Mini type VFD of CV20 series

Thank you for using CV20 series Variable Frequency Drive made by Kinco Automation.
CV20 satisfies the high performance requirements by using a unique control method to achieve high torque, high accuracy and wide speed-adjusting range. Its anti-tripping function and capabilities of adapting to severe power network, temperature, humidity and dusty environment exceed those of similar product made by other companies, which improves the product's reliability noticeably;Without PG connector, strong speed control, flexible input/output terminal, pulse frequency setting, saving parameters at power outage and stop, frequency setting channel, master and slave frequency control and so on, all these satisfy various of high accuracy and complex drive command, at the same time we provide the OEM customer high integration total solution, it values highly in system cost saving and improving the system reliability.

CV20 can satisfy the customers' requirements on low noise and EMI by using optimized PWM technology and EMC design.

This manual provides information on installation, wiring, parameters setting, trouble-shooting, and daily maintenance. To ensure the correct installation and operation of CV20, please read this manual carefully before starting the drive and keep it in a proper place and to the right person.

Unpacking Inspection Note

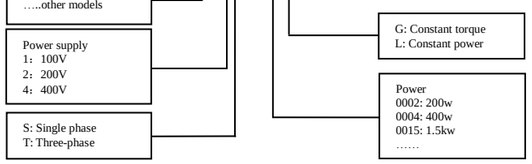
Upon unpacking, please check for:

- Any damage occurred during transportation;
- Check whether the rated values on the nameplate of the drive are in accordance with your order.

Our product is manufactured and packed at factory with great care. If there is any error, please contact us or distributors.The user manual is subject to change without notifying the customers due to the continuous process of product improvements
You can scan the QR code below to get the latest electronic version of the official website.

USER'S MANUAL

VFD model rule



Production introduction:

General specifications

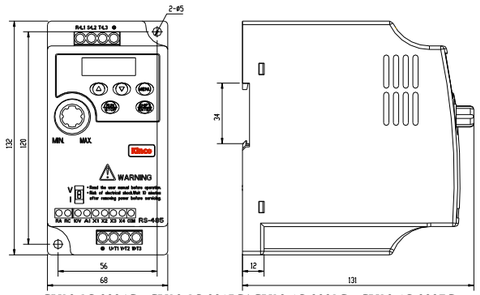
Item		Description
Input	Rated voltage and frequency	4T:3-phase,380V~440V AC; 50Hz/60Hz 2S:Single-phase,200V~240V;50Hz/60Hz 1S:Single-phase, 100~120V; 50/60HZ
	Allowable voltage range	4T: 320V~460V AC;2S:180V~260V; 1S: 90~132V Voltage tolerance＜3%; Frequency: ±5%
Output	Rated voltage	4T:0~440V；2S:0~240V；1S:0~240V
	Frequency	0Hz~300Hz (0~800HZ customizable)
	Overload capacity	G type: 150% rated current for 1 minute, 180% rated current for 10 seconds;
Control Characteristics	Control mode	V/F control
	Modulation mode	Space vector PWM modulation
	Starting torque	1 Hz 150%rated torque
	Frequency accuracy	Digital setting: Max frequency ×±0.01%; Analog setting: Max. frequency ×±0.2%
	Frequency resolution	Digital setting: 0.01Hz; Analog setting: Max frequency×0.1%
	Torque boost	Manual torque boost :0%~30.0%
	V/F pattern	4 patterns: 1 V/F curve mode set by user and 3 kinds of torque-derating modes (2.0 order, 1.7 order, and 1.2 order)
	Acc/Dec curve	Linear acceleration/deceleration, Four kinds of acceleration/deceleration time
	Auto current limit	Limit current during the operation automatically to prevent frequent overcurrent trip
Operation Function	Operation Command	Operation Panel, Terminal, CommunicationControl, Supportswitching between these control channesl.
	Frequency Setting	Digital, Analog Voltage/current setting.
	Auxiliary frequency	Support main and auxiliary setting(“+”,”-”, “min”, “max”)

Item		Description
Operation panel	LED Display	Display setting frequency, output frequency, output voltage, output current and so on, about 20 parameters.
	Keys lock and function selection	Lock part of keys or all the keys. Define the function of part of keys
Protection function		Open phase protection (optional), overcurrent protection, overvoltage protection, under-voltage protection, overheat protection, over-load protection and so on.
Environment	Operating site	Indoor, installed in the environment free from directsunlight, dust, corrosive gas, combustible gas, oil mist, steam and drip.
	Altitude	Derated above 1000m, the rated output current shall be decreased by 10% for every rise of 1000m
	Ambienttemperature	-10℃~40℃, derated at 40℃~ 50℃
	Humidity	5%~95%RH, non-condensing
	Vibration	Less than 5.9m/s2 (0.6g)
	Storage temperature	－40℃~＋70℃
Structure	Protection class	IP20
	Cooling method	Air cooling, with fan control.
Installation method		Wall-mounted
Efficiency		≥90%

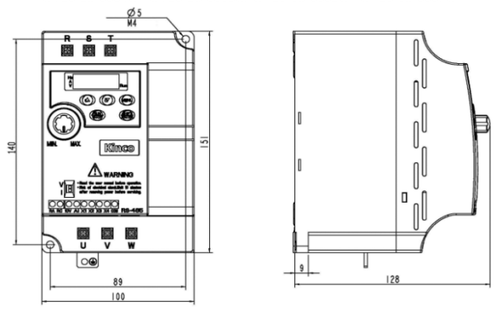
Introduction of CV20 series:

Model of VFD	Rated capacity （kVA）	Rated input current（A）	Rated output current（A）	Motor power （kW）
CV20-1S-0002G	0.6	6.0	1.3	0.2
CV20-1S-0004G	1.0	9.0	2.5	0.4
CV20-1S-0007G	1.5	18.0	4.0	0.75
CV20-2S-0004G	1.0	5.3	2.5	0.4
CV20-2S-0007G	1.5	8.2	4.0	0.75
CV20-2S-0015G	3.0	14.0	7.5	1.5
CV20-4T-0007G	1.5	3.4	2.3	0.75
CV20-4T-0015G	3.0	5.0	3.7	1.5
CV20-4T-0022G	4.0	5.8	5.5	2.2

External dimension:



CV20-2S-0004G~ CV20-2S-0015G/ CV20-1S-0002G~ CV20-1S-0007G



CV20-4T-0007G~CV20-4T-0022G

Mechanical parameters

VFD model （G: Constant torque load; L: Draught fan and water pump load）	External dimension and (mm)								Weight (kg)
	W	H	D	W1	H1	D1	T1	Installa-tion hole(d)	
CV20-1S-0002G	68	132	131	56	120	-	12	5	0.8
CV20-1S-0004G									
CV20-1S-0007G									
CV20-2S-0004G									
CV20-2S-0007G									
CV20-2S-0015G									
CV20-4T-0007G	100	151	128	89	140	-	9	5	1.0
CV20-4T-0015G									
CV20-4T-0022G									

Operation Button Description

Button	Description
△	Increase the value or function
▽	Decrease the value or function
MENU	Enter or Exit the programming status
RUN/STOP	In panel operation mode, run the VFD by the first pressing; stop VFD by the second pressing. In VFD error status, reset the error by pressing
SHIFT/ENTER	Short pressing to shift data or function code. Hold pressing(more than 1s) to enter function code or save the changed value

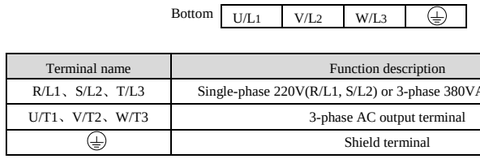
Wiring:

Danger

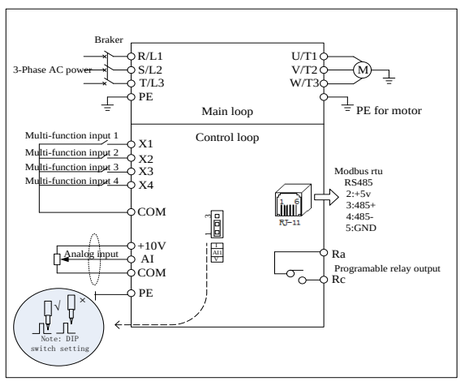
-Wiring can only be done after the drive's AC power is disconnected, all the LEDs on the operation panel are off and waiting for at least 5 minutes. Then, you can remove the panel.
-Wiring job can only be done after confirming the charge indicator on the right bottom is off and the voltage between main circuit power terminals + and - is below DC36V.
-Wire connections can only be done by trained and authorized person
-Check the wiring carefully before connecting emergency stop or safety circuits.
-Check the drive's voltage level before supplying power to it, otherwise human injuries or equipment damage may happen.

Attention

-Check whether the Variable Speed Drive's rated input voltage is in compliant with the AC supply voltage before using.
-Dielectric strength test of the drive has been done in factory, so you do not need to do it again.
-Refer to chapter 2 on connected braking resistor or braking kit.
-It is prohibited to connect the AC supply cables to the drive's terminals U, V and W.
-Grounding cables should be copper cables with section area bigger than 3.5mm2, and the grounding resistance should be less than 10Ω.
-There is leakage current inside the drive. The total leakage current is greater than 3.5mA, depending on the usage conditions. To ensure safety, both the drive and the motor should be grounded, and a leakage current protector (RCD) should be installed. It is recommended to choose B type RCD and set the leakage current at 300mA.
-The drive should be connected to the AC supply via a circuit breaker or fuse to provide convenience to input over-current protection and maintenance.



Terminal name	Function description
R/L1、S/L2、T/L3	Single-phase 220V(R/L1, S/L2) or 3-phase 380VAC input terminal
U/T1、V/T2、W/T3	3-phase AC output terminal
⏚	Shield terminal



Arrangement of control circuit terminals is as follows:

RA	RC	+10V	A1	X1	X2	X3	X4	COM

RS-485

It lists the possible faults of CV20. The fault code varies from E001 to E027. Once a fault occurs, you may check it against the table and record the detailed phenomena before seeking service from your supplier.

Faults and actions

Fault code	Fault categories	Possible reasons for fault	Actions
E001	Over-current during acceleration	Acc time is too short	Prolong the Acc time
		Parameters of motor are wrong	Auto-tune the parameters of motor
		Coded disc breaks down, when PG is running	Check the coded disc and the connection
		Drive power is too small	Select a higher power drive
		V/F curve is not suitable	Check and adjust V/F curve, adjust torque boost
E002	Over-current during deceleration	Deceleration time is too short	Prolong the Dec time
		The load generates energy or the load inertial is too big	Connect suitable braking kit
		Coded disc breaks down, when PG is running	Check the coded disc and the connection
		Drive power is too small	Select a higher power drive
E003	Over-current In constant speed operation	Acceleration /Deceleration time is too short	Prolong Acceleration/ Deceleration time
		Sudden change of load or Abnormal load	Check the load
		Low AC supply voltage	Check the AC supply voltage
		Coded disc breaks down, when PG is running	Check the coded disc and the connection
		Drive power is too small	Select a higher power drive
E004	Over voltage during acceleration	Abnormal AC supply voltage	Check the power supply
		Too short acceleration time	Prolong acceleration time
E005	Over voltage during deceleration	Too short Deceleration time (with reference to generated energy)	Prolong the deceleration time
		The load generates energy or the load inertial is too big	Connect suitable braking kit
E006	Over voltage in constant-speed operating process	Acceleration /Deceleration time is too short	Prolong Acceleration/ Deceleration time
		Abnormal AC supply voltage	Check the power supply
		Abnormal change of input voltage	Install input reactor
		Too big load inertia	Connect suitable braking kit
E007	Drive’s control power supply over voltage	Abnormal AC supply voltage	Check the AC supply voltage or seek service
E008	Input phase loss	Any of phase R, S and T cannot be detected	Check the wiring and installation Check the AC supply voltage
E009	Output phase loss	Any of Phase U, V and W cannot be detected	Check the drive’s output wiring Check the cable and the motor
E010	Protections of IGBT act	Short-circuit among 3-phase output or line-to-ground short circuit	Rewiring, please make sure the insulation of motor is good
		Instantaneous over-current	Refer to E001~E003
		Vent is obstructed or fan does not work	Clean the vent or replace the fan
		Over-temperature	Lower the ambient temperature
		Wires or connectors of control board are loose	Check and rewiring
		Current waveform distorted due to output phase loss	Check the wiring
		Auxiliary power supply is damaged or IGBT driving voltage is too low	Seek service
		Short-circuit of IGBT bridge	Seek service
		Control board is abnormal	Seek service
E011	IGBT module’s heatsink overheat	Ambient over-temperature	Lower the ambient temperature
		Vent is obstructed	Clean the vent
		Fan does not work	Replace the fan
		IGBT module is abnormal	Seek service
E012	Rectifier’s heatsink overheat	Ambient over-temperature	Lower the ambient temperature
		Vent is obstructed	Clean the vent
		Fan does not work	Replace the fan
E013	Drive overload	Parameters of motor are wrong	Auto-tune the parameters of motor
		Too heavy load	Select the drive with bigger power
		DC injection braking current is too big	Reduce the DC injection braking current and prolong the braking time
		Too short acceleration time	Prolong acceleration time
		Low AC supply voltage	Check the AC supply voltage
		Improper V/F curve	Adjust V/F curve or torque boost value
E014	Motor over-load	Improper motor’s overload protection threshold	Modify the motor’s overload protection threshold.
		Motor is locked or load suddenly become too big	Check the load
		Common motor has operated with heavy load at low speed for a long time.	Use a special motor if the motor is required to operate for a long time.
		Low AC supply voltage	Check the AC supply voltage
		Improper V/F curve	Set V/F curve and torque boost value correctly

Fault code	Fault categories	Possible reasons for fault	Actions
E015	external equipment fails	Terminal used for stopping the drive in emergent status is closed	Disconnect the terminal if the external fault is cleared
E016	EEPROM R/W fault	R/W fault of control parameters	Press STOP/RST to reset, seek service
E017	Communication timeout	The setting time is too shot	Set b3.02 to 0, it means do not detection
E018	Contactor not closed	Low AC supply voltage	Check the AC supply voltage
		Contactor damaged	Replace the contactor in main circuit and seek service
		Soft start resistor is damaged	Replace the soft start resistor and seek service
		Control circuit is damaged	Seek service
		Input phase loss	Check the wiring of R, S, T.
E019	Current detection circuit fails	Wires or connectors of control board are loose	Check and re-wire
		Auxiliary power supply is damaged	Seek service
		Hall sensor is damaged	Seek service
		Amplifying circuit is abnormal	Seek service
E020	System interference	Terrible interference	Press STOP/RSTkey to reset or add、a power filter in front of power supply input
		DSP in control board read / write by mistake	Press STOP/RST key or seek service.
E023	Parameter copy error	Panel's parameters are not complete or the version of the parameters are not the same as that of the main control board	Update the panel's parameters and version again. First set b4.04 to 1 to upload the parameters and then set b4.04 to 2 or 3 to download the parameters.
		Panel's EEPROM is damaged	Seek service
E024	Auto-tuning fault	Improper settings of parameters on the nameplate	Set the parameters correctly according to the nameplate
		Prohibiting contra Auto-turning during rollback	Cancel prohibiting rollback
		Overtime of auto-tuning	Check the motor's wiring
			Check the set value of A0.10(upper limiting frequency), make sure if it is lower than the rated frequency or not
E026	The load of drive is lost	The load is lost or reduced	Check the situation of the load
E027	Brake unit fault	Brake tube is broken	Seek service

List of Parameters:

Function code	Name	Descriptions	Unit	Factory setting	Modif	Setting range
Group A0：Basic operating parameters						
A0.00	User password	0: No password protection. Others: Password protection.	1	0	○	0~FFFF
A0.01	Control mode	0~1: reserved 2: V/F control	1	0	×	0~2
A0.02	Main reference frequency selector	0: Digital setting in A0.03 1: AI 2: Reserved 3:Potentiometer	1	3	○	0~5
A0.03	Set the operating frequency in digital mode	A0.11~A0.10	0.01Hz	50.00	○	0~3000
A0.04	Methods of input ting operating commands	0: Panel control 1: Terminal control 2: Communication control	1	0	○	0~2
A0.05	Set running direction	0: Forward 1: Reverse	1	0	○	0~1
A0.06	Acc time 1	0.0~6000.0	0.1s	6.0s	○	0~60000
A0.07	Dec time 1	0.0~6000.0	0.1s	6.0s	○	0~60000
A0.08	Max. output frequency	50Hz~ 300.00Hz	0.01Hz	50.00	×	0~30000
A0.09	Max. output voltage	0~480	1V	VFD's rated values	×	0~480
A0.10	Upper limit of frequency	A0.11~A0.08	0.01Hz	50.00	○	0~30000
A0.11	Lower limit of frequency	0.00~A0.10	0.01Hz	0.00	○	0~30000
A0.12	Basic operating frequency	0.00~300.00Hz	0.01Hz	50.00	○	0~30000
A0.13	Torque boost	0.0%(Auto),0.1%~30.0%	0.1%	0.0%	○	0~300
Group A1: Start and stop parameters						
A1.00	Starting mode	0: Start from the starting frequency 1: Brake first and then start 2: Reserved	1	0	×	0~2
A1.01	Starting frequency	0.00~60.00Hz	0.01Hz	0.00Hz	○	0~6000
A1.02	Holding time of starting frequency	0.00~10.00s	0.01s	0.00s	○	0~1000

Function code	Name	Descriptions	Unit	Factory setting	Modif	Setting range
A1.03	DC injection braking current at start	0.0%~100.0% drive's rated current	0.1%	0.0%	○	0~1000
A1.04	DC injection braking time at start	0.00（No action） 0.01~30.00s	0.01s	0.00s	○	0~3000
A1.05	Stopping mode	0: Dec-to-stop 1: Coast-to-stop 2: Dec-to-stop+DC injection braking	1	0	×	0~2
A1.06	DC injection braking initial frequency at stop	0.00~60.00Hz	0.01Hz	0.00Hz	○	0~6000
A1.07	Injection braking waiting time at stop	0.00~10.00s	0.01s	0.00s	○	0~1000
A1.08	DC injection braking current at stop	0.0%~100.0% drive's rated current	0.1%	0.0%	○	0~1000
A1.09	DC injection braking time at stop	0.0（No action） 0.01~30.00s	0.01s	0.00s	○	0~3000
A1.10	Restart after power failure	0:Disable 1:Enable	1	0	×	0~1
A1.11	Delay time for restart after power failure	0.0~10.0s	0.1s	0.0s	○	0~100
A1.12	Anti-reverse running function	0: Disabled 1: Enabled(It will operate at zero frequency when input a reverse command)	1	0	×	0~1
A1.13	Delay time of run reverse/forward	0.00~360.00s	0.01s	0.00s	○	0~36000
A1.14	Switch mode of run reverse/ forward (Reserved)	0: Switch when pass 0Hz 1: Switch when pass starting frequency	1	0	×	0~1
A1.15	Detecting frequency of stop	0.00~150.00Hz	0.01Hz	0.10Hz	×	0~15000
A1.16	Reserved					
Group A2：Frequency setting						
A2.00	Auxiliary reference frequency selector	0: No auxiliary reference frequency 1: AI 5: Output by PID process	1	0	○	0~5
A2.01	Main and auxiliary reference frequency calculation	0: + 1: - 2: MAX(Main reference, Auxiliary reference) 3: MIN(Main reference, Auxiliary reference)	1	0	○	0~3
A2.02	UP/DN rate	0.01~99.99Hz/s	0.01	1.00	○	1~9999
A2.03	UP/DN regulating control	Unit's place of LED: 0:Save reference frequency upon power outage 1:Not save reference frequency upon power outage. Ten's place of LED: 0:Hold reference frequency at stop 1:Clear reference frequency at stop Hundred's place of LED: 0:UP/DN integral time valid 1:UP/DN speed value	1	00	○	0~11H
A2.04	Jog operating frequency	0.10~50.00Hz	0.01Hz	5.00	○	10~5000
A2.05	Interval of Jog operation	0.0~100.0s	0.1s	0.0	○	0~1000
A2.06	Skip frequency 1	0.00~300.00Hz	0.01Hz	0.00	×	0~30000
A2.07	Range of skip frequency 1	0.00~30.00Hz	0.01Hz	0.00	×	0~3000
A2.08	Skip frequency 2	0.00~300.00Hz	0.01Hz	0.00	×	0~30000
A2.09	Range of skip frequency	0.00~30.00Hz	0.01Hz	0.00	×	0~3000
A2.10	Skip frequency 3	0.00~300.00Hz	0.01Hz	0.00	×	0~30000
A2.11	Range of skip frequency 3	0.00~30.00Hz	0.01Hz	0.00	×	0~3000
Group A3:Setting curve						
A3.00	Reference frequency curve selection	LED unit's place: AI curve selection 0: Curve 1 1: Curve 2 2: Curve 3 3: Curve 4	1	3330	○	0~3333H
A3.01	Max reference of curve 1	A3.03~110.00%	0.01%	100.00%	○	0~11000
A3.02	Actual value Corresponding to the Max reference of curve1	Reference frequency: 0.0~100.00%Fmax Torque: 0.0~300.00%Te	0.01%	100.00%	○	0~10000
A3.03	Min reference of curve 1	0.0%~A3.01	0.01%	0.00%	○	0~11000

Function code	Name	Descriptions	Unit	Factory setting	Modif	Setting range
A3.04	Actual value Corresponding to the Min reference of curve 1	The same as A3.02	0.01%	0.00%	○	0~10000
A3.05	Max reference of curve 2	A3.07~110.00%	0.01%	100.00%	○	0~11000
A3.06	Actual value corresponding to the Max reference of curve 2	The same as A3.02	0.01%	100.00%	○	0~10000
A3.07	Min reference of curve 2	0.0%~A3.05	0.01%	0.00%	○	0~11000
A3.08	Actual value Corresponding to the Min reference of curve 2	The same as A3.02	0.01%	0.00%	○	0~10000
A3.09	Max reference of curve 3	A3.11~110.00%	0.01%	100.00%	○	0~11000
A3.10	Actual value Corresponding to the Max reference of curve 3	The same as A3.02	0.01%	100.00%	○	0~10000
A3.11	Min reference of curve 3	0.0%~A3.09	0.01%	0.00%	○	0~11000
A3.12	Actual value corresponding to the Min reference of curve 3	The same as A3.02	0.01%	0.00%	○	0~10000
A3.13	Max reference of curve 4	A3.15~110.00%	0.01%	100.00%	○	0~11000
A3.14	Actual value corresponding to the Max reference of curve 4	The same as A3.02	0.01%	100.00%	○	0~10000
A3.15	Reference of inflection point 2 of curve 4	A3.17~A3.13	0.01%	100.00%	○	0~11000
A3.16	Actual value corresponding to the Min reference of inflection point 2 of curve 4	The same as A3.02	0.01%	100.00%	○	0~10000
A3.17	Reference of inflection point 1 of curve 4	A3.19~A3.15	0.01%	0.00%	○	0~11000
A3.18	Actual value corresponding to the Min reference of inflection point 1 of curve 4	The same as A3.02	0.01%	0.00%	○	0~10000
A3.19	Min reference of curve 4	0.0%~A3.17	0.01%	0.00%	○	0~11000
A3.20	Actual value corresponding to the Min reference of curve 4	The same as A3.02	0.01%	0.00%	○	0~10000
Group A4：Acc/Dec parameters						
A4.00	Acc/Dec mode	0: Linear Acc/Dec 1: S Curve	1	0	×	0~1
A4.01	Acc time 2	0.0~6000.0	0.1s	20.0s	○	0~60000
A4.02	Dec time 2	0.0~6000.0	0.1s	20.0s	○	0~60000
A4.03	Acc time 3	0.0~6000.0	0.1s	20.0s	○	0~60000
A4.04	Dec time 3	0.0~6000.0	0.1s	20.0s	○	0~60000
A4.05	Acc time 4	0.0~6000.0	0.1s	20.0s	○	0~60000
A4.06	Dec time 4	0.0~6000.0	0.1s	20.0s	○	0~60000
A4.07	S curve acceleration starting time	10.0%~50.0%(Acc time) A4.07+ A4.08≤90%	0.1%	20.0%	○	100~500
A4.08	S curve acceleration ending time	10.0%~70.0%(Acc time) A4.07+ A4.08≤90%	0.1%	20.0%	○	100~800
A4.09	S curve deceleration starting time	10.0%~50.0%(Dec time) A4.09+ A4.10≤90%	0.1%	20.0%	○	100~500
A4.10	S curve deceleration ending time	10.0%~70.0%(Dec time) A4.09+ A4.10≤90%	0.1%	20.0%	○	100~800
A4.11	Quick start-stop selector	0: Disable 1: Quick start, normal stop 2: Normal start, quick stop 3: Quick start, quick stop	1	2	×	0~3
A4.12	Start ACR-P	0.1~200.0	0.1	20.0	○	1~2000
A4.13	Start ACR-I	0.000~10.000s	0.001s	0.200s	○	0~10000
A4.14	Start AVR-P	0.1~200.0	0.1	20.0	○	1~2000
A4.15	Start AVR-I	0.000~10.000s	0.001s	0.200s	○	0~10000
A4.16	Stop ACR-P	0.1~200.0	0.1	20.0	○	1~2000
A4.17	Stop ACR-I	0.000~10.000s	0.001s	0.200s	○	0~10000
A4.18	Stop AVR-P	0.1~200.0	0.1	20.0	○	1~2000
A4.19	Stop AVR-I	0.000~10.000s	0.001s	0.200s	○	0~10000
A4.20	Over commutation Stop	0: disable 1:enable	1	0	×	0~1
A4.21	ACC/DEC time coefficient	0:ACC/DEC time ×1 1: ACC/DEC time ×0.1	1	0	×	0~1

Function code	Name	Descriptions	Unit	Factory setting	Modif	Setting range
A4.22	ACC/DEC time 1/2 switch freq.	0.00~300.00Hz Select ACC/DEC time 2 when output freq. is less than A4.22	0.01Hz	0.00Hz	×	0~30000
A4.23~ A4.40	Reserved	Reserved	1	0	○	0~65535
Group A5：reserved						
Group A6：Control terminals parameters						
A6.00~ A6.03	Multi-function terminal X1~X4	0: No function1:Forward 2: Reverse 3: Forward jog operation 4: Reverse jog operation 5: 3-wire operation control 6: External RESET signal input 7: External fault signal input 8: External interrupt signal input 9: Drive operation prohibit 10: External stop command 11: DC injection braking command 12: Coast to stop 13: Frequency ramp up (UP) 14: Frequency ramp down (DN) 15: Switch to panel control 16: Switch to terminal control 17: Switch to communication control mode 18: Main reference frequency via AI 27: Preset frequency 1 28: Preset frequency 2 29: Preset frequency 3 30: Preset frequency 4 31: Acc/Dec time 1 32: Acc/Dec time 2 33: Multiple close-loop reference selection 1 34: Multiple close-loop reference selection 2 35: Multiple close-loop reference selection 3 36: Multiple close-loop reference selection 4 37: Forward prohibit 38: Reverse prohibit 39: Acc/Dec prohibit 40: Process close-loop prohibit 42: Main frequency switch to digital setting 43: PLC pause 44: PLC prohibit 45: PLC stop memory clear 46: Swing input 47: Swing reset 48~49:Reserved 50: Timer 1 start 51: Timer 2 start 53: Counter input 54: Counter clear Others: Reserved	1	0	×	0~54
A6.04 A6.05	reserved					
A6.08	Terminal filter	0~500ms	1	10	○	0~500
A6.09	Terminal control mode selection	0:2-wire operating mode 1 1:2-wire operating mode 2 2:3-wire operating mode 1 3:3-wire operation mode 2 4:2-wire operation mode 3	1	0	×	0~3
A6.10 A6.11 A6.12	reserved					
A6.13	Input terminal's positive and negative logic	Binary setting 0: Positive logic: Terminal Xi is enabled if it is connected to corresponding common terminal, and disabled if it is disconnected. 1: Negative logic: Terminal Xi is disabled if it is connected to corresponding common terminal, and enabled if it is disconnected. Unit's place of LED: BIT0~BIT3: X1~X4	1	00	○	0~FFH

Function code	Name	Descriptions	Unit	Factory setting	Modif	Setting range
A6.14 A6.15	reserved		1	0	×	0~50
A6.16	Output functions of relay R1	0: Running signal(RUN) 1: frequency arriving signal(FAR) 2: frequency detection threshold (FDT1) 3: frequency detection threshold (FDT2) 4: overload signal(OL) 5: low voltage signal (LU) 6: external fault signal (EXT) 7: frequency high limit (FHL) 8: frequency low limit (FLL) 9: zero-speed running 10~11: Reserved 12: PLC running step complete signal 13: PLC running cycle complete signal 14: Swing limit 15: Drive ready (RDY) 16: Drive fault 17: Switching signal of host 19: Torque limiting 20: Drive running forward/reverse 21: Timer 1 reach 22: Timer 2 reach 23: Preset counter reach 24: Intermediate counter reach Others: Reserved	1	15	×	0~50
A6.18	Output terminal's positive and negative logic	Binary setting: 0: Terminal is enabled if it is connected to correspond common terminal, and disabled if it is disconnected. 1: Terminal is disabled if it is connected to corresponding common terminal, and enable if it is disconnected. Unit's place of LED: BIT2：R1 Ten's place of LED: Reserved	1	0	○	0~1FH
A6.19	Frequency arriving signal (FAR)	0.00~300.00Hz	0.01Hz	2.50Hz	○	0~30000
A6.20	FDT1 level	0.00~300.00Hz	0.01Hz	50.00Hz	○	0~30000
A6.21	FDT1 lag	0.00~300.00Hz	0.01Hz	1.00Hz	○	0~30000
A6.22	FDT2 level	0.00~300.00Hz	0.01Hz	25.00Hz	○	0~30000
A6.23	FDT2 lag	0.00~300.00Hz	0.01Hz	1.00Hz	○	0~30000
A6.24	Virtual terminal setting	Binary setting 0: Disable; 1: Enable Unit's place of LED: BIT0~BIT3: X1~X4 Ten's place of LED: Reserved	1	00	○	0~FFH
A6.28~ A6.43	reserved					
A6.44	Setting value of timer 1	0.0~10.0s	0.1s	0.0	○	1~100
A6.45	Setting value of timer 2	0~100s	1s	0	○	1~100
A6.46	Target value of counter	0~65535	1	100	○	0~65535
A6.47	Intermediate value of counter	0~65535	1	50	○	0~65535
A6.48~ A6.49	Reserved	Reserved	1	50	○	0~65535
A6.50	Multi-speed terminal switching time	0~500	1	300	○	0~65535
A6.51~ A6.60	Reserved	-	1	0	○	0~65535
Group A8：Fault parameters						
A8.00	Protective action of relay	Unit's place of LED: Action selection for under-voltage fault indication. 0:Disable; 1: Enable Ten's place of LED: Action selection for auto reset interval fault indication. 0:Disable 1: Enable	1	0000	×	0~1111H

Function code	Name	Descriptions	Unit	Factory setting	Modif	Setting range
		Hundred's place of LED: Selection for fault locked function. 0:Disable; 1: Enable Thousand's place of LED: Reserved				
A8.01	Fault masking selection 1	Unit's place of LED: Communication fault masking selection Ten's place of LED: Relay fault masking selection Hundred's place of LED: EEPROM fault masking selection Thousand's place of LED: Reserved 0:Disable.Stop when fault happen 1:Disable.Continue operating when fault happen 2:Enable	1	2000	×	0~2222H
A8.02	Fault masking selection 2	Unit's place of LED: Open phase fault masking selection for input Ten's place of LED: Open phase fault masking selection for output	1	00	×	0~22H
A8.03	Motor overload protection mode selection	0: Disabled 1:Common mode(with low speed compensation) 2: Variable frequency motor (without low speed compensation)	1	1	×	0~2
A8.04	Auto reset times	0: No function 1~100: Auto reset times Note: The IGBT protection (E010) and external equipment fault (E015) cannot be reset automatically.	1	0	×	0~100
A8.05	Reset interval	2.0~20.0s/time	0.1s	5.0s	×	20~200
A8.06	Fault locking function selection.	0:Disable. 1: Enable.	1	0	×	0~1
Group b0:Motor parameters						
b0.00	Rated power	0.4~999.9KW	0.1	0	×	4~9999
b0.01	Rated voltage	0~ rated voltage of drive	1	0	×	0~999
b0.02	Rated current	0.1~999.9A	0.1A	Depend on drive's model	×	1~9999
b0.03	Rated frequency	1.00~300.00Hz	0.01Hz	Depend on drive's model	×	100~30000
b0.04	Number of polarities of motor	2~24	1	4	×	2~24
b0.05	Rated speed	0~60000RPM	1RPM	1440 RPM	×	0~60000
b0.06	Resistance of stator %R1	0.00%~50.00%	0.01%	Depend on drive's model	×	0~5000
b0.07	Leakage inductance %Xl	0.00%~50.00%	0.01%	Depend on drive's model	×	0~5000
b0.08	Resistance of rotor %R2	0.00%~50.00%	0.01%	Depend on drive's model	×	0~5000
b0.09	Exciting inductance %Xm	0.0%~2000.0%	0.1%	Depend on drive's model	×	0~20000
b0.10	Current without load I0	0.1~999.9A	0.1A	Depend on drive's model	×	1~9999
b0.11	Auto-tuning	0: Auto-tuning is disabled 1: Stationary auto-tuning (Start auto-tuning to a standstill motor) 2: Rotating auto-tuning	1	0	×	0~3
b0.12	Motor's overload Protection coefficient	20.0%~110.0%	0.1%	100.0%	×	200~1100
b0.13	Oscillation inhibition coefficient	0~255	1	10	○	0~255

Function code	Name	Descriptions	Unit	Factory setting	Modif	Setting range
Group b1:V/F parameters						
b1.00	V/F curve setting	0: V/F curve is defined by user 1: 2-order curve 2: 1.7-order curve 3: 1.2-order curve	1	0	×	0~3
b1.01	V/F frequency value F3	B1.03~A0.08	0.01Hz	0.00Hz	×	0~30000
b1.02	V/F voltage value V3	B1.04~100.0%	0.1%	0.0%	×	0~1000
b1.03	V/F frequency value F2	B1.05 ~B1.01	0.01Hz	0.00Hz	×	0~30000
b1.04	V/F voltage value V2	B1.06~B1.02	0.1%	0.0%	×	0~1000
b1.05	V/F frequency value F1	0.00~B1.03	0.01Hz	0.00Hz	×	0~30000
b1.06	V/F voltage value V1	0~B1.04	0.1%	0.0%	×	0~1000
b1.07	Cut-off point used for manual torque boost	0.0%~50.0% (Corresponding to A0.12)	0.1%	10.0%	○	0~500
b1.08	AVR function	0: Disable 1: Enable all the time 2: Disabled in Dec process	1	2	×	0~2
b1.09	VF Output voltage selection	0: no function 1: AI	1	0	×	0~3
b1.10	VF Output voltage offset selection	0: no function 1: AI	1	0	×	0~3
Group b2:Enhanced parameters						
b2.00	Carrier wave frequency	2.0~6..0KHz	0.1	6.0	○	20~150
b2.01	Auto adjusting of CWF	0: Disable 1: Enable	1	1	○	0~1
b2.02	Voltage adjustment selection	Unit's place of LED: Over-voltage at stall Selection 0: Disable(When install brake resistor) 1: Enable Ten's place of LED: Not stop when instantaneous stop function selection 0: Disable 1: Enable(Low voltage compensation) Hundred's place of LED: Over modulation selection 0: Disable 1: Enable	1	001	×	0~111H
b2.03	Overvoltage point at stall	120.0%~150.0%Udce	0.1%	140.0%	×	1200~1500
b2.04	Droop control	0: Disable 0.01~10.00Hz	0.01	0.00Hz	○	0~1000
b2.05	Auto current limiting threshold	20.0%~200.0%Ie	0.1%	150.0%	×	200~2000
b2.06	Frequency decrease rate when current limiting	0.00~99.99Hz/s	0.01 Hz/s	10.00 Hz/s	○	0~9999
b2.07	Auto current limiting selection	0:Invalid at constant speed 1:Valid at constant speed Note: It is valid all the time at Acc/Dec	1	1	×	0~1
b2.08	Gain of Slip compensation	0.0~300.0%	0.1%	100.0%	○	0~3000
b2.09	Slip compensation limit	0.0~250.0%	0.1%	200.0%	○	0~2500
b2.10	Slip compensation time constant	0.1~25.0s	0.1s	2.0s	○	0~250
b2.11	auto energy-saving function	0: Disable 1: Enable	1	0	×	0~1
b2.12	Frequency decrease rate at voltage compensation	0.00~99.99Hz/s	0.01 Hz/s	10.00 Hz/s	○	0~9999
b2.13	Zero-frequency Operation threshold	0.00~300.00Hz	0.01Hz	0.50Hz	○	0~30000
b2.14	Zero-frequency Hysteresis (Reserved)	0.00~300.00Hz	0.01Hz	0.00Hz	○	0~30000
b2.15	Fan control	0: Auto operation mode 1:Fan operate continuously when power is on Note: 1.Continue to operate for 3 minutes	1	0	×	0~1
Group b3:Communication parameter						
b3.00	Communication configuration	Unit's place of LED: Baud rate selection 0:4800BPS 1:9600BPS 2:19200BPS Ten's place of LED: Data format	1	001	×	0~155H

Function code	Name	Descriptions	Unit	Factory setting	Modif	Setting range
		0:1-8-2-N format, RTU 1:1-8-1-E format, RTU 2:1-8-1-O format, RTU Hundred's place of LED: wiring mode 0:Direct connection via cable (RS232/485) 1: MODEM (RS232)				
b3.01	Local address	0~127,0 is the broadcasting address	1	5	×	0~127
b3.02	Time threshold for judging the communication status	0.0~1000.0s	0.1	0.0s	×	0~10000
b3.03	Delay for responding to control PC	0~1000ms	1	5ms	×	0~1000
Group b4:Keyboard parameters						
b4.00	Key-lock function selection	0: The keys on the operation panel are not locked, and all the keys are usable. 1: The keys on the operation panel are locked, and all the keys are unusable. 2: All the keys except for the multi-functional key are unusable. 3: All the keys except for the SHIFT key are unusable. 4: All the keys except for the RUN AND STOP keys are unusable.	1	0	○	0~4
b4.01	Multi-function key definition	Reserved	1	4	○	0~5
b4.02	Parameter protection	0: All parameters are allowed modifying; 1: Only A0.03 and b4.02 can be modified; 2: Only b4.02 can be modified.	1	1	○	0~2
b4.03	Parameter initialization	0: No operation 1: Clear fault information in memory 2: Restore to factory settings	1	0	×	0~2
b4.04	Parameter copy	0: No action 1: parameters upload 2: parameters download 3: parameters download (except the parameters related to drive type) Note: Not to upload/ download drive's parameters.	1	0	×	0~3
b4.05	Display parameters selection	Binary setting: BIT1:Operating 0: No display 1: Display Unit's place of LED: BIT0: Output frequency (No display at stop.Display power frequency at energy feedback mode) BIT1:Setting frequency (Flicking.No display at energy feedback mode) BIT2:Output current (No display at stop.Display power frequency at energy feedback mode) BIT3:Output voltage (No display at stop.Display power frequency at energy feedback mode) Ten's place of LED: BIT0: AI BIT3: DI terminal status Hundred's place of LED: BIT0:Output power (No display at stop and energy feedback mode) BIT1:Output torque (No display at stop and energy feedback mode) BIT2:Analog close-loop feedback(%) (No display at feedback mode) BIT3:Analog close-loop setting(%)(Flicking, no display at feedback mode)	1	1007H	○	0~7FFFH

Function code	Name	Descriptions	Unit	Factory setting	Modif	Setting range
		Thousand's place of LED: BIT0:Bus voltage BIT1:Speed(R/MIN) (No display at feedback mode) BIT2:Setting speed (R/MIN)(Flicking, no display at feedback mode) Note: If all the BITs are 0, the drive will display setting frequency at stop, display output frequency at operating and display bus voltage at energy feedback mode.				
b4.06	Linear speed ratio	0.00~99.99	0.01	1.00	○	0~9999
b4.07	Speed ratio	0.000~30.000	0.001	1.000	○	0~30000
b4.08~ b4.09	Reserved	Reserved	1	0	○	0~65535
b4.10	Customer parameter initialization	0~65535 0:Not valid	1	0	×	0~65535
b4.11~ b4.15	Reserved	Reserved	1	0	○	0~65535
b4.16	Standard/high frequency switching	0: Standard（0-300HZ） 1: high frequency (0-3000HZ)	0	0	×	0~1
b4.17~ b4.20	Reserved	Reserved				
Group C0:Multi-section parameters						
C0.00~ C0.14	Multi-speed from 1~15	Lower limit of frequency~ upper limit of frequency	0.01Hz	5.00Hz	○	0~30000
Group C1:Process PID parameters						
C1.00	Close-loop control function	0: Disable1: Enable	1	0	×	0~1
C1.01	Reference channel selection	0: Digital input 1: AI	1	1	○	0~3
C1.02	Feedback channel selection	0: AI	1	0	○	0
C1.03	Digital setting of reference	-10.00V~10.00V	0.01	0.00	○	0~2000
C1.05	Min reference	0.0%~(C1.07) (Ratio of Min reference to base value of10V/20mA)	0.1%	0.0%	○	0~1000
C1.06	Feedback value corresponding to the Min reference	0.0~100.0% (Ratio of Min reference to base value of10V/20mA)	0.1%	0.0%	○	0~1000
C1.07	Max reference	(C1.05)~100.0% (Ratio of Max reference to base value of 10V/20mA)	0.1%	100.0%	○	0~1000
C1.08	Feedback value corresponding to the Max reference	0.0~100% (Ratio of Max reference to base value of 10V/20mA)	0.1%	100.0%	○	0~1000
C1.09	Proportional gain KP	0.000~10.000	0.001	2.000	○	0~10000
C1.10	Integral gain Ki	0.000~10.000	0.001	0.100	○	0~10000
C1.11	Differential gain Kd	0.000~10.000	0.001	0.100	○	0~10000
C1.12	Sampling cycle T	0.01~50.00s	0.01s	0.50s	○	1~5000
C1.13	Output filter	0.01~10.00s	0.01s	0.05	○	1~1000
C1.14	Error limit	0.0~20.0% (Corresponding to close-loop reference)	0.1%	2.0%	○	0~200
C1.15	Close-loop regulation characteristic	0: Positive 1: Negative	1	0	×	0~1
C1.16	Integral regulation selection	0: Stop integral regulation when the frequency reaches the upper and lower limits 1: Continue the integral regulation when the frequency reaches the upper and lower limits	1	0	×	0~1
C1.17	Preset close-loop frequency	0.00~300.00Hz	0.01Hz	0.00Hz	○	0~30000
C1.18	Holding time of preset close-loop frequency	0.0~3600.0s	0.1s	0.0s	×	0~36000
C1.19~ C1.33	Preset close-loop reference 1~15	-10.00V ~10.00V	0.01V	0.00V	○	0~2000
C1.34	Close-loop output reversal selection	0: The close-loop output is negative, the drive will operate at zero frequency. 1: The close-loop output is negative and the drive operate reverse.	1	0	○	0~1
C1.35	Sleep function selection	0: Disable 1: Enable.	1	0	○	0~1
C1.36	Sleep level	0.0~100.0%	0.1%	50.0%	○	0~1000
C1.37	Sleep latency	0.0~6000.0s	0.1s	30.0s	○	0~60000
C1.38	Wake-up level	0.0~100.0%	0.1%	50.0%	○	0~1000

Function code	Name	Descriptions	Unit	Factory setting	Modif	Setting range
C2: Simple PLC						
C2.00	Simple PLC operation mode selector	Unit's place of LED: PLC operation mode 0: No function 1: Stop after single cycle 2: Keep final states after single cycle 3: Continuous cycle Ten's place of LED: Start mode 0: Start from first step 1: Start from the step before stop (or alarm). 2: Start from the step and frequency before stop(or alarm) Hundred's place of LED: Storage after power off 0: Disable 1: Save the segment frequency when power off Thousand's place of LED: Time unit selector for each step 0: Second 1: Minute	1	0000	×	0~1123H
C2.01	Step 1 setting	Unit's of LED: 0: Multiple frequency N (N: corresponding to current step) 1: Defined by A0.02 2: Multiple closed-loop reference N (N: corresponding to current step) 3: Defined by C1.01 Ten's place of LED: 0: Forward 1: Reverse 2: Defined by operation command Hundred's place of LED: 0: Acc/Dec time 1 1: Acc/Dec time 2 2: Acc/Dec time 3 3: Acc/Dec time 4	1	000	○	0~323H
C2.02	Step 1 operating time	0.0~6500.0	0.1	20.0	○	0~65000
C2.03~ C2.30	Step N setting and Step N operating time	Step N setting is same as C2.01 Step N operating time same as C2.02	1 0.1	000 20.0	○ ○	0~323H 0~65000
Group C3: Swing parameters						
C3.00	Swing function selector	0: Disable 1: Enable	1	0	×	0~1
C3.01	Swing Operation mode	Unit's place of LED: Startup method 0: Auto mode1: By terminal Ten's place of LED: Swing control 0: Reference centre frequency 1: Reference max. frequency Hundred's place of LED: Swing states storage 0: Save after stop 1: Not save after stop Thousand's place of LED: Swing states storage after power failure 0: Save 1: Not save	1	0000	×	0~1111H
C3.02	Preset swing frequency	0.00Hz~Max. frequency	0.01Hz	0.00Hz	○	0~100000
C3.03	Waiting time for preset swing frequency	0.0~3600.0s	0.1s	0.0s	○	0~36000
C3.04	Swing amplitude	0.0%~50.0%	0.1%	0.0%	○	0~500
C3.05	Jump frequency	0.0%~50.0%	0.1%	0.0%	○	0~500
C3.06	Swing cycle	0.1~999.9s	0.1s	10.0s	○	1~9999
C3.07	Triangle wave rising time	0.0%~100.0% (Swing cycle)	0.1%	50.0%	○	0~1000
Group d0:Status display						
d0.00	Main reference frequency	-300.00~300.00Hz	0.01Hz	0.00	*	0~60000
d0.01	Auxiliary reference frequency	-300.00~300.00Hz	0.01Hz	0.00	*	0~60000
d0.02	Preset frequency	-300.00~300.00Hz	0.01Hz	0.00	*	0~60000
d0.03	Frequency after Acc/Dec	-300.00~300.00Hz	0.01Hz	0.00	*	0~60000
d0.04	Output frequency	-300.00~300.00Hz	0.01Hz	0.00	*	0~60000

Function code	Name	Descriptions	Unit	Factory setting	Modif	Setting range
d0.05	Output voltage	0~480V	1V	0	*	0~480
d0.06	Output current	0.0~3Ie	0.1A	0.0	*	0~65535
d0.07	Torque current	-300.0~+300.0%	0.1%	0.0%	*	0~6000
d0.08	Magnetic flux current	0~+100.0%	0.1%	0.0%	*	0~1000
d0.09	Motor power	0.0~200.0(Corresponding to the motor's rated power)	0.1%	0.0%	*	0~2000
d0.10	Motor estimated frequency	-300.00~300.00Hz	0.01	0.00	*	0~60000
d0.11	Motor actual frequency	-300.00~300.00Hz	0.01	0.00	*	0~60000
d0.12	Bus voltage	0~800V	1V	0	*	0~800
d0.13	Drive operation status	0~FFFH bit0: Run/Stop bit1: Reverse/Forward bit2: Operating at zero frequency bit3: Accelerating bit4: Decelerating bit5: Operating at constant speed bit6: Pre-commutation bit7: Tuning bit8: Over-current limiting bit9: DC over-voltage limiting bit10: Torque limiting bit11: Speed limiting bit12: Drive fault bit13: Speed control bit14: Torque control	1	0	*	0~FFFH
d0.14	Input terminals status	0~FFH, 0: OFF; 1: ON	1	00	*	0~FFH
d0.15	Output terminals status	0~1FH, 0: OFF; 1: ON	1	0	*	0~1FH
d0.16	AI input	-10.00~10.00V	0.01V	0.00	*	0~2000
d0.19	Percentage of AI after regulation	-100.00%~110.00%	0.01%	0.00	*	0~20000
d0.24	Process close-loop reference	-100.0~100.0% (Ratio of the full range)	0.1%	0.0%	*	0~2000
d0.25	Process close-loop feedback	-100.0~100.0% (Ratio of the full range)	0.1%	0.05%	*	0~2000
d0.26	Process close-loop error	-100.0~100.0% (Ratio of the full range)	0.1%	0.0%	*	0~2000
d0.27	Process close-loop	-100.0~100.0% (Ratio of the full range)	0.1%	0.0%	*	0~2000
d0.28	Temperature of heat sink 1	0.0~150.0℃	0.1℃	0.0	*	0~1500
d0.29	Temperature of heat sink 2	0.0~150.0℃	0.1℃	0.0	*	0~1500
d0.30	Total conduction time	0~65535 hours	1 hours	0	*	0~65535
d0.31	Total operating time	0~65535 hours	1 hours	0	*	0~65535
d0.32	Total fan's operating time	0~ 65535 hours	1 hours	0	*	0~65535
d0.33	ASR controller output	-300.0~300.0% (Corresponding to drive's rated torque）	0.1%	0.0%	*	0~6000
d0.34~ d0.56	Reserved	Reserved	1	0	*	0~65535
Group d1:Fault record						
d1.00	Fault record 1	0~55	1	0	*	0~50
d1.01	Bus voltage of the latest failure	0~999V	1V	0V	*	0~999
d1.02	Actual current of the latest failure	0.0~999.9A	0.1A	0.0A	*	0~9999
d1.03	Operation frequency of the latest failure	0.00Hz~300.00Hz	0.01Hz	0.00Hz	*	0~30000
d1.04	Operation status of the latest failure	0~FFFFH	1	0000	*	0~FFFFH
d1.05	Fault record 2	0~55	1	0	*	0~50
d1.06	Fault record 3	0~55	1	0	*	0~50
Group d2:Product Identity Parameters						
d2.00	Serial number	0~FFFF	1	100	*	0~65535
d2.01	Software version number	0.00~99.99	1	1.00	*	0~9999
d2.02	Custom-made version number	0~9999	1	0	*	0~9999
d2.03	Load type selection	0: Heavy load G 1: Light load L 2~9: Reserved	1	0	×	0~9
d2.04	Rated voltage	Output power,0~999.9KvA (Dependent on drive's model)	0.1KVA	Factory setting	*	0~9999
d2.05	Rated current	0~999.9A (Dependent on drive's model)	1V	Factory setting	*	0~999
d2.06	Rated current	0~999.9A (Dependent on drive's model)	0.1A	Factory setting	*	0~9999

Function code	Name	Descriptions	Unit	Factory setting	Modif	Setting range
Group U0:Factory parameters						
U0.00	Factory password	**** Note: Other parameters in this group can't display until entering the right password.	1	Factory setting	—	0~FFFF
Group P0:Factory parameters						
P0.00	Reserved	Reserved	1	Factory setting	*	0~65535

Note:

○：Can be modified during operation；
×：Cannot be modified during operating；
*：Actually detected and cannot be revised；
—：Defaulted by factory and cannot be modified.

Application

1. Terminal control starting, analog input as reference frequency.

In many cases, inverter is generally started by external terminals. The frequency is usually adjusted by the potentiometer or external 0/4~20mA analog input to adjust the inverter running frequency. Parameters settings and wiring diagram as follows:

1) Parameter settings:

First of all, set parameters of group b0 according to the motor parameters on the motor nameplate. Then do auto-tuning. Then set the following parameters:

A0.02＝1 AI1 as reference frequency. Select analog voltage or current signal by the jumper in control board.

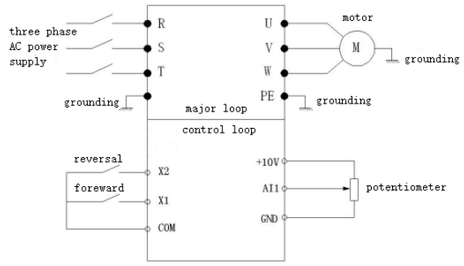
A0.04＝1 Operating commands are given by terminal.

A1.12＝0 Reverse running is allowable.

A6.00＝01 Motor running forward when X1 is valid.

A6.01＝02 Motor running reverse when X2 is valid.

2) Wiring:



2. Terminal control starting, multi-speed operation.

Control VFD starting via terminal, set VFD running at 10HZ, 30HZ, 50HZ. Switch frequency by X terminals.

First of all, set parameters of group b0 according to the motor parameters on the motor nameplate. Then do auto-tuning. Then set the following parameters:

1) Parameter settings:

A0.02＝0 Main frequency is set by A0.03.

A0.03＝10 When X2/X3 are invalid, main frequency is 10HZ.

A0.04＝1 Operating commands are given by terminals.

A6.00＝01 When X1 is valid, motor run forward.

A6.01＝27 When X2 is valid, preset frequency 1 as main frequency.

A6.02＝28 When X3 is valid, preset frequency 2 as main frequency.

C0.00＝30 Set preset frequency 1=30HZ.

C0.01＝50 Set preset frequency 2=50HZ.

2) Wiring: