

Mini type VFD of CV100 series

Thank you for using CV100 series Variable Frequency Drive made by Kinco Automation. CV100 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.

CV100 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 CV100, please read this manual carefully before starting the drive and keep it in a proper place and to the right person.

Unpacking Inspection Note

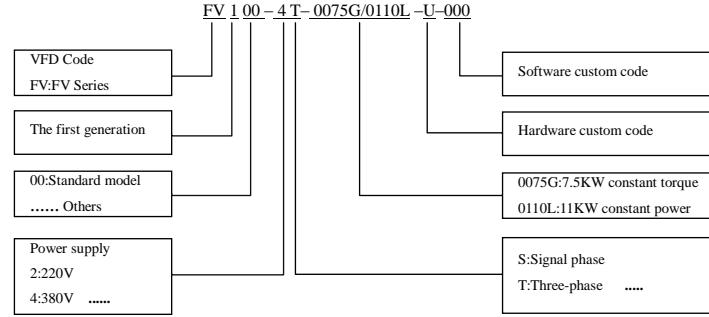
Upon unpacking, please check for:

- 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

VFD model rule



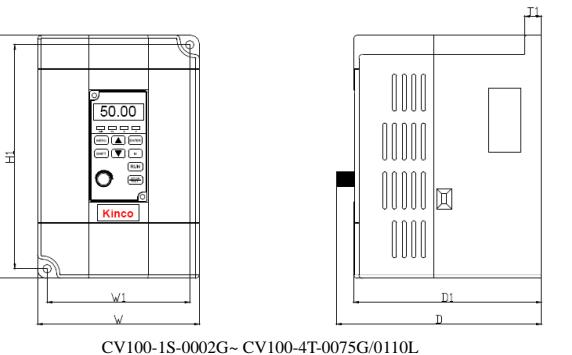
Production introduction:

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 0-Rated input voltage
	Frequency 0Hz~300Hz(Customized 0Hz~1000Hz)
	Overload capacity G type: 150% rated current for 1 minute, 180% rated current for 10 seconds; L type: 110% rated current for 1 minute, 150% rated current for 1 second
Control Characteristics	Control mode V/F control, SVC (Open loop vector control)
	Modulation mode Space vector PWM modulation
	Starting torque 0.5Hz 150%rated torque (Vector control without PG)
	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
Operation panel	Auto current limit Limit current during the operation automatically to prevent frequent overcurrent trip
	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, overheating protection, over-load protection and so on.	
Environment	Operating site Indoor, installed in the environment free from direct sunlight, 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
	Ambient temperature -10°C~40°C, derated at 40°C~50°C
	Humidity 5%~95%RH, non-condensing
	Vibration Less than 5.9m/s ² (0.6g)
Structure	Storage temperature -40°C~+70°C
	Protection class IP20
Cooling method Air cooling, with fan control.	
Installation method Wall-mounted	
Efficiency ≥90%	

Introduction of CV 100 series:

Model of VFD	Rated capacity (kVA)	Rated input current (A)	Rated output current (A)	Motor power (kW)
CV100-1S-0002G	0.6	6.0	2.5	0.2
CV100-1S-0004G	1.0	9.0	4.0	0.4
CV100-1S-0007G	1.5	18.0	7.5	0.75
CV100-1S-0011G	3.0	25.0	10.0	1.1
CV100-2S-0004G	1.0	5.3	2.5	0.4
CV100-2S-0007G	1.5	8.2	4.0	0.75
CV100-2S-0015G	3.0	14	7.5	1.5
CV100-2S-0022G	4.0	23	10	2.2
CV100-2S-0037G	6.4	32	16	3.7
CV100-4T-0007G/0015L	1.5	3.4	2.3	0.75
CV100-4T-0015G/0022L	3.0	5.0	3.7	1.5
CV100-4T-0022G/0037L	4.0	5.8	5.5	2.2
CV100-4T-0037G/0055L	5.9	10.5	8.8	3.7
CV100-4T-0055G/0075L	8.5	14.5	13.0	5.5
CV100-4T-0075G/0110L	11	20.5	17	7.5

External dimension:



CV100-1S-0002G~ CV100-4T-0075G/0110L

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		
CV100-1S-0004G	85	142	122	73	130	112	10	5	0.8
CV100-1S-0007G	101	152	127	89	140	117	10	5	1.0
CV100-1S-0011G	85	142	122	73	130	112	10	5	0.8
CV100-2S-0004G	101	152	127	89	140	117	10	5	1
CV100-2S-0007G	125	220	178	109.5	205	165	10	5.5	3.4
CV100-2S-0015G									
CV100-2S-0022G									
CV100-4T-0007G/0015L									
CV100-4T-0015G/0022L									
CV100-4T-0022G/0037L									
CV100-4T-0037G									
CV100-4T-0055G/0075L									
CV100-4T-0075G/0110L									

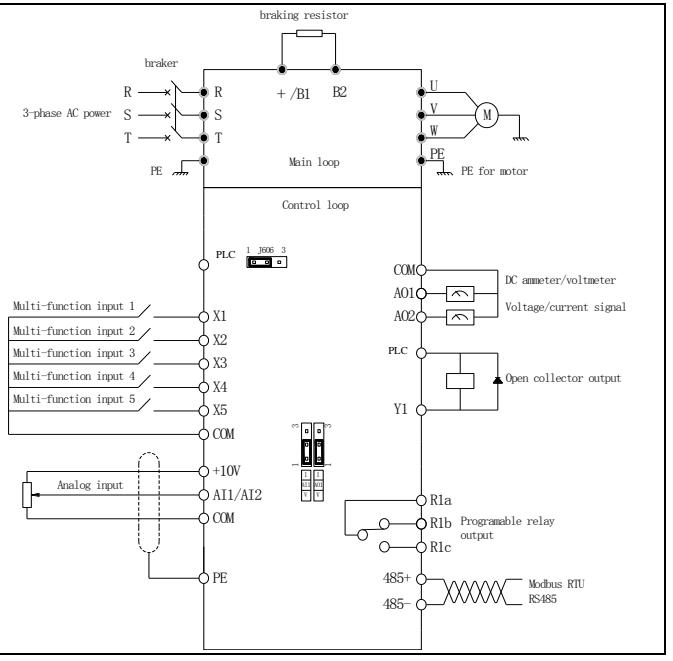
Note: Cutout size of try for Keyboard is 56.0mm*96.5mm.

Wiring:



Wiring	
-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.	
-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 need not 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 3.5mm ² , 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.	

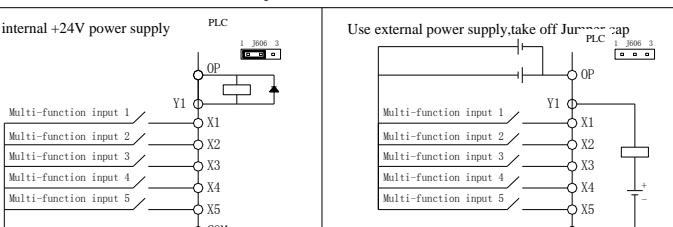
Top of single phase	L	N	PE	PE	RS+	RS-	
Top of 3-phase	R	S	T	PE	PE	RS+	RS-
Bottom	U	V	W	+/B1	B2		
Terminal name	Function description						
R,S,T / L,N	3-phase 380VAC /Single phase 220VAC input terminal						
+/B1, B2	Braking resistor terminal						
U,V,W / PE	3-phase AC output terminal/ Shield PE terminal						
RS+, RS-	RS485 communication port						



Arrangement of control circuit terminals is as follows:

RA RB RC AI1 AI2 +10V X1 X2 X3 X4 X5 Y1 A01 A02 PLC COM PE

RA, RB: normal closed; RA, RC: normal open.



Fault code	Fault categories	Possible reasons for fault	Actions			
E023	Reserve					
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			
			Check the motor's wiring			
		Overtime of auto-tuning	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~E050	Reserved					

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	o	0~FFFF
A0.01	Control mode	0:Vector control without PG 1:Reserve 2: V/F control Note: when choose V/F control, A0.13#0, b0.13=0, please cancel current control to make motor running more smoothly. But starting torque will be lower.	1	0	x	0~2
A0.02	Main reference frequency selector	0: Digital setting: 1: AI1 2: AI2 3: Potentiometer 4: DI Pulse	1	3	o	0~5
A0.03	Set the operating frequency in digital mode	A0.11~A0.10	0.01H	50.00	o	0~3000
A0.04	Methods of inputting operating commands	0: Panel control 1: Terminal control 2: Communication control	1	0	o	0~2
A0.05	Set running direction	0: Forward 1: Reverse	1	0	o	0~1
A0.06	Acc time 1	0.0~6000.0	0.1s	6.0s	o	0~60000
A0.07	Dec time 1	0.0~6000.0	0.1s	6.0s	o	0~60000
A0.08	Max. output frequency	50Hz~300.00Hz	0.01Hz	50.00	x	0~30000
A0.09	Max. output voltage	0~480	1V	VFD's rated values	x	0~480
A0.10	Upper limit of frequency	A0.11~A0.08	0.01Hz	50.00	o	0~30000
A0.11	Lower limit of frequency	0.00~A0.10	0.01Hz	0.00	o	0~30000
A0.12	Basic operating frequency	0.00~300.00Hz	0.01Hz	50.00	o	0~30000
A0.13	Torque boost	0.0% (Auto) ,0.1%~30.0%	0.1%	0.0%	o	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: Start on the fly(including direction judgment), start at starting frequency	1	0	x	0~2
A1.01	Starting frequency	0.00~60.00Hz	0.01Hz	0.00Hz	o	0~6000
A1.02	Holding time of startingfrequency	0.00~10.00s	0.01s	0.00s	o	0~1000
A1.03	DC injection braking current at start	0.0%~100.0% drive's rated current	0.1%	0.0%	o	0~1000
A1.04	DC injection braking time at start	0.00 (No action) 0.01~30.00s	0.01s	0.00s	o	0~3000
A1.05	Stopping mode	0:Dec-to-stop1:Coast-to-stop 2:Dec-to-stop+DC injection braking	1	0	x	0~2
A1.06	DC injection braking initial frequency at stop	0.00~60.00Hz	0.01Hz	0.00Hz	o	0~6000
A1.07	Injection braking waiting time at stop	0.00~10.00s	0.01s	0.00s	o	0~1000
A1.08	DC injection braking current at stop	0.0%~100.0% drive's rated current	0.1%	0.0%	o	0~1000
A1.09	DC injection braking time at stop	0.0 (No action) 0.01~30.00s	0.01s	0.00s	o	0~3000
A1.10	Restart after power failure	0:Disable 1:Enable	1	0	x	0~1
A1.11	Delay time for restart after power failure	0.0~10.0s	0.1s	0.0s	o	0~100
A1.12	Anti-reverse running function	0: Disabled 1:Enable(it will operate at zero frequency when input a reverse command)	1	0	x	0~1

Function code	Name	Descriptions	Unit	Factory setting	Modif	Setting range
A1.13	Delay time of run reverse/forward	0.00~360.00s	0.01s	0.00s	o	0~36000
A1.14	Switch mode of run reverse/forward(Reserved)	0: Switch when pass 0Hz 1: Switch when pass starting frequency	1	0	x	0~1
A1.15	Detecting frequency of stop	0.00~150.00Hz	0.01Hz	0.10Hz	x	0~15000
A1.16	Action voltage of braking unit	650~750V	1	720	x	650~750
A1.17	Dynamic braking	0: Disable1:Enable	1	0	x	0~1
A1.18	Ratio of working time of braking unit to drive's total working time	0.0~100.0%	0.1%	80.0%	o	0~1000
A1.19	Restart mode selection for power failure	0: Current search mode It is only valid in V/F control. If it is not V/F control, it will run mode 1 1: Vector tracing mode It starts in vector control mode. 2: Define by A1.00 It will start according to starting mode set in A1.00.	1	0	x	0~2

Function code	Name	Descriptions	Unit	Factory setting	Modif	Setting range
A3.09	Max reference of curve 3	A3.11~110.00%	0.01%	100.00%	o	0~11000
A3.10	Actual value corresponding to the Max reference of curve 3	The same as A3.02	0.01%	100.00%	o	0~10000
A3.11	Min reference of curve 3	0.0%~A3.09	0.01%	0.00%	o	0~11000
A3.12	Actual value corresponding to the Min reference of curve 3	The same as A3.02	0.01%	0.00%	o	0~10000
A3.13	Max reference of curve 4	A3.15~110.00%	0.01%	100.00%	o	0~11000
A3.14	Actual value corresponding to the Max reference of curve 4	The same as A3.02	0.01%	100.00%	o	0~10000
A3.15	Reference of inflection point 2 of curve 4	A3.17~A3.13	0.01%	100.00%	o	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%	o	0~10000
A2.00	Auxiliary reference frequency selector	0:No auxiliary reference frequency 1:AI12; AI2 5:Output by PID process	1	0	o	0~5
A2.01	Main and auxiliary reference frequency calculation	0:+/- 2: MAX (Main reference, Auxiliary reference) 3: MIN (Main reference, Auxiliary reference)	1	0	o	0~3
A2.02	UP/DN rate	0.01~99.99Hz/s	0.01	1.00	o	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	o	0~11H
A2.04	Jog operating frequency	0.10~50.00Hz	0.01Hz	5.00	o	10~5000
A2.05	Interval of Jog operation	0.0~100.0s	0.1s	0.0	o	0~1000
A2.06	Skip frequency 1	0.00~300.00Hz	0.01	0.00	x	0~30000
A2.07	Range of skip frequency 1	0.00~30.00Hz	0.01	0.00	x	0~3000
A2.08	Skip frequency 2	0.00~300.00Hz	0.01	0.00	x	0~30000
A2.09	Range of skip frequency	0.00~30.00Hz	0.01	0.00	x	0~3000
A2.10	Skip frequency 3	0.00~300.00Hz	0.01	0.00	x	0~30000
A2.11	Range of skip frequency 3	0.00~30.00Hz	0.01	0.00	x	0~3000

Function code	Name	Descriptions	Unit	Factory setting	Modif	Setting range
A4.00	Acc/Dec mode	0: Linear Acc/Dec; 1: S Curve	1	0	x	0~1
A4.01	Acc time 2	0.0~6000.0	0.1s	20.0s	o	0~60000
A4.02	Dec time 2	0.0~6000.0	0.1s	20.0s	o	0~60000
A4.03	Acc time 3	0.0~6000.0	0.1s	20.0s	o	0~60000
A4.04	Dec time 3	0.0~6000.0	0.1s	20.0s	o	0~60000
A4.05	Acc time 4	0.0~6000.0	0.1s	20.0s	o	0~60000
A4.06	Dec time 4	0.0~6000.0	0.1s	20.0s	o	0~60000
A4.07	S curve acceleration starting time	10.0%~50.0%(Acc time) A4.07+A4.08≤90%	0.1%	20.0%	o	100~500
A4.08	S curve acceleration ending time	10.0%~70.0%(Acc time) A4.07+A4.08≤90%	0.1%	20.0%	o	100~800
A4.09	S curve deceleration starting time	10.0%~50.0%(Dec time) A4.09+A4.10≤90%	0.1%	20.0%	o	100~500
A4.10	S curve deceleration ending time	10.0%~70.0%(Dec time) A4.09+A4.10≤90%	0.1%	20.0%	o	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	0	x	0~3
A4.12	Start ACR-P	0.1~200.0	0.1	20.0	o	1~2000
A4.13	Start ACR-I	0.000~10.000s	0.001s	0.200s	o	0~10000
A4.14	Start AVR-P	0				

Function code	Name	Descriptions	Unit	Factory setting	Modif	Setting range
		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: Terminal X1(Reserved) 11: Terminal X2(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				
A6.15	Reserved	Reserved	1	1	x	0~50
A6.16	Output functions of relay R1	The same as A6.14	1	16	x	0~24
A6.17	Output functions of relay R2	The same as A6.14	1	15	x	0~50
A6.18	Output delay of Relay R1	0.1~10.0s	0.1s	0.1	o	1~100
A6.19	Output delay of Relay R2	0.1~10.0s	0.1s	0.1	o	1~100
A6.20	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 enabled if it is disconnected. Unit's place of LED: BIT0: Y1 BIT1: Y2 BIT2: R1 BIT3: R2 Ten's place of LED: BIT0:DO	1	0	o	0~1FH
A6.21	Frequency arriving signal (FAR)	0.00~300.00Hz	0.01 Hz	2.50Hz	o	0~30000
A6.22	FDT1 level	0.00~300.00Hz	0.01 Hz	50.00Hz	o	0~30000
A6.23	FDT1 lag	0.00~300.00Hz	0.01 Hz	1.00Hz	o	0~30000
A6.24	FDT2 level	0.00~300.00Hz	0.01 Hz	25.00Hz	o	0~30000
A6.25	FDT2 lag	0.00~300.00Hz	0.01 Hz	1.00Hz	o	0~30000
A6.26	Virtual terminal setting	Binary setting 0: Disable, 1: Enable Unit's place of LED: BIT0-BIT3: X1-X4 Ten's place of LED: BIT0-BIT2: X5-X8	1	00	o	0~FFH
A6.27	Function of terminal D0	0~50: DO as Y terminal; 51~88: DO function 0: Drive running signal (RUN) 1: Frequency arriving signal (FAR) 2: Frequency detection threshold (FDT1) 3: Frequency detection threshold (FDT2) 4: Overload signal 5: Low voltage lock-up signal (LU) 6: External stopping command (EXT) 7: High limit of frequency (FHL) 8: Lower limit of frequency (FLL) 9: Zero-speed running 10: X1 terminal(Reserved) 11X2 terminal(Reserved) 12:PLC running step finish signal 13:PLC running cycle finish signal 14:Swing frequency limit 15:Drive ready (RDY) 16:Drive faulty 17:Switching signal of host 18:Reserved 19:Torque limiting				

Function code	Name	Descriptions	Unit	Factory setting	Modif	Setting range
		20:Drive running forward/reverse 21~50:Reserved 51:Output frequency (0~Max. Freq) 52:Preset frequency (0~ Max. Freq.) 53:Preset frequency (After Acc/Dec) (0~ Max. Freq.) 54:Motor speed (0~Max. speed) 55:Output current (0~2*Ie) 56: Output current(0~2*Iem) 57: Output torque(0~3*Tem) 58: Output power(0~2*Pe) 59: Output voltage(0~1.2*Ve) 60: DC bus voltage(0~800V) 61:AI1 62:AI2 63:AI3 64:DI 65:Percentage of host (0~4095) 66~88:Reserved				
A6.28	Max. output pulse freq.	0.1~100.0(Max. 100.0k) kHz	0.1	10.0	o	1~1000
A6.29	Center point of pulse output selection	0: No center point 1:Center point is (A6.26)/2, positive value when output pulse freq. less than center point. 2:Center point is (F14.13)/2, positive value when output pulse freq. larger than center point.	1	0	o	0~2
A6.30	Function of terminal AO1	0: No function 1: Output frequency (0~ Max. output frequency) 2: Preset frequency (0~ Max. output frequency) 3: Preset frequency(After Acc/Dec)(0~ Max.output frequency) 4: Motor speed (0~ Max. speed) 5: Output current (0~2*Ie) 6: Output current (0~2*Iem) 7: Output torque (0~3*Tem) 8: Output power (0~2*Pe) 9: Output voltage (0~1.2*Ve) 10: Bus voltage (0~800V) 11: AI1 12: AI2 13: AI3 14: DI 15: Percentage of host (0~4095) 16~36: Reserved	1	0	o	0~36
A6.31	Functions of terminal AO2	Same as A6.30	1	0	o	0~36
A6.32	Gain of AO1	0.0%~200.0%	0.1%	100.0%	o	0~2000
A6.33	Zero offset calibration of AO1	-100.0%~100.0%	0.1%	0.0	o	0~2000
A6.34	Gain of AO2	0.0%~200.0%	0.1%	100.0%	o	0~2000
A6.35	Zero offset calibration of AO2	-100.0%~100.0%	0.1%	0.0	o	0~2000
A6.36	AI1 filter	0.01~10.00s	0.01s	0.05	o	1~1000
A6.37	AI2 filter	0.01~10.00s	0.01s	0.05	o	1~1000
A6.38	AI3 filter	0.01~10.00s	0.01s	0.05	o	1~1000
A6.39	Analog input zero offset calibration	0~1	1	0	o	0~20000
A6.40	Gain of AI1	0.00%~200%	0.01%	110%	o	0~20000
A6.41	Gain of AI2	0.00%~200%	0.01%	110%	o	0~20000
A6.42	Gain of AI3	0.00%~200%	0.01%	110%	o	0~20000
A6.43~A6.45	Reserved	Reserved	1	0	o	0~4095
A6.46	Preset value of Timer 1	0.00~10.0s	0.1s	0.0	o	1~100
A6.47	Preset value of Timer 2	0~100s	1s	0	o	1~100
A6.48	Target value of timer	0~65535	1	100	o	0~65535
A6.49	Median value of timer	0~65535	1	50	o	0~65535
A6.50	Multi-speed terminal switching time	0~500	1	300	o	0~65535
A6.51~A6.60	Reserved	Reserved	1	0	o	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.	1	0000	x	0~1111H

Function code	Name	Descriptions	Unit	Factory setting	Modif	Setting range
		0:Disable, 1: Enable Hundreds place of LED: Selection for fault locked function. 0:Disable, 1: Enable Thousands 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 faultmasking selection Hundreds place of LED: EEPROMfault masking selection Thousands place of LED: reserved 0:Disable.Stop when fault happen 1:Disable.Continue operating when fault happen 2:Enable	1	2000	x	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	x	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	x	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	x	0~100
A8.05	Reset interval	2.0~20.0s/time	0.1s	5.0s	x	20~200
A8.06	Fault locking function selection.	0:Disable. 1: Enable.	1	0	x	0~1
		Group b0:Motor parameters				
b0.00	Rated power	0.4~999.9KW	0.1	0	x	4~9999
b0.01	Rated voltage	0~ rated voltage of drive	1	0	x	0~999
b0.02	Rated current	0.1~999.9A	0.1A	Depend on drive's model	x	1~9999
b0.03	Rated frequency	1.00~1000.00Hz	0.01 Hz	Depend on drive's model	x	100~30000
b0.04	Number of polarities of motor	2~24	1	4	x	2~24
b0.05	Rated speed	0~60000RPM	1 RPM	1440 RPM	x	0~60000
b0.06	Resistance of stator %R1	0.00%~50.00%	0.01%	Depend on drive's model	x	0~5000
b0.07	Leakage inductance %XI	0.00%~50.00%	0.01%	Depend on drive's model	x	0~5000
b0.08	Resistance of rotor %R2	0.00%~50.00%	0.01%	Depend on drive's model	x	0~5000
b0.09	Exciting inductance %Xm	0.0%~2000.0%	0.1%	Depend on drive's model	x	0~20000
b0.10	Current without load I0	0.1~999.9A	0.1A	Depend on drive's model	x	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	x	0~3
b0.12	Motor's overload protection coefficient	20.0%~110.0%	0.1%	100.0%	x	200~1100
b0.13	Motor's overload protection time	0.0~6000.0 0.0: Calculate the overload according to the internal overload curve	0.1s	0.0s	x	0~60000
b0.14	Oscillation inhibition coefficient	0~255	1	10	o	0~255
		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	x	0~3
b1.01	V/F frequency value F3	B1.03~A0.08	0.01 Hz	0.00Hz	x	0~30000
b1.02	V/F voltage value V3	B1.04~100.0%	0.1%	0.0%	x	0~1000
b1.03	V/F frequency value F2	B1.05~B1.01	0.01 Hz	0.00Hz	x	0~30000
b1.04	V/F voltage value V2	B1.06~B1.02	0.1%	0.0%	x	0~1000
b1.05	V/F frequency value F1	0.00~B1.03	0.01 Hz	0.00Hz	x	0~30000
b1.06	V/F voltage value V1	0~B1.04	0.1%	0.0%	x	0~1000
b1.07	Cut-off point used for manual torque boost	0.0%~50.0% (Corresponding to A0.12)	0.1%	10.0%	o	0~500

Function code	Name	Descriptions	Unit	Factory setting	Modif	Setting range
b1.08	AVR function	0: Disable 1: Enable all the time 2: Disabled in Dec process	1	2	x	0~2
		Group b2:Enhanced parameters				
b2.00	Carrier wave frequency	2.0~15.KHz	0.1	8.0	o	20~150
b2.01	Auto adjusting of CWF	0: Disable 1: Enable	1	1	o	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) 				

Function code	Name	Descriptions	Unit	Factory setting	Modif	Setting range
b4.01	Multi-function key definition	0: Jog function 1: Coast-to-stop 2: Quick stop 3: Switch of operating command 4: Switch of forward and reverse(Save after power failure) 5: Switch of forward and reverse (Not save after power failure)	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: A11 BIT1: AI2 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) 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.	1	1007H	○	0~7FFFH
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 switch	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	0.01 Hz	5.00Hz	○	0~30000
Group C1:Process PID parameters						
C1.00	Close-loop control function	0: Disable 1: Enable	1	0	×	0~1
C1.01	Reference channel selection	0: Digital input1: A11; 2: A12;	1	1	○	0~3

Function code	Name	Descriptions	Unit	Factory setting	Modif	Setting range
C1.02	Feedback channel selection	0: A11;1: A12; 2: A11+A12;3: A11-A12; 4: MIN (A11, A12) 5: MAX (A11, A12); 6: DI	1	1	○	0~6
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 of 10V/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 of 10V/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	0.01~50.0s	0.01s	0.50s	○	1~5000
C1.13	Output filter	0.01~10.0s	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	0.01 Hz	0.00Hz	○	0~30000
C1.18	Holding time of preset close-loop frequency	0.0~3600.0s	0.1s	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,he 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%	○	01000
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%	○	01000
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(alarm). 2: Start from the step and frequency before stop(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: Second1: 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: Forward1: Reverse 2: Defined by operation command	1	000	○	0~323H

Function code	Name	Descriptions	Unit	Factory setting	Modif	Setting range
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	000	○	0~323H
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	0.01	0.00Hz	○	0~100000
C3.03	Waiting time for preset swing frequency	0.0~3600.0s	0.1s	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	0.01 Hz	0.00Hz	*	0~60000
d0.01	Auxiliary reference frequency	-300.00~300.00Hz	0.01 Hz	0.00Hz	*	0~60000
d0.02	Preset frequency	-300.00~300.00Hz	0.01 Hz	0.00Hz	*	0~60000
d0.03	Frequency after Acc/Dec	-300.00~300.00Hz	0.01 Hz	0.00Hz	*	0~60000
d0.04	Output frequency	-300.00~300.00Hz	0.01 Hz	0.00Hz	*	0~60000
d0.05	Output voltage	0~480V	1V	0	*	0~480
d0.06	Output current	0.0~3le	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~FFFFH 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~FFFFH
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	A11 input	-10.00~10.00V	0.01V	0.00	*	0~2000
d0.17	A12 input	-10.00~10.00V	0.01V	0.00	*	0~2000
d0.18	Reserved					
d0.19	Percentage of A11 after regulation	-100.00%~110.00%	0.01%	0.00	*	0~20000
d0.20	Percentage of A12 after regulation	-100.00%~110.00%	0.01%	0.00	*	0~20000
d0.21	Reserved	-100.00%~110.00%	0.01%	0.00	*	0~20000
d0.22	AO1 output	0.0~100.0% (Ratio of the full range)	0.1%	0.0%	*	0~1000

Function code	Name	Descriptions	Unit	Factory setting
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