Catalog

Chapter 1 General..... 1

1.1 Safety Precautions 1
1.2 Pre-use 1
1.3 Technical Specifications..... 2

Chapter 2 Installation..... 5

Chapter 3 Indicators, Keyboard and Operation Instructions..... 10

Chapter 4 Function List..... 13

4.1 Safety Precautions 13
4.2 Reading Method of the Parameter List..... 13
4.3 Function Group..... 13
4.4 F00 Group: Environmental Applications 14
4.5 F01 Group: Basic Setting..... 15
4.6 F02 Group: Parameter Of Motor 1 18
4.7 F03 Group: Vector Control 21
4.8 F04 Group: V/F Control..... 25
4.9 F05 Group: Input Terminal 26
4.10 F06 Group: Output Terminal 30
4.11 F07 Group: Running Control..... 32
4.12 F08 Group: Auxiliary Control 1 35
4.13 F09 Group: Auxiliary Control 2 36
4.14 F10 Group: Protection Parameter..... 37
4.15 F11 Group: Keyboard Parameter..... 42
4.16 F12 Group: Communication Parameter..... 45
4.17 F13 Group: PID Control 47
4.18 F14 Group: Multi-Speed and Simple PLC 49
4.19 F15 Group: Reserved..... 51
4.20 F25 Group: AS/VS Correction 51
4.21 C0x Group: Monitoring Parameter 51
4.22 Input & Output Terminal Functions Selection..... 53

4.23 Fault Code Table..... 54

Chapter 5 Regular Inspection and Maintenance 56

5.1 Inspection..... 56
5.2 Maintenance 56
5.3 Product Guarantee..... 57

Appendix I: Modbus Communication Protocol..... 58

Appendix Ii: External Keyboard Size and Model..... 60

Chapter 1 General

1.1 Safety Precautions

Please fully understand the safety precautions described in this manual before using to ensure safety of both persons and products.

Warning signs and their meanings

The following marks are used in this manual to indicate that this part is of great safety importance. Failure to follow these precautions may result in personal injury, damage or even death to the product and associated systems.

危险	**DANGER:** death or major safety accidents may occur due to wrong operations.
注意	**Caution**: minor injuries may occur due to wrong operations.

Table 1- 1

Operating qualification

This product must be operated by trained professionals. In addition, operators must go through professional skills training, familiar with the installation, wiring, operation and maintenance of the equipment, and correctly respond to various emergency situations in use.

Safety rules

Safety rules are put forward for your safety and are measures taken to prevent injury to operators and damage to the product and associated systems; Read this manual carefully before use and strictly follow the safety rules and warning signs in this manual.

● Correct transportation, storage, installation, as well as careful operation and maintenance, is very important for the safe operation of the frequency inverter. During transportation and storage, the inverter must be protected from shock and shake. It must also be stored in places which are dry and free from non-corrosive gas, non-conductive dust and where ambient temperature is lower than 60°C.

● This product has dangerous voltage, and it is controlled by a potentially dangerous movement mechanism. Any operations against the regulations or the requirements of this manual may lead to personal injury or damage of the product and related system.

● Do not wire when power is on otherwise there is a risk of death by electric shock; When connecting cables, checking, or maintaining cables, power off all related devices and ensure that the DC voltage of the main loop is reduced to a safe level. Wait five minutes before performing related operations.

● Power cables, motor cables and control cables must be connected tight and all of the ground terminals must be grounded, and the grounding resistance is less than 10Ω.

● The static electricity of human body will seriously damage the internal sensitive devices. Before performing related operations, please follow the instructions specified in ESD prevention measures (ESD), otherwise the frequency inverter may be damaged.

● Output voltage of the inverter is a kind of pulse waveform, if the output side is equipped with capacitors or lightning protection varistor devices to improve the power factor, be sure to remove or refit the input side of the inverter.

● Switch devices such as circuit breakers and contactors shall not be added on the output side of the inverter (if the switch device must be connected on the output side, the output current of the inverter must be zero when the switch is operated in the control).

● No matter where the fault occurs in the control equipment, it may cause production suspension and major accidents. Therefore, take necessary external protection measures or backup devices.

● Please use this product only for the purposes prescribed by the manufacturer, usage for special occasions of emergency and rescue like marine, medical, aviation and nuclear facilities without permission are seriously forbidden.

● Maintenance of this product can only carry out by Veichi or professionals who have been licensed by Veichi, unauthorized modification or use of accessories without Veichi's authorization may lead to product failure. Any defective components must be replaced in time for product maintenance.

1.2 Pre-use

Upon receipt of your ordered products, please check whether the outer package is damaged, open the outer package after confirming that it is intact, and confirm whether the frequency inverter is damaged, scratched or contaminated (Damage caused during transportation does not fall within the scope of Veichi's "three guarantees"). If you receive a product with transportation damage, please contact the company or transportation company immediately. After confirming that the received product is intact, please confirm again whether you received what you have ordered.

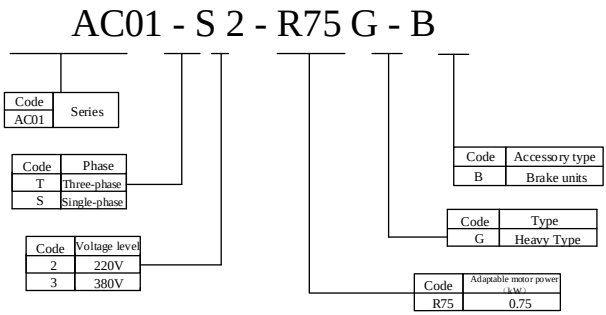


Figure 1- 1

Voltage	220V	380V
Power(kW)	Rated output current(A)	
0.4	3.0	——
0.75	4.0	2.5
1.5	7.0	3.7
2.2	10.0	5.0
4	16.0	9.5
5.5	——	13.0
7.5	——	17.0

Table 1- 2

1.3 Technical Specifications

Item		Specification
Power input	Voltage & Frequency	S2: single-phase 200V ~ 240V 50Hz/60Hz; T3: Three-phase 380V ~ 480V 50Hz/60Hz.
	Allowable fluctuation	T/S2: -10% ~ 10%; T3: -15% ~ 10%; Voltage unbalance rate: ＜3%; Frequency: ±5%; distortion rate conforming to IEC61800-2
	Closing striking current	Lower than rated current
Output	Output voltage	Rated output: 3 phase, 0V ~ input voltage, error lower than 5%
	Output frequency range	0Hz ~ 600Hz
	Output frequency accuracy	±0.5% of the maximum frequency value
	Overload capacity	T3 model: 150% of rated current for 89 s, 180% of rated current for 10 seconds, 200% rated current for 3 s S2 model: 150% of rated current for 24 seconds, 180% of rated current for 3.4 seconds
Primary control performance	Motor control mode	No PG V/F control, no PG vector control
	Modulation mode	Optimized space vector PWM modulation
	Motor type	Three-phase asynchronous motor & permanent magnet synchronous motor supported
	Carrier frequency	2.0kHz ~ 12.0kHz
	Speed control range	No PG vector control, rated load 1:100;
	Steady-state speed accuracy	No PG vector control: ≤2% of rated synchronous speed;
	Starting torque	No PG vector control: 150% of rated torque at 0.5Hz;
	Torque ripple	No PG vector control: ≤0.1% of rated torque
	Torque response	No PG vector control: < 20ms;

	Frequency accuracy	Digital setting: maximum frequency ×±0.01%; Simulation setting: maximum frequency ×±0.2%
	Frequency resolution	Digital setting: 0.01Hz; Simulation setting: maximum frequency ×0.05%
Product basic functions	Torque control	Torque setting calculation, torque mode speed limit
	DC braking capability	Starting frequency: 0.00Hz ~ 50.00Hz; Braking time: 0.0s ~ 60.0s; Braking current: 0.0% ~ 150.0% of rated current
	Torque boost	Automatic torque increased by 0.0% ~ 100.0%; Manual torque increased by 0.0% ~ 30.0%
	V/F curve	Four methods: linear torque characteristic curve, self-setting V/F curve, reduced torque characteristic curve (power 1.1 ~ 2.0), square V/F curve
	Acceleration & Deceleration curves	Two methods: linear acceleration and deceleration, S-curve acceleration and deceleration Four settings of acceleration and deceleration time, time unit 0.01s, 65000s max.
	Rated output voltage	Power supply voltage compensation enables setting within the range of 50% ~ 100% (the output cannot exceed the input voltage) when rated motor voltage is 100%.
	Automatic voltage regulation	The output voltage can be kept constant automatically during grid voltage fluctuation.
	Automatic energy-saving operation	The V/F control mode automatically optimizes the output voltage according to the load to realize energy saving.
	Automatic current limiting	Automatic current limit during operation to prevent frequent overcurrent failure trip
	Instantaneous power failure treatment	Uninterrupted running during instantaneous power failure through the bus voltage control
	Standard functions	PID control, speed tracking and power-off restart, jump frequency, frequency upper and minimum control, program operation, multi-speed, RS485 communication port, analog output, parameter access level setting, common parameter setting, monitoring parameter comparator output, counting and timing, and swing frequency
	Frequency setting channel	Analog voltage/current terminals AS (VS), communication and multi-channel terminals setting, combination of primary and secondary channels, and external keyboard settings can be switched in various ways
	Command running channel	Communication setting via upper computer Terminal setting via the X terminal The number entering via the external keyboard
	Input command signal	Start, stop, positive and negative rotation, point, multi-speed, free stop, reset, acceleration and deceleration time selection, frequency and channel setting and external fault alarm
	External output signal	1-way relay output, 1-way collector open output
Protections		Overvoltage, undervoltage, current limiting, overcurrent, overload, electronic thermal relay, overheat, overvoltage stall, data protection, rapid protection, input and output phase loss protection
	Parameter copy	Function code information of the inverter can be uploaded and downloaded to realize fast parameter replication (only external keyboard)
	Condition monitoring	1. External keyboard input all parameters of monitoring parameter group including output frequency, given frequency, output current, input voltage, output voltage, motor speed, PID feedback, PID setting, module temperature, given torque and output torque. 2. The relevant status of the inverter can be indicated through the three LED lights on the product. POWER indicates the power and it's red when power is normal. RUN indicates running status and it's green when running is normal. FAULT indicates warning or fault and it's red when something is abnormal.
	Fault warning	Overvoltage, undervoltage, overcurrent, short circuit, phase loss, overload, overheating, overvoltage stall, current limiting, data protection, current fault conditions and historical faults
Environment	Installation site	If the altitude is lower than 1000 meters, derate 1% for each elevation of 100 meters; No condensation, icing, rain, snow, hail, etc., solar radiation lower than 700W/m2, air pressure between 70kPa ~ 106kPa
	Temperature & Humidity	-20℃ ~ +50℃, derate 5% for each increase of 1℃ when it's above 40 ℃, 50℃ max (no-load running) ≤95%RH (20℃; relative humidity change rate shall not exceed 5% per hour, and no condensation)
	Vibration	5.9m/s^2(0.6G) when during 9Hz~200Hz
	Storage temperature	-30℃~+60℃
	Installation method	wall-mounted
	Protection level	IP20

	Polution level	Level 2
	Cooling method	Natural cooling for models with V1 cases Forced air cooling for models with V2 and V3 cases

Table 1- 3

Chapter 2 Installation

Please use the product in strict accordance with the requirements of the environment, wiring, and ventilation described in this chapter. in order to ensure safety of the users and best performance of the inverter.

- **Dimensions of the inverter and keyboard**

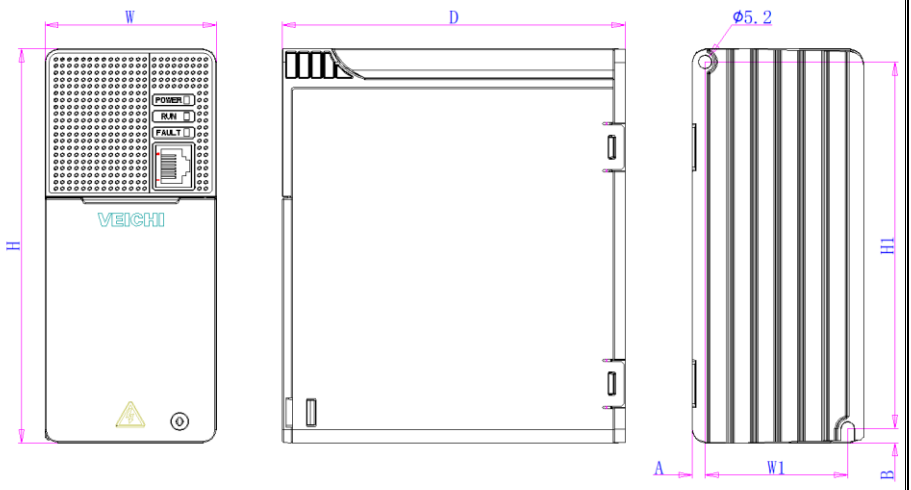


Figure 2- 1 Installation dimensions of V1 model

Model	Boundary dimension (mm)			Mounting dimension (mm)				Mounting aperture(mm)
	W	H	D	A	B	W1	H1	
AC01-S2-R40G-B	65	150	130	5	5.5	54	139.5	Φ5.2
AC01-S2-R75G-B								
AC01-T3-R75G-B								
AC01-T3-1R5G-B								

Table 2- 2 Installation dimensions of V1 model

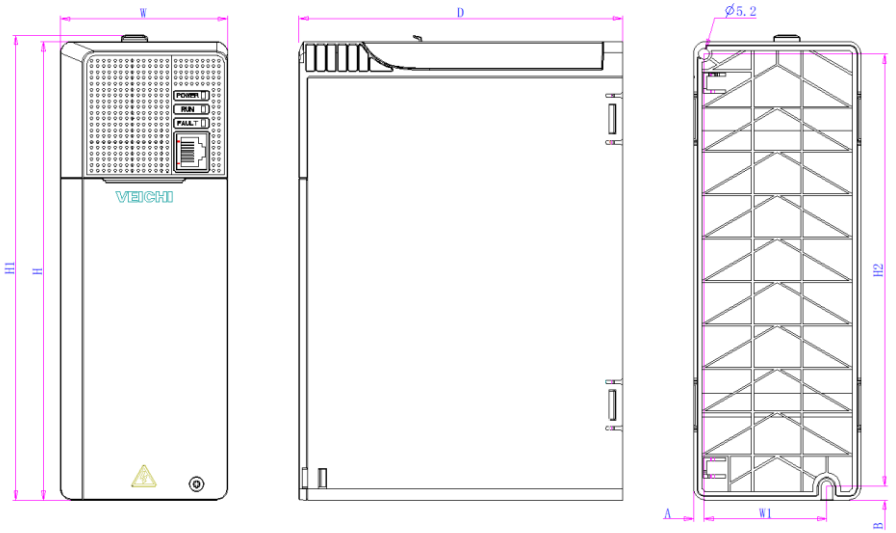


Figure 2- 2 Installation dimensions of V2 model

Model	Boundary dimension (mm)			Mounting dimension (mm)				Mounting aperture(mm)
	W	H	D	A	W1	H1	H2	
AC01-S2-1R5G-B	75	205	145	4.7	55	207.9	193.25	Φ5.2
AC01-S2-2R2G-B								
AC01-T3-2R2G-B								
AC01-T3-004G-B								

Table 2- 2 Installation dimensions of V2 model

- **Standard connection diagram**

Note:

1. Select the appropriate brake resistance according to the field conditions and *Brake Resistance Specifications*;

2. Multifunctional input terminals (X1 ~ X3) can be used as input for NPN transistor signals;

3. The digital and analog grounding terminals are combined into the COM terminal in the control circuit;

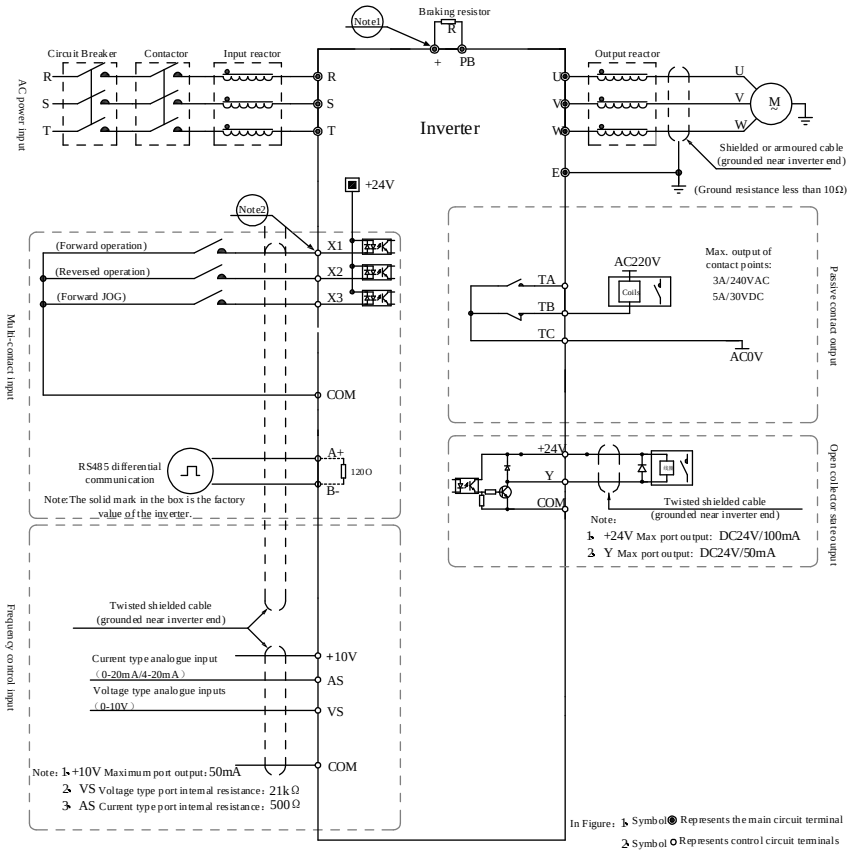


Figure 2- 3 Standard connection diagram

- **Auxiliary terminals and output capacity**

Terminal	Function	Maximum output
+10V	a loop formed with a 10V auxiliary analog power output and COM	50mA
+24V	a loop formed with a 24V auxiliary digital power output and COM	100mA
COM	digital and analog power supply	
X1 、X2、X3	digit input terminal	NPN-type, impedance 15 kΩ
Y	Collector open output & programmable action object.	DC24V/50mA
TA/TB/TC	TA TC: normally on; TB TC: normally off Passive contact output & programmable action object.	3A/240VAC 5A/30VDC
AS	Current analog input	0-20mA/ 4-20mA
VS	Voltage analog input	0-10V
A+ B-	RS485 communication terminal	

Table 2- 3 Auxiliary terminals and output capacity

- **Main loop terminal**

Symbol	Designation	Function
R/L	main loop input terminal	T3: three-phase power input R phase S2: single-phase power input L line
S		T3: three-phase power input S phase S2: reserved
T/N		T3: three-phase power input T phase S2: single-phase power input N wire
U	main loop output terminal	U-phase output
V		V-phase output
W		W-phase output
+	DC bus power terminal +	Used on external brake resistance to realize quick stop
PB	brake resistance terminal	
⏚	ground terminal	Used to ground the inverter

Table 2- 4 Main loop terminal

- **RJ45 interface pin definition**

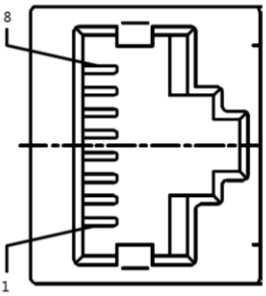


Figure 2- 4 RJ45 interface

It's the top view above and the specific network interpretations are as follows:

Pin label	Pin definition	Description
1	COM	5V power supply ground terminal
2	NC	Reserved
3	COM	5V power supply ground terminal
4	5V	5V power
5	5V	5V power
6	LOAD	software programming to select pin
7	B-	RS485 communication B-, shared with terminal B-
8	A+	RS485 communication A+, shared with terminal A+

Table 2-5 Network interpretations

- **Recommended brake resistance specifications**

The braking resistance and resistance power in the following table are verified by ordinary inertia load and intermittent braking mode. If it needs to be used in the occasion of large inertia and frequent braking for a long time, please adjust the braking resistance and resistance power appropriately according to the specifications of the selected inverter and the rated parameters of the braking unit. If you have any questions, please consult the service hotline of technical service department of Suzhou Veichi Electric Technology Co., LTD.

Three-phase 380V					
Model	**Motor power (kW)**	**Brake unit**	**Recommended resistance (on 100% braking torque and 10% braking rate)**		**Minimum resistance(Ω)**
			Resistance model	**Resistors qty.**	
AC01-T3-R75G-B	0.75 kW	Built-in, standard	750 Ω 150W	1	100Ω
AC01-T3-1R5G-B	1.5 kW	Built-in, standard	400 Ω 300W	1	100Ω
AC01-T3-2R2G-B	2.2 kW	Built-in, standard	250 Ω 400W	1	100Ω
AC01-T3-004G-B	4.0 kW	Built-in, standard	150 Ω 500W	1	40Ω
AC01-T3-5R5G-B	5.5 kW	Built-in, standard	100 Ω 600W	1	40Ω
AC01-T3-7R5G-B	7.5 kW	Built-in, standard	75 Ω 780W	1	40Ω
Single-phase 220V					
Model	**Motor power (kW)**	**Brake unit**	**Recommended resistance (on 100% braking torque and 10% braking rate)**		**Minimum resistance(Ω)**
			Resistance model	**Resistors qty.**	
AC01-S2-R40G-B	0.4 kW	Built-in, standard	400Ω 100W	1	50Ω
AC01-S2-R75G-B	0.75 kW	Built-in, standard	200Ω 120W	1	50Ω
AC01-S2-1R5G-B	1.5 kW	Built-in, standard	100Ω 300W	1	50Ω
AC01-S2-2R2G-B	2.2 kW	Built-in, standard	75.0Ω 300W	1	20Ω
AC01-S2-004G-B	4kW	Built-in, standard	50.0Ω 500W	1	20Ω

Table 2-6 Recommended brake resistance specifications

Chapter 3 Indicators, Keyboard and Operation Instructions

- **Indicators**

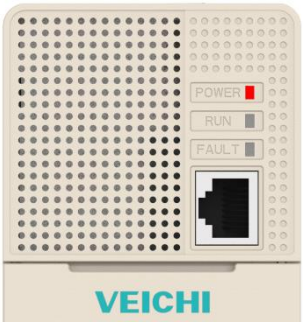


Figure 3- 1 AC01 series main interface

States of AC01 Series inverters can be told via the three indicating lights on its interface:

Symbol	Indicator	Status	Description
POWER	RED	on	Power on, and ready for operation
		off	Abnormal power supply
RUN	GREEN	on	The inverter runs in positive rotation
		Flash (500ms on and then 500ms off，and cycle starts again)	Inverter runs in reverse
		off	Inverter is not running
FAULT	RED	on	Faults of main codes 1~11 occur
		Flash (100ms on and then 100ms off，and cycle starts again)	Faults of main codes 12~117 occur
		Flash slowly (100ms on and then 100ms off +100ms on and then 1700ms off，，and cycle starts again)	warning
		off	fault-free

Table 3-1 Indicators

Note: Refer to PAGE 54 of this manual for main FAULT/WARNING codes 1~163.

- **Keyboard layout**

Note: The current version of AC01 series inverter does not have its own keyboard, and KBD300-25 or KBD10-15 keyboard can be extended via RJ45 network port.

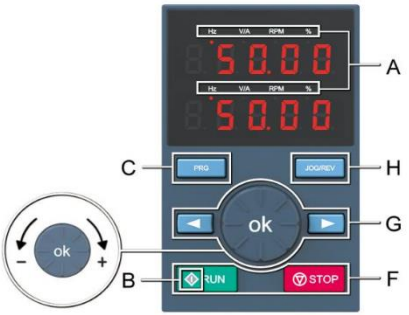


Figure 3- 2 KBD300-25 dual-line display keyboard

- **External keyboard functions**

Symbol	Dual-line display keyboard	Functions
A	Unit indicator	Hz: Frequency; A: current; V: voltage; V/A: voltage or current; RPM: speed; %: percentage.
B	Status indicator	On: forward running; flash: reverse running; Off: shutdown.
C	Menu PRG	Enter the menu interface when standby or running. Press the key to exit the modification after parameters are modified and long press the key for 1 second to directly enter the status interface.
F	Run RUN	When run/stop is controlled by the keyboard, press the key to make inverter rotate forward. The status indicator is on for forward rotating and flashing for reverse rotating.
	Stop/Reset STOP	When the command is given via keyboard, press the key to stop the inverter. F11.03[keyboard stop key setting] can be used to define whether other command channels are valid or not; Press the key to reset the inverter in the fault state.
G	ok	Digital potentiometer: press the up key to increase the operating value for clockwise rotation and press down key to reduce the operating value for counterclockwise rotation.
		Confirm key: Press this key to confirm after modifying the value
	Move left/ right	Move left or right
H	Multifunction key JOG/REV	Select the function of the key via F11.02[multi-function key selection via keyboard]

Table 3-2 External keyboard meanings

- **Meaning of external keyboard indicators**

Designation		Status	Meaning
External keyboard unit indicator	Hz	flash/on	frequency unit
	A	on	current unit
	V	on	voltage unit
	RPM	on	speed unit
	%	flash/on	Pertage unit

Table 3-3 Meaning of external keyboard indicators

- **Basic parameter group setting**

Take F0.122 [acceleration time] setting as an example to illustrate the basic operations of the external LED keyboard.

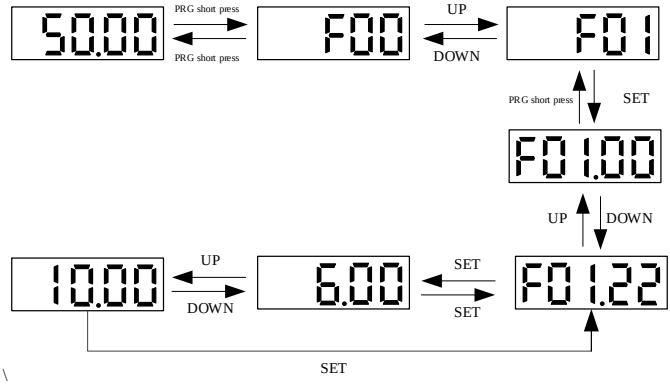


Figure 3- 3 Setting steps

Note: The keyboard shift key on the external keyboard can be used to quickly select the tens, hundreds and thousands of parameter values.

- Operation monitoring status checking

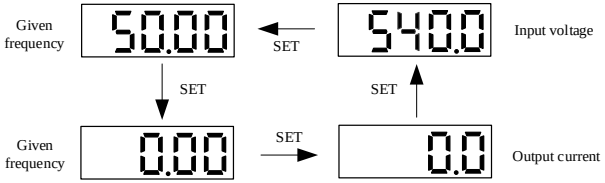


Figure 3- 4 Checking steps

Note: When using the external keyboard, use the left shift key to cycle switch the first row of monitoring parameters, and use the right shift key to cycle switch the second row of monitoring parameters.

- Monitoring parameters checking

Take C02.05[PLC operation phase] parameter checking as an example to explain the basic operation of the external LED keyboard.

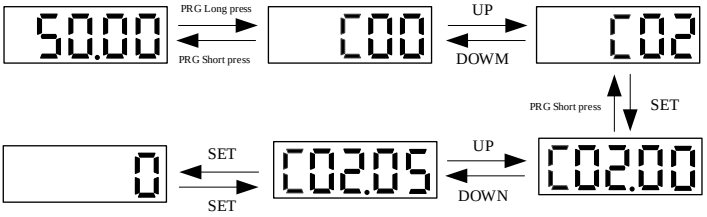


Figure 3- 5 Checking steps

Chapter 4 Function List

This section only provides a brief list of functions. For details please refer to the technical manual of AC01 series inverter or consult relevant staff of Veichi.

4.1 Safety Precautions

Danger
Note all the information about safety in this book.
Please note that failure to follow these warnings may result in serious injury or even death. We shall not be liable for any personal injury or equipment damage resulting from failure to comply with this maunnal by users.

Table 4-1 Safety precautions

4.2 Reading Method of the Parameter List

◆ **Icons and terms under control mode**

Mark	Meaning	Mark	Meaning
V/F	Valid parameters in V/F control mode	**RUN**	Changeable parameters during running
SVC	Valid parameters in open-loop vector control mode	**STOP**	Unchangeable parameters during running
		READ	Read-only parameters, unchangeable

Table 4- 2 Icons and terms

4.3 Function Group

Note
Setting parameter [F11.30] to choose RS485 or foreign keyboard and this parameter will not be reset with [F00.03] parameter. It is strongly recommended that the user disconnects the hardware of the other channel when using one of them.

Table 4- 3 Note

◆**Parameters of the Inverter**

Parameter	Designation	Parameter	Designation
F00.0x	Environment settings	F07.0x	Start
F00.1x	Common parameter setting	F07.1x	Stop
F01.0x	Basic command	F07.2x	DC braking & speed tracking
F01.1x	Frequency command	F07.3x	Jog
F01.2x-F01.3x	Acceleration & deceleration time	F07.4x	Start/stop frequency keeping& frequency jump
F01.4x	PWM control	F08.0x	Counting and timing
F02.0x	Motor basic parameters & self-learning setting	F08.1x	Reserved
F02.1x	Advanced parameters of asynchronous motor	F08.2x	Reserved
F02.2x	Advanced parameters of synchronous motor	F08.3x	Swing frequency control
F02.3x-F02.4x	Reserved	F10.0x	Current protection
F02.5x	Motor application parameters	F10.1x	Voltage protection
F03.0x	Speed ring	F10.2x	Auxiliary protection
F03.1x	Current loop and torque limit	F10.3x	Load protection
F03.2x	Torque optimization	F10.4x	Stall protection
F03.3x	Magnetic flow optimization	F10.5x	Fault recovery & motor overload protection

F03.4x-F03.5x	Torque control	F11.0x	keys operation
F04.0x	V/F control	F11.1x	Cyclic state monitoring
F04.1x	User-defined V/F curve	F11.2x	Monitoring parameter control
F04.2x	Reserved	F11.3x	Keyboard special characteristics
F04.3x	V/F energy saving control	F12.0x	Modbus slave parameters
F05.0x	Digital input terminal	F12.1x	Modbus master parameters
F05.1x	Delay X1-X3 detection	F13.00-F13.06	PID setting and feedback
F05.2x	Digital input terminal operation selection	F13.07-F13.24	PID adjustment
F05.3x	Reserved	F13.25-F13.28	PID feedback of disconnection
F05.4x	Analog type processing	F13.29-F13.33	Sleep mode
F05.5x	Analog linear processing	F14.00-F14.14	Multi- speed frequency setting
F05.6x	AS/VS curve-1 processing	F14.15	PLC operation mode selection
F05.7x	AS/VS curve 2 processing	F14.16-F14.30	PLC operation time selection
F05.8x	AS/VS as digital input terminal	F14.31-F14.45	PLC direction & acceleration/deceleration time selection
F06.0x	Reserved	F16 group	Reserved
F06.1x	Reserved	C00.xx	Basic monitoring
F06.2x-F06.3x	Digital & relay output	C01.xx	Fault monitoring
F06.4x	Frequency detection	C02.xx	Application monitoring
F06.5x	Monitoring parameter comparator output	C03.xx	Reserved
F06.6x-F06.7x	Virtual input and output terminals		

Table 4- 4 Parameters of the inverter

4.4 F00 Group: Environmental Applications

F00.0x group: environment setting

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F00.00 (0x0000)	Parameter access level	V/F SVC Set parameter access level according to parameter access limits 0: standard parameters (Fxx.yy，Cxx.yy) 1: common parameters (F00.00，Pxx.yy) 2: monitered parameters (F00.00，Cxx.yy) 3: changed pa (F00.00，Hxx.yy)	0 (0 ~3)	RUN
F00.03 (0x0003)	Initialization	V/F SVC Set the inverter initialization mode. 0: No initialization 11: Choose the set value according to purposes (excluding motor parameters) 22: All parameters initialized 33: Clear the failure records	0 (0~33)	STOP
F00.04 (0x0004)	Keyboard parameters copy	V/F SVC 0: No function 11: Upload parameters to keyboard 22: Download parameters to the inverter Note: The built-in keyboard does not support parameter copying.	0 (0~30)	STOP
F00.07 (0x0007)	Free parameter 1	V/F SVC machine number when using multiple machines; mode number for purposes when using multiple machines	0 (0~65535)	RUN

F00.08 (0x0008)	Free parameter 2	V/F SVC machine number when using multiple machines; mode number for purposes when using multiple machines	0 (0~65535)	RUN

Table 4- 5 F00.0x group

F00.10~F00.39 group: common parameters setting

Parameter code	Designation	Content	Factory default (setting range)	Adjustable attribute
F00.1~ F00.39 (0x000A~ 0x0027)	Common parameter addresses setting	V/F SVC LED ones & tens-place: set "yy" between 00~ 99 among the parameter code Fxx.yy 00~99 LED hundreds & thousands-place: set "xx" between 00~ 31 among the parameter code Fxx.yy	Generic default parameters (0000~2999)	RUN

Table 4- 6 F00.10~F00.39 group

4.5 F01 Group: Basic Setting

F01.0x group: basic setting

Parameter code (Address)	Designation	Content		Factory default (setting range)	Adjustable attribute
F01.00 (0x0100)	Motor 1 control mode	V/F SVC Controlling method of the motor 0:AM-V/F: V/F control mode 1:AM-SVC: open loop vector control, current closed loop control PM: 10:PM-V/F: V/F control 11:PM-SVC:open loop vector control, current closed loop control		0 (0~11)	STOP
F01.01 (0x0101)	Command running channel	V/F SVC The channel set for the inverter to receive command of operation, stop and direction. 0: keyboard control (external keyboard preferred) 1: terminal control 2: RS485 communication control 3: reserved		1 (0~3)	RUN
F01.02 (0x0102)	Source channel A of set frequency	V/F SVC Setting frequency source channel for the inverter: 0: via keyboard number entering 1: via keyboard analog potentiometer 2: via current analog AS 3: via voltage analog VS 4: reserved	5: reserved 6: via RS485 communication port 7: via UP/DW terminal 8: via PID control 9: via program control (PLC) 10: reserved 11: via multi-speed setting	2 (0~11)	RUN
F01.03 (0x0103)	Gain of frequency source channel A	V/F SVC Gain of the frequency source channel A		100.0 (0.0 %~500. 0%)	STOP
F01.04 (0x0104)	Source channel B of set frequency	V/F SVC Source channel of frequency setting for the inverter, the same as [F01.02]		0 (0~11)	RUN
F01.05 (0x0105)	Gain of frequency source channel B	V/F SVC Gain of the frequency source channel B		100.0 (0.0 %~500. 0%)	STOP

F01.06 (0x0106)	Reference frequency source for channel B	V/F SVC Change this parameter to select reference source for frequency setting channel B 0: refer to the maximum output frequency 1: refer to the frequency of channel A		0 (0~1)	RUN
F01.07 (0x0107)	Selection of frequency source channel	V/F SVC Used for setting combination method of frequency channel A and B for the inverter. 0: channel A 1: channel B 2: channel A + channel B 3: channel A- channel B 4: the higher frequency between channel A and channel B : the lower frequency between channel A and channel B		0 (0~5)	RUN
F01.08 (0x0108)	Command of running bundled frequencies	V/F SVC When this parameter is valid, it is used to set the source channel for each command running channel of bundled frequencies Ones-place: bundled command from keyboard Tens-place: bundled command from terminals Hundreds-place: bundled command from communication port Thousands-place: reserved 0:no bundling 1: via keyboard number entering 2: via keyboard analog potentiometer	3: via current analog AS 4: via voltage analog VS 5: reserved 6: reserved 7: via RS485 communication port 8: via UP/DW terminal 9: via PID control A: via program control (PLC) B: reserved C: via multi-speed setting D: reserved	0x0000 (0x0000~0x DDDD)	RUN
F01.09 (0x0109)	Frequency setting via keyboard numbers	V/F SVC Used to set and modify the frequency set via input keyboard numbers		50.00Hz (0.00Hz~ upper limit frequency)	RUN

Table 4- 7 F01.0x group

F01.1x group: command about frequency

Parameter code (Address)	Designation	Content		Factory default (setting range)	Adjustable attribute
F01.10 (0x010A)	Maximum frequency	V/F SVC The maximum frequency can be set for the inverter.		50.00Hz (upper limit frequency ~500.00Hz)	STOP
F01.11 (0x010B)	Upper limit frequency source selection	V/F SVC Select the source channel of upper limit frequency for the inverter 0: via keyboard number entering 1: via keyboard analog	3: via current analog AS 4: reserved 5: reserved 6: via RS485 communication port 7: reserved	0 (0~7)	RUN
F01.12 (0x010C)	Upper limit frequency setting via number entering	V/F SVC Set upper limit frequency value when F01.11 is set 0		0.00Hz (lower limit ~ upper limit frequency)	RUN
F01.13 (0x010D)	Lower limit frequency	V/F SVC Set lower limit value of frequency.		0.00Hz (0.00Hz~ upper limit frequency)	RUN

F01.14 (0x010E)	Resolution of frequency command	V/F SVC Set the resolution of the frequency command. 0:0.01Hz; 1:0. 1Hz; 2:0.1 rpm; 3:1 rpm; 4:10 rpm	0 (0~4)	STOP

Table 4-8 F01.1x group

F01.2x~F01.3x group: acceleration & deceleration time

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F01.20 (0x0114)	Acceleration & deceleration time benchmark frequency	V/F SVC Set benchmark frequency to calculate acceleration & deceleration time 0: Maximum frequency; 1: fixed frequency of 50Hz; 2: set frequency	0 (0~2)	STOP
F01.21 (0x0115)	Acceleration time unit	V/F SVC The unit of the set acceleration time 0:1s; 1:0.1s; 2:0.00s	2 (0~2)	STOP
F01.22 (0x0116)	Acceleration time 1	V/F SVC Time required to accelerate the output frequency from 0.00Hz to the benchmark frequency 1s~65000s (F01.21 = 0); 0.1s~6500.0s (F01.21 = 1); 0.01s~650.00s (F01.21 = 2)	Model setting(0.01s~650.00s)	RUN
F01.23 (0x0117)	Deceleration time 1	V/F SVC Time required for the output frequency to decelerate from benchmark frequency to 0.00Hz	Model setting(0.01s~650.00s)	RUN
F01.24 (0x0118)	Acceleration time 2	V/F SVC Time required to accelerate the output frequency from 0.00Hz to the benchmark frequency	Model setting(0.01s~650.00s)	RUN
F01.25 (0x0119)	Deceleration time 2	V/F SVC Time required for the output frequency to decelerate from benchmark frequency to 0.00Hz	Model setting(0.01s~650.00s)	RUN
F01.26 (0x011A)	Acceleration time 3	V/F SVC Time required to accelerate the output frequency from 0.00Hz to the benchmark frequency	Model setting(0.01s~650.00s)	RUN
F01.27 (0x011B)	Deceleration time 3	V/F SVC Time required for the output frequency to decelerate from benchmark frequency to 0.00Hz	Model setting(0.01s~650.00s)	RUN
F01.28 (0x011C)	Acceleration time 4	V/F SVC Time required to accelerate the output frequency from 0.00Hz to the benchmark frequency	Model setting(0.01s~650.00s)	RUN
F01.29 (0x011D)	Deceleration time 4	V/F SVC Time required for the output frequency to decelerate from benchmark frequency to 0.00Hz	Model setting(0.01s~650.00s)	RUN
F01.30 (0x011E)	S-curve acceleration & deceleration selection	V/F SVC Whether the S-curve acceleration & deceleration selection is valid 0:invalid; 1:valid; 2:flexible S-curve	1 (0~2)	STOP
F01.31 (0x011F)	S-curve acceleration start time	V/F SVC Set start time of acceleration for S-curve	0.20s (0.00s~10.00s)	STOP
F01.32 (0x0120)	S-curve acceleration end time	V/F SVC Set end time of acceleration for S-curve	0.20s (0.00s~10.00s)	STOP
F01.33 (0x0121)	S-curve deceleration start time	V/F SVC Set start time of deceleration for S-curve	0.20s (0.00s~10.00s)	STOP
F01.34 (0x0122)	S-curve deceleration end time	V/F SVC Set end time of deceleration for S-curve	0.20s (0.00s~10.00s)	STOP

F01.35 (0x0123)	Switch frequency between acceleration time 1 & 2	V/F SVC Set frequency switch between acceleration time 1 & 2	0.00Hz (0.00Hz~ Upper limit frequency)	RUN

Table 4-9 F01.2x~F01.3x group

F01.4x group: PWM control

Parameter code	Designation	Content		Factory default (setting range)	Adjustable attribute
F01.40 (0x0128)	Carrier frequency	V/F SVC Used to set the switching frequency of inverter IGBT.		Model setting (2.0 kHz~12.0 kHz)	RUN
F01.41 (0x0129)	PWM control mode	V/F SVC LED ones-place: relationship between carrier and temperature 0: irrelevant 1: relevant LED tens-place: relationship between carrier and output frequency 0: irrelevant 1: relevant	LED hundreds-place: random PWM enable 0: forbidden 1: valid under V/F mode 2: valid under vector mode LED thousands-palce: PWM modulation mode 0: three-phase only 1: automatic switching between two-phase &three-phase	1111 (0000~1211)	RUN
F01.43 (0x012B)	Compensated gain of dead zone	V/F SVC Compensated gain of dead zone		306 (0~512)	RUN
F01.46 (0x012E)	PWM random depth	V/F SVC When the PWM random depth is effective, the larger it is set, the larger the carrier fluctuation will be.		0 (0~20)	RUN

Table 4-10 F01.4x group

4.6 F02 Group: Parameter of Motor 1

F02.0x group: basic parameters and self-learning type selection of the motor

Parameter code	Designation	Content	Factory default (setting range)	Adjustable attribute
F02.00 (0x0200)	Motor type	V/F SVC Set the type of motor. 0: Asynchronous motor (AM) 1: Synchronous motor (PM)	0 (0~1)	READ
F02.01 (0x0201)	Pole number	V/F SVC Set the motor pole number.	4 (2~98)	STOP
F02.02 (0x0202)	Rated power	V/F SVC Set the rated power of motor	Model setting (0.1 kW~22.0 kW)	STOP
F02.03 (0x0203)	Rated frequency	V/F SVC Set the rated frequency of motor	Model setting (0.01 Hz~ maximum frequency)	STOP
F02.04 (0x0204)	Rated speed	V/F SVC Set the rated speed of motor	Model setting (0 rpm~65000 rpm)	STOP
F02.05 (0x0205)	Rated voltage	V/F SVC Set the rated voltage of motor	Model setting (0 V~2000 V)	STOP

F02.06 (0x0206)	Rated current	V/F SVC Set the rated current of motor	Model setting (0.1 A~3000.0 A)	STOP
F02.07 (0x0207)	Parameters self-learning selection	V/F SVC [F02.07] will automatically be set to "0" after the parameter self-tuning is finished. 0: no operation 1: rotational self-learning 2: static self-learning 3: stator resistance self-learning	0 (0~3)	STOP

Table 4-11 F02.0x group

Note: When F02.00 [motor type] is a synchronous motor, F2.04 [motor rated speed] is calculated from F2.01 [motor pole number] and F2.03 [motor rated frequency], please set the corresponding parameters correctly. The calculation formula is: F2.04 [rated speed of motor] = 60* F2.03 [rated frequency of motor] / (F2.01[number of poles of motor] / 2)

F02.1x group: advanced parameters of asynchronous motor

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F02.10 (0x020A)	No-load current	V/F SVC Set no-load current of asynchronous motor	Model setting (0.1 A~3000.0 A)	STOP
F02.11 (0x020B)	Stator resistance	V/F SVC Set stator resistance of asynchronous motor	Model setting (0.01 mΩ~ 60000.00 mΩ)	STOP
F02.12 (0x020C)	Rotor resistance	V/F SVC Set rotor resistance of asynchronous motor	Model setting (0.01 mΩ~ 60000.00 mΩ)	STOP
F02.13 (0x020D)	Stator leakage inductance	V/F SVC Set stator leakage inductance of asynchronous motor	Model setting (0.01 mH~ 65535.00 mH)	STOP
F02.14 (0x020E)	Stator inductance	V/F SVC Set stator inductance of asynchronous motor	Model setting (0.01 mH~ 65535.00 mH)	STOP
F02.15 (0x020F)	Stator resistance per-unit value	V/F SVC Set stator resistance per-unit value	Model setting (0.01%~50.00%)	READ
F02.16 (0x0210)	Rotor resistance per-unit value	V/F SVC Set rotor resistance per-unit value	Model setting (0.01%~50.00%)	READ
F02.17 (0x0211)	Stator leakage inductance per-unit value	V/F SVC Set stator leakage inductance per-unit value	Model setting (0.01%~50.00%)	READ
F02.18 (0x0212)	Stator inductance per-unit value	V/F SVC Set stator inductance per-unit value	Model setting (0.1%~999.0%)	READ
F02.19 (0x0213)	F02.11~F02.14 decimal point selection	V/F SVC Set the decimal point of the four parameters from F02.11 to F02.14. This parameter is read-only.	0x0000 (0x0000~0x2222)	READ

Table 4-12 F02.1x group

F02.2x group: advanced parameters of synchronous motor

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F02.20 (0x0214)	Stator resistance	V/F SVC Set stator resistance of synchronous motor.	Model setting (0.01 mΩ ~ 60000.00 mΩ)	STOP
F02.21 (0x0215)	D-axis inductance	V/F SVC Set d-axis inductance of synchronous motor.	Model setting (0.001 mH ~ 6553.500 mH)	STOP
F02.22 (0x0216)	Q-axis inductance	V/F SVC Set q-axis inductance of synchronous motor.	Model setting (0.001 mH ~ 6553.500 mH)	STOP
F02.23 (0x0217)	Counter electromotive force	V/F SVC Set counter electromotive force of synchronous motor. Only recognized during rotation self-tuning.	Model setting (0 V ~ 500 V)	STOP
F02.24 (0x0218)	Encoder mounting angle	V/F SVC Set encoder mounting angle of synchronous motor	Model setting (0.0° ~ 360.0°)	RUN
F02.25 (0x0219)	Stator resistance per-unit value	V/F SVC Set stator resistance per-unit value of synchronous motor	Model setting (monitored value)	READ
F02.26 (0x021A)	D-axis inductance per-unit value	V/F SVC Set d-axis inductance per-unit value of synchronous motor	Model setting (monitored value)	READ
F02.27 (0x021B)	Q-axis inductance per-unit value	V/F SVC Set q-axis inductance per-unit value of synchronous motor	Model setting (monitored value)	READ
F02.28 (0x021C)	Pulse width coefficient	V/F SVC Set pulse width coefficient of synchronous motor	Model setting (00.00 ~ 99.99)	STOP
F02.29 (0x021D)	F02.20~F02.22 decimal point selection	V/F SVC Set the decimal point of the three parameters from F02.20 to F02.22. This parameter is read-only.	0x0000 (0x0000 ~ 0x2222)	READ

Table 4-13 F02.2x group

F02.3x~F02.4x group: reserved

F02.5x~F02.6x group: motor application parameters

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F02.50 (0x0232)	Stator resistor learning selection	V/F SVC 0: invalid; 1: only learn without update; value greater than 1: learn and update;	0 (0 ~ 3)	STOP
F02.51 (0x0233)	Stator resistance learning starting factor 1	V/F SVC Set stator resistance learning starting factor 1.	0 (0 ~ 1000)	RUN
F02.52 (0x0234)	Stator resistance learning starting factor 2	V/F SVC Set stator resistance learning starting factor 2.	0 (-20.00% ~ 20.00%)	RUN
F02.53 (0x0235)	Stator resistance learning starting factor 3	V/F SVC Set stator resistance learning starting factor 3.	0 (0 ~ 65535)	RUN

F02.60 (0x023C)	Magnetic pole search of synchronous motor	V/F SVC Ones-place: reserved Tens-place: open loop vector 0: off ; 1: on; 2: on but only the first power-on start The hundreds-place: V/F 0: off; 1: on; 2: on, but only the first power-on start	0010 (0000 ~ 3223)	STOP
F02.61 (0x023D)	Current for magnetic pole search	V/F SVC Set the current value of magnetic pole search	0.0% (0.0% ~ 6553.5%)	STOP

Table 4-14 F02.5x ~ F02.6x group

4.7 F03 Group: Vector Control

F03.0x group: speed ring

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F03.00 (0x0300)	ASR speed stiffness level	SVC Set speed stiffness level. The higher the level, the better the speed stiffness.	32 (1 ~ 128)	RUN
F03.01 (0x0301)	ASR speed stiffness mode	SVC Set ASR speed stiffness mode.	0x0000 (0x0000 ~ 0x1111)	RUN
F03.02 (0x0302)	ASR (speed ring) proportional gain 1	SVC Set ASR (speed ring) proportional gain 1	10.00 (0.01 ~ 100.00)	RUN
F03.03 (0x0303)	ASR (speed ring) integral time1	SVC Set ASR (speed ring) integral time1	0.100s (0.000 s ~ 6.000 s)	RUN
F03.04 (0x0304)	ASR filter time 1	SVC Set ASR filter time 1.	0.0ms (0.0 ms ~ 100.0 ms)	RUN
F03.05 (0x0305)	ASR switching frequency 1	SVC Set ASR switching frequency 1.	0.00Hz (0.00Hz ~ max frequency)	RUN
F03.06 (0x0306)	ASR (speed ring) proportional gain 2	SVC Set ASR (speed ring) proportional gain 2.	10.00 (0.01 ~ 100.00)	RUN
F03.07 (0x0307)	ASR (speed ring) integral time 2	SVC Set ASR (speed ring) integral time 2.	0.100s (0.000s ~ 6.000s)	RUN
F03.08 (0x0308)	ASR filter time 2	SVC Set ASR filter time 2.	0.0ms (0.0ms ~ 100.0ms)	RUN
F03.09 (0x0309)	ASR switching frequency 2	SVC Set ASR switching frequency 2.	0.00Hz (0.00Hz ~ max frequency)	RUN

Table 4-15 F03.0x group

F03.1x group: current loop & torque limit

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F03.10 (0x030A)	D-axis proportional gain	SVC Set d-axis proportional gain of current loop	1.000 (0.001 ~ 4.000)	RUN
F03.11 (0x030B)	D-axis integral gain	SVC Set d-axis integral gain of current loop	1.000 (0.001 ~ 4.000)	RUN
F03.12	Q-axis proportional	SVC	1.000	RUN

(0x030C)	gain	Set q-axis proportional gain of current loop	(0.001～4.000)	
F03.13 (0x030D)	Q-axis integral gain	SVC Set q-axis integral gain of current loop	1.000 (0.001～4.000)	RUN
F03.15 (0x030F)	Torque limit of motoring	SVC Set torque limit of motoring	250.0% (0.0%～400.0%)	RUN
F03.16 (0x0310)	Torque limit of power generation	SVC Set torque limit of power generation	250.0% (0.0%～400.0%)	RUN
F03.17 (0x0311)	Regenerative torque limit at low speed	SVC Set regenerative torque limit at low speed	0.0% (0.0%～400.0%)	RUN
F03.18 (0x0312)	Amplitude-frequency of torque limit at low speed	SVC Set amplitude & frequency of torque limit at low speed	6.00Hz (0.00Hz～30.00Hz)	RUN
F03.19 (0x0313)	Torque limit selection	SVC Ones-place: torque limit channel of motoring decided 0: via keyboard number entering; 1: via keyboard potentiometer; 2: via AS setting; 3: via VS setting 4: reserved; 5: reserved; 6: via RS485 communication port (0x3014) 7: reserved; Tens-place: torque limit channel of power generation decided 0: via keyboard number entering; 1: via keyboard potentiometer; 2: via AS setting; 3: via VS setting 4: reserved; 5: reserved; 6: via RS485 communication port (0x3014); 7: reserved; Hundreds-place 0:C00.06 displays torque limit of motoring 1:C00.06 displays torque limit of power generation Thousands-place: reserved	0x0000 (0x0000~0x0177)	RUN

Table 4-16 F03.1x group

F03.2x group: torque optimization

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F03.20 (0x0314)	LF sourcing current of synchronous motor	SVC When the open-loop control of PM motor is valid, and the greater sourcing current, the greater the torque output.	20.0% (0.0%~50.0%)	RUN
F03.21 (0x0315)	HF sourcing current of synchronous motor	SVC When the open-loop control of PM motor is valid, and the greater sourcing current, the greater the torque output.	10.0% (0.0%~50.0%)	RUN
F03.22 (0x0316)	Sourcing current frequency of synchronous motor	SVC 100.0% of the set sourcing current frequency corresponds to F01.10[Upper limit frequency].	10.0% (0.0%~100.0%)	RUN
F03.23 (0x0317)	Slip compensation of asynchronous motor	SVC Set slip compensation of asynchronous motor.	100.0% (0.0%~250.0%)	RUN
F03.24 (0x0318)	Initial Starting torque	SVC Set initial starting torque.	0.0% (0.0%~250.0%)	RUN

Table 4-17 F03.2x group

F03.3x group: magnetic flow optimization

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F03.30 (0x031E)	Feedforward coefficient of weak magnetism	SVC Set feedforward coefficient of weak magnetism.	10.0% (0.0%～500.0%)	RUN
F03.31 (0x031F)	Magnetic weakening control gain	SVC Set magnetic weakening control gain	10.0% (0.0%～500.0%)	RUN
F03.32 (0x0320)	Upper limit magnetic weakening current	SVC Set upper limit magnetic weakening current.	60.0% (0.0%～250.0%)	RUN
F03.33 (0x0321)	Magnetic weakening voltage coefficient	SVC Set magnetic weakening voltage coefficient	90.0% (0.0%～120.0%)	RUN
F03.34 (0x0322)	Output power limit	SVC Set output power limit.	250.0% (0.0%～400.0%)	RUN
F03.35 (0x0323)	Over-excitation braking gain	SVC Set over-excitation braking gain	100.0% (0.0%～500.0%)	RUN
F03.36 (0x0324)	Over-excitation brake clipping	SVC Set over-excitation brake clipping	100.0% (0.0%～250.0%)	RUN
F03.37 (0x0325)	Energy-saving running	SVC 0: off; 1: on	0 (0~1)	RUN
F03.38 (0x0326)	Lower limit excitation of energy-saving running	SVC Set lower limit excitation of energy-saving running	50.0% (0.0%~80.0%)	RUN
F03.39 (0x0327)	Filter coefficient of energy-saving running	SVC Set filter coefficient of energy-saving running	0.010s (0.000s~6.000s)	RUN

Table 4-18 F03.3x group

F03.4x~F03.5x group: torque control

Parameter code (Address)	Designation	Content		Factory default (setting range)	Adjustable attribute
F03.40 (0x0328)	Torque control selection	SVC 0: speed control mode to limit torque 1: torque control mode to limit speed		0 (0~1)	RUN
F03.41 (0x0329)	Torque command setting	SVC Ones-place: channel A: 0: torque setting via keyboard number entering 1: via keyboard potentiometer; 2: via AS 3: via VS 4: reserved 5: reserved 6: via RS485 communication port 7: reserved 8: reserved 9: reserved	Tens-place: channel B: Setting methods the same with channel A Hundreds-place: combinations: 0: A channel 1: B channel 2: A+B 3: A-B 4:MIN(A，B)	0000 (0000~0599)	RUN
F03.42 (0x032A)	Torque setting via keyboard number	SVC Set torque via keyboard number entering.		0.0% (0.0%~100.0%)	RUN

	entering			
F03.43 (0x032B)	Lower limit torque input	SVC Set the lower limit value of torque input.	0.00% (0.00%~100.00%)	RUN
F03.44 (0x032C)	Corresponding Lower limit value	SVC Set corresponding Lower limit value.	0.00% (-250.00%~300.00%)	RUN
F03.45 (0x032D)	Upper limit torque input	SVC Set upper limit torque input.	100.00% (0.00%~100.00%)	RUN
F03.46 (0x032E)	Corresponding upper limit value	SVC Set corresponding upper limit value.	100.00% (-250.00%~300.00%)	RUN
F03.47 (0x032F)	Filter time of torque	SVC Set filter time of torque.	0.100s (0.000s~6.000s)	RUN
F03.52 (0x0334)	Upper limit torque command	SVC Set upper limit output torque.	150.0% (0.0%~300.0%)	RUN
F03.53 (0x0335)	Lower limit torque command	SVC Set lower limit output torque.	0.0% (0.0%~300.0%)	RUN
F03.54 (0x0336)	Torque controlling forward speed limit selection	SVC 0: set via code F03.56; 1: value from external keyboard potentiometer × F03.56; 2:AS × F03.56; 3:VS × F03.56; 4: reserved; 5:reserved; 6: value from RS485 communication port × F03.56; 7:reserved; 8: reserved;	0 (0~8)	RUN
F03.55 (0x0337)	Torque controlling reverse speed limit selection	SVC 0: set via code F03.57;; 1: value from external keyboard potentiometer × F03.57; 2:AS × F03.57; 3:VS × F03.57; 4: reserved; 5: reserved; 6: value from RS485 communication port × F03.57; 7: reserved; 8: reserved;	0 (0~8)	RUN
F03.56 (0x0338)	Torque controlling maximum forward speed	SVC Set torque controlling maximum forward speed	100.0% (0.0%~100.0%)	RUN
F03.57 (0x0339)	Torque controlling maximum reverse speed	SVC Set torque controlling maximum reverse speed	100.0% (0.0%~100.0%)	RUN
F03.58 (0x033A)	Torque gain switching frequency	SVC Set torque gain switching frequency.	1.00Hz (0.00Hz~50.00Hz)	RUN
F03.59 (0x033B)	Torque gain	SVC Set torque gain	100.0% (0.0%~500.0%)	RUN

Table 4-19 F03.4x~F03.5x group

4.8 F04 Group: V/F Control

F04.0x group: V/F control

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F04.00 (0x0400)	Linear V/F curve selection	V/F Used to select the type of V/F curve to meet the requirements of different load characteristics. 0:straight V/F curve; 1-9: V/F curves to the powers of 1.1 to 1.9; 10: V/F curve squared; 11: self-defined V/F curve;	0 (0~11)	STOP
F04.01 (0x0401)	Torque boost	V/F 0.0%: automatic torque boost 0.1%~30.0%: manual torque boost	机型确定 (0.0%~30.0%)	RUN
F04.02 (0x0402)	Torque boost cut-off frequency	V/F Set the effective range of the torque boost so when the output frequency exceeds this value, the torque boost will be cut off.	100.0% (0.0%~100.0%)	RUN
F04.03 (0x0403)	Slip compensation gain	V/F Set slip compensation gain	0.0% (0.0%~200.0%)	RUN
F04.04 (0x0404)	Slip compensation limit	V/F Set slip compensation limit	100.0% (0.0%~300.0%)	RUN
F04.05 (0x0405)	Slip compensation filter time	V/F The slip compensation function requires correct input of parameters on the motor nameplate to start parameter learning and then deliver the best performance.	0.200s (0.000s~6.000s)	RUN
F04.06 (0x0406)	Oscillation suppression gain	V/F By adjusting this value, the low frequency resonance can be suppressed, but if it's too large, additional stability problems will further occur.	100.0% (0.0%~900.0%)	RUN
F04.07 (0x0407)	Oscillation suppression filter time	V/F Set oscillation suppression filter time	1.0s (0.0s~100.0s)	RUN
F04.08 (0x0408)	Output voltage percentage	V/F Set output voltage percentage	100.0% (25.0%~120.0%)	STOP

Table 4-20 F04.0x group

F04.1x group: self-defined V/F curve

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F04.10 (0x040A)	Self-set voltage V1	V/F Set the value of self-set voltage V1	3.0% (0.0%~100.0%)	STOP
F04.11 (0x040B)	Self-set frequency F1	V/F Set the value of self-set frequency F1	1.00Hz (0.00Hz ~ maximum frequency)	STOP
F04.12 (0x040C)	Self-set voltage V2	V/F Set the value of self-set voltage V2	28.0% (0.0% ~100.0%)	STOP
F04.13 (0x040D)	Self-set frequency F2	V/F Set the value of self-set frequency F2	10.00Hz (0.00Hz~ maximum frequency)	STOP
F04.14 (0x040E)	Self-set voltage V3	V/F Set the value of self-set voltage V3	55.0% (0.0%~ 100.0%)	STOP

F04.15 (0x040F)	Self-set frequency F3	V/F Set the value of self-set frequency F3	25.00Hz (0.00Hz~ maximum frequency)	STOP
F04.16 (0x0410)	Self-set voltage V4	V/F Set the value of self-set voltage V4	78.0% (0.0%~100.0%)	STOP
F04.17 (0x0411)	Self-set frequency F4	V/F Set the value of self-set frequency F4	37.50Hz (0.00Hz~ maximum frequency)	STOP
F04.18 (0x0412)	Self-set voltage V5	V/F Set the value of self-set voltage V5	100.0% (0.0%~100.0%)	STOP
F04.19 (0x0413)	Self-set frequency F5	V/F Set the value of self-set frequency F5	50.00Hz (0.00Hz~ maximum frequency)	STOP

Table 4-21 F04.1x group

F04.2x group: reserved

F04.3x group: V/F energy-saving control

Parameter code	Designation	Content	Factory default (setting range)	Adjustable attribute
F04.30 (0x041E)	Automatic energy saving control	V/F 0: off 1: on	0 (0~1)	STOP
F04.31 (0x041F)	Lower limit step-down frequency	V/F Set lower limit step-down frequency of energy-saving	15.0Hz (0.0Hz~50.0Hz)	STOP
F04.32 (0x0420)	Lower limit step-down voltage	V/F Set lower limit step-down voltage of energy-saving	50.0% (20.0%~100.0%)	STOP
F04.33 (0x0421)	Regulation rate of step-down voltage	V/F Set regulation rate of step-down voltage of energy-saving	0.010 V/ms (0.000 V/ms ~ 0.200 V/ms)	RUN
F04.34 (0x0422)	Recovery rate of step-down voltage	V/F Set recovery rate of step-down voltage of energy-saving	0.200 V/ms (0.000 V/ms~ 2.000 V/ms)	RUN

Table 4-22 F04.3x group

4.9 F05 Group: Input Terminal

F05.0x group: setting terminal function via number entering

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F05.00 (0x0500)	Terminal X1 function selection	V/F SVC See the functions of terminal X for details	1 (0~95)	STOP
F05.01 (0x0501)	Terminal X2 function selection	V/F SVC See the functions of terminal X for details	2 (0~95)	STOP
F05.02 (0x0502)	Terminal X3 function selection	V/F SVC See the functions of terminal X for details	4 (0~95)	STOP

Table 4-23 F05.0x group

F05.1x group:X1~X3 delay detection

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F05.10 (0x050A)	X1 detected effective delay	V/F SVC The delay time of transition of terminal X1 from the invalid state to the valid state	0.010s (0.000s~6.000s)	RUN
F05.11 (0x050B)	X1 detected ineffective delay	V/F SVC The delay time of the transition of terminal X1 from a valid state to an invalid state	0.010s (0.000s~6.000s)	RUN
F05.12 (0x050C)	X2 detected effective delay	V/F SVC The delay time of transition of terminal X2 from the invalid state to the valid state	0.010s (0.000s~6.000s)	RUN
F05.13 (0x050D)	X2 detected ineffective delay	V/F SVC The delay time of the transition of terminal X2 from a valid state to an invalid state	0.010s (0.000s~6.000s)	RUN
F05.14 (0x050E)	X3 detected effective delay	V/F SVC The delay time of transition of terminal X1 from the invalid state to the valid state	0.010s (0.000s~6.000s)	RUN
F05.15 (0x050F)	X3 detected ineffective delay	V/F SVC The delay time of the transition of terminal X3from a valid state to an invalid state	0.010s (0.000s~6.000s)	RUN

Table 4-24 F05.1x group

F05.2x group: Terminal action selection via number entering

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F05.20 (0x0514)	Terminal controlling running mode	V/F SVC 0: two-wire system 1 1: two-wire system 2 2: three-wire system 1 3: three-wire system 2	0 (0~3)	STOP
F05.22 (0x0516)	X1~X3 terminal characteristic selection	V/F SVC 0: valid when connected 1: valid when disconnected LED ones-place: X1 terminal LED tens-place: X2 terminal LED hundreds -place: X3 terminal LED thousands-place: reserved	0000 (0000~1111)	RUN
F05.25 (0x0519)	UP/DW terminal control selection	V/F SVC 0: power-off frequency storage 1: no power-off frequency storage 2: adjustable in operation and clear all at stop	0 (0~2)	STOP
F05.26 (0x051A)	UP/DW terminal controlling increase & decrease rate of frequency	V/F SVC Set UP/DW terminal controlling increase & decrease rate of frequency	0.50Hz/s (0.01Hz/s~50.00Hz/s)	RUN
F05.27 (0x051B)	Terminal emergency stop deceleration time	V/F SVC Set emergency stop deceleration time g for the terminal	1.00s (0.01s~650.00s)	RUN

Table 4-25 F05.2x group

F05.3x group: reserved

F05.4x group: analog type processing

Parameter code (Address)	Designation	Content		Factory default (setting range)	Adjustable attribute
F05.43 (0x052B)	Analog input curve selection	V/F SVC 0: straight line (default) 1: curve-1 2: curve 2	LED ones-place: AS LED tens-place: VS LED hundreds- place: reserved LED thousands-place: reserved	0000 (0000~2222)	RUN

Table 4-26 F05.4x group

F05.5x group: analog linear processing

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F05.50 (0x0532)	Lower limit AS	V/F SVC Define the signal received by the AS terminal, and the voltage signal below this value is processed as the lower limit.	0.0% (0.0%~100.0%)	RUN
F05.51 (0x0533)	Setting corresponding to lower limit AS	V/F SVC++ Set percentage for the set AS lower limit value.	0.00% (-100.00%~100.00%)	R
F05.52 (0x0534)	Upper limit AS	V/F SVC Define the signal received by the AS terminal, and the voltage signal above this value is processed as the upper limit.	100.0% (0.0%~100.0%)	RUN
F05.53 (0x0535)	Setting corresponding to upper limit AS	V/F SVC Set percentage for the set AS upper limit value.	100.00% (0.00%~100.00%)	RUN
F05.54 (0x0536)	AS filter time	V/F SVC Define the size of the AS circuit analog signal filtering to eliminate interference signals.	0.100s (0.000s~6.000s)	RUN
F05.55 (0x0537)	Lower limit VS	V/F SVC Define the signal received by the VS terminal, and the voltage signal below this value is processed as the lower limit.	0.0% (0.0%~100.0%)	RUN
F05.56 (0x0538)	Setting corresponding to lower limit VS	V/F SVC Set percentage for the set VS lower limit value.	0.00% (-100.00%~100.00%)	RUN
F05.57 (0x0539)	Upper limit VS	V/F SVC Define the signal received by the VS terminal, and the voltage signal above this value is processed as the upper limit.	100.0% (0.0%~100.0%)	RUN
F05.58 (0x053A)	Setting corresponding to upper limit VS	V/F SVC Set percentage for the set AS upper limit value.	100.00% (0.00%~100.00%)	RUN
F05.59 (0x053B)	VS filter time	V/F SVC Define the size of the VS circuit analog signal filtering to eliminate interference signals.	0.100s (0.000s~6.000s)	RUN

Table 4-27 F05.5x group

F05.6x group: analog quantity curve-1

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F05.60 (0x053C)	Curve-1 lower limit	V/F SVC Set lower limit value for curve-1.	0.0% (0.0%~100.0%)	RUN
F05.61 (0x053D)	Setting corresponding to curve-1 lower limit	V/F SVC Set percentage of lower limit value for curve-1.	0.00% (-100.00%~100.00%)	RUN
F05.62 (0x053E)	Input voltage on inflection point-1 of curve-1	V/F SVC Set input voltage on inflection point-1 of curve-1.	30.0% (0.0%~100.0%)	RUN
F05.63 (0x053F)	Setting corresponding to F05.62	V/F SVC Set percentage of input voltage on inflection point-1 of curve-1.	30.00% (-100.00%~100.00%)	RUN
F05.64 (0x0540)	Input voltage on inflection point 2 of curve-1	V/F SVC Set input voltage on inflection point 2 of curve-1.	60.0% (0.0%~100.0%)	RUN
F05.65 (0x0541)	Setting corresponding to F05.64	V/F SVC Set percentage of input voltage on inflection point 2 of curve-1.	60.00% (-100.00%~100.00%)	RUN
F05.66 (0x0542)	Curve-1 upper limit	V/F SVC Set upper value for curve-1.	100.0% (0.0%~100.0%)	RUN
F05.67 (0x0543)	Setting corresponding to curve-1 upper limit	V/F SVC Set percentage of upper limit value for curve-1.	100.00% (-100.00%~100.00%)	RUN

Table 4-28 F05.6x group

F05.7x group: analog quantity curve 2

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F05.70 (0x0546)	Curve-2 lower limit	V/F SVC Set lower limit value for curve-2.	0.0% (0.0%~100.0%)	RUN
F05.71 (0x0547)	Setting corresponding to curve-2 lower limit	V/F SVC Set percentage of lower limit value for curve-2.	0.00% (-100.00%~100.00%)	RUN
F05.72 (0x0548)	Input voltage on inflection point-1 of curve-2	V/F SVC Set input voltage on inflection point-1 of curve-2.	30.0% (0.0%~100.0%)	RUN
F05.73 (0x0549)	Setting corresponding to F05.72	V/F SVC Set percentage of input voltage on inflection point-1 of curve-2.	30.00% (-100.00%~100.00%)	RUN
F05.74 (0x054A)	Input voltage on inflection point-2 of curve-2	V/F SVC Set input voltage on inflection point-2 of curve-2.	60.0% (0.0%~100.0%)	RUN
F05.75 (0x054B)	Setting corresponding to F05.74	V/F SVC Set percentage of input voltage on inflection point-2 of curve-2.	60.00% (-100.00%~100.00%)	RUN
F05.76 (0x054C)	Curve-2 upper limit	V/F SVC Set upper value for curve-2.	100.0% (0.0%~100.0%)	RUN
F05.77 (0x054D)	Setting corresponding to curve-2 upper limit	V/F SVC Set percentage of upper limit value for curve-2.	100.00% (-100.00%~100.00%)	RUN

Table 4-29 F05.7x group

F05.8x group: AS/VS as digital signal input terminal

Parameter code (Address)	Designation	Content		Factory default (setting range)	Adjustable attribute
F05.80 (0x0550)	Characteristic selection of AS/VS as digital signal input terminal	V/F SVC 0: effective for low level 1: effective for high level LED ones-place: AS	LED tens-place: VS LED hundreds-place: reserved LED thousands-place: reserved	0000 (0000~1111)	RUN
F05.81 (0x0551)	AS terminal function selection (used as X)	V/F SVC See X terminal functions for details.		0 (0~95)	RUN
F05.82 (0x0552)	AS high-level setting	V/F SVC It's high level when AS input setting is greater than the high-level setting.		70.00% (0.00%~100.00%)	RUN
F05.83 (0x0553)	AS low-level setting	V/F SVC It's low level when AS input setting is smaller than the low-level setting.		30.00% (0.00%~100.00%)	RUN
F05.84 (0x0554)	VS terminal function selection (used as X)	V/F SVC See X terminal functions for details.		0 (0~95)	RUN
F05.85 (0x0555)	VS high-level setting	V/F SVC It's high level when VS input setting is greater than the high-level setting.		70.00% (0.00%~100.00%)	RUN
F05.86 (0x0556)	VS low-level setting	V/F SVC It's low level when VS input setting is smaller than the low-level setting.		30.00% (0.00%~100.00%)	RUN

Table 4-30 F05.8x group

4.10 F06 Group: Output Terminal

F06.0x group: reserved

F06.1x group: reserved

F06.2x~F06.3x group: digital & relay output

Parameter code (Address)	Designation	Content		Factory default (setting range)	Adjustable attribute
F06.20 (0x0614)	Output terminal polarity selection	V/F SVC 0: positive 1: negative LED ones-place: Y terminal	Tens-place: relay output terminal Hundreds-place: reserved Thousands-place: reserved	0000 (0000~1111)	RUN
F06.21 (0x0615)	Output terminal Y	V/F SVC See Y terminal functions for details.		1 (0~63)	RUN
F06.22 (0x0616)	Relay output (TA-TB-TC)	V/F SVC See Y terminal functions for details.		4 (0~63)	RUN
F06.25 (0x0619)	Y output delayed start time	V/F SVC Set delay time when Y terminal starts output.		0.010s (0.000s~60.000s)	RUN
F06.26 (0x061A)	Relay output delayed start time	V/F SVC Set delay time when relay starts output.		0.010s (0.000s~60.000s)	RUN
F06.29 (0x061D)	Y output delayed stop time	V/F SVC Set delay time when Y terminal stops output.		0.010s (0.000s~60.000s)	RUN
F06.30 (0x061E)	Relay output delayed stop time	V/F SVC Set delay time when relay stops output.		0.010s (0.000s~60.000s)	RUN

Table 4-31 F06.2x~F06.3x group

F06.4x group: frequency detection

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F06.40 (0x0628)	Frequency detection value 1	V/F SVC Set frequency detection value 1.	2.00Hz (0.00Hz ~ maximum)	RUN
F06.41 (0x0629)	Frequency detection amplitude 1	V/F SVC Set frequency detection amplitude 1.	1.00Hz (0.00Hz ~ maximum	RUN
F06.42 (0x062A)	Frequency detection value 2	V/F SVC Set frequency detection value 2.	2.00Hz (0.00Hz ~ maximum)	RUN
F06.43 (0x062B)	Frequency detection amplitude 2	V/F SVC Set frequency detection amplitude 2.	1.00Hz (0.00Hz ~ maximum)	RUN
F06.44 (0x062C)	Detection amplitude of set frequency	V/F SVC Set detection amplitude for set frequency.	2.00Hz (0.00Hz ~ maximum)	RUN

Table 4-32 F06.4x group

F06.5x group: comparator output of monitored parameter

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F06.50 (0x0632)	Comparator 1 monitoring selection	V/F SVC LED ones-& tens-place: set "yy" between 00~63 among monitoring parameter "Cxx.yy"; LED hundreds-&thousands-place: set "xx" between 00~07 among monitoring parameter "Cxx.yy";	0001 (0000~0763)	RUN
F06.51 (0x0633)	Upper limit of comparator 1	V/F SVC Set upper limit value of comparator 1.	(up to F06.50)	RUN
F06.52 (0x0634)	Lower limit of comparator 1	V/F SVC Set lower limit value of comparator 1.	(up to F06.50)	RUN
F06.53 (0x0635)	Comparator 1 bias	V/F SVC Set comparator 1 bias.	(up to F06.50)	RUN
F06.54 (0x0636)	Action selection of sending comparator 1	V/F SVC 0: go on running (digital terminal output only) 1: display warning and stop freely 2: display warning and go on running 3: forced stop	0 (0~3)	RUN
F06.55 (0x0637)	Comparator 2 monitoring selection	V/F SVC LED ones-& tens-place: set "yy" between 00~63 among monitoring parameter "Cxx.yy"; LED hundreds-&thousands-place: set "xx" between 00~07 among monitoring parameter "Cxx.yy";	0002 (0000~0763)	RUN
F06.56 (0x0638)	Upper limit of comparator 2	V/F SVC Set upper limit value of comparator 2.	(up to F06.55)	RUN
F06.57 (0x0639)	Lower limit of comparator 2	V/F SVC Set lower limit value of comparator 2.	(up to F06.55)	RUN
F06.58 (0x063A)	Comparator 2 bias	V/F SVC Set comparator 2 bias.	(up to F06.55)	RUN
F06.59 (0x063B)	Action selection of sending comparator 2	V/F SVC 0: go on running (digital terminal output only) 1: display warning and stop freely 2: display warning and go on running 3: forced stop	0 (0~3)	RUN

Table 4-33 F06.5x group

F06.6x ~ F06.7x group: virtual input & output terminals

Parameter code (Address)	Designation	Content		Factory default (setting range)	Adjustable attribute
F06.60 (0x063C) ~ F06.63 (0x063F)	Function selection of virtual vX1~vX3 terminals	V/F SVC See X terminal functions for details.		0 (0~95)	STOP
F06.64 (0x0640)	State source of vX terminal	V/F SVC 0: interconnect with the virtual vYn terminal; 1: connect to the physical terminal Xn 2: function code valid or not	Ones-place: vX1 Tens-place: vX2 Hundreds-place: vX3 Thousands-place: reserved	0000 (0000~0222)	RUN
F06.65 (0x0641)	Virtual vX terminal function code status setting	V/F SVC 0: invalid; 1: valid; Ones-place: vX1	Tens-place: vX2 Hundreds-place: vX3 Thousands-place: reserved	0000 (0000~0111)	RUN
F06.66 (0x0642) ~ F06.69 (0x0645) F06.69	Output selection of virtual vY1~vY3 terminals	V/F SVC See Y terminal functions for details.		0 (0~63)	RUN
F06.70 (0x0646) ~ F06.73 (0x0649)	vY1~ vY3 output delayed start time	V/F SVC Set delay time when vY1~ vY3 starts output.		0.010s (0.000s~60.000s)	RUN
F06.74 (0x064A) ~ F06.77 (0x064D)	vY1~ vY3 output delayed stop time	V/F SVC Set delay time when vY1~ vY3 stops output.		0.010s (0.000s~60.000s)	RUN

Table 4-34 F06.6x ~F06.7x group

4.11 F07 Group: Running Control

F07.0x group: start control

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F07.00 (0x0700)	Start method	V/F SVC 0: started by the starting frequency 1: DC braking before started by the starting frequency 2: speed tracking & direction judgment and then start	0 (0~2)	STOP
F07.01 (0x0701)	Start pre-excitation time	V/F SVC Only asynchronous motor vector control without PG supports pre-excitation, so ignore this code on other motors.	0.00s (0.00s~60.00s)	STOP

F07.02 (0x0702)	Start frequency	V/F SVC Remain stop and standby when set frequency is lower than start frequency.		0.50Hz (0.00Hz~upper limit frequency via number entering)	STOP
F07.03 (0x0703)	Start protection selection	V/F SVC 0: off 1: on LED ones-place: terminal protection activated on exit exception Tens-place: jogging terminal protection activated exit exception Hundreds-place: terminal protection activated when the command channel switches to the terminal Thousands-place: reserved Note: When the free stop, emergency stop and forced stop commands are valid, the terminal protection is enabled by default.		0111 (0000~1111)	STOP
F07.05 (0x0705)	Rotation direction selection	V/F SVC LED ones-place: rotation direction 0: remain; 1: reverse the direction; Tens-place: rotation direction permission: 0: forward and reverse commands allowed	1:forward command only 2: reverse command only Hundreds-place: frequency controlling command direction: 0: controlling command direction invalid 1: controlling command direction valid Thousands-place: reserved	0000 (0000~1121)	STOP
		Note: Initialization will not restore this value. Parameter downloading will not change the ones digit value.			
F07.06 (0x0706)	Restart after power failure selection	V/F SVC 0: invalid 1: speed tracking and restart 2: restart as the start mode.		0 (0~2)	STOP
F07.07 (0x0707)	Restart waiting time after power cut.	V/F SVC Set the waiting time to restart after power cut.		0.50s (0.00s~60.00s)	STOP

Table 4-35 F07.0x group

F07.1x group: stop control

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F07.10 (0x070A)	Stop method	V/F SVC 0: deceleration stop 1: free stop	0 (0~1)	RUN
F07.11 (0x070B)	Stop detection frequency	V/F SVC Stop when inverter output frequency is lower than this value under deceleration stop.	0.50Hz (0.00Hz~ upper limit via number entering)	RUN
F07.12 (0x070C)	Limit time to restart after stop	V/F SVC Set waiting time to restart after stop.	0.000s (0.000s~60.000s)	STOP
F07.15 (0x070F)	action selection when lower than minimum frequency	V/F SVC 0: run by frequency command 1: stop freely and remains pause 2: run at the minimum frequency 3: run at zero speed	2 (0~3)	RUN
F07.16	Torque holding	V/F SVC	60.0%	RUN

(0x0710)	current at zero speed	Set torque holding current at zero speed, 100.0% of rated current of the inverter.	(0.0%~150.0%)	
F07.17 (0x0711)	Torque holding time at zero speed	V/F SVC Set Torque holding time at zero speed.	0.0s (0.0s~6000.0s)	RUN
F07.18 (0x0712)	Forward & reverse rotation dead time	V/F SVC Zero frequency holding time during forward & reverse switching.	0.0s (0.0s~120.0s)	STOP

Table 4-36 F07.1x group

F07.2x group: DC braking and speed tracking

Parameter code (Address)	Designation	Content		Factory default (setting range)	Adjustable attribute
F07.20 (0x0714)	Braking current before starting	V/F SVC 100.0% of the motor rated current, and the upper limit of the braking current is the rated current of the inverter.		60.0% (0.0%~150.0%)	STOP
F07.21 (0x0715)	Braking time before starting	V/F SVC Set braking time before starting		0.0s (0.0s~60.0s)	STOP
F07.22 (0x0716)	DC braking start frequency	V/F SVC Set DC braking start frequency		1.00Hz (0.00Hz~50.00Hz)	STOP
F07.23 (0x0717)	DC braking current	V/F SVC The reference is the rated current of the inverter, and the internal limit shall not exceed the rated current of the motor.		60.0% (0.0%~150.0%)	STOP
F07.24 (0x0718)	DC braking time of stop	V/F SVC Set DC braking time in stop state.		0.0s (0.0s~60.0s)	STOP
F07.25 (0x0719)	Speed tracking	V/F SVC Ones-place: tracking mode 0: tracking from the maximum frequency; 1: tracking from stop frequency; Tens-place: reverse tracking 0: off	1: on Hundreds-place: tracking source 0: software tracking; 1: hardware tracking; Thousands-place: reserved	0000 (0000~1111)	STOP
F07.26 (0x071A)	Speed tracking time	V/F SVC Set speed tracking time		0.50s (0.00s~60.00s)	STOP
F07.27 (0x071B)	Speed tracking stop delay time	V/F SVC Set delay time when speed tracking stops.		1.00s (0.00s~60.00s)	STOP
F07.28 (0x071C)	Speed tracking current	V/F SVC Set speed tracking current.		120.0% (0.0%~400.0%)	STOP

Table 4-37 F07.2x group

F07.3x group: jogging

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F07.30 (0x071E)	Jogging frequency	V/F SVC Set running frequency of jogging.	5.00Hz (0.00Hz~maximum frequency)	RUN
F07.31 (0x071F)	Jogging acceleration time	V/F SVC Set jogging acceleration time.	10.00s (0.00s~650.00s)	RUN
F07.32 (0x0720)	Jogging deceleration time	V/F SVC Set jogging deceleration time.	10.00s (0.00s~650.00s)	RUN
F07.33 (0x0721)	Jogging S-curve selection	V/F SVC 0: invalid 1: valid	1 (0~1)	RUN
F07.34 (0x0722)	Jogging stop mode	V/F SVC 0: stop as F7.10 setting; 1: decelerate and stop	0 (0~1)	RUN

Table 4-38 F07.3x group

F07.4x group: start & stop holding frequency and hopping frequency

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F07.40 (0x0728)	Start holding frequency	V/F SVC Start holding frequency is higher than the start frequency and lower than the upper limit frequency via number entering.	0.50Hz (0.00Hz~upper limit frequency via number entering)	STOP
F07.41 (0x0729)	Start holding frequency time	V/F SVC This shall be higher than the starting frequency, and the starting frequency should be taken when it is lower than it.	0.00s (0.00s~60.00s)	STOP
F07.42 (0x072A)	Stop holding frequency	V/F SVC Set stop holding frequency.	0.50Hz (0.00Hz~ upper limit frequency via number entering))	STOP
F07.43 (0x072B)	Stop holding frequency time	V/F SVC Stop holding frequency time is invalid when ● terminal DC braking and jogging; ● stop DC braking is effective while the stop holding frequency is lower than stop DC braking frequency; ● no stop DC braking and the stop holding frequency is lower than the stop detection frequency	0.00s (0.00s~60.00s)	STOP
F07.44 (0x072C)	Hopping frequency 1	V/F SVC Set hopping frequency 1.	0.00Hz (0.00 Hz ~ maximum frequency)	RUN
F07.45 (0x072D)	Hopping frequency amplitude	V/F SVC Set hopping frequency1 amplitude.	0.00Hz (0.00Hz~ maximum frequency)	RUN
F07.46 (0x072E)	Hopping frequency 2	V/F SVC Set hopping frequency 2.	0.00Hz (0.00Hz~ maximum frequency)	RUN
F07.47 (0x072F)	Hopping frequency amplitude	V/F SVC Set hopping frequency 2 amplitude.	0.00Hz (0.00Hz~ maximum frequency	RUN

Table 4-39 F07.4x group

4.12 F08 Group: Auxiliary Control 1

F08.0x group: counting and timing

Parameter code (Address)	Designation	Content		Factory default (setting range)	Adjustable attribute
F08.00 (0x0800)	Counter input source	V/F SVC 0: from common X terminal	1: reserved 2: reserved	0 (0~2)	RUN
F08.01 (0x0801)	Counter input frequency division	V/F SVC Set counter input frequency division		0 (0~6000)	RUN
F08.02 (0x0802)	Counter maximum	V/F SVC Set counter maximum value.		1000 (0~65000)	RUN
F08.03	Counter value	V/F SVC		500	RUN

(0x0803)		Set counter value.		(0~65000)	
F08.04 (0x0804)	Pulses per meter	V/F SVC Set pulses per meter.		10.0 (0.1~6553.5)	RUN
F08.05 (0x0805)	Length	V/F SVC Set a length, when the actual length is greater than or equal to setting length, the terminal will output a valid signal, then reset after the output		1000m (0m~65535m)	STOP
F08.06 (0x0806)	Actual length	V/F SVC No power-off saving.		0m (0m~65535m)	STOP
F08.07 (0x0807)	Timer time unit	V/F SVC 0: second (s)	1: minute (m) 2: hour (h)	0 (0~2)	STOP
F08.08 (0x0808)	Timer value	V/F SVC Set timer value.		0 (0~65000)	STOP

Table 4-40 F08.0x group

F08.1x ~ F08.2x group: reserved

F08.3x group: swing frequency

Parameter code (Address)	Designation	Content		Factory default (setting range)	Adjustable attribute
F08.30 (0x081E)	Swing frequency	V/F SVC 0: swing frequency invalid 1: swing frequency valid		0 (0~1)	STOP
F08.31 (0x081F)	Swing frequency amplitude	V/F SVC Ones-place: start mode 0: auto; 1: manual terminal setting Tens-place: amplitude control 0: refer to center frequency	1: refer to maximum frequency Hundreds-place: preset frequency 0: unenabled 1: enabled Thousands-place: reserved	0000 (0000~0111)	STOP
F08.32 (0x0820)	Preset swing frequency	V/F SVC Set preset swing frequency.		0.00Hz (0.00Hz ~ maximum frequency)	STOP
F08.33 (0x0821)	Preset swing frequency waiting time	V/F SVC Set preset swing frequency waiting time.		0.0s (0.0s~3600.0s)	STOP
F08.34 (0x0822)	Swing frequency amplitude value	V/F SVC Set swing frequency amplitude value.		10.0% (0.0%~50.0%)	STOP
F08.35 (0x0823)	Hopping frequency	V/F SVC Set hopping frequency.		10.0% (0.0%~50.0%)	STOP
F08.36 (0x0824)	Triangular wave rise time	V/F SVC Set triangular wave rise time.		5.00s (0.00s~650.00s)	STOP
F08.37 (0x0825)	Triangular wave fall time	V/F SVC Set triangular wave fall time.		5.00s (0.00s~650.00s)	STOP

Table 4-41 F08.3x group

4.13 F09 Group: Auxiliary Control 2

F09.0x group: maintenance

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F09.02 (0x0902)	Device maintenance warning selection	V/F SVC Ones-place: cooling fan 0: invalid; 1: valid	0x0000 (0x0000~0x1111)	RUN

		Tens-place: main relay 0: invalid; 1: valid Hundreds-place: reserved Thousands-place: reserved		
F09.03 (0x0903)	Cooling fan maintenance	V/F SVC Set this parameter in hours and set it to 0 after replacing with a new one.	0 (0~65535)	STOP
F09.04 (0x0904)	Main relay maintenance	V/F SVC Set this parameter to 0.0% after replacing with a new relay.	0.0% (0.0%~150.0%)	STOP

Table 4-42 F09.0x group

4.14 F10 Group: Protection Parameter

F10.0x group: current protection

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F10.00 (0x0A00)	Overcurrent suppression	V/F SVC Automatically limited output current shall not exceed the set overcurrent suppression point to prevent overcurrent fault triggered by excessive current. 0: suppression always valid; 1: valid during acceleration & deceleration, while invalid during constant speed	0 (0~1)	RUN
F10.01 (0x0A01)	Overcurrent suppression point	V/F SVC Set the load current limiting level, 100% of rated motor current.	160.0% (0.0%~300.0%)	RUN
F10.02 (0x0A02)	Overcurrent suppression gain	V/F SVC Set the response effect of overcurrent suppression.	100.0% (0.0%~500.0%)	RUN
F10.03 (0x0A03)	Current protection setting 1	V/F SVC Set whether the current-related protection is activated: Ones-place: current limiting by wave (CBC) 0: off 1: on Tens-place: OC protection interference suppression 0: normal 1: primary interference suppression 2: secondary interference suppression Hundreds-place: SC protection interference suppression 0: normal 1: primary interference suppression 2: secondary interference suppression LED thousands-place: reserved	0001 (0000~F221)	STOP
F10.04 (0x0A04)	Current protection setting 2	V/F SVC Ones-place: three-phase current and protection selection 0: off; 1: on Tens-place: three-phase current unbalance protection, fault code E. oLF4. 0: off; 1: on	0001 (0000~0011)	STOP
F10.05 (0x0A05)	Current imbalance threshold	V/F SVC The ratio of the maximum to the minimum phase in the three phases of the current, and the set value is compared to tell if it's current imbalance fault.	160% (0%~500%)	STOP
F10.06 (0x0A06)	Current imbalance filtering coefficient	V/F SVC Increase this parameter on occasions with great current	2.0 (0.0~60.0)	STOP

		fluctuation.		

Table 4-43 F10.0x group

F10.1x group: voltage protection

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F10.11 (0x0A0B)	Bus overvoltage suppression	V/F SVC When the bus voltage is greater than the overvoltage suppression point, the acceleration and deceleration will be slowed down or stopped to prevent the overvoltage fault. Ones-place: overvoltage suppression 0: off; 1: on Tens-place: overexcitation 0: off; 1: enabled during deceleration; 2: enabled during running;	0011 (0000~0021)	STOP
F10.12 (0x0A0C)	Bus overvoltage suppression point	V/F SVC Set the bus voltage value for triggering the overvoltage suppression function Note: T3 overpressure point :820V(750V~840V) S2 overpressure point :400V(360V~410V)	T3:750V S2:370V (T3:650V~800V S2:340V~380V) Also limited by overvoltage point	STOP
F10.13 (0x0A0D)	Bus overvoltage suppression gain	V/F SVC Set the response effect of overvoltage suppression。	100.0% (0.0%~500.0%)	RUN
F10.14 (0x0A0E)	Dynamic braking	V/F SVC Set dynamic braking on or off; 0: off; 1: on with the overvoltage suppression off; 2: on wth the overvoltage suppression on;	2 (0~2)	RUN
F10.15 (0x0A0F)	Dynamic braking action voltage	V/F SVC Set the dynamic braking action voltage. When the bus voltage is greater than this value, this function starts to act. Note: T3 overpressure point :820V(750V~840V) S2 overpressure point :400V(360V~410V)	T3:740V S2:360V (T3:650V~800V S2:350V~390V) Also limited by overvoltage point	RUN
F10.16 (0x0A10)	Bus undervoltage suppression	V/F SVC When the bus voltage is lower than the undervoltage suppression point, the operating frequency will be automatically adjusted to stop the bus voltage reduction to prevent undervoltage fault reporting 0: off; 1: on	0 (0~1)	STOP
F10.17 (0x0A11)	Bus undervoltage suppression point	V/F SVC Set the bus voltage value to trigger the undervoltage suppression function. Note: T3 overpressure point :820V(750V~840V) S2 overpressure point :400V(360V~410V)	T3:430 S2:240 (T3:350V~450V S2:180V~260V) Also limited by overvoltage point	STOP
F10.18 (0x0A12)	Busbar undervoltage suppression gain	V/F SVC Set the response effect of undervoltage suppression.	100.0% (0.0%~500.0%)	RUN

F10.19 (0x0A13)	Busbar undervoltage protection point	V/F SVC Set the allowable lower limit of busbar voltage, below which inverter will report undervoltage fault. Note :T3 overpressure point :820V(750V~840V) S2 overpressure point :400V(360V~410V)	T3:320V S2:190V (T3:300V~400V S2:160V~240V) Also limited by overvoltage point	STOP

Table 4-44 F10.1x group

F10.2x group: auxiliary protection

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F10.20 (0x0A14)	Input & output phase loss protection	V/F SVC Set input & output phase loss protection on or off. Ones-place: output phase loss protection 0: off; 1: on; Tens-place: input phase loss protection 0: off; 1:on，report A. iLF warning when phase loss detected but go on running; 2:on，report A. iLF warning when phase loss detected and stop freely. Hundreds-place; reserved; Thousands-place: reserved;	0021 (0000~1121)	STOP
F10.21 (0x0A15)	Input phase loss threshold value	V/F SVC Set percentage of the input phase loss detected voltage, 100% of the rated bus voltage.	10.0% (0.0%~30.0%)	STOP
F10.22 (0x0A16)	Grounding short circuit protection	V/F SVC Set inverter output & cooling fan grounding short circuit protection on or off; Ones-place: Output grounding short circuit protection: 0: off; 1: on; Tens-place: Cooling fan grounding short circuit protection: 0: off; 1: on; Hundreds-place; reserved; Thousands-place: reserved;	11 (00~12)	STOP
F10.23 (0x0A17)	Cooling fan	Set the operation mode of the cooling fan 0: fan runs after the inverter is powered on 1: fan runs or not up to temperature after shutdown; 2: fan stops after the set time of F10.24 during shutdown, and runs or not up to temperature then.	1 (0~2)	RUN
F10.24 (0x0A18)	Delay time of cooling fan	V/F SVC Set the time from release of the running command to the cooling fan stops running	30.00s (0.00s~600.00s)	STOP
F10.25 (0x0A19)	Inverter overheating oH1 warning detection level	V/F SVC Set the temperature of overheat warning of the inverter, any value detected larger will cause overheating warning.	80.0℃ (0.0℃ ~100.0℃)	RUN

Table 4-45 F10.2x group

F10.3x group: load protection

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F10.32 (0x0A20)	Load detection warning	V/F SVC Set load detection mode and the corresponding warning mode Ones-place: load detection warning 1 setting 0: detection off; 1: excessive load; 2: excessive load only at constant speed; 3: insufficient load; 4: insufficient load only at constant speed; Tens-place: warning mode of load detection warning 1 0: go on running，report A. Ld1 1: stop freely，report E. Ld1 Hundreds-place: load detection warning 2 setting 0: detection off; 1: excessive load; 2: excessive load only at constant speed; 3: insufficient load; 4: insufficient load only at constant speed; Thousands-place: warning mode of load detection warning 2 0: go on running，report A. Ld2 1: stop freely，report E. Ld2	0000 (0000~1414)	STOP
F10.33 (0x0A21)	Load warning detection level 1	V/F SVC Set the detectable value of load warning 1; For V/F control, the value equals to 100% of the rated current of the motor; For vector control, the value equals to 100% of the rated output torque of the motor	130.0% (0.0%~200.0%)	STOP
F10.34 (0x0A22)	Load warning detection time 1	V/F SVC Set the duration of load detection warning 1. If the load is greater than the load warning detection level, load detection warning 1 functions.	5.0s (0.0s~60.0s)	STOP
F10.35 (0x0A23)	Load warning detection level 2	V/F SVC Set the detectable value of load warning 2; For V/F control, the value equals to 100% of the rated current of the motor; For vector control, the value equals to 100% of the rated output torque of the motor	30.0% (0.0%~200.0%)	STOP
F10.36 (0x0A24)	Load warning detection time 2	V/F SVC Set the duration of load detection warning 2. If the load is greater than the load warning detection level, load detection warning 2 functions.	5.0s (0.0s~60.0s)	STOP

Table 4-46 F10.3x group

F10.4x group: stall protection

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F10.40 (0x0A28)	Excessive speed deviation protection	V/F SVC Set the detection mode and warning mode when the deviation between the given motor speed and the feedback speed is too large Ones-place: detection mode selection	00 (00~12)	STOP

		0: detection off; 1: on at constant speed only; 2: on; Tens-place: warning mode 0: stop freely and report warning; 1: report warning and go on running		
F10.41 (0x0A29)	Excessive speed deviation detection threshold value	V/F SVC Set the detectable value with excessive speed deviation, 100% of F01.10[maximum frequency]	10.0% (0.0%~60.0%)	STOP
F10.42 (0x0A2A)	Excessive speed deviation detection time	V/F SVC Set the duration of detecting speed deviation. If the given speed & feedback speed deviation is greater than F10.41 and lasts for this setting, report excessive speed deviation warning.	2.0s (0.0s~60.0s)	STOP
F10.43 (0x0A2B)	Stall protection	V/F SVC Set detection mode and warning mode of motor stall. Ones-place: detection mode selection 0: detection off; 1: on at constant speed only; 2: on; Tens-place: warning mode 0: stop freely and report warning; 1: report warning and go on running	02 (00~12)	STOP
F10.44 (0x0A2C)	Stall protection detection threshold value	V/F SVC Set the detectable value of stall warning, which corresponds 100% of F01.10[maximum frequency]	110.0% (0.0%~150.0%)	STOP
F10.45 (0x0A2D)	Stall protection detection time	V/F SVC Set the duration of stall detection. If feedback speed deviation is greater than F10.44 and lasts for this setting, report stall warning.	0.100s (0.000s~2.000s)	STOP

Table 4-47 F10.4x group

F10.5x group: fault recovery protection and motor overload

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F10.50 (0x0A32)	Times of self-recovery	V/F SVC Set the allowable times of self-recovery. Note: 0 indicates that the fault self-recovery function is off. Otherwise, it's on.	0 (0~10)	STOP
F10.51 (0x0A33)	Interval between fault self-recoveries	V/F SVC Set the waiting time between each inverter failure and recovery.	1.0s (0.0s~100.0s)	STOP
F10.52 (0x0A34)	Times of recovered faults	V/F SVC The times of self-recoveries that have been performed. This parameter is read-only.	0	STOP
F10.55 (0x0A37)	Motor overload model	V/F SVC 0: common motor 1: inverter motor (50Hz) 2: inverter motor (60Hz) 3: motor without cooling fan	0 (0~3)	RUN
F10.56 (0x0A38)	Motor insulation level	V/F SVC 0: insulation level A; 1: insulation level E 2: Insulation level B; 3: insulation level F 4: Insulation class H; 5: special level S	3 (0~5)	STOP

F10.57 (0x0A39)	Motor working system	V/F SVC 0-1: S1 working system (continuous working) 2: S2 working system 3-9: corresponds to S3-S9	0 (0~9)	STOP
F10.58 (0x0A3A)	Motor overload threshold	V/F SVC Set motor overload threshold. The actual current is greater than accumulated excess load.	105.0% (0.0%~130.0%)	STOP
F10.59 (0x0A3B)	Motor overload current coefficient	V/F SVC Motor overload calculated current = actual current * motor overload current coefficient.	100.0% (0.0%~250.0%)	STOP

Table 4-48 F10.5x group

4.15 F11 Group: Keyboard Parameter

F11.0x group: keyboard operation (external keyboard required)

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F11.00 (0x0B00)	Key lock	V/F SVC 0: lock off; 1: keyboard parameters changing function locked; 2: function parameters and the non-start & stop key locked; 3: all function parameters and keys are locked;	0 (0~3)	RUN
F11.01 (0x0B01)	Key lock password	V/F SVC Function together with the key lock; Remember the password after setting, otherwise, the operation cannot be performed if it is locked.	0 (0~65535)	RUN
F11.02 (0x0B02)	Multi-function key selection	V/F SVC 0: invalid; 1: reverse running; 2: forward jogging; 3: backward jogging; 4: switch between the keyboard command channel and the terminal command channel; 5: switch between the keyboard command channel and the communication command channel; 6: switch between the terminal command channel and the communication command channel; 7: switch between the keyboard, terminal, and communication command channel;	0 (0~7)	STOP
F11.03 (0x0B03)	Keyboard STOP key setting	V/F SVC 0: non-keyboard control invalid; 1: non-keyboard control stops as stop mode; 2: non-keyboard control stops as free mode;	0 (0~2)	STOP
F11.04 (0x0B04)	Up/down button on the status interface (knob) function selection	V/F SVC Ones-place; keyboard up & down function selection 0: invalid; 1: used to change the frequency of F01.09; 2: used to adjust PID keyboard of F13.01; 3: keyboard up & down keys to change the parameters; Tens-place: power failure storage 0: off; 1: on; Hundreds-place: action limit 0: adjustable both during running & shutdown;	0011 (0000~0213)	STOP

		1: adjustable during running and keeping during shutdown; 2: adjustable during running and clearing all after shutdown; Thousands-place: reserved		
F11.05 (0x0B05)	Up & down key quick change parameter	V/F SVC Ones-place: set yy value from 00 to 99 among code "Fxx.yy"; Tens-place: set xxvalue from 00 to 15 among code "Fxx.yy"	0109 (0000~2999)	RUN

Table 4-49 F11.0x group

F11.1x group: status interface cycle monitoring

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F11.10 (0x0B0A)	Left & right key on the status screen function selection	V/F SVC Ones-place: left key to adjust the first row; 0: invalid; 1: valid Tens-place: right key to adjust the second row; 0: invalid; 1: valid	0011 (0000~0011)	STOP
F11.11 (0x0B0B)	Keyboard first line cycle- display parameter 1	V/F SVC Ones- & tens-place: set yy from 00 to 63 among monitoring parameter Cxx.yy; Hundreds-& Thousands-plac: set xx from 00 to 07 among monitoring parameter Cxx.yy;	0000 (0000~0763)	RUN
F11.12 (0x0B0C)	Keyboard first line cycle- display parameter 2	V/F SVC Ones- & tens-place: set yy from 00 to 63 among monitoring parameter Cxx.yy; Hundreds-& Thousands-plac: set xx from 00 to 07 among monitoring parameter Cxx.yy;	0001 (0000~0763)	RUN
F11.13 (0x0B0D)	Keyboard first line cycle- display parameter 3	V/F SVC Ones- & tens-place: set yy from 00 to 63 among monitoring parameter Cxx.yy; Hundreds-& Thousands-plac: set xx from 00 to 07 among monitoring parameter Cxx.yy;	0002 (0000~0763)	RUN
F11.14 (0x0B0E)	Keyboard first line cycle- display parameter 4	V/F SVC Ones- & tens-place: set yy from 00 to 63 among monitoring parameter Cxx.yy; Hundreds-& Thousands-plac: set xx from 00 to 07 among monitoring parameter Cxx.yy;	0011 (0000~0763)	RUN
F11.15 (0x0B0F)	Keyboard second line cycle- display parameter 1	V/F SVC Ones- & tens-place: set yy from 00 to 63 among monitoring parameter Cxx.yy; Hundreds-& Thousands-plac: set xx from 00 to 07 among monitoring parameter Cxx.yy;	0002 (0000~0763)	RUN
F11.16 (0x0B10)	Keyboard second line cycle- display parameter 2	V/F SVC Ones- & tens-place: set yy from 00 to 63 among monitoring parameter Cxx.yy; Hundreds-& Thousands-plac: set xx from 00 to 07 among monitoring parameter Cxx.yy;	0004 (0000~0763)	RUN
F11.17 (0x0B11)	Keyboard second line cycle- display parameter 3	V/F SVC Ones- & tens-place: set yy from 00 to 63 among monitoring parameter Cxx.yy; Hundreds-& Thousands-plac: set xx from 00 to 07 among monitoring parameter Cxx.yy;	0010 (0000~0763)	RUN
F11.18 (0x0B12)	Keyboard second line cycle- display parameter 4	V/F SVC Ones- & tens-place: set yy from 00 to 63 among monitoring parameter Cxx.yy;	0012 (0000~0763)	RUN

		Hundreds-& Thousands-plac: set xx from 00 to 07 among monitoring parameter Cxx.yy;		

Table 4-50 F11.1x group

F11.2x group: monitoring parameter control

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F11.20 (0x0B14)	Keyboard item display selection	Ones-place: input frequency display selection 0: target frequency 1: running frequency >=2: running frequency, filtering depth increases with this value. Tens-place: reserved 0: invalid 1: remove the active power of stator resistance loss Hundreds-place: power display dimension 0: display percentage (%) 1: display kW (kW) Thousands-place: reserved	0x0002 (0x0000~0x111F)	RUN
F11.21 (0x0B15)	Speed factor display	V/F SVC Set keyboard monitoring speed parameter factor ratio display.	100.0% (0.0%~500.0%)	RUN
F11.22 (0x0B16)	Power factor display	V/F SVC Set keyboard monitoring power parameter factor ratio display.	100.0% (0.0%~500.0%)	RUN
F11.23 (0x0B17)	Monitoring parameter group display selection	V/F SVC Ones-place: reserved 0: invalid; 1: valid; Tens-place: C05 display selection 0: Automatically switches with control modes 1: V/F mode related parameters; 2: V/C mode related parameters; Hundreds-place: C00.40~C00.63 display selection 0: off; 1: on; Thousands-place: reserved	0x0000 (0x0000~0xFFFF)	RUN
F11.24 (0x0B18)	Monitoring parameter filtering selection	V/F SVC Ones- place: output current filtering displayed 0 to F: The larger the value, the deeper the filtering	0x0002 (0x0000~0x000F)	RUN
F11.25 (0x0B19)	Motor self - learning display selection	V/F SVC 0: status of the self-learning process displayed 1: status of the self-learning process not displayed Note: T/S2 models do not support this parameter.	0 (0~1)	RUN
F11.27 (0x0B1B)	Fault display selection	Ones-place: The fault display during self-recovery: 0: off 1: on	0x0001 (0x0000~0x0001)	RUN

Table 4-51 F11.2x group

F11.3x group: keyboard special functions

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F11.30 (0x0B1E)	AC01 Serial port function select	V/F SVC 0: RS485 communication port; 1: external keyboard; Choose one of the two functions of the 485 bus and the external keyboard. If the external keyboard is valid and connected, the 485 bus (master/slave) remains invalid.	0 (0~1)	STOP
F11.31 (0x0B1F)	Keyboard potentiometer lower limit voltage	V/F SVC Define the keyboard potentiometer voltage lower limit, any value smaller than this value will still be taken as this one.	0.50V (0.00V~3.00V)	RUN
F11.32 (0x0B20)	Keyboard potentiometer lower limit corresponding value	V/F SVC Set the input percentage of lower voltage limit of the keyboard potentiometer.	0.00% (0.00%~100.00%)	RUN
F11.33 (0x0B21)	Keyboard potentiometer upper limit voltage	V/F SVC Define the keyboard potentiometer upper voltage limit, any value bigger than this value will still be taken as this one.	2.80V (0.00V~3.00V)	RUN
F11.34 (0x0B22)	Keyboard potentiometer upper limit corresponding value	V/F SVC Set the input percentage of upper voltage limit of the keyboard potentiometer.	100.0% (0.0%~100.0%)	RUN
F11.35 (0x0B23)	Keyboard potentiometer selection	V/F SVC Set the keyboard potentiometer channel 0: built-in keyboard potentiometer effective; 1: external single-line display keyboard potentiometer effective	0 (0~1)	STOP

Table 4-52 F11.3x group

4.16 F12 Group: Communication Parameter

(Note: The Modbus bus (master/slave) cannot be used when the external keyboard selected for F11.30 is valid and connected.)

F12.0x group : Modbus slave parameters

Parameter code (Address)	Designation	Content		Factory default (setting range)	Adjustable attribute
F12.00 (0x0C00)	Master/slave selection	V/F SVC 0: master 1: slave		0 (0~1)	STOP
F12.01 (0x0C01)	Modbus communication address	V/F SVC Set the communication address of the Modbus slave computer.		1 (1~247)	STOP
F12.02 (0x0C02)	Communication baud rate selection	V/F SVC 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 communication data format	V/F SVC 0:(N, 8,1) No check, Data bit :8, Stop bit :1 1:(E, 8,1) Parity check, Data bit :8,	3:(N, 8,2) No check, Data bit :8, Stop bit :2 4:(E, 8,2) Parity check, Data bit :8, Stop bit :2 5:(O, 8,2) odd check,	0 (0~5)	STOP

		Stop bit :1 2:(O, 8,1) odd check, Data bit :8, Stop bit :1	Data bit :8, Stop bit :2		
F12.04 (0x0C04)	Modbus communication transmission response processing	V/F SVC 0: write operation valid; 1: write operation invalid;		0 (0~1)	RUN
F12.05 (0x0C05)	Modbus communication response delay	V/F SVC The time interval between receiving the data and replying to the master.		0ms (0ms~5000ms)	RUN
F12.06 (0x0C06)	Modbus communication timeout failure time	V/F SVC interval time between two communication to tell communication disconnection.		1.0s (0.1s~100.0s)	RUN
F12.07 (0x0C07)	Communication disconnection processing	V/F SVC 0: timeout fault undetected; 1: report fault and stop freely; 2: report warning and go on running; 3: forced stop		0 (0~3)	RUN
F12.08 (0x0C08)	Received data (address 0x3000) with zero bias	V/F SVC Set the bias value of the set frequency of communication (100.00 corresponding to 100.00Hz)		0.00 (-100.00~100.00)	RUN
F12.09 (0x0C09)	Receive data (address 0x3000) gain	V/F SVC Set the gain of communication at the set frequency Set frequency = actual communication × gain + bias value		100.0% (0.0%~500.0%)	RUN

Table 4-53 F12.0x group

F12.1x group : Modbus master parameters

Parameter code (Address)	Designation	Content		Factory default (setting range)	Adjustable attribute
F12.10 (0x0C0A)	Master loop-sending parameters selection	V/F SVC Ones-, tens-, hundreds-, thousands-place 0: invalid; 1: running command; 2: set frequency; 3: output frequency; 4: upper limit frequency; 5: set torque ;	6: output torque; 7: reserved 8: reserved 9: PID setting A: PID feedback; B: reserved; C: Active current component;	0x0031 (0x0000~0xCCCC)	RUN
F12.11 (0x0C0B)	Self-defined frequency address	V/F SVC Set this parameter to non-0 in place of frequency address of 0x3000 or 0x2000 set via communication port.		0x0000 (0x0000~0xFFFF)	RUN
F12.12 (0x0C0C)	Self-defined command address	V/F SVC Set this parameter to non-0 in place of command address of 0x3001 or 0x2001 set via communication port.		0x0000 (0x0000~0xFFFF)	RUN
F12.13 (0x0C0D)	Forward running command value setting	V/F SVC Set this parameter in place of 0001H forward running set via communication port.		0x0001 (0x0000~0xFFFF)	RUN

F12.14 (0x0C0E)	Backward running command value setting	V/F SVC Set this parameter in place of 0002H backward running set via communication port.	0x0002 (0x0000~0xFFFF)	RUN
F12.15 (0x0C0F)	Stop command value	V/F SVC Set this parameter in place of 0005H deceleration stop set via communication port.	0x0005 (0x0000~0xFFFF)	RUN
F12.16 (0x0C10)	Reset command value	V/F SVC Set this parameter in place of 0007H fault recovery set via communication port.	0x0007 (0x0000~0xFFFF)	RUN
F12.19 (0x0C13)	Master sending command selection	V/F SVC Master sending command selection 0: sending the running command 1: sends the running status	0 (0~1)	RUN

Table 4-54 F12.1x group

4.17 F13 Group: PID Control

F13.00~F13.06:PID setting and feedback

Parameter code (Address)	Designation	Content		Factory default (setting range)	Adjustable attribute
F13.00 (0x0D00)	PID controller signal source setting	V/F SVC 0: via keyboard number setting; 1: via keyboard potentiometer; 2: via current analog quantity AS; 3: via voltage analog quantity VS;	4: reserved 5: reserved 6: via RS485 communication port; 7: reserved 8: via terminal selection; 9: via active current of communication	0 (0~9)	RUN
F13.01 (0x0D01)	PID setting/feedback via keyboard number entering	V/F SVC The parameter is valid when [F13.00]or [F13.03] is selected with "PID setting/feedback via keyboard number entering".		50.0% (0.0%~100.0%)	RUN
F13.02 (0x0D02)	PID time	V/F SVC Set PID time needed from 0.0% to 100%.		1.00s (0.00s~60.00s)	RUN
F13.03 (0x0D03)	PID controller feedback signal source setting	V/F SVC 0: via keyboard number setting; 1: via keyboard potentiometer; 2: via current analog quantity AS; 3: via voltage analog quantity VS; 4: reserved	5: reserved 6: via RS485 communication port; 7: reserved 8: via terminal selection; 9: via local active current;	2 (0~9)	RUN
F13.04 (0x0D04)	Feedback signal low-pass filter time	V/F SVC The longer the filter time, the stronger the anti-interference, and the slower the reaction.		0.010s (0.000s~6.000s)	RUN
F13.05 (0x0D05)	Feedback signal gain	V/F SVC Used for linear proportional modulation of feedback input signal.		1.00 (0.00~10.00)	RUN

F13.06 (0x0D06)	Feedback signal range	V/F SVC PID feedback signal range is a dimensionless unit used to adjust PID feedback.	100.0 (0.0~100.0)	RUN

Table 4-55 F13.00~F13.06

F13.07~F13.24:PID modulation

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute
F13.07 (0x0D07)	PID control selection	V/F SVC Ones- place: feedback characteristic selection 0: positive characteristic; 1: negative characteristic Tens-place: reserved Hundreds-place: reserved Thousands-place: differential regulation characteristics 0: differentiates the deviation 1: differentiate the feedback	0100 (0000~1111)	RUN
F13.08 (0x0D08)	PID preset output	V/F SVC Output as PID preset value after PID starts.	100.0% (0.0%~100.0%)	RUN
F13.09 (0x0D09)	PID preset output time	V/F SVC Set PID preset output time and set output starts after countdown.	0.0s (0.0s~6500.0s)	RUN
F13.10 (0x0D0A)	PID deviation limit	V/F SVC Set maximum deviation between PID feedback and PID set	0.0% (0.0%~100.0%)	RUN
F13.11 (0x0D0B)	Proportional gain P1	V/F SVC Set PID parameter group 1 proportional gain.	0.100 (0.000~4.000)	RUN
F13.12 (0x0D0C)	Integral time I1	V/F SVC Set PID parameter group 1 integral time.	1.0s (0.0s~600.0s)	RUN
F13.13 (0x0D0D)	Rate time D1	V/F SVC Set PID parameter group 1 rate time.	0.000s (0.000s~6.000s)	RUN
F13.14 (0x0D0E)	Proportional gain P1	V/F SVC Set PID parameter group 2 proportional gain.	0.100 (0.000~4.000)	RUN
F13.15 (0x0D0F)	Integral time I2	V/F SVC Set PID parameter group 2 integral time.	1.0s (0.0s~600.0s)	RUN
F13.16 (0x0D10)	Rate time D2	V/F SVC Set PID parameter group 2 rate time.	0.000s (0.000s~6.000s)	RUN
F13.17 (0x0D11)	PID parameter switching condition	V/F SVC 0: off; 1: switch via DI terminal; 2: switch according to deviation;	0 (0~2)	RUN
F13.18 (0x0D12)	Set lower deviation value	V/F SVC Apply the gain 1 parameter when the PID deviation is smaller than this value.	20.0% (0.0%~100.0%)	RUN
F13.19 (0x0D13)	Set higher deviation value	V/F SVC Apply the gain 1 parameter when the PID deviation is larger than this value.	80.0% (0.0%~100.0%)	RUN
F13.21 (0x0D15)	Differential limit	V/F SVC Differential limit is used to set the range of PID differential output.	5.0% (0.0%~100.0%)	RUN
F13.22 (0x0D16)	PID upper limit output	V/F SVC Set the upper limit of PID output.	100.0% (0.0%~100.0%)	RUN
F13.23 (0x0D17)	PID lower limit output	V/F SVC Set the lower limit of PID output.	0.0% (-100.0%~F13.22)	RUN

F13.24 (0x0D18)	PID output filter time	V/F SVC Set the filter time for PID output.	0.000s (0.000s~6.000s)	RUN

Table 4-56 F13.07~F13.24

F13.25~F13.28:PID Feedback disconnection

Parameter code	Designation	Content	Factory default (setting range)	Adjustable attribute
F13.25 (0x0D19)	Action selection of PID disconnection	V/F SVC 0: PID continues running and no fault is reported; 1: PID stops running and fault is reported; 2: PID continues running and sends output warning signal; 3: PID continues running at the current frequency and sends output warning signal;	0 (0~3)	STOP
F13.26 (0x0D1A)	Detection time of PID disconnection	V/F SVC Set detection time of PID disconnection diagnosis.	1.0s (0.0s~120.0s)	RUN
F13.27 (0x0D1B)	Upper limit of disconnection warning	V/F SVC If the feedback signal exceeds this value and persists for [F13.26], the sensor is considered disconnected	100.0% (0.0%~100.0%)	RUN
F13.28 (0x0D1C)	Lower limit of disconnection warning	V/F SVC If the feedback signal is lower than this value and persists for [F13.26], the sensor is considered disconnected	0.0% (0.0%~100.0%)	RUN

Table 4-57 F13.25~F13.28

F13.29~F13.33:PID sleep mode

Parameter code	Designation	Content	Factory default (setting range)	Adjustable attribute
F13.29 (0x0D1D)	Sleep selection	V/F SVC 0: off; 1: on	0 (0~1)	RUN
F13.30 (0x0D1E)	Sleep frequency	V/F SVC When the sleep function is effective, PID output frequency is lower than [F13.30] and last for sleep delay of [F13.31], then starts the sleep mode.	10.00Hz (0.00Hz ~ max. frequency)	RUN
F13.31 (0x0D1F)	Sleep delay		60.0s (0.0s~3600.0s)	RUN
F13.32 (0x0D20)	Wakeup deviation	V/F SVC PID feedback is lower than/greater than (positive characteristic/negative characteristic) PID minus/plus (positive characteristic/negative characteristic) wakeup deviation [F13.32] and lasts for wakeup delay [F13.33], sleep mode ends and running is resumed.	5.0% (0.0%~50.0%)	RUN
F13.33 (0x0D21)	Wakeup delay		1.0s (0.0s~60.0s)	RUN

Table 4-58 F13.29~F13.33

4.18 F14 Group: Multi-speed and Simple PLC

F14.00~F14.14: multi-speed frequency setting

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute

F14.00 (0x0E00) ~ F14.14 (0x0E0E)	PLC multi-speed 1~15 setting	V/F SVC [F01.02] frequency source channel is 9: program control (PLC) setting. Frequency and running direction of inverter is controlled by PLC with up to 15 stages speed; See Setting [F14.15] for running mode. If one stage of speed time is set to "0", the program will skip that speed. [F01.02] frequency source channel is 11: multi-speed setting. Frequency is set via"multi-speed terminal". Running direction, acceleration & deceleration time are [F14.31~ F14.45] respectively. If multi-speed terminals are invalid，multi-speed is set to 0."multi-speed terminal" parameters see [F5.00~F5.03]. Default values are set as follows: F14.00 multi-speed1 = 10.00Hz; F14.08 multi-speed9 = 10.00Hz F14.01 multi-speed2 = 20.00Hz; F14.09 multi-speed10 = 20.00Hz F14.02 multi-speed3 = 30.00Hz; F14.10 multi-speed11 = 30.00Hz F14.03 multi-speed4 = 40.00Hz; F14.11 multi-speed12= 40.00Hz F14.04 multi-speed5 = 50.00Hz; F14.12 multi-speed13= 50.00Hz F14.05 multi-speed6 = 40.00Hz; F14.13 multi-speed14= 40.00Hz F14.06 multi-speed7 = 30.00Hz; F14.14 multi-speed15= 30.00Hz F14.07 multi-speed8 = 20.00Hz;	See description on the left (0.00Hz~ maximum frequency)	RUN

Table 4-59 F14.00~F14.14

F14.15:PLC running mode selection

Parameter code	Designation	Content		Factory default (setting range)	Adjust able
F14.15 (0x0E0F)	PLC running mode selection	V/F SVC Ones-place: cycle mode 0: stops after a single cycle; 1: continues with cycles; 2: keep the final value after a single cycle; Tens-place: timing unit 0: second (s); 1: minute (m); 2: hour (h);	Hundreds-place: power failure storage mode 0: off; 1: on; Thousands-place: start mode 0: restart from stage 1; 1: restart the interrupted stage all over again; 2: restart the interrupted stage for the remaining time;	0000 (0000~2122)	RUN

Table 4-60 F14.15

F14.16~F14.30:PLC running time selection

Parameter code	Designation	Content	Factory default (setting range)	Adjust able
F14.16 (0x0E10) ~ F14.30 (0x0E1E)	PLC 1st ~ 15th stage speed running time	V/F SVC Set PLC running time for 1st ~ 15th stage speed	10.0(s/m/h) (0.0(s/m/h) ~6500.0(s/m/h))	RUN

Table 4-61 F14.16 ~ F14.30

F14.31~F14.45:PLC running direction and time selection

Parameter code	Designation	Content	Factory default (setting range)	Adjust able

F14.31 (0x0E1F) ~ F14.45 (0x0E2D)	PLC 1st ~ 15th stage speed running directions and acceleration & deceleration time	V/F SVC Ones-place: running direction of this stage (compared with running command) 0: in the same direction; 1: in the opposite direction Tens-place: acceleration and deceleration time of this stage 0: acceleration and deceleration time 1; 1: acceleration and deceleration time 2; 2: acceleration and deceleration time 3; 3: acceleration and deceleration time 4; Hundreds-place: reserved Thousands-place: reserved	0000 (0000~0031)	RUN

Table 4-62 F14.31~F14.45

4.19 F15 Group: Reserved

4.20 F25 Group: AS/VS Correction

Please refer to the corresponding technical manual for detailed introduction of the function codes and description of this group.

4.21 C0x Group: Monitoring Parameter

C00.xx group : basic monitoring

Parameter code (Address)	Designation	Content	Factory default (setting range)	Adjustable attribute	Parameter code (Address)
C00.00 (0x2100)	set frequency	C00.14 (0x210E)	input terminal X connection status	C00.28 (0x211C)	software version
C00.01 (0x2101)	output frequency	C00.15 (0x210F)	input terminal Y connection status	C00.29 (0x211D)	reserved
C00.02 (0x2102)	output current	C00.16(0x2110)	simulated quantity AS input value	C00.30 (0x211E)	timer dieoutTime
C00.03 (0x2103)	input voltage	C00.17 (0x2111)	simulated quantity VS input value	C00.31 (0x211F)	PID output value
C00.04 (0x2104)	output voltage	C00.18 (0x2112)	keyboard potentiometer input value	C00.32 (0x2120)	inverter software sub-version
C00.05 (0x2105)	machinery speed	C00.19 (0x2113)	reserved	C00.33(0x2121)	reserved
C00.06 (0x2106)	set torque	C00.20 (0x2114)	reserved	C00.34 (0x2122)	reserved
C00.07 (0x2107)	output torque	C00.21 (0x2115)	reserved	C00.35 (0x2123)	reserved
C00.08 (0x2108)	PID set quantity	C00.22 (0x2116)	counter value	C00.36 (0x2124)	fault warning code
C00.09 (0x2109)	PID feedback qty.	C00.23 (0x2117)	run time	C00.37 (0x2125)	cumulative electricity consumption (low)
C00.10 (0x210A)	output power	C00.24 (0x2118)	accumulative run time	C00.38 (0x2126)	cumulative electricity consumption (high)
C00.11 (0x210B)	busbar voltage	C00.25 (0x2119)	inverter power level	C00.39 (0x2127)	power factor angle
C00.12 (0x210C)	module temperature 1	C00.26 (0x211A)	inverter rated voltage		
C00.13 (0x210D)	module temperature 2	C00.27 (0x211B)	inverter rated current		

Table 4-63 C00.xx group

C01.xx group: fault monitoring

Parameter code (Address)	Designation	Parameter code (Address)	Designation	Parameter code (Address)	Designation

C01.00 (0x2200)	fault type diagnosis information	C01.08 (0x2208)	fault input terminal status	C01.16 (0x2210)	module temperature of last fault
C01.01 (0x2201)	fault diagnosis information	C01.09 (0x2209)	fault output terminal status	C01.17 (0x2211)	inverter status of last fault
C01.02 (0x2202)	fault running frequency	C01.10 (0x220A)	last fault type	C01.18 (0x2212)	input terminal status of last fault
C01.03 (0x2203)	fault output voltage	C01.11 (0x220B)	diagnosis information of last fault	C01.19 (0x2213)	fault type of last 2 faults
C01.04 (0x2204)	fault output current	C01.12 (0x220C)	running frequency of last fault	C01.20 (0x2214)	diagnosis information of last 2 faults
C01.05 (0x2205)	fault bus voltage	C01.13 (0x220D)	output voltage of last fault	C01.21 (0x2215)	diagnosis information of last 2 faults
C01.06 (0x2206)	fault module temperature	C01.14 (0x220E)	output current of last fault	C01.22 (0x2216)	fault type of last 3 faults
C01.07 (0x2207)	fault inverter status	C01.15 (0x220F)	bus voltage of last fault	C01.23 (0x2217)	diagnosis information of last 3 faults

Table 4-64 C01.xx group

Note: fault inverter status means：

· ones-place: running direction 0: forward; 1: backward

· tens-place: running state 0: stop; 1: at steady speed; 2: acceleration; 3: deceleration

· hundreds-place: overvoltage and overcurrent 0: normal; 1: overvoltage ; 2: overcurrent; 3: overvoltage and overcurrent

· thousands-place: reserved

C02.xx group: application monitoring

Parameter code (Address)	Designation	Parameter code (Address)	Designation
C02.00 (0x2300)	PID setting	C02.13 (0x230D) ~ C02.14 (0x230E)	reserved
C02.01 (0x2301)	PID feedback	C02.15 (0x230F)	inverter overload timing factor
C02.02 (0x2302)	PID output	C02.16 (0x2310)	inverter overload timing factor
C02.03 (0x2303)	PID control status	C02.17 (0x2311) ~ C02.18 (0x2312)	reserved
C02.05 (0x2305)	PLC running stage	C02.19 (0x2313)	number of current limiting per wave
C02.06 (0x2306)	PLC stage frequency	C02.20 (0x2314) ~ C02.31 (0x231F)	reserved
C02.07 (0x2307)	PLC stage run time	C02.32 (0x2320) ~ C02.47 (0x232F)	power-off storage parameter 1~ power-off storage parameter 16
C02.08 (0x2308)	forward & reverse command setting	C02.48 (0x2330) ~ C02.49 (0x2331)	reserved
C02.09 (0x2309)	jogging command setting	C02.50 (0x2332) ~ C02.59 (0x233B)	cache register 0 to cache register 9
C02.10 (0x230A)	AS current before correction	C02.60 (0x233C) ~ C02.61 (0x233D)	reserved
C02.11 (0x230B)	VS voltage before correction	C02.62 (0x233E)	external keyboard version
C02.12 (0x230C)	reserved		

Table 4-65 C02.xx group

C03.xx: maintenance parameter monitoring

Parameter code (Address)	Designation	Parameter code (Address)	Designation
C03.00 (0x2400)	run time	C03.23 (0x2417)	reserved

C03.01 (0x2401)	accumulative run time(h)	C03.24 (0x2418)	reserved
C03.02 (0x2402)	accumulative power-on time(h)	C03.25 (0x2419)	reserved
C03.03 (0x2403)	accumulative power-on time(m)	C03.26 (0x241A)	reserved
C03.04 (0x2404)	cooling fan run time	C03.27 (0x241B)	reserved
C03.05 (0x2405)	cooling fan maintenance	C03.28 (0x241C)	reserved
C03.06 (0x2406)	reserved	C03.29 (0x241D)	reserved
C03.07 (0x2407)	Main relay maintenance	C03.30 (0x241E)	reserved
C03.08 (0x2408) ~ C03.19 (0x2413)	reserved	C03.31 (0x241F) ~ C03.39 (0x2427)	reserved
C03.20 (0x2414)	reserved	C03.50 (0x2432)	machine code 1
C03.21 (0x2415)	reserved	C03.51 (0x2433)	machine code 2
C03.22 (0x2416)	reserved	C03.52 (0x2434)	machine code 3

Table 4-66 C03.xx group

4.22 Input & Output Terminal Functions Selection

X	Functional definition	X	Functional definition	X	Functional definition
0	null	24	PID switch 1	48	command channel switched to keyboard
1	forward running	25	PID switch 2	49	command channel switched to terminal
2	backward running	26	PID switch 3	50	command channel switched to communication
3	three-wire system control (xi)	27	PID feedback switch 1	51	reserved
4	forward jogging	28	PID feedback switch 2	52	operation prohibited
5	backward jogging	29	PID feedback switch 3	53	forward prohibited
6	free stop	30	program operation (PLC)	54	backward prohibited
7	emergency stop	31	program operation (PLC)	55	reserved
8	fault recovery	32	terminal 1 acceleration & deceleration time selection	56	reserved
9	external fault input	33	terminal 2 acceleration & deceleration time selection	57	reserved
10	frequency progressive increase (up)	34	acceleration & deceleration	58	reserved
11	frequency progressive decrease (dw)	35	swing frequency input	59	reserved
12	frequency increasing & decreasing clearance (up/dw zero clearing)	36	swing frequency pause	60	speed torque control switch
13	channel a switched to channel b	37	swing frequency reset	62	jogging frequency as upper limit frequency of torque mode
14	frequency channel combination switches to a	38	keys & self - inspection display selection	63~87	reserved
15	frequency channel combination switches to b	39	reserved	88	reserved
16	multi-speed terminal 1	40	timer triggered terminal	89	reserved
17	multi-speed terminal 2	41	timer clearing terminal	90	reserved
18	multi-speed terminal 3	42	counter clock input terminal	91	reserved
19	multi-speed terminal 4	43	counter clearing terminal	92	reserved
20	PID control off	44	DC brake command	93	reserved
21	PID control pause	45	pre-excitation command	94	reserved
22	PID characteristic switch	46	reserved	95	reserved
23	PID parameter switch	47	reserved		

Y	Functional definition	Y	Functional definition	Y	Functional definition
0	null	13	upper frequency arrival	26	emergency stop now
1	inverter in motion	14	lower frequency arrival	27	overload warning output 1
2	inverter backward running	15	program run cycle completed	28	underload warning output 2
3	inverter forward running	16	program run stage completed	29	inverter warning
4	fault trip warning 1(warning during fault self-recovery)	17	PID feedback over limit	30	0x3018 control output
5	fault trip warning 2 (no warning during fault self-recovery)	18	PID feedback below limit	31	inverter overheating warning
6	external failure shutdown	19	PID feedback sensor disconnected	32	reserved
7	inverter undervoltage	20	reserved	33~36	reserved
8	inverter ready for operation	21	timer time out	37	comparator 1 detection
9	output frequency level detection 1(FDT1)	22	counter maximum value arrival	38	comparator 2 detection
10	output frequency level detection 2 (FDT 2)	23	counter set value arrival	39~63	reserved
11	set frequency arrival	24	energy consumption braking	——	——
12	running at zero speed	25	reserved	——	——

Table 4-67 Input & output terminal functions selection

4.23 Fault Code Table

Note:

1. Refer to the relevant instructions on page 9 of this manual for inverter fault/operation status information.

2.The numbers in the code column in brackets are fault codes OR warning codes (Dec means decimal), the following codes need to be obtained from the external keyboard OR by reading the inverter address 0x3003/0x3010 information through communication.

Display (DEC.)	Fault	Type	Display (DEC.)	Fault	Type
E. SC1(1)	system fault during acceleration	fault	E. Ld2(80)	load protection 2	fault
E. SC2(2)	system fault during deceleration	fault	E. CPu (81)	CPU timeout failure	fault
E. SC3(3)	system fault during constant speed	fault	Reserved (82-84)	reserved	fault
E. SC4(4)	shutdown system fault	fault	E. LoC (85)	chip lock	fault
E. oC1(5)	overcurrent during acceleration	fault	E. EEP (86)	parameter storage failure	fault
E. oC2(6)	overcurrent during deceleration	fault	Reserved (87-96)	reserved	fault
E. oC3(7)	overcurrent during constant speed	fault	E. CP1(97)	monitor comparison output 1 failure	fault
E. oC4(8)	AC01 software overcurrent	fault	E. CP2(98)	monitor comparison output 2 failure	fault
E. ou1(9)	overvoltage during acceleration	fault	E. dAT (99)	parameter setting failure	fault
E. ou2(10)	overvoltage during deceleration	fault	reserved (100~109)	reserved	fault
E. ou3(11)	overvoltage during constant speed	fault	E. FA1(110)	external extension reserved 1	fault
Reserved (12)	reserved	fault	E. FA2(111)	external extension reserved 2	fault
E. Lu (13)	undervoltage during operation	fault	E. FA3(112)	external extension reserved 3	fault
E. oL1(14)	motor overload	fault	E. FA4(113)	external extension reserved 4	fault
E. oL2(15)	inverter overload 1	fault	E. FA5(114)	external extension reserved 5	fault
E. oL3(16)	inverter overload 2	fault	E. FA6(115)	external extension reserved 6	fault
E. oL4(17)	inverter overload 3	fault	E. FA7(116)	external extension reserved 7	fault

E. iLF (18)	input phase loss	fault	E. FA8(117)	external extension reserved 8	fault
E. oLF (19)	three-phase output phase loss	fault			
E. oLF1(20)	U-phase output phase loss	fault	Here are the warnings		
E. oLF2(21)	V-phase output phase loss	fault	A. Lu1(128)	undervoltage shutdown	warning
E. oLF3(22)	W-phase output phase loss	fault	A. ou (129)	overvoltage shutdown	warning
Reserved (23-29)	reserved	fault	A. iLF (130)	input phase loss	warning
E. oH1(30)	rectifier overheat	fault	A. PID (131)	PID feedback disconnection	warning
E. oH2(31)	inverter overheat	fault	A. EEP (132)	parameter storage warning	warning
Reserved (32)	reserved	fault	A. dEF (133)	excessive speed deviation	
E. EF (33)	external fault	fault	A. SPd (134)	Stall warning	warning
E. CE (34)	Modbus communication fault	fault	A. GPS1(135)	GPS lock	warning
E. HAL1(35)	U-phase excessive zero drift	fault	A. GPS2(136)	GPS disconnection	warning
E. HAL2(36)	V-phase excessive zero drift	fault	A. CE (137)	Modbus disconnection warning	warning
E. HAL (37)	non-zero sum of three phase currents	fault	A. Ld1(138)	load protection 1	warning
E. HAL3(38)	W-phase excessive zero drift	fault	A. Ld2(139)	load protection 2	warning
Reserved (39)	reserved	fault	Reserved (140)	reserved	warning
E. SGxx (40)	ground short circuit	fault	A. oH1(141)	Module overheat warning	warning
E. FSG (41)	fan short circuit	fault	Reserved (142)	reserved	warning
E. PID (42)	PID feedback disconnection	fault	A. run1(143)	warning 1 in motion	warning
E. CoP (43)	parameter copy failure	fault	A. PA2(144)	external keyboard disconnection warning	warning
Reserved (44)	reserved	fault	A. CoP (145)	parameter copy warning	warning
Reserved (45-49)	reserved	fault	A. CP1(146)	monitor comparison output 1 warning	warning
E. bru (50)	brake unit failure	fault	A. CP2(147)	monitor comparison output 2 warning	warning
Reserved (51)	reserved	fault	A. run2(148)	warning 2 in motion	warning
E. TExx (52)	self-learning output current over limit	fault	A. run3(149)	warning 3 in motion	warning
reserved (53~70)	reserved	fault	A. FA1(150)	external extension reserved 1	warning
E. iAE1(71)	motor angle learning fault 1	fault	A. FA2(151)	external extension reserved 2	warning
E. iAE2(72)	motor angle learning fault 2	fault	A. FA3(152)	external extension reserved 3	warning
E. iAE3(73)	motor angle learning fault 3	fault	A. FA4(153)	external extension reserved 4	warning
E. PST1(74)	synchronous motor step out fault 1	fault	A. FA5(154)	external extension reserved 5	warning
E. PST2(75)	synchronous motor step out fault 2	fault	A. FA6(155)	external extension reserved 6	warning
E. PST3(76)	synchronous motor step out fault 3	fault	A. FrA (157)	reserved	warning
E. dEF (77)	excessive speed deviation	fault	A. 161(161)	cooling fan service life warning	warning
E. SPd (78)	stall protection	fault	A. 163(163)	Main relay service life warning	warning
E. Ld1(79)	load protection 1	fault			

Table 4-68 Fault code

Chapter 5 Regular Inspection and Maintenance

5.1 Inspection

Inverters are composed of semiconductor devices, passive electronic devices and motion devices, and these devices have a service life. Even under normal working conditions, some of the devices may have characteristics change or failures if the service life is exceeded, thus preventive maintenance such as routine check, periodic check, and component replacement must be performed. It is recommended to check the machine every 3 to 4 months after installation.

● Daily inspection: in order to avoid damage to inverters and shortened service life, please check the following items daily.

Item	Content	Method
Power supply.	Check whether the power supply voltage meets requirements and any phase loss.	Address by requirements of the nameplate.
Surroundings	Check whether the installation environment meets requirements.	Identify the source and address it properly.
Cooling system	Whether there is abnormal heating and discoloration of inverter and motor, and the working condition of cooling fan.	Check whether it is overloaded, the heat sink of the converter is dirty or not, whether the fan is blocked, tighten the screws.
Motor	Check whether the motor has abnormal vibration and abnormal sound.	Tighten mechanical and electrical connections and lubricate mechanical parts.
Load status	Check whether the inverter output current is higher than the motor or inverter rated values for a certain period of time.	Confirm whether overload occurs and whether the selection of inverter is correct.

Table 5- 1 Daily inspection

● Regular inspection: Generally, it is appropriate to carry out regular inspection every 3 to 4 months, please determine the actual inspection period based on the use of each machine and working environment.

Item	Content	Method
Overall	●Insulation resistance & environment check.	●Tighten and replace defective parts; Clean and improve the working environment.
Electrical connection	● Whether there is discoloration on wires and connected parts; whether there is discoloration, damage, cracking, aging traces on insulation layer; ● Whether terminal are worn, damaged or loose; ● Grounding check;	● Replace the damaged wire; ● Tighten the loose terminals and replace damaged terminals; ● Measure the grounding resistance and tighten the corresponding grounding terminals;
Mechanical connection	● Whether there is any abnormal vibration and sound, and connected parts loose;	● Tighten, lubricate and replace defective parts.
Semiconductor device	● Whether there is garbage and dust; ● Whether there is a significant change in appearance;	● Clean and improve the working environment; ● Replace the damaged parts;
Electrolytic capacitance	● Whether there is liquid leakage, discoloration, cracking, and exposure, expansion, rupture or leakage on safety valves;	● Replace the damaged parts;
Peripheral device	● Peripheral equipment appearance and insulation inspection;	● Clean and improve the working environment; ● Replace the damaged parts;
Printed circuit board	● Whether there is abnormal odor, discoloration, serious rust, and connectors are correct and tight;	● Fasten connectors; ● Clean the printed circuit board; ● Replace the damaged printed circuit board;
Cooling system	● Whether cooling fan is damaged and blocked ● Whether heat sink is stained with garbage and dust; ● Whether the air inlet and exhaust outlet are blocked or stained with foreign matters;	● Clean and improve the working environment; ● Replace the damaged parts;
Keyboard	● Whether keyboard is damaged and display complete or not;	● Replace the damaged parts;
Motor	● Whether the motor has abnormal vibration and abnormal sound.	● Tighten the mechanical and electrical connection, and lubricate the motor shaft.

Table 5- 2 Regular inspection

: Do not perform any operations when the power supply is on, otherwise there is a risk of death by electric shock. When performing operations, cut off the power supply and ensure that the DC voltage of the main loop has been decreased to a safe level and then wait 5 minutes.

5.2 Maintenance

All devices and components have service life. Proper maintenance can prolong the service life, but will not make up for the damage of devices and components. Please replace the components as required.

Part	Service life	Part	Service life	Part	Service life
Fan	2~3 year	Electrolytic capacitance	4~5 year	Printed circuit board	8~10 year

Table 5- 3 Parts and service life

The replacement of other components requires high maintenance technology and product familiarity, and they must pass strict testing before being put into use. Therefore, please don't replace other internal components by yourself. If you do need a replacement, please contact the purchasing agent

or our sales department.

5.3 Product Guarantee

1. If the product fails within the warranty period, please refer to the clauses and scope in the warranty card.

2. Primary fault diagnosis is performed by customers in principle, but if required, we or our service network stations can provide according service. On the result of negotiation between us, if the fault is on the product or caused behavior of Veichi , it's free, otherwise it will be charged;

3. Exemption from liability: any inconvenience caused to our customers or secondary customers, any damage caused to non-Veichi products due to the failure of our products, whether within the warranty period or not, shall not be within the scope of our company's liability

Appendix I: Modbus Communication Protocol

- **Communication frame structure**

The communication data format is as follows:

Byte composition: includes the start bit, 8 data bits, check bit and stop bit.

start bit	Bit1	Bit2	Bit3	Bit4	Bit5	Bit6	Bit7	Bit8	check bit	stop bit

Table Appendix I-1 Communication frame structure

The information of a frame must be transmitted as a continuous data stream. If the interval of more than 1.5 bytes is longer before the end of the frame transmission, the receiving device will clear the incomplete information and mistakenly assume that the next byte is the address domain part of the new frame. Similarly, if the interval between the start of a new frame and the previous frame is less than 3.5 bytes, the receiving device will consider it as a continuation of the previous frame. Due to the misalignment of the frame, the CRC check value will eventually be incorrect, resulting in a communication error.

- **Communication control parameter group address description**

Function description	Address definition	Data description			R/W characteristics
Frequency from communication	0x3000 or 0x2000	0~50000 corresponding to 0.00Hz~500.00Hz			W/R
Communication command setting	0x3001or 0x2001	0000H: null 0001H: forward running; 0002H: backward running; 0003H:forward jogging; 0004H: backward jogging;		0005H: decelerate and stop; 0006H: free stop; 0007H: fault reset 0008H: Operation prohibited command 0009H: Operation allowed command	W/R
Inverter status	0x3002 or 0x2002	Bit0	0: stopped	1: running	R
		Bit1	0: non-accelerating state	1: accelerating	
		Bit2	0: non-decelerating state	1: decelerating	
		Bit3	0:forward	1: backward	
		Bit4	0: no faults	1: inverter failure	
		Bit5	0: GPRS unlocking	1: GPRS locked	
		Bit6	0: no warning	1: inverter warning	
Inverter fault code	0x3003 or 0x2003	Current inverter fault code (see fault code table)			R
Upper limit frequency from communication	0x3004 or 0x2004	0~32000 corresponding to0.00Hz~320.00Hz			W/R
Torque setting from communication	0x3005 or 0x2005	0~1000 corresponding to0.0%~100.0%			W/R
Forward maximum frequency limited by torque	0x3006 or 0x2006	0~1000 corresponding to0.0%~100.0%			W/R
Backward maximum frequency limited by torque	0x3007 or 0x2007	0~1000 corresponding to0.0%~100.0%			W/R
PID value setting from communication	0x3008 or 0x2008	0~1000 corresponding to0.0%~100.0%			W/R
PID feedback value setting from communication	0x3009 or 0x2009	0~1000 corresponding to0.0%~100.0%			W/R
Failure and warning code reading	0x3010 or 0x2010	0~63 are fault codes and 64~are warning codes			R
Output terminal status	0x3018 or 0x2018	External inverter output terminal,，BII0--Y		BIT1--TA1-TB1-TC1; BIT2--TA2-TB2-TC2	W
AO output	0x3019 or 0x2019	0~10000corresponding to output 0V~10V，0mA~20mA			W

Table Appendix I-2 Communication control parameter group address description

Note: For other function code addresses, see the "Communication Address" column in the function code table.

When the F00 to F15 parameter group parameters are written with write command (06H), if the highest bit in the address field of the function code parameter is 0, the parameters are only written into the RAM of the inverter and are not stored after power failure. If the address field height of the function code parameter is 1, the parameter is written into the EEPROM. For example, F00 group :0x00XX (write RAM)0x10XX(store in EEPROM).

When using the write command (06H) to write parameters of F16 to F29, if the highest bit in the address field of the function code parameter is 5, it is only written into the RAM of the inverter, and is not stored after power failure. If the address field height of the function code parameter is D, the parameter is written into the EEPROM, which is power-off storage. For example, F16 group :0x50XX(write RAM)0xD0XX(store in EEPROM); Group F17 :0x51XX(write to RAM)0xD1XX(save to EEPROM).

● **Error code meaning from the slave's response to the exception message**

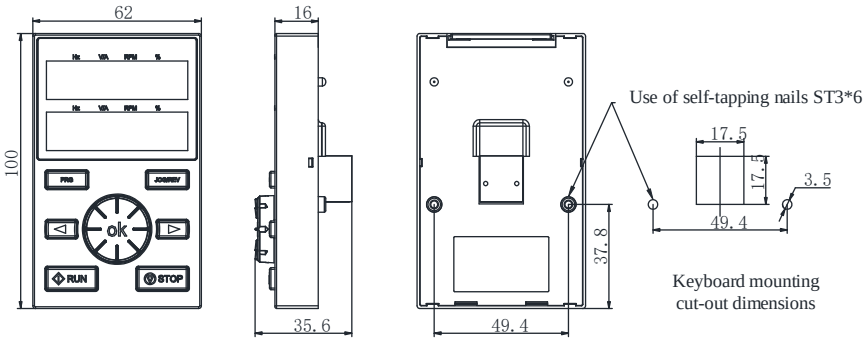
Error code	Description	Error code	Description	Error code	Description
1	Wrong command code	3	CRC check error	4	Illegal address
5	Illegal data	6	Unchangeable parameters in motion	8	Converter busy (EEPROM in storage)
9	Parameters out of range	10	Unchangeable saved parameters	11	The number of bytes in the parameter read incorrectly

Table Appendix I-3 Error code meaning

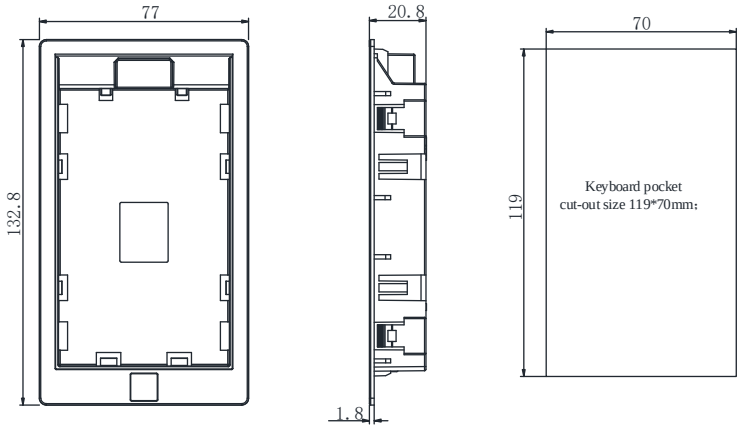
Appendix II: External Keyboard Size and Model

- **External double-row display keyboard shape and hole size**

  Model: KBD300-25(Note: LCD is fully compatible with LED keyboard dimensions and hole sizes (unit: mm)).



AC01 series external two-row display keyboard size



AC01 series external two-row display keyboard shape and hole size

- **External single-row keyboard shape and hole size**

  Model: KBD10-15 (Note: hole size of mounting plate :61mmx36mm. (Unit in the figure: mm))