FST200 Series Manual Book

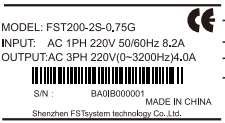
1.Preface

Thank you for choosing FST200 series high-performance, simple frequency converter.
The actual picture in this operation manual is for convenience of explanation, and be slightly different from the product. Due to product upgrades, it may also be slightly different. Please refer to the actual product.
Please pay attention to hand over this user manual to the end user, and keep it properly for future inspection and maintenance.
If you have any questions, please contact our company or agent in time, we will serve you wholeheartedly.

2.Nameplate Description

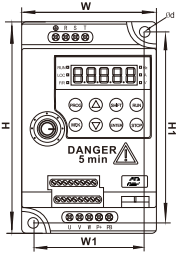
FST200 - 2S - 0.75G
❶ ❷ ❸

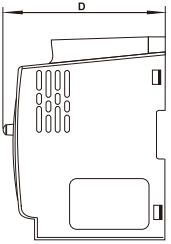
Name	Mark	Description	Detail
AC Drive series	❶	FST200	Series Name
Voltage level	❷	Voltage level	2S:Single-phase 220V Range: -15% ~20% 4T:Three-phase 380V Range: -15 ~20%
Adaptable power	❸	Adaptable motor power(KW)	0.4KW~11KW



AC Drive Model	Power Capacity (KVA)	Rated Input Current (A)	Rated Output Current (A)	Adaptable motor (KW)
220V Single Phase input and Three phase output 0~3200Hz				
FST200-2S-0.4G	0.7	6.5	2.1	0.4
FST200-2S-0.75G	1.5	8.2	4.0	0.75
FST200-2S-1.5G	3.0	14.0	7.0	1.5
FST200-2S-2.2G	4.0	23.0	9.6	2.2
380V Three Phase input and Three phase output 0~3200Hz				
FST200-4T-0.75G	1.5	3.4	2.1	0.75
FST200-4T-1.5G	3.0	5.0	3.8	1.5
FST200-4T-2.2G	4.0	5.8	5.1	2.2
FST200-4T-4.0G	5.9	10.5	9.0	4.0
FST200-4T-5.5G	8.9	14.6	13.0	5.5
FST200-4T-7.5G	11	19	17	7.5
FST200-4T-11G	16	28	25	11

3.Product outline drawing





FST200-2S-0.4G ~ FST200-2S-2.2G & FST200-4T-0.75G ~ FST200-4T-2.2G

W	H	D	W1	H1	Ød
85mm	142mm	116mm	73mm	130mm	5mm

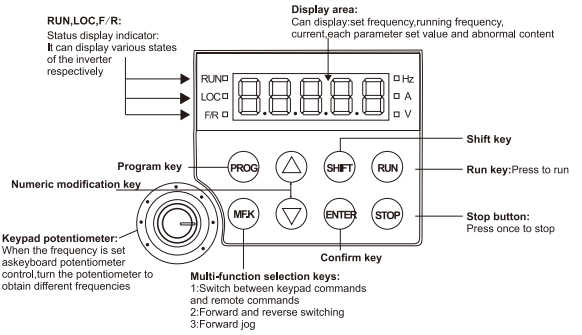
FST200-4T-4G & FST200-4T-5.5G

W	H	D	W1	H1	Ød
95.5mm	180mm	120mm	83mm	168mm	5mm

FST200-4T-7.5G ~FST200-4T-11G

W	H	D	W1	H1	Ød
106.5mm	240.5mm	150mm	96mm	230mm	5mm

4.Keyboard Description



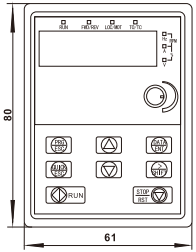
5.General technical specifications

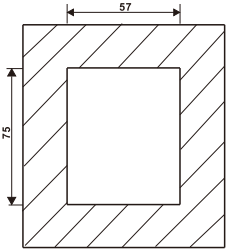
Electrical specifications	
Input voltage	single/three phase 200－240V, three phase 380－440V
	fluctuation±10%, imbalance<3%
Input frequency	50/60Hz ± 5%
Output voltage	0V~input voltage
Output frequency	0~500Hz
Performance	
Overload capacity	60s for 150% of the rated current, 10s for 180% of the rated current
Frequency Control	Sensorless vector control (SVC), V/F control
Command control mode	Operation panel control,Terminal control,Communication control
Speed control mode	Digital setting, Analog setting, Comms setting
Speed control resolutions	Digital setting: 0.01 Hz ; Analog setting: maximum frequency x 0.1%
Speed stability accuracy	SVC：±0.5%
Speed adjustment range	SVC:1:100
Torque response time	SVC:<200ms
Startup torque	SVC:0.5Hz:180%
Torque control accuracy	±5%
Motor parameter learning ability	When high torque is required on site, first input parameters such as motor power and current in group P1. Dynamic or static motor parameters can be set in p1-37. After self-learning, the motor output torque and response ability will be stronger.
Speed tracking restart	This machine has the motor speed tracking ability of simple software detection mode. when used, it is recommended to input the motor rated power and rated current parameters first.
Individualized functions	
Programmable I / O terminal	input & output terminal function can be edited
Process PID regulation functio	Built in process PID module
Simple PLC function	Built in simple PLC module, which can realize timing and multi-stage frequency output
Textile swing frequency function	Build-in textile swing frequency function
Fixed length control function	Build-in fixed length control modular
Communication protocol	MODBUS
Protection Functions	

Over-voltage lost speed control	Bus voltage is automatically controlled to prevent overvoltage fault caused by deceleration power generation of large inertia load
Automatic current limiting protection	The output current is automatically limited to prevent heavy load overcurrent fault, and the heavy load has the performance of over-current speed limit of excavator
Input and output phase loss protection	Automatic detection and alarm function of output phase loss
Process PID setting and feedback loss detection	Process PID automatically identifies whether the given and feedback are lost, and the loss alarm function
Output short circuit protection	Effective protection function of output short circuit to ground
Output phase to phase short circuit protection	Effective protection function of output phase to phase short circuit
Module overheating protection	When the load is too heavy, fan damaged or cooling air duct blocked, Real time monitor the module temperature for hot spot protection
Fan start-up temperature control	The fan only rotates when the frequency converter is running. When the temperature is high, the fan will delay shutdown
I/O Features	
External analog power supply	+10V, Load capacity 100mA, which is used for external analog power supply with short-circuit protection
External digital power supply	+24V, Load capacity 200mA
Analog input	AI1：Voltage 0－10V and Current 0－20mA can be set and select input way by the software menu
Analog output	AOV：0－10V,AOI：0－20mA, 4~20mA can be output through parameter setting
Digital input	DI1－DI5, DI5 can be high speed pulse,0~50KHZ
Digital output	FM digital output, high-speed pulse output,0~50KHZ
Relay output	TA/TB/TC：contact capacity 250VAC/3A or 30VDC/1A (On-off timing relay setting function)
MODBUS-RTU Comms	A+,B- terminal match international standard MODBUS-RTU protocol format
Extended keyboard (optional)	Rj45 terminal can connecte with an external keyboard, and can adjust speed or monitor or control parameters with external keyboard
Operation and display	
LED display	5 digit LED Setup frequency/output frequency/output voltage/output current/ motor speed/output torque/Switching value terminal/status parameter/ programming menu parameter and fault code, etc
Indicator	3 unit indicators, 3 status indicators
Enviroment	
Ambient temperature	0℃~+40℃, Maximum temperature 50℃, The change of air temperature is less than 0.5 ℃ / min Derated for use at 40-50 ℃: derated the output current by 2% each exceeds 1 ℃
Storage temperature	-20℃~+55℃

Installation environment	Indoor, prevent from direct sunlight, dust, corrosive gas, combustible gas, oil mist, water vapor, dripping water or salt, etc
Altitude	Below 1000 m (de-rated 1% for each 100 m higher),Maximum 3000m
Humidity	Maximum relative humidity 95%, non-condensing
Vibration	3.5m/s2 at 2Hz~9Hz, 10m/s2 at 9Hz~200Hz（IEC60721-3-3）
IP level	Ip20
Pollution level	Class 2 (dry, non-conductive dust pollution)

6.External keyboard dimensions

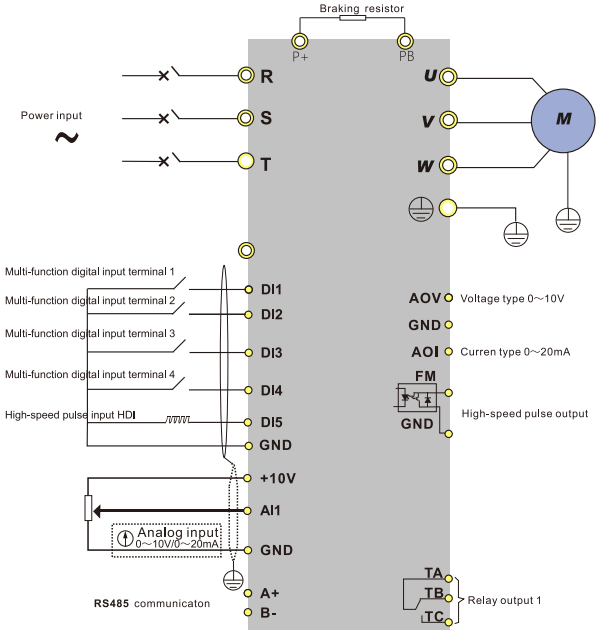




7.Description of the main circuit terminals of the inverter

Terminal mark	Name	Description
R、S、T	Power input terminal	S, T : single-phase 220V AC input power supply ; R, S, T : three-phase 380V AC input power supply
P+ , PB	Brake resistor connection terminal	Connect to the braking resistor
U、V、W	VFD output termina	Connect to a three-phase motor
⏚	Ground terminal	Ground terminal

8.Wiring of inverter control circuit



Note: All FST200 series inverters have the same wiring method for the control circuit. The above figure shows the wiring diagram of the three-phase 380V inverter. Terminal ⊛ represents the main circuit terminal, and ○ represents the control circuit terminal.

9. Function description of control terminal

Category	Terminal symbol	Terminal Name	Function Description
Power supply	+10V-GND	External+10V power supply	Provide +10V power supply to the outside, the maximum output current:100mA(with short-circuit protection), generally used as an external potentiometer working power supply, potentiometer resistance range: 1kΩ ~ 5kΩ
	+24V-GND	External+24V power supply	Provide +24V power supply to the outside, generally used as the working power supply of digital input and output terminals and external sensor power supply Maximumoutputpower:200mA
Analog input	AI1-GND	Analog input terminal 1	1. Input range : DC 0V~10V/0mA~20mA, determined by P4-39 2. Input impedance: 22kΩ for voltage input , 500Ω for current input

Analog output	AOV-GND AOI-GND	Analog output	Input voltage range:0V~10V Output current range: 0mA~20mA,4~20mA (P5-23 optional)
Digital input	DI1-GND	digital input 1	1. Input impedance: 1kΩ 2. Voltage range for level input: 5V~30V In addition to the characteristics of DI1 to DI4, DI5 can also be used as a high-speed pulse input channel. Highest frequency:20kHz
	DI2-GND	digital input 2	
	DI3-GND	digital input 3	
	DI4-GND	digital input 4	
	DI5-GND	High-speed pulse input terminal	
Digital output	FM-GND	High-speed pulse output	Constrained by function code P5-00 "FM terminal output mode selection",when used as high-speed pulse output, the maximum frequency is 20 kHz; when used as open-collector output, it is the same as DO1 specification .
Relay output	TA-TB-TC	Relay contact output	Contact drive capability: AC250V, 3A DC30V, 1A TA, TB: normally closed TA, TC: normally open
communication signal	A+ B-	RS-485 communication	A+ is differential positive input, B- is differential negative input

10.Signal input terminal wiring instructions

Because weak analog voltage signals are particularly susceptible to external interference, shielded cables are generally required, and the wiring distance should be as short as possible, not exceeding 20m. In some occasions where the analog signal is seriously interfered, a filter capacitor or a ferrite magnet should be added on the analog signal source side.

11. Parameter summary table

Function code	Name	Setting Range	Factory default	DEC address
Group P0 Basic Parameters				
P0-01	Motor control mode	0:Speed sensorless vector control 2 : V / F control	2	61441
P0-02	Command source selection	0:Panel command channel (LED off) 1:Terminal command channel (LED on) 2:Communication command channel (LED flashing)	0	61442
P0-03	Main frequency sourceX selection	0:Digital setting (preset frequency P0-08,UP/DO WN can be modified, no memory when power off) 1:Digital setting (preset frequency P0-08,UP/DOW N can be modified, no memory when power off) 2 : AI1 3 : AI2 local potentiometer 4: AI3 external keypad potentiometer 5: HDI pulse setting (DI5) 6: Multi-step instruction 7: Simple PLC 8: PID 9: Communication given	3	61443

P0-04	Auxiliary frequency source Y selection	Same asP0-03 (main frequency sourceX selection)	0	61444
P0-05	Frequency source Y when superimposed range selection	0:relative to the maximum frequency 1: Relative to frequency sourceX	0	61445
P0-06	Frequency source Y range	0%～150%	100%	61446
P0-07	Frequency source superpositio n method selection	Unit's Bit: frequency source selection 0:main frequency source x 1:X and Y operation (the operation mode is determined by ten digits) 2:Switching between X and Y 3:Switching between X and "X and Y operation" 4: Switching between Y and "X and Y operation" Ten bits: X and Y operation relationship of frequency source 0: X + Y 1: X- Y 2: Maximum 3: Minimum	00	61447
P0-08	Preset frequency	0.00Hz~Maximum frequency (P0-10)	50.00Hz	61448
P0-09	Operation direction	0: same direction 1: opposite direction	0	61449
P0-10	Maximum frequency	50.00Hz~320.00Hz (P0-22=2) 50.0Hz ~3200.0Hz(P0-22=1)	50.00Hz 50.0Hz	61450
P0-11	Upper limit frequency source	0: Set by P0-12 1:AI1 2:AI2 local potentiometer 3:AI3 external keyboard potentiometer 4:HDI pulse setting 5:Communication setting	0	61451
P0-12	Upper limit frequency	Lower limit frequency P0-14~ maximum frequency P0-10	50.00Hz	61452
P0-13	Upper limit frequency offset	0.00Hz~Maximum frequency P0-10	0.00Hz	61453
P0-14	Lower frequency	0.00Hz~upper limit frequency P0-12	0.00Hz	61454
P0-15	Carrier frequency	0. 5kHz~16kHz	Model is determined	61455
P0-16	The carrier frequency is adjusted with temperature	0: No 1: Yes	1	61456
P0-17	Acceleration time 1	0s~65000s(P0-19=0) 0.00s~6500.0s(P0-19=1) 0.00s~650.00s(P0-19=2)	Model is determined	61457
P0-18	Deceleration time 1			61458
P0-19	Acceleration and deceleration time unit	0:1 second 1: 0.1 seconds 2: 0.01 seconds	1	61459

P0-21	Auxiliary frequency source offset frequency when superimposed	0.00Hz ~ Maximum frequency P0-10	0.00Hz	61461
P0-22	Frequency command resolution	2:0.01Hz	2	61462
P0-23	Digital setting frequency stop memory	0:no memory 1:memory	1	61463
P0-25	Acceleration and deceleration time reference frequency	0:Maximum frequency (P0-10) 1: setting frequency 2: 100 HZ	0	61465
P0-26	Frequency command UP/DOWN reference during operation	0: Running frequency 1: set frequency	0	61466
P0-27	Command source binding frequency source	Units: keyboard Tens: terminals Hundreds: Communication Protocol 0: no binding 1: by Digital setting 2: AI1 3: AI2 built-in potentiometer 4: AI3 external keyboard potentiometer 5: HDI Pulse setting (Di5) 6: Multi-command 7: Simple PLC 8: PID 9: Communication setting	0000	61467
		Group P1 Motor parameters		
P1-00	Motor type selection	0:Ordinary asynchronous motor 1: Variable frequency asynchronous motor	0	61696
P1-01	Motor rated power	0.1～1000KW	Model is determined	61697
P1-02	Motor rated voltage	1～2000V	Model is determined	61698
P1-03	Motor rated current	0.01～100A	Model is determined	61699
P1-04	Motor rated frequency	0.01Hz ~Maximum frequency	Model is determined	61700
P1-05	Motor rated speed	1～65535rpm	Model is determined	61701
P1-10	Asynchronous motor no-load current	0.01A～P1-03	Tuning parameters	61706
P1-37	Tuning selection	0:no operation 1: Asynchronous motor partial standstill tuning 2:Asynchronous motor complete dynamic auto-tuning 3: Asynchronous motor complete static auto-tuning	0	61733
		Group P2 vector parameters		
P2-00	Speed loop proportional gain 1	1~100	30	61952
P2-01	Speed loop integral time 1	0.01~10.00s	0.50s	61953
P2-02	Switching frequency 1	0.00~P2-05	5.00Hz	61954
P2-03	Speed loop proportional gain 2	1~100	20	61955

P2-04	Speed loop integral time 2	0.01s~10.00s	1.00s	61956
P2-05	Switching frequency 2	P2-02~Maximum frequency	10.00Hz	61957
P2-06	Vector control slip gain	50~200%	100%	61958
P2-07	Velocity loop filter time constant	0. 000s~1.000s	0.050s	61959
P2-09	Torque upper limit source in speed control mode	0: Function code P2-10 setting 1: AI1 2: AI2 3: Keypad potentiometer 4: HDI pulse setting 5: Communication setting 6: MIN(AI1,AI2) 7: MAX (AI1, AI2) The full scale of options 1-7 corresponds to P2-10	0	61961
P2-10	Digital setting of upper limit of torque under speed control mode	0. 0%~200.0%	150%	61962
P2-13	Excitation adjustment proportional gain	0~60000	2000	61965
P2-14	Excitation adjustment integral gain	0~60000	1300	61966
P2-15	Torque adjustment proportional gain	0~60000	2000	61967
P2-16	Torque adjustment integral gain	0~60000	1300	61968
P2-17	Velocity Loop Integral Properties	Bit: integral separation 0: Disabled 1: Enabled	0	61969
	Group P3 V/F control parameters			
P3-00	V/F curve setting	0: Linear V/F 1: Multi-point V / F 2: Square V/F 3: 1.2 power V/F 4: 1.4 power V/F 6: 1.6 power V/F 8: 1.8 power V/F	0	62208
P3-01	Torque boost	0.0%: (Auto torque boost) 0.1~30. 0%	Model is determined	62209
P3-02	Torque boost cut-off frequency	0.00Hz ~ Maximum frequency	50.00Hz	62210
P3-03	Multi-point V/F frequency point 1	0.00Hz~P3-05	0.00Hz	62211
P3-04	Multipoint V/F Voltage Point 1	0.0%~100. 0%	0. 0%	62212
P3-05	Multi-point V/F frequency point 2	P3-03~P3-07	0.00Hz	62213
P3-06	Multipoint V/F Voltage Point 2	0.0%~100. 0%	0. 0%	62214
P3-07	Multi-point V/F frequency point 3	P3-05 ~ motor rated frequency (P1-04)	0.00Hz	62215

P3-08	Multipoint V/F Voltage Point 3	0.0%~100. 0%	0. 0%	62216
P3-09	V/F slip compensation gain	0.0%~200. 0%	0. 0%	62217
P3-10	V/F over-excitation gain	0~200	64	62218
P3-11	V/F over-excitation gain	0~100	Model is determined	62219
Group P4 input terminals				
P4-00	DI1 terminal function selection	0: no function 1: Forward rotation (FWD) 2:Reverse operation (REV) 3:Three-wire running control 4: Forward jog (FJOG) 5: Reverse Jog (RJOG) 6: Terminal UP 7: Terminal DOWN 8: Free parking 9: Fault reset (RESET) 10: run pause 11: External fault normally open input 12:Multi-reference terminal 1 13:Multi-reference terminal 2 14:Multi-reference terminal 3 15:Multi-reference terminal 4 16:Terminal 1 for Acceleration and deceleration time selection 17:Terminal 2 for Acceleration and deceleration time selection 18:Frequency source switching 19:UP/DOWN setting clear (terminal /keypad) 20:Running command switching terminal 1 21:Acceleration and deceleration prohibition 22: PID pause 23: PLC status reset 24: Swing frequency pause 25: Counter input 26: Counter reset 27: Length count input 28: Length reset 29:Torque control prohibited 30: Pulse frequency input (only DI5) 31: Reserved 32:Immediate DC braking 33: External fault normally closed input 34:Frequency modification enable 35: Inversion of PID action direction 36:External parking terminal 1 37:Running command switching terminal 2 38: PID integral pause 39:Switch between frequency source X and preset frequency 40:Switch between frequency source Y and preset frequency 43:PID parameter switching	1	62464
P4-01	DI2 terminal function selection		2	62465
P4-02	DI3 terminal function selection		4	62466
P4-03	DI4 terminal function selection		9	62467

Function code	Name	Setting Range	Factory default	DEC address
P4-04	DI5 terminal function selection	44: User-defined fault 1 45: User-defined fault 2 46: Speed control/torque control switching 47: Emergency stop 48:External parking terminal 2 49:Deceleration DC braking 50:Clear the current running time	12	62468
P4-10	DI filter time	0.000s～1.000s	0.010s	62474
P4-11	Terminal command method	0: Two-wire type 1 1: Two-wire type 2 2: Three-wire type 1 3: Three-wire type 2	0	62475
P4-12	Terminal UP/DOWN changeconversion rate	0.001Hz/s～65.535Hz/s	1.00Hz/s	62476
P4-13	AI curve 1 minimum input	0.00V～P4-15	0.00V	62477
P4-14	AI curve 1 minimum input corresponding setting	-100.0%～+100.0%	0.0%	62478
P4-15	AI curve 1 maximum input	P4-13～+10.00V	10.00V	62479
P4-16	AI curve 1 maximum input corresponding setting	-100.0%～+100.0%	100.0%	62480 62481
P4-17	AI1 filter time	0.00s～10.00s	0.10s	
P4-18	AI curve 2 minimum input	0.00V～P4-20	0.00V	62482
P4-19	AI curve 2 minimum input corresponding setting	-100.0%～+100.0%	0.0%	62483
P4-20	AI curve 2 maximum input	P4-18～+10.00V	10.00V	62484
P4-21	AI curve 2 maximum input corresponding setting	-100.0%～+100.0%	100.0%	62485
P4-22	AI2 filter time	0.00s～10.00s	0.10s	62486
P4-23	AI curve 3 minimum input	0.00V～P4-25	0.00V	62487
P4-24	AI curve 3 minimum input corresponding setting	-100.0%～+100.0%	0.0%	62488
P4-25	AI curve 3 maximum input	P4-23～+10.00V	10.00V	62489
P4-26	AI curve 3 maximum input corresponding setting	-100.0%～+100.0%	100.0%	62490
P4-27	AI3 filter time	0.00s～10.00s	0.10s	62491
P4-28	HDI pulse minimum input	0.00kHz～P4-30	0.00kHz	62492
P4-29	HDI pulse minimum input corresponding setting	-100.0%～+100.0%	0.0%	62493
P4-30	HDI pulse maximum input	P4-28～100.00kHz	50.00kHz	62494
P4-31	HDI pulse maximum input corresponding setting	-100.0%～+100.0%	100.0%	62495

P4-32	HDI pulse filter time	0.00s~10.00s	0.10s	62496
P4-33	AI curve selection	Unit's digit: AI1 curve selection 1:Curve1(2points, P4-13 ~ P4-16) 2:Curve2(2points, P4-18 ~ P4-21) 3:Curve3(2points, P4-23 ~ P4-26) 4:Curve4(4points, A6-00 ~ A6-07) 5:Curve5(4points,A6-08 ~ A6-15) Ten digit:AI2 curve selection, same as above Hundred digit:AI3 curve selection, same as above	321	62497
P4-34	AI below minimum input setting selection	Unit digit: AI1 is lower than the minimum input setting selection 0: minimum value 1: 0.0% Ten digit: AI2 is lower than the minimum input setting selection, as above Hundredth: AI3 is lower than the minimum input setting selection, as above	000	62498
P4-35	DI1 delay time	0.0s~3600.0s	0.0s	62499
P4-36	DI2 delay time	0.0s~3600.0s	0.0s	62500
P4-37	DI3 delay time	0.0s~3600.0s	0.0s	62501
P4-38	DI terminal valid mode selection 1	0: Active high 1: Active low Unit's digit: DI1 Tens digit: DI2 Hundreds digit: DI3 Thousands digit: DI4 Ten thousand digit: DI5	000	62502
P4-39	AI1 input voltage/current selection	0: Voltage input 1: Current input	0	62503
		Group P5 output terminals		
P5-00	FM terminal output mode selection	0: Pulse output (FMP) 1: Switch output (FMR)	0	62720
P5-01	FMR output function selection	0: no function 1: AC drive running (FWD) 2:Fault output (STOP) 3:Frequency-level detection FDT1 output 4: Forward reach 5: Zero-speed running 6: Motor overload warning 7: AC drive overload alarm 8: Set value reached 9: Specified value reached 10: Length reached 11: PLC cycle completed 12: Accumulated running time reached 13: Frequency limited 14: Torque limited 15: Ready to run 16: AI1 > AI2 17:Frequency upper limit reached 18:Frequency lower limit reached (operation related) 19:Undervoltage status output 20:Communication settings	0	62721
P5-02	Control board relay function selection (TA-TB-TC)		2	62722

Function code	Name	Setting Range	Factory default	DEC address
P5-04	Reserve	23:Zero-speed running 2(having output at stop) 24:Cumulative power-on time reached 25:Frequency level detection FDT2 output 26: Frequency 1 reached output 27: Frequency 2 reached output 28: Current 1 reached output 29: Current 2 reached output 30: Timed reached output 31: AI1 input limit exceeded 32: Load drop 33: Reverse running 34: Zero current state 35: IGBT temperature reached 36: Current limit exceeded 37: Frequency lower limit reached (having output at stop) 38: Alarm output (continue running) 39:Motor overheat warning 40: Current running time reached 41: Fault output (there is no output if it is the coast to stop fault and undervoltage occurs)	1	62724
P5-06	FMP output function selection	0: Running frequency 1: set frequency 2: output current 3: Output torque 4: Output power 5: Output voltage 6: HDI pulse input (100.% corresponds to 100.0khz) 7: Ai1 8: AI2 11:Count value 12:Communication settings 13: Motor speed 14:Output current (100.0% corresponds to 1000.0A) 15:Output voltage (100.0% corresponds to 1000.0A) 16: Reserved	0	62726
P5-07	AO1 output function selection		0	62727
P5-09	FMP output maximum frequency	0.01kHz～50. 00kHz	50.00kHz	62729
P5-10	AO1 Zero bias coefficient	-100. 0%～+100.0%	0.0%	62730
P5-11	AO1 Gain	-10. 00～+10.00	1.00	62731
P5-17	FMR output extension time	0.0s～3600.0s	0.0s	62737
P5-18	RELAY1 delay closing time	0.0s～3600.0s	0.0s	62738
P5-19	RELAY1 delay disconnection time	0.0s～3600.0s	0.0s	62739
P5-23	AO1 current output selection	0:0~20mA 1:4~20mA	0	62743

		Group P6 start- stop control		
P6-00	Start method	0: direct start 1: Speed tracking restart 2: Pre-excitation start (AC asynchronous motor)	0	62976
P6-01	Speed tracking mode	0: start from stop frequency 1: Start from power frequency 2: start from maximum frequency	0	62977
P6-02	Speed tracking speed	1～100	20	62978
P6-03	Start frequency	0.00Hz~10.00Hz	0.00Hz	62979
P6-04	Start frequency hold time	0.0s～100.0s	0.0s	62980
P6-05	Start DC braking current/pre-excitation current	0%～100%	0%	62981
P6-06	Start DC braking time/pre-excitation time	0.0s～100.0s	0.0s	62982
P6-07	Acceleration and deceleration method	0:Linear acceleration and deceleration 1:S curve acceleration and deceleration A 2:S curve acceleration and deceleration B	0	62983
P6-08	The proportion of time at the beginning of the S-curve	0.0% (100.0%-P6-09)	30.0%	62984
P6-09	The proportion of time at the end of the S-curve	0.0% (100.0%-P6-08)	30.0%	62985
P6-10	Stop mode	0: Decelerate to stop 1: Free stop	0	62986
P6-11	DC braking starting frequency at stop	0.00Hz~Maximum frequency	0.00Hz	62987
P6-12	DC braking waiting time at stop	0.0s~100.0s	0.0s	62988
P6-13	Stop DC braking current	0%~100%	0%	62989
P6-14	DC braking time at stop	0.0s~100.0s	0.0s	62990
P6-15	Brake usage	0%~100%	100%	62991
		Group P7 keyboard and display		
P7-01	MF.K key function selection	0: MF.K disabled 1: Switch between operation panel control and remote command control (terminal or communication) 2: Forward and reverse switching 3: Forward jog 4: Reverse jog	2	63233
P7-02	STOP/RESET key function	0: STOP /RESET key ENABLED Only in keyboard operation mode, 1: STOP/ RESET key enabled in any operation mode	1	63234

P7-03	LED running display parameter 1	0000 ~ FFFF Bit00:Running frequency 1 (Hz) Bit01:Set frequency (Hz) Bit02: Bus voltage (V) Bit03: Output voltage (V) Bit04: Output current (A) Bit05:Output power (kW) Bit06: Output torque (%) Bit07: DI input status Bit08: DO output status Bit09: AI1 voltage (V) Bit10: AI2 voltage (V) Bit11:AI3 panel potentiometer voltage (V) Bit12: Count value Bit13: Length value Bit14:Load speed display Bit15: PID setting	001F	63235
P7-04	LED running display parameter 2	0000 ~ FFFF Bit00: PID feedback Bit01: PLC stage Bit02: HDI input pulse frequency (kHz)	0000	63236

Function code	Name	Setting Range	Factory default	DEC address
P7-04	LED running display parameter 2	Bit03: Running frequency 2 (Hz) Bit04: Remaining running time Bit05: AI1 voltage before correction (V) Bit06: AI2 voltage before correction (V) Bit07: Voltage before panel potentiometer correction (V) Bit08: Linear speed Bit09: Current power-on time (Hour) Bit10: Current running time (Min) Bit11: HDI input pulse frequency (Hz) Bit12: Communication setting value Bit13: Encoder feedback speed (Hz) Bit14: Main frequency X display (Hz) Bit15: Auxiliary frequency Y display (Hz)	0000	63236
P7-05	LED stop display parameters	0000 ~ FFFF Bit00: Set frequency(Hz) Bit01: Bus voltage (V) Bit02: DI input status Bit03: DO output status Bit04: AI1 voltage Bit05: AI2 voltage (V) Bit06: Panel potentiometer voltage (V) Bit07: count value Bit08: length value Bit09: PLC stage Bit10: Load speed Bit11: PID setting Bit12: HDI input pulse frequency (kHz)	0033	63237
P7-06	Load speed display factor	0.0001~6.5000	1.0000	63238
P7-07	Inverter module heat sink temperature	0.0℃~120.0℃	-	63239
P7-09	Cumulative running time	0h~65535h	-	63241
P7-12	Load speed display decimal places	Unit digit: U0-14 decimal number 0:0 decimal point 1:1decimal point 2:2 decimal places 3:3 decimal places Ten digit: U0-19/U0-29 decimal number 0:0 decimal point 1:1decimal point	1	63244

P7-13	Cumulative power-on time	0~65535h	-	63245
P7-14	Cumulative power consumption	0~65535 kwh	-	63246
Group P8 auxiliary function				
P8-00	Jog running frequency	0.00Hz~Maximum frequency	6.00Hz	63488
P8-01	Jog acceleration time	0. 0s~6500.0s	20.0s	63489
P8-02	Jog deceleration time	0. 0s~6500.0s	20.0s	63490
P8-03	Acceleration time	0. 0s~6500.0s	Model is determined	63491
P8-04	Deceleration time 2	0. 0s~6500.0s	Model is determined	63492
P8-05	Acceleration time 3	0. 0s~6500.0s	Model is determined	63493
P8-06	Deceleration time 3	0. 0s~6500.0s	Model is determined	63494
P8-07	Acceleration time 4	0. 0s~6500.0s	Model is determined	63495
P8-08	Deceleration time 4	0. 0s~6500.0s	Model is determined	63496
P8-09	Jump Frequency 1	0.00Hz~Maximum frequency	00.00Hz	63497
P8-10	Jump Frequency 2	0.00Hz~Maximum frequency	00.00Hz	63498
P8-14	The set frequency is lower than the lower limit Frequency operation mode	0: run at the lower frequency limit 1: stop 2: Running at zero speed	0	63502
P8-15	Sag control	0. 00Hz～10. 00Hz	00.00Hz	63503
P8-16	Set the cumulative power-on arrival time	0h～65000h	0h	63504
P8-17	Set the cumulative operation arrival time	0h～65000h	0h	63505
P8-18	Boot protection selection	0: not protected 1: protected	0	63506
P8-19	Frequency detection value (FDT1)	0.00Hz~Maximum frequency	50.00Hz	63507
P8-20	Frequency detection hysteresis value	0.0%~100.0% (FDT1 level)	5.0%	63508
P8-21	Frequency reaches pick-out width	0.0%~100.0% (maximum frequency)	0.0%	63509
P8-25	Acceleration time 1 and acceleration time 2 switch frequency points	0.00Hz~Maximum frequency	0.00Hz	63513
P8-26	Deceleration time 1 and deceleration time 2 switch frequency points	0.00Hz~Maximum frequency	0.00Hz	63514
P8-27	Terminal jog priority	0: Disabled 1: Enabled	0	63515
P8-28	Frequency detection value (FDT2)	0.00Hz~Maximum frequency	50.00Hz	63516
P8-29	Frequency detection hysteresis value	0.0%~100.0%(FDT2 level)	5.0%	63517
P8-30	Arbitrary arrival frequency detection value 1	0.00Hz~Maximum frequency	50.00Hz	63518
P8-31	Arbitrary arrival frequency detection width 1	0.0%~100.0% (maximum frequency)	0.0%	63519
P8-32	Arbitrary arrival frequency detection value 2	0.00Hz~Maximum frequency	50.00Hz	63520

Function code	Name	Setting Range	Factory default	DEC address
P8-33	Arbitrary arrival frequency detection width 1	0.0%~100.0% (maximum frequency)	0.0%	63521
P8-34	Zero current detection level	0.0%~300.0%	5.0%	63522
P8-35	Zero current detection delay time	0.01s~600.00s	0.10s	63523
P8-36	The output current exceeds the limit	0.0%(not detected) 0.1% -300% (rated motor current)	200.0%	63524
P8-37	Output current overrun detection delay time	0.00s~600.00s	0.00s	63525
P8-38	Arbitrary arrival current 1	0.0%~300.0%(motor rated current)	100.0%	63526
P8-39	Arbitrary arrival current 1 width	0.0%~300.0%(motor rated current)	0.0%	63527
P8-40	Arbitrary arrival current 2	0.0%~300.0%(motor rated current)	100.0%	63528
P8-41	Arbitrary arrival current 2 width	0.0%~300.0%(motor rated current)	0.0%	63529
P8-42	Timing function selection	0: invalid 1: valid	0	63530
P8-43	Timing run time selection	0: P8-44 setting 1: AI1 2: Ai2 local potentiometer 3: Ai3 external keypad potentiometer Note: The analog input range corresponds to P8-44	0	63531
P8-44	Timing run time	0.0Min~6500.0Min	0.0Min	63532
P8-45	AI1 input voltage protection value lower limit	0.00V~P8-46	3.10V	63533
P8-46	AI1 input voltage protection value upper limit	P8-45~10.00V	6.80V	63534
P8-47	Module temperature reached	0℃~100℃	75℃	63535
P8-48	Fan control (mainboard FAN socket))	0: Fan rotates during operation 1: The fan keeps running	0	63536
P8-49	Wake up frequency	Sleep frequency (P8-51)~maximum frequency (P0-10)	0.00Hz	63537
P8-50	Wake up delay time	0.0s~6500.0s	0. 0s	63538
P8-51	Sleep frequency	0.00Hz~Wake-up frequency (P8-49)	0.00Hz	63539
P8-52	Sleep delay time	0.0s~6500.0s	0. 0s	63540
P8-53	Arrival time setting for this operation	0.0Min~6500.0Min	0.0Min	63541
Group P9 Fault and Protection				
P9-00	Motor overload protection selection	0: Disable 1: Enable	1	63744
P9-01	Motor overload protection gain	0.20~10.00	1. 00	63745
P9-02	Motor overload warning factor	50%~100%	80%	63746
P9-03	Overvoltage Stall Gain	0~100	0	63747
P9-04	Overvoltage stall action voltage	200.0~2000.0V 220V:380V 380V:760V	Model is determined	63748

P9-05	Overcurrent Stall Gain	0~100	20	63749
P9-06	Overcurrent Stall Protection Current	100%~200%	150%	63750
P9-07	Power-on to ground short-circuit protection selection	0: invalid 1: valid	1	63751
P9-08	Dynamic braking action voltage	200.0~2000.0V	220V:380V 380V:690V	63752
P9-09	Fault automatic reset times	0~20	0	63753
P9-10	Fault DO action selection during fault automatic reset	0: no action 1: Action	0	63754
P9-11	Fault automatic reset interval time	0.1s~100.0s	1.0s	63755
P9-12	Input phase loss protection selection	0: Disable 1: Enable	0	63756
P9-13	Output phase loss protection selection	0: Disable 1: Enable	1	63757
P9-14	First failure type	0: no fault 1: reserved 2: Acceleration overcurrent 3: Deceleration overcurrent 4: Constant speed overcurrent 5: Acceleration overvoltage 6: Deceleration overvoltage 7: Constant speed overvoltage 8: The buffer resistor is overloaded 9: Undervoltage 10: Inverter overload 11: Motor overload 12: Input phase loss 13: Output phase loss 14: Module overheating 15: External fault 16: Communication abnormality 17: The contactor is abnormal 18: Abnormal current detection 19: Abnormal motor tuning 20: Reserved 21: EEPROM read and write fault 22: AC drive hardware fault 23: Motor short circuit to ground 24: Reserved 25: Reserved 26: Runtime reached 27: User-defined fault 1 28: User-defined fault 2 29: The power-on time reached 30: drop load 31: PID feedback lost during runtime 40: Fast current limit timeout 41: Switch the motor while running 42: The speed deviation is too large 43: Motor overspeed 45: Reserved 51: Reserved	-	63758
P9-15	Second fault type		-	63759
P9-16	Third (most recent) failure type		-	63760

P9-17	Frequency at the third (most recent) failure	-	-	63761
P9-18	Current at the third (most recent) fault	-	-	63762
P9-19	Bus voltage at the third (most recent) fault	-	-	63763
P9-20	Input terminal status at the third (last) fault	-	-	63764
P9-21	Output terminal status at the third (last) fault	-	-	63765
P9-22	Inverter status at the third (most recent) fault	-	-	63766
P9-23	Power-on time at the third (most recent) fault	-	-	63767
P9-24	Uptime on third (most recent) failure	-	-	63768
P9-27	Frequency at second failure	-	-	63771
P9-28	Current at the second fault	-	-	63772
P9-29	Bus voltage at the second fault	-	-	63773
P9-30	Input terminal status at the second fault	-	-	63774
P9-31	Output terminal status at the second fault	-	-	63775
P9-32	Inverter status at the second fault	-	-	63776
P9-33	Power-on time at the second fault	-	-	63777
P9-34	Operating time at second failure	-	-	63778
P9-37	Frequency at first failure	-	-	63781
P9-38	Current at first fault	-	-	63782
P9-39	Bus voltage at first fault	-	-	63783
P9-40	Input terminal status at the first fault	-	-	63784
P9-41	Output terminal status at the first fault	-	-	63785

Function code	Name	Setting Range	Factory default	DEC address
P9-42	Inverter status at first fault	–	-	63786
P9-43	Power-on time at first fault	–	-	63787
P9-44	Running time at first failure	–	-	63788
P9-47	Fault protection action selection 1	Unit digit: motor overload (11) 0: free stop 1: Stop according to the shutdown mode 2: Continue running Ten digit: input phase loss (12) Hundred digit: output phase loss (13) Thousand digit: output phase loss (15) Ten thousand digit: output phase loss (16)	00000	63791
P9-54	Continue to run frequency selection in case of failure	0:run at the current operating frequency 1:run at the set frequency 2: run at the upper limit frequency 3:Run at the lower frequency limit 4: Running at abnormal standby frequency	0	63798
P9-55	Abnormal backup frequency	0.0%~100.0% (100.0% corresponds to the maximum frequency P0-10)	100.0%	63799
P9-59	Instantaneous power failure action selection	0: invalid 1: slow down 2: Decelerate to stop	0	63803
P9-60	Instantaneous power interruption action suspension judgment voltage	80%~100.0%	100.0%	63804
P9-61	Instantaneous power failure voltage recovery judgment time	0.00s~100.00s	0.50s	63805
P9-62	Instantaneous power failure action judgment voltage	80.0%~100.0%	80.0%	63806
P9-63	Drop load protection option	0: invalid 1: Valid	0	63807
P9-64	Load drop detection level	0.0~100.0%	10.0%	63808
P9-65	Load drop detection time	0.0~60.0s	1.0s	63809
		Group PA PID function		
PA-00	PID setting source	0: PA-01 setting 1:AI1 2: AI2 local potentiometer 3: AI3 external keyboard potentiometer 4: HDI input pulse setting (DI5) 5: Communication setting 6: Multi-reference	0	64000

PA-01	PID value given	0.0~100.0%	50.0%	64001
PA-02	PID feedback source	0: AI1 1: AI2 local potentiometer 2: AI3 external keyboard potentiometer 3: AI1-AI2 4: HDI input pulse setting (DI5) 5: Communication setting 6: AI1+AI2 7: MAX(|AI1|,|AI2|) 8: MIN(|AI1|,|AI2|)	0	64002
PA-03	PID action direction	0: Positive action 1: Reverse action	0	64003
PA-04	PID given feedback range	0~65535	1000	64004
PA-05	Proportional gain KP1	0.0~100.0	20.0	64005
PA-06	Integration time T i1	0.01~10.00s	2.00s	64006
PA-07	Differential time Td1	0.000~10.000s	0.000s	64007
PA-08	PID reverse cutoff frequency	0.00~Maximum frequency	2.00Hz	64008
PA-09	PID deviation limit	0.0~100.0%	0.0%	64009
PA-10	PID differential limiter	0.00~100.00%	0.10%	64010
PA-11	PID given change time	0.00~650.00s	0.00s	64011
PA-12	PID feedback filter time	0.00~60.00s	0.00s	64012
PA-13	PID output filter time	0.00~60.00s	0.00s	64013
PA-15	Proportional gain KP2	0.0~100.0	20.0	64015
PA-16	Integration time T i2	0.01~10.00s	2.00s	64016
PA-17	Differential time Td2	0.000~10.000s	0.000s	64017
PA-18	PID parameter switching conditions	0: no switchover 1: Switch via DI terminal 2: Automatically switch according to the deviation 3: Automatic switching by running frequency	0	64018
PA-19	PID parameter switching deviation 1	0.0%~PA-20	20.0%	64019
PA-20	PID parameter switching deviation 2	PA-19~100.0%	80.0%	64020
PA-21	PID initial value	0.0~100.0%	0.0%	64021
PA-22	PID initial value hold time	0.00~650.00s	0.00s	64022
PA-23	Twice output deviation positive maximum value	0.00~100.00%	1.00%	64023
PA-24	Twice output deviation reverse maximum value	0.00~100.00%	1.00%	64024
PA-25	PID integral properties	Unit digit: integral separation 0: invalid 1: valid Ten digit: whether to stop integration after output to the limit value 0: continue integration 1: Stop integral	00	64025
PA-26	PID feedback loss detection value	0.0%:Not judged feedback loss 0.1~100.0%	0.0%	64026

Function code	Name	Setting Range	Factory default	DEC address
PA-27	PID feedback loss detection time	0. 0s~20. 0s	0.0s	64027
PA-28	PID shutdown operation	0: No PID operation at stop 1: PID operation at stop	1	64028
Group PB Wobble, fixed length and count				
PB-00	Wobble frequency setting method	0: Relative to the center frequency 1:Relative to the maximum frequency	0	64256
PB-01	Wobble amplitude	0. 0~100. 0%	0.0%	64257
PB-02	Jump frequency amplitude	0. 0~50. 0%	0.0%	64258
PB-03	Wobble period	0.1~3000.0s	10.0s	64259
PB-04	Triangular wave rise time of wobble frequency	0.1~100.0%	50.0%	64260
PB-05	Set length	0~65535m	1000m	64261
PB-06	Actual length	0~65535m	0m	64262
PB-07	Pulses per meter	0.1~6553.5	100.0	64263
PB-08	Set count value	1~65535	1000	64264
PB-09	Specify count value	1~65535	1000	64265
Group PC Multi-step instruction and simple PLC				
PC-00	Multi-segment instruction 0	-100.0%~100.0%	0.0%	64512
PC-01	Multi-segment instruction 1	-100.0%~100.0%	0.0%	64513
PC-02	Multi-segment instruction 2	-100.0%~100.0%	0.0%	64514
PC-03	Multi-segment instruction 3	-100.0%~100.0%	0.0%	64515
PC-04	Multi-segment instruction 4	-100.0%~100.0%	0.0%	64516
PC-05	Multi-segment instruction 5	-100.0%~100.0%	0.0%	64517
PC-06	Multi-segment instruction 6	-100.0%~100.0%	0.0%	64518
PC-07	Multi-segment instruction 7	-100.0%~100.0%	0.0%	64519
PC-16	Simple PLC operation mode	0: shutdown at the end of single operation 1: Maintain the final value at the end of a single operation 2: Keep cyding	0	64528
PC-17	Simple PLC power-down memory selection	Unit digit:power down memory selection 1:No memory after power failure 2: Power down memory Ten digit: stop memory selection 1:Shutdown without memory 2: Shutdown memory	00	64529
PC-18	Simple PLC 0 segment running time	0.0s(h)~6553.5s(h)	0.0s(h)	64530
PC-19	Simple PLC 0 segment acceleration and deceleration time selection	0~3	0	64531
PC-20	Simple PLC 1 segment running time	0.0s(h)~6553.5s(h)	0.0s(h)	64532

PC-21	Simple PLC 1-segment acceleration and deceleration time selection	0~3	0	64533
PC-22	Simple PLC 2 segment running time	0.0s(h)~6553.5s(h)	0.0s(h)	64534
PC-23	Simple PLC 2-segment acceleration and deceleration time selection	0~3	0	64535
PC-24	Simple PLC 3-segment running time	0.0s(h)~6553.5s(h)	0.0s(h)	64536
PC-25	Simple PLC 3-segment acceleration and deceleration time selection	0~3	0	64537
PC-26	Simple PLC 4 segment running time	0.0s(h)~6553.5s(h)	0.0s(h)	64538
PC-27	Simple PLC 4-segment acceleration and deceleration time selection	0~3	0	64539
PC-28	Simple PLC 5 segment running time	0.0s(h)~6553.5s(h)	0.0s(h)	64540
PC-29	Simple PLC 5 segment acceleration and deceleration time selection	0~3	0	64541
PC-30	Simple PLC 6 segment running time	0.0s(h)~6553.5s(h)	0.0s(h)	64542
PC-31	Simple PLC 6-segment acceleration and deceleration time selection	0~3	0	64543
PC-32	Simple PLC 7 segment running time	0.0s(h)~6553.5s(h)	0.0s(h)	64544
PC-33	Simple PLC7 segment acceleration and deceleration time selection	0~3	0	64545
PC-50	Simple PLC running time unit	0: s (seconds) 1: h (hours)	0	64562
PC-51	Multi-segment instruction 0 given mode	0: Function code PC-00 given 1: AI1 2: AI2 native potentiometer 3: AI3 external keyboard potentiometer 4: HDI input pulse 5: PID 6: Preset frequency (P0-08)given, UP/DOWN can be modified	0	64563
Group PD communication parameters				
PD-00	Baud rate	0：300BPS 1：600BPS 2：1200BPS 3：2400BPS 4：4800BPS 5：9600BPS 6：19200BPS 7：38400BPS 8：57600BPS 9：115200BPS	5	64768
PD-01	Data Format	0: No parity (8-N-2) 1: Even parity (8-E-1) 2: Odd parity (8- O -1) 3: No checksum (8-N-1)	3	64769
PD-02	Local address	1~247	1	64770
PD-03	Response delay	0~20ms	2	64771

Function code	Name	Setting Range	Factory default	DEC address
PD-04	Communication timeout	0.0 (invalid), 0.1s~60.0s	0.0	64772
PD-05	Data transfer format selection	Unit digit: MODBUS 0: non standard Modbus Protocol 1:Standard Modbus Protocol	1	64773
PD-06	Communication read current resolution	0: 0.01A 1: 0.1A	0	64774
PD-07	Reserve	-	0	64775
Group PP function code management				
PP-00	User password	0～65535	00000	7936
PP-01	Parameter initialization	0: no operation 01: Restore factory parameters, excluding motor parameters 02: Clear record information 03: Restore factory default value, including motor parameters	000	7937
PP-02	Function parameter group display selection	Bit: U group display selection 0: No display 1: Display Ten digit: group a display selection 0: not display 1: Display	11	7938
PP-04	Function code modification attribute	0: Modifiable 1: Unmodifiable	0	7940
Group A5 Control optimization parameters				
A5-00	DPWN switching upper limit frequency	5.00Hz~maximum frequency	8.00Hz	42240
A5-01	PWN modulation method	0:Asynchronous modulation 1:Synchronous modulation	0	42241
A5-02	Dead time compensation mode selection	0: no compensation 1: Compensation mode 1	1	42242
A5-03	Random PWN depth	0: Random PWN is invalid 1~10:PWN carrier frequency random depth	0	42243
A5-04	Fast current limit enable	0: Disable 1: Enable	1	42244
A5-05	Current detection compensation	0～100	5	42245
A5-06	Undervoltage point setting	100~2000	380/350V 220/200V	42246
A5-07	SVC optimization mode selection	0: not optimized 1: Optimization mode 1 2: Optimization Mode 2	1	42247
A5-08	Dead time adjustment	100～200%	150%	42248
A5-09	Overvoltage point setting	200.0～2200.0V	380/810V 220/200V	42249

Group U0 monitoring parameter table				
U0-00	Operating frequency (Hz)	-	0.01Hz	28672
U0-01	Set frequency (Hz)	-	0.01Hz	28673
U0-02	Bus voltage (V)	-	0.1V	28674
U0-03	Output voltage (V)	-	1V	28675
U0-04	Output current (A)	-	0.01A	28676
U0-05	Output power (KW)	-	0.1KW	28677
U0-06	Output torque (%)	-	0.1%	28678
U0-07	DI input status	-	1	28679
U0-08	DO output status	-	1	28680
U0-09	AI1 voltage (V)	-	0.01V	28681
U0-10	AI2 voltage (V)	-	0.01V	28682
U0-11	AI3 panel potentiometer voltage	-	0.01V	28683
U0-12	Count value	-	1	28684
U0-13	Length value	-	1	28685
U0-14	Load speed display	-	1	28686
U0-15	PID setting	-	1	28687
U0-16	PID feedback	-	1	28688
U0-17	PLC stage	-	1	28689
U0-18	HDI input pulse frequency (Hz)	-	0.01kHz	28690
U0-19	Feedback speed (unit: 0.1Hz)	-	0.1Hz	28691
U0-20	Remaining running time	-	0.1Min	28692
U0-21	AI1 voltage before correction	-	0.001V	28693
U0-22	Voltage before AI2 correction	-	0.001V	28694
U0-23	Panel potentiometer voltage before correction	-	0.001V	28695
U0-24	Line speed	-	1m/Min	28696
U0-25	Current power-on time	-	1Min	28697
U0-26	Current running time	-	0.1Min	28698
U0-27	HDI input pulse frequency	-	1Hz	28699
U0-28	Communication settings	-	0.01%	28700
U0-30	Main frequency X display	-	0.01Hz	28702
U0-31	Auxiliary frequency Y display	-	0.01Hz	28703
U0-32	View arbitrary memory address value	-	1	28704
U0-35	Target torque (%)	-	0.1%	28707
U0-37	Power factor angle	-	0.1°	28709
U0-39	Reserve	-	1V	28711
U0-40	Reserve	-	1V	28712
U0-41	Intuitive display of DI function status	-	1	28713

U0-42	Intuitive display of DO input status	-	1	28714
U0-43	DI function status visual display 1 (01-40)	-	1	28715
U0-44	DI function status visual display 2 (41-80)	-	1	28716
U0-45	Accident details	-	1	28717
U0-59	Set frequency (%)	-	0.01%	28731
U0-60	Running frequency (%)	-	0.01%	28732
U0-61	Inverter status	-	1	28733
U0-62	Current fault code	-	1	28734
U0-65	Torque upper limit	-	0.1%	28737

12. Fault alarm and countermeasures

FST200 inverter has a total of 32 warning messages and protection functions. Once a fault occurs, the protection function will act, the inverter will stop output, the inverter fault relay contact will act, and the fault code will be displayed on the Inverter display panel. Before seeking service, users can conduct self-examination according to the prompts in this section, analyze the cause of the fault, and find out the solution. If it belongs to the reasons described in the dotted box, please seek service and contact the agent of the inverter you purchased or directly contact our company. Among the warning messages, Err22 is a hardware overcurrent or overvoltage signal. In most cases, a hardware overvoltage fault causes Err22 to alarm.

Fault name	Fault code	Troubleshooting	Troubleshooting Countermeasures
Inverter unit protection	Err01	1:The inverter output circuit is short-circuited 2: Motor and inverter wiring is too long 3: Module overheating 4: The internal wiring of the inverter is loose 5: The main control board is abnormal 6:The driver board is abnormal 7:The inverter module is abnormal	1: Eliminate peripheral faults 2: Install reactor or output filter 3: Check whether the air duct is blocked, whether the fan is working normally and eliminate the problem 4: Plug in all the cables 5: Seek technical support 6: Seek technical support 7: Seek technical support
Acceleration overcurrent	Err02	1: There is grounding or short circuit in the output circuit of the inverter 2: The control mode is vector and no parameter identification is performed 3: The acceleration time is too short 4: Manual torque boost or V/F curve is not suitable 5: The voltage is low 6: Start the rotating motor 7: Sudden load during acceleration 8: Inverter selection is too small	1: Eliminate peripheral faults 2:Perform motor parameter identification 3:Increase the acceleration time 4: Adjust manual lifting torque or V/F curve 5: Adjust the voltage to the normal range 6:Select speed tracking to start or wait for the motor to stop before starting 7: Cancel sudden load 8:Select the inverter with a larger power leve
Deceleration overcurrentt	Err03	1:There is grounding or short circuit in the output circuit of the inverter 2:The control mode is vector and no parameter identification is performed 3: The deceleration time is too short 4: The voltage is low 5:Sudden load applied during deceleration 6:No braking unit and braking resistor are installed	1: Eliminate peripheral faults 2:Perform motor parameter identification 3:Increase the deceleration time 4:Adjust the voltage to the normal range 5: Cancel sudden load 6: Install braking unit and resistor

Fault name	Fault code	Troubleshooting	Troubleshooting Countermeasures
Constant speed overcurrent	Err04	1: There is grounding or short circuit in the output circuit of the inverter 2: The control mode is vector and no parameter identification is performed 3: The voltage is low 4: Is there a sudden load during operation? 5: Inverter selection is too small	1: Eliminate peripheral faults 2: Perform motor parameter identification 3: Adjust the voltage to the normal range 4: Cancel sudden load 5: Use a frequency converter with a larger power level
Acceleration overvoltage	Err05	1: Input voltage is too high 2: During the acceleration process, there is an external force that drives the motor to run 3: Short acceleration time 4: No braking unit and braking resistor are installed	1: Adjust the voltage to the normal range 2: Cancel external power or install braking resistor 3: Increase the acceleration time 4: Install braking unit and resistor
Deceleration overvoltage	Err06	1: Input voltage is too high 2: During the acceleration process, there is an external force that drives the motor to run 3: Short acceleration time 4: No braking unit and braking resistor are installed	1: Adjust the voltage to the normal range 2: Cancel external power or install braking resistor 3: Increase the acceleration time 4: Install braking unit and resistor
Constant speed overvoltage	Err07	1: Input voltage is too high 2:During the operation, there is an external force that drives the motor to run	1: Adjust the voltage to the normal range 2: Cancel external power or install braking resistor
Control power failure	Err08	1: The input voltage is not within the specified range	1: Adjust the voltage to the range required by the specification
Undervoltage fault	Err09	1: Instantaneous power failure 2: The input voltage of the inverter is not within the range required by the specification 3:The bus voltage is abnormal 4: The rectifier bridge and buffer resistance are abnormal 5:The driver board is abnormal 6:The control board is abnormal	1: Reset fault 2: Adjust the voltage to the normal range 3: Seek technical support 4: Seek technical support 5: Seek technical support 6: Seek technical support
Inverter overload	Err10	1: Whether the load is too large or the motor is blocked 2: Inverter selection is too small	1: Reduce the load and check the motor and mechanical condition 2: Select an inverter with a larger power register
Motor overload	Err11	1: Is the setting of the motor protection parameter P9-01 appropriate? 2: Whether the load is too large or the motor is blocked 3: Inverter selection is too small	1: Set this parameter correctly 2: Reduce the load and check the motor and mechanical condition 3: Use an inverter with a larger power level
Input phase loss	Err12	1: The three-phase input power supply is abnormal 2: The driver board is abnormal 3: The lightning protection board is abnormal 4: The main control board is abnormal	1:Check and eliminate problems in peripheral circuits 2: Seek technical support 3: Seek technical support 4: Seek technical support
Output phase loss	Err13	1: The lead wire from the inverter to the motor is abnormal 2: The three-phase output 3:The driver board is abnormal 4: Module exception	1: Eliminate peripheral faults 2:Check whether the three-phase windings of the motor are normal and troubleshoot 3: Seek technical support 4: Seek technical support

Module overheating	Err14	1: The ambient temperature is too high 2: The air duct is blocked 3: The fan is damaged 4: The module thermistor is damaged 5: The inverter module is damaged	1: Lower the ambient temperature 2: Clean the air duct 3: Replace the fan 4: Replace the thermistor 5: Replace the inverter module
External device failure	Err15	1: Multi-function terminal DI input external fault signal 2: Virtual IO function input external fault signal	1: reset operation 2: reset operation
Communication fail	Err16	1: The host computer is not working properly 2: The communication line is abnormal 3: reserved 4: The communication parameter PD group setting is incorrect	1: Check the wiring of the host computer 2: Check the communication cable 3: Correctly set the type of communication expansion card 4: Correctly set the communication parameters
Contactor failure	Err17	1: The driver board and power supply are abnormal 2: The contactor is abnormal	1: Replace the driver board or power board 2: Replace the contactor
Current detection failure	Err18	1: Check Hall device abnormality 2: The driver board is abnormal	1: Replace the Hall device 2: Replace the driver board
Motor tuning failure	Err19	1: The motor parameters are not set according to the nameplate 2:The parameter identification process timed out	1: Set the motor parameters correctly according to the nameplate 2: Check the lead wire from the inverter to the motor
EEPROM Fault	Err21	1:EEPROM chip is damaged	1: Replace the main control board
Inverter hardware failure	Err22	1: Overvoltage exists 2: There is an overcurrent	1: deal with overvoltage fault 2:Handle according to overcurrent fault
Short to ground fault	Err23	1: The motor is shorted to ground	1: Replace the cable or motor
Cumulative running time reached fault	Err26	1: The accumulated running time reaches the set value	1:Use the parameter initialization function to clear the record information
User-defined fault 1	Err27	1: Input the signal of user 2:Input the signal of user-defined fault1 through the virtual IO function	1: reset operation 2: reset operation
User-defined fault 2	Err28	1: Input the signal of user 2: Input the signal of user-defined fault 2 through the virtual IO function	1: reset operation 2: reset operation
The cumulative power-on time reaches the fault	Err29	1:The cumulative power-on time reaches the set value	1:Use the parameter initialization function to clear the record information
Load drop failure	Err30	1:The running current of the inverter is less than P9-64	1: Confirm whether the load is disconnected or whether the parameter settings of P9-64 and P9-65 conform to the actual operating conditions

PID feedback loss fault during runtime	Err31	1: PID feedback is less than the set value of PA-26	1: Check the PID feedback signal or set PA-26 to an appropriate value
Wave-by-wave current limiting fault	Err40	1: Whether the load is too large or the motor is blocked 2: Inverter selection is too small	1: Reduce the load and check the motor and mechanical condition 2: Use an inverter with a larger power level
Switch motor failure while running	Err41	1: Change the current motor selection through the terminal during the operation of the inverter	1: Switch the motor after the inverter stops
Motor Over temperature fault	Err45	1: The temperature sensor wiring is loose 2: Motor temperature is too high	1: Detect temperature sensor wiring and troubleshoot 2:Reduce the carrier frequency or take other cooling measures to heat the motor
Wrong initial position	Err51	1: The deviation between the motor parameters and the actual is too large	1:Re-confirm whether the motor parameters are correct, focusing on whether the rated current is set too small