AC Drive User Manual

Model : SET-300A

SANKET ELECTROTECH

Providing Solution Worldwide

Contents

Chapter 1 Product information

1.1 Designation Rules
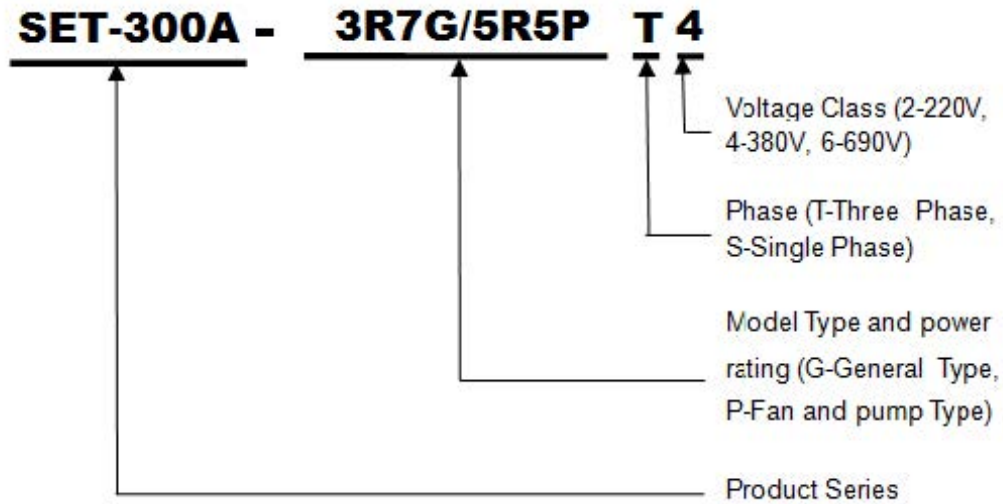
Figure 1-1 Designation Rules

1.2 Nameplate

MODEL: SET-300A-3R7G/5R5PT4
POWER: 3.7/5.5KW
INPUT: 3PH AC380V~440V 50/60Hz
CUTPUT: 3PH 0~440V 0~300Hz 9.0/13A
S/N: Barcode
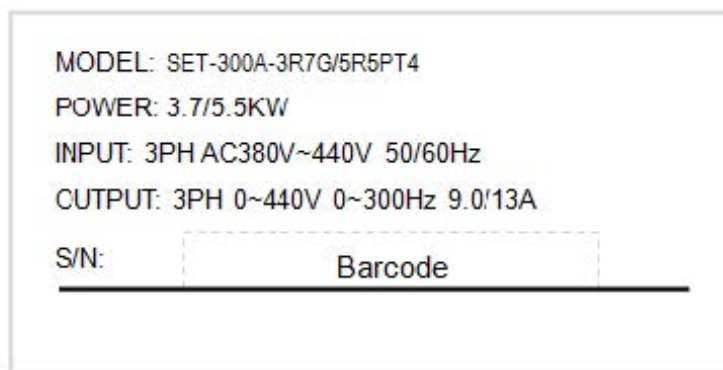
Figure 1-2 Nameplate

1.3 SET-300A Series Frequency Inverter

Table 2-1 Models and technical data of SET-300A series

Model	Power Capacity (KVA)	Input Current (A)	Output Current (A)	Adaptable Motor	
				KW	HP
Single-phase 220V, 50/60Hz					
SET-300A-0R4GS2	1	5.4	2.3	0.4	0.5
SET-300A-R75GS2	1.5	8.2	4	0.75	1
SET-300A-1R5GS2	3	14	7	1.5	2
SET-300A-2R2GS2	4	23	9.6	2.2	3

Model		Power Capacity (KVA)	Input Current (A)	Output Current (A)	Adaptable Motor	
					KW	HP
Three-phase 220V, 50/60Hz						
SET-300A-0R4GT2		1.5	3.4	2.1	0.4	0.5
SET-300A-R75GT2		3	5	3.8	0.75	1
SET-300A-1R5GT2		4	5.8	5.1	1.5	2
SET-300A-2R2GT2		5.9	10.5	9	2.2	3
SET-300A-3R7GT2		8.9	P14.6	13	3.7	5
SET-300A-5R5GT2		17	26	25	5.5	7.5
SET-300A-7R5GT2		21	35	32	7.5	10
SET-300A-011GT2		30	46.5	45	11	15
SET-300A-015GT2		40	62	60	15	20
SET-300A-018GT2		57	76	75	18.5	25
SET-300A-022GT2		69	92	91	22	30
SET-300A-030GT2		85	113	112	30	40
SET-300A-037GT2		114	157	150	37	50
SET-300A-045GT2		134	180	176	45	60
SET-300A-055GT2		160	214	210	55	75
SET-300A-075GT2		231	307	304	75	100
Three-phase 380V, 50/60Hz						
SET-300A-R75GT4	-	1.5	3.4	2.1	0.75	1
SET-300A-1R5GT4	-	3	5	3.8	1.5	2
SET-300A-2R2GT4	-	4	5.8	5.1	2.2	3
SET-300A-3R7GT4	SET-300A-5R5PT4	5.9	10.5	9	3.7	5
SET-300A-5R5GT4	SET-300A-7R5PT4	8.9	P14.6	13	5.5	7.5
SET-300A-7R5GT4	SET-300A-011PT4	11	P20.5	17	7.5	10
SET-300A-011GT4	SET-300A-015PT4	17	26	25	11	15
SET-300A-015GT4	SET-300A-018PT4	21	35	32	15	20
SET-300A-018GT4	SET-300A-022PT4	24	38.5	37	18.5	25
SET-300A-022GT4	SET-300A-030PT4	30	46.5	45	22	30
SET-300A-030GT4	SET-300A-037PT4	40	62	60	30	40
SET-300A-037GT4	SET-300A-045PT4	57	76	75	37	50
SET-300A-045GT4	SET-300A-055PT4	69	92	91	45	60
SET-300A-055GT4	SET-300A-075PT4	85	113	112	55	75
SET-300A-075GT4	SET-300A-090PT4	114	157	150	75	100
SET-300A-090GT4	SET-300A-110PT4	134	180	176	90	125
SET-300A-110GT4	SET-300A-132PT4	160	214	210	110	150
SET-300A-132GT4	SET-300A-160PT4	192	256	253	132	175
SET-300A-160GT4	SET-300A-200PT4	231	307	304	160	210
SET-300A-200GT4	SET-300A-220PT4	250	385	377	200	260
SET-300A-220GT4	SET-300A-250PT4	280	430	426	220	300
SET-300A-250GT4	SET-300A-280PT4	355	468	465	250	350
SET-300A-280GT4	SET-300A-315PT4	396	525	520	280	370
SET-300A-315GT4	SET-300A-355PT4	445	590	585	315	420

Model		Power Capacity (KVA)	Input Current (A)	Output Current (A)	Adaptable Motor	
					KW	HP
SET-300A-355GT4	SET-300A-400PT4	500	665	650	355	470
SET-300A-400GT4	SET-300A-450PT4	565	785	725	400	530
SET-300A-450GT4	SET-300A-500PT4	630	883	820	450	600
SET-300A-500GT4	SET-300A-560PT4	710	1000	930	500	660
SET-300A-560GT4	SET-300A-630PT4	800	1120	1020	560	750

1.4 Product appearance and installation dimension
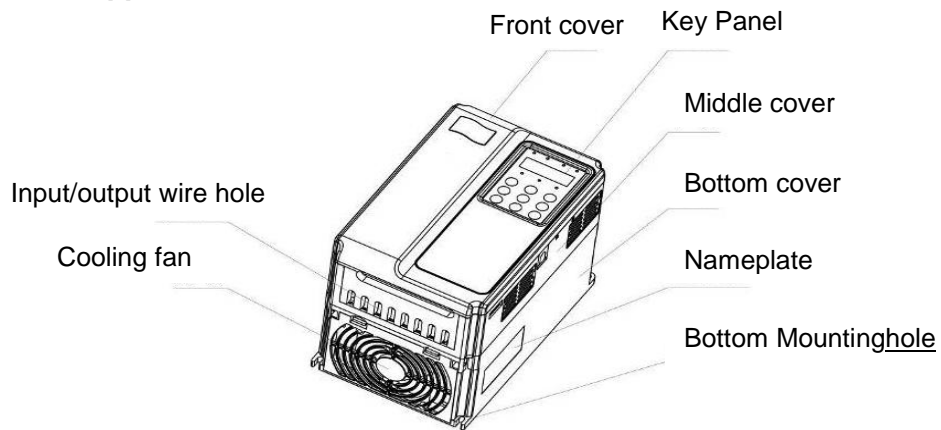
1.4.1 Product appearance

Figure 2-3 SET-300A series Product appearance (With potentiometer)
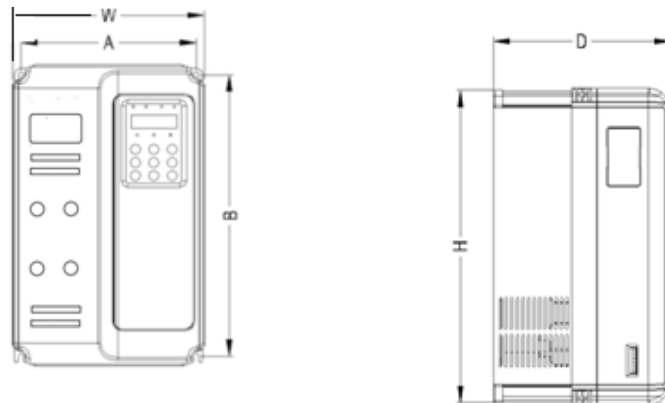

Figure 2-4 Appearance and installation dimension of SET-300A series (Plastic housing structure)
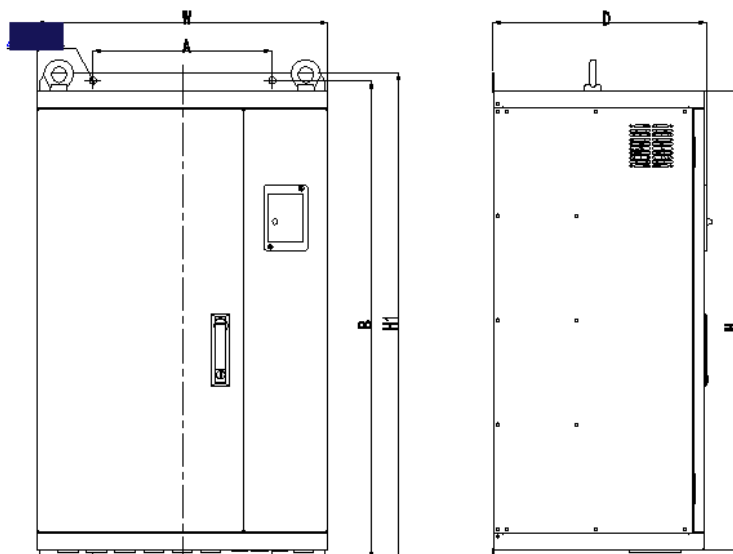
Figure 2-5 Appearance and installation dimension of SET-300A series (Metal housing structure)

The housing type of the SET-300A models is listed in the following table.

Voltage & Power Class	Housing Type
Single-phase 220V	
0.4 - 2.2 Kw	Plastic housing
Three-phase 220 V	
0.4 - 7.5 Kw	Plastic housing
11 -75 Kw	Metal sheethousing
Three-phase 380 V	
0.75 - 18.5 Kw	Plastic housing
22 - 400 Kw	Metal sheet housing

1.4.2 Appearance and Mounting Hole Dimension (mm) of SET-300A Frequency Inverter

Table 2-3 Appearance and mounting hole dimension (mm) of SET-300A frequency inverter

Model	Appearance and installing dimension（mm）							Weight
	A	B	H	H1	W	D	Φd	（kg）
Three-phase 380V								
SET-300A-R75G/1R5PT4	113	172	186	-	125	164	ø5	2.0
SET-300A-1R5G/2R2PT4								
SET-300A-2R2G/3R7PT4								
SET-300A-3R7G/5R5PT4	148	236	248	-	160	183	ø5	3.5
SET-300A-5R5G/7R5PT4								
SET-300A-7R5G/011PT4								
SET-300A-011G/015PT4	190	305	322	-	208	192	ø6	6.2
SET-300A-015G/018PT4								
SET-300A-018G/022PT4								
SET-300A-022G/030PT4	230	440		455	290	218	ø7	16.2
SET-300A-030G/037PT4								
SET-300A-037G/045PT4	230	540		555	320	240	ø10	30
SET-300A-045G/055PT4								
SET-300A-055G/075PT4	320	610		635	410	239	ø12	45
SET-300A-075G/090PT4								
SET-300A-090G/110PT4	320	630		654	460	340	ø12	65
SET-300A-110G/132PT4								
SET-300A-132G/160PT4	320	770		795	460	320	ø13	82
SET-300A-160G/200PT4								
SET-300A-200G/220PT4	320	856		886	520	385	ø13	105
SET-300A-220G/250PT4								
SET-300A-250G/280PT4	500	1313		1350	750	432	ø13	240
SET-300A-280G/315PT4								
SET-300A-315G/355PT4	500	1410		1450	850	432	ø13	300
SET-300A-355G/400PT4								

Model	Appearance and installing dimension（mm）							Weight
	A	B	H	H1	W	D	Φd	（kg）
SET-300A-400G/450PT4								
SET-300A-450G/500PT4								
SET-300A-500G/560PT4	-	-	-	1800	1050	460	-	365
SET-300A-560G/630PT4								

1.5 Options

Please indicate if the following options are needed when placing order.

Table 2-4 Options of SET-300A frequency inverter

| Item	Model	Functions	Remarks
Internal braking unit	With"-B" after the product model	Single-phase: 0.4Kw~2.2Kw；Three-phase: 0.75Kw~18.5Kw, Standard built-in brake unit	The internal braking unit is optional for 22Kw~75Kw.
External braking unit		External braking unit for above 75Kw(including 75Kw)	
Energy-regeneration unit		Energy saving product makes the electric energy offrequency inverter feedback to the AC power grid.	
Rectifying unit		When manyfrequency inverters use the same DC bus, itcan save energy.	
PG card	Support Rotary encoder	10khz 7V Rms output,DB9 port,no frequency division output ,resolution 12 digits	
PG card	Incremental Encoder	1.A+/A-、B+/B-、Z+/Z- Pulse Input 2.Max Input Frequency: 300KHz 3.PG Power Output: +5V, Max Current 200mA	
PG card	Open Collector Encoder	1.A+/A-、B+/B-、Z+/Z- Pulse Input 2.Max Input Frequency: 100KHz 3.PG Power Output: +15V,	
IO logic card		Support 3 channels digital input and 1 channel digital output	
Injection Moulding Machine Expansion Card		Support 2 channels analog input, current input range: 0-1A and 0-2A optional	

Chapter 2 Installation of frequency inverter

2.1 Installation environment

1. The place with indoor vents or ventilation devices.
2. The environment temperature shall be -10℃~40℃. If the temperature is over 40℃but less than 50℃, better to take down the cover of frequency inverter or open the front door of cabinet to facilitate heat dissipation.
3. Try to avoid high temperature and wet place; the humidity shall be less than 90% without frost deposit.
4. Avoid direct sunlight.
5. Keep away from flammable, explosive and corrosive gas and liquid.
6. No dust, floating fiber and metal particles.
7. Install on the place without strongly vibration. And the vibration should be not over 0.6G, especially pay attention to far away from the punching machine, etc.
8. Keep away from electromagnetic interference source.

2.2 Installation direction and space

In order not to affect the service life of frequency inverter and reduce its performance, note for its installation direction and space and correctly fasten it.

Figure 3-1 Ventilating duct installation dimension diagram of frequency inverter
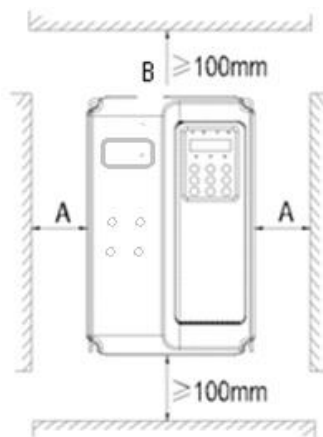
Power class	Installation dimension	
	A	B
≤7.5kW	≥ 20mm	≥ 100mm
11kW~ 30kW	≥ 50mm	≥ 200mm
≥ 37kW	≥ 50mm	≥ 300mm

Please install the frequency inverter vertically, to send out the heat upward, and pay attention to the direction of frequency inverter to avoid inversion.
If there are several units of frequency inverters to install in one cabinet, please install them side by side, do not to install up and down.

2.3 Peripheral Devices Connection Diagram

Figure 3-2 Peripheral Devices Connection

Please use the inverter within the allowed range of power supply

~
R   S   T   Three-phase AC Power

Notice that the selection of circuit breaker as there is a great impulse current flowing into the inverter when it powered on

No-fuse circuit breaker (MCCB) or Leakage circuit breaker

Please avoid to frequently start/stop the inverter with the contactor to ensure safety and avoid shortening the service life of inverter.

Electromagnetic Contactor

Input AC reactor

To suppress high harmonics and improve the power factor
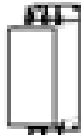
Input AC noise filter
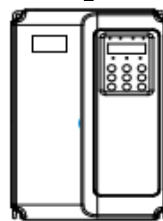
Braking resistor / energy feedback unit (option)

To prevent electric shock, motor and inverter must well grounded

Grounding

Braking resistor (option)

Output AC noise filter

AC motor

DC reactor

Grounding

2.4 Instructions of Main Circuit Peripheral Devices

Table 3-1 Main circuit peripheral devices use instructions

Parts Name	Installation Location	Function Description
MCCB	Front of input circuit	The capacity of the circuit breaker shall be 1.5 to 2 times of the rated current of the inverter. The protect time of the circuit breaker shall fully consider the time features of the inverter overload protection.
Residual-current circuit breaker(RCCB)	Front of input circuit	As the inverter output is the high-frequency pulse voltage, so that it will arise a high-frequency leakage current. Special leakage circuit breaker shall be used when installing leakage circuit breaker at the input side of the inverter. B type leakage circuit breaker is recommended, and the leakage current value shall be set as 300mA.
Contactor	Between MCCB and input side of frequency inverter	Frequently open and close of contactor will cause inverter failure, so that the highest frequency for opening and closing of contactor shall be not exceeded than 10 times/min when braking resistor is used, to avoid the over-hot damage of braking resistor, please install thermal protection relay to do over-hot detection of braking resistor, to control the disconnection of the input contactor via touch points of the thermal protection relay.
Input AC reactor or DC reactor	Input side of frequency inverter , near the inverter	1. The inverter power supply capacity is more than 600kVA or 10 times of the power supply capacity. 2. If there is switch type reactive-load compensation capacitor or load with silicon control at the same power node, there will be high peak current flowing into input power circuit, causing the damage of the rectifier components. 3. When the voltage unbalance degree of the three-phase power supply of the inverter exceeds 3%, the rectifier components will be damaged. 4. It is required that the input power factor of inverter shall be higher than 90%. When the above situations occurred, install the AC reactor at the input side of inverter or DC reactor to the DC reactor terminal.
Input noise filter	Input side of frequency inverter	To reduce the noise input from the power to the inverter or output from the inverter to the power.
Thermal protection relay	Output side of frequency inverter	Although the inverter has motor overload protection function, when one inverter drives two or more motors or multi-pole motors, to prevent the motor over-temperature failure, thermal protection relay shall be installed between the inverter and each motor.
Output filter	Output side of frequency inverter	When the output side of the inverter is connected with output filter, the conduction and radiation interference can be reduced.
Output AC reactor	Between the output side of frequency inverter and motor, near the frequency inverter	When the cable connecting the inverter and the motor is longer than 100 meters, it is suggested to install AC output reactor to suppress the high-frequency oscillation to avoid the damage to motor insulation, large leakage current and frequent inverter protective action.

2.5 Model Selection of Main Circuit Peripheral Devices

Table 3-2 Model Selection Diagram of Main Circuit Peripheral Devices (Recommended)

Model	MCCB (A)	Contactor (A)	Cable of Input Side Main Circuit (mm^2)	Cable of Output Side Main Circuit (mm^2)	Cable of Control Circuit (mm^2)
Single-phase 220V					

Model	MCCB (A)	Contactor (A)	Cable of Input Side Main Circuit (mm^2)	Cable of Output Side Main Circuit (mm^2)	Cable of Control Circuit (mm^2)
SET-300A-0R4GS2	16	10	2.5	2.5	1.0
SET-300A-R75GS2	16	10	2.5	2.5	1.0
SET-300A-1R5GS2	20	16	4.0	2.5	1.0
SET-300A-2R2GS2	32	20	6.0	4.0	1.0
Three-phase 220V					
SET-300A-0R4GT2	10	10	2.5	2.5	1.0
SET-300A-R75GT2	16	10	2.5	2.5	1.0
SET-300A-1R5GT2	16	10	2.5	2.5	1.0
SET-300A-2R2GT2	25	16	4.0	4.0	1.0
SET-300A-3R7GT2	32	25	4.0	4.0	1.0
SET-300A-5R5GT2	63	40	4.0	4.0	1.0
SET-300A-7R5GT2	63	40	6.0	6.0	1.0
SET-300A-011GT2	100	63	10	10	1.0
SET-300A-015GT2	125	100	16	10	1.0
SET-300A-018GT2	160	100	16	16	1.0
SET-300A-022GT2	200	125	25	25	1.0
SET-300A-030GT2	200	125	35	25	1.0
SET-300A-037GT2	250	160	50	35	1.0
SET-300A-045GT2	250	160	70	35	1.0
SET-300A-055GT2	350	350	120	120	1.0
SET-300A-075GT2	500	400	185	185	1.0
Three-phase 380V					
SET-300A-R75GT4	10	10	2.5	2.5	1.0
SET-300A-1R5GT4	16	10	2.5	2.5	1.0
SET-300A-2R2GT4	16	10	2.5	2.5	1.0
SET-300A-3R7GT4	25	16	4.0	4.0	1.0
SET-300A-5R5G/7R5PT4	32	25	4.0	4.0	1.0
SET-300A-7R5G/011PT4	40	32	4.0	4.0	1.0
SET-300A-011G/015PT4	63	40	4.0	4.0	1.0
SET-300A-015G/018PT4	63	40	6.0	6.0	1.0
SET-300A-018G/022PT4	100	63	6	6	1.0
SET-300A-022G/030PT4	100	63	10	10	1.0
SET-300A-030G/037PT4	125	100	16	10	1.0
SET-300A-037G/045PT4	160	100	16	16	1.0
SET-300A-045G/055PT4	200	125	25	25	1.0
SET-300A-055G/075PT4	250	125	35	25	1.0
SET-300A-075G/090PT4	250	160	50	35	1.0
SET-300A-090G/110PT	350	160	70	35	1.0

Model	MCCB (A)	Contactor (A)	Cable of Input Side Main Circuit (mm^2)	Cable of Output Side Main Circuit (mm^2)	Cable of Control Circuit (mm^2)
4					
SET-300A-110G/132PT4	350	350	120	120	1.0
SET-300A-132G/160PT4	400	400	150	150	1.0
SET-300A-160G/200PT4	500	400	185	185	1.0
SET-300A-200G/220PT4	630	600	150*2	150*2	1.0
SET-300A-220G/250PT4	630	600	150*2	150*2	1.0
SET-300A-250G/280PT4	800	600	185*2	185*2	1.0
SET-300A-280G/315PT4	800	800	185*2	185*2	1.0
SET-300A-315G/355PT4	1000	800	150*3	150*3	1.0
SET-300A-355G/400PT4	1000	800	150*4	150*4	1.0
SET-300A-400G/450PT4	1200	1000	150*4	150*4	1.0
SET-300A-450G/500PT4	1200	1000	150*4	150*4	1.0
SET-300A-500G/560PT4	1720	1290	185*3	185*3	1.0
SET-300A-560G/630PT4	1720	1290	185*3	185*3	1.0

2.6 Removal and mounting of operating panel and cover

3.6.1 Removal and mounting of operating panel (keypad)

The operating panel of SET-300A series Frequency inverter is a plug type, If you need to take it off when use or maintenance, please make sure the gentle actions, or it is easy to damage the plug type connection terminals on operating panel.

3.6.2 Removal and Mounting of Frequency Inverter Cover

The SET-300A series frequency inverter above 18.5kw (380V) uses plastic case. The removal and mounting of upper cover refers Figure 3-3. Please use tool to push the hooks on both side of upper cover.

Figure 3-3 the cover removal of plastic case

Hook   Operating panel

Press the symmetrical side hard

钩槽

Hook slot
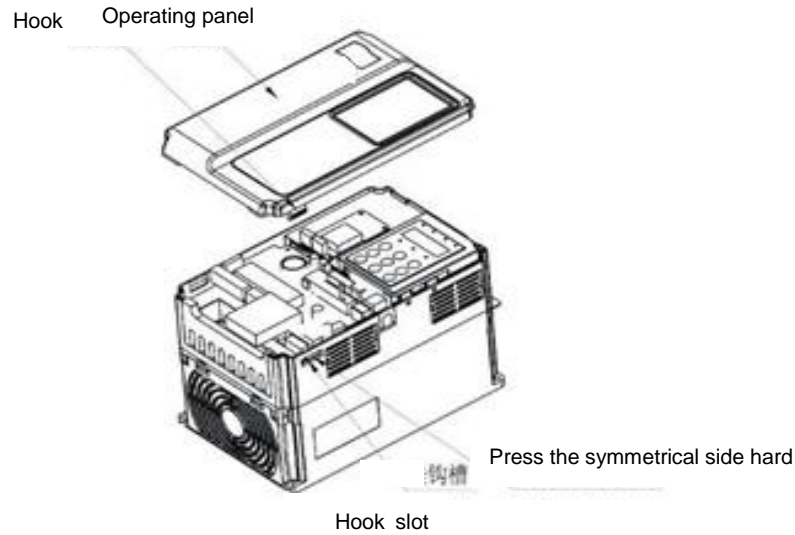
The SET-300A series frequency inverter above 22kw (380V) uses metal case. The removal of lower cover refers figure 3-4. Or follow the operation, firstly use hands to remove the two screws from the bottom of upper cover, then press and raise the bottom of upper cover

Figure 3-4 Removal of metal case upper cover

1. Remove the towscrews

Cover

3. Move down the cover

2. Raise the bottom of upper cover
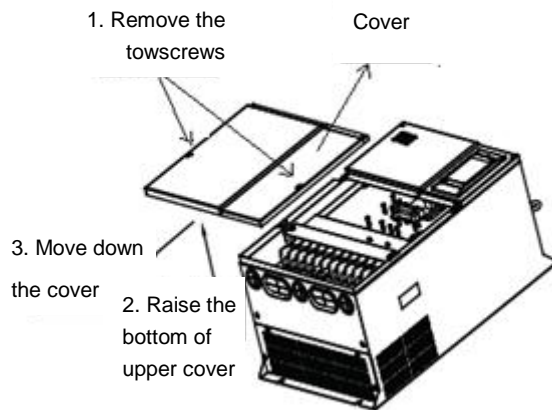
2.7 Sketch and Description of Main Circuit Terminals

<1>. single phase 220V Main Circuit Terminals
Included models:
Single phase 220V：SET-300A-0R4GS2～SET-300A-2R2GS2

P+ PB P-   E   LI   L2   U/T1 V/T2 W/T3
└─ R ─┘   ⏚   └POWER┘   └──MOTOR──┘

Terminal Symbol	Terminal name and function description
P+、PB	Connecting terminals of braking resistor
P+、P-	DC current input terminals

⊕PE	Grounding terminal
L1、L2	Single-phase AC powerinput terminals
U/T1、V/T2、W/T3	Three-phase AC power outputterminals

<2>. Main Circuit Terminals Sketch of Three-phase 220V/ 380V small power Models

Including model:

Three phase 220V：SET-300A-0R4GT2～SET-300A-7R5GT2

Thre phase 380V：SET-300A-R75G/1R5PT4～SET-300A-015G/018PT4
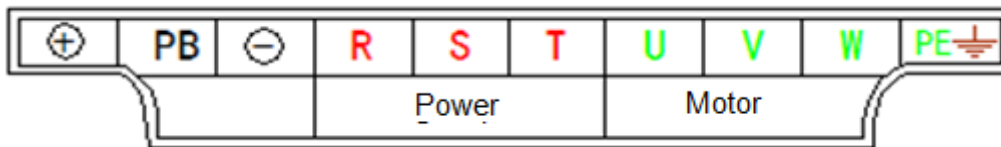
Terminal Symbol	Terminal name and function description
+、PB	Connecting terminals of braking resistor
+、-	DC current input terminals
⊕PE	Grounding terminal
R、S、T	Three-phase AC power inputterminals
U、V、W	Three-phase AC power outputterminals

<3>. Main Circuit Terminals Sketch of Three-phase 220V/ 380V middle and big power Models

Including model:

Three phase 380V：SET-300A-011G/015PT4～SET-300A-018G/022PT4
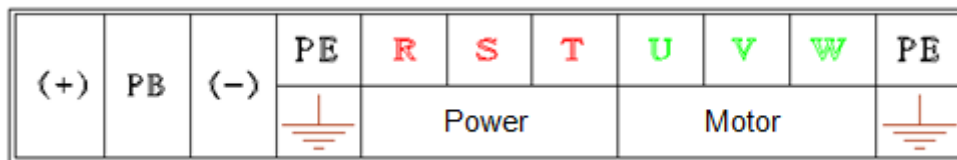
Terminal Symbol	Terminal name and function description
R、S、T	Three-phase AC power inputterminals
+、PB	Connecting terminals of braking resistor
+、-	DC current input terminals
U、V、W	Three-phase AC power outputterminals
⊕PE	Grounding terminal

<4>. 3phase380V：SET-300A-022G/030PT4～SET-300A-110G/132PT4
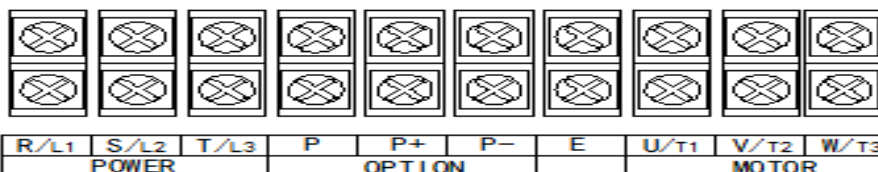
Terminal Symbol	Terminal name and function description
R/L1、S/L2、T/L3	Three-phase AC power inputterminals

P、P+	Connecting terminals of external DC reactor, Normally short circuited with copper bar.
P+、P-	DC current input terminals
U/T1、V/T2、W/T3	Three-phase AC power outputterminals
E	Grounding terminal

<5>. Three phase 380V：SET-300A-132G/160PT4 above

R/L1	S/L2	T/L3	U/T1	V/T2	W/T3	P+	P-	E

Terminal Symbol	Terminal name and function description
R/L1、S/L2、T/L3	Three-phase AC power inputterminals
P+ 、P-	DC current input terminals
U/T1、V/T2、W/T3	Three-phase AC power outputterminals
E	Grounding terminal

⚠ note：Product with standard built-in unit can realize DC bus and braking function at the same time, if external DC reactor and braking function is needed, please contact the manufacturer.。

2.8 Control Circuit Terminals Description

+10V	AI1	AO1	485+	GND	DI1	DI2	DI3	DI4	HDI
GND	AI2	AO2	485-	COM	DO1	FM	COM	PLC	+24V

TA	TB	TC
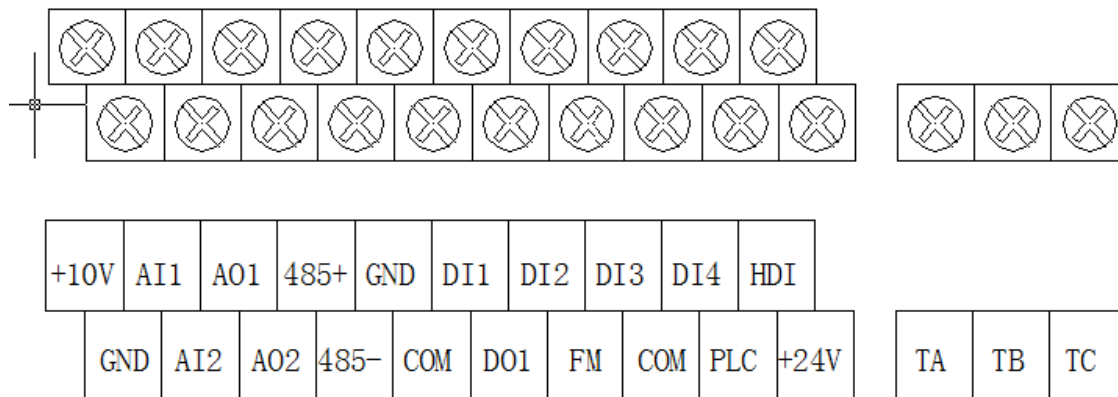
SET-300A Control Circuit Wiring

Terminal instruction

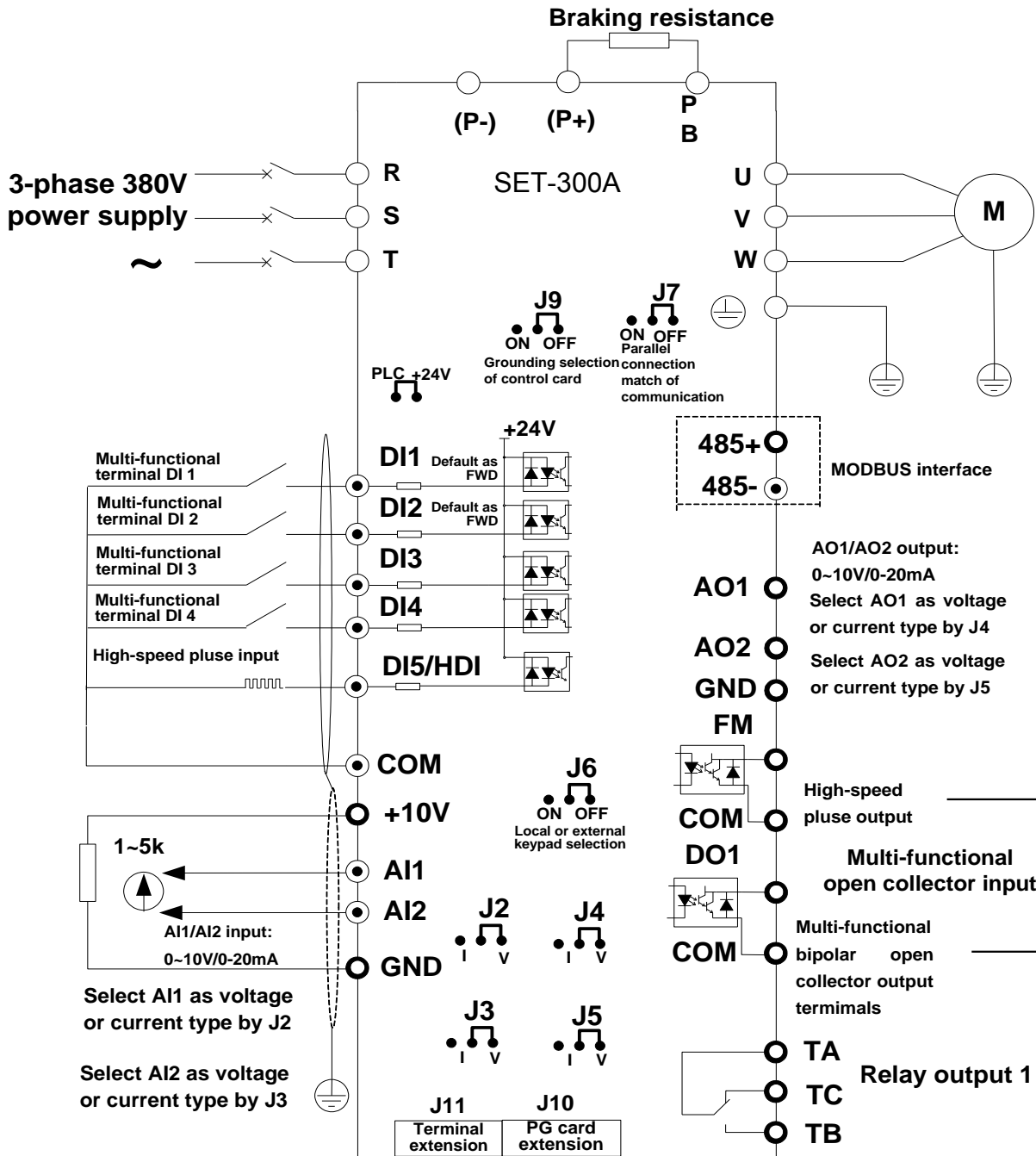| Type	Terminal Symbol	Terminal name	Terminal function description
Power Supply	+10V-GND	External +10V power supply	Provide +10V power supply to external unit. Maximum output current:10mA Generally, it provides power supply to external potentiometer
	+24V-COM	External +24V power supply	Provide +24 V power supply to external unit. Generally, it provides power supply to DI/DO terminals and external sensors. Maximum output current: 200 mA
	PLC-+24V	External power supply	The factory default setting is connected PLC with +24V terminal. When using the external signal to drive DI1~DI5, it will disconnect the connector slip of PLC with the +24V
Analog input	AI1-GND	Analog input terminal 1	1. Input range: DC 0V~10V/ 0mA~20mA, decided by jumper J12 on the control board 2. Impedance: 22 kΩ (voltage input), 500 Ω (current input)
	AI2-GND	Analog input terminal 2	1. Input range: DC 0V~10V/ 0mA~20mA, decided by jumper J5 on the control board 2. Impedance: 22 kΩ (voltage input), 500 Ω (current input)
Digital input	DI1	Digital input 1	1. Optical coupling isolation, compatible with dual polarity input 2.Input Impedance: 2.4 kΩ 3. Voltage range for level input: 9V~30 V
	DI2	Digital input 2	
	DI3	Digital input 3	
	DI4	Digital input 5	
	HDI	Digital input 6	Besides features of DI1~DI4and it can be used Forhigh-speed pulse input. Maximum input frequency: 100 kH
Analog output	AO1-GND	Analog output terminal 1	Voltage or current output is decided by jumper J4. Output voltage range: 0V~10 V Output current range: 0mA~20 mA
	AO2-GND	Analog output terminal 2	Voltage or current output is decided by jumper J5. Output voltage range: 0V~10 V Output current range: 0mA~20 mA
Digital output	DO1-COM	Digital output 1	Optical coupling isolation, dual-polarity open collector output Output voltage range: 0V~24 V Output current range: 0mA~50 mA
	FM- COM	Digital output 1	Same as DO1
Relay output	TA-TB	Normal Open terminal	Contact driving capacity: 250 VAC, 3 A, COSØ = 0.4 DC 30 V, 1 A
	TA-TC	Normal Close terminal	

Braking resistance

3-phase 380V power supply ～

R S T

SET-300A

(P-) (P+) P B

U V W

M

J9 ON OFF
Grounding selection of control card

J7 ON OFF
Parallel connection match of communication

PLC +24V

+24V

Multi-functional terminal DI 1 — DI1 Default as FWD

Multi-functional terminal DI 2 — DI2 Default as FWD

Multi-functional terminal DI 3 — DI3

Multi-functional terminal DI 4 — DI4

High-speed pluse input — DI5/HDI

485+ 485- MODBUS interface

AO1/AO2 output:
0~10V/0-20mA
Select AO1 as voltage or current type by J4

AO1

AO2

GND

Select AO2 as voltage or current type by J5

FM

COM

High-speed pluse output

COM

J6 ON OFF
Local or external keypad selection

+10V

1~5k

AI1

AI2

GND

AI1/AI2 input:
0~10V/0-20mA

DO1

COM

Multi-functional open collector input

Multi-functional bipolar open collector output termimals

J2 I V

J4 I V

J3 I V

J5 I V

Select AI1 as voltage or current type by J2

Select AI2 as voltage or current type by J3

J11 Terminal extension

J10 PG card extension

TA

TC

TB

Relay output 1

2.9 Cautions for Main Circuit Wiring

2.9.1 Power Supply Wiring

◆It is forbidden to connect the power cable to the inverter output terminal, otherwise, the internal components of the inverter will be damaged.

◆To facilitate the input side over current protection and maintenance after power off, the inverter shall connect to the power supply through the circuit breaker or leakage circuit breaker and contactor.

◆Please confirm that the power supply phases, rated voltage are consistent with that of the nameplate, otherwise, the inverter may be damaged.

2.9.2 Motor Wiring

◆It is forbidden to short circuit or ground the inverter output terminal, otherwise the internal components of the inverter will be damaged.

◆Avoid short circuit the output cables or with the inverter enclosure, otherwise there exists the danger of electric shock.

◆It is forbidden to connect the output terminal of the inverter to the capacitor or LC/RC noise filter with phase lead, otherwise, the internal components of the inverter may be damaged.

◆When contactor is installed between the inverter and the motor, it is forbidden to switch on/off the contactor during the running of the inverter, otherwise, there will be large current flowing into the inverter, triggering the inverter protection action.

◆Length of cable between the inverter and motor

If the cable between the inverter and the motor is too long, the higher harmonic leakage current of the output end will produce by adverse impact on the inverter and the peripheral devices. It is suggested that when the motor cable is longer than 100m, output AC reactor be installed. Refer to the following table for the carrier frequency setting.

Table 3-3 Comparison table between the cable length and carrier frequency

Length of cable between the inverter and motor	Less than 50m	Less than 100 m	More than 100m
Carrier frequency (d4-00)	Less than 15kHz	Less than 10kHz	Less than 5kHz

2.9.3 Grounding Wiring

◆The inverter will produce leakage current. The higher the carrier frequency is, the larger the leakage current will be. The leakage current of the inverter system is more than 3.5mA, and the specific value of the leakage current is determined by the use conditions. To ensure the safety, the inverter and the motor must be grounded.

◆The grounding resistance shall be less than 10ohm. For the grounding wire diameter requirement, refer to 2.6 electrotype of main circuit peripheral devices.

◆Do not share grounding wire with the welding machine and other power equipment.

◆In the applications with more than 2 inverters, keep the grounding wire from forming a loop.

Figure 3-5 Grounding Wire Connection Sketch Map

Correct   Wrong

2.9.4 Countermeasures for Conduction and Radiation Interference

Figure 3-6 Connection of conduction and radiation interference solutions
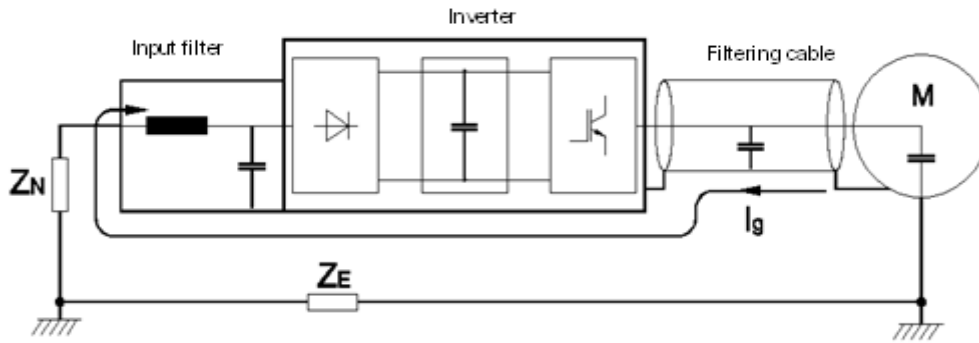
◆When the noise filter is installed, the wire connecting the filter to the inverter input power end shall be as short as possible.

◆The filter enclosure and mounting cabinet shall be reliably grounded in large area to reduce the back flow impedance of the noise current Ig.

◆The wire connecting the inverter and the motor shall be as short as possible. The motor cable adopts 4-core cable, with the grounding end grounded at the inverter side, the other end connected to the motor enclosure. The motor cable shall be sleeved into the metal tube.

◆The input power wire and output motor wire shall be kept away from each other as far as possible.

◆The equipment and signal cables vulnerable to influence shall be kept far away from the inverter.

◆Key signal cables shall adopt shielding cable. It is suggested that the shielding layer shall be grounded with 360-degree grounding method and sleeved into the metal tube. The signal cable shall be kept far away from the inverter input wire and output motor wire. If the signal cable must cross the input wire and output motor wire, they shall be kept orthogonal.

◆When analog voltage and current signals are adopted for remote frequency setting, twinning shielding cable shall be used. The shielding layer shall be connected to the grounding terminal PE of the inverter, and the signal cable shall be no longer than 50m.

◆The wires of the control circuit terminals RA/RB/RC and other control circuit terminals shall be separately routed.

◆It is forbidden to short circuit the shielding layer and other signal cables and the equipment.

◆When the inverter is connected to the inductive load equipment (e.g. electromagnetic contactor, relay and solenoid valve), surge suppressor must be installed on the load equipment coil, as showed in Figure 3-7

Figure 3-7 Application example of inductive load surge suppressor
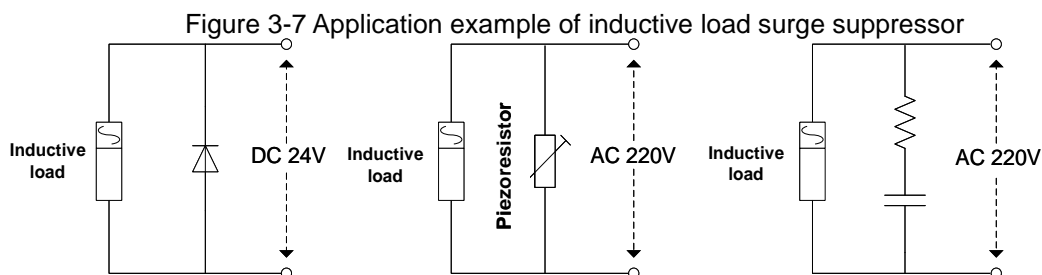
Chapter 3 Function code table

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

"☆": The parameter can be modified when the frequency inverter is in stop or running state.

"★": The parameter cannot be modified when the frequency inverter is in running state.

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

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

Function code	Paarameter name	Setting range	Default	Property
00 GroupBasic Function				
P00.00	User password	0~65535	0	☆
P00.01	Access authority	0：END USER 1：Standard	1	☆

P00.02	Parametercopy andbackup	0：No action
		1：save all parameter to EEPROM backup space
		2：Restore all parameter from EEPROM backup space
		3：Parameter upload to LCD
		  (excluded for motor parameter and auto tune related parameter)
		14： Parameter upload to LCD
		  (All parameter except for factory data)
			0	★

P00.03	RESET	0：NO ACTION 1：Restore default parameter except for motor parameter and auto-tune related parameter and factory parameter 2：Restore default to factory parameter 3：Clear tripping record	0	★
P00.04	Motor Control mode	0：VF 1：SVC(Open loop vector and torque control) 2：VC(closed loop vector and torque control)	0	★
P00.05	Running mode	0：Speed mode 1：Torque mode If use with DI function,19:Switch between torque and speed Control and 20: torque control diabled. Actuall effective running mode is related with DI status	0	★
P00.06	Source of the Operation Command	0：keypad 1：terminal 2：communication Command source: run、stop、forward、reverse、jog、fast brake stop.etc If use with DI function, 12：Switching run command to Keypad 13：Switching run command to Communication Actuall effective command source is related with DI status	0	★
P00.07	Numeric frequency setting	00.00Hz~maximum frequency	50.00Hz	☆
P00.08	Rotation direction	0：Forward 1：Reverse It is only for keypad control to change running direction by giving frequency symbol to be reverse)	0	☆

Function code	Paarameter name	Setting range	Default	Property
		If command by keypad/terminal /communication,and not want to achieve reverse running by giving frequency symbol to be reverse,need to change P22.13 in stop mode(see parameter P22.13)		
P00.09	Reverse control	0：enable 1：disbale	0	★
P00.10	Motor option	0：motor 1 1：motor 2 If use with DI function,16:Switch between motor 1 and motor 2,Actuall effective command source is related with DI status	0	★
P00.11	Special industry	0: standard drive 1：Reserved	0	★
P00.18	Power board software version	-	-	●
P00.19	Control board software version	-	-	●
P00.20	LCD SOFTWARE VERSION	-	-	●
P00.21	SN 1	-	-	●
P00.22	SN 2	-	-	●
01 Groupfrequency source selction				
P01.00	Main frequency source selction (A)	0：Digital setting 1：AI1 2：AI2 3：AI3 4：AI4（reserved） 5：HDI 6：multiple speed 7：communication 8：PID 9：Internal PLC 10:Potentiometer Notice:DI terminal function code 26-32 superior than this function code	0	★
P01.01	Auxiliary frequency source selction (B)	Same as P01.00 Notice:DI terminal function code 33 superior than this function code	0	★
P01.02	Reference option for auxiliary frequency source	0：Relative to Maximum frequency 1：Relative to main frequency	0	★
P01.03	Auxiliary frequency gains	0.0～300.0	1.00	☆
P01.04	Frequency source	0：main frequency sourceA	0	★

Function code	Paarameter name	Setting range	Default	Property
	selection	1：auxiliary frequency sourceB 2：Main and auxiliary arithmetic results 3：Switchover between main and auxiliary frequency 4：switchover between main frequency source A and A+B Arithmetic results 5：Switchover between B and (A+B) （＊）DI function code 25 effective to corresponding terminal ,frequency will adopt the latter		
P01.05	Main and Auxiliary arithmetic	0：A+B 1：A-B 2：The bigger of main A and Auxliary B 3：The smaller of Main A and Auxiliary B	0	★
P01.06	Maximum frequency	10.00～6P00.00Hz	50.00Hz	★
P01.07	Upper limit frequency control	0：digital setting (set through P01.08) 1：AI1 2：AI2 3：AI3 4：Reserved 5：Pulse setting HDI 6：Reserved 7：Communication setting	0	★
P01.08	Upper limit frequency	Lower limit frequency(P01.09)～maximum frequency (P01.06)	50.00Hz	☆
P01.09	Lower limit frequency	0.00Hz～upper limit frequency	0.00Hz	☆
P01.10	Action when set frequency lower than lower limit frequency	0：Run at low limit frequency 1：Stop after delaying P01.11 2：Run at zero speed	0	★
P01.11	Delay time when set frequency lower than lower limit frequency	0.000s～30.000s	0.000s	★
P01.12	Jump frequency start up protection	Unit/ten/hundred ： relatively control three jump frequency 0：Diable 1：Enable	000	☆
P01.13	Jump frequency 1 lower limit	0.00Hz～maximum frequency(PP01.06)	0.00Hz	☆
P01.14	Jump frequency upper limit	0.00Hz～maximum frequency(PP01.06)	0.00Hz	☆
P01.15	Jump frequency 2	0.00Hz～maximum frequency(P01.06)	0.00Hz	☆

Function code	Paarameter name	Setting range	Default	Property
	lower limit			
P01.16	Jump frequency 2 upper limit	0.00Hz～maximum frequency(P01.06)	0.00Hz	☆
P01.17	Jump frequency 3 lower limit	0.00Hz～maximum frequency(P01.06)	0.00Hz	☆
P01.18	Jump frequency 3 upper limit	0.00Hz～maximum frequency(P01.06)	0.00Hz	☆

Risk speed or Jump frequency start up protection is used to some situation which need avoid motor speed and speed range,for example,due to mechanical resonance ,P01.12 will be enabled to avoide risk speed in forward or reverse mode

| P01.19 | Multiple speed reference source | Unit'digit：0 phase reference source set by 0-multiple speed 1-preset frequency 2～5：Ai1～Ai4 Anologue 6:HDI pulse 7：Communication 8：PID Ten's digit：Combination of multiple speed 0：Combination methord 1：Priority method | 00 | ★ |

Each represent DI multiple terminal 1-4 status ,O represent ineffective ,1 represent effective,M indicates current output number of speed.Instructions of multiple speed combination

0: Commination method

    $M = K1 + (K2*2) + (K3*4) + (K4*8)$

    For example: K0=1,K1=0,K2=1,K3=0,Then M=5，current output fifth phase speed

 1: Priority method Multiple speed output 0～4 phase speed，Priority K4＞K3＞K2＞K1。

    For example: K4=1, then M=4;

    K4=0,K3=1,then M=3;

    K4=0,K3=0,K2=1,then M=2;

    K4=0,K3=0,K2=0,K1=1, then M=1;

    K1～K4 all to be 0, then M=0

| P01.20 | Multiple speed Rotation direction | Bit0～15 corresponding to 0～15 phase direction 0:forward direction 1:reverse direction | 0 | ☆ |
| P01.21 | Multiple speed 0 | Lower limit frequency (P01.09)～maximum frequency | 0.00Hz | ☆ |

Function code	Paarameter name	Setting range	Default	Property
		(P01.06)		
P01.22	Multiple speed 1	Lower limit frequency(P01.09) ～ maximum frequency(P01.06)	0.00Hz	☆
P01.23	Multiple speed 2	Lower limit frequency(P01.09) ～ maximum frequency(P01.06)	0.00Hz	☆
P01.24	Multiple speed 3	Lower limit frequency(P01.09) ～ maximum frequency(P01.06)	0.00Hz	☆
P01.25	Multiple speed 4	Lower limit frequency(P01.09) ～ maximum frequency(P01.06)	0.00Hz	☆
P01.26	Multiple speed 5	Lower limit frequency(P01.09) ～ maximum frequency(P01.06)	0.00Hz	☆
P01.27	Multiple speed 6	Lower limit frequency(P01.09) ～ maximum frequency(P01.06)	0.00Hz	☆
P01.28	Multiple speed 7	Lower limit frequency(P01.09) ～ maximum frequency(P01.06)	0.00Hz	☆
P01.29	Multiple speed 8	Lower limit frequency(P01.09) ～ maximum frequency(P01.06)	0.00Hz	☆
P01.30	Multiple speed 9	Lower limit frequency(P01.09) ～ maximum frequency(P01.06)	0.00Hz	☆
P01.31	Multiple speed 10	Lower limit frequency(P01.09) ～ maximum frequency(P01.06)	0.00Hz	☆
P01.32	Multiple speed 11	Lower limit frequency(P01.09) ～ maximum frequency(P01.06)	0.00Hz	☆
P01.33	Multiple speed 12	Lower limit frequency(P01.09) ～ maximum frequency(P01.06)	0.00Hz	☆
P01.34	Multiple speed 13	Lower limit frequency(P01.09) ～ maximum frequency(P01.06)	0.00Hz	☆
P01.35	Multiple speed 14	Lower limit frequency(P01.09) ～ maximum frequency(P01.06)	0.00Hz	☆
P01.36	Multiple speed 15	Lower limit frequency(P01.09) ～ maximum frequency(P01.06)	0.00Hz	☆
P01.37	Jog frequency	0.00Hz～maximum frequency(P01.06)	5.00Hz	☆
P01.38	Jog command when running	0：not responsive 1：responsive	0	★
P01.39	UP/DOWN rates	0.00(auto rates)～600.00Hz/s	1.00Hz/s	☆
P01.40	UP/DOWN Control	Unit'digit： 0：zero clearing in non-running 1：zero clearning when UP/DOWN command not effective 2：not zero cleaning (decide by remembering digit when power failure Ten's digit： 0：non-zero cleaning at power failure 1:save at power failure UP/DOWN offset Hundred's	000	★

Function code	Paarameter name	Setting range	Default	Property
		digit: UP/DOWN near to zero 0: forbidden 1：enable		
P01.41	Droop control gains	0.00～1.00 Rotation speed drop value based on Rated load（relative to maximum frequency） Frequency drop volume:Max frequency*P01.41*Current load/rated load	0.00	☆
This function is used for balancing the workload allocation when multiple motors are used to drive the same load. The output frequency of the frequency inverters decreases as the load increases. You can reduce the workload of the motor under load by decreasing the output frequency for this motor, implementing workload balancing among multiple motors.				
P01.42	Droop control filtering time	0.000s～10.000s	0.050s	☆
P01.43	Textile frequency setting	0: relative to center of textile frequency 1: relative to maximum frequency	0	☆
P01.44	Textile frequency	0.0%～100% relative to center of textile frequency P01.43 = 0Textile frequency Aw = P01.44 * center frequency P01.43 = 1: Textile frequency Aw = P01.44 * max frequency	0.0%	☆
P01.45	Jump frequency	0.0%～50.0% relative to textile frequency	0.0%	☆
P01.46	Textile period	0.1s～30P00.0s	10.0s	☆
P01.47	Triangle rise time	0.1%～1P00.0% relative to textile period	50.0%	☆
02 GroupStart and stop parameter				
P02.00	Starting mode	0：direct start Inverter will start from P02.01,After P02.02,It will go to setting frequency as per S curve 1：speed tracking/Searching Inverter will do search for motor speed and recognize and accelerate and decelerate to setting frequency.See Parameter P02.16-02.19	0	★
P02.01	Startup frequency	0.00Hz～10.00Hz	0.00Hz	★
P02.02	Startup frequency holding time	0.000s～10.000s	0.000s	★
P02.03	Quick-response excitation	0：disable 1：enable Set 1= enable it will automatically calculate pre-exciation current P02.04 and pre-excitaton time ,after finishing calculation,this parameter will reset to 0	0	★
P02.04	Pre-excitation current	0%～200% motor rated current	Depend	★

Function code	Paarameter name	Setting range	Default	Property
P02.05	Pre-excitation time	0.00s～10.00s Pre-excitation enable Asynchronous motor for magnetic field for higher starting torque	Depend	★
P02.06	DC brake current at start-up	0～100% motor rated current	100%	☆
P02.07	DC brake time at start-up	0.000s～30.000s	0.000s	★
P02.08	Stop method	0：ramp to stop 1：free coast to stop	0	☆
P02.09	Startup frequency of DC brake at stop	0.00Hz～50.00Hz	1.00Hz	☆
P02.10	DC braking current at stop	0～100% motor rated current	100%	☆
P02.11	DC brake time at stop	0.000s～30.000s	0.000s	☆
P02.12	Magnetic flux brake gain	1.00～1.50	1.00	★
P02.13	Delaying frequency at stop	0.00Hz～P20.00Hz	0.50Hz	★
P02.14	Delaying time at stop	0.000s～P60.000s	0.000s	★
P02.15	The minimum blocking time after free stop	0.010s～30.000s	Depend	★
P02.16	Speed search mode	Unit's digit：tracking mode 0：speed search for maximum output frequency 1：speed search for frequency at stop 2：speed search for grid frequency Ten's digit：direction choosing 0：only search at given frequency direction 1：search on the other direction when failed for given frequency tracking	11	★
P02.17	Deceleration time for speed search	0.1s～P20.0s	2.0s	★
P02.18	Current for speed search	10%～150% motor rated current	40%	★
P02.19	Speed search compensation factor	0.00～10.00	1.00	★
03 Group Ramp and S curve				
P03.00	Acceleration and deceleration curve selection	0：linear 1：S curve A 2：S curve B	0	★
P03.01	Acceleration time 1	Setting value depend on P03.16	10.00s	☆

Function code	Paarameter name	Setting range	Default	Property
		P03.16 = 2, 0.00～600.00s;		
		P03.16 = 1, 0.0s～6000.0s;		
		P03.16 = 0, 0s～60000s		
P03.02	Deceleration time 1	Setting value depend on P03.16 P03.16 = 2, 0.00～600.00s; P03.16 = 1, 0.0s～6000.0s; P03.16 = 0, 0s～60000s	20.00s	☆
P03.03	Acceleration time2	0.01～60000s same as P03.01	10.00s	☆
P03.04	Deceleration time2	0.01～60000s same as P03.02	20.00s	☆
P03.05	Acceleration time3	0.01～60000s same as P03.01	10.00s	☆
P03.06	Deceleration time3	0.01～60000s same as P03.02	20.00s	☆
P03.07	Acceleration time4	0.01～60000s same as P03.01	10.00s	☆
P03.08	Deceleration time4	0.01～60000s same as P03.02	20.00s	☆
P03.09	Jog Acceleration time	same as P03.01	10.00s	☆
P03.10	Jog Deceleration time	same as P03.02	20.00s	☆
P03.11	S-curve Acceleration begin time	Setting value depend on P03.16 P03.16 = 2, 0.01～30.00s; P03.16 = 1, 0.1s～300.0s; P03.16 = 0, 1s～3000s	0.50s	☆
P03.12	S-curve Acceleration arrival time	SAME AS P03.11	0.50s	☆
P03.13	S-curve Deceleration begin time	SAME AS P03.11	0.50s	☆
P03.14	S-curve Deceleration Arrival time	SAME AS P03.11	0.50s	☆
P03.15	Accel and Deceltime frequency benchmark	0：maximum frequency 1：Motor rated frequency	0	★
P03.16	Accel and Decel time unit selection	0：1s 1：0.1s 2：0.01s	2	★
P03.17	Quickstop deceleration time	0.01～65000s	5.00s	☆
P03.18	Switchingfrequency 1 in acceleration time	0.00Hz～maximum frequency(P01.06)	0.00Hz	☆
P03.19	Switchingfrequency 1 in deceleration	0.00Hz～maximum frequency(P01.06)	0.00Hz	☆

Function code	Paarameter name	Setting range		Default	Property
	time				
P03.20	Forward/reverse Ddeadband time	0.00s～30.00s Waiting time for zero speed during forward and reverse switchover		0.00s	☆
04 Group Pulse and Analog input and output					
P04.00	Minimum input pulse frequency	0.00kHz ～ 50.00kHz	对应设定 P04.03 P04.02 P04.00 P04.01 HDI输入频率	0.00kHz	☆
P04.01	Maximum input pulse frequency	0.00kHz ～ 50.00kHz		30.00kHz	☆
P04.02	Setting Corresponding to Minimum input	-1P00.0% ～ 1P00.0%		0.0%	☆
P04.03	Setting Corresponding to maximum input	-1P00.0% ～ 1P00.0%		1P00.0%	☆
P04.04	Pulse input filter time	0.000s～10.000s		0.050s	☆
P04.05	Pluse input frequency	0.00kHz～50.00kHz		-	●
P04.06	HDI equivalent value	-1P00.0%～1P00.0%		-	●
P04.07	AI Curve setting	Unit's：AI curve selection 0：curve A 1：curve B 2：Curve C Ten'unit：when input signal lower than minimum input 0：equal to minimum input 1：equal to 0.0%		00	★
P04.08	AI1 filter time	0.000s～10.000s		0.100s	☆
P04.09	AI curve 1 minimum input	0.00V～10.00V		-	●
P04.10	Setting corresponding to Minimum/maximum input of curve 1	-1P00.0%～1P00.0%		-	●
P04.11	AI Curve setting	Same as P04.07		01	★
P04.12	AI2 filter time	0.000s～10.000s		0.100s	☆
P04.13	AI curve 2 minimum input	0.00V～10.00V		-	●
P04.14	Setting corresponding to Minimum/maximum input of curve 2	-1P00.0%～1P00.0%		-	●
P04.15	AI3（option card）curve setting	Same as AI1(P04.07)		01	★

Function code	Paarameter name	Setting range		Default	Property
P04.16	AI3（option card） filter time	0.000s～10.000s		0.100s	☆
P04.17	AI3（option card） actual value	0.00V～10.00V		-	●
P04.18	AI3（option card） Setting corresponding to Minimum/maximum input of curve 2	-1P00.0%～1P00.0%		-	●
P04.23	Curve A horizontal axis 1	0.00V～10.00V	对应设定 P04.26 P04.24 P04.23　P04.25　AI	0.00V	☆
P04.24	Curve Avertical axis 1	-1P00.0% ～ 1P00.0%		0.0%	☆
P04.25	Curve A horizontal axis 2	0.00V～10.00V		10.00V	☆
P04.26	Curve A vertical axis 2	-1P00.0% ～ 1P00.0%	Notice:input less than P04.23, output decide by curve ten's digit	100.0%	☆
P04.27	Curve B horizontal axis 1	0.00V～10.00V	对应设定 P04.30 P04.28 P04.27　P04.29　AI	0.00V	☆
P04.28	Curve B vertical axis 1	-100.0%～100.0%		0.0%	☆
P04.29	Curve B horizontal axis 2	0.00V～10.00V		10.00V	☆
P04.30	Curve B vertical axis 2	-100.0%～100.0%	Notice:input less than P04.27, output decide by curve ten's digit	1P00.0%	☆
P04.31	Curve C horizontal axis 1	0.00V～10.00V		0.00V	☆
P04.32	Curve C vertical axis 1	-100.0%～100.0%		0.0%	☆
P04.33	Curve C horizontal axis 2	0.00V～10.00V	对应设定 P04.38 P04.36 P04.34 P04.32 P04.31 P04.33 P04.35 P04.37 AI	3.00V	☆
P04.34	Curve C vertical axis 2	-100.0%～100.0%		30.0%	☆
P04.35	Curve C horizontal axis 3	0.00V～10.00V		6.00V	☆
P04.36	Curve C vertical axis 3	-100.0%～100.0%		P60.0%	☆
P04.37	Curve C horizontal axis 4	0.00V～10.00V	Notice:input less than P04.31, output decide by curve ten's digit	10.00V	☆
P04.38	Curve C vertical axis 4	-100.0%～100.0%		1P00.0%	☆

Function code	Paarameter name	Setting range	Default	Property
05 Group Pulse and Analog input and output				
P05.00	Minimum output Pulse frequency	0.00kHz～50.00kHz	-	●
P05.01	Pulse Output type	0：Common numeric output (DO) 1：high frequency pulse output (Hdo)	0	☆
P05.02	High frequency pulse output function(Hdo)	0：Running frequency （0～max frequency） 1：set frequency （0～max frequency） 2：output current （0～2times motor rated current） 3：output torque(0～3times motor rated torque) 4：set torque(0～3times motor rated torque) 5：output voltage （0～2times motor rated voltage） 6: DC bus voltage （0～2times drives standard DC bus voltage） 7: output power （0～2times motor rated power） 8: encoder rotation speed （0～speed corresponding to max frequency） 9： AI1 （0.00～10.00V） 10: AI2 （0.00～10.00V）	0	☆
P05.03	HDO Minimum output pulse frequency	0.00kHz～50.00kHz	1.00kHz	☆
P05.04	HDO Max output pulse frequency	0.00kHz～50.00kHz	30.00kHz	☆
P05.05	AO1 actual value	0.0%～100.0%	-	●
P05.06	AO1 output function signal selection	Same as P05.02	0	☆
P05.07	AO1 output offset	-100.0%～100.0%	0.0%	☆
P05.08	AO1 output gain	-10.00～10.00	1.00	☆
P05.09	AO2 actual value	0.0%～100.0%	-	●
P05.10	AO2 output function signal selection	Same as P05.02	0	☆
P05.11	AO2 output offset	-100.0%～100.0%	0.0%	☆
P05.12	AO2 gain	-10.00～10.00	1.00	☆
06 GroupDigital input and output				
P06.00	DI port status	Bit0～Bit6 Correspond to DO1～DO7 Bit12～Bit15 Correspond to VDI1～VDI4	-	●
P06.01	DI1 Numeric input function	0：no function 1：run terminal 2：reverse/Forward and reverse switchover 3：three wire control 4：forward jog command 5：reverse jog command	1	★

Function code	Paarameter name	Setting range	Default	Property
P06.02	DI2 Numeric input function	6： Terminal UP 7： Terminal DOWN 8： Clear up UP/DOWN offset 9： coast to stop	2	★
P06.03	DI3 Numeric input function	10：fault reset 11：Reverse forbidden 12：Switching run command to Keypad 13：Switching run command to Communication 14：fast stop 15：external stop	0	★
P06.04	DI4 Numeric input function	16：Switch between motor 1 and motor 2 17：Pause operatoin 18：DC brake 19：Switch between torque and speed Control 20：torque control diabled 21：Multi-step speed terminal 1 22：Multi-step speed terminal2	0	★
P06.05	DI5 Numeric input function	23：Multi-step speedterminal3 24：Multi-step speed terminal4 25：frequency source switchover 26：Switch main frequency source to Numeric frequency setting	0	★
P06.06	DI6 Numeric input function（option card）	27：Switch main frequency source to AI1 28：Switch main frequency source to AI2 29：Switch main frequency source to AI3 30：Switch main frequency source to AI4 31：Switch main frequency source to high-frequency pulse input	0	★
P06.07	DI7 Numeric input function（option card）	32：Switch main frequency source to communication setting 33：Switch auxiliary frequency source to numeric frequency setting	0	★
P06.13	VDI1 Numeric input function（option card）	34：Accel and Decel time terminal 1 35：Accel and Decel time termina2 36：Accel and Decel Stop 37：User-defined fault 1 38：User-defined fault 2 39：PID pause	0	★
P06.14	VDI2 Numeric input function（option card）	40：PID integral pause 41：PID parameter Switchover 42：PID Positive/negative reaction switch 43：Preset PID terminal 1 44：Preset PID terminal 2	0	★

Function code	Paarameter name	Setting range	Default	Property
P06.15	VDI3 Numeric input function（option card）	45：PID Main and Auxaliary command switch 46：PID Main and Auxaliary feedback switch 47：Simple PLC status reset 48：Simple PLC time stop 49：	0	★
P06.16	VDI4 Numeric input function（option card）	50：Counter 1 input 51：Counter 1 reset/clear 52：Counter 2 input 53：Counter 1 reset/clear 54：clear/reset timed running time 55：motor 2 Accel and Decel time selection	0	★
P06.17	Virtual input source	Unit's digit：VDI1 input signal source 0：from forcing data (PP06.18,PP06.19) 1～4：variable selector ;5～6 logic unit 7～A：programmable relay 1～4 Ten's digit：VX2 input signal source Same as Unit'digit Hundred's digit：VX3 input signal source Same as unit's digit Thousand's digit：VX4 input signal source Same as Unit'I	0000	★
P06.18	DI Forcing function	Define as per bit :disable;1:enable Bit0-bit11:DI1-DI12 Bit12-bit15:VDI1-VDI4	H11110000 L00000000	★
P06.19	DI Forcing data	Define as per bit 0:effective;1:ineffective Bit0-bit11:DI1-DI12 Bit12-bit15:VDI1-VDI4	H00000000 L00000000	☆
P06.20	Effective logic of Numericinput terminal	Define as per bit 0:positive logic;1:negative logic Bit0-bit11:DI1-DI12 Bit12-bit15:VDI1-VDI4	H00000000 L00000000	★
P06.21	DI1 Effective delay time	0.000s～30.000s	0.000s	☆
P06.22	DI1 ineffective delay time	0.000s～30.000s	0.000s	☆
P06.23	DI2 Effective delay time	0.000s～30.000s	0.000s	☆
P06.24	DI2 ineffective delay time	0.000s～30.000s	0.000s	☆
P06.25	DI3 Effective delay time	0.000s～30.000s	0.000s	☆
P06.26	DI3 ineffective delay time	0.000s～30.000s	0.000s	☆
P06.27	DI4 Effective delay time	0.000s～30.000s	0.000s	☆

| Function code	Paarameter name	Setting range	Default	Property
P06.28	DI4 ineffective delay time	0.000s～30.000s	0.000s	☆
P06.29	Two wire/3wire operation control	0：2-wire mode (FWD+REV)1 1：2-wire mode RUN+DIRECTION)2 2：3-wire 1(FWD+REV+ENABLE) 3：3-wire 2 RUN +FWD/REV+ENABLE	0	★

This parameter is used to select different four mode to control the inverter by external terminals. For the convenience of description, the following sample is adopted by the DI1, DI2 and DI3 among DI1 to DI110, these three terminals are used as external terminals, that is, the functions of DI1, DI2 and DI3 is set by the value of P06.01 to P06.03

• 0: Two-line mode 1

It is the most commonly used two-line mode,the forward/reverse rotation of the motor is determined by DI1 and DI2. The parameters are set as below:

Function Code	Parameter Name	Value	Function Description
P06.29	Terminal command mode	0	Two-line 1
P06.01	DI1 function selection	1	Forward RUN (FWD)
P06.02	DI2 function selection	2	Reverse RUN (REV)

Figure 1 setting of two-line mode 1

K1	K2	Running direction
1	0	Forward RUN
0	1	Reverse RUN
0	0	Stop
1	1	Stop
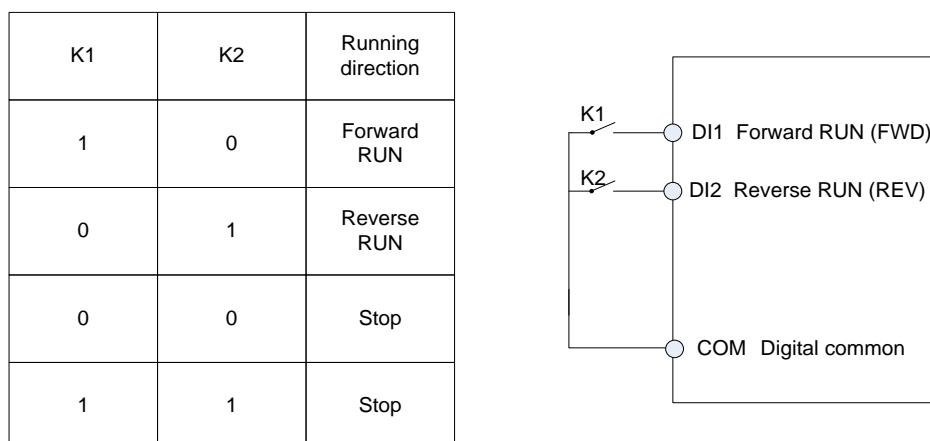
Refer above figure, when only K1 is ON, the frequency inverter instructs forward rotation. When only K2 is ON, the frequency inverter instructs reverse rotation. When K1 and K2 are ON or OFF simultaneous, the frequency inverter stops.

• 1: Two-line mode 2

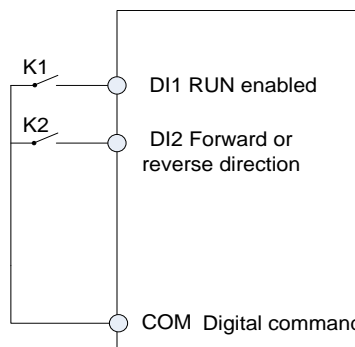In this mode, DI1 is RUN enabled terminal, and DI2 determines the running direction. The parameters are set as below:

Function Code	Parameter Name	Value	Function Description
P06.29	Terminal command mode	1	Two-line 2
P06.01	DI1 function selection	1	RUN enabled
P06.02	DI2 function selection	2	Forward or reverse

Figure 2 Setting of two-line mode 2

Function code	Paarameter name	Setting range			Default	Property

K1	K2	Running direction
1	0	Forward RUN
1	1	Reverse RUN
0	0	Stop
0	1	Stop

K1 — DI1 RUN enabled
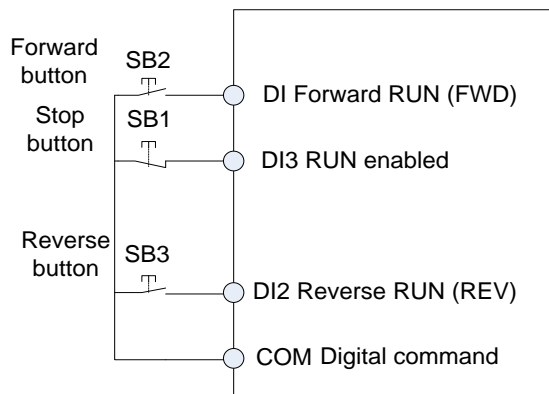K2 — DI2 Forward or reverse direction
COM Digital command

As shown in the preceding figure, if K1 is ON, the frequency inverter instructs forward rotation when K2 is OFF, and instructs reverse rotation when K2 is ON. If K1 is OFF, K2 is ON or both K1 and K2 are OFF, the Frequency inverter stops.

• 2: Three-line mode 1

In this mode, DI3 is RUN enabled terminal, and the direction is decided by DI1 and DI2. The parameters are set as below:

Function Code	Parameter Name	Value	Function Description
P06.29	Terminal command mode	2	Three-line 1
P06.01	DI1 function selection	1	Forward RUN (FWD)
P06.02	DI2 function selection	2	Reverse RUN (REV)
P06.03	DI3 function selection	3	Three-line control

Figure 3 Setting of three-line mode 1

Forward button SB2 — DI Forward RUN (FWD)
Stop button SB1 — DI3 RUN enabled
Reverse button SB3 — DI2 Reverse RUN (REV)
COM Digital command

As shown in the preceding figure, if SB1 is ON, the frequency inverter instructs forward rotation when Sb2 is pressed to be ON, and instructs reverse rotation when SB3 is pressed to be ON. The frequency inverter stops immediately after SB1 becomes OFF. During normal startup and running, SB1 must remain ON. The frequency inverter's running state is determined by the final actions on SB1, SB2 and SB3.

• 3: Three-line mode 2

In this mode, DI3 is RUN enabled terminal. The RUN command is given by DI1 and the direction is decided by DI2. The parameters are set as below:

Function Code	Parameter Name	Value	Function Description
P06.29	Terminal command mode	3	Three-line 2
P06.01	DI1 function selection	1	RUN enabled
P06.02	DI2 function selection	2	Forward or reverse direction

Function code	Paarameter name	Setting range			Default	Property
	P06.03	DI3 function selection	3	Three-line control		

Figure 4 Setting of three-line mode 2

K	Running direction
0	Forward RUN
1	Reverse RUN
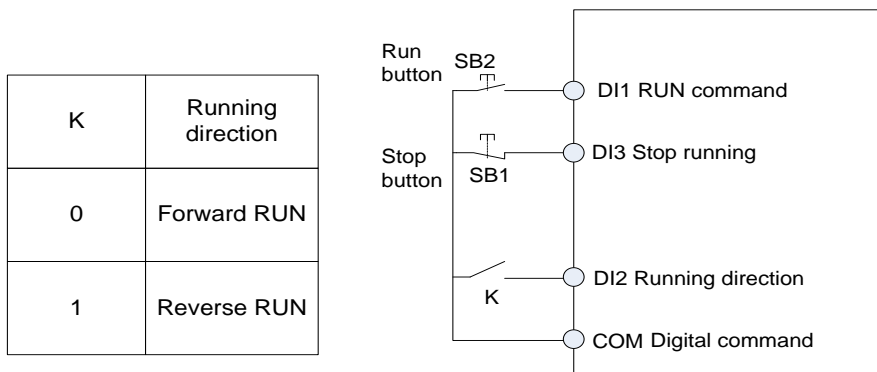
As shown in the preceding figure, if SB1 is ON, the frequency inverter starts running when SB2 is pressed to be ON; the frequency inverter instructs forward rotation when K is OFF and instructs reverse rotation when K is ON. The Frequency inverter stops immediately after SB1 becomes OFF. During normal startup and running, SB1 must remain ON，SB2 is effective immediately after ON action.

Function code	Paarameter name	Setting range	Default	Property
P06.30	Digital input termimal filtering time	0.000～0.100s	0.010s	☆
P06.31	Terminal protection function	0：no protection When command is terminal ,power on and terminal effective,inverter will run 1：protection When command is terminal ,power on and terminal effective, inverter will not run ,so need terminal ineffective then effective,then inverter will run	0	★
P06.32	DI terminal on/ready time	0.000s～30.000s	1.000s	★
07 Group Digital input and output				
P07.00	DO port status	Define as per bit	-	●
P07.01	DO1 Output terminal function group	0:no function 1:READY 2:RUN 3:Error1（coast to stop fault） 4:Error2（Error1 undervoltage） 5:warning output	0	☆

Function code	Paarameter name	Setting range	Default	Property
P07.02	DO2 Output terminal function group	6:swing frequency limit 7:torque limit 8:reverse running 9: upper limit frequency arrival 10:lower limit frequency arrival 1 11: lower limit frequency arrival2 12:FDT1 output frequency detection range	0	☆
P07.03	R1 Output terminal function group(TA1 TB1 TC1)	13:FDT2 output frequency detection range 14:setting frequency arrival 15:Desired frequency attained 1 P08.05 16:Desired frequency attaine 2P08.07 17:zero speed （stop without output） 18: zero speed （stop with output） 19:zero current status 20:output current exceed limit	0	☆
P07.04	R2 Output terminal function group(TA2 TB2 TC2)	21:counter 1 setting value arrival 22:counter 1 setting value arrival 23:Simple PLC cycle finish 24:IGBT temperature arrival 25:Drive overload pre-warning 26: motor overload pre-warning 27: motor overheat pre-warning 28:in off load 29:Acumulated on power time arrival 30:Acumulated running time arrival 31:Single running time arrival 32:Variable selector unit 1 output 33:Variable selector unit 2 output 34:Variable selector unit 3 output 35:Variable selector unit 4 output 36:Logic unit 1 output 37:Logic unit 2 output 38:Internal programmable relay 1 output 39:Internal programmable relay 2 output 40:Internal programmable relay 3 output 41:Internal programmable relay 4 output	0	☆
P07.09	output logic negative	Define as per bit O:off;1:on Bit1:DO1 Bit2:D02 Bit3:Relay1 Bit4:Relay2	0	☆
P07.12	DO1 effective delay time	0.000s～30.000s	0.000s	☆
P07.13	DO1 ineffective	0.000s～30.000s	0.000s	☆

Function code	Paarameter name	Setting range	Default	Property
	delay time			
P07.14	DO2 effective delay time	0.000s～30.000s	0.000s	☆
P07.15	DO2 ineffective delay time	0.000s～30.000s	0.000s	☆
P07.16	Relay 1 effective delay time	0.000s～30.000s	0.000s	☆
P07.17	Relay 1 ineffective delay time	0.000s～30.000s	0.000s	☆
P07.18	Relay 2 effective delay time	0.000s～30.000s	0.000s	☆
P07.19	Relay 2 ineffective delay time	0.000s～30.000s	0.000s	☆
08 Group Digital output				
P08.00	Frequency detaction value (FDT1)	0.00Hz～maximum frequency(P01.06)	50.00Hz	☆
P08.01	Frequency detection hysteresis 1	0.0%～100.0% FDT1	5.0%	☆
P08.02	Frequency detection value 2(FDT2)	0.00Hz～maximum frequency(P01.06)	50.00Hz	☆
P08.03	Frequency detection hysteresis 2	0.0%～100.0% FDT2	5.0%	☆
P08.04	Detection range of frequency arrival	0.0%～100.0% maximum frequency (P01.06)	3.0%	☆
P08.05	Desired frequency attained 1	0.00Hz～maximum frequency (P01.06)	50.00Hz	☆
P08.06	Any frequency reaching detection amplitude 1	0.0%～100.0% maximum frequency (P01.06)	3.0%	☆
P08.07	Desired frequency attained2	0.00Hz～maximum frequency(P01.06)	50.00Hz	☆
P08.08	Any frequency reaching detection amplitude 2	0.0%～100.0% maximum frequency (P01.06)	3.0%	☆
P08.09	Zero speed detection amplitude	0.00H～5.00Hz	0.25Hz	☆
P08.10	Zero current detection level	0.0%～100.0% rated motor current	5.0%	☆

Function code	Paarameter name	Setting range	Default	Property
P08.11	Zero current detection delay time	0.000～30.000s	0.100s	☆
P08.12	Output overcurrent threshold	0.0%～300.0% motor rated time	2P00.0%	☆
P08.13	Overcurrent detection delay time	0.000～30.000s	0.100s	☆
P08.14	IGBT Module temperature threshold	20.0～100.0℃	75.0℃	☆
P08.15	Accumulative power-on time arrival threshold	0～65530h	0h	☆
P08.16	Accumulative power-on time arrival threshold	0～65530h	0h	☆
P08.17	Action upon Running time arrival	0:continue to run;1:stop	0	☆
P08.18	This time running time arrival threshold	0～65530min	0min	☆
P08.19	This time Running time monitoring	0～65535min	0min	●
11 Group Motor 1 Parameter				
P11.00	Motor type	0：AC asynchronous motor	0	●
P11.02	Motor rated power	0.1kW～8P00.0kW	Up to specific model	★
P11.03	Motor rated voltage	10V～2000V	Up to specific model	★
P11.04	Motor rated voltage	<30kW：0.01A >=30kW：0.1A	Up to specific model	★
P11.05	Motor rated frequency	1.00Hz～6P00.00Hz	50.00Hz	★
P11.06	Motor rated RPM	1～60000rpm	1440rpm	★
P11.07	Motor rated power factor	0.500～1.000	0.820	★
P11.08	Motor rated torque	Read only	-	●
P11.09	Number of motor 1 pairs of pole	Read only	-	●

Function code	Paarameter name	Setting range	Default	Property
P11.10	Auto-tune	0：no auto tuning 1：Stationary autotuning of Asynchronous motor 2：Rotatoinal autotuning of Asynchronous motor	0	★
P11.11	Stator resistor of Asynchronous motor	Unit:0.001Ω(<30kW) Unit:0.01mΩ(>=30kW)	Up to specific model	★
P11.12	Rotor resistor of Asychronous motor	Unit:0.001Ω(<30kW) Unit:0.01mΩ(>=30kW)	Up to specific model	★
P11.13	Leakage inductance of Asychronous motor	Unit:0.01mH(<30kW) Unit:0.001mH(>=30kW)	Up to specific model	★
P11.14	Mutual inductance of Asynchronous motor	Unit:0.1mH(<30kW) Unit:0.01mH(>=30kW)	Up to specific model	★
P11.15	No-load excitation current of Asynchronous motor	Unit:0.01A(<30kW) Unit:0.1A(>=30kW)	Up to specific model	★
P11.16	Excitation saturation factor 1	1.05 time ExcitationLsn/Ls	1.100	★
P11.17	Excitation saturation factor 2	0.85 time ExcitationLsn/Ls	0.900	★
P11.18	Excitation Saturation Factor3	0.60 time ExcitationLsn/Ls	0.800	★
12 Group Motor 1 VF control parameter				
P12.00	VF curve	0：linear VF 1：Multi-point VF 2：VF to the 1.3 3：1.7 power 4：2.0 power 5：VFcomplete separation 6：VF Half separation	0	★
P12.01	Multi-point VF Frequency 1(F0)	0.00Hz～multi-point VF curve F1(P12.03)	50.00Hz	☆
P12.02	Multi-point VF Voltage 0(V0)	0.0%～100.0%	1P00.0%	☆
P12.03	Multi-point VF Frequency 1(F0)	multi-point VF curve F0(P12.01)～multi-point VF curve F2(P12.05)	50.00Hz	☆
P12.04	Multi-point VF Voltage 1(V1)	0.0%～1P00.0%	1P00.0%	☆
P12.05	Multi-point VF Frequency 1(F2)	multi-point VF curve F1(P12.03)～multi-point VF curve F3(P12.08)	50.00Hz	☆
P12.06	Multi-point VF	0.0%～100.0%	1P00.0%	☆

Function code	Paarameter name	Setting range	Default	Property
	Voltage 2(V2)			
P12.07	Multi-point VF Frequency 3(F3)	multi-point VF curveF2(P12.05)～6P00.00Hz	50.00Hz	☆
P12.08	Multi-point VF Voltage 3(V3)	0.0%～100.0%	1P00.0%	☆
P12.09	Torque boost	0%～200%	100%	☆
P12.10	Torque compensation time	Automatic torque boost compensation filter time：0.00～10.00s	0.50s	☆
P12.11	Slip compensation gain	0～200%	100%	☆
P12.12	Slip compensation filter time	0.01s～10.00s	100	☆
P12.13	Oscillation suppression gains	0～2000	100	☆
P12.14	Oscillation suppression effective frequency range	Oscillation suppression effective range :100%～1200%	100%	☆
P12.15	Current limit function selection	0：ineffective 1：only adjust output voltage 2：adjust output frequency and voltage	2	★
P12.16	Current limit level	20%～180% drive rated current	150%	☆
P12.17	Weak magnetic zone current limit factor	optimize dynamic performance,10%～100%	70%	☆
P12.20	Voltage source for VF separation	0：digital setting 1：AI1 2：AI2 3：AI3 4：AI4（reserved） 5：pulse setting HDI 6：multiple speed 7：communication 8：PID	0	★
P12.21	digital setting for VF separation voltage	0.0%～100.0%	0.0%	☆
P12.22	VF separation voltage Accel and Decel time	0.00s～60.00s	1.00s	☆
P12.23	VF Separation voltage rates as per time	VF Separation Voltage variation every hour range:-50.00%～50.00%	0.00%	☆

Function code	Paarameter name	Setting range	Default	Property
13 Group Motor 1 vector control			
P13.00	Speed Proportional Gain ASR_P1	0.1～100.0	P12.0	☆
P13.01	Speed Integral Time constant ASR_T1	0.001s～30.000s	0.200s	☆
P13.02	Speed Proportional Gain ASR_P2	0.1～100.0	8.0	☆
P13.03	Speed Integral Time constant ASR_T1	0.001s～30.000s	0.300s	☆
P13.04	Switching frequency 1	0.00Hz～ ASR switching frequency 2(P13.05)	5.00Hz	☆
P13.05	Switching frequency 2	ASR switching frequency 1～6P00.00Hz(P13.04)	10.00Hz	☆
P13.06	Speed control torque limit source selection	Unit's digit： 0:digital setting 1～4:Ai1～Ai4 5:Pulse 6:communication Ten'unit：Electric torque limit source Same as unit'digit	00	★
P13.07	Electric torque limit	0.0%～300.0%	1P60.0%	☆
P13.08	Upper limit of brake torque	0.0%～300.0%	1P60.0%	☆
P13.09	Power limit	Unit'digit：electric power Ten'digit：braking power	00	★
P13.10	Electric power limit	0%～300%	150%	☆
P13.11	Upper limit of brake power	0%～300%	150%	☆
P13.12	Iq filter time	Unit：current loop adjust cycle ,0～100	2	☆
P13.13	ACR Proportional Gain1	1～1000	50	☆
P13.14	ACR Integral Time1	0.01～3P00.00ms	10.00ms	☆
P13.15	ACR Proportional Gain2	1～1000	50	☆
P13.16	ACR Integral Time2	0.01～300.00ms	10.00ms	☆
P13.17	Voltage feedforward Gain	0～100	0	★
P13.19	Voltage margin	0.0%～50.0%	5.0%	☆
P13.20	Integral time of field	0.001s～5.000s	0.100s	☆

Function code	Paarameter name	Setting range	Default	Property
	weakening regulator			
P13.22	Motor VC running slip gain	50%～200%	100%	☆
P13.23	Motor SVC zero frequency processing method	0-Normal;1 brake	0	★
14 Group Torque control				
P14.00	Torque setting	0：digital setting 1：AI1 2：AI2 3：AI3 4：AI4（reserved） 5：HDI 6：communication	0	★
P14.01	Torque digital setting	-200.0～200.0%	0	☆
P14.02	Maximum torque	Benchmark 10.0%～300.0%	2P00.0%	☆
P14.03	Torque Acceleration time	0.000s～60.000s	0.100s	☆
P14.04	Torque control Deceleration time	0.000s～60.000s	0.100s	☆
P14.05	Upper limit frequency of torque control	0：digital setting 1：AI1 2：AI2 3：AI3 4：AI4（expansion card） 5：HDI high frequency pulse input 6：communication	0	★
P14.06	Upper limit frequency of torque control	-1P00.0%～100.0%	1P00.0%	☆
P14.07	Reverse speed limit	Relative to maximum frequency：0.0%～100.0%	P40.0%	☆
P14.08	Torque setting over limit speed	0：torque setting 1：speed control	0	★
P14.09	Current limit hysteresis	Fup～Fup+Hys transition region	2.00Hz	★
P14.10	Static friction torque compensation	0.0%～50.0%	10.0%	☆
P14.11	Static friction compensation	0.00Hz～50.00Hz	1.00Hz	★

Function code	Paarameter name	Setting range	Default	Property
	frequency range			
P14.12	Dynamic friction factor	Dynamic friction at rated speed	0	☆
P14.13	Dynamic friction value range	0.0%～50.0%	0.0%	☆
16 Group Energy saving control parameter				
P16.00	Electricity meter count (32BIT)	Unit:KW/H	-	●
P16.02	Output power	Unit:0.1kw,regen less than 0	-	●
P16.03	Power factor	-1.000～1.000	-	●
P16.04	Electricity meter zero clearing	0:no function；1111：clear to zero	0	☆
P16.05	Energy saving control	0：disable 1：enable	0	★
P16.06	Energy saving voltage limit	0%～50%	0%	★
P16.07	Energy saving filter time	0.0～10.0s	1.0s	★
20 Group User-defined parameter				
P20.00	User-defined parameter 1		00.00	☆
P20.01	User-defined parameter2		00.00	☆
P20.02	User-defined parameter3		00.00	☆
P20.03	User-defined parameter4		00.00	☆
P20.04	User-defined parameter5		00.00	☆
P20.05	User-defined parameter6	P00.00～63.99	00.00	☆
P20.06	User-defined parameter7		00.00	☆
P20.07	User-defined parameter8		P00.00	☆
P20.08	User-defined parameter9		00.00	☆
P20.09	User-defined parameter10		00.00	☆
P20.10	User-defined parameter11		00.00	☆
P20.11	User-defined		00.00	☆

Function code	Paarameter name	Setting range	Default	Property
	parameter			
P20.12	User-defined parameter13		P00.00	☆
P20.13	User-defined parameter14		00.00	☆
P20.14	User-defined parameter15		00.00	☆
P20.15	User-defined parameter16		00.00	☆
P20.16	User-defined parameter17		00.00	☆
P20.17	User-defined parameter18		00.00	☆
P20.18	User-defined parameter19		00.00	☆
P20.19	User-defined parameter20		00.00	☆
21Group Keypad and Display Group				
P21.00	LCD language option	0: Chinese 1: English	0	☆
P21.01	Baud ratio(485）	0:1200; 1:2400 2:4800; 3:9600 4:19200; 5:38400 6:57600; 7:115200	3	☆
P21.02	MKfunction option	0：no function; 1：Forward Jog 2：Reverse Jog; 3：Forward/reverse Switch 4：Quick stop; 5：coast to stop 6：Curse left shift(LCD keypad)	1	☆
P21.03	STOP function	0:Valid only at Keypad Control 1:valid at all command Channels	1	☆
P21.04	LCD display1	P00.00～99.99	27.00	☆
P21.05	LCD display 2	P00.00～99.99	27.01	☆
P21.06	LCD display 3	P00.00～99.99	27.06	☆
P21.07	LCD display 4	P00.00～99.99	27.05	☆
P21.08	LCD display 5	P00.00～99.99	27.03	☆
P21.09	LCD display 6	P00.00～99.99	27.08	☆
P21.10	LCD display 7	P00.00～99.99	06.00	☆
P21.11	Running status Monitoring display parameter option	Unit'digit to Thousand'digit set 1-4 monitor parameter 0 means no display，1～7 corresponds to monitor parameter 1～7 Unit'digit：choose first monitoring data，0～7 Ten's digit：choose second monitoring data，0～7 Hundred's digit：choose third monitoring data，0～7 Thousand's digit：choose fourth monitoring display，0～7	5321	☆
P21.12	Stop status display	Same P21.11	0052	☆

Function code	Paarameter name	Setting range	Default	Property
	parameter option			
P21.13	Quick start menu selectoin	0：Invalid 1：Numeric frequency setting 2：Numeric torque setting 3：PID digital setting 0	1	★
P21.14	Load speed display factor	0.001～65.000	30.000	☆
P21.15	Load speed decimal point digit	0～3	0	★
P21.16	Load speed display	Load speed =P27.00*P21.10 Decimal point digit defined by P21.11	-	●
P21.17	Speed display unit	0：0.01Hz；1: 1Rpm	0	★
22 Group AC drive data				
P22.00	Carrier/swithcing frequency	Depend on drives power ≤7.5kW: 　1kHz～P12.0kHz 11kW～45kW: 1kHz～8kHz ≥55kw: 　　1kHz～4kHz	Depend on model	☆
P22.01	Carrier frequency adjustment	Unit'digit：adjustment as per Rotation 0:No；1:Yes Ten'digit：adjustment as per Temperature 0 no；1：yes	00	☆
P22.02	Low speed carrier frequency	1.0kHz～15.0kHz	Depend on model	☆
P22.03	High speed carrier frequency	1.0kHz～15.0kHz	Depend on model	☆
P22.04	Carrier frequency switching point 1	0.00Hz～600.00Hz	10.00Hz	☆
P22.05	Carrier frequency switching point2	0.00Hz～600.00Hz	50.00Hz	☆
P22.06	PWM way	0：SVPWM 1：SVPWM+DPWM 2：PWM at random 3：SPWM	0	★
P22.07	DPWM switching point	10%～100%	30%	★
P22.08	Modulating limit	50%～110%	105%	★
P22.10	AVR function	0:diabled 1:enabled	1	★
P22.11	Energy braking voltage funtion	0-disabled 1-enabled 2-only enable when ramp to stop	1	☆

Function code	Paarameter name	Setting range	Default	Property
P22.12	Energy braking voltage	320V~400V(220V level) 600V~800V(380V level) 690V~900V(480V level) 950V~1250V(690V level)	Depend on model	☆
P22.13	Output phase switch	0:no Operation 1:output phase switch(equal to change Phase between V and W)	0	★
P22.14	Cooling method (fan control)	0:effective when running 1:Forced control(effective when power on) 2:adjustable as per drive temperature	0	☆
P22.15	GP drive type	0-G type;1-P type	0	★
P22.16	Drive rated power	Read only	-	●
P22.17	Drive rated Voltage	Read only	-	●
P22.18	Drive rated current	Read only	-	●
23 Group Drive protection function setting				
P23.00	Bus voltage control option	Unit'digit : 0:overvoltage stall disabled 1:overvoltage stall enabled 2:overvoltage stall self-adjustable Ten'unit: 0:undervoltage stall disabled 1:undervoltage stall deceleration(decelerate to zero speed and run at zero speed) 2: undervoltage stall deceleration(decelerate to zero and stop)	01	☆
P23.01	Overvoltage stall threshold	220V Level: 320V~400V 380V Level: 540V~800V 480V Level：650V~950V 690V Level: 950V~1250V	Depend on model	☆
P23.02	Undervoltage threshold	220V level: 160V~300V 380V level: 350V~520V 480V level: 400V~650V 690V level: 650V~900V	Depend on size	☆
P23.03	Overvoltage stall ratio	0~10.0	1.0	☆
P23.04	undervoltage stall ratio	0~P20.0	4.0	☆
P23.05	Undervoltage trip threshold	220V Level:160V~300V 380V Level:350V~520V 480V Level:400V~650V 660V Level:650V~900V	Depend on model	☆
P23.06	Undervoltage fault detecting time	0.0s~30.0s	1.0s	☆

Function code	Paarameter name	Setting range	Default	Property
P23.07	Rapidcurrent limit	0:disabled 1:enabled	1	☆
P23.10	Over-speed detection value	0.0%～1P20.0% maximum frequency	120.0%	☆
P23.11	Over-speed detection time	0.0s～30.0s 0.：shielding	1.0s	☆
P23.12	Detection value of too large speed deviation	0.0%～1P00.0%(motor rated frequency)	20.0%	☆
P23.13	Detection value of too large speed deviation	0.0s～30.0s 0.0：shielding	0.0s	☆
P23.14	Input phase loss detection time	0.0s～30.0s 0.0：forbidden	6.0s	☆
P23.15	Output phase loss inbalance detecting	0%～100%	30%	☆
P23.18	Fault protection action selection 1	Unit's digit : input phase loss 　0: coast to stop 　1: Emergent stop 　2: Stop as per stop mode 　3: continue to Run Ten'unit: user self-defined fault 1 same as Unit's digit Hundred'unit: user self-defined fault 2 same as Unit'digit Thousand's unit: communication fault same as unit's digit	0000	☆
P23.19	Fault protection action selection 2	Unit's digit: motor overload 　0: coast to stop 　1: emergent stop 　2: stop as per stop mode 　3: continue to run Ten'unit: motor overheat same as unit'digit Hundred'unit: too large speed deviation same as unit'digit Thousand's unit: motor over speed same as Unit'digit	0000	☆
P23.20	Fault protection action selection 3	Unit's digit: PID feedback lost during running 　0: coast to stop 　1: fast stop 　2: stop as per stop mode 　3: continue to run Ten'unit: Reserved	0000	☆

Function code	Paarameter name	Setting range	Default	Property
		same as unit'digit Hundred'unit: reserved same as unit'digit thousand'unit: reserved same as unit'digit		
P23.21	Fault protection action selection 4	Unit's digit: output phase loss 　0: coast to stop 　1: fast stop 　2: stop as per stop mode Ten'unit: EEPROM fault 　0: coast to stop 　1: fast stop 　2: stop as per stop mode 　3: continue to run Hundred's unit: PG card fault(reserved) 　0: coast to stop 　1: fast stop 　2: stop as per stop mode 　3: continue to run Thousand's unit: off load fault 　0: coast to stop 　1: fast stop 　2: stop as per stop mode 　3: continue to run	0000	☆
P23.24	fault reset	Define as per bit: bit0-undervoltage;bit1- inverter overload bit2-inverter overheat ;bit3-motor overload bit4-motor overheat;bit5-user'fault 1 bit6- user'fault 2;　bit7～15 reserved	H00000000 L00000000	☆
P23.25	fault source for auto reset(auto reset by time gap)	Define as per bit: bit0-overcurrent during acceleration;bit1-overcurrent during deceleration bit2-overcurrent during constant speed;bit3-over voltage during acceleration bit4-overvoltage during deceleratoin;bit5-overvoltage during bit6-inverter undervoltage;bit7-input phase loss bit8-inverter overload;bit9-inverter overheat bit10-motor overload;bit11-motor overheat bit12-user'fault 1;bit13-user'fault 2 bit14-Reserved;bit15-Reserved	H00000000 L00000000	☆
P23.26	Fault auto Reset times	0～99	0	☆
P23.27	Numberic output	0:disabled	0	☆

Function code	Paarameter name	Setting range	Default	Property
	Action at fault reset	1:enabled		
P23.28	Interval time of fault auto reset	0.1s～3P00.0s	0.5s	☆
P23.29	Fault auto reset times clearing time	0.1s～36P00.0s	10.0s	☆
P23.30	continuing Running frequency selection when trip	0：run at current frequency 1：run at setted frequency 2：run at upper limite frequency 3：run at lower limit frequency 4：run at abnormal back-up frequency	0	☆
P23.31	abnormal back-up frequency	0.0%～1P00.0%(maximum frequency)	5.0%	☆
24 Groupmotor Protection parameter				
P24.00	Motor overload protection gain	0.20～10.00	1.00	☆
P24.01	Motor overload starting current at zero speed	50.0%～150.0%	100.0%	☆
P24.02	Motor overload starting current at Rated speed	50.0%～150.0%	115.0%	☆
P24.04	Motor 1 protection option	Unit'digit:motor protection selection 0:No 1:overload protection(motor 1) 2:PTC1000 3:PTC100 ten'unit:temperature detecting channel 0:AI3 1:AI4	01	☆
P24.05	Motor 1 overheat protection threshold	0.0℃～2P00.0℃	120.0℃	☆
P24.06	Motor 1 overheat warning threshold	50%～100%	80%	☆
P24.07	Motor 1 temperature read data	Unit 0.1℃	-	●
P24.08	Motor 2 protection option	Unit'digit:motor protection selectoin 0:no 1:overload protection(motor 2) 2:PTC1000 3:PTC100 Ten'unit: temperature detecting channel	01	☆

Function code	Paarameter name	Setting range	Default	Property
		0:AI3 1:AI4		
P24.09	Motor 2 overheat protection threshold	0.0℃～2P00.0℃	120.0℃	☆
P24.10	Motor 2 overheat warning threshold	50%～100%	80%	☆
P24.11	Motor 2 temperature read data	Unit 0.1℃	-	●
P24.12	Off load protection	0：disabled 1：enabled	0	☆
P24.13	Off load detection level	0.0～100.0%	10.0%	☆
P24.14	Off load detection time	0.000s～P60.000s	1.000s	☆
25 Group　Fault tracking parameter				
P25.00	current fault type	-	-	●
P25.01	Output frequency at fault	-	-	●
P25.02	Output current at fault	-	-	●
P25.03	Bus voltage at fault	-	-	●
P25.04	Running mode status 1at fault	- parameter P27.10	-	●
P25.05	Input terminal status at fault	-	-	●
P25.06	Working time at fault	-	-	●
P25.07	Accumulated working time at fault	-	-	●
P25.08	Frequency source at fault	-	-	●
P25.09	Torque source at fault	-	-	●
P25.10	Encoder speed at fault	-	-	●
P25.11	Motor	-	-	●
P25.12	Running mode status 2 1at fault	- parameter P27.11	-	●
P25.13	Input terminal status at fault	-	-	●

Function code	Paarameter name	Setting range	Default	Property
P25.14	Heat sink temperature at fault	-	-	●
P25.15	Low-level fault	-	-	●
26 Group Fault recording parameter				
P26.00	Last fault 1trip type	Compared to P25.00	-	●
P26.01	Output frequency at fault	-	-	●
P26.02	Output current at fault	-	-	●
P26.03	Bus voltage at fault	-	-	●
P26.04	Running mode status 1at fault	- parameter P27.10	-	●
P26.05	Input terminal status at fault	-	-	●
P26.06	working time at fault	-	-	●
P26.07	Accumulated working time at fault	-	-	●
P26.08	Last fault 2 trip type	-	-	●
P26.09	Output frequency at fault	-	-	●
P26.10	Output current at fault	-	-	●
P26.11	Bus voltage at fault	-	-	●
P26.12	Running mode status 1at fault	-parameter P27.10	-	●
P26.13	Input terminal status at fault	-	-	●
P26.14	working time at fault	-	-	●
P26.15	Accumulated working time at fault	-	-	●
P26.16	Last fault 3 trip type	-	-	●
P26.17	Output frequency at fault	-	-	●
P26.18	Output current at faul	-	-	●
P26.19	Bus voltage at fault	-	-	●
P26.20	Running mode	- parameter P27.10	-	●

Function code	Paarameter name	Setting range	Default	Property
	status 1at fault			
P26.21	Input terminal status at fault	-	-	●
P26.22	working time at fault	-	-	●
P26.23	Accumulated working time at fault	-	-	●
27 Group　　Monitoring parameter				
P27.00	Running frequency	It can set unit as per Parameter P21.07	-	●
P27.01	Set frequency	It can set unit as per Parameter P21.07	-	●
P27.02	Direction indicator	bit0：direction of running frequency bit1：direction of setting frequency bit2：direction of main frequency bit3：direction of auxiliary frequency bit4：direction of UpDown offset bit5 reserved	-	●
P27.03	Bus voltage	Unit：1V	-	●
P27.04	VF separation setting	unit：0.1%	-	●
P27.05	Output voltage	unit：0.1V	-	●
P27.06	Output current	unit：0.1A	-	●
P27.07	Output current percentage	unit：0.1%(100% of motor rated current)	-	●
P27.08	Output torque	0.1%	-	●
P27.09	Torque setting	0.1%	-	●
P27.10	Drives running mode status 1	Bit0:Running status 0-Stop;1-Run Bit1:Motor direction0-Forward;1-Reverse Bit2:Ready signal:0-not ready;1-ready Bit3:fault status 0-no fault;1-fault Bit4～5:fault type:0-free stop;1-fast stop;2-stop as per stop mode；3：continue to run Bit6:jog status:0-no jog;1-jog status Bit7:Auto tune :0-no;1-yes Bit8:DC braking:0-Non DC braking;1-DC braking Bit9:factory testing mode:0-no;1-yes Bit10～11:Acceleration and Deceleration: 0:stop/zero output;1:speed up;2:speed up;3:speed up Bit12:reserved Bit13:current limit status:0-no;1-yes Bit14:overvoltage stalladjustment:0-no ;1-yes Bit15:undervoltage stall :0-no;1-yes	-	●

Function code	Paarameter name	Setting range	Default	Property
P27.11	Drives running mode2	Bit0～1:current command source:0-keypad;1-terminal ;2-communicatoin Bit2～3:motor option:0-motor 1;1-motor 2 Bit4～5:current motor control:0-VF;1-SVC;2-VC Bit6～7:current running mode:0-speed;1-torque;2-position	-	●
P27.14	Accumulated power on time	hour	-	●
P27.15	Accumulated running time	hour	-	●
P27.18	Heat sink temperature	Unit:0.1 ℃	-	●
P27.19	Main frequency	Unit:0.01Hz	-	●
P27.20	Auxiliary frequency	unit:0.01Hz	-	●
P27.21	UpDown offset frequency	unit:0.01Hz	-	●
30 Group Modbus communication parameter				
P30.00	Communication type	0:Modbus; 1～2:canOpen/profibus and reserved	0	★
P30.01	Drive Address	0～247	1	★
P30.02	Modbus baud rate	0:1200; 1:2400 2:4800; 3:9600 4:19200; 5:38400 6:57600; 7:115200	3	★
P30.03	Modbus data format	0: 1-8-N-1 (1 start bit +8 data bits +1 stop bits) 1: 1-8-E-1 (1start bit +8 data bits +1 even parity +1 stop bit) 2: 1-8-0-1 (1 star bit+8 data bits +1odd parity+1 stop bits) 3: 1-8-N-2 (1 star bit+8 data bits+2 stop bits) 4: 1-8-E-2 (1 star bits+8 data bit+1 even parity+2 stop bits) 5: 1-8-0-2 (1 start bit +8 data bits+1 odd parity+2 stop bits)	0	★
P30.04	Modbus response delay	1～20ms	2ms	★
P30.05	Modbus overtime	0.0s(disabled)～P60.0s(works for master-slave system)	0.0s	★
P30.06	Number of process data received	Add 1 after receive one data，0～65535 count in cycle	-	●
P30.07	Number of process data transmission	Add 1 after transmiss one data，0～65536 count in cycle	-	●

Function code	Paarameter name	Setting range	Default	Property
P30.08	Number of CRC wrong data received	Add 1 after receive CRC wrong Data ,0～65535 count in cycle；to tell intension of communication disturbance	-	●
P30.09	Modbus master-slave option	0: slave 1: master(sent by broadcast)	0	★
P30.10	Slave memory when inverter as master	1～9 corresponds to 0x7001～0x7009	1	☆
P30.11	Data sent by Master	0:output frequency 1:set frequency 2:output torque 3:set torque 4:PID setting 5:PID feedback 6:output current	0	☆
P30.12	Sending interval of Master	0.010～10.000s	0.01s	☆
P30.13	Receiving proportaionality factor of slave	-10.000～10.000	1.000	☆
P30.14	Communication special register speed unit	0: 0.01% 1: 0.01Hz 2: 1Rpm	0	☆
40 Group PID function				
P40.00	PID output value	Read only	-	●
P40.01	PIDs set value	Read only	-	●
P40.02	PID feedback value	Read only	-	●
P40.03	PID deviation value	Read only	-	●
P40.04	PID main setting source (ref1)	0：digital setting 1：AI1 2：AI2 3：AI3 4：AI4(reserved) 5：HDI high frequency pulse 6：communication	0	☆
P40.05	PID Auxilary setting source (ref2)	Same as P40.04	0	☆
P40.06	PID preset setting 0	0.0%～1P00.0%	0.0%	☆
P40.07	PID preset setting 1	0.0%～1P00.0%	0.0%	☆

Function code	Paarameter name	Setting range	Default	Property
P40.08	PID preset setting 2	0.0%～1P00.0%	0.0%	☆
P40.09	PID preset setting 3	0.0%～1P00.0%	0.0%	☆
P40.10	PID setting source option	0:ref1 1:ref1+ref2 2:ref1-ref2 3:ref1*ref2 4:ref1/ref2 5:Min(ref1,ref2) 6:Max(ref1,ref2) 7:AVE(ref1,ref2) 8:sqrt(ref1） 9:sqrt(ref1-ref2) 10:sqrt(ref1+ref2) 11:sqrt(ref1)+sqrt(ref2) 12:ref1 与 ref2 conversion	0	☆
P40.11	PID feedback source1(fdb1)	0：AI1 1：AI2 2：AI3 3: AI4 4: PLUSE(HDI) 5: Communication 6: Motor rated output current 7: Motor rated output frequency 8: Motor rated output torque 9: Motor rated output frequency	0	☆
P40.12	PID feedback source 2(fdb2)	Same as P40.11	0	☆
P40.13	PID feedback function selection	0:fdb1 1:fdb1+fdb2 2:fdb1-fdb2 3:fdb1*fdb2 4:fdb1/fdb2 5:Min(fdb1,fdb2) 6:Max(fdb1,fdb2) 7:AVE(fdb1,fdb2) 8:sqrt(fdb1） 9:sqrt(fdb1-fdb2) 10:sqrt(fdb1+fdb2) 11:sqrt(fdb1)+sqrt(fdb2) 12:fdb1and fdb2 switchover	0	☆

Function code	Paarameter name	Setting range	Default	Property
		Sqrt means square root calculation,eg:sqrt(50.0%)＝70.7%		
P40.14	PID output feature	0-positive 1-negative	0	☆
P40.15	Upper limit of PID output	-100.0%～1P00.0%	100.0%	☆
P40.16	lower limit of PID output	-100.0%～1P00.0%	0.0%	☆
P40.17	Proportaional gain KP1	0.00～10.00	0.50	☆
P40.18	Integral time TI1	0.01s～10.00s	0.50s	☆
P40.19	Differential time TD1	0.000s～10.000s	0.000s	☆
P40.20	Proportaional gain KP2	0.00～10.00	0.50	☆
P40.21	Integral time TI2	0.01s～10.00s	0.50s	☆
P40.22	Differential time TD2	0.00s～10.00s	0.000s	☆
P40.23	PID parameter switchover condition	0：no switchover 1：switchover via DI 2：automatic switchover based on deviation	0	☆
P40.24	PID parameter switchover devation 1	0.0%～40-25	20.0%	☆
P40.25	PID parameter switchover devation 2	40-24～100.0%	80.0%	☆
P40.26	PID integral separation threshold	0.0%～100.0%	100.0%	☆
P40.27	PID initial value	0.0%～100.0%	0.0%	☆
P40.28	PID intial value holding time	0.00～650.00s	0.00s	☆
P40.29	PID deviation limit	0.0%～100.0%	0.0%	☆
P40.30	PID differential limit	0.00%～100.00%	0.10%	☆
P40.31	Maximum deviation between two PID outputs in forward direction	0.00%～100.00%	1.00%	☆
P40.32	Maximum deviation between two PID	0.00%～100.00%	1.00%	☆

Function code	Paarameter name	Setting range	Default	Property
	outputs in reverse direction			
P40.33	PID feedback filter time	0.000～30.000s	0.010s	☆
P40.34	PID output filter time	0.000～30.000s	0.010s	☆
P40.35	Detection value of PID feedback loss (lower limit)	0.0%(no detection)～100.0%	0.0%	☆
P40.36	Detection time of PID feedback loss	0.000s～30.000s	0.000s	☆
P40.37	Detection value of PID feedback loss(upper limit)	0.0%～100.0%(no detection)	100.0%	☆
P40.38	Upper Detection time of PID feedback loss	0.000s～30.000s	0.000s	☆
P40.39	PID operation at stop	0-No PID operation at stop 1-PID operation at stop	0	☆
P40.40	PID command for accel and decel time	0.0s～6000.0s	0.0s	☆
P40.41	PID offset selection	0-digital setting 1-AI1 2-AI2 3-AI3	0	☆
P40.42	PID offset digital setting	-100.0%～100.0%	0.0%	☆
41 Group Sleeping function				
P41.00	Sleep mode selection	0-no sleep functoin 1-sleep by frequency 2-AI1 3-AI2 4-AI3	0	☆
P41.01	Sleep setting value by frequency	0.00Hz～43-02	0.00Hz	☆
P41.02	Wake up threshold by frequency	P41.01～maximum frequency	0.00Hz	☆
P41.03	Sleep setting value by pressure	P41.04～10.00V	0.00V	☆
P41.04	Wake up threshold by pressure	0.00V～P41.03	0.00V	☆

Function code	Paarameter name	Setting range	Default	Property
P41.05	Sleep delay time	0.0s～6000.0s	0.0s	☆
P41.06	Wake up delay up	0.0s～6000.0s	0.0s	☆
P41.07	Sleep decelerating time	0.00(coast to stop)～60000s Setting value decide by P03.16 P03.16 = 2, 0.00～600.00s; P03.16 = 1, 0.0s～6000.0s; P03.16 = 0, 0s～60000s P41.07 set to 0,sleeping stop mode to free coast。	0.00s	☆
42 Group Simple PLC				
P42.00	PLC current running mode	Read only	-	●
P42.01	PLC current running remaining time	Read only	-	●
P42.02	PLC times of cycles	Read only	-	●

P42.03	Simple PLC running mode	Unit'digit:
		  0: single cycle then stop
		  1: single cycle then keep last speed
		  2: recycle
		  3: Plc reset when single cycle stop
		Ten's digit:
		  0:power off without saving 1:power off with saving
		Hundred'digit:
		  0:stop without saving 1:stop with saving
			003	☆

P42.04	PLC running times	1～60000	1	☆
P42.05	PLC step 1 running time	0.0～6553.5	0.0	☆
P42.06	PLC step 2 running time	0.0～6553.5	0.0	☆
P42.07	PLC step 3 running time	0.0～6553.5	0.0	☆
P42.08	PLC step 4 running time	0.0～6553.5	0.0	☆
P42.09	PLC step 5 running time	0.0～6553.5	0.0	☆
P42.10	PLC step 6 running time	0.0～6553.5	0.0	☆
P42.11	PLC step 7 running time	0.0～6553.5	0.0	☆
P42.12	PLC step 8 running time	0.0～6553.5	0.0	☆

Function code	Paarameter name	Setting range	Default	Property
P42.13	PLC step 9 running time	0.0～6553.5	0.0	☆
P42.14	PLC step 10 running time	0.0～6553.5	0.0	☆
P42.15	PLC step 11 running time	0.0～6553.5	0.0	☆
P42.16	PLC step 12 running time	0.0～6553.5	0.0	☆
P42.17	PLC step 13 running time	0.0～6553.5	0.0	☆
P42.18	PLC step 14 running time	0.0～6553.5	0.0	☆
P42.19	PLC step 15 running time	0.0～6553.5	0.0	☆
P42.20	PLC step 16 running time	0.0～6553.5	0.0	☆
P42.21	PLC running time unit	0:S;1:minute;2:hour	0	☆
P42.22	PlC step 1-4 ACCEL/DECEL rate selector	Unit'digit:step 1 ACCEL/DECEL rate selector ten'digit: step 2 ACCEL/DECEL rate selector Hundred's: step 3 ACCEL/DECEL rate selector Thousand'unit:step 4 ACCEL/DECEL rate selector 0- ACCEL/DECEL rate 1 1- ACCEL/DECEL rate 2 2- ACCEL/DECEL rate 3 3- ACCEL/DECEL rate 4	0000	☆
P42.23	PlC step 5-8 ACCEL/DECEL rate selector	Unit'digit: ACCEL/DECEL rate 5 Ten'digit: ACCEL/DECEL rate 6 Hundred'digit: ACCEL/DECEL rate 7 Thousand'digit: ACCEL/DECEL rate 8 0- ACCEL/DECEL rate 1 1- ACCEL/DECEL rate 2 2- ACCEL/DECEL rate 3 3- ACCEL/DECEL rate 4	0000	☆
P42.24	PlC step 9-12 ACCEL/DECEL rate selector	Unit'digit: ACCEL/DECEL rate 9 ten'digit: ACCEL/DECEL rate 10 Hundred'digit: ACCEL/DECEL rate 11 Thousand'digit: ACCEL/DECEL rate 12 0- ACCEL/DECEL rate 1 1- ACCEL/DECEL rate 2 2- ACCEL/DECEL rate 3 3- ACCEL/DECEL rate 4	0000	☆

Function code	Paarameter name	Setting range	Default	Property
P42.25	PIC step 13-16 ACCEL/DECEL rate selector	Unit's Digit: ACCEL/DECEL rate 13 Ten'Digit: ACCEL/DECEL rate 14 Hundred'digit: ACCEL/DECEL rate 15 Thousand's digit: ACCEL/DECEL rate 16 0- ACCEL/DECEL rate 1 1- ACCEL/DECEL rate 2 2- ACCEL/DECEL rate 3 3- ACCEL/DECEL rate 4	0000	☆
P42.26	PLC stop decelerating time	0.01～60000s	P20.00s	☆
43 Group Programming virtual time-delay relay				
P43.00	Virtual relay 1～4 output status	Read only,define as per bit:0000～1111	-	●
P43.01	Vitual relay control	Unit'digit:vitual relay 1 0:decided by control bit A 1: decided by control bit B Ten'digit: vitual relay 2 Hundred'digit: vitual relay 3 Thousand'digit: vitual relay 4 same as Unit'digit	0000	☆
P43.02	Vitual relay 1-4 control Control bit A	Unit'digit: Vitual relay 1 control bit A 0:set 0 1:set 1 Ten'unit: Vitual relay 2 Hundred'unit: Vitual relay 3 Thousand'unit: Vitual relay 4 same as unit'digit	0000	☆
P43.03	Vitual relay control bit B logic control	Unit'digit: Vitual relay 1 control logic 0:Ref1 1:!Ref1 2:Ref1&&Ref2 3:Ref1||Ref2 4:Ref1^Ref2 5:Ref1=1 effective,Ref2=1 ineffective 6:Ref1 up effective;Ref2 up ineffective 7:Ref1 up ,signal negative 8:Ref1 up effective,output 200ms pluse width 9:Ref1 up&& Ref2 Ten'digit: Vitual relay 2 control logic Hundred'digit: Vitual relay 3 control logic Thousand'digit: Vitual relay 4 control logic	0000	☆
P43.04	Vitual relay 1 control bit B _Ref	Unit/Ten:Ref1 0～0F;Di1～Di12,XDi1～XDi4	0000	☆

Function code	Paarameter name	Setting range	Default	Property
		10～13:DO1,DO2,RY1,RY2 20～25;varialor selector 1～4,LogicBlcok 1～2 30～33:Vitual RY1～Vitual RY4 Hundred/Thousand:Ref2 same as unit and ten		
P43.05	Vitual relay 2 control bit B _Ref	Same as P43.04	0000	☆
P43.06	Vitual relay 3 control bit B _Ref	Same as P43.04	0000	☆
P43.07	Vitual relay 4 control bit B _Ref	Same as P43.04	0000	☆
P43.08	Vitual relay 1 on delay time	0.0s～3000.0s	0.0s	☆
P43.09	Vitual relay 1 off delay time	0.0s～3000.0s	0.0s	☆
P43.10	Vitual relay 2 on delay time	0.0s～3000.0s	0.0s	☆
P43.11	Vitual relay 2 off delay time	0.0s～30P00.0s	0.0s	☆
P43.12	Vitual relay 3 on delay time	0.0s～3000.0s	0.0s	☆
P43.13	Vitual relay 3 off delay time	0.0s～3000.0s	0.0s	☆
P43.14	Vitual relay 4 on delay time	0.0s～3000.0s	0.0s	☆
P43.15	Vitual relay 4 off delay time	0.0s～3000.0s	0.0s	☆
P43.16	Vitual relay 1～4 logic setting	0000～1111(define as per bit)	0000	☆
44 group Variable selector and logic block				
P44.00	Variable selector 1～4 output	bit0～3 indicate the output of variable selector 1-4	-	●
P44.01	Logic block 1～2 output	bit0～1 indicate the output of logic block 1～2	-	●
P44.02	Variable selector 1 input source	00.00～98.99	00.00	☆
P44.03	Variable selector 1 threshold	00.00～98.99	00.00	☆
P44.04	Variable selector 1 logic mode	0:>; 1:<; 2:≥;3:≤;4:=; 5:≠; 6:≈	0	☆
P44.05	Variable selector 1 hysteresis width	0～65535	0	☆
P44.06	Variable selector 2 input source	00.00～98.99	00.00	☆

Function code	Paarameter name	Setting range	Default	Property
P44.07	Variable selector 2 threshold	00.00～98.99	00.00	☆
P44.08	Variable selector 2 logic mode	0:>; 1:<; 2:≥;3:≤;4:=; 5:≠; 6:≈	0	☆
P44.09	Variable selector 2 hysteresis width	0～65535	0	☆
P44.10	Variable selector 3 input source	00.00～98.99	00.00	☆
P44.11	Variable selector 3 threshold	00.00～98.99	00.00	☆
P44.12	Variable selector 3 logic mode	0:>; 1:<; 2:≥;3:≤;4:=; 5:≠; 6:≈	0	☆
P44.13	Variable selector 3 hysteresis width	0～65535	0	☆
P44.14	Variable selector 4 input source	00.00～98.99	00.00	☆
P44.15	Variable selector 4 threshold	00.00～98.99	00.00	☆
P44.16	Variable selector 4 logic mode	0:>; 1:<; 2:≥;3:≤;4:=; 5:≠; 6:≈	0	☆
P44.17	Variable selector 4 hysteresis width	0～65535	0	☆
P44.18	Logic block 1 threshold 1	00.00～98.99	00.00	☆
P44.19	Logic block 1 input source 1	0～16	0	☆
P44.20	Logic block 1 threshold 2	00.00～98.99	0	☆
P44.21	Logic block 1 input source 2	0～16	0	☆
P44.22	Logic bock 1 function	0:no function;1:and;2:or;3:not and;4:not or;5:Xor	0	☆
P44.23	Logic block 2 threshold 1	00.00～98.99	00.00	☆
P44.24	Logic block 2 input source 1	0～16	0	☆
P44.25	Logic block 2 threshold 2	00.00～98.99	0	☆
P44.26	Logic block 2 input source 2	0～16	0	☆

Function code	Paarameter name	Setting range	Default	Property
P44.27	Logic bock 2 function	0:no function;1:and;2:or;3:not and;4:not or;5:Xor	0	☆
P44.28	Constant setting 1	0～65535	0	☆
P44.29	Constant setting 2	0～65535	0	☆
P44.30	Constant setting 3	0～65535	0	☆
P44.31	Constant setting 4	-9999～9999	0	☆
P44.32	Constant setting 5	0～65535(define as bit)	0	☆
45 Group Multi-functional counter				
P45.00	Counter 1 actual value (before Electronic gear)	Read only （32 bits）	-	●
P45.02	Counter 1 actual value (after Electronic gear)	Read only （32 bits）	-	●
P45.04	Counter 1 set value (after Electronic gear)	0x1～0xffffffff （32 bits）	1000	☆
P45.06	Counter 1 max value (sfter Electronic gear)	0x1～0xffffffff （32 bits）	0xffffffff (decimal)	☆
P45.08	Counter 1 Electronic gear numerator	1～65535	1	☆
P45.09	Counter 1 Electronic gear denominator	1～65535	1	☆
P45.10	Counter 2 actual value	Read only（32 bits ）	-	●
P45.12	Counter 2 set value	0x1～0xffffffff （32 bits,decimal ）	1000	☆
P45.14	Counter 2 maximum value	0x1～0xffffffff （32 bits,decimal）	0xffffffff (decimal)	☆
P45.16	Counter 1/2 react for maximum value 0-stop;1-reset	00～11	11	☆
60 Group Motor 2 basic parameter				

Function code	Paarameter name	Setting range	Default	Property
P60.00	Control mode	Same as P00.04	0	★
P60.01	Upper limit frequency	Same as P01.07	0	★
P60.02	Upper limit frequency digital setting	Lower limit (P01.09)～ maximum frequency(P01.06)	50.00Hz	☆
P60.04	Accel and Decel time option	0：same as motor 1 1：Accel and Decel time 3（accel and decal 3/4 convert by terminal or change by output frequency）	0	★
P60.05	Accel time frequency switchover 2	0.00Hz～maximum frequency (P01.06)	0.00Hz	☆
P60.06	Decel time frequency switchover 2	0.00Hz～maxinumm frequency(P01.06)	0.00Hz	☆
61 Group Motor2 parameter				
61.xx same as motor 1 parameter P11.xx				
62 Group Motor 2 VF control parameter				
62.xx same as motor 1 VF control P12.xx				
62 Group Motor 2 Vector control parameter				
63.xx same as motor 2 Vector control P13.xx				

Chapter4 Fault Diagnosis and Solution

SET-300A inverter has 24 types of warning information and protection function. In case of abnormal fault, the protection function will be invoked, the inverter will stop output, and the faulty relay contact of the inverter will start, and the fault code will be displayed on the display panel of the inverter. Before consulting the service department, the user can perform self-check according to the prompts of this chapter, analyze the fault cause and find out t solution. If the fault is caused by the reasons as described in the dotted frame, please consult the agents of inverter or our company directly

Fault Name	Display	Possible Causes	Solutions
Inverter unit protection	Er. SC	1: The output circuit is grounded or short circuited. 2: The connecting cable of the motor is too long. 3: The IGBT overheat. 4: The internal connections become loose. 5: The main control board is faulty. 6: The drive board is faulty. 7: The inverter IGBT is faulty.	1: Eliminate external faults. 2: Install a reactor or anoutput filter. 3: Check the air filter and the cooling fan. 4: Connect all cables properly. 5: Ask for technical support 6: Ask for technical support 7: Ask for technical support
ground short circuit	Er.SC1	1. Short circuit of motor to ground 2, the motor and inverter wiring is too long 3, module overheating 4. The internal wiring of the inverter is loose 5. Control board is fault 6, Drive board is fault 7, inverter module is fault	1. Replace cable or motor 2. Install reactor or output filter 3. Check whether the air duct is blocked, the fan is working properly and eliminate the existing problems 4. Plug in all the connections 5. Ask for technical support 6. Ask for technical support 7. Ask for technical support
Over current during acceleration	Er.OC1	1: The output circuit is grounded or short circuited. 2: Motor auto-tuning is not performed. 3: The acceleration time is too short. 4: Manual torque boost or V/F curve is not appropriate. 5: The voltage is too low. 6: The startup operation is performed on the rotating motor. 7: A sudden load is added during acceleration. 8: The frequency inverter model is of too small power class.	1: Eliminate external faults. 2: Perform the motor auto-tuning. 3: Increase the acceleration time. 4: Adjust the manual torque boost or V/F curve. 5: Adjust the voltage to normal range. 6: Select rotational speed tracking restart or start the motor after it stops. 7: Remove the added load. 8: Select a frequency inverter ofhigher power class.

Fault Name	Display	Possible Causes	Solutions
Over current during deceleration	Er.OC2	1: The output circuit is grounded or short circuited. 2: Motor auto-tuning is not performed. 3: The deceleration time is too short. 4: The voltage is too low. 5: A sudden load is added during deceleration. 6: The braking unit and braking resistor are not installed	1: Eliminate external faults. 2: Perform the motor auto-tuning. 3: Increase the deceleration time. 4: Adjust the voltage to normal range. 5: Remove the added load. 6: Install the braking unit andbraking resistor.
Over current at constant speed	Er.OC3	1: The output circuit is grounded or short circuited. 2: Motor auto-tuning is not performed. 3: The voltage is too low. 4: A sudden load is added during operation. 5: The frequency inverter model is of too small power class.	1:Eliminateexternalfaults. 2: Perform themotor auto-tuning. 3:Adjust thevoltagetonormalrange. 4: Remove the addedload. 5: Select afrequency inverterofhigher powerclass.
Overvoltage during acceleration	Er.OU1	1: The input voltage is too high. 2: An external force drives the motor during acceleration. 3: The acceleration time is too short. 4: The braking unit and braking resistor are not installed.	1:Adjust thevoltagetonormalrange. 2: Cancel theexternal forceor install a braking resistor. 3: Increasethe accelerationtime. 4: Install thebraking unit andbraking resistor.
Overvoltage during deceleration	Er.OU2	1: The input voltage is too high. 2: An external force drives the motor during deceleration. 3: The deceleration time is too short. 4: The braking unit and braking resistor are not installed.	1:Adjust thevoltagetonormalrange. 2: Cancel theexternal forceor install thebraking resistor. 3: Increasethe decelerationtime. 4: Install thebraking unit andbraking resistor
Overvoltage at constant speed	Er.OU3	1: The input voltage is too high. 2: An external force drives the motor during deceleration.	1:Adjust thevoltagetonormalrange. 2: Cancel theexternal forceor install thebraking resistor.
Low voltage	Er.LU1	1: Instantaneous power failure occurs on the input power supply. 2: The frequency inverter's input voltage is not within the allowable range. 3: The DC bus voltage is abnormal. 4: The rectifier bridge and buffer resistor are faulty. 5: The drive board is faulty. 6: The main control board is faulty.	1: Reset thefault. 2:Adjust thevoltagetonormalrange. 3: Ask for technical support 4: Ask for technical support 5: Ask for technical support 6: Ask for technical support

Fault Name	Display	Possible Causes	Solutions
Contactor open	Er.LU2	1. Instantaneous power cut 2, the inverter input voltage is not in the scope of the specification requirements 3. Abnormal bus voltage 4, rectifier bridge and buffer resistance is not normal 5, drive board is fault 6. control board is fault	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 6.Ask for technical support
Frequency inverter overload	Er. oL	1: The load is too heavy or locked-rotor occurs on the motor. 2: The frequency inverter model is of too small power class.	1: Reduce the load andcheck the motor and mechanical condition. 2: Select afrequency Inverter of higher power level.
Motor overload	Er.oL1	1: F8-02 is set improperly. 2: The load is too heavy or locked-rotor occurs on the motor. 3: The frequency inverter model is of too small power class.	1: Set F8-02 correctly. 2: Reduce the load andcheck the Motor and the mechanical condition. 3: Select a frequency Inverter of higher power level
Motor overheat	Er. oH3	1: The cabling of the temperature sensor becomes loose. 2: The motor temperature is too high	1: Check the temperature sensor cabling and eliminate the cabling fault. 2: Lower the carrier frequency or adopt other heat radiation
Power input phase loss	Er.iPL	1: The three-phase power input is abnormal. 2: The drive board is faulty. 3: Thelightning proof board is faulty. 4: The main control board is faulty.	1:Eliminate external faults. 2: Ask for technical support. 3: Ask for technical support. 4: Ask for technical support.
Power output phase loss	Er.oPL	1: The cable connecting the frequency inverter and the motor is faulty. 2: The frequency inverter's three-phase outputs are unbalanced when the motor is running. 3: The drive board is faulty. 4: The IGBT module is faulty.	1:Eliminate external faults. 2: Check whether the Motor three phase winding is normal. 3: Ask for technical support. 4: Ask for technical support.
IGBT Module overheat	Er. oH	1: The ambient temperature is too high. 2: The air filter is blocked. 3: The fan is damaged. 4: The thermally sensitive resistor of the IGBT module is damaged. 5: The inverter IGBT module is damaged	1:Lower the ambient temperature. 2: Clean theairfilter. 3: Replace thedamaged fan. 4: Replace the damaged thermally sensitive resistor. 5: Replace the inverter module.

Fault Name	Display	Possible Causes	Solutions
module temperature detection fault	Er.tCK	1, temperature detection line broken 2, drive board is faulty 3. Main control board is faulty 4, the environmental temperature is too low	1. Check the thermistor wiring 2. Ask for technical support 3. Ask for technical support 4, manual intervention to drive the temperature rise
485Communication fault	Er.485	1, the work of the host computer is not normal 2, the communication line is not normal 3, the communication parameter set is incorrect	1. Check the connection of upper computer 2. Check the communication connection line 3. Set communication parameters correctly
Current detection fault	Er.CUr	1: The HALL device is faulty. 2: The drive board is faulty. 3: The control board is faulty	1: Replace the faulty HALL device. 2: Replace the faulty drive board. 3: Ask for technical support.
Motor auto-tuning fault 1	Er.TU1	1: The motor parameters are not set according to the nameplate. 2: The motor auto-tuning times out.	1: Set the motor parametersaccording to the nameplateproperly. 2: Check the cable connectingthe Frequency inverter and the
Motor auto-tuning fault2	Er.TU2	1: The motor parameters are not set according to the nameplate. 2: The motor auto-tuning times out.	1: Set the motor parametersaccording to the nameplateproperly. 2: Check the cable connectingthe Frequency inverter and themotor.
EEPROM read- write fault	Er.EEP	1、 Eeprom Operate too frequent 2、 The EEPROM chip is damaged.	1、 Operate Eeprom suitable 2、 Replace the main control board
Off load	Er. LL	1、The frequency inverter running current is lower than the setting value.	1、 Confirm whether the load is off 2、 Check that the load is disconnected or the parameter setting is correct
PID feedback lost during running	Er.FbL	1、 PID feedback<P40.35 setting value and P40.36 not zero,PID feedback>P40.37 setting value and P40.38 not zero	1、 check PID feedback signal 2、 P40.35 and P40.37 set correct parameter
User-defined fault 1	Er.Ud1	1: The signal of user-defined fault 1 is input via DI. 2:The signal of user-defined fault 1 is input via virtual I/O.	1: Reset the operation. 2: Reset the operation
User-defined fault 2	Er.Ud2	1: The signal of user-defined fault 2 is input via DI. 2:The signal of user-defined fault 2 is input via virtual I/O.	1: Reset the operation. 2: Reset the operation

| Fault Name	Display	Possible Causes	Solutions
By wave current limitingfault	Er.CbC	1: The load is too heavy or locked-rotor occurs on the motor. 2: The frequency inverter model is of too small power class	1: Reduce the load and check the motor and mechanical condition. 2: Select a frequency inverter of higher power class.
Too large speed deviation	Er.DEV	1: The encoder parameters are setincorrectly. 2: The motor auto-tuning is notperformed. 3: The detection parameters of toolarge speed deviation are setincorrectly.	1: Set the encoder parameters properly. 2: Perform the motor auto-tuning. 3: Set the detection parameters correctly based on the actualsituation.
Motor over-speed	Er. oS	1: The encoder parameters are setincorrectly. 2: The motor auto-tuning is notperformed. 3: The over-speed detectionparameters are set incorrectly	1: Set the encoder parametersproperly. 2: Perform the motor auto-tuning. 3: Set the over-speed detection parameter correctly based on the actual situation.

Appendix A Modbus communication protocol

SET-300A series of inverter provides RS485 communication interface, and adopts MODBUS communication protocol. User can carry out centralized monitoring through PC/PLC to get operating requirements. And user can set the running command, modify or read the function codes, the working state or fault information of frequency inverter by Modbus communication protocol。

A.1Protocl fomat

A.1.1 Message format

The SET-300A series inverter Modbus message includes the start sign, the RTU message, and the end sign。
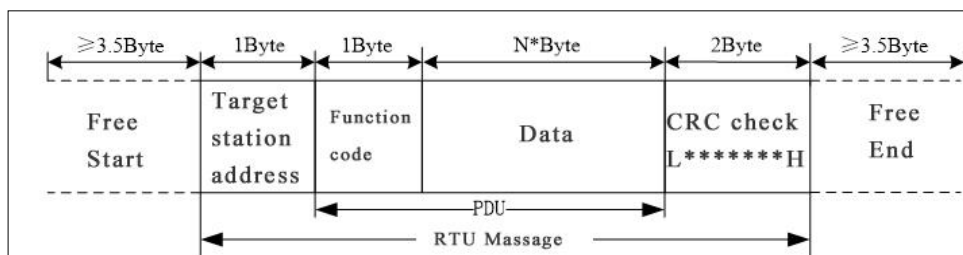
The RTU message includes the address code, the PDU (Protocol Data Uint, the protocol data unit), and the CRC check. PDU includes the function code and the data section.

RTU frame format：

Frame start (START)	More than the 3.5- character time			
Slave address (ADR)	Communication address:1 to 247(0: broadcast address)			
Command code (CMD)	Command code	Abnormal command code	Description	
	0x03	0x83	Read multiple registers or status word command codes	
	0x06	0x86	Read single registers or status word command codes	
	0x10	0x90	write multiple registers or status word command codes	
	0x08	0x88	Diagnostic command code	
Number of function code	Including the register address (2Byte), the number of registers n(2Byte) and the register content (2nByte), etc.			
CRC CHK low level	It indicates the replying data or the data waiting to write-in. During the transmission, high bit is put in the front, and low bit is at the back.			
CRC CHK high level				
END	3.5- character time			

Command code 0x03Read multiple registers or status words

● Request PDU

Command code	1byte	0x03
initial address	2byte	0x0000～0xFFFF
Number of registers	2byte	1～16

● Response PDU

Command code	1byte	0x03
Initial address	1byte	2n（n means Number of registers）
Number of registers	2n byte	

● Wrong PDU

Command code	1byte	0x83
Abnormal code	1byte	See Abnormal response information

Currently Modbus protocol 0x03 command code does not support cross-group read multiple function codes, if more than the current group of function code number will be wrong.

Command code 0x06 write single registers or status word command codes

Request PDU

Command code	1byte	0x06
Initial address	2byte	0x0000～0xFFFF
Register value	2byte	0x0000～0xFFFF

● Respond PDU

Command code	1byte	0x06
Register address	2byte	0x0000～0xFFFF
Register value	2byte	0x0000～0xFFFF

● Wrong PDU

Command code	1byte	0x86
Abnormal code	1byte	See Abnormal response information

Commad 0x10 write multiple registers or status word command codes

● Request PDU

Command code	1byte	0x10
Initial address	2byte	0x0000～0xFFFF
Number of Register	2byte	1～16
Number of Byte	1byte	2n （n is number of Register）
Register Value	2nbyte	

● Respond PDU

Command code	1byte	0x10
Initial address	2byte	0x0000～0xFFFF
Number of register	2byte	1～16

● Wrong PDU

Command code	1byte	0x90
Abnomal Code	1byte	See Abnormal response information

Commad code 0x08 Diagnostic function

● Modbus Command Code 0x08 Providea series of tests to check the communication system between the client (master) device and the server (slave) or various internal error conditions in the server.

● This function uses the sub-command code of 2 bytes inquery to define the type of test to be performed. The server copies the command and subcommand codes in the normal response. Some diagnostics cause the remote device to return the data through the normally responding data fields.

- Diagnostic functions to remote devices generally do not affect the user program running in the device. The main diagnostic function of this product is not line diagnosis (0000), used to test the host from the machine is normal communication.

- Request PDU

Command code	1byte	0x08
Subcommand code	2byte	0x0000～0xFFFF
Data	2byte	0x0000～0xFFFF

Respond PDU

Command code	1byte	0x08
Subcommand code	2byte	0x0000～0xFFFF
Data	2byte	0x0000～0xFFFF

Wrong PDU

Command code	1byte	0x88
Abnomal code	1byte	See Abnormal response information

- Subcommand code

Subcommand code	Description	Data field (request)	Data field (Respond)
0000	Return the inquiry data	any	Copy request data

Abnormal response information

When the master device sends a request to the slave device, the master expects a normal response. The master's query may result in one of four events:

(1) If the slave device receives a request for a communication error and the query can be processed normally, the slave device will return a normal response.

(2) If the slave device does not receive the request due to a communication error, no information can be returned and the slave device times out.

(3) If the slave device receives a request and detects a communication error (parity, address, framing error, etc.), no response is returned and the slave device times out.

(4) If the slave device receives no communication error request, but can not handle the request (such as the register address does not exist, etc.), the slave station will return an abnormal response to inform the master of the actual situation.

Abnormal response command code = normal response command code + 0x80, the exception code as shown in the following table:

Error code	Name	Description
0x01	Error function	The function code received by the slave is outside the configured range
0x02	Error data address	Slave station receives the data address is not allowed address
0x03	Error data frame	Length of inquiry from slave station to detect or CRC is incorrect
0x04	Slave equipment failure	An unrecoverable error occurred while the slave attempted to perform a requested operation, such as a logical error or a failed write Eeprom

0x05	Data is out of range	The data received by the slave exceeds the corresponding register minimum to maximum range
0x06	Parameter read-only	The current register is read-only, can not write
0x07	Parameter no modified during operation	Inverter is running, the current register can not be written
0x08	The parameters are password protected	The current register is password protected, unreadable.

CRC check

CRC（Cyclical Redundancy Check）use RTU frame，The message includes an error detection field based on the CRC method. The CRC field examines the contents of the entire message. The CRC field is two bytes containing a binary value of 16 bits. It is calculated by the transmission equipment and added to the message. The receiving device recalculates the CRC of the received message and compares it with the value in the received CRC field,

If the two CRC values are not equal, there is an error in the transmission.

CRC is first stored in 0xFFFF, and then call a process will be continuous in the news 8-bit byte and the value of the current register for processing. Only the 8Bit data in each character is valid for the CRC, the start and stop bits, and the parity bit are invalid. During CRC generation, each 8-bit character is exclusive or (XOR) different from the contents of the register. The result is shifted to the least significant bit. The most significant bit is padded with zeros. The LSB is extracted to detect if the LSB is 1, the register is exclusive or exclusive with the preset value, and if the LSB is 0 then no action is taken. The whole process to be repeated eight times. After the last bit (bit 8) is completed, the next 8-bit byte, in turn, differs from the current value of the register. The value in the final register is the CRC value after all the bytes in the message have been executed.

When CRC is added to the message, the low byte is added first followed by the high byte. CRC simple function is as follows:unsigned int crc_chk_value（unsigned char *data_value,unsigned char length）

```
{
    unsigned int crc_value=0xFFFF;
    int i;
    while（length--）
    {
        crc_value^=*data_value++;
        for（i=0;i<8;i++）
        {
            if（crc_value&0x0001）
            {
                crc_value=（crc_value>>1）^0xa001;
            }

            else
            {
                crc_value=crc_value>>1;
            }
        }
    }
    return（crc_value）;
}
```

A.1.2 Register address distribution

（1）Function code address

Function code group number	Communication access address	Communication Modify RAM Access Address
00～99: 0x00～0x63(no written of Eeprom) 0x80～0xE3(written of Eeprom)	0x8000～0xE363	0x0000～0x6363

For example: To access function code P01.20, the access address of function code is represented as (0x0114) | 0x8000 = 0x8114;

note:

As EEPROMs are frequently stored, the life of the EEPROM is reduced. Some function code in communication mode, no need to store, just change the value of RAM on it.

Control command input to inverter: (write only)

Command address	Command function
7000H	0000：disabled command
	0001：forward running
	0002：reverse Running
	0003：Forward JOG
	0004：Reverse JOG
	0005：free stop
	0006：Decelarating stop
	0007：Quickly stop
	0008：Fault reset

See the inverter status, see 27 groups of function codes.

Inverter fault description:

Inverter fault address	Inverter fault information	
0x1900 （P25.00 function code）	0000：No Fault	0015：Current detection failure
	0001：SC protection	0016：Encoder feedback error
	0002：Acceleration over current	0017：Encoder zero point detection error
	0003：Deceleration over current	0018：Reversed
	0004：Constant speed over current	0019：Over speed
	0005：Acceleration over voltage	001A：Speed deviation too big
	0006：Deceleration over voltage	001B: Motor auto-tuning fault1
	0007：Constant speed over voltage	001C: Motor auto-tuning fault2
	0008：Under-voltage fault	001D: Motor auto-tuning fault 3
	0009：Buffered relay is not engaged	001E：Motor auto-tuning fault 4
	000A：Frequency inverter overload	001F：Off load
	000B：Motor oveload	0020：Eeprom Operation failure
	000C：Input phase failure	0021：Reversed
	000D：Output phase failure	0022：Communication timeout
	000E：IGBT overheat	0023：Expansion card failure
	000F：Reversed	0024：PID Feedback is disconnected
	0010：Motor overheat	0025：User-defined fault 1
	0011：Fast current limit fault	0026：User-defined fault 2

	0012：Short circuit to ground fault 0013：Keep motor tuning fault 0014：Drive temperature detection is abnormal	

Communication function code see 30 function code group。

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