F918
P9-27	Frequency at second failure	63771	F91B
P9-28	Current at the second fault	63772	F91C
P9-29	Bus voltage at the second fault	63773	F91D
P9-30	Input terminal status at the second fault	63774	F91E
P9-31	Output terminal status at the second fault	63775	F91F
P9-32	Inverter status at the second fault	63776	F920
P9-33	Power-on time at the second fault	63777	F921
P9-34	Operating time at second failure	63778	F922
P9-37	Frequency at first failure	63781	F925
P9-38	Current at first fault	63782	F926
P9-39	Bus voltage at first fault	63783	F927
P9-40	Input terminal status at the first fault	63784	F928
P9-41	Output terminal status at the first fault	63785	F929
P9-42	Inverter status at first fault	63786	F92A
P9-43	Power-on time at first fault	63787	F92B
P9-44	Uptime at first failure	63788	F92C
P9-47	Fault protection action selection 1	63791	F92F
P9-48	Fault protection action selection 2	63792	F930
P9-49	Fault protection action selection 3	63793	F931
P9-50	Fault protection action selection 4	63794	F932
P9-54	Continue to run frequency selection in case of failure	63798	F936
P9-55	Abnormal backup frequency	63799	F937
P9-56	Motor temperature sensor type	63800	F938
P9-57	Motor overheat protection threshold	63801	F939
P9-58	Motor overheating pre-alarm threshold	63802	F93A
P9-59	Instantaneous stop non-stop function selection	63803	F93B
P9-60	Instantaneous power interruption action suspension judgment voltage	63804	F93C

## Modbus Address

Function code	Description	Communication address (decimal)	Communication address (hexadecimal)
P9-61	Instantaneous power failure and non-stop voltage recovery judgment time	63805	F93D
P9-62	Instantaneous stop and non-stop action to judge the voltage	63806	F93E
P9-63	Drop load protection option	63807	F93F
P9-64	Load drop detection level	63808	F940
P9-65	Load drop detection time	63809	F941
P9-67	Overspeed detection value	63811	F943
P9-68	Overspeed detection time	63812	F944
P9-69	Excessive speed deviation detection value	63813	F945
P9-70	Excessive speed deviation detection time	63814	F946
P9-71	Instantaneous stop non-stop gain Kp	63815	F947
P9-72	Momentary stop and non-stop integral coefficient Ki	63816	F948
P9-73	Instantaneous stop non-stop action deceleration time	63817	F949
PA-00	PID given source	64000	FA00
PA-01	PID value given	64001	FA01
PA-02	PID feedback source	64002	FA02
PA-03	PID action direction	64003	FA03
PA-04	PID given feedback range	64004	FA04
PA-05	Proportional gain Kp1	64005	FA05
PA-06	Integration time Ti1	64006	FA06
PA-07	Differential time Td1	64007	FA07
PA-08	PID reverse cutoff frequency	64008	FA08
PA-09	PID deviation limit	64009	FA09
PA-10	PID differential limiter	64010	FA0A
PA-11	PID given change time	64011	FA0B
PA-12	PID feedback filter time	64012	FA0C
PA-13	PID output filter time	64013	FA0D
PA-14	reserve	64014	FA0E
PA-15	Proportional gain Kp2	64015	FA0F
PA-16	Integration time Ti2	64016	FA10
PA-17	Differential time Td2	64017	FA11
PA-18	PID parameter switching conditions	64018	FA12
PA-19	PID parameter switching deviation 1	64019	FA13
PA-20	PID parameter switching deviation 2	64020	FA14
PA-21	PID initial value	64021	FA15
PA-22	PID initial value hold time	64022	FA16
PA-23	reserve	64023	FA17
PA-24	reserve	64024	FA18
PA-25	PID integral properties	64025	FA19
PA-26	PID feedback loss detection value	64026	FA1A

Modbus Address

Function code	Description	Communication address (decimal)	Communication address (hexadecimal)
PA-27	PID feedback loss detection time	64027	FA1B
PA-28	PID shutdown operation	64028	FA1C
Pb-00	Wobble frequency setting method	64256	FB00
Pb-01	Wobble amplitude	64257	FB01
Pb-02	Kick frequency amplitude	64258	FB02
Pb-03	Wobble period	64259	FB03
Pb-04	Wobble triangular wave rise time	64260	FB04
Pb-05	set length	64261	FB05
Pb-06	Actual length	64262	FB06
Pb-07	pulses per meter	64263	FB07
Pb-08	Set count value	64264	FB08
Pb-09	Specify count value	64265	FB09
PC-00	Multi-speed 0	64512	FC00
PC-01	Multi-speed 1	64513	FC01
PC-02	Multi-speed 2	64514	FC02
PC-03	Multi-speed 3	64515	FC03
PC-04	Multi-speed 4	64516	FC04
PC-05	Multi-speed 5	64517	FC05
PC-06	Multi-speed 6	64518	FC06
PC-07	Multi-speed 7	64519	FC07
PC-08	Multi-speed 8	64520	FC08
PC-09	Multi-speed 9	64521	FC09
PC-10	Multi-speed 10	64522	FC0A
PC-11	Multi-speed 11	64523	FC0B
PC-12	Multi-speed 12	64524	FC0C
PC-13	Multi-speed 13	64525	FC0D
PC-14	Multi-speed 14	64526	FC0E
PC-15	Multi-speed 15	64527	FC0F
PC-16	Simple PLC operation mode	64528	FC10
PC-17	Simple PLC power-down memory selection	64529	FC11
PC-18	Simple PLC section 0 running time	64530	FC12
PC-19	Simple PLC segment 0 acceleration/deceleration time selection	64531	FC13
PC-20	Simple PLC first stage running time	64532	FC14
PC-21	Simple PLC stage 1 acceleration and deceleration time selection	64533	FC15

Modbus Address

Function code	Description	Communication address (decimal)	Communication address (hexadecimal)
PC-22	Simple PLC second stage running time	64534	FC16
PC-23	Simple PLC second stage acceleration and deceleration time selection	64535	FC17
PC-24	Simple PLC section 3 running time	64536	FC18
PC-25	Simple PLC stage 3 acceleration and deceleration time selection	64537	FC19
PC-26	Simple PLC fourth stage running time	64538	FC1A
PC-27	Simple PLC stage 4 acceleration and deceleration time selection	64539	FC1B
PC-28	Simple PLC section 5 running time	64540	FC1C
PC-29	Simple PLC step 5 acceleration and deceleration time selection	64541	FC1D
PC-30	Simple PLC Section 6 Running Time	64542	FC1E
PC-31	Simple PLC stage 6 acceleration and deceleration time selection	64543	FC1F
PC-32	Simple PLC Section 7 Running Time	64544	FC20
PC-33	Simple PLC section 7 acceleration and deceleration time selection	64545	FC21
PC-34	Simple PLC Section 8 Running Time	64546	FC22
PC-35	Simple PLC section 8 acceleration/deceleration time selection	64547	FC23
PC-36	Simple PLC Section 9 Running Time	64548	FC24
PC-37	Simple PLC segment 9 acceleration/deceleration time selection	64549	FC25
PC-38	Simple PLC Section 10 Running Time	64550	FC26
PC-39	Simple PLC section 10 acceleration and deceleration time selection	64551	FC27
PC-40	Simple PLC section 11 running time	64552	FC28
PC-41	Simple PLC section 11 acceleration and deceleration time selection	64553	FC29

Modbus Address

Function code	Description	Communication address (decimal)	Communication address (hexadecimal)
PC-42	Simple PLC section 12 running time	64554	FC2A
PC-43	Simple PLC section 12 acceleration and deceleration time selection	64555	FC2B
PC-44	Simple PLC Section 13 Running Time	64556	FC2C
PC-45	Simple PLC section 13 acceleration and deceleration time selection	64557	FC2D
PC-46	Simple PLC section 14 running time	64558	FC2E
PC-47	Simple PLC section 14 acceleration and deceleration time selection	64559	FC2F
PC-48	Simple PLC section 15 running time	64560	FC30
PC-49	Simple PLC section 15 acceleration and deceleration time selection	64561	FC31
PC-50	Simple PLC running time unit	64562	FC32
PC-51	Multi-segment instruction 0 given mode	64563	FC33
Pd-00	Communication baud rate	*	*
Pd-01	MODBUS data format (MODBUS valid)	*	*
Pd-02	local address	*	*
Pd-03	MODBUS response delay	*	*
Pd-04	Serial communication timeout time	*	*
Pd-05	MODBUS, ProPibus-DP communication data format	*	*
Pd-06	Communication read current resolution	*	*
Pd-08	ProPibus CANopen communication interruption detection time	*	*
PP-00	user password	*	*
PP-01	parameter initialization	*	*
PP-02	Function parameter group display selection	*	*
PP-03	Personality parameter group display selection	*	*
PP-04	Function code modification attribute	*	*
A0-00	Speed/torque control mode selection	40960	A000
A0-01	Torque setting source selection in torque control mode	40961	A001
A0-03	Torque digital setting in torque control mode	40963	A003
A0-04	reserve	40964	A004
A0-05	Torque control forward maximum frequency	40965	A005
A0-06	Torque control reverse maximum frequency	40966	A006
A0-07	Torque acceleration time	40967	A007
A0-08	Torque deceleration time	40968	A008
A5-00	DPWM switching upper limit frequency	42240	A500

Modbus Address

Function code	Description	Communication address (decimal)	Communication address (hexadecimal)
A5-01	PWM modulation method	42241	A501
A5-02	Dead time compensation mode selection	42242	A502
A5-03	Random PWM depth	42243	A503
A5-04	Fast current limit enable	42244	A504
A5-05	reserve	42245	A505
A5-06	Undervoltage point setting	42246	A506
A5-07	reserve	42247	A507
A5-08	Dead time adjustment	42248	A508
A5-09	Overvoltage point setting	42249	A509
U0-00	Operating frequency (Hz)	28672	7000
U0-01	Set frequency (Hz)	28673	7001
U0-02	Bus voltage (V)	28674	7002
U0-03	Output voltage (V)	28675	7003
U0-04	Output current (A)	28676	7004
U0-05	Output power (kW)	28677	7005
U0-06	Output torque (%) Percentage of motor rated torque	28678	7006
U0-07	X input state	28679	7007
U0-08	output status	28680	7008
U0-09	AI1 Voltage (V)	28681	7009
U0-10	AI2 voltage (V)	28682	700A
U0-11	AI3 voltage (V)	28683	700B
U0-12	count value	28684	700C
U0-13	length value	28685	700D
U0-14	Load speed display	28686	700E
U0-15	PID setting	28687	700F
U0-16	PID feedback	28688	7010
U0-17	PLC stage	28689	7011
U0-18	PULSE Input pulse frequency (Hz)	28690	7012
U0-19	Feedback speed (Hz)	28691	7013
U0-20	remaining running time	28692	7014
U0-21	AI1 voltage before correction	28693	7015
U0-22	AI2 Voltage (V)/Current (mA) before correction	28694	7016
U0-23	AI3 voltage before correction	28695	7017
U0-24	Line speed	28696	7018
U0-25	Current power-on time	28697	7019
U0-26	current running time	28698	701A
U0-27	PULSE Input pulse frequency	28699	701B
U0-28	Communication settings	28700	701C
U0-29	Encoder feedback speed	28701	701D
U0-30	Main frequency X display	28702	701E

## Modbus Address

Function code	Description	Communication address (decimal)	Communication address (hexadecimal)
U0-31	Auxiliary frequency Y display	28703	701F
U0-32	View arbitrary memory address value	28704	7020
U0-34	Motor temperature value	28706	7022
U0-35	Target torque (%)	28707	7023
U0-36	Resolver position	28708	7024
U0-37	power factor angle	28709	7025
U0-38	ABZ location	28710	7026
U0-39	VP separation target voltage	28711	7027
U0-40	VP split output voltage	28712	7028
U0-41	Intuitive display of X input status	28713	7029
U0-42	Intuitive display of output status	28714	702A
U0-43	X function status visual display 1 (function 01-function 40)	28715	702B
U0-44	X function status visual display 2 (function 41-function 80)	28716	702C
U0-45	accident details	28717	702D
U0-58	Z signal counter	28730	703A
U0-59	Set frequency (%)	28731	703B
U0-60	Operating frequency (%)	28732	703C
U0-61	Inverter status	28733	703D
U0-62	Current fault code	28734	703E
U0-63	Peer-to-peer communication sends values	28735	703F
U0-64	number of slaves	28736	7040
U0-65	Torque upper limit	28737	7041



**BEST-POWER**