✧ PREFACE

Thank you very much for choosing this series inverter.

This manual provides guidance of using the inverter safely and carefully, containing introduction of installation, wiring, parameter list, routine maintenance, operating rules and cautions, etc.

In order to make good use of the inverter properly and safely, please read this manual thoroughly before using. It may lead to abnormal operation and failure, reduce using life, even damage the equipment and cause personal injury if you use it wrongly.

This manual is attachment together with the inverter. Please keep it well and it would be available to engineering and installation personnel, repairing and maintaining during the product functioning period

We has the right to modify and ameliorate products, data and dimensions without notice, so this manual is updated and all the contents in this manual are subject to change without any notice.

Table of Contents

1. INTRODUCTION

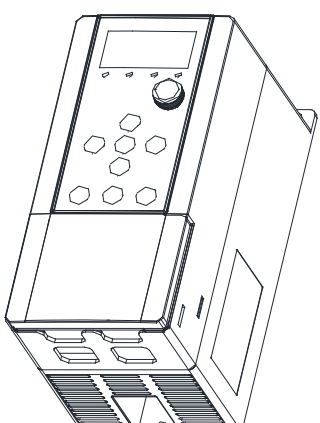
1.1 Model explanation

The inverter model is used to characterize the inverter power, input voltage and phase number, output voltage and phase number, etc,

The details shall be subject to the nameplate model.

1.2 Appearance description

1.2.1 Appearance of model **I**



1.3 Model of Inverter

Model	General load (G-load)			Pump and fan load (P-load)		
	Rated Power (KVA)	Rated output current （A）	Applied motor Power (KW)	Rate Powe (W)	Rated output current （A）	Applied Motor Power (KW)
2S0004G	1.19	3	0.4	--	--	--
2S0007G	1.9	5	0.75	--	--	--
2S0015G	2.9	7	1.5	--	--	--
4T0007G	1.6	2.5	0.75			
4T0015G	2.4	4.5	1.5	--	--	--
4T0022G	3.6	5.5	2.2	--	--	--

1.4 **Specifications**

Input	Rated.	Three-phase（4T） 380V 50/60Hz	Single-phase（2S） 220V 50/60Hz
	Permissible range	Three-phase（4T） 300V ~ 460V	Single-phase（2S） 170V ~ 270V
Output	Voltage	Three-phase (4T) 0 ~380V	Single-phase(2S) 0~220V
	Frequency	0~999Hz	
	Over-loading Endurance	110% rated current for long-term； 150% rated current for 1min； 180% rated current for 2s	

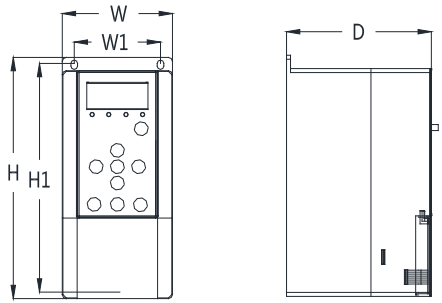
Control Characteristics	Control System	V/F control
	Torque start	the torque is 150% rated torque.
	The lasting accuracy	±0.5%
	response time	≦ 20ms
	V/F curve	And V/F curve with multi-mode can be discretionally set. There are also three curves provided, Constant torque curve, Dec torque curve 1 and Dec torque curve 2.
	Torque boost	Manual torque boost can be set between 0 and 30 percent;
	Current / voltage restraint	Current close-circuit control can avoid the current attack.
Freq. Control Resolution	Analog Input	0.1% of maximum output freq.
	Digital Input	0.01Hz
Freq. Precision	Analog Input	Within 0.2% of maximum output freq.
	Digital Input	Within 0.01% of setting freq.
Typical Functions	Multi-speed selection And Wobble freq. running	Up to 8 stages of programmable multi-speed control, 6 kinds of running mode Wobble freq. function is composed of preset freq., center freq. adjusted and saving state and restart when inverter just had power off.
	PID control	Embedded PID controller can preset freq.
	RS485 communication	Standard positioning RS485 Manifold communication protocols can be selected(MODBUS), having synchronous linkage function.

	Counter	Embedded one counter, which will help the integration of system
	carrier frequency	1.0~15.0KHz ；
Freq. Setting	Analog input	DC 0～10V，DC current 0～20mA
	Digital input	It can be set by Operation panel, RS485, UP/DW terminal and combination setting.
Output Signa	Analog output	one output：0~10V voltage, 0~20mA current, and upper/lower limit can be set by user
	Digital output	Two OC output, 16 options can be selected, faults electric delay out can be selected .
	DC braking	Start and stop can be selected respectively, action freq. is form 0 to 50.0Hz, and action time is form 1 to 20.0s. Continuous action is also optional.
Protection/Warning Functions		Over current, over voltage, under current, under voltage, thermal relay, overheating, Short circuit, out voltage would be short of the phase, The parameters of motor is abnormal, Main contactor can't attract, Internal memory faults, etc.
Environmental Conditions	Ambient temperature	-10℃~+50℃
	Ambient	under 90%
	Ambient atmosphere	indoors (non-corrosive、non-inflammable、non-oil, non- fog etc.
	Altitude	lower than 1000m
	Enclosure	IP20
	Cooling	the cooling mode
	Vibration level	< 20m/s

2. INSTALLATION GUIDELINES

2.1 Dimension of inverter

It is fit for： 2S0004G ~ 2S0015G、4T0007G ~ 4T0022G

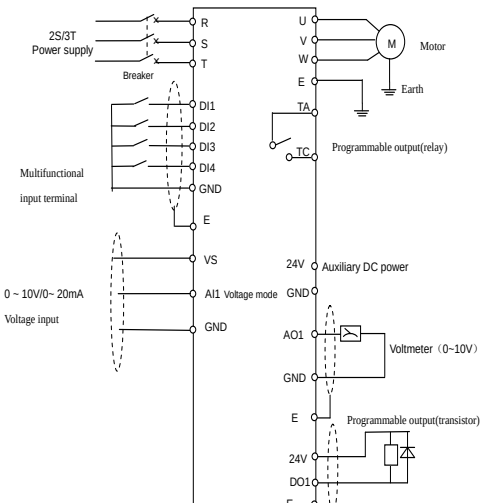


2.2 Installation dimension of inverter is shown as following table

model	W1 (mm)	W (mm)	H1 (mm)	H (mm)	H2 (mm)	D (mm)	Set screw
2S0004G	65	83	172	181	--	110	M4
2S0007G							
2S0015G							
4T0007G							
4T0015G							
4T0022G							

3. WIRING PROCEDURE

3.1 Basic wiring



Note 1: "DO1" can bear a maximum current of 50mA, "24V" can bear a maximum output current of 50mA, "10V" can bear a maximum output current of 10mA, "TA/TC" can bear a maximum terminal capacity of 250VAC 1A

4. OPERATIONS and list of state monitor parameter

4.1 Operation panel

4.1.1 Panel layout

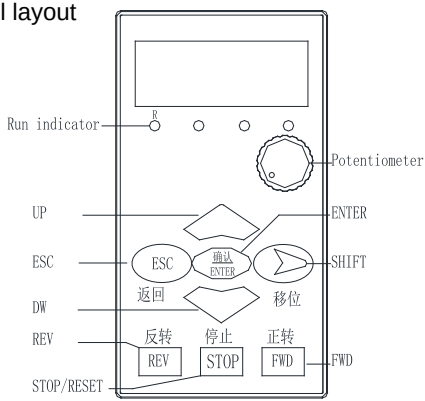


Fig.4-1-A Panel Layout

4.1.2 Keypad functions

Item	Function
R Light	Operation indicator light. The inverter is running backward
FWD	forward run command
REV	reward run command
STOP	Stop and Reset key.

	Return key Press this key in normal monitor state to enter query mode of not normal monitor state /monitor parameters to check running state. In any state, press this key to return the upper state.
	Program / ENTER key. Confirm the current state or parameter (the parameter is stored in the internal memory)
	Data modify key It is used to modify the function code and parameter. In state monitor mode, if P1.00 is 0, press this key will modify the frequency instruction.
	Shift key.

4.2 List of state monitor parameter

Monitor	Content	Unit	address
d0.00	Current output frequency	Hz	D000
d0.01	Current output current(RMS)	A	D001
d0.02	DC bus voltage	V	D002
d0.03	Temperature of module	°C	D003
d0.04	output voltage (Valid)	V	D004
d0.05	Rotate speed of motor	rpm	D005
d0.06	Input voltage of inverter	V	D006
d0.07	Setting freq.	Hz	D007
d0.08	Count value of Internal		D008
d0.09	PID setting value	0.01Klio	D009
d0.10	PID feedback value	0.01Klio	D00A
d0.11	Running linear speed		D00B
d0.12	Setting linear speed		D00C
d0.13	Analog input AI1（voltage）	V	D00D
d0.17	State of input terminal		D011
d0.18	Analog output AO1		D012

d0.20	Magnetization current	A	D014
d0.21	Magnetization current setting	A	D015
d0.22	Torque current	A	D016
d0.23	Torque current setting	A	D017
d0.24	Reserved	Hz	D018
d0.25	Reserved		D019
d0.26	First fault record		D01A
d0.27	Second fault record		D01B
d0.28	Third fault record		D01C
d0.29	Fourth fault record		D01D
d0.30	Fifth fault record		D01E
d0.31	Sixth fault record		D01F
d0.32	Output frequency of last fault	Hz	D020
d0.33	Setting frequency of last fault	Hz	D021
d0.34	Output current of last fault	A	D022
d0.35	Output voltage of last fault	V	D023
d0.36	DC voltage of last fault	V	D024
d0.37	Temperature of module of last	°C	D025
d0.38	U-phase output current	A	D026
d0.39	V-phase output current	A	D027
d0.40	W-phase output current	A	D028
d0.41	Overload value of frequency	%	D029
d0.42	Overload value of motor	%	D02A
d0.43	output power		D02B
d0.44	DC BUS ripple coefficient	%	D02C

5. PARAMETERS LIST

Symbol description:

★ means that this parameter cannot be changed during operation.

▲ means that this parameter is related to the inverter's model.

Code	Name	Setting range	Default value	Address
P0.01	Parameter write-protect	0：All parameters are allowed to be modified 1：Forbid to modify all parameter except P0.01	0	F001
P0.02	The upper limit frequency	[P0.07] ~[P0.08]	50.0	F002
P0.03	Parameter initialization	0：Parameter initialization is off. 1：Parameter initialization is on. 2：Clean fault records	0	F003
P0.04	Manufactory password		0	F004
P0.05	Monitor item selection 1	Bit1:Bit0 Run monitor item Bit3:Bit2 stop monitor item	0700	F005
P0.06	Monitor item selection 2		0101	F006
P0.07	The lower limit frequency	0.0 Hz~ [P0.02]	0.0	F007
P0.08	The max frequency	[P0.02] ~999.9Hz	50.0	F008
P0.09	Motor rated frequency	5.00～[P0.08]	50.00	F009
P0.10	Motor rated voltage	200～500V 100～250V	380 220	F00A
P0.11	Carrier wave frequency	1.0~ 12.0 KHz	▲	F00B

Code	Name	Setting range	Default value	Add-ress
P0.12	Carrier wave characteristics	0：The relation between low frequent and Carrier wave is off. 1：The relation between low frequent and Carrier wave is on	1110	F00C
P0.13	Auxiliary Frequency channel	0：Digital setting by P1.01, power off memory 1：Digital setting by P1.01, no memory after power failure 2: RS485 interfac 3：Panel potentiometer 4： AI1（0V~10V/4~20mA） 5: RSV 6: Simple PLC mode 7: PID mode 8: Mult step speed mode	4	
P1.00	Main Frequency channel		0	F100
P1.01	Frequency digital setting	0.00 ~ the upper limit frequency	50.0	F101
P1.02	UP/DOWN frequency digital setting	0：Setting freq will keep when stopping 1：Setting freq will clear when stopping	0000	F102
P1.03	UP/DOWN Modified rate	0.01～100.0Hz/Sec	3.00	F103
P1.04	Frequency channel combination selection	BIT0:Frequency source 0: Main Frequency 1: By BIT1 2: Selected by input Terminal function 10 3: Main Frequency /combination 4: Auxiliary Frequency /combination BIT1: combination of Main and Auxiliary Frequency 0：A+B 1：A-B 2：Max(A,B) 3：Min(A,B)	0	F104
P1.05	Operation channel selection	0：Panel control 1：External terminals control 2：RS485 interface	0000	F105

Code	Name	Setting range	Default value	Add-ress
P1.06	Combination methods of instruction terminals	0：Two-line mode 1 1：Two-line mode 2 2：Three-line mode 1 3：Three-line mode 2 4：Three-line mode 3	0	F106
P1.07	Acc time 1	0.1 ~ 999.9 Sec	▲	F107
P1.08	Dec time 1	0.1 ~ 999.9 Sec	▲	F108
P1.09	Acc time 2	0.1～999.9 Sec	▲	F109
P1.10	Dec time 2	0.1～999.9 Sec	▲	F10A
P1.11	Acc time 3	0.1～999.9 Sec	▲	F10B
P1.12	Dec time 3	0.1～999.9 Sec	▲	F10C
P1.13	Acc time 4 /Jog Acc time	0.1～999.9 Sec	▲	F10D
P1.14	Dec time 4 /Jog Dec time	0.1～999.9 Sec	▲	F10E
P1.15	Jog frequency	0.0～Max freq	5.00	F10F
P1.16	Acc/Dec time frequency	0：Max freq 1：setting freq	0	F110
P1.19	Start mode	0：Routine mode	0	F113
P1.20	Start frequency	0.0～10.00Hz	2.00	F114
P1.21	Start frequency duration	0.0～20.0 Sec	0.0	F115
P1.22	DC braking voltage when starting	0.0 ～ 30.0（%）	5.0	F116
P1.23	DC braking time when starting	0.0 ～ 20.0 Sec	0.0	F117
P1.26	Stop mode	0：Decelerate mode 1：Uncontrolled stop	0	F11A
P1.27	Initial freq. of DC braking when stopping	0.0～50.00Hz	3.00	F11B
P1.28	Waiting time of DC braking when stopping	0.0～5.0 Sec	0.1	F11C

Code	Name	Setting range	Default value	Add-ress
P1.29	Action time of DC braking when stopping	0.0～20.0 Sec	0.0	F11D
P1.30	DC braking voltage when stopping	0.0～30（%）	5.0	F11E
P1.33	Dead time of FWD&REV	0.0～5.0 Sec	0.0	F121
P1.34	Lower freq mode	0: lower frequency run 1:Standby operation 2:Zero freq run	0.0	F122
P1.35	Keyboard potentiometer Max voltage	0.0~10.00V	9.50	F123
P1. 38	Torque Boost	0.1~30.0（%）	▲	F126
P1.41	Automatic voltage regulation（AVR）	0： Invalid 1： Dynamic valid 2： Static valid	0	F129
P2.00	AI1 Low input voltage	0.0V ~ [P2.01]	0.0V	F200
P2.01	AI1 up input voltage	[P2.00] ~ 10.00V	9.80V	F201
P2.02	AI1 Low Setting	0.0% ~ [P2.03]	0.0%	F202
P2.03	AI1 up Setting	[P2.02] ~100.0%	100.0%	F203
P2.04	AI1 Low voltage Characteristics	0: below low voltage setting 0; 1: below low voltage setting P2.02	0	F204
P2.05	Analog output selection (AO1）	0：Output freq. 1：Output current 2：Output voltage 3：Rotate speed of applied motor 4：PID setting 5：PID feedback	0010	F205
P2.06	AO1 Low output	0.00V～[P2.07]	0.00V	F206
P2.07	AO1 up output	[P2.06]～10.00V	10.00V	F207

Code	Name	Setting range	Default value	Add-ress
P2.08	AO1 Low setting	0.0%～[P2.09]	0.0%	F208
P2.09	AO1 up setting	[P2.08]～100.0%	100.0%	F209
P2.10	AI1 filter gain	0～20	5	F20A
P2.11	AO1 Low setting Characteristics	0: below low setting output 0V; 1: below low setting output P2.06	1	F20B
P2.12	AO1 fixed output value	0.00V~10.00V	0	F20C
P3.00	DI1	0：None 1：Multi-speed control terminal 1 2：Multi-speed control terminal 2 3：Multi-speed control terminal 3 4：RSV 5：State of wobble freq. reset 6：FWD jog control 7：REV jog control 8：Acc & Dec time selection terminal 1 9：Acc & Dec time selection terminal 2 10：Freq. setting channel selection 1 11：Freq. setting channel selection 2 12：Freq. setting channel selection 3 13：Freq. increase（UP） 14：Freq. decrease（DW） 15：UP-DW freq. clear 16：Uncontrolled stop control 17：External fault signal input 18：Three-line mode running control 19：DC braking control 20：Inner counter clear 21：Inner counter timer 22：PLC running valid 23：PID running valid 24：Reserved 25：PLC state reset after stopping 26：RESET 27：FWD 28：REV	27	F300
P3.01	DI2		28	F301
P3.02	DI3		27	F302
P3.03	DI4		0	F303
P3.04	DI5		0	F304
P3.05	DI6		0	F305

Code	Name	Setting range	Default value	Add-ress
P3.06	Input terminals Function setting	*Count from the right The second part of LED： 0：It will valid when Input terminals are connected. 1：It will valid when Input terminals are disconnected.	0000	P3.06
P3.07	DO1	0：Running； 1：Frequency reaching； 2：Freq. level detection signal（FDT）； 3：Over-loading alarm； 4：External fault halt； 5：Output frequency reaches the upper-limit； 6：Output frequency reaches the lower-limit； 7：Running in zero speed； 8：Inverter will stop when under voltage； 9：PLC stage is end of run； 10：PLC periodic is end of run； 11：Reserved； 12：Setting value of counter arrives； 13：Designated value of counter arrives； 14：Reserved； 15：Reserved； 16：Inverter fault； 17：Restrictions on wobble freq. of the upper and lower limit freq. 25: at least one step;	0	F307
P3.08	RSV		1	F308
P3.09	TA \TC		16	F309
P4.00	Type of V/F Curve	0：Constant torque curve 1：Square. torque curve 1 2：RSV 3：V/F user-defined curve	0	F400
P4.01	V/F freq. 3	[P4.03] ~ [P0.09]	35.0	F401
P4.02	V/F voltage 3	[P4.04] ~ 100.0(%)	80.0	F402

Code	Name	Setting range	Default value	Add-ress
P4.03	V/F freq. 2	[P4.05] ~ [P4.01]	17.5	F403
P4.04	V/F voltage 2	[P4.06] ~ [P4.02]	450.0	F404
P4.05	V/F freq.1	0.0 ~ [P4.03]	5.0	F405
P4.06	V/F voltage 1	[P1. 38] ~ [P4.04]	20.0	F406
P5.02	Motor rated power	0.4KW～7.5KW	▲	F502
P5.03	Rated current of applied motor	0.01～50.0A	▲	F503
P5.04	Rated rev of applied motor	300～9999rpm	▲	F504
P6.00	Multi-speed running mode	*Count from the right The first part of LED:PLC setting 0：Effective when p1.00 is set to 6 1：PLC is effective 2：PLC is conditional invalid. The second part of LED：running mode 0：Single loop mode 1：Single loop and stop mode 2：Continuous loop mode 3：Continuous loop and stop mode 4：Keep the end value 5：Keep the end value and stop mode The third part of LED: 0：Restart from the first stage freq. 1：Restart from running freq. which is saved before running is break 2：Restart from setting freq. when Running is break. The fourth part of LED：PLC save state 0：Non-save after power off 1：Save after power off	0000	F600

Code	Name	Setting range	Default value	Add-ress
P6.01	Multi-speed frequency 1	0.0 ~ the upper limit freq.	35.00	F601
P6.02	Multi-speed frequency 2	0.0 ~ the upper limit freq.	15.00	F602
P6.03	Multi-speed frequency 3	0.0 ~ the upper limit freq.	3.00	F603
P6.04	Multi-speed frequency 4	0.0 ~ the upper limit freq.	20.00	F604
P6.05	Multi-speed frequency 5	0.0 ~ the upper limit freq.	25.00	F605
P6.06	Multi-speed frequency 6	0.0 ~ the upper limit freq.	30.00	F606
P6.07	Multi-speed frequency 7	0.0 ~ the upper limit freq.	35.00	F607
P6.08	Multi-speed frequency 8	0.0 ~ the upper limit freq.	40.00	F608
P6.09	Running time of Multi-speed 1	0.0～6000 Sec	10.0	F609
P6.10	Running time of Multi-speed 2	0.0～6000 Sec	10.0	F60A
P6.11	Running time of Multi-speed3	0.0～6000 Sec	10.0	F60B
P6.12	Running time of Multi-speed 4	0.0～6000 Sec	10.0	F60C
P6.13	Running time of Multi-speed 5	0.0～6000 Sec	10.0	F60D
P6.14	Running time of Multi-speed 6	0.0～6000 Sec	10.0	F60E
P6.15	Running time of Multi-speed 7	0.0～6000 Sec	10.0	F60F
P6.16	Running time of Multi-speed 8	0.0～6000 Sec	10.0	F610

Code	Name	Setting range	Default value	Add-ress
P6.17	Running direction of PLC multi-speed	The first part of LED 0：Stage 1 FWD 1：Stage 1 REV The second part of LED： 0：Stage 2 FWD 1：Stage 2 REV The third part of LED： 0：Stage 3 FWD 1：Stage 3 REV The fourth part of LED： 0：Stage 4 FWD 1：Stage 4 REV	0000	F611
P6.18	Running direction of PLC multi-speed	The first part of LED 0：Stage 5 FWD 1：Stage 5 REV The second part of LED： 0：Stage 6 FWD 1：Stage 6 REV The third part of LED： 0：Stage 7 FWD 1：Stage 7 REV The fourth part of LED： 0：Stage 8 FWD 1：Stage 8 REV	0000	F612
P6.20	PLC time uint	0: Sec 1: Min		

Code	Name	Setting range	Default value	Add-ress
P6.21	Multi-speed frequency 0 source	0：Digital setting by P1.01,Power Memory 1：Digital setting by P1.01 Power failure memory 2:RS485 interfac 3：Panel potentiometer 4：AI1（0V~10V/4~20mA）		
P7.00	Running direction control	The first part of LED 0：Running direction is consistent with setting direction 1：Running direction is in contradiction To setting direction The second part of LED： 0：Prevention REV is valid 1：Prevention REV is invalid	0000	F700
P7.01	Frequency reach the checkout amplitude	0.0~20.00Hz	5.00	F701
P7.02	FDT setting 1	0.0~ the upper limit freq.	10.00	F702
P7.03	FDT output delay time 1	0.1~200.0 Sec	2.0	F703
P7.04	FDT setting 2	0.0~ the upper limit freq.	10.00	F704
P7.05	FDT output delay time 2	0.1~200.0 Sec	2.0	F705
P7.06	Final value setup of internal counter	1～60000	1	F706
P7.07	Internal timer setup	1～60000	1	F707
P7.08	Skip freq. 1	0.0～the upper limit freq.	0.0	F708

Code	Name	Setting range	Default value	Add-ress
P7.09	Amplitude accumulation Of Skip freq. 1	0.0～5.00Hz	0.0	F709
P7.14	Rotator speed coefficient setting	0.01～90.00	1.00	F70E
P7.23	Set length	0~9999m	1000	F717
P7.24	Actual length	0~9999m	0	F718
P7.25	Number of pulses per meter	0.1~999.9	1000	F719
P7.26	Timed shutdown function	0：OFF 1：ON.	0	F71A
P7.27	Timing time source	0: Digital setting P7.28 1: AI1 setting (relative to P7.28) 2: Reserved 3: Keyboard potentiometer (relative to P7.28)	0	F71B
P7.28	Timing duration setting	0~9999	0	F71C
P7.29	Timing unit	0: s 1: min	0	F71D

Code	Name	Setting range	Default value	Add-ress
P8.00	Inner PID control	*Count from the right The first part of LED: Inner PID control 0：Effective when p1.00 is set to 7 1：PLC is effective 2：PLC is conditional invalid. The second part of LED：controller selection 0：proportion 1：Integral 2：Proportion and integral	0020	F800
P8.01	Inner PID setting and channel selection	*Count from the right The first part of LED: PID setting channel. 0：Digital setting 1：RS485 interfac 2：Operation panel potentiometer setting 3：External voltage signal AI1（0～10V/4～20mA） The second part of LED： Reserved. The third part of LED：feedback channel. 0：External voltage signal AI1（0～10V4～20mA）	0000	F801
P8.02	Inner PID close-loop digital setting	0.00～10.00 kilo	0.00	F802
P8.07	Proportion gain	0.0～9.00	1.000	F807
P8.08	Integral gain	0.0～9.000 Sec	1.500	F808
P8.09	Allowable deviation limit	0～20.0（%）	0.0	F809

Code	Name	Setting range	Default value	Add-ress
P8.10	Preset freq. for close-loop	0.0～the upper limit freq	0.0	F80A
P8.11	Holding time of preset freq. for close-loop	0.0～6000.0Sec	0.0	F80B
P8.12	Sleeping freq	0.0～100.0HZ	0.0	F80C
P8.13	Wake up pressure bias	0.0～100.0%	80.00	F80D
P8.14	Sleeping delay time	0.0～600.0S	10.0S	F80E
P8.15	Wake up delay time	0.0～600.0S	2.0S	F80F
P8.16	Range of pressure gauge	0.00~50.00 kilo	10.00	F810
P9.00	Communication setting	*Count from the right The first part of LED：Baud rate 0： Reserved 1: 1200bps 2: 2400bps 3: 4800bps 4: 9600bps 5: 19200bps The second part of LED：Data format 0：None 8N1 1：Even 8E1 2：Odd 8O1 3：None 8N2 4：Even 8E2 5：Odd 8O2 The third part of LED：Comm format 1：Modbus-RTU [1-8-1]	0115	F900

Code	Name	Setting range	Default value	Add-ress
P9.01	Local address	0～30	1	F901
P9.02	Response delay of local	0～1000ms	5ms	F902
P9.03	Function setting of communication Auxiliary function	The first part of LED 0: The inverter is guest 1: The inverter is host The second part of LED: Act selection after communication is lost 0：Stop 1：Keep	0010	F903
P9.04	Checkout time of communication overtime	0.0～100.0 Sec	10.0	F904
P9.05	Linkage setting proportion	0.01～10.00	1.00	F905
P9.06	Rectify channel of linkage setting proportion	0：Close 1：Panel potentiometer 2：External voltage signal AI1（0 ~ 10V） 3：External voltage signal AI2（0 ~ 10V） 4：External current signal AI1（4 ~ 20mA）	0	F906
PA.00	Under voltage protection level	320～480V（380V level） 160～240V（220V level）	390 195	FA00
PA.01	Over voltage limit level	660～760V（380V level） 330～380V（220V level）	700 350	FA01
PA.02	Current limiting level	150.0～210.0（%）	170.0	FA02
PA.03	Voltage limiting gain	0～100	0	FA03
PA.04	Current limiting gain	0～100	10	FA04

Code	Name	Setting range	Default value	Add-ress
PA.05	Motor over-lode protection coefficient	50.0%～110.0%（%）	105.0%	FA05
PA.08	Motor overload protection enable	0:Disable 1:enable	1	FA08
PA.09	Action function selection	the first part of LED: cooling fan control 0：Cooling fan run after inverter run. 1：Cooling fan will automatic run The second part of LED：Fan regulation 0：Invalid 1：Valid The third part of LED：Voltage over modulation 0：Invalid 1：Valid	0100	FA09
PA.15	Compensation rectify of dead zone	0～25	0	FA0F
PA.16	Fault self-recovery time	0～20	0	FA10
PA.17	Interval time of fault self-recovery	0.2～20 Sec	2.0	FA11
PA.19	Program version		▲	FA13
PA.20	Input Terminal run protection	Bit 0 : power on protection enable 0:Disable 1:enable Bit 2: normal run protection enable 0:Disable 1:enable	0000	

6. FAULT DIAGNOSIS AND COUNTERMEASURES

6.1 Protective functions and Countermeasures

Code	Faults	Probably Cause	Solutions
EC.01	Over-current during Acc	1. Acceleration time is too short. 2. V/F curve is not suitable. 3. User start rotating motor, but doesn't set function of detect speed and restart. 4. Value of torque boost set too high. 5. Mains voltage is too low	1. Prolong the acceleration time 2. Descend the torque boost or adjust the V/F curve 3. To set function of detect speed and restart 4. To decrease voltage of torque boost 5. Check mains voltage
EC.02	Over-current during Dec	Deceleration time is too short.	Prolong the deceleration time
EC.03	Over-current during running	1. Load occurs mutation 2. Mains voltage is too low	Decrease load fluctuation
EC.04	Over-voltage during Acc	1.Input voltage is too high 2. Power supply is switched on or off frequently.	1.Check power supply 2. Control the on-off of inverter by the control terminal
EC.05	Over-voltage during Dec	1. Deceleration time is too short. 2. Input-voltage is abnormal	1. Extend the deceleration time 2. Check power supply voltage

Code	Faults	Probably Cause	Solutions
EC.06	Over-voltage during running	1. Power supply is abnormal 2. There are energy feedback load	1. Check power supply 2. Install or select brake resistor
EC.07	Over voltage at stop	Power supply is abnormal	Check power supply voltage
EC.08	Under-voltage during running	1. Power supply is abnormal 2. There is great fluctuation of load in electric network.	1. Check power supply voltage 2. Provide the power supply separately
EC.12	Inverter over-loading	1. Load is too heavy. 2. Acceleration time is too short. 3. Torque boost is too high or V/F curve is not suitable. 4. Voltage of Power supply is too low 5. User starts rotating motor, but doesn't set function of detect speed and restart.	1. Reduce the load or replace with higher capacity inverter. 2. Prolong Acc time. 3. Decrease the torque boost or adjusting V/F curve. 4. Check Voltage of Power supply 5. To set function of detect speed and restart
EC.13	Motor over-loading	1. Load is too heavy. 2. Acceleration time is too short. 3. The setting of protection factor is too small 4. Torque boost is too high or V/F curve is not suitable.	1. Reduce the load 2. Prolong Acc time 3. Increase the over-loading protection factor of motor 4.Decrease torque boost voltage and adjust V/F curve.

Code	Faults	Probably Cause	Solutions
EC.14	Inverter overheat	1. Wind hole is blocked 2. Environmental temperature is too high 3. Fan is damaged	1. Clear air duct or improve the air condition.
EC.16	Peripheral equipment occur error	There is signal input on the peripheral. Equipment fault input terminal of Inverter	Check the signal source and the pertinent equipments
EC.26	Driven signal is locked	1. Control board fault	1. Check circuit 2. Contract Us
EC.29	Comminication timeout	1. Parameter set error 2. RS485 hardware connection error;	1. Check circuit 2. Contract Us
EC.39	Auto reset timeout	1. System error	1. Check circuit 2. Contract Us
EC.44	Hardware current Limit timeout	1. Acceleration time is too short. 2. Over load too much 3. Motor is damage	1. Check circuit 2. Contract Us

7. MAINTENANCE

After sale services

Guarantee time of this inverter is 18 months (From the day of purchase). In guarantee time, if the inverter occurs fault or be damaged in normal usage, our company will provide the free repair service or replacement.

Guarantee scale is just the mainframe of inverter.

In guarantee time, if the faults are caused by the following cases, certain service cost would be charged.

① Malfunction is caused by not following the operation manual or over using the standard specification;
② Malfunction is caused by repairing without admision.
③ Malfunction is caused by the bad-storage.
④ Malfunction is due to application of inverter for abnormal functional needs.
⑤ Damage is caused by fire, salt-corrode, gas-corrode, earthquake, storm, flood, lightning strike, voltage abnormal or other force majored.

Even if over guarantee time, our company will provide the paid service forever.

Appendix Ⅰ： **MODBUS** instructions

1、Communication format

Modbus-RTU, 1 start bit, 8 data bits, 1 stop bit。

2、Communication address

Register meaning	Register address
Functional parameters)	See the last column of the function parameter table for details
Monitoring parameters	See the last column of the Monitoring parameter table for details
PID setting	0x1000
Operation command	0x1001
Frequency setting	0x1002
Inverter status	0x2000
Fault information	0x2001

3、Operation command corresponding to operation command code

Operation command code	Operation instruction
0x0001	Forward running
0x0002	Reverse operation
0x0003	STOP
0x0004	Forward JOG
0x0005	Reverse JOG
0x0006	STOP(JOG mode)
0x0020	Fault reset

4、Corresponding indication meaning of frequency converter status code

Inverter status code	referential meaning
0x0000	Slave DC voltage not ready
0x0001	The slave is running forward
0x0002	Slave in reverse operation
0x0003	Slave shutdown
0x0004	Slave forward JOG operation
0x0005	Slave reverse JOG operation
0x0011	Forward acceleration
0x0012	Reverse acceleration
0x0013	Instantaneous shutdown restart
0x0014	Forward deceleration
0x0015	Reverse deceleration
0x0016	The slave is in DC braking state
0x0020	The slave is in fault state

Remarks: the high order of the fault information code is 0, and the low order corresponds to the frequency converter fault code EC The following label, for example, the fault information code is 0x000c, indicating that the fault code of the frequency converter is EC 12。

Warrant Card

产品保修卡

维修单位(Maintain unit)_____	用　户(User)_____
产品型号(Product model)_____	购买日期(Purchasing date)_____
发票号码(Invoice number)_____	购自单位(Purchased from)_____

Noted:

请你妥善保管此卡，在需要维修时，凭此卡连同购机发票与我司售服中心或供应商联系;

Please keep this card carefully, use the card together with the Invoice when the produce need to maintain;

Certificate of Approval
合格证

检验员 QC：_____

生产日期 data：_____

本产品经我司品质控制、品质部门检验，其性能参数符合要求，准许出厂

This product has been inspected by the quality control and Quality Department of our company. Its performance parameters meet the requirements and are allowed to leave the factory