CONTENT

1. PREFACE

Thanks for choosing JR7000 universal inverter!

1. 1 Special attention things

1、When install the inverter，Please fixed your inverter on metal plate by specified screw！ use prescriptive screw.

2、 Before wiring,， please be sure that the power is off!

3、 The components of your inverter is sensitive to static electricity，so don't put the foreignmatter in the inverter, don't touch main circuit board and any component!

4、After cut off AC power，some of components may still remain a residual high-voltage, touch the inner inverter circuit or component immediately is prohibited!

5、 Make sure that the timing ground terminal has been securely grounded to the earth!

6、Output terminal connect to power is absolutely prohibited !

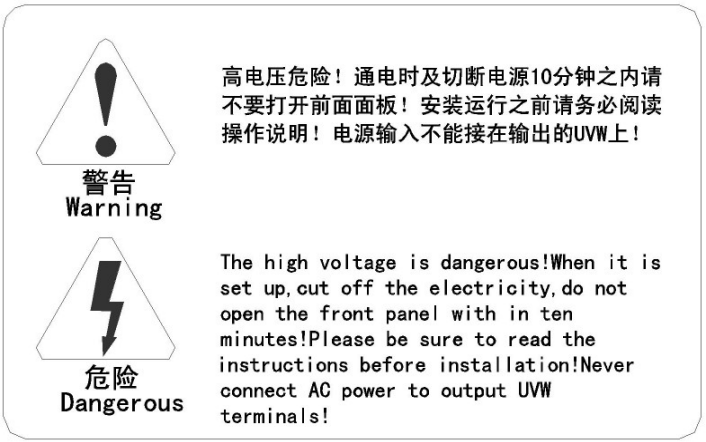
7、 If you will not use the inverter for a long time， Please cut off power!

8、neutral line can not connect to N(-)

1．2 Safety attention things

Symbol	meaning	Symbol Illustration
	Dangerous	Indicates a potentially dangerous situation which if can not avoid will result in death or serious injury.
	Warning	Indicates a potentially dangerous situation which if can not avoid will cause minor or moderate injury and damage the device. This symbol is also used for warning any un-safety operation.

1．3 WARNING LABEL



1.4 OPEN-PACKAGING INSPECTION

1、Be sure your inverter is intact and with no any broken during transportation.

2、To check the user's manual in the package.

3、Check the nameplate and be sure the product you ordered.

4、If you ordered spare parts for inverter，Please be sure you received the right spare parts

5、For any problem your may have，Please contact your supplier!

1.5 MOVE YOUR INVERTER

When move your inverter， Please catch the metal part. You are dangerous if you move inverter only by catching the faceplate or other nonmetal part! You may damage the inverter if you put more sets of inverters than specified in a case up case manner.

1.6 STORAGE

Inverter should be stored in well ventilate warehouse and keep away from corrosive gas, liquid and stained condition. The permissive, temperature scope is between -25℃ to 55℃ and the maximum relative humidity not exceed 90%

1.7 PRODUCT MAINTAIN

There is a 12months Warranty Period for your JR7000 series inverter started from the date of purchase. The manufacturer is responsible only for those quality problems attributed to the product design and fabrication.
In no case, the manufacture will be responsible for those damage attributed to any man-made fault during transportation and packaging-opening as well as those damage caused by incorrect installation, improper operation condition such as temperature, dust, corrosion and over-load etc.

2. PRODUCT INTRODUCTION

2.1 JR7000 TECHNOLOGY FEATURES

2.1.1 INPUT&OUTPUT

Input Voltage Range：380/220V±15%
Input Frequency Range：47～63HZ
Output Voltage Range：0～Rated Input Voltage
Output Frequency Range：0～400HZ

2.1.2 I/O FEATURES

Programmable Digital Input: Provide 6 terminals which can accept ON-OFF input.

Programmable Analog Input: FV: Can accept input of 0～10V， FI: can accept input of 0～20mA.

Programmable Open Collector Output: 1 output terminals（below1.5KW），

2 output terminals(over 2.2KW)

Relay Output: Provide: 1 output terminals （ below1.5KW ） , 2 output terminals(over 2.2KW)

Analog Output :Provide 1 output terminal，whose output scope can be 0～10V.

2.1.3 TECHNOLOGY FEATURES

Control Mode：SPWM

Overload Capacity：60s with 150% of rated current；10s with 180% of rated current.

Start Torque：1.0Hz/150% (SVC)

Carrier Frequency：1.0K～20.0KHz

V/F curve: set all V/F curve

Control of acceleration and deceleration time:4—Multi-step speed control

2.1.4 FUNCTION FEATURES

Frequency set mode：Data set、Analog set、Serial communication set、Multi-step speed、PID set. PID control function

Multi-step speed control function:8 steps speed control

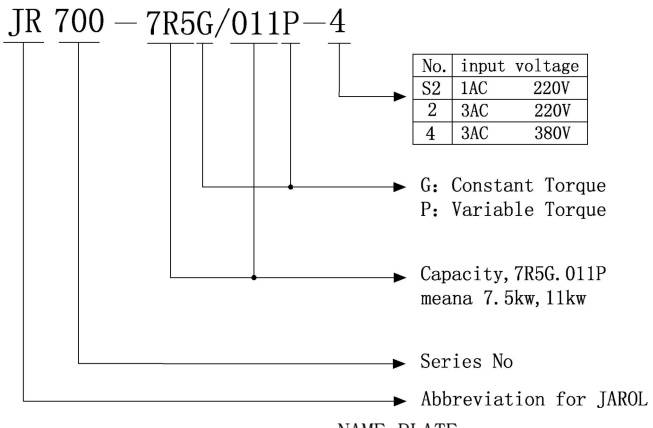
Built in PLC functions: External multi-step speed， internal multi-step speed

Speed Trace Function :Smoothly start the running motor.

Automatic Voltage Regulation Function(AVR):Automatically keep the output voltage stable when input voltage fluctuating.

Up to Multi-20 fault protection: Protect from over current, over voltage, under voltage, over temperature ,phase failure, overload etc.

2.2DESCRIPTIONOFNAMEPLATE



NAME PLATE

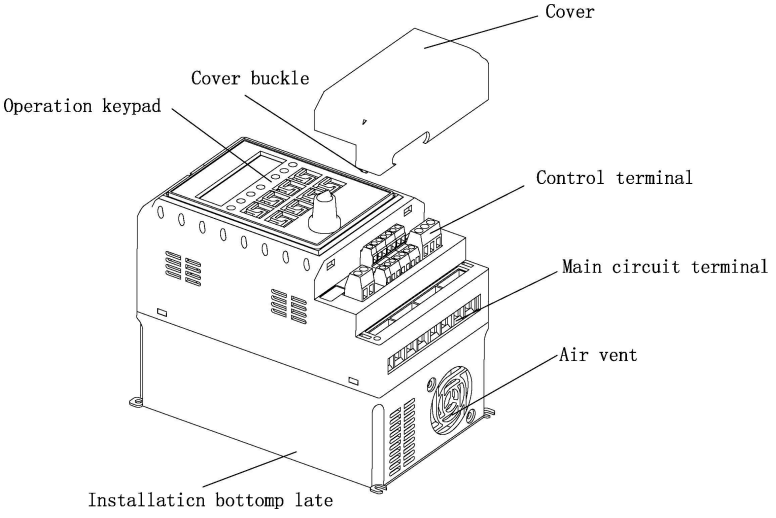
2.3 Inverter's series types

Types	Input V	Rated output (KW)	Driver power(KVA)	Rated output current (A)	Motor
JR700-0R4G-S2	Single 220V -15%~+15 %	0.4	1.0	2.5	0.4
JR700-0R7G-S2		0.75	2.0	5	0.75
JR700-1R5G-S2		1.5	2.8	7.0	1.5
JR700-2R2G-S2		2.2	4.4	11	2.2
JR700-0R7G-4	3 PHASE 380V -15% ~+15% 3 PHASE	0.75	2.2	2.7	0.75
JR700-1R5G-4		1.5	3.2	4.0	1.5
JR700-2R2G-4		2.2	4.0	5.0	2.2
JR700-004G-4		4	6.8	8.5	4.0
JR700-5R5G-4		5.5	10	12.5	5.5
JR700-7R5G-4		7.5	14	17.5	7.5
JR700-011G-4		11.0	19	24	11.0
JR700-015G-4		15.0	26	33	15.0
JR700-018G-4		18.5	32	40	18.5
JR700-022G-4		22.0	37	47	22.0
JR700-030G-4		30.0	52	65	30.0
JR700-037G-4		37.0	64	80	37.0

JR700-045G-4	380V -15% ~+15%	45.0	72	91	45.0
JR700-055G-4		55.0	84	110	55.0
JR700-075G-4		75.0	116	152	75.0
JR700-090G-4		90.0	134	176	90.0
JR700-110G-4		110.0	160	210	110.0
JR700-132G-4		132.0	193	253	132.0
JR700-160G-4		160.0	230	304	160.0
JR700-185G-4		185.0	260	340	185.0
JR700-200G-4		200.0	290	380	200.0
JR700-220G-4		220.0	325	426	220.0
JR700-250G-4		250.0	381	480	250.0
JR700-280G-4		280.0	427	540	280.0
JR700-315G-4		315.0	460	605	315.0

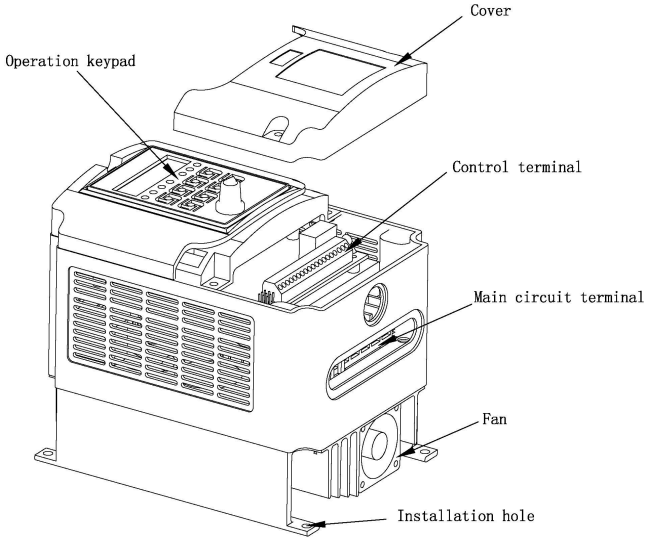
2.4 Parts of inverter description

1、0.75KW-1.5KW Plastic shell parts

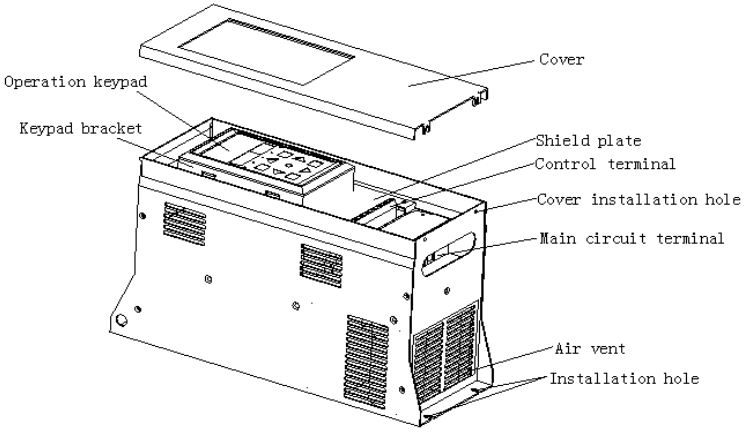


Picture 2—2 0.75KW-1.5KW Name of Plastic shell parts

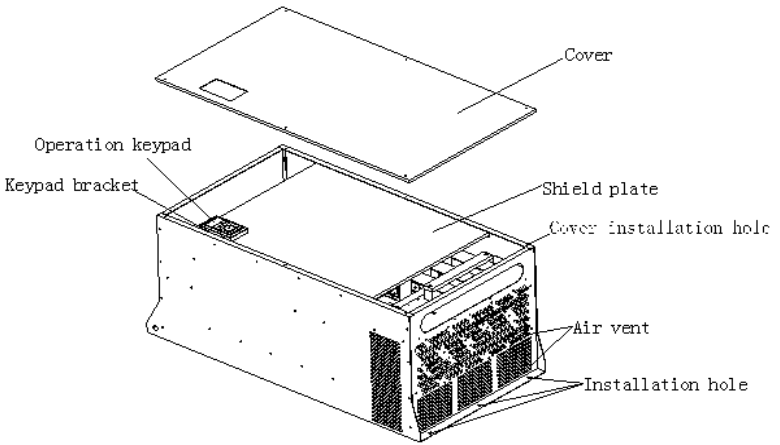
2、2.2KW-7.5KW Plastic shell parts



Picture 2－3 1.5KW-7.5KW Name of Plastic shell parts



Picture 2－4 Part of Inverter(11KW～18.5KW)



Picture 2-5 Part of Inverter(220KW and above)

3. INSTALLATION

3.1 INSTALL ENVIRONMENT

1、Temperature:-10℃~+50℃, if the temperature is above 40℃,please put your inverter in place well ventilate.

2、Humidity: 0%～95% without dew.

3、Away from corrosive gas ,liquid, oil mist or salt mist.

4、No dust or metal powder or debris.

5、No machinery shock.

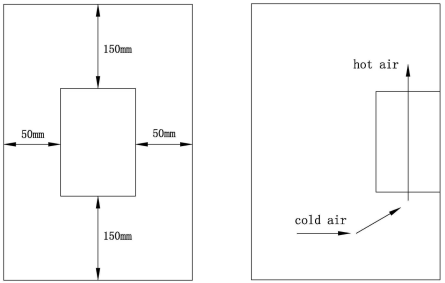
6、No EMC noise(such as welding machine).

7、No inflammable goods, No radioactive materials。

3.2 HOW TO INSTALL

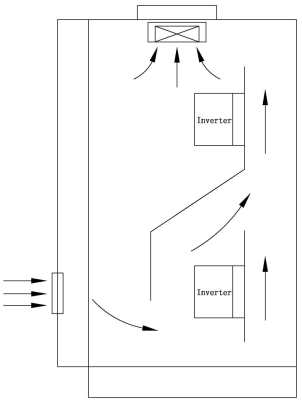
For better cooling down the inverter, it is recommended to install the inverter vertically. There are force cooling fan on the bottom of the inverter, enough space must be guaranteed between these cooling fans and its adjacent objects in all directions.

Picture 3－1：



Picture 3－1 Installation Distance

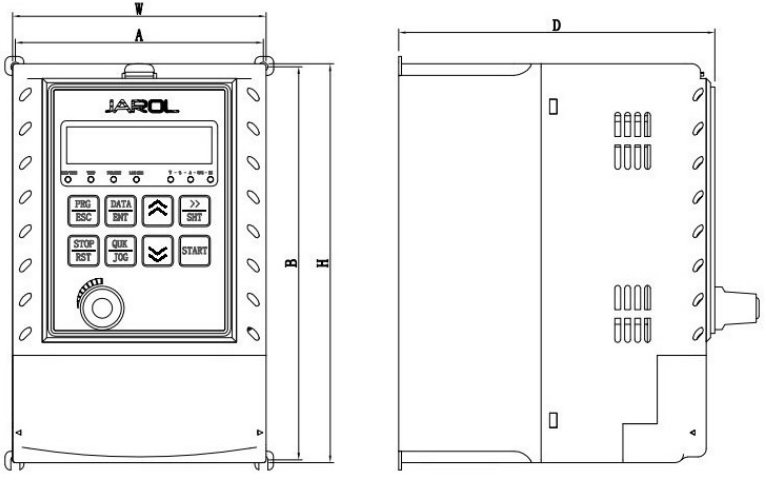
3. 3 MORE THAN TWO INVERTERS INSTALL



If two inverters installed one onto the other, a guide plate is necessary。

3．4 External Dimension of inverter

0.4KW-1.5KW External Dimension



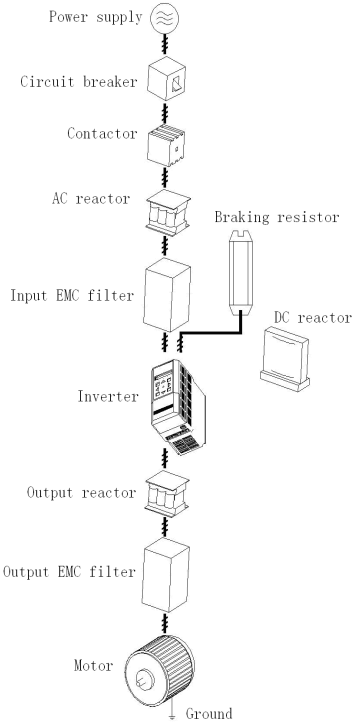
Picture 3－3 External Dimension of inverter

External Dimension and Installation Dimension（For example 3 Phase）

Types	A(mm)	B(mm)	H(mm)	W(mm)	D(mm)	Hole
	Installation		External			(mm)
0.75-1.5KW	87	138	140	89	111	Φ4.2
2.2-3KW	113.5	161.5	170	125	149	Φ5.0
4.0-5.5KW plastic	132	204	220.5	150	174	Φ7
5.5-7.5KW Ferrum	85	335	350	123	201.5	Φ5
11-15KW	115	436.5	453	153	218.2	Φ6
18.5-22KW	124	463	480	180	278.2	Φ9
30 - 37KW	120	543	560	180	278.5	Φ9
45 - 55KW	185	720	750	273	325.5	Φ9
75 - 90KW	280	731	766	419	339	Φ12
110-132KW	340	941	976	479	401	Φ12
160-185KW	405	951	986	545	456.5	Φ12
220-315KW	502	1190	1231	643	493.5	Φ12

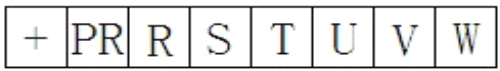
4. CIRCUIT

4. 1 CONNECTION OF PERIPHERAL DEVICES

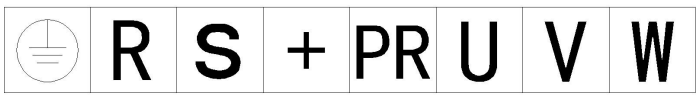

Power supply
Circuit breaker
Contactor
AC reactor
Braking resistor
Input EMC filter
DC reactor
Inverter
Output reactor
Output EMC filter
Motor
Ground

4.2 MAIN CIRCUIT TERMINALS

0.4KW--1.5KWMaincircuitterminals

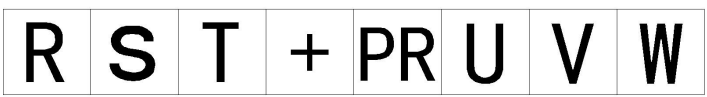


（220V）1.5KW～2.2KW Main circuit terminals



（220V）1.5KW～2.2KW Main circuit terminals（plastic）

2.2KW～3.0KW Main circuit terminals

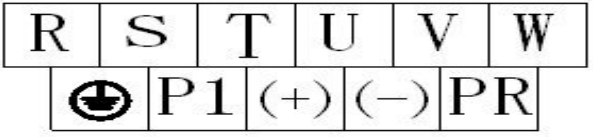


2.2KW～3.0KW Main circuit terminals（plastic）

4.0KW～5.5KW Main circuit terminals（plastic）

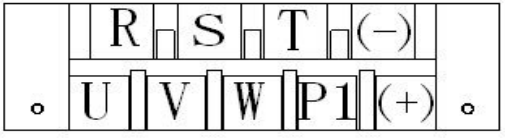
4.0KW～5.5KW Main circuit terminals（plastic）

5.5KW～22KW Main circuit terminals（Ferrum）



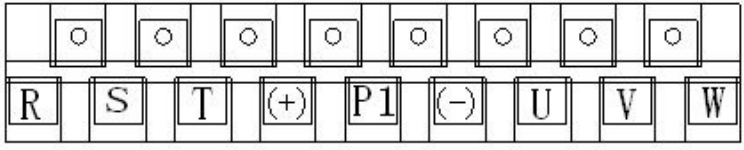
5.5KW～22KW Main circuit terminals（Ferrum）

30KW～55KW Main circuit terminals



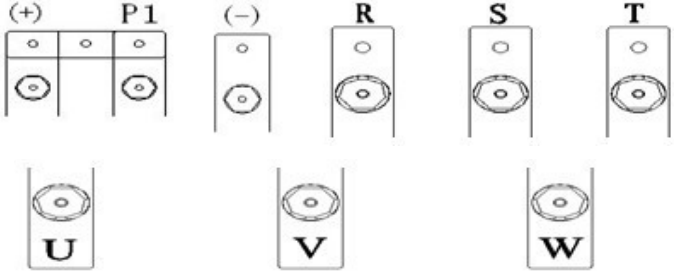
30KW～55KW Main circuit terminals

75KW～90KW Main circuit terminals



75KW～90KW Main circuit terminals

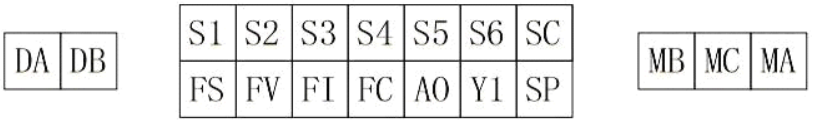
110KW～315KW Main circuit terminals



110KW～315KW Main circuit terminals

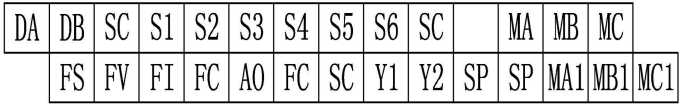
4. 3 CONTROL CIRCUIT TERMINALS

0.4KW～1.5KW Control terminals



0.4KW～1.5KW Control terminals（plastic）

Up 2.2KW Control terminals



4. 4 CONTROL TERMINALS ILLUSTRATION

Terminal name	Functions
S1～S6	On-off input terminal， with SC shored form photo coupler isolation input Input voltage range：9～30V Input impedance：3.3KΩ
SP	Supply (Power: +24V)（Current：150mA）
SC	Public terminal for +24V input
FV	Analog input，voltage range：0～10V Input impedance：10KΩ
FI	Analog input， Current（0～20mA） Input impedance： 10KΩ（voltage input）/250Ω（current input）
FS	Supply (Power: +10V)
FC	+10V(reference 0 potential).(Attention： FC and SC isolation)
Y1	Collector output 1 terminal，corresponding common terminal SC.
Y2	Collector output 2 terminal，corresponding common terminal SC.
AO	Analog/pulse output terminal， voltage/pulse output

	terminal Output range：voltage（0～10V）
MC、MB、MA	Relay output，MC common terminal，MB often shut，MA often open Touchier capacity：AC250V/3A，DC30V/1A
MC1、MB1、MA1	Relay output， MC 1common terminal， MB1 often shut，MA1 often open Touchier capacity：AC250V/3A，DC30V/1A
DA、DB	RS485 Communication input/output terminal

4. 5 MAIN CIRCUIT TERMINAL FUNCTION

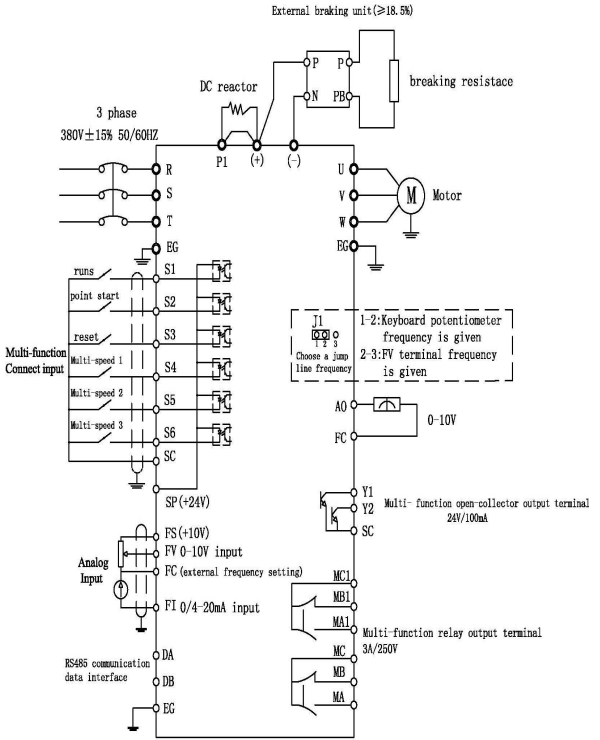
Symbol	Introduction
R S T	Connect to single/three phase alternative power **1**、Main circuit terminal R,S,T is connecting to single/three phase alternative power through protective circuit breaker or leakage protecting breaker .Neglect phase order when connecting to 3 phase power. To cut off power and avoid accident when inverter protection power is on , a magnetic touchier connecting to the circuit is necessary. **2**、Don't use main circuit ON/OFF switch to start and stop inverter Use circuit control terminal. START and STOP/RST button on the control panel to start and stop inverter. If you must use main circuit ON/OFF switch to start and stop ,do it no more than 1 time within one hour. **3**、For inverter that power input grade is 220V,share single/3 phase power input. Just chose any 2 input terminals. For inverter that input grade is 380V, don't connect to single phase power.

U V W	Connect to 3 phase motor **1**、Connect inverter output terminal to 3 phase motor according to correct phase order. If motor rotates in wrong direction, change any 2 phase of U,V, W. **2**、There is high frequency current in the extra long wire between motor and inverter. This may cause inverter over flow and stop. Besides ,long wire increase leaking current, this leads to poor precision of current value.Inverter≤3.7KW chose wire less than 50 meters to motor less than 100 meters for inverter over 3.7KW. If the wire is very long, a wave filter connected to the output side is necessary. (OFL wave filter). **3**、During inverter drives the motor ,inverter produce current flow voltage onto the motor terminal. For 400V series, current flow voltage makes motor insolent ageing easily with long motor wire. So, if you need inverter drive 400V motor, do as follows. ◇Use strengthen insulating motor； ◇ Connect wave filter component to inverter output

	side(OFL wave filter)； ◇ Reduce the connecting wire length between inverter and motor. For example:10～20 M.

+ (P) PR	Connect to outside break resistance(<18.5KW)(optional) <18.5KW with bread component which is connected to terminal +、PR. To improve the break moment of force, an outside break resistance terminal +、PR is connected to inverter terminal +、PR. Connecting wire to be trusted or closed parallel wire to be no more than 5 meters.

4. 6 Standard connect



Notes：Under 1.5KW（380V）,Lack Y2 output and Multi-function relay output MC1,MB1,MA1。

4. 7 WIRING MAIN CIRCUIT

4. 7. 1 Wiring power side of main circuit

4.7.1.1 Circuit Breaker

It is necessary to connect a circuit breaker（MCCB）which is compatible with the capacity of inverter between 3ph AC power supply and power input terminals(R,S,T).The capacity of breaker is 1.5-2times to the rated current of inverter。

4.7.1.2 Electromagnetic Contactor

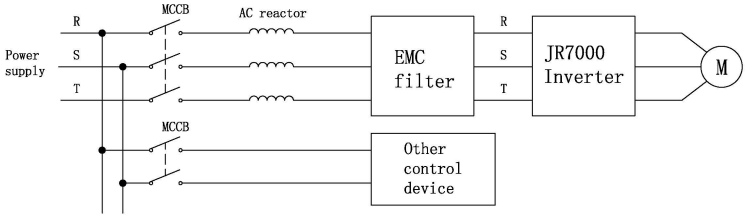
In order to cut off the input power effectively when something is wrong in the system, contactor should be installed at the input side to control the ON-OFF of the main circuit power supply.

4.7.1.3 AC Reactor

In order to prevent the rectifier damage result from the large current, AC reactor should be installed at the input side ,It can also prevent rectifier from sudden variation of power voltage or harmonic, generated by phase-control load.

4.7.1.4 Input EMC Filter

The surrounding device may be disturbed by the cables when the inverter is working. EMC filter can minimize the interference.



Picture 4－9 Wiring at Input Side

4. 7. 2 Wiring at inverter side of main circuit

4.7.2.1 DC Reactor

built-in DC reactor which can improve the power factor.

4.7.2.2 BRAKING UNIT AND BRAKING RESISTOR

JR7000 series inverter of 18.5KW and below have built-in braking unit. In order to dissipate the regenerative energy generated by dynamic braking, the braking resistor should be installed at (+) and PB terminals. The wire length of the braking resistor should be less than 5 M.

The temperature of braking resistor will increase because the regenerative energy will be transformed to heat safety protection and

good ventilation is recommended.

JR7000 series inverter of 18.5KW and above need connect external braking unit which should be installed at(+) and (-)terminals, The cable between inverter and braking unit should be less than 5 M, The cable between braking unit and braking resistor should be less than 10M.

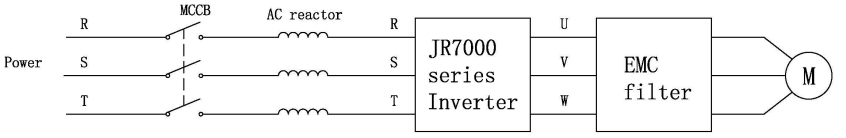
4. 7. 3 Wiring at motors side of main circuit

4.7.3.1 Output Reactor

When the distance between inverter and motor is more than 50M,inverter may be tripped by over current protection ,frequently because of the large leakage current resulted from the parasitic capacitance with ground. And the same time to avoid the damage of motor insulation the output reactor should be installed.

4.7.3.2 OUTPUT EMC FILTER

EMC filter should be installed to minimize the leakage current caused by the cable and minimized the radio noise caused by the cables between the inverter and cable



Picture 4—10 Wiring at Motor Side

4.7.4 GROUND WIRING

In order to ensure safety and prevent electrical shock and fire. terminal EG must be grounded with ground resistance. The ground wire should be big and short, and it is better to use copper wire(>3.5mm^2).When multiple inverters need to be grounded, do not loop the ground wire.

4.8 WIRING CONTROL CIRCUIT

4.8.1 Attention

Use shield or twisted-pair cables to connect control terminals, connect the ground terminals with shield wire, besides， The cable connected to the control terminals should leave a way from the main circuit and heavy current circuits,(including power supply cable ,motor cable, relay and contactor connecting cable). It is suggested to apply perpendicular wiring to prevent inverter malfunction caused by

external interface.

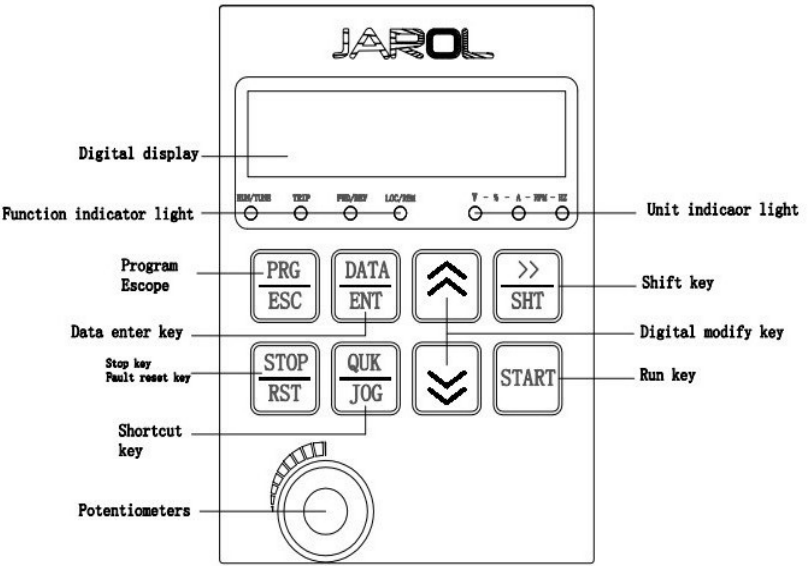
4. 8. 2 JUMPER ON CONTROL BOARD

Jumper	introduce
J1	jumper1-2：frequency given by potentiometer jumper2-3：frequency given by terminal

5、CONTROL PLATE

5.1 LED CONTROL PANEL ILLUSTRATION

5.1.1 OUTLOOK OF LED CONTROL PANEL



5.1.2 INDICATOR LIGHT DESCRIPTION

1）Function indicator light description：

Function indicator	**Description**
FWD	Light is expressed in the state
REV	On in reverse
HZ	On display current frequency or output frequency
A	On display output current
r/min	On display motor speed
A r/min	On display output voltage or dc bus voltage
HZ r/min	On display count value
HZ A r/min	On display inverter temperature

5.2 OPERATION PROCESS

Operating procedures	Display panel	explain
electricity	8.8.8.8.8.JAROL	Digital tube test, JAROL display
Programming,	Pr000	Enter programming
Data/sure	000.00	Pr000 shows the content
determine	50.00	Pr000 modify the content

Programming	--- -→50.00 Pr000 050.0	Editbtn = values Show - - - 50.00 - Pr001 Exit programming
running	50.00	running
A left shift	F50.00	Monitor screen display, operating frequencies
Programming	F50.00	The picture shows switching back and set frequency
Is/reverse	F50.00	Positive &negative switching
A left shift ▲	030.00	Modify Settings frequency
Data/sure	030.00	Confirm modification of data
stop	F30.00	stop

5.3 TRIAL OPERATION

5.3.1 PRE-RUNNING CHECK

●Checking the following before running：

1、 Check if wire connection is correct. Confirm inverter output terminal U,V,W is not connected to POWER and the ground terminal is grounded well.

2、 Confirm terminal is no short circuit within every terminal and

electricitized naked part.

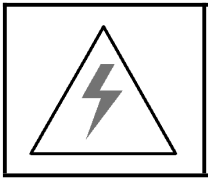
3、Confirm all terminals connection and joints are tight and not loose.

4、Before transit powers witch off all the switches to ensure inverter will not start and to avoid any uncertainty.

●Check the following after power is on：

1、No problem displayed on the key panel.

2、Colling fan inside inverter is not blocked and wind goes smoothly.



Transit power after cover is fixed.
Don't remove the cover after power is on.
Don't operate with wet hands to avoid.

5.3.2 Simple Trial Operation

Check everything is OK, set the inverter running data correctly .After setting running data, goes to trial running procedure.

When running on trial, run inverter and motor in low frequency. Improve running frequency when everything is ok.

STEP	DISPLAY	EXPLAIN
electricity↓	JAROL	JAROL display
A left shift↓	000.00	Switch to the panel frequency adjustable state
A left shift▲ determine	005.00	Change the Settings, namely 5.0 speed Pr000 change the content
running	F05.00	In 5Hz operation
↓ stop	F05.00	stop

Check the following before running.

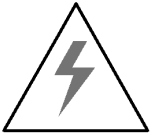
Motor running direction is correct.

Motor runs smooth (no screaming and vibration).

Increase and decrease speed smoothly.

Use key△、▽to increase frequency and continue trial running . Turn to formal running when everything is ok.

。

	If there is any abnormal phenomenon occurred, stop inverter immediately .Consult" trouble shooting" to find the problem. When inverter stops, terminal R, S, T is still with power if main circuit is not switched off. Any touch onto terminal U,V, W will get shocked .Besides, wave filter capacitor is still full of charging voltage and need certain period of time to discharge, if main circuit power is off. Touch inner inverter circuit voltage tested by DC circuit voltage meter is below safety voltage.

6. PARTICULAR FUNCTION

6. 1 MAIN FUNCTION PARAMETER

Code	Name	Description	Setting range	Factory setting
Pr000	Main Frequency	0. 00～400. 00Hz	0. 00～400. 00Hz	0. 00Hz

In frequency selected for keyboard instructions given circumstances, the frequency of this parameter setting frequency operation. In the operation can be used to change the frequency, ▲▼button for more quickly in the first paragraph, as in the running speed of frequency.The maximum output parameters. Pr034: Pr076 and related parameters, the parameters in the operation of adjustable.

Code	Name	Description	Setting range	Factory setting
Pr001	Max. Voltage	0. 1～*	0. 1～*	220/380V

According to the rating of motor nameplates, motor and inverter in the distance, to improve the value may be appropriate

Code	Name	Description	Setting range	Factory setting

Pr002	Base Frequency	0.01～400.00Hz	0.01～400.00Hz	50.00Hz

According to the frequency of motor nameplates motor rated, please don't change set benchmark value, if the frequency with special motor, please according to the motor characteristic parameters proper Settings, otherwise it will cause undesirable consequence.

Code	Name	Description	Setting range	default value
Pr003	Intermediate Voltage	0.1～*	0.1～*	*

Setting arbitrary V/F curve, the parameters of the middle voltage value if put undeserved, can cause electrical flow or torque converter, even to jump. Increasing frequency voltage can increase output torque output current, at the same time, also increases, modify the parameters, please note surveillance, to prevent the output current converter over-current jump.Which when the frequency voltage increases to a certain value, torque compensation will lose, adjust the parameters of the function, should according to the mechanical load, frequency converter, until the current slowly increase from start-up to meet requirement, not easily greatly enhance, otherwise may appear inverter jump or equipment damage.

Code	Name	Description	Setting range	default value
Pr004	Intermediate Frequency	0.01～400.00Hz	0.01～400.00Hz	2.50Hz

This parameter setting arbitrary V/F curve of intermediate frequency value. Improper setting will cause inverter starting torque motor over-current, insufficiency or even cause inverter to jump.

Intermediate frequency variable frequency variable limit by benchmarks.

Code	Name	Description	Setting range	default value
Pr005	Min. Voltage	00～10	0.1V*	*

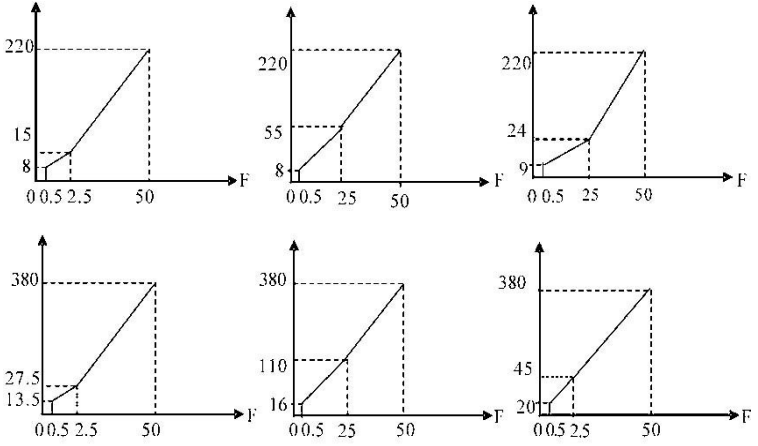
This parameter setting, V/F curve of the lowest voltage values. By the highest frequency voltage limit.

Code	Name	Description	Setting range	default value
Pr006	Min. Frequency	0.01～20.00Hz	0.01～20.00Hz	0.50Hz

This parameter decision V/F curve of the minimum start frequency value.

Code	Name	Description	Setting range	default value
Pr007	Max Operating Frequency	10.00～400.00Hz	10.00～400.00Hz	50.00Hz

The highest frequency inverter parameter decision. Several common curve and the value, the specific set according to the mechanical load characteristics curve, specific setting.



Constant torque curves Low torque curves. High torque curves

Code	Name	Description	Setting range	default value
Pr008	Reserved			
Pr009	Frequency Lower Limit	0.00～400.00Hz	0.00～400.00Hz	0.00Hz

The lower limit of frequency inverters. The lower frequency Pr007 must be smaller than the set value.

Code	Name	Description	Setting range	default value
Pr010	Parameter Lock	0：invalid 1：valid	0～1	0

0：invalid；1：valid　unless the parameters, the other parameter not modify.

This parameter can prevent error that setting other parameters。After parameters locked ,can change the frequency by▲▼ key.

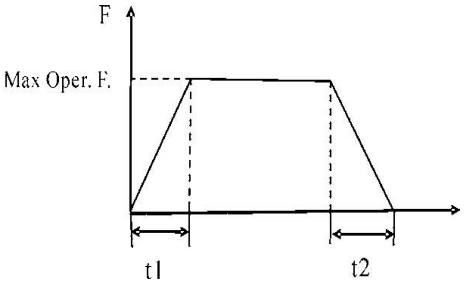
Code	Name	Description	Setting range	default value
Pr011	Parameter reset	8：Recovery factory	0～10	00

In the parameter improper setting for normal or not, can be set for 2008, restore parameter values, again factory, locking after Pr010 (in), when = 1, need to unlock the parameters can reset after can reset. Relevant

parameters: Pr010.

Code	Name	Description	Setting range	default value
Pr012	Accel. Time 1	0. 1～6500. 0s	0. 1～6500. 0s	*
Pr013	Decel. Time 1	0. 1～6500. 0s	0. 1～6500. 0s	*
Pr014	Accel. Time 2	0. 1～6500. 0s	0. 1～6500. 0s	*
Pr015	Decel. Time 2	0. 1～6500. 0s	0. 1～6500. 0s	*
Pr016	Accel. Time 3	0. 1～6500. 0s	0. 1～6500. 0s	*
Pr017	Decel. Time 3	0. 1～6500. 0s	0. 1～6500. 0s	*
Pr018	Accel. Time 4	0. 1～6500. 0s	0. 1～6500. 0s	*
Pr019	Decel. Time 4	0. 1～6500. 0s	0. 1～6500. 0s	*

Acceleration time means speed from 0Hz inverter to the maximum output frequency required time, see picture t1, deceleration time refers to the maximum output frequency inverter from time to 0Hz slowdown, see picture t2.



This series of inverter altogether defines four deceleration time, second to the fourth deceleration, users can according to need, through external contacts, deceleration time switching choice different time, deceleration in internal control for more quickly through the simple operation, can choose different PLC deceleration time.

Normally, inverter, the default deceleration time first deceleration time according to the model parameters set out for the fourth time, deceleration time fixed point.

Relevant parameters：Pr050～Pr055 Pr078

Code	Name	Description	Setting range	default value
Pr020～Pr30	Reserved			

Code	Name	Description	Setting range	default value
Pr031	Starting Mode	0: Start from Starting Frequency 1: Frequency track start	0～1	0

Start-up operation mode can be set to 2 ways, to meet the different needs of equipment.

0: start frequency start

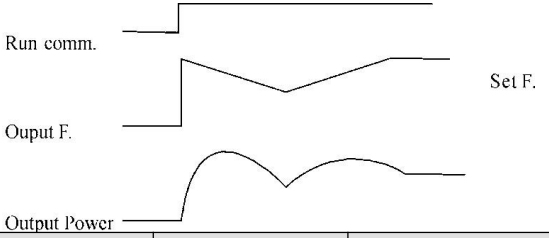
When Pr141 set to 0 start braking is invalid, dc starting from start frequency began to start. When Pr141 set the zero, namely start-up, dc braking, when activated, first, then by brake on dc start frequency began to start. Pr040 see Pr140 and related parameters, Pr141.

1: speed tracking to start

It can be used in large inertia parameters are set to start again, the load startup, inverter frequency began to set in frequency tracking, under the big inertia equipment, startup, need not stop completely, the equipment can be executed, can make the operation instructions, tracking to save time.

Note: in frequency inverter frequency, starting on track to set frequency tracking, and under the guidance of frequency tracking and quickest speed, starting in May, current, flow or fly-off wait for a phenomenon, must pay

attention to the frequency tracking the current must adjust, usually about 100 Pr144 adjustment for specific circumstances, should according to the specific situation. Mechanical inertia



Code	Name	Description	Setting range	default value
Pr032	Stopping Mode	0: Decelerating stop 1: Coasting stop	0～1	0

Parking methods can be set to 2 ways, to meet the different needs of the equipment

0: slow to stop

According to the slow way and frequency of the definition and deceleration time reduce output frequency, frequency drop down to 0 after. Pr042 see Pr140 and related parameters, Pr142.

1: free parking

After receiving cease instructions, frequency converter to immediately stop output, according to the mechanical load inertia free parking.

Code	Name	Description	Setting range	default value
Pr033	Source of Run Commands	0:Operator 1:External terminal 2:Communication port	0～2	0

0: keyboard instructions from the keyboard panel channel reset button, stop running for operation control

1: terminal command channels are multi-function by inputs, and are turning points are running on command and control.

2: communication command channels through communication mode by PC control.

Code	Name	Description	Setting range	default value
Pr034	Source of Operating Frequency	0:Operator 1:External terminal 2:Communication port	0～2	0

0: keyboard Settings by modifying the value Pr000 frequency.

1: external contacts given by external input frequency control terminals analog signals, signal types by Pr065 decision. Pr065 see Pr070 - related parameters.

2: telecommunication set by the PC through communication mode is given.

Code	Name	Description	Setting range	default value
Pr035	Carrier frequency	0～15	0～15	*

The carrier frequency electromagnetic noise to the motor, and there is some relation with the carrier frequency converter low calorific value and environmental interference has a certain relationship. See table below:

The carrier frequency	Electromagnetic noise	GCV	For environmental interference
Little ↓ Big	little ↓ little	little ↓ big	↓ big

From the table, carrier in the higher electromagnetic noise, the smaller, but on other systems of interference, inverter heat. In the environment of high temperature, motor load is heavier, reduced the carrier frequency converter to improve the thermal properties. The carrier frequency all reasonable

setting, normally users don't need to change.

Code	Name	Description	Setting range	default value
Pr036	Jogging Frequency	0.00-400.00Hz	0.00-400.00Hz	5.00Hz

Can only be used by the multi-function input terminals. At maximum and minimum frequency, in some dynamic frequency limit state, other operating instructions, at no time frequency speed, acceleration time decided by the fourth button that point start frequency output, please stop immediately set for the corresponding multi-function input terminals 07 or 08.

Some dynamic function only on condition that only effective in operation point move is invalid. Pr050 see Pr055 ~ related parameters.

Code	Name	Description	Setting range	default value
Pr037	Rev. Rotation Select	0: Rev Run forbidden; 1: Rev Run Enable	0～1	1

0: reverse ban, 1: reverse effectively

This applies to motor parameter setting; do not reverse to operating personnel adjustment. When the reverse, motor, not only is reversed

Code	Name	Description	Setting range	default

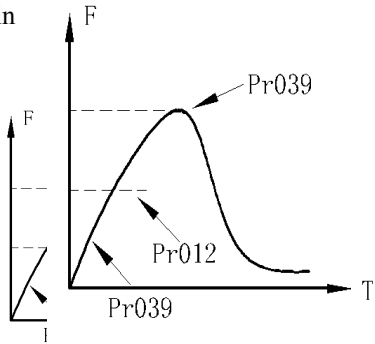
				value
Pr038	STOP key select	0:STOP Invalid 1: STOP Valid	0～1	1

The parameters in Pr033 set for only 1 or 2.

Control mode for external terminal control or remote communication and control, the stop button on the panel can choose whether effective, choose effective, stop button on the panel could stop inverter, need to restart, must terminate running signal, and then can restart inverter.

Code	Name	Description	Setting range	default value
Pr039	S-Curve Time	0.0～6500.0s	0.0～6500.0s	0.0s

This parameter is set to start or stop when inverter in the slow start without impact or slow to stop, rev S curve,inverter deceleration time according to different speeds for the deceleration curve. When Pr039 set to zero, the S curve is invalid, namely with linear deceleration, without considering actual situation, stall acceleration time = (Pr012 Pr039 + 2) to the parameters in Pr012 < Pr039.



Code	Name	Description	Setting range	default value
Pr040	UP/DOWN	0.01~2.50	0. 01～2. 50	0. 01

This parameter can be set Pr073 combined with external UP/DOWN, UP and DOWN.UP/DOWN step length = (Pr040 value / 0.01) x Pr073 set UP/DOWN speed units.

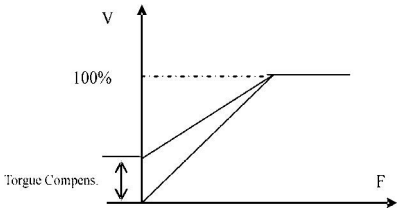
Code	Name	Description	Setting range	default value
Pr041	Starting Frequency	0.10~10.00 Hz	0. 10-10. 00Hz	0. 50Hz

Start frequency converter is activated when the initial frequency, such as start frequency speed setting of 4.0 to speed, frequency converter, running after starting 4.0 to 4.0 to maximum output frequency speed between the actual operation, the highest frequency of upper limit by frequency. Pr031: Pr140 and related parameters, Pr141.

Code	Name	Description	Setting range	default value
Pr042	Stopping Frequency	0.10-10.00Hz	0.10-10.00Hz	0.50Hz

When parking frequency inverter frequency converter to stop, stop output or parking brake began dc.When Pr142 = 0, parking brake, dc converter stop output. When Pr142 set for effective in dc converter brake parking. Pr032: Pr140 and related parameters, Pr142

Code	Name	Description	Setting range	default value
Pr043	Auto Torque Compensation	0.0～10.0%	0.0～10.0%	2.0%



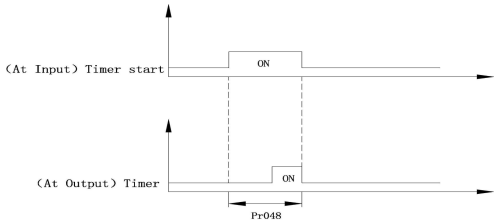
Can be improved low-frequency torque deficiency, torque compensation shoulds not be too big, should according to the actual situation of childhood upwards. Slowly, Inadequate compensation can cause low torque motor, the compensation for losses caused by motor.

Code	Name	Description	Setting range	default value
Pr044	Skip Frequency 1	0.00～400.00Hz	0.00～400.00Hz	0.00Hz
Pr045	Skip Frequency 2	0.00～400.00Hz	0.00～400.00Hz	0.00Hz
Pr046	Skip Frequency 3	0.00～400.00Hz	0.00～400.00Hz	0.00Hz
Pr047	Skip Frequency Range	0.10～10.00Hz	0.10～10.00Hz	0.50Hz

To avoid point of resonance machinery, the three frequencies, when Pr047 = jumping all jump 0.1 frequency is invalid, practical jump frequency range for Pr047 twice.

Code	Name	Description	Setting range	default value
Pr048	Timer 1 time	0.1～10.0s	0.1～10.0s	0.1s
Pr049	Timer 2 time	1～100s	1～100s	1s

The timer for 0.1 ~ ~ S a timer, timer two-service 10.0 S 1S ~ 100S timer, when the multi-function input terminals timer open closure, timers start timer, timer arrived, the corresponding multi-function output contacts, timer, multi-function disconnected from the open timer to reset the output.



Example: setting Pr048 = 5.0 S, when multi _ function effectively, the input terminals, output terminals of 5.0 S time to effectively use the signal can be controlled, other corresponding signal.

Code	Name	Descripti	Setting	default

		on	range	value
Pr050	Multi-functional input terminals (S1)	00～32	00～32	02
Pr051	Multi-functional input terminals (S2)	00～32	00～32	06
Pr052	Multi-functional input terminals (S3)	00～32	00～32	10
Pr053	Multi-functional input terminals (S4)	00～32	00～32	20
Pr054	Multi-functional input terminals (S5)	00～32	00～32	21
Pr055	Multi-functional input terminals (S6)	00～32	00～32	22

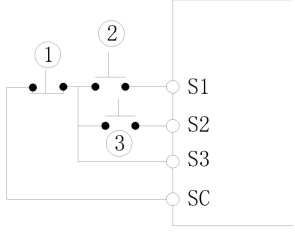
Code	Name	Description
00	Invalid	The terminal is set for empty to prevent false actions
01	RUN	Running. It can be combined with other terminals to compose multiple control modes.

02	FOR	forward
03	REV	reverse
04	STOP	stop
05	F/R	Switching of FOR/REV rotation
06	JOG	Jogging
07	JOG/FOR	Jog FOR Rotation
08	JOG/REV	Jog REV Rotation
09	stop	Emergentstop.It can receiveexternalemergent stop command or other fault signals
10	reset	his terminal can be used for reset after a fault is removed.
13	The timer 1 start	When the contact is closed, the timer will start and begin to count time. When the timer reaches the set point the corresponding multi-inputs will act.
14	The timer 2 start	When the contact is closed, the timer will start and begin to count time. When the timer reaches the set point the corresponding multi-inputs will act.
17	high-speed	Composed of three different frequencies of operating

18	medium	mode. High, medium and low fruit, with high signal priority, low, medium and high by the second, third and fourth frequency
19	low	
20	Multi-speed 1	7-speed setting can be composed through Multi-speed 1, 2, 3.
21	Multi-speed 2	
22	Multi-speed 3	
23	Ramp Time 1	Can be composed of four deceleration time, through the terminal
24	RampTime2	
25	UP function	Increase or decrease the frequency of setting a unit, switches, frequency increases or decreases in power supply to wired back after the modification, not memory. Frequency
26	DOWN function	
27	CounterPulse	When this terminal is set for the counter it can receive the pulse signal of ≤250HZ and counts
28	Counters reset	When this contact acts it will clear the present counting values displayed, restore Pr000 and restart counting.
29	Drafting Start	When this contact is triggered the drawing action starts.

31	AutoPLC Reset Suspend	This contact can be used to achieve the f unction of AutoPLC clear suspend.
32	PIDValid	When this contact is closed, PID function starts. PID Function start is only valid during operation.

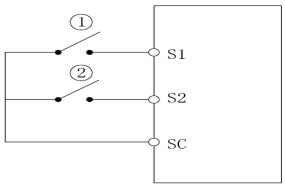
一、 Three-wire system startup



1：stop 2：Forward run 3：Reverse run

Choose multi-function digital input terminals S1, S2, S3. Pr033 = 1, inverter control starting and stopping by external contacts. Pr050 = 02 is Pr051 = reverse, 2003, 2004 Pr052 = set down function. Press the button, the inverter is running, press the button, the reverse, press the inversion inverter frequency, stop button to stop operation.

二、Two-wire system startup



1、run 2、Reverse run

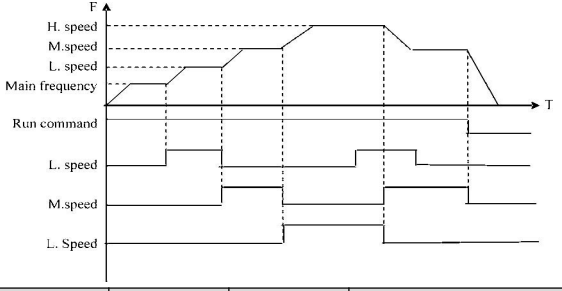
Choose multi-function digital input terminals S1, S2. Pr033 = 1, external control, setting Pr050 = 01, set operation function, Pr051 = 05, positive &negative switching. When the K2 disconnected FWD, for is closed for reverse. 三、Choose a deceleration time Pr076 set to 0, 1, 2, and internal control in sections eeds invalid. Any two multi-function digital inputs can be combined into four deceleration for choice. S4 S5 end with, for example, Pr053= 23 set Pr054 = 24

S4	S5	results
OFF	OFF	Ramp Time 1
ON	OFF	Ramp Time 2

OFF	ON	Ramp Time 3
ON	ON	Ramp Time 4

OFF: terminals (S1 - S6) and short-circuited SC; ON: terminals (S1 - S6) and SC short-circuited

四、High, medium and low choice

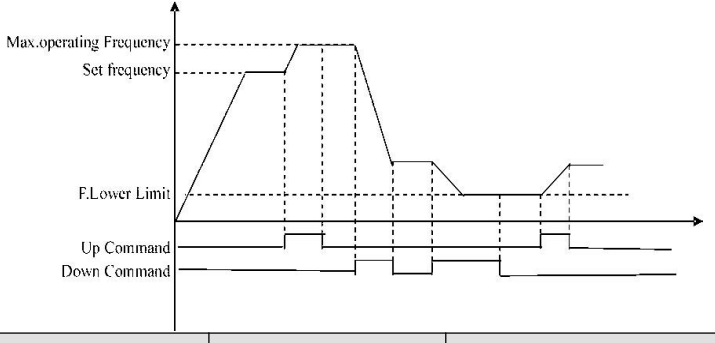


S1	S6 terminal	S5 terminal	S4 terminal	results
ON	OFF	OFF	OFF	Main speed, the f requency runs at the set value of Pr 000.
ON	ON	OFF	OFF	Low speed, the f requency runs at the set value of Pr 080.
ON	ON/OFF	ON	OFF	Middle speed, the f requency runs at

				the set value of Pr 081
ON	ON/OFF	ON/OFF	ON	High speed, the f requency runs at the set value of Pr 082.

Only in Pr076 = 1, namely the accused four speed. Low, medium and high frequency by the second, third and fourth frequency. Deceleration time by deceleration choose terminals. When the high, medium and low signal input, there are high, medium and low priority order.

五、UP、DOWN Functional specification：



UP	DOWN	results
ON	OFF	Frequency increase

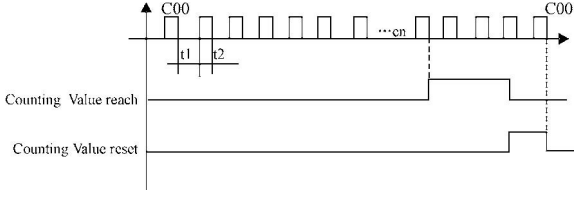
OFF	ON	Frequency decrease
ON	ON	Not increase or decrease

UP, DOWN to function in frequency source selected for the keyboard is effective for timing Pr034 = 0. When the power is not memory, frequency. Using UP and DOWN on the panel, ▲▼function keys, change the value after the ENTER key, frequency converter to execute, meanwhile, the numerical Pr000 into electricity, after the memory. According to the UP or DOWN, and always will be a rapid rise or fall frequency to a certain degree, and then moving UP or DOWN. The revised UP or DOWN, Pr072 through numerical memory or not, confirm, as Pr072 parameters of memory.

六、For multi-speed one, two, three functions:

This function only in Pr076 set for 2 Pr076, see that effectively.

七、Counter function:



Pulse frequency 250Hz cannot prep above. Plan and corresponding

numerical arrived multifunctional output contacts. Counter, just can later recount. When no longer count to 65535

八、AUTOPLC suspended clear instructions

Internal control for more quickly, can suspend operation, the relevant question after treatment; can continue to run Pr095 related parameters.

Code	Name	Description	Setting range	default value
Pr056	Transistor output Y1	00～32	00～32	01
Pr057	Transistor output Y2	00～32	00～32	05
Pr058	Relay output 1（MC,MB,MA）	00～32	00～32	02
Pr059	Relay output 2(MC1,MB1,MA1)	00～32	00～32	00

Set	Function	Description
0	Invalid	The terminal is set for no function to prevent falseactions
1	In Run	The contact will act when the inverter has output or receives the running command.
2	Fault Indication	The contact will act when the inverter detects abnormal conditions.
3	Zero speed	The contact will act when the output frequency of the

		inverter is less than its starting f requency.
4	DC Braking indication	The contact will act when the inverter is in DC braking.
5	SetFrequency reach	The contact will act when the output frequency of the inverter reaches theset frequency.
6	Uniform Frequency 1 Reach	The contact will act when the output frequency of the inverter reaches the designated f requency Pr061
7	Uniform Frequency 2 reach	The contact will act when the output frequency of the inverter reaches the designated f requency Pr062
8	In Accel	The contact will act when the inverter is in ramp-up
9	In Decel	The contact will act when the inverter is in ramp-down.
10	Inverter Overload alarm	The contact will act when the inverter detects over-load.
11	Motor Overloaded alarm	The contact will act when the inverter detects overload of the motor
12	In Over-torque Detect	The contact will act when the inverter detects over-torque.
13	Low voltage alarm	The contact will act when the inverter detects low voltage

14	Single Step End	The contact will act and generate one pulse when the inverter finishes a single step in implementation of program operation..
15	Process End	The contact will act and generate one pulse when the inverter f inishes all the steps (i.e. af ter one cycle) in implementation of program operation..
16	Set Counter Reach	The contact will act when the inverter implements the external counter and the counting value is equal to the set value (Pr064)
17	Middle Counter Reach	The contact will act when the inverter implements the external counter and the counting value is greater than or equal to the set value (=Pr075)
18	External Control Timer 1 reach	The contact will act when the timer reaches the set value
19	External Control Timer 2 reach	The contact will act when the timer reaches the set value
20	4-20mA disconnected	When AI input signal is opened the contact will act.
25	Auxiliary pump 1	This contact controls the starting and stopping of

		auxiliarypumps.FordetailsrefertoOperationof Multi-pumps.
26	Auxiliary pump 2	
27	Drawing reach	The contact will act when the drawing action is finished. The contact will automatically reset when the inverter stops. .
28	PID Lower Limit Alarm	This contact will act when the PID feedback is smaller than the lower limit (the set value of Pr156)
29	PID Upper Limit Alarm	This contact will act when the PID feedback is greater than the upper limit (the set value of Pr155)
30	Fan act	When the temperature of the inverter is increased or it is in running, this contact will act.
31	Electromagnetic Relay Act	When the contact pulls in, the corresponding multi-f unction terminal will act.
32	Braking Resistor Act	When the inverter is in running and the DC voltage reaches the braking voltage the contact will act.

Code	Name	Description	Setting	default

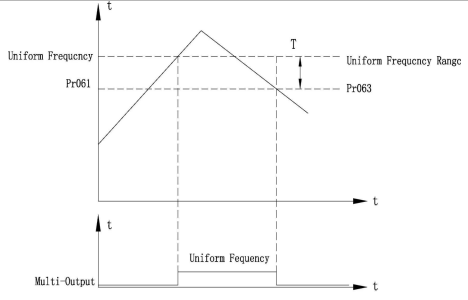
			range	value
Pr060	Analog/pulse output AO	0～7	0～7	0

Function: digital frequency output terminals, output pulse or 0-10V analog, combined with Pr071 10V range, can be connected for the corresponding instruments, under surveillance used outside.

Set	Function	Range
Output frequency	0~10V corresponds to 0~Maximum operating f requency	Output frequency
Current output	0~10V corresponds to 0~two times of the rated current of the inverter.	Current output
Dc bus voltage	0～1000V	Dc bus voltage
Output voltage	0 ～ 255V/510V(The machine type of three phase, 380V corresponds to 510V and the machine type of single phase, 220V corresponds to 255V)	Output voltage
Pulse output	1 Pulse/Hz, (50% of capacity ratio)	Pulse output
Pulse output	2 Pulse /Hz, (50% of capacity ratio)	Pulse output
Pulse output	3 Pulse /Hz, (50% of capacity ratio)	Pulse output

Pulse output	6 Pulse/Hz, (50%of capacity ratio)	Pulse output

Code	Name	Description	Setting range	default value
Pr061	Uniform Frequency 1	0. 00～400. 00Hz	0. 00～400. 00Hz	0. 00Hz
Pr062	Uniform Frequency 2	0. 00～400. 00Hz	0. 00～400. 00Hz	0. 00Hz
Pr063	Uniform Frequency Range	0. 10～10. 00Hz	0. 10～10. 00Hz	0. 50Hz



When the output frequency than consistent frequency, multi-function output corresponding action, consistent frequency range as a hysteresis.

When the inverter is much, when the pump operation, Pr061 (1) as a high frequency of consistent use frequency, Pr062 as low frequency, corresponding change, multi _ function definition.

Code	Name	Description	Setting range	default value
Pr064	Counting value set	0～65500	0～65500	0

Counter can be triggered by multi-functional external terminals, when the program as a numerical value Pr064, corresponding to the multi-function output contacts, the counter, counter, cleared to start counting, triggered signals available to switch, photoelectric switches, etc.

Code	Name	Description	Setting range	default value
Pr065	Analog input	0～7	0～7	0

0：0～10V；　1：0～5V；　2：0～20mA；　3：4～20mA

4：0～10V and 4～20mA stack　5～7：invalid

This parameter setting can satisfy different analog input signal

when Pr065=4，output frequency =1/2（U/Umax+I/Imax）×50Hz

U: analog voltage quantity Umax: the maximum voltage analog quantities

I: analog electricity flow Imax: maximum analog electricity flow

Such as: when the analog input for + 10V respectively and 20mA output

frequency converter for frequency 50Hz.

Code	Name	Description	Setting range	default value
Pr066	Lower Analog Frequency	0.00～400.00Hz	0.00～400.00Hz	0.00Hz
Pr067	Bias Direction at Lower Frequency	0：positively 1: Negative direction,	0～1	0

Bias direction is correct instruction，positive bias is FWD，negative dc bias to reverse，see Pr070 picture

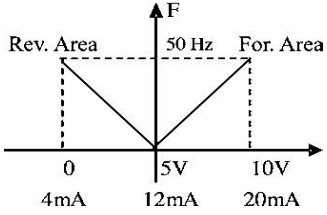
Code	Name	Description	Setting range	default value
Pr068	Higher Analog Frequency	0.00～400.00Hz	0.00～400.00Hz	50.00Hz
Pr069	Bias Direction at Higher Frequency	0: Positive direction 1:Negative direction	0～1	0

Bias direction is correct instruction，positive bias is FWD，negative dc bias to reverse，see Pr070 picture

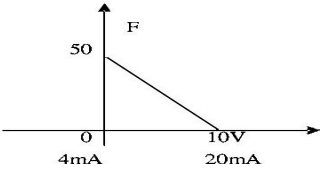
Code	Name	Description	Setting range	default value

Pr070	Analog Negative Bias Reverse	0: Not allowable 1:Allowable	0～1	0

The parameter group is set for the measuring range and zero point of theexternal analog terminals and can be combined for any kind of curve tocontrol the operation of the motor.

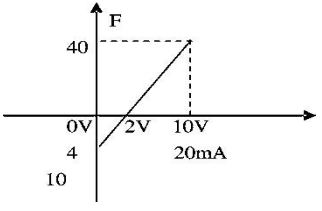


Note: this curve can be easily used in complicated applications in combination with other curves. When using it the instruction of FOR/REV run from external terminals is still valid. When switching, the curve will turn reverse..



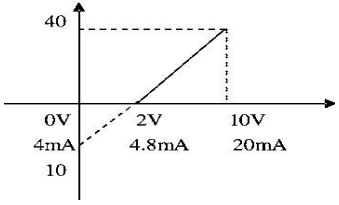
Setting：Pr066=50，Pr067=0，Pr068=0，Pr069=0，Pr070=0

Note: this curve is a kind of special application of reverse ramp setting. When using transmitter for the control of pressure, temperature and others and while the control has higher pressure and output signals but requiring the corresponding commands of stop or deceleration on the inverter this curve can satisf y the demand properly.



Setting：Pr066=10，Pr067=1，Pr068=40，Pr069=0，Pr070=1

Note: this method is used extensively. The user can use it flexibly.



Setting：Pr066=10，Pr067=1，Pr068=40，Pr069=0，Pr070=1

Note; this curve is the extension of the above curve. 2V~10V (4.8mA~20mA) corresponds to 0Hz~40HZ; the signal of 0V~2V(4~4.8mA)is invalid. It can be used to avoid noice disturbance. In harsh environment it is better not to use signals below 1V for setting the operating f requency of the inverter.

Code	Name	Description	Setting range	default value
Pr071	AO analog output gain	0～100%	0～100%	100%

This parameter can be used to adjust the output voltage value of Multi-output 6 to adapt to frequency meters with different measuring range and also used to correct a frequency meter. For example, for an externally connected frequency meter with the measuring range of 0~5V, a multi-f unction terminal can be used to display its operating frequency. Then it can be corrected with this parameter. It can be achieved by setting Pr071=50 .

Code	Name	Description	Setting range	default value
Pr072	Up/Down Function	0: Not memorized 1: Memorized	0～1	0

This parameter can be set for the selection of whether the values changed by theUPor DOWNshall bememorizedor notafterstop.Thechanged values whether to be memorized or not means when they are changed by UP or DOWNduring operation and the inverter is restarted after stop these changed values shall be memorized or not af ter restart. When Pr072 is set to 0, the changed value will not be memorized and when it is set to1,the changed values will be memorized. The set values of Pr000 will be memorized af ter restart. Fortherelated parametersrefer to Pr050 -Pr055

Code	Name	Description	Setting range	default value
Pr073	UP/DOWN Speed	0：0.1Hz　1：0.01Hz	0～1	0

0:0.1Hz.Minimum UP/DOWNspeed is0.1Hz.

1:0.01Hz.Minimum UP/DOWN speed is0.01Hz.Through the changes of this set value the UP/DOWN speed unit can be adjusted to meet the needs of different customers.

Code	Name	Description	Setting range	default value
Pr074	Analog filtering constants	0～50	0～50	20

The setting of this parameter is related to the analog responding speed. The higher the value of Pr074 is set, the lower the analog responding speed will be.

Code	Name	Description	Setting range	default value
Pr075	Intermediate counter	0～65500	0～65500	0

Refer to Pr064.

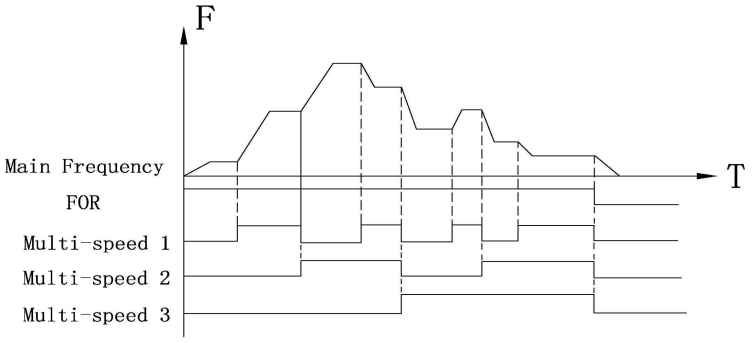
Code	Name	Description	Setting range	default value
Pr076	PLC operation	0: Normal run; 1: External control 4 -speed; 2:External control multi-speed;	0～5	0

		3: Disturbance; 4: Internal control multi-speed; 5: Drawing		

0：Normal run

1：External control 4 -speed (see Pr050 ~ Pr055 high, medium and low explain the functions of three terminals)

2：External control multi-speed



Multi-functional terminals	

results

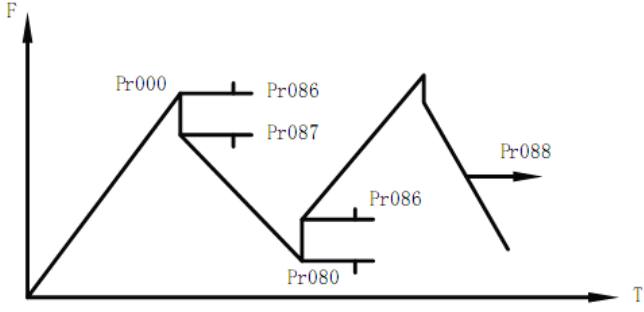
Multi-speed 1	Multi-speed 2	Multi-speed 1	Multi-speed 2
OFF	OFF	OFF	OFF
ON	OFF	ON	OFF
OFF	ON	OFF	ON
ON	ON	ON	ON
OFF	OFF	OFF	OFF
ON	OFF	ON	OFF
OFF	ON	OFF	ON
ON	ON	ON	ON

this function is only valid when Pr076 is set to 2,i.e.for 8-Speed of external control; Main speed and 7-speeds composes 8-speeds, the frequencies of Speed Step1 ~Step7are determined by Pr080 ~ Pr086, each ramp time is determined by the external multi-f unction terminal, The directions of each program operation are determined by the external, the main f requency can be set in two ways, one method is to set it through Pr000 and another is to set it through the potentiometer., when Pr034 is set to 1 the f requency of main frequency is set by the potentiometer. For the

related parameters refer to Pr000, Pr034 and Pr080~ Pr086.

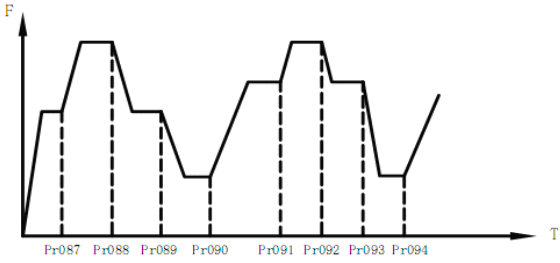
3:Disturbance(Traversefunction)

This is a special parameter in the chemical f iber and printing and dyingindustries to realize the traverse function. Except the commands of stop,external faults and emergency stop all other commands are not accepted atrunning.



The f requency at each inflection point is determined by Pr000, Pr080, Skip Frequency is determined byPr086, Running Time is determined by Timer Pr087and Pr088, The related parameters Pr000 and Pr080~ Pr088.

4: Internal control Multi-speeds

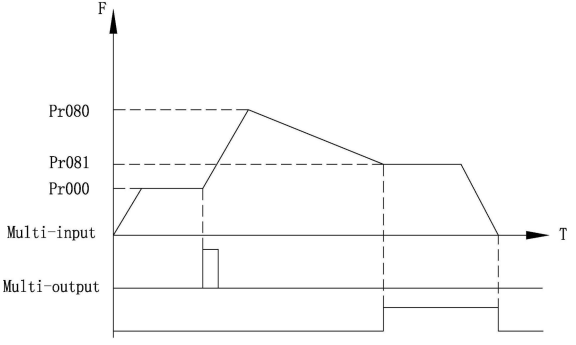


Main speed and 7-speeds composes 8-speeds, The ramp time of each speed step is set by PLC Ramp Time Pr079. Refer to the detail descriptions of Pr079. Running Time is set by Timer Pr087～Pr094. For the control steps not to be used the timer can be set to 0., Running direction of each speed step is determined by Pr078, In the internal control multi-speed operation the running time anddirection are determined by the setting of internal parameters. Any switching of external time and FOR/REV rotation is invalid.

5：drafting

This is a special parameter for the constant speed of unwinding and rewinding.By using this f unction the linear speed constant in certain

accuracy can berealized.



Note: Through triggering of the external multi-function terminal the drawing action begins.. In the execution time when drafting, Pr087 T = 10. when the drawing action is finished the inverter will run at the constant seed of Pr081 and the corresponding multi-output contact will act at the same time. Until receiving the STOP command the inverter will reset.

Code	Name	Description	Setting range	default value

Pr077	AUTO PLC	0: Stop after running for one cycle; 1: Cycling run; 2:Auto stop after running for one cycle (STOP for intervention); 3: Auto Run and Cycling (STOP for intervention)	0～3	0

0:Stop after the program run sone cycle .1:Cycling running .2: Stop after it runs one cycle auto matically (STOP for intervention). 3:Auto running and cycling (STOPfor intervention)

1.Stopafter the programrunsone cycle.

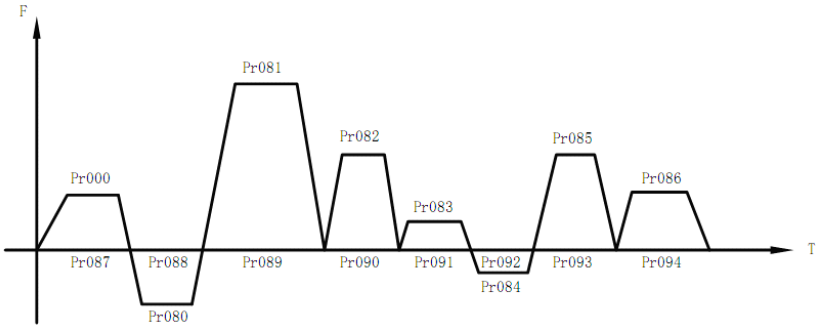
When the command of auto program operation is given, the inverter will run with each set value of internal parameters. It will run for one cycle and then stop automatically. The inverter will not restart and run until it receives another command of operation.

2. Cycling run.

When the command of operation is given, the inverter will run in sequence with the frequency of every speed step and running time set by each of the internal parameters and will recycle. During the cycling run, except the commands of stop, external faults and emergency stop, all other commands

will not be accepted.

3、Stopafter it runsonecycleautomatically (STOP for intervention)



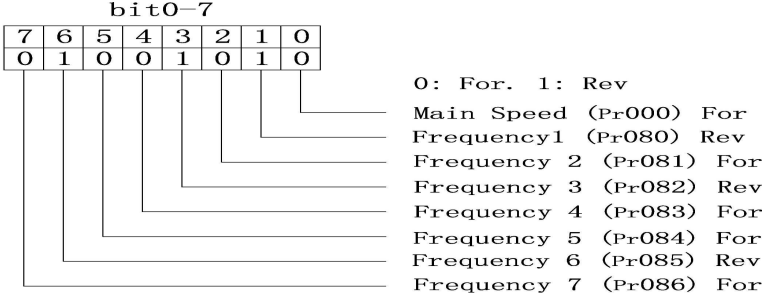
When the command of auto program operation is given the inverter will run with each parameters. But it will stop first and then restart at changingofeachstepandwillstopautomaticallyafterrunningforonecycle.Theinverter will not restart and run until it receives another command of operation. , The frequencies of each speed step are set by Pr000、Pr080～Pr086, The running times of each speed step are set by Pr087～Pr094；The running direction is set by Pr078.

Code	Name	Description	Setting range	default value

Pr078	PLC rotation Direction	0～255	0～255	0

This parameter is only valid when Pr076 is set to 4. This parameter setting determine the runningdirection of each frequency of Pr080—Pr086 and Pr000 in the program operation. The setting method is as follows:

The rotation direction is set first in the binary 8 bits mode, and then converted to a decimal value for the setting of this parameter. For instance:



The parameter value 01001010 is converted to a decimal value: 1 x 26 + 1 x 23 + 1 x 21 = 64 + 8 + 2 = 74

Then Pr078 = 74

Code	Name	Description	Setting	default

			range	value
Pr079	PLC acc and dec time	0～65535s	0～65535s	0s

This parameter is only valid when Pr076 is set to 4.

This parameter is set to determine the ramp time values for Step 1~4 of the internal control multi-speed. The setting method is as follows:

(1)the way to 2bit binary decision deceleration time

Bit1	Bit0	Ramp Time
0	0	Ramp Time 1 Pr012、Pr013
0	1	Ramp Time 2 Pr014、Pr015
1	0	Ramp Time 3 Pr016、Pr017
1	1	Ramp Time 4 Pr018、Pr019

（2）Determine the Ramp time of each speed step in the binary 16 bit mode

Step 8		Step 7		Step 6		Step 5		Step 4		Step 3		Step 2		Step 1	
T8		T7		T6		T5		T4		T3		T2		T1	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

T1 Select Ramp Time 3, T2 Select Ramp Time2, T3 Select Ramp Time 4, T4 Select Ramp Time 4, T5 Select Ramp Time1, T6 Select Ramp Time1, T7 Select Ramp Time1, T8 Select Ramp Time1.This parameter setting

11110110 binary, into decimal 246. This parameter is set to 246.

Code	Name	Description	Setting range	default value
Pr080	Frequency 2	0.00～400.00Hz	0.00～400.00Hz	15.00Hz
Pr081	Frequency 3	0.00～400.00Hz	0.00～400.00Hz	20.00Hz
Pr082	Frequency 4	0.00～400.00Hz	0.00～400.00Hz	25.00Hz
Pr083	Frequency 5	0.00～400.00Hz	0.00～400.00Hz	30.00Hz
Pr084	Frequency 6	0.00～400.00Hz	0.00～400.00Hz	35.00Hz
Pr085	Frequency 7	0.00～400.00Hz	0.00～400.00Hz	40.00Hz
Pr086	Frequency 8	0.00～400.00Hz	0.00～400.00Hz	0.50Hz

This parameter is set in combination of the multi-inputls to select 4-speeds of external control, multi-speeds of external control or multi-speeds of internal control. For the relevant parameters refer to the description of Pr076, Pr087 - Pr094

Code	Name	Description	Setting range	default value
Pr087	timer 1	0.0S～6500.0S	0.0S～6500.0S	10.0S

Pr088	timer 2	0.0S～6500.0S	0.0S～6500.0S	10.0S
Pr089	timer 3	0.0S～6500.0S	0.0S～6500.0S	0.0S
Pr090	timer 4	0.0S～6500.0S	0.0S～6500.0S	0.0S
Pr091	timer 5	0.0S～6500.0S	0.0S～6500.0S	0.0S
Pr092	timer 6	0.0S～6500.0S	0.0S～6500.0S	0.0S
Pr093	timer 7	0.0S～6500.0S	0.0S～6500.0S	0.0S
Pr094	timer 8	0.0S～6500.0S	0.0S～6500.0S	0.0S

This parameter is set for the internal control multi-speeds and the running time of drawing function. For the relevant parameter refer to Pr076 and Pr080-Pr088

Code	Name	Description	Setting range	default value
Pr095	AUTO PLC Memory	0：Not memorized 1：Memorized	0～1	0

This parameter is set to determine whether the inverter is to realize the suspending f unction in AutoPLC mode. In case of CD095=1 it can memorize the status in which the inverter is running and will memorize it at stop or fail. It will continue to run when returning to normal. In case of

CD095=0 it will not memorize

Code	Name	Description	Setting range	default value
Pr096～Pr109	reserve			

Code	Name	Description	Setting range	default value
Pr110	Number of Auxiliary Pump	0～2	0～2	0

This parameter is set for the number of auxiliary pump. The start or stop of the auxiliary pumps is controlled by using the multi-output contacts and Auxiliary Pump 1 or Auxiliary Pump 2 is controlled through the peripheral control circuit.

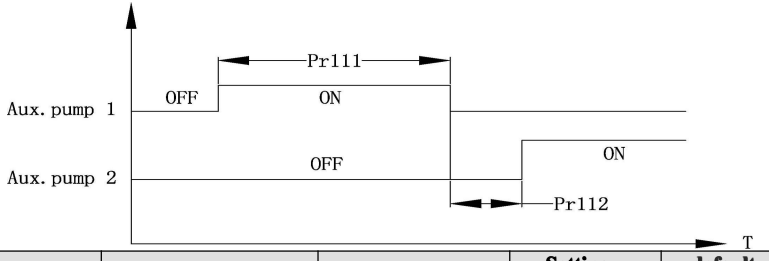
Code	Name	Description	Setting range	default value
Pr111	Continuous Operating Time of	0～9000(Min)	0～9000(Min)	60(Min)

	Aux. Pumps			

In case of two pumps with only one pump in duty, in order to ensure each pump to work evenly, it will be switched to another pump when its running time reaches the set value of Pr111

Code	Name	Description	Setting range	default value
Pr112	Interlocking Time of Aux. Pumps	0.1～250.0S	0.1～250.0S	5.0S

This parameter is set to determine the interlocking time of two auxiliary pumps when switching with each other



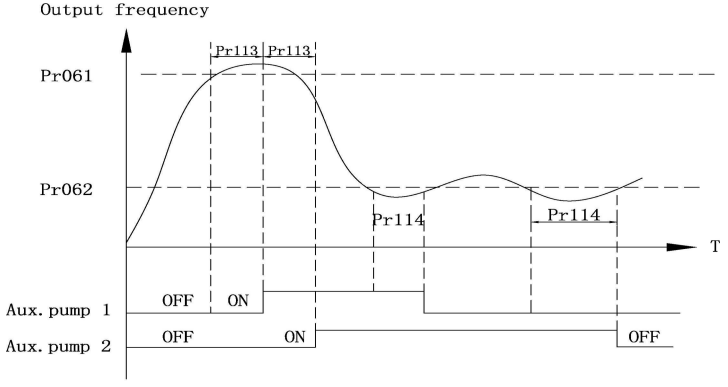
Code	Name	Description	Setting range	default value
Pr113	High Speed Running	1～250S	1～250S	60S

	Time			

In the process of constant pressure water supply, water use for larger, the pump running at high frequency (set) when Pr061 by high-speed operation time arrived, the corresponding action, auxiliary pump multifunctional contacts began running

Code	Name	Description	Setting range	default value
Pr114	Low Speed Running Time	1～250S	1～250S	60S

In the application of water supply with constant pressure, when the master pump is running at the frequency of high speed (set by Pr061) due to larger water volume and the high speed running time (Pr114) is reached, the corresponding multi-f unction contacts act and the auxiliary pumps start.



Code	Name	Description	Setting range	default value
Pr115	Stopping Voltage Level	1～150%	1～150%	95%

This parameter is set for the voltage level of the master pump entering into sleepmode.For details refer to the following description

Code	Name	Description	Setting range	default value
Pr116	Lasting Time of	1～250S	1～250S	30S

	Stopping Voltage Level			

This parameter is set for the lasting time under the stopping voltage level beforeentering intosleep mode.For details refer to thefollowing description.

Code	Name	Description	Setting range	default value
Pr117	Wakeup Level	1～150%	1～150%	80%

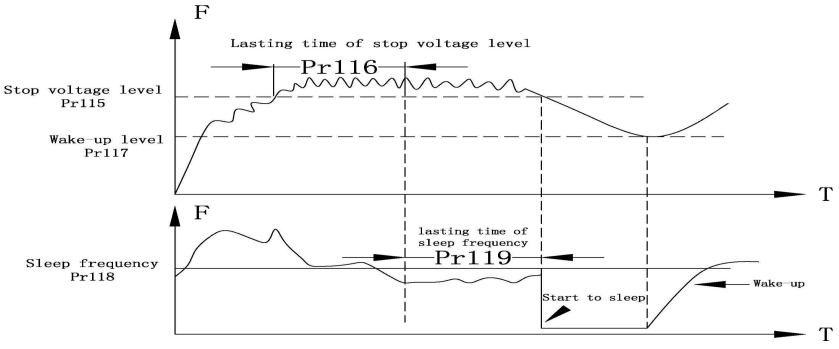
This parameter is set for the wakeup voltage level f rom sleep to wakeup

Code	Name	Description	Setting range	default value
Pr118	Sleep frequency	0.00～400.00Hz	0.00～400.00Hz	20.00Hz

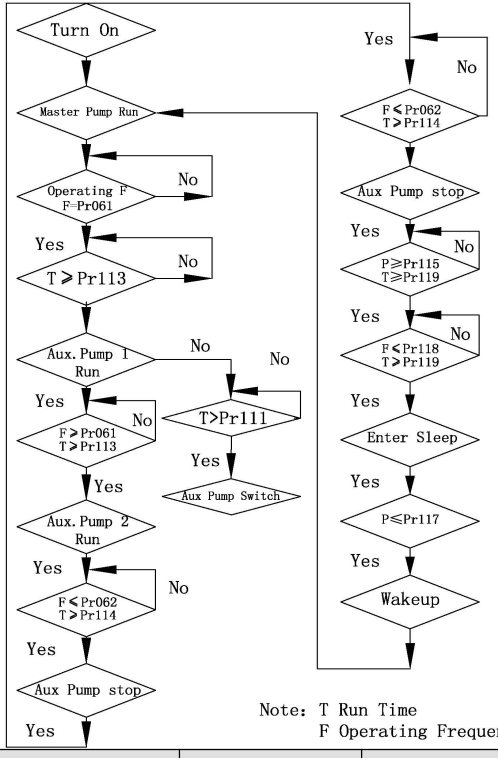
This parameter is set for the lowest operating frequency entering into sleep mode.

Code	Name	Description	Setting range	default value
Pr119	Lasting Time of Sleep Frequency	1～250S	1～250S	20S

This parameter is set for the lasting time to run at sleep frequency when entering into sleep mode.



The following is the block diagram of multi pumps operation



Code	Name	Description	Setting range	default

				value
Pr120	Over-voltage Stall Prevention	0: Invalid 1: Valid	0～1	1

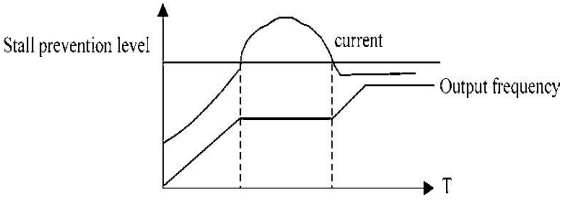
0: Over-voltage stall prevention invalid 1: Over-voltage stall prevention valid.

When the inverter is in deceleration,due to the effect of loadinertia,the motor will produce a return energy to the inverter and cause the DC voltage of the inverter to increase. So when the f unction of over-voltage stall prevention is started, if the DC voltage of the inverter becomes too high, the inverter will stop decelerating till the voltage at DC decreases below the set value, then the inverter will go on to decelerate and the ramp-down time will be extended automatically.

Code	Name	Description	Setting range	default value
Pr121	Stall Prevention Level at Accel	0～200%	0～200%	150%

When the inverter is in ramp-up, due to overload or too short ramp-up time, the output current of the inverter will go up quickly and exceed the set standard level. When this happens, the inverter will stop accelerating. When

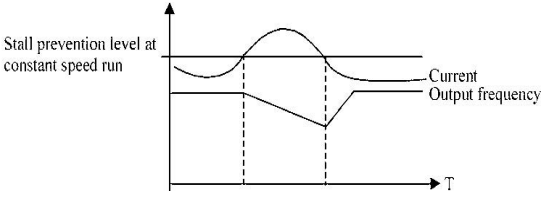
the current returns under its set value, the inverter will go on to accelerate.



100% for motor current and the parameters set rated current for 0, stall prevent function is invalid.

Code	Name	Description	Setting range	default value
Pr122	Stall Prevention Level at Constant Speed	0～200%	0～200%	0%

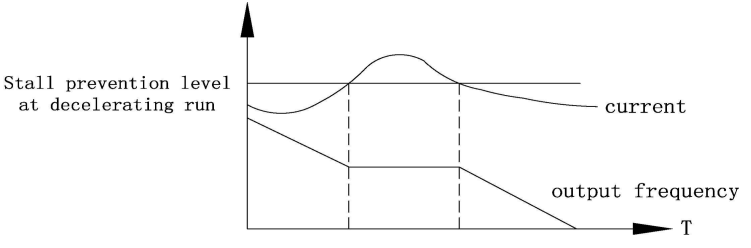
When the inverter is running at constant speed, due to load fluctuation and other reasons, the current will increase. When the current exceeds its set standard value, the inverter will lower the output f requency. When the output current returns to its normal range, the inverter will accelerate again to its set frequency.



100% current is the Rated Current of the motor. When this parameter is set to 0 the stall prevention f unction is invalid.

Code	Name	Description	Setting range	default value
Pr123	Stall Prevention Level at Decel.	0～200%	0～200%	0%

Please refer to Pr120



For motor rated current 100%

Code	Name	Description	Setting range	default value
Pr124	Over-torque Detect Mode	0～3	0～3	0

0: When reaching the frequency it starts to detect over-torque and when over-torque is detected it continues to run.

1: When reaching the f requency it starts to detect over-torque and when over-torque is detected it stop running.

2: It detects over-torque during running and when over-torque is detected it continues to run.

3: It detects over-torque during running and when over-torque is detected it stop running.

Code	Name	Description	Setting range	default value
Pr125	Over-torque Detect Level	0～200%	0～200%	0%

When the output current exceeds the over-torque detection level and also exceeds half of the set time of over-torque detection (factory setting:1.0s),

the over-torque detection will indicate, and the corresponding multi-function alarm contact will act. When it exceeds the set time, the inverter will turn to self-protection. When this parameter is set to 0, the over-torque detection will be invalid

Code	Name	Description	Setting range	default value
Pr126	Over-torque Detect Time	0.1～20.0S	0.1～20.0S	1.0S

When the inverter detects that the output current has exceeded the motor current set value, the inverter begins to calculate the over-torque time. When the over-torque time has exceeded half of the set detect time, the corresponding multi-function output contact will act, and produce the over-torque alarm, while the inverter will keep running. When the over-torque time has exceeded the set detect time (set by Pr126), the inverter will turn to self-protection,display thefault information and stopoutput. Fortherelated parametersrefer to Pr125.

Code	Name	Description	Setting range	default value
Pr127	Decel. time for stall prevention at constant speed			5.0S

When the inverter is used for the loads of kinds fan and pump Pr122 can be set to 120. When the current of the inverter is greater than 120% the output frequency will decrease and the current will also decrease accordingly. After the current returns to normal the f requency will return to normal slowly, so as to achieve the stall prevention f unction. The decreasing speed of the f requency isdetermined by Pr127.For the Related parameters refer to Pr122.

Code	Name	Description	Setting range	default value
Pr128	Fault restart time			1.0S

When the inverter is set for fault restart and if it has a fault trip with the time exceeding the set value of Pr128 the inverter will restart. When using this function pay more attention to the safety.

Code	Name	Description	Setting range	default value
Pr129	Voltage rise time during frequency track			5S

When the starting mode of the inverter is set to frequency track there is a process of voltage rise during the frequency track. When the voltage is rising rapidly the current will be higher and the tracking process will be faster. When the voltage is rising slowly the current will be lower and the tracking

process will be slower. In general practice this value of Pr129 is set lower for the inverter of smaller power and set higher for the inverter of larger power.

Code	Name	Description	Setting range	default value
Pr130	Rated Motor Voltage		0. 1V	*

It is set according to the rated voltage value of the nameplate of the motor. For the inverters of 230V class the factory setting is 220V, while for the inverters of 400 V class the factory setting is380V.

Code	Name	Description	Setting range	default value
Pr131	Rated Motor Current		0. 1A	*

It is set according to the rated value of the nameplate of the motor. This parameter can be used to restrict the output current of the inverter to prevent over-current and protect the motor. If the current of the motor has exceeded this value the inverter of AC motor will turn to self-protection.

Code	Name	Description	Setting range	default value
Pr132	Motor pole number	02～60	2～60	04

This parameter is set for the number of the motor's pole according to the

nameplate of the motor.

Code	Name	Description	Setting range	default value
Pr133	Rated Motor Revolution	0～9999(r/min)	0～9999	1440

This is set according to the actual revolution of the motor. The displayed value is the same as this set value. It can be used as a monitoring parameter, which is convenient to the user. This set value corresponds to the revolution at 50Hz.

Code	Name	Description	Setting range	default value
Pr134	Motor no-load current	0～100	0～100	40

The setting of motor no-load current will affect the valueof slip compensation. The current is100%of the rated current of the motor

Code	Name	Description	Setting range	default value
Pr135	Motor slip compensation	0～1000	0～1000	0

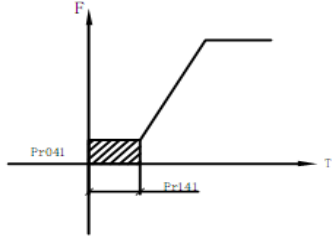
When the inverter drives the motor the slip becomes bigger due to the increase of load. This parameter can be set for slip compensation to decrease the slip and make the running speed of the motor closer to the synchronous revolution. 0-1000 as 0-10%。

Code	Name	Description	Setting range	default value
Pr136～Pr139	Reserved			

Code	Name	Description	Setting range	default value
Pr140	DC Braking level	0. 0～20. 0%	0. 0～20. 0%	2. 0%

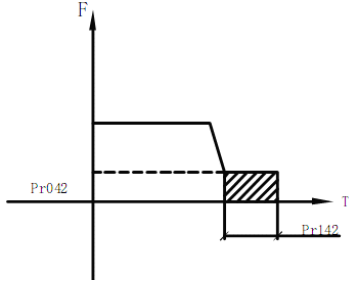
This parameter is set for theDC braking voltage to the motor at start and stop. Itcan be adjusted for different brakingvoltage.When adjusting the parameter it must be increased slowly from lower value tohigh value until the sufficient braking torque is achieved.The voltageat maximum frequency is100% voltage

Code	Name	Description	Setting range	default value
Pr141	DC Braking time at start	0.0～25.0S	0.0～25.0S	0.0S



This parameter is set for DC Braking at start and the lasting time of DC Braking current to the motor. If it is set to zero it means DC braking is invalid. DC braking at start is normally used in the application, in which the load is movable when the machine is at stop, such as windmill. Because of the load existing before the inverter drives, the motor isoften in coasting with an uncertain rotation direction.So the DC braking can be executed before starting the motor to prevent the inverter from tripping. This setting is valid only when Pr031 is set to 0. For the related parameters refer toPr031 and Pr140, Pr041

Code	Name	Description	Setting range	default value
Pr142	DC Braking timestop	0. 0～25. 0S	0. 0～25. 0S	0. 0S



When this parameter is set to any non-zero value it starts DC brake at stop and sends the DC braking time to the motor. DC braking at stop is of ten used for a high-level stop or positioning control. When this parameter is set to zero it closes DC braking at stop. This setting is valid when Pr032 is set to0.For therelated parametersreferto Pr042, Pr140 and Pr032

Code	Name	Description	Setting range	default value
Pr143	Frequency track time	0. 1～20. 0S	0. 1～20. 0S	5. 0S

This parameter is set as frequency track time when the inverter is started by frequency track after an external abnormality or temporary power

breakdown. For starting or stopping of some large inertia load, if restarting a machine after its complete stop, it will waste much time because of its large inertia of load. But if the f requency track is started, it is not necessary to wait for the machine to come to a f ull stop for restart. The inverter will trace the f requency f rom high to low with the set f requency. Af ter searching it will continue toaccelerate to reach theset frequency.

Code	Name	Description	Setting range	default value
Pr144	Current level for frequency track	0～200%	0～200%	150%

When the inverter is tracing the f requency this set value is taken as the level for output current. When the output current is higher than this level the inverter will decrease the f requency to restore the current below the level and then it will execute the f requency track again.

Code	Name	Description	Setting range	default value
Pr145	Restart after instantaneous	0： invalid 1：Frequency track	0～1	0

0: Invalid, i.e. the inverter will not restart after an instantaneous power

breakdown.

1:Start by frequency track.Refer to Pr143

Code	Name	Description	Setting range	default value
Pr146	Stop Allowable Power-Breakdown Time	0.1～5.0S	0.1～5.0S	0.5S

This parameter is set for the maximum allowable power failure time. If exceeding the set time the inverter will continue to stop output after poweron. To restart the inverter it needs to follow the general starting procedures.

Code	Name	Description	Setting range	default value
Pr147	Number of Abnormal Restart	00～10	00～10	00

After the abnormal conditions (such as over-current and over-voltage) happens the inverter will automatically reset and restart. If the starting mode is set to normal mode it will start according to the normal procedures. If it is set to start by frequency track it will start in the frequency track mode. After starting it will restore the set number again if there is no more abnormality happened within 60 seconds. If there is still any error and it reaches the set

number the inverter will stop output. It can only be started after reset. When Pr147 is set to 0 the inverter will not carry out the functions of automatic reset and restart.

Code	Name	Description	Setting range	default value
Pr148	Auto Voltage Regulation	0: invalid 1: effectively	0～1	1

When the input power is not stable and if the voltage is too high the operation of the motor with the power exceeding the rated voltage will cause increase of the temperature of the motor, damage of its insulation and unstable output torque. This auto voltage regulation can automatically stabilize the output voltage within the rated voltage range of the motor under the condition of unstable output power supply When this f unction is set to invalid the output voltage will fluctuate.

Code	Name	Description	Setting range	default value
Pr149	Auto Energy Saving	0. 0～20. 0%	0. 0～20. 0%	0. 0%

When it is set to 0 this function is invalid. When Auto energy saving f unction is started the inverter will run at the f ull voltage during ramp-up or -down. During the operation at constant speed the inverter can automatically

calculate the optimum voltage value according to the power of load and supply power to the load to achieve the goal of energy saving.

Code	Name	Description	Setting range	default value
Pr150	Proportionality constant（P）	0. 0～1000. 0%	0. 0～1000. 0%	100%

This proportional constantisset for the error value again.Incaseof I=0,D=0,it is only for proportional control.

Code	Name	Description	Setting range	default value
Pr151	Integral time（I）	0. 0～1000. 0S	0. 0～1000. 0S	5. 0S

The integral time (I) is set for the responding speed for PID. The larger theI value is set the slower the responding speed will be. To the contrary, if theresponding speed is quick but the integral time value is set too small, it will cause oscillation.

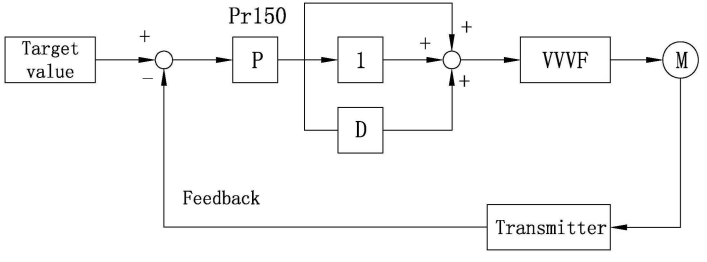
Code	Name	Description	Setting range	default value
Pr152	Differential time（D）	0. 00～10. 00S	0. 00～10. 00S	0. 00S

This differential time(D)is set for the depression operationof PID.The larger the D value is, the more obvious the depression operation will be. When D is

set to 0, this f unction is invalid.

Code	Name	Description	Setting range	default value
Pr153	Target value	0～100. 0%	0～100. 0%	*

This target value can be set through external voltage signal or the digital operator.100% target value is corresponding to the analog f requency at +10V. PID closed-loop control is usually used in the process control with physical quantity not changing fast, such as the controls of pressure and temperature, etc. The feedback signal is usually taken from temperature transmitter, orpressure transmitter, etc. Under PID control, the feedback signal input path isthe analog current signal of 4-20mA.PID closed-loop control is valid when Multi-input PID is started.PID Control Block Diagram:



General operating methods of PID control:

(1) Choose the correct transmitter (with the output specification of standard current signal 4-20mA).

(2) Set the right target value.

(3) If the output does not have oscillation, increase the proportional constant (P).

(4) If the output does not have oscillation, decrease the integral time (Ti).

Code	Name	Description	Setting range	default value
Pr154	Target value select	0～1	0～1	0

The target value can be set through the selection of the panel or external analog. The external analog is 0~10V signal or given by the potentiometer.When Pr154=0, the target value of PID is the value set by Pr153.When Pr154=1,the target value of PID is the value of the external analog 0-10V(corresponding to 0-100%), the setting of Pr153 is invalid.

Code	Name	Description	Setting range	default value
Pr155	PID upper limit	0～100. 0%	0～100. 0%	100%

When PID feedback value is more than the set value of Pr155 the corresponding multi-output will act and the inverter will not stop.

Code	Name	Description	Setting range	default

				value
Pr156	PID lower limit	0～100. 0%	0～100. 0%	0%

When PID feedback valueis less than the set valueof Pr156 the corre sponding multi-output will act and the inverter will not stop.

Code	Name	Description	Setting range	default value
Pr157～Pr159	Reserved			

Code	Name	Description	Setting range	default value
Pr160	Communication Addresses	0～255	0～255	0

When the inverter is set for RS-485 Communication interface control, each of the inverters will be set for its individual identification number through Pr160.

00: No communication f unction.

01~250:Addressfor theinverters

Code	Name	Description	Setting range	default value
Pr161	Communication baud rate	0:4800BPS 1:9600BPS 2:19200BPS 3:38400BPS	0～3	1

Communication baud rate

Code	Name	Description	Setting range	default value
Pr162	Communication Data Method	0 no calibration (n. :, 8,1) for ASCII 1: parity checking (E, 8,1) for ASCII 2: check (O, 8,1) for ASCII 3: no calibration (N, 8,1) for RTU 4: parity (E, 8,1) for RTU 5: check (O, 8,1) for RTU	0～5	0

Code	Name	Description	Setting range	default value
Pr163～Pr166	Reserved			
Code	**Name**	**Description**	**Setting range**	**default value**
Pr167	Display Items	0～31	0～31	0

This parameter is only valid whenBit2 is set to1 in Pr168.For the details refer to Pr168.

0: Inverter Temperature

1: Counter Value

2: PID Target Value

3: PID Feedback Value

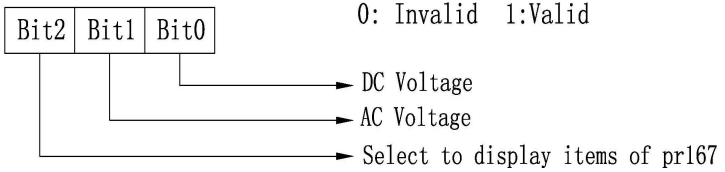
4: Present running time of power up (Unit: Hour)

5: Total running time of power up (Unit: Hour)

Code	Name	Description	Setting range	default value
Pr168	Display Items Open	0～7	0～7	0

This parameter is set for selection of displaying of DC voltage, AC voltage and other items so that the customer can monitor and view them in sequence through the switch key. It can be is set first in the binary 3 bits mode, and

then converted to a decimal value..



In the contents displayed the factory setting is to show output frequency, set frequency, output current and output revolution through the switch key. If it is necessary to view and monitor other items they can be set through Pr167 and Pr168

Code	Name	Description	Setting range	default value
Pr169	Voltage Rating of Inverter			Model
Pr170	Rated Current of Inverte			model
Pr171	Software version			*

Code	Name	Description	Setting range	default value
Pr172	Fault record 1			----
Pr173	Fault record 2			----
Pr174	Fault record 3			----
Pr175	Fault record 4			----

When it has no fault record it shows ——. After access to this parameter the fault display can be checked..

Code	Name	Description	Setting range	default value
Pr176	Fault Clear	01：Faults remove	00～10	00

This is for fault clear.Others have nofunction

Code	Name	Description	Setting range	default value
Pr177	Inverter Model	0: constant torque 1: fan		0

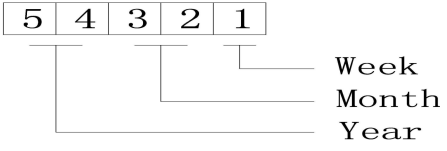
It can be observed, but not changed.

Code	Name	Description	Setting range	default value
Pr178	Inverter frequency standards	0：50Hz 1：60Hz		0

It is factory setting.It can be observed,but not set

Code	Name	Description	Setting range	default value
Pr179	Manufacture Date			*

It is factory setting.It can be observed,but not set



Code	Name	Description	Setting range	default value
Pr180	Serial No.			*

The parameters for the factory see not set value.

Code	Name	Description	Setting range	default value
Pr181～Pr250	Manufacturers parameters			

Note:

* means the said parameter has a variety of set values or should be set specifically according to concrete conditions.

** means the said parameter can be set during the operation.

7、MODBUS COMMUNICATION PROTOCOL

JR7000 series inverter， support RS485 communication interface，Adopt international standards ModBus communication protocol work for communication。Users can be controlled by PLC/ PC/ control etc.

1、JR7000 series inverter's form of ModBus Communication protocol is RTU model and ASCII （American Standard Code for Information International Interchange）model.

RTU mode, each byte format as follows：

Coding system: 8 binary，

Hex 0～9、A～F，

Every eight frames, contains two hex characters。

ASCII mode, each byte format as follows：

Coding system：Communication protocol as Hex， The meaning of ASCII characters：

charac ters	0	1	2	3	4	5	6	7
ASCII	0x30	0x31	0x32	0x33	0x34	0x35	0x36	0x37
charac	8	9	A	B	C	D	E	F

ters								
ASCII	0x38	0x39	0x41	0x42	0x43	0x44	0x45	0x46

2、Byte：

Including start bit、8 pcs date bit、checkbit and stop bit.

Start bit	Bit1	Bit2	Bit3	Bit4	Bit5	Bit6	Bit7	Bit8	Nocheckbit Parity checkbit	Stop bit

3、Date format

STX “:” (3AH)	ADDR	FUNC	LEN	$DATA_{(n-1)}$… $DATA_0$	LRC	END CR(0DH) LF(0AH)

1、START：:Starting unit “:”(3AH)

2、Address High　Address Low：8-bit data is composed of two ASC II byte.

0～250（decimal system）（0 is Broadcast mode）

3、Function High　Function Low ：8-bit data is composed of two ASC II byte

01： Read the data of f unction code 02：set the code 03：control command

04：Read control status　05：Set Write inverter frequency data

06：reserve 07：reserve 08：loop check

a.Read the date of function code

Format：

ADDR 01 LEN FUNC Data

When ADDR=0，no date return

ADDR≠0 be same in the address of inverter and have the feedback that is right，format as follow：

ADDR 01 LEN FUNC DATA

as return for the word LEN=3,a bit as LEN=2 when have no function or invaild return

ADDR 81H 01 FUNC

b.setting of function code

Format：

ADDR 02 LEN FUNC Data

ADDR=0 as broadcast，can set ，but no reply

When ADDR≠0 can setting and reply

As the setting is not right ,or no function,the return parameter

ADDR 81H 01 FUNC

c.control command

Format：

ADDR 03 LEN CNTR

ADDR=0 as broadcast ，no return reply

When ADDR≠0 have the return reply

CNTR

7	6	5	4	3	2	1	0
Jogr	Jogf	Jog	r/f	Stop	Rev	For	Run

When the setting is right,return the control condition

Format：ADDR 03 01 CNST

CNST

7	6	5	4	3	2	1	0
Track start	brake	r/f	Jogging	Running	r/f	Jog	Run

When check is wrong ADDR 83H 01 CNST

d. Read the values of the status

Format：ADDR 04 01 CFG

ADDR=0 no return

ADDR≠0 have return

CFG=0-8 return single status

0：Set F 1: Out F 2: Out A 3：RoTT 4：DCV

5: ACV 6: Cont 7: Tmp 8: Error and CNST

Read and setting frequency

send： 01 04 03 00 CRC

return： 01 04 03 13 88 CRC

among 13 88 as date，13 as high order，88 as low order

4、LEN：date lengh as $DATA_{(n-1)}$…$DATA_0$'lengh，lengh setting：as 1 Word LEN=3，when 1 Byte or<1 byte LEN=2

5、DATA：(Data charactars) date content，2n pcs ASCII composed n pcs byte，max 50 pcs ASCII。

6、LRC:check code ASCII mode，This data using LRC calibration，Calibration covers from machine addresses to data information. calibration as equal to all the characters of calibration data (drop carry bit) 's complement

7、For example：write to 01 inverter 30.00Hz（write in to Pr000）

STX	ADDR	FUNC	LEN	DATA	LRC	END
“：”	“0” “1”	“0” “2”	“0” “3”	“0” “0” “0” “B” “B” “8”	“3” “7”	“CR” “LF”
3AH	30H 31H	30H 32H	30H 33H	30H 30H 30H 42H 42H 38H	33H 37H	0DH 0AH

Count the value of LRC ：

01H+02H+03H+00H+0BH+B8H=C9H

C9H Twice Countervailing is 37H

So the transport date content：

3AH 30H 31H 30H 32H 30H 33H 30H 30H 30H 42H 42H 38H 33H 37H 0DH 0AH

RTU mode

MUTE	ADDR	FUNC	LEN	$D_{(n-1)}\cdots D_0$	CRC	MUTE
>50ms						>50ms

1) Mute：above 50ms time no gorge line brake off
2) ADDR：Communication position 8-bit position
3) FUNC：Command 8-bit，Detail content see the command code of 3.1 section LEN：date lengh $D_{(n-1)}\cdots D_0$’s lengh
4) DATA：date content n×8-bit date
5) CRC：calibration value

Steps of count the CRC calibration value：

First to store 0xFFFF， Then transfer the process deal with more than six consecutive bytes which in the frame and the value of the register。Only the data for each character 8Bit as CRC valid， start bit and stop bit and parity bit invalid.

Produce process of CRC，each character 8Bit as the single with the different,same as the register or(XOR)，Result moving for the min valid of low order，Max valid of high order as 0 fill。LSB is draw for check ，if LSB as 1，register single as the setting value different or same，If LSB as 0，no actions.all the process need 8 times。As the last big finish（8th），Next 8 bit as the single with the different,same as the register or。 The last value of register ，is the CRC value which all the bit in the frame do the work.

For example 1：

write to 01 inverter 30.00Hz frequency

Format of date

ADDR	FUNC	LEN	$D_{(n-1)}\cdots D_0$	CRC
01H	02H	03H	00H 0BH B8H	7FH 0CH

Transport date：01H 02H 03H 00H 0BH B8H 7FH 0CH

CRC CHECK

```
unsigned int crc_cal_value(unsigned char *data_value,unsigned char data_length)
```

```
{
 int i;
 unsigned int crc_value=0xffff;
 while(data_length--)
      {
           crc_value^=*data_value++;
           for(i=0;i<8;i++)
           {
           if(crc_value&0x0001)crc_value=(crc_value>>1)^0xa001;
           else crc_value=crc_value>>1;
           }
      }
  return(crc_value);
}
```

8、FAULT RESPONSE

8. 1 FIND AND REMOVE BREAKDOWN

1 、 When an error is tested by JR9000it is displayed on the digital operator,and order the error joint output and motor to stop.Check the error reason and way to correct in the following sheet.

2、If described in the trouble shooting will not solve the problem，Please contact JiaXing Scientific Instrument Co.,Ltd.

Figure 8－1 error diagnose and correction

Code	Fault type	Reasons	Solution
SC-1 SC-2 SC-3 SC-4	converting unit fault	1.Acc time is too short. 2.IGBT module fault 3.Malfunction caused by interference. 4.Grounding is not properly	1.Increase Acc time. 2.Ask for support. 3.Inspectexternal equipment and eliminate interference.
OC-1	Over-current when acceleration	1.Acc time is too short 2.voltage on the low side 3.Inverter power on the small	1.Increase Acc time 2.Check input power supply

		side.	3.Select bigger capacity inverter
Oc-4	Over-current when deceleration	1.Dec time is too short 2.Load is too heavy. 3.Inverter power on the small side.	1.Increase Dec time. 2.Connect braking resistor 3.Select bigger capacity inverter
OC-3	Over-current when constant speed running	1.Sudden change of load 2. Voltage on the low side 3. Inverter power on the small side	1.Check the load or sudden change of load. 2. Check input power supply 3. Select bigger capacity inverter
0C-2	Over-current when stop	1.EMC 2.fault of inverter	1.check the power of EMC 2.send the inverter to facotry
OU-1	Over-voltage when acceleration	1.Input voltage is too high 2.Regenerative energy from the motor is too large	1. Check input power supply 2.Avoid stop after start

OU-4	Over-voltage when deceleration	1.Dec time is too short 2. Load is too heavy 3.Input voltage is too high	1.Decrease Dec time 2.Increase conncet braking resistor. 3.Check input power supply
OU-1	Over-voltage when constant speed running.	1 Input voltage is too high 2. Load is too heavy	1.Install input reactor 2.conncetbrakingresistor.
0U-2	Over-voltage when stop	1.input voltage have wrong change	1.check the power supply
LU-1 LU-2 LU-3 LU-4	buss under-voltage	1.voltage low	1.check the input of grid
OA-1 OA-3 0A-4	Motor overload	1. Voltage on the low side 2. Motor rated current incorrect setting. 3. Sudden change of load 4.Motor drive heavy load at low speed for a long time.	1.Check voltage 2.Reset motor rated current 3.Check the load 4.Select suitable motor
OL-1 OL-3	Inverter overload	1.Acc time is too short	1.Decrease Acceleration

OL-4		2. Regenerative energy from the motor is too large 3. Voltage on the low side 4.Load is too high	2.Avoid stop after start 3.Check voltage 4.Select bigger capacity inverter
OT-1 OT-3 0T-4	Over torque	1.the load is changed or not 2.the motor capacity small	1.check the load 2.change the motor
0H-1 0H-2 0H-3 0H-4	Rectify overheat IGBT overheat	1.Inverter instant overcurrent. 2.Output three-phase ground short circuit. 3.Obstruction of ventilation channel or cooling fans of inverter stop or damaged. 4.Ambient temperature is too high. 5.Contor panel wire or plugin loose. 6.APS damaged and drive voltage under-voltage. 7.Sudden change of the power	1.Consult over-current countermeasure. 2.Wiring reset. 3.Clear the ventilation channel or replace cooling fan. 4.Decrease ambient temperature. 5.Check and reconnection 6.Ask for support 7.Ask for support 8.Ask for support

		module 8.Sudden change of the control panel	
BE	Brake transistor damage	1. transistor damage	1. send the factory
EC	CPU fault	1. CPU fault	1. contact with factory
EEP	EEPROM fault	1.Read/write fault of control parameters 2.EEPROM is damaged	1.Press STOP/RS to reset 2.Ask for support
Apr	Paremeter setting problem	1.parameters setting wrong	1.checkparameter,set again
A.OL	Motor overload warn	1.load is high or setting wrong	1.check the load,setting the current parameter
A.OT	Overtorque warn	1.parameters setting wrong	1.setting the torque parameter again
A.OA	Inverter overload warn	1.load is big 2.V/F curve is not suitable	1.check the load 2.select the right curve
Er	external interference	1. Check the around equipment	1. Isolation interference
ES	Emergency shutdown	At the Emergency shutdown condition	
20	4-20mA open circuit	1.check the analog signal cable	1.connect the break cable

Pr	Setting wrong parameter	1.check parameter	1.setting the right parameter
zd	DC brake condition	1.at DC brake condition	

1as accelerate，2 as stop，3 as constant，4 as decelerate

8. 2 REMOVE THE MOTOR ERROR

1 、 If there is errors occours with the motor,check and take relative solving measure

2、Please contact us if the following measures does not work.

Figure 8-2 motor error and solving measures

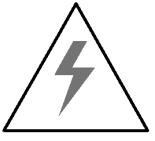
Error	Checking content	Solving
Motor does not run	Voltage is on terminal R，S，T or not.	1、Switch power on 2、Cut off power and switch on again 3、Check voltage 4 、 Be sure terminal screw is tightened
	Use rectifier voltage meter to test voltage of output terminal U，V，W	Cut off power and switch on again
	Whether motor is locked because of overload	Reduce load capacity and remove lock

	Are there error displays on the operation display screen	Check error sheet
	Is the right/opposite running order inputed or not	Check connecting wire
	Is the Fre.given voltage inputed or not	1、Correct connection wire 2、Check Fre.given voltage
	Is the running way set correct or not	Input correct setting
Motor runs in opposite direction	Whether connecting wire of terminal U，V，W is right or not	Connect to the relative motor phase wireU，V，W
	Is the running signal of FWDand REV inputed	Correct connection wire。
Motor runs but can not change speed	Whether connecting wire of Fre.given circuit is correct or not	Correct connection wire
	Whether running mode setting is correct	Use selecting of running check mode
	Whether load capacity is too much	Reduce load capacity
Motor running speed	Motor rated value(voltage)right or wrong	Check data on the motor data plate
	Gear ratio/right or wrong	Check gearbox(gear,etc)

(revolution/Min.) Too higher or lower	Gear ratio/right or wrong	Check max.Fre.output value
	Use rectifier voltage meter to test voltage decrease between motor terminal	Check V / F propertity
Motor running in unstable status(revolution/min.)	Overload or not	Decrease load capacity
	Load capacity shift too much	Decrease change of load capacity increase inverter motor capacity
	Single or three phase power any phase lost in 3 phase power	1、Check any phase lost in 3 phase power 2、Connect AC reactor to power for single phase power

9、MAINTENANCE

9.1 WAY TO CHECK AND MAINTAIN

Basis way to check and maintain		
	1	Don’t touch the high-voltage terminal to avoid electric shock.
	2	Put on all the cover before transmitting power, be sure circuit power is off when take off the cover .Otherwise may cause electric shock.
	3	Check and maintain after main circuit power is OFF for 10 minute and the voltage in main circuit is lower than 36V.There is electric on the capacitor and is dangerous.
	4	●Only qualified person can maintain, check and change parts. ●Remove all metal material such as wrist watch and ring before operation use insulating tools. Otherwise may cause electric shock.

	1	Use CMOS IC to be control PC board，don't touch CMOS component， CMOS component can be destroyed by static electricity easily.
	2	Don't connect or disconnect the wire and connector when power is on. Otherwise may cause electric shock.

9.2 REGULAR CHECKING ITEMS

To avoid JR7000 errors and ensure long time high quality running, please check the following items regularly. Check after 10 minutes when cut off main circuit power and be sure main circuit voltage is lower than 36V：

1、Be sure power voltage is same as inverter(be sure there is no broken on wire and motor).

2、Is connecting terminal and connector loose(no break on wire and terminal wire)

3、No dust and iron ends and corrosive liquid or oil inside inverter.

4、Not allowed to test inverter insulating impedance.

5、Check inverter output voltage, current and frequency(too much difference is not allowed).

6、Surrounding temperature to be within-5℃~40℃,be well ventilated

7、No abnormal sound and vibration (inverter can not be installed in vibrating environment).

8、Keep heat radiator and air vent clean, check exhaust fan regularly.

9.3 REPLACEMENT OF WEARING PARTS

Fans and electrolytic capacitors are wearing part; please make periodic replacement to ensure long term safety and failure-free operation. The replacement periods are as follows:

◆Fans: Must be replaced when using up to 20,000 hours.

◆Electrolytic capacitors: Must be replacement when using up to 30,000-40,000 hours.

9.4 PRODUCT MAINTAIN

There is an 18 months Warranty Period for your JR7000series inverter started from the date of purchase.

10、LIST OF FUNCTION PARAMETERS

Code	Name	Description	Setting range	Factory setting
Pr000	Main Frequency	0.00～400.00Hz	0.00～400.00Hz	0.00Hz
Pr001	Max. Voltage	0.1～*	0.1～*	220/380V
Pr002	Base Frequency	0.01～400.00Hz	0.01～400.00Hz	50.00Hz
Pr003	Intermediate Voltage	0.1～*	0.1～*	*
Pr003	Intermediate Voltage	0.1～*	0.1～*	0.1V
Pr004	Intermediate frequency	0.01～400.00Hz	0.01～400.00Hz	2.50Hz
Pr005	Min. Voltage	00～10	0.1V*	*
Pr006	Min. Frequency	0.01～20.00Hz	0.01～20.00Hz	0.50Hz
Pr007	Max Operating Frequency	10.00～400.00Hz	10.00～400.00Hz	50.00Hz
Pr008	Reserved			
Pr009	Frequency Lower Limit	0.00～400.00Hz	0.00～400.00Hz	0.00Hz
Pr010	Parameter Lock	0: invalid 1: effectively	0～1	0

Code	Name	Description	Setting range	Factory setting
Pr011	Parameter reset	8：Recovery factory	0～10	00
Pr012	Accel. Time 1	0. 1～6500. 0s	0. 1～6500. 0s	*
Pr013	Decel. Time 1	0. 1～6500. 0s	0. 1～6500. 0s	*
Pr014	Accel. Time 2	0. 1～6500. 0s	0. 1～6500. 0s	*
Pr015	Decel. Time 2	0. 1～6500. 0s	0. 1～6500. 0s	*
Pr016	Accel. Time 3	0. 1～6500. 0s	0. 1～6500. 0s	*
Pr017	Decel. Time 3	0. 1～6500. 0s	0. 1～6500. 0s	*
Pr018	Accel. Time 4	0. 1～6500. 0s	0. 1～6500. 0s	*
Pr019	Decel. Time 4	0. 1～6500. 0s	0. 1～6500. 0s	*
Pr020 ～Pr30	reserve			
Pr031	Starting Mode	0: start frequency start 1: speed tracking starter	0～1	0

Code	Name	Description	Setting range	Factory setting
Pr032	Stopping Mode	0: slow to stop 1: free parking	0～1	0
Pr033	Source of Run Commands	0:keyboard instruction channel 1: terminal command channels 2:communication command channels	0～2	0
Pr034	Source of Operating Frequency	0:Operator 1:External terminal 2:Communication port	0～2	0
Pr035	Carrier frequency	0～15	0～15	*
Pr036	Jogging Frequency	0.00-400.00Hz	0.00-400.00Hz	5.00Hz
Pr037	Rev. Rotation Select	0: reverse banned 1:reverse effectively	0～1	1

Code	Name	Description	Setting range	Factory setting
Pr038	STOP key select	0: STOP button is invalid 1: STOP button	0～1	1
Pr039	S-Curve Time	0. 0～6500. 0s	0. 0～6500. 0s	0. 0s
Pr040	UP/DOWN	0.01~2.50	0. 01～2. 50	0. 01
Pr041	Starting Frequency	0.10~10.00 Hz	0. 10-10. 00Hz	0. 50Hz
Pr042	Stop frequency	0. 10-10. 00Hz	0. 10-10. 00Hz	0. 50Hz
Pr043	Automatic torque compensation	0. 0～10. 0%	0. 0～10. 0%	2. 0%
Pr044	Skip Frequency 1	0. 00～400. 00Hz	0. 00～400. 00Hz	0. 00Hz
Pr045	Skip Frequency 2	0. 00～400. 00Hz	0. 00～400. 00Hz	0. 00Hz
Pr046	Skip Frequency 3	0. 00～400. 00Hz	0. 00～400. 00Hz	0. 00Hz
Pr047	Skip Frequency Range	0. 10～10. 00Hz	0. 10～10. 00Hz	0. 50Hz
Pr048	Timer 1 time	0. 1～10. 0s	0. 1～10. 0s	0. 1s
Pr049	Timer 2 time	1～100s	1～100s	1s

Code	Name	Description	Setting range	Factory setting
Pr050	multifunctional input terminals 1(S1)	0: invalid 1: operation 2: turn 3: reversal 4: stop 5: positive/reverse 6: inches 7: "move forward 8: "dynamic inversion 9: tight stop 10: reset 11: reserve 12: radiator or motor overheating 13: a timer 14: timer	00～32	01
Pr051	multifunctional input terminals 2(S2)			06
Pr052	multifunctional input terminals 3(S3)			10
Pr053	multifunctional input terminals 4(S4)			20
Pr054	multifunctional input terminals 5(S5)			21

Pr055	multifunctional input terminals 6(S6)	15: reserve 16: reserve 17: high speed 18: medium 19: low For more than 20: a speed 21:2 for more quickly 22:3 for speed 23: choose a deceleration 24: choose two deceleration 25: up function 26: down to function 27: counter 28: counters reset 29: drafting 32: PID open		22

Code	Name	Description	Setting range	Factory setting
Pr056	Transistor output Y1	0: invalid 1: operation 2: the malfunction indication 3:0 4:dc braking instructions 5: setting frequency arrived 6:arrive a consistent frequency 7:2 reach consensus frequency 8: to accelerate 9: slow 10: inverter overload alarm	0～32	01
Pr057	Transistor output Y2			05
Pr058	Relay output 1 MC MA MB			02

		11: motor overloaded alarm 12: torque alarm 13: under power alarm 14: stage 15: process is complete 16: set counters 17:intermediate counter 18: external timers arrived 19: external timers two arrived 20 ： 4 ～ 20mA disconnected 25: auxiliary pump 26: auxiliary pump 27: drafting arrived 28: PID floor alarm 29: PID limit alarm		

Code	Name	Description	Setting range	Factory setting
Pr059	Relay output 2 MC1 MA1 MB1	30: fan 31: electromagnetic relay action 32: braking resistance movement	0～32	00
Pr060	Multi-functional output AO	0: output frequency 1: output current dc 2: bus voltage output 3: ac voltage 4: pulse output 5: pulse output 6: pulse output 7: pulse output	0～7	0
Pr061	Uniform Frequency 1	0.00～400.00Hz	0.00～400.00Hz	0.00Hz
Pr062	Uniform Frequency 2	0.00～400.00Hz	0.00～400.00Hz	0.00Hz

Code	Name	Description	Setting range	Factory setting
Pr063	Uniform Frequency range	0.10～10.00Hz	0.10～10.00Hz	0.50Hz
Pr064	Counting value set	0～65500	0～65500	0
Pr065	Analog input	0～7	0～7	0
Pr066	Lower Analog Frequency	0.00～400.00Hz	0.00～400.00Hz	0.00Hz
Pr067	Bias Direction at Lower Frequency	0: positively 1: negative direction	0～1	0
Pr068	Higher Analog Frequency	0.00～400.00Hz	0.00～400.00Hz	50.00Hz
Pr069	Bias Direction at Higher Frequency	0: positively direction 1: negative direction	0～1	0
Pr070	Analog negative bias reversal	0: Not allowable. 1: Allowable.	0～1	0
Pr071	AM analogy output gain	0～100%	0～100%	100%

Code	Name	Description	Setting range	Factory setting
Pr072	UP/DOWN function	0: Not memorized 1: Memorized	0～1	0
Pr073	Speed UP/DOWN	0：0.1Hz　1：0.01Hz	0～1	0
Pr074	Analog filtering constants	0～50	0～50	20
Pr075	Intermediate counter	0～65500	0～65500	0
Pr076	PLC operation	0: normal operation 1: external four speed 2: external control for more quickly 3: (move) disturbance, 4: control for more quickly 5: drafting	0～5	0

Code	Name	Description	Setting range	Factory setting
Pr077	AUTO PLC	0: program running after a week to stop 1: circulating operation 2: automatic operation (stop) a week after the interval stop 3: automatic operation (stop intervals) cycles	0～3	0
Pr078	PLC operation direction	0～255	0～255	0
Pr079	PLC deceleration time	0～65535s	0～65535s	0s
Pr080	Frequency setting 2	0.00～400.00Hz	0.00～400.00Hz	15.00Hz
Pr081	Frequency setting 3	0.00～400.00Hz	0.00～400.00Hz	20.00Hz

Code	Name	Description	Setting range	Factory setting
Pr082	Frequency setting 4	0.00～400.00Hz	0.00～400.00Hz	25.00Hz
Pr083	Frequency setting 5	0.00～400.00Hz	0.00～400.00Hz	30.00Hz
Pr084	Frequency setting 6	0.00～400.00Hz	0.00～400.00Hz	35.00Hz
Pr085	Frequency setting 7	0.00～400.00Hz	0.00～400.00Hz	40.00Hz
Pr086	Frequency setting 8	0.00～400.00Hz	0.00～400.00Hz	0.50Hz
Pr087	Timer 1	0.0S～6500.0S	0.0S～6500.0S	10.0S
Pr088	Timer 2	0.0S～6500.0S	0.0S～6500.0S	10.0S
Pr089	Timer 3	0.0S～6500.0S	0.0S～6500.0S	0.0S
Pr090	Timer 4	0.0S～6500.0S	0.0S～6500.0S	0.0S

Code	Name	Description	Setting range	Factory setting
Pr091	Timer 5	0.0S～6500.0S	0.0S～6500.0S	0.0S
Pr092	Timer 6	0.0S～6500.0S	0.0S～6500.0S	0.0S
Pr093	Timer 7	0.0S～6500.0S	0.0S～6500.0S	0.0S
Pr094	Timer 8	0.0S～6500.0S	0.0S～6500.0S	0.0S
Pr095	AUTO PLC memory function	0: no memory 1: memory	0～1	0
Pr096 ～ Pr109	Reserved			
Pr110	Number of Auxiliary Pump	0～2	0～2	0
Pr111	Continuous Operating Time of Aux. Pumps	0～9000(Min)	0～9000(Min)	60(Min)

Code	Name	Description	Setting range	Factory setting
Pr112	Interlocking Time of Aux. Pumps	0.1～250.0S	0.1～250.0S	5.0S
Pr113	High Speed Running Time	1～250S	1～250S	60S
Pr114	Low Speed Running Time	1～250S	1～250S	60S
Pr115	Stopping Voltage Level	1～150%	1～150%	95%
Pr116	Lasting Time of Stopping Voltage Level	1～250S	1～250S	30S
Pr117	Wakeup Level	1～150%	1～150%	80%
Pr118	Sleep frequency	0.00～400.00Hz	0.00～400.00Hz	20.00Hz
Pr119	Lasting Time of Sleep Frequency	1～250S	1～250S	20S

Code	Name	Description	Setting range	Factory setting
Pr120	Over-voltage Stall Prevention	0: Invalid 1: Valid	0～1	1
Pr121	Stall Prevention Level at Accel.	0～200%	0～200%	150%
Pr122	Stall Prevention Level at Constant Speed	0～200%	0～200%	0%
Pr123	Stall Prevention Level at Decel.	0～200%	0～200%	0%
Pr124	Over-torque Detect Mode	0～3	0～3	0
Pr125	Over-torque Detect Level	0～200%	0～200%	0%
Pr126	Over-torque Detect Time	0.1～20.0S	0.1～20.0S	1.0S

Code	Name	Description	Setting range	Factory setting
Pr127	Decel. time for stall prevention at constant speed			5.0S
Pr128	Fault restart time			1.0S
Pr129	Voltage rise time during frequency track			5S
Pr130	Rated Motor Voltage		0.1V	*
Pr131	Rated Motor Current		0.1A	*
Pr132	Motor pole number	02～60	2～60	04
Pr133	Rated Motor Revolution	0～9999(r/min)	0～9999	1440
Pr134	Motor no-load current	0～100	0～100	40

Code	Name	Description	Setting range	Factory setting
Pr135	Motor slip compensation	0～1000	0～1000	0
Pr136-Pr139	reserve			
Pr140	DC Braking level	0.0～20.0%	0.0～20.0%	2.0%
Pr141	DC Braking time at start	0.0～25.0S	0.0～25.0S	0.0S
Pr142	DC Braking time at stop	0.0～25.0S	0.0～25.0S	0.0S
Pr143	Frequency track time	0.1～20.0S	0.1～20.0S	5.0S
Pr144	Current level for frequency track	0～200%	0～200%	150%
Pr145	Stop to start. The transient	0: invalid 1: frequency tracking	0～1	0

Code	Name	Description	Setting range	Factory setting
Pr146	Allow outage time	0. 1～5. 0S	0. 1～5. 0S	0. 5S
Pr147	Abnormal again frequency	00～10	00～10	00
Pr148	Automatic voltage function	0: invalid 1: effectively	0～1	1
Pr149	Automatic save energy function	0. 0～20. 0%	0. 0～20. 0%	0. 0%
Pr150	Proportionality constant（P）	0. 0～1000. 0%	0. 0～1000. 0%	100%
Pr151	Integral time（I）	0. 0～3600. 0S	0. 0～3600. 0S	5. 0S
Pr152	Differential time（D）	0. 00～10. 00S	0. 00～10. 00S	0. 00S
Pr153	target	0～100. 0%	0～100. 0%	*
Pr154	PID target selection	0～1	0～1	0

Code	Name	Description	Setting range	Factory setting
Pr155	PID cap	0～100.0%	0～100.0%	100%
Pr156	PID floor	0～100.0%	0～100.0%	0%
Pr157-Pr159	reserve			
Pr160	Address	0～255	0～255	0
Pr161	Communication baud rate	0:4800BPS 1:9600BPS 2:19200BPS 3:38400BPS	0～3	1

Code	Name	Description	Setting range	Factory setting
Pr162	Data validation Settings	0 no calibration (n. :, 8,1) for ASCII 1: parity checking (E, 8,1) for ASCII 2: check (O, 8,1) for ASCII 3: no calibration (N, 8,1) for RTU 4: parity (E, 8,1) for RTU 5: check (O, 8,1) for RTU	0～5	0
Pr163-Pr166	reserve			
Pr167	Display Items	0～31	0～31	0

Code	Name	Description	Setting range	Factory setting
Pr168	Display Items	0～7	0～7	0
Pr169	Open Voltage Rating of Inverter			model
Pr170	Rated Current of Inverter			model
Pr171	Software version			*
Pr172	Fault record 1			----
Pr173	Fault record 2			----
Pr174	Fault record 3			----
Pr175	Fault record 4			----
Pr176	Fault Clear	01：Faults remove	00～10	00
Pr177	Inverter Model	0: constant torque 1: fan		0

Code	Name	Description	Setting range	Factory setting
Pr178	Inverter frequency standards	0：50Hz 1：60Hz		*
Pr179	Manufacture Date	Year: Month: Week		*
Pr180	Serial No.			*
Pr181-Pr250	Manufacturers parameters			