VDF710 Series

General-Purpose AC Drive User Manual (Brief)
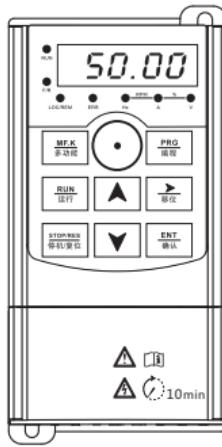
English | User Manual

Foreword

First of all, thank you for buying our inverter !

VDF710 series inverter is a universal current vector inverter. It is mainly used to control and adjust the speed and torque of three-phase AC asynchronous motor. It has good dynamic characteristics, super overload capacity, rich and powerful combined functions, and stable performance. It can be used to drive textile, papermaking, wire drawing, machine tools, packaging, food,fans, water pumps and various automated production equipment.
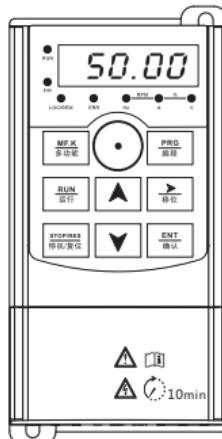
Product appearance

§ Initial use

For users who use this product for the first time, they should read this manual carefully. If you have doubts about some functions and performance, please consult our company's technical support staff for help, which is beneficial to the correct use of this product.

§ Standards compliant

VDF710 series inverters comply with the following directives and standards：

Instruction	Command name	Standards compliant
EMC Instruction	2004/108/EC	EN 61800–3 EN 55011 EN 61000–6–2
LVD Instruction	2006/95/EC 93/68/EEC	EN 61800–5–1

Catalog

Chapter One Product Information

1. 1 Safety information and precautions

Security definition:

In this manual, safety precautions are divided into the following two categories:

⚠ Danger: A situation that may result in serious injury or even death due to danger caused by failure to operate as required;

⚠ Note: The danger caused by failure to operate as required may result in   moderate or minor injuries and equipment damage;

Markers related to inverter safety:

The inverter has warning signs in use at the following locations. During use, please be sure to follow the warning signs.

● Please read the instruction manual before installation and operation, otherwise there will be danger of electric shock!
● Do not remove the cover when the power is on and within 10 minutes of turning off the power!
● When performing maintenance, inspection and wiring, please turn off the power supply on the input side and the output side, wait 10 minutes, and start the work after the power indicator light is completely extinguished.

1. 2 Naming convention

VDF710 T 0.7 G B

VDF710 series inverter

Logo	Voltage level
S	Single phase 220V
T	Triple phase 380V

Logo	Braking unit
	No
B	Yes

Logo	Suitable motor type
G	General model

Logo	0.4	0.7	...	11	...
Adapted motor (kW)	0.4	0.75	...	11	...
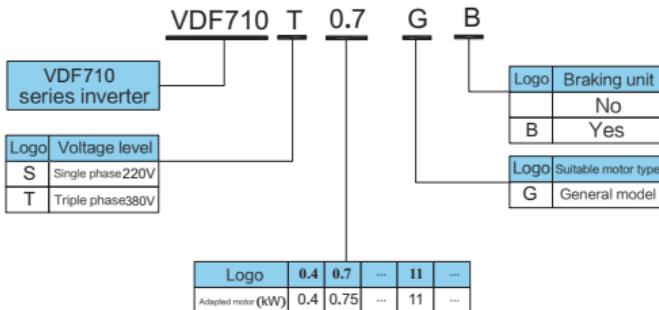
Fig 1-1 Naming specifications

1.3 Nameplate

Rated nameplate

Inverter model →
Rated power →
Rated input →
Rated output →
Manufacture number →

MODEL： VDF710T0.7GB   CE
POWER： 0.75kW
INPUT： 3PH AC380 3.4A 50/60Hz
OUTPUT 3PH AC0~380V 2.1A 0~630Hz
S/N:

Suzhou Vaidnor Electronic Technology Co.,Ltd
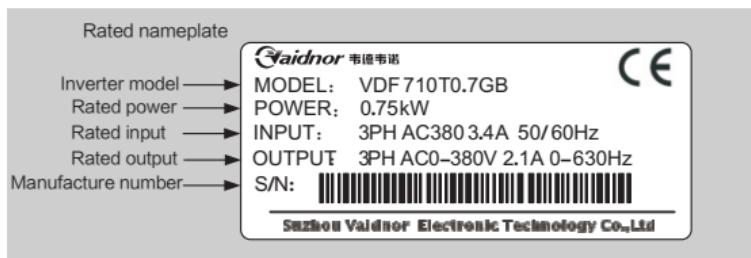
1.4 VDF710 Inverter series index

Table 1-1 VDF710 Inverter model and technical data

Inverter model	Input voltage	Battery capacity (kVA)	Input Current (A)	Onput Current (A)	Adapted motor (kW)
VDF710S0.7GB	Single phase 220V Range: -15%~20%	1.5	8.2	4.0	0.75
VDF710S1.5GB		3.0	14.2	7.0	1.5
VDF710S2.2GB		4.0	23.0	9.6	2.2
VDF710T0.7GB	Triple phase 380V Range: -15%~20%	1.5	3.4	2.1	0.75
VDF710T1.5GB		3.0	5.0	3.8	1.5
VDF710T2.2GB		4.0	5.8	5.1	2.2
VDF710T4.0GB		5.9	14.6	9.0	4.0
VDF710T5.5GB		8.9	20.5	13.0	5.5
VDF710T7.5GB		11.0	26.0	17.0	7.5
VDF710T11GB		17.0	35.0	25.0	11.0
VDF710T15GB		21.0	38.5	32.0	15.0
VDF710T18.5GB		30.0	46.5	37.0	18.5
VDF710T22GB		40.0	62.0	45.0	22
VDF710T30GB		57.0	76.0	60.0	30
VDF710T37GB		69.0	92.0	75.0	37

1.5 Mounting hole size

1.5.1 Product Dimensions
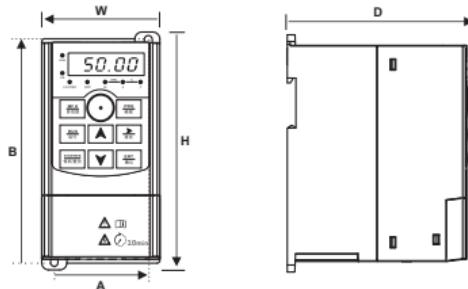
Inverter model	Mounting holes mm		Dimensions mm			Installation aperture mm
	A	B	H	W	D	
single phase 220V						
VDF710S0.7GB	67	160	170	85	135	Ø4.5
VDF710S1.5GB						
VDF710S2.2GB						
triple phase 380V						
VDF710T0.7GB	67	160	170	85	135	Ø4.5
VDF710T1.5GB						
VDF710T2.2GB						
VDF710T4.0GB	85	184	194	97	150	Ø4.5
VDF710T5.5GB						
VDF710T7.5GB	100	243	260	128	186	Ø6.0
VDF710T11GB						
VDF710T15GB	170	327	342	188	205	Ø7.0
VDF710T18.5GB						
VDF710T22GB						
VDF710T30GB	160	425	441	220	244	Ø7.0
VDF710T37GB						

1.5.2 The opening size of the external keyboard
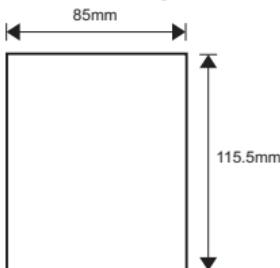
Fig 1-2 The opening size of the external keyboard

Chapter Two Electrical Installation

2.1.1 Main circuit terminals and wiring

1)Description of the main circuit terminals of the inverter:

Terminal marking	Name	Explanation
R、S、T	Power input terminal	triple phase 380V AC power connection point
P+ ,PB	Braking resistor connection terminal	Connect the braking resistor
U、V、W	Inverter output terminal	Connect a three-phase motor
⏚	Ground terminal	Ground terminal

2.1.2 Inverter control circuit wiring
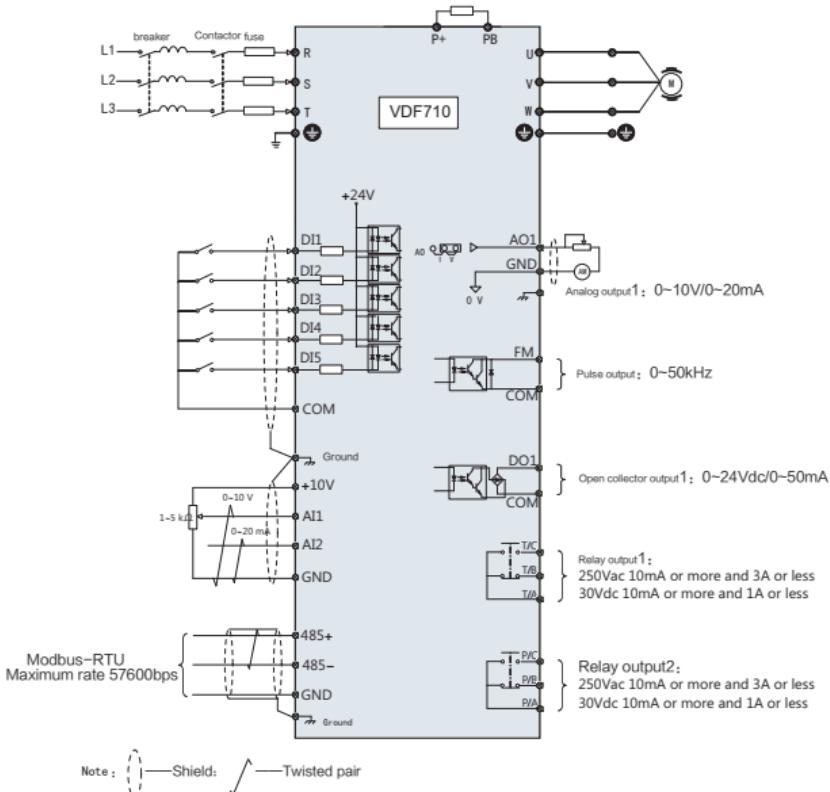
Fig 2-2 Inverter control circuit wiring

Note: The control circuit wiring of all VDF710 series inverters is the same. The figure above is the wiring diagram of the three−phase 380V inverter. The terminal ◎ indicates the main circuit terminal and ○ indicates the control circuit terminal.

2.1.3 Control terminal description:

The layout of the control circuit terminals is shown below:

| 485+	485-	GND	AI1	AI2	+10V	AO1	DO1		T/A	T/B	T/C
+24V	COM	DI1	DI2	DI3	DI4	DI5	FM		P/A	P/B	P/C
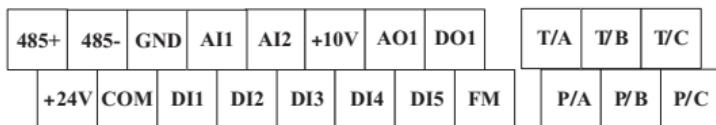
Fig 2−3 **Control circuit terminal layout**

2.1.4 Control terminal function description:

Table2−1 VDF710 Frequency converter control terminal function description

category	Terminal symbol	Terminal name	Function Description
power supply	+10 V − GND	External +10V power supply	Provide +10V power to the outside, maximum output current: 50mA Generally used as working power supply for external potentiometer, resistance range of potentiometer: 1kΩ~5kΩ
	+24 V − COM	External +24V power supply	Provide external +24V power supply, generally used as digital input and output terminal power supply and external sensor power supply Maximum output current:100mA
Analog input	AI − GND	Analog input terminal	1 Input range: DC0~10V/ 0 ~20mA, Determined by P6~59 2 Input impedance: when voltage is input 22kΩ When current is input 500 Ω.
Digital input	DI1−COM	Digital input 1	In addition to the characteristics of DI1~DI4, DI5 can also be used as a high−speed pulse input channel. Maximum input frequency: 50 kHz
	DI2−COM	Digital input 2	
	DI3−COM	Digital input 3	
	DI4−COM	Digital input 4	
	DI5−COM	High−speed pulse input terminal	
Analog output	AO1 − GND	Analog output	Output voltage range: 0~10V Output current range: 0~20mA The voltage/current output is determined by the AO jumper
Digital output	DO1−GND	Digital output 1	Optical coupling isolation, bipolar open collector output Output voltage range: 0~24V Output current range: 0~50mA
	FM −GND	High−speed pulse output	Constrained by function code P7−00 "FM terminal output mode selection" When output as a high−speed pulse, the highest frequency reaches 50kHz When used as open collector output, it has the same specifications as D01.
	TA−TB−TC PA−PB−PC	Relay output terminal	Contact drive capability: AC250V , 3A DC 30V , 1A

2.1.5 Signal input terminal wiring instructions:

Because the weak analog voltage signal is 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 situations where the analog signal is severely interfered, a filter capacitor or a ferrite magnet needs to be added on the analog signal source side.

Chapter Third   Operation Display

3.1 Operation and display interface introduction

Using the operation panel, you can modify the inverter's function parameters, monitor the working status of the inverter, and control the inverter's operation (start and stop). Its appearance and function area are shown in the following figure:

Fig 3-1 Schematic diagram of operation panel

1） Function indicator description:

RUN： When the light is off, it indicates that the inverter is in the stop state, and when the light is on, the inverter is in the running state

LOC/REM：
Indicators for keyboard operation, terminal operation and remote operation (communication control):

○ LOC/REM：Extinguish	Panel start-stop control method
● LOC/REM：always on	Terminal start-stop control method
◑ LOC/REM：flicker	Communication start-stop control method

F/R： Forward and reverse indicator lights, the light indicates that it is in the forward rotation state.
ERR：Tuning/torque control/fault indicator, light on means that it is in torque control mode, slow blinking means it is in tuning state, fast blinking means it is in failure state.

2） Unit indicator:

●—RPM—○—%—○ ： Hz   Frequency unit

○—RPM—●—%—○ ： A   Current unit

○—RPM—○—%—● ： V   Voltage unit

●—RPM—●—%—○ ： RPM   Speed unit

○—RPM—●—%—● ： %   Percentage

3） Digital display area:

5-digit LED display, which can display set frequency, output frequency, various monitoring data and alarm codes.

Table3-1 **Correspondence table of actual correspondence and LED display**

LED display	Actual correspondence	LED display	Actual correspondence	LED display	Actual correspondence	LED display	Actual correspondence
0	0	6	6	C	C	N	N
1	1	7	7	c	c	P	P
2	2	8	8	d	D	r	R
3	3	9	9	E	E	T	T
4	4	A	A	F	F	U	U
5	5、S	b	B	L	L	u	V

4） Keyboard button description table

Table 3-2 Keyboard menu

Button	Name	Features
PRG	Programming key	First level menu entry or exit
ENTER	Enter	Enter the menu screen step by step, confirm the setting parameters
▲	Increment key	Increment of data or function code
▼	Decrement key	Decrease of data or function code
➤	Shift key	Under the stop display interface and the operation display interface, the display parameters can be selected cyclically; when modifying the parameters, the modification position of the parameters can be selected
RUN	Run key	In the keyboard operation mode, it is used to run the operation
STOP/RES	Stop/Reset	In running state, press this key can be used to stop running operation; in fault alarm state, it can be used to reset operation.
MF.K	Multi-function selection key	Make function switch selection according to P8-01

Chapter Four Function parameter table

4.1 Brief table of basic function parameters

"○" It means that the setting value of this parameter can be changed when the inverter is stopped or running

"●" It means that the setting value of this parameter cannot be changed when the inverter is in running state

"※" Indicates that the value of this parameter is the actual test record value and cannot be changed

function code	name	description	Factory default	Attributes
		P0　Group　Basic parameters		
P0-00	Inverter type G/P	0: G Type (constant torque load) 1: P Type (fan and pump load)	0	●
P0-01	Motor control method	0: Reserved 1: Vector control without speed sensor 2: VF control	2	●
P0-02	Operation command source selection	0：Keyboard commands (LOC/REM lights off) 1: Terminal command (LOC/REM light flashes) 2: Communication command (LOC/REM light flashes)	0	●
P0-03	Main frequency input selection	0: Digital setting (preset frequency P0-08, UP/DOWN or keyboard encoder can be modified, power-down memory) 1: AI1 2: AI2 3: Reserved 4: Pulse setting（Di5) 5: SimplePLC 6: Multi-segment instruction 7: PID 8: Communication given 9: Reserved	0	●
P0-04	Auxiliary frequency input selection	Same as above P0-03	3	●
P0-05	Selection of auxiliary frequency reference range	0: Relative to the maximum frequency 1: Relative to the main frequency source	0	○
P0-07	Frequency command overlay selection	0: Main frequency command 1: Auxiliary frequency command 2: Main + auxiliary 3: Main - auxiliary 4: Maximum of both 5: Minimum of both	0	○
P0-08	Preset frequency	0.00Hz～(P0-10)	50.00Hz	○
P0-09	Running direction	0: Run in the default direction 1: Run opposite to the default direction 2: No reversal	0	●
P0-10	Maximum frequency	P0-12～630.00Hz	50.00Hz	●
P0-12	Upper limit frequency	P0-14～(P0-10)	50.00Hz	●
P0-14	Lower limit frequency	0.00Hz～ P0-12	0.00Hz	●
P0-15	Carrier frequency	1.0～15.0kHz	Model determination	○
P0-16	Zero frequency output selection	0:no output 1: With output 2: DC braking output (set by P5-12)	0	○
P0-17	acceleration time 1	0 ～3600.0s	Model determination	○
P0-18	deceleration time 1	0 ～3600.0s	Model determination	○

function code	name	description	Factory default	Attributes
		P1 Group Motor parameters		
P1-01	Tuning options	0: No function 1: Dynamic complete tuning of asynchronous machine 2: Tuning of the static part of the asynchronous machine V1 3: Parameter tuning of the static part of the asynchronous machine 2	0	●
P1-02	Motor rated power	0.1～1000.0kW	Model determination	●
P1-03	Motor rated frequency	0.01Hz ～Max.frequency P0-10	50.00Hz	●
P1-04	Motor rated speed	1～36000rpm	Model determination	●
P1-05	Motor rated voltage	0~2000V	Model determination	●
P1-06	Motor rated current	0.1～6553.5A	Model determination	●
P1-07	Motor stator resistance	0.001~65.535 Ω	Model determination	○
P1-08	Motor rotor resistance	0.001~65.535 Ω	Model determination	○
P1-09	Motor leakage inductance	0.1~6553.5mH	Model determination	○
P1-10	Motor mutual inductance	0.1~6553.5mH	Model determination	○
P1-11	Motor No-load Cur	0.1~6553.5A	Model determination	○
		P2 Group VF Control		
P2-00	VF Curve setting	0: :straight line VF 1:More point VF(V1<V<V3, F1<F2<F3) 2: 1.3Power VF 3: 1.7Power VF 4: 2.0Power VF 5: VF Separate 6: Reserved	0	●
P2-01	Torque boost	0.0%: Automatic torque boost 0.1~10.0%: Manual setting	0.0%	○
P2-02	Torque boost cutoff frequency	0.0～50.0%	20.0%	○
P2-03	Multipoint VF maximum frequencyF3	0.00Hz ～ (P1-02)	0.00Hz	○
P2-04	Multi-point VF maximum frequencyV3	0.0% ～110.0%	0.0%	○
P2-05	Multipoint VF intermediate frequencyF2	0.00Hz ～F3	0.00Hz	○
P2-06	Multi-point VF intermediate voltageV2	0.0% ～V3	0.0%	○
P2-07	Multipoint VF minimum frequencyF1	0.00Hz ～F2	0.00Hz	○
P2-08	Multi-point VF minimum voltageV1	0.0% ～V2	0.0%	○
P2-09	VF slip compensation gain	0.0～200.0%	100.0%	○
P2-10	VF low frequency oscillation suppression coefficient	0~100	10	○
P2-11	VF high frequency oscillation suppression coefficient	0～100	10	○
P2-12	VF oscillation suppression frequency switching	0.00Hz ~Maximum frequency	30.00Hz	○

Function code	Name	Description	Factory default	Attributes
P2-13	Automatic voltage regulation function AVR	0:cancel AVR 1: Whole journey AVR 2: Reserved	1	○
P2-14	Automatic power saving operation	0: No function 1: Turn on automatic power saving operation	0	○
P2-15	VF Constant power field weakening constant	1.00~1.30	1.00	○
P2-16	VF Split voltage source	0: Digital setting(P2-17) 1: AI1 2: AI2 3: Keep 4: Pulse input (DI5) 5: Multi-segment instruction 6: PID 7: Communication settings 8: Reserved	0	○
P2-17	VF Separate voltage digital setting	0.0~100.0%	0.0%	○
P2-18	VF Separation voltage acceleration time	0.0~3600.0s	0.0s	○
P2-19	VF Separation voltage deceleration time	0.0~3600.0s	0.0s	○
P2-20	VF Separation voltage upper limit	(P2-21)~100.0%	100.0%	●
P2-21	VF Separation voltage lower limit	0.0~(P2-20)	0.0%	●
P3 Group Motor vector control parameters				
P3-00	Speed loop proportional gain 1	0.0~200.0	20.0	○
P3-01	Speed loop integration time 1	0.000~10.000s	0.200s	○
P3-02	Speed loop proportional gain 2	0.0~200.0	20.0	○
P3-03	Speed loop integration time 1	0.000~10.000s	0.200s	○
P3-04	Switching frequency 1	0.00Hz~(P3-05)	5.00Hz	○
P3-05	Switching frequency 2	(P3-04)~Maximum frequency	10.00Hz	○
P3-06	Speed loop low-pass filter constant	0~10	0	○
P3-07	Electric slip compensation gain	50~200%	100%	○
P3-08	Brake slip compensation gain	50~200%	100%	○
P3-09	ACR Current loopKP	0~65535	1000	○
P3-10	ACR Current loopKI	0~65535	1000	○
P3-11	Vector 2 constant power field weakening constant	0.1~2.0	0.3	○
P3-12	Constant power minimum field weakening level	10%~100%	20%	○
P3-13	Field weakening proportional gain	0~8000	1200	○
P3-14	Vector output voltage upper limit	0.0~120.0%	100.0%	○
P3-15	Motor pre-excitation time	0.000~10.000s	0.300s	○
P4 Group Torque control parameters				
P4-00	Torque setting source selection	0: Speed control (torque invalid) 1: Digital setting (P4-01) 2: AI1	0	○

function code	name	Description	Factory default	Attributes
		3: AI2 4: Reserved 5: Pulse setting (Di5) 6: Multi-stage setting 7: Communication settings 8: Reserved		
P4-01	Torque digital setting	-300.0~300.0%	50.0%	○
P4-02	Torque filter time	0.000~10.000s	0.010s	○
P4-03	Forward torque upper limit frequency source	0: Digital setting of torque upper limit frequency (P4-05 and P4-06) 1: AI1 2: AI2 3: Reserved 4: Pulse setting (Di5) 5: Multi-stage setting 6: Communication settings 7: Reserved	0	○
P4-04	Reverse torque upper limit frequency source	Same as above	0	○
P4-05	Digital setting of upper limit frequency of forward torque	0.00Hz ~Maximum frequency	50.00Hz	○
P4-06	Digital setting of upper limit frequency of reverse torque	0.00Hz ~Maximum frequency	50.00Hz	○
P4-07	Selection of electric torque limit mode	0: Digital setting of torque upper limit (P4-09 and P4-10) 1: AI1 2: AI2 3Reserved 4: Pulse setting (DI5) 5: Communication settings 6 Reserved	0	○
P4-08	Selection of braking torque limitation	Same as above	0	○
P4-09	Digital setting of electric torque limit	0.0~300.0%	180.0%	○
P4-10	Digital setting of braking torque limit	0.0~300.0%	180.0%	○
P4-11	Vector low frequency torque compensation	0.0~100.0%	0.0%	○
P4-12	Vector high frequency torque compensation	0.0~100.0%	0.0%	○
P5 Group Start and stop control parameters				
P5 -00	Start method	0: Start directly 1: DC braking before start 2: Speed tracking start	0	●
P5 -01	Start frequency	0.00~50.00Hz	0.50Hz	●
P5 -02	Start frequency hold time	00.0~50.0s	0.0s	●
P5 -03	Start DC braking current	0.0~100.0%	0.0%	●

Function code	Name	Description	Factory default	Attributes
P5-04	Start DC braking time	0.00~50.00s	0.00s	●
P5-05	Acceleration and deceleration	0: Linear acceleration and deceleration 1: S Curve acceleration and deceleration	0	●
P5-06	S Acceleration time at the beginning of the curve	0.0~50.0s	30.0s	○
P5-07	S Deceleration time at the end of the curve	0.0~50.0s	30.0s	○
P5-08	Stop mode	0: Slow down 1: Free stop	0	○
P5-09	Starting frequency of DC braking at stop	0.00~Maximum frequency	0.00Hz	○
P5-10	DC braking waiting time at stop	0.00~50.00s	0.00s	○
P5-11	DC braking current at shutdown	0.0~100.0%	0.0%	○
P5-12	DC braking time at stop	0.00~50.00s	0.00s	○
P5-16	Forward and reverse dead time	0.0~3600.0s	0.00s	○
P5-17	Forward and reverse switching mode	0: Zero frequency switching 1: Start frequency switching 2: Stop frequency switching	0	●
P5-18	Stop speed	0.00~100.00Hz	0.50Hz	●
P5-19	Stop speed detection method	0: Detected according to the speed setting value 1: Detection according to speed feedback value	1	●
P5-20	Feedback speed detection time	0.00~100.00s	0.05s	●
P5-21	Start delay	0.0~60.0s	0.0s	○
P5-22	Stop speed delay	0.0~100.0s	0.0s	○
P5-23	Brake unit action	0: Disabled 1: Enable	1	○
P5-24	Brake unit operating voltage	200.0~2000.0V (220V : 380V, 380V: 700V)	Model determination	○
P5-25	Excitation braking intensity	0~150 0: Disabled more than 0: The larger the value, the better the braking effect	0	○
P6 Group Input terminal parameters				
P6-00	DI5 Input mode	0: High-speed pulse input 1: Terminal switch input	1	●
P6-01	DI1 Terminal function selection	0: No function 1: Forward run (FWD) 2: Reverse run (REV) 3: Three-wire operation control 4: Jog forward 5: Reverse jog 6: Free parking 7: Fault reset 8: Run pause 9: External fault input 10: Increasing frequency setting (UP)	1	●

function code	name	Description	Factory default	Attributes
P6 -02	DI2 Terminal function selection	11: Decrease frequency setting (DOWN) 12: Clear the frequency increase and decrease setting 13 Switch between main frequency and auxiliary frequency 14: Combination setting and main frequency switching 15: Combination setting and auxiliary frequency switching 16: Multi-speed terminal 1 17: Multi-speed terminal 2 18: Multi-speed terminal 3 19: Multi-speed terminal 4 20 Multi-speed terminal 21: Acceleration and deceleration time selection 1 22: Acceleration and deceleration time selection 2 23: Simple PLC shutdown reset 24: Simple PLC pause	2	●
P6 -03	DI3 Terminal function selection	25: PID Control pause 26: Suspension of wobble frequency (stop at current frequency) 27: Swing frequency reset (return to center frequency) 28: Counter reset 29: Torque/speed control switching	4	●
P6 -04	DI4 Terminal function selection	30: Prohibition of acceleration and deceleration 31: Counter trigger 32: Length reset 33: The frequency increase/decrease setting is temporarily cleared 34: DC braking 35: Reserved	5	●
P6 -09	DI5 Terminal function selection	36：Command switch to keyboard 37：Command switch to terminal 38：Command to switch to communication 39: Pre-excitation command 40: Zero electricity consumption 41: Keep electricity consumption	00	●
P6 -10	Input terminal logic selection	Bit0~3:DI1~DI4, Bit8:DI5 0 Positive logic 1 is negative logic	000	○
P6 -11	Input terminal filter time	0. 000~1. 000s	0. 010s	○
P6 -12	Virtual terminal setting	0x000~0x1FF 0: Disabled 1: use Bit0~bit3:DI1~DI4 Bit8: DI5	0x000	●
P6 -13	Terminal command mode	0: Two-wire 1 1: Two-wire 2 2: Three-wire 1 3: Three-wire 2	0	●
P6 -14	DI1 Terminal turn-on delay	0. 00~50. 000s	0. 000s	○
P6 -15	DI1 Terminal disconnection delay	0. 00~50. 000s	0. 000s	○
P6 -16	DI2 Terminal turn-on delay	0. 00~50. 000s	0. 000s	○
P6 -17	DI2 Terminal disconnection delay	0. 00~50. 000s	0. 000s	○
P6 -18	DI3 Terminal turn-on delay	0. 00~50. 000s	0. 000s	○
P6 -19	DI3 Terminal disconnection delay	0. 00~50. 000s	0. 000s	○
P6 -20	DI4 Terminal turn-on delay	0. 00~50. 000s	0. 000s	○
P6 -21	DI4 Terminal disconnection delay	0. 00~50. 000s	0. 000s	○
P6 -30	DI5 Terminal turn-on delay	0. 00~50. 000s	0. 000s	○

function code	name	Description	Factory default	Attributes
P6-31	DI5 Terminal disconnection on delay	0.00~50.000s	0.000s	○
P6-33	Terminal start protection selection when power on	0:protection 1: Not protected	0	○
P6-34	UP/DOWN Terminal control settings	Units: UP/DOWN Terminal enable 0: effective 1: invalid Tens: frequency source control selection 0: Only valid for digital setting of main frequency and auxiliary frequency 1: All frequency sources are valid 2:Invalid when multi-speed priority Hundreds: stop selection 0: Valid settings 1: Effective operation, clear after shutdown 2: Effective operation, clear stop command	000	○
P6-35	UP Terminal frequency change rate	0.01~50.00Hz/s	0.50Hz/s	○
P6-36	DOWN Terminal frequency change rate	0.01~50.00Hz/s	0.50Hz/s	○
P6-37	(DI5) Pulse input lower limit	0.000kHz~(P6-39)	0.000kHz	○
P6-38	Pulse lower limit corresponding setting (DI5)	-100.0%~100.0%	0.0%	○
P6-39	Pulse input upper limit (DI5)	(P6-37)~50.000kHz	50.000kHz	○
P6-40	Pulse upper limit corresponding setting (DI5)	-100.0%~100.0%	100.0%	○
P6-41	(DI5) Pulse filter time	0.000s~10.000s	0.100s	○
P6-42	AI1 lower limit	0.00V~(P6-44)	0.00V	○
P6-43	AI1 Lower limit corresponding setting	-100.0%~100.0%	0.0%	○
P6-44	AI1 Upper limit	(P6-42)~10.00V	10.00V	○
P6-45	AI1 Upper limit corresponding setting	-100.0%~100.0%	100.0%	○
P6-46	AI1 Input filter time	0.000s~10.000s	0.100s	○
P6-47	AI2 lower limit	0.00V~(P6-49)	0.00V	○
P6-48	AI2 Lower limit corresponding setting	-100.0~100.0%	0.0%	○
P6-49	AI2 Upper limit	(P6-47)~10.00V	10.00V	○
P6-50	AI2 Upper limit corresponding setting	-100.0~100.0%	100.0%	○
P6-51	AI2 Input filter time	0.000s~10.000s	0.100s	○
P6-52	Keep			
P6-53	Keep			
P6-56	Keep			
P6-57	Keep			
P6-58	Keep			
P6-59	AI Current/voltage type selection	Units:AI1 Tens: AI2 0: AI Terminal voltage input 1: AI Terminal current input	10	○
P7 Group Output terminal parameters				
P7-00	FM Terminal output mode	0: High-speed pulse output (FMP) 1: Terminal switch output (FMR)	0	●

function code	name	Description	Factory default	Attributes
P7-01	DO1 Terminal output function selection	0:invalid 1: Running 2: Forward running 3: Reverse running 4: Jog running	1	○
P7-02	FMR Terminal output function selection	5:Inverter fault 6: Frequency level detection FDT1 7: Frequency level detection FDT2 8: Frequency reached	0	○
P7-03	(RELAY1:T/A-T/B-T/C) Relay output function selection 1	9: Running at zero speed 10: Upper limit frequency reached 11: Lower limit frequency reached 12: Ready for operation 13: Pre-excitation 14: Overload alarm 15: Underload alarm	1	○
P7-04	(RELAY2:P/A-P/B-P/C) Relay output function selection 2	16: Simple PLC stage completed 17: Simple PLC cycle completed 18: Set the value to reach 19: The specified count value is reached 20: External fault 22: Running time reached 23: Communication virtual terminal output	5	○
P7-05	AO1 Output function selection	0: Operating frequency 1: Set frequency 2: Slope given frequency 3: Running speed 4 : Output current (2 times rated value of inverter) 5 : Output current (motor 2 times rated value) 6:The output voltage 7:Output Power 8: Set torque	0	○
P7-07	FMP Pulse output function selection	9: Output torque 10: Analog AI1 input value 11: Analog AI2 input value 12: Reserved 13: High-speed pulse DI5 input value 14: Communication setting value Ao1 15: Communication setting value Ao1 22: Torque current (motor 3 times rated value)	0	○
P7-08	AO1 Output lower limit	-100.0%~(P7-10)	0.0%	
P7-09	AO1 Output lower limit corresponding value	0.00~10.00V	0.00V	○
P7-10	AO1 Output upper limit	(P7-08)~100.0%	100.0%	○
P7-11	AO1 Output upper limit corresponding value	0.00~10.00V	10.00V	○
P7-12	AO1 Output filter time	0.000s~10.000s	0.000s	○
P7-18	FMP Output lower limit	-100.0%~(P7-20)	0.0%	○
P7-19	FMP Output lower limit corresponding value	0.00~50.00kHz	0.00kHz	○

function code	NAME	description	Factory default	Attributes
P7-20	FMP Output upper limit	(P7-18)~100.0%	100.0%	○
P7-21	FMP Output upper limit corresponding value	0.00~50.00kHz	50.00kHz	○
P7-22	FMP Output filter time	0.000s~10.000s	0.000s	○
P7-23	DO1 Open Delay	0.00~50.000s	0.000s	○
P7-24	DO1 Disconnect delay	0.00~50.000s	0.000s	○
P7-25	FMR Open Delay	0.00~50.000s	0.000s	○
P7-26	FMR Disconnect delay	0.00~50.000s	0.000s	○
P7-27	RELAY1 Open Delay	0.00~50.000s	0.000s	○
P7-28	RELAY1 Disconnect delay	0.00~50.000s	0.000s	○
P7-29	RELAY2 Open Delay	0.00~50.000s	0.000s	○
P7-30	RELAY2 Disconnect delay	0.00~50.000s	0.000s	○
P7-31	Output terminal polarity selection	0~F (Bit0~3 DO1, FMP, RELAY1, RELAY2)	0	○
P8 Group Keyboard display parameters				
P8-00	user password	0~65535 (00000 : No password)	00000	○
P8-01	MF.K Key function selection	0: No function 1: Jog operationJOG 2: Shift key (SHIFT) 3: Forward/reverse switching 4 ClearUP/DOWN setting 5: Free parking 6: The source of the running command is switched in order (P8-02)	1	●
P8-02	MF.K Key run command source switching	0: Keyboard control→terminal control→communication control 1: Keyboard control ←→terminal control 2: Keyboard control←→Communication control 3: Terminal control←→Communication control	0	○
P8-03	STOP/RESET Key function	0: Only valid for panel control 1: Effective for panel and terminal control 2: Effective for both panel and communication control 3: Valid for all control modes	0	○
P8-04	Restore factory parameters	0: No operation 1:Restore Defaults 2: Clear fault record 3: The keyboard is locked	0	●
P8-05	Keyboard digital control settings	0000~1223 Units: frequency enable selection 0: ∧/∨Key and encoder are valid 1:only∧/∨ key are valid 2: Encoder only 3: ∧/∨Key and encoder are invalid Tens: frequency control selection 0: Only valid for keyboard number setting 1: All frequency modes are valid 2: Multi-speed is invalid when multi-speed is prioritized Hundreds: action selection during shutdown 0: Effective setting	0000	○

function	NAME	description	Factory	Attributes
		1: Effective during operation, cleared after shutdown		
		2: Valid during operation, cleared after receiving stop command		
		Thousands: ∧/∨ keys and encoder integration function		
		0: The integral function is effective		
		1: The integral function is invalid		
P8-06	Keyboard encoder and UP/DOWN adjustment bit selection	1: Single digit 2: Ten digit 3: Hundred digit 4: Thousand digit From the right side of the digital tube, ignore the frequency decimal point	2	○
P8-07	Frequency setting action selection when power off	00~11 Units: encoder selection frequency action when power down Ten's place: action setting when communication setting frequency is power off 0: Store at power down 1: Cleared when power off	00	○
P8-08	Function code parameter copy	0: No operation 1: Upload function parameters to the keyboard 2: Download keyboard function parameters to the machine (including motor parameters) 3: Download keyboard function parameters to the machine (excluding motor parameters) 4: Download the keyboard function parameters to the machine (only motor parameters)	0	●
P8-09	LED Operating status display parameter 1	0000~FFFF BIT0: Operating frequency (Hz lights) BIT1: Set frequency (Hz flashes) BIT2: Bus voltage (V light) BIT3: Output voltage (V light) BIT4: Output current (A light) BIT5: Running speed (RPM light) BIT6: Output power (% light) BIT7: Output torque (% light) BIT8: PID given value (% flashes) BIT9: PID feedback value (% flashes) BIT10: Input terminal status BIT11: Output terminal status BIT12: Torque setting value (% light) BIT13: Pulse count value BIT15: PLC and multi-speed current stage number	033F	○
P8-10	LED Operating status display parameter 2	0000~FFFF BIT0: Analog AI1 (V light) BIT1: Analog AI2 (V light) BIT2: Reserved BIT3: High-speed pulse DI5 frequency BIT4: Motor overload percentage (% light) BIT5: Percentage of inverter overload (% light) BIT6: Given value of ramp frequency (Hz light) BIT7: Line speed BIT8: AC incoming current BIT9: Upper limit frequency	0000	○
P8-11	LED Stop display parameters	0000~FFFF BIT0: Set frequency (Hz light, slow flashing frequency) BIT1: Bus voltage (V light) BIT2: Input terminal status BIT3: Output terminal status BIT4: PID given value (% flashes)	038B	○

function	NAME	description	Factory	Attributes
		BIT5: PID feedback value（% light）		
		BIT6: Torque setting value（% light）		
		BIT7: Analog AI1（V light）		
		BIT8: Analog AI2（V light）		
		BIT9: Reserved		
		BIT10: High-speed pulse DI5 frequency		
		BIT11: PLC and multi-speed current stage number		
		BIT12: Pulse count value		
		BIT14: Upper limit frequency		
P8-12	Software version	0.00~655.35	–	※
P8-13	Rectifier temperature	0~120.0℃	–	※
P8-14	Inverter temperature	0~120.0℃	–	※
P8-15	Frequency display coefficient	0.01~10.00	1.00	○
P8-16	Speed display coefficient	0.1~999.9%	97.3%	○
P8-17	Linear speed display coefficient	0.1~999.9%	1.0%	○
P8-18	Input power factor display coefficient	0.00~1.00	0.56	○
P8-19	Cumulative running time	0~65535h	–	※
P8-20	Monitor the cumulative high power consumption	Cumulative power consumption = (P8-20)*1000+(P8-21)	0kWh	※
P8-21	Monitor the cumulative low power consumption		0.0kWh	※
P8-22	Set high initial value of power consumption	Initial value of electricity consumption = (P8-22)*1000+(P8-23)	0kWh	○
P8-23	Set low initial value of power consumption		0.0kWh	○
P8-24	Barcode1			※
P8-25	Barcode2			※
P8-26	Barcode3			※
P8-27	Barcode4			※
P8-28	Barcode5			※
P8-29	Barcode6			※
P8-30	Motor power display correction factor	0.00~3.00	1.00	○
P9 Group Fault record parameters				
P9-00	Current fault code			※
P9-01	Previous fault code	error code / Fault name / error code / Fault name		※
P9-02	The first two fault codes			※
P9-03	The first three fault codes			※
P9-04	The first four fault codes	0 / No fault / 29 / –		※
P9-05	The first five fault codes	1 / Inverter unit protection / 30 / Underload fault		※
P9-06	Current fault operating frequency	2 / Accelerated overcurrent / 31 / PID feedback disconnected		※
P9-07	Current fault slope given frequency	3 / Deceleration over current / 40 / Fast current limiting fault		※
P9-08	Current fault output voltage	4 / Constant speed overcurrent / 42 / Excessive speed deviation		※
P9-09	Current fault output current	5 / Accelerated overvoltage / 48 / Electronic overload fault		※
P9-10	Current fault bus voltage	6 / Deceleration overvoltage / 51 / Initial position		※

function code	NAME	description				Factory default	Attributes
P9-11	Current faulty module temperature	7	Constant speed overvoltage	60	Lost-modulation dynamic tube protection		※
P9-12	Current fault input terminal status	8	–				※
P9-13	Current fault output terminal status	9	Bus undervoltage				※
P9-14	Operating frequency of previous fault	10	Inverter overload				※
		11	Motor overload				
P9-15	The given frequency of the previous fault slope	12	Input phase loss				※
		13	Output phase loss				
P9-16	Previous fault output voltage	14	IGBT overheat				※
		15	External fault				
P9-17	Previous fault output current	16	communication fail				※
		17	–				
P9-18	Bus voltage of previous fault	18	Current detection fault				※
P9-19	Module temperature of the previous failure	19	Motor tuning failure				※
		20	–				
P9-20	Input terminal status of previous fault	21	EEPROM failure				※
P9-21	Output terminal status of previous fault	23	Short circuit fault to ground				※
P9-22	Operating frequency of the first two faults	26	Run time reached				※
P9-23	The given frequency of the first two fault slopes						※
P9-24	The first two fault output voltage						※
P9-25	Output current of the first two faults						※
P9-26	Bus voltage of the first two faults						※
P9-27	Module temperature of the first two failures						※
P9-28	Input terminal status of the first two faults						※
P9-29	Output terminal status of the first two faults						※
PA Group Protection parameters							
PA-00	Motor overload protection options	0: No action 1: Ordinary motor 2:Inverter motor				2	●
PA-01	Motor overload protection factor	20.0%~120.0 %				100.0%	○
PA-02	Overvoltage stall protection is enabled	0: invalid 1: valid				1	○
PA-03	Overvoltage stall operating voltage	220V type: 120~150% 380V type: 120~150%				120% 140%	○
PA-04	Overcurrent protection is enabled	units: Software overcurrent stall protection is enabled 0: invalid 1: valid tens: Hardware overcurrent protection is enabled				01	●

function code	name	description	Factory default	Attributes
		0 valid 1 invalid		
PA-05	Overcurrent stall protection current	50.0~200.0%	Model determination	●
PA-06	Overcurrent stall decline rate	0.00~50.00Hz(Change value per second)	10.00Hz	●
PA-07	Input and output phase loss protection	units: Enable input phase loss protection tens: Output phase loss protection enabled 0: invalid 1: valid	10	○
PA-08	Underload overload protection action	units:Underload and overload warning options 0: Early warning of motor under overload 1: Early warning of inverter under overload tens: Action selection for underload and overload 0: Inverter under-warning and continue to run 1: Early warning of inverter underload, shutdown after overload 2: Inverter overload warning and continue to run, stop after underload 3: Inverter stops after underload hundreds: Underload and overload protection 0: Valid throughout 1 : Effective at constant speed	000	○
PA-09	Overload detection level	(PA-11)~200%	Model determination	○
PA-10	Overload detection time	0.1~3600.0s	1.0s	○
PA-11	Underload detection level	0~(PA-09)	50%	○
PA-12	Underload detection time	0.1~3600.0s	1.0s	○
PA-13	Fault automatic reset times	0~10	0	○
PA-14	Fault automatic reset interval	0.1~3600.0s	1.0s	○
PA-15	Overpressure point setting	0~2500.0V	Model determination	○
PA-16	Undervoltage point setting	0~2000.0V	Model determination	○
PA-17	Special function selection	units : Automatically reduce frequency when voltage is unstable Tens: frequency reaches the second acceleration /deceleration time of switching 0: invalid 1: valid	00	○
PA-18	Output terminal fault action selection	Units: Undervoltage fault action Tens: action during auto reset 0:valid, 1:invalid	00	○
PA-19	Instantaneous power failure and operation options	0: Do not continue to operate 1: Continue to operate	0	○
PA-20	Waiting time after instantaneous power failure	0.0~3600.0s	1.0s	○
PA-21	Instantaneous power down frequency reduction enable	0: invalid 1: valid	0	○
PA-22	Instantaneous power down frequency reduction constant	0.00Hz~Maximum frequency (Change in seconds)	10.00Hz	○
PA-23	Speed deviation detection value	0.0~50.0%	10.0%	○
PA-24	Speed deviation detection time	0.0~10.0s	0.5s	○
PB Group Auxiliary function parameters				
PB-00	Jog operating frequency	0.00Hz~ Maximum frequency	5.00Hz	○
PB-01	Jog acceleration time	0.0~3600.0s	Model determination	○
PB-02	Jog deceleration time	0.0~3600.0s	Model determination	○
PB-03	Acceleration time 2	0.0~3600.0s	Model determination	○

function code	name	description	Factory default	Attributes
PB-04	deceleration time 2	0.0~3600.0s	Model determination	○
PB-05	Acceleration time 3	0.0~3600.0s	Model determination	○
PB-06	deceleration time 3	0.0~3600.0s	Model determination	○
PB-07	Acceleration time 4	0.0~3600.0s	Model determination	○
PB-08	deceleration time 4	0.0~3600.0s	Model determination	○
PB-09	lower than lower limit frequency Working mode with set frequency	0: Run at the lower limit frequency 1: Downtime 2: Sleep	0	○
PB-10	Sleep recovery delay	0.0~3600.0s	0.0s	○
PB-11	Droop frequency	0.00~10.00Hz	0.00Hz	○
PB-12	Cooling fan control	0: Follow the inverter 1: Always running	0	○
PB-19	Set count value	(PB-20)~65535	0	○
PB-20	Specify count value	0~(PB-19)	0	○
PB-21	Timed running time	0~65535min	0min	○
PB-22	Jump frequency 1	0.00~Maximum frequency	0.00Hz	○
PB-23	Jump frequency amplitude 1	0.00~Maximum frequency	0.00Hz	○
PB-24	Jump frequency 2	0.00~Maximum frequency	0.00Hz	○
PB-25	Jump frequency amplitude 2	0.00~Maximum frequency	0.00Hz	○
PB-26	Jump frequency 3	0.00~Maximum frequency	0.00Hz	○
PB-27	Jump frequency amplitude 3	0.00~Maximum frequency	0.00Hz	○
PB-28	Swing frequency amplitude	0.0~100.0% (Relative to set frequency)	0.0%	○
PB-29	Jump frequency amplitude	0.0~50.0% (Swing frequency amplitude)	0.0%	○
PB-30	Wobble frequency rise time	0.1~3600.0s	5.0s	○
PB-31	Wobble frequency fall time	0.1~3600.0s	5.0s	○
PB-32	FDT1 Frequency check	0.00~P00.03	50.00Hz	○
PB-33	FDT1 Frequency detection hysteresis	0.0~100.0%	5.0%	○
PB-34	FDT2 Frequency check	0.00~Maximum frequency	50.00Hz	○
PB-35	FDT2 Frequency detection hysteresis	0.0~100.0%	5.0%	○
PB-36	Frequency reached detection value	0.0~Maximum frequency	0.00Hz	○
PB-37	Over modulation selection	Units: over modulation enable 0: invalid 1: valid Tens: Over-modulation intensity selection 0:mild , 1:depth	01	○
PB-38	PWM Mode selection	units:PWM Mode selection 0: Two-phase and three-phase modulation 1: Three-phase modulation tens: Low speed carrier frequency limit selection 0: 2kHz limit 1: 4kHz limit 2:not limited	00	○
PC Group Process PID parameters				
PC-00	PID Given source	0: Number given 4: Pulse setting(DI5) 1: AI1 5: Multi-stage setting 2: AI2 6: Communication given 3: Reserved 7: Reserved	0	○
PC-01	PID Number given	-100.0~100.0%	0.0%	○

function code	name	description		Factory default	Attributes
PC-02	PID Feedback source	0: AI1 1: AI2 2: Reserved	3: Pulse setting(DI5) 4: Communication given 5: Reserved	0	○
PC-03	PID Action direction	0: Positive action	1: reaction	0	○
PC-04	Proportional gain KP1	0.00~100.00		1.00	○
PC-05	Integration time TI1	0.01~10.00s		0.10s	○
PC-06	Differential time TD1	0.00s~10.00s		0.00s	○
PC-07	PID Sampling period T1	0.000~10.000s		0.100s	○
PC-08	PID Parameter switching deviation	0.0~100.0%		0.0%	○
PC-09	PID Output upper limit	(PC-10)~100.0%		100.0%	○
PC-10	PID Output lower limit	-100.0% ~ (PC-09)		0.0%	○
PC-11	PID Command acceleration and deceleration time	0.0~1000.0s		0.0s	○
PC-12	PID Output filter time	0.000~10.000s		0.000s	○
PC-13	Low frequency proportional gain	0.00~100.00		1.00	○
PC-14	PID Feedback loss detection value	0.0%(Do not detect)~100.0%		0.0%	○
PC-15	PID Feedback loss detection time	0.0s(Do not detect)~3600.0s		1.0s	○
PC-16	PID Adjustment function	Units: 0: Frequency reaches the upper and lower limits to continue integral adjustment 1: Frequency reaches the upper and lower limit to stop integration Tens: 0: Consistent with the setting direction 1: Opposite to the setting direction hundreds: 0: Reference maximum frequency limit 1: Reference main frequency source limiting Thousands: 0: Main+auxiliary, the acceleration and deceleration time of the main frequency source is invalid 1: Main+auxiliary, the main frequency source is determined by the acceleration and deceleration time 4		0001	○
PD		Group Multi-speed and simple PLC parameters			
PD-00	Multi-speed 0 frequency setting value	-100.0%~100.0%		0.0%	○
PD-01	Multi-speed 1 frequency setting value	-100.0%~100.0%		0.0%	○
PD-02	Multi-speed 2 frequency setting value	-100.0%~100.0%		0.0%	○
PD-03	Multi-speed 3 frequency setting value	-100.0%~100.0%		0.0%	○
PD-04	Multi-speed 4 frequency setting value	-100.0%~100.0%		0.0%	○
PD-05	Multi-speed 5 frequency setting value	-100.0%~100.0%		0.0%	○
PD-06	Multi-speed 6 frequency setting value	-100.0%~100.0%		0.0%	○
PD-07	Multi-speed 7 frequency setting value	-100.0%~100.0%		0.0%	○
PD-08	Multi-speed 8 frequency setting value	-100.0%~100.0%		0.0%	○

function code	name	description	Factory default	Attributes
PD-09	Multi-speed 9 frequency setting value	−100.0%~100.0%	0.0%	○
PD-10	Multi-speed 10 frequency setting value	−100.0%~100.0%	0.0%	○
PD-11	Multi-speed 11 frequency setting value	−100.0%~100.0%	0.0%	○
PD-12	Multi-speed 12 frequency setting value	−100.0%~100.0%	0.0%	○
PD-13	Multi-speed 13 frequency setting value	−100.0%~100.0%	0.0%	○
PD-14	Multi-speed 14 frequency setting value	−100.0%~100.0%	0.0%	○
PD-15	Multi-speed 15 frequency setting value	−100.0%~100.0%	0.0%	○
PD-16	PLC section 0 running time	0.0~6553.5 s(min)	0.0	○
PD-17	PLC section 1 running time	0.0~6553.5 s(min)	0.0	○
PD-18	PLC section 2 running time	0.0~6553.5 s(min)	0.0s(min)	○
PD-19	PLC section 3 running time	0.0~6553.5 s(min)	0.0 s(min)	○
PD-20	PLC section 4 running time	0.0~6553.5 s(min)	0.0 s(min)	○
PD-21	PLC section 5 running time	0.0~6553.5 s(min)	0.0 s(min)	○
PD-22	PLC section 6 running time	0.0~6553.5 s(min)	0.0 s(min)	○
PD-23	PLC section 7 running time	0.0~6553.5 s(min)	0.0 s(min)	○
PD-24	PLC section 8 running time	0.0~6553.5 s(min)	0.0 s(min)	○
PD-25	PLC section 9 running time	0.0~6553.5 s(min)	0.0 s(min)	○
PD-26	PLC section 10 running time	0.0~6553.5 s(min)	0.0 s(min)	○
PD-27	PLC section 11 running time	0.0~6553.5 s(min)	0.0 s(min)	○
PD-28	PLC section 12 running time	0.0~6553.5 s(min)	0.0 s(min)	○
PD-29	PLC section 13 running time	0.0~6553.5 s(min)	0.0 s(min)	○
PD-30	PLC section 14 running time	0.0~6553.5 s(min)	0.0 s(min)	○
PD-31	PLC section 15 running time	0.0~6553.5 s(min)	0.0 s(min)	○
PD-32	PLC deceleration time 0~7	0segment: Bit0-1: Two-bit value selects acceleration/deceleration time1,2,3,4 1 segment:Bit2-3: Two-bit value selects acceleration/deceleration time1,2,3,4 2segment:Bit4-5: Two-bit value selects acceleration/deceleration time1,2,3,4	0000	○

function code	name	description	Factory default	Attributes
		3 segment:Bit6-7:Two-bit value selects acceleration/deceleration time1,2,3,4		
		4 segment:Bit8-9:Two-bit value selects acceleration/deceleration time1,2,3,4		
		5 segment:Bit10-11Two-bit value selects acceleration/deceleration time1,2,3,4		
		6 segment:Bit12-13Two-bit value selects acceleration/deceleration time1,2,3,4		
		7 segment:Bit14-15Two-bit value selects acceleration/deceleration time1,2,3,4		
PD-33	PLC deceleration time 8~15	8 segment:Bit0-1: Two-bit value selects acceleration/deceleration time1,2,3,4 9 segment:Bit2-3: Two-bit value selects acceleration/deceleration time1,2,3,4 10 segment:Bit4-5: Two-bit value selects acceleration/deceleration time1,2,3,4 11segment:Bit6-7: Two-bit value selects acceleration/deceleration time1,2,3,4 12segmentBit8-9: Two-bit value selects acceleration/deceleration time1,2,3,4 13 segment:Bit10-11Two-bit value selects acceleration/deceleration time1,2,3,4 14 segment Bit12-13Two-bit value selects acceleration/deceleration time1,2,3,4 15 segment:Bit14-15Two-bit value selects acceleration/deceleration time1,2,3,4	0000	○
PD-34	PLC Operating time unit	0: Seconds (s) 1:minute (min)	0	●
PD-35	PLC Operation mode	0: Stop at the end of a single run 1: Knot speed keeps the final value in a single run 2: Always running cyclically	0	●
PD-36	PLC Power-off memory selection	0: No memory when power off 1: Power-off memory	0	○
PD-37	PLC stop memory start selection	0: Restart from the first segment 1: Continue running from the stage frequency at the moment of shutdown	0	○
PE Group Communication parameters				
PE-00	Local communication address	0 Broadcast address , 1~247	1	○
PE-01	Communication baud rate	0: 1200BPS 1: 2400BPS 2: 4800BPS 3: 9600BPS 4: 19200BPS 5: 38400BPS 6: 576 00BPS	3	○
PE-02	MODBUS Data grid	0:No verification (N, 8, 1) for RTU 1:Even parity(E, 8, 1) for RTU 2:Odd parity(O, 8, 1) for RTU 3: No verification (N, 8, 2) for RTU 4: Even parity(E, 8, 2) for RTU 5: Odd parity(O, 8, 2) for RTU	3	○
PE-03	MODBUS Communication response delay	0~200ms	5	○

function code	name	description	Factory default	Attributes
PE-04	Serial communication timeout	0.0:invalid , 0.1~60.0s	0.0s	○
PE-05	Communication error action selection	0: Alarm and free stop 1: No alarm and continue to run 2: Stop by alarm mode without alarm (communication control mode only) 3: Stop by alarm mode without alarm (all control modes)	0	○
PE-06	Communication processing action selection	LED Units: 0: Response to write operation 1: No response to write operation	0	○
PE-07	Communication protocol selection	0: Compatible with VDF650 protocol (including P0 group, U0 group partial menu) 1: Compatible with GD protocol (communication control only)	0	○

function code	name	Smallest unit	mailing address(HEX)	mailing address(DEC)
		U0 Group Monitoring parameters		
U0-00	Operating frequency	0.01Hz	0x7000	28672
U0-01	Set frequency	0.01Hz	0x7001	28673
U0-02	bus voltage	0.1V	0x7002	28674
U0-03	The output voltage	1V	0x7003	28675
U0-04	Output current	0.1A	0x7004	28676
U0-05	Motor Power(%)	0.1%	0x7005	28677
U0-06	Output torque (%)	0.1%	0x7006	28678
U0-07	Input terminal status		0x7007	28679
U0-08	Output terminal status		0x7008	28680
U0-09	AI1 Input voltage	0.01V	0x7009	28681
U0-10	AI2 Input voltage	0.01V	0x700A	28682
U0-11	Keep			
U0-12	Count value	1	0x700C	28684
U0-13	Length value	1	0x700D	28685
U0-14	Motor speed	1rpm	0x700E	28686
U0-15	PID Desired point	0.1%	0x700F	28687
U0-16	PID Feedback value	0.1%	0x7010	28688
U0-17	PLC and multi-speed current stage number	1	0x7011	28689
U0-18	Pulse input frequency (DI5)	0.01kHz	0x7012	28690
U0-24	Line speed	1m/Min	0x7018	28696
U0-25	This time	1Min	0x7019	28697
U0-26	Slope given frequency	0.01Hz	0x701A	28698
U0-27	Torque reference	0.1%	0x701B	28699
U0-28	Output torque	0.1Nm	0x701C	28700
U0-29	Digital adjustment	0.01Hz	0x701D	28701
U0-32	Motor power factor	0.01	0x7020	28704
U0-33	Estimated motor frequency	0.01Hz	0x7021	28705
U0-34	AC incoming current	0.1A	0x7022	28706
U0-35	Motor overload count value	1	0x7023	28707

Chapter Five   Fault diagnosis and countermeasures

5.1 Fault alarm and countermeasures

The VDF710 inverter has a total of 28 warning messages and protection functions. Once a fault occurs, the protection function is activated, the inverter stops output, the inverter fault relay contacts are activated, and the fault code is displayed on the inverter display panel. Before seeking service, users can perform self-examination according to the prompts in this section, analyze the cause of the failure, and find a solution. If it belongs to the reason stated in the dotted frame, please seek service, contact the agent of the inverter you purchased or directly contact our company.

error code	Fault name	Trouble shooting	Troubleshooting
Err01	Inverter unit protection	1Short circuit of inverter output circuit 2Motor and inverter wiring is too long 3Module overheating 4Loose internal wiring of the inverter 5Abnormal main control board 6Abnormal drive board 7The inverter module is abnormal 8Motor wire or motor leakage or short circuit	1Exclude peripheral faults 2Add reactor or output filter 3Check the air duct and fan and eliminate the existing problems 4 Plug in all cables 5 Seek technical support 6 Seek technical support 7 Seek technical support 8Check the motor cable or motor to ensure normal
Err02	Accelerated overcurrent	1The output circuit of the inverter is grounded or short-circuited 2The control mode is vector and no parameter identification 3The acceleration time is too short 4Manual torque boost or V/F curve is not suitable 5Low voltage 6Start the rotating motor 7Sudden load during acceleration 8Inverter selection is too small	1 Exclude peripheral faults 2 Identify the motor parameters 3 Increase acceleration time 4 Adjust manual lifting torque or V/F curve 5 Adjust the voltage to the normal range 6 Speed tracking start or wait for the motor to stop and start again 7Cancel sudden load 8Choose inverter with higher power level
Err03	Deceleration over current	1The output circuit of the inverter is grounded or short-circuited 2The control mode is vector and no parameter identification 3The deceleration time is too short 4Low voltage 5Sudden load during deceleration 6No braking unit and braking resistor installed	1Exclude peripheral faults 2Identify the motor parameters 3Increase the deceleration time 4Adjust the voltage to the normal range 5Cancel sudden load 6Add brake unit and resistor
Err04	Constant speed overcurrent	1The output circuit of the inverter is grounded or short-circuited 2The control mode is vector and no parameter identification 3Low voltage 4Is there sudden load operation 5Inverter selection is too small	1Exclude peripheral faults 2Identify the motor parameters 3Adjust the voltage to the normal range 4Cancel sudden load 5Choose inverter with higher power level
Err05	Accelerated overvoltage	1The input voltage is too high 2The external force drags the motor to run during acceleration 3The acceleration time is too short 4No braking unit and braking resistor installed	1Adjust the voltage to the normal range 2Cancel other power or install braking resistor 3Increase acceleration time 4Add brake unit and resistor

error code	Fault name	Trouble shooting	Troubleshooting
Err06	Deceleration overvoltage	1The input voltage is too high 2The external force drags the motor to run during deceleration 3The deceleration time is too short 4No braking unit and braking resistor installed	1Adjust the voltage to the normal range 2Cancel other power or install braking resistor 3Increase the deceleration time 4Add brake unit and resistor
Err07	Constant speed overvoltage	1The input voltage is too high 2During operation, there is external force to drive the motor to run	1Adjust the voltage to the normal range 2Cancel other power or install braking resistor
Err09	Bus undervoltage	1Instantaneous power outage 2The input voltage of the inverter is not within the scope 3The bus voltage is abnormal 4Rectifier bridge and buffer resistance are abnormal 5Abnormal drive board 6Abnormal control board	1Reset fault 2Adjust the voltage to the normal range 3Seek technical support 4Seek technical support 5Seek technical support 6Seek technical support
Err10	Inverter overload	1Whether the load is too large or the motor stalls 2Motor selection is too small	1Reduce the load and check the motor and mechanical conditions 2Choose inverter with higher power level
Err11	Motor overload	1Is the motor protection parameter setting appropriate? 2Whether the load is too large or the motor stalls 3、Motor selection is too small	1Set this parameter correctly? 2Reduce the load and check the motor and mechanical conditions 3Choose a motor with a larger power level
Err12	Input phase loss	1Three-phase input power is abnormal 2Abnormal drive board 3Abnormal lightning protection board 4Abnormal main control board	1Check the problems in the peripheral circuit 2Seek technical support 3Seek technical support 4Seek technical support
Err13	Output phase loss	1The lead from the inverter to the motor is abnormal 2The three-phase output of the inverter is unbalanced when the motor is running 3Abnormal drive board 4Module abnormality	1Exclude peripheral faults 2Check whether the motor winding is normal 3Seek technical support 4Seek technical support
Err14	IGBT overheat	1The ambient temperature is too high 2Clogged air duct 3The fan is damaged 4The module thermistor is damaged 5The inverter module is damaged	1Reduce the ambient temperature 2Clean up the air duct 3Replace the fan 4Replace the thermistor 5Replace inverter module
Err15	External fault	D I Terminal input external fault signal	Check external wiring, clear fault operation
Err16	485 communication fail	1The upper computer does not work normally 2The communication line is abnormal 3The communication parameter group is not set correctly	1Check the connection of the upper computer 2Check the communication cable 3Set communication parameters correctly
Err18	Current detection fault	1Check the Hall device is abnormal 2Abnormal drive board 3Abnormal main control board	1Replace Hall device 2Replace the driver board 3Seek technical support
Err19	Motor tuning failure	1The motor parameters are not set according to the nameplate 2The parameter identification process timed out	1Set the motor parameters correctly according to the nameplate 2Check the load wire from the inverter to the motor

error code	Fault name	Trouble shooting	Troubleshooting
Err21	EEPROM Read and write failure	1、 EEPROM Operate too frequently 2、 EEPROM Chip damage	1、 Reasonable operation of upper computer EEPROM 2Replace the main control board
Err23	hort circuit Sfault to ground	1、Motor short circuit to ground 2、Motor wiring UVW grounding 3、Inverter module is damaged	1、Replace the motor 2、Replace the motor wire or eliminate the short circuit fault 3、Replace module or driver board
Err26	Cumulative running time reached	The cumulative running time reaches the set value	Reset running time
Err30	Underload fault	1The running current of the inverter is less than the set parameters	1Confirm whether the load is separated 2Whether the parameter setting conforms to the actual operating conditions
Err31	PID Feedback disconnect	1、PID Feedback signal disconnected 2、PID Feedback loss detection value setting is unreasonable	1Check PID feedback signal 2、Check the PID feedback loss setting reasonable
Err40	Fast current limiting fault	1Whether the load is too large or the motor stalls 2Inverter selection is too small	1Reduce the load and check the motor and mechanical conditions 2Choose inverter with higher power level
Err42	Excessive speed deviation	1No parameter identification 2、unreasonable setting of detection parameters for excessive speed deviation 3Overload or locked rotor	1Identify the motor parameters 2、Reasonable reset of speed deviation detection parameters 3、Check the load to ensure that the load is normal
Err48	Electronic overload fault	The inverter reports a fault according to the electronic overload parameter setting value.	Detect the load or adjust the electronic overload value reasonably
Err51	Initial position misalignment fault	1、Unreasonable motor parameter setting 2No parameter identification 3The motor cable is not connected properly	1、 Set motor parameters and perform motor parameter identification 2、 Motor parameter identification 3、 Check motor wiring to ensure normal
Err60	Brake tube protection failure	Braking resistor short circuit or abnormal braking module	Check the braking resistor or seek technical support
P-Lu	Power supply undervoltage	1、Insufficient power supply voltage of the inverter 2、Detection failure of the internal switching power supply or bus of the inverter 3、The main board power section or voltage section does not match the current power supply	1、Check the inverter power supply 2、Check the inverter's internal power supply or bus circuit 3、See if the rated voltage matches, seek support

5.2 Common faults and their treatment

The inverter may encounter the following fault conditions during use, please refer to the following methods for simple fault analysis

Table 4-1 Common faults and their treatment

NO.	Fault phenomenon	possible reason	Solution
1	No display after power on	The grid voltage is not or too low; The rectifier bridge is damaged; The buffer resistance of the inverter is damaged; Control board, keyboard failure; The connection between the control board, drive board and keyboard is broken;	Check the input power; Check the bus voltage; Re-plug the cable Seek manufacturer services;
2	Repeated display after power on VDVN	The connection between the drive board and the control board is poor; Related devices on the control board are damaged; The motor or motor wire is shorted to ground; Hall failure; The grid voltage is too low;	Reinsert the 34-core cable; Seek manufacturer services;
3	Err23 alarms when power on	Short circuit of motor or output line to ground; The inverter is damaged;	Use the shake meter to measure the insulation of the motor and output line; Seek manufacturer services;
4	Power-on inverter displays normal, after running it displays VDVN and immediately stops	The fan is damaged or blocked; There is a short circuit in the peripheral control terminal wiring;	Replace the fan; Eliminate external short circuit faults;
5	Frequently reported Err14 (module overheating) failure	The carrier frequency setting is too high. The fan is damaged or the air duct is blocked. The internal components of the inverter are damaged (Thermocouple or other)	Reduce carrier frequency (P0-15) Replace the fan and clean the air duct. Seek manufacturer services;
6	The motor does not rotate after the inverter is running.	Motor and motor wire; Inverter parameter setting error (motor parameter); The connection between the drive board and the control board is poor; Driver board failure;	Re-confirm the connection between the inverter and the motor; Replace the motor or clear the mechanical fault; Check and reset the motor parameters;
7	The inverter frequently reports overcurrent and overvoltage faults.	The motor parameters are set incorrectly; The acceleration and deceleration time is inappropriate; Load fluctuation;	Reset motor parameters or perform motor Tuning Set appropriate acceleration and deceleration time; Seek manufacturer services;
8	Power on display 88888	The related devices on the control board are broken;	Replace the control board;