FC100E SERIES MANUAL BOOK

1.Preface

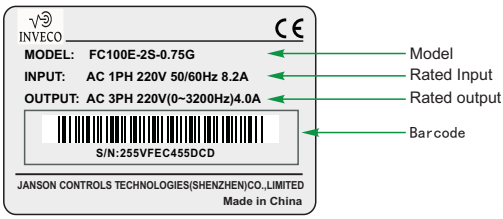
Thank you for choosing FC100E series high-performance, simple frequency converter.

The actual picture in this operation manual is for convenience of explanation, and may 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 our agent in time, and we will serve you wholeheartedly.

2.Nameplate



3.Model Description

FC100E - 2S - 0.75G

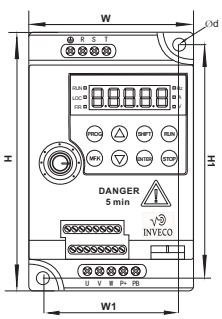
❶ ❷ ❸

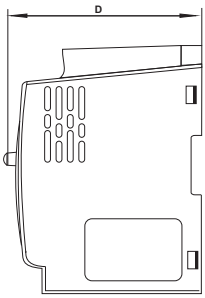
Name	Mark	Description	Detail
AC Drive series	❶	FC100E	Series Name
Voltage level	❷	Voltage level	2S:Single-phase 220V Range:-15% ~20% 4T:Three-phase 380V Range:-15% ~20%
Adaptable power	❸	Adaptable motor power(KW)	0.4KW~15KW

4.Model Description

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				
FC100E-2S-0.4G	0.7	6.5	2.1	0.4
FC100E-2S-0.75G	1.5	8.2	4	0.75
FC100E-2S-1.5G	3	14	7	1.5
FC100E-2S-2.2G	4	23	9.6	2.2
FC100E-2S-4.0G	5.9	40	16.5	4.0
FC100E-2S-5.5G	8.9	55	20	5.5
FC100E-2S-7.5G	11	70	30	7.5
380V Three Phase input and Three phase output 0~3200Hz				
FC100E-4T-0.75G	1.5	3.4	2.1	0.75
FC100E-4T-1.5G	3	5	3.8	1.5
FC100E-4T-2.2G	4	5.8	5.1	2.2
FC100E-4T-4.0G	5.9	10.	9	4.0
FC100E-4T-5.5G	8.9	14.6	13	5.5
FC100E-4T-7.5G	11	19	17	7.5
FC100E-4T-11G	16	28	25	11
FC100E-4T-15G	21	35	32	15

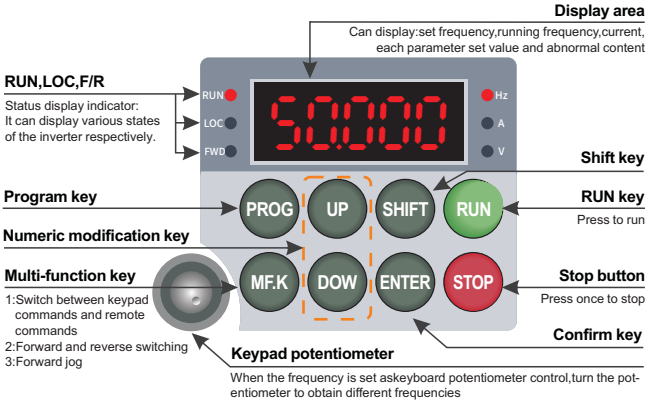
5.Product outline drawing



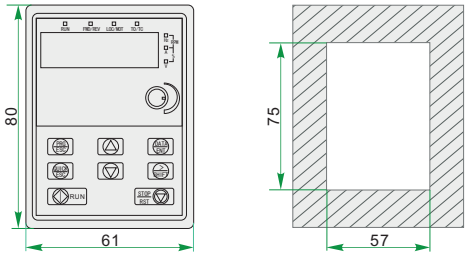


W	H	D	W1	H1	ød
FC100E-2S-0.4G~FC100E-2S-2.2G & FC100E-4T-0.75G~FC100E-4T-2.2G					
85mm	142mm	116mm	73mm	130mm	5mm
FC100E-4T-4G & FC100E-4T-5.5G					
95.6mm	180mm	85mm	120mm	168mm	5mm
FC100E-4T-7.5G~FC100E-4T-15G & FC100E-2S-4.0G~FC100E-2S-7.5G					
106.5mm	240.5mm	150mm	96mm	230mm	5mm

6.Keyboard Description



7.External keyboard dimensions



8.Description of the main circuit terminals of the inverter

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

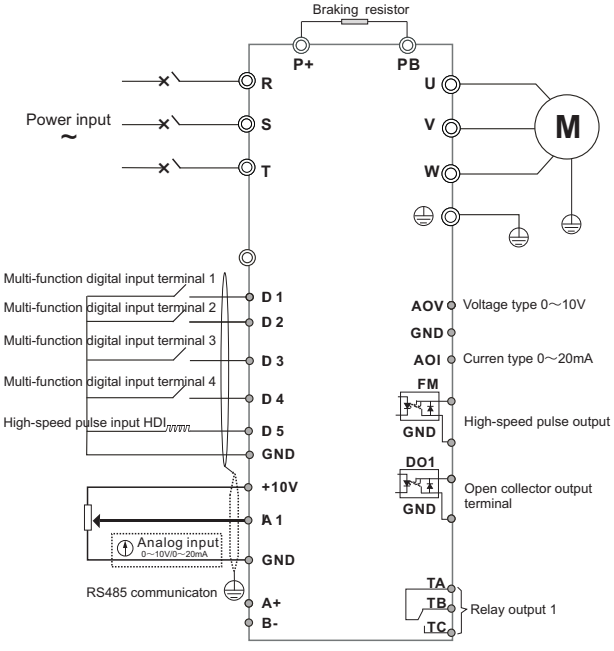
9.Product Specifications

Item	Meaning
Technical Specifications	
Input voltage	Single / three-phase 200-240V, three-phase 380-440V. The fluctuation does not exceed ±10% , and the unbalance rate is less than 3%
Input frequency	50/60Hz±5%
Output voltage	0V-input voltage
Output frequency	0-3200Hz
Performance	
Overload capacity	150% rated output current for 1 minute, 180% rated output current for 10 seconds
Control mode	Open loop vector control (SVC), V/F control
Run command setting method	Operation panel setting, external terminal setting, co-mmunication setting
Speed setting method	Digital setting, analog setting / pulse setting, commu-nication setting
Speed setting resolution	Digital setting: 0.01Hz , Analog setting: 1%×maximum frequency
Speed control accuracy	SVC : ±0.5%
Speed control range	SVC : 1:100
Torque Control Response	SVC : <200ms
Starting torque	SVC : 180% rated torque /0.5Hz
Torque control accuracy	±5%

Item	Meaning
Performance	
Motor parameter learning ability	When high torque is required on site, input parameters such as motor power and current in group P1 first, and set dynamic or static motor parameters in P1-37 . After self-learning, the motor output torque and response capability are more powerful.
Speed tracking restart	This machine has the motor speed tracking ability in a simple software detection method. If this function is us-ed, it is recommended to input the motor rated power and rated current parameters first.
Special feature	
Programmable input and output terminals	Input terminal function can be edited, output terminal function can be edited
Process PID adjustment function	Built-in process PID module
Simple PLC function	Built-in simple PLC module, which can realize timing and multi-segment frequency output
Textile swing frequency function	Built-in textile swing frequency function module
Fixed length control function Protocol	Built-in fixed-length control module. Standard MODBUS communication protocol.
Protective function	
Overvoltage stall	Automatic bus voltage control to prevent overvoltage faults caused by large inertia load deceleration and power generation
Automatic current limiting protection	The output current is automatically limited to prevent heavy load overcurrent faults, and the heavy load has the overcurrent speed limiting performance of the excavator
Input and output phase loss protection	Output phase loss automatic detection and alarm function
Process PID given, feedback loss detection	Process PID automatically recognizes whether the given and feedback are lost, and the loss of alarm function
Output short-circuit protection to ground	Effective protection function of output short circuit to ground
Output phase-to-phase short-circuit protection	Output phase-to-phase short circuit effective protection function
Module overheating protection	When the load is too heavy, the fan is damaged or the cooling air duct is blocked, real-time monitoring of the module temperature and hot spot protection
Fan follow-up start with temperature control	The fan only rotates when the inverter is running, and the fan will stop after a delay when the temperature is too high when the inverter is stopped.
Input & Output	
External analog power supply	+10V, load capacity 100mA, 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 0-20mA input can be set by software menu to select input mode
Analog output	AOV: 0-10V, AOI: 0-20mA , 4~20mA output can be realized through parameter setting
Digital input	DI1-DI5, DI5 can be selected as high-speed pulse signal, 0~50KHz
Digital output	FM digital output, also high-speed pulse output, 0~50KHz
Relay output	TA/TB/TC : Contact capacity 250VAC/3A or 30VDC/1A (with timing relay on-off setting function)
MODBUS-RTU communication	A+ and B- interfaces are suitable for the international standard MODBUS-RTU protocol format
External expansion keyboard (optional)	The RJ45 interface can connect an external expansion keyboard, and the external keyboard can adjust the speed to start monitoring or control parameters
Operationc display	
LED display	5-digit LED digital tubeSetting frequency, output freq-uency, output voltage, output current, motor speed, output torque, switch terminals,status parameters, programming menu parameters and fault codes, etc.
Indicator light	3 unit lights, 3 status lights
Environmental characteristics	
Working temperature	-10~+40℃, maximum 50℃, air temperature change less than 0.5℃/min
	40~50℃ need to be derated: the output current is derated by 2% every time it exceeds 1 ℃
Storage ambient temperature	-40~+70℃
Place of use	Indoor, no direct sunlight, no dust, corrosive gas, flammable gas, oil mist, water vapor, dripping water or salt, etc.

Item	Meaning
Environmental characteristics	
Altitude	Below 1000 meters, derating is required for use above 1000 meters,derating is 1% for every 100 meters above 1000 meters, and the maximum altitude is 3000 meters
Humidity	Less than 95%RH , no condensation
Vibration resistance	3.5m/s 2 at 2-9Hz , 10m/s 2 at 9-200Hz (IEC60721-3-3)
Protection class	IP20
Pollution level	Class 2 (dry, non-conductive dust pollution)

10.Wiring of inverter control circuit



Note:

All FC100E 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.

11.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 .

Category	Terminal symbol	Terminal Name	Function Description
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

12.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.

13.Parameter summary table

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 channe l(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 frequencyP0-08,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 source X	0	61445
P0-06	Frequency source Y range	0%~150%	100%	61446
P0-07	Frequency source superpositio n method selection	Bit: frequency source selection 0: main frequency source x 1: Primary and secondary operation(the operation mode is determined by ten digits) 2: Switching between primary frequency source X and secondary frequency source y 3: Switching between primary frequency source X and primary and secondary operation results 4: Switching between secondary frequency source y and primary and secondary operation results Ten bits: primary and secondary operation relationship of frequency source 0: primary + secondary 1: Primary- secondary 2: Maximum value of both 3: Minimum value of both	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	61450
P0-11	Upper limit frequency source	0: P0-12 setting 1: AI1 2: AI2native potentiometer 3: AI3 external keyboard potentiometer 4: HDI pulse setting 5: Communication given	0.00Hz	61451
P0-12	Upper limit frequency	Lower limit frequency P0-14~ maximum frequency P0-10	0.00Hz	61452
P0-13	Upper limit frequency offset	0.00Hz~Maximum frequency P0-10	Model is determined	61453
P0-14	Lower frequency	0.00Hz~upper limit frequency P0-12	1	61454
P0-15	Carrier frequency	0.5kHz~16.0kHz	Model is determined	61455

Code	Name	Setting Range	Factory default	DEC address
P0-16	The carrier freque-ncy 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	1: 0.1Hz 2: 0.01Hz	2	61462
P0-23	Digital setting frequ-ency stop memory	0: No memory 1: Memory	1	61463
P0-24	Reserve	–	1	61464
P0-25	Acceleration and deceleration time reference frequency	0: Maximum frequency (P0-10) 1: Setting frequency	0	61465
P0-26	Frequency comma-nd UP/DOWN reference during operation	0: Running frequency 1: Set frequency	0	61466
P0-27	Command source bundle frequency source	Bit: Operation panel command binding frequency source selection 0: No binding 1: Digital set frequency 2: AI1 3: AI2 local potentiometer 4: AI3 external keyboard potentiometer Ten bit: Terminal command binding	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	1~380V	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	0.01~P1-03	Tuning parameters	61706
P1-37	Tuning selection	0: No operation 1: Asynchronous motor static tuning 2: Asynchronous motor complete tuning 3: Still Tuning 2	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	0.01~10.00s	1.00s	61956
P2-05	Switching frequency 2	P2-02~Maximum frequency	10.00Hz	61957
P2-06	Vector control slip gain	50~200%	150%	61958
P2-07	Velocity loop filter time constant	0. 000~0.100s	0.000s	61959
P2-08	Vector control overexcitation gain	0~200	64	61960
P2-09	Torque upper limit source in speed control mode	0: Function code P2-10 setting 1: AI1 2: AI2 3: Keypad potentiometer 4: PULSE pulse setting 5: Communication given 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

Code	Name	Setting Range	Factory default	DEC address
P2-17	Velocity Loop Integral Properties	Bit: integral separation 0: invalid 1: Valid	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	Motor rated power	0.0%: (Auto torque boost) 0.1~30.0%	Model is determined	62209
P3-02	Motor rated voltage	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	0.01Hz~Maximum frequency	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-segment command terminal 1 13:Multi-segment command terminal 2 14:Multi-segment command terminal 3 15:Multi-segment command terminal 4 16:Acceleration and deceleration time selection terminal 1 17:Acceleration and deceleration time selection terminal 2 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: HDI pulse frequency input (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 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:This running time is cleared	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
P4-04	Di5 terminal function selection		1.00s	62468

Code	Name	Setting Range	Factory default	DEC address
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
P4-17	Ai1 filter time	0.00s～10.00s	0.10s	62481
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	P4-28～50.00kHz	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	Bit: AI1 curve selection 1:Curve1(2points, P4-13 ~ P4-16) 2:Curve2(2points, P4-18 ~ P4-21) 3:Curve3(2points, P4-23 ~ P4-26) Ten digit:AI2curve selection, the same as above Hundredth:AI3curve selection, the same as above	321	62497
P4-34	AI below minimum input setting selection	Bits: AI1 is lower than the minimum input setting selection 0: corresponding to the minimum input setting 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 Ones place: Di1 Tens place: Di2 Hundreds: Di3 Thousands: Di4 Ten thousand: 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

Code	Name	Setting Range	Factory default	DEC address
P5-01	FMR output function selection	0: no output 1: The inverter is running 2:Fault output (fault shutdown) 3:Frequency level detection FDT1 output 4: Frequency arrives 5: Running at zero speed (no output when stopped) 6: Motor overload pre-alarm 7: Inverter overload pre-alarm 8: Set the count value to reach 9: The specified count value arrives 11: PLC cycle completed 12: Accumulated running time arrives 13: Frequency limiting 14: Torque limited 15: Ready to run 16: AI1 > Ai2 17:The upper limit frequency is reached 18:The lower limit frequency is reached(operation related) 19:Undervoltage status output 20:Communication settings 23: Running at zero speed 2(also output when stopped) 24:Cumulative power-on time arrives 25:Frequency level detection FDT2 output 26: Frequency 1 arrives at the output 27: Frequency 2 arrives atthe output 28: Current 1 reaches the output 29: Current 2 reaches the output 30: Timed arrival output 31: AI1 input overrun 32: Dropping 33: Reverse running 34: Zero current state 35: Module temperature reached 36: The output current exceeds the limit 37: The lower limit frequency is reached(the output is also output when the machine is stopped) 38: Alarm output (continue running) 40: The running time has arrived 41: Fault output (it is the fault of free stop and no output under voltage) 42: frequency 1 <= running frequency <= frequency 2 43:Frequency1>= Running frequency >= Frequency 2 44:Frequency1<=set frequency <= frequency 2 45:Frequency1>=set frequency >= frequency 2	0	62721
P5-02	Control board relay function selection (TA-TB-TC)		2	62722
P5-04	Reserve		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	FMP 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

Code	Name	Setting Range	Factory default	DEC address
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 zero speed 2: start from maximum frequency	0	62977
P6-02	Speed tracking speed	1~100	20	62978
P6-03	Start frequency	0～P0-08	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 is invalid 1: Switch between the operation panel command channel and the remote command channel (terminal command channel or communication command channel) 2: Forward and reverse switching 3: Forward jog 4: Reverse jog	2	63233
P7-02	STOP/RESET key function	0: Only in the keyboard operation mode,the STOP /RES key stop function is valid 1: In any operation mode, the STOP/ RES key stop function is valid	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 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) 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	0000	63236

Code	Name	Setting Range	Factory default	DEC address
P7-04	LED running display parameter 2	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) (V)	0033	63237
P7-06	Load speed display factor	0.0001~6.5000	1.0000	63238
P7-07	Inverter module heat sink temperature	0.0℃~100.0℃	-	63239
P7-09	Cumulative running time	0h~65535h	-	63241
P7-12	Load speed display decimal places	0:0 decimal point 1:1 decimal point 2:2 decimal places 3:3 decimal places	1	63244
P7-13	Cumulative power-on time	0~65535h	-	63245
P7-14	Cumulative power consumption	0~65535 degrees	-	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. 0s~6500.0s	00.00Hz	63497
P8-10	Jump Frequency 2	0. 0s~6500.0s	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	0. 0s~6500.0s	0h	63504
P8-17	Set the cumulative operation arrival time	0. 0s~6500.0s	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: invalid 1: valid	5.0%	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)	0.0%	63517
P8-30	Arbitrary arrival frequency detection value 1	0.00Hz~Maximum frequency	50.00Hz	63518

Code	Name	Setting Range	Factory default	DEC address
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	5.0%	63520
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)	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 3: AI3 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: Disable 1: Enable	1	63751
P9-08	Dynamic braking action voltage	200.0~2000.0V	220V:380V	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	–	63758

Code	Name	Setting Range	Factory default	DEC address
P9-15	Second fault type	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: Parameter read and write exception 22: The inverter hardware is abnormal 23: Motor short circuit to ground	–	63759
P9-16	Third (most recent) failure type	24: Reserved 25: Reserved 26: Runtime arrives 27: User-defined fault 1 28: User-defined fault 2 29: The power-on time arrives 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	–	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
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	Bit: motor overload (11) 0: free stop 1: Stop according to the shutdown mode 2: Continue running Ten digit: input phase loss (12) Hundred bit: output phase loss (13) Thousand bit: output phase loss (15) Ten thousand bits: output phase loss (16)	00000	63791

Code	Name	Setting Range	Factory default	DEC address
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	60.0%~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	P9-62~100.0%	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	60.0%~100.0%(standard bus voltage)	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 given source	0: PA-01 setting 1:AI1 2: AI2 native potentiometer 3: AI3 external keyboard potentiometer 4: HDI input pulse setting (Di5) 5: Communication given 6: Multi-segment instruction given	0	64000
PA-01	PID value given	0.0~100.0%	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 given 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	0.0~60.0s	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: do not switch 1: Switch via DI terminal 2: Automatically switch according to the deviation	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	Bit: integral separation 0: invalid 1: valid	00	64025

Code	Name	Setting Range	Factory default	DEC address
PA-25	PID integral properties	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
PA-27	PID feedback loss detection time	0. 0s~20. 0s	0.0s	64027
PA-28	PID shutdown operation	0: stop operation 1: stop operation	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 cycling	0	64528
PC-17	Simple PLC power-down memory selection	Bit: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

Code	Name	Setting Range	Factory default	DEC address
PC-32	Simple PLC 7 segment running time	0.0s(h)~6553.5s(h)	0.0s(h)	64544
PC-33	Simple PLC 7 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	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
PD-04	Communication timeout	0.0 (invalid) 0.1s~60.0s	0.0	64772
PD-05	Data transfer format selection	Bit: 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 parameters, 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	0. 00Hz~15. 00Hz	12.00Hz	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 2: Compensation mode 2	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	60.0～140.0%	100.0%	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	200.0～2500.0V	model	42249

Code	Name	Setting Range	Factory default	DEC address
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 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	–	0.01%	28737

14.Fault alarm and countermeasures

FC100E inverter has a total of 24 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 21 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
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
Undervoltag e 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

Fault name	Fault code	Troubleshooting	Troubleshooting Countermeasures
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 ambient temperature is too highermistor is damaged 5: The inverter module is damaged	1: Lower the ambient temperature 2: Cthe inverter module
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