



冠勝發機電有限公司
CrownPower Technology Co., Ltd

▶ 伺服節能 低碳未來



伺服液壓節能系統說明書

QSD-P5 系列

伺服驅動器技術手冊

servo driver operation instruction

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202407

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Chapter 1 Safety and Precautions

Safety definition:

In this manual, safety precautions are classified as follows:



Danger: Operations which are not performed according to requirements may cause serious equipment loss or personnel injury.



Caution: Operations which are not performed according to requirements may cause medium hurt or light hurt or material loss.

During the installation, commissioning and maintenance of the system, please make sure to follow the safety and precautions of this chapter. In case of a result of illegal operations, caused any harm and losses is nothing to do with the company.

Operation qualification

This product must be installed, wired, operated and maintained by trained professionals. The so-called "trained professionals" in this manual means that the personnel working on this equipment must undergo professional skill training, be familiar with the installation, wiring, operation and maintenance of the equipment, and correctly deal with various emergencies in use.

Safety guidance



The safety rules and warning signs are put forward for your safety, and are measures taken to prevent operators from being injured and the product and related systems from being damaged; Please read this manual carefully before use and operate in strict accordance with the safety rules and warning signs in this manual. Safety rules and warning signs are divided into the following categories: General guidance, transportation and storage guidance, installation and wiring guidance, operation guidance, maintenance guidance, and disassembly and waste disposal guidance.

1.1 Safety Precautions



1.1.1 Before Installation:

 Danger	<ul style="list-style-type: none"> ● Do not use the water-logged inverter, damaged inverter or inverter with missing parts. Otherwise, there may be risk of injury. ● Use the motor with Class B or above insulation. Otherwise, there may be risk of electric shock.
 Caution	<ul style="list-style-type: none"> ● Carefully handled when loading, otherwise it may damage the inverter. ● Please don't use the damaged driver or inverter with missing parts, there may be risk of injury. ● Do not touch the electronic parts and components; otherwise it will cause static electricity.



1.1.2 During Installation:

 Danger	<ul style="list-style-type: none"> ● Install the inverter on incombustible surface such as metal, and keep away from flammable substances. Otherwise it may cause fire. ● Do not loose the set screw of the equipment, especially the screws marked in RED.
 Caution	<ul style="list-style-type: none"> ● Do not drop the cable residual or screw in the inverter. Otherwise it may damage the inverter. ● Please install the driver in the place where there is no direct sunlight or less vibratory. ● When more than two inverters are to be installed in one cabinet, due attention should be paid to the installation locations (refer to Chapter 3 Mechanical and Electrical Installation) to ensure the heat sinking effect.



1.1.3 During Wiring:

 Danger	<ul style="list-style-type: none"> ● Operation should be performed by the professional engineering technician. Otherwise there will be danger of electric shock! ● There should be circuit breaker between the inverter and power supply. Otherwise, there may cause fire! ● Make sure the power is disconnected prior to the connection. Otherwise there will be danger of electric shock! ● The ground terminal should be earthed reliably. Otherwise there may be danger of electric shock.
 Caution	<ul style="list-style-type: none"> ● Never connect AC power to output U, V, W terminals. ● Ensure the wiring circuit can meet the requirement of EMC and the area safety standard. Please follow the instructions in the manual before wiring. Otherwise may cause injury or electric shock. ● Never connect the braking resistor between DC Bus (+), (-) terminals. Otherwise may cause fire. ● Encoder must be used together with shielded wire, and ensure the single terminal of the shielded lay is connected with ground well.



1.1.4 Before switching on the power:

 Danger	<ul style="list-style-type: none"> ● Please confirm whether the power voltage class is consistent with the rated voltage of the inverter and whether the I/O cable connecting positions are correct, and check whether the external circuit is short circuited and whether the connecting line is firm. Otherwise it may damage the inverter. The cover must be well closed prior to the inverter power-on. Otherwise electric shock may be caused. ● The inverter is free from dielectric test because this test is performed prior to the delivery. Otherwise accident may occur.
 Caution	<ul style="list-style-type: none"> ● The cover must be well closed prior to the inverter power-on. Otherwise electric shock may be caused! ● Whether all the external fittings are connected correctly in accordance with the circuit provided in this manual. Otherwise accident may occur!


1.1.5 After switching off the power:

 Danger	<ul style="list-style-type: none"> ● Do not open the cover of the inverter upon power-on. Otherwise there will be danger of electric shock! ● Do not touch the inverter and its surrounding circuit with wet hand. Otherwise there will be danger of electric shock! ● Do not touch the inverter terminals (including control terminal). Otherwise there will be danger of electric shock! ● At power-on, the inverter will perform the security check of the external heavy-current circuit automatically. Thus, at the moment please do not touch the terminals U, V and W, or the terminals of motor, otherwise there will be danger of electric shock.
 Caution	<ul style="list-style-type: none"> ● If parameter identification is required, due attention should be paid to the danger of injury arising from the rotating motor. Otherwise accident may occur! ● Do not change the factory settings at will. Otherwise it may damage the equipment!

1.1.6 During Operation:

 Danger	<ul style="list-style-type: none"> ● Do not touch the fan or discharge resistor to sense the temperature. Otherwise, you may get burnt! ● Detection of signals during the operation should only be conducted by qualified technician. Otherwise, personal injury or equipment damage may be caused!
 Caution	<ul style="list-style-type: none"> ● During the operation of the inverter, keep items from falling into the equipment. Otherwise, it may damage the equipment! ● Do not start and shut down the inverter by connecting and disconnecting the contactor. Otherwise, it may damage the equipment!

1.1.7 During Maintain:

 Danger	<ul style="list-style-type: none"> ● Do not repair and maintain the equipment with power connection. Otherwise there will be danger of electric shock! ● Be sure to conduct repair and maintenance after the charge LED indicator of the inverter is OFF. Otherwise, the residual charge on the capacitor may cause personal injury! ● The inverter should be repaired and maintained only by the qualified person who has received professional training. Otherwise, it may cause personal injury or equipment damage! ● Carry out parameter setting after replacing the inverter, all the plug-ins must be plug and play when power outage.
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Chapter 2 Product Information

2.1 Product Inspection

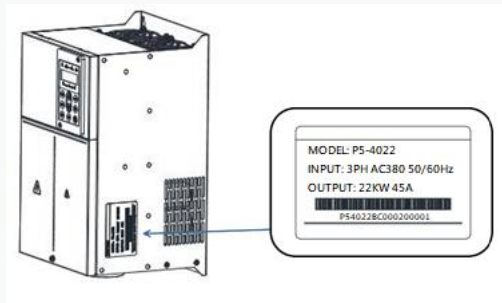
Checking the following items when receiving the inverter

Confirmation Items	Method
Confirm if the inverter is what you ordered	Check name plate
Damaged or not	Inspect the entire exterior of the inverter to see if there are any scratches or other damage resulting from shipping
Confirm if the fastening parts (screws, etc.) are loose or not	Check with a screw driver if necessary
User's manual, certification and other spares	User's manual and the relative spares

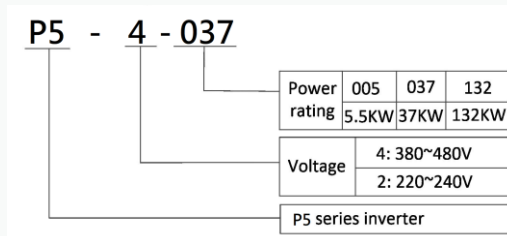
Please contact the local agent or our company directly if there is any damage on the inverter.

2.2 About the nameplate and model

(1) Nameplate



(2) Model description



2.3 Selection Guide

Model	Output power (kW)	Output current (A)		Model	Output power (kW)	Output current (A)
3AC 380~480V						
P5-4004	4.0	10		P5-4090	90	180
P5-4005	5.5	13		P5-4110	110	210
P5-4007	7.5	17		P5-4132	132	250
P5-4011	11	25		P5-4160	160	310
P5-4015	15	32		P5-4185	185	340
P5-4018	18.5	38		P5-4200	200	380
P5-4022	22	45		P5-4220	220	415
P5-4030	30	60		P5-4250	250	470
P5-4037	37	75		P5-4280	280	510
P5-4045	45	90		P5-4315	315	600
P5-4055	55	110		P5-4355	355	670
P5-4075	75	150		P5-4400	400	750
3AC 220~240V						
P5-2004	4.0	16		P5-2022	22	80
P5-2005	5.5	20		P5-2030	30	110
P5-2007	7.5	30		P5-2037	37	130
P5-2011	11	42		P5-2045	45	160
P5-2015	15	55		P5-2055	55	200
P5-2018	18.5	70		P5-2075	75	260

2.3 Technical Specifications

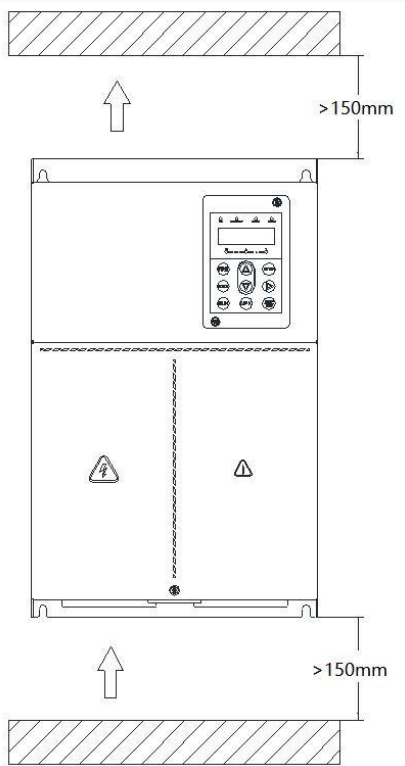
Item	Technical Index	Specification
Input	Input voltage	3AC 220~240V±15% 3AC 380~480V±15%
	Input frequency	50/60Hz±5%
	Closing striking current	< Rated output current
Output	Output voltage	0~rated input voltage
	Maximum output speed	150% rated speed
	Overload capacity	150%/60s
	Modulation mode	SVPWM
	Acceleration/ deceleration curve	Straight line and S curve
	Automatic current limitation	Limit the running current automatically, to prevent over current occurs frequently.
	Standard functions	Oil pressure close-loop control, speed control, Modbus communication, analog output etc.
	Frequency setting channel	Digital setting by keypad, analog setting by AI1 (0~10V), analog setting by AI2 (-10V~+10V), analog voltage / current setting by PI (4~20mA) Modbus communication setting, etc.
	Run command channel	Keypad control Terminal control Modbus communication control
	Input signals	Start, stop, Forward/ Reverse, Jog, Multi-step speed, Coast to stop, ACC/DEC time selection, speed set channel selection, external fault input
Output terminals	2 relay output, 1 analog output (0~10V)	
Protection functions	Comprehensive protections include over-current, over-voltage, under-voltage, overheating, overload, shortcut, etc., can record the detailed running status during failure.	
Keypad	LED display	5 bits digital, 2 lines display
	Status monitor	Pressure command, pressure feedback, speed setting, speed feedback, flow command, output current, output voltage, output torque, output power, DC BUS voltage, IGBT temperature, input digital terminals' status etc.
Environ-	Installation space	Indoor, without corrosive gas

ment	Ambient temperature	-10°C~40°C, without direct sunshine.
	Humidity	20%~90%RH (non-condensing)
	Altitude	≤1000M: output rated power, > 1000M: output derated
	Storage temperature	-20°C~60°C

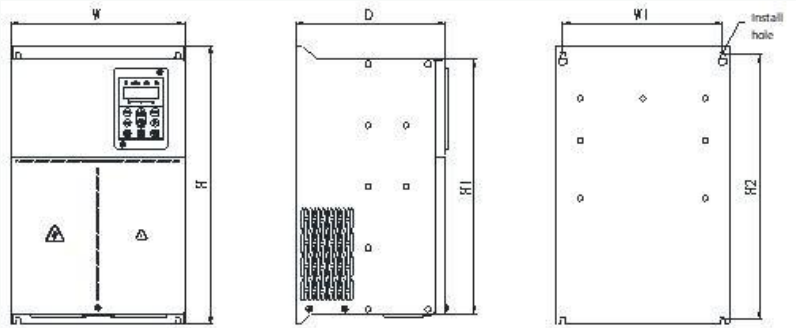
Chapter 3 Installation and wiring

3.1 Installation space

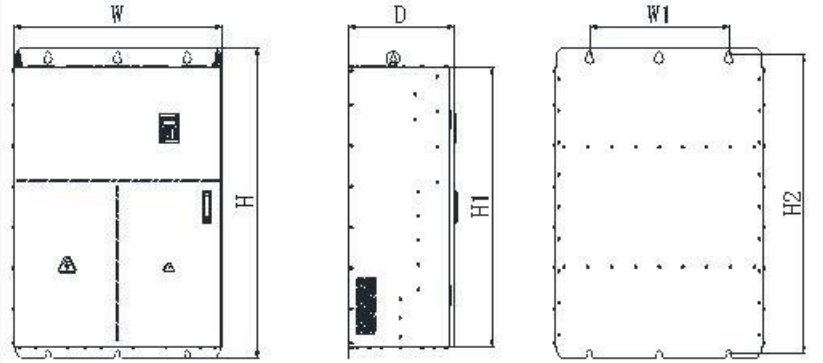
In order to ensure the ventilation space and wiring conditions required for the cooling of the drive, please be sure to observe the installation conditions shown in the following figure to ensure smooth cooling air flow around the drive and ensure the cooling effect.



3.2 Product dimensions



Model	Outlook dimensions (mm)				Aperture(mm)		Installation screws
	W	H	H1	D	W1	H2	
3AC 380V~480V							
P5-4004	135	245	230	160	110	234	4-M4
P5-4005							
P5-4006							
P5-4007	160	290	270	185	135	276	4-M5
P5-4011							
P5-4015	210	350	320	195	195	335	4-M5
P5-4018							
P5-4022							
P5-4030	250	400	365	215	230	380	4-M6
P5-4037							
P5-4045	300	545	500	265	245	525	4-M8
P5-4055							
P5-4075							
P5-4090	375	585	540	300	270	560	4-M8
P5-4110							
P5-4132							

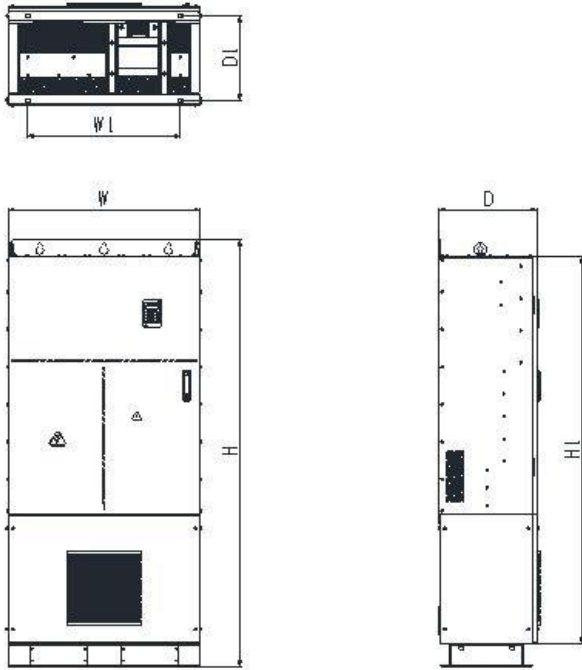


Model	Outlook dimensions (mm)				Aperture(mm)		Installation screws
	W	H	H1	D	W1	H2	

3AC 380V~480V

P5-4160	620	1015	900	380	450	975	6-M16
P5-4185							
P5-4200							
P5-4220	720	1115	1000	380	500	1075	6-M18
P5-4250							
P5-4280							
P5-4315	820	1215	1100	420	550	1175	6-M18
P5-4355							
P5-4400							

Note: Not build-in DC reactor

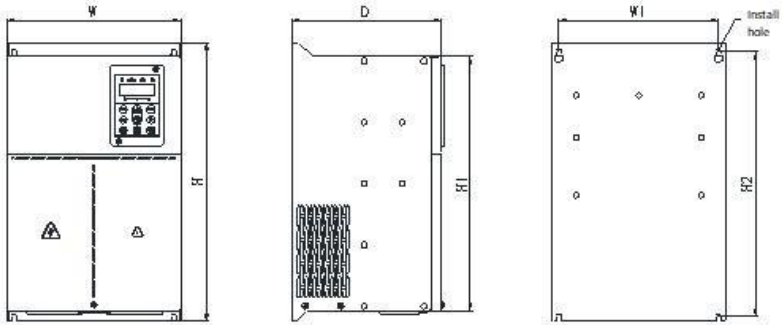


Model	Outlook dimensions (mm)				Aperture(mm)		Installation screws
	W	H	H1	D	W1	D1	

3AC 380V~480V

P5-4160	620	1624	1450	380	450	322	4-M12
P5-4185							
P5-4200							
P5-4220	720	1724	1550	380	550	322	4-M12
P5-4250							
P5-4280							
P5-4315	820	1824	1650	420	650	362	4-M12
P5-4355							
P5-4400							

Note: Build-in DC reactor

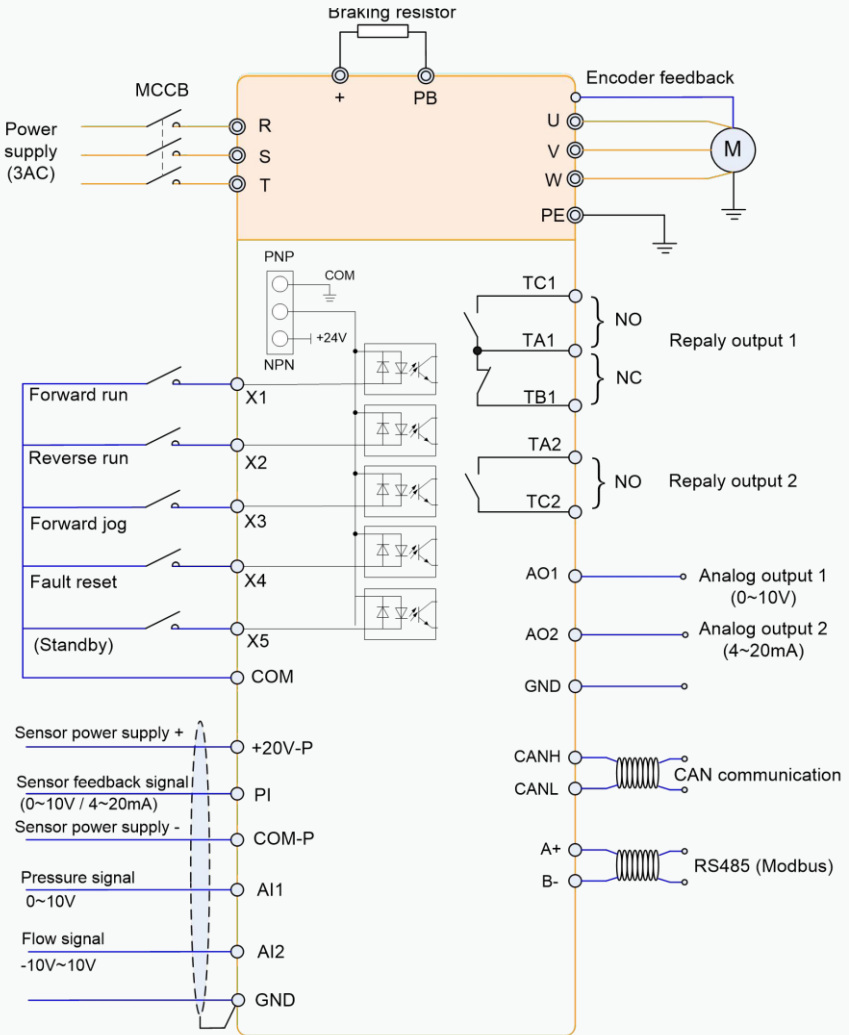


Model	Outlook dimensions (mm)				Aperture(mm)		Installation screws
	W	H	H1	D	W1	D1	

3AC 220V~240V

P5-2004	160	290	270	185	135	276	4-M5
P5-2005							
P5-2007	210	350	320	195	195	335	4-M5
P5-2011							
P5-2015	250	400	365	215	230	380	4-M6
P5-2018							
P5-2022	300	545	500	265	245	525	4-M8
P5-2030							
P5-2037							
P5-2045	375	585	540	300	270	560	4-M8
P5-2055							
P5-2075							

3.3 Standard wiring diagram

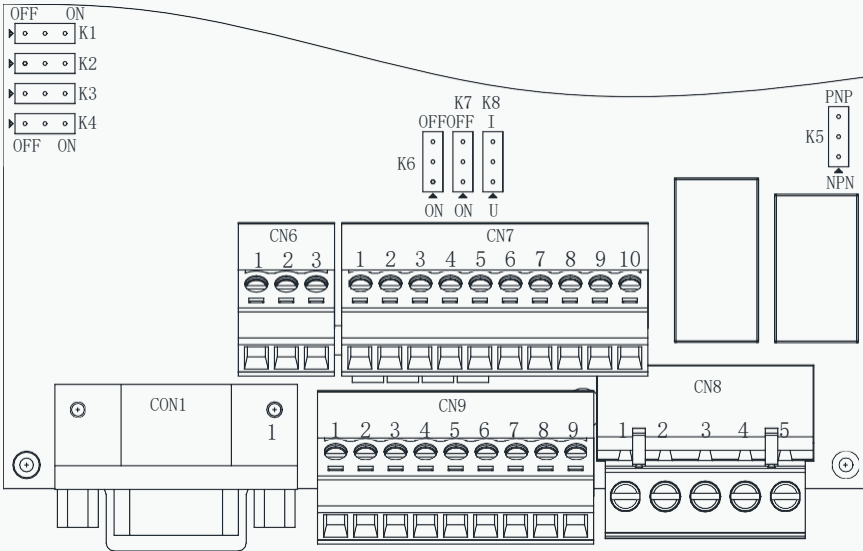


Note:

1. Terminal © refers to the main circuit terminal, terminal O refers to the control circuit terminal.
2. Braking resistor is optional for user.

3.2.6 Control terminals

(1) Layout of control terminals



(2) CN6 terminals' function

CN6	1	2	3
Terminals	+20V-P	COM-P	PI
Default function	Power supply + of sensor	Power supply ground terminal of sensor	Sensor feedback signal

(3) CN7 terminals' function

CN7	1	2	3	4	5	6	7	8	9	10
Terminals	AI1	AI2	GND	A01	A02	GND	X1	X2	X3	COM
Default function	Pressure signal	Flow signal	Ground	Analog output signal 1	Analog output signal 2	Ground	FWD run	REV run	FWD JOG	COM

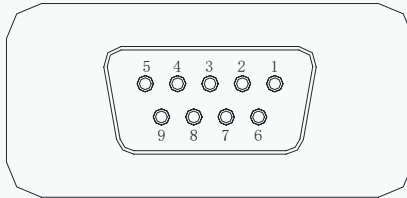
(4) CN8 terminals' function

CN8	1	2	3	4	5
Terminals	TA1	TB1	TC1	TA2	TC2
Default function	Relay 1 (COM)	Relay 1 (NC)	Relay 1 (NO)	Relay 2 (NO)	

(5) CN9 terminals' function

CN9	1	2	3	4	5	6	7	8	9
Terminals	CANH	CANL	GND-C	A+	B-	GND-C	X4	X5	COM
Default function	CAN communication terminals		Ground terminal for communication	RS485 (Modbus)		Ground terminal for communication	Fault reset	Standby	COM

(6) CON1 DB9 terminals' function



CON1	1	2	3	4	5	9
Terminals	EXC-	EXC+	COS+	COS-	SIN+	SIN-
Default function	Rotary encoder excitation -	Rotary encoder excitation +	COS encoder feedback signal		SIN encoder feedback signal	
CON1	6	7	8			
Terminals	KTY84	PTC130	COM-P			
Default function	KTY resistor +	PTC resistor +	KTY or PTC resistor -			

(7) Terminals output capacity

Catalog	Terminal	Terminal name	Terminal functions
Power	+20V-P/COM-P	External +20V power supply	Provide +20V power to external devices , it's usually used for sensor power supply, the maximum output current is 20mA
Analog input	AI1/GND	Voltage type analog input	1. input voltage range: 0V~+10VDC
			2. input resistance: 100kΩ
	AI2/GND	Voltage type analog input	1. input voltage range: -10VDC~+10VDC
			2. input resistance: 100kΩ
	PI/COM-P	Voltage or current type analog input	1. input range: 0V~+10VDC/4mA~20mA
			2. input resistance: 22kΩ
3. current input resistance: 500Ω			
Analog output	AO1/AO2	Analog output	1: GND is their ground connection terminal;
			2: when set as voltage type signal, the maximum output is 2mA
Digital output	TA1/TB1/TC1	Relay output	3A/240VAC 5A/30VDC
	TA2/TC2		

(8) Function description of dial switch on control board

Dial switch	Position	Correspond function
K1	ON	Connect PE terminal and COM-P discharge loop
	OFF	Disconnect PE terminal and COM-P discharge loop
K2	ON	Connect PE terminal and GND discharge loop
	OFF	Disconnect PE terminal and GND discharge loop
K3	ON	Connect PE terminal and GND-C discharge loop
	OFF	Disconnect PE terminal and GND-C discharge loop
K4	ON	Connect PE terminal and COM discharge loop
	OFF	Disconnect PE terminal and COM discharge loop
K5	NPN	X terminals are NPN modes

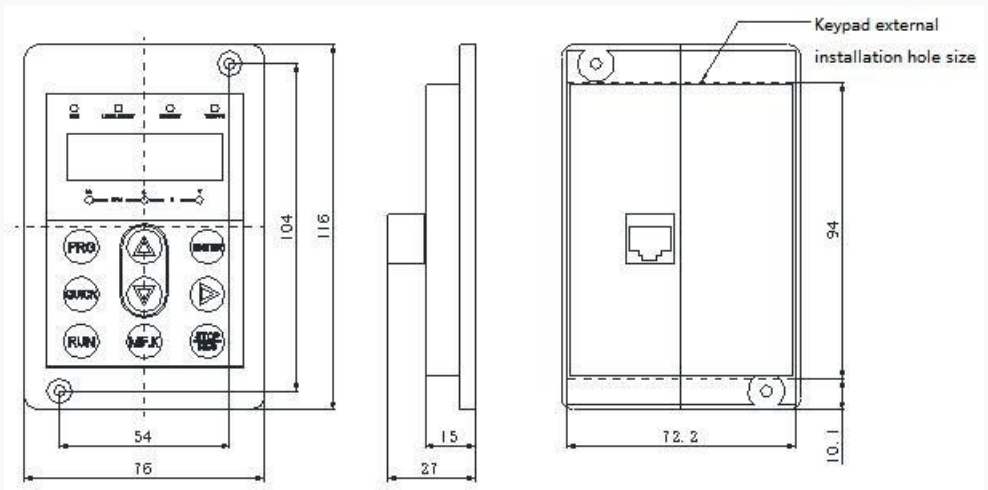
	PNP	X terminals are PNP modes
K6	ON	Connect CAN 120Ω terminal resistor
	OFF	Disconnect CAN 120Ω terminal resistor
K7	ON	Connect RS485 120Ω terminal resistor
	OFF	Disconnect RS485 120Ω terminal resistor
K8	U	AI1 input signal is voltage type
	I	AI1 input signal is current type

Chapter 4 Operation and Display

4.1 Keypad outlook



4.2 Keypad dimensions



4.3 Functional keys descriptions

Button	Name	Function
	Programming key	Entry and exit of primary menu
	Confirmation key	Progressively enter menu, and confirm parameters
	Increment key	Progressively increase of data or function codes
	Decrement key	Progressively decrease of data or function codes
	Shift key	Select the displayed parameters under running or stop mode, and select the modification bit of parameters when modifying parameters.
	Running key	Start to run inverter under keyboard control mode
	Stop / Reset	Stop inverter in running status and reset operation in fault alarm status.
	Multi-function selection key	JOG operation or other selected operation
	Menu mode switch key	Press it switch to different menu mode

Chapter 5 Function Parameter List

The detailed functional parameters are listed in below table.

The instruction of the symbols in function parameter list is as following:

“☆” Means the parameter can be modified at stop and running status.

“★” Means the parameter cannot be modified at the running status.

“○” Means the parameter is the real detection value which cannot be modified.

5.1 Function Parameter Table

Function code	Name	Detailed instruction	Factory default	Modify	Address
A0 Group: Basic parameters of pressure control					
A0-00	Pressure control mode selection	1: Speed mode 2: Single pump mode 3: Multiple pump mode (master) 4: Multiple pump mode (slave) 5: Commissioning mode	1	★	5000H
A0-01	Maximum speed	0~10000RPM	2000RPM	★	5001H
A0-02	Set pressure	0.0kg/cm ² ~ A0-03	140.0kg/cm ²	★	5002H
A0-03	Pressure sensor measure range	A0-02 ~ 500.0kg/cm ²	250.0kg/cm ²	★	5003H
A0-04	Minimum pressure	0.0 ~ 50.0kg/cm ²	3.0kg/cm ²	★	5004H
A0-05	Minimum flow	0 ~ 1000	50	☆	5005H
A0-06	Maximum pressure relief speed	0 ~ 2000rpm	200rpm	☆	5006H
A0-07	Pressure command increase time	0.000 ~ 10.000s	0.100s	☆	5007H
A0-08	Pressure command decrease time	0.000 ~ 10.000s	0.100s	☆	5008H
A0-09	Flow command increase time	0.000 ~ 10.000s	0.100s	☆	5009H

Function code	Name	Detailed instruction	Factory default	Modify	Address
A0-10	Flow command decrease time	0.000 ~ 10.000s	0.100s	☆	500AH
A0-11	Command source selection	Unit bit: Pressure command Tens bit: Flow command Hundred bit: feedback pressure 0: AI1 1: AI2 2: AI3 3: Communication	0x210	☆	500BH
A0-12	Pressure sensor output signal selection	0: 0 ~ 10V 1: 1 ~ 5V 2: 1 ~ 10V 3: 4 ~ 20mA	0	★	500CH
A0-13	Pressure sensor fault detection time	0 ~ 1.000s 0: means no fault detection	0.200s	☆	500DH
A0-17	Slave inverter control	Unit bit: Reverse control 0: Reverse run is forbidden 1: Reverse run is allowed Tens bit: Slave inverter control command 0: by communication 1: by terminal	0	☆	5011H
A0-18	Slave inverter stop speed	0 ~ 2000rpm	0rpm	☆	5012H
A0-19	Slave inverter following speed	0 ~ 2000rpm	0rpm	☆	5013H
A1 Group: Optimized parameters for pressure control					
A1-00	1 st group pressure control Kp	0.0 ~ 500.0	100	☆	5100H
A1-01	1 st group pressure control Ki	0.000 ~ 10.000s	0.050s	☆	5101H
A1-02	1 st group pressure control Td	0.000 ~ 10.000s	0.000s	☆	5102H
A1-03	2 nd group pressure control Kp	0.0 ~ 500.0	100	☆	5103H

Function code	Name	Detailed instruction	Factory default	Modify	Address
A1-04	2 nd group pressure control Ki	0.000 ~ 10.000s	0.050s	☆	5104H
A1-05	2 nd group pressure control Td	0.000 ~ 10.000s	0.000s	☆	5105H
A1-06	3 rd group pressure control Kp	0.0 ~ 500.0	100	☆	5106H
A1-07	3 rd group pressure control Ki	0.000 ~ 10.000s	0.050s	☆	5107H
A1-08	3 rd group pressure control Td	0.000 ~ 10.000s	0.000s	☆	5108H
A1-09	4 th group pressure control Kp	0.0 ~ 500.0	100	☆	5109H
A1-10	4 th group pressure control Ki	0.000 ~ 10.000s	0.050s	☆	510AH
A1-11	4 th group pressure control Td	0.000 ~ 10.000s	0.000s	☆	510BH
A1-12	Low pressure control Kp	0.0 ~ 500.0	50	☆	510CH
A1-13	Low pressure control Ki	0.000 ~ 10.000s	0.100s	☆	510DH
A1-15	High pressure Kp coefficient	0.20 ~ 3.00	1.00	☆	510FH
A1-16	High pressure Ki coefficient	0.20 ~ 3.00	1.00	☆	5110H
A1-17	Overshoot suppression detection level	0 ~ 1000	50	☆	5111H
A1-18	Overshoot suppression coefficient	0.00 ~ 2.00	0.30	☆	5112H
A1-19	Pressure relief overshoot suppression	0 ~ 10	1	☆	5113H

Function code	Name	Detailed instruction	Factory default	Modify	Address
A1-25	Pressure command delay time	0 ~ 0.200s	0.000s	☆	5119H
A1-26	Flow command delay time	0 ~ 0.200s	0.000s	☆	511AH
A1-27	Command curve mode selection	0: Straight line 1: Low pass filter mode 2: S curve mode	0	☆	511BH
A1-31	Pressure arrival detection value	0.0 ~ 250.0kg/cm ²	50.0kg/cm ²	☆	511FH
A1-32	Pressure arrival detection time	0 ~ 10.000s	0.010s	☆	5120H
A1-33	Feedback pressure compensation coefficient	0 ~ 20	0	☆	5121H
A1-34	Flow response coefficient	0 ~ 50	4	☆	5122H
A1-37	Valve pressure relief value	2.00% ~ 50.00%	5.00%	☆	5125H
A1-38	Valve pressure relief delay time	0.000 ~ 5.000	0.200	☆	5126H
P0 Group: Basic Parameters					
P0-00	Control mode	0: Synchronous motor close-loop Vector Control 1: Synchronous motor open-loop Vector Control	0	★	000H
P0-01	Running command source	0: Keypad 1: Terminal 2: Communication	0	★	001H
P0-02	Main frequency source selection	0: Keypad (F0-09) 1: AI1 2: AI2 3: AI3 4: Communication	0	★	002H
P0-09	Keypad set frequency	0.00Hz ~ maximum frequency (F0-10)	100.00Hz	☆	009H
P0-10	Maximum frequency	50.00Hz ~ 600.00Hz	200.00Hz	★	00AH
P0-15	Motor runs direction selection	0: Same direction 1: Reverse direction 2: Forbidden for reverse run	0	☆	00FH

Function code	Name	Detailed instruction	Factory default	Modify	Address
P0-16	Carrier frequency	1.0kHz ~ 10.0kHz	5.0kHz	☆	010H
P0-20	Parameters initialization	0: No action 1: Initialize parameters 2: Clear the fault record 3: Initialize motor parameters	0	★	014H
P0-21	Acceleration time	0.00s ~ 65000s	Model depend	☆	015H
P0-22	Deceleration time	0.00s ~ 65000s	Model depend	☆	016H
P0-23	Output current limitation	0.00 ~ 250.00%	200.00%	★	017H
P0-23	Generated current limitation	0.00 ~ 250.00%	150.00%	★	018H
P1 Group: Motor Parameters					
P1-00	Motor code	0 ~ 1000	0	★	100H
P1-01	Motor rated power	0.4kW ~ 500.0kW	Model depend	★	101H
P1-02	Motor rated voltage	0V ~ 3000V	Model depend	★	102H
P1-03	Motor rated current	0.1A ~ 5000.0A	Model depend	★	103H
P1-04	Motor rated speed	1 ~ 60000RPM	Model depend	★	104H
P1-05	Motor polar number	1 ~ 100	Model depend	★	105H
P1-06	Motor rated frequency	0.01 ~ Maximum frequency (P0-10)	Model depend	★	106H
P1-10	Encoder type	Unit bit: encoder type 0: Rotary encoder 1: UVW encoder 2: ABZ encoder Tens bit: encoder direction 0: Same direction 1: Revers direction	0x00	★	10AH
P1-11	Encoder wires disconnection detection time	0.0: No detection 0 ~ 1000ms	200ms	★	10BH

Function code	Name	Detailed instruction	Factory default	Modify	Address
P1-12	Rotary encoder polar number	2 ~ 50	2	★	10CH
P1-20	Auto-tuning mode selection	0: No action 1: Motor rotary auto-tuning (without load) 1: Motor static auto-tuning (with load)	0	★	114H
P1-23	Encoder installation angle	0.0~359.9°	0°	★	117H
P1-24	Motor stator resistance	0.01 ~ 200.00%	Model depend	★	118H
P1-25	Motor D axis inductance	0.01 ~ 500.00%	Model depend	★	119H
P1-26	Motor Q axis inductance	0.01 ~ 500.00%	Model depend	★	11AH
P1-27	Motor counter electromotive force	0 ~ 3000V	Model depend	○	11BH
P2 Group: Vector Control Parameters					
P2-00	Speed loop proportional gain (low speed)	0 ~ 10.0	1.0	☆	200H
P2-01	Speed loop integration Time (low speed)	0.01 ~ 10.00	0.10s	☆	201H
P2-02	Speed loop PI switching frequency 1	0.00 ~ 50.00Hz	5.0Hz	☆	202H
P2-03	Speed loop proportional gain (high speed)	0 ~ 10.0	1.0	☆	203H
P2-04	Speed loop integration Time (high speed)	0.01 ~ 10.00	0.10s	☆	204H
P2-05	Speed loop PI switching frequency 2	0.00 ~ 50.00Hz	5.0Hz	☆	205H
P2-10	Current loop proportional gain	0.1 ~ 5.0	1.0	☆	20AH

Function code	Name	Detailed instruction	Factory default	Modify	Address
P2-11	Current loop integration gain	0.1 ~ 5.0	1.0	☆	20BH
P2-12	D axis current loop PI adjustment factor	0.10 ~ 5.00	1.00	☆	20CH
P2-13	Q axis current loop PI adjustment factor	0.10 ~ 5.00	1.00	☆	20DH
P2-20	Motor weak magnetic control mode	0: Direct calculation 1: Auto regulation	1	★	214H
P2-21	Maximum weak magnetic current	0 ~ 200%	100%	☆	215H
P2-22	Weak magnetic current regulation gain	0 ~ 2000	500	☆	216H
P2-23	Weak magnetic current integral regulation integration	0 ~ 2000	500	☆	217H
P3 Group: Input Terminals					
P3-00	X1 terminal function	0: No function	1	☆	300H
P3-01	X2 terminal function	1: Forward (FWD) 2: Reverse (REV) 3: Forward Jog (FJOG)	8	☆	301H
P3-02	X3 terminal function	4: Reverse Jog (RJOG) 6: Emergency stop	31	☆	302H
P3-03	X4 terminal function	7: Coast to stop 8: Fault rese	32	☆	303H

Function code	Name	Detailed instruction	Factory default	Modify	Address
P3-04	X5 terminal function	15: Multi-step pressure terminal 16: Multi-step speed terminal 1 17: Multi-step speed terminal 2 18: Multi-step speed terminal 3 19: ACC/DEC selection terminal 1 20: ACC/DEC selection terminal 2 31: Pressure PID control selection terminal 1 32: Pressure PID control selection terminal 2 33: Pressure control mode switch to speed control mode 34: Master-slave switch 35: Switch between injection and pressure maintaining	33	☆	304H
P3-08	X terminals valid mode selection 1	Unit bit: X1 terminal 0: Active with close signal 1: Active with open signal Tens bit: X2 terminal 0: Active with close signal 1: Active with open signal Hundred bit: X3 terminal 0: Active with close signal 1: Active with open signal Thousand bit: X4 terminal 0: Active with close signal 1: Active with open signal	0000	★	308H
P3-09	X terminals valid mode selection 2	Ten thousand bit: X5 terminal 0: Active with close signal 1: Active with open signal	0000	★	309H
P3-10	X terminals filter time	0~1000ms	10ms	☆	30AH
P3-11	X1 rising edge delay time	0.0~100.0s	0	☆	30BH

Function code	Name	Detailed instruction	Factory default	Modify	Address
P3-12	X1 descending edge delay time	0.0~100.0s	0	☆	30CH
P3-13	X2 rising edge delay time	0.0~100.0s	0	☆	30DH
P3-14	X2 descending edge delay time	0.0~100.0s	0	☆	30EH
P3-15	X3 rising edge delay time	0.0~100.0s	0	☆	30FH
P3-16	X3 descending edge delay time	0.0~100.0s	0	☆	310H
P3-23	Switch-on multi-point adjustment	Unit bit: AI1 Unit bit: AI1 Unit 0bit: AI1 0: Switch off (straight line) 1: Switch-on (Multi-point polyline)	000	★	317H
P3-24	Self auto-tuning of zero drift point	Unit bit: AI1 Unit bit: AI1 Unit 0bit: AI1 0: No action 1: Self auto-tuning	000	★	318H
P3-25	AI1 minimum input	0.00~10.00V	0.00V	☆	319H
P3-26	AI1 minimum input correspond setting	0.00~100.00%	0.00%	☆	31AH
P3-27	AI1 maximum input	0.00~10.00V	10.00V	☆	31BH
P3-28	AI1 maximum input correspond setting	0.00~100.00%	100.00%	☆	31CH
P3-29	AI1 input filter time	0.0 - 1000.0ms	1.0ms	☆	31DH
P3-30	AI2 minimum input	0.00~10.00V	0.00V	☆	31EH
P3-31	AI2 minimum input correspond setting	0.00~100.00%	0.00%	☆	31FH
P3-32	AI2 maximum input	0.00~10.00V	10.00V	☆	320H

Function code	Name	Detailed instruction	Factory default	Modify	Address
P3-33	AI2 maximum input correspond setting	0.00~100.00%	100.00%	☆	321H
P3-34	AI2 input filter time	0.0 - 1000.0ms	1.0ms	☆	322H
P3-35	AI3 minimum input	0.00~10.00V	0.00V	☆	323H
P3-36	AI3 minimum input correspond setting	0.00~100.00%	0.00%	☆	324H
P3-37	AI3 maximum input	0.00~10.00V	10.00V	☆	325H
P3-38	AI3 maximum input correspond setting	0.00~100.00%	100.00%	☆	326H
P3-39	AI3 input filter time	0.0 - 1000.0ms	1.0ms	☆	327H
P3-40	AI1 broken line inflection point 1 voltage	0.00~10.00V	0.00V	☆	328H
P3-41	AI1 broken line inflection point 1 correspond setting	0.00~100.00%	0.0%	☆	329H
P3-42	AI1 broken line inflection point 2 voltage	0.00~10.00V	0.00V	☆	32AH
P3-43	AI1 broken line inflection point 2 correspond setting	0.00~100.00%	0.0%	☆	32BH
P3-44	AI1 broken line inflection point 3 voltage	0.00~10.00V	0.00V	☆	32CH
P3-45	AI1 broken line inflection point 3 correspond setting	0.00~100.00%	0.0%	☆	32DH
P3-46	AI2 broken line inflection point 1 voltage	0.00~10.00V	0.00V	☆	32EH
P3-47	AI2 broken line inflection point 1	0.00~100.00%	0.0%	☆	32FH

Function code	Name	Detailed instruction	Factory default	Modify	Address
	correspond setting				
P3-48	A12 broken line inflection point 2 voltage	0.00~10.00V	0.00V	☆	330H
P3-49	A12 broken line inflection point 2 correspond setting	0.00~100.00%	0.0%	☆	331H
P3-50	A12 broken line inflection point 3 voltage	0.00~10.00V	0.00V	☆	332H
P3-51	A12 broken line inflection point 3 correspond setting	0.00~100.00%	0.0%	☆	333H
P3-52	A13 broken line inflection point 1 voltage	0.00~10.00V	0.00V	☆	334H
P3-53	A13 broken line inflection point 1 correspond setting	0.00~100.00%	0.0%	☆	335H
P3-54	A13 broken line inflection point 2 voltage	0.00~10.00V	0.00V	☆	336H
P3-55	A13 broken line inflection point 2 correspond setting	0.00~100.00%	0.0%	☆	337H
P3-56	A13 broken line inflection point 3 voltage	-10.00V~10.00V	0.00V	☆	338H
P3-57	A13 broken line inflection point 3 correspond setting	-100.00%~100.00%	0.0%	☆	339H
P3-63	A11 zero drift point correction	0.00 ~ 1.00V	0.01V	☆	33FH
P3-64	A12 zero drift point correction	0.00 ~ 1.00V	0.01V	☆	340H

Function code	Name	Detailed instruction	Factory default	Modify	Address
P3-65	PI zero drift point correction	0.00 ~ 1.00V	0.01V	☆	341H
P4 Group: Output Terminal					
P4-00	Relay 1 output selection (TA1, TB1, TC1)	0: No output 1: Inverter is running 2: Fault output 6: Alarm of motor overload 7: Alarm of inverter overload	2	☆	400H
P4-01	Relay 2 output selection (TA2, TC2)	8: DC BUS voltage is normal 13: Press relieving 14: Pressure detection point arrival 15: Motor cooling fan switch	1	☆	401H
P4-05	Relay 1 output delay time	0.0~360.0s	0	☆	405H
P4-06	Relay 2 output delay time	0.0~360.0s	0	☆	406H
P4-10	AO1 output function selection	0: Feedback speed 1: Feedback pressure 2: AI1 voltage 3: AI2 voltage 4: AI3 voltage	0	☆	40AH
P4-11	AO2 output function selection	5: Output current 6: Output voltage 7: Output power 8: Output torque	1	☆	40BH
P4-12	AO1 output gain	25.0~200.0%	100.0%	☆	40CH
P4-13	AO1 output offset coefficient	-10.0~10.0%	0.0%	☆	40DH
P4-14	AO2 output gain	25.0~200.0%	100.0%	☆	40EH
P4-15	AO2 output offset coefficient	-10.0%~10.0%	0.0%	☆	40FH

Function code	Name	Detailed instruction	Factory default	Modify	Address
P5 Group: Operation control parameters					
P5-00	Stop mode	0: Deceleration to stop 1: Coast to stop	0	☆	500H
P5-01	ACC/DEC mode selection	Unit bit: Reference of ACC/DEC time 0: Maximum frequency 1: Set frequency Tens bit: ACC/DEC mode 0: Straight line 1: S curve	00	☆	501H
P5-02	Initial acceleration rate of S curve	20.0%~100.0%	30.0%	☆	502H
P5-03	Initial deceleration rate of S curve	20.0%~100.0%	70.0%	☆	503H
P5-04	Acceleration time ₂	0.01~300.00s	5.00s	☆	504H
P5-05	Deceleration time ₂	0.01~300.00s	5.00s	☆	505H
P5-06	Acceleration time ₃	0.01~300.00s	5.00s	☆	506H
P5-07	Deceleration time ₃	0.01~300.00s	5.00s	☆	507H
P5-08	Acceleration time ₄	0.01~300.00s	5.00s	☆	508H
P5-09	Deceleration time ₄	0.01~300.00s	5.00s	☆	509H
P5-10	Emergency stop deceleration time	0.01~300.00s	5.00s	☆	50AH
P5-11	FWD/REV dead time	0.0~100.0s	0.0s	☆	50BH
P5-28	Jog running frequency	0.00 - Maximum frequency	6.00Hz	☆	51CH
P5-29	Jog running torque limit	0.0~200.0%	60.0%	☆	51DH
P5-30	Digital signal action selection	Unit bit: Signal action selection when switch on the power 0: Digital run signal is invalid while switch-on the power 1: Digital run signal is valid	11	☆	51EH

Function code	Name	Detailed instruction	Factory default	Modify	Address
		while switch-on the power Tens bit: Signal action selection when the run command channel is switching 0: Digital run signal is invalid while switching 1: Digital run signal is valid while switching			
P5-31	Minimum output frequency	0.00~60.00Hz	0.50Hz	☆	51FH
P5-32	Zero speed output torque	0.0~150.0%	MODEL DEPEND	☆	520H
P5-33	Zero speed output torque holding time	0.0 ~ 6000.0sec	0	☆	521H
P5-34	Restart after power supply recover	0: Invalid 1: Valid	0	☆	522H
P5-35	Waiting time for restart after power supply recover	0.00~120.00s	0.50s	☆	523H
P6 Group: Keypad and Display					
P6-00	User password	0 ~ 65535	0	☆	600H
P6-01	MF.K function selection	0: Invalid 2: Forward Jog 3: Reverse Jog 2: FDW/REV Switching	1	☆	601H
P6-02	STOP operation selection	0: Valid when keypad control 1: Always valid	0	☆	602H
P6-05	Running status display parameters	Please refer to U group parameters	0x028b	☆	605H
P6-06	Stop status display parameters		0x028b	☆	606H
P6-15	Software version No.	-	—	○	60FH

Function code	Name	Detailed instruction	Factory default	Modify	Address
P6-15	Temporary software version No.	-	—	○	610H
P6-17	Accumulated power consumption (low-bit)	-	—	○	611H
P6-18	Accumulated power consumption (high-bit)	-	—	○	612H
P7 Group: Fault and protection					
P7-00	Motor overload protection coefficient	0.200~2.000	2.000	☆	700H
P7-01	Motor overload alarm coefficient	0.200~2.000	0.800	☆	701H
P7-02	Motor temperature sensor type	0: No sensor 1: KTY temperature sensor 2: PTC temperature sensor	Model depend	☆	702H
P7-03	Motor overheat protection threshold	0° C ~ 200.0° C	140.0° C	☆	703H
P7-04	Motor overheat pre-alarm threshold	0° C ~ 200.0° C	130.0° C	☆	704H
P7-29	Fault auto-reset times	0~5	0	☆	71DH
P7-30	Fault auto-reset interval	0.1~100.0s	1.0s	☆	71EH
P7-31	Present fault diagnosis information	Please refer to "Trouble Shooting"	—	○	71FH
P7-32	Present fault type		—	○	720H
P7-33	Running frequency at present fault	0.00~Maximum frequency	—	○	721H
P7-34	Output voltage at present fault	0~1500V	—	○	722H
P7-35	Output current at present fault	0.1~2000.0A	—	○	723H

Function code	Name	Detailed instruction	Factory default	Modify	Address
P7-36	DC BUS voltage at present fault	0~3000V	—	○	724H
P7-37	IGBT temperature at present fault	0~100℃	—	○	725H
P7-38	Inverter status at present fault	Unit bit: Run direction 0: Forward 1: Reverse Tens bit: Run status 0: Stop 1: Constant speed 2: Accelerating Hundred bit: Reserved Ten thousand bit: Reserved	—	○	726H
P7-39	Input terminal's status at the present fault	-	—	○	727H
P7-40	Output terminal's status at the present fault	-	—	○	728H
P7-41	Previous fault type	Please refer to "Trouble Shooting"	—	○	729H
P7-42	Running frequency at previous fault	0.00~Maximum frequency	—	○	72AH
P7-43	Output voltage at previous fault	0~1500V	—	○	72BH
P7-44	Output current at previous fault	0.1~2000.0A	—	○	72CH
P7-45	DC BUS voltage at previous fault	0~3000V	—	○	72DH
P7-46	IGBT temperature at previous fault	0~100℃	—	○	72EH
P7-47	Inverter status at previous fault	Unit bit: Run direction 0: Forward 1: Reverse Tens bit: Run status 0: Stop 1: Constant speed 2: Accelerating Hundred bit: Reserved	—	○	72FH

Function code	Name	Detailed instruction	Factory default	Modify	Address
		Ten thousand bit: Reserved			
P7-48	Input terminal's status at the previous fault	-	—	○	730H
P7-49	Output terminal's status at the previous fault	-	—	○	731H
P7-50	The second time fault type	Please refer to "Trouble Shooting"	—	○	732H
P7-51	The first time fault type	Please refer to "Trouble Shooting"	—	○	733H
P8 Group: Communication Parameters					
P8-00	Baud rate	0: 1200BPS 1: 2400BPS 2: 4800BPS 3: 9600BPS 4: 19200BPS 5: 38400BPS 6: 57600BPS	3	★	800H
P8-01	Data format	0: No parity check (8-N-1) 1: Even parity check (8-E-1) 2: Odd parity check (8-O-1) 3: No parity check (8-N-2)	0	★	801H
P8-02	Inverter address	1 ~ 127	1	★	802H
P8-03	Communication timeout	0.1~100.0s	1.0	☆	805H

5.2 Monitoring Parameter Table (U0 group)

Function code	Name	Minimum unit	Address
U0-00	Pressure command	0.1bar	3100H
U0-01	Feedback pressure	0.1bar	3101H
U0-02	Flow command	1rpm	3102H

Function code	Name	Minimum unit	Address
U0-03	Feedback flow	1rpm	3103H
U0-04	AI1 voltage	0.01V	3104H
U0-05	AI2 voltage	0.01V	3105H
U0-06	AI3 voltage	0.01V	3106H
U0-07	Output current	0.01A	3107H
U0-08	Output voltage	1V	3108H
U0-09	DC BUS voltage	0.1V	3109H
U0-10	Output power	0.1%	310AH
U0-11	Output torque	0.1%	310BH
U0-12	X terminals status	1	310CH
U0-13	Relay output status	1	310DH
U0-14	Feedback frequency	0.01Hz	310EH
U0-15	Set frequency	0.01Hz	310FH
U0-16	Speed command	1rpm	3110H
U0-21	Motor temperature	0.1°C	3115H

Chapter 6 Trouble Shooting

Fault Name	IGBT module fault
Fault Code	01.SC
Reason	IGBT module damaged
Solution	Ask for technical support

Fault Name	Over current
Fault Code	02.oC
Reason	<ol style="list-style-type: none"> 1. Short-circuit or ground fault occurred at inverter output side 2. Control mode is vector control but don't perform auto-tuning 3. The acceleration time set is too short 4. Start the running motor 5. Load is added suddenly 6. The inverter is interfered by external devices (signal)
Solution	<ol style="list-style-type: none"> 1. Inspect whether motor damaged, insulation worn or cable damaged 2. Perform motor auto-tuning 3. Increase the acceleration time 4. Select speed tracking start or start the motor till it stops 5. Cancel the sudden added load 6. Find out and remove the external interfered source.

Fault Name	Over-voltage
Fault Code	03.oU
Reason	<ol style="list-style-type: none"> 1. The input voltage is too high 2. The ACC/DEC time is too short 3. Have not installed braking unit and braking resistor
Solution	<ol style="list-style-type: none"> 1. Make the voltage in the normal range 2. Increase the ACC/DEC time 3. Install braking unit and braking resistor

Fault Name	Under-voltage
Fault Code	04.LU
Reason	<ol style="list-style-type: none"> 1. Instantaneous power-off 2. The input voltage is out of range 3. DC Bus voltage is abnormal 4. The rectifier bridge and buffer resistor are abnormal 5. The power board is abnormal 6. The control board is abnormal
Solution	<ol style="list-style-type: none"> 1. Fault Reset 2, 3. Make the voltage in the normal range 4, 5, 6. ask for technical support

Fault Name	Inverter over load
Fault Code	05.oL
Reason	<ol style="list-style-type: none"> 1. The load is too heavy or motor blockage occurs 2. Power selection of inverter is too small
Solution	<ol style="list-style-type: none"> 1. Reduce the load, check the status of motor & machinery 2. Select bigger power inverter

Fault Name	Motor over load
Fault Code	06.oL
Reason	<ol style="list-style-type: none"> 1. P7-00 and P7-01 is set improperly 2. The load is too heavy or motor blockage occurs 3. Power selection of inverter is too small
Solution	<ol style="list-style-type: none"> 1. Set P7-00 and P7-01 properly 2. Reduce the load, check the status of motor & machinery 3. Select bigger power inverter

Fault Name	Inverter over-heat
Fault Code	07.oH
Reason	<ol style="list-style-type: none"> 1. Ambient temperature is too high 2. Air duct is blocked 3. Cooling fans are broken 4. Thermal resistor(temperature sensor) of the module is broken 5. IGBT module is broken

Solution	<ol style="list-style-type: none"> 1. Reduce the ambient temperature 2. Clear the air duct 3. Replace the cooling fan 4, 5. Ask for technical support
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Fault Name	Motor over-heat
Fault Code	08.oH
Reason	<ol style="list-style-type: none"> 1. The load is heavy 2. The temperature sensor wires are disconnected 3. the motor cooling fan is broken or blocked
Solution	<ol style="list-style-type: none"> 1. Reduce the motor load 2. Check temperature sensor wires 3: Check the motor cooling fan

Fault Name	Input phase failure
Fault Code	09.IF
Reason	Input phase lost
Solution	Check the input cables connection

Fault Name	Output phase failure
Fault Code	10.oF
Reason	<ol style="list-style-type: none"> 1. The connection between inverter and motor is abnormal 2. Output voltage unbalance during the motor running 3. Motor problem
Solution	<ol style="list-style-type: none"> 1. Inspect whether motor damaged, insulation worn or cable damaged 2. Make sure the motor three phase winding is normal 3: Check the motor connection

Fault Name	Motor auto-tuning fault
Fault Code	11.TE
Reason	<ol style="list-style-type: none"> 1. Motor parameters are set improperly 2. Synchronous motor initial angle identification fault
Solution	<ol style="list-style-type: none"> 1. Set parameters according to the motor nameplate 2. Check the cables connection between inverter and motor

Fault Name	Motor encoder fault
Fault Code	12.PG
Reason	1. The motor encoder wires are disconnected 2. The encoder type is not matched
Solution	1. Check the encoder wiring connection 2. Change a suitable encoder

Fault Name	Current detection fault
Fault Code	13.HA
Reason	1. Hall sensor is abnormal 2. The current among U, V, W phase has big deviation
Solution	Ask for technical support

Fault Name	Communication fault
Fault Code	15.CE
Reason	1. Master computer works abnormal 2. Communication cable is abnormal 3. P8 group parameters are set improperly
Solution	1. Check the connection of master computer 2. Check the communication connection 3. Set P8 group parameters properly

Fault Name	EEPROM read/write fault
Fault Code	16.EP
Reason	1. EEPROM chip is broken
Solution	1. Replace the control board

Fault Name	External device fault
Fault Code	17.EF
Reason	X terminal receives an external fault signal generated by peripheral device
Solution	Find out the fault source, solve it and reset the inverter

Fault Name	Motor blockage fault
Fault Code	18.Lr
Reason	1. Motor is blocked 2. Low speed running for heavy load
Solution	1. Check the motor 2. Try to reduce the load

Fault Name	Inverter runaway fault
Fault Code	19.oT
Reason	1. Synchronous motor initial angle identification is incorrect 2. Speed deviation over limitation
Solution	1. Perform motor auto-tuning again. 2. Check whether the motor load is too heavy

Fault Name	Pressure sensor fault
Fault Code	30.FB
Reason	The wiring cables of pressure sensor is disconnected
Solution	Check the cables connection of pressure sensor

Fault Name	Motor always reverse run
Fault Code	31.ro
Reason	Under oil pressure control motor, the motor runs reverse and then stops frequently
Solution	Under oil pressure control motor, check whether the feedback pressure is always bigger than set pressure

Fault Name	System keeps high oil pressure
Fault Code	32.HP
Reason	Under oil pressure control motor, the oil pressure always at high level and then inverter stops.
Solution	Check the oil-way system

Chapter 7 Communication Protocol

7.1 About Protocol

The Modbus RTU communication data format of T5 series drivers is as follows:

START	Transmission time of 3.5 bytes
Slave Address	Communication address : 0 to 249
Command Code	03H: Read slave parameters 06H: Write slave parameters
Function code address (high bits)	Inverter internal parameter address, hexadecimal number; See address definition for details.
Function code address (low bits)	During transmission, the high bits are in the front and the low bits are in the back.
Number of function codes (high bits)	In the parameter reading mode, set the number of parameters to be read, and up to 5 function codes can be read at a time; When writing parameter mode, only one function code can be written without this segment.
Number of function codes (low bits)	
Data (high bits)	When transmitting the data to be answered or to be written, the high bits are in the front and the low bits are in the back.
Data (low bits)	
CRC CHK Low byte	Detection Value: 16 bits CRC value
CRC CHK High byte	
END	Transmission time of 3.5 bytes

7.2 Parameters address

T5 series inverter parameter address marking rules are represented by parameter group number and label address:

Function code address (high bits): P0 ~ P8 (group P), A0 ~ A1 (group A)

Function code address (low bit): 00 FF

The rules for marking parameter addresses are shown in the following table:

Function group	Address (storage at EEPROM)	Address (modification from RAM)
P0 ~ P8	F000H — FAFFH	0000H — 0AFFH
A0 ~ A1	A000H — A1FFH	5000H — 5200H
U0 group		3100H — 32FFH

Note: refer to the function code table of the manual for details of parameter modification. Some parameters cannot be modified when the driver is running; Monitoring parameters cannot be written but can only be read;

Note: frequent storage of EEPROM will reduce the service life of EEPROM, so some function codes do not need to be stored in communication mode, and only need to change the value in RAM.

For example, if the function code p2-03 needs to be accessed, the access address of the function code is 203h (RAM modification) or f203h (stored in EEPROM).

Command input to frequency converter: (write only)

Command address	Command function
2000H	Communication control command
2003H	Pressure command
2004H	Flow command
2005H	Pressure feedback
2006H	Frequency command

Communication command : (write only)

Command address	Command function
2000H	1: Forward run
	2: Reverse run
	3: Forward jog
	4: Reverse jog
	5: Deceleration to stop
	6: Coast to stop
	7: Fault reset

Inverter status : (read only)

Command address	Command function	
2100H	Bit0	0: Stop status
		1: Run status
	Bit3	0: Forward
		1: Reverse
	Bit4	0: Inverter is normal
		1: Inverter is fault

Inverter fault : (read only)

Command address	Command function
2101H	Please refer to fault codes for details

Appendix: Fast commissioning process of T5 series inverter

