

Contents

1	OVERVIEW	1
1.1	SAFETY PRECAUTIONS	1
1.2	BEFORE USE	1
1.3	TECHNICAL SPECIFICATIONS	3
2	INSTALLATION	4
3	KEYBOARD LAYOUT AND OPERATING INSTRUCTIONS	10
4	FUNCTION PARAMETER TABLE	12
4.1	PARAMETER ICON DESCRIPTION	12
4.2	PARAMETER CONTENT	12
4.3	ENVIRONMENT APPLICATION	13
4.4	F01: BASIC SETTINGS.....	13
4.5	F02: MOTOR PARAMETER	16
4.6	F03: VECTOR CONTROLLING	18
4.7	F04 : V/F CONTROLLING	21
4.8	F05: INPUT TERMINAL.....	22
4.9	F06: OUTPUT TERMINAL	25
4.10	F07 : OPERATIONAL CONTROL	29
4.11	F08: AUXILIARY CONTROL	31
4.12	F09: RESERVED	32
4.13	F10: PROTECTION PARAMETER	32
4.14	F11: OPERATOR PARAMETER.....	35
4.15	F12: COMMUNICATION PARAMETER	37
4.16	F13: PROCESS PID CONTROL	39
4.17	F14: MULTI-SPEED AND SIMPLE PLC	41
4.18	C0x: MONITORING PARAMETER	44
4.19	TERMINAL SELECTION FUNCTION	45
4.20	FAULT AND WARNING CODE TABLE	46
5	INSPECTION, MAINTENANCE AND GUARANTEE	48
5.1	INSPECTION	48



ARCO CONTROL



:051-37133855-6



:09014284236

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1 Overview

1.1 Safety Precautions

To ensure safe and reasonable use of this product, please use the product after fully understanding the safety precautions described in this manual.

Warning signs and meanings

The following symbols are used in this manual to indicate that it is an important part of safety. Failure to follow these precautions may result in personal injury or death, damage to this product and associated systems.

 Danger	DANGER: Death or major safety hazard can result from incorrect operation.
 Caution	Caution: Wrong operation may cause minor injuries

Operational qualification

This product must be operated by trained professionals. Moreover, the operator must be trained in professional skills, familiar with the installation, wiring, operation and maintenance of the equipment, and properly respond to various emergencies in use.

Safety guidance

Warning signs are provided for your safety. They are measures to prevent injury to the operator and damage to the product and associated systems. Please read this manual carefully before use and follow the safety rules and warnings in this manual strictly while operating.

- Proper transportation, storage, installation, and careful operation and maintenance are essential for the safe operation of the AC Drive. During transmission and storage, ensure that the AC Drive is not subject to shock and vibration. It must also be stored in a dry, non-corrosive atmosphere, non-conductive dust and ambient temperature less than 60 °C.
- This product has a dangerous voltage and it controls a potentially dangerous moving mechanism. Failure to follow these instructions or not complying with the requirements of this manual may result in personal injury or death, damage to the product and associated systems.
- Do not perform wiring work while the power is on, otherwise there is a danger of death due to electric shock. When wiring, inspection, maintenance, etc., please cut off the power of all related equipment and confirm that the DC voltage of the main circuit has dropped to Safety level, wait 5 minutes before performing related work.
- The power cable, motor cable, and control cable must be tightly connected. The grounding terminal must be grounded reliably and the grounding resistance is less than 10Ω.
- The static electricity of the human body will seriously damage the internal sensitive components. Before performing related operations, please observe the measures and methods specified in the static electricity prevention measures (ESD), otherwise the AC Drive may be damaged.
- Since the output voltage of the AC Drive is a pulse waveform, if the output side is equipped with a capacitor with improved power factor or a varistor for lightning protection, be sure to remove or modify it on the input side of the AC Drive.
- Do not add switching devices such as circuit breakers and contactors on the output side of the AC Drive (if the switching device must be connected to the output side, the output current of the AC Drive must be zero when the switch is activated).
- No matter where the fault occurs in the control equipment, it may cause a shutdown and a major accident. Therefore, take the necessary external protection measures or spare equipment.
- This product can only be used in accordance with the manufacturer's specified use. It may not be used in special fields such as emergency, rescue, shipbuilding, medical, aviation, nuclear facilities, etc. without permission.
- The maintenance of this product can only be carried out by the company or by a professional authorized by the company. Unauthorized modification and use of accessories not approved by the company may result in product failure. Any defective devices must be replaced in time for maintenance.
- The company is not responsible for any damage or equipment damage caused by your company or your company's customers who fail to comply with the contents of this manual

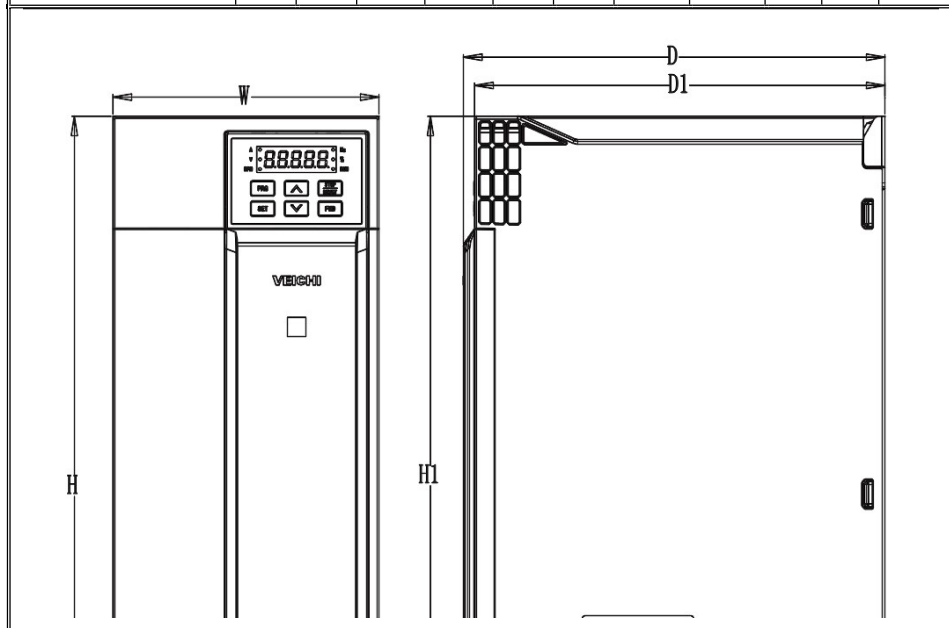
1.2 Before use

Upon receipt of the product you ordered, please check the outsourcing for damage and open the outer packaging after confirming the integrity, and confirm that whether the AC Drive is damaged, scratched or dirty. (Damage caused during transportation does not belong to our company's

1.3 Technical specifications

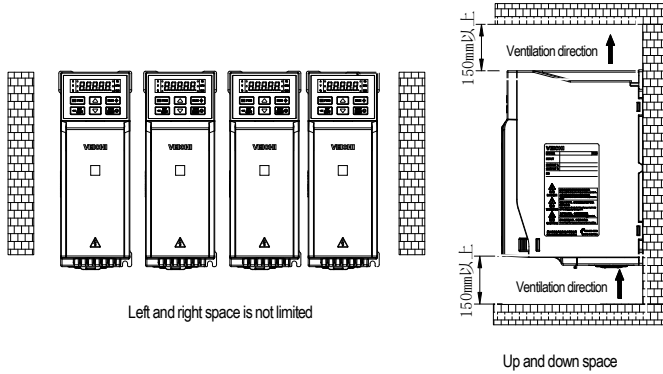
Items		specifications
Power input	Voltage, frequency	Single phase :220V 50/60Hz; Three phase: 220V 50/60Hz; Three phase 380V 50/60Hz ,
	Allowable	voltage unbalance rate:<3%; Frequency:±5%; aberration rate: as IEC61800-2 required
	Inrush current	Lower than rated current
	Power factor	≥0.94(with DC reactor)
	Efficiency	≥96%
Output	Output voltage	Output under rated condition: 3 phase, 0~input voltage, deviation<5%
	Output frequency	G type:0~600Hz
	Output frequency	Max frequency ±0.5%
	Overload capacity	G type: 150% rated current/1 min, 180% rated current/10s, 200% rated current/0.5s P type: 120% rated current/1 min, 140% rated current/10s, 150% rated current/0.5s
Main Control performance	Motor type	Three-phase asynchronous motor; Permanent magnet synchronous motor (sine wave)
	Control mode	V/F control, Open loop vector control, Closed loop vector control
	Modulation	Optimizing Space Voltage Vector PWM Modulation
	Carrier frequency	1.0~16.0kHz
	Speed control range	VC without PG: rated load 1:100; VC with PG: rated load 1:1000
	Steady speed	VC without PG: ≤2% rated synchronized speed; VC with PG: ≤0.05% rated synchronized speed
	Starting torque	VC without PG: 150% rated torque at 0.5Hz; VC with PG: 0Hz, 200% rated torque at 0Hz
	Torque response	VC without PG: <20ms; VC with PG: <10ms
	Frequency accuracy	Digital setting: max frequency×±0.01%; Analog setting: max frequency×±0.2%
	Frequency resolution	Digital setting: 0.01Hz; Analog setting: max frequency×0.05%
Basic functions	Torque control	Torque setting calculation, torque mode speed limit
	DC braking capacity	Starting frequency:0.00~50.00Hz; Braking time:0.0~60.0s; Braking current:0.0~150.0% rated
	Torque boost	Automatic torque boost 0.0%~100.0%; Manual torque boost 0.0%~30.0%
	V/F curve	Four modes: linear torque characteristic curve, self-set V/F curve, torque reduction characteristic curve (1.1 to 2.0 power), square V/F curve
	Acceleration/Deceleration curve	2 modes: linear Acceleration/Deceleration and S curve Acceleration/Deceleration. 4 sets of ACC/DEC, time unit 0.01s selectable, longest time: 650.00s.
	Rated output voltage	Using the power supply voltage compensation function, the rated voltage of the motor is 100%, which can be set within the range of 50 to 100% (the output cannot exceed the input voltage)
	Voltage	While power supply voltage fluctuates, it can auto-keep constant output voltage.
	Auto energy-saving running	While under V/F control mode, according to load situation, auto-optimize output voltage to save energy.
	Auto-limit current	Auto-limit the current while running to prevent over current break trouble.
	Instant power off	Uninterrupted operation through bus voltage control during instantaneous power loss
	Standard functions	PID control, speed track, power off restart, jump frequency, upper/lower frequency limit control, program operation, multi- speed, RS485, analog output, frequency impulse output.
	Frequency setting channels	Keyboard digital setting, Analog voltage/current terminal AI1, Analog voltage/current terminal AI2, Communication given and multi-channel terminal selection, Main and auxiliary channel combination, expansion card, supporting different modes switch
	Feedback input channel	Voltage/Current Terminal AI1, Voltage/Current Terminal AI12, Communication given, Low-speed pulse input PUL, extension card
	Running command	Operation panel given, external terminal given, communication given, expansion card given
	Input command signal	Start, stop, FWD/REV, JOG, multi-step speed, free stop, reset, ACC/DEC time selection, frequency given channel selection, external fault alarm.

Model	Overall dimension(mm)					Installation dimension(mm)					Aperture
	W	H	H1	D	D1	W1	W2	H2	A	B	
AC310-S2-R75G-B	76	200	192	155	149	65	65	193	5.5	4	3-M4
AC310-S2-1R5G-B											
AC310-S2-2R2G-B	100	242	231	155	149	84	86.5	231.5	8	5.5	3-M4
AC310-S2-004G-B											
AC310-T3-R75G/1R5P-B	76	200	192	155	149	65	65	193	5.5	4	3-M4
AC310-T3-1R5G/2R2P-B											
AC310-T3-2R2G-B											
AC310-T3-004G/5R5P-B	100	242	231	155	149	84	86.5	231.5	8	5.5	3-M4
AC310-T3-5R5G/7R5P-B											
AC310-T3-7R5G/011P-B	116	320	307.5	175	169	98	100	307.5	9	6	3-M5
AC310-T3-011G/015P-B											

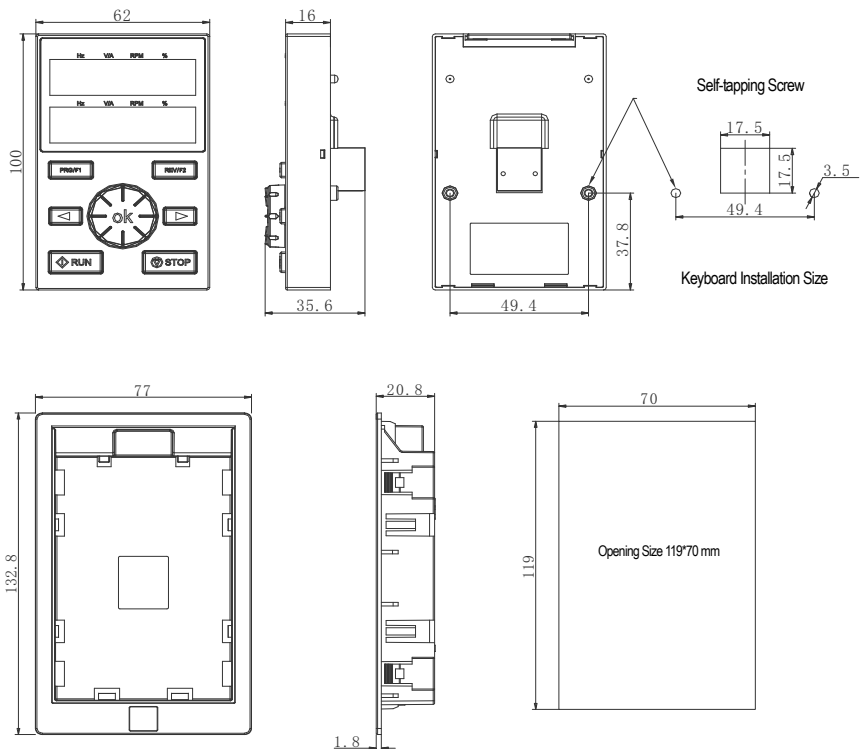


Model	Overall dimension(mm)					Installation dimension(mm)				Aperture
	W	H	H1	D	D1	W1	W2	H2	B	
AC310-T3-015G/018P-B	142	383	372	225	219	125	100	372	6	4-M5
AC310-T3-018G/022P-B										
AC310-T3-022G/030P-B										
AC310-T3-030G/037P	172	430	/	225	219	150	150	416.5	7.5	4-M5
AC310-T3-037G/045P										

AC Drive installation space requirements



External keyboard shape and opening size Note: LCD keyboard is fully compatible with LED keyboard size and opening size.



AC310 Series External keyboard pocket shape and opening size

● Function Specification of Switch Terminals

Switch Terminal	Selecting Position	Function Specification
RS485 OFF ☐ ON ☐ AO-F OFF ☐ ON ☐ AO-I OFF ☐ ON ☐ AO-U OFF ☐ ON ☐ AI1 U ☐ I ☐ AI2 U ☐ I ☐	RS485 Terminal Resistor	RS485 Communication :connect with 120Ω terminal resistor
	AO Output- frequency	AO2: 0.0~100kHz frequency output
	AO Output- Current	AO2: 0~20mA current output or 4~20mA current output
	AO Output- Voltage	0~10V voltage output
	AI1 Input- Current/Voltage	AI1: Input 0~20mA or 0~10V
	AI2 Input- Current/Voltage	AI2: Input 0~20mA or 0~10V

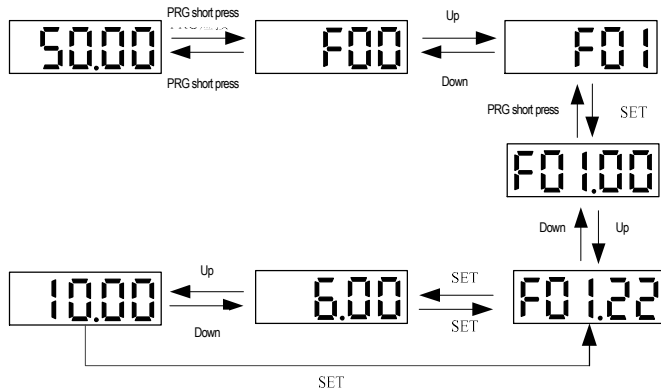
● Some peripheral electrical components instructions

Name	Installation and selection	Function Definition
DC reactor	Installed between the EMC filter and the braking resistor 132kW and above standard	Increase the power factor on the input side; Improve the overall efficiency and thermal stability of the AC Drive; Effectively eliminate the influence of the input side higher harmonics on the AC Drive and reduce external conduction and radiation interference.
Break unit	Standard 22kW and below, 22kW or more to 110kW (connected between PB and (+))	For power models above 22kW, please choose our recommended braking unit and braking resistor; The motor consumes regenerative energy through the braking resistor when decelerating.

			Move left and right
H			Select the function of this key by parameter F11.00 [Keyboard Multi-Function Key Selection]

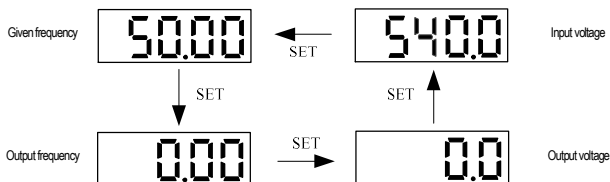
• Basic parameter group setting

The following is an example of setting F01.22 [acceleration time] = 10.00s to explain the basic operation of the LED operator.



Note: When modifying the ten, hundred and thousand digits of the parameter value, use the keyboard shift key function to quickly select.

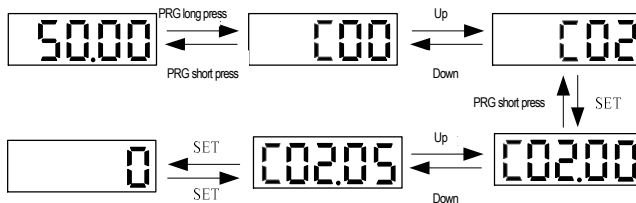
• Run monitoring status view



Note: When using the external keyboard, use the left shift button to cycle through the first line of monitoring parameters, and use the right shift button to cycle through the second line of monitoring parameters.

• Monitoring parameter view

The following is an example to illustrate the basic operation of the LED operator at at C02.05 [PLC Operation Phase]



4.3 Environment application

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F00.00 (0x0000)	Parameter access level	V/F SVC FVC PMVF PMSVC PMFVC Set the parameter access level based on the case of restricted parameter access. 0: standard parameter (Fxx.yy) 1: Common parameters (F00.00, Pxx.yy) 2: Monitoring parameters (F00.00, Cxx.yy) 3: Changed parameter (F00.00, Hxx.yy)	0 (0 ~ 3)	RUN
F00.03 (0x0003)	Initialization	V/F SVC FVC PMVF PMSVC PMFVC Set the AC Drive initialization method. 0: not initialized 11: Select the set value according to the purpose to perform the parameter (excluding the motor parameter) 22: All parameters are initialized 33: Clear the fault record	0 (0 ~ 33)	STOP
F00.04 (0x0004)	Keyboard parameter copy	V/F SVC FVC PMVF PMSVC PMFVC 0: no function 1: Upload parameters to the keyboard 2: Download parameters to the AC Drive	0 (0 ~ 9999)	STOP
F00.05 (0x0005)	User password	V/F SVC FVC PMVF PMSVC PMFVC Used to set the user password.	0 (0 ~ 65355)	STOP
F00.06 (0x0006)	LCD keyboard language selection	V/F SVC FVC PMVF PMSVC PMFVC Select the language displayed on the LCD operator. 0: Chinese 1: English	0 (0 ~ 1)	RUN
F00.07 (0x0007)	Free parameter 1	V/F SVC FVC PMVF PMSVC PMFVC When using multiple machines, use the machine number or usage mode number.	0 (0 ~ 65535)	RUN
F00.08 (0x0008)	Free parameter 2	V/F SVC FVC PMVF PMSVC PMFVC When using multiple machines, use the machine number or usage mode number.	0 (0 ~ 65535)	RUN
F00.10~F00.39 (0x0010 ~ 0x0027)	Common parameter address setting	V/F SVC FVC PMVF PMSVC PMFVC "0~00" digits: yy setting in function parameter number Fxx.yy 00~99 "000~0000" digits: xx setting in function parameter number Fxx.yy 00~31	0102 (0000 ~ 3199)	RUN

4.4 F01: Basic Settings

F01.0x: Basic command

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F01.00 (0x0100)	Motor control	V/F SVC FVC PMVF PMSVC PMFVC The control mode of the motor. Asynchronous motor control mode: 0: AM-VF; VF control 1: AM-SVC; open loop vector control, current closed loop control 2: AM-FVC; closed loop vector control Synchronous motor control mode: 10: PM-VF; VF control 11: PM-SVC; open loop vector control 12: PM-FVC; closed loop vector control	0 (0 ~ 12)	STOP
F01.01 (0x0101)	Run command channel	V/F SVC FVC PMVF PMSVC PMFVC Used to select the channel that the drive accepts the run and stop commands and the direction of travel. 0: keyboard control (external keyboard priority) 1: terminal control 2: RS485 communication control 3: Option card	0 (0 ~ 3)	RUN
F01.02 (0x0102)	Frequency given channel A	V/F SVC FVC PMVF PMSVC PMFVC The given source channel B of the frequency converter 0: keyboard digital reference frequency 1: keyboard analog potentiometer given 2: Current/voltage analog AI1 given 3: Current/voltage analog AI2 given	0 (0 ~ 11)	RUN

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F01.20 (0x0114)	Acceleration/deceleration time reference	V/F SVC FVC PMVF PMSVC PMFVC Set the reference frequency to calculate the acceleration/deceleration time. 0: Maximum frequency 1: Fixed frequency 50Hz 2: Set frequency	0 (0~2)	STOP
F01.21 (0x0115)	Acceleration time unit	V/F SVC FVC PMVF PMSVC PMFVC The unit of acceleration time setting. 0:1s 1:0.1s 2:0.01s	2 (0~2)	STOP
F01.22 (0x0116)	Acceleration time 1	V/F SVC FVC PMVF PMSVC PMFVC The time required for the output frequency to accelerate from 0.00 Hz to the reference frequency. 1~65000s(F01.21=0) 0.1~6500.0s(F01.21=1) 0.01~650.00s(F01.21=2)	Model related (0.01~650.00s)	RUN
F01.23 (0x0117)	Deceleration time 1	V/F SVC FVC PMVF PMSVC PMFVC Time required for the output frequency to decelerate from the reference frequency to 0.00 Hz.	Model related (0.01~650.00s)	RUN
F01.24 (0x0118)	Acceleration time 2	V/F SVC FVC PMVF PMSVC PMFVC Time required for the output frequency to accelerate from 0.00Hz to the reference frequency	Model related (0.01~650.00s)	RUN
F01.25 (0x0119)	Deceleration time 2	V/F SVC FVC PMVF PMSVC PMFVC Time required for the output frequency to decelerate from the reference frequency to 0.00 Hz.	Model related (0.01~650.00s)	RUN
F01.26 (0x011A)	Acceleration time 3	V/F SVC FVC PMVF PMSVC PMFVC Time required for the output frequency to accelerate from 0.00Hz to the reference frequency	Model related (0.01~650.00s)	RUN
F01.27 (0x011B)	Deceleration time 3	V/F SVC FVC PMVF PMSVC PMFVC Time required for the output frequency to decelerate from the reference frequency to 0.00 Hz.	Model related (0.01~650.00s)	RUN
F01.28 (0x011C)	Acceleration time 4	V/F SVC FVC PMVF PMSVC PMFVC Time required for the output frequency to accelerate from 0.00Hz to the reference frequency	Model related (0.01~650.00s)	RUN
F01.29 (0x011D)	Deceleration time 4	V/F SVC FVC PMVF PMSVC PMFVC Time required for the output frequency to decelerate from the reference frequency to 0.00 Hz.	Model related (0.01~650.00s)	RUN
F01.30 (0x011E)	S curve acceleration and deceleration selection	V/F SVC FVC PMVF PMSVC PMFVC S curve acceleration and deceleration selection is valid or invalid 0: invalid 1: valid	1 (0~1)	STOP
F01.31 (0x011F)	S curve acceleration start time	V/F SVC FVC PMVF PMSVC PMFVC Set the S curve acceleration start time.	0.20s (0.00~10.00)	STOP
F01.32 (0x0120)	S curve acceleration end time	V/F SVC FVC PMVF PMSVC PMFVC Set the S curve acceleration end time	0.20s (0.00~10.00)	STOP
F01.33 (0x0121)	S curve deceleration start time	V/F SVC FVC PMVF PMSVC PMFVC Set the S curve deceleration start time.	0.20s (0.00~10.00)	STOP
F01.34 (0x0122)	S curve deceleration end time	V/F SVC FVC PMVF PMSVC PMFVC Set the S curve deceleration end time	0.20s (0.00~10.00)	STOP
F01.35 (0x0123)	Switching frequency between acceleration time 1 and acceleration time 2	V/F SVC FVC PMVF PMSVC PMFVC Set the frequency switch between Acc time 1 and Acc time 2	0.00Hz (0.00~Max frequency)	RUN

F01.4x: PWM Controlling

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F01.40 (0x0128)	The carrier frequency	V/F SVC FVC PMVF PMSVC PMFVC Use to set the switching frequency of the AC Drive IGBT.	Model related (1.0~16.0kHz)	RUN

F02.15 (0x020F)	Stator resistance standard value	V/F SVC FVC PMVF PMSVC PMFVC Set the stator resistance value.	Model related (0.01 ~ 50.00%)	READ
F02.16 (0x0210)	Rotor resistance standard value	V/F SVC FVC PMVF PMSVC PMFVC Set the rotor resistance value.	Model related (0.01~50.00%)	READ
F02.17 (0x0211)	Stator leakage inductance	V/F SVC FVC PMVF PMSVC PMFVC Set the stator leakage inductance value.	Model related (0.01~50.00%)	READ
F02.18 (0x0212)	Stator inductance value	V/F SVC FVC PMVF PMSVC PMFVC Set the stator inductance value	Model related (0.1 ~ 999.0%)	READ

F02.2x: Synchronous Motor Senior Parameter

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F02.20 (0x0214)	Synchronous stator resistance	V/F SVC FVC PMVF PMSVC PMFVC Set the PM stator resistance.	Model related (0.01mΩ ~ 60000mΩ)	STOP
F02.21 (0x0215)	Synchronous machine D-axis inductance	V/F SVC FVC PMVF PMSVC PMFVC Set the D-axis inductance of the PM.	Model related (0.001mH ~ 6553.5mH)	STOP
F02.22 (0x0216)	Synchronous machine Q-axis inductance	V/F SVC FVC PMVF PMSVC PMFVC Set the Q-axis inductance of the PM.	Model related (0.001mH ~ 6553.5mH)	STOP
F02.23 (0x0217)	Synchronous machine back electromotive force	V/F SVC FVC PMVF PMSVC PMFVC Set the back EMF of the PM. It will only be recognized when the rotation is self-tuning.	Model related (0~1500V)	STOP
F02.24 (0x0218)	Synchronous machine encoder mounting angle	V/F SVC FVC PMVF PMSVC PMFVC Set the PM encoder mounting angle.	Model related (0.0°~360.0°)	RUN
F02.25 (0x0219)	Synchronous machine stator resistance standard value	V/F SVC FVC PMVF PMSVC PMFVC Set the stator resistance value of the PM	Model related	READ
F02.26 (0x021A)	Synchronous machine D-axis inductance standard value	V/F SVC FVC PMVF PMSVC PMFVC Set the D-axis inductance value of the PM	Model related	READ
F02.27 (0x021B)	Synchronous machine Q-axis inductance standard value	V/F SVC FVC PMVF PMSVC PMFVC Set the Q-axis inductance value of the PM.	Model related	READ
F02.28 (0x021C)	Synchronous motor pulse width coefficient	V/F SVC FVC PMVF PMSVC PMFVC Set the pulse width factor of the PM.	Model related (00.00~99.99)	STOP

F02.3x-F02.4x: Encoder Parameter

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F02.30 (0x021E)	Speed feedback encoder type	V/F SVC FVC PMVF PMSVC PMFVC 0: Normal ABZ encoder (extension port EX_B) 1: rotary transformer (connected to the expansion port EX_B)	0 (0~1)	STOP
F02.31 (0x021F)	Encoder direction	V/F SVC FVC PMVF PMSVC PMFVC 0: the same direction 1: the opposite direction	0 (0~1)	STOP
F02.32 (0x0220)	ABZ encoder Z pulse detection selection	V/F SVC FVC PMVF PMSVC PMFVC 0: Off 1: On	1 (0~1)	STOP
F02.33 (0x0221)	ABZ encoder line number	V/F SVC FVC PMVF PMSVC PMFVC Set the number of ABZ encoder lines.	1024 (1~10000)	STOP
F02.34 (0x0222)	Number of resolver poles	V/F SVC FVC PMVF PMSVC PMFVC Set the number of resolver poles.	2 (2~128)	STOP
F02.35 (0x0223)	Encoder transmission ratio numerator	V/F SVC FVC PMVF PMSVC PMFVC Set the encoder drive ratio numerator.	1 (1~32767)	RUN
F02.36 (0x0224)	Encoder gear ratio denominator	V/F SVC FVC PMVF PMSVC PMFVC Set the encoder driven ratio denominator.	1 (1~32767)	RUN
F02.37 (0x0225)	Encoder speed measurement filter	V/F SVC FVC PMVF PMSVC PMFVC Set the encoder speed measurement filter time	1.0ms (0.0~100.0ms)	RUN

F03.12 (0x030C)	Current loop Q-axis proportional gain	V/F SVC FVC PMVF PMSVC PMFVC Set the current loop Q-axis proportional gain	1.00 (0.001 ~ 4.000)	RUN
F03.13 (0x030D)	Current loop Q-axis integral gain	V/F SVC FVC PMVF PMSVC PMFVC Set the current loop Q-axis integral gain	1.00 (0.001 ~ 4.000)	RUN
F03.15 (0x030E)	Electric state torque limit	V/F SVC FVC PMVF PMSVC PMFVC Set the motor state torque limit.	250.0% (0.0 ~ 400.0%)	RUN
F03.16 (0x030F)	Power generation torque limit	V/F SVC FVC PMVF PMSVC PMFVC Set the power generation torque limit	250.0% (0.0 ~ 400.0%)	RUN
F03.17 (0x0312)	Regenerative torque limit at low speed	V/F SVC FVC PMVF PMSVC PMFVC Set the regenerative torque limit at low speed	0.0% (0.0 ~ 400.0%)	RUN
F03.18 (0x0313)	Torque limit action frequency amplitude at low speed	V/F SVC FVC PMVF PMSVC PMFVC Set the torque limit action frequency amplitude at low speed	6.00s (0.00 ~ 30.00s)	RUN

F03.2x: Torque Optimization Controlling

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F03.20 (0x0314)	Synchronous motor low frequency pull-in current	V/F SVC FVC PMVF PMSVC PMFVC The PM motor open loop control is effective, and the larger the pull-in current is, the larger the torque output is..	20.0% (0.0 ~ 50.0%)	RUN
F03.21 (0x0315)	Synchronous motor high frequency pull-in current	V/F SVC FVC PMVF PMSVC PMFVC The PM motor open loop control is effective, and the larger the pull-in current is, the larger the torque output is.	10.0% (0.0 ~ 50.0%)	RUN
F03.22 (0x0316)	Synchronous motor pull-in current frequency	V/F SVC FVC PMVF PMSVC PMFVC The set value 100.0% corresponds to F01.10 [maximum frequency].	10.0% (0.0 ~ 100.0%)	RUN
F03.23 (0x0317)	Asynchronous motor slip compensation	V/F SVC FVC PMVF PMSVC PMFVC Set the asynchronous motor speed slip compensation.	100.0% (0.0 ~ 250.0%)	RUN
F03.24 (0x0318)	Starting torque initial value	V/F SVC FVC PMVF PMSVC PMFVC Set the initial value of the starting torque	0.0% (0.0 ~ 250.0%)	RUN

F03.3x: Magnetic Flux Optimization

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F03.30 (0x031E)	Weak magnetic feed forward coefficient	V/F SVC FVC PMVF PMSVC PMFVC Set the weak magnetic feed forward coefficient	10.0% (0.0 ~ 500.0%)	RUN
F03.31 (0x031F)	Weak magnetic control gain	V/F SVC FVC PMVF PMSVC PMFVC Set the weak magnetic control gain	10.0% (0.0 ~ 500.0%)	RUN
F03.32 (0x0320)	Weak magnetic current upper limit	V/F SVC FVC PMVF PMSVC PMFVC Set the weak magnetic current upper limit	60.0% (0.0 ~ 250.0%)	RUN
F03.33 (0x0321)	Weak magnetic voltage coefficient	V/F SVC FVC PMVF PMSVC PMFVC Set the weak magnetic voltage coefficient	97.0% (0.0 ~ 120.0%)	RUN
F03.34 (0x0322)	Output power limit	V/F SVC FVC PMVF PMSVC PMFVC Set the output power limit	250.0% (0.0 ~ 400.0%)	RUN
F03.35 (0x0323)	Overexcitation braking gain	V/F SVC FVC PMVF PMSVC PMFVC Set the overexcitation braking gain	100.0% (0.0 ~ 500.0%)	RUN
F03.36 (0x0324)	Overexcitation braking limit	V/F SVC FVC PMVF PMSVC PMFVC Set the overexcitation braking limit	10.0% (0.0 ~ 250.0%)	RUN
F03.37 (0x0325)	Energy efficient operation	V/F SVC FVC PMVF PMSVC PMFVC 0: Off 1: On	0 (0 ~ 1)	RUN
F03.38 (0x0326)	Energy-saving operation excitation lower limit	V/F SVC FVC PMVF PMSVC PMFVC Set the Energy-saving operation excitation lower limit	50.0% (0.0 ~ 80.0%)	RUN
F03.39 (0x0327)	Energy-saving operating filter coefficient	V/F SVC FVC PMVF PMSVC PMFVC Set the Energy-saving operating filter coefficient	0.010s (0.000 ~ 6.000s)	RUN

		speed is less than this value.		
F03.70 (0x0346)	Position compensation control	V/F SVC FVC PMVF PMSVC PMFVC Position compensation control under speed control for zero servo or increased system rigidity	0.0 (0 ~ 250.0)	RUN
F03.71 (0x0347)	Compensation gain	V/F SVC FVC PMVF PMSVC PMFVC Set compensation gain	1.0 (0.0 ~ 100.0)	RUN
F03.72 (0x0348)	Compensation amplitude limit	V/F SVC FVC PMVF PMSVC PMFVC Set the compensation amplitude limit value.	0.0% (0.0 ~ 100.0%)	STOP
F03.73 (0x0349)	Compensation range	V/F SVC FVC PMVF PMSVC PMFVC Set the compensation range.	10.0% (0.0 ~ 100.0%)	STOP
F03.80 (0x0350)	Synchronous motor MTPA gain	V/F SVC FVC PMVF PMSVC PMFVC Set the synchronous motor MTPA gain.	100.0% (0.0 ~ 400.0%)	RUN
F03.81 (0x0351)	Synchronous motor MTPA filter time	V/F SVC FVC PMVF PMSVC PMFV Set the MTPA filter time of the synchronous motor.	1.0ms (0.0 ~ 100.0ms)	RUN

4.7 F04 : V/F Controlling

F04.0x: V/F Controlling

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F04.00 (0x0400)	Linear V/F curve selection	V/F SVC FVC PMVF PMSVC PMFVC Used to select the type of V/F curve to meet different load characteristics. 0: straight V/F curve; 1-9: respectively, a power curve of 1.1-1.9 V/F; 10: square V/F curve; 11: customize V/F curve;	0 (0 ~ 11)	STOP
F04.01 (0x0401)	Torque boost	V/F SVC FVC PMVF PMSVC PMFVC 0.0%: automatic torque boost; 0.1 to 30.0%: manual torque boost	0.0% (0.0 ~ 30.0%)	RUN
F04.02 (0x0402)	Torque boost cutoff frequency	V/F SVC FVC PMVF PMSVC PMFVC Set the effective range of the torque boost function. When the output frequency exceeds this value, the torque boost function is cut off.	100.0% (0.0 ~ 100.0%)	RUN
F04.03 (0x0403)	Slip compensation gain	V/F SVC FVC PMVF PMSVC PMFVC Set the slip compensation gain.	0.0% (0.0 ~ 200.0%)	RUN
F04.04 (0x0404)	Slip compensation limit	V/F SVC FVC PMVF PMSVC PMFVC Set the slip compensation limit value.	100.0% (0.0 ~ 300.0%)	RUN
F04.05 (0x0405)	Slip compensation filter time	V/F SVC FVC PMVF PMSVC PMFVC The slip compensation function needs to correctly input the motor nameplate parameters and learn the parameters to achieve the best results.	0.200 (0.000 ~ 6.000)	RUN
F04.06 (0x0406)	Oscillation suppression gain	V/F SVC FVC PMVF PMSVC PMFVC By adjusting this value, low frequency resonance can be suppressed, but not too large, otherwise it will cause additional stability problems..	100.0% (0.0 ~ 900.0%)	RUN
F04.07 (0x0407)	Oscillation suppression filter time	V/F SVC FVC PMVF PMSVC PMFVC Set the oscillation suppression filter time.	1.0 (0.0 ~ 100.0s)	RUN
F04.08 (0x0408)	Output voltage percentage	V/F SVC FVC PMVF PMSVC PMFVC Set the output voltage percentage	100.0% (25.0 ~ 120.0%)	STOP

F04.1x: Custom V/F Curve

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F04.10 (0x040A)	Self-setting voltage V1	V/F SVC FVC PMVF PMSVC PMFVC Self-setting voltage V1	3.0% (0.0 ~ 100.0%)	STOP
F04.11 (0x040B)	Self-set frequency F1	V/F SVC FVC PMVF PMSVC PMFVC Self-set frequency F1	1.00Hz (0.00~Max)	STOP

F05.09 (0x0509)	Terminal X10 function selection	V/F SVC FVC PMVF PMSVC PMFVC See the function of the terminal for details.	0 (0 ~ 95)	STOP
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F05.1x: Detection Delay

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F05.10 (0x050A)	X1 effective detection delay	V/F SVC FVC PMVF PMSVC PMFVC The delay time corresponding to the input terminal X1 transit from the inactive state to the active state	0.010 (0.000 ~ 6.000s)	RUN
F05.11 (0x050B)	X1 invalid detection delay	V/F SVC FVC PMVF PMSVC PMFVC The delay time corresponding to the input terminal X1 transit from the active state to the inactive state	0.010 (0.000 ~ 6.000s)	RUN
F05.12 (0x050C)	X2 effective detection delay	V/F SVC FVC PMVF PMSVC PMFVC The delay time corresponding to the input terminal X2 transit from the inactive state to the active state	0.010 (0.000 ~ 6.000s)	RUN
F05.13 (0x050D)	X2 invalid detection delay	V/F SVC FVC PMVF PMSVC PMFVC The delay time corresponding to the input terminal X2 transit from the active state to the inactive state	0.010 (0.000 ~ 6.000s)	RUN
F05.14 (0x050E)	X3 effective detection delay	V/F SVC FVC PMVF PMSVC PMFVC The delay time corresponding to the input terminal X3 transit from the inactive state to the active state	0.010 (0.000 ~ 6.000s)	RUN
F05.15 (0x050F)	X3 invalid detection delay	V/F SVC FVC PMVF PMSVC PMFVC The delay time corresponding to the input terminal X3 transit from the active state to the inactive state	0.010 (0.000 ~ 6.000s)	RUN
F05.16 (0x0510)	X4 effective detection delay	V/F SVC FVC PMVF PMSVC PMFVC The delay time corresponding to the input terminal X4 transit from the inactive state to the active state	0.010 (0.000 ~ 6.000s)	RUN
F05.17 (0x0511)	X4 invalid detection delay	V/F SVC FVC PMVF PMSVC PMFVC The delay time corresponding to the input terminal X4 transit from the active state to the inactive state	0.010 (0.000 ~ 6.000s)	RUN
F05.18 (0x0512)	X5 effective detection delay	V/F SVC FVC PMVF PMSVC PMFVC The delay time corresponding to the input terminal X5 transit from the inactive state to the active state	0.010 (0.000 ~ 6.000s)	RUN
F05.19 (0x0513)	X5 invalid detection delay	V/F SVC FVC PMVF PMSVC PMFVC The delay time corresponding to the input terminal X5 transit from the active state to the inactive state	0.010 (0.000 ~ 6.000s)	RUN

F05.2x: Terminal Movement Selection

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F05.20 (0x0514)	Terminal control mode	V/F SVC FVC PMVF PMSVC PMFVC 0: Two-wire system 1: Two-wire system 2 2: Three-wire system 1 3: Three-wire system 2 Note: See Appendix 2 for terminal wiring.	0 (0 ~ 3)	STOP
F05.22 (0x0516)	X1 ~ X4 terminal characteristics selection	V/F SVC FVC PMVF PMSVC PMFVC 0: Valid when closed 1: valid when disconnected Unit: X1 terminal Ten: X2 terminal Hundreds place: X3 terminal Thousands: X4 terminal	0000 (0000 ~ 1111)	RUN
F05.23 (0x0517)	X5 ~ X8 terminal characteristics selection	V/F SVC FVC PMVF PMSVC PMFVC 0: Valid when closed 1: valid when disconnected Unit: X5 terminal Ten: X6 terminal Hundreds place: X7 terminal Thousands: X8 terminal	0000 (0000 ~ 1111)	RUN
F05.24 (0x0518)	X9 ~ X10 terminal characteristics selection	V/F SVC FVC PMVF PMSVC PMFVC 0: Valid when closed 1: valid when disconnected Unit: X9 terminal Ten: X10 terminal	0000 (0000 ~ 1111)	RUN
F05.25 (0x0519)	Terminal UP/DW control selection	V/F SVC FVC PMVF PMSVC PMFVC 0: The frequency will be stored when power down The frequency won't be stored when power down 2: Adjustable during operation stop and clean 1:	0 (0 ~ 2)	STOP
F05.26 (0x051A)	Terminal UP/DW controls frequency increase and decrease rate	V/F SVC FVC PMVF PMSVC PMFVC Set terminal UP/DW to control the frequency increase and decrease rate	0.50Hz/s (0.01~50.00Hz/s)	RUN
F05.27 (0x051B)	Terminal emergency stop deceleration time	V/F SVC FVC PMVF PMSVC PMFVC Set terminal emergency stop deceleration time	1.00s (0.01 ~ 650.00s)	RUN

		value.		
F05.58 (0x053A)	AI2 upper limit corresponding setting	V/F SVC FVC PMVF PMSVC PMFVC Set the percentage of the corresponding set value	100.00% (-100.00~100.00%)	RUN
F05.59 (0x053B)	AI2 filter time	V/F SVC FVC PMVF PMSVC PMFVC Define the size of the analog signal to be used to eliminate interfering signals.	0.010s (0.000~6.000s)	RUN
F05.60 (0x053C)	Curve 1 lower limit	V/F SVC FVC PMVF PMSVC PMFVC Set the lower limit of curve 1	0.0% (0.0~100.0%)	RUN
F05.61 (0x053D)	Curve 1 lower limit corresponding setting	V/F SVC FVC PMVF PMSVC PMFVC Set the corresponding percentage	0.00% (0.00~100.00%)	RUN
F05.62 (0x053E)	Curve 1 inflection point 1 input voltage	V/F SVC FVC PMVF PMSVC PMFVC Set curve 1 inflection point 1 input voltage	30.0% (0.0~100.0%)	RUN
F05.63 (0x053F)	Curve 1 inflection point 1 corresponding setting	V/F SVC FVC PMVF PMSVC PMFVC Set the corresponding percentage	30.00% (0.00~100.00%)	RUN
F05.64 (0x0540)	Curve 1 inflection point 2 input voltage	V/F SVC FVC PMVF PMSVC PMFVC Set curve 1 inflection point 2 input voltage	60.0% (0.0~100.0%)	RUN
F05.65 (0x0541)	Curve 1 inflection point 2 corresponding setting	V/F SVC FVC PMVF PMSVC PMFVC Set the corresponding percentage	60.00% (0.00~100.00%)	RUN
F05.66 (0x0542)	Curve 1 upper limit	V/F SVC FVC PMVF PMSVC PMFVC Set the upper limit of curve 1	100.0% (0.0~100.0%)	RUN
F05.67 (0x0543)	Curve 1 upper limit corresponding setting	V/F SVC FVC PMVF PMSVC PMFVC Set the corresponding percentage	100.00% (0.00~100.00%)	RUN
F05.70 (0x0546)	Curve 2 lower limit	V/F SVC FVC PMVF PMSVC PMFVC Set the lower limit of curve 2	0.0% (0.0~100.0%)	RUN
F05.71 (0x0547)	Curve 2 lower limit corresponding setting	V/F SVC FVC PMVF PMSVC PMFVC Set the corresponding percentage	0.00% (0.00~100.00%)	RUN
F05.72 (0x0548)	Curve 2 inflection point 1 input voltage	V/F SVC FVC PMVF PMSVC PMFVC Set curve 2 inflection point 1 input voltage	30.0% (0.0~100.0%)	RUN
F05.73 (0x0549)	Curve 2 inflection point 1 corresponding setting	V/F SVC FVC PMVF PMSVC PMFVC Set the corresponding percentage	30.00% (0.00~100.00%)	RUN
F05.74 (0x054A)	Curve 2 inflection point 2 input voltage	V/F SVC FVC PMVF PMSVC PMFVC Set curve 2 inflection point 1 input voltage	60.0% (0.0~100.0%)	RUN
F05.75 (0x054B)	Curve 2 inflection point 2 corresponding setting	V/F SVC FVC PMVF PMSVC PMFVC Set the corresponding percentage	60.00% (0.00~100.00%)	RUN
F05.76 (0x054C)	Curve 2 upper limit	V/F SVC FVC PMVF PMSVC PMFVC Set the upper limit of curve 2	100.0% (0.00~100.0%)	RUN
F05.77 (0x054D)	Curve 2 upper limit corresponding setting	V/F SVC FVC PMVF PMSVC PMFVC Set the corresponding percentage	100.00% (0.00~100.00%)	RUN
F05.80 (0x0550)	AI terminal for digital input	V/F SVC FVC PMVF PMSVC PMFVC 0: valid at low level 1: valid at high level Unit: AI1 Tens: AI2	0000 (0000~1111)	RUN
F05.81 (0x0551)	Terminal characteristics selection	V/F SVC FVC PMVF PMSVC PMFVC See the function of the terminal for details.	0 (0~63)	STOP
F05.82 (0x0552)	AI terminal function selection (as X terminal)	V/F SVC FVC PMVF PMSVC PMFVC The input setting is higher than the high level setting, which is the input high level.	70.00% (0.00~100.00%)	RUN
F05.83 (0x0553)	AI high level setting	V/F SVC FVC PMVF PMSVC PMFVC Less than the low level setting is low level.	30.00% (0.00~100.00%)	RUN

4.9 F06: Output Terminal

Parameter (Address)	Name	Content	Factory default (range)	Adjustable property
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F06.30 (0x061E)	Relay 1 output OFF delay time	V/F SVC FVC PMVF PMSVC PMFVC Set relay 1 output OFF delay time.	0.010s (0.000~60.000s)	RUN
F06.31 (0x061F)	Extended Y1 output OFF delay time	V/F SVC FVC PMVF PMSVC PMFVC Set the extended Y1 output OFF delay time	0.010s (0.000~60.000s)	RUN
F06.32 (0x0620)	Extended relay 2 output OFF delay time	V/F SVC FVC PMVF PMSVC PMFVC Set the extended relay 2 output OFF delay time.	0.010s (0.000~60.000s)	RUN

F06.4x: Frequency Detection

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F06.40 (0x0628)	Frequency detection value 1	V/F SVC FVC PMVF PMSVC PMFVC Set the frequency detection value 1	2.00Hz (0.00~max frequency)	RUN
F06.41 (0x0629)	Frequency detection amplitude 1	V/F SVC FVC PMVF PMSVC PMFVC Set the frequency detection amplitude 1	1.00Hz (0.00~max frequency)	RUN
F06.42 (0x062A)	Frequency detection value 2	V/F SVC FVC PMVF PMSVC PMFVC Set the frequency detection value 2	2.00Hz (0.00~max frequency)	RUN
F06.43 (0x062B)	Frequency detection range 2	V/F SVC FVC PMVF PMSVC PMFVC Set the frequency detection range 2	1.00Hz (0.00~max frequency)	RUN
F06.44 (0x062C)	The given frequency reaches the detection range	V/F SVC FVC PMVF PMSVC PMFVC Set the given frequency to reach the detection range	2.00Hz (0.00~max frequency)	RUN

F06.5x: Monitor parameter comparator output

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F06.50 (0x0632)	Comparator 1 monitor selection	V/F SVC FVC PMVF PMSVC PMFVC Units and Tens digits: Set yy value of the Cxx.yy 00~63 Hundreds and thousands: Set xx value of the Cxx.yy 00~07	0001 (0000~0763)	RUN
F06.51 (0x0633)	Comparator 1 upper limit	V/F SVC FVC PMVF PMSVC PMFVC Set the upper limit of comparator 1	3000 (0~65535)	RUN
F06.52 (0x0634)	Comparator 1 lower limit	V/F SVC FVC PMVF PMSVC PMFVC Set the lower limit of comparator 1	0 (0~65535)	RUN
F06.53 (0x0635)	Comparator 1 bias	V/F SVC FVC PMVF PMSVC PMFVC Set the comparator 1 offset value	0 (0~1000)	RUN
F06.54 (0x0636)	Action selection when sending CP1	V/F SVC FVC PMVF PMSVC PMFVC 0: Continue running(digital terminal output only); 1: Warning and free stop;2: Warning and continue running; 3: Forced stop	0 (0~3)	RUN
F06.55 (0x0637)	Comparator 2 monitor selection	V/F SVC FVC PMVF PMSVC PMFVC Units and Tens digits: Set yy value of the Cxx.yy 00~63 Hundreds and thousands: Set xx value of the Cxx.yy 00~07	0002 (0000~0763)	RUN
F06.56 (0x0638)	Comparator 2 upper limit	V/F SVC FVC PMVF PMSVC PMFVC Set the upper limit of comparator 2	30 (0~65535)	RUN
F06.57 (0x0639)	Comparator 2 lower limit	V/F SVC FVC PMVF PMSVC PMFVC Set the lower limit of comparator 2	0 (0~65535)	RUN
F06.58 (0x063A)	Comparator 2 bias	V/F SVC FVC PMVF PMSVC PMFVC Set the comparator 2 offset value	0 (0~1000)	RUN
F06.59 (0x063B)	Action selection when sending CP2	V/F SVC FVC PMVF PMSVC PMFVC 0: Continue running (digital terminal output only) 1: Warning and free stop 2: Warning and continue to run 3: Forced stop	0 (0~3)	RUN

F06.6x: Virtual Input and Output Terminal

4.10 F07 : Operational Control

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F07.00 (0x0700)	Start mode	V/F SVC FVC PMVF PMSVC PMFVC 0: started by the start frequency 1: DC braking first starts again from the starting frequency 2: Start after the speed tracking and direction judgment	0 (0 ~ 2)	STOP
F07.01 (0x0701)	Start pre-excitation time	V/F SVC FVC PMVF PMSVC PMFV Only asynchronous machine vector control (without PG) supports pre-excitation, other ignore	0.00s (0.00 ~ 60.00s)	STOP
F07.02 (0x0702)	Starting frequency	V/F SVC FVC PMVF PMSVC PMFVC When the given frequency is less than this value, it does not start and is in standby state	0.50Hz (0.00 ~ upper limit frequency setting)	STOP
F07.03 (0x0703)	Start protection selection	V/F SVC FVC PMVF PMSVC PMFVC 0: off 1: on Unit: terminal start protection when exiting abnormal Tens: Jog terminal start protection when exiting abnormal Hundreds: terminal start protection when the command channel is switched to the terminal Note: When the free stop, emergency stop, and forced stop commands are valid, the terminal start protection is enabled by default, and the protection time is reported as A.RUNx warning.	0111 (0000 ~ 1111)	STOP
F07.05 (0x0705)	Direction of rotation	V/F SVC FVC PMVF PMSVC PMFVC Unit: running direction 0: Direction unchanged 1: Direction reversed Tens: running direction selection 0: allow Fwd and Rev commands 1: Fwd command only 2: Rev command only Hundreds: Frequency control command 0: command is invalid 1: command is valid	0000 (0000 ~ 1121)	STOP
F07.06 (0x0706)	Power failure restart action selection	V/F SVC FVC PMVF PMSVC PMFVC 0: Invalid 1: Valid	0 (0 ~ 1)	STOP
F07.07 (0x0707)	Power failure restart waiting time	V/F SVC FVC PMVF PMSVC PMFVC Set the power failure restart waiting time	0.50s (0.00 ~ 60.00s)	STOP

F07.1x: Stop Control

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F07.10 (0x070A)	Stop mode	V/F SVC FVC PMVF PMSVC PMFVC 0: Deceleration stop 1: Free stop	0 (0 ~ 1)	RUN
F07.11 (0x070B)	Shutdown detection frequency	V/F SVC FVC PMVF PMSVC PMFVC When decelerating to stop, when the AC Drive output frequency is less than this value, it will enter the stop state.	0.50Hz (0.00 ~ upper limit frequency setting)	RUN
F07.12 (0x070C)	Stop and restart limit time	V/F SVC FVC PMVF PMSVC PMFVC Waiting time after restarting after shutdown	0.00s (0.00 ~ 60.00s)	STOP
F07.15 (0x070F)	Insufficient lower limit frequency action selection	V/F SVC FVC PMVF PMSVC PMFVC 0: Run according to frequency command 1: Free running stops, enters the pause state 2: Run at the following limited frequency 3: Zero speed operation	0 (0 ~ 3)	RUN
F07.16 (0x0710)	Zero speed torque retention factor	V/F SVC FVC PMVF PMSVC PMFVC Set zero speed torque current, 100.0% corresponds to AC Drive rated current	60.0% (0.0 ~ 150.0%)	RUN
F07.17 (0x0711)	Zero speed torque holding time	V/F SVC FVC PMVF PMSVC PMFVC Set zero speed torque hold time	0.0s (0.0 ~ 6000.0s)	RUN
F07.18 (0x0712)	Positive reversal dead time	V/F SVC FVC PMVF PMSVC PMFVC Fwd and Rev switching, zero frequency maintenance time	0.0s (0.0 ~ 120.0s)	STOP

F07.2x: DC Breaking and Speed Tracking

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
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			(0.00~Max frequency)	
F07.46 (0x072E)	Jump frequency 2	V/F SVC FVC PMVF PMSVC PMFVC Set the jump frequency 2	0.00Hz (0.00~Max frequency)	RUN
F07.47 (0x072F)	Jump frequency 2 amplitude	V/F SVC FVC PMVF PMSVC PMFVC Set the amplitude of jump frequency 2	0.00Hz (0.00~Max frequency)	RUN

4.11 F08: Auxiliary Control

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F08.00 (0x0800)	Counter input source	V/F SVC FVC PMVF PMSVC PMFVC 0: normal X terminal 1: input PUL terminal 2~5: reserved	0 (0 ~ 5)	RUN
F08.01 (0x0801)	Count input frequency division	V/F SVC FVC PMVF PMSVC PMFVC Set the input frequency division of the counter	0 (0 ~ 6000)	RUN
F08.02 (0x0802)	Counter maximum	V/F SVC FVC PMVF PMSVC PMFVC Set the max value of the counter	1000 (0 ~ 65000)	RUN
F08.03 (0x0803)	Counter setting	V/F SVC FVC PMVF PMSVC PMFVC Counter setting	500 (0 ~ 65000)	RUN
F08.04 (0x0804)	Pulse number per meter	V/F SVC FVC PMVF PMSVC PMFVC Set the counter value for per meter	10.0 (0.1~6500.0)	RUN
F08.05 (0x0805)	Set length	V/F SVC FVC PMVF PMSVC PMFVC Set length	1000 (0 ~ 65000M)	STOP
F08.06 (0x0806)	Actual length	V/F SVC FVC PMVF PMSVC PMFVC Set the actual length	0 (0 ~ 65000M)	STOP
F08.07 (0x0807)	Timer time unit	V/F SVC FVC PMVF PMSVC PMFVC Unit of the timer 0: Second 1: Minute 2: Hour	0 (0 ~ 2)	STOP
F08.08 (0x0808)	Timer setting	V/F SVC FVC PMVF PMSVC PMFVC Set the timer setting	0 (0 ~ 65000)	STOP

F08.3x: Swing Frequency Control

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F08.30 (0x081E)	Swing frequency control	V/F SVC FVC PMVF PMSVC PMFVC 0: Swing frequency control is invalid 1: Swing frequency control is valid	0 (0 ~ 1)	STOP
F08.31 (0x081F)	Swing frequency amplitude control	V/F SVC FVC PMVF PMSVC PMFVC Unit: Start Mode 0: Automatically 1: Terminal manual Tens: Swing amplitude control 0: Relative center frequency 1: Relative maximum frequency. Hundreds: preset frequency enable 0: not enabled 1: enabled	0000 (0000~0111)	STOP
yF08.32 (0x0820)	Swing frequency preset frequency	V/F SVC FVC PMVF PMSVC PMFVC Set the swing frequency preset frequency	0.00Hz (0~upper limit frequency)	STOP
F08.33 (0x0821)	Swing frequency preset frequency waiting time	V/F SVC FVC PMVF PMSVC PMFVC Set the swing frequency preset frequency waiting time	0.0s (0.0~3600.0s)	STOP
F08.34 (0x0822)	Swing frequency amplitude	V/F SVC FVC PMVF PMSVC PMFVC Set the swing frequency amplitude	10.0% (0.0~50.0%)	STOP
F08.35 (0x0823)	Kick frequency	V/F SVC FVC PMVF PMSVC PMFVC Set the kick frequency	10.0% (0.0~50.0%)	STOP
F08.36 (0x0824)	Triangle wave rise time	V/F SVC FVC PMVF PMSVC PMFVC Set the triangle wave rise time	5.00s (0.1~999.9s)	STOP
F08.37 (0x0825)	Triangle wave fall time	V/F SVC FVC PMVF PMSVC PMFVC Set the triangle wave fall time	5.00s (0.0~100.0s)	STOP

F10.15 (0x0A0F)	Energy consuming braking action voltage	V/F SVC FVC PMVF PMSVC PMFVC Set the energy consuming braking action voltage, when the bus voltage is greater than this value, the energy consuming brake starts to act	T3: 735 S2: 360 (0~ overvoltage point) T3 overvoltage point:820V;S2 overvoltage point:390V	RUN
F10.16 (0x0A10)	Bus undervoltage suppression	V/F SVC FVC PMVF PMSVC PMFVC When the bus voltage is lower than the undervoltage suppression point, the operating frequency is automatically adjusted to suppress the bus voltage from decreasing, preventing the undervoltage fault. 0: off 1: on	0 (0 ~ 1)	STOP
F10.17 (0x0A11)	Bus undervoltage suppression point	V/F SVC FVC PMVF PMSVC PMFVC Set bus voltage value for trigger undervoltage suppression function	T3: 430 S2: 240 (0~ overvoltage point) T3 overvoltage point:820V;S2 overvoltage point:390V	STOP
F10.18 (0x0A12)	Bus undervoltage suppression gain	V/F SVC FVC PMVF PMSVC PMFVC Set the response effect of undervoltage suppression	100.0% (0.0~500.0%)	RUN
F10.19 (0x0A13)	Bus undervoltage protection point	V/F SVC FVC PMVF PMSVC PMFVC Set the allowable lower limit of the bus voltage. Below this value, the AC Drive reports undervoltage fault.	T3: 350 S2: 190 (0~ overvoltage point) T3 overvoltage point:820V;S2 overvoltage point:390V	STOP

F10.2x: Auxiliary Protection

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F10.20 (0x0A14)	Input and output phase loss protection options	V/F SVC FVC PMVF PMSVC PMFVC Set whether the input and output phase loss protection functions are enabled. Unit: Output phase loss protection 0: off 1: on Tens: input phase loss protection 0: off 1: On, when detect the input loss phase report warning A.I.LF, continue to run 2: On, when detect input loss phase report fault E.I.LF, free stop	0021 (000 ~ 0121)	STOP
F10.21 (0x0A15)	Input phase loss threshold	V/F SVC FVC PMVF PMSVC PMFVC Set the percentage of voltage detection of the input phase loss detection function, 100% corresponds to the rated bus voltage	10% (0~30.0%)	STOP
F10.22 (0x0A16)	Ground short circuit protection option	V/F SVC FVC PMVF PMSVC PMFVC Set whether the AC Drive output and the AC Drive cooling fan ground short circuit protection function are enabled. Unit: Output short circuit protection 0: off 1: on Tens: fan to ground short circuit protection 0: off 1: on	0011 (0000 ~ 0012)	STOP
F10.23 (0x0A17)	Fan ON/OFF control selection	V/F SVC FVC PMVF PMSVC PMFVC Set the AC Drive cooling fan operation mode 0: The fan runs after the AC Drive is powered on. 1: After the shutdown, the fan operation is related to temperature, and the operation is running. 2: After the shutdown, the fan stops after F10.24, and the operation is related to temperature.	1 (0~2)	RUN
F10.24 (0x0A18)	Fan control delay time	V/F SVC FVC PMVF PMSVC PMFVC Set the time from shutdown to the cooling fan stops running	30.00s (0 ~ 600.00)	STOP
F10.25 (0x0A19)	AC Drive overheating oh1 warning detection level	V/F SVC FVC PMVF PMSVC PMFVC Set the temperature value of the AC Drive overheat warning, which is higher than the value to report the overheat warning.	80.0℃ (0 ~ 100.0)	RUN

F10.42 (0x0A2A)	Speed deviation excessive detection time	V/F SVC FVC PMVF PMSVC PMFVC Set the detection time of the excessive speed deviation, when the speed deviation is excessive and the duration is longer than this time value the deviation warning reported	2s (0 ~60)	STOP
F10.43 (0x0A2B)	Speed protection action	V/F SVC FVC PMVF PMSVC PMFVC Set the alarm detection mode selection and alarm mode selection when the motor is overspeed Unit: Check out the selection 0: No detection 1: Only at constant speed detection 2: Always detected Ten places: alarm selection 0: Free stop and report fault 1: Alarm and continue to run	0002 (0000 ~0012)	STOP
F10.44 (0x0A2C)	Speed exceed detection threshold	V/F SVC FVC PMVF PMSVC PMFVC Set the speed exceed warning detection value, which corresponds to F01.10 [maximum frequency]	110.0% (0 ~150.0%)	STOP
F10.45 (0x0A2D)	Speed exceed detection time	V/F SVC FVC PMVF PMSVC PMFVC Set the duration of the detection of the flying speed, the feedback speed is greater than F10.44 and continue for that time, and the speed warning is detected.	0.010s (0 ~2.000)	STOP

F10.5x: Fault Recovery Protection

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F10.50 (0x0A32)	Fault self-recovery	V/F SVC FVC PMVF PMSVC PMFVC Set the allowable times of fault self-recovery. Note: the value of 0 indicate the function is turn off otherwise the function is enable	0 (0 ~10)	STOP
F10.51 (0x0A33)	Fault self-recovery interval	V/F SVC FVC PMVF PMSVC PMFVC Set the waiting time from fault to reset	1.0s (0 ~100.0)	STOP
F10.52 (0x0A34)	Number of fault recovered	V/F SVC FVC PMVF PMSVC PMFVC This value indicates the number of self-recovery that have been performed. This parameter is a read-only parameter.	0	READ

4.14 F11: Operator Parameter

F11.0x: Button Operation

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F11.00 (0x0B00)	Key lock selection	V/F SVC FVC PMVF PMSVC PMFVC 0: No lock 1: Keyboard function parameter modification lock 2: Function parameters and non-start and stop button lock 3: function parameters and button full lock	0 (0 ~3)	RUN
F11.01 (0x0B01)	Key lock password	V/F SVC FVC PMVF PMSVC PMFVC Set the key lock password	0 (0 ~65535)	RUN
F11.02 (0x0B02)	Keyboard multi-function key selection	V/F SVC FVC PMVF PMSVC PMFVC 0: Invalid 1: Reverse run key 2: Forward jog run key 3: Reverse jog run key 4: Keyboard command channel and terminal naming channel switch 5: Keyboard command channel and communication naming channel switch 6: Terminal command channel and communication naming channel switch 7: keyboard, terminal, communication command channel cycle switching	0 (0 ~7)	STOP
F11.03 (0x0B03)	Keyboard STOP button settings	V/F SVC FVC PMVF PMSVC PMFVC 0: Non-keyboard control mode is invalid 1: Non-keyboard control mode stops according to stop mode 2: Non-keyboard control mode stops in free mode	0 (0 ~2)	STOP
F11.04 (0x0B04)	Status interface up and down keys (knob) function selection	V/F SVC FVC PMVF PMSVC PMFVC Unit keyboard up and down keys to modify the selection 0: Invalid 1: Used to adjust the frequency keyboard given F01.09 2: used to adjust the PID keyboard given F13.01 3: Keyboard up and down keys to modify the parameter number	0011 (0000 ~0213)	STOP

F11.2x: Monitoring Parameter

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F11.20 (0x0B14)	Keyboard display item settings	V/F SVC FVC PMVF PMSVC PMFVC Unit digit: Output frequency display selection 0: Target frequency 1: Operating frequency >=2: Target frequency, the filtering depth increases with this value Ten: reserved Hundreds: Power Display Dimensions 0: Power display percentage (%) 1: Power display kilowatt (KW) Thousands: reserved	0002 (0000 ~ 111F)	RUN
F11.21 (0x0B15)	Speed display factor	V/F SVC FVC PMVF PMSVC PMFVC Adjust the speed display of C00.06.	100.0% (0.0 ~ 500.0%)	RUN
F11.22 (0x0B16)	Power display factor	V/F SVC FVC PMVF PMSVC PMFVC Adjust the output power display of C00.10.	100.0% (0.0 ~ 500.0%)	RUN
F11.23 (0x0B17)	Monitoring parameter group display selection	V/F SVC FVC PMVF PMSVC PMFVC Unit: Reserved Ten: C05 display selection 0: Automatically switch according to the control mode 1: VF mode related parameters 2: VC mode related parameters Hundreds place: C00.40~C00.63 display selection 0: Do not display 1: display Thousands: Communication fault code switching enable 0: not enabled 1: Enable, the fault code is switched to the same as AC300 when 485 communication 2: Enable, the fault code is switched to the AC70 when 485 communication	0000 (0000 ~ FFFF)	RUN
F11.24 (0x0B18)	Monitoring parameter filtering selection	V/F SVC FVC PMVF PMSVC PMFVC Unit: Output current display filter 0~F: the larger the value, the deeper the filter	0002 (0000 ~ 000F)	RUN
F11.25 (0x0B19)	Display selection when the motor is self-learning	V/F SVC FVC PMVF PMSVC PMFVC Set the display selection when the motor is self-learning 0: Display self-learning process status 1: Do not display self-learning process status	0 (0 ~ 1)	STOP
F11.27 (0x0B1B)	Fault display selection	V/F SVC FVC PMVF PMSVC PMFVC Unit: The fault is displayed when the fault recovers. 0: Do not display 1: Display	0001 (0000 ~ 0001)	RUN

4.15 F12: Communication Parameter**F12.0x: MODBUS Slave Parameter**

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F12.00 (0x0C00)	Host-slave choice	V/F SVC FVC PMVF PMSVC PMFVC 0: Slave, 1: Host	0 (0 ~ 1)	STOP
F12.01 (0x0C01)	Modbus communication address	V/F SVC FVC PMVF PMSVC PMFVC Set different values for different slaves.	1 (1 ~ 247)	STOP
F12.02 (0x0C02)	Communication baud rate selection	V/F SVC FVC PMVF PMSVC PMFVC 0: 1200 bps 1: 2400 bps 2: 4800 bps 3: 9600 bps 4: 19200 bps 5: 38400 bps 6: 57600 bps	3 (0 ~ 6)	STOP
F12.03 (0x0C03)	Modbus data format	V/F SVC FVC PMVF PMSVC PMFVC 0: (N, 8, 1) no parity, data bits: 8, stop bits: 1 1: (E, 8, 1) even parity, data bits: 8, stop bits: 1 2: (O, 8, 1) odd parity, data bits: 8, stop bits: 1 3: (N, 8, 2) no parity, data bits: 8, stop bits: 2 4: (E, 8, 2) even parity, data bits: 8, stop bits: 2 5: (O, 8, 2) odd parity, data bits: 8, stop bits: 2	0 (0 ~ 5)	STOP

		6: 1Mbps		
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F12.5x: EX-A,EX-B Communication

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F12.50 (0x0C32)	Expansion port communication disconnection processing	V/F SVC FVC PMVF PMSVC PMFVC Unit: EX-A port disconnection action mode 0: No detection 1: Alarm and free stop 2: Warning and continue to run Ten digits: EX-B port disconnection action mode 0: No detection 1: Alarm and free stop 2: Warning and continue to run	0000 (0000~0022)	RUN
F12.51 (0x0C33)	Expansion port EX-A parameter update	V/F SVC FVC PMVF PMSVC PMFVC 0: No update 1: The initial value has been updated after power-on 2: Expansion port EX-A parameter recovery initial value	0 (0~2)	RUN
F12.52 (0x0C34)	Expansion port EX-B parameter update	V/F SVC FVC PMVF PMSVC PMFVC 0: No update 1: The initial value has been updated after power-on 2: Expansion port EX-B parameter recovery initial value	0 (0~2)	RUN
F12.53 (0x0C35)	Expansion port EX-A monitoring frame address group 1	V/F SVC FVC PMVF PMSVC PMFVC Ten digits: the lower address is 8 digits 00 to 63 Hundreds of thousands: address high 8 bits 00~07	0001 (0000~0763)	RUN
F12.54 (0x0C36)	Expansion port EX-A monitoring frame address group 2	V/F SVC FVC PMVF PMSVC PMFVC Ditto	0002 (0000~0763)	RUN
F12.55 (0x0C37)	Expansion port EX-A monitoring frame address group 3	V/F SVC FVC PMVF PMSVC PMFVC Ditto	0007 (0000~0763)	RUN
F12.56 (0x0C38)	Expansion port EX-A monitoring frame address group 4	V/F SVC FVC PMVF PMSVC PMFVC Ditto	0011 (0000~0763)	RUN
F12.57 (0x0C39)	Expansion port EX-B monitoring frame address group 1	V/F SVC FVC PMVF PMSVC PMFVC Ditto	0001 (0000~0763)	RUN
F12.58 (0x0C3A)	Expansion port EX-B monitoring frame address group 2	V/F SVC FVC PMVF PMSVC PMFVC Ditto	0002 (0000~0763)	RUN
F12.59 (0x0C3B)	Expansion port EX-B monitoring frame address group 3	V/F SVC FVC PMVF PMSVC PMFVC Ditto	0007 (0000~0763)	RUN
F12.60 (0x0C3C)	Expansion port EX-B monitoring frame address group 4	V/F SVC FVC PMVF PMSVC PMFVC Ditto	0011 (0000~0763)	RUN

4.16 F13: Process PID Control**F13.00-F13.06: PID given and feedback**

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F13.00 (0x0D00)	PID controller given signal source	V/F SVC FVC PMVF PMSVC PMFVC 0: Keyboard digital PID given 1: Keyboard analog potentiometer given 2: Current/voltage analog AI1 given 3: Current/voltage analog AI2 given 4: Reserved 5: Terminal pulse PUL given 6: RS485 communication reference 7: Option card 8: Terminal selection 9: Communication given active current	0 (0~9)	RUN
F13.01 (0x0D01)	Keyboard digital PID given / feedback	V/F SVC FVC PMVF PMSVC PMFVC Set keyboard digital PID given / feedback value	50.0% (0.00~100.0%)	RUN
F13.02 (0x0D02)	PID given change time	V/F SVC FVC PMVF PMSVC PMFVC Set the PID given change time	1.00s (0.00~60.00s)	RUN

F13.25-F13.28: PID Feedback Disconnection judgment

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F13.25 (0x0D19)	Feedback disconnection action selection	V/F SVC FVC PMVF PMSVC PMFVC V/F SVC FVC PMVF PMSVC PMFVC 0: Continue PID operation without reporting fault 1: Stop and report fault 2: Continue PID operation and output alarm signal 3: Run at the current frequency, output alarm signal	0 (0 ~ 3)	STOP
F13.26 (0x0D1A)	Feedback disconnection detection time	V/F SVC FVC PMVF PMSVC PMFVC Set feedback disconnection detection time	1.0s (0.0 ~ 120.0s)	RUN
F13.27 (0x0D1B)	Wire break alarm upper limit	V/F SVC FVC PMVF PMSVC PMFVC Set the upper limit of the disconnection alarm	100.0 (0.0 ~ 100.0%)	RUN
F13.28 (0x0D1C)	Wire break alarm lower limit	V/F SVC FVC PMVF PMSVC PMFVC Set the upper limit of the disconnection alarm	0.0% (0.0 ~ 100.0%)	RUN

F13.29-F13.33: PID Sleeping Function

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F13.29 (0x0D1D)	Sleep selection	V/F SVC FVC PMVF PMSVC PMFVC Set whether sleep is effective 0: off 1: valid	0 (0 ~ 1)	RUN
F13.30 (0x0D1E)	Sleep frequency	V/F SVC FVC PMVF PMSVC PMFVC Set sleep frequency	10.00Hz (0.00 ~ Max frequency)	RUN
F13.31 (0x0D1F)	Sleep delay	V/F SVC FVC PMVF PMSVC PMFVC Set the time of sleep delay	60.0S (0.0 ~ 3600.0S)	RUN
F13.32 (0x0D20)	Wake up deviation	V/F SVC FVC PMVF PMSVC PMFVC Set wakeup deviation	5.0% (0.0 ~ 50.0%)	RUN
F13.33 (0x0D21)	Wake-up delay	V/F SVC FVC PMVF PMSVC PMFVC Set wakeup delay	1.0S (0.0 ~ 60.0S)	RUN

4.17 F14:Multi-speed and Simple PLC**F14.00~F14.14: Multi-speed given**

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F14.00 (0x0E00)	Multi-speed 1	V/F SVC FVC PMVF PMSVC PMFVC Set PLC multi-speed 1	10.00Hz (0.00 ~ Max frequency)	RUN
F14.01 (0x0E01)	Multi-speed 2	V/F SVC FVC PMVF PMSVC PMFVC Set PLC multi-speed 2	20.00Hz (0.00 ~ Max frequency)	RUN
F14.02 (0x0E02)	Multi-speed 3	V/F SVC FVC PMVF PMSVC PMFVC Set PLC multi-speed 3	30.00Hz (0.00 ~ Max frequency)	RUN
F14.03 (0x0E03)	Multi-speed 4	V/F SVC FVC PMVF PMSVC PMFVC Set PLC multi-speed 4	40.00Hz (0.00 ~ Max frequency)	RUN
F14.04 (0x0E04)	Multi-speed 5	V/F SVC FVC PMVF PMSVC PMFVC Set PLC multi-speed 5	50.00Hz (0.00 ~ Max frequency)	RUN
F14.05 (0x0E05)	Multi-speed 6	V/F SVC FVC PMVF PMSVC PMFVC Set PLC multi-speed 6	40.00Hz (0.00 ~ Max frequency)	RUN
F14.06 (0x0E06)	Multi-speed 7	V/F SVC FVC PMVF PMSVC PMFVC Set PLC multi-speed 7	30.00Hz (0.00 ~ Max frequency)	RUN

F14.23 (0x0E17)	PLC 8th stage running time	V/F SVC FVC PMVF PMSVC PMFVC Set PLC 8h stage running time	10.0 (0.0 ~ 6500.0(s/m/h))	RUN
F14.24 (0x0E18)	PLC 9th stage running time	V/F SVC FVC PMVF PMSVC PMFVC Set PLC 9th stage running time	10.0 (0.0 ~ 6500.0(s/m/h))	RUN
F14.25 (0x0E19)	PLC 10th stage running time	V/F SVC FVC PMVF PMSVC PMFVC Set PLC 10th stage running time	10.0 (0.0 ~ 6500.0(s/m/h))	RUN
F14.26 (0x0E1A)	PLC11th stage running time	V/F SVC FVC PMVF PMSVC PMFVC Set PLC 11th stage running time	10.0 (0.0 ~ 6500.0(s/m/h))	RUN
F14.27 (0x0E1B)	PLC 12th stage running time	V/F SVC FVC PMVF PMSVC PMFVC Set PLC 12th stage running time	10.0 (0.0 ~ 6500.0(s/m/h))	RUN
F14.28 (0x0E1C)	PLC 13th stage running time	V/F SVC FVC PMVF PMSVC PMFVC Set PLC 13th stage running time	10.0 (0.0 ~ 6500.0(s/m/h))	RUN
F14.29 (0x0E1D)	PLC 14th stage running time	V/F SVC FVC PMVF PMSVC PMFVC Set PLC 14th stage running time	10.0 (0.0 ~6500.0(s/m/h))	RUN
F14.30 (0x0E1E)	PLC 15th stage running time	V/F SVC FVC PMVF PMSVC PMFVC Set PLC 15th stage running time	10.0 (0.0 ~ 6500.0(s/m/h))	RUN

F14.31~F14.45: PLC Operation Direction and Time Selection

Parameter (Address)	Name	Content	Factory default (range)	Adjustable properly
F14.31 (0x0E1F)	PLC direction and acceleration and deceleration time of 1st stage	V/F SVC FVC PMVF PMSVC PMFVC Unit: The running direction of this segment (compared with the running command) 0: same direction 1: reverse Ten digits: acceleration and deceleration time of this section 0: Acceleration/deceleration time 1 1: Acceleration/deceleration time 2 2: Acceleration/deceleration time 3 3: Acceleration/deceleration time 4	0000 (0000~0031)	RUN
F14.32 (0x0E20)	PLC direction and acceleration and deceleration time of 2nd stage	V/F SVC FVC PMVF PMSVC PMFVC The same settings as F14.31	0000 (0000~0031)	RUN
F14.33 (0x0E21)	PLC direction and acceleration and deceleration time of 3rd stage	V/F SVC FVC PMVF PMSVC PMFVC The same settings as F14.31	0000 (0000~0031)	RUN
F14.34 (0x0E22)	PLC direction and acceleration and deceleration time of 4th stage	V/F SVC FVC PMVF PMSVC PMFVC The same settings as F14.31	0000 (0000~0031)	RUN
F14.35 (0x0E23)	PLC direction and acceleration and deceleration time of 5th stage	V/F SVC FVC PMVF PMSVC PMFVC The same settings as F14.31	0000 (0000~0031)	RUN
F14.36 (0x0E24)	PLC direction and acceleration and deceleration time of 6th stage	V/F SVC FVC PMVF PMSVC PMFVC The same settings as F14.31	0000 (0000~0031)	RUN
F14.37 (0x0E25)	PLC direction and acceleration and deceleration time of 7th stage	V/F SVC FVC PMVF PMSVC PMFVC The same settings as F14.31	0000 (0000~0031)	RUN
F14.38 (0x0E26)	PLC direction and acceleration and deceleration time of 8th stage	V/F SVC FVC PMVF PMSVC PMFVC The same settings as F14.31	0000 (0000~0031)	RUN
F14.39 (0x0E27)	PLC direction and acceleration and	V/F SVC FVC PMVF PMSVC PMFVC The same settings as F14.31	0000 (0000~0031)	RUN

displayed as



C01: Fault Monitoring

Parameter (Address)	Name	Parameter (Address)	Name
C01.00 (0x2200)	Fault type	C01.12 (0x220C)	The first fault operation frequency
C01.01 (0x2201)	Troubleshooting information	C01.13 (0x220D)	Last fault output voltage
C01.02 (0x2202)	Fault operating frequency	C01.14 (0x220E)	Last fault output current
C01.03 (0x2203)	Fault output voltage	C01.15 (0x220F)	The first fault bus voltage
C01.04 (0x2204)	Fault output current	C01.16 (0x2210)	The first fault module temperature
C01.05 (0x2205)	Fault bus voltage	C01.17 (0x2211)	The first faulty AC Drive status
C01.06 (0x2206)	Faulty module temperature	C01.18 (0x2212)	The first fault input terminal status
C01.07 (0x2207)	Faulty AC Drive status	C01.19 (0x2213)	The first fault output terminal status
C01.08 (0x2208)	Fault input terminal status	C01.20 (0x2214)	First 2 fault types
C01.09 (0x2209)	Fault output terminal status	C01.21 (0x2215)	The first 2 troubleshooting information
C01.10 (0x220A)	Previous failure type	C01.22 (0x2216)	Top 3 fault types
C01.11 (0x220B)	Previous troubleshooting information	C01.23 (0x2217)	The first 3 troubleshooting information

C02: Application Monitoring

Parameter (Address)	Name	Parameter (Address)	Name
C02.00 (0x2300)	PID feedback	C02.08 (0x2308)	Fwd and Rev command given
C02.01 (0x2301)	PID given	C02.09 (0x2309)	Jog command given
C02.02 (0x2302)	PID output	C02.60 (0x233C)	Expansion card A version
C02.03 (0x2303)	PID control status	C02.61 (0x233D)	Expansion card B version
C02.05 (0x2305)	PLC operation phase	C02.62 (0x233E)	External keyboard version
C02.06 (0x2306)	PLC phase frequency	C02.63 (0x233F)	Built-in keyboard version
C02.07 (0x2307)	PLC phase running time		

4.19 Terminal Selection Function

Terminal X	Function Interpretation	Terminal X	Function Interpretation	Terminal X	Function Interpretation
0	No function	21	PID control pause	42	Counter clock input terminal
1	Forward running	22	PID characteristic switching	43	Counter clear terminal
2	Reverse run	23	PID parameter switching	44	DC brake command
3	Three-wire operation control (Xi)	24	PID given switch 1	45	Pre-excitation command terminal
4	Forward turn	25	PID given switch 2	46	Reserved
5	Reverse jog	26	PID given switch 3	47	Reserved
6	Free parking	27	PID feedback switching 1	48	Command channel switch to keyboard
7	emergency pull over	28	PID feedback switching 2	49	Command channel switch to terminal
8	Fault reset	29	PID feedback switching 3	50	Command channel switch to communication
9	External fault input	30	Program run (PLC) pause	51	Command channel switch to expansion card
10	Frequency increment (UP)	31	Program run (PLC) restart	52	Run prohibition
11	Frequency decrement (DW)	32	Acceleration/deceleration time selection terminal 1	53	Forward prohibition

E.OL1 (14)	Motor overload	Fault	E.BUS6 (96)	Other expansion card disconnection	Fault
E.OL2 (15)	AC Drive overload 1	Fault	E.CP1 (97)	Monitor compare output 1 fault	Fault
E.OL3 (16)	AC Drive overload 2 continuous CBC	Fault	E.CP2 (98)	Monitor compare output 2 fault	Fault
E.OL4 (17)	AC Drive overload 3	Fault	E.DAT (99)	Parameter setting error	Fault
E.ILF (18)	Input phase loss	Fault	E.FA1 (110)	External extension reserve 1	Fault
E.OLF (19)	Three phase output phase loss	Fault	E.FA2 (111)	External extension reserve 2	Fault
E.OLF1 (20)	U phase output phase loss	Fault	E.FA3 (112)	External extension reserve 3	Fault
E.OLF2 (21)	V phase output phase loss	Fault	E.FA4 (113)	External extension reserve 4	Fault
E.OLF3 (22)	W phase output phase loss	Fault	E.FA5 (114)	External extension reserve 5	Fault
E.OH1 (30)	Rectifier module over temperature	Fault	E.FA6 (115)	External extension reserve 6	Fault
E.OH2 (31)	IGBT module over temperature	Fault	E.FA7 (116)	External extension reserve 7	Fault
E.OH3 (32)	Motor over temperature	Fault	E.FA8 (117)	External extension reserve 8	Fault
E.EF (33)	External fault	Fault	The following is the warning code		
E.CE (34)	Modbus communication failure	Fault			
E.HAL1 (35)	U phase zero drift excessive	Fault	ALU1 (128)	Undervoltage during stopping	Warning
E.HAL2 (36)	V phase zero drift excessive	Fault	A.OU (129)	Overvoltage during stopping	Warning
E.HAL (37)	Sum of Three-phase current is not 0 fault	Fault	A.ILF (130)	Input phase loss	Warning
E.HAL3 (38)	W phase zero drift excessive	Fault	A.PID (131)	PID feedback disconnection	Warning
E.SGxx (40)	Short circuit to ground	Fault	A.EEP (132)	Parameter storage warning	Warning
E.FSG (41)	Fan short circuit	Fault	A.DEF (133)	Speed deviation excessive	Warning
E.PID (42)	PID feedback disconnection	Fault	A.SPD (134)	Speed warning	Warning
E.COP (43)	Parameter copy failure	Fault	A.GPS1 (135)	GPS locked	Warning
E.PG1 (44)	PG parameter setting error	Fault	A.GPS2 (136)	GPS disconnection	Warning
E.PG2 (44)	Encoder Z pulse failure	Fault	A.CE (137)	External warning	Warning
E.PG3 (44)	Rotation check error	Fault	A.LD1 (138)	Load protection 1	Warning
E.PG4 (44)	Rotational disconnection	Fault	A.LD2 (139)	Load protection 2	Warning
E.PG5 (44)	ABZ encoder disconnection	Fault	A.BUS (140)	Expansion card disconnection warning	Warning
E.PG6 (44)	Spindle encoder disconnection	Fault	A.OH1 (141)	Module over temperature warning	Warning
E.PG7 (44)	Spindle encoder Z pulse error fault	Fault	A.OH3 (142)	Motor over temperature warning	Warning
E.PG8 (44)	Encoder Z pulse logic fault	Fault	A.RUN1 (143)	Run command conflict	Warning
E.PG9 (44)	Spindle encoder Z pulse logic fault	Fault	A.RUN2 (158)	Jog terminal start protection	Warning
E.PG10 (44)	Encoder Z pulse disconnection	Fault	A.RUN3 (159)	Terminal start protection	Warning
E.BRU (50)	Brake unit failure	Fault	A.PA2 (144)	External keyboard disconnection warning	Warning
E.TExx (52)	Motor parameter self-learning fault	Fault	A.COP (145)	Parameter copy warning	Warning
E.IAE1 (71)	Motor angle learning fault 1	Fault	A.CP1 (146)	Monitor comparison output 1 warning	Warning
E.IAE2 (72)	Motor angle learning fault 2	Fault	A.CP2 (147)	Monitor comparison output 2 warning	Warning
E.IAE3 (73)	Motor angle learning fault 3	Fault	A.FA1 (150)	External extension reserve 1	Warning
E.PST1 (74)	Synchronous machine out of step fault 1	Fault	A.FA2 (151)	External extension reserve 2	Warning
E.PST2 (75)	Synchronous machine out of step fault 2	Fault	A.FA3 (152)	External extension reserve 3	Warning
E.PST3 (76)	Synchronous machine out of step fault 3	Fault	A.FA4 (153)	External extension reserve 4	Warning
E.DEF (77)	Speed deviation excessive	Fault	A.FA5 (154)	External extension reserve 5	Warning
E.SPD (78)	Speed exceed fault	Fault	A.FA6 (155)	External extension reserve 6	Warning

5.2 Maintenance

All equipment and components have a service life. Proper maintenance can extend the life, but it cannot solve the damage of equipment and equipment. Please replace the equipment according to requirements.

Item	Service life	Item	Service life	Item	Service life
Fans	2~3 years	Electrolytic capacitor	4~5 years	PCB	8~10 years

The replacement of other devices is very strict with the maintenance technology and product familiarity, and must be strictly tested before being replaced before use. Therefore, it is not recommended to replace other internal components. If you do need to replace it, please contact the agent where you purchased the product or the sales department of the company.

5.3 Product Warranty

1. The product during the warranty period is faulty. For details, please refer to the warranty terms in the warranty card.
2. Primary fault diagnosis is implemented by customs' company in principle, but can be provided by our company or our company's service network according to the requirements of your company. According to the results of negotiations with your company, the company will provide free services for the reasons of the failure.
3. Liability exemption, due to the company's product failure, the inconvenience caused to your company or your company's customers and the damage caused by non-Company products, whether within the warranty period or not, are not within the scope of the company's responsibility.

		Slave address	01H
		Command code	83H
		Fault code	04H
		Low CRC CHK	40H
		High CRC CHK	F3H

●Communication control parameter group address description

Function Description	Address Definition	Data meaning			Characteristics
Communication given	0x3000 or 0x2000	0~32000 correspond to 0.00Hz~320.00Hz			W/R
Communication command setting	0x3001 or 0x2001	0x0000:no command 0x0001:FWD run 0x0002:REV run 0x0003:FWD Jog 0x0004:REV Jog	0x0005:Dec stop 0x0006:free stop 0x0007:Fault reset 0x0008:Run prohibition command 0x0009:Run permission command		W/R
AC Drive status	0x3002 or 0x2002	Bit0	0:Stop status	1:Running status	R
		Bit1	0:Non-Acc	1:Acc status	
		Bit2	0:Non-Dec	1:Dec status	
		Bit3	0:Foward	1:Reverse	
		Bit4	0:No fault	1:AC Drive fault	
		Bit5	0:GPRS unlock	1:GPRS locked	
		Bit6	0:No warning	1:AC Drive	
AC Drive fault code	0x3003 or 0x2003	AC Drive current fault code (see fault code table)			R
Communication given upper limit frequency	0x3004 or 0x2004	0~32000 correspond to 0.00Hz~320.00Hz			W/R
Communication torque setting	0x3005 or 0x2005	0~1000 correspond to 0.0~100.0%			W/R
Torque control positive maximum frequency limit	0x3006 or 0x2006	0~1000 correspond to 0.0~100.0%			W/R
Torque control reverse maximum frequency limit	0x3007 or 0x2007	0~1000 correspond to 0.0~100.0%			W/R
Communication given PID set value	0x3008 or 0x2008	0~1000 correspond to 0.0~100.0%			W/R
Communication given PID feedback value	0x3009 or 0x2009	0~1000 correspond to 0.0~100.0%			W/R
Fault and warning code reading	0x3010 or 0x2010	Fault code:0~127 Warning code:128 and above			R
Output terminal status	0x3018 or 0x2018	External AC Drive output terminal, Bit0 – Y Bit1 – TA1-TB1-TC1; Bit2 – extended Y1 (with IO expansion card) BIT3 – Extended relay (with IO expansion card)			R
AO output	0x3019 or 0x2019	0-10000 correspond to Output 0-10V/0-20mA			R

Note: For other function code addresses, see the "Address" column in the function code profile

When using the writing command (06H) to write the F00~F15 parameters, if the function code parameter address field high nibble is 0, only write in the AC Drive RAM, won't be stored when power down; if the function code parameter address field high nibble is 1, written in the EEPROM, and will be stored when power down.

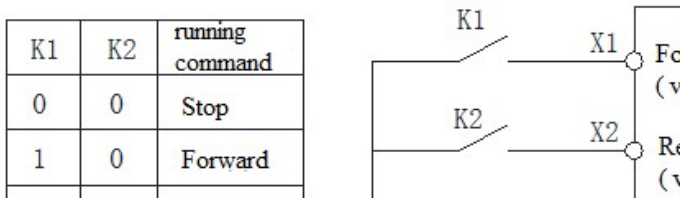
For example parameter F00.xx: 0x00xx (write in RAM), 0x10xx (stored in EEPROM); parameter F01.xx: 0x01xx (write in RAM) 0x11xx (stored in EEPROM), and so on, for other parameters. When reading the F00~F15 parameter group parameters, the address high nibble is 0, such as reading the parameter F03.xx: 0x03xx.

When using the write command (06H) to write F16~F29 parameters, if the function code parameter address field high nibble is 5, only write in to the AC

Appendix II: Terminal wiring method

0: Two-wire control 1

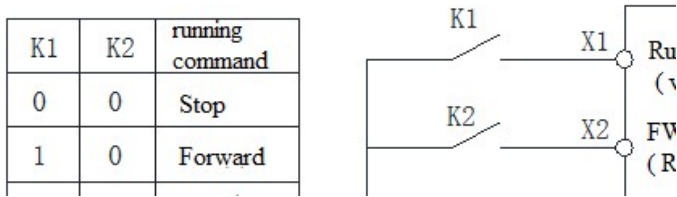
The operation is in one direction. This mode is the most commonly used two-wire mode. The factory default is to determine the forward and reverse running of the motor by the X1 (forward running) and X2 (reverse running) terminal commands. As shown below:



0: Two-wire control 1 schematic

1: Two-wire control 2

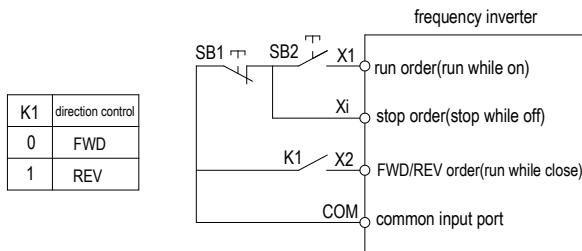
The operation is separated from the direction. The forward running terminal X1 (forward running) defined in this mode is the operation enable terminal. The definition of the direction is determined by the state of the reverse running terminal X2 (reverse running). As shown below:



1: Two-wire control 2 schematic

2: Three-wire control 1

In this mode, the three-wire operation control terminal (Xi) is the stop operation terminal, and the running command is generated by the forward rotation operation terminal X1 (forward rotation operation), and the direction is controlled by the reverse rotation operation terminal X2 (reverse rotation operation). The three-wire operation control terminal (Xi) is an effective input.



2: 3-line 1

2: Three-wire control 1 schematic

3: Three-wire control 2

In this mode, the three-wire operation control terminal (Xi) is the stop operation terminal, and the operation command is generated by the forward rotation operation terminal X1 (forward rotation operation) or the reverse rotation operation terminal X2 (reverse rotation operation), and both control the running direction.