

# Chapter1 Product Introduction

#### 1.1 Product Introduction

Thank you for purchasing A720 Current Torque Vector Control General Purpose Inverters developed by Qma Technical Company, featuring high performance and low noise. Please read this manual thoroughly and carefully to make good use of the performance and functions of this inverter and to keep your safety in operation. Please contact our agent in your regions or technical personnel of engineering department in our company if any problem you can not solve by refereing to the manual accurs in operation. Our professionals are ready to help you. You are welcome to use

A720 inverter is developed by Qma. In this manual, "Danger" and "Caution" paragraphs contain important safety precautions that shall be paid attention to during transportation, installation, operation and examination of the inverter.

Incorrect use of this inverter may result in personal injury and death. Do not dismount or install inverter or change its internal connection, wiring or component by yourself.

Incorrect use of this product may cause damages to the inverter or its mechanical systems.

- After turning off the power, do not touch circuit board or components before CHARGE indicator goes off. • Do not dismount or install inverter or change its internal connection, wiring or component by yoursel
- Make sure the power is off before wiring; do not check components, parts or signals on the circuit board while the Earthing terminals of the inverter must be grounded properly. Three grounding modes for 220V, special earthing

- Never perform withstanding voltage test for components or parts in the inverter, otherwise this may cause damages to these semi-conductor parts due to high voltage
- Never wire output terminals U, V and W of the inverter to input terminals (R, S, T) of AC power supply. Component COMOSIC of inverter circuit board is susceptible to static electricity influence and damages. Do not touch

### [During operation]:

• Never remove front cover under power-on state to avoid personal injury due to electric shock;

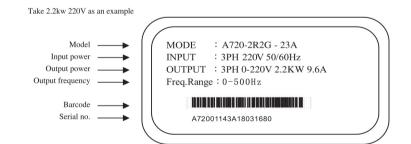
- Never get close to the machine to avoid danger after motor stops working as it will automatically restart again if automatic • Stop switch will be effected only after setting. Please note that it is different from emergency stop switch in usage.

# Caution

- · Never touch heating elements like heat sink and braking resistance to avoid electric shock; otherwise, it may cause ersonal many.

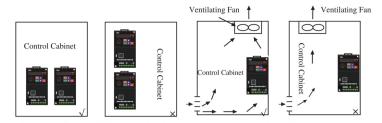
  The inverter can be easily changed from low speed to high speed. Please input the allowable range of motor and
- When using brake, etc., please pay attention to relevant setting.
   Never check signals of circuit board when the inverter is running.
   Inverter has been set in the factory, so do not adjust it arbitrarily.

### 1.2 Nameplate



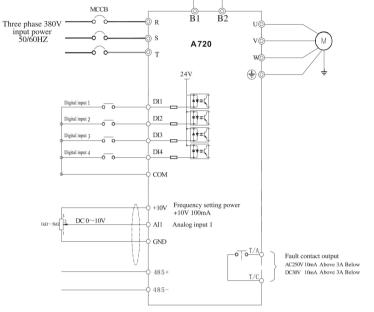
# 1.3 Application Environment

- As the installation environment has direct influence on the performance and service life of the inverter, following conditions must be met.
- Ambient environment: Open installation in switchboard (-10-45 \( \frac{1}{4} + 14 113 \) \( \text{F} \)
- Closed wall-mounted type (-10-40 \( \frac{1}{4} + 14 104 \) \( \frac{1}{4} \)
- Avoid rain or humid environment.
   Avoid direct sunlight. • Prevent erosion of oil mist and salt. • Avoid corrosive liquid and gas.
- Prevent dust, batting and metal powder from entering the inverter.
- Away from radioactive substance and combustible material.
- Prevent electromagnetic interference (welding machine, power machine).
- Prevent vibration (punch press). If it is unavoidable, please install a shockproof gasket to reduce vibration.
- When multiple inverters are installed in a control cabinet, install them at proper positions for heat dissipation. In
- addition, please install a heat radiation fan to make the ambient temperature around the inverter lower than  $45\square$ .



 Installing the inverter with its front surface forward and top part upward for heat radiation Installation space must be in accordance with following regulations: When the inverter is installed inside the switchboard or if conditions permit, remove upper dustproof cover of the inverter for cooling and heat

#### 1.4 Diagram of Inverter Wiring



Inverter wiring schematic

### 1.5 Terminal & Wiring of Main Circuit



Make sure that the power switch is OFF before wiring so as to avoid electric hazard! . Wiring must be performed by qualified and trained personnel so as to avoid inverter damage and personnel injury! minals must be grounded reliably to avoid electrical hazard and fire!

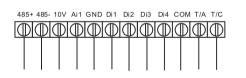
Do not connect braking resistance to DC bus terminals (+) & (-) directly; otherwise this may cause fire!



Confirm that input power's rated values are identical to that of the inverter; otherwise, it may result in inverter damage

Confirm that motor matches to the inverter; otherwise, it may damage motor or trigger inverter protection! Never connect power supply to terminals U, V and W to avoid inverter damage!

### 1.6 Control Terminal function instructions:



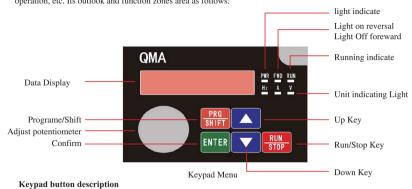
#### **Control Terminal Marking instruction:**

Terminal Symbol	Terminal Name	Terminal Function
DI1	Digital input 1	optical coupling isolation
DI2	Digital input 2	2. Impedance:2.4KΩ
DI3	Digital input 3	
DI4	Digital input 4	
COM	Digital input com	Digital input DI1-DI4 common terminal
+10V - GND	External power supply+10V	External Power +10V, maximum output current 10mA normally it is used for potentiometer power supply potentiometer resistance value: $1 \text{ K}\Omega \sim 5 \text{ K}\Omega$
AI1-GND	Analog input terminal 1	I. Input voltage range: DC 0V-10V     Input impedance: 22kΩ
485+	485 communication (+)	Standard RS Communication Connector
485-	485 communication (-)	
T/A-T/C	Normally Open terminal	Contact driving capacity: AC250V, 3A, COSΦ=0.4. DC 30V, 1A

# **Chapter 2.** Operation and Display

#### 2.1 Introduction to Operation and Display Interface

A user may operate A720 inverter by the operation panel through parameter setting, status monitoring, start/stop operation, etc. Its outlook and function zones area as follows:



Button	Name	Function
PRG/SHIFT	Programmable	Loop Show parameters during running, can choose shift key if want to
		change the parameter
ENTER	Enter	Enter the menu step by step, set and enter parameters.
Δ	Up	Increase figure or function code progressively.
$\nabla$	Down	Reduce figure or function code progressively.
RUN/ STOP	Run/ Stop	Press this button to start and stop the inverter with the keypad control.

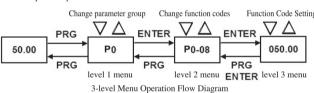
# Description of function indicator lamp: Indicator lamp

RUN	Running status indicator lamp:
	Off: It means the inverter is in stop status;
	On: It means the inverter is in running status;
FWD/REV	Forward/reverse indicator lamp:
	On: it means reverse status; off: it means forward status.
Hz	Frequency indicator lamp. Unit: Hz
A	Current indicator lamp; unit: A
V	Voltage indicator lamp, unit: V

# 2.2 Description of Digital Manipulator

A720 inverter adopts three-level menu to set parameters.

3-level menu: Function parameter group (level 1) ☐ function codes (level 2) ☐ function code setting(level 3). See the figure below for operation procedure.



Description: Under the level 3 menu, user can press PRG or ENTER to back to the level 2 menu. The difference is that by pressing ENTER, it saves the setting parameter before getting back to the level 2 menu and then it enters the next function code automatically; by pressing PRG, it will directly return to the level 2 menu without saving

# 2.3 Methods to View Status Parameter

Under stop or running status, through the shift key ">", multiple status parameters can be displayed, P7-03 (running parameter 1), P7-04 (running parameter 2)

Under stopping status, 16 stopping parameters can be displayed in sequence according to selection, which respectively are: Setting frequency, bus voltage, DI input status, DO output status, analog input AI1 voltage, actual count value, actual length, PLC running steps, load speed display, PID setting, PULSE input pulse frequency and 3 not

Under running status, there are five default parameters of running status to be displayed: Running frequency, setting frequency, bus voltage, output voltage and output current. Besides, users can select to display other parameters, including output power, output torque, DI input status, DO output status, analog input AI1 voltage, actual count valve, actual length, linear speed, PID setting and PID feedback by bit of function code P7-03 and P7-04 (changed into binary bit). These parameters can be displayed in sequence

When the inverter is powered on again after power failure, the default parameters displayed are parameters selected before power failure.

## 2.4 Password Setting

The inverter provides password protection for parameters. When 16-00 is set as non-zero, the password protection is enabled after exiting the function code editing status. By pressing PRG again, "----" is displayed. At this time, users are required to enter correct user password to enter into the general menu.

To display the password protection function, user can enter the menu by inputting password and set 16-00 as 0.

# **Chapter 3.** Autotuning

Motor parameter autotuning

When the inverter is in vector control mode, motor nameplate parameters shall be entered correctly before inverter operation so that the inverter can select standard motor parameter according to the nameplate parameter; vector control mode is highly dependent on motor parameters. Therefore, to acquire good control performance, correct motor parameters are required.

Perform the following steps to enable motor parameters autotuning:

(1) Firstly, select the command source (P0-02) as the operation panel command channel

(2) Then, input the following six parameters according to actual motor parameters:

P1-00: Motor type options P1-01: Motor rated power

P1-02: Motor rated voltage P1-03: Motor rated current

P1-04: Motor rated frequency P1-05: Motor rated rotation speed

(3)According to the motor load condition:

The best tuning mode is idling dynamic tuning; If conditions do not permit, on-load stationary tuning mode can be adopted:

1) Dynamic autotuning:

When the motor is disconnected to load completely, set P1-37 as 2 and press ENTER to confirm. At this time, the keypad displays as:

# TUNE

Then, by pressing RUN on the keypad panel, the inverter will drive the motor to conduct acceleration/deceleration and forward/reverse running; moreover, the running indicator lamp is on. It takes about 2min to finish autotuning motor parameters. When above information disappears and returns to normal parameter display, it means autotuning is completed.

After autotuning, the inverter can calculate following motor parameters automatically:

P1-06: Stator resistance of induction motor P1-07: Rotor resistance of induction motor

P1-08: Leakage inductance of induction motor P1-09: Mutual inductance of induction motor P1-10: Idling current of induction motor

2) Static autotuning:

If the motor can't be disconnected to load completely, select P1-37 then press ENTER to confirm. At this time. the keypad displays:

# TUNE

Then, press RUN. After the inverter executes motor parameter tuning, motor parameter autotuning can be

After autotuning, the inverter can calculate the following motor parameters automatically: P1-06: Stator resistance of induction motor P1-07: Rotor resistance of induction motor

P1-08: Leakage inductance of induction motor

# **Chapter 4.** Function Parameter Table

unction Code	Name	Setting Range	Minimum Unit	Default
		P0 Group: Basic Parameter		
P0-00 P0-01	Motor Type Display Control Mode Options	1: G type (constant torque load) 0: Sensorless vector control (SVC)	1	0
F 0-01	Control Mode Options	2: V/F control		Ü
P0-02	Start/Stop Control Options	0: Operation panel (LED off) 1: Terminal (LED on) 2: Serial port communication (LED flashing)	1	0
P0-03	Main Frequency Command	0: Numeric setting (pre-setting frequency P0-08,	1	10
	Source A	O: Numeric setting (pre-setting frequency PO-08, which can be modified by pressing UP/DOWN and won't be memorized after power failure) I: Numeric setting frequency PO-08, which can be modified by pressing UP/DOWN and 21: All 22: All 22: All 24: Reserved after power failure).  3: Al2 4: Reserved after power failure). 5: PULSE petiting (DIS 5: PULSE setting (DIS 6: PID 6: PID 7: Simple PLC 8: PID 9: Communication setting		
P0-04	Auxiliary Frequency	10: Potentiometer Same with P0-03 (Main frequency command source	1	0
	Command Source B	(A)		
P0-05	Superposing Auxiliary Frequency Source B Range	0: With respect to the maximum frequency 1: With respect to main frequency command source	1	О
P0-06	Ob Superposing Auxiliary 0%-150% Frequency Command B		1%	100%
P0-07	Range Selection Frequency Source Superposing Options	Ones place: Frequency source options  O. Main frequency source A  Main feature of the source A  Main frequency source A	11	00
P0-08	Main Frequency Setting of	auxiliary frequency source B	0.01Hz	50.00Hz
P0-08	Digital Manipulator	0.00Hz-maximum frequency P0-10	0.01Hz	50.00Hz
P0-09	Running Direction	0: Same 1: Reverse	1	0
P0-10	Maximum Frequency	50.00Hz-500.00Hz	0.01Hz	50.00Hz
P0-11	Upper Limit Frequency Source Options	0: PO-12 setting 1: AII 2: AI2 3: Not used 4: PULSE pulse setting 5: Communication setting	1	0
P0-12	Upper Limit Frequency	Lower limit frequency P0-14 -maximum frequency P0-10	0.01Hz	50.00Hz
P0-13	Upper Limit Frequency Offset	0.00Hz-maximum frequency P0-10	0.01Hz	0.00Hz
P0-14 P0-15	Lower Limit Frequency Carrier Frequency	0.00Hz-Upper Limit Frequency P0-12 0.5kH-16.0kHz	0.01Hz 0.01kHz	0.00Hz Up to specif
P0-16	Carrier Frequency Adjustment Along With	0: Disabled 1: Enabled	1	model 1
P0-17	Acceleration Time 1	0.00s-65000s	0.01s	Up to specif
P0-18	Deceleration Time 1	0.00s-65000s	0.01s	model Up to specif model
P0-19	Acceleration/Deceleration Time Unit	0: 1s 1: 0.1s 2: 0.01s	1	1
P0-20 P0-21	Not Used	0 00Hz, maximum fraguencu PO 10	0.01Hz	0.00Hz
P0-21	Offset Frequency of Auxiliary Frequency at Superposing	0.00Hz- maximum frequency P0-10	0.01Hz	0.00Hz
P0-22	Frequency Command Decimal Point	1.0.1Hz 2: 0.01Hz	1	2
P0-23	Stop Memory Options of	0: Disabled 1: Enabled	1	0
P0-25	Acceleration/Deceleration Time Reference Frequency	0: Maximum frequency (P0-10) 1: Setting frequency 2: 100Hz	1	0

- 1				
- 1.	Frequency Command UP/DOWN Quantity	0: Running frequency 1: Setting frequency		0
7	during Operation Command Source Binding	Ones place: Binding frequency source options of	1	0000
	Frequency Source	operation panel command 0: No binding 1: Digital setting frequency		
		2: AI1 3: Reserve		
		4: Reserve 5: PULSE setting (DI5) 6: Preset speed		
		7: Simple PLC 8: PID		
		9: Communication setting Tens place: Binding frequency source options of		
		terminal command Hundreds place: Binding frequency source options of communication command		
	Motor Type Options	P1 Group: Motor Parameters 0: Common induction motor	1	0
+	Motor Rated Power	1: Inverter induction motor 0.1kW-1000.0kW	0.1kW	Up to specific model
1	Motor Rated Voltage	0V-2000V	1V	Up to specific model
	Motor Rated Current	0.01A-655.35A (inverter power < =55kW) 0.1A-655.35A (inverter power > 55kW)	0.01A	Up to specific model
4	Motor Rated Frequency	0.00Hz-maximum frequency	0.01Hz	Up to specific model
_	Motor Rated Rotation Speed	0rpm-65535rpm	1rpm	Up to specific model
	Stator Resistance of Induction Motor	0.001-65.535(inverter power < =55kW) 0.0001-6.5535(inverter power > =55kW)	0.001	Up to specific model
4	Rotor Resistance of Induction Motor	0.001-65.535(inverter power < =55kW) 0.0001-6.5535(inverter power > =55kW)	0.001	Up to specific model
	Leakage Inductance of Induction Motor	0.01mH-655.35mH(inverter power < =55kW) 0.01mH-655.535mH(inverter power > 55kW)	0.01mH	Up to specific model
	Mutual Inductance of Induction Motor	0.1mH-6553.5mH(inverter power < =55kW) 0.01mH-655.35mH(inverter power > 55kW)	0.01mH	Up to specific model
4	Idling Current of Induction Motor	0.01A-P1-03 (inverter power < =55kW) 0.1A-P1-03(inverter power > 55kW)	0.01	Up to specific model
1	Autotuning Options	No autotuning     Stationary tuning of induction motor     Full tuning of induction motor		0
+	Smood Loop December of	P2 Group: Motor Vector Control Parameters	1	20
1	Speed Loop Proportional Gain 1 Speed Loop Integral Time	1-100 0.01s-10.00s	0.01s	30 0.50s
1	1	0.01s-10.00s 0.00-P2-05	0.01s 0.01Hz	0.50s 5.00Hz
T	Switching Frequency 1 Speed Loop Proportional	0.00-P2-05 1-100	0.01Hz 1	5.00Hz 20
	Gain 2 Speed Loop Integral Time 2	0.01s-10.00s	0.01s	1.00s
T	Switching Frequency 2 Slip Compensation Gain	P2-02-Maximum frequency 50%-200%	0.01Hz 1%	10.00Hz 100%
T	Factor Filter Time Constant of	0.000s-0.100s	0.001	0.015s
	SVC Speed Feedback Vector overexcitation gain	0-200		64
T	Upper Limit Source of Speed Control (Drive)	0; set through function code P2-10 1: AI1	1	0
	Torque	2: Reserve 3: Reserve		
		4: PULSE setting 5: Communication setting 6: Reserve		
		7: Reserve Full ranges of options 1 to 7 correspond to P2-10		
	Upper Limit Numeric Setting of Speed Control	0.0%-200.0%	0.1%	150.0%
T	Forque Excitation Adjustment	0-60000	1	2000
_1	Proportional Gain			
Т	Excitation Adjustment	0-60000	1	1300
-	Integral Gain Forque Adjustment	0-60000	1	2000
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment			
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Speed Loop Integral	0-60000  O-60000  Ones place: Integral separation; 0: disabled; 1:	1	2000
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Speed Loop Integral Property	0-60000  O-60000  Ones place: Integral separation; 0: disabled; 1: enabled P3 Group: V/F Control Parameters	1 1 1	2000
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Speed Loop Integral	0-60000  Ones place: Integral separation; 0: disabled; 1: enabled P3 Group: V/F Control Parameters 0: Straight V/F curve 1: Multi-point V/F curve	1	2000
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Speed Loop Integral Property	0-60000  Ones place: Integral separation; 0: disabled; 1: enabled  P3 Group: V/F Control Parameters  0: Straight V/F curve  1: Multi-point V/F curve  2: Square V/F curve  3: 1.2th V/F curve  4: 1.4th V/F curve	1 1 1	2000
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Speed Loop Integral Property	0-60000  Ones place: Integral separation; 0: disabled; 1: enabled  P3 Group: V/F Control Parameters  O: Straight V/F curve  1: Multi-point V/F curve  2: Square V/F curve  3: 1.2th V/F curve  4: 1.4th V/F curve  6: 1.6th V/F curve  6: 1.6th V/F curve	1 1 1	2000
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Speed Loop Integral Property	0-60000  Ones place: Integral separation; 0: disabled; 1: enabled P3 Group: V/F Control Parameters 0: Straight V/F curve 1: Multi-point V/F curve 3: 1.2th V/F curve 3: 1.2th V/F curve 4: 1.4th V/F curve 8: 1.8th V/F curve 8: 1.8th V/F curve 9: Not used 10: VF complete split mode 11: VF half-split mode 11: VF half-split mode	1 1 1	2000
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Speed Loop Integral Property	0-60000  Ones place: Integral separation; 0: disabled; 1: enabled  P3 Group: V/F Control Parameters  O: Straight V/F curve  1: Multi-point V/F curve  2: Square V/F curve  3: 1.2th V/F curve  4: 1.4th V/F curve  6: 1.6th V/F curve  6: 1.6th V/F curve	1 1 1	2000
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Speed Loop Integral Property W/F Curve Setting	0-60000  Ones place: Integral separation; 0: disabled; 1: enabled  P3 Group: V/F Control Parameters  O: Straight V/F curve 1: Multi-point V/F curve 2: Square V/F curve 3: 1.2th V/F curve 4: 1.4th V/F curve 6: 1.6th V/F curve 6: 1.6th V/F curve 9: Not used 10: VF complete split mode 11: VF half-split mode 11: VF half-split mode 0.0%: (no torque boost)	1 1 1	2000 1300 0 0 Up to specific
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Speed Loop Integral Property  V/F Curve Setting  Torque Boost Torque Boost End	0-60000  Ones place: Integral separation; 0: disabled; 1: cnabled P3 Group: V/F Control Parameters  0: Straight V/F curve 1: Multi-point V/F curve 2: Square V/F curve 4: 1.4th V/F curve 4: 1.4th V/F curve 8: 1.8th V/F curve 9: Not used 10: VF complete split mode 11: VF half-split mode 0.0%: (no torque boost) 0.1%=30.0% 0.00Hz-maximum frequency 0.0Hz-P3-05	1 1 1 1 0.1%	2000 1300 0 Up to specific model
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Speed Loop Integral Property  W/F Curve Setting  Torque Boost Torque Boost End Frequency Multipoint VF Frequency	0-60000  Ones place: Integral separation; 0: disabled; 1: cnabled P3 Group: V/F Control Parameters  0: Straight V/F curve 1: Multi-point V/F curve 2: Square V/F curve 4: 1.4th V/F curve 4: 1.4th V/F curve 8: 1.8th V/F curve 9: Not used 10: VF complete split mode 11: VF half-split mode 11: VF half-split mode 0.0%: (no torque boost) 0.1%=30.0%	0.1% 0.01Hz 0.1%	2000 1300 0 Up to specific model 50Hz
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Speed Loop Integral Property  W/F Curve Setting  Torque Boost Torque Boost End Frequency Multipoint VF Frequency Point 1 Multipoint VF Voltage	0-60000  Ones place: Integral separation; 0: disabled; 1: cnabled P3 Group: V/F Control Parameters  0: Straight V/F curve 1: Multi-point V/F curve 2: Square V/F curve 4: 1.4th V/F curve 4: 1.4th V/F curve 8: 1.8th V/F curve 9: Not used 10: VF complete split mode 11: VF half-split mode 11: VF half-split mode 0.0%: (no torque boost) 0.1%=30.0%  0.00Hz-maximum frequency	1 1 1 1 0.1% 0.01 0.01Hz	2000 1300 0 Up to specific model 50Hz 0.00Hz
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Speed Loop Integral Property V/F Curve Setting  Torque Boost Torque Boost End Frequency Multipoint VF Frequency Point 1 Multipoint VF Voltage Point 1 Multipoint VF Frequency Multipoint VF Frequency Multipoint VF Voltage Point 1 Multipoint VF Frequency	0-60000  Ones place: Integral separation; 0: disabled; 1: enabled P3 Group: V/F Control Parameters 0: Straight V/F curve 1: Multi-point V/F curve 3: 1.2th V/F curve 4: 1.4th V/F curve 4: 1.4th V/F curve 8: 1.8th V/F curve 9: Not used 10: VF complete split mode 11: VF half-split mode 0.05%: (no torque boost) 0.04%-30.0% 0.00Hz- maximum frequency 0.0Hz-9-3-05	0.1% 0.01Hz 0.1%	2000 1300 0 Up to specific model 50Hz 0.00Hz
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Speed Loop Integral Property V/F Curve Setting  Torque Boost Torque Boost Torque Boost End Frequency Multipoint VF Frequency Point 1 Multipoint VF Voltage Point 2 Multipoint VF Frequency Point 1 Multipoint VF Frequency Point 1 Multipoint VF Frequency Point 2 Multipoint VF Frequency Point 2 Multipoint VF Frequency Point 2 Multipoint VF Voltage	0-60000  Ones place: Integral separation; 0: disabled; 1: enabled  P3 Group: V/F Control Parameters  0: Straight V/F curve 1: Multi-port Curve 1: Multi-port Curve 1: Multi-port Curve 4: 1.4th V/F curve 4: 1.4th V/F curve 8: 1.8th V/F curve 9: Not used 10: VF complete split mode 11: VF Pall-split mode 0.09%: (no torque boost) 0.19%-30.0% 0.00Hz-maximum frequency 0.0Hz-P3-05	0.1% 0.01Hz 0.01Hz	2000 1300 0 Up to specific model 50Hz 0.00Hz 0.00Hz
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Speed Loop Integral Property  W/F Curve Setting  Torque Boost Torque Boost Torque Boost End Frequency Multipoint VF Frequency Point 1 Multipoint VF Frequency Point 2 Multipoint VF Frequency Point 2 Multipoint VF Voltage Point 1 Multipoint VF Voltage Point 2 Multipoint VF Frequency Point 2 Multipoint VF Frequency Point 2 Multipoint VF Voltage Point 2 Multipoint VF Frequency Point 1 Multipoint VF Frequency Point 2 Multipoint VF Frequency Point 1 Multipoint VF Frequency	0-60000  Ones place: Integral separation; 0: disabled; 1: enabled  P3 Group: V/F Control Parameters  0: Straight V/F curve 1: Multi-por Parameters  1: Multi-por Parameters  1: Lith V/F curve 4: 1.4th V/F curve 4: 1.4th V/F curve 8: 1.8th V/F curve 9: Not used 10: VF complete split mode 11: VF Pall-split mode 11: VF Pall-split mode 0.09%: (no torque boost) 0.10%-30.0%  0.00Hz-Pa-05  0.0%-100.0%  P3-03-P3-07	0.1% 0.01Hz 0.01Hz 0.01Hz 0.01Hz	2000 1300 0 Up to specific model 50Hz 0.00Hz 0.00Hz 0.00CHz
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Speed Loop Integral Property WF Curve Setting  WF Curve Setting  Torque Boost Torque Boost End Frequency Multipoint VF Frequency Point 1 Multipoint VF Voltage Point 2 Multipoint VF Voltage Point 3 Multipoint VF Frequency Point 3 Multipoint VF Voltage Point 3 Multipoint VF Voltage Point 3 VF Slip compensation gain	0-60000  Ones place: Integral separation; 0: disabled; 1: enabled P3 Group: V/F Control Parameters  0: Straight V/F curve 1: Multi-point V/F curve 3: 1.2th V/F curve 4: 1.4th V/F curve 4: 1.4th V/F curve 8: 1.8th V/F curve 9: Not used 10: VF complete split mode 11: VF half-split mode 0.0%: (no torque boost) 0.19&-30.0% 0.00Hz-Pasimum frequency 0.0Hz-P3-05 0.0%-100.0% P3-03-P3-07 0.0%-100.0% P3-05- motor rated frequency (P1-04) 0.0%-200.0%	1 1 1 1 0.1% 0.01 0.01Hz 0.11% 0.01Hz 0.10Hz 0.01Hz	2000  1300  0  Up to specific model 50Hz  0.00Hz  0.00Hz  0.00Hz  0.00Hz  0.00Hz
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Speed Loop Integral Property  WF Curve Setting  Torque Boost Torque Boost End Frequency Multipoint VF Frequency Point 1 Multipoint VF Voltage Point 2 Multipoint VF Voltage Point 3 Multipoint VF Voltage Point 3 VF Slip compensation gain VF Slip compensation gain VF Slip compensation gain VF Overexcitation Gain Oscillation Suppression Gain	0-60000  Ones place: Integral separation; 0: disabled; 1: enabled  P3 Group: V/F Control Parameters  0: Straight V/F curve 1: Multi-pur V/F curve 2: Multi-pur V/F curve 3: 1.2th V/F curve 4: 1.4th V/F curve 4: 1.4th V/F curve 8: 1.8th V/F curve 9: Not used 10: VF complete split mode 11: VF Pall-split mode 10: VF complete split mode 11: VF Pall-split mode 0.09%: (no torque boost) 0.00Hz-maximum frequency 0.0Hz-P3-05 0.0%-100.0% P3-03-P3-07 0.0%-100.0% P3-05- motor rated frequency (P1-04) 0.0%-200.0% 0.09-200.0% 0-200	0.1% 0.01Hz 0.01Hz 0.01Hz 0.1%	2000 1300 0 0 Up to specific model 50Hz 0.00Hz 0.00Hz 0.00Hz 0.00Hz 0.00Hz 0.00Hz Up to specific model 4Up to specific model
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Speed Loop Integral Property  W/F Curve Setting  Torque Boost Torque Boost Torque Boost End Frequency Multipoint VF Frequency Point 1 Multipoint VF Voltage Point 2 Multipoint VF Voltage Point 2 Multipoint VF Frequency Point 3 Multipoint VF Frequency Point 3 Multipoint VF Voltage Point 3 VF Slip compensation gain VF Slip compensation gain	0-60000  Ones place: Integral separation; 0: disabled; 1: enabled P3 Group: V/F Control Parameters 0: Straight V/F curve 1: Multi-point V/F curve 3: 1.2th V/F curve 4: 1.4th V/F curve 4: 1.4th V/F curve 9: Not used 10: VF complete split mode 11: VF half-split mode 10: VF complete split mode 11: VF half-split mode 0.05%: (no torque boost) 0.00Hz-79-05 0.00%-100.0% P3-03-P3-07 0.0%-100.0% P3-03-P3-07 0.0%-100.0% 0.0%-200.0% 0.0%-200.0% 0-200 0-100 0: Numeric setting (P3-14) 1: A11	0.1% 0.01Hz 0.01Hz 0.1% 0.01Hz 0.1% 0.1%	2000 1300 0 0 0 Up to specific model 50Hz 0.00Hz 0.00Hz 0.00Hz 0.00Hz 0.00Hz 0.00Hz 0.00Hz
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Speed Loop Integral Property  WF Curve Setting  Torque Boost Torque Boost End Frequency Multipoint VF Frequency Point 1 Multipoint VF Voltage Point 2 Multipoint VF Voltage Point 3 Multipoint VF Voltage Point 3 VF Slip compensation gain VF Slip compensation gain VF Slip compensation gain VF Overexcitation Gain Oscillation Suppression Gain	0-60000  Ones place: Integral separation; 0: disabled; 1: enabled   P3 Group: V/F Control Parameters  0: Straight V/F curve   1: Multi-point V/F curve   2: Squar V/F curve   4: 1.4th V/F curve   4: 1.4th V/F curve   8: 1.8th V/F curve   8: 1.8th V/F curve   8: 1.8th V/F curve   9: Not used   10: VF complete split mode   0.0%: (no torque boost)   0.0%-1.0%-30.0%   0.00Hz- maximum frequency   0.0Hz-P3-05   0.0%-100.0%   P3-03-P3-07   0.0%-100.0%   P3-05- motor rated frequency (P1-04)   0.0%-200.0%   0.0%-200.0%   0-200   0-100   0: Numeric setting (P3-14)   1: Al1   2: Al2   3: Reserve	0.1% 0.01Hz 0.01Hz 0.1% 0.01Hz 0.1% 0.1%	2000 1300 0 0 Up to specific model 50Hz 0.00Hz 0.00Hz 0.00Hz 0.00% 0.00Hz 0.0%
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Speed Loop Integral Property  WF Curve Setting  Torque Boost Torque Boost End Frequency Multipoint VF Frequency Point 1 Multipoint VF Voltage Point 2 Multipoint VF Voltage Point 3 Multipoint VF Voltage Point 3 VF Slip compensation gain VF Slip compensation gain VF Slip compensation gain VF Overexcitation Gain Oscillation Suppression Gain	0-60000  0-60000  Ones place: Integral separation; 0: disabled; 1: enabled  P3 Group: V/F Control Parameters  0: Straight V/F curve  2: Square V/F curve  3: 1.2th V/F curve  4: 1.4th V/F curve  4: 1.4th V/F curve  8: 1.8th V/F curve  9: Not used  10: VF complete split mode  10: VF complete split mode  10: VF complete split mode  0.0%: (no torque boost)  0.0%-3-0.0%  0.00Hz-Pa-05  0.0%-100.0%  P3-03-P3-07  0.0%-100.0%  P3-05-motor rated frequency (P1-04)  0.0%-200.0%  0-200  0-200  0-100  0: Numeric setting (P3-14)  1: All  2: All  2: All  2: All  2: All  4: PULSE setting (D15)  5: Multispeed command  6: Simple PLC	0.1% 0.01Hz 0.01Hz 0.1% 0.01Hz 0.1% 0.1%	2000 1300 0 0 Up to specific model 50Hz 0.00Hz 0.00Hz 0.00Hz 0.00% 0.00Hz 0.0%
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Speed Loop Integral Property  WF Curve Setting  Torque Boost Torque Boost End Frequency Multipoint VF Frequency Point 1 Multipoint VF Voltage Point 2 Multipoint VF Voltage Point 3 Multipoint VF Voltage Point 3 VF Slip compensation gain VF Slip compensation gain VF Slip compensation gain VF Overexcitation Gain Oscillation Suppression Gain	0-60000  Ones place: Integral separation; 0: disabled; 1: enabled P3 Group: V/F Control Parameters 0: Straight V/F curve 1: Multi-point V/F curve 2: Multi-point V/F curve 4: 1.4th V/F curve 4: 1.4th V/F curve 5: 1.8th V/F curve 8: 1.8th V/F curve 9: Not used 10: VF complete split mode 11: VF half-split mode 0.09%: (no torque boost) 0.19%-30.0% 0.00Hz-maximum frequency 0.0Hz-P3-05 0.0%-100.0% P3-03-P3-07 0.0%-100.0% P3-03-P3-07 0.0%-100.0% 0.0%-200.0% 0-200 0-100 0: Numeric setting (P3-14) 1: Al1 2: Al2 3: Reserve 4: PULSE setting (D15) 5: Multispeed command 7: PID 8: Communication setting	0.1% 0.01Hz 0.01Hz 0.1% 0.01Hz 0.1% 0.1%	2000 1300 0 0 Up to specific model 50Hz 0.00Hz 0.00Hz 0.00Hz 0.00% 0.00Hz 0.0%
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Speed Loop Integral Property  WF Curve Setting  Torque Boost Torque Boost End Frequency Multipoint VF Frequency Point 1 Multipoint VF Voltage Point 2 Multipoint VF Voltage Point 2 Multipoint VF Voltage Point 2 Multipoint VF Voltage Point 3 VF Stip compensation gain VF Overexcitation Gain Oscillation Suppression Gain VF Separation Voltage	0-60000  0-60000  Ones place: Integral separation; 0: disabled; 1: enabled P3 Group: V/F Control Parameters  0: Straight V/F curve 1: Multi-point V/F curve 2: 2: Square V/F curve 3: 1.2th V/F curve 3: 1.2th V/F curve 4: 1.5th V/F curve 8: 1.8th V/F curve 9: Not used 10: VF complete split mode 11: VF half-split mode 0.0%: (no torque boost) 0.1%-30.0%  0.00Hz- maximum frequency 0.0Hz-P3-05 0.0%-100.0% P3-03-P3-07 0.0%-100.0% P3-05- motor rated frequency (P1-04) 0.0%-100.0% 0.0%-200.0% 0-200 0-100 0: Numeric setting (P3-14) 1: All 2: All 3: Reserve 3: Multispeed command 6: Simple PLC 7: PID	0.1% 0.01Hz 0.01Hz 0.1% 0.01Hz 0.1% 0.1%	2000 1300 0 0 Up to specific model 50Hz 0.00Hz 0.00Hz 0.00Hz 0.00% 0.00Hz 0.0%
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Speed Loop Integral Property  WF Curve Setting  Torque Boost Torque Boost End Frequency Multipoint VF Frequency Point 1 Multipoint VF Voltage Point 2 Multipoint VF Voltage Point 2 Multipoint VF Voltage Point 3 Multipoint VF Voltage Point 3 VF Silp compensation gain VF Separation Voltage Numeric Setting of VF Separation Voltage Numeric Setting of VF Separation Voltage Numeric Setting of VF Separation Voltage	0-60000  0-60000  Ones place: Integral separation; 0: disabled; 1: enabled  P3 Group: V/F Control Parameters  0: Straight V/F curve  1: Multi-power of the curve  2: Multi-power of the curve  3: 1.2th V/F curve  4: 1.4th V/F curve  4: 1.4th V/F curve  8: 1.8th V/F curve  9: Not used  10: VF complete split mode  11: VF Pall-split mode  10: VF complete split mode  10: VF complete split mode  10: VF-complete split mode  10	0.1% 0.01Hz 0.01Hz 0.1% 0.01Hz 0.1% 0.1%	2000 1300 0 0 Up to specific model 50Hz 0.00Hz 0.00Hz 0.00Hz 0.00% 0.00Hz 0.0%
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Speed Loop Integral Property  WF Curve Setting  Torque Boost Torque Boost End Frequency Multipoint VF Frequency Point 1 Multipoint VF Voltage Point 2 Multipoint VF Voltage Point 2 Multipoint VF Voltage Point 3 Multipoint VF Voltage Point 3 VF Silp compensation gain VF Separation Voltage  Numeric Setting of VF Separation Voltage Numeric Setting of VF Separation Voltage Numeric Setting of VF Separation Voltage Numeric Setting of VF Separation Voltage Voltage Rise Time of VF Separation Voltage	0-60000  Ones place: Integral separation; 0: disabled; 1: enabled   P3 Group: V/F Control Parameters  0: Straight V/F curve   1: Multi-point V/F curve   2: Square V/F curve   3: 1.2h V/F curve   4: 1.2h V/F curve   4: 1.2h V/F curve   5: 1.5h V/F curve   6: 1.6th V/F curve   6: 1.6th V/F curve   7: 1.2h V	0.1% 0.01Hz 0.01Hz 0.1% 0.01Hz 0.1% 0.1%	2000 1300 0 0 Up to specific model 50Hz 0.00Hz 0.00Hz 0.00Hz 0.00% 0.00Hz 0.0%
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Speed Loop Integral Property  WF Curve Setting  Torque Boost Torque Boost End Frequency Multipoint VF Frequency Point 1 Multipoint VF Voltage Point 2 Multipoint VF Voltage Point 2 Multipoint VF Voltage Point 3 Multipoint VF Voltage Point 3 VF Silp compensation gain VF Separation Voltage VF Overexcitation Gain VF Separation Voltage Voltage Rise VF Separation Voltage Voltage Rise VF Separation Voltage Numeric Setting of VF Separation Voltage Voltage Rise Time of VF Separation Voltage Rise Time of VF Separation Voltage Rise Time of VF Separation Dol I Terminal Function Options	0-60000  Ones place: Integral separation; 0: disabled; 1: enabled P3 Group: V/F Control Parameters  0: Straight V/F curve 1: Multi-point V/F curve 2: 1.24th V/F curve 3: 1.2th V/F curve 3: 1.2th V/F curve 4: 1.2th V/F curve 8: 1.8th V/F curve 9: Not used 10: VF complete split mode 11: VF half-split mode 10: VF complete split mode 11: VF half-split mode 0.0%: (no torque boost) 0.0/#-30.0%  0.00Hz-maximum frequency 0.0Hz-p3-05 0.0%-100.0% P3-03-P3-07 0.0%-100.0% P3-05- motor rated frequency (P1-04) 0.0%-100.0% 0.0%-200.0% 0-200 0-100 0: Numeric setting (P3-14) 1: All 1: All 2: All 3: Retree 3: Multispeed command 6: Simple PLC 7: PID 8: Communication setting 100.0% corresponds to motor rated voltage 0V- Motor rated voltage 0.0s-100.00s P4 Group: input Terminal 1: Roward running 1: Reverse running 1: Reverse running	0.1% 0.01Hz 0.01Hz 0.1% 0.01Hz 0.1% 0.1%	2000  1300  0  Up to specific model 50Hz 0.00Hz 0.09% 0.00Hz 0.0% 0 0.0Hz 0.0% 0 0  64 Up to specific mode 0
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Torque Adjustment Integral Gain Speed Loop Integral Property  WF Curve Setting  Torque Boost Torque Boost End Frequency Multipoint VF Frequency Point 1 Multipoint VF Voltage Point 2 Multipoint VF Voltage Point 2 Multipoint VF Voltage Point 3 Multipoint VF Voltage Point 3 VF Silp compensation gain VF Separation Voltage VF Overexcitation Gain VF Separation Voltage Numeric Setting of VF Separation Voltage Numeric Setting of VF Separation Voltage Numeric Setting of VF Separation Dil Terminal Function Options	0-60000  Ones place: Integral separation; 0: disabled; 1: enabled P3 Group: V/F Control Parameters  0: Straight V/F curve 1: Multi-point V/F curve 2: Adulti-point V/F curve 3: 1.2th V/F curve 3: 1.2th V/F curve 4: 1.4th V/F curve 5: 1.8th V/F curve 8: 1.8th V/F curve 9: Not used 10: VF complete split mode 0.0%: (no torque boost) 0.0%: (no torque boost) 0.0%-10.0% 0.00Hz-pa-05 0.0%-100.0%  P3-03-P3-07 0.0%-100.0% P3-03-P3-07 0.0%-100.0% 0-200 0-100 0: Numeric setting (P3-14) 1: All 1: All 2: Al2 3: Reserve 4: PULSE setting (D15) 5: Multispeed command 0: P3-03-P3-07 0.00,0%-100.0% 8: Communication setting 100.0%-corresponds to motor rated voltage 0V- Motor rated voltage 0V- Motor rated voltage 0V- Motor rated voltage 0V- Motor rated voltage P4 Group: Input Terminal 1: Forward 19G (F10G)	0.1% 0.01Hz 0.01Hz 0.1% 0.01Hz 0.1% 0.1%	2000 1300 0 1300 0 0 Up to specific model 50Hz 0.00Hz 0.00Hz 0.00Hz 0.00Hz 0.00Hz 0.00Hz 0.00Hz 1 1 2
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Torque Adjustment Integral Gain Speed Loop Integral Property  WF Curve Setting  Torque Boost Torque Boost End Frequency Multipoint VF Frequency Point 1 Multipoint VF Voltage Point 2 Multipoint VF Voltage Point 2 Multipoint VF Voltage Point 3 Multipoint VF Voltage Point 3 VF Silp compensation gain VF Stip compensation gain VF Separation Voltage Voltage Rise Torque Setting of VF Separation Voltage Voltage Rise Time of VF Separation Dil Terminal Function Options	0-60000  0-60000  0-60000  Ones place: Integral separation; 0: disabled; 1: enabled  P3 Group: V/F Control Parameters  0: Straight V/F curve  1: Multi-pur V/F curve  2: Multi-pur V/F curve  3: 1.2th V/F curve  4: 1.4th V/F curve  5: 1.8th V/F curve  8: 1.8th V/F curve  9: Not used  10: VF complete split mode  11: VF half-split mode  10: VF complete split mode  10: VF complete split mode  10: VF-complete split mode  10:	0.1% 0.01Hz 0.01Hz 0.1% 0.01Hz 0.1% 0.1%	2000 1300 0 1300 0 0 0 Up to specific model 50Hz 0.00Hz 0.
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Torque Algustment Integral Gain Speed Loop Integral Property  WF Curve Setting  Torque Boost Torque Boost End Frequency Multipoint VF Frequency Point 1 Multipoint VF Voltage Point 1 Multipoint VF Voltage Point 2 Multipoint VF Voltage Point 3 Multipoint VF Voltage Point 3 VF Slip compensation gain VF Overexcitation Gain Oscillation Suppression Gain VF Separation Voltage  Numeric Setting of VF	0-60000  Ones place: Integral separation; 0: disabled; 1: enabled  P3 Group: V/F Control Parameters  Ostraight V/F curve  1: Multi-point V/F curve  3: 1.2th V/F curve  9: Not used  10: VF complete split mode  11: VF half-split mode  10: VF complete split mode  10: VF comple	0.1% 0.01Hz 0.01Hz 0.01Hz 0.1% 0.01Hz 1	2000 1300 0 1300 0 0 Up to specific model 50Hz 0.00Hz 0.00Hz 0.00Hz 0.00Hz 0.00Hz 0.00Hz 0.00Hz 1 1 2
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Torque Adjustment Integral Gain Speed Loop Integral Property  WF Curve Setting  WF Curve Setting  Torque Boost Torque Boost End Frequency Multipoint VF Frequency Point 1 Multipoint VF Voltage Point 1 Multipoint VF Voltage Point 2 Multipoint VF Voltage Point 3 Multipoint VF Voltage Point 3 VF Sip Compensation gain VF Overexcitation Gain Oscillation Suppression Gain VF Separation Voltage  Numeric Setting of VF Separation Voltage Notage  Numeric Setting of VF Separation Voltage  Notage Rise Time of VF Separation Voltage  Notage Rise Time of VF Separation Frequency DI1 Terminal Function Options DI2 Terminal Function Options DI3 Terminal Function Options DI3 Terminal Function Options DI3 Terminal Function Options	0-60000  Ones place: Integral separation; 0: disabled; 1: enabled  P3 Group: V/F Control Parameters  O: Straight V/F curve  1: Multi-point V/F curve  2: Authir-point V/F curve  3: 1.2th V/F curve  3: 1.2th V/F curve  3: 1.2th V/F curve  4: 1.8th V/F curve  5: 1.8th V/F curve  9: Not used  10: VF complete split mode  10: VF complete split mode  10: VF complete split mode  10: VF curve  9: Not used  10: VF complete split mode  10: VF complete split	0.1% 0.01Hz 0.01Hz 0.01Hz 0.1% 0.01Hz 1	2000 1300 0 1300 0 0 0 Up to specific model 50Hz 0.00Hz 0.
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Torque Adjustment Integral Gain Speed Loop Integral Property  WF Curve Setting  WF Curve Setting  Torque Boost Torque Boost End Frequency Multipoint VF Frequency Point 1 Multipoint VF Voltage Point 1 Multipoint VF Voltage Point 2 Multipoint VF Voltage Point 3 Multipoint VF Voltage Point 3 VF Sip Compensation gain VF Overexcitation Gain Oscillation Suppression Gain VF Separation Voltage  Numeric Setting of VF Separation Voltage Notage  Numeric Setting of VF Separation Voltage  Notage Rise Time of VF Separation Voltage  Notage Rise Time of VF Separation Frequency DI1 Terminal Function Options DI2 Terminal Function Options DI3 Terminal Function Options DI3 Terminal Function Options DI3 Terminal Function Options	0-60000  Ones place: Integral separation; 0: disabled; 1: enabled   P3 Group: V/F Control Parameters  0: Straight V/F curve 1: Multi-point V/F curve 2: Square V/F curve 4: 1.4th V/F curve 4: 1.4th V/F curve 8: 1.8th V/F curve 9: Not used   10: VF complete split mode 11: VF half-split mode 10: VF complete split mode 11: VF half-split mode 0.0%: (no torque boost)   0.1%-30.0%   0.00Hz-P3-05 0.0%-100.0%   P3-03-P3-07 0.0%-100.0%   P3-03-P3-07 0.0%-100.0%   0.0%-200.0%   0.0%-200.0%   0.00%-200.0%   0.00%-200.0%   0.0%-200.0%   0.00%-200.0%   0	0.1% 0.01Hz 0.01Hz 0.01Hz 0.1% 0.01Hz 1	2000 1300 0 1300 0 0 0 Up to specific model 50Hz 0.00Hz 0.
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Torque Adjustment Integral Gain Speed Loop Integral Property  WF Curve Setting  WF Curve Setting  Torque Boost Torque Boost End Frequency Multipoint VF Frequency Point 1 Multipoint VF Voltage Point 1 Multipoint VF Voltage Point 2 Multipoint VF Voltage Point 3 Multipoint VF Voltage Point 3 VF Sip Compensation gain VF Overexcitation Gain Oscillation Suppression Gain VF Separation Voltage  Numeric Setting of VF Separation Voltage Notage  Numeric Setting of VF Separation Voltage  Notage Rise Time of VF Separation Voltage  Notage Rise Time of VF Separation Frequency DI1 Terminal Function Options DI2 Terminal Function Options DI3 Terminal Function Options DI3 Terminal Function Options DI3 Terminal Function Options	0-60000  Ones place: Integral separation; 0: disabled; 1: enabled   P3 Group: V/F Control Parameters  0: Straight V/F curve 1: Multi-point V/F curve 2: Square V/F curve 4: 1.4th V/F curve 4: 1.4th V/F curve 8: 1.8th V/F curve 9: Not used   10: VF complete split mode   11: VF half-split mode   10: VF complete split mode   10: VF compl	0.1% 0.01Hz 0.01Hz 0.01Hz 0.1% 0.01Hz 1	2000 1300 0 1300 0 0 0 Up to specific model 50Hz 0.00Hz 0.00Hz 0.00Hz 0.00Hz 0.00Hz 0.00Hz 0.00Hz 10 11 2
	Integral Gain Torque Adjustment Proportional Gain Torque Adjustment Integral Gain Torque Adjustment Integral Gain Speed Loop Integral Property  WF Curve Setting  WF Curve Setting  Torque Boost Torque Boost End Frequency Multipoint VF Frequency Point 1 Multipoint VF Voltage Point 1 Multipoint VF Voltage Point 2 Multipoint VF Voltage Point 3 Multipoint VF Voltage Point 3 VF Sip Compensation gain VF Overexcitation Gain Oscillation Suppression Gain VF Separation Voltage  Numeric Setting of VF Separation Voltage Notage  Numeric Setting of VF Separation Voltage  Notage Rise Time of VF Separation Voltage  Notage Rise Time of VF Separation Frequency DI1 Terminal Function Options DI2 Terminal Function Options DI3 Terminal Function Options DI3 Terminal Function Options DI3 Terminal Function Options	0-60000  Ones place: Integral separation; 0: disabled; 1: enabled P3 Group: V/F Control Parameters  0: Straight V/F curve 1: Multi-pour for curve 2: Multi-pour for curve 3: 1.2th V/F curve 4: 1.4th V/F curve 4: 1.4th V/F curve 8: 1.8th V/F curve 9: Not used 10: VF complete split mode 11: VF Pall-split mode 10: VF complete split mode 11: VF Pall-split mode 0.09%: (no torque boost) 0.19%-30.0% 0.00Hz-maximum frequency 0.0Hz-P3-05 0.0%-100.0% P3-03-P3-07 0.0%-100.0% P3-03-P3-07 0.0%-100.0% 0.0%-200.0% 0.0%-200 0.0%-100.0% 0.0%-200.0% 0.200 0.0%-200.0% 0.200 0.0%-200.0% 0.0%-200.0% 0.0%-200.0% 0.0%-200.0% 0.0%-100.0% 0.0%-200.0% 0.0%-200.0% 0.0%-100.0% 0.0%-100.0% 0.0%-100.0% 0.0%-100.0% 0.0%-100.0% 0.0%-100.0% 0.0%-100.0% 0.10	0.1% 0.01Hz 0.01Hz 0.01Hz 0.1% 0.01Hz 1	2000 1300 0 1300 0 0 0 Up to specific model 50Hz 0.00Hz 0.00Hz 0.00Hz 0.00Hz 0.00Hz 0.00Hz 0.00Hz 10 11 2

		21: Acceleration/deceleration prohibited 22: PID pause 23: PLC status reset 24: Wobbulation parameter 25: Counter input		
		26: Counter reset 27: Length count input 28: Length reset		
		29: Torque control prohibited 30: PULSE (pulse) frequency input (only works for DIS) 31: Not used		
		32: Immediate DC stop 33: External fault NC input 34: Frequency setting onset terminal (when this terminal function hasn't been set, the default is to		
		enable) If this terminal is set, terminal onset frequency can be modified through this terminal.		
		35: PID direction reverse terminal When this terminal is enabled, PID is opposite to the direction set by 10-03.		
		36: External stop terminal 1 Keypad control. This terminal can be used to stop the elevator, which is equal to the STOP key on the keypad		
		keypad 37: Control command switch terminal 2: It is used to switch between terminal control and communication control. When this terminal is enabled, if P0-02 is set as terminal control, then it		
		switches to communication control; if P0-02 is set as communication control, it switches to terminal control.  38: PID integral pause terminal		
		hen this terminal is enabled, the integral adjustment function of PID pauses, but the proportional adjustment and the differential adjustment of PID		
		are still enabled. 39: Switching terminal of frequency source A and preset frequency. When this terminal is enabled, frequency source A is		
		replaced by preset frequency (P0-08).  40: Switching terminal of frequency source A and preset frequency		
		When this terminal is enabled, frequency source B is replaced by preset frequency (P0-08). 41: Reserve 42: Not used		
		42: Not used 43: PID parameter switching terminal 44: Not used 45: Not used		
		46: Speed control/torque control switching 47: Emergency stop 48: External stop terminal 2		
		This terminal can be used to stop the elevator at the deceleration time 4 under any control mode.  49: Deceleration DC brake 50: Current running time clear 51: 2-wire/3-wire switching		
P4-10	DI Filter Time	52: Reverse frequency prohibited 53-59: Not used 0.000s-1.000s	0.001s	0.0
P4-11 P4-12	Terminal Command Mode  Change Rate Per Second of	0: 2-wire 1 2: 3-wire 1 1: 2-wire 2 3: 3-wire 2 0.001Hz-65.535Hz	0.001Hz	1.00
P4-13	Terminal UP/DOWN All Minimum Input	0.00V-P4-15	0.01V	0.00
P4-14 P4-15	Corresponding Setting of AII Minimum Input AII Maximum Input	-100.0% -+ 100.0% P4-13 -+10.00V	0.1% 0.01V	10.0
P4-16 P4-17	Corresponding Setting of AI1 Maximum Input AI1 Filter Time	-100.0% -+ 100.0%	0.1% 0.01s	0.1
P4-28 P4-29	PULSE Minimum Input Corresponding Setting of	0.00s-10.00s 0.00kHz-P4-30 -100.0% -+ 100.0%	0.01s 0.01kHz 0.1%	0.00
P4-30 P4-31	PULSE Minimum Input PULSE Maximum Input PULSE Maximum Input Setting	P4-28 -100.00kHz -100.0% - 100.0%	0.01kHz 0.1%	50.00 100.
P4-32 P4-34	PULSE Filter Time AI Lower Than Minimum	0.00s-10.00s Ones place: AI Lower Than Minimum Input Setting Options	0.01s 1	0.1
	Input Setting Options	0: Corresponding setting of minimum input 1: 0.0% Tens place: AI2 lower than minimum input setting		
		options, same as above Hundreds place: AI3 lower than minimum input setting options, same as above		
P4-35 P4-36	DI1 Delay Time DI2 Delay Time	0.0s-3600.0s 0.0s-3600.0s	0.1s 0.1s	0.0
P4-37 P4-38	DI3 Delay Time DI Input Terminal Active Status Setting 1	0.0s-3600.0s 0: High level 1: Low level	0.1s	000
		Ones place: DI1 Tens place: DI2 Hundreds place: DI3		
		Thousands place: DI4 Tens thousands place: DI5		
P5-02	Control Board Relay Output Options	P5 Group: Output Terminal  0: No output  1: Inverter running	1	2
	(T/A1-T/B1-T/C1) RELAY 1	2: Fault output (stop upon fault) 3: Frequency level detection FDT1 output 4: Frequency reach		
		5: Run at zero speed (stop, no output) 6: Motor overload pre-warning 7: Inverter overload pre-warning		
		8: Set count value reach 9: Designated count value reach 10: Length Reach 11: PLC Cycle Finished		
		12: Accumulated Running Time Reach 13: Frequency limit 14: Torque limit		
		15: Running ready 16: AII > AI2 17: Upper limit frequency reach		
		18: Lower limit frequency reach (related to running) 19: Undervoltage status output 20: Communication setting		
		21: Not used 22: Not used 23: Run 2 at zero speed (output at stop)		
		24: Accumulated power-on time reach 25: Frequency level detection FDT2 output 26: Frequency reach 1 output 27: Frequency reach 2 output		
		28: Current reach 1 output 29: Current reach 2 output 30: Timed reach output		
		31: AI1 input exceeds upper and lower limit 32: Offload 33: Reverse running		
		34: Zero current detection 35: Module temperature reach 36: Software overcurrent output 37: Lower limit frequency reach (irrespective to		
		running) 38: Fault output (continue to run)		
D# 22	T/A T/C control to	39: Motor overtemperature pre-warning 40: Current running time reach 41: Fault output (no output upon undervoltage) 0- positive logic; 1- negative logic	17117	000
P5-22	T/A-T/C output treminal options	O- positive logic; 1- negative logic Ones place: FMR Tens place: RELAY 1 Hundreds place: RELAY 2	11111	000
		Thousands place: RELAY 2 Thousands place: DO1 Tens thousands place: DO2 P6 Group: Start/Stop Control		
P6-00	Start Mode	0: Direct start 1: Speed tracking start 2: Pre-excitation start of induction motor	1	0
P6-01	Rotation Speed Tracking Mode	3: SVC quick start 0: Start from stopping frequency		0
P6-02	Rotation Speed Tracking	Start from industrial frequency     Start from maximum frequency     1-100	1	20
P6-03 P6-04	Fast/Slow Start Frequency Start Frequency Holding Time	0.00Hz-10.00Hz 0.0s-100.0s	0.00 0.1s	0.0

P6-05	Start DC Brake/Pre-excitation Current	0%-100%	1%	0%
P6-06	Start DC Brake/Pre-excitation Time	0.0s-100.0s	0.1s	0.0s
P6-07	Acceleration/Deceleration Mode	0: Linear acceleration/deceleration 1: Static S curve deceleration	1	0
P6-08	S Curve Start Section Time	2: Dynamic S curve deceleration 0.0%- (100.0%-P6-09)	0.1%	30.0%
P6-09	Proportion S Curve End Section Time	0.0%- (100.0%-P6-08)	0.1%	30.0%
P6-10	Proportion Stop Mode	0: Ramp-to-stop 1: Coast-to-stop	1	0
P6-11	DC Brake Start Frequency at Stop	0.00Hz- maximum frequency	0.01Hz	0.00Hz
P6-12	DC Brake Waiting Time at Stop	0.0s-100.0s	0.1s	0.0s
P6-13 P6-14	DC Brake Current at Stop DC Brake Time at Stop	0%-100% 0.0s-100.0s	1% 0.1s	0% 0.0s
P6-15 P6-18	Brake Duty Ratio Rotation Speed Tracking	0%-100% 30%-200%	1% Up to specific model	100%
P6-21	Current Demagnetizing Time	0.00-5.00s P7 Group: Keypad & Display	1.00s	
P7-02	STOP/RESET Key Function	0: This key can only be valid under keypad control mode.	1 1	1
P7-03	LED Running Display Parameter 1	1: This key is valid under all control modes 0000-FFFF Bit00: Running frequency (Hz) Bit01: Setting frequency (Hz) Bit01: Bus voltage (V) Bit04: Output voltage (V) Bit04: Output voltage (V) Bit06: Output torque (%) Bit06: Output torque (%) Bit07: Dinput status Bit07: Dinput status Bit07: All voltage (V) Bit08: All voltage (V) Bit109: Output status Bit09: All voltage (V) Bit109: Not used	1111	1F
P7-04	LED Running Display Parameter 2	Bit11: Not used Bit12: Count value Bit13: Length Bit13: Length Bit14: Load speed display Bit15: PID setting  0000-FFFF Bit00: PULSE input pulse frequency, unit: kHz Bit00: PULSE input pulse frequency, unit: kHz Bit03: PULSE input pulse frequency, unit: kHz Bit03: Running frequency (Hz) Bit04: Remaining running time Bit04: Remaining running time Bit06: Not used Bit07: Not used Bit08: Linear speed Bit09: Current power-on time Bit08: Linear speed Bit09: Current power-on time Bit10: Current power-on time Bit10: Current power-on time Bit11: Communication setting Bit13: Not used Bit14: Main frequency A display Bit15: Auxiliary frequency B display	1111	0
P7-06 P7-07	Load Speed Display Factor Inverter Module Radiator	0.0001-6.5000 0.0°C-100°C	0.0001 0.1°C	1.0000
P7-08 P7-09	Not Used Accumulated Running	0h-65535h	1h	-
P7-10 P7-11	Time Not Used Software Version	-		-
P7-11	Decimal Displayed of Load Speed	0: 0 Decimal 2: 2 Decimal 1: 1 Decimal 3: 3 Decimal	H.111	1
P7-13	Accumulated Power-on Time	0h-65535h	1h	-
P7-14	Accumulated Energy Consumption	0-65535° P8 Group: Auxiliary Function	1°	-
P8-00 P8-01	JOG Running Frequency JOG Acceleration Time	0.00Hz-maximum frequency 0.0s-6500.0s	0.01Hz 0.1s	2.00Hz 20.0s
P8-02 P8-03	JOG Deceleration Time Acceleration Time 2	0.0s-6500.0s 0.0s-6500.0s	0.1s 0.1s	20.0s Up to specific model
P8-04 P8-05	Deceleration Time 2 Acceleration Time 3	0.0s-6500.0s 0.0s-6500.0s	0.1s 0.1s	Up to specific model Up to specific model
P8-06 P8-07	Deceleration Time 3 Acceleration Time 4	0.0s-6500.0s 0.0s-6500.0s	0.1s 0.1s	Up to specific model Up to specific model
P8-08 P8-09	Deceleration Time 4 Hopping Frequency 1	0.0s-6500.0s 0.00Hz- maximum frequency	0.1s 0.01Hz	Up to specific model 0.00Hz
P8-10 P8-11	Hopping Frequency 2 Hopping Frequency	0.00Hz- maximum frequency 0.00Hz- maximum frequency	0.01Hz 0.01Hz	0.00Hz 0.01Hz
P8-12	Amplitude Forward/Reverse	0.0s-3000.0s	0.01Hz	0.01Hz
P8-13	Deadband Time Reverse Control	0: Reverse permitted 1: Reverse prohibited	1	0.03
P8-14	Control Mode of Set Frequency Lower Than	0: Run at lower limit frequency 1: Stop	1	0
P8-15	Lower Limit Frequency Sagging Control	2: Run at zero speed 0.00Hz-10.00Hz	0.01Hz	0.00Hz
P8-16	Set Accumulated Power-On Time Reach	0h-65000h	1 h	Oh
P8-17	Set Accumulated Run Time Reach		1h	Oh
P8-18 P8-19	Enable Protection Options Frequency Detection Value	0: Disabled 1:Enabled 0.00Hz- maximum frequency	0.01Hz	50.00Hz
P8-20	(FDTI) Frequency Detection	0.0%-100.0% (FDT1 level)	0.1%	5.0%
P8-21	Bandwidth	0.0%-100.0% (maximum frequency)	0.1%	0.0%
P8-22	Enable Hopping Frequency during Acceleration/Deceleration Process	0: Disabled 1: Enabled		0 000
P8-25 P8-26	Switching Frequency Point of Acceleration Time 1/2	0.00Hz- maximum frequency	0.01Hz	0.00Hz
P8-26 P8-27	Switching Frequency Point of Deceleration Time 1/2	0.00Hz- maximum frequency 0: Disabled 1: Enabled	0.01Hz	0.00Hz
P8-27 P8-28	Terminal Jog Priority Frequency Detection Value (FDT2)	0: Disabled 1: Enabled 0.00Hz- maximum frequency	0.01Hz	50.00Hz
P8-29	Frequency Detection Hysteresis Value (FDT2)	0.0%-100.0% (FDT2 level)	0.1%	5.0%
P8-30	Any Reach Frequency Detection Value 1	0.00Hz- maximum frequency	0.01Hz	50.00Hz
P8-31	Any Reach Frequency Detection Amplitude 1	0.0%-100.0% (maximum frequency)	0.1%	0.0%
P8-32	Any Reach Frequency Detection Value 2	0.00Hz- maximum frequency	0.01Hz	50.00Hz
P8-33	Any Reach Frequency Detection Amplitude 2	0.0%-100.0% (maximum frequency)	0.1%	0.0%
P8-34	Zero Current Detection Level	0.0%-300.0% 100.0% corresponds to motor rated current	0.1%	5.0%
P8-35	Zero Current Detection	0.01s-600.00s	0.01s	0.10s
P8-36	Delay Time Software Overcurrent Point		0.1%	200.0%
P8-37	Software Overcurrent	0.1%-300.0% (Motor rated current) 0.00s-600.00s	0.01s	0.00s
P8-38	Any Reach Current 1	0.0%-300.0% (motor rated current)	0.1%	100.0%
P8-39	Any Reach Current 1 Width	0.0%-300.0% (motor rated current)	0.1%	0.0%
P8-40 P8-41	Any Reach Current 2 Any Reach Current 2 Width	0.0%-300.0% (motor rated current) 0.0%-300.0% (motor rated current)	0.1% 0.1%	100.0% 0.0%
P8-42 P8-43	Timed Function Options Timed Running Time	0: Disabled 1: Enabled 0: P8-44 setting	1 1	0
	Options	1: AII 2: Not used		
		Analog input range corresponds to P8-44		

P8-44 P8-45	Timed Running Time All Input Voltage	0.0Min-6500.0Min 0.00V-P8-46	0.1Min 0.01V	0.0Min 3.10V
P8-46	Protection Value Lower Limit All Input Voltage	P8-45 - 10.00V	0.01V	6.80V
P8-47	Protection Value Upper Limit Module Temperature Reach	0°C-100°C	1°C	75°C
P8-48	Radiation Fan Control	1: Motor running radiation fan running	1	0
P8-49 P8-50	Awakening Frequency Awakening Delay Time	Sleep frequency (P8-51) - maximum frequency (P0-10) 0.0s-6500.0s	0.01Hz 0.1s	0.00Hz 0.0s
P8-50 P8-51 P8-52	Sleep Frequency	0.00Hz-awakening frequency (P8-49)	0.01Hz	0.00Hz
P8-52 P8-53	Sleep Delay Time Set Current Running Reach Time	0.0s-6500.0s 0.0Min-6500.0Min	0.1s 0.1Min	0.0s 0.0Min
P8-54	Output Power Calibration Factor	0.00%-200.0%		100.0%
P9-00	Motor Overload Protection Options	P9 Group: Fault and Protection 0: Prohibited 1: Permitted		1
P9-01	Motor Overload Protection Gain	0.20-10.00	0.01	1.00
P9-02 P9-03	Motor Overload Pre-warning Factor Overvoltage Stall Gain	50%-100% 0-100	1%	80% 30
P9-04	Overvoltage Stall Protection Voltage	120%~150%		130%
P9-05 P9-06	Overcurrent loss speed Gain Overcurrent loss speed cureent protection	0~100 100%~200%	20 150%	
P9-07	Short Circuit to Ground	0: Disabled		01
P9-09	Protection Options upon Power-on Automatic Reset Times of Fault	1: Enabled 0-20	1	0
P9-10	Fault DO Action Options during Fault Automatic Reset Period	0: Disabled 1: Enabled		0
P9-11	Fault Automatic Reset Interval	0.1s-100.0s		1.0s
P9-12	Input Phase Loss/Contactor On Protection Options	0: Disabled 1: Enabled		11
P9-13	Output Phase Loss Protection Options	0: Disabled 1: Enabled		1
P9-14 P9-15	First Fault Type Second Fault Type	No fault Not used	-	-
P9-16	Third Fault(Latest) Type	Acceleration overcurrent (OCA) Deceleration overcurrent (OCD) Constant speed overcurrent (OCD) Constant speed overcurrent (OCD) Constant speed overcurrent (OCD) Acceleration overcollage (OUN) Deceleration overcollage (OUN) Buffer resistance overload (OU) Undervoltage (LU) Indervoltage (LU) Indervoltage (LU) Indervoltage (LU) Motor overload (OL1) Motor overload (OL1) External fault (EF) Module overheating (OH1) External fault (EF) Communication error (CE) Contactor abnormality (RIII) Contactor abnormality (RIII) External fault (EF) Formanication error (CE) Contactor abnormality (RIII) External fault (EF) Formanication error (CE) Contactor abnormality (RIII) Formanication error (CE) Motor tuning abnormality (ER) Fencoder/PG card abnormality (EP) Inverter hardware abnormality (EP) Inverter hardware abnormality (EF) Motor short circuited to the ground (GF) Not used Running time reach (OT1) Not used Running time reach (OT2) PID feedback loss during running (PD) Rapid current limit overtime (LC)	-	-
DO 17	Third Ford of the Park	Motor overheating (OH2)		
P9-17 P9-18	Third Fault(Latest) Frequency Third Fault(Latest) Current	-	-	-
P9-19 P9-20	Third Fault(Latest) Bus Voltage Third Fault(Latest) Input	-	-	-
P9-20	Terminal Status			
	Third Fault(Latest) Output Terminal Status	-	-	-
P9-22 P9-23	Third (Latest)Fault Inverter Status Third (Latest) Fault Time	-	-	-
1 9-23	(Calculated From Current		_	-
P9-24	Power-on Time) Third (Latest) Fault Time	-	-	-
P9-27	(Calculated From Running ) Second Fault Frequency			
P9-28	Second Fault Current	-	-	-
P9-29 P9-30	Second Fault Bus Voltage Second Fault Input Terminal Status	-	-	-
P9-31	Second Fault Output Terminal Status	-	-	-
P9-32 P9-33	Second Fault Inverter Status Second Fault Time	-	-	-
	(Calculated from Current Power-on)			
P9-34	Second Fault Time (Calculated from Current Running)	-	-	-
P9-37 P9-38	First Fault Frequency	-	-	-
P9-38 P9-39	First Fault Current First Fault Bus Voltage	-	-	-
P9-40 P9-41	First Fault Input Terminal Status First Fault Output Terminal Status	-	-	-
P9-42	First Fault Inverter Status	-	-	-
P9-43	First Fault Time (Calculated from Current Power-on)	-	-	-
P9-44	First Fault Time	-	-	-
P9-47	(Calculated from Current Running) Fault Protection Action Options 1  Fault Protection Action	Ones place: Motor overload (OL1) 0: Coast-to-stop 1: Stop according to the stopping mode 2: Continue to run Tens place: Not used Hundreds place: Not used Thousands place: External fault (EF) Ones place: Not used Ones place: Not used Ones place: One to the total place to the tota	11111	00000
	Options 3	1: Stop according to the stopping mode 2: Continue to run Tens place: Not used 0: Coast to stop 1: Stop according to the stopping mode 2: Continue to run Coast to stop 1: Stop according to the stopping mode 2: Continue to run Ten thousands place: Offload (LL) 0: Coast to stop 1: Stop according to the stopping mode 2: Continue to run Ten thousands place: Offload (LL) 0: Coast to stop 1: Stop according to the stopping mode 2: Reduce to 7% of motor rated frequency and then continue to run. When there is no offload, automatically restore to setting frequency for running (PD) Tomming (PD) Tomming (PD)  0: Coast to stop 1: Stop according to the stopping mode 2: Continue to run		
P9-54	Continuous Running Frequency Options at Fault	0: Run at current running frequency 1: Run at the set frequency 2: Run at the upper limit frequency 3: Run at the lower limit frequency 4: Run at the spare frequency under abnormality 40: 00.25 (0.0% courset) traceted frequency	1	0
P9-55	Spare Frequency Setting under Abnormality	60.0%-100.0% (current targeted frequency)	0.1%	100.0%
P9-59 P9-60	Instantaneous Stop Non-stop Enable Instantaneous Stop	0: Disabled 1: Constant control of bus voltage 2: Ramp-to-stop 60%-100%		85%
	Non-stop Reset Voltage			
P9-61	Voltage Judgment Time under Non-stop Action	0.0-100.0s		0.5s
P9-62	upon Instantaneous Power Failure Bus Voltage of Non-stop Action upon Instantaneous	60%-100%		80%
P9-63	Power Failure Offload Protection Options	0: Disabled 1: Enabled	1	0

10-01 10-02	PID Setting Source PID Value Setting PID Feedback Source	Group 10: PID Function	0.1%	50.0%
10-02		0: AI1 5: Communication setting		50.0%
		1: Not used 6: Not used 2: Not used 7: Not used	1	0
	DVD A silver Discosive	3: AII-AI2 8: Not used 4: PULSE setting (DI5)		
	PID Action Direction PID Setting Feedback Range	0: Positive 1: Negative 0-65535	1	1000
10-06	Proportional Gain P1 Integral Time I1	0.0-100.0 0.01s-10.00s	0.1 0.01s	20.0 2.00s
10-08	Differential Time D1 PID Reverse End Frequency	0.000s-10.000s 0.00-maximum frequency	0.001s 0.01Hz	0.000s 2.00Hz
10-10	PID Offset Limit PID Differential Limit	0.0%-100.0% 0.0%-100.0%	0.1%	0.0%
10-12	PID Setting Change Time PID Feedback Filter Time	0.00-650.00s 0.00-60.00s 0.00-60.00s	0.01s 0.01s 0.01s	0.00s 0.00s 0.00s
10-15	PID Output Filter Time Proportional Gain P2 Integral Time I2	0.0-100.0 0.01s-10.00s	0.01s 0.1 0.01s	20.0 2.00s
10-17	Differential Time D2 PID Parameter Switching	0.000s-10.000s  0. No switching	0.001s	0.000s 0
	Condition	DI terminal     Automatic switching by offset     Automatic switching by running frequency		
10-20	PID Parameter Switching Offset 1 PID Parameter Switching Offset 2	0.0%-10-20 10-19-100.0%	0.1%	20.0% 80.0%
10-22	PID Initial Value PID Initial Value Holding Time	0.0%-100.0% 0.00-650.00s	0.1% 0.01s	0.0% 0.00s
10-23 10-24	Forward Maximum Value of Twice Output Offset Reverse Maximum Value of Twice Output	0.00%-100.00% 0.00%-100.00%	0.01%	1.00%
	PID Integral Property	Ones place: Integral separation 0-disabled; 1- enabled	11	00
		Tens place: Whether to stop integral when output reaches to limit		
10-26	PID Feedback Loss Detection Time	0-continue the integral; 1- stop integral 0.0s-20.0s	0.1s	1.0s
	PID Feedback Loss Detection Value PID	0.0%: No judgement of feedback loss 0.1%-100.0%	0.1	20.0%
	Arithmetic at Stop	0: Disabled 1: Enabled 1 Group: Wobbulation, Fixed Length and Count	1%	0
	Wobbulation Setting Mode	0: With respective to center frequency 1: With respective to the maximum frequency	1	0
	Wobbulation Amplitude Hopping Frequency Amplitude	0.0%-100.0% 0.0%-50.0%	0.1%	0.0%
11-03	Wobbulation Cycle Wobbulation Triangular Wave Rise Time	0.1s-3000.0s 0.1%-100.0%	0.1s 0.1%	10.0s 50.0%
11-05	Set Length Actual Length	0.1%-100.0% 0m-65535m 0m-65535m	0.1% 0m 0m	1000m 0m
11-07	Pulse Count Per Meter Set Count Value	0n-65535m 0.1-6553.5 1-65535	0.1 1	100.0 1000
	Designated Count Value	1-65535	1	1000
12-00	Preset Command 0	12 Group: Preset Command and Simple PLC -100.0%-100.0% (100.0% corresponds to the maximum frequency P0-10)	0.1%	0.0%
	Preset Command 1	-100.0%-100.0%	0.1%	0.0%
12-03	Preset Command 2 Preset Command 3 Preset Command 4	-100.0%-100.0% -100.0%-100.0% -100.0%-100.0%	0.1% 0.1% 0.1%	0.0% 0.0% 0.0%
12-05	Preset Command 4 Preset Command 5 Preset Command 6	-100.0%-100.0% -100.0%-100.0% -100.0%-100.0%	0.1% 0.1% 0.1%	0.0%
12-07	Preset Command 7	-100.0%-100.0%	0.1%	0.0%
12-09	Preset Command 8 Preset Command 9 Preset Command 10	-100.0%-100.0% -100.0%-100.0% -100.0%-100.0%	0.1% 0.1% 0.1%	0.0% 0.0% 0.0%
12-11	Preset Command 11 Preset Command 12	-100.0%-100.0% -100.0%-100.0%	0.1%	0.0%
12-13	Preset Command 13 Preset Command 14	-100.0%-100.0% -100.0%-100.0%	0.1%	0.0%
12-15	Preset Command 15 Simple PLC Running Mode	-100.0%-100.0% -100.0%-100.0% 0: Stop after single running	0.1%	0.0%
12-17	Simple PLC Power Failure Memory Options	1: Holding last value at stop after single running 2: Continuous cycle Ones place: Power failure memory 0: Disabled 1: Enabled Tens place: Stop memory 0: Disabled	11	00
12-18	Running Time of PLC Preset Command 0	1: Enabled 0.0s(h)-6553.5s (h)	0.1s(h)	0.0s(h)
	Acceleration/Deceleration Time Options of PLC Preset Command 0	0-3	1	0
	Running Time of PLC Preset Command 1 Acceleration/Deceleration	0.0s(h)-6553.5s(h) 0-3	0.1s(h)	0.0s(h) 0
	Time Options of PLC Preset Command 1 Running Time of PLC Preset Command 2	0.0s(h)-6553.5s(h)	0.1s(h)	0.0s(h)
12-23	Acceleration/Deceleration	0-3	1	0
12-24	Time Options of PLC Preset Command 2 Running Time of PLC Preset Command 3	0.0s(h)-6553.5s(h)	0.1s(h)	0.0s(h)
	Acceleration/Deceleration Time Options of PLC Preset Command 3	0-3	1 0.1-(1-)	0
12-27	Running Time of PLC Preset Command 4 Acceleration/Deceleration	0.0s(h)-6553.5s(h) 0-3	0.1s(h)	0.0s(h) 0
12-28	Time Options of PLC Preset Command 4 Running Time of PLC Preset Command 5	0.0s(h)-6553.5s(h)	0.1s(h)	0.0s(h)
	Acceleration/Deceleration Time Options of PLC Preset Command 5	0-3	1	0
12-30	Running Time of PLC Preset Command 6 Acceleration/Deceleration	0.0s(h)-6553.5s(h) 0-3	0.1s(h)	0.0s(h)
12-32	Time Options of PLC Preset Command 6 Running Time of PLC Preset Command 7 Acceleration/Deceleration	0.0s(h)-6553.5s(h) 0-3	0.1s(h)	0.0s(h)
	Time Options of PLC Preset Command 7 Running Time of PLC Preset Command 8	0.0s(h)-6553.5s(h)	0.1s(h)	0.0s(h)
12-35	Acceleration/Deceleration Time Options of PLC Preset Command 8	0-3	1	0
12-36	Running Time of PLC Preset Command 9 Acceleration/Deceleration	0.0s(h)-6553.5s(h) 0-3	0.1s(h)	0.0s(h)
12-39	Time Options of PLC Preset Command 9 Running Time of PLC Preset Command 10 Acceleration/Deceleration Time Options of PLC Preset Command 10	0.0s(h)-6553.5s(h) 0-3	0.1s(h)	0.0s(h) 0
12-40	Running Time of PLC Preset Command 10  Acceleration/Deceleration	0.0s(h)-6553.5s(h)	0.1s(h)	0.0s(h)
12-42	Time Options of PLC Preset Command 11 Running Time of PLC Preset Command 12	0.0s(h)-6553.5s(h)	0.1s(h)	0.0s(h)
	Acceleration/Deceleration Time Options of PLC Preset Command 12	0-3	1 0.1a(b)	0 0.00(h)
	Running Time of PLC Preset Command 13 Acceleration/Deceleration	0.0s(h)-6553.5s(h) 0-3	0.1s(h)	0.0s(h)
	Time Options of PLC Preset Command 13 Running Time of PLC Preset Command 14	0.0s(h)-6553.5s(h)	0.1s(h)	0.0s(h)
	Acceleration/Deceleration Time Options of PLC Preset Command 14	0-3	1	0
	Running Time of PLC Preset Command 15 Acceleration/Deceleration	0.0s(h)-6553.5s(h) 0-3	0.1s(h)	0.0s(h) 0
12-49	Time Options of PLC Preset Command 15 Unit of PLC Running Time	0:s (second) 1: h (hour)	1	0

		13 Group: Communication Parameter		
13-00	Communication Baud Rate	Ones place: MODBUS 0: 300BPS 1: 38400BPS 1: 600BPS 8: 57600BPS 2: 1200BPS 9: 115200BPS 3: 2400BPS 3: 125 4: 4800BPS 3: 125 5: 9600BPS 5: 500 6: 19200BPS 6: 1M	1	5000
13-01	Data Format	0: No parity (8-N-2) 1: Even parity (8-E-1) 2: Odd parity (8-0-1) 3: Disabled (8-N-1)(MODBUS valid)	1	0
13-02	Local Inverter Address	0: Broadcasting address 1-247 (MODBUS, Profibus-DP, CANLink valid)	1	1
13-03	MODBUS Response Delay	0-20ms (MODBUS valid)		20m
13-04	Communication Overtime	0.0: Disabled 0.1-60.0s (MODBUS, Profibus-DP and CANLink valid)		0.0
13-05	(MODBUS, Profibus-DP Communication s Data Format	Ones place: MODBUS 0: Non-standard MODBUS protocol 1: Standard MODBUS protocol		30
13-06	Communication Read Current Resolution	0: 0.01A 1: 0.1A		0
13-08	Expansion Card (PROFIBUS CANOPEN) Disconnection Detection Time	0.0 disabled 0.1s-60.0		0
		16 Group: User Password		
16-00	User Password	0-65535	1	0
16-01	Parameter Initialization	No operation     Solution       Solution       O1: Reset the default, excluding motor parameter       O2: Clear record information	1	0

Function			Communication	Function			Communic
Code	Name	Minimum Unit	Communication Address	Code	Name	Minimum Unit	Communio Addre
	D0 Group: Basic Monitoring	Parameters			D0 Group: Basic Monitorin	ng Parameters	
D0-00	Running Frequency (Hz)	0.01Hz	7000H	D0-27	PULSE Input Pulse Frequency	1Hz	701B
D0-01	Setting Frequency (Hz)	0.01Hz	7001H	D0-28	Communication Setting	0.01%	701C
D0-02	Bus Voltage (V)	0.1V	7002H	D0-30	Main Frequency X Display	0.01Hz	701E
D0-03	Output Voltage (V)	1V	7003H	D0-31	Auxiliary Frequency Y Display	0.01Hz	701F
D0-04	Output Current (A)	0.01A	7004H	D0-32	View Any Memory Address	1	7020
D0-05	Output Power (kW)	0.1kW	7005H	D0-34	Motor Temperature	10	7022
D0-06	Output Torque (%)	0.1%	7006H	D0-35	Target Torque (%)	0.1%	7023
D0-07	DI Input Status	1	7007H	D0-37	Power Factor Angle	0.1°	7025
D0-08	DO Output Status	1	7008H	D0-39	VF Separation Target Voltage	1V	7027
D0-09	AI1 Voltage (V)	0.01V	7009H	D0-40	VF Separation Output Voltage	1V	7028
D0-10	Reserve	0.01V/0.01mA	700AH	D0-41	DI Input Status Visual Display	1	7029
D0-12	Count Value	1	700CH	D0-42	DO Input Status Visual Display	1	702A
D0-13	Length	1	700DH	D0-43	DI Function Status Visual Display 1(Function 01-Function 40)	1	702B
D0-14	Load Speed Display	1	700EH	D0-44	DI Function Status Visual Display 2(Function 41-Function 80)	1	702C
D0-15	PID Setting	1	700FH	D0-45	Fault Information	1	702D
D0-16	PID Feedback	1	7010H	D0-58	Z Signal Counter	1	703A
D0-17	PLC Stage	1	7011H	D0-59	Setting Frequency (%)	0.01%	703B
D0-18	PULSE Input Pulse Frequency (Hz)	0.01kHz	7012H	D0-60	Running Frequency (%)	0.01%	703C
D0-19	Feedback Speed (Hz)	0.01Hz	7013H	D0-61	Inverter Status	1	703D
D0-20	Remaining Running Time	0.1Min	7014H	D0-62	Current Fault Code	1	703E
D0-21	AI1 Voltage Before Calibration	0.001V	7015H	D0-63	Sending Data for Point-to-Point Master Communication	0.01%	703E
D0-22	Reserve	0.001V/0.01mA	7016H				
D0-24	Linear Speed	1m/Min	7018H	D0-64	Number of Slave	0.01%	7040
D0-25	Current Power-on Time	1Min	7019H	D0-65	Torque Upper Limit	0.1%	7041
D0-26	Current Running Time	0.1Min	701AH	D0-74	Motor Actual Output Torque	-100-100%	7047

# **Chapter 5.** Fault Diagnosis & Troubleshooting

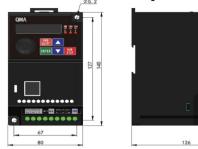
#### Fault diagnosis & troubleshooting

The inverter has multiple warning information and protection functions, such as overvoltage, undervoltage and overcurrent. In case of abnormality, the inverter enables protection function and stops output. Abnormal contact acts and the motor will roast to stop. Please refer to corresponding fault cause and handling methods.

| Operation | Operation | Operation | Fault cause | Troubleshooting | Fault panel | Fault cause | Troubleshooting | Troubleshooting | Fault cause | Troubleshooting | Tr

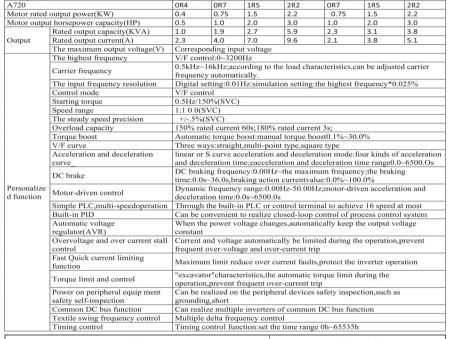
	display				display		
Overcurrent under constant speed	OCN	Output circuit of inverter grounded or short circuited     Vector control mode and without parameter tuning     The voltage is too low	Troubleshoot external fault     Carry out motor parameter tuning     Adjust the voltage to normal range     Cancel the impact load		OLI	I. If motor protection parameter P9-01 is set properly     If the load is too large or there exists motor stalling     The inverter power is too small     The input voltage is not within the specified.	Set this parameter correctly     Reduce the load and check the motor and mechanical conditions     Select the inverter with higher power level     Adjust the voltage to the range specification.
		If there exists impact load during running     Inverter power is too small	5. Select the inverter of higher power level	Control power fault	UU	range	by the specification
Overvoltage under constant speed	OUN	High input voltage     During running, there exists external force driving the motor      Output circuit of inverter is short circuited	Adjust the voltage to normal range     Cancel the external power or install braking resistor     Troubleshoot external fault     Install inductor or output filter	Module overheating		Ambient temperature is too high     Air duct is blocked     Fan damaged     Module thermistor is damaged     Inverter module is damaged	Lower the ambient temperature     Clean the air duct     Replace the fan     Replace the thermistor     Replace the inverter module
Inverter unit protection	SC	Wiring of motor and inverter is too long     Module overheating     Hondule overheating     Hongring of inverter looses     Master control board abnormality     Oriver board abnormality     Variable module abnormality     Input voltage is too high	3. Check if the duct is blocked, if the fan runs normally and troubleshoot existing problems 4. Connect all wires properly 5. Ask for technical support 6. Ask for technical support 7. Ask for technical support 1. Adjust the voltage to normal range	Undervoltage fault	LU	Instantaneous power failure     Input voltage of inverter is not within the range specified by the specification     Bus voltage is unabnormal     Rectifier bridge and buffer resistor run abnormally     Driving failure     Control board failure	Reset the fault     Adjust the range to normal range     Ask for technical support     Ask for technical support     Ask for technical support     Ask for technical support
Overvoltage under acceleration	OUA	During running, there exists external force driving the motor     Too short acceleration time     There is no braking unit and braking resistor	2. Cancel the external power or install braking resistor 3. Increase the acceleration time 4. Install braking unit and resistor.		OL2	The load is too large     The inverter power is too small	Reduce the load and check the motor and mechanical conditions     Select the inverter with higher power level
		Output circuit of inverter grounded or short circuited	1. Troubleshoot external fault	EEPROM read failure	EP	1. EEPROM chip is damaged	1. Replace the master control board
Overcurrent under deceleration	OCD	Vector control mode and without parameter tuning     Short deceleration time	Carry out motor parameter tuning     Increase the deceleration time     Adjust the voltage to normal range	Accumulated power-on time reach fault	UT	Accumulated power-on time reaches to the setting value	Enable parameter initialization functi to clear the record information.
		Too low voltage     Impact load during running     There is no braking unit and braking resistor     Output circuit grounded or short circuited	Cancel the impact load     Install braking unit and resistor.      Troubleshoot external fault	External equipment fault	EF	Input external fault signal through multi-function terminal DI     Input external fault signal through virtual IO function	Reset running     Reset running
Overcurrent under		Vector control mode and without parameter tuning     Too short acceleration time     Manual torque boost or V/F curve is not	Carry out motor parameter tuning     Increase the acceleration time     Adjust the manual boost torque or V/F curve	Inverter hardware fault	ЕН	There exists overvoltage     There exists overcurrent	Troubleshoot according to overvoltage     fault     Troubleshoot according to overcurrent fault
acceleration	OCA	Start the motor in rotation     There exists impact load during acceleration	Adjust the voltage to normal range     Select the rotation speed tracking staart or restart after the motor stops.     Cancel the impact load.	Communication fault	CE	PC runs abnormally     Communication wire runs abnormally     To group of communication parameters are incorrect	Check the PC wiring     Check the communication wiring     Set communication parameters correct
PID feedback loss	PD	process 8. Inverter power is too small 1. PD feedback is lower than the setting value	Select the inverter with higher power level     Check the PID feedback signal or set	Accumulated running time reach fault	ОТ	Accumulated running time reaches to the setting value	Use parameter initialization function clear the record information.
fault during running	-	of 10-28  1. The leading wire from the inverter to the motor is abnormal	10-28 properly  1. Troubleshoot external fault 2. Check if the 3 pless winding of motor	Offload fault	LL	Inverter running current is lower than the value set by P9-64	<ol> <li>Confirm if motor is disconnected from the load or P9-64 and P9-65 conform to actual running condition.</li> </ol>
Output phase loss	LF		Check if the 3-phse winding of motor runs normally and troubleshoot the fault     Ask for technical support	Contactor fault	RL	Driver board and power supply failure     Contactor failure	Replace the driver board or power pa     Replace the contactor
Pulse-by-pulse	LC	Module abnormality     Here exists large load or motor stalling	Ask for technical support     Reduce the load and check the motor and mechanical conditions	Motor tuning fault	ER	Motor parameters aren't set according to the nameplate     Overtime of parameter tuning process	Set motor parameters correctly according to the nameplate     Check the leading wire from inverter the motor
Overvoltage under deceleration	OUD	driving the motor	Select the inverter with higher power level     Adjust the voltage to normal range     Cancel the external power or install braking resistor	fault	OH2	Temperature sensor wiring looses     Motor overtemperature	Detect the temperature sensor wiring and troubleshoot fault     Lower down the carrier frequency or take other radiation measures to cool do the motor
		Too short acceleration time     There is no braking unit and braking resistor	Increase the acceleration time     Install braking unit and resistor.	Current detection fault	CC	Check hall element abnormality     Driving board failure	Replace hall elements     Replace the driving board
				Short circuited to			

# **Chapter 6**. Overall dimensions









	Inverter	Braking Resistor		
Volatge	Max motor machine capacity	Inverter Model	Resistors specification	Resistor qty
230V	0.4	0.4KW	80W 200Ω	1
	0.75	0.75KW	80W 200Ω	1
	1.5	1.5KW	300W 100Ω	1
	2.2	2.2KW	300W 70Ω	1
440V	0.75	0.75KW	70W 750Ω	1
	1.5	1.5KW	260W 400 Ω	1
	2.2	2.2KW	260W 250 Ω	1

# Appendix A720 Modbus communication protocol

and feed back to the host as a response.

J. 1.1 Application mode:
Inverter access to the PCP/LC control network with RS485 bus wire "single master multislave", as a communication slave.

1.1.2 Bus Wire Structure

J. 1.2 Bus Wire Structure

The RS485 extension card, MD38TX1 hardware needs to be inserted into the inverter.

2. Topological structure: single host and multiple slave systems. Each communication device in enetwork has a unique slave station address with one device, on need to be as the Host
(usually flat PC host, PLC, HMI, etc.), initiate communication actively, and read or write
parameters to the slave computer. Other devices in the communication slave, response to the
boat of the local inquiry or communication operation. Only one device can send date at a time
The setting range of slave address is 1–2470, is broadcast address. The slave address in the
network must be unique. The setting range of stave adures is 1 = 247 of strong cast aduress. In easier adures in the network must be unique.

3. Communication transmission mode is asynchronous serial, half duplex transmission mode In a communication, data is sent one frame at a time in the form of message. According to the Modbus-RTU protocol, when the free time of communication data online is more than 3.5Byte, it means the start of a new communication frame.

Host send 1 Slave Response 2

| Host send 2 Slave Response 2 | Slave Response 2 | Slave Response 2 | Slave Response 2 | Slave Response 3 | Slave Response 4 | Slave Response 5 | Slave Response 5 | Slave Response 5 | Slave Response 6 | Slave Response 6 | Slave Response 6 | Slave Response 7 | Slave Response 7 | Slave Response 8 | Slave Response 9 | Sl 

The communication protocol built in A720 series inverter is Modbus-RTU slave communic protocol, which can respond to the host's "query/command" or make corresponding actions according to the host's "query/command" and reply the communication data.

The host can be a personal computer (PC), industrial control equipment or programmab controller (PLC), etc., the host can communicate to an exact slave, but also can broadcathe lower slave. For separate access to the host "query/command", the accessed slave with a reply frame; For broadcast messages sent by the host, the slave does not need to respon J.2 Communication data structure The Modbus protocol communication data format of A720 series inverter is as follows. The inverter only supports reading or writing of word-type parameters, and the corresponding communication reading operation command is Ox05. the write operation command is Ox06, does not support byte or bit in read and write operations:

>3.5Byte 1Byte 1Byte 2Byte 1Byte 2Byte

s	Slave station read error frame	Free (Frame Header) (min dots Entertype CRC checking show ables (Entertype CRC checkin				
logic to all return back to	Slave station write error frame	Conduct CRC desting Byte State CRC desting				
6, it	Data frame description:    Data frame description:   Data frame d					

Slave station read respond frame (Free (Frame Header) | Double Latin state of (Frame Header) | D

Caculate CRC checking

Caculate CRC checking

# Function code number II The number of function codes read in this frame, if I, means that I function code is read. When transmitting, high bytes are in front and low bytes are behind. This proceduce are only review for enforced code at a time, without this field. Data H The response data, or data to be written, is transmitted with high bytes in front and low bytes behind Data L CRC CHK Lower Test value: CRC 16 check value When transmitting, low bytes are in front and high bytes are behind. The calculation method is described in CRC verification section. END 3.5 TD8Test

2. CRC verification method:
CRC (Cyclical Redundancy Check) USES RTU frame format, messages include CRC based error detection fields. The CRC detects all the message content. The CRC field is a two-byte, include 16-bit binary. It is calculated by the transport device and added to the message. The receiving device recalculates the CRC received message and compares with the value in the received CRC field. If the two CRC values are not equal, the transmission is wrong.
CRC store 0xFFFF firstly, and then call a procedure to process the continuous 8-bit bytes in the

CRC store 0xFFFF firstly, and then call a procedure to process the continuous 8-bit bytes in the message with the value in the current register. Only 8Bit data in each character is valid for CRC, starting and stopping bits and parity bits are all invalid.

During CRC generation, each 8-bit character is separately distinct from the register contents or (XOR), and the result moves towards the least significant bit, while the highest significant bit is filled with 0.LSB is extracted for detection, if LSB is 1, the register separately differs from the preset value or, if LSB is 0, it is not performed.The whole process is repeated eight times.After the last bit (8th bit) is completed, the next 8-bit byte is separately or different from the current value of the register.The value in the final register is the CRC value after all bytes in the message been executed. When CRC is added to a message, low bytes are added first, then high bytes.CRC simple functions are as follows:

8. Pulse (PILSE) output control :(write only) are as follows: unsigned int crc\_chk\_value (unsigned char \*data\_value,unsigned char length) { unsigned int crc\_value=0xFFFF: 2004H 0  $\sim$  7FFF means 0% $\sim$  100% while (length--) 9. Inverter fault description crc value^=\*data value++; if (crc\_value&0x0001) crc value= (crc value>>1)

return(crc\_value);

Read and write function code parameters (some function codes cannot be changed and are only used by manusacurers or monitoring: 1;
3. Function code parameter address mark rule
-ligh-order byte: P0-15(PF)(group P), B0-BF(group B), 70-7F(group U)
-low order byte: 00-PP
-low code byte: 00-PP
-low

Group 16 (PP): neither parameters can be read nor changed;

1) Group to (Fr): neutrier parameters can be read not changed; 2) U group: readable only, parameters cannot be changed.Some parameters cannot be changed when the inverter is in running state.No matter what state the inverter is in, some parameters cannot be

When Change the function code parameters, take note of the scope, units, and description of the Function code group number Communication Address Communication group change RAM function code address

 
 P0 ~ 15 Group
 0xf000 ~ 0xfEFF
 0x0000 ~ 0x0EFF

 B0 ~ BC Group
 0xh000 ~ 0xACFF
 0x4000 ~ 0x4CFF

 10 Group
 0x7000 ~ 0x70FF
 0x4000 ~ 0x4CFF
 Note: Because EEPROM is stored frequently, it can reduce the lifetime of EEPROM. Therefore, some function codes in communication mode do not need to be stored, just change the value in RAM.

RAM.

1) if P group parameters want to achieve this function, as long as the high-order F of the function code address change to 0 can be achieved.

2) if the group B parameters want to achieve this function, by changing the high-order A of the function code address to 4.

The corresponding function code address is shown as follows:
High-order by:: 00-0F(group P), 40-4F(group B)
Low order byte:: 00-PP

uch as:
Function code p3-12 is not stored in EEPROM, address is 030C.

Function code p5-12 is not stored in EEPROM, address is 0.30C.
Function code b0-05 is not stored in EEPROM, address is 4005;
This address can only do write RAM, can not do read action, read is invalid address.
For all parameters, this function can also be implemented by using the command code 07H.

parameters address	Parameter des	parameters address	Parameter des
1000H	Communication set (decimal) - 10000 ~ 10000	1010H	PID setting
1001H	Run Freq.	1011H	PID feedback
1002H	Bus Vol	1012H	PLC steps
1003H	Output Vol	1013H	PULSE input pulse freq. Unit 0.01Khz
1004H	Output current	1014H	Feedback speed unit 0.1Hz
1005H	Output power	1015H	Remain run time
1006H	Output Torq	1016H	AI1 Pre-correction voltage
1007H	Run Speed	1017H	AI2 Pre-correction voltage
1008H	DI input mark	1018H	AI3 Pre-correction voltage
1009H	DO output mark	1019H	Linear speed
100AH	AI1 Vol	101AH	Current power on time
100BH	AI2 Vol	101BH	Current run time
100CH	AI3 Vol	101CH	PULSE input pulse freq. Unit 1Hz
100DH	Count Input	101DH	Communication set value
100EH	Length input	101EH	Actual feedback speed
100FH	Load speed	101FH	Main Freq. X shows
-	-	1020H	Auxiliary frequency Y shows

Note:
1) Communication set value is the percentage of the relative value, 10000 corresponds to 100.00%, -10000 corresponds to -100.00%.
2) For the data of frequency dimension, this percentage is the percentage relative to the maximum frequency (0)-10):For the torque dimension data, the percentages are p2-10 and b2-48 (the torque upper limit number is set, corresponding to the first and second motors respectively.

Statu Address Statu function 3000H 0001: Running forward 0002: Reverse run 0003: Stop

### 2. Control command input to frequency inverter :(write only) Command address Command function

Commond Function
ODO1: Running Forward
ODO2: Reverse run
ODO3: normal inching turning
ODO4: Reversal point nove
ODO5: Pree stop
ODO6: Pree stop
ODO6: Preestop
ODO7: Fault resetting 3.Read inverter status :(read-only)

Frame header START Pree of over 3.5 character transfer times

Slore aktion ADR Communication address range: 1 – 247; 0 – broadcast address

Communication ADD 20: read alone parameter; 06: wire alone parameter

Function rode address 11

Invester internal parameter address, hexadecimal representation; the no-delived 4.Parameter lock password check :(if the return is 8888H, that means the password passed Password address Enter the password

# 

J.4 PD Group communication parameters description

annot be conducted.

The higher the baud rate is, the faster the communication speed will be.

The data format set by upper computer and Inverter must be the same, otherwise, communication cannot be carried ou 

When the local address is 0, it is the broadcast address and realizes the broadcast function of the unper

computer.

The local address has uniqueness (except broadcast address), which is the basis of realizing point-to-point communication between upper computer and inverter.

5.Digital output terminal control :(write only)

Analog output AO1 control :(write only)

Analog output AO2 control :(write only)

Command address Command content

BITO: DOI output control;
BITI: DO2 output control
BIT2: RELAY2 output control
BIT3: RELAY2 output control
BIT4: RELAY8 output control
BIT5: WO01
BIT6: WO02
BIT7: WO03
BIT7: WO03
BIT7: WO04
BIT9: WD05

ONS: Parameters road and write absormal
ONS: Farameters road and write absormal
ONS: Moster to ground short circuit fami
ONS: Moster to ground short circuit fami
ONS: Moster to ground short circuit fami
ONS: Moster define famil 1
ONS: Chart define famil 2
ONS: However on the surONS: Most define famil 2
ONS: Past current limit overtise famil
ONS: Past current limit overtise famil
ONS: Past current limit overtise famil
ONS: Short overspeed
ONS: Most overspeed
ONS: Most overspeed
ONS: Most overspeed
ONS: Most overspeed
ONS: Encoder line number setting error
ONS: Encoder line number overspeed

 $13-05 \begin{tabular}{ll} \hline & Communication protocol selection & Default & 0.0 s \\ \hline & Set Range & 0. Non-standard Modbus protocal: 1: Standard Modbus Protocal \\ \hline \end{tabular}$ 

13-05=1: choose standard Modbus protocal.
13-05=0: when read the command, the slave retuened byte number is one more than standard Modbus protocal, see this agreement "5" for detail Communication data structure section. 13-06 Communication reading current resolution Default 0 Set Range 0: 0.01A; It is to determine the current value output unit during reading the communication output curren

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