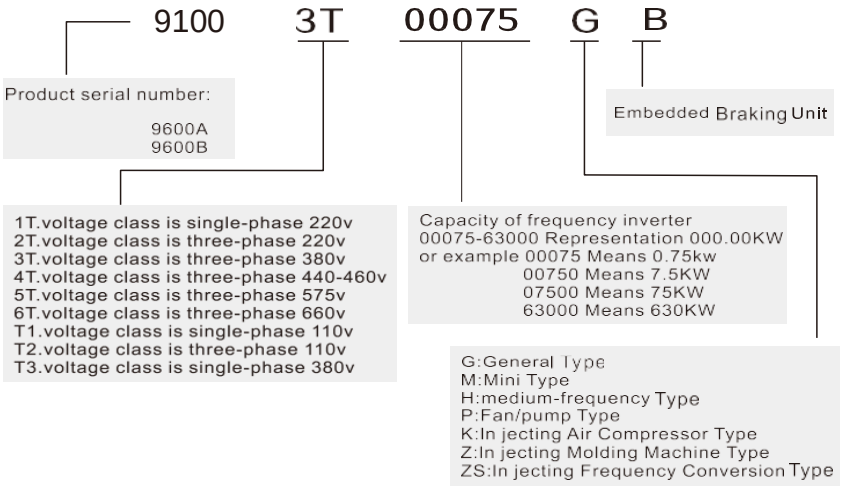
9100 series

High performance vector frequency inverter

Product instructions

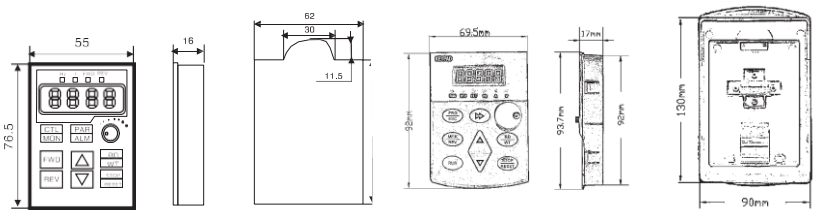
Catalog

一. Description and model

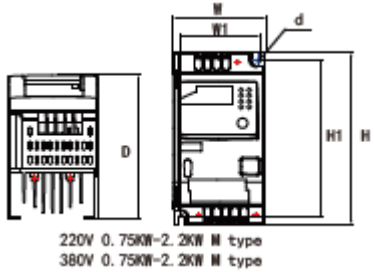


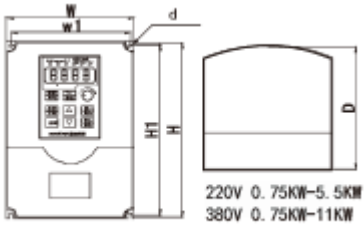
二. 9100 series

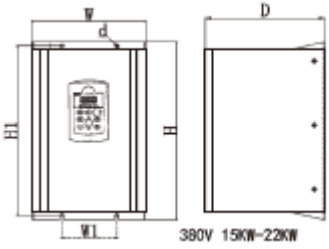
2.1 Outline size and installation size



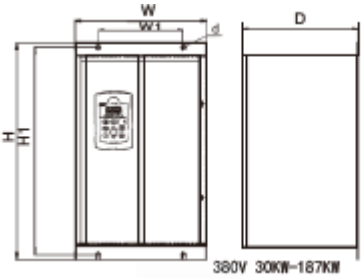
2.2 Outline size and installation size







380V 15KW-22KW



380V 30KW-187KW

Inverter type			W (mm)	W1 (mm)	H (mm)	H1 (mm)	D (mm)	d (mm)
9600-3T-00075-M-B	9600-1T-00075-M-B		83	71	155	142	131	Φ4
9600-3T-00150-M-B	9600-1T-00150-M-B							
9600-3T-00220-M-B	9600-1T-00220-M-B							
9600-3T-00075-G-B	9600-1T-00075-G-B		126	115	170	160	160	Φ4
9600-3T-00150-G-B	9600-1T-00150-G-B							
9600-3T-00220-G-B	9600-1T-00220-G-B							
9600-3T-00400-G-B	9600-1T-00400-G-B							
9600-3T-00550-G-B	9600-3T-00750-P-B							
9600-3T-00750-G-B	9600-3T-01100-P-B	9600-1T-00550-G-B	150	134	220	203	172	Φ4
9600-3T-01100-G-B	9600-3T-01500-P-B							
9600-3T-01500-G-B	9600-3T-01850-P-B		218	108	338	323	228	Φ9
9600-3T-01850-G-B	9600-3T-02200-P-B							
9600-3T-02200-G-B	9600-3T-03000-P-B							
9600-3T-03000-G	9600-3T-03700-P	9600-6T-01850-G	280	180	420	403	275	Φ9
9600-3T-03700-G	9600-3T-04500-P	9600-6T-02200-G						
9600-3T-04500-G	9600-3T-05500-P	9600-6T-03700-G	370	200	600	579	315	Φ11
9600-3T-05500-G	9600-3T-07500-P	9600-6T-04500-G						
9600-3T-07500-G	9600-3T-09300-P	9600-6T-05500-G						
9600-3T-09300-G	9600-3T-11000-P	9600-6T-07500-G						
9600-3T-11000-G	9600-3T-13200-P	9600-6T-09300-G						
9600-3T-13200-G	9600-3T-16000-P	9600-6T-11000-G	430	300	800	775	358	Φ11
9600-3T-16000-G	9600-3T-18700-P	9600-6T-13200-G						
9600-3T-18700-G	9600-3T-20000-P	9600-6T-16000-G						
9600-3T-20000-G	9600-3T-22000-P	9600-6T-18700-G	692	-	1260	-	355	-
9600-3T-22000-G	9600-3T-25000-P	9600-6T-20000-G						
9600-3T-25000-G	9600-3T-28000-P	9600-6T-22000-G						
9600-3T-28000-G	9600-3T-31500-P	9600-6T-25000-G						
9600-3T-31500-G	9600-3T-37500-P	9600-6T-28000-G						
9600-3T-37500-G	9600-3T-40000-P	9600-6T-31500-G						
9600-3T-40000-G	9600-3T-45000-P	9600-6T-37500-G	Please take the physical size as the standard					
9600-3T-45000-G	9600-3T-50000-P	9600-6T-40000-G						
9600-3T-50000-G	9600-3T-56000-P	9600-6T-45000-G						
9600-3T-56000-G	9600-3T-63000-P	9600-6T-50000-G						
9600-3T-63000-G		9600-6T-56000-G						
		9600-6T-63000-G						

三. Frequency inverter optional chart

Voltage(V)	220V	220V	380V	460V	575V	660V
	(1F)	(240V)	(415V)	(440V)		
Power(KW)	Current(A)	Current(A)	Current(A)	Current(A)	Current(A)	Current(A)
0.4	2.5	2.5				
0.75	4	4	2.5	2.5		
1.5	7	7	3.7	3.7		
2.2	10	10	5	5		
4	16	16	8.5	8		
5.5	20	20	13	11		
7.5	30	30	16	15		
11	42	42	25	22	17	15
15	55	55	32	27	22	18
18.5	70	70	38	34	26	22
22	80	80	45	40	33	28
30	110	110	60	55	41	35
37		130	75	65	52	45
45		160	90	80	62	52
55		200	110	100	76	63
75		260	150	130	104	86
83		320	170	147	117	98
110		380	210	180	145	121
132		420	250	216	173	150
160		550	300	259	207	175
187		600	340	300	230	198
200		660	380	328	263	218
220		720	415	358	287	240
250			470	400	325	270
280			520	449	360	330
315			600	516	415	345
375			680	600	450	390
400			750	650	520	430
450			820	720	650	465
500			900	800	700	550
560			1000	900	780	590
630			1100	1000	850	680

Note:
The common inverter, also called constant torque converter.Overload current 1.5 times of 1 minute,2 times the current instantaneous protection;Fan and water pump inverter also called load inverter,overload current 1.2 times 1 minutes, 1.5 times the current instantaneous protection;When we chooce the type of inverter,the general smaller level is of fan and water pump type.But considering the safety,we recommendations of fan and water pump also try to use common type,in order to avoid overload protection to affect production.

四.Inverter operation panel and set instructions

4.1 Operation panel pictur

9100 Operation panel

4.2 Operation panel keypad

Keypad signal	Name	function
PRG/ESC	programmable	Menu entry or exit , fast parameter delete
RD/WT	Confirm	Step by step into the menu screen , set parameter confirmation
▲	UP	Increasing data or function code
▼	DOWN	Decreasing data or function code
RD/WT + REV/JOG	combination	Under the outage display interface and operation interface, can be left Shift cycle display parameters choice, pay attention to the operation should be according to the first RD/WT button, and then press the REV/JOG
SHIFT	Move right	Under the outage display interface and operation interface, can be left Shift cycle display parameters choice, and you can revise the parameter when you need .

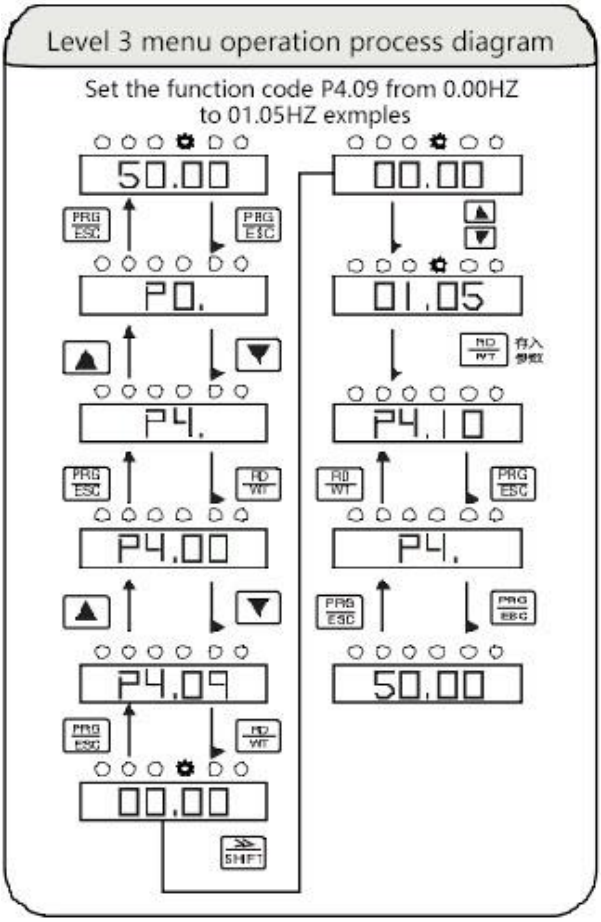
Keypad symbol	Name	function
	Running	running operation
	Stop/reset	When running status, press this button can be used to stop running A; The function constrainted by code P1.10 Fault alarm status All control mode, can use the key to reset operation
	shortcut multifunctional key	The function be determined by the function code "P1.09" Zero: inching operation for dynamic key point 1: forward reversal switch for dynamic key point 2: clear set UP/DOWN Clean UP by setting UP/DOWN frequency values
	Combination	FWD key and STOP/RST is pressed at the same time, Inverter free downtime

4.3 Parameters set instructions

Level 3 menu, respectively

1. The function block (menu);
2. The function code label (secondary menu);
3. The function code set value (level 3) menu.

Description:In level 3 menu operation, according to these RPG/ESC or RD/WT key to return to the secondary menu. The difference between the two is: according to the RD/WT key will be deposited in the control panel set parameters, and then return to the secondary menu, and automatically move to the next function code; According to these RPG/ESC key is returned directly the secondary menu, not storage parameters, and keep stay in the current function code

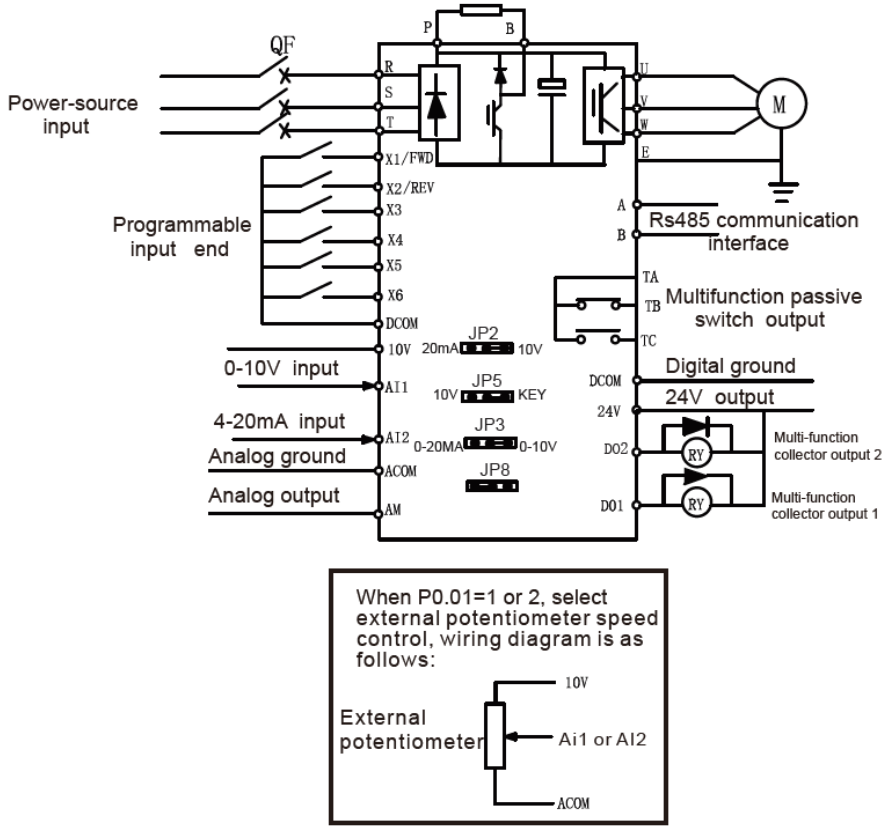


In level 3 menu state, if the parameter is not flashing, said the function code cannot be modified, possible reasons are:

(1) the function code as immutable parameters, such as the actual testing parameters, operation records parameters, etc.;

(2) the function code in the running state cannot be modified, only can be modified under stop status.

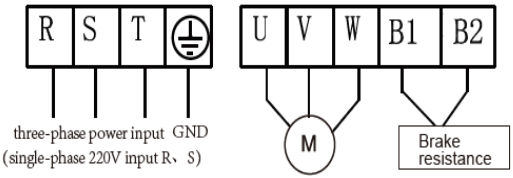
五.Frequency inverter basic wiring diagram

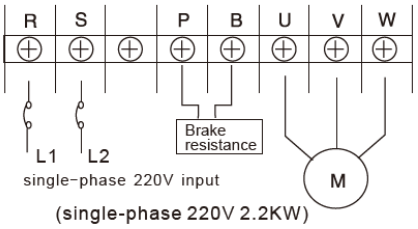


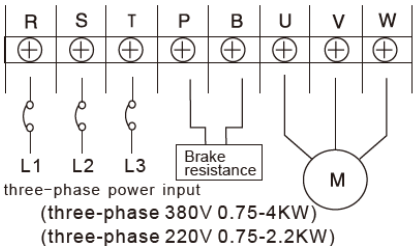
Notes :X5,X6,Do2 andA,B is reset terminals of 485 communication port, parameters switched by P9.07 and wire jumpered by JP6,JP7,JP8.

六. Description of main loop terminals

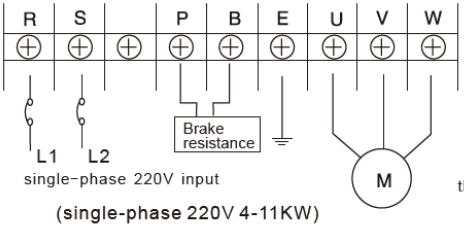
6.1、Wiring diagram of model M

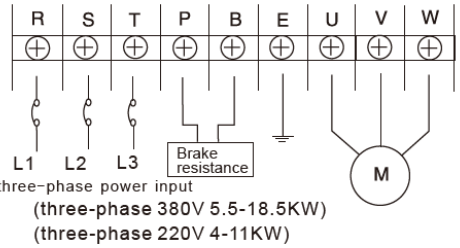




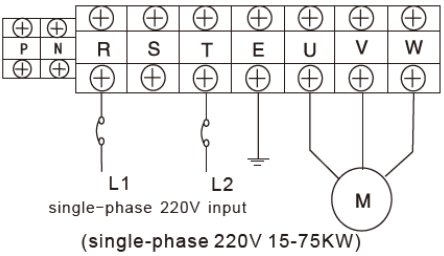


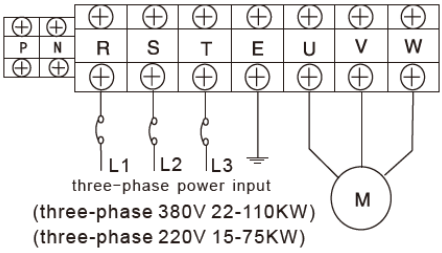
6.3、Wiring diagram of 5.5-18.5KW



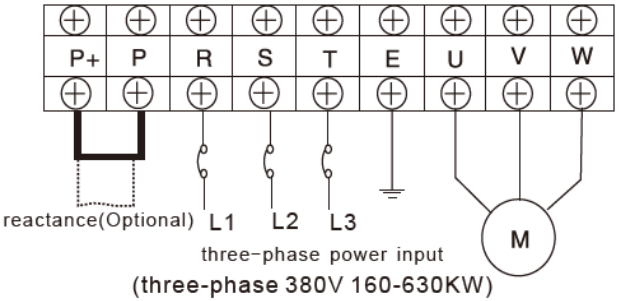


6.4、Wiring diagram of 22-110KW





6.5、Wiring diagram of 22-110KW

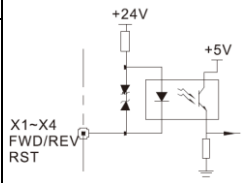
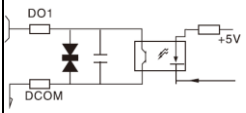
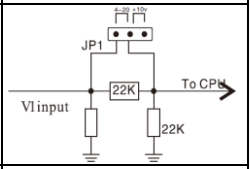
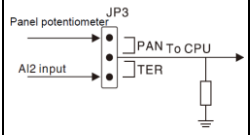
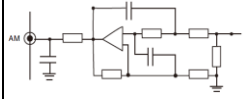


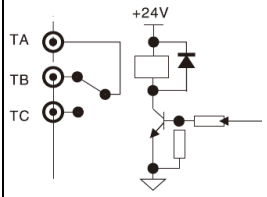
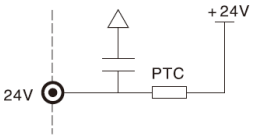
Note: other non-standard customized products, please in kind prevail mark

6.6、Identification of the main loop terminal

Terminals	function
R、S、T	The ac power input terminals, three-phase 380 v ac power (4T)
R、S、	The ac power input terminals, single-phase 220 v ac power (1T)
U、V、W	Inverter output terminal, connect a three-phase ac motor
P、P+	Dc reactor connect terminals, one connect P,one P+
P+、N	Braking unit connect terminals,positive connect ,P+,negative connect N
P、B	External braking resistor terminals, one end of the P, B at the other end

6.7、Control circuit terminal function

Type	Terminal NO.	Function	specification	interior circuit
Running control terminals	FWD (X1)	with DOCM forward, slow down and stop when open (P3.01=1)	INPUT.0-24V Level signal, low level effectively, 5mA	
Multifunctiona-l digital input terminals	X2	(X2、X3、X4、X5、X6) DCOM nipple effective, its functions are respectively set by the parameter P3.02 - P3.06	INPUT.0-24VLevel signal, low level effectively, 5mA	
	X3			
	X4			
	X5			
	X6			
Digital output terminals	DO1	Multifunctional programmable open collector output。DO1 by P3.10=0-13 DO1 by P3.12=0-13	OUTPUT,Maximum load current≤50mA	
	DO2			
Analog input-output terminals	AI1	Analog input, reference for ACOM (factory value to 0 v to 10 v)	JP1 0 v to 10 v or 4-20 ma dc voltage, JP2 used to determine the source of the input terminals AI1	
	AI2	Analog input, reference for ACOM (factory value for panel potentiometer)	INPUT. 0 to + 5 v dc voltage or panel potentiometer, JP3 used to determine the source of the INPUT terminals AL2	
	AM	Multi-function editable analog voltage output, reference for ACOM, can choose the voltage by JP3 0 to 10 v output or 4-20 ma current output	JP3 choice of 0 to 10 v or 4-20 ma signal output. P2.12 choose different output monitoring	

Type	Termina l NO.	Function	specification	Interior circuit
potentiomet er output terminals	TA TB TC	TA, TB normally closed point output; TA, TC normally open point output; By P3.11 = 0-13	Contact rating: 250VAC-3A 30VDC-1A	
power interface	24V	24 v is circuit common power supply of digital input terminal	24VDC-100mA	
	COM	COM is earth terminal of digital signal input terminal		
	10V	10 v output power, as external potentiometer given power	Factory value 10VDC	
	GND	earth terminals of Programmable power supply		

七.Function parameters and chart

7.1、Function parameters instruction

Function parameter of Frequency inverter use level 3 menu,such as “P8.08” express 8th function code of P8 groups function,PF is manufacturers function parameters,user have no right to access.To convenient set function code,when opearating panles,function groups correspond level 1 menu ,function number correspond level2 menu ,function code setting correspond level 3 menu.

1. Function chartcontent as follows：

Function groups：P0～PF group total 14 groups.

The first column“function code”：function parameters groups and the series number of parameter；

The second column “name”：the full name of function parameters；

The third column “parameter detailed instruction”：The detailed instruction of function parameter；

The forth column “default”：The original setting of function parameters；

The fifth column“change”：The change attribute（if allow to change or not and change condition），

2.Parameter system”is decimalism，if parameters use hexadecimal，every date is independent of each other when editing，the scope of some part can be hexadecimal（0～F）。

3.The default”is the value after function was refreshed when reset to factory setting ,but the actual value could’t be refreshed。

4.To effectively protect parameters，frequency inverter protected the function code，set user password（user password P1.32 not 0），when user press PROG to enter to edit function code status，the system will enter user password verifying status，express “0.0.0.0.0”，

User must input the correct password，or can’t enter，as for the factory settings，need input correct the original password（remind user，don't try to revise factory password，if set incorrect, easily lead to abnormal or damage）。You can modify the password before password protect haven’t locked,，User password will be subject to the last input values。

5.Using series communication function code,User passwords also follows as before.

7.2、Function Code Table

1.○--- The parameter can be modified when the AC drive is in either stop or running state.
2.◎---The parameter cannot be modified when the AC drive is in the running state.
3.●---The parameter is the actually measured value and cannot be modified.

Function Code	Parameter Name	Setting Range	Default	Property
GroupP0:Standard Function Parameters				
P0.00	Speed control mode	0：Vector control without PG 1：V/F control 2：Constant power control（Applies to version 2.1 and above.） 3：Synchronous motor（（Applies to version 2.2 and above.） 4：Vector control with PG	1	◎
P0.01	Frequency command selection	0: Keypad setting 1: Analog AI1 setting 2：Analog AI2 setting (Panel potentiometer setting) 3：AI1 + AI2 4: Max（AI1、AI2） 5：Multi-step running setting 6: PID control setting 7: Remote communication setting	0	○
P0.02	Run command channel	0: Keypad command channel (LED goes off) 1: Terminal command channel (LED flashes) 2: Communication command channel (LED lights up)	0	◎
P0.03	Keypad setting frequency	0.0Hz～P0.13（(upper operating frequency limit)）	50.00Hz	○
P0.04	Acceleration time 1	0.1～3600.0s	10s	○
P0.05	Deceleration time 1	0.1～3600.0s	10s	○
P0.06	Carrier frequency setting	1.5～15.0kHz	8kHz	○
P0.07	V/F curve setting	0： Linear V/F 1： Square V/F 2：Reserved； 3：Reserved； 4：Multi-point V/F	0	◎
P0.08	Torque boost	0.0%：（automatic）0.1%～30.0%	0.02	○
P0.09	torque boost cutoff	0.0%～50.0%（corresponding to rated frequency of the motor）	0.5	◎

Function Code	Parameter Name	Setting Range	Default	Property
P0.10	V/FSlip compensation limit point	0.0～200.0%	0	○
P0.11	Running direction selection	0: Running in default direction 1: Running in opposite direction 2: Reverse running prohibited	0	◎
P0.12	Forward/Reverse rotation dead-zone time	0.0～3600.0s	1.0s	○
P0.13	Maximum output frequency	10.00～650.00Hz	50.00Hz	◎
P0.14	Upper operating frequency limit	P0.15～P0.13（maximum frequency）	50.00Hz	○
P0.15	Lower operating frequency limit	0.00Hz～P0.14（upper operating frequency limit)）	0.00Hz	○
P0.16	Frequency command selection	0: Keypad setting 1: Analog AI1 setting 2：Analog AI2 setting (Panel potentiometer setting) 3：AI1 + AI2 4: Max（AI1、AI2） 5：Multi-step running setting 6: PID control setting 7: Remote communication setting	0	○
P0.17	Run command channel 2	0: Keypad command channel (LED goes off) 1: Terminal command channel (LED flashes) 2: Communication command channel (LED lights up)	0	◎
P0.18	Multi-point V/F frequency 3	P0.20～P0.14	0	◎
P0.19	Multi-point V/F voltage 3	P0.21～100%	0	◎
P0.20	Multi-point V/F frequency 2	P0.22～P0.18	0	◎
P0.21	Multi-point V/F voltage 2	P0.23～P0.21	0	◎
P0.22	Multi-point V/F frequency 1	0～P0.20	0	◎
P0.23	Multi-point V/F voltage 1	0～P0.21	0	◎
P0.24	Run time delay	0—3600S	0	◎
Group P1 Auxiliary parameter group				

Function Code	Parameter Name	Setting Range	Default	Property
1.00	AVR function selection	0: Invalid 1: Full-range enabled 2: Disabled upon deceleration	0	○
P1.01	Action judging voltage at instantaneous power failure	115.0～140.0% ((standard bus voltage)220V series	1.2	○
		115.0～140.0% ((standard bus voltage)380V series	1.3	
P1.02	Heatsink temperature	0～100.0°C	0	●
P1.03	inverter module temperature	0～100.0°C	19.4	●
P1.04	JOG running frequency	0.00～P0.13（maximum frequency）	5.00Hz	○
P1.05	JOG acceleration time	0.1～3600.0s		○
P1.06	JOG deceleration time	0.1～3600.0s		○
P1.07	Acceleration time 2	0.1～3600.0s	10s	○
P1.08	Deceleration time 2	0.1～3600.0s	10s	○
P1.09	Acceleration time 3	0.1～3600.0s	5s	○
P1.10	Deceleration time 3	0.1～3600.0s	10s	○
P1.11	Acceleration time 4	0.1～3600.0s	5s	○
P1.12	Deceleration time 4	0.1～3600.0s	10s	○
P1.13	Acceleration time 5	0.1～3600.0s	5s	○
P1.14	Deceleration time 5	0.1～3600.0s	10s	○
P1.15	Acceleration time 6	0.1～3600.0s	5s	○
P1.16	Deceleration time 6	0.1～3600.0s	10s	○
P1.17	Acceleration time 7	0.1～3600.0s	5s	○
P1.18	Deceleration time 7	0.1～3600.0s	10s	○
P1.19	Acceleration time 8	0.1～3600.0s	5s	○
P1.20	Deceleration time 8	0.1～3600.0s	10s	○
P1.21	QUICK/JOG function selection	0：JOG running 1：Reverse action 2：Clear UP/DOWN settings	1	◎
P1.22	STOP/RST stop function selection	0: Valid only for panel control 1: Valid for panel and terminal control 2: Valid for panel and communication control 3: Valid for all control modes	0	◎
P1.23	Keypad and terminal UP/DOWN setting	0: Enabled, and stored upon inverter power-off 1: Enabled, and not stored upon inverter power-off 2: Invalid	0	○

Function Code	Parameter Name	Setting Range	Default	Property
P1.24	LED display stop parameter 1	0～FFFF BIT0：Running frequency BIT1：Set frequency BIT2：Bus voltage BIT3：Output voltage BIT4：Output current BIT5：Running speed BIT6：Output power BIT7：Output torque BIT8：PID setting changes BIT9： PID feedbacks BIT10：Input terminal status BIT11：Output terminal status BIT12：Analog AI1 value BIT13：Analog AI2 value BIT14：Current number of multi segment speed BIT15：Reserved	00FF	○
P1.25	LED display running parameter 2	0～FFFF BIT0：Count value BIT1：Length value BIT2～ BIT15:Reserved	3	○
P1.26	LED display stop parameter	1～1FFF BIT0：Set frequency BIT1：Bus voltage BIT2：Input terminal status BIT3：Output terminal status BIT4：PID setting changes BIT5：PID feedbacks BIT6：Analog AI1 value BIT7：Analog AI2 value BIT8：Current number of multi segment speed BIT9：Torque setting value BIT10：Count value BIT11：Length value BIT12～ BIT15:Reserved	0FF	○
P1.27	Reserved		0	○
P1.28	running time	0～9999(h)		●
P1.29	Functional parameter recovery	0: No operation 1: Recover default value 2: Clear fault files	0	◎

Function Code	Parameter Name	Setting Range	Default	Property
P1.30	Software version number	2：General 4：High frequency	2	●
P1.31	User password	0～9999	*****	●
P1.32	X1-X4 input terminal status	0000～1111	0	○
P1.33	X5-X6 input terminal status	00～11	0	○
P1.34	DO1、DO2、TATBTC output terminal status	000～111	0	○
Group P2 Analog terminal parameters				
P2.00	Upper AI1 limit	0.00V～10.00V	10.00V	○
P2.01	Corresponding setting of upper AI1 limit	-100.0%～100.0%	1	○
P2.02	Lower AI1 limit	0.00V～10.00V	0.00V	○
P2.03	Corresponding setting of lower AI1 limit	-100.0%～100.0%	0	○
P2.04	AI1 input filter time	0.00s～10.00s	0.10s	○
P2.05	Upper AI2 limit	0.00V～10.00V	10.00V	○
P2.06	Corresponding setting of upper AI2 limit	-100.0%～100.0%	1	○
P2.07	Lower AI2 limit	0.00V～10.00V	0.00V	○
P2.08	Corresponding setting of lower AI2 limit	-100.0%～100.0%	0	○
P2.09	AI2 input filter time	0.00s～10.00s	0.10s	○
P2.10	AO1 function selection	0：Running frequency 1：Set frequency 2：Running speed 3：Output current 4：Output voltage 5：Output power 6：Output torque 7：Analog AI1 input value 8：Analog AI2 input value 9：0-1000 bus voltage corresponding to 0-10V output 9～10：Reserved	0	○
P2.11	AO1 output upper limit	0.0%～100.0%	1	○
P2.12	Upper limit corresponds to AO1 output	0.00V ～10.00V	10.00V	○
P2.13	AO1 lower output limit	0.0%～100.0%	0	○
P2.14	Lower limit corresponds to AO1 output	0.00V ～10.00V	0.00V	○

Function Code	Parameter Name	Setting Range	Default	Property
P2.15	Output bus voltage reaches the upper limit voltage	0～1000V 220V system for 400V 380V system for 800V	800V	○
P2.16	Selection of the output bus voltage reaching set value	0:No action 1:Stop the output,resume to the set value,do not work. 2:Stop the output,resume to the set value,continue work.	0	○
P2.17	Output bus voltage reaches the lower limit voltage	0-1000V 220V system for 260V 380V system for 350V	0.00V	○
P2.18	Selection of the output bus voltage reaching set value	0:No action 1:Stop the output,resume to the set value,do not work. 2:Stop the output,resume to the set value,continue work.	0	○
Group P3 Digital terminal parameter group				
P3.00	Selection of terminal function detection on power up	0：Invalid command for terminal operation on power up 1：Valid command for terminal operation on power up	1	○
P3.01	X1 terminal function selection	0: No function 1: Forward running 2: Reverse running 3: 3-wire run control 4: Forward jogging 5: Reverse jogging 6: Free stop 7: Fault reset 8: External fault input 9: Frequency setting increment (UP) 10: Frequency setting decrement (DOWN) 11: Frequency increase/decrease setting clear 12: Multi-step speed terminal 1 13 Multi-step speed terminal 2 14: Multi-step speed terminal 3 15: Acceleration/deceleration time selection 1 16: Acceleration/deceleration time selection 2 17: Acceleration/deceleration time selection 3 18: PID control pause	1	◎
P3.02	X2 terminal function selection		2	◎
P3.03	X3 terminal function selection		00	◎
P3.04	X4 terminal function selection		26	◎

Function Code	Parameter Name	Setting Range	Default	Property
P3.05	X5 terminal function selection	19: Wobble frequency pause (stop at the current frequency) 20: Wobble frequency reset (return to center frequency) 21: Acceleration/deceleration disabled 22: Torque control disabled 23:The frequency Change settings temporarily removed 24： Command switchover 25： frequency switchover	0	○
P3.06	X6 terminal function selection	26：Count input enable（Valid only for X3） 27：Count reset enable（Valid only for X3） 28：Length input enable （Valid only for X3） 29：Length reset enable （Valid only for X3） 30:Dormancy enable 31：PLC multi-reference Run pause enable	0	○
P3.07	Count of digital input filter	1～10	5	○
P3.08	Terminal control run mode	0: Two-wire control1 1: Two-wire control2 2: Three-wire control 1 3: Three-wire control 2	0	◎
P3.09	Terminal UP/DOWN Frequency increment change rate	0.01～50.00Hz/s	0.50Hz/s	○
P3.10	Y1 output function selection	0：No output 1：The motor is running forward 2：The motor is running reversely 3：Fault output 4：Frequency-level detection FDT output 5：Frequency reached 6： Zero-speed running 7： Frequency upper limit reached 8：Frequency lower limit reached 9：Non Zero run 10：Auxiliary pump 1 power-on 11：Auxiliary pump 1 off 12：Auxiliary pump 2 power-on 13：Auxiliary pump 2 off	1	○
P3.11	Relay RO function	14：Count value 1 reached 15：Count value 2 reached 16：Length 1 reached	3	○

Function Code	Parameter Name	Setting Range	Default	Property
P3.12	Y2 output function selection	17：Length 2 reached 18：Bus voltage reaches the upper limit voltage 19：Bus voltage reaches the lower limit voltage 20: Current comparator output 21:Pipeline leak identification output 22: Pipeline blockage identification output 20：Reserved	2	○
P3.13	FDT electrical level detection value	0.00～ F00.04(Maximum frequency)	50.00Hz	○
P3.14	FDT delay detection value	0.0～100.0%（FDT electrical level）	0.05	○
P3.15	Detection range of frequency reache	0.0～100.0%(Maximum frequency)	0	○
F3.16	Percentage of current comparator output	0.0～300.0%（Rated current）	0	○
Group P4 Start stop parameter group				
P4.00	Stop mode	0: Decelerate to stop 1：1: Coast to stop	0	○
P4.01	Waiting time of stop braking	0.0～50.0s	0.0s	○
P4.02	Stop DC braking time	0.0～50.0s	0.0s	○
P4.03	Stop DC braking current	0.0～150.0%	0	○
P4.04	Initial frequency of stop brakin	0.00～P0.13（Maximum frequency）	1.00Hz	○
P4.05	Start mode	0：Direct start 1： DC braking first and then start 2：Rotational speed tracking restart（5.5KW以上）	0	◎
P4.06	Startup frequency holding time	0.0～50.0s	0.0s	○
P4.07	Startup frequency holding time	0.0～50.0s	0.0s	○
P4.08	Startup DC braking current/ Pre-excited curren	0.0～150.0%	0	○
P4.09	Startup frequency	0.00～10.00Hz	0.00Hz	○
P4.10	Jump frequency	0.00～P0.13（Maximum frequency）	0.00Hz	○

Function Code	Parameter Name	Setting Range	Default	Property
P4.11	Frequency jump amplitude	0.00～P0.13（Maximum frequency）	0.00Hz	○
P4.12	Ramp mode	0：Straight-line ramp 1：S-curve ramp	0	○
Group P5 Swing Frequency parameter group				
P5.00	Swing frequency enable	0：Disable 1：enable	0	○
P5.01	Jump frequency amplitude	0.0～50.0%（Relative swing frequency amplitude）	0	○
P5.02	Swing frequency amplitude	0.0～100.0%（Relative setting frequency）	0	○
P5.03	Swing frequency up time	0.1～3600.0s	10.0s	○
P5.04	Swing frequency down time	0.1～3600.0s	10.0s	○
P5.05	meter-count mode	0：Start meter-counting from 0 when power-on 1：Start meter-counting from power down save value	0	○
P5.06	Bidirectional meter-count	0：The motor stops When the reverse meter-count is 0. 1：The motor runs when the reverse meter-count is 0.	0	○
P5.07	The number of pulses per meter	0-9999 个（200 per second）	0	○
P5.08	Set detection value	0～9999	0	○
P5.09	Set detection value reached	0：invalid 1：Inverter speed down to P5.11 setting speed. Set detection value is less than meter-count set value 2	0	○
P5.10	Set detection value reached set frequency	0-650HZ	0	○
P5.11	Actual meter-count setting value	0～9999	0	○
P5.12	meter-count set value 2 reached	0：Motor stop. 1：Motor running.	0	○
P5.13	Display actual meter-count value	0M	0	○
P5.14	Unit of meter-count	1-100 1：Actual length= Display value* 1M 2：Actual length= Display value* 2M 3：Actual length= Display value* 2M N：Actual length= Display value* N	1	○

Function Code	Parameter Name	Setting Range	Default	Property
P5.15	Clear meter-count value	0～1	0	○
P5.16	Count mode	0：Start counting from 0 when power-on 1：Start counting from power down save value	0	○
P5.17	Set detection value	0-9999（The count setting detection value is less than the actual meter-count setting value）	0	○
P5.18	Set detection value reached	0：invalid 1：Set the detection value is reached, the inverter speed down to P5.19 set speed value	0	○
P5.19	Set detection value reached set frequency	0-9999	0	○
P5.20	Actual count setting value	0～9999	0	○
P5.21	Count set value 2 reached	0：Motor stop. 1：Motor running.	0	○
P5.22	Actual count value	0	0	○
P5.23	Clear count value	0：Do not clear 1：Clear	0	○
Group P6 Protection function parameter group				
P6.00	Overvoltage stall speed protection	0: protection disabled 1: protection enabled	0	○
P6.01	Overvoltage stall speed protection voltage	110～150%（380V series） 110～150%（220V series）	1.2 1.15	○
P6.02	Motor overload protection selection	0: Not protected 1: Common motor (with low-speed compensation) 2: Variable frequency motor (without low-speed compensation)	1	◎
P6.03	Motor overload protection current	20.0%～120.0%（rated current of the motor）	1	○
P6.04	Automatic current limiting amplitude	100～200%	1.6	○
P6.05	Frequency drop rate when current limiting	0.00～50.00Hz/s	10Hz/s	○
P6.06	Frequency decrease point upon instantaneous power failure	70.0～110.0%（(standard bus voltage）	0.8	○

Function Code	Parameter Name	Setting Range	Default	Property
P6.07	Frequency decrease rate upon instantaneous power failure	0.00Hz～P0.13(maximum frequency)	0.00Hz	○
P6.08	Output phase failure protection	0: protection disabled 1: protection enabled	0	◎
P6.09	Type of previous two faults	0: Not fault 1: Phase U protection of inverter unit (OUT1) 2: Phase V protection of inverter unit (OUT2) 3: Phase W protection of inverter unit (OUT3) 4: Acceleration overcurrent (OC1) 5: Deceleration overcurrent (OC2) 6: Constant overcurrent (OC3) 7: Acceleration overvoltage (OV1) 8: Deceleration overvoltage (OV2) 9: Constant overvoltage (OV3) 10: Bus under-voltage fault (UV)	-	●
P6.10	Previous fault type	11: Motor overload (oL1) 12: Inverter overload (oL2) 13: Input phase failure (SPI) 14: Output phase failure (SP0) 15: Overheat fault of rectifier module (OH1) 16: Overheat fault of inverter module (OH2) 17: External fault (EF) 18: Communication fault (CE) 19: Current detection fault (ITE) 20: Motor self-learning fault (TE) 21：FEPROM operation fault (EEP)	-	●
P6.11	Current fault type	22：PID feedback disconnection fault (PIDE) 23：Brake unit fault (BCE) 24：Hardware over-current protection（OCH） 25:Pipeline leakage：LEA 26:Pipeline blockage：CHo	-	●
P6.12	Current fault run frequency		0.00Hz	●
P6.13	Current fault output current		0.0A	●
P6.14	Current fault bus		0.0V	●

Function Code	Parameter Name	Setting Range	Default	Property
	voltage			
P6.15	Current fault input terminal state		0	●
P6.16	Current fault output terminal state		0	●
P6.17	Auto fault reset interval setting	0.1～100.0s	1.0s	○
P6.18	Number of automatic fault reset operations	0～10	0	○
Group P7 PID function parameter group				
P7.00	PID feedback source	0：AI1 1：AI2 2：AI1+AI2 3： Communication setting	0	○
P7.01	PID setting source	0： P7.02 1：AI1 2：AI2 3：Communication setting 4：Multi-reference 5：Keyboard up and down keys setting	0	○
P7.02	Keyboard preset PID setting	0.0%～100.0%	0	70○
P7.03	PID output characteristic selection	0：PID output is positive 1：PID output is negative	0	○
P7.04	Proportional gain（Kp）	0.00～100.00	1	○
P7.05	Integral time（Ti）	0.01～10.00s	0.10s	○
P7.06	Differential time（Td）	0.00～10.00s	0.00s	○
P7.07	sampling period（T）	0.01～100.00s	0.10s	○
P7.08	PID deviation limit	0.0～100.0%	0	○
P7.09	Detection value of PID feedback loss	0.0～100.0%	0	○
P7.10	Detection time of PID feedback los	0.0～3600.0s	1.0s	○
P7.11	The number of auxiliary pump	0～2	0	○
P7.12	Wakeup pressure	0～100.0%	0.2	○
P7.13	Dormant enable	0：Cff 1：On	0	○
P7.14	Dormant pressure	0～100.0%	0.8	○
P7.15	Dormant delay time	0.0～6000.0s	0	○

Function Code	Parameter Name	Setting Range	Default	Property
P7.16	Wakeup delay time	0.0～6000.0s	0	○
P7.17	range	0～100	10	○
P7.18	Range error	-30～30	0	○
P7.19	PID up and down keys setting value	0～P7.17	0	○
P7.20	The pressure of auxiliary pump 1 turn on	0~100.0%	0	○
P7.21	The pressure of auxiliary pump 1 turn off	0~100.0%	0	○
P7.22	The pressure of auxiliary pump 2 turn on	0~100.0%	0	○
P7.23	The pressure of auxiliary pump 2 turn off	0~100.0%	0	○
P7.24	Auxiliary pump 1 turn on delay time	0.0～6000.0s	0	○
P7.25	Auxiliary pump 1 turn off delay time	0.0～6000.0s	0	○
P7.26	Auxiliary pump 2 turn on delay time	0.0～6000.0s	0	○
P7.27	Auxiliary pump 2 turn off delay time	0.0～6000.0s	0	○
P7.28	Pipeline leakage Identification standard	0.0～6000.0s	0	○
P7.29	Pipeline blockage Identification standard	0.0～100.0%	0	○
P7.30	Pipeline fault selection	0-2 0：No action 1：Stop 2：Fault alarm	0	○
Group P8 Multi-Reference parameter group				
P8.00	Multi-Reference mode	0: Setting frequency and direction 1：Only setting frequency，the direction is determined by the operating terminal	○	○
P8.01	Reference 0	-100.0～100.0%	0	○
P8.02	Reference 1	-100.0～100.0%	0	○
P8.03	Reference 2	-100.0～100.0%	0	○
P8.04	Reference 3	-100.0～100.0%	0	○
P8.05	Reference 4	-100.0～100.0%	0	○

Function Code	Parameter Name	Setting Range	Default	Property
P8.06	Reference 5	-100.0～100.0%	0	○
P8.07	Reference 6	-100.0～100.0%	0	○
P8.08	Reference 7	-100.0～100.0%	0	○
Group P9 RS485 communication parameter group				
P9.00	Local address	0: Broadcast address 1–247	1	○
P9.01	Baud rate	0：1200bps 1：2400bps 2：4800bps 3：9600bps 4：19200bps 5：38400bps	3	○
P9.02	Data bit check setting	0:No check（N，8，1）for RTU 1:Even parity check（E，8，1）for RTU 2:Odd parity check（O，8，1）for RTU 3:No check（N，8，2）for RTU 4:Even parity check（E，8，2）for RTU 5:Odd parity check（O，8，2）for RTU 6:No check（N，7，1）for ASCII 7:Even parity check（E，7，1）for ASCII 8:Odd parity check（O，7，1）for ASCII 9:No check（N，7，2）for ASCII 10:Even parity check（E，7，2）for ASCII 11:Odd parity check（O，7，2）for ASCII 12:No check（N，8，1）for ASCII 13:Even parity check（E，8，1）for ASCII 14:Odd parity check（O，8，1）for ASCII 15:No check（N，8，2）for ASCII 16:Even parity check（E，8，2）for ASCII 17:Odd parity check（O，8，2）for ASCII	0	○
P9.03	Response delay	0～200ms	5ms	○
P9.04	Communication timeout	0.0（invalid），0.1～100.0s	0.0s	○
P9.05	Transmission error selection	0：Alarm and coast to stop 1：Do not alarm and continue to run 2：Do not alarm and stop by stop mode（Only under the control mode of communication） 3：Do not alarm and stop by stop mode（Under all control modes）	1	○

Function Code	Parameter Name	Setting Range	Default	Property
P9.06	Transmission response selectio	0：Write operations and respond 1：Write operation and no response	0	○
P9.07	Communication selection	0：Valid，DO2 and X5 X6 terminals are invalid 1：Invalid，Y2 and X5 X6 terminals are valid	0	◎
Group PA PLC control parameter group				
PA.00	PLC running mode	0：PLC function switch 1：Repeat after the AC drive runs one cycle 2：Stop after the AC drive runs one cycle 3： Keep final values after the AC drive runs one cycle	0	○
PA.01	PLC retentive selection	0: No 1: Yes	0	○
PA.02	Time unit of PLC running	0：s 1：min	0	○
PA.03	Running time of PLC reference 1	0～6000.0	10	○
PA.04	Running time of PLC reference 2	0～6000.0		○
PA.05	Running time of PLC reference 3	0～6000.0	2	○
PA.06	Running time of PLC reference 4	0～6000.0	10	○
PA.07	Running time of PLC reference 5	0～6000.0	2	○
PA.08	Running time of PLC reference 6	0～6000.0	10	○
PA.09	Running time of PLC reference 7	0～6000.0	2	○
PA.10	Running time of PLC reference 8	0～6000.0	10	○
PA.11	The program runs normally, and it is running again when it is suspended by the terminal	0：Pause at current speed and then run at the first reference speed 1：Pause at current speed and then run at the reference speed before the pause 2：Pause at 0 speed and then run at the first reference speed 3:Pause at 0 speed and then run at the reference speed before the pause	0	○
PA.12	Program running abnormal stop, automatic reset , then run selection	0：Run at the first reference speed 1：Run at the reference speed before the pause	0	○

Function Code	Parameter Name	Setting Range	Default	Property
Group PB Motor parameter group				
PB.00	Motor Auto-tuning	0：No action 1：Complete auto-tuning 2: Static auto-tuning	0	◎
PB.01	Inverter type	0：G type 1：P type		◎
PB.02	Rated motor power	0.4～900.0kW		◎
PB.03	Rated motor frequency	0.01Hz～P0.13（Parameter must be reset）	50.00Hz	◎
PB.04	Rated motor rotational speed	0～36000rpm		◎
PB.05	Rated motor voltage	0～460V		◎
PB.06	Rated motor current	0.1～2000.0A		◎
PB.07	Stator resistance	0.001～65.535Ω		◎
PB.08	Rotor resistance	0.001～65.535Ω		◎
PB.09	Stator and rotor inductance	0.1～6553.5mH		◎
PB.10	Stator and rotor mutual inductance	0.1～6553.5mH		◎
PB.11	No-load current	0.01～655.35A		◎
PB.12	Encoder pulses per revolution	1～9999（Apply to version 2.0 or above）		◎
PB.13	Encoder direction	0～1（Apply to version 2.0 or above）		◎
PB.14	Motor type selection	0-1，0：Common asynchronous motor 1：Permanent magnetic synchronous motor	0	◎
PB.15	Speed loop proportional gain	0-9999	0.2	◎
PB.16	Speed loop integral time	0-9999	0.2	◎
PB.17	Startup torque set	0-9999	0.5	◎
PB.18	Rotor positioning current	0-9999	0.1	◎
PB.19	Low speed torque boost	0-9999	0.3	◎
PB.20	Minimum running speed	100-9999	0.3	◎
PB.21	Field weakening enable	0-2 1：Yes，2：No	2	◎
PB.22	Field weakening coefficient	0-9999 （The greater the coefficient, the wider the field weakening range）	1	◎

Function Code	Parameter Name	Setting Range	Default	Property
PB.23	Startup mode	0-1 0：Direct startup，1：Start after the rotor positioning	0	◎
PB.24	Field weakening output voltage limit	0-9999	1	◎
PB.25	Field weakening scale factor	0-9999	1	◎
Group PC Vector control parameter group				
PC.00	Speed loop proportional gain 1	0～100	15	○
PC.01	Speed loop integral time 1	0.01～10.00s	2.00s	○
PC.02	Low switchover frequency	0.00Hz～F04.05	5.00Hz	○
PC.03	Speed loop proportional gain 2	0～100	10	○
PC.04	Speed loop integral time 2	0.01～10.00s	3	○
PC.05	High switchover frequency	PA.02～P0.13（Maximum frequency）	10.00Hz	○
PC.06	slip gain	50%～200%	1	○
PC.07	Torque upper limit setting	0.0～200.0%（Rated current）	1.5	○
PC.08	No-load current gain	0～9.999	0.5	○
PC.09	Oscillation suppression low frequency threshold	0～500	15	○
PC.10	Oscillation suppression high frequency threshold	0～500	15	○
PC.11	Oscillation suppression range value	0～100	20	○
PC.12	Oscillation suppression high and low frequency dividing frequency	0～400.00	12.5	○
PC.13	Torque setting source	0-6 0：Keyboard setting 1：AI1 2：AI2 3：AI1 + AI2 4: MAX (AI1, AI2)	0	○

Function Code	Parameter Name	Setting Range	Default	Property
PC.13	Torque setting source	5：Multi-reference setting 6：PID control setting 7：Communication setting 100% corresponds to 2 times the rated current	0	○
PC.14	Keyboard setting torque	-200%-200% （Rated current）	0	○
PC.15	Low speed torque gain	0.000-1.000	0.05	○
PC.16	High speed torque gain	0.000-1.000	0	○
PC.17	Oscillation suppression enable	0：Yes 1：No	1	○
PC.18	PWM mode	0～122	0	◎
Group PF Manufacturers function parameter group				
PF.00	Manufacturer password	0～65535	*****	◎
PF.01	Type selection	0：G type 1：P type	0	◎
PF.02	Inverter type	0～26 （Inverter power setting）	3	◎
PF.03	Inverter rated power	0.4～900.0	2.2	◎
PF.04	Inverter rated voltage	220V、380V	380	◎
PF.05	Inverter rated current	0.0～900.0	5	◎
PF.06	Dead-zone time	2.0～10.0	5	◎
PF.07	Program overvoltage	300～800	800	◎
PF.08	Program undervoltage	0～500	350	◎
PF.09	Program overcurrent	0.1～2000.0	10	◎
PF.10	Voltage regulation factor	0～10.00 （The displayed bus voltage is adjusted to be consistent with the actual）	1	◎
PF.11	Current regulation factor	0～10.00 （The displayed current is adjusted to be consistent with the actual）	1	◎
PF.12	Dead zone compensation factor	0～2.00 （Without adjustment）	1	◎
PF.13	IGBT over hotspot	0～120.0	85	◎
PF.14	reaction time	More than the reaction time will alarm and stop, set to 0 invalid	0	◎
PF.15	Overload protection	0：valid 1：invalid	0	◎
PF.16	All parameters restore factory value	Modified to any value, re - power, all parameters to restore, including the inverter manufacturers parameters PF group	5a5a	◎
PF.17	Reserved		0	◎

八.Fault checking and ruled out

8.1、The fault table

Display	Fault Name	Possible Causes	Solutions
OUT1	Inverter unit protection	1.The acceleration time is too short. 2.The inverter module is faulty. 3.Misoperation by external interference caused 4.The output circuit is grounded	1. Increase the acceleration time. 2.Contact technical support 3.Check the peripheral equipment 4.Eliminate external faults
OC1	Overcurrent during acceleration	1.The acceleration time is too short. 2.The voltage is too low. 3.The AC drive model is of too small power class.	1. Increase the acceleration time. 2. Adjust the voltage to normal range. 3. Select an AC drive of higher power class.
OC2	Overcurrent during deceleration	1. The deceleration time is too short. 2.Large inertia load 3.The AC drive model is of too small power class.	1.Increase the deceleration time. 2. Install the braking unit and braking resistor. 3. Select an AC drive of higher power class.
OC3	Overcurrent at constant speed	1.A sudden load is added during operation. 2.The voltage is too low. 3.The AC drive model is of too small power class.	1. Remove the added load. 2. Adjust the voltage to normal range. 3. Select an AC drive of higher power class.
OV1	Overvoltage during acceleration	1.The input voltage is too high. 2.After the instantaneous power cut, the rotating motor is restarted	1.Adjust the voltage to normal range. 2. Avoid stop and restart
OV2	Overvoltage during deceleration	1.The deceleration time is too short. 2.Large inertia load 3.The input voltage is too high.	1.Increase the deceleration time. 2. Install the braking unit and braking resistor. 3.Adjust the voltage to normal range.

Display	Fault Name	Possible Causes	Solutions
OV3	Overvoltage at constant speed	1.The input voltage is too high. 2.An external force drives the motor during deceleration.	1. Adjust the voltage to normal range. 2.Cancel the external force or install the braking resistor.
UV	Undervoltage	The AC drive's input voltage is not within the allowable range.	Adjust the voltage to normal range.
Ol1	Motor overload	1.The input voltage is too low. 2.The motor rated current setting error 3.The load is too heavy or lockedrotor occurs on the motor. 4.Motor capacity does not match the capacity of the AC drive	1.Adjust the voltage to normal range. 2.Reset motor rated current 3.Reduce the load and check the motor and the mechanical condition. 4.Select the appropriate AC drive or motor
OL2	AC drive overload	1.The acceleration time is too short. 2.After the instantaneous power cut, the rotating motor is restarted	1. Increase the acceleration time. 2. Avoid stop and restart
		1.The input voltage is too low. 4.The load is too heavy	1.Adjust the voltage to normal range. 4.Select an AC drive of higher power class.
SP1	Power input phase loss	The three-phase power input is abnormal.	Eliminate external faults.
SPO	Power output phase loss	1: The cable connecting the AC drive and the motor is faulty. 2: The AC drive's three-phase outputs are unbalanced when the motor is running.	1. Eliminate external faults. 2.Check whether the motor three-phase winding is normal.
OH1	Module overheat	1.AC drive instantaneous overheating 2Output three-phase with interphase or ground short circuit 3.The air filter is blocked. Or the fan is damaged. 4.The ambient temperature is too high.	1.Countermeasures for the reference of overcurrent fault 2.Rewiring 3.Clean the air filter.Or replace the damaged fan. 4. Lower the ambient temperature.

Display	Fault Name	Possible Causes	Solutions
OH2	The inverter module overheat	5.Control board connection or plug loose	5.Check and reconnect
		6.Auxiliary power supply damage, drive circuit undervoltage	6.Contact technical support
		7.The inverter module is damaged.	7.Contact technical support
		8.Control panel is abnormal	8.Contact technical support
EF	External equipment fault	External fault signal is input via X1	Reset the operation.
CE	Communication fault	1.Baud rate setting error	1.Set the correct baud rate
		2.Serial communication error	2.Press the stop button to reset and contact technical support.
		3.The communication cable is faulty.	3. Check the communication cabling.
ITE	Current detection fault	1.Control board connection abnormal	1.Check and re insert
		2.Auxiliary power supply damage	2.Contact technical support
		3.The HALL device is faulty.	3.Contact technical support
		4.The drive board is faulty.	4.Contact technical support
TE	Motor auto-tuning fault	1.Motor capacity does not match the capacity of the AC drive	1.Replace inverter type
		2.The motor parameters are not set according to the nameplate.	2.Set the motor parameters according to the nameplate properly.
		3.Motor auto-tuning parameters and standard parameters do not match	3.To make the motor no-load, re identification
		4. The motor auto-tuning times out.	4.Check the cable connecting the AC drive and the motor.
EEP	EEPROM readwrite fault	1.Error reading and writing control parameters	1.Press the stop button to reset and contact technical support
		2.The EEPROM chip is damaged.	2.Contact technical support

Display	Fault Name	Possible Causes	Solutions
PIDE	PID feedback lost during running	1.PID Feedback line disconnection 2.PID feedback source disappears	1.Check PID feedback signal line 2.Check PID feedback source
BCE	Brake unit fault	1.Brake line fault or brake device damage 2.The resistance of the external braking resistor is too small	1.Check the brake unit and replace the brake device 2.With greater braking resistance
LEA	Pipeline leakage fault	Pipeline leakage	Check pipeline leakage
CHo	Pipeline blockage fault	Pipeline blockage	Check pipeline blockage

8.2、The common faults and processing methods

Frequency converter may encounter the following fault conditions in the process of using please refer to the following simple method for fault analysis

Electricity no display:

Using a multimeter to check if the inverter input power and frequency converter rated voltage is consistent, please check if the power problem and ruled out

Check whether the three-phase rectifier bridge is in good condition. If the rectifier bridge has blasted, please seek service.

Check whether the CHARGE lamp is lit, if the light is not bright, the fault generally focus on the rectifier bridge or buffer resistance, if the light is bright, the fault may be in switching power supply section, please seek service

Jumped on the electric power supply air switch after:

Check whether there is between the input power grounding or short circuit. Eliminate problems.

Check to see if the rectifier bridge has been the breakdown, if damaged, for the service.

Frequency converter running after motor rotation:

Check whether there is a balance between the U, V, W three-phase output, if any, are for motor line or itself is damaged, or motor blocked due to mechanical trouble, please.

But the output three-phase imbalance, should for inverter drive board or output

module is damaged,

If there is no output voltage, output module is likely to be driven plate or damaged, please seek service.

On electrical inverter show normal, jumped after the operation power supply air switch:

Check whether there is a short circuit between the output module, if so, please seek service.

Check whether there is a short circuit between motor fuses or ground, if yes, please seek service.

If the trip is occasional and relatively far distance between motor and frequency converter, consider to add the output ac reactor.

九,Operation samples

9.1 Terminals forward and reverse +external potentiometer set samples

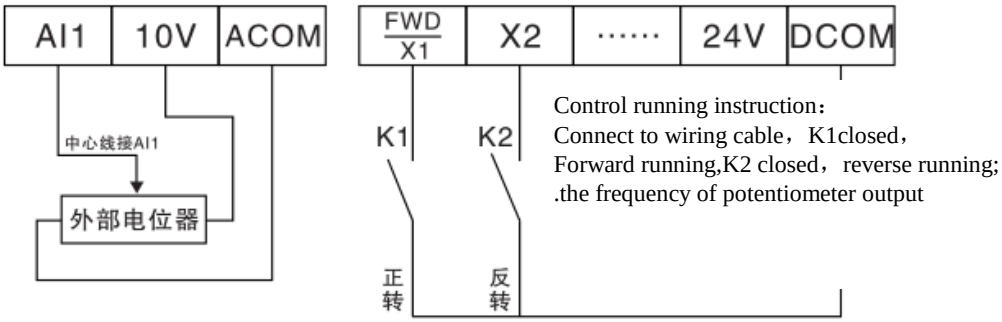
P0.01=1: external potentiometer adjust speed； P0.02=1external terminal forward and reverse running；

P3.01=1: forward running,the factory value set； P3.02=2 reverse running，factory value set

Parameters set P0.02 as examples。

Operation steps	LED display	status
Stop mode	50.00	HZ light on、50.00 flash
Press PRG/ESC + 参数/退出 once，parameter set mode	P0	0 flash
press RD/WT + 进入/确认 to P0.00	P0.00	0 character flash
Press ▲ twice（read）P0.02	P0.02	2 character flash
press RD/WT + 进入/确认，express 0	0	0 character flash

Operation steps	LED display	status
press ▲, set 1	1	1character flash
Press RD/WT + 进入/确认, confirm	P0.03	3 character, set succssfully
press PRG/ESC + 参数/退出, back to control running mode	P0	0 character
press PRG/ESC + 参数/退出, back to stop mode	50.00	HZlight on、50.00 flash



9.2 keyboard forward and reverse + potentiometer adjust speed set exmples

P0.01=2 keyboard potentiometer adjust output frequency;

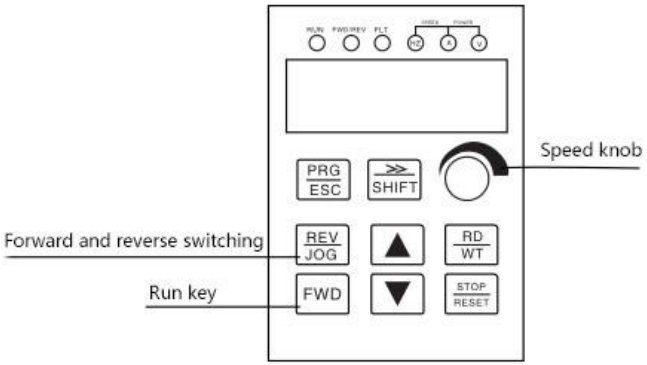
P0.02=0 keyboard control running, REV/JOG + 反转/寸动 (P1.21=1) control forward and reverse direction;

Parameter set P0.01=2as examples。

Operation steps	LED display	status
Stop mode	50.00	HZ light on、50.00 flash
press PRG/ESC + 参数/退出 once, parameter set mode	P0	0 flash

Operation steps	LED display	status
press RD/WT + 进入/确认 to P0.00	P0.00	0character flash
press ▲ once (read) P0.01	P0.01	1character flash
press RD/WT + 进入/确认, express 0	0	0 character flash
press ▲, set 2	2	2character flash
press RD/WT + 进入/确认, confirm	P0.02	2character , set succssfully
press PRG/ESC + 参数/退出, back to control running mode	P0	0 flash
press PRG/ESC + 参数/退出, back to stop mode	50.00	HZlight on、50.00flash

Note：Press RUN after parameter set ,the indicator on，rotate panel potentiometer. The inverter running。By REV/JOG + 反转/寸动 ，can switch forward or reverse。



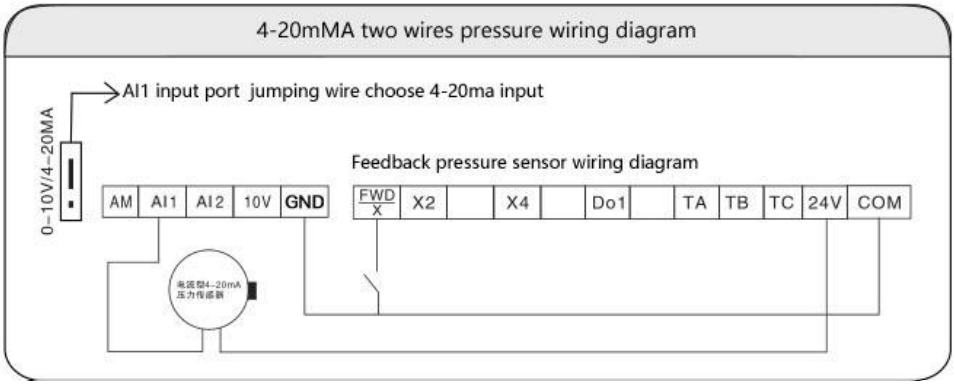
9.3 Running and stop status parameters monitoring examples

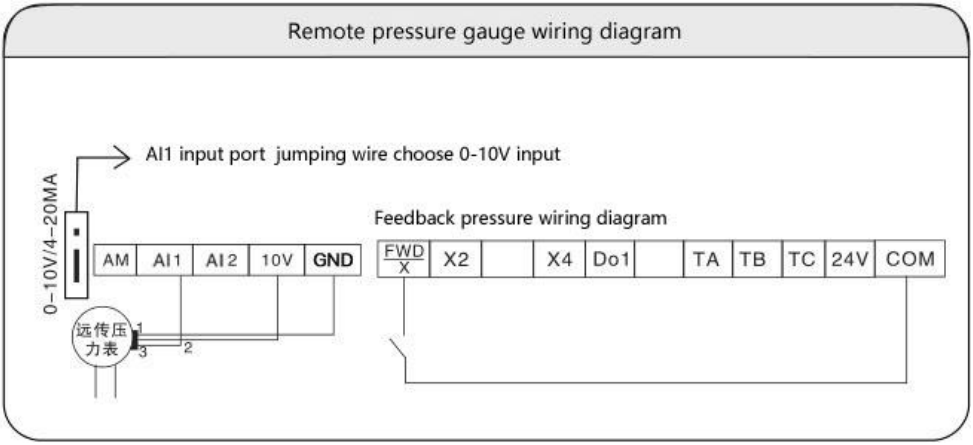
P1.26=00FF stop status monitoring，default； P127=00FF stop status monitoring，default

Operation steps	LED display	status
Standby mode	50.00HZ	Light on、50.00 flash
Repeat press when running SHIFT + 移位	① Running frequency ② set frequency ③ busbar voltage ④ output voltage ⑤ output current ⑥ running revolving speed ⑦ output power ⑧ output torque	
Repeat press when standby mode SHIFT + 移位	Set frequency PID value busbar voltage PID feedback value input terminls status analog AI1 output terminals analog AI2	

9.4 PIDconstant voltage control set exmples

control terminals wiring diagram





Basic PID running parameters set as belows：

P0.01=5 choose output frequency determined by PID；

P0.02=0 choose keyboard control ； P0.02=2=1.0 choose terminals running。

P7.00=1 Feedback pressure input by AI1

P7.00=5 Set Voltage determined by up or down keyborad

Such as ： 16kg pressure chart，P7.17set 16 is 16kg。

P7.03=0 constant voltage set as positive character

P7.04=50 PID P set range 0-100%.

P7.05=10S PID integral I set range 0-6553.0S

P7.06=0.1S PID calculus D set range 0-6553.0S

P7.17 Set Maximum mileage，set range 0-100kg

P7.19 set pressure，set as per actual condition；

On site operate instruction

It will express P7.19 set pressure value,just set pressure by keyboard up or down.

On site PID adjust instruction :

P gain set methods：set gain about 50% first， For the change to the size of the quantitative, watching the stability of the feedback signal and given quantitative deviation (static), if the static differential in direction to the quantitative change (increase to quantitative, for example, system stability feedback quantity is always less than given quantitative), continued to increase P7.04 proportional gain value, reduce the proportional gain, conversely, repeat the above process until the static difference is small, it's hard to do no static difference).

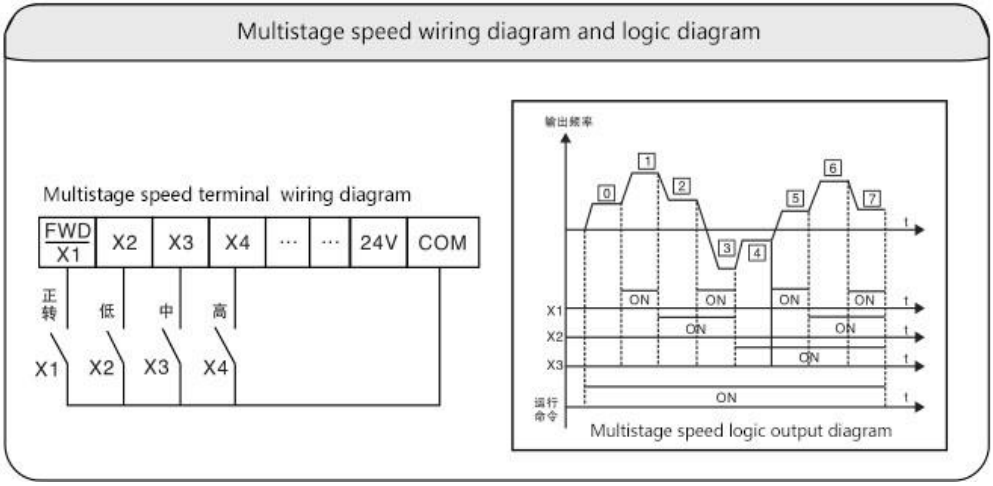
P7.05 PID integral I gain，set range 0-6553.0S。

Integral time parameter adjustment, generally from major to minor, gradually adjust the integration time, observe the effect of the system to adjust, until the system steady rate up to par. Determining PID feedback and give quantitative deviation integral regulation speed. Integration time is when the PID feedback quantity deviation was 100%, and give quantitative points regulator (ignoring proportional action and calculus) after the time continuous adjustment, adjust the amount of maximum frequency, the shorter the integration time adjustment intensity. Integral regulation can effectively eliminate the static error. Integral regulation strong repeatedly will appear overshoot, the system has been unstable, until the oscillation. Due to the too strong of integral action of the oscillation characteristics are, feedback signal to quantitative bobbing up and down, swing gradually increased. Differential D P7.06 PID gain setting range 0-6553.0 S

According to the actual situation to adjust. Differential time parameter adjustment in general from small to large adjustment, differential adjustment

Please use caution, thought differential adjustment easy amplification system, generally do not use.

9.5 Multistage speed set examples



Parameters set

P0.01=5;multistage running given

P0.02=1.0;choose terminals running

P0.13=;maximum output frequency ,is the foundation of multistage set frequency
P0.14=;upper limit frequency,general set maximum output frequency
P8.00-P8.07set-100-100%;
Such as P0.13=100HZ,
The first stage speed，forward rotate 10HZ set P8.01=10%
The second stage speed，forward rotate 50HZ set P8.02=50%
The third stage speed，forward rotates 80HZ set P8.03=80%
The fourth stage speed，forward rotates 100HZ set P8.04=100%
The fifth stage speed ，forward rotate 60HZ set P8.05=60%
The sixth stage speed，forward rotate 40HZ set P8.06=40%
The seventh stage speed，forward rotate 60HZ set P8.07=60%
The eighth stage speed，forward rotate 40HZset P8.08=30%

Operation instruction

Terminals status：X1-X3closed valid as ON，disconnect as OFF，
According to the following table can be logic speed operation。

X1	OFF	ON	OFF	ON	OFF	ON	OFF	ON
X2	OFF	OFF	ON	ON	OFF	OFF	ON	ON
X3	OFF	OFF	OFF	OFF	ON	ON	ON	ON
Set paramters	P8.01	P8.02	P8.03	P8.04	P8.05	P8.06	P8.07	P8.08
Running speed	1 stage	2 stage	3 stage	4 stage	5 stage	6 stage	7 stage	8 stage

9.6 Motor operation samples

Choose no PG vector control operation mode, before the frequency converter operation, must be accurate input motor nameplate parameters, 9100 series frequency converter on the basis of standard motor nameplate parameters matching parameters; Vector control method of motor parameters dependence is very strong, to get good control performance, must be charged with the accurate parameters of the machine. Motor parameter self learning operation steps are as follows
First will run command channel choice (P0.02) choice for keyboard commands。
Then please Enter the following according to the actual motor parameters

PB.02： motor rated power ;

PB.03： motor rated frequency;

PB.04： motor rated rotate speed

PB.05： motor rated voltage;

PB.06： motor rated current。

obtained from the study may not be correct, set the PB. 0 to 1, motor parameter self learning process in detail please refer to the function code PB. 00,then press keyboard UN ,inverter will automatically get the motor parameters:

PB.07：Motor stator resistance；

PB.08：motor rotor resistance；

PB.09： motor stator rotor inductance；

PB.10： motor stator mutual inductance；

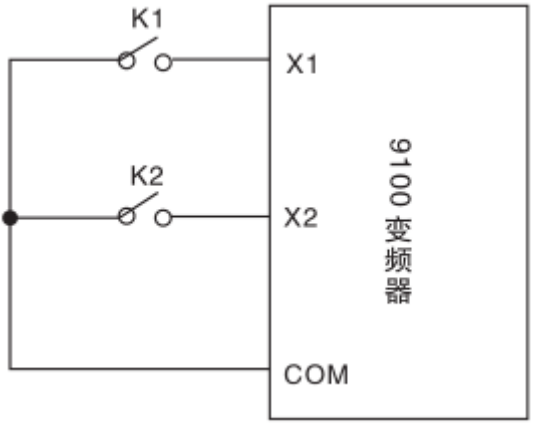
PB.11： motor no-load current。

9.7 Terminals three line wiring instruction

Function code	name	instruction	Set range	Default value
P3.08	terminal control running mode	0:two line control 1 1:two line control 2 2:two line control 1 3:two line control 2	0-3	

This parameter defines four different ways of the external terminal control frequency converter running。

0)：two line control 1，byX1、X2 terminals command determined the forward or reverse of motor.



K1	K2	Running command
OFF	OFF	stop
ON	OFF	forward
OFF	ON	reverse
ON	ON	stop

Parameter set：

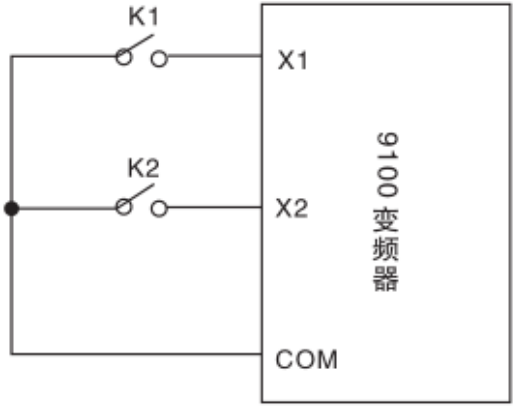
P0.02=1 external control

P3.01=1 forward control

P3.02=2 reverse control

P3.08=0 two line control 1

1)：two line control 2，when use this mode ,X1 is enable terminals。Direction determined by the status of X2。



K1	K2	Running command
OFF	OFF	stop
OFF	ON	stop
ON	OFF	forward
ON	ON	reverse

Parameter set：

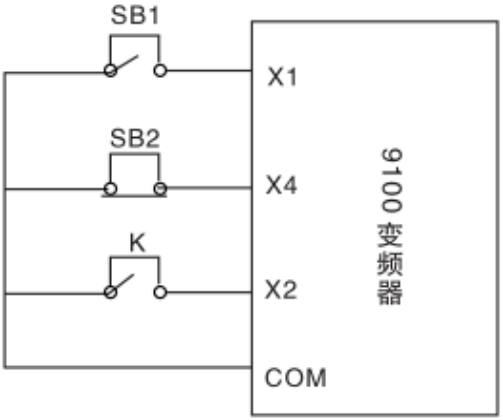
P0.02=1 external control

P3.01=1 forward control

P3.02=2 reverse control

P3.08=1 two line 2

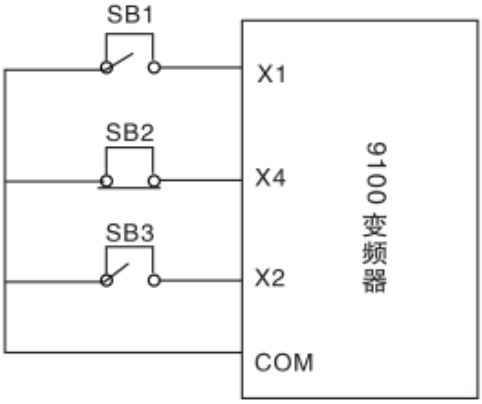
2)：Three line control，X4is enable terminals。Running command generated by the X1, the direction command by X2, X4 input is normally closed.



Parameter set：
P0.02=1 external control
P3.01=1 forward function
P3.02=2 reverse function
P3.04=3 three line function
P3.08=2 three line function 1

note： K:forward or reverse switch SB1：running button SB2：stop button.

3)： Three line type control 2, the model X4 is the enable terminal. Running command by the SB1 or SB3, and control direction at the same time, the shutdown command is produced by the normally closed type of SB2.。



Parameter set：
P0.02=1 external control
P3.01=1 forward function
P3.02=2 reverse function
P3.04=3 three line function

Note： SB1： running button SB2：stop button forward rotate SB3：reverse button

Note：For two line operation mode, when the X1 X2 / terminal effective, halt command generated by the other sources and make the inverter when stop, even if the control terminal X1 X2 / remain effective, inverter will not run after the stop command to disappear. If you want to make the frequency converter operation, need again send X1 and X2.

Warranty Agreement

1. The warranty period of the product is 12 months (refer to the barcode on the equipment). During the warranty period, if the product fails or is damaged under the condition of normal use by following the instructions, We will be responsible for free maintenance.
2. Within the warranty period, maintenance will be charged for the damages caused by the following reasons:

   a. Improper use or repair/modification without prior permission

   b. Fire, flood, abnormal voltage, other disasters and secondary disaster

   c. Hardware damage caused by dropping or transportation after procurement

   d. Improper operation

   e. Trouble out of the equipment (for example, external device)
3. If there is any failure or damage to the product, please correctly fill out the Product Warranty Card in detail.
4. The maintenance fee is charged according to the latest Maintenance Price List of Weiken.
5. The Product Warranty Card is not re-issued. Please keep the card and present it to the maintenance personnel when asking for maintenance.

Asynchronous motor PMSM

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