PEACO SUPPORT
PNEUMATIC & ELECTRONIC & AUTOMATION & COMPONENTS & ONLINE

PEACO-YX3000 Series
SENSORLESS VECTOR TYPE

USER MANUAL

Preface

Thank you for choosing Shenzhen PEACO Support Co., Ltd

PEACO-YX3000 series vector control inverter is mainly po
market for OEM customers and the specific requir
pump load applications, its flexible design, both embe
in one, can be widely used for speed control accur
speed, low-frequency output characteristics and othe
requirements.

This user manual supplies a detailed description of PEACO-YX3000 series vect
control inverter includes product characterization, stru
setting, operation and commissioning, inspection ma
contents. Be sure to carefully read through the safety
and use this product on the premise that personnel a
ensured.

IMPORTANT NOTES

- To illustrate the details of the products, pictures in
  products with outer casing or safety cover being rem
  product, please be sure to well install outer casing
  and operating in accordance with the manual conten
- The illustrations this manual for illustration only an
  products you have ordered;
- The company is committed to continuous improvemen
  product features will continue to upgrade, and the in
  subject to change without notice.
- If you are using have questions, please write to our customer service centre at service@peacosupport.com
- The company's products please visit our website. http://www.peacosupport.com

Contents

Chapter 1

Safety Precauti

Chapte

Users are requested to read this chapter carefully whe
ng and repairing this product and perform the operat
precautions as set forth in this chapter. Otherwise, fail
no responsibility for any injury and loss as a result of

Safety signs in this manual	
DANGER	indicates the situation in which the failure requirements may result in fire or serious p even death.
CAUTION	indicates the situation in which the failure requirements may cause moderate or slight age to equipment.

1.1 Safety Considerations

Use Stage	Safety	Precautions
Before Installation	DANGER	✧ Do not install the product if the package or component is missing or broken; ✧ Do not install the product if the label on not identical to that on the inverter.
	CAUTION	✧ Be careful of carrying or transportation. damage; ✧ Do not use damaged product or the inver component .Risk of injury; ✧ Do not touch the parts of control system hands. Risk of ESD hazard.
Installation	DANGER	✧ Installation base shall be metal or other material. Risk of fire; ✧ Do not install inverter in an environment explosive gases, otherwise there is dang ✧ Do not unscrew the fixing bolts, especial red mark.
	DANGER	✧ Do not leave cable strips or screws in th of inverter damage; ✧ Install the product at the place with les no direct sunlight;

Use Stage	Safety	Precautions
Installation	DANGER	✧ Consider the installation space for co two or more inverters are placed in th
Wiring	DANGER	✧ Wiring must be performed by authoriz personnel. Risk of danger; ✧ Circuit-breaker should be installed bet and the mains. Risk of fire; ✧ Make sure the input power supply has be disconnected before wiring. Failure to result in personnel injury and/or equipme ✧ Since overall leakage current of this equ bigger than 3.5mA, for safety's sake, th and its associated motor must be well gr to avoid risk of electric shock; ✧ Never connect the power cables to the ou (U,V,W) of the AC drive. Pay attention t the wiring terminals and ensure correct to comply will result in damage to the AC ✧ Install braking resistors at terminals (P+ only. Failure to comply may result in damage.
	CAUTION	✧ Since each AC drive from * 0++*have been subjected to hi-pot te delivery, users are prohibited from impl a test on this equipment. Failure to result in equipment damage. ✧ Signal wires should to the best of the away from main power lines. If this cann vertical cross-arrangement shall be i otherwise interference noise to contro occur. ✧ If motor cables are longer than 100m, it ed output AC reactor be used. Failure t result in faults.
Before Power-on	DANGER	✧ Inverter shall be power-on only after the assembled. Risk of electrical hazard.
	CAUTION	✧ Verify that the input voltage is identical voltage of product, correct wiring of inpu

Use Stage	Safety	Precautions
Before Power-on	CAUTION	S, T or L1, L2 and output terminals U, V, a inverter and its peripheral circuits, and a be in good connection. Risk of inverter dar
After Power-on	DANGER	✧ Do not open the cover after power. Ric hazard; ✧ Do not touches any input/output termina with bare hands. Rick of electrical hazar
	CAUTION	✧ If auto tuning is required, be careful of when motor is running. Risk of accident; ✧ Do not change the defaults of paramet devices damage.
During Operation	DANGER	✧ Non-professionals shall not detect sig operation. Risk of personal injury or dev ✧ Do not touch the fan or the dischargin check the temperature. Failure to compl personal burnt.
	CAUTION	✧ Prevent any foreign items from being left during operation. Risk of device damage; ✧ Do not control start/stop of inverter b contactor. Risk of device damage.
Main-tenance	DANGER	✧ Maintenance and inspection can only be professionals. Risk of personal injury; ✧ Maintain and inspect devices after power electric hazard; ✧ Repair or maintain the AC drive only ter the AC drive is powered off. This allows voltage in the capacitor to discharge to Failure to comply will result in personal ✧ All pluggable components can be inserte only when power has been turned off; ✧ Set and check the parameters again afte is replaced.

1.2 Use Considerations

1.2.1 Motor Insulation Inspection

When the motor is used for the first time or when the
kept, or when periodical inspection is performed, ins
conducted with motor so as to avoid damaging the in
insulation failure of the motor windings. The motor w
from the inverter during the insulation inspection. It is
500V mega meter, and the insulating resistance measur

1.2.2 Motor Thermal Protection

If the motor rating does not match that of the inverter,
power of the inverter is higher than that of the motor,
parameters in the inverter or install thermal relay to pro

1.2.3 Operating with the Frequency Higher than Grid Po

Output frequency of ŠYX3000 is 0.00Hz to 600.00Hz. If ŠYX3000 is
required to operate above 50.00Hz, please take the end
devices into consider-ation.

1.2.4 Mechanical Vibrations

Inverter may encounter mechanical resonance point of t
output frequencies which can be avoided by setting the
ers of the inverter.

1.2.5 Motor Heat and Noise

Since output voltage of inverter is PWM wave and contains
harmonics, so that the temperature, noise and vibrati
higher than those when the inverter runs at grid power f

1.2.6 Voltage-sensitive device or capacitor on output side

Do not install the capacitor for improving power facto
voltage-sensitive resistor on the output side of the AC
of the AC drive is PWM wave. Otherwise, the AC driv
overcurrent or even be damaged.

1.2.7 Contactor at the I/O terminal of the AC drive

When a contactor is installed between the input side of the
er supply, the AC drive must not be started or stopped b
on or off. If the AC drive has to be operated by the cont
interval between switching is at least one hour since fre
rge will shorten the service life of the capacitor inside

When a contactor is installed between the output side
motor, do not turn off the contactor when the AC dri
modules inside the AC drive may be damaged.

1.2.A Applied with Rated Voltage
Apply ŠYX30 with the rated voltage. Failure to comply will damage
inverter. If required, a transformer to step-down voltage.

1.2.B Do Not Apply 3-Phase input to 2-Phase input. Application does
not apply 3-phase input for 2-phase input applications. Otherwise, it
will result in fault or damage inverter.

1.2.10 Lightning Protection
ŠYX3000 has integrated lightning over-current protective device which has
certain self-protecting capacity against lightning. Additional protection devic
have to be installed between inverter and power supply in the area where
lightning occurs frequently.

1.2.11 Altitude De-rating
In place where altitude above 1000M and the cooling reduced due
to thin air, it is necessary to de-rate the AC drive. Con
technical support.

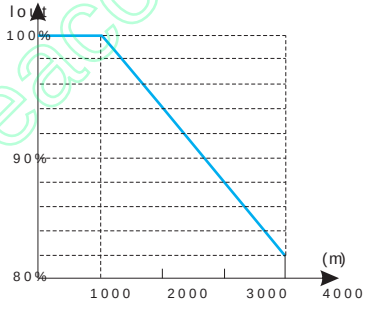


Figure 1-2 Inverter rated output current and elevation d

1.2.12 Some special usages
If wiring that is not described in this manual such as c
contact * 0++*-/ !or technical support.

1.2.13 Adaptable Motor

The standard adaptable motor is adaptable four-pole sq
induction motor or PMSM. For other types of motor
according to the rated motor current;

The cooling fan and rotor shaft of non-variable-fre
which results in reduced cooling effect when the re
variable speed is required, add a more powerful fan o
frequency motor in applications where the motor overhe

The standard parameters of the adaptable motor have b
AC drive. It is still necessary to perform motor auto-tu
values based on actual conditions. Otherwise, the runn
performance will be affected;

The AC drive may alarm or even be damaged when short
or inside the motor. Therefore, perform insulation sh
motor and cables are newly installed or during routine
test, make sure that the AC drive is disconnected from t

1.3 Cautions for Inverter Disposal

The electrolytic capacitors on the main circuit and PCB
are burnt. Emission of toxic gas may be generated wh
burnt. Please dispose inverter as industrial wastes.

Chapter 2

Product Description

2.1 Naming Rules

PYX3000 4- T 0015 G

① ② ③ ④ ⑤

Key	No.	Content
Abbreviation	1	PYX3000
Voltage level	2	2 ö 220V 4 ö 380V
Input voltage	3	S ö Single T ö Three phase
Power adapter	4	0.2KW~630KW
Load type	5	G öConstant Torque P öFan pump

Figure 2-1 Name Designation Rules

2.2 Nameplate

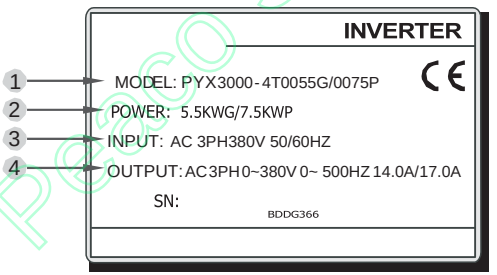


Figure 2-2 Name Designation Rules

No.	Content
①	Model
②	Rated power
③	Rated input voltage, frequency and current
④	Rated output voltage, frequency and current

2.3 Series model

Model		Rated Capacity (KVA)	Rated output current(A)	Motor power (KW)
G	P			
ŠYX 3000 series/Input voltage: 220V single pha				
P 3000-2S0004G	----	1.1	3.0	0.4
PYX uuurw uuu	----	vs	s	us
PYX uuurw uuv	----	ws	s	vs
PYX uuurw uuww	----	s	vusu	wsw
ŠYX 3000 series/Input voltage: 220V three-pha				
PYX uuurw uuv	----	su	su	vs
PYX uuurw uuww	----	su	vusu	wsw
ŠYX 3000 series/Input voltage: 380V three-phas				
PYX uuur uuu	PYX uuur uuv	vs	ws	us
PYX uuur uuv	3000-4T0022P2.2		4.0	1.5
PYX uuur uuww	3000-4T0037P3.0		6.0	2.2
PYX uuur uu	3000-4T0055P5.9		9.6	3.7
PYX uuur uu	3000-4T0075P8.5		14.0	5.5
PYX uuur uu	3000-4T0110P11		17.0	7.5
PYX uuur uvvu	3000-4T0150P17		25	11
PYX uuur uv u	3000-4T0185P21.7		32	15
PYX uuur uv	3000-4T0220P25.7		39	18.5
3000-4T0220G	3000-4T0300P29.6		45	22
3000-4T0300G	3000-4T0370P39.5		60	30
3000-4T0370G	3000-4T0450P49.4		75	37
3000-4T0450G	3000-4T0550P60		91	45
3000-4T0550G	3000-4T0750P73.7		112	55
3000-4T0750G	3000-4T0900P99		150	75
3000-4T0900G	3000-4T1100P116		176	90
3000-4T1100G	3000-4T1320P138		210	110
3000-4T1320G	3000-4T1600P167		253	132
3000-4T1600G	3000-4T1850P200		304	160
3000-4T1850G	3000-4T2000P234		355	185
3000-4T2000G	3000-4T2200P248		380	200
3000-4T2200G	3000-4T2500P280		426	220
3000-4T2500G	3000-4T2800P318		470	250
3000-4T2800G	3000-4T3150P342		540	280

Model		Rated Cap (KVA)	Rated ou current	Motor pov (KW)
G	P			
3000-4T3150G	3000-4T3500P	390	600	315
3000-4T3500G	3000-4T4000P	435	660	350
3000-4T4000G	3000-4T4500P	493	750	400
3000-4T4500G	3000-4T5000P	560	810	450
3000-4T5000G	3000-4T5600P	625	860	500
3000-4T5600G	3000-4T6300P	691	990	560
3000-4T6300G	3000-4T7100P	770	1100	630

2.4 Technical Specification

Items		Specifications
Input	Rated Voltage	Single phase220V, three phase 200V, t 50Hz/60Hz
	Tolerance	Voltage: -20%ÿ^+20% voltage devia Frequency: ±5%
Output	Rated voltage	0ÿ^200V/220V/380V
	Frequency ra	0Hzÿ^500Hz
	Frequency re	0.01Hz
	Overload cap	150% rated current for1minute, 180% r seconds
Control function	Modulation m	Optimized space voltage vector SVPWM
	Control mode	Sensorless vector control (with optimal compensation)
	Frequency Ac	Digital setting: The highest frequency setting: The highest frequency ×±0.2%
	Frequency re	Digital setting: 0.01Hz; Analog setting: frequency× 0.1%
	Start frequen	0.40Hzÿ^20.00Hz
	Torque boost	Auto torque boost, manual torque boos
	V/F curve	Five ways: constant torque V/F curve, V/F curve ,3 kinds of down torque curv power)
	Acc./Dec. cur	Two ways: linear Acc./Dec.,S-curveAcc Acc./Dec. time, Time unit(minute/secon 6000 minutes.
	DC braking	DC braking startÿ0ÿ^15.00Hz brakingÿtimeÿ0ÿ^60.0s braking cÿ0ÿ^80ÿ

Items		Specifications
Control function	Energy consu braking	Below 22KW drive built-in energy consu external braking resistor is optional.
	Jog running	Jog frequency range:0.1Hz~50.00Hz, JC 0.1~60.0s
	PI built-in	Easily constitute a close loop control s
	Multi-stage s running	Multi-stage speed running available thr control terminals
	Textile swing frequency	Swing frequency available with preset adjustable
	Auto voltage regulation	Keep a stable voltage automatically wh transients
	Auto energy s running	Saving energy by auto optimizing V/F c load
	Auto current	Auto current limiting to prevent freque
	Multi pumps c	With water supply kit, it can implement pressure water supply
	Communicatio	Support: Modbus, Profibus, CANlink, C
Running function	Running comm channel	Keypad , Control terminal , Serial port switchable
	Frequency se channel	Keypad potentiometer setting; Function code setting: Serial p up/down setting: Input Analog voltage setting: Input Ana Input pulse setting; Combination ways switchable.
	Switch input	FWD/REV command: 8channels program 35kinds of function can be set separate
	Analog input	4~20mA: 0-10V: 2 optional analog input
	Analog output channel	4~20mA or 0~10V optional, setting freq frequency ,etc feature output
	Switch/pulse channel	Programmable open collector output: re pulse output:
Control panel	LEDdigital di	Display setting frequency, output volta
	External mete display	Display output frequency, output curren
	Key lock	All the keys can be locked
	Parameter co	Function code parameters can be copie inverters when use remote control pane

Items		Specifications
Protection fun		Overcurrentprotection:overvoltageprote ection:overheating protection: overloa
Optional part		Braking unit: remote control panel: cab etc.
Environmen	Environment	Indoors, avoid from direct sunlight, dus mist, steam, water dropper salt, etc
	Altitude	Lower than 1000m (derating is necessa
	Ambient temp	ÿ 10!ÿ^ÿ 40!
	Humidity	<95%RH, no condensation
	Vibration	Lower than 5.9m/s (0.6g)
	Storage temp	ÿ 20!ÿ^ÿ 60!
Struct	Protection lev	IP20ÿ In the selection of state display u stateÿ
	Cooling	Forced air cooling
Installation		Wall mounted; Floor mounted

2.5 Structure diagram

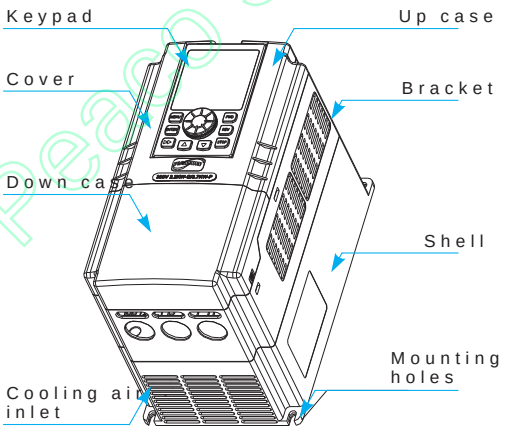


Figure 2-3 Product structure diagram

2.6 Dimensions

2.6.1 0.7~75KW

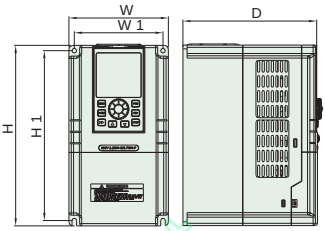


Figure 2-4

Model		Dimensions(				Mounting dimensions(		Pore size
G	P	H	W	D	H2	H1	W1	
ŠYX 2000 series/Input voltage: 220V single phase								
2000-2S0004G	----	144	85	111	---	144	74	¦5
2000-2S0007G	----							
2000-2S0015G	----							
ŠYX 2000 series/Input voltage: 380V three-phase								
2000-4T0007G	YX2000-4T00	144	85	111	---	144	74	¦5
2000-4T0015G	YX2000-4T00							
ŠYX 3000D series/Input voltage: 220V single phas								
3000D-2S0022G	----	184	98	133	---	174	88	¦5
3000D-2S0037G	----							
ŠYX 3000D series/Input voltage: 380V three-phas								
3000D-4T0007G	3000D-4T0015P	184	98	133	---	174	88	¦5
3000D-4T0015G	3000D-4T0022P							
3000D-4T0022G	3000D-4T0037P-M							
3000D-4T0022G	3000D-4T0037P	231	115	157	---	220	108	¦5
3000D-4T0037G	3000D-4T0055P							
3000D-4T0055G	3000D-4T0075P-M	231	115	177	---	220	108	¦5
3000D-4T0075G	3000D-4T0110P-M							
ŠYX 3000 series/Input voltage: 220V single phase								
3000-2S0004G	----	144	85	111	---	144	74	¦5
3000-2S0007G	----							
3000-2S0015G	----							
3000-2S0022G	----	184	98	133	---	174	88	¦5

Model		Dimensions(				Mounting dimensions(		Pore size
G	P	H	W	D	H2	H1	W1	
ŠYX 3000 series/Input voltage: 380V three-phase								
3000-4T0007G	3000-4T0015P	187	98	13	---	174	88	¦5
3000-4T0015G	3000-4T0022P							
3000-4T0022G	3000-4T0037P	237	111	15	---	220	108	¦5
3000-4T0037G	3000-4T0055P							
3000-4T0055G	3000-4T0075P	277	171	18	---	256	155	¦5
3000-4T0075G	3000-4T0110P							

2.6.2~11 110KW

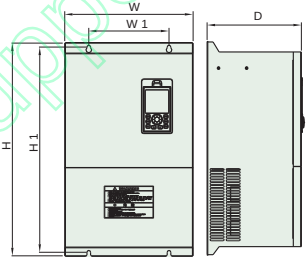


Figure 2-5

Model		Dimensions(				Mounting dimensions(r		Pore size
G	P	H	W	D	H2	H1	W1	
ŠYX 3000 series/Input voltage: 380V three-phase								
PYX 3000-4T0110G-M	3000-4T0150P-M	322	220	190	---	310	170	¦6
PYX 3000-4T0150G-M	3000-4T0185P-M							
PYX 3000-4T0110G	3000-4T0150P	355	240	210	---	347	170	¦6
PYX 3000-4T0150G	3000-4T0185P							
PYX 3000-4T0185G-M	3000-4T0220P-M							
PYX 3000-4T0185PG	PYX 3000-4T0220P							
PYX 3000-4T0220PG	PYX 3000-4T0300P	440	280	200	---	427	200	¦6
PYX 3000-4T0300PG-M	3000-4T0370P-M							
PYX 3000-4T0300PG	PYX 3000-4T0370P	530	320	230	---	512	200	¦8
PYX 3000-4T0370PG	PYX 3000-4T0450P							

Model		Dimensions(				Mounting dimensions(r		Pore size
G	P	H	W	D	H2	H1	W1	
ŠYX 3000 series/Input voltage: 380V three-phase								
3000-4T0450G	3000-4T0550P	255	131	126	---	530	250	¦10
3000-4T0550G	3000-4T0750P							
3000-4T0750G	3000-4T0900P	305	140	130	---	620	280	¦14
3000-4T0900G	3000-4T1100P							
3000-4T1100G	3000-4T1320P							

2.6.3 132 400kW (mounted)

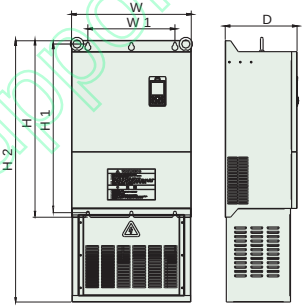


Figure 2-6

Model		Dimensions(r				Mounting dimensions(		Por size
G	P	H	W	D	H2	H1	W1	
ŠYX 3000 series/Input voltage: 380V three-pha								
3000-4T1320G	3000-4T1600P	379	245	130	108	756	280	¦14
3000-4T1600G	3000-4T1850P							
3000-4T1850G	3000-4T2000P	381	255	133	115	776	280	¦14
3000-4T2000G	3000-4T2200P							
3000-4T2200G	3000-4T2500P	381	264	135	127	776	480	¦14
3000-4T2500G	3000-4T2800P							
3000-4T2800G	3000-4T3150G	120	272	137	157	1150	500	¦14
3000-4T3150G	3000-4T3500G							
3000-4T3500G	3000-4T4000P	127	282	140	176	1220	600	¦14
3000-4T4000G	YX3000-4T45							

2.6.4. 280 315KW

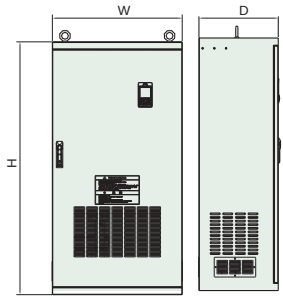


Figure 2-7

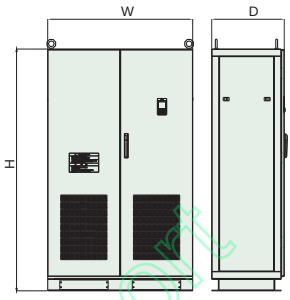


Figure 2-8

Model		Dimensions(r		
G	P	H	W	D
ŠYX 3000 series/Input voltage: 380V three-phase				
3000-4T2800G	3000-4T3150P	144	720	440
3000-4T3150G	3000-4T3500P			

2.6.5 -365308 W

Model		Dimensions(		
G	P	H	W	D
ŠYX 3000 series/Input voltage: 380V three-phase				
3000-4T3500G	3000-4T4000P	170	950	475
3000-4T4000G	3000-4T4500P			
3000-4T4500G	3000-4T5000P	190	950	475
3000-4T5000G	3000-4T5600P			
3000-4T5600G	3000-4T6300P	200	120	600
3000-4T6300G	3000-4T7100P			

2.7 Optional Parts

The following parts are optional. If require, please orde

2.7.1 Remote control panel

Part name	model	Features	Description
Remo contr pane	3000-YK01 ÿ No LCD liquid crys display ÿÿ 3000-YK02 ÿ Have LCD liquid crys disp ÿay	1. Control slave to run, stop, jog fault reset, char setting frequenc change function parameters and direction. 2. Monitor slave inverter s runnir frequency, settir frequency , outp voltage, output bus bar voltage,	1.RS485 communicat applied between rem control panel and in which are connected core cable via RJ45 port. 2. The maximum conn distance is 500M. Th supports local contr and remote control p at the same time, no Both can control the Hot plug in for remo panel is available.

2.7.2 Communication cable

Part name	model	Features	Description
Comm icati cable remo contr pane	3000-LAN0020 ÿ 2.0ÿm	Used to remotely operate the keyb and the drive ho connection.	Standard options:1m 10m, 20m. Which is 20m can be customiz the remote keyboard inverter connection.

2.7.3 Field bus Adaptor

Part name	Features	Description
Communication remote control	The inverter can connected into MODBUS field bu work via adaptor slave station in network.	Please refer to Chap communication proto

Part name	Features	Descriptio
Communication c remote control	The function as follow: ¤ Send command to invert start, stop, jog running ¤ Send speed or frequenc inverter; ¤ Read status from invert ¤ Fault reset for the inve	Please refe Chapter 9 t communica protocol.

2.7.4 Braking Resistors

ŠYX3000 series inverters under 22KW have built-in consu-ming braking is needed, please choose braking re Table 2-3. The wire connections of braking resistors are

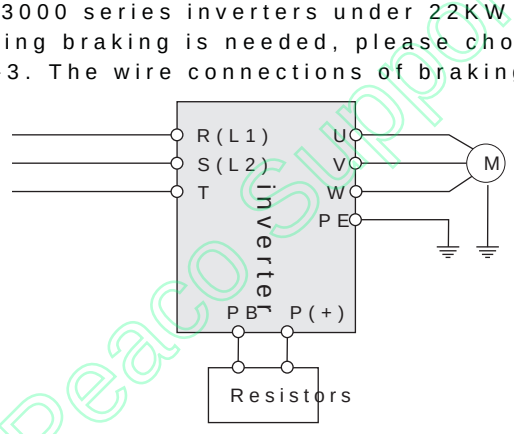


Figure 2-10 The wire connection of braking res

Table 2-1 Braking resistors selection table

Model	Applicabl motor (KW	Resistanc	Resistar power	Brake un
220V single phase				
3000-2S0004G	0.4KW	200©	100W	Built-in
3000-2S0007G	0.75KW	150©	200W	Built-in
3000-2S0015G	1.5KW	100©	400W	Built-in
3000-2S0022G	2.2KW	75©	500W	Built-in
380V three-phase				
3000-4T0007G	0.75KW	300©	400W	Built-in

Model	Applicabl motor (KV	Resistanc	Resistar power	Brake un
3000-4T0015G	1.5KW	300©	400W	Built-in
3000-4T0022G	2.2KW	200©	500W	Built-in
3000-4T0037G	3.7KW	200©	500W	Built-in
3000-4T0055G	5.5KW	100©	800W	Built-in
3000-4T0075G	7.5KW	75©	800W	Built-in
3000-4T0110G	11KW	50©	1KW	Built-in
3000-4T0150G	15KW	40©	1.5KW	Built-in
3000-4T0185G	18.5KW	30©	4KW	Built-in
3000-4T0220G	22KW	30©	4KW	Built-in
3000-4T0300G	30KW	20©	6KW	Built-in (Optiona
3000-4T0370G	37KW	16©	9KW	Built-in (Optiona
3000-4T0450G	45KW	13.6©	9KW	Externa
3000-4T0550G	55KW	20©*2	12KW	Externa
3000-4T0750G	75KW	13.6©*2	18KW	Externa
3000-4T0900G	90KW	20©*3	18KW	Externa
3000-4T1100G	110KW	20©*3	18KW	Externa

Chapter 3

Installation and w

3.1 Mechanical Installation

3.1.1 Installation Environment

- Please mount inside a well-ventilated location. The
  required to be within the range of -10~40!. If the temp
  !, the inverter should be de-rated, at the same time
  dissipation should be enhanced.
- Be away from the location full of dust or metal pow
  location free of direct sunlight.
- Mount in the location free of corrosive gas or combust
- Humidity should be lower than 90% with no dew conde
- Mount in the location where vibration is less than 5.9
- Please try to keep the inverter away from EMI sourc
  devices which are sensitive to EMI.

3.1.2 Mounting Space and Direction

- Generally in vertical way.
- For the requirements on mounting space and distance,
- When several inverters are installed in one cabinet, t
  parallel with special incoming and out coming ventil
  When two inverters are mounted up and down, an a
  should be fixed as shown in Fig.3-2 to ensure good he

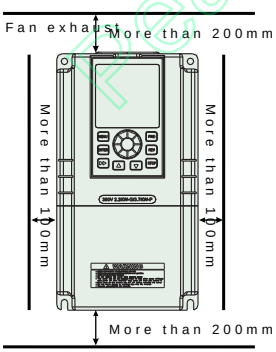


Figure 3-1 Mounting space

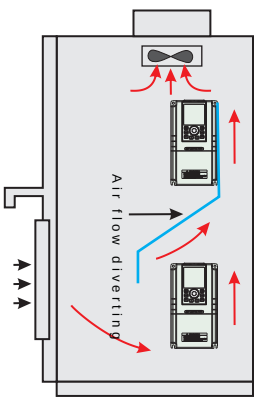


Figure 3-2 Mounting of multipl

3.2 Standard Wiring

3.2.1 Wiring precautions

DANGER

- Before wiring, please ensure the power has been re for at least 10minutes;
- Please do not connect AC power to output terminals
- To ensure the safety, the inverter and motor should is necessary to use copper wire above 3.5mmas gro resistance less than 10©;
- The inverter has gone through voltage withstand tes not make it again;
- Solenoid switch or absorbing devices, such as ICE connect inverter output;
- To provide input over current protection and for con nce, the inverter should be connected to AC power th
- Please use twisted wire or shielded wire above 0.75 relay input/output loop(X1~X6, FWD, REV, OC, DO). layer suspended, and the other side connected to P of inverter, wiring length less than 50m .

CAUTION

- The cover can be removed only when the power is sw on the panel are off and waiting at least for 10 minut
- Wiring work can be performed only when the DC volta P- terminals is lower than 36V;
- Wiring work can only be done by trained or professio
- Before usage, check whether the mains voltage meet inverter input voltage.

3.2.2 Main Circuit Wiring

3.2.2.1 Main circuit wiring diagram

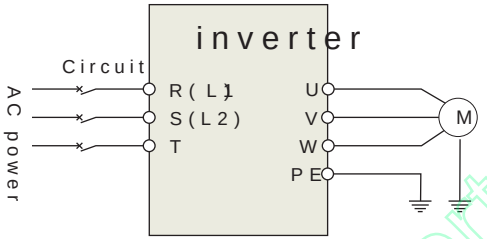


Figure 3-3 Main circuit wiring

3.2.2.2 Main Circuit Terminals Diagram

Apply t	Main circuit termi	Termir name	Function
220V 1-phase 0.4KW~2.	L1 L2 E U V W	L10 L2	220V 1-phase Input t
		U0 V0 W	3-phase Output termi
		E	Earthing
380V 3-phase 0.75KW~1	ÿ ÿÿ +ÿ PB R S T ⏚ U V W	R0 S0 T	380V 3-phase Input t
		U0 V0 W	380V 3-phase Output
		P+0 PB	Braking resistor wirir
380V 3-phase 2.2KW~3.	ÿ +ÿÿ ÿ R S T ⏚ U V W PB	R0 S0 T	380V 3-phase Input t
		U0 V0 W	380V 3-phase Output
		P+0 PB	Braking resistor wirir
380V 3-phase 5.5KW~22	R S T P+ P- PB U V W E	R0 S0 T	380V 3-phase Input t
		U0 V0 W	380V 3-phase Output
		P+0 PB	Braking resistor wirir
380V 3-phase 30KW~630	R S T P+ P- U V W E	R0 S0 T	380V 3-phase Input t
		U0 V0 W	380V 3-phase Output
		P+0 P-	Braking resistor wirir

Table 3-1 Description of Main Circuit input/output

3.2.3 Basic Wiring Diagram

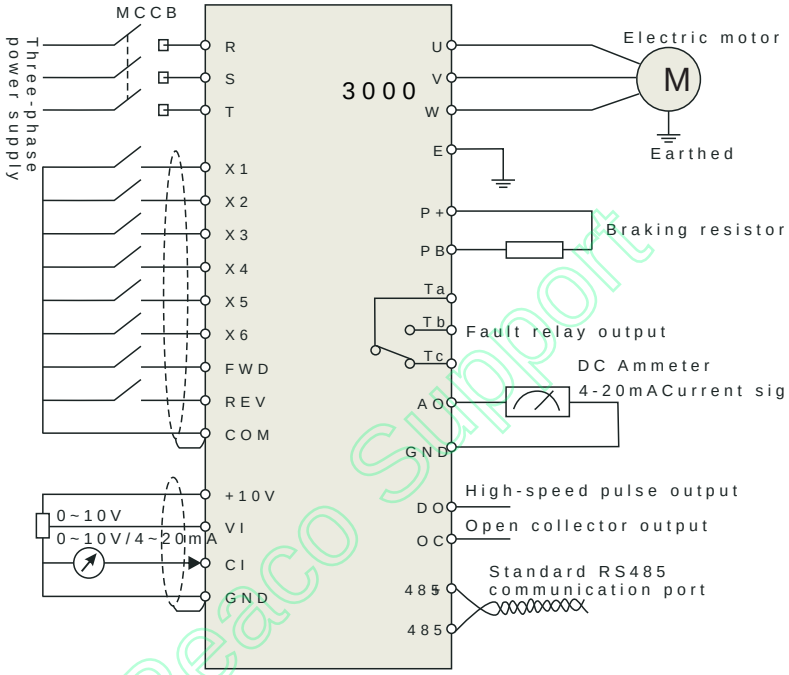


Figure 3-4 Basic Wiring Diagram

3.2.4 Control Circuit Terminal Wiring

3.2.4.1 Position and Function of Terminals and Jumpers on Contr

using the inverter, Please make correct terminals wirin

suggested to use above 1mm² wire as terminal connectio

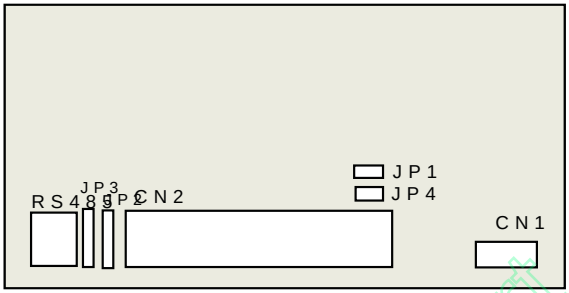


Figure 3-5 Position of terminals and jumpers on

3.2.4.2 Jumper switch

NO	Function	Setting	FD
JR	Pulse output te DO power selec	1-2 connected: internal24V po 2-3 connected: external power	extern powe
JR	Analog output current/voltage selection	1-2: 0~10V: AO1 output voltage sig 2-3: 4~20mA: AO1 output current si	0~10
JR	0~10VTerminal current/voltage Input selection	1-2: V side, 0~10 V voltage si 2-3: I side, 4~20 mA current	0~10
JR	X6 terminal inp selection	1-2: PLC sideÿ X6 used as mul terminal 2-3: FCHÿ X6 used as an exte pulse input	PLC side

Table 3-2 Jumper switch function

3.2.4.3 Function of CN 1 terminal

Sort	Termi	Name	Function Descr	Specification
Rela outp termi	TA/R	Multi fu onal re output termina	Can be defined a multifunctional Relay output ter programming, re Chapter6.5P4.12	TA-TC: NC TA-TB: Normally op contact capacityAC (COS=1) AC250V/1A (COS!= DC30V/1A
	TB/R			
	TC/R			

Table 3-3 CN 1 terminal function

3.2.4.4 Function of CN 2 terminal

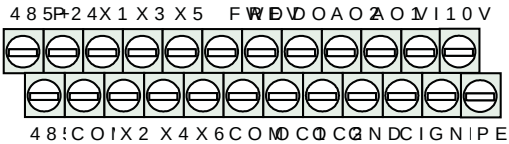


Figure 3-6 CN2 terminal order

Sort	Termi	Name	Function Descr	Specification
Comm icati	485+	Rs485 commun ation p	Rs485 differentia positive terminal	Twisted or shielde needed
	485-		Rs485 differenti negative termina	
Multi ction outp termi	OC1	Open collect outpu termina	Can be defined a multifunctional output terminal programming, re Chapter 6.5P4.1 (Common port: C	Couple isolated ou Working voltage: 9 Max.outputcurrent
	OC2	Open collect outpu termina	Can be defined a multifunctional on-off output ter programming, re Chapter 6.5P4.1 (Common port: C	Couple isolated ou Working voltage: 9 Max.outputcurrent
Puls outp termi	DO	Open collect pulse Outpu termin	Can be defined a multifunctional output terminal programming,Re Chapter 6.5P4.2 (Common port: C	Max. output freque 20KHz output freq range by P4.21
Anal inpu	VI	Analog input V	Analog voltage i (Grounding: GND	Input voltage rang (input resistance: Resolution: 1/100
	CI	Analog input C	Analog voltage/c input,Choose vo current input by JP3 jumper. Factory default: input(Grounding	Inputvoltagerange (input resistance: Inputcurrentrange (input resistance: Resolution: 1/100

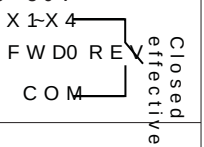
Sort	Termi	Name	Function Descri	Specificatio
Analo outpu	AO1	Analog output A	Analog voltage/curr output, indicating 7quantit Voltage or current setting JP2 jumper. Factory default: vo output (Grounding: GND)	Current output r 4~20mA Voltage output r 0~10V
	AO2	Analog output A	Analog voltage out indicating 7quantities(Ground GND)	Voltage output r 0~10V
Runni	FWD	Forwar	Refer to chapter 6	Couple isolated Input resistanc
	REV	Revers		
Multi ction inpu termi	X2	Multifunctional input termi		input frequency Input voltage ra 9~30V 
	X3	Multifunctional input termi		
	X4	Multifunctional input termi		
	X5	Multifunctional input termi		
	X6	Multifunctional input termi		
Powe sourc	P24	+24Vpo source	Supply +24V power (negative terminal	
	10V	+10Vpo source	Supply+10Vpower(terminal: GND)	Max. output cur 50mA
	GND	+10Vcor on port	Grounding of analo and+10V power sou	Terminal COM a GND are Isolate inside
	COM	+24Vcor on port	Digital signal inpu common port	

Table 3-4 CN 2 terminal function

3.2.5 Analog Input/Output Terminal Wiring

① Analog voltage signal input through VI terminal as fol

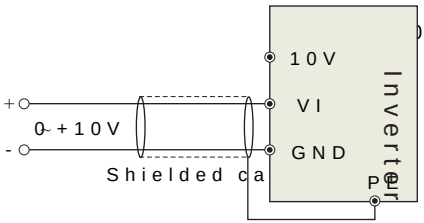


Figure 3-7 VI terminal wiring

② Analog signal input through CI terminal, jumper sel
(0~10V) or input current (4~20mA) as follow wiring

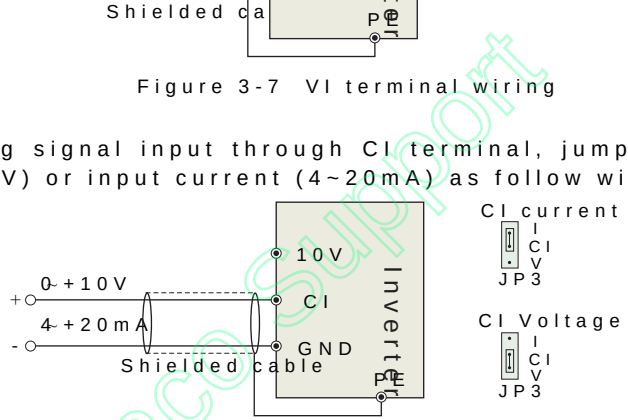


Figure 3-8 CI terminal wiring

③ Analog output terminal AO wiring

Analog output terminal can be connected with externa
various physical quantity, jumper selection for output
current (4~20mA) as follow wiring.

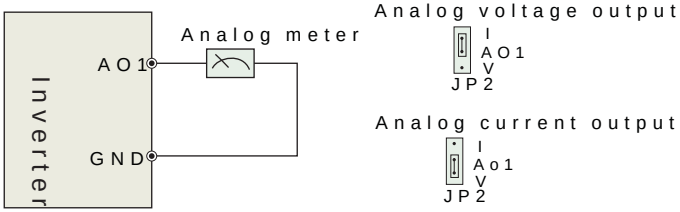


Figure 3-9 Analog output terminal wiring

NOTES:

- Filter capacitor or common-mode inductor can be ins
  GND terminal or CI and GND terminal when using anal
- Please use shielded cable and do well grounding , ke
  possible in order to prevent external interference wh
  output mode.

3.2.6 Communication Terminal Wiring

The inverter supplies standard RS 485 communication p

It can constitute one master one slave control system
slaves system. The upper computer(PC/PLC can real tim
the control system and achieve complicated control fu
control and spermatic, etc.

- Remote control panel can be connected RS485 port of inverte
  plugging in the remote control panel into RS485 port
  setting. The local control panel of inverter and remote
  the same time.
- Inverter RS 485 port and upper computer wiring as fol

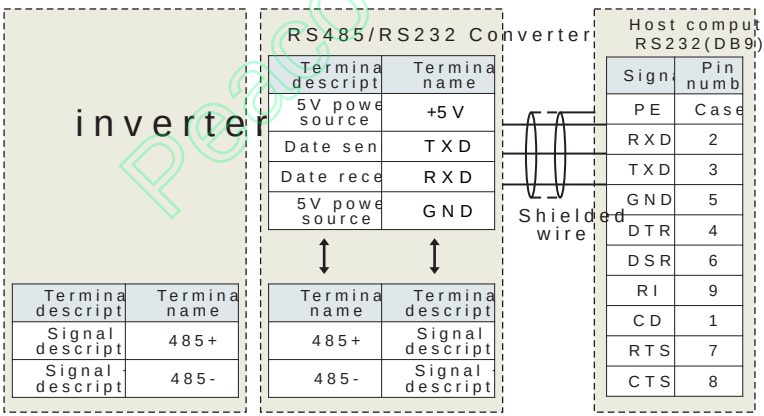


Figure 3-10 RS485-(RS485/232)-RS232 communicat

➢ Multi inverters can communicate via RS485, controlle
shown as Fig.3-11. It also can be controlled by one of i
as Fig.3-12.

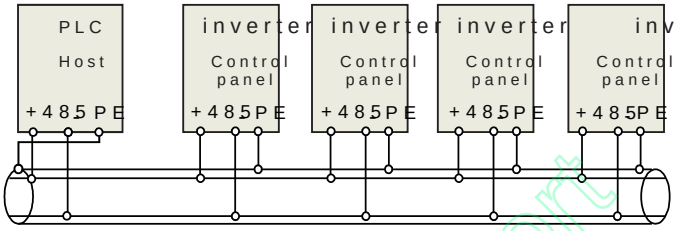


Figure 3-11 PLC communication with multi inv

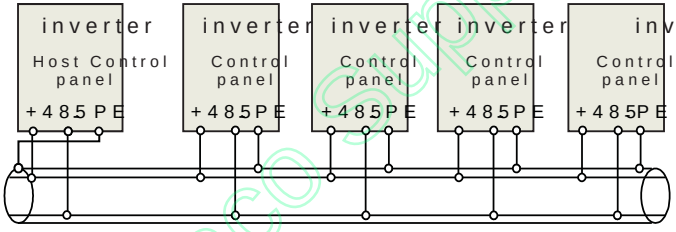


Figure 3-12 Multi inverters communication

The more inverters connected, the more the communic
occur. Please make wiring as above and do well grou
motors, or adopt the following measures to prevent int
wiring can t work.

❶ Separately power supply to PC/PLC or isolated the po

❷ Use EMIFIL to the wire or reduce carrier frequency pr

3.3 Wiring with Single phase motor

3.3.1 Single phase motor introduction

Single phase motor generally means asynchronous sing
by single phase AC 220V, there re two phase winding i
rotor is common squirrel cage. The distribution of t
different power supply will lead to different starting ch
characteristics

Usually single phase motor is with single capacitor or d
motor are as below:

Figure 3-13 Motor with single capacitor and double

Single phase motor is consisted of main winding, seco
and centrifugal switch, internal wiring of single phase
is as below:

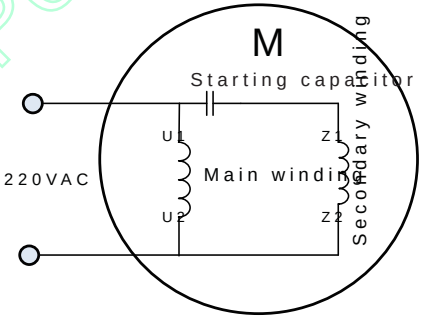


Figure 3-14 Operation mode: Internal wiring of motor w

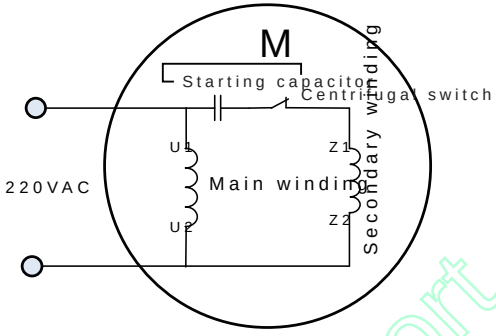


Figure 3-15 Starting mode: Internal wiring of motor wi

Internal wiring of single phase motor with double capac

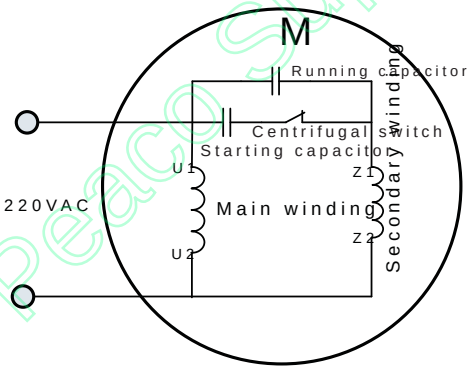


Figure 3-16 Internal wiring of motor with double ca

Resistor starting mode single phase motor, and internal

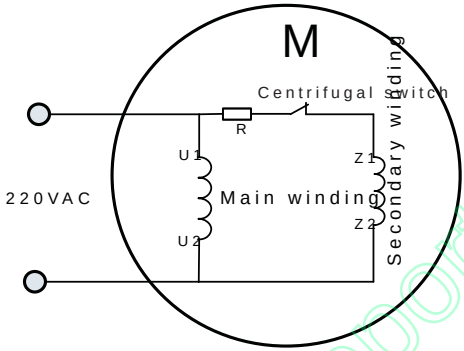


Figure 3-17 Resistor starting mode: Internal wirin

After removing the capacitors from above motors, rema
winding terminals as below:

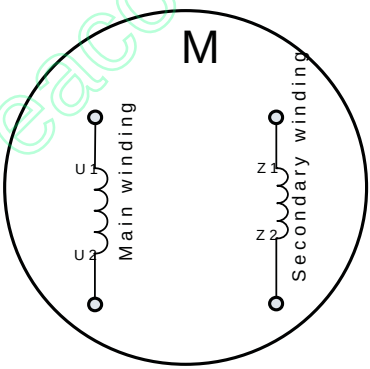


Figure 3-18 Main and secondary winding of motor (After r

3.3.2 Wiring between VFD and motor (Capacitor removab

Connect main and secondary winding of motor to inver
can work. But due to the motor winding difference, mot
as below, if not cause motor too heat.

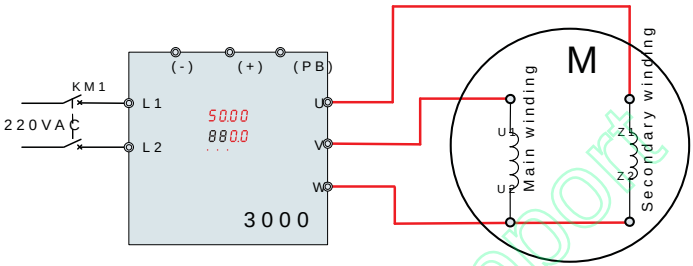


Figure 3-19 Forward wiring between 3000 (<=0.75K

Motor reverse can t be completed through parameter
change any two phase wirings, motor reverse wiring mu

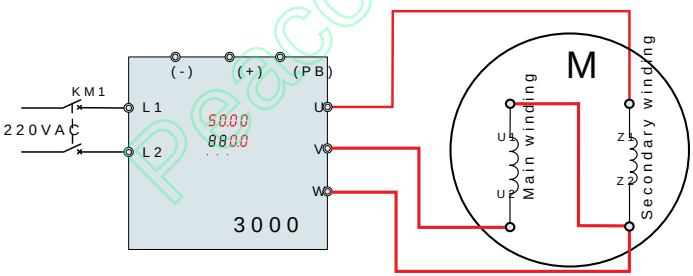


Figure 3-20 Reverse wiring between 3000 (<=0.75K

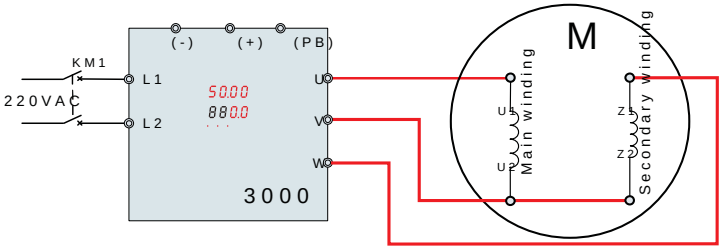


Figure 3-21 Forward wiring between YX3000 (ÿ 0.75kW

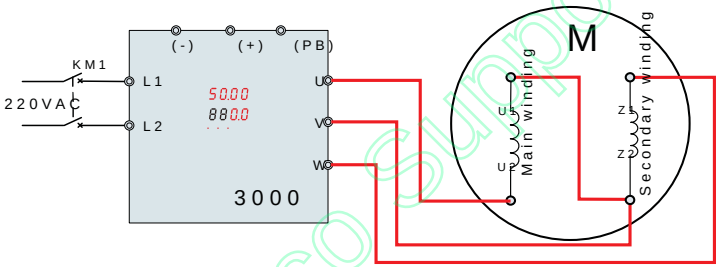


Figure 3-22 Reverse wiring between 3000 (ÿ 0.75kW

Note: After wiring completed, need to set P9.13=1(Thousand'

3.3.3 Wiring between VFD and motor (Non-removable capa

If the capacitor in motor is Non-removable, the wiring and reverse is determined by VW wiring sequence.

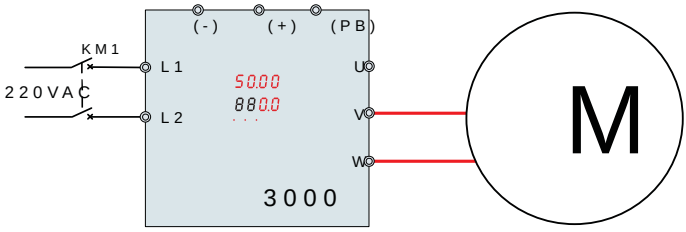


Figure 3-23 Wiring between 3000 (<=0.75Kw) and

The forward and reverse is determined by UV wiring sec

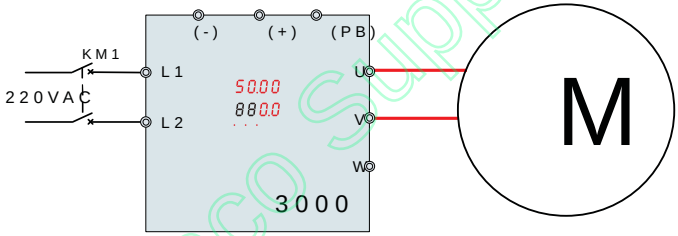


Figure 3-24 Wiring between 3000 (<=0.75Kw) and

Note: After wiring completed, need to set P9.13=2(Thousand'

3.4 EMC Installation Instruction

Inverter outputs PWM wave, it will produce electromagn interference, EMC installation will be introduced in suppression, wire connection, grounding, leakage curr supply.

3.4.1 Noise Suppression

3.4.1.1 Noise Type

Noise is unavoidable during inverter operation. Its influ
ipment is related to the noise type, transmission mean
install action, wiring and grounding of the driving syste

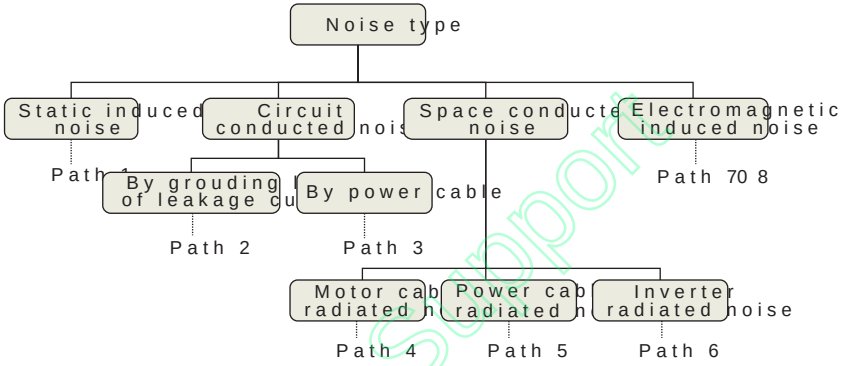


Figure 3-13 Noise classification

3.4.1.2 Noise Suppression Methods

Path	Noise suppression methods
Path 2	✧ If a closed loop is formed between the peripheral inverter wiring,the grounding leakage of the invert equipment. Solution: Remove the grounding of the p
Path 3	✧ When peripheral equipment share the same power inverter,the noise transmitted through the power lin peripheral equipment. Solution: Mount a noise filte or isolate the peripheral equipment with an isolated filter.
Path 4 Path 5 Path 6	✧ Electronic equipment such as computers, measurin and radio equipment, when in the same cabinet wit wiring close to the inverter, may misoperate due to Solution:

Path	Noise suppression methods
Path 4 Path 5 Path 6	✧ The susceptible equipment and its signal lines shou the inverter. Use shielded cable for the signal line coat. Protect the signal cable with a metal pipe inverter input/output cable. When crossing of the inverter input/output cables is inevitable,make sure ✧ Mount radio noise filter or linear nosie filter (choke side of the inverter to suppress the radio noise. ✧ The shielding coat for the cable connecting inve be thick. The wiring can be arranged through th or cement trench. The cable should be through a shilding coat grounded. You may use the 4-co power cable. Ground one core at inverter side wi connected to the motor case.
Path 1 Path 7 Path 8	✧ When the signal cables are parallel to, or bound to cables, the static and electromagnetic induction w transmit through the signal cable, misoperating the Solution ✧ Avoid laying the signal cables parallel to the powe together; ✧ Keep the susceptible peripheral equipment away fro ✧ Keep the susceptible signal bables away from the i inverter. Shielded cables should be used as the s Lead them through metal pipes respectively would a The metal pipes should be at least 20cm away from

Table 3-5 Noise suppression method

3.4.2 Wiring Connection and Grounding

① Please do not to wire motor cable (from inverter to mo power cable and keep at least 30cm from each other;

② Please try to arrange the motor cable through Control or in metal wiring groove;

③ Please use shielded cables control signal cable, and coat to PE terminal of inverter with proximal groundin

④ PE grounding cable should be directly connected to th

⑤ The control signal cable shouldn t be in parallel with (power cable/motor cable).They should not be bent to

kept away as least 20cm from each other. If cable cros
make sure it is same as Fig.3-1 6;

⑥ Please ground the control signal cable separately w
cable;

⑦ Please don t connect other devices to inverter power

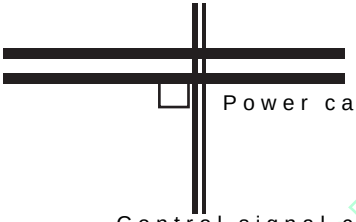


Figure 3-14 System wiring requirements

Chapter 4

Operation, Display and Applicatio

4.1 Initial Power on Operation

After inspecting cable connection and power source for input AC power switch. The inverter s LED on control p start menu. When it displays set frequency, it means completedÿ

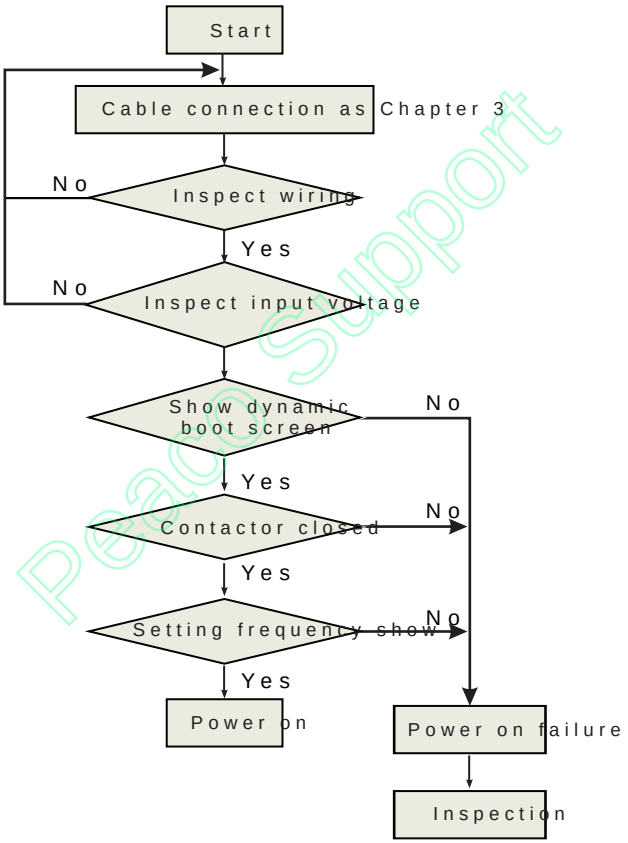


Figure 4-1 Inverter first power applied operati

4.2 Running of Inverter

4.2.1 Running Command Channels

Channe	Control method
Contro panel	Us FWD 0 STOP 0 ▲ ▼ Keys o on the panel to control t (Factory default)
Contro termin	Use terminal FWD,REV, COM to constitute a 2-w one of terminals amongX1~X6 and FWD, REV to mode.
Serial	¤ Use upper computer (PC/PLC) or Master invert inverter to start or stop via serial port. ¤ The command channels can be selected by set P0.03, or by multifunctional input terminal (fu

Table 4-1 Running Command Channels

Noteÿ
These three channels are all switchable. Please make debu to avoid equipment damage and personal injury.

4.2.2 Frequency setting channel

There are 8 kinds of frequency setting channels as follow:

Numb	Channel	Numb	Channel
0	by control panel poter	1	by ▲ ▼ control panel
2	digital setting by funct control panel	3	via terminal UP/DOWN
4	by upper computer via	5	analog setting via VI t
6	analog setting via CI t	7	via pulse terminal
8	combination setting		

Table 4-2 Frequency setting channel

4.2.3 Inverter Running States

There are 8 kinds of frequency setting channels as follow:

Channe	Control method
Standb state	When power switch on, inverter will be in standb control command. Or receiving Stop command du inverter will stop and standby.
Runnir state	After running control command is received, the i

Table 4-3 Inverter Running States

4.2.4 The Running Modes of Inverter

There are five running modes according to priority whic loop running, PLC running, multi-stage speed running, shown in Fig.4-4.

Runnir Modes	Control method
0ÿ JOG runnir	In stopping state, after receiving JOG running co according to JOG frequency, for example, REV pre to give JOG command(refer to function codeP3.0
1ÿ Clos loop runnir	By setting close loop running control parameter inverter will enter close loop running, that is PI code P7). To make close loop running invalid, pl input terminal (function27) and switch to lower p
2ÿ PLC runnir	By setting PLC function parameter (refer to function code P8. enter PLC running mode and run according to pre function code P8).To make PLC running invalid, input terminal (function29) and switch to lower
3ÿ Mult stage speed runnir	By setting non-zero combination of multifunction (function1,2,3) and selecting multi-frequency 1-7 multi-stage speed running mode(refer to function
4ÿ Norm runnir	Simple open loop running mode of inverter.

Table 4-4 The Running Modes of Inverter

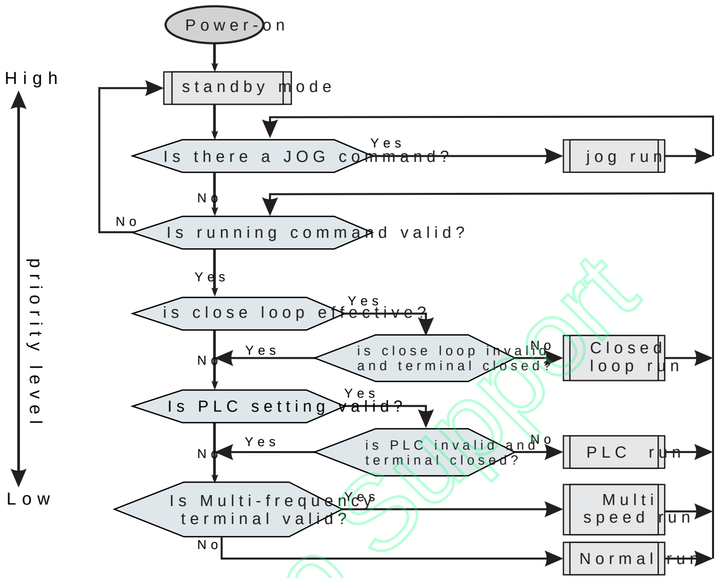


Figure 4-2 Running mode logic diagram

The above 5 kinds of running modes can be running in r
channel except JOG running. PLC running, multi-stag
normal running can carry out swing frequency running

4.3 Introduction of the keypad

4.3.1 Keyboard interface

User can control inverters start, frequency adjust, stop
parameters and control peripheral equipment through panel and control
terminal.

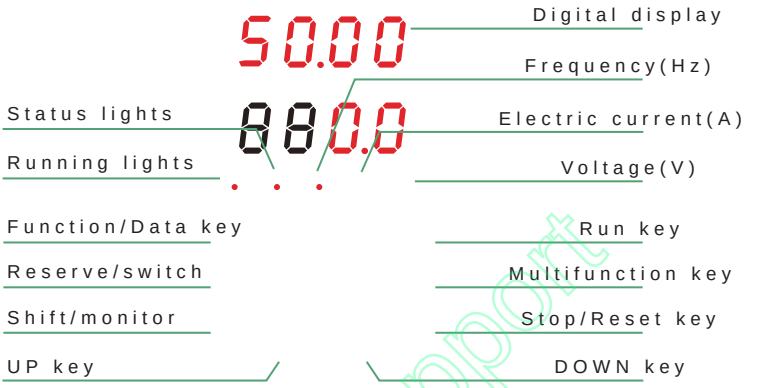


Figure 4-3 Control panel diagram

4.3.2 Keyboard Introduction

Name	Function Description		
Statu indica	RUN	In keypad mode, pressing the key, inverter	
	LOCA	%ËLOCAL/REMOTy C	Operation panel contro
		%ËLOCAL/REMOTy P	Terminal control
		%ËLOCAL/REMOTy F	Communication control
Unit indica	It represents the current display of the Keypad		
	Hz	Hz A V RPM %	Frequency ur
	A	Hz A V RPM %	Current unit
	V	Hz A V RPM %	Voltage unit
	RPM	Hz A V RPM %	Speed unit
	%	Hz A V RPM %	Percentage

<table>
<tr><th>Name</th><th colspan="3">Function Description</th></tr>
<tr><td>Code Displa Zone</td><td colspan="3">There are a 4 digits LED display,display displays alarm code such as set frequency and output fre
<table>
<tr><th>Display letter</th><th>Corresponding letter</th><th>Display letter</th><th>Corresponding letter</th><th>Display letter</th><th>Corresponding letter</th></tr>
<tr><td>0</td><td>0</td><td>1</td><td>1</td><td>2</td><td>2</td></tr>
<tr><td>3</td><td>3</td><td>4</td><td>4</td><td>5</td><td>5</td></tr>
<tr><td>6</td><td>6</td><td>7</td><td>7</td><td>8</td><td>8</td></tr>
<tr><td>9</td><td>9</td><td>A</td><td>A</td><td>b</td><td>b</td></tr>
<tr><td>C</td><td>C</td><td>d</td><td>d</td><td>E</td><td>E</td></tr>
<tr><td>F</td><td>F</td><td>H</td><td>H</td><td>I</td><td>I</td></tr>
<tr><td>L</td><td>L</td><td>n</td><td>N</td><td>n</td><td>n</td></tr>
<tr><td>o</td><td>o</td><td>P</td><td>P</td><td>r</td><td>r</td></tr>
<tr><td>S</td><td>S</td><td>t</td><td>t</td><td>U</td><td>U</td></tr>
<tr><td>v</td><td>v</td><td>.</td><td>.</td><td>-</td><td>-</td></tr>
</table></td></tr>
<tr><td>Digita potentio ers</td><td></td><td colspan="2">Left rotary, the same function as UP key. R function as DOWN KEY Pressing potentiome a ENTE</td></tr>
<tr><td rowspan="7">Keypa buttor zone</td><td>FWD</td><td>Run</td><td>In keypad mode, pressing the k run</td></tr>
<tr><td>REV</td><td>Multifunc</td><td>REV key is defined as Reverse self-defined key which can be s</td></tr>
<tr><td>STOP</td><td>Stop/Res</td><td>Inverter in running status, pres stop inverter when command giv fault status, pressing the key c</td></tr>
<tr><td>MENU</td><td>Function/</td><td>Enter or exit programming statu</td></tr>
<tr><td>▲</td><td>UP</td><td>Data or function code increment</td></tr>
<tr><td>▼</td><td>DOWN</td><td>Data or function code increment</td></tr>
<tr><td>▶▶</td><td>Shift/Mon</td><td>In programming, the key can sh other status, the key can shift r parameter</td></tr>
<tr><td>ENTE</td><td>Reserve switch</td><td>In programming, the key can en manual or reserve the setting</td></tr>
</table>

Table 4-5 Keyboard function description

4.4 Control Panel Display State

The control panel display state includes parameter dis
function code parameter displaying in programming stat
state, and parameter displaying in running state.

4.4.1 Stopping state Parameter display

When inverter is in stopping state, panel displays stopp
meter which usually is setting frequency (b-01 monitor
Fig.4-4 B.

Pres key to display the other monitoring parame
displays the first 7 monitorting paratmeters of b group.
be defined by function code P3.41 and P3.42. Please r
key for switching to default display parameter b-01,whic
will display the last monitoring parameter.

Figure A
Power on to initialize the display dynamic pictude

Figure B
Stop status, display downtime parameter

Figure C
Running status, showing the operating status param

Figure 4-4 Parameter display in initialization, stoppin

4.4.2 Parameter displaying in running state

The inverter enters running state after receiving valid
panel displays running state monitoring parameter. T
output frequency (b-00 monitoring parameter) shown as

Pres key can display the monitoring parameter i
function code P3.41 and 3.42). While par ENTER eter displ
switching to default display parameter b-00, that is o
display the last monitoring parameter.

4.4.3 Fault displaying in alarm state

The Inverter enters fault alarm display state after fault
yed fault code will be flashing.

Pres key to check fault related parameter. When
parameter, ress key for switching to Fault code d

Pres key to enter programming state to check P6
information After trouble ooting, press key to res
terminal/serial port) If the fault still exists, it will keep

Figure 4-5 Fault alarm display state

Notey
To some serious fault such as IGBT protection,over current, ove
inverter before clearing the fault for sure, otherwise there is a

4.4.4 Function code programming state

In the state of stopping, running, d fault alarm, press
ming state (A password is required, If it has been se
description and Fig.4-9). The programming state include
shown as Fig.4-6 which in order are function code group
function code parameter. Press key to enter each
code parameter display menu, press k to save par
back to previous menu without parameter saving.

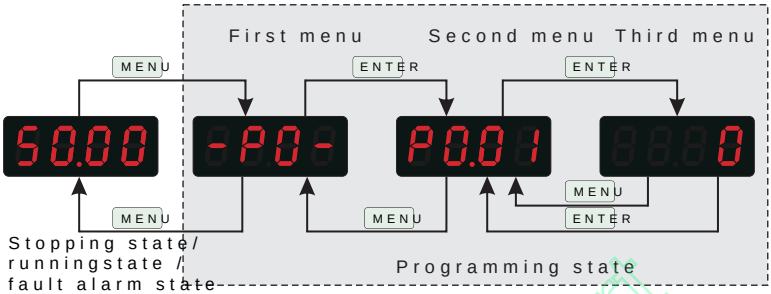


Figure 4-6 Control panel programming state

4.5 Keyboard operation

Through the operating panel of inverter for various op
follows:

4.5.1 Switching display of state monitoring parameter

Pres key to display b group state monitoring para
code of monitoring parameter, after 1 second, it switch
the value of this monitoring parameter shown as Fig.4-7

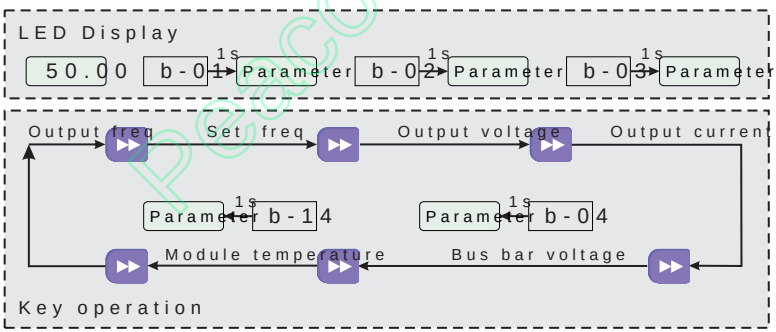


Figure 4-7 Operation to display monitoring para

When viewing monitoring pa key for, rs switching to defau
toring parameter display state. Default monitoring para
in stopping state. In running state, the default monito
frequency.

4.5.2 Function code parameter setting

For example, to set parameter code P3.06 from 5.00Hz t

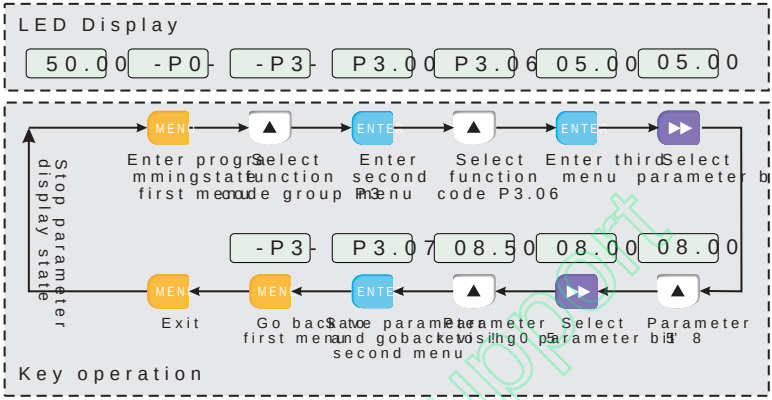


Figure 4-8 Example of function code parameter s

Noteÿ

In third level menu, if the parameter displayed is not ir this function code is unable to be revised. Probably the

- This function code parameter is unmodifiable, such a parameter, record running parameter, etc.
- This function code parameter can not be revised in r be revised in stopping state.
- The parameter is under protection. When function co 1 or 2, all function code parameter can not be revi protection to avoid fault operation. Set P3.01 unit modification available.

4.5.3 JOG running operation

Following is an example. Suppose it is in panel control JOG running frequency is 5Hz.

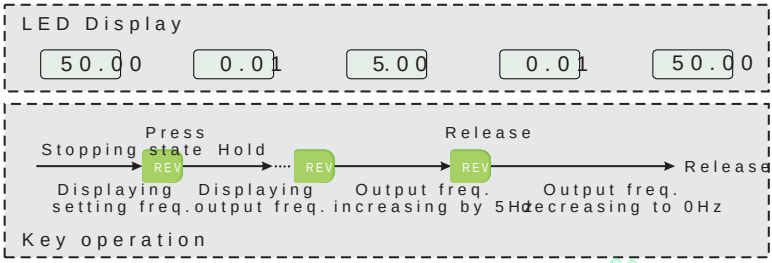


Figure 4-9 JOG running operation

4.5.4 Password authentication operation

Suppose P9.14 password parameter has been set as 23 operation is shown as Fig. 4-10. The bold figure represe

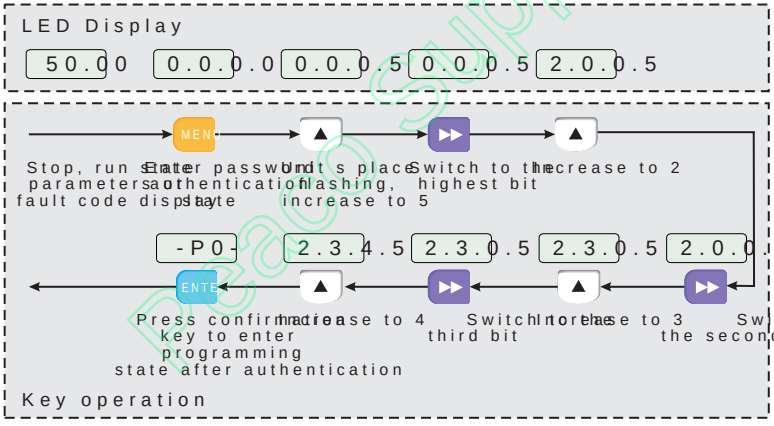


Figure 4-10 Example of password authentication o

4.5.5 Inquiring fault related parameter

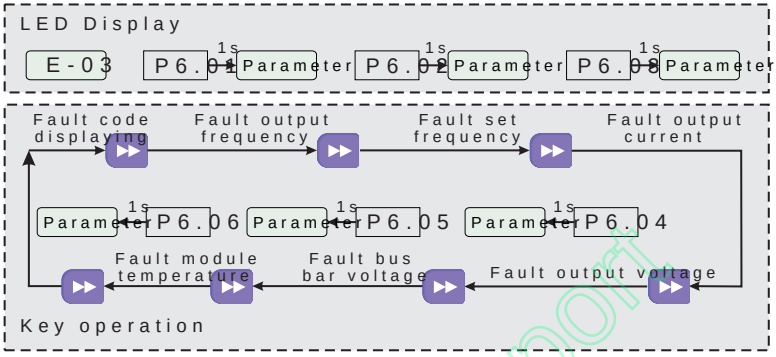


Figure 4-11 Example of inquiring fault related pa

Chapte

Notey

- In fault code display state, press key to inquire P6 parameter. The range is from P6.01 to P6.06. After press displays function code, and1 second later it displays aut function code parameter.
- When inquiring fault parameter, press key to switch state.

4.5.6 Frequency setting operation by keys on control panel

Suppose it is in stopping state and P0.01=1, the operat

- Frequency integral adjustment.
- As press key and hold it, LED begins to increase digit, and then to hundred digit. If release key again, LED will increase from unit s digit again.
- As press key and hold it, LED begins to decrease digit , and then to hundred digit. If release key again, LED will decrease from unit s digit again.

4.5.7 Frequency setting operation by keys on control panel

Press key for 5 seconds to lock control panel key. I locked.

4.5.8 Control panel key unlock operation

Press MENU key for 5 seconds to unlock control panel ke

Chapter 5

Function Parameter

5.1 Symbol Description

%Ë: means that the parameter can be modified during runn

×: means that the parameter can not be modified durin

*: means read-only parameter which can not be modifie

5.2 Function Code Table

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P0 Group: Basic running function paramet					
P0.0	Control m selectio	0ÿ V/F Control 1ÿ Senseless vector con	1	0	%Ë
P0.0	Freq con channel selectio	0ÿ Analog potentiometer panel(single display va 1ÿ %²0 %¼ key on control p display valid) Panel digital pote %²0 %¼ on control panel(double valid) 2ÿ Digital setting 1,cont given 3ÿ Digital setting 2, UP/ terminal given 4ÿ Digital setting 3, ser 5ÿ VI analog given (VI-GND) 6ÿ CI analog given(CI-G 7ÿ Pulse terminal given(8ÿ Combination given (r P3.00)	1	0	%Ë
P0.0	Running frequency	P0.19lower limit freq.~ limit freq.	0.01H	50.00	%Ë
P0.0	Running comman mode selectio	0ÿ Control panel mode 1ÿ Terminal control mod 2ÿ Serial port control m	1	0	%Ë
P0.0	Running directio setting	Unit s digit: 0: Forward Ten s digit: 0:REV allo prohibited	1	10	%Ë
P0.0	FWD/RE dead tim	0.0ÿ^120.0s	0.1s	0.1s	%Ë

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P006	Max outp freq.	50.00Hzÿ^500.00Hz	0.01H	50.00I	×
P007	Basic run freq	1.00Hzÿ^500.00Hz	0.01H	50.00I	×
P008	Max outp voltage	1ÿ^480V	1V	invert rated voltag	×
P009	Torque b	0.0%ÿ^30.0%	0.1%	2.0%	×
P010	Torque b cut-off f	0.00Hzÿ^Basic running	0.00	50.00	%Ë
P011	Torque b mode	0: Manual 1: Auto	1	0	%Ë
P012	Carrier f	1.0Kÿ^14.0K	0.1K	8.0K	×
P013	Acc/Dec mode selectio	0: Linear Acc/Dec 1: Curve Acc/Dec	1	0	×
P014	Time of curve st stage	10ÿ0ÿ^50.0ÿ0ÿ Acc/Decÿtim P0.14P0.150ÿ90	0.1%	20.0%	%Ë
P015	Time of curve as stage	10ÿ0ÿ^80.0ÿ0ÿ Acc/Decÿtim P0.14P0.150ÿ90	0.1%	60.0%	%Ë
P016	Acc/Dec unit	0: Second 1: Minute	0	0	×
P017	Acc time	0.1ÿ^6000.0	0.1	20.0	%Ë
P018	Dec time	0.1ÿ^6000.0	0.1	20.0	%Ë
P019	Upper li freq.	Lower limit freq. ÿ^Max freq.P0.06	0.01H	50.00	×
P020	Lower li freq.	0.00Hzÿ^Upper limit fre	0.01H	0.00H	×
P021	Lower li freq. Running r	0: Running at lower li 1: Stopping	1	0	×
P022	V/F curv setting	0: Constant torque cur 1: Reduced torque curv times the power) 2: Reduced torque curv times the power) 3: Reduced torque curv times the power) 4: Customized V/F curv	1	0	×

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P023	V/F Freq.val	P0.25ÿ^P0.07 Basic freq.	0.01H	0.00H	×
P024	V/F Volt.val	P0.26ÿ^100.0ÿ	0.1%	0.0%	×
P025	V/F Freq.val	P0.27ÿ^P0.23	0.01H	0.00H	×
P026	V/F Volt.val	P0.28ÿ^P0.24	0.1%	0.0%	×
P027	V/F Freq.val	0.00ÿ^P0.25	0.01H	0.00H	×
P028	V/F Volt.val	0ÿ^P0.26	0.1%	0.0%	×
P1 Group: Basic running function paramete					
P1.0	Analog filter constant	0.01ÿ^30.00s	0.01	0.20s	%Ë
P1.0	VI channel (	0.01ÿ^9.99	0.01	1.00	%Ë
P1.0	VI min giv	0.00ÿ^P1.04	0.01H	0.00V	%Ë
P1.0	Correspondir to VI min g	0.00ÿ^Upper limit fr	0.01H	0.00H	%Ë
P1.0	VI max giv	P1.04ÿ^10.00V	0.01V	10.00	%Ë
P1.0	Correspondir	0.00ÿ^Upper limit fr	0.01H	50.00	%Ë
P1.0	CI channel (	0.01ÿ^9.99	0.01	1.00	%Ë
P1.0	CI min giv	0.00ÿ^P1.09	0.01V	0.00V	%Ë
P1.0	Correspondir to CI min g	0.00ÿ^Upper limit fr	0.01H	0.00H	%Ë
P1.0	CI max giv	P1.07ÿ^10.00V	0.01V	10.00	%Ë
P1.1	Correspond freq.to CI ma	0.00ÿ^Upper limit fr	0.01H	50.00	%Ë
P1.1	Max input pu	0.1ÿ^20.0K	0.1K	10.0K	%Ë
P1.1	Pulse min g	0.0ÿ^P1.14(Pulse ma	0.1K	0.0K	%Ë
P1.1	Correspond freq.to puls given	0.00ÿ^Upper limit fr	0.01H	0.00H	%Ë
P1.1	Pulse max g	P1.12(Pulse min gi P1.11(Max input pu	0.1K	0.1K	%Ë
P1.1	Correspond freq.to pulse max g	0.00ÿ^Upper limit fr	0.01H	50.00	%Ë

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P2 Group: Start/Brake function parameter					
P200	Start run mode	0: Start from start freq 1: Brake first, then sta freq. 2: Track speed, then s	1	0	×
P201	Start fr	0.40ÿ^20.00Hz	0.01H	0.50H	%Ë
P202	Start fr running duratio	0.0ÿ^30.0s	0.1s	0.0s	%Ë
P203	DC brak current start	0ÿ^15%	1%	0%	%Ë
P204	DC brak time as s	0.0ÿ^60.0s	0.1s	0.0s	%Ë
P205	Stop mo	0: Dec 1: Free Stop 2: Dec+ DC brake	1	0	×
P206	Start fre DC brake stop	0.0ÿ^15.00Hz	0.0H	3.00H	%Ë
P207	DC brak time as s	0.0ÿ^60.0s	0.1s	0.0s	%Ë
P208	DC brak current stop	0ÿ^15%	1%	0%	%Ë
P3 Group :Auxiliary running parameter					
P300	Freq. co channe combinat	0: VIÿ CI 1: VIÿ CI 2: External pulse giver control pa 0%¼100% key given 3: External pulse giver control pa 0%¼100% key given 4: External pulse giver 5: External pulse giver 6: RS485 givenÿ VIÿ con panel 0%¼ key given 7: RS485 givenÿ VIÿ con panel 0%¼ key given 8: RS485 givenÿ CIÿ con panel 0%¼ key given	1	0	×

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P300	Freq. co channe combinat	9: RS485 givenÿ Clÿ con panel0%¼key given 10: RS485 givenÿ Clÿ Ex pulse given 11: RS485 givenÿ Clÿ Ex pulse given 12: RS485 givenÿ Vlÿ Ex pulse given 13: RS485 givenÿ Vlÿ Ex pulse given 14: Vlÿ Clÿ control0%¼ key given ÿ digital given (P0.02) 15: Vlÿ Clÿ control0%¼ key given ÿ digital given (P0.02) 16: MAXÿ Vlÿ Clÿ 17: MINÿ Vlÿ Clÿ 18: MAXÿ Vlÿ Clÿ PULSEÿ 19: MINÿ Vlÿ Clÿ PULSEÿ 20: Vlÿ CI(Availability prior) 21: VI+ Terminal UP/D 22: CI+ Terminal UP/D	1	0	×
P301	Paramet initializa setting	LED unit s digit: 0: All parameters are a modified. 1: All parameters are n to be modified except t parameter itself. 2: All parameters are n to be modified except t parameter and this par itself LED ten s digit: 0: Inaction 1: Factory default rese 2: Clear history fault r	1	0	×
P302	Paramet copy	0: Inaction 1: Parameter upload 2: Parameter download Note: only valid in rem mode	1	0	×

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P303	Auto ene save run	0: Inaction 1: Action	1	0	×
P304	AVR func	0: Inaction 1: Always action 2: Inaction only in Dec	1	0	×
P305	Slip fre compensa	0ÿ^150%	1%	0%	×
P306	JOG runr freq.	0.10ÿ^50.00Hz	0.01H	5.00H	%Ë
P307	JOG Acc	0.1ÿ^60.0s	0.1s	20.0s	%Ë
P308	JOG Dec	0.1ÿ^60.0s	0.1s	20.0s	%Ë
P309	Communic configura	LED unit s place: baud selection 0: 1200BPS 1: 2400BPS 2: 4800BPS 3: 9600BPS 4: 19200BPS 5: 38400BPS LED ten s place: data 0: 1-7-2 Format, witho 1: 1-7-1 Format, odd p 2: 1-7-1 Format, even 3: 1-8-2 Format, witho 4: 1-8-1 Format, odd p 5: 1-8-1 Format, even 6: 1-8-1 Format, witho LED hundred s place: communication mode 0: MODBUSÿ ASCII Mod 1: MODBUSÿ RTU Mode	1	005	×
P310	Local adc	0ÿ^248 0: Broadcast address 248: Host address	1	1	×
P311	Communic overtim detection	0.0ÿ^1000.0s 0.0: Function invalid	0.1s	0.0s	×
P312	Local res delay	0ÿ^1000ms	1s	5ms	×
P313	Multi-run proporti	0.0ÿ1 1.00	0.01	1.00	×

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P314	Acc time2	0.0ÿ^ 6000.0	0.1	20.0	%Ë
P315	Dec time2	0.0ÿ^ 6000.0	0.1	20.0	%Ë
P316	Acc time3	0.0ÿ^ 6000.0	0.1	20.0	%Ë
P317	Dec time3	0.0ÿ^ 6000.0	0.1	20.0	%Ë
P318	Acc time4	0.0ÿ^ 6000.0	0.1	20.0	%Ë
P319	Dec time4	0.0ÿ^ 6000.0	0.1	20.0	%Ë
P320	Acc time5	0.0ÿ^ 6000.0	0.1	20.0	%Ë
P321	Dec time5	0.0ÿ^ 6000.0	0.1	20.0	%Ë
P322	Acc time6	0.0ÿ^ 6000.0	0.1	20.0	%Ë
P323	Dec time6	0.0ÿ^ 6000.0	0.1	20.0	%Ë
P324	Acc time7	0.0ÿ^ 6000.0	0.1	20.0	%Ë
P325	Dec time7	0.0ÿ^ 6000.0	0.1	20.0	%Ë
P326	Multi-stage	Multi-stage freq.1	0.01H	5.00H	%Ë
P327	Multi-stage	Multi-stage freq.2	0.01H	10.00	%Ë
P328	Multi-stage	Multi-stage freq.3	0.01H	20.00	%Ë
P329	Multi-stage	Multi-stage freq.4	0.01H	30.00	%Ë
P330	Multi-stage	Multi-stage freq.5	0.01H	40.00	%Ë
P331	Multi-stage	Multi-stage freq.6	0.01H	45.00	%Ë
P332	Multi-stage	Multi-stage freq.7	0.01H	50.00	%Ë
P333	Jump freq	0.00 500.00Hz	0.01H	0.00H	×
P334	Jump freq.1	0.00 30.00Hz	0.01H	0.00H	×
P335	Jump freq	0.00 500.00Hz	0.01H	0.00H	×
P336	Jump freq.2	0.00 30.00Hz	0.01H	0.00H	×
P337	Reserved	0000 9999	1	0000	×
P338	Zero frequ DC braking	0.0ÿ^ 15.0ÿ	0.1ÿ	0.0ÿ	×
P339	Set running	0ÿ^ 65.535K hour	0.001	0.000	%Ë

Fun Cod	Name	Range	Min Unit	Facto Defau	Mod ify
P340	Total run	0ÿ^ 65.535K hour	0.001	0.000	%Ë
P341	Inspection start wait	00ÿ0 60.0	0.1s	2.0 s	%Ë
P342	Inspection and start	00ÿ0 150.0ÿ	0.1ÿ	100. ÿ	%Ë
P343	Running di paramete selectior	0ÿ^ 15	1	00	%Ë
P344	Stop disp paramete selectior	0ÿ^ 15	1	00	%Ë
P345	No unit di coefficie	0.ÿ1 60.0	0.1	29.0	%Ë
P346	JOG/REV Switching	0: Select the JOG point o 1: Select the REV reverse	1	0	×
P4 Group: Terminal control function parame					
P4.0	Input tern X1 functi selectio	0: Idle terminal 1: Multi-stage speed cont 2: Multi-stage speed cont 3: Multi-stage speed cont 4: External FWD JOG con 5: External REV JOG con 6: Acc/Dec time terminal 7: Acc/Dec time terminal 8: Acc/Dec time terminal 9: 3-wire control 10 Free stop input (FRS) 11 External stop commar 12 Stopping DC brake in command DB 13 Inverter running proh 14 Freq. increase comma 15 Freq. decrease comm 16 Acc/Dec prohibited co 17 External reset input (18 Peripheral equipment (normally open) 19 Freq. control channel 20 Freq. control channel 21 Freq. control channel 22 Command switched to 23 Running command cor selection 1	1	0	×

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P4.0	Input tern X1 functi selectio	24 Running command co selection 2 25 Swing frequency sel 26 Swing frequency run 27 Close loop invalid 28 Simple PLC pause ru command 29 PLC invalid 30 PLC Reset in stoppi 31 Freq. switch to CI 32 Counter trig signal i 33 Counter clear input 34 External interrupt in 35 Pulse freq. input (or X6) 36 Fire mode	0.1	20.0	%Ë
P4.0	Input tern X2 functi selectio	Ditto	1	0	×
P4.0	Input tern X3 functi selectio	Ditto	1	0	×
P4.0	Input tern X4 functi selectio	Ditto	1	0	×
P4.0	Input tern X5 functi selectio	Ditto	1	0	×
P4.0	Input tern X6 functi selectio	Ditto	1	0	×
P4.0	Input tern X7 functi selectio	Ditto	1	0	×
P4.0	Input tern X8 functi selectio	Ditto	1	0	×
P4.0	FWD/REV running mode sele	0: 2-wire control mode 1 1: 2-wire control mode 2 2: 3-wire control mode 1 3: 3-wire control mode 2	1	0	×
P4.0	UP/DN Ra	0.01-99.99Hz/s	0.01	1.00 Hz/s	%Ë

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P4.1	2-way op collector terminal output selectio	0: Inverter in running(R 1: Freq. arrival signal(F 2: Freq. level detected 3: Reserved 4: Overload pre-alarm s 5: Under voltage locking 6: External fault stoppir 7: Output freq. upper lir 8: Output freq. lower lin 9: Inverter in zero spee 10 Simple PLC stage ru 11 A PLC running cycle 12 Set counts arrival 13 Specified counts arr 14 Inverter ready for ru 15 Inverter fault 16 Start freq. running t 17 DC brake time when 18 DC brake time when 19 Swing freq. upper/lo 20 Set running time arr 21 Upper limit of press signal 22 Lower pressure alar	1	0	×
P4.1	2-way op collector terminal output selectio	Ditto	1	0	×
P4.1	Relay TA/TB/T output selectio	Ditto	1	15	×
P4.1	Relay RA/RB/R output selectio	Ditto	1	0	×
P4.1	Freq. arr detection	0.00 ~ 400.00Hz	0.01H	5.00H	×
P4.1	FDT1(fre level)	0.00 ~ Upper limit freq	0.01H	10.00	×

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P4.1	FDT1 la	0.00 50.00Hz	0.01H	1.00H	%Ë
P4.1	Analog ou (Ao1) selectio	unit s place Output f eq.(0 upper li 1: Output cu rent(0 2 ti motor rated current) 2: Output vol age(0 1.2 inverter rated voltage) 3: Bus bar voltage 4: PID given 5: PID feedback 6: Vi 0 10V 7: Ci (0 10V/4 20mA) ten s place: 0: 0 10V 1: 0 20mA 2: 4 20mA	01	00	%Ë
P4.1	Analog	Analog output (AO1) ga	0.01	1.00	%Ë
P4.1	Analog ou (AO2) sele	unit s place Output f eq.(0 upper li 1: Output cu rent(0 2 ti motor rated current) 2: Output vol age(0 1.2 inverter rated voltage) 3: Bus bar voltage 4: PID given 5: PID feedback 6: Vi 0 10V 7: Ci (0 10V/4 20mA) ten s place: 0: 0 10V 1: 0 20mA 2: 4 20mA	01	00	%Ë
P4.2	Analog ou (AO2) ga	0.50 2.00	0.01	1.00	%Ë
P4.2	DO outpu terminal	unit s place 0: Output f eq.(0 upper 1: Output cu rent(0 2 ti motor rated current) 2: Output vol age(0 1.2 inverter rated voltage)	1	0	%Ë

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P4.2	DO output te	3: Bus bar voltage output 4: PID given 5: PID feedback 6: Vlyy 0 10Vy 7: Cly(0 10V/4 20mA)	1	0	%Ë
P4.2	DO max pul output fre	0.1yK 20.0Ky max 20K	0.1KH	10.0K	%Ë
P4.2	Set counts g	F4.20 9999	1	0	%Ë
P4.2	Specified co given	0y^ F4.19	1	0	%Ë
P4.2	Overload pre detection le	20yy^200y	1	130y	%Ë
P4.2	Overload pre delay time	0.y0 20.0s	0.1s	5.0s	%Ë
P5 Group: Protection function parameter					
P5.0	Motor overl protection n selection	0y Stop outputting 1y Inaction	1	0	×
P5.0	Motor overl protection coefficien	20^ 120y	1	100y	×
P5.0	Overvoltage Selection	0y Prohibited 1y Allowed	1	1	×
P5.0	Overvoltage point	380Vy 120y^150y 220Vy 110y^130y	1y	140y 120y	%Ë
P5.0	Auto current level	110yy^200y	1y	150y	×
P5.0	Freq. drop during curre	0.00 99.99Hz/s	0.01H /s	10.00 /s	%Ë
P5.0	Auto current mode selec	0y Constant speed in 1y Constant speed va Note: Acc/Dec valid	1	1	×
P5.0	Restart setti power failu	0y Inaction 1y Action	1	0	×
P5.0	Restart waiti after power	0.0 10.0s	0.1s	0.5s	×
P5.0	Fault self-re times	0y^ 10 0y Self-recovery inva Notey Self-recovery i overload or overhea	1	0	×

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P5.1	Self-recovery time	0.1ÿ 20.0s	0.1s	5.0s	×
P5.1	Input missing protection	0ÿ Inaction 1ÿ Action	1	0	%Ë
P6 Group: Fault record function paramete					
P6.0	Previous failure	Previous failure re	1	0	*
P6.0	Output frequency previous fault	Output frequency at th fault	0.01H	0	*
P6.0	Set frequency at th fault	Set frequency at the p	0.01H	0	*
P6.0	Output current at th fault	Output current at the p	0.1A	0	*
P6.0	Output voltage at th fault	Output voltage at the p	1V	0	*
P6.0	DC bus voltage a previous fault	DC bus voltage at the p	1V	0	*
P6.0	Module temperatur previous fault	Module temperature at fault	10C	0	*
P6.0	Previous secondar record	Previous secondary fa	1	0	*
P6.0	Previous third failu	Previous third failure	1	0	*
P6.0	Previous fourth fail	Previous fourth failur	1	0	*
P6.1	Previous fifth failu	Previous fifth failure	1	0	*
P6.1	Previous sixth fail	Previous sixth failur	1	0	*
P7 Group: Close loop running control function					
P7.0	Close loop run control select	0: Invalid 1: Valid	1	0	×
P7.0	Close loop given selection	0: P7.05 Digital give %²0%¼Fine tuning 1: VI analog 0 10V v given 2: CI analog 0 10V g 3: Panel analog pote given 4: RS485 communica 5: Pulse input given 6: CI simulation4 20mACurrent setting	1	0	×
P7.0	Feedback char selection	0: VI analog 0~10V i voltage 1: CI analog input 10Vÿ0 20mAÿ 2: VI+CI 3: VI-CI	1	0	×

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.0	Feedback ch selection	4: Minÿ[Vlÿ Clÿ] 5: Maxÿ[Vlÿ Clÿ] 6: Cl analogÿ 4ÿ^p20tmAÿ	1	0	×
P7.0	Given chan filtering ti constant	0.0ÿ1 50.00s	0.01	0.50s	%Ë
P7.0	Feedback ch filtering ti constant	0.0ÿ1 50.00s	0.01	0.50s	%Ë
P7.0	Given value setting	0.00ÿ1 20.000Mpa	0.00 Mpa	0.000 pa	×
P7.0	Close loop adjustmen characteris	0: Positive effect 1: Negative effect	1	0	%Ë
P7.0	Feedback ch gain	0.0ÿ1 10.00	0.01	1.00	%Ë
P7.0	Lower pressu	0.00ÿ1 P7.09	0.00	0.001	%Ë
P7.0	Upper pressu	P7.0ÿ8 P7.27	0.00	1.000	%Ë
P7.1	PID Control structure	0: Proportional contr 1: Integral control 2: Proportional integ 3: Proportional, integ differential control	1	1	×
P7.1	Proportional KP	0.0ÿ0 5.00	0.01	0.50	%Ë
P7.1	Integral ti constant	0.1ÿ1 100.0s	0.1	10.0s	%Ë
P7.1	Differential	0.0ÿ0 5.0	0.1	0.0	×
P7.1	Sampling pe	0.0ÿ1 1.00s	0.01	0.10	%Ë
P7.1	Tolerance l	0.0ÿ0 20.0ÿ	0.1ÿ	0.0ÿ	%Ë
P7.1	PID Feedba disconnect detection thr	0ÿ^ Upper limit freq	0.01H	0.00H	%Ë
P7.1	PID Feedba disconnected selection	0ÿ^ 3	1	0	%Ë
P7.1	PID Feedba disconnect operation del	0.0ÿ1 5.00s	0.01	1.00s	%Ë

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.1	Pressure le	0.00 P7.20	0.00 Mpa	0.001 pa	%Ë
P7.2	Hibernatio pressure le	P7.19 P7.27	01	00	%Ë
P7.2	Hibernation continuous	0 250s	1s	10s	%Ë
P7.2	Hibernatio frequency	0.00 400.0Hz	0.01H	20.00	%Ë
P7.2	Hibernatio frequency continuous	0 250s	1s	10s	%Ë
P7.2	Low alarm pressure	0.00 P7.25	0.00 Mpa	0.001 pa	%Ë
P7.2	The alarm pressure	P7.24 P7.27	0.00 Mpa	0.001 pa	%Ë
P7.2	Constant pr water supp mode	0: Non-constant press supply mode 1: One pump constant water supply mode 2: Two pumps constan water supply mode 3: Three pumps consta pressure water supply 4: Four pumps consta pressure water supply	1	0	×
P7.2	Remote pres gauge ran	0.00 20.000Mpa	0.00 Mpa	1.000 pa	%Ë
P7.2	Multi pum operation m	0: Fixed sequence swi 1: Timing of the rotati	1	0	%Ë
P7.2	Rotation in intervals	0.5 100.0H	0.1H	5.0H	%Ë
P7.3	Pump switc judgment t	0.1 1000.0s	0.1s	300.0	%Ë
P7.3	Electromag switching d time	0.1 10.0s	0.1s	0.5s	×
P7.3	PID Contro positive a negative rol feedback pr error pola	Unit s digit: 0: PID forward action 1: PID reverse action Ten s digit : 0: The feedback pres greater than the actu	1	00	×

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.3	PID Contro positive a negative ro feedback pr error pola	1: feedback pressure actual pressure. Hundreds digit: 0: wake up sleep pres actual pressure; 1: wake up sleep pres pressure. Thousands digit: 0: Press to view the parameters, and the monitoring parameter viewed in order; 1: Press to view the parameters. The moni parameters of group the three parameters pressure, output curr output frequency.	1	00	×
P7.3	Feedback e pressure adjustmen coefficier	0.001 20.000Mpa	0.00 Mpa	0.000 pa	×
P7.3	Closed loo preset freq	Range 0 Upper limit	0.00H	0.00H	×
P7.3	Closed loo preset freq holding ti	Range 0.0 200.0s	0.1s	0.0s	×
P8 Group PLC running parameter					
P8.0	PLC runni mode selec	0000 1113 LED unit s place: mo 0: Inaction 1: Stop after single cy 2: Running at final fre single cycle 3: Continuous cycle LED ten s place: rest selection 0: Restart from the fir 1: Restart from the fre break stage 2: Restart from the ru break stage LED hundred s place: save mode selection	1	0000	×

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P8.0	PLC running selection	0: No save 1: Save LED thousand s pla running time unit 0: Second 1: minute	1	0000	×
P8.0	Stage 1 sett	00ÿ0 621 LED unit s place: f 0: Multi-stageÿeiÿf1ÿq i 7ÿ 1: Freq. defined by function code LED ten s place: di selection 0: Forward 1: Reverse 2: Controlled by run command LED hundred s plac Acc/Dec time selec 0: Acc/Dec time 1 1: Acc/Dec time 2 2: Acc/Dec time 3 3: Acc/Dec time 4 4: Acc/Dec time 5 5: Acc/Dec time 6 6: Acc/Dec time 7	1	000	%Ë
P8.0	Stage 1 runni	0.1^ 6000.0	0.1	10.0	%Ë
P8.0	Stage 2 sett	00ÿ0 621	1	000	%Ë
P8.0	Stage 2 runni	0.1^ 6000.0	0.1	10.0	%Ë
P8.0	Stage 3 sett	00ÿ0 621	1	000	%Ë
P8.0	Stage 3 runni	0.1^ 6000.0	0.1	10.0	%Ë
P8.0	Stage 4 sett	00ÿ0 621	1	000	%Ë
P8.0	Stage 4 runni	0.1^ 6000.0	0.1	10.0	%Ë
P8.0	Stage 5 sett	00ÿ0 621	1	000	%Ë
P8.1	Stage 5 runni	0.1^ 6000.0	0.1	10.0	%Ë
P8.1	Stage 6 sett	00ÿ0 621	1	000	%Ë
P8.1	Stage 6 runni	0.1^ 6000.0	0.1	10.0	%Ë

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P8.1	Stage 7 set	00ÿ0 621	1	000	%Ë
P8.1	Stage 7 runni	0.ÿ1 6000.0	0.1	10.0	%Ë
P9 Group Swing frequency function parame					
P9.0	Swing freq. s	0: Inaction 1: Action	1	0	×
P9.0	Swing freq. r mode	00ÿ0 11 LED unit s place: sta 0: Auto start 1: Manual start by te LED ten s place: swi amplitude control 0: Variable swing am 1: Fixed swing amplit	1	00	×
P9.0	Preset swing	0.0ÿ0 500.00Hz	0.01H 0.1s	0.00H	%Ë
P9.0	Preset swing waiting tim	0.ÿ0 3600.0s	0.1s	0.0s	%Ë
P9.0	Swing ampli	0.ÿ0 50.0ÿ	0.1ÿ	0.0ÿ	%Ë
P9.0	Kick freq.	0.ÿ0 50.0ÿ	0.1ÿ	0.0ÿ	%Ë
P9.0	Swing freq.	0.ÿ1 999.9s	0.1s	10.0	%Ë
P9.0	delta wave a time	0.ÿ0 98.0ÿ	0.1ÿ	50.0ÿ	%Ë
P9.0	Terminal UP/ and Fan con selection	unit's digit: 0: fan running when is running 1: The fan is running power is on 2: The fan does not frequency ten's digit: 0: Keep the frequenc parameter setting af working or the power 1: Release the frequ parameter settings a working or the power hundred's digit: 0: The terminal run valid when the powe 1: The terminal run invalid when power i	1	0	%Ë

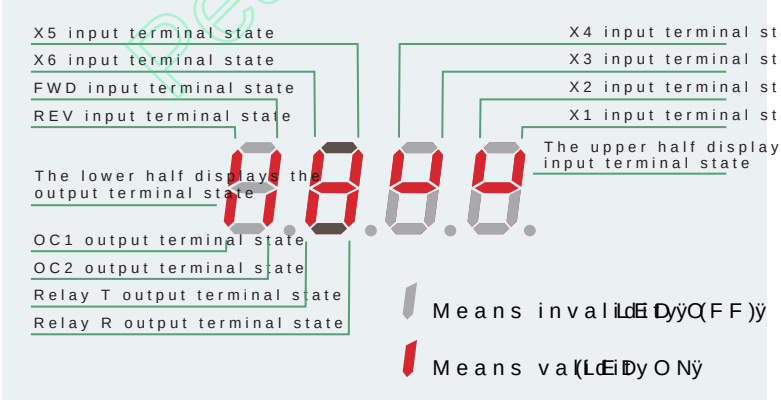
Fun Cod	Name	Range	Min Unit	Factor Defaul	Modi
P9.0	Muti-function filtering tim	Ranyeÿ^4	1	1	%Ë
P9.1	Braking unit u	0ÿ^ 100.0%	0.1%	30.0%	%Ë
P9.1	Overpressur threshold va	0ÿ^ 780V	1V	780V	%Ë
P9.1	Energy consur braking bus voltage	0ÿ^ 780V	1V	640V Or 358	%Ë
P9.1	G/P type setti single-phase type selecti	Unit s digit: 0: G type 1:P Ten s digit: rese Hundred s digit: Thousand's digit phase motor type 0: ordinary three asynchronous motor(220V) 1: single-phase asynchronous mo (removing capac 2: Single-phase asynchronous mo (without removin capacitor)	0000	0000	%Ë
P9.1	User passwo	1ÿ^ 9999	1	0	%Ë
PA Group: Vector control parameter					
PA.0	Motor paramet tuning funct	0ÿ Inaction 1ÿ Static auto tu	1	0	×
PA.0	Motor rated v	0ÿ^ 400V	1	depends model t	×
PA.0	Motor rated c	0.01 500.00A	0.01	depends model t	×
PA.0	Motor rated fr	1ÿ^ 500Hz	1Hz	depends model t	×
PA.0	Motor rated r speed	1ÿ^ 9999 r/min	1r/mi	depends model t	×
PA.0	Motor poles n	2ÿ^ 16	1	depends model t	×
PA.0	Motor stato inductance	0.1 5000.0mH	0.1m	depends model t	×

Fun Cod	Name	Range	Min Unit	Factor Defaul	Modi
PA.0	Motor rotor ind	0.01 ~ 5000.0mH	0.1m	depends model t	×
PA.0	Motor stator a mutual induct	0.01 ~ 5000.0mH	0.1m	depends model t	×
PA.0	Motor stato resistance	0.001 ~ 50.000	0.001	depends model t	×
PA.1	Motor rotor re	0.001 ~ 50.000	0.001	depends model t	×
PA.1	Over curren protection coe of torque cur	0 ~ 15	1	15	×
PA.1	Proportion adj coefficient of deviation	50 ~ 120	1	85	×
PA.1	Integral adjus coefficient F deviation	100 ~ 500	1	360	×
PA.1	Vector torque	100 ~ 150	1	100	×
PA.1	Reserved	0	0	0	×
PA.1	Reserved	1 ~ 5	1	4	×
PA.1	Reserved	100 ~ 150	1	150	×
PA.1	Reserved	150	1	150	×
PA.1	Reserved	0 ~ 2	1	0	×
PF Group: Factory function parameter					
PF.0 ~ PF.1	Reserved	---	---	---	---
B-Monitoring: function parameter					
b-00	Output freq	Present output f	0.01H	----	*
b-01	Set freq.	Present set freq	0.01H	----	*
b-02	Output volta	Effective value present output v	1V	----	*
b-03	Output curre	Effective value present output c	0.1A	----	*
b-04	Bus bar volt	Present DC bus voltage	1V	----	*

Func Code	Name	Range	Min Uni	Facto Defau	Modi
b-05	Module tempe	IGBT heat sink temp	10C	----	*
b-06	Motor spee	Present motor spee	1r/m	----	*
b-07	Running tir	One continuous run	1H	----	*
b-08	Input/output state	Input/output termina	----	----	*
b-09	Analog inpu	Analog input VI val	0.01	----	*
b-10	Analog inpu	Analog input CI val	0.01	----	*
b-11	External puls	External pulse widt value	1ms	----	*
b-12	Inverter ra current	Inverter rated curre	0.1A	----	*
b-13	Inverter ra voltage	Inverter rated volta	1V	----	*
b-14	Set pressu	Water supply contro set pressure of the	0.00 Mpa	----	*
b-15	Feedback pre	Water supply contro pipeline pressure	0.00 Mpa	----	*
b-16	No unit disp	No unit display	1	----	*

Noteÿ

Monitoring parameter input/output terminal state displa



Chapter 6

Function Code Descri

6.1 Basic running function parameter (P0 Group)

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P0.0	Control m selectio	0ÿ V/F Control 1ÿ Senseless vector con	1	0	%Ë

0ÿ V/F Control
1ÿ Sensorless vector control

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P0.0	Control m selectio	0ÿ^ 8	1	0	%Ë

0: Analog potentiometer given on control panel;

1: Control panel given%²U¼ey to set running frequency;

2: Control panel frequency digital setting. Use control panel (initial set freq.) to change set freq;

3: Terminal UP/DOWN digital setting. Use terminal UP/DOWN t (initial set freq.) to change set freq;

4: Serial port digital setting. (Remote control mode) Set P0.02 serial port;

5: VI analog given (VI-GND). Set freq. controlled by VI termin voltage range is DC 0~10V. The corresponding relationship bet voltage defined by function code P1.00~P1.05;

6: CI analog given (CI-GND). Set freq. controlled by CI termina The input voltage range is DC 0~10V (JP3 jumper V), and the c (JP3 jumper A). The corresponding relationship between set fr function code P.1.06-P1.10

7: Pulse terminal given. Set freq. controlled by terminal pulse input through X4 terminal.). The corresponding relationship bet defined by function code P1.11-P1.15.

8: Combination given (refer to function parameter P3.00).

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P0.0	Running frequency	P0.19lower limit freq. limit freq.	0.01H	50.00	%Ë

When Freq control channel selection setting (P0.01=1, 2, 3, 4), initial digital set frequency.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P0.0	Running com mode selec	0ÿ^ 2	1	0	%Ë

0: Use control panel key RUN, STOP/RESET, JOG to operate the

1: Terminal control mode. Use control terminal FWD, REV, X1~X

2ÿ Serial port control mode. Operate the inverter via serial port mode.

Note:
Running command mode can be switched by changing P0.03 par ing state. Please use this function in caution.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P0.0	Running dir setting	00~11	1	0	%Ë

Running direction setting	
LED unit s	0ÿ Running forward 1ÿ Running reverse
LED ten s	0ÿ Reverse allowed 1ÿ Reverse prohibited

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P0.0	FWD/REV d time	0.0ÿ^120.0s	0.1s	0.1s	%Ë

In switching process between forward and reverse running, the defined as FWD/REV dead time. The inverter outputs 0 freq. du

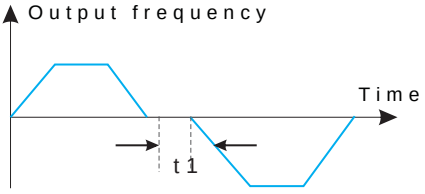


Fig.6-1 FWD/REV dead time

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P006	Max outp freq.	50.00Hzÿ^500.00Hz	0.01H	50.00	×
P007	Basic run freq	1.00Hzÿ^500.00Hz	0.01H	50.00	×
P008	Max outp voltage	1ÿ^480V	1V	invert rated voltag	×

Max. output freq. is inverter highest output frequency allowed s

Basic running freq. is the lowest output frequency correspondin of inverter. Generally, it is motor rated frequency shown as Fig

Max. output voltage is the output voltage corresponding to inve frequency. Generally, it is motor rated voltage shown as Fig.6-

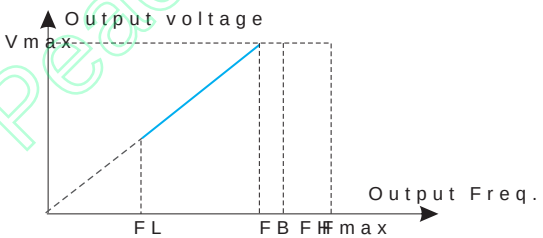
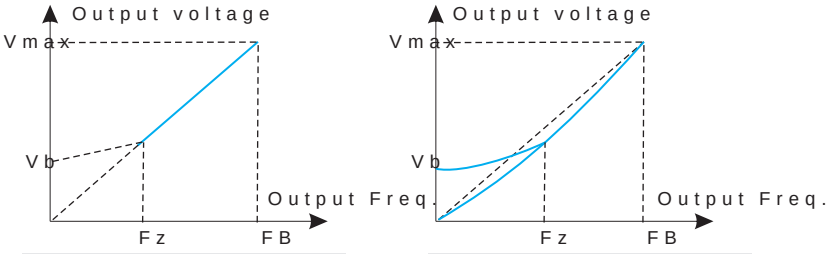


Fig.6-2 Fmax/FB/Vmax0V

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P009	Torque b	0.0%ÿ^30.0%	0.1%	2.0%	×

In order to compensate the low frequency torque, boost the outp zone shown as Fig.6-3.



Vb:manual torque boost volta
Fz:torque boost cutoff freque

Vmax: highest output voltage
Fz: basic running frequency

(A)Constant torque curve torque boost (B) Square torque curve torque

Fig.6-3 Torque boost

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P010	Torque b cut-off f	0.00Hzÿ^Basic running	0.00	50.00	%Ë

This function defines the cutoff freq. in manual torque boost sh
eter is adaptable to any V/F mode defined by P0.22.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P011	Torque b mode	0ÿ^1	1	0	%Ë

0: Manual boost. In manual boost mode, torque boost voltage is
which is fixed. But the motor is easy to reach magnetic saturati

1: Auto. boost. In this mode, torque boost voltage changes acc
changing.The higher of stator current, the bigger of boost volta

$$\text{Boost voltage} = \frac{0.09}{100} \times \text{Motor rated voltage} \times \frac{\text{Inverter output current}}{2 \times \text{Inverter rated current}}$$

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P012	Carrier f	1.0Kÿ^14.0K	0.1K	8.0K	×

The carrier freq. mainly affects the noise of motor and heat lo
carrier freq. and motor noise, leakage current, and interference

Carrier Freq	Decrease	Increase
Noise	↑	↓
Leakage Curre	↓	↑
Interference	↓	↑

Note:

- In order to get better control characteristic, the ratio of carri running frequency is suggested beyond 36.
- Difference may occur in current value display, when carrier fr

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P013	Acc/Dec m selectio	0ÿ^1	1	0	×

0: Linear Acc/Dec. Output frequency increases or decreases a Fig.6-4.

1: S curve Acc/Dec. Output frequency increases or decreases as

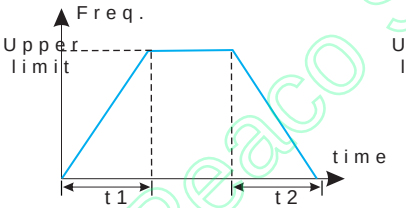


Fig.6-4 Linear Acc/Dec

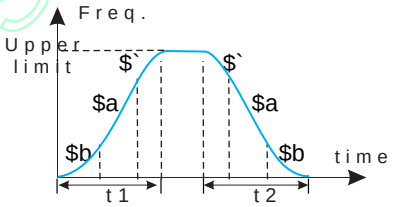


Fig.6-5 S curve Acc/Dec

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P014	Time of S start sta	10ÿ0^50.0ÿ P0.15ÿ90	0.1%	20.0%	%Ë
P015	Time of S ascent st	10ÿ0^80.0ÿ P0.15ÿ90	0.1%	60.0%	%Ë

P0.14, P0.15 is effective only in s curve Acc/Dec mode(P0.13=1

S curve start stage time shown as Fig.6-5(3). The curve slope is

S curve ascent stage time shown as Fig.6-5(2). The curve slope

S curve end stage time shown as Fig.6-5(1). The curve slope is

Note:

- S curve Acc/Dec mode is suitable for the starting and stoppin such as elevator and belt conveyor, etc.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P016	Acc/Dec tim	0ÿ^1	0	0	×

0: Second

1: Minute

Note:

- This function is effective for all Acc/Dec process except for J
- Please try to select second as time unit.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P017	Acc time	0.1ÿ^6000.0	0.1	20.0	%Ë
P018	Dec time	0.1ÿ^6000.0	0.1	20.0	%Ë

Acc time is the time of inverter output frequency increasing fro as in Fig.6-6 t1.

Dec time is the time of inverter output frequency decreasing fro as Fig.6-6 t2.

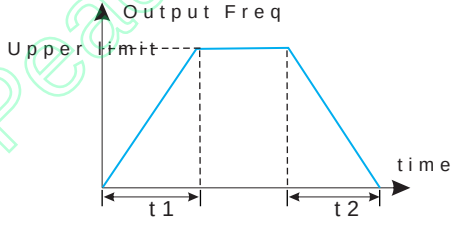


Fig.6-6 Acc/Dec time

- Note:
- The inverter has 7 Acc/Dec time. Herein just 1 Acc/Dec is def time are defined by P3.14~P3.25 function parameter.
- It can select time unit by P0.09 for all 1~7 Acc/Dec time. The second.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P019	Upper limit	Lower limit freq. ÿ^M freq.P0.06	0.01H	50.00	×
P020	Lower limit	0.00Hzÿ^Upper limit	0.01H	0.00H	×
P021	Lower limit Running m	0ÿ^1	1	0	×

P0.19,P0.20 parameter defines the upper and lower limit of outp
limit frequency and lower limit frequency respectively shown as

When actual setting frequency is lower than lower limit freq., th
decrease in Dec time which has been set. As it reaches the low
the inverter will run at lower limit frequency. If P0.21=1, the in
output frequency to 0.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P022	V/F curve s	0ÿ^4	1	0	×
P023	V/F Freq.va	P0.25ÿ^P0.07 Basic freq.	0.01H	0.00H	×
P024	V/F Volt.va	P0.26ÿ^100.0ÿ	0.1%	0.0%	×
P025	V/F Freq.va	P0.27ÿ^P0.23	0.01H	0.00H	×
P026	V/F Volt.va	P0.28ÿ^P0.24	0.1%	0.0%	×
P027	V/F Freq.va	0.00ÿ^P0.25	0.01H	0.00H	×
P028	V/F Volt.va	0ÿ^P0.26	0.1%	0.0%	×

These function parameter defines flexible V/F setting mode of in
curves and 1 customized curve through P0.22 parameter so as t
ments.

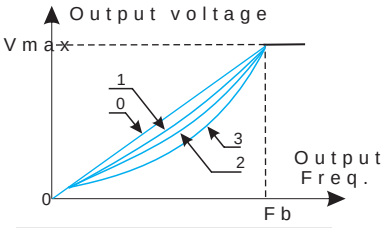
P0.22=0, Constant torque V//F curve shown as Fig.6-7 curve 0

P0.22=1, 1.2 times the power reduced torque V/F curve shown a

P0.22=2, 1.7 times the power reduced torque V/F curve shown a

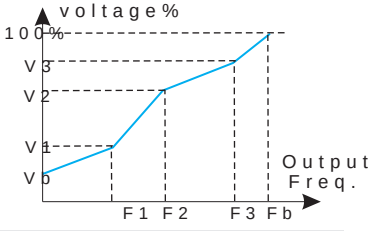
P0.22=3, 2.0 times the power reduced torque V/F curve shown a

When inverter drives reduced torque load such as fans, and pum
curve running mode according to load characteristic for energy



Vmaxÿ max output voltage
Fb basic running Freq.

Fig 6-7 V/Curve



V1~V3: Multi-segment V / F 1st t
segment voltage perce
F1~F3: Multi-segment V / F 1st t
frequency points

Fig 6-8 customized V/Fcurv

P0.22=4, Customized V/F curve shown as Fig. 6-8.

User can define V/F curve through revising (V1,F1),(V2,F2),(V3,
requirements. Torque boost is available for customized curve.

Vb = Torque boost (P0.09) × V1

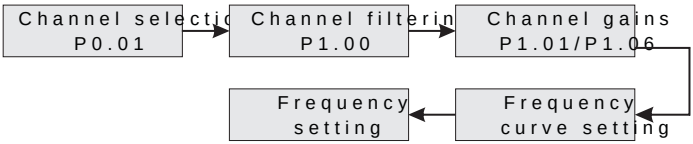
6.2 Frequency Setting Function Parameter (P1 Gro

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P1.0	Analog filte time consta	0.01ÿ^30.00s	0.01s	0.20s	%Ë

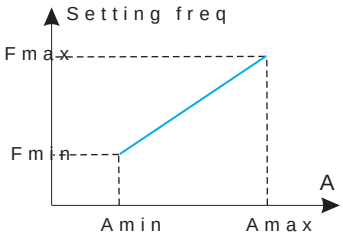
When adopts frequency external analog channel setting inverter filtering sampling value time. When long dis interference cause setting frequency unstable, increa avoid the disoperation . The longer filtering time, anti stronger. But the response will be slower. The shorter quicker response, but weaker anti-interference ability.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P1.0	VI channel (	0.01ÿ^9.99	0.01	1.00	%Ë
P1.0	VI min giv	0.00ÿ^P1.04	0.01H	0.00V	%Ë
P1.0	Correspondir to VI min g	0.00ÿ^Upper limit fr	0.01H	0.00H	%Ë
P1.0	VI max giv	P1.04ÿ^10.00V	0.01V	10.00	%Ë
P1.0	Correspondir	0.00ÿ^Upper limit fr	0.01H	50.00	%Ë
P1.0	CI channel	0.01ÿ^9.99	0.01	1.00	%Ë
P1.0	CI min giv	0.00ÿ^P1.09	0.01V	0.00V	%Ë
P1.0	Correspondir to CI min g	0.00ÿ^Upper limit fr	0.01H	0.00H	%Ë
P1.0	CI max giv	P1.07ÿ^10.00V	0.01V	10.00	%Ë
P1.1	Correspond freq.to CI ma	0.00ÿ^Upper limit fr	0.01H	50.00	%Ë
P1.1	Max input pu	0.1ÿ^20.0K	0.1K	10.0K	%Ë
P1.1	Pulse min g	0.0ÿ^P1.14(Pulse ma	0.1K	0.0K	%Ë
P1.1	Correspond freq.to puls given	0.00ÿ^Upper limit fr	0.01H	0.00H	%Ë
P1.1	Pulse max g	P1.12(Pulse min gi P1.11(Max input pu	0.1K	0.1K	%Ë
P1.1	Correspond freq.to pulse max g	0.00ÿ^Upper limit fr	0.01H	50.00	%Ë

When selects VI, CI or pulse frequency input as open loop frequ
ationship between frequency given and setting frequency as foll

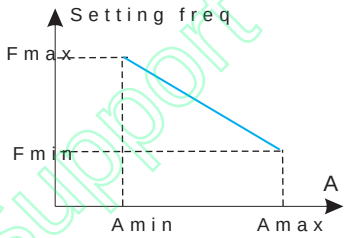


The relationship between VI and setting frequency is as follow.



Aÿ VI given Amin: Min
Amax: Max

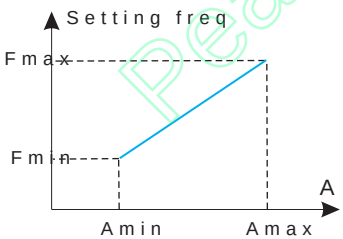
(1) Positive effect



Pmin¢ corresponding Freq to Min g
Pmaxÿ corresponding Freq to Max

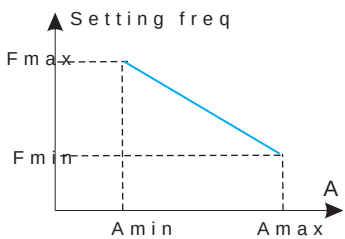
(2) Negative effect

The relationship between CI and setting frequency as follow.



Aÿ CI given Amin: Min
Amax: Max

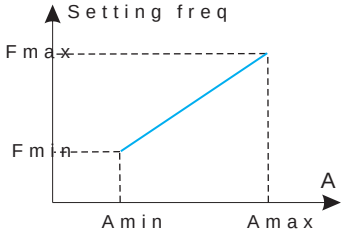
(1) Positive effect



Pmin¢ corresponding Freq to Min g
Pmaxÿ corresponding Freq to Max

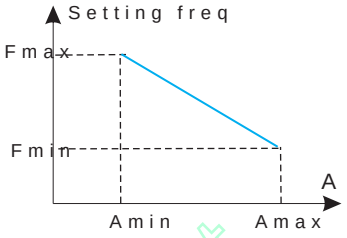
(2) Negative effect

The relationship between input PULSE frequency and setting fre



Aÿ PLUSE given Amin: Min Amax: Max

(1) Positive effect



Pminÿ corresponding Freq to Min g
Pmaxÿ corresponding Freq to Max

(2) Negative effect

6.3 Start/Brake Function Parameter (P2 Group)

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P2.0	Start running	0ÿ^2	1	0	×

0ÿ The inverter starts from start freq.(P2.01) and keeps runnin defined as start freq. running duration (P2.02);

1ÿ The inverter brakes first by DC brake current (P2.03) and br starts from start frequency;

2ÿ The inverter restarts again after speed tracking, which is ava momentary power failure and restart after fault reset.

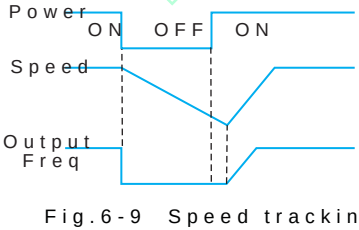


Fig.6-9 Speed tracking restart

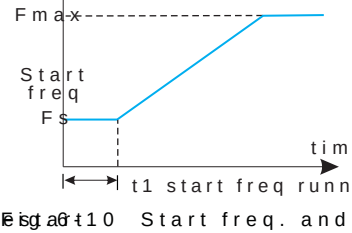


Fig.6-10 Start freq. and runnin

Note:

- Start running mode 0: It is suggested to use mode 0 in gener drive synchronous motor.
- Start running mode 1: It is suitable to small inertia loads whi when there is no motor driven. But not suitable to big inertia
- Start running mode 2: It is suitable to restart after momenta during motor free stopping.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P201	Start freq.	0.40ÿ^20.00Hz	0.01H	0.50H	%Ë
P202	Start freq. runnin	0.0ÿ^30.0s	0.1s	0.0s	%Ë

Start freq. is the initial frequency when inverter starts freq. running duration is the duration time for inverte frequency shown as Fig.6-10

Note:

- Start frequency is not restricted by lower limit freq.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P203	DC brake current	0ÿ^15%	1%	0%	%Ë
P204	DC brake time a	0.0ÿ^60.0s	0.1s	0.0s	%Ë

DC brake current is a percentage relative to the inverte DC brake as DC brake time is 0.0s.

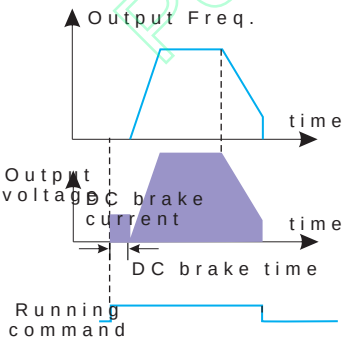


Fig.6-11 start mode 1

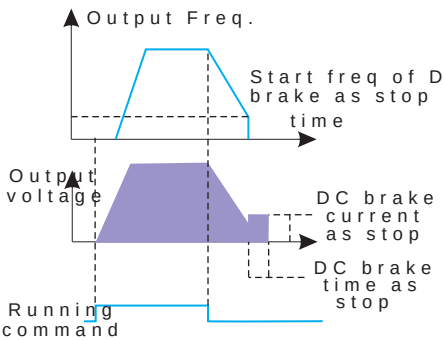


Fig.6-12 DC stop and DC brak

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P2.0	Stop mode	0ÿ^2	1	0	×

0: After receiving stop command, the inverter decreases the ou
time.

1: After receiving stop command, the inverter stops output imm
stop by mechanical inertia. This is called as coast stop.

2: After receiving stop command, the inverter decreases the ou
when it reaches the start frequency of DC brake, the inverter be

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P206	Start freq. brake as s	0.0ÿ^15.00Hz	0.0H	3.00H	%Ë
P207	DC brake tir stop	0.0ÿ^60.0s	0.1s	0.0s	%Ë
P208	DC brake cu as stop	0ÿ^15%	1%	0%	%Ë

DC brake current as stop is a percentage relative to the inverte
brake when DC brake time is 0.0s.

6.4 Auxiliary Running Parameter ((P3 Group)

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P3.0	Freq. control c combinatior	0ÿ^20	1	0	×

As P0.01(frequency control channel selection)=8, It can set freq
nation through the above parameter (P3.00).

0ÿ VIÿ CI;

1ÿ VIÿ CI;

2ÿ external pulse given +V1+ control panel%²0%¼key given;

3ÿ external pulse given +V1+ control panel%²0%¼key given;

4ÿ external pulse givenÿ CI;

5ÿ external pulse givenÿ CI;

6ÿ RS485 givenÿ VI + control panel%²0%¼key given ;

7ÿ RS485 givenÿ VIÿ control panel%²0%¼key given;

8ÿ RS485givenÿ CI+ control panel%²0%¼key given;

9ÿ RS485givenÿ CI-control panel%²0%¼key given;

10ÿ RS485givenÿ CIÿ external pulse given;

11ÿ RS485givenÿ CIÿ external pulse given;

12ÿ RS485 givenÿ VIÿ external pulse given;

13ÿ RS485 givenÿ VIÿ external pulse given;

14ÿ VIÿ CIÿ control panel%²0%¼key givenÿ digital given P0.02;

15ÿ VIÿ CIÿ control panel%²0%¼key givenÿ digital given P0.02;

16ÿ MAXÿ VIÿ CIÿ ;

17ÿ MINÿ VIÿ CIÿ ;

18ÿ MAXÿ VIÿ CIÿ PLUSEÿ ;

19ÿ MINÿ VIÿ CIÿ PLUSEÿ ;

20ÿ VIÿ CI availability exceptÿ VI prior;

21: VI+Terminal UP/ DOWN;

22: CI+Terminal UP/ DOWN.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P3.0	Parameter initi setting	LED unit s digit LED ten s digit 0	1	0	×

0: After receiving stop command, the inverter decreases the ou
time.

1: After receiving stop command, the inverter stops output imm
stop by mechanical inertia. This is called as coast stop.

2: After receiving stop command, the inverter decreases the ou
when it reaches the start frequency of DC brake, the inverter be

Parameter initialization setting	
LED uni digit	0ÿ All parameters are allowed to be revised 1ÿ All parameters are not allowed to be revised 2ÿ All parameters are not allowed to be revised and this parameter itself.
LED ter digit	0ÿ inaction 1ÿ Factory default reset 2ÿ Clear history fault record

Note:

- The factory default setting of this function code parameter is parameter are allowed0to be revised
- After factory default reset, each place of this function code r

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P3.0	Parameter c	0ÿ^2	1	0	×

0ÿ inaction

1ÿ Parameter upload: upload function code parameter to remote c

2ÿ Parameters download: download function code parameter from

Note:

- This feature is only available for the remote control. Paramet to 0 after executing upload or download.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P3.0	Auto energ save runni	0ÿ^1	1	0	×

0ÿ inaction

1ÿ action

When motor is running with light load or no-load, the inverter w
adjust output voltage appropriately so as to save energy. Thi
application with stable load and running speed.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P3.0	AVR functio	0ÿ^20	1	0	×

0ÿ inaction

1ÿ always action

2ÿ inaction only in deceleration

This is auto voltage regulation function. When inverter input v function to keep inverter output voltage stable.

When inverter is decelerating to stop, if AVR function is invali shorter. But it will output a higher running current. If AVR is ef rating stably with lower running current, but the Dec. Time beco

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P3.0	Slip freq. compensatio	0ÿ^150%	1%	0%	×

This function can regulate the output frequency appropriately ac dynamically compensate the slip frequency of asynchronous mot at a stable value. If use this function in conjunction with auto achieve better low speed torque characteristic, which is shown

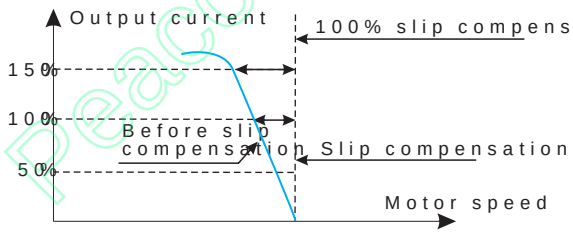


Fig.6-13 slip freq. compensation

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P306	JOG running	0.10ÿ^50.00Hz	0.01H	5.00H	%Ë
P307	JOG Acc ti	0.1ÿ^60.0s	0.1s	20.0s	%Ë
P308	JOG Dec ti	0.1ÿ^60.0s	0.1s	20.0s	%Ë

JOG frequency has the highest priority. In any stage, as long
input, the inverter will switch to JOG frequency running by JO
which is shown as Fig.6-14

JOG Acc time is the time for inverter accelerating from 0 to upp

JOG Dec time is the time for inverter decelerating from upper li

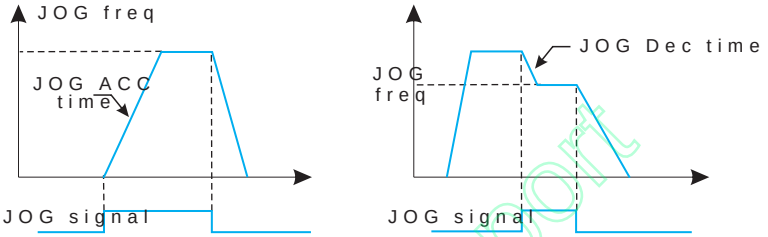


Fig.6-14 JOG running

Note:

- JOG running is available in panel control mode, terminal and
- After JOG running command is canceled, the inverter will dec

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P3.0	Communicati configuratio	000ÿ^155	1	005	×

User can configure the baud rate, data format and comm
ing P3..09

Communication configuration	
LED unit digit (ba rate)	0ÿ 1200BPS 1ÿ 2400BPS 2ÿ 4800BPS 3ÿ 9600BPS 4ÿ 19200BPS 5ÿ 38400BPS
LED ten s (data for	0ÿ 1ÿ 7ÿ 2 Format, without checkÿ 1-initial place place, without check; 1ÿ 1ÿ 7ÿ 1 Format, odd parity checkÿ 1-initial pla stop place, odd parity check; 2ÿ 1ÿ 7ÿ 1 Format, even parity checkÿ 1-initial pl stop place, even parity check;

Communication configuration	
LED ten s (data for	3ÿ 1ÿ 8ÿ 2 Format, without checkÿ 1-initial place place, withoÿt check 4ÿ 1ÿ 8ÿ 1 Format, odd parity checkÿ 1-initial pla stop place, odd pÿarity check 5ÿ 1ÿ 8ÿ 1 Format, even parity checkÿ 1-initial pl stop place, even pÿarity check 6ÿ 1ÿ 8ÿ 1 Format, even parity checkÿ 1-initial pl stop place, withÿout check
LED hundi digit (communic n mode)	0: MODBUSÿ ASCII Mode: MODBUS communicat data transmission ; 1: MODBUSÿ RTU Mode: MODBUS communicatio transmission.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P3.1	Local addres	0ÿ^248	1	1	×

This function is used to mark the address of inverter itself in se

0 Broadcast address. When the inverter works as a slave, if it 0, it means the inverter is receiving broadcast command and host.

248 Host address. When the inverter works as a host, set P3.20 to send broadcast command to other slave inverters so as interaction.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P3.1	Communicati overtime detect	0.0ÿ^1000.0S	0.1s	0.0s	×

When serial port communication is failed, if the duration exceed the inverter will conclude that there is a communication failure.

As set value is 0, the inverter will not detect the serial port function is invalid.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P3.1	Local response	0ÿ^1000ms	1s	5ms	×

Local response delay is the time from serial port receiving the puter and executing the command to responding the upper compu

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P3.1	Multi-running p	0.01ÿ^1.00	0.01	1.00	×

This function code is used to set the scale factor of in set command through serial port. The actual inverter ru to this scale factor multiplied by received frequency se port.

In multi-machine interaction running mode, it can use scale of multi-inverter running frequency. That is differ

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P314	Acc time2	0.ÿ1 6000.0	0.1	20.0	%Ë
P315	Dec time2	0.ÿ1 6000.0	0.1	20.0	%Ë
P316	Acc time3	0.ÿ1 6000.0	0.1	20.0	%Ë
P317	Dec time3	0.ÿ1 6000.0	0.1	20.0	%Ë
P318	Acc time4	0.ÿ1 6000.0	0.1	20.0	%Ë
P319	Dec time4	0.ÿ1 6000.0	0.1	20.0	%Ë
P320	Acc time5	0.ÿ1 6000.0	0.1	20.0	%Ë
P321	Dec time5	0.ÿ1 6000.0	0.1	20.0	%Ë
P322	Acc time6	0.ÿ1 6000.0	0.1	20.0	%Ë
P323	Dec time6	0.ÿ1 6000.0	0.1	20.0	%Ë
P324	Acc time7	0.ÿ1 6000.0	0.1	20.0	%Ë
P325	Dec time7	0.ÿ1 6000.0	0.1	20.0	%Ë

This function can define seven kinds of Acc/Dec time. Acc/Dec time during running process by different combi (Please refer to P4.00~P4.05).

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P326	Multi-stage fr	Multi-stage freq.1	0.01H	5.00H	%Ë
P327	Multi-stage fr	Multi-stage freq.2	0.01H	10.00	%Ë
P328	Multi-stage fr	Multi-stage freq.3	0.01H	20.00	%Ë

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P329	Multi-stage	Multi-stage freq.4	0.01H	30.00	%Ë
P330	Multi-stage	Multi-stage freq.5	0.01H	40.00	%Ë
P331	Multi-stage	Multi-stage freq.6	0.01H	45.00	%Ë
P332	Multi-stage	Multi-stage freq.7	0.01H	50.00	%Ë

These setting frequency can be used in multi-stage speed run running mode (please refer to P.00~P4.05 and P8 group).

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P333	Jump freq	0.00 500.00Hz	0.01H	0.00H	×
P334	Jump freq.1	0.00 30.00Hz	0.01H	0.00H	×
P335	Jump freq	0.00 500.00Hz	0.01H	0.00H	×
P336	Jump freq.2	0.00 30.00Hz	0.01H	0.00H	×

This function is used for the inverter to avoid the resonance fre

The inverter setting frequency is able to do jump running near as Fig.6-14. It can set 3 jump ranges at most.

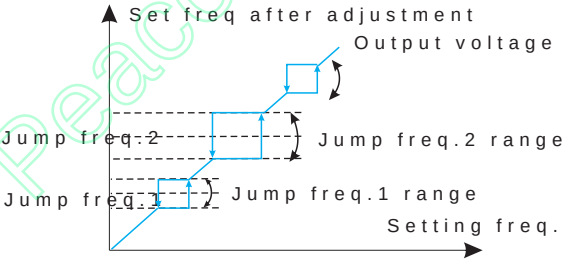


Fig.6-15 Jump frequency and range

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P3.3	Reserved	0000 9999	1	0000	×
P3.3	Zero frequen DC braking vo	0.0ÿ^15.0ÿ	0.1ÿ	0.0ÿ	×

DC brake at 0 freq means inverter output DC voltage to
0. Users can adjust P3.38 to get larger braking force, b

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P339	Set running	0ÿ^ 65.535K hour	0.001	0.000	%Ë
P340	Total runni	0ÿ^ 65.535K hour	0.001	0.000	%Ë

As total running time reaches set running time, the inve
(refer to P4.08~P4.09).

P3.40 function code defines the total running time of in
to present.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P341	Inspection sp wait time	00ÿ0 60.0	0.1s	2.0 s	%Ë

P3.41 is used for setting waiting time for restart at 0 fr
usting the parameter to restart.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P342	Inspection sp start the	00.0ÿ^150.0ÿ	0.1ÿ	100.0ÿ	%Ë

P3.42 Is used to limit the maximum output current of re

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P343	Running dis parameter sel	00ÿ^ 15	1	00	%Ë

This function is used for LED displayed parameter whe
relate to monitoring parameter b-01 to b-15. For exam
displayed on LED when setting P3.43=03. Users can m
by pressing key.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P3.44	Stop displa parameter sel	0ÿ^ 15	1	00	%Ë

This function is used for LED displayed parameter whe relate to monitoring parameter b-01 to b-15. For exar displayed on LED when setting P3.44=03. Users can m by pres%ao%o %0 %0 key.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P3.45	No unit disp coefficien	0.1ÿ^ 60.0	0.1	29.0	%Ë

The function is used for proportional relationship of m and the output f;requency

b-06 displayed value=output freq.×P3.45

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P3.46	JOG/REV Swi control	0ÿ^ 1	1	0	×

Select the JOG / REV key switching. Settings are as fol

0ÿ JOG running mode

1ÿ REV running mode

6.5 Terminal Control Function Parameter (P4 Grou

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P4.0	Input termin X1 function se	0ÿ^30	1	0	×
P4.0	Input termin X2 function se	0ÿ^30	1	0	×
P4.0	Input termin X3 function se	0ÿ^30	1	0	×
P4.0	Input termin X4 function se	0ÿ^30	1	0	×
P4.0	Input termin X5 function se	0ÿ^30	1	0	×
P4.0	Input termin X6 function se	0ÿ^30	1	0	×
P4.0	Input termin X7 function se	0ÿ^30	1	0	×
P4.0	Input termin X8 function se	0ÿ^30	1	0	×
P4.0	Input termin X1 function se	0ÿ^30	1	0	×

The multifunctional input terminal X1~X8 provide variou value of P4.00~P4.07 to define the function of terminal 1. Terminal X7 -FWD terminal, X8 -REV terminal.

Table 6-1 Multifunctional input selection

conte	function	conte	function
0	Idle terminal	1	Multi-stage speed
2	Multi-stage speed t	3	Multi-stage speed
4	External FWD JOG input	5	External REV JOG input
6	Acc/Dec time termi	7	Acc/Dec time termi
8	Acc/Dec time termi	9	3-wire control
10	Free stop inputÿ FR	11	External stop comr
12	Stopping DC brake command DB	13	Inverter running pr
14	Freq. increase com	15	Freq. decrease command(DOWN)

conte	function	conte	function
16	Acc/Dec prohibited	17	External reset inpu fault)
18	Peripheral equipme input (normally ope	19	Freq. control chan selection 1
20	Freq. control chanr selection 2	21	Freq. control chan selection 3
22	Command switched terminal	23	Running command mode selection 1
24	Running command (mode selection 2	25	Swing freq start m selection
26	Swing freq running	27	Close loop invalid
28	Simple PLC running command	29	PLC invalid
30	PLC reset in stoppi	31	Freq. switched to (
32	Counter trigger sig	33	Counter clear inpu
34	External interrupt i	35	Pulse freq. input (for X6)
36	Fire mode		

Description of function listed in Table 6-1:

1~3: Multi-stage speed control terminal

It can set 7-stage speed running frequency at most by s nation of these 3 control terminals and selecting Acc/D shown as Table 6-2.

Table 6-2 Multi-stage speed running selection

K3	K2	K1	Freq. setting	Acc/Dec time
OFF	OFF	OFF	Normal running	Acc/Dec time
OFF	OFF	ON	Multi-stage fre	Acc/Dec time
OFF	ON	OFF	Multi-stage fre	Acc/Dec time
OFF	ON	ON	Multi-stage fre	Acc/Dec time
ON	OFF	OFF	Multi-stage fre	Acc/Dec time
ON	OFF	ON	Multi-stage fre	Acc/Dec time
ON	ON	OFF	Multi-stage fre	Acc/Dec time
ON	ON	ON	Multi-stage fre	Acc/Dec time

The above multi-stage frequency can be used in multi-s
mode and simple PLC running mode. Herein take multi-s
example as follow.

Define control terminal X1, X2, X3 as follow.

P4.00=1, P4.01=2, P4.03=3, that X1, X2, X3 are used to
speed running shown as Fig.6-18.

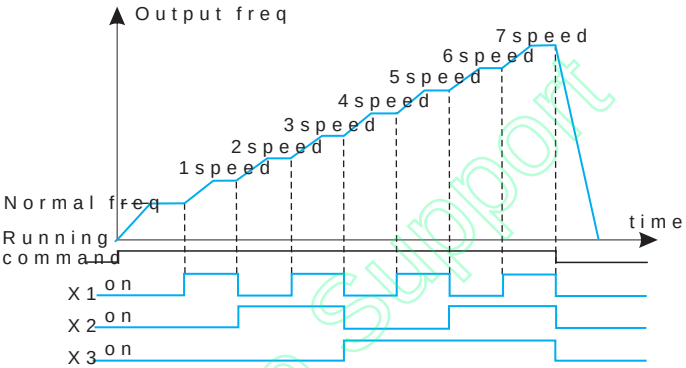


Fig 6-16 multi-stage speed running

Take terminal control mode for example as Fig.6-19, tha
ard or reverse running.

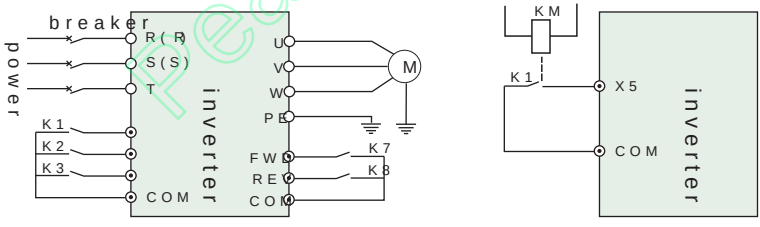


Fig.6-17 wiring diagram of Fig.6-18 peripheral equip
multi-stage speed running

4~5: External JOG control input JOGP/JOGR.

In terminal control mode(P0.03=1), JOGP is JOG forwar
reverse running. JOG running frequency and JOG runnin
defined by P3.06~P3.08.

6ÿ^8ÿ Acc/Dec time terminal selection.

Table 6-3 Acc/Dec time terminal selection logical

Termina	Termina	Termina	Acc/Dec time selec
OFF	OFF	OFF	Acc time1 / Dec ti
OFF	OFF	ON	Acc time2 / Dec ti
OFF	ON	OFF	Acc time3 / Dec ti
OFF	ON	ON	Acc time4 / Dec ti
ON	OFF	OFF	Acc time5 / Dec ti
ON	OFF	ON	Acc time6 / Dec ti
ON	ON	OFF	Acc time7 / Dec ti

By ON/OFF combination of Acc/Dec time terminal the A selected accordingly.

9ÿ 3-wire control. Please refer to P4.08.

10ÿFree stop input (FRS). This function is same as free But this is controlled by terminal which is convenient fo

11ÿExternal stop command. This command is effective i control mode.

12ÿStopping DC brake input command DB. Use controlt brake to the motor during stop process in order to achie and accurate positioning. Brake start frequency, brake are defined by P2.06~P2.08.

13ÿInverter running prohibited. When this terminal is e running state will go to stop, and the inverter in stopp to start. This function is mainly used in application req

14ÿ^15ÿ Freq. Increasing command (UP), Freq. decrease The frequency increase or decrease is controlled by co the place of control panel in remote control mode.

16ÿAcc/Dec prohibited command. To maintain the motor any input command except stopping command, and keep speed.

Note: Function invalid at normal Dec stop process.

17ÿExternal reset input(clear fault). When there is a fa inverter by this terminal. This function is same as ENT panel.

18ÿ Peripheral equipment fault input(normally open). Th
fault can be input by this terminal for the convenience
peripheral equipment. The inverter will display E-13 , t
fault alarm, after receiving peripheral equipment fault s

19ÿ^ 21ÿ Freq. Control channel selection. The freq. cont
switchable by the ON/OFF combination of these 3 cont
Table 6-4. For this function and P0.01 defined function,
previous one.

Table 6-4 Freq. control channel selection logical

Freq. cont channel sel terminal	Freq. cont channel sele terminal 2	Freq. cont channel sele terminal 1	frequency cont channel selecti
OFF	OFF	OFF	Maintaining set Fr
OFF	OFF	ON	Function code dig
OFF	ON	OFF	Terminal UP/DOWI
OFF	ON	ON	Serial port given
ON	OFF	OFF	VI
ON	OFF	ON	CI
ON	ON	OFF	PULSE
ON	ON	ON	Combination given P3.01)

22ÿ Command switched to terminal. As this function is ef
rol mode will be switched to terminal control mode.

23ÿ^ 24ÿ Running control mode selection

The running control mode can be switchable by the ON/C
2 control terminals shown as Table 6-5. For this functio
function, the later set one is prior to previous one.

Table6-5 running control mode selection logical m

Running con mode selecti	Running con mode selecti	Running control mode se
OFF	OFF	Maintaining running control m
OFF	ON	Control panel control mode
ON	OFF	Terminal control mode
ON	ON	Terminal control mode

25ÿ Swing freq. start mode selection.

In swing frequency manual start mode, the swing fre
effective as this terminal is effective (refer to P9 Group

26ÿ Swing freq. running reset

In swing frequency running mode, no matter it is in ma
mode, by closing this terminal it will clear the recorde
running. The swing frequency running will restart by di
(Referring to P9 Group)

27ÿ Close loop invalid

In close loop running state, this function can invalidate
the inverter will switch to lower priority running mode.

Note:

- only in the closed-loop operation (P7.00 = 1) it can be switch
  and low-level operating mode.

28ÿ Simple PLC running pause command

In simple PLC running state, as this function is effect
pause, and the inverter will run at 0 HZ. As this functio
automatically execute running speed tracking start an
(refer to P8 Group).

29ÿ PLC invalid

In PLC running state, this function can invalidate the PL
will swich to lower priority running mode.

30ÿ PLC reset in stopping state

In the stopping state of PLC running mode, as this t
inverter will clear the data recorded in stopping state,
running time, and runing frequency, etc. (refer to P8 Gr

31ÿ Freq. Switched to CI

When this function is effective, the frequency control o
CI given.

32ÿ Counter trigger signal input

There is a built-in counter in inverter, the max input pu
port is 200Hz. It can store memory the present counted
(refer to P4.21, P4.22).

33ÿ Counter clear input

Clear the built-in counter to 0.

34ÿ External interrupt input

In the running state, when inverter receives external i
output, and run at zero frequency. After the interrupt
inverter will execute automatically the running speed
continue to run again.

35ÿ Pulse freq. input

Only valid for X4 terminal. This terminal receives pulse
command (refer to P1.11~P1.15).

36: Fire mode

Inverters ignore the control signal or alram in the fire
extend the reliable running time until it is damaged to
a smoke-free environment.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P4.0	FWD/Rerunn mode selec	0^ 4	1	0	×

4 control modes:
0ÿ 2-wire control mode 1

K2	K1	Command
0	0	Stop
0	1	FWD
1	0	REV
1	1	Stop

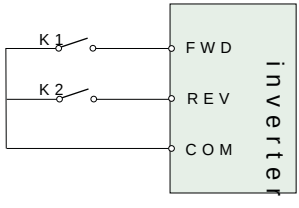


Fig.6-19 2-wire control mode1

1ÿ 2-wire control mode 2

K2	K1	Command
0	0	Stop
1	0	Stop
0	1	FWD
1	1	REV

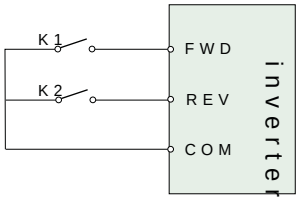


Fig.6-20 2-wire control mode 2

2ÿ 3-wire control mode 1

Xi is one of multifunctional input terminal X1~X6 which on 9, that is 3-wire control mode.

SB1ÿSTOP
SB2ÿFWD
SB3ÿREV

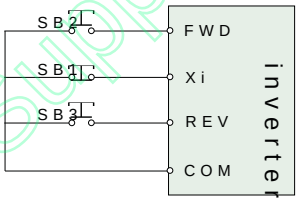


Fig.6-21 3-wire control mode 1

3ÿ 3-wire control mode 2

Xi is one of multifunctional input terminal X1~X6 which 9, that is 3-wire control mode.

K2	Command
0	FWD
1	REV

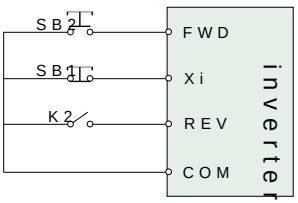


Fig.6-22 3-wire control mode 2

Note:

✦ In alarm stopping mode, if the running control mode is select and FWD/REV terminal is effective, the inverter will start at c

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P4.0	UP/DN Rat	0.01-99.99Hz/s	0.01	1.00 Hz/s	%Ë

This function code defines the rate of change of set freq terminal.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P4.1	2-way open c output termin output selec	0ÿ^ 22	1	0	×
P4.1	2-way open c output termin output selec	0ÿ^ 22	1	0	×
P4.1	Relay TA/TB output selec	0ÿ^ 22	1	0	×
P4.1	Relay RA/RB output selec	0ÿ^ 22	1	0	×

OC1 Open collector output terminal

ÿ Table 6-6 nal for function optional

Table 6-6 Output terminal function selection

conte	function	conte	function
0	Inverter is running(R	1	Freq. arrival sign
2	Freq. level detected signal(FDT1)	3	reversed
4	Overload pre-alarm s ÿ OLÿ	5	Under voltage loc ÿ LUÿ
6	External faults stopp	7	Output freq. uppe ÿ FHÿ
8	Output freq. lower li	9	Inverter in 0 spee
10	Simple PLC stage ru	11	PLC running cycl
12	Set counts arrival	13	Specified counts
14	Inverter ready for ru ÿ RDYÿ	15	Inverter fault
16	Start freq. running t	17	DC brake time wh

conte	function	conte	function
18	DC brake time when	19	Swing freq. uppe limit
20	Set running time arri	21	Upper pressure a signal
22	Lower pressure alarr		

The description of function listed in Table 6-6 as follow

0ÿ Inverter in running(RUN). In the running state, it outp

1ÿ Freq. arrival signal(FAR). Please refer to P4.12.

2ÿ Freq. level detected signal(FDT1). Refer to P4.11~P4.

3ÿ reserved

4ÿ Overload pre-alarm signal(OL). As inverter output defined overload detected level and the time is longer t detected time. It outputs index signal.

5ÿ Under voltage locking(LU). In the running state, whe lower than limited level, the inverter will display E-11

6ÿ External fault stopping(EXT). When external fault a puts index signal.

7ÿ Output freq. upper limit(FH). When set freq upper frequency reaches upper limit freq, it outputs index sign

8ÿ Output freq. lower limit(FL). When setting freq lowe frequency reaches lower limit frequency, it outputs inde

9ÿ Inverter in zero speed running. When the inverter o running state, it will outputs index signal.

10ÿ Simple PLC stage running finish. When present simpl outputs index signal.(single pulse signal, width is 500m

11: A PLC running cycle finish. When a simple PLC runn puts index signal.(single pulse signal, width is 500ms).

12ÿ Set counts arrival.

13ÿ Specified counts arrival. (Refer to P4.21~P4.22)

14ÿ Inverter ready for running(RDY). When this signal inverter bus bar voltage is normal, and the inverter run invalid, that inverter can start.

15ÿ Inverter fault. When fault occurs in the running s signal.

16ÿ Start freq. running time .

17ÿ DC brake time when start.

18ÿ DC brake time when stop.

19ÿ Swing freq. upper/lower limit. In swing frequency fluctuation range of swing frequency calculated accordi upper limit freq.P0.19 or below lower limit freq.P0.20, i

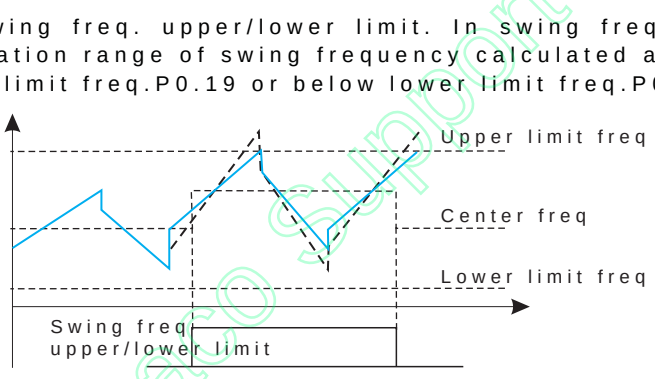


Fig.6-23 swing freq. upper/lower limit

20ÿ Set running time arrival. When inverter total running running time (P3.39), it outputs index signal.

21: upper pressure alarm signal. On closed-loop contr signal when the pipeline pressure is greater than the up

22: Lower pressure alarm signal. On closed-loop contr signal when the pipeline pressure is lower than the lowe

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P4.1	Freq. arriv detection ra	0.00 400.00Hz	0.01H	5.00H	×

This function is a complement to function 1 listed in Tab
frequency is in the + - detection range of set frequer
shown as Fig.6-24.

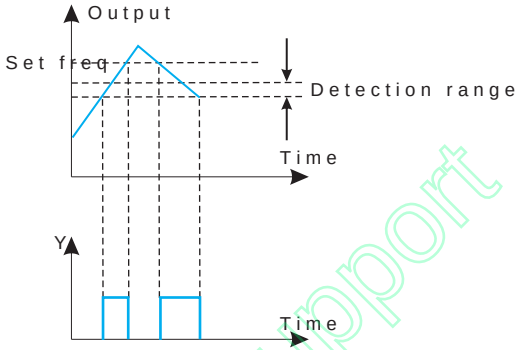


Fig.6-24 Freq. arrival detection range

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P4.1	Freq. arriv detection ra	0.00 400.00Hz	0.01H	5.00H	×
P4.1	FDT1 lag	0.00 50.00Hz	0.01H	1.00H	%Ë

P4.13~P4.14 are the complement to function 2 listed in T
the complement to function 3 listed in Table 6-6. Both
example, when output frequency exceeds a certain se
outputs index signal until output frequency decreasing t
than FDT1 (FDT1-FDT1 lag) shown as Fig.6-25.

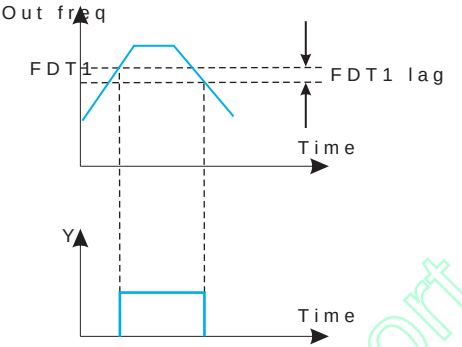


Fig.6-25 freq level detection

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P4.1	Analog outpu selection	0 ~ 7	01	00	%Ë
P4.1	Analog	0.50 ~ 2.00	0.01	1.00	%Ë
P4.1	Analog out (AO2) selec	0 ~ 7	01	00	%Ë
P4.2	Analog out (AO2) gair	0.50 ~ 2.00	0.01	1.00	%Ë

6-7 Output terminal indication

Conte	Function	Indication range
0	Output freq.	0 ~ limit freq
1	Output current	0-2×rated current
2	Output voltage	0-1.2×motor rated vo
3	Bus bar voltage	0-800V
4	PID given	0 ~ 10V
5	PID feedback	0 ~ 10V
6	VI	0 ~ 10V
7	CI	0 ~ 10V/4 20mA

Ten s cont	Functio	description
0	0ÿ^ 10V	Output voltage 0 10V
1	0ÿ^ 20mA	Output current 0 20mA ÿ AO1jur
2	4ÿ^ 20mA	Output current 4 20mA ÿ AO1 ju

As to AO analog output, if user wants to change measur
tolerance, it can be achieved by regulating the output g

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P4.2	DO output te	0ÿ^ 7	0.01H	5.00H	%Ë

Please refer to Table 6-7.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P4.2	DO max pul output fre	0.1ÿK 20.0Kÿ max 20	0.1KH	10.0K	%Ë
P4.2	Set counts g	F4.2ÿ0 9999	1	0	%Ë
P4.2	Specified co given	0ÿ^ F4.19	1	0	%Ë

P4.21,P4.22 are the complement to function 12,13 listed

Set counts given: It refers to when how many pulse sig
trigger signal input function terminal), OC (2-way open
relay outputs an index signal.

When Xi inputs the 8th pulse signal, OC outputs an ind
shown as Fig.6-26.

Specified counts given: It refers to when how many puls
or relay outputs an index signal, until set counts arrival

When Xi inputs the 5th pulse signal, relay outputs an in
arrival, that is P4.22=5, shown as Fig.6-27. When speci
counts, specified counts invalid.

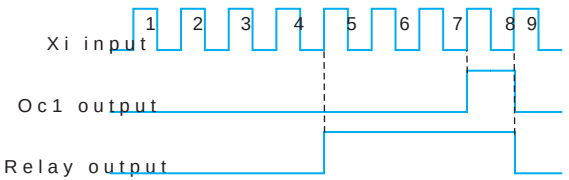


Fig.6-26 set counts given and specified counts g

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P4.2	Overload pre detection le	20ÿÿ^200ÿ	1	130ÿ	%Ë
P4.2	Overload pre delay time	0.0 20.0s	0.1s	5.0s	%Ë

If output current exceeds continuously current detection ual detection level current = P4.23 X inverter rated curr by P4.24, the open collector outputs valid signal shown

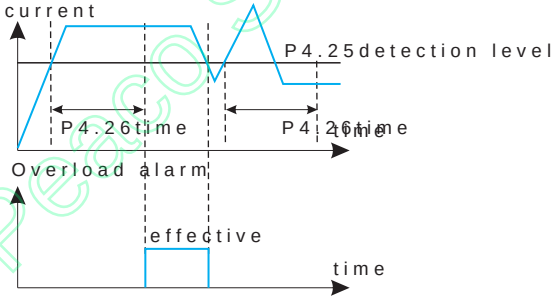


Fig.6-27 overload alarm

6.6 Protection Function Parameter (P5 Group)

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P5.0	Motor overload p mode selecti	0ÿ^1	1	0	×

This parameter defines the inverter protection mode in current.

0: Stop outputting: In the case of overload, over current putting at once, and the motor will go to free stopping

1: Inaction: Without overload protection to load motor , caution.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P5.0	Motor overload p coefficient	20ÿ^120ÿ	1	100ÿ	×

This parameter is used for setting sensitivity of therm motor. When motor output current doesn t match inverte this parameter it could get correct protection to motor s

$$[P5.01] = \frac{\text{Motor rated current}}{\text{Inverter rated output current}} * 100\%$$

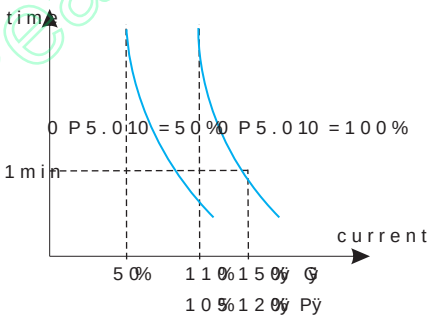


Fig. 6-30 Thermal relay protection

Note:

✦ Note: When one inverter drives multi-motor in linkage running will be out of action. Please install thermal relay to each mot the motor effectively.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P5.0	Overvoltage Selection	0ÿ^ 1	1	1	×
P5.0	Overvoltage point	380Vÿ 1ÿ2 0 150ÿ 220Vÿ 1ÿ1 0 130ÿ	1ÿ	140ÿ 120ÿ	%Ë

0ÿ prohibited

1ÿ allowed

In inverter Dec running process,because of the affectio Dec rate of motor speed may be lower than output freq moment the motor will feed back electrical energy to in bus bar voltage rising. If don t take measures, the ove triggered In the inverter Dec running process, the ov function will detect the bus bar voltage and compare it defined by P5.03 (relative to standard bus bar voltage) stall point, the inverter will stop decreasing output fre bar voltage lower than overvoltage stall point again, th shown as Fig.6-29.

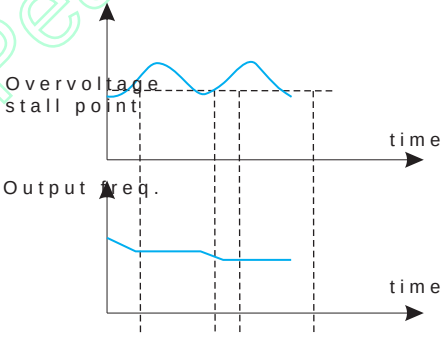


Fig.6-29 overvoltage stall

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P5.0	Auto current level	110ÿ^200ÿ	1ÿ	150ÿ	×
P5.0	Freq. drop during curre	0.00 99.99Hz/s	0.01H /s	10.00 /s	%Ë
P5.0	Auto current mode selec	0ÿ^ 1	1	1	×

Auto current limit function is to auto limit the load curre limit level (P5.04) by real time monitoring the load curr trip caused by over current. It is suitable to some appli load change in intensity.

Function code P5.04 defines the current threshold value the set range is a percentage to inverter rated current. I regulating rate to output frequency during auto current l

If freq. drop rate (P5.05) during current limit is too sm limit state, it may finally cause load fault. If freq. dro frequency regulating range, it may cause inverter overvo

Auto current limit function is always valid during Acc/D mode selection (P5.06) defines whether auto current constant speed running state.

P5.06=0 Auto current limit invalid in constant speed runn

P5.06=1 Auto current limit valid in constant speed runni

Auto current limit function is not suitable to constant sp output frequency, because the output frequency may cha limit action.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P5.0	Restart setti power failu	0ÿ^ 1	1	0	×
P5.0	Restart waiti after power	0.0ÿ^ 10.0s	0.1s	0.5s	×

P5.07 = 0ÿ Restart after momentary power failure inaction

P5.07 = 1ÿ Restart after momentary power failure inaction

If occur momentary power failure (LED displays E-11) when power comes back, the inverter will automatically restart mode after waiting for time set by P5.08. During is a run command inputting, the inverter will not resta input at that time, the inverter will cancel tracking spee

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P5.0	Restart setti power failu	0 ~ 10	1	0	×
P5.1	Self-recove interval ti	0.5 ~ 20.0s	0.1s	5.0s	×

During inverter running, fault may occur accidentally an due to load fluctuation. At the moment, user may use fa order not to stop running of equipment driven by invert recovery, the inverter will execute tracking speed resta to restart successfully in set times defined by P5.10, it and stop output.

Note:

- This function is used on condition that the inverter has no su ery function is allowed by equipment
- This function is invalid to fault protection due to overload or

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P5.1	Input missing protection	0 ~ 1	1	0	%Ë

0: Inaction

1: Action

Note:

- U phase missing protection, displays E-26
- V phase missing protection, displays E-27
- W phase missing protection, displays E-28

6.7 Fault Record Function Parameter (P6 Group)

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P6.0	Previous failur	Previous failure re	1	0	*
P6.0	Previous seco fault record	Previous secondary record	1	0	*
P6.0	Previous third records	Previous third failu	1	0	*
P6.0	Previous fourt record	Previous fourth fai	1	0	*
P6.1	Previous fifth record	Previous fifth failu	1	0	*
P6.1	Previous sixth record	Previous sixth failu	1	0	*

0: No fault

1ÿ^17ÿ E-01~E-17 fault, refer to Chapter 7.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P6.0	Output freque the previous	Output frequency a previous fault	0.01H	0	*
P6.0	Set frequency previous fau	Set frequency at th fault	0.01H	0	*
P6.0	Output current previous fau	Output current at t previous fault	0.1A	0	*
P6.0	Output voltage previous fau	Output voltage at t previous fault	1V	0	*
P6.0	DC bus voltage previous fau	DC bus voltage at previous fault	1V	0	*
P6.0	Module temper the previous	Module temperatur previous fault	10C	0	*

6.8 Close Loop Running Control Function parameter

Analog feedback control system:

Input pressure given value by VI and input 4~20mA feedback signal by CI, constitute an analog feedback control system as shown as Fig.6-30.

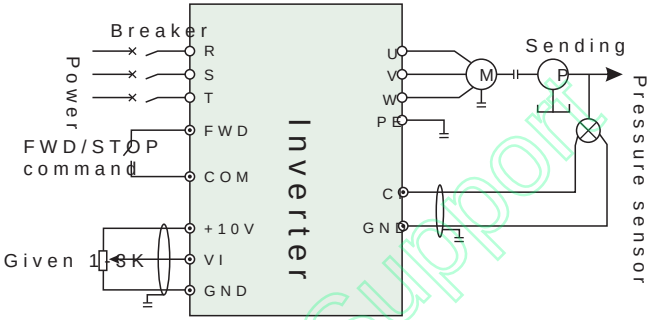


Figure 6-30 Built-in PI simulation feedback control s

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.0	Close loop r control sele	0^ 1	1	0	×

0ÿ Invalid

1ÿ Valid

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.0	Close loop channel sele	0^ 2	1	0	×

0: Digital given

1: VI analog 0~10V voltage given0

2: CI analog 0~10V voltage given or 4~20mA current give analog given 10V corresponding the rotate speed of max

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.0	Feedback cha selection	0ÿ^ 6	1	0	×

0: VI analog 0~10V input voltage

1: CI analog0~10V input voltage

2ÿ VI +CI

3ÿ VI - CI

4ÿ Minÿ[VI0 CIÿ]

5ÿ Maxÿ[VI0 CIÿ]

6ÿ CI analog 4ÿ 20mA input voltage. System board JP3 jum side, so as toÿ^s2e0lemAt 4current feedback input.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.0	Given channel time consta	0.0ÿ1 50.00s	0.01	0.50s	%Ë
P7.0	Feedback cha filtering time	0.0ÿ1 50.00s	0.01	0.50s	%Ë

External to a given and feedback channels are often sup ence, by setting the P7.03 and P7.04 filter time constan the longer the anti-interference ability is stronger, but time shorter response more quickly, but the anti-interfer

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.0	Given value c setting	0.00ÿ1 20.000Mpa	0.00 Mpa	0.000 pa	×

As P7.01=0, P7.05 defined value is used as close loop c that user can change system given value by revising P panel or serial port to control close loop system.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.0	Close loop adj characterist	0ÿ^ 1	1	0	%Ë

The parameters used to define the feedback signal and t
between signal:

0ÿ Positive characteristic: Said feedback signal corresp
maximum.

1ÿ Negative characteristic: Said feedback signal corresp
minimum.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.0	Feedback chann	0.0ÿ1 10.00	0.01	1.00	×

As the feedback channel and the channel signal level i
parameters of the feedback channel signal gain adjustme

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.0	Lower pressure	0.0ÿ1 10.00	0.001	0.001	%Ë
P7.0	Upper pressure	P7.ÿ08 P7.27	0.001	1.000	%Ë

This parameter is used to set upper and lower limit pres
is greater than the P7.09 value, the maximum set press
the set pressure is less than the value of P7.08, set th
P7.08 value.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.1	PID Controller s	0.0ÿ1 10.00	1	1	×

This parameter is used to select the built-in PID control

0ÿ Proportional controlÿ

1ÿ Integral ¸control

2ÿ Proportion, integral controlÿ

3ÿ Proportion, integral, differential control

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.1	Proportional g	0.00 5.00	0.01	0.50	%Ë
P7.1	Integral time c	0.1 100.0s	0.1	10.0s	%Ë
P7.1	Differential	0.0 5.0	0.1	10.0s	×

Built-in PID controller parameters setting, should accor
and system adjustment.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.1	Sampling pe	0.01 1.00s	0.01	0.10	%Ë

Feedback value sampling period.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.1	Tolerance li	0.0 20.0	0.1	0.0	%Ë

Loop setting point maximum allowable deviation, as show
amount of feedback keeps in this range, the PI regulator
function is reasonable use contribute to the coordination
and stability of the contradiction between.

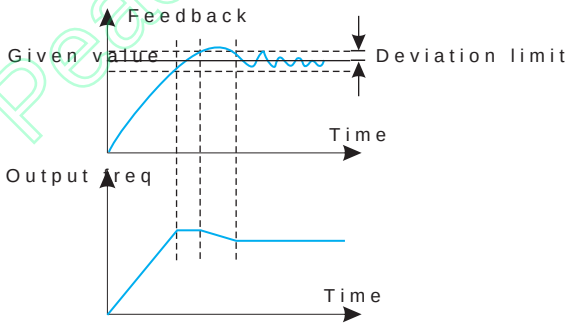


Fig.6-31 Deviation limit

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.1	PID Feedback disc detection thres	0ÿ^ Upper limit f	0.01H	0.00H	%Ë
P7.1	PID Feedback disc action selecti	0ÿ^ 3	1	0	%Ë
P7.1	PID Feedback disc operation delay	0.0ÿ1 5.00s	0.01	1.00s	%Ë

As the PID feedback value below P7.16 set detection th
delay time P7.18 seconds later, it is judged to feedbacl
will be defined by the parameter P7.17 selection after fe

0ÿ Stop;

1ÿ According to the P0.02 setting frequency operation;

2ÿ According to upper limit frequency operation;

3ÿ According to upper limit frequency half running.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.1	Pressure leve	0.00ÿ1 P7.20	0.00 Mpa	0.001 pa	%Ë

This parameter defines the system from a hibernation sta
of the pressure limit.

As the pipeline pressure is smaller than the set value, il
to reduce or increase in the water content, frequency co
automatically from the dormant state to state.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.2	Hibernation press	P7.1ÿ9 P7.27	01	00	%Ë

This parameter defines the system enters a hibernation s

As the pipeline pressure is greater than the set value,
supply systems have been adjusted to the hibernatio
descriptions of actual water decrease sharply or tap wa
frequency of water supply system to automatically enter
wait wake.

As the water supply system to reach the awake and hiber
awakening and hibernation latency by the parameter P7.2

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.2	Hibernation level time	0^ 250s	1s	10s	%Ë

The parameter setting in hibernation, pipe network press
level maintained in continuous time.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.2	Hibernation freq	0.00 400.0Hz	0.01H	20.00	%Ë

The parameter is setting the minimum operating enter int

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.2	Hibernation freq continuous tim	0^ 250s	1s	10s	%Ë

The parameter is setting inverter running time, when rea

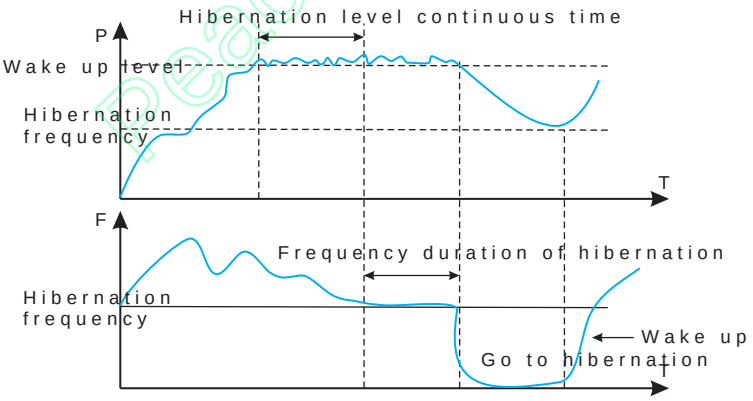


Fig.6-32 Hibernation wake diagram

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.2	Low alarm l pressure	0.00ÿ1 P7.25	0.00 Mpa	0.001 pa	%Ë
P7.2	The alarm l pressure	P7.24 P7.27	0.00 Mpa	0.001 pa	%Ë

As the pressure of a pipe network under lower pressure, reaches the set upper limit frequency of or all the pu indicates that the pipeline under pressure, frequency c signal. P4.10 or P4.11 is set to 21, then the maximum pr

As the pipeline pressure is greater than the upper limit frequency reaches the set lower limit of frequency, in pressure, frequency converter can output alarm signal. T determine the pipeline blocking. P4.10 or P4.11 is set t pressure alarm.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.2	Constant pre water supply	0ÿ 4	1	0	×

0ÿ No constant pressure water supply mode.

1ÿ One pump water supply modeÿ Selection of the constant boardÿ0

2ÿ Two pumps water supply modeÿ Selection of the constan boardÿ0

3ÿ Three pumps water supply modeÿ Selection of the const pply boardÿ0

4ÿ Four pumps water supply modeÿ Selection of the consta boardÿ .

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.2	Remote pres gauge rang	0.00ÿ1 20.000Mpa	0.00 Mpa	1.000 pa	%Ë

This parameter setting is equal to actual use of gauge ra or 20mA.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.2	Multi pump operation m	0ÿ^ 1	1	0	%Ë
P7.2	Rotation in intervals	0.1Ë 100.0H	0.1H	5.0H	%Ë

Multi pump operation mode for each pump capacity the sa

0ÿ Fixed sequence shift: According to the detected pres shifting sequence plus or minus pump. General pump sta

1ÿ Timing of the Shift: This way is actually at a certain ti number, to ensure that each pump can get equal chance prevent the pump break for a long time no using. Timing parameter defined.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.3	Pump switch judgment ti	0.1ÿ^1000.0s	0.1s	300.0	%Ë

This parameter is used to set the judgment of stabilit deduce the pump Nos. The setting of parameters too sh pressure shocks, but the pressure response more quickly

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.3	Electromagr switching del	0.1ÿ^10.0s	0.1s	0.5s	×

The parameters used to define system delay time of ele the switching from Grid frequency to Variable frequency Grid frequency.. In order to prevent the circuit shorten terminal and power supply caused by electromagnetic sw

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.3	PID Control of and negative r feedback pres error polari	00 ~ 11	1	00	×
P7.3	Feedback err pressure adjus coefficient	0.000 ~ 20.000Mpa	0.00 Mpa	0.000 pa	×

PID Control of positive and negative role and feedback	
Unity	0: PID forward action 1: PID reverse action
Ten	0: The feedback pressure is greater than the a 1: feedback pressure is less than actual press
Hundred	0: wake up sleep pressure is actual pressure 1: wake up sleep pressure is set pressure
Thousand	0: Press to view the monitoring parameters, a parameters are viewed in order 1: Press to view the monitoring parameters. T of group B only view the three parameters of s and output frequency

As the PID is stable, found the set pressure and actual can be adjusted by P7.32 and P7.33 to eliminate the err pressure is greater than set pressure, P7.3 ten bit set t pressure setting pressure, when the actual pipeline pr pressure, P7.33 ten bit set to " 0 ", and the P7.33=set pr

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P7.3	Closed loop of frequency	0 ~ Upper limit freq	0.00H	0.00H	×
P7.3	Closed loop of frequency hold	0.0 ~ 200.0s	0.1s	0.0s	×

The function code can make the closed-loop regulation q

Inverter will accelerate to closed loop of preset point P uency for a period of time. After that time, inverter will r

6.9 PLC Running Parameter (P8 Group)

Simple PLC function is a multi-stage speed generator. Th
frequency and running direction in set running time to sa
nd shown as Fig.6-33.

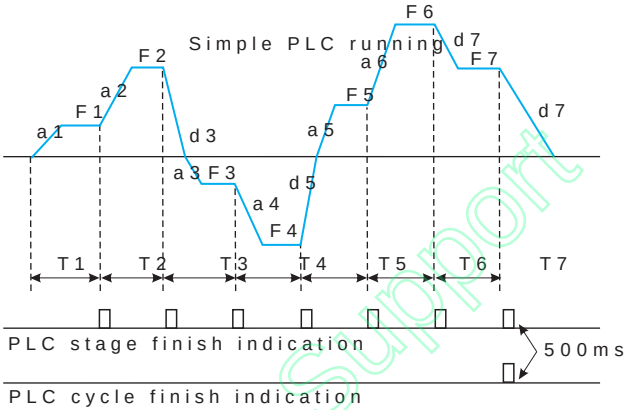


Fig.6-33 simple PLC running

a1~a7, d1~d7 are Acc and Dec time in each stage show
defined by Acc/Dec time parameter P0.17,P0.18 and P3.1

F1~F7, T1~T7 are running frequency and running time w
on code P8.01~P8.14.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P8.0	PLC running r selection	LED unit: 0~3; ten hundred: 0,1; thou	1	0000	×

LED unit s digit: PLC running mode selection

0: naction

1: Stop after single cycle

The inverter will stop automatically after one cycle. It wi
running command shown as Fig.6-34.

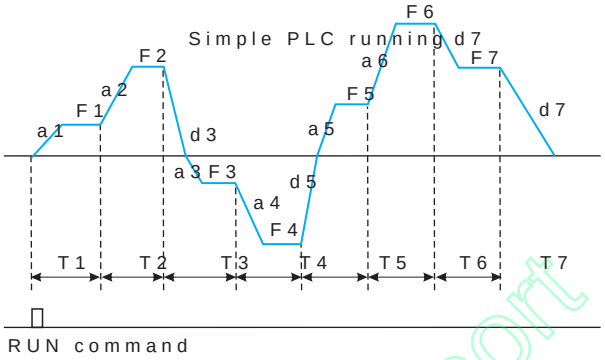


Fig.6-34 PLC stop after single cycle

2ÿ Running at final frequency after single cycle:

The inverter will keep running at the frequency and dir
one cycle. It will stop in set dec time after receiving st
Fig.6-35.

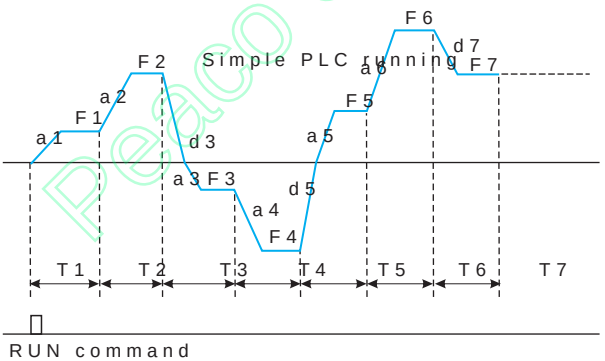


Fig.6-35 PLC running at final frequency after singl

3ÿ Continuous cycle

The inverter automatically starts a new cycle after one
stopping command shown as Fig.6-36.

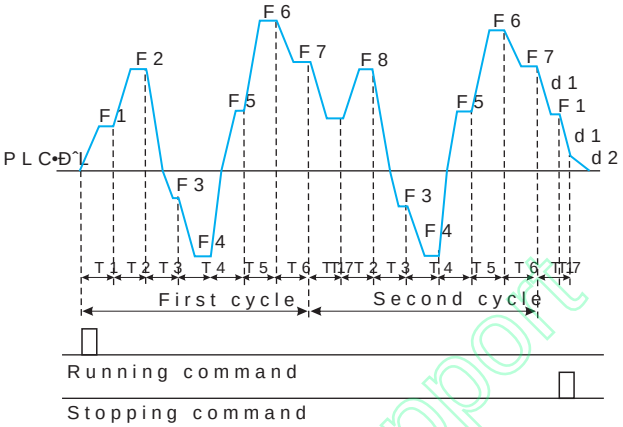
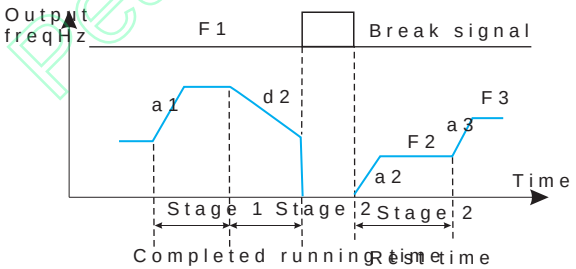


Fig.6-36 PLC continuous cycle

LED ten s digit: PLC restart mode selection

0ÿ Restart from the first stage after stop caused by sto power failure.

1: Restart from the freq. of break stage. After stop caus fault, the inverter will record the running time complete and runs at set freq. of break stage in rest time of break



a1: Acc time of stage 1 a2: Acc time of stage 2 a3:Acc time o
d2: Dec time of stage 2 F1: freq of stage 1 F2: freq of

Fig.6-37 PLC restart mode 1

LED hundred s digit: PLC state parameter save mode se

0: No save. Inverter don t save PLC running state after from the first stage.

1: Save. Inverter saves PLC running state after power frequency and running time of break stage.

LED thousand s digit: PLC running time unit

0: Second

1: Minute

The unit only run on PLC stage time definition Validl deceleration time unit selection is determined by P0.16

Note:

- PLC for a certain period of time setting 0, means the stage is
- Through the terminal, PLC process can be suspended, failure group P4 terminal related functional parameter group.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P8.0	Stage 1 set	00 621	1	000	%Ë
P8.0	Stage 1 runni	0.1 6000.0	0.1	10.0	%Ë
P8.0	Stage 2 set	00 621	1	000	%Ë
P8.0	Stage 2 runni	0.1 6000.0	0.1	10.0	%Ë
P8.0	Stage 3 set	00 621	1	000	%Ë
P8.0	Stage 3 runni	0.1 6000.0	0.1	10.0	%Ë
P8.0	Stage 4 set	00 621	1	000	%Ë
P8.0	Stage 4 runni	0.1 6000.0	0.1	10.0	%Ë
P8.0	Stage 5 set	00 621	1	000	%Ë
P8.1	Stage 5 runni	0.1 6000.0	0.1	10.0	%Ë
P8.1	Stage 6 set	00 621	1	000	%Ë
P8.1	Stage 6 runni	0.1 6000.0	0.1	10.0	%Ë
P8.1	Stage 7 set	00 621	1	000	%Ë
P8.1	Stage 7 runni	0.1 6000.0	0.1	10.0	%Ë

Function code P8.01~P8.14 are used to define PLC runn and Acc/Dec time by LED unit s, ten s, hundred s digit

LED unit s digit: start mode
0: Multi-stage frequency i (i=1~7) defined by P3.26-P3. 1: Freq. defined by P0.01 function code
LED ten s digit: running direction selection
0: Forward 1: Reverse 2: Controlled by running command.
LED hundred s digit: Acc/Dec time selection
0: Acc/Dec time 1 1: Acc/Dec time 2 2: Acc/Dec time 3 3: Acc/Dec time 4 4: Acc/Dec time 5 5: Acc/Dec time 6 6: Acc/Dec time 7

6.10 Swing Frequency Function Parameter (P9 G

Swing frequency running is used in textile, chemical fib
ication which needs traverse drive and winding. The typ
Fig.6-45.

The swing frequency process is normally as follow:

Firstly it accelerates to preset swing freq (P9.02) in se
while(P9.03), then after goes to swing centre frequency
it enters into swing freq cycle running in set swing a
(P9.05), swing freq cycle (P9.06) and delta wave ascent
stop command to stop in set Dec time.

The swing centre frequency comes from set frequency o
ge speed running or PLC running.

The swing freq running will be invalid automatically as
running mode starts.

When PLC running with swing freq, swing frequency will
of PLC stage. It will go to PLC set frequency according t
swing frequency restarts.When stopping command is rec
stop in PLC Dec time.

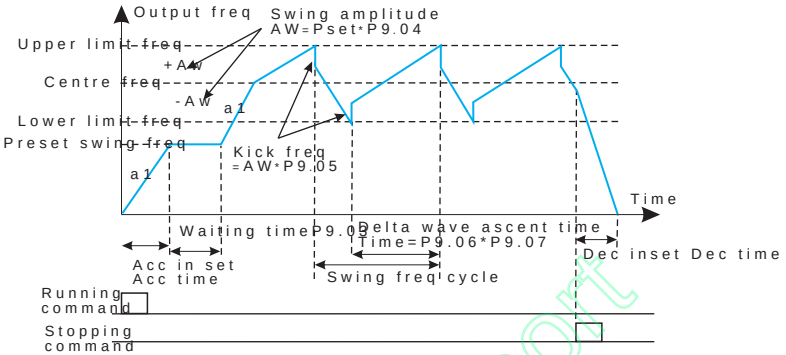


Fig.6-38 Swing frequency running

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P9.0	Swing freq. s	0ÿ^ 1	1	0	×

0ÿ Inaction

1ÿ Action

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P9.0	Swing freq. r mode	0ÿ^ 1	1	0	×

After inspecting cable connection and power source fo input AC power switch. The inverter s LED on control p start menu. When it displays set frequency, it means completedÿ

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P9.0	Swing freq. r mode	0000ÿ0 1111	1111	0000	×

LED unit s digit: start mode
0: Auto start. It keeps running at preset swing frequency start, then after automatically enters into swing frequen
1: Manual start by terminal. When multifunctional termin frequency running state. When terminal isinvalid, it quit and keeps running at preset swing frequency(P9.02).
LED ten s digit: swing amplitude control
0: Variable swing amplitude. Swing amplitude AW change to P9.04.
1: Fixed swing amplitude. Swing amplitude AW is define code P9.04

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P9.0	Preset swing	0.00 500.00Hz	0.01H 0.1s	0.00H	%Ë
P9.0	Preset swing waiting tim	0.0 3600.0s	0.1s	0.0s	%Ë

P9.02 is used for defining the running freq before swing auto start mode is selected, P9.03 is used for defining preset swing frequency. When manual start mode is se Refer to Fig.6-38.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P9.0	Swing ampli	0.0 50.0ÿ	0.1ÿ	0.0ÿ	%Ë

Variable swing amplitude:
AW=centre freq ×P9.04 Fixed swing amplitude:
AW=max running freq P0.06 ×P9.04.

Note:

✦ Swing freq is restricted by upper/lower limit frequency.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P9.0	Kick freq.	0.0 50.0ÿ	0.1ÿ	0.0ÿ	%Ë

P9.05=0, there is no kick freq.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P9.0	Swing freq.	0.1s 999.9s	0.1s	10.0s	%Ë

This function code is to define the time of a completed

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P9.0	delta wave a time	0.1ÿ 98.0ÿ	0.1ÿ	50.0ÿ	%Ë

Swing freq ascent stage running time=P9.06 P9.07 (s
running time=P9.06 (1 P9.07) (second).

Note:

- User can select S curve Acc/Dec mode at the same time when selected. It can make swing freq running smooth.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P9.0	Terminal UP/ and Fan cor selection	00ÿ 111	1	0	%Ë

Unite digit
0: Inverter fan operation, shutdown after 1 minutes afte 1: Power on the fan operation.
Ten digit
0: When Frequency is set by Terminal UP/DOWN (P0 .01= frequency value after power off. When inverter restarts, saving frequency; 1: When Frequency is set by Terminal UP/DOWN (P0 .01= frequency value after power off. The Intial frequency set
Hundred digit
0: Inverter run/ stop is set by Terminal (P0.03=1). After inverter will run or stop according to Terminal setting. 1: Inverter run/ stop is set by Terminal (P0.03=1). After inverter will stop.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P9.0	Muti-functi terminal filte	0^ 4	1	1	%Ë

The parameter is used for multi-function terminals (X1- asing the value, the effect of filtering will be improved time will be longer. Reducing the value, the effect of Terminal response time is short. In some motion co requires instant action, parameter P9.09 should set 0

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P9.1	Braking unit	0^ 100.0%	0.1%	30.0%	%Ë

This parameter is used to set the energy consumption value. When the bus voltage in excess of P9.11 (ener bus bar voltage), braking unit will start the brake unit of P9.10. The high percentage setting, the braking ef braking current will be high. Users have to set the a P9.10 parameters and select the braking resistor.

Fun Cod	Name	Range	Min Unit	Facto Defau	Modi
P9.1	Overpressu threshold va	0^ 780V	1V	780V	%Ë
P9.1	Energy consu braking bus voltage	0^ 780V	1V	640V Or 35	%Ë

This parameter is used to set the energy consumption b Three-phase 380V inverter power brake boot bus voltag 220V inverter power brake boot bus voltage is 358V

Fun Cod	Name	Range	Min Unit	Factor Defaul	Modi
P9.1	G/P type setti single-phase type selecti	0000 1111	0000	0000	%Ë

Unit s digit:

0: G type ; 1:P type ;

Ten s digit: reserved;

Hundred s digit: reserved;

Thousand's digit: Single-phase motor type;

0: ordinary three-phase asynchronous motor(220V);

1: single-phase asynchronous motor (removing capacito

2: Single-phase asynchronous motor (without removing

Fun Cod	Name	Range	Min Unit	Factor Defaul	Modi
P9.1	User passwo	0ÿ^ 9999	1	0	%Ë

This function is used for prohibiting non-authorized per the function parameter. When P9.14=0000, this function

When this function is needed, please enter 4 digits as p ENTER/DATA key to confirm it, the password will be Val

Amend password: press MENU/ESC key to enter into state. After original 4 digits password is entered corre edit state. Select function code P9.14 (P9.14=0000 now and press ENTER/DATA key to confirm it, the new p immediately. The super user password is 2644.

6.11 Vector Control Parameter (PA Group)

Fun Cod	Name	Range	Min Unit	Factor Defaul	Modi
PA.0	Motor paramet tuning funct	0ÿ^ 1	1	0	×

0ÿ Inaction

1ÿ Static auto-tuning

When settings PA.00=1, inverter show "FUN0 ", then pr inverter parameter auto-tuning. When keyboard display complete.

Fun Cod	Name	Range	Min Unit	Factor Defaul	Modi
PA.0	Motor rated v	0 ~ 400V	1	depends model t	×
PA.0	Motor rated c	0.01 ~ 500.00A	0.01	depends model t	×
PA.0	Motor rated fre	1 ~ 500Hz	1Hz	depends model t	×
PA.0	Motor rated ro speed	1 ~ 9999 r/min	1r/mi	depends model t	×
PA.0	Motor poles n	2 ~ 16	1	depends model t	×
PA.0	Motor stato inductance	0.1 ~ 5000.0mH	0.1m	depends model t	×
PA.0	Motor rotor ind	0.1 ~ 5000.0mH	0.1m	depends model t	×
PA.0	Motor stator a mutual induct	0.1 ~ 5000.0mH	0.1m	depends model t	×
PA.0	Motor stato resistance	0.001 ~ 50.000	0.001	depends model t	×
PA.1	Motor rotor re	0.001 ~ 50.000	0.001	depends model t	×

PA.01~PA.10 are defined as motor parameter. The inv
default set parameter which depends on model type. Us
parameter according to parameter of motor used. Thes
entered correctly, otherwise, the vector control functi
control effect.

Fun Cod	Name	Range	Min Unit	Factor Defaul	Modi
PA.1	Over curren protection coe of torque cur	0 ~ 15	1	15	×

In vector control mode, this function is used for contr
prevent over current .The range of 0-15 correspond to 5

Fun Cod	Name	Range	Min Unit	Factor Defaul	Modi
PA.1	Proportion adj coefficient of deviation	50 ~ 120	1	85	×
PA.1	Integral adjus coefficient F deviation	100 ~ 500	1	360	×

In vector control mode, PA.12~PA.13 are used for co
speed. It can achieve better motor speed control effec
these two function.parameter

Fun Cod	Name	Range	Min Unit	Factor Defaul	Modi
PA.1	Vector torque	100 ~ 150	1	100	×

In vector control mode, this function is used to boost o

It can properly increase this parameter in application v
output torque of motor.

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6.12 Factory Function parameter (PF Group)

Fun Cod	Name	Range	Min Unit	Factor Defaul	Modi
PF.0	Factory func	0000 ~ 9999	---	---	×

Factory function, user no need to amend it

Chapter 7

Troubleshooting

7.1 Fault Alarm Tranoubleshooting

When the inverter is abnormal, protection function acts: L
the content, fault relay acts, the inverter stops output an

ŠYX3000 series inverter s fault contents and troubl
Table 7-1. After fault alarm occurs, fault phenomenon
detail, the fault should be processed according to Tabl
technical assistance, please contact your supplier.

Fau cod	Type o faults	Possible fault reasons	Troubleshooting
E-0	Acc ov curren	Acc time is too shor	Adjust acc time
		V/F curve setup is n	Adjust V/F curve
		Restart the motor in	Setup start mode as tracking restart
		Torque boost setup	Adjust torque boost c auto mode
		Inverter capacity is	Select inverter with p capacity
E-0	Dec ov curren	Dec time is too shor	Adjust Dec time
		Potential load or loa too big	Add suitable braking
		Inverter capacity is	Select inverter with p capacity
E-0	Over cur at const speed runnin	Load mutation	Check load
		Acc or Dec timeis t	Adjust Acc or Dec tim
		Input voltage abnorn	Check input power su
		Load abnormal	check load
		Inverter capacity is	Select inverter with p capacity
E-0	Acc overvolt	Input voltage abnorn	Check input power su
		Acc time is too shor	Adjust Acc time
		Restart the motor in	Setup start mode as tracking restart
E-0	Dec overvolt	Dec time is too shor	Adjust the Dec time
		Potential load or loa too big	Add suitable braking
E-0	Overvolt at const speed runnin	Input voltage abnorn	Check input power su
		Acc or Dec time is t	Adjust the Acc or De
		Abnormal change of voltage	Mount input reactor

Fau cod	Type o faults	Possible fault reasons	Troubleshooting
E-0		Load inertia is too b	Add suitable braking
E-0	Overvolt of cont power supply	Input voltage abnorm	Check input power s
E-0	Inverte overhea	Air duct obstruction	Clean air duct
		Environment tempera high	Improve the ventilat decrease the carrier
		Fan damaged	Replace a new fan
		Inverter module abno	Contact supplier
E-0	Inverte overloa	Acc time is too short	Adjust Acc time
		DC braking value is	Decrease DC braking and increase braking
		V/F curve setup is no	Adjust V/F curve
		Restart the motor in	Setup start mode as tracking restart
		Mains voltage is too	Check mains voltage
		Too heavy load	Select inverter with capacity
E-1	Motor overloa	V/F curve setup is no	Adjust V/F curve
		Mains voltage is too	Check mains voltage
		General motor runs a speed with heavy loa term	Use a special motor term running
		Wrong setting of mot overload protection f	Set the factor right
		Motor chocked or suc change of load	Check load
E-1	Under voltage running	Mains voltage is too	Check mains voltage
E-1	Inverte module protecti	Inverter over current	Refer to over curren troubleshooting
		Output 3-phase fault short	Re-wiring
		Air duct obstruction damaged	Clean air duct or re new fan

Fau cod	Type o faults	Possible fault reasons	Troubleshooting
E-1	Inverte module protecti	Environment tempera high	Decrease environme temperature
		Control board conne or plug-in unit loose	Check and re-wiring
		Current waveform ab due to output missin etc.	Check wiring
		Auxiliary power dama driving voltage unde	Contact supplier
		Control board abnorn	Contact supplier
E-1	Periphe fault	Close external fault	Check the reason
E-1	Curren detecti circuit f	Loose wiring or term connections	Check and re-wiring
		Auxiliary power sour damaged	Contact supplier
		Hall component dama	Contact supplier
		Abnormal amplifier c	Contact supplier
E-1	RS232/4 Commun tion fa	Wrong baud rate sett	Set baud rate prope
		Serial port communic	Pres STOP Key to r contact supplier
		Improper fault alarm setting	Revise function cod P3.09~P3.12
		Upper computer does	Check upper comput connecting cable
E-1	System interfere	Serious interference	Pres STOP key to re install input power s
		DSP read/write error	Reset or contact sup
E-1	EEPPRC error	Read/write error of c parameter	pres STOP key to re install input power s
E-1	Motor paramet over cur fault	Power range of Moto inverter do not matc	Contact suppl STOP pre key to reset
E-1	Input ph loss protecti	One of R, S, T port h voltage	Pres STOP key to re voltage of R, S, T
E-2	over cur fault wh restar	Over current when in restart and check sp	pres STOP key to re relevant parameters

7.2 Fault Record Search

This series inverter record the fault codes occurred in running parameter when last fault occurred. The fault i group.

7.3 Fault Reset

- When fault occurred, please select the following meth
- When fault code is displayed, after ensuring it can be reset.
- Set any one of X1~X8 terminal as external RESET inp
- Cut off power.

ATTENTION

- Reset the inverter after thoroughly investigating the clearing, otherwise, the inverter may be damaged;
- If it can t be reseted or fault occurs again after res cause of fault, continuous reset may damage inverte
- Reset the inverter after waiting for 5min when ove protection occurs.

Chapter 8

Preservation and Maint

8.1 Preservation and Maintenance

Potential hazards exist due to aging, wear and tear of in
as well as environmental influences to the inverter, suc
particles etc.. Therefore, daily inspection, periodic pre
must be performed to the inverter and its driving mecha
and operation.

Daily Maintenance

The following must be verified before starting up:

- No abnormal vibration and no abnormal noise;
- No abnormal heat;
- No abnormal ambient temperature;
- The ammeter satisfy the specification;
- Fan is working in good condition.

8.2 Periodic Preservation and Maintenance

8.2.1 Periodic Maintenance

Cut off the power when inverter is maintained thermally,
power indicator light is off. The checking content is sho

Checking item	Checking conte	Troubleshootin
Screws of control and main circuit t	The screws are lo	If loose, tighten th screw driver
heat sink	Whether there is	Clean thoroughly th
Printed circuit boa	Whether there is	Clean thoroughly th
Cooling fans	Whether there is a vibration or abnor	Replace cooling fa
Power element	Whether there is	Clean thoroughly th
Electrolytic capac	Whether there is discoloring, pecul	Replace electrolyti

table 8-1 Periodic inspections

8.2.2 Thermally maintaining

In order to let inverter work well for a long term, user
thermally. The replace time of element of inverter is sho

Items	Time criter
Cooling fans	2-3 years
Electrolytic ca	4-5 years
Printed circuit	5-8 years
Fuse	10 years

Table 8-2 frequency inverter parts replacement

The working condition of the inverter as following:

- Environment temperature: average 30C;
- Load coefficient: under 80%;
- Running time: under 12 hour everyday.

8.3 Warranty of Inverter

Our company supply warranty in the following condition:

❶ Only inverter in the warranty range;

❷ In the normal using, inverter damaged in 15 month. Ov
ny will charge for the repair service.

❸ In the following condition in 15 month, our company a
repair service:

ðl A. Inverter is damaged caused by user not complying

ðl B. Inverter is damaged caused by fire, flood, and abn

ðl C. Inverter is damaged caused by wrong wiring.

ðl D. Inverter is damaged when it is used in the abnorm

❹ Service charge will be calculated with reference to ac
the contract, then according to the contract.

Chapter 9

Serial Port Communication Protoc

9.1 Communication overview

Our series of inverters provide users with a common communication interface, in which The MODBUS standa communication. The inverters can be used as slave conn PLC controller, PC), both of which have the same comm protocol, for the purpose of centralized monitoring of th can be used as host and other inverters as slaves, al communication interface, to achieve multi-machine inter with this communication interface, a Keyboard can also for remote operation.

The MODBUS communication protocol of the inverter su ways: RTU mode and ASCII, and either can be choose. T description of the communication protocol of the inverte

9.2 Communication protocol specification

9.2.1 Communications networking methods

ÿ 1ÿ networking methods with inverter as slave:

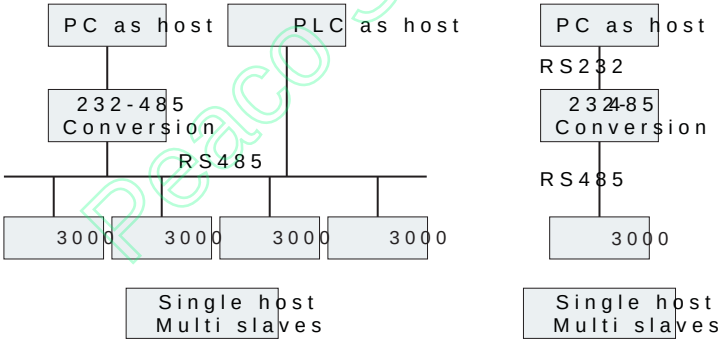

Fig.9-1 networking of slaves

ÿ 2ÿ networking methods with inverter as slave:

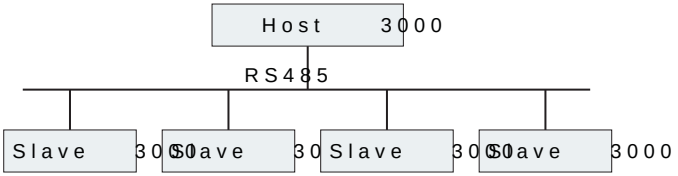

Fig9-2 The networking of multi-machine interact

9.2.2 Communication protocol

The inverter can either used as a host or slave in RS48 for controlling our other inverters as host to achiev controlled by host (PC or PLC) as a slave. The specific follows:

- Inverter is used as slave, in point-to-point commun mode. Host sends commands from broadcast address answer;
- Inverter is used as host, sending commands from bro slave doesn t answe;
- The address, baud rate and data format of the inverte the keyboard or the serial communication;
- message of error is reported by slave, in the recent host polling.

9.2.3 Communication Interface

The communication is using RS485 interface, with as half-duplex transmission. The default communication p

The default data format: 1 start bit, 7 data bits, 2 stop

The default rate is 9600bps. Communication paramet P3.09 ~ P3.12 function code.

9.3 The ASCII Communication Protocol

Character structure:

10 characteÿ sFbo xASÿCII

(1-7-2 format, no parity)

Start bit	BIT 0	BIT 1	BIT 2	BIT 3	4 BIT	BIT 5	BIT 6	7	Stop bit	Stop bit

(1-7-1 format, odd parity)

Start bit	BIT 0	BIT 1	BIT 2	BIT 3	4 BIT	BIT 5	BIT 6	7	Parity bit	Stop bit

(1-7-1 format, even parity)

Start bit	BIT 0	BIT 1	BIT 2	BIT 3	4 BIT	BIT 5	BIT 6	7	Parity bit	Stop bit

11 characters boxÿ yFor RTU

(1-8-2 format, no parity)

Start bit	BIT 0	BIT 1	BIT 2	BIT 3	4 BIT	BIT 5	BIT 6	7	Stop bit	Stop bit

(1-8-1 format, odd parity)

Start bit	BIT 0	BIT 1	BIT 2	BIT 3	4 BIT	BIT 5	BIT 6	7	Parity bit	Stop bit

(1-8-1 format, even parity)

Start bit	BIT 0	BIT 1	BIT 2	BIT 3	4 BIT	BIT 5	BIT 6	7	Even parity	Stop bit

Communications data structures

ASCII mode

Frame he	Start character= ÿ ÿ 3AHÿ
Address	Addressÿ 8-bit address combined with two
Address	
Function	Function codeÿ 8-bit address combined with two ASCII co
Function	
DATAÿ n -	Data contentÿ n * 8-bit data content combined with 2 * n high in front and low in post, n <= 4, 8 A
&&&&&	
DATA 0	
LRC CHK	LRC Checkÿ code 8 check code combined with two ASCII co
LRC CHK	
END Hi	End characterÿ END Hi = CR(0DH), END Lo = CR(0AH)
END	

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RTU mode

START	Maintaining no input signal for more than
Address	address: 8-bit Binary address
Function	Function code: 8-bit Binary address
DATA(n-1)	Data content: N*8-bit data: N<=8, less than 8 bytes
&&&&&	
DATA 0	
CRC CHK	CRC Check code
CRC CHK	16-bit CRC check code is combined with 2
END	Maintaining no input signal for more than

Address:

00H: All broadcast from inverters

01H: Communication with inverter of 01 address

0FH: Communication with inverter of 15 address

10H: Communication with inverter of 15 address, and so
on: FEH.

Function and DATA code:

03H: Read data from a register

06H: Write data to the register.

08H: Loop detection.

Function code: 03H: Read data from a register

For example: read data from the address 2104H of register (0

ASCII mode

Asking for information stri		Answering information str	
Header	: --- 3AH	Header	: --- 3AH
Address	0 ---30H	Address	0 ---30H
	1 ---31H		1 ---31H
Function	0 ---30H	Function c	0 ---30H
	3 ---33H		3 ---33H

Asking for information stri		Answering information str	
content	2 ---32H	Informati number	0 ---30H
	1 ---31H		2 ---32H
	0 ---30H	Content c address 21	0 ---30H
	4 ---34H		0 ---30H
			0 ---30H
			0 ---30H
LRC CHE	LRC CHECK D	LRC CHEC	D ---44H
	7 ---37H		7 ---37H
END	END CR ---0D	END	CR ---0DH
	LF ---0AH		LF ---0AH

RTU mœde

Asking for information st		Answering information strir	
Address	01H	Address	01H
Function co	03H	Function co	03H
content	21H	Information n	02H
CRC CHECK	04H	content	00H
	E8H	CRC CHECK	00H
			0EH
CRC CHECK	4BH	CRC CHECK	37H

Function code 06Hÿ Write to register
For exampleÿ writing function code P0.02=50.00HZ to invert

ASCII mode

Asking for information st		Answering information strir	
Header	ÿ --3AH	Header	ÿ --3AH
Address	0 ---30H	Address	0 ---30H
	1 ---31H		1 ---31H

Asking for information st		Answering information stri	
Function	0 ---30H	Function co	0 ---30H
	6 ---36H		6 ---36H
content	0 ---30H	content	0 ---30H
	0 ---30H		0 ---30H
	0 ---30H		0 ---30H
	2 ---32H		2 ---32H
	1 ---31H	Data of add	1 ---31H
	3 ---33H	2104H	3 ---33H
	8 ---38H		8 ---38H
	8 ---38H		8 ---38H
LRC CHE	5 ---35H	LRC CHEC	5 ---35H
	C ---43H		C ---43H
END	CR ---0DH	END	CR ---0DH
	LF ---0AH		LF ---0AH

RTU mode

Asking for information stri		Answering information str	
Address	00H	Address	01H
Function c	06H	Function c	06H
content	00H	content	00H
	02H		02H
	13H		13H
	88H		88H
CRC CHECK	25H	CRC CHECK	25H
CRC CHECK	5CH	CRC CHECK	5CH

Function code: 08H Communication loop test

This command is used to test the communication betwe
ent and inverter. Inverter receives and sends back th
control equipment.

ASCII mode

Asking for information st		Answering information stri	
Header	ÿ --3AH	Header	ÿ --3AH
Address	0 ---30H	Address	0 ---30H
	1 ---31H		1 ---31H
Function	0 ---30H	Function co	0 ---30H
	8 ---38H		8 ---38H
content	0 ---30H	content	0 ---30H
	1 ---31H		1 ---31H
	0 ---30H		0 ---30H
	2 ---32H		2 ---32H
	0 ---30H	Data of add 2104H	0 ---30H
	3 ---33H		3 ---33H
	0 ---30H		0 ---30H
	4 ---34H		4 ---34H
LRC CHE	E ---45H	LRC CHECK	E ---45H
	D ---44H		D ---44H
END	CR ---0DH	END	CR ---0DH
	LF ---0AH		LF ---0AH

RTU mode

Asking for information st		Answering information stri	
Address	01H	Address	01H
Function c	08H	Function co	08H
content	01H	content	01H
	02H		02H
	03H		03H
	04H		04H
CRC CHECK	41H	CRC CHECK	41H
CRC CHECK	04H	CRC CHECK	04H

Check code:

ASCII mode: Double byte ASCII code

Calculation method:

For message sending end, the calculation of LRC is th
accumulation the byte from "slave address" to "runni
converted to ASCII code, discarding carry-over, reversi
1 (converting to complement), finally converted to AS
checkout area, high byte in front, low byte in post. For
the same LRC method is used to calculating checksum
comparing it with the received checksum. If they are eq
is correct. If not equal, the received message is wrong.
is discarded with no answering, while the end continuin
data.

RTU mode: two bytes of 16 hex

The CRC domain is two bytes, including a binary value
and added to the message by the sending end; while lo
high byte added in post then, so the high byte of CRC i
The receiving device re-calculates the CRC of the mess
the CRC in receiving domain, if the two values are diffe
in received message, and the message frame is disca
responding but waiting for the next frame data. CRC che
reference to MODBUS protocol specification.

Communication protocol parameter definition:

definiti	Parameter ad	Function description
Comman to inver ÿ 06Hÿ	2000H	0001Hÿ RUN
		0002Hÿ FWD
		0003Hÿ REV
		0004Hÿ JOG
		0005Hÿ FWD JOG
		0006Hÿ REV JOG
		0007Hÿ DEC and STOP
		0008Hÿ STOP
		0009Hÿ JOG STOP
		000AHÿ RESET
	2001H	Freq. setting

definiti	Parame addres	Function description
Monitor invert ÿ03Hÿ	2100H	Read ERROR code
	2101H	State of inverter
		BIT0ÿ STOP signÿ 0ÿ STOPÿ 1ÿ RUN
		BIT1: Under voltage sign,1: Under v
		BIT2:FWD REV sign,1ÿ REVÿ 0ÿ FWD
		BIT3:JOG sign,1ÿ JOGÿ 0ÿ NON JOG
		BIT4:Close loop controlÿ 1ÿ Closeÿ 0ÿ
		BIT5: swing freq. signÿ 1ÿ swingÿ 0ÿ no
		BIT6:PLC run signÿ 1ÿ PLC runÿ 0ÿ non
		BIT7:terminal multi-stage 1ÿ multi-stage 0ÿ multi-stage
		BIT8:normal runningÿ 1ÿ normalÿ 0ÿ no
		BIT9:Freq. from comm.ÿ 1ÿ yesÿ 0ÿ no.
		BIT10:Freq. from analog inputÿ 1ÿ yes
		BIT11:run commands from comm.ÿ 1ÿ
		BIT12: parameter password protecti
	2102H	Read Freq. setting
	2103H	Read output Freq.
	2104H	Read output current
	2105H	Read bus voltage
	2106H	Read output voltage
	2107H	Read motor speed
	2108H	Read module temp.
	2109H	Read VI analog input
	210AH	Read CI analog input
	210BH	Read software version
	210CH	Read inverter terminal status
	210DH	Read set pressure
	210EH	Read feedback pressure

Definitio	Parameter addres	Function descrip
Read func codeÿ03Hÿ	GGnnH ÿGgÿfunction code num :function code numberÿ	Responding functio
Read func codeÿ06Hÿ	GGnnH ÿGGÿfunction code nur :function code numberÿ	Function code writi inverter

Error code:

Error coc	Description
01H	Function code error. it can not be identifi
02H	Address error. it can not be identified
03H	Data error. Data overrun

Chapte

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