# Contents

# Chapter Ⅰ Overview

## 1.1 Safety Requirement and Cautions

Please do totally understand this part before using the inverter.

**Warning signs and meanings**

This manual has used following signs which means there is an important part of security. While observing against the rules, there is a danger of injury even death or machine system damage.

| | |
|---|---|
|  | **Danger:** Wrong operation may cause death or large accident. |
|  | **Caution:** Wrong operation may cause minor wound. |

**Operation requirement**

Only professionally trained persons can be allowed to operate the equipment. "Professional trained persons "means the workers must have experience professional trained skill, and must be familiar with installation, wiring, running and maintain and can rightly deal with emergency cases in use.
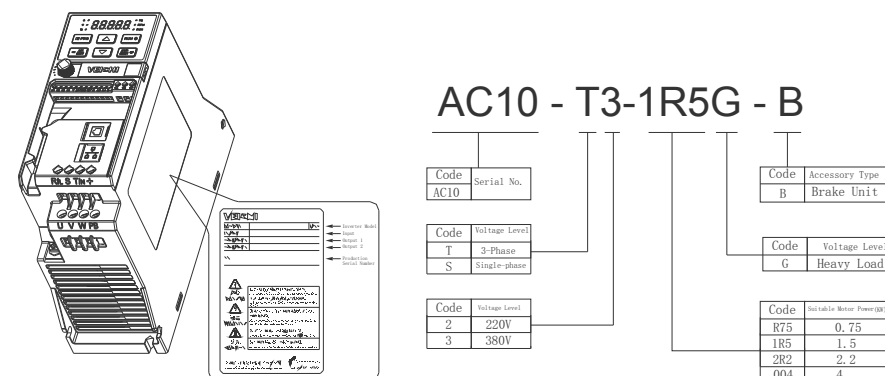
**Safety guidance**

Warning signs come for your security. They are measures to prevent the operator and machine system from damage. Please carefully read this manual before using and strictly observe the regulations and warning signs while operating.

●Correct transportation, store, installation, careful operation and maintenance are important for inverter safe operation. In transport and store process, make sure the inverter is free from impact and vibration. It must be stored where is dry without corrosive air and conductive dust, and the temperature must be lower than 60℃.

● This product carries dangerous voltage and controls driver machine with potential danger. If you don't abide by the regulations or requirements in this manual, there is danger of body injury even death and machine system damage.

● Do not wire while the power is connected. Otherwise, there is danger of death for electric shock. Before wiring, inspection and maintenance, please cut off power supply of all related equipment's and ensure main DC voltage in safe range. And please operate it after 5 mins.

● Power wire, motor wire and control wire should be all connected firmly. Earth must be reliable and earth resistance must be lower than 10Ω.

● Human body electrostatic will damage inner sensitive components seriously. Before operation, please follow ESD measures. Otherwise, there is danger of inverter damage.

● Inverter output voltage is pulse wave. If components such as capacitor which improves power factor and pressure-sensitive resistance for anti-thunder and so on are installed at the output side, please dismantle them or change to input side.

● No switch components such as breaker and contactor at the output side (If there must be one, please make sure the output current is 0 while the switch acting).

● No matter where the fault is, there is danger of serious accident. So there must be additional external prevent measures or other safety devices.

●Only used in application fields as maker stated. No use in equipments related to special fields such as emergency, succor, ship, medical treatment, aviation, nuclear and etc.

● Only Veichi Electric co., ltd service department or its authorized service center can maintain the products. It may cause product fault while using accessories not authorized or permitted. Any defective components must be changed in time in maintenance.

## 1.2 Before Use

On receiving your order, please check the package and confirm intact before opening, and check if there's any damage, scratch or dirt (damages caused during transportation are not within the company's warranty). If there's any damage caused during transportation, please contact us or the transport company immediately. After confirming the receipt of the goods intact, please re-confirm if the product and your order are consistent.



AC10 - T3-1R5G - B

| Code | Serial No. |
|---|---|
| AC10 | |

| Code | Voltage Level |
|---|---|
| T | 3-Phase |
| S | Single-phase |

| Code | Voltage Level |
|---|---|
| 2 | 220V |
| 3 | 380V |

| Code | Accessory Type |
|---|---|
| B | Brake Unit |

| Code | Voltage Level |
|---|---|
| G | Heavy Load |

| Code | Suitable Motor Power(kW) |
|---|---|
| R75 | 0.75 |
| 1R5 | 1.5 |
| 2R2 | 2.2 |
| 004 | 4 |

| Voltage | 220V | 380V | Voltage | 220V | 380V |
|---|---|---|---|---|---|
| Power (KW) | Rated Output Current (A) | | Power (KW) | Rated Output Current (A) | |
| 0.4 | 2.5 | | 2.2 | 10 | 5 |
| 0.75 | 4 | 3 | 4 | | 9.5 |
| 1.5 | 7 | 4 | 5.5 | | 13 |

## 1.3 Technical Criterion

| Project | | Specification | | |
|---|---|---|---|---|
| Power Input | Voltage, Frequency | Single-phase 220V    50/60Hz    Three-phase 220V    50/60Hz    Three-phase 380V    50/60Hz | | |
| | Allow fluctuations | Voltage imbalance rate: <3%; Frequency: ±5% <br> The distortion rate meets the requirements of IEC61800-2 | | |
| | Closing impulse current | Less than rated current | | |
| | Power factor | ≥0.94 (with DC reactor) | | |
| | Inverter efficiency | ≥96% | | |
| Output | Output voltage | Output under rated conditions: 3 phases, 0 to input voltage, error less than 5% | | |
| | Output frequency | 0-600.00Hz | | |
| | Output frequency | ±0.5% of the maximum frequency value | | |
| | Overload capability | T3 model: 150% rated current for 1 minute, 180% rated current for 5 seconds, 200% rated current for 0.5 second <br> S2 model: 150% rated current 20 seconds, 180% rated current 0.5 seconds | | |
| Main control performance | Motor type | PMSM, AM | | |
| | Motor control | No PG V/F control, no PG vector control | | |
| | Modulation | Optimized space vector PWM modulation | | |
| | Carrier frequency | 1.0～16.0kHz | | |
| | Speed control | No PG vector control, rated load 1:100 | | |

| | | |
|---|---|---|
| Basic product function | Starting torque | No PG vector control: 150% rated torque at 0.5Hz |
| | Torque response | No PG vector control: <20ms |
| | Frequency | Digital setting: maximum frequency × ± 0.01%; analog setting: maximum frequency × ± 0.2% |
| | Frequency | Digital setting: 0.01Hz; Analog setting: Maximum frequency × 0.05% |
| | Torque Control | Torque setting calculation, torque mode speed limit |
| | DC braking capability | Starting frequency: 0.00~50.00Hz<br>Braking time: 0.0~60.0s<br>Braking current: 0.0~150.0% rated current |
| | Torque boost | Automatic torque increase 0.0%~100.0%<br>Manual torque increase 0.0% ~ 30.0% |
| | V/F curve | Four modes: linear torque characteristic curve, self-set V/F curve, torque reduction characteristic curve (1.1 to 2.0 power), square V/F curve |
| | Acce. / Dece. curve | Two ways: linear acceleration and deceleration, S curve acceleration and deceleration<br>Four sets of acceleration and deceleration time, the time unit is 0.01s, the longest is 650.00s |
| | Rated output voltage | Using the power supply voltage compensation function, the rated voltage of the motor is 100%, which can be set within the range of 50 to 100% (the output cannot exceed the input voltage) |
| | Automatic voltage adjustment | Automatically keeps the output voltage constant when the grid voltage fluctuates |
| | Automatic energy saving operation | Automatically optimize output voltage according to load under V/F control mode to achieve energy-saving operation |
| | Automatic current limiting | Automatically limit current during operation to prevent frequent overcurrent fault trips |
| | Instant power down handling | Uninterrupted operation through bus voltage control during instantaneous power loss |
| | Standard function | PID control, speed tracking and power-down restart, skip frequency, frequency upper and lower limit control, program operation, multi-step speed, RS485, analog output, frequency pulse output |
| | Frequency setting channel | Keyboard digital setting, keyboard potentiometer, analog voltage/current terminal AI, communication setting and multi-channel terminal selection, main and auxiliary channel combination, can be switched in various ways |
| | Feedback input channel | Keyboard potentiometer, voltage/current terminal AI, communication reference, pulse input X4/PUL |
| | Run command channel | Operation panel reference, external terminal reference, communication reference |
| | Input command signal | Start, stop, forward and reverse, jog, multi-speed, free stop, reset, acceleration/deceleration time selection, frequency setting channel selection, external fault alarm |
| | External output signal | 1 relay output, 1 collector output, 1 AO output can be selected as 0~10V or 4~20mA or 4~20mA output |
| Protective function | | Overvoltage, undervoltage, current limiting, overcurrent, overload, electronic thermal relay, overheating, overvoltage stall, data protection, fast protection, input and output phase loss protection |
| Keyboard display | Parameter copy | Single line 5-digit display / 1 inverter status quantity display |
| | | Double line 5-digit digital tube display / 2 inverter status quantity display |
| | Parameter | Upload and download function code information of the inverter for fast parameter copying |
| | Status monitoring | All parameters of the monitoring parameter group such as output frequency, given frequency, output current, input voltage, output voltage, motor speed, PID feedback amount, PID given amount, module temperature, |
| | Error alarm | Overvoltage, undervoltage, overcurrent, short circuit, phase loss, overload, overheat, overvoltage stall, current limit, data protection damage, current fault operation, historical fault |
| surroundings | Installation place | The altitude is less than 1000 meters, and the derating is more than 1000 meters. The derating is 1% for every 100 meters.<br>No condensation, icing, rain, snow, sputum, etc., solar radiation is less than 700W/m2, air pressure 70~106kPa |

| | | |
|---|---|---|
| | temperature humidity | -10 ～ +50°C, derating can be used above 40 ° C, the maximum temperature is 60 ° C (no-load operation)<br>5% to 95% RH (no condensation) |
| | Vibration | At 9 to 200 Hz, 5.9 m/s2 (0.6 g) |
| | Storage temperature | -30 ～ +60℃ |
| | Installation method | Wall-mounted, closet |
| | Protection level | IP20 |
| | cooling method | Forced air cooling |

**Note: The three-phase 220V 50/60Hz power input mode is specially described:**

**The AC10-S2 series inverter is designed for single-phase 220V AC voltage input; it is compatible with three-phase 220V AC input, which will cause the three-phase current imbalance of the grid R, S, T.**

# Chapter Ⅱ Installation

In order to ensure the safe use of this product by users, maximize the performance of the inverter, and ensure the reliable operation of the inverter, please strictly use the product in accordance with the environment, wiring, ventilation and other requirements described in this chapter.

**Inverter and keyboard dimensions**
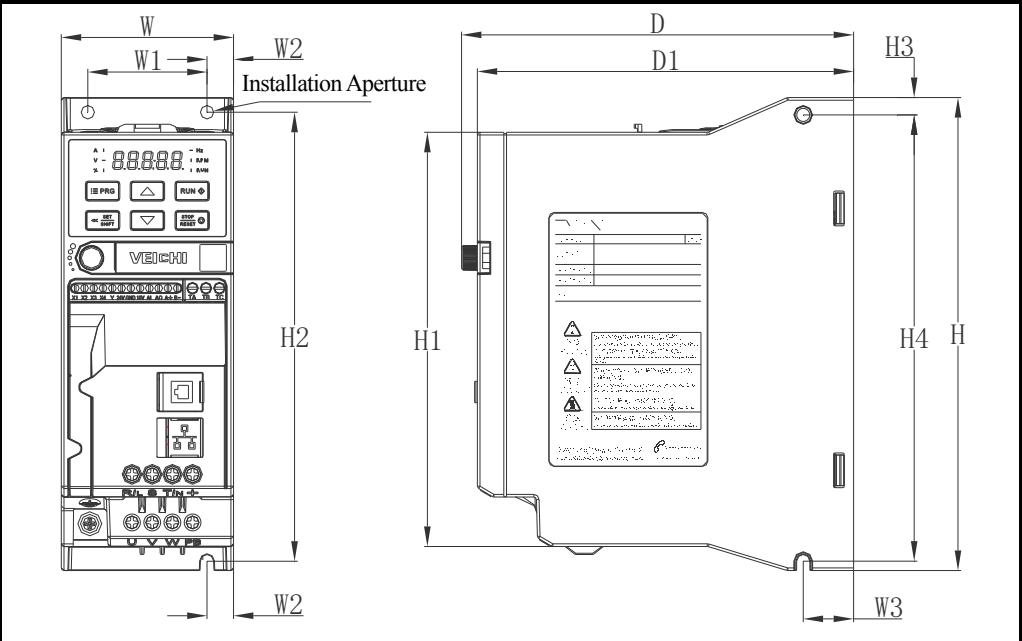


| MODEL | Overall Dimension(mm) | | | | | Forward mounting size (mm) | | | Side mounting size (mm) | | | Mounting aperture |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | W | H | H1 | D | D1 | W1 | W2 | H2 | W3 | H3 | H4 | |
| AC10-S2-R04G-B | 65 | 177 | 155 | 148 | 142 | 45 | 10 | 168 | 19 | 6.5 | 167 | 3-M4 |
| AC10-S2-R75G-B | | | | | | | | | | | | |
| AC10-S2-1R5G-B | 75 | 202 | 180 | 163 | 157 | 55 | 10 | 193 | 19 | 6.5 | 192 | 3-M4 |
| AC10-S2-2R2G-B | | | | | | | | | | | | |
| AC10-T3-R75G-B | 65 | 177 | 155 | 148 | 142 | 45 | 10 | 168 | 19 | 6.5 | 167 | 3-M4 |
| AC10-T3-1R5G-B | | | | | | | | | | | | |
| AC10-T3-2R2G-B | | | | | | | | | | | | |
| AC10-T3-004G-B | 75 | 202 | 180 | 163 | 157 | 55 | 10 | 193 | 19 | 6.5 | 192 | 3-M4 |
| AC10-T3-5R5G-B | | | | | | | | | | | | |

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



Use self-tapping screws ST3 * 6

Keyboard mounting opening size

AC10 series external keyboard size
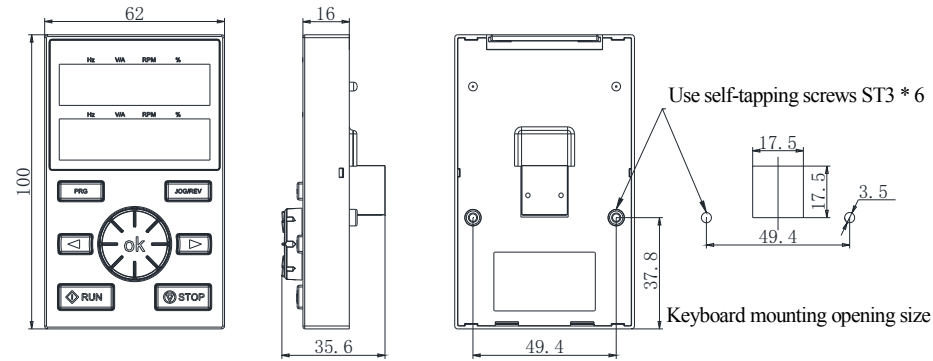


Keyboard pocket opening size 119*70mm
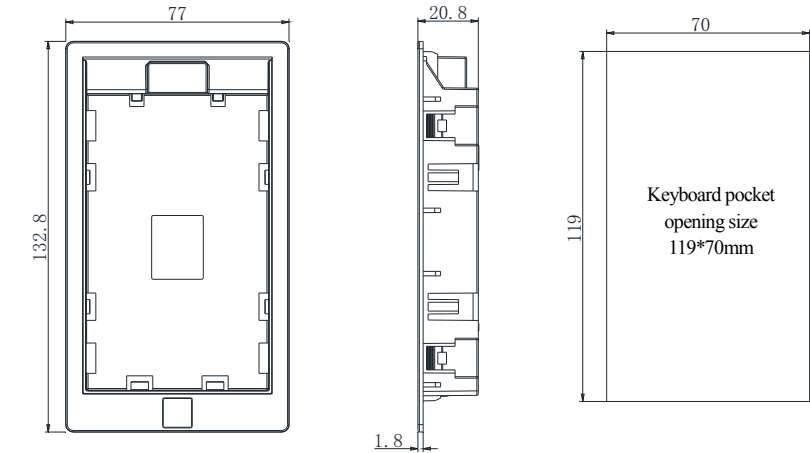
AC10 series external keyboard pocket shape and opening size chart

**Standard connection diagram**



Note: The solid mark in the box is the factory default value of the inverter.

Note: 1, +10V port maximum output: 50mA
2, AI port internal resistance: 75KΩ

Note: 1、+24V port max output:DC24V/100mA
2、Y port max output:DC24V/50mA

Note：AO port as voltage type
Maximum output when signal output: 2mA

Scale： Symbol ◉ represents the main curcuit terminal
Symbol ○ represents control curcuit terminal

**Note:**

1. The multi-function input terminal (X1~X4/PUL) can select the NPN transistor signal as the input.

2. The analog monitor output is a dedicated output of the meter such as ammeter and voltmeter, and cannot be used for control operations such as feedback control.

3. Due to the existence of multiple pulse types in actual use, please refer to the detailed description for the specific wiring method.

● **Auxiliary terminal output capability**

| Terminal | Function Definition | Maximum output |
|---|---|---|
| +10V | The 10V auxiliary power supply output and GND form a loop. | 50mA |
| AO | The analog monitor outputs and forms a loop with GND. | Maximum output 2mA as a voltage type signal |
| +24V | The 24V auxiliary power supply output forms a loop with GND. | 100mA |
| Y | The open collector output can be programmed to operate the object. | DC24V/50mA |
| TA/TB/TC | Passive contact output, programmable action object. | 3A/240VAC    5A/30VDC |

● **Transfer switch function legend and description**
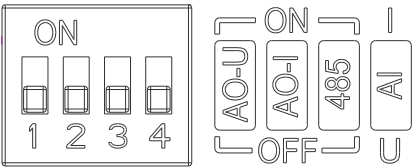


| Bit | Select location | Function Description |
|---|---|---|
| S1 | ON | Enable AO output 0~10V |
| | OFF | Disabling AO voltage output |
| S2 | ON | Enable AO output 0~20mA or 4~20mA |
| | OFF | Disabling AO current output |
| S3 | ON | RS485 communication access 120Ω termination resistor |
| | OFF | RS485 communication disconnects 120Ω termination resistor |
| S4 | I | AI input 0~20mA or 4~20mA |
| | U | AI input 0~10V |

# Chapter Ⅲ Keyboard Layout and Operating Instructions

● **Keyboard operator appearance**



● **Key function**

| Symbol | Defination | Function Description |
|---|---|---|
| PRG | Menu | Enter the function menu interface during standby or running; press this button to exit the modification when the parameter is modified; press the button (1 second) during standby or running to enter the status interface directly. |
| SET SHIFT | Set/shift | Set function: After modifying the value, press this key to confirm the modified value. Shift function: long press this button (1 second) to move the operation bit, long press is not loose, then cyclic shift |
| ▲ ▼ | Up/Down | The up key increases the operation value and the down key decreases the operation value. |
| RUN | Run | When the run/stop is controlled by the keyboard, press this button to turn the inverter forward. The status indicator is always on during forward run, and the status indicator is flashing during reverse run. |
| STOP RESET | Stop/Reset | When the command given channel is keyboard control, press this key to stop the inverter; the parameter [F04.08] can be used to define whether other command channels are valid; the inverter resets when pressing the key in fault status. |

● **Indicator Defination**

| Name | | Status | Defination |
|---|---|---|---|
| Unit indicator | Hz | Flash/Light on | Indicates the frequency unit |
| | A | Light on | Represents current unit |
| | V | Light on | Represents voltage unit |
| | RPM | Light on | Express unit of speed |
| | % | Flash/Light on | Indicates the percentage unit |
| Status Indicator | RUN | Light on | The inverter is running forward |
| | RUN | Flash | The inverter is running reverse |

| | RUN | Light off | Inverter is shutdown |
|---|---|---|---|

● **Basic parameter group parameter setting**

The following is an example of setting the F1.22 [acceleration time] = 10.00s to illustrate the basic operation of the LED operator.
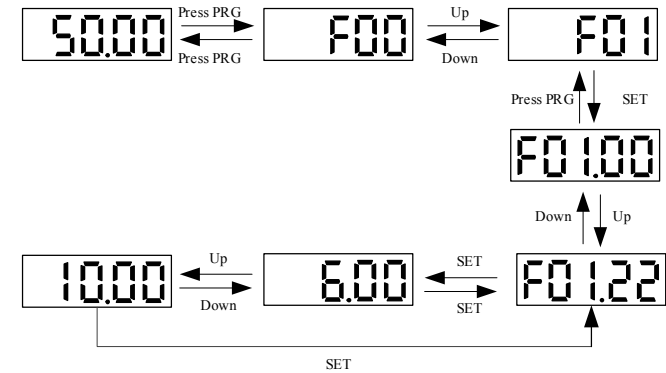


**Note: When modifying the LED "00", "000", "0000" digits of the parameter value, use the keyboard shift key function to quickly select.**

● **Run monitoring status view**
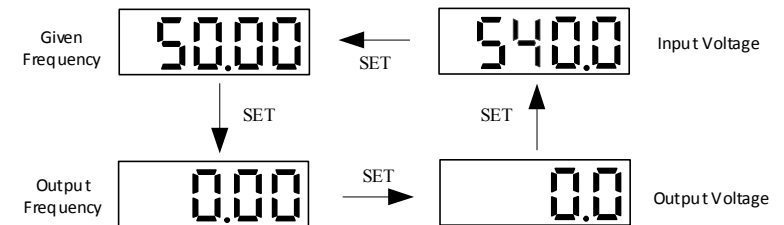


**Note: When using the external keyboard, use the left shift button to cycle through the first line of monitoring parameters, and use the right shift button to cycle through the second line of monitoring parameters.**

● **Monitoring parameter view**

Let's take a look at C02.05 [PLC Operation Phase] as an example to illustrate the basic operation of the LED operator.
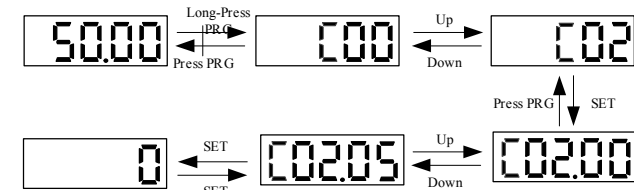
# Chapter Ⅳ Function Table

This section only provides a function summary. For detailed function descriptions, please refer to the AC10 technical manual or consult our company.

## 4.1 Safety Precautions

| DANGER |
|---|
| Please pay attention to all the information about safety in this book. |
| If you do not follow the warnings, you may cause death or serious injury, so please pay attention. The company will not be responsible for any damage or equipment damage caused by your company or your company's customers who fail to comply with the contents of this book. |

## 4.2 Reading Method of Parameter List

◆ **Icons and terms that represent control modes**

| Icon | Content |
|---|---|
| V/F | Valid parameters in V/F control mode |
| SVC | Effective parameters under open loop vector control |

◆ **Icons and terms that represent control modes**

| Icon | Content |
|---|---|
| RUN | Parameters that can be modified during operation |
| STOP | Parameters that cannot be modified during operation |
| READ | This parameter can only be read and cannot be modified. |

## 4.3 Functional Group

| NOTE |
|---|
| Parameter [F 11.30] sets RS485/external keyboard to choose one. This parameter is not restored with [F00.03] parameter. Users are strongly advised to unlock the hardware connection of another channel when using one of them. |

◆ **Indicates the type of this product parameter**

| Parameter | Name |
|---|---|
| F00.0X | Environment setting |
| F00.1X | Common parameter settings |
| F01.0X | Basic instruction |
| F01.1X | Frequency command |
| F01.2X-F01.3X | Acceleration time |
| F01.4X | PWM control |
| F02.0X | Basic motor parameters and self-learning options |

| Parameter | Name |
|---|---|
| F02.1X | Asynchronous motor advanced parameters |
| F02.2X-F02.4X | Reserved |
| F02.5X | Motor application parameters |
| F03.0X | Speed loop |
| F03.1X | Current loop and torque limit |
| F03.2X | Torque optimization control |
| F03.3X | Flux optimization |
| F03.4X-F03.5X | Torque control |
| F04.0X | V/F control |
| F04.1X | Custom V/F curve |
| F04.2X | Reserved |
| F04.3X | V/F energy saving control |
| F05.0X | Digital input terminal |
| F05.1X | X1-X4 detection delay |
| F05.2X | Digital input terminal action selection |
| F05.3X | PUL terminal |
| F05.4X | Analog type processing |
| F05.5X | Analog linear processing |
| F05.6X | AI curve 1 processing |
| F05.7X | AI curve 2 processing |
| F05.8X | AI as a digital input terminal |
| F06.0X | AO output |
| F06.1X | Reserved |
| F06.2X- F06.3X | Digital, register output |
| F06.4X | Frequency detection |
| F06.5X | Monitor parameter comparator output |
| F06.6X | Virtual input and output terminal |
| F07.0X | Start control |
| F07.1X | Shutdown control |
| F07.2X | DC braking and speed tracking |
| F07.3X | Jog |
| F07.4X | Start, stop frequency maintenance and frequency hopping |
| F08.0X | Counting and timing |
| F08.1X | Reserved |
| F08.2X | Reserved |
| F08.3X | Swing frequency control |
| F10.0X | Current protection |
| F10.1X | Voltage protection |
| F10.2X | Auxiliary protection |
| F10.3X | Load protection |
| F10.4X | Stall protection |
| F10.5X | Failure recovery protection |
| F11.0X | Key operation |

| | | |
|---|---|---|
| F11.1X | Status interface loop monitoring | |
| F11.2X | Monitoring parameter control | |
| F11.3X | Keyboard special features | |
| F12.0X | MODBUS slave parameters | |
| F12.1X | MODBUS host parameters | |
| F13.00-F13.06 | PID given and feedback | |
| F13.07-F13.24 | PID adjustment | |
| F13.25-F13.28 | PID feedback disconnection judgment | |
| F13.29-F13.33 | Sleep function | |
| F14.00-F14.14 | Multi-speed frequency given | |
| F14.15 | PLC operation mode selection | |
| F14.16-F14.30 | PLC running time selection | |
| F14.31-F14.45 | PLC direction and acceleration and deceleration time selection | |
| C00.0X | Basic monitoring | |
| C01.0X | Fault monitoring | |

## 4.4 Group F00: Environmental Applications

**F00.0x group: environment setting**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F00.00 (0x0000) RUN | Parameter access level | V/F SVC Set the parameter access level based on the case of restricted parameter access. 0: standard parameter 1: Common parameters (F00.00, Pxx.yy) 2: Monitoring parameters (F00.00, Cxx.yy) 3: The parameter has been changed (F00.00, Hxx.yy) | 0 (0 ~ 3) | |
| F00.03 (0x0003) STOP | Initialization | V/F SVC Set the inverter initialization method. 0: not initialized 11: Select the set value according to the purpose to carry out the parameters (excluding the motor parameters) 22: All parameters are initialized 33: Clear the fault record | 0 (0 ~ 33) | |
| F00.04 (0x0004) STOP | Keyboard parameter copy | V/F SVC 0: no function 11: Upload parameters to the keyboard 22: Download parameters to the inverter | 0 (0 ~ 9999) | |
| F00.05 (0x0005) STOP | user password | V/F SVC Used to set the user password. | 0 (0 ~ 65355) | |
| F00.06 (0x0006) RUN | LCD keyboard language selection | V/F SVC Select the language displayed on the LCD operator. 0: Chinese 1:English | 0 (0 ~ 1) | |

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F00.07 (0x0007) RUN | Free parameter 1 | V/F SVC When using multiple machines, it is used as the machine number. When using multiple machines, the mode number is used for each purpose. | 0 (0 ~ 65535) | |
| F00.08 (0x0008) RUN | Free parameter 2 | V/F SVC When using multiple machines, it is used as the machine number. When using multiple machines, the mode number is used for each purpose. | 0 (0 ~ 65535) | |

**F00.1x group: common parameter settings**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F00.10~F00.39 (0x0010 ~ 0x0027) RUN | Common parameter address setting | V/F SVC LED "0" and "00" digit: yy setting in function parameter number Fxx.yy 00～99 LED "000" and "0000": Function parameter number Fxx.yy in xx setting 00～31 | 0102 (0000 ~ 2363) | |

## 4.5 Group F01: Basic Settings

**F01.0x group: basic instructions**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F01.00 (0x0100) STOP | Motor 1 control mode | V/F SVC The way the motor is controlled. 0: AM-VF; VF control 1:AM-SVC; open loop vector control, current closed loop control | 0 (0 ~ 1) | S/T2 models only support VF control |
| F01.01 (0x0101) RUN | Run command channel | V/F SVC Used to select the channel that the drive accepts the run and stop commands and the direction of travel. 0: keyboard control (external keyboard priority) 1: terminal control 2: RS485 communication control 3: Reserved | 0 (0 ~ 3) | |
| F01.02 (0x0102) RUN | Frequency reference source channel A | V/F SVC The frequency converter sets the given source of the frequency. 0: keyboard digital given frequency 1: Keyboard analog potentiometer given 2: Current/voltage analog AI given 3: Reserved 4: Reserved 5: Terminal pulse PUL given 6: RS485 communication given 7: Terminal UP/DW control 8: PID control given 9: Program Control (PLC) given 10: Option card 11: Multi-speed speed given | 0 (0 ~ 11) | |

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F01.03 (0x0103) STOP | Frequency reference source channel A gain | V/F SVC The frequency gives the gain of source channel A. | 100.0 (0.0 ~ 500.0%) | |
| F01.04 (0x0104) RUN | Frequency reference source channel B | V/F SVC The frequency converter sets the given source of the frequency. Same as [F01.02] | 0 (0 ~ 11) | |
| F01.05 (0x0105) STOP | Frequency reference source channel B gain | V/F SVC The frequency gives the gain of source channel B. | 100.0 (0.0 ~ 500.0%) | |
| F01.06 (0x0106) RUN | Frequency channel B reference source | V/F SVC The reference source of frequency given channel B is selected by this parameter. 0: reference source with maximum output frequency 1: Use A to set the frequency as the reference | 0 (0 ~ 1) | |
| F01.07 (0x0107) RUN | Frequency reference source selection | V/F SVC It is used to select the combination mode of the inverter setting frequency channel A and channel B. 0: channel A 1: channel B 2: Channel A + Channel B. 3: Channel A-channel B 4: Channel A, channel B both maximum 5: channel A, channel B, both minimum | 0 (0 ~ 5) | |
| F01.08 (0x0108) RUN | Run command bundled given frequency | V/F SVC When this parameter is valid, it is used to set the channel source frequency channel for each running command channel. LED "0" digit: keyboard command instruction bundle LED "00" digit: terminal command command bundle LED "000" digit: bundle of communication command instructions LED "0000" digit: Optional Card Command Command Bundle 0: no binding 1: keyboard digital given frequency 2: Keyboard analog potentiometer given 3: Current/voltage analog AI given 4: Reserved 5: Reserved 6: Terminal pulse PUL given 7: Communication given 8: Terminal UP/DW control 9: PID control given A: Program control (PLC) given B: Option card C: multi-speed speed given D: Reserved | 0000 (0000 ~ DDDD) | |
| F01.09 (0x0109) RUN | Keyboard digital given frequency | V/F SVC Used to set and modify the keyboard digital setting frequency. | 50Hz (0.00 to upper limit frequency setting) | |

**F01.1x group: frequency command**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F01.10 (0x010A) STOP | Maximum frequency | V/F SVC The maximum frequency that the frequency converter can set. | 50.00Hz (upper limit frequency～ 600.00Hz) | |
| F01.11 (0x010B) RUN | Upper frequency source selection | V/F SVC Select a given source for the upper limit frequency of the drive. 0: upper limit frequency number given 1: Keyboard analog potentiometer given 2: Current/voltage analog AI given 3: Reserved 4: Reserved 5: terminal pulse PUL given 6: RS485 communication given | 0 (0~7) | |
| F01.12 (0x010C) RUN | Upper limit frequency digital setting | V/F SVC The upper line frequency is given when F01.11 is set to 0. | 0.00Hz (0.00~ upper limit frequency digital setting) | |
| F01.13 (0x010D) RUN | Lower limit frequency | V/F SVC Given a lower frequency limit, the given frequency is limited. | 0.00Hz (0.00～upper limit frequency digital setting) | |

**F01.2x-F01.3x group: acceleration and deceleration time**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F01.20 (0x0114) STOP | Acceleration /deceleration time reference frequency | V/F SVC Set the reference frequency to calculate the acceleration/deceleration time. 0: maximum frequency 1: fixed frequency 50Hz 2: Set the frequency | 0 (0 ~ 2) | |
| F01.21 (0x0115) STOP | Acceleration time unit | V/F SVC The unit of acceleration time setting. 0:1s 1:0.1s 2:0.00s | 2 (0 ~ 2) | |
| F01.22 (0x0116) RUN | Acceleration time 1 | V/F SVC The time required for the output frequency to accelerate from 0.00 Hz to the time reference frequency. 1 to 65000 s (F01.21 = 0) 0.1 to 6500.0s (F01.21 = 1) 0.01 to 650.00s (F01.21 = 2) | Model setting (0.01 ~ 650.00s) | |
| F01.23 (0x0117) RUN | Deceleration time 1 | V/F SVC The time it takes for the output frequency to decelerate from the time reference frequency to 0.00 Hz. | Model setting (0.01～650.00s) | |
| F01.24 (0x0118) RUN | Acceleration time 2 | V/F SVC The time required for the output frequency to accelerate from 0.00 Hz to the time reference frequency. | Model setting (0.01～650.00s) | |
| F01.25 (0x0119) | Deceleration time 2 | V/F SVC The time it takes for the output frequency to | Model setting (0.01～650.00s) | |

| | | | | |
|---|---|---|---|---|
| RUN | | decelerate from the time reference frequency to 0.00 Hz. | | |
| F01.26 (0x011A) RUN | Acceleration time 3 | V/F SVC The time required for the output frequency to accelerate from 0.00 Hz to the time reference frequency. | Model setting (0.01~650.00s) | |
| F01.27 (0x011B) RUN | Deceleration time 3 | V/F SVC The time it takes for the output frequency to decelerate from the time reference frequency to 0.00 Hz. | Model setting (0.01~650.00s) | |
| F01.28 (0x011C) RUN | Acceleration time 4 | V/F SVC The time required for the output frequency to accelerate from 0.00 Hz to the time reference frequency. | Model setting (0.01~650.00s) | |
| F01.29 (0x011D) RUN | Deceleration time 4 | V/F SVC The time it takes for the output frequency to decelerate from the time reference frequency to 0.00 Hz. | Model setting (0.01~650.00s) | |
| F01.30 (0x011E) STOP | S curve acceleration and deceleration selection | V/F SVC S curve acceleration and deceleration selection is valid 0: Invalid 1: Valid | 1 (0~1) | |
| F01.31 (0x011F) STOP | Acceleration start S curve time | V/F SVC Set the acceleration start S curve time. | 0.20s (0.00~10.00) | |
| F01.32 (0x0120) STOP | Accelerated end S curve time | V/F SVC Set the acceleration end S curve time. | 0.20s (0.00~10.00) | |
| F01.33 (0x0121) STOP | Deceleration start S curve time | V/F SVC Set the deceleration start S curve time. | 0.20s (0.00~10.00) | |
| F01.34 (0x0122) STOP | Deceleration end S curve time | V/F SVC Set the deceleration end S curve time. | 0.20s (0.00~10.00) | |
| F01.35 (0x0123) RUN | Acceleration time 1 and acceleration time 2 switching frequency | V/F SVC Set the acceleration time 1 and acceleration time 2 to switch the frequency. | 0.00Hz (0.00~Maximum frequency) | |

**F01.4x group: PWM control**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F01.40 (0x0128) RUN | Carrier frequency | V/F SVC Used to set the switching frequency of the inverter IGBT. | 4.0 kHz (1.0~16.0kHz) | |

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F01.41 (0x0129) RUN | PWM control mode | V/F SVC LED "0" digit: carrier and temperature 0: independent of temperature 1: related to temperature LED "00" digit: carrier and output frequency correlation 0: Independent of the output frequency 1: related to the output frequency LED "000" digit: Random PWM Enable 0: Forbidden 1: enable LED "0000" digit: PWM modulation method 0: Only three-phase modulation is used 1: Two-phase three-phase modulation automatically switches | 1111 (0000 ~ 1111) | |
| F01.42 (0x012A) RUN | Reserved | | | |
| F01.43 (0x012B) RUN | Dead zone compensation gain | V/F SVC Dead zone compensation gain | 306 (0 ~ 512) | |

## 4.6 Group F02: Motor 1 Parameters

**F02.0x group: basic motor parameters and self-learning options**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F02.00 (0x0200) READ | Motor type | V/F SVC Set the type of motor 0: asynchronous motor (AM) 1: reserved | 0 (0 ~ 1) | |
| F02.01 (0x0201) STOP | Pole number | V/F SVC Set the number of motor stages. | 4 (2 ~ 98) | |
| F02.02 (0x0202) STOP | Motor rated power | V/F SVC Set the rated power of the motor. | Model setting (0.1~1000.0kW) | |
| F02.03 (0x0203) STOP | Motor rated frequency | V/F SVC Set the rated frequency of the motor. | Model setting (0.01~Maximum frequency) | |
| F02.04 (0x0204) STOP | Motor rated speed | V/F SVC Set the rated speed of the motor. | Model setting (0~65000rpm) | |
| F02.05 (0x0205) STOP | Motor rated voltage | V/F SVC Set the rated voltage of the motor. | Model setting (0~1500V) | |
| F02.06 (0x0206) STOP | Motor rated current | V/F SVC Set the rated current of the motor. | Model setting (0.1~3000.0A) | |

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F02.07 (0x0207) STOP | Motor parameter auto-tuning selection | V/F SVC After the parameter auto-tuning is completed, the set value of [F02.07] will be automatically set to "0". 0: no operation 1: Rotary self-tuning 2: Static self-tuning 3: Stator resistance self-tuning | 0 (0 ~ 3) | S/T2 models do not support parameter auto-tuning |

**F02.1x group: asynchronous motor advanced parameters**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F02.10 (0x020A) STOP | Asynchronous motor no-load current | V/F SVC Set the size of the no-load current of the asynchronous motor. | Model setting (0.1～3000.0A) | |
| F02.11 (0x020B) STOP | Asynchronous motor stator resistance | V/F SVC Set the size of the asynchronous motor stator resistance. | Model setting (0.01mΩ ～ 60000mΩ) | |
| F02.12 (0x020C) STOP | Asynchronous motor rotor resistance | V/F SVC Set the size of the asynchronous motor rotor resistance. | Model setting (0.01mΩ ～ 60000mΩ) | |
| F02.13 (0x020D) STOP | Asynchronous motor stator leakage inductance | V/F SVC Set the stator leakage inductance of the asynchronous motor. | Model setting (0.01mH ～ 65535mH) | |
| F02.14 (0x020E) STOP | Asynchronous motor stator inductance | V/F SVC Set the stator inductance of the asynchronous motor. | Model setting (0.01mH ～ 65535mH) | |
| F02.15 (0x020F) READ | Stator resistance standard value | V/F SVC Set the stator resistance value. | Model setting (0.01 ～ 50.00%) | |
| F02.16 (0x0210) READ | Rotor resistance standard value | V/F SVC Set the rotor resistance value. | Model setting (0.01 ～ 50.00%) | |
| F02.17 (0x0211) READ | Stator leakage inductance | V/F SVC Set the stator leakage inductance value. | Model setting (0.01 ～ 50.00%) | |
| F02.18 (0x0212) READ | Stator inductance value | V/F SVC Set the stator inductance value. | Model setting (0.1 ～ 999.0%) | |
| F02.19 (0x0213) STOP | F02.11~F02.14 decimal point selection | V/F SVC Set the decimal point of the four parameters F02.11~F02.14. | 0x0000 (0x0000 ~ 0x2222) | |

**F02.2x-F02.4x group: reserved**

**F02.5x group: motor application parameters**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F02.50 (0x0232) STOP | Motor online learning function selection | V/F SVC 0: invalid 1: Power-on self-learning 2: Run the initial segment self-learning 3: Self-learning in operation | 0 (0 ~ 3) | S/T2 models do not support motor online |

| | | | | learning |
|---|---|---|---|---|
| | | | | |

## 4.7 Group F03: Vector Control

**F03.0x group: speed loop**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F03.00 (0x0300) RUN | ASR speed rigidity level | SVC The rigidity level is set, and the higher the level, the better the speed rigidity. | 10 (1 ~ 25) | |
| F03.01 (0x0301) RUN | ASR speed rigid mode | SVC The rigidity level is set, and the higher the level, the better the speed rigidity. | 0x0000 (0x0000～ 0x1111) | |
| F03.02 (0x0302) RUN | ASR (speed loop) proportional gain 1 | SVC Set the ASR (speed loop) proportional gain 1. | 10 (0.01 ~ 100.00) | |
| F03.03 (0x0303) RUN | ASR (speed loop) integration time 1 | SVC Set the ASR (speed loop) integration time 1. | 0.100s (0.000～6.000s) | |
| F03.04 (0x0304) RUN | ASR filtering time 1 | SVC Set the ASR filter time 1. | 0.0ms (0.0～100.0ms) | |
| F03.05 (0x0305) RUN | ASR switching frequency 1 | SVC Set the ASR switching frequency to 1. | 0.00Hz (0.00～Maximum frequency) | |
| F03.06 (0x0306) RUN | ASR (speed loop) proportional | SVC Set the ASR (speed loop) proportional gain 2. | 10 (0.01 ~ 100.00) | |
| F03.07 (0x0307) RUN | ASR (speed loop) integration | SVC Set the ASR (speed loop) integration time 2. | 0.100s (0.000～6.000s) | |
| F03.08 (0x0308) RUN | ASR filtering time 2 | SVC Set the ASR filter time 2. | 0.0ms (0.0～100.0ms) | |
| F03.09 (0x0309) RUN | ASR switching frequency 2 | SVC Set the ASR switching frequency 2. | 0.00Hz (0.00～Maximum frequency) | |

**Group F03.1x: current loop and torque limit**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F03.10 (0x030A) RUN | Current loop D-axis proportional gain | SVC Set the current loop D-axis proportional gain. | 1.00 (0.001 ~ 4.000) | |
| F03.11 (0x030B) RUN | Current loop D-axis integral gain | SVC Set the current loop D-axis integral gain. | 1.00 (0.001 ~ 4.000) | |
| F03.12 (0x030C) | Current loop Q-axis | SVC Set the current loop Q-axis proportional gain. | 1.00 (0.001 ~ 4.000) | |

| RUN | proportional gain | | | |
|---|---|---|---|---|
| F03.13 (0x030D) RUN | Current loop Q-axis integral gain | SVC Set the current loop Q-axis integral gain. | 1.00 (0.001 ~ 4.000) | |
| F03.15 (0x030E) RUN | Electric state torque limit | SVC Set the motor state torque limit. | 180.0% (0.0～400.0%) | |
| F03.16 (0x030F) RUN | Power generation torque limit | SVC Set the generator state torque limit. | 180.0% (0.0～400.0%) | |
| F03.17 (0x0312) RUN | Regenerative torque limit at low speed | SVC Set the regenerative torque limit value at low speed. | 50.0% (0.0~400.0%) | |
| F03.18 (0x0313) RUN | Torque limit action frequency amplitude at low speed | SVC Set the torque limit action frequency range at low speed. | 6.00s (0.00～30.00s) | |

**F03.2x group: torque optimization control**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F03.23 (0x0314) RUN | Asynchronous motor slip compensation | SVC Set the asynchronous motor slip compensation. | 100.0% (0.0 ~ 250.0%) | |
| F03.24 (0x0315) RUN | Starting torque initial value | SVC Set the initial value of the starting torque. | 0.0% (0.0 ~ 250.0%) | |

**F03.3x group: flux optimization**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F03.30 (0x031E) RUN | Weak magnetic feedforward coefficient | SVC Set the weak magnetic feed forward coefficient. | 10.0% (0.0 ~ 200.0%) | |
| F03.31 (0x031F) RUN | Weak magnetic control gain | SVC Set the field weakening control gain. | 10.0% (0.0 ~ 500.0%) | |
| F03.32 (0x0320) RUN | Weak magnetic current upper limit | SVC Set the upper limit of the field weakening current. | 60.0% (0.0 ~ 250.0%) | |
| F03.33 (0x0321) RUN | Weak magnetic voltage coefficient | SVC Set the weak magnetic voltage coefficient. | 97.0% (0.0 ~ 120.0%) | |
| F03.34 (0x0322) RUN | Output power limit | SVC Set the output power limit. | 250.0% (0.0 ~ 400.0%) | |
| F03.35 (0x0323) RUN | Overexcitation braking gain | SVC Set the overexcitation braking gain. | 100.0% (0.0 ~ 500.0%) | |
| F03.36 (0x0324) RUN | Overexcitation braking limit | SVC Set the overexcitation brake limiter. | 10.0% (0.0 ~ 250.0%) | |

| F03.37 (0x0325) RUN | Energy efficient operation | SVC 0: off 1: on | 0 (0 ~ 1) | |
|---|---|---|---|---|
| F03.38 (0x0326) RUN | Energy-saving operation excitation lower limit | SVC Set the lower limit of excitation for energy saving operation. | 50.0% (0.0 ~ 80.0%) | |
| F03.39 (0x0327) RUN | Energy-saving operating filter coefficient | SVC Set the energy saving operation filter coefficient. | 0.010s (0.000 ~ 6.000s) | |

**Group F03.4x-F03.5x: Torque Control**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F03.40 (0x0328) RUN | Torque control selection | SVC 0: speed control mode limit torque 1: Torque control mode speed limit | 0 (0 ~ 1) | |
| F03.41 (0x0329) RUN | Torque command given | SVC LED "0" digit: Channel A: 0: Torque keyboard digital reference 1: integrated keyboard potentiometer given 2: AI 3: Reserved 4: Reserved 5: PUL 6: RS485 communication given LED "00" digit: Channel B: Same channel A LED "000" digit: Combination method: 0:A 1:B 2: A+B 3: A-B 4:MIN(A,B) 5: MAX (A, B) | 0000 (0000 ~ 0566) | |
| F03.42 (0x032A) RUN | Torque keyboard digital setting | SVC Set the torque keyboard number. | 0.0% (0.0 ~ 100.0%) | |
| F03.43 (0x032B) RUN | Torque input lower limit | SVC Set the torque input lower limit. | 0.00% (0.0 ~ 100.00%) | |
| F03.44 (0x032C) RUN | Lower limit corresponding setting | SVC Set the lower limit corresponding value. | 0.0% (-200.0～200.0%) | |
| F03.45 (0x032D) RUN | Torque input upper limit | SVC Set the upper limit of the torque input. | 100.0% (0.0~100.0%) | |
| F03.46 (0x032E) RUN | Upper limit corresponding setting | SVC Set the upper limit to correspond. | 100.0% (-200.0～200.0%) | |
| F03.47 (0x032F) RUN | Torque filtering time | SVC Set the torque limit action frequency range at low speed. | 0.100s (0.000～6.000s) | |
| F03.52 (0x0334) RUN | Torque command upper limit | SVC Set the upper limit of the output torque. | 150.0% (0.0 ~ 200.0%) | |
| F03.53 (0x0335) RUN | Torque command lower limit | SVC Set the lower limit of the output torque. | 0.0% (0.0 ~ 200.0%) | |

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F03.54 (0x0336) RUN | Torque control forward speed limit selection | SVC 0: Function code F03.56 is set; 1: integrated keyboard potentiometer given × F03.56; 2: AI × F03.56; 3: reserved; 4: Reserved 5: PUL × F03.56; 6: RS485 communication given × F03.56 7: Reserved | 0 (0 ~ 7) | |
| F03.55 (0x0337) RUN | Torque control reverse speed limit selection | SVC 0: Function code F03.57 is set; 1: integrated keyboard potentiometer given × F03.57; 2: AI × F03.57; 3: reserved; 4: Reserved 5: PUL×F03.57; 6: RS485 communication given × F03.57 7: Reserved | 0 (0 ~ 7) | |
| F03.56 (0x0338) RUN | Torque control forward speed maximum speed limit | SVC Set the torque control forward maximum speed limit. | 100.0%s (0.0～100.0%) | |
| F03.57 (0x0339) RUN | Torque control anyway maximum speed limit | SVC Set the torque control reverse maximum speed limit. | 100.0%s (0.0～100.0%) | |
| F03.58 (0x033A) RUN | Given torque gain switching frequency | SVC Set the given torque gain switching frequency. | 2.00Hz (0.00 ~ 50.00Hz) | |
| F03.59 (0x033B) RUN | Given torque gain | SVC Set the given torque gain. | 100.0% (0.0 ~ 500.0%) | |

## 4.8    Group F04: V/F Control

**F04.0x group: V/F control**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F04.00 (0x0400) STOP | Linear VF curve selection | V/F Used to select the type of V/F curve to meet different load characteristics. 0: straight line VF curve; 1-9: respectively, a power VF curve of 1.1-1.9; 10: square VF curve; 11: Custom VF curve; | 0 (0 ~ 11) | |
| F04.01 (0x0401) RUN | Torque boost | V/F 0.0%: automatic torque boost 0.1~30.0%: manual torque boost | 0.0% (0.0 ～ 30.0%) | |
| F04.02 (0x0402) RUN | Torque boost cutoff frequency | V/F Set the effective range of the torque boost function. When the output frequency exceeds this value, the torque boost function is cut off. | 100.0% (0.0 ～ 100.0%) | |
| F04.03 (0x0403) RUN | Slip compensation gain | V/F Set the slip compensation gain. | 0.0% (0.0 ~ 200.0%) | |

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F04.04 (0x0404) RUN | Slip compensation limit | V/F Set the slip compensation limit value. | 100.0% (0.0 ~ 300.0%) | |
| F04.05 (0x0405) RUN | Slip compensation filter time | V/F The slip compensation function needs to correctly input the motor nameplate parameters and learn the parameters to achieve the best results. | 0.200 (0.000 ~ 6.000) | |
| F04.06 (0x0406) RUN | Oscillation suppression gain | V/F By adjusting this value, low frequency resonance can be suppressed, but not too large, otherwise it will cause additional stability problems. | 100.0% (0.0 ~ 900.0%) | |
| F04.07 (0x0407) RUN | Oscillation suppression filter time | V/F Set the oscillation suppression filter time. | 1.0s(0.0 ~ 100.0s) | |
| F04.08 (0x0408) STOP | Output voltage percentage | V/F Set the output voltage percentage. | 100.0% (25.0～120.0%) | |

**F04.1x group: custom V/F curve**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F04.10 (0x040A) STOP | Self-setting voltage V1 | V/F Self-setting voltage V1 | 3.0% (0.0 ~ 100.0%) | |
| F04.11 (0x040B) STOP | Self-set frequency F1 | V/F Self-set frequency F1 | 1.00Hz (0.00~Maximum frequency) | |
| F04.12 (0x040C) STOP | Self-setting voltage V2 | V/F Self-setting voltage V2 | 28.0% (0.0 ～ 100.0%) | |
| F04.13 (0x040D) STOP | Self-set frequency F2 | V/F Self-set frequency F2 | 10.0Hz (0.00~Maximum frequency) | |
| F04.14 (0x040E) STOP | Self-setting voltage V3 | V/F Self-setting voltage V3 | 55.0% (0.0 ~ 100.0%) | |
| F04.15 (0x040F) STOP | Self-set frequency F3 | V/F Self-set frequency F3 | 25.00Hz (0.00~Maximum frequency) | |
| F04.16 (0x0410) STOP | Self-setting voltage V4 | V/F Self-setting voltage V4 | 78.0% (0.0 ~ 900.0%) | |
| F04.17 (0x0411) STOP | Self-set frequency F4 | V/F Self-set frequency F4 | 37.5Hz (0.00~Maximum frequency) | |
| F04.18 (0x0412) STOP | Self-setting voltage V5 | V/F Self-setting voltage V5 | 100.0%s (0.0～100.0%) | |
| F04.19 (0x0413) STOP | Self-set frequency F5 | V/F Self-set frequency F5 | 50.00Hz (0.00~Maximum frequency) | |

**F04.2x group: reserved**

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

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F04.30 (0x041E) STOP | Automatic energy saving control | V/F 0: off 1: on | 0 (0 ~ 1) | |
| F04.31 (0x041F) STOP | Energy saving step frequency lower limit | V/F Set the lower limit of the energy saving buck frequency. | 15.0Hz (0.0～50.0Hz) | |
| F04.32 (0x0420) STOP | Energy-saving step-down voltage lower limit | V/F Set the lower limit of the energy-saving step-down voltage. | 50.0% (20.0～100.0%) | |
| F04.33 (0x0421) RUN | Energy-saving step-down voltage regulation rate | V/F Set the energy-saving step-down voltage regulation rate. | 0.010V/MS (0.000～0.200 V/MS) | |
| F04.34 (0x0422) RUN | Energy-saving voltage and voltage recovery rate | V/F Set the energy saving voltage and voltage recovery rate. | 0.20V/MS (0.00～2.00 V/MS) | |

## 4.9 Group F05: Input Terminal

**F05.0x group: digital input terminal function**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F05.00 (0x0500) STOP | Terminal X1 function selection | V/F SVC See the function of terminal X for details. | 1 (0 ~ 63) | |
| F05.01 (0x0501) STOP | Terminal X2 function selection | V/F SVC See the function of terminal X for details. | 2 (0 ~ 63) | |
| F05.02 (0x0502) STOP | Terminal X3 function selection | V/F SVC See the function of terminal X for details. | 4 (0 ~ 63) | |
| F05.03 (0x0503) STOP | Terminal X4 function selection | V/F SVC See the function of terminal X for details. | 8 (0 ~ 63) | |

**F05.1x group: curve X1-X4 detection delay**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F05.10 (0x050A) RUN | X1 effective detection delay | V/F SVC Delay time corresponding to the transition of the output terminal X1 from the inactive state to the active state | 0.010 (0.000 ~ 6.000s) | |
| F05.11 (0x050B) RUN | X1 invalid detection delay | V/F SVC Delay time corresponding to the transition of the output terminal X1 from the active state to the | 0.010 (0.000 ~ 6.000s) | |
| F05.12 (0x050C) RUN | X2 effective detection delay | V/F SVC Delay time corresponding to the transition of the output terminal X2 from the inactive state to the active state | 0.010 (0.000 ~ 6.000s) | |
| F05.13 (0x050D) RUN | X2 invalid detection delay | V/F SVC Delay time corresponding to the transition of the output terminal X2 from the active state to the inactive state | 0.010 (0.000 ~ 6.000s) | |
| F05.14 (0x050E) RUN | X3 effective detection delay | V/F SVC Delay time corresponding to the transition of the output terminal X3 from the inactive state to the active state | 0.010 (0.000 ~ 6.000s) | |
| F05.15 (0x050F) RUN | X3 invalid detection delay | V/F SVC Delay time corresponding to the transition of the output terminal X3 from the active state to the inactive state | 0.010 (0.000 ~ 6.000s) | |
| F05.16 (0x0510) RUN | X4 effective detection delay | V/F SVC Delay time corresponding to the transition of the output terminal X4 from the inactive state to the active state | 0.330 (0.000 ~ 6.000s) | |
| F05.17 (0x0511) RUN | X4 invalid detection delay | V/F SVC Delay time corresponding to the transition of the output terminal X4 from the active state to the inactive state | 0.330 (0.000 ~ 6.000s) | |

**F05.2x group: digital input terminal action selection**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F05.20 (0x0514) STOP | Terminal control 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) | |
| F05.21 (0x0515) STOP | Terminal start protection | V/F SVC 0: off 1: on LED "0" digit: terminal start protection when exiting abnormal LED "00" digit: Jog terminal start protection when exiting abnormal LED "000" digit: Start protection when the command channel is switched to the terminal LED "0000" digit: Reserved Free stop, emergency stop, forced stop, default on | 0111 (0000 ~ 1111) | |

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F05.22 (0x0516) RUN | X1 ~ X4 terminal characteristics selection | V/F SVC 0: Closed valid 1: Disconnected is valid LED "0" digit: X1 terminal LED "00" digit: X2 terminal LED "000" digit: X3 Terminal LED "0000" digit: X4 Terminal | 0000 (0000 ~ 1111) | |
| F05.25 (0x0519) STOP | Terminal UP/DW control selection | V/F SVC 0: frequency power down storage 1: frequency power down is not stored 2: Adjustable during operation, stop and clear | 0 (0 ~ 2) | |
| F05.26 (0x051A) RUN | Terminal UP/DW controls frequency increase and decrease rate | V/F SVC Set terminal UP/DW to control the frequency increase and decrease rate | 0.50Hz/s (0.01~50.00Hz/s) | |
| F05.27 (0x051B) RUN | Terminal emergency stop deceleration time | V/F SVC Set terminal emergency stop deceleration time | 1.00s (0.01~650.00s) | |

**F05.3x group: PUL terminal**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F05.30 (0x051E) STOP | Reserved | | | |
| F05.31 (0x051F) RUN | PUL input minimum frequency | V/F SVC The minimum frequency accepted by the PUL, below the frequency signal of this value, the frequency converter will be processed at the minimum frequency. 0.00 to 50.000 kHz | 0.00kHz (0.00~500.00kHz) | |
| F05.32 (0x0520) RUN | PUL minimum frequency corresponding setting | V/F SVC Corresponding to the percentage of the set value | 0.00% (0.00~100.00%) | |
| F05.33 (0x0521) RUN | PUL input maximum frequency | V/F SVC The maximum frequency accepted by the PUL is higher than the frequency signal of this value, and the inverter will process at the maximum frequency. 0.00 to 50.000 kHz | 50.00kHz (0.00~500.00kHz) | |
| F05.34 (0x0522) RUN | PUL maximum frequency corresponding setting | V/F SVC Corresponding to the percentage of the set value | 100.00% (0.00~100.00%) | |
| F05.35 (0x0523) RUN | PUL filter time | V/F SVC Defines the size of the input pulse signal to be used to eliminate interfering signals. | 0.200s (0.000~9.000s) | |
| F05.36 (0x0524) RUN | PUL cutoff frequency | V/F SVC When the frequency is below of this parameter, the drive is no longer recognized. Processed at 0 | 0.010kHz (0.000~1.000kHz) | |

**F05.4x group: analog (AI) type processing**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F05.40 (0x0528) RUN | AI input signal type selection method | V/F SVC 0: DIP switch 1: reserved | 0 (0~1) | |
| F05.43 (0x052B) RUN | Analog input curve selection | V/F SVC 0: straight line (default) 1: curve 1 2: Curve 2 LED "0" digit: AI LED "00" digit: reserved LED "000" digit: Reserved LED "0000" digit: Reserved | 0000 (0000~2222) | |

**F05.5x group: analog (AI) linear processing**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F05.50 (0x0532) RUN | AI lower limit | V/F SVC Define the signal received by the terminal. The voltage signal below this value is processed by the limit value. | 0.0% (0 0.0~100.0%) | |
| F05.51 (0x0533) RUN | AI lower limit corresponding setting | V/F SVC Set the percentage of the corresponding set value | 0.0% (-100.0~100.0%) | |
| F05.52 (0x0534) RUN | AI upper limit | V/F SVC Define the signal received by the terminal. The voltage signal above this value is processed according to the upper limit value. | 100.00% (0.00~100.00%) | |
| F05.53 (0x0535) RUN | AI upper limit corresponding setting | V/F SVC Set the percentage of the corresponding set value | 100.0% (0.00~100.0%) | |
| F05.54 (0x0536) RUN | AI filter time | V/F SVC Defines the size of the analog signal to be used to eliminate interfering signals. | 0.010s (0.000~6.000s) | |

**F05.6x group: AI curve 1 processing**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F05.60 (0x053C) RUN | Curve 1 lower limit | V/F SVC Set the lower limit of curve 1 | 0.0% (0.0 ~ 100.0%) | |
| F05.61 (0x053D) RUN | Curve 1 lower limit corresponding setting | V/F SVC Corresponding set percentage | 0.0% (0.0 ~ 100.0%) | |
| F05.62 (0x053E) RUN | Curve 1 inflection point 1 input voltage | V/F SVC Set curve 1 inflection point 1 input voltage | 30.0% (0.0 ~ 100.0%) | |
| F05.63 (0x053F) RUN | Curve 1 inflection point 1 corresponding | V/F SVC Corresponding set percentage | 30.00% (0.00~100.00%) | |

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| | setting | | | |
| F05.64 (0x0540) RUN | Curve 1 inflection point 2 input voltage | V/F SVC Set curve 1 inflection point 2 input voltage | 60.0% (0.0 ~ 100.0%) | |
| F05.65 (0x0541) RUN | Curve 1 inflection point 2 corresponding setting | V/F SVC Corresponding set percentage | 70.00% (0.00～100.00%) | |
| F05.66 (0x0542) RUN | Curve 1 upper limit | V/F SVC Set the upper limit of curve 1 | 100.00% (0.00～100.00%) | |
| F05.67 (0x0543) RUN | Curve 1 upper limit corresponding setting | V/F SVC Corresponding set percentage | 100.0% (0.0 ~ 100.0%) | |

**F05.7x group: AI curve 2 processing**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F05.70 (0x0546) RUN | Curve 2 lower limit | V/F SVC Set the lower limit of curve 2 | 0.0% (0.0 ~ 100.0%) | |
| F05.71 (0x0547) RUN | Curve 2 lower limit corresponding setting | V/F SVC Corresponding set percentage | 0.0% (0.0 ~ 100.0%) | |
| F05.72 (0x0548) RUN | Curve 2 inflection point 1 input voltage | V/F SVC Set curve 2 inflection point 1 input voltage | 30.0% (0.0 ~ 100.0%) | |
| F05.73 (0x0549) RUN | Curve 2 inflection point 1 corresponding setting | V/F SVC Corresponding set percentage | 30.00% (0.00～100.00%) | |
| F05.74 (0x054A) RUN | Curve 2 inflection point 2 input voltage | V/F SVC Set curve 2 inflection point 2 input voltage | 60.0% (0.0 ~ 100.0%) | |
| F05.75 (0x054B) RUN | Curve 2 inflection point 2 corresponding setting | V/F SVC Corresponding set percentage | 70.00% (0.00～100.00%) | |
| F05.76 (0x054C) RUN | Curve 2 upper limit | V/F SVC Set the upper limit of curve 2 | 100.00% (0.00～100.00%) | |
| F05.77 (0x054D) RUN | Curve 2 upper limit corresponding | V/F SVC Corresponding set percentage | 100.0% (0.0 ~ 100.0%) | |

**F05.8x group: AI as a digital input terminal**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F05.80 (0x0550) RUN | AI port to do digital input terminal feature selection | V/F SVC 0: active low 1: active high LED "0" digit: AI LED "00" digit: reserved LED "000" digit: Reserved LED "0000" digit: Reserved | 0000 (0000 ~ 1111) | |
| F05.81 (0x0551) STOP | AI terminal function selection (as X) | V/F SVC See X terminal function | 0 (0~63) | |
| F05.82 (0x0552) RUN | AI high level setting | V/F SVC The input setting is greater than the high level setting, which is the input high level. | 70.00% (0.00～100.00%) | |
| F05.83 (0x0553) RUN | AI low level setting | V/F SVC Less than the low level setting is low. | 30.00% (0.00～100.00%) | |

## 4.10  Group F06: Output Terminal

**F06.0x group: AO (analog) output**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F06.00 (0x0600) RUN | AO output mode selection | V/F   SVC 0：0～10V 1：4.00～20.00mA 2：0.00～20.00mA 3：Reserved 4：Reserved | 0 (0 ~ 4) | |
| F06.001 (0x0601) RUN | AO output selection | V/F SVC 0: given frequency 1: output frequency 2: Output current 3: input voltage 4: output voltage 5: Mechanical speed 6: given torque 7: Output torque 8: PID given 9: PID feedback amount 10: output power 11: Bus voltage 12: VS input value 13: AI input value 14: AS input value 15: PUL input value 16: module temperature 1 17: Module temperature 2 18:485 communication given 19: Virtual terminal vY1 | 0 (0 ~ 19) | |
| F06.02 (0x0602) RUN | AO output gain | V/F SVC Adjust the value of the analog output of the terminal. | 100.0% (0.0 ~ 200.0%) | |

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F06.003 (0x0603) RUN | AO output bias | V/F SVC Set the A0 output offset. Used to adjust the zero point of the terminal output. | 0.0% (-10.0～10.0%) | |
| F06.04 (0x0604) RUN | AO output filtering | V/F SVC Defined as the size of the analog signal filtering used to eliminate interfering signals. | 0.01s (0.0 ~ 6.00s) | |

### F06.1x group: reserved

### Group F06.2x-F06.3x: Digital, relay output

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F06.20 (0x0614) RUN | Output terminal polarity selection | V/F SVC 0: positive polarity 1: negative polarity LED "0" digit: Y terminal LED "00" digit: relay output terminal 1 LED "000" digit: Reserved LED "0000" digit: Reserved | 0000 (0000 ~ 1111) | |
| F06.21 (0x0615) RUN | Output terminal Y | V/F SVC See terminal Y function | 1 (0 ~ 63) | |
| F06.22 (0x0616) RUN | Relay 1 output (TA-TB-TC) | V/F SVC See terminal Y function | 4 (0 ~ 63) | |
| F06.25 (0x0619) RUN | Y output ON delay time | V/F SVC Set the Y output ON delay time. | 0.010s (0.000～60.000s) | |
| F06.26 (0x061A) RUN | Relay 1 output ON delay time | V/F SVC Set relay 1 to output the ON delay time. | 0.010s (0.000～60.000s) | |
| F06.29 (0x061D) RUN | Y output OFF delay time | V/F SVC Set the Y output OFF delay time. | 0.010s (0.000～60.000s) | |
| F06.30 (0x061E) RUN | Relay 1 output OFF delay time | V/F SVC Set relay 1 output OFF delay time. | 0.010s (0.000～60.000s) | |

### F06.4x group: frequency detection

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F06.40 (0x0628) RUN | Frequency detection value 1 | V/F SVC Set the frequency detection value 1 | 30.00Hz (0.00～Maximum frequency) | |
| F06.41 (0x0629) RUN | Frequency detection amplitude 1 | V/F SVC Set the frequency detection amplitude 1 | 1.00Hz (0.00～Maximum frequency) | |
| F06.42 (0x062A) RUN | Frequency detection value 2 | V/F SVC Set the frequency detection value 2 | 50.00Hz (0.00～Maximum frequency) | |
| F06.43 (0x062B) RUN | Frequency detection range 2 | V/F SVC Set the frequency detection range 2 | 1.00Hz (0.00～Maximum frequency) | |

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F06.44 (0x062C) RUN | The given frequency reaches the detection range | V/F SVC Set the given frequency to reach the detection range | 2.00Hz (0.00～Maximum frequency) | |

### F06.5x group: monitoring parameter comparator output

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F06.50 (0x0632) RUN | Comparator 1 monitor selection | V/F SVC LED "0" and "00"digit: setting yy setting in monitoring parameter number Cxx.yy 00～63 LED "000" and "0000" digit: monitoring parameter number Cxx.yy xx setting 00～07 | 0001 (0000 ~ 0763) | |
| F06.51 (0x0633) RUN | Comparator 1 upper limit | V/F　SVC | 3000 (0 ~ 65535) | |
| F06.52 (0x0634) RUN | Comparator 1 lower limit | V/F　SVC | 0 (0 ~ 65535) | |
| F06.53 (0x0635) RUN | Comparator 1 bias | V/F　SVC | 0 (0 ~ 1000) | |
| F06.54 (0x0636) RUN | Action selection when sending CP1 | V/F SVC 0: Continue running (digital terminal output only) 1: alarm and free parking 2: Warning and continue to run 3: Forced shutdown | 0 (0 ~ 3) | |
| F06.55 (0x0637) RUN | Comparator 2 monitor selection | V/F SVC LED "0" and "00"digit: setting yy setting in monitoring parameter number Cxx.yy 00～63 LED "000" and "0000" digit: monitoring parameter number Cxx.yy xx setting 00～07 | 0002 (0000 ~ 0763) | |
| F06.56 (0x0638) RUN | Comparator 2 upper limit | V/F　SVC | 100 (0 ~ 65535) | |
| F06.57 (0x0639) RUN | Comparator 2 lower limit | V/F　SVC | 0 (0 ~ 65535) | |
| F06.58 (0x063A) RUN | Comparator 2 bias | V/F　SVC | 0 (0 ~ 1000) | |
| F06.59 (0x063B) RUN | Action selection when sending CP2 | V/F SVC 0: Continue running (digital terminal output only) 1: alarm and free parking 2: Warning and continue to run 3: Forced shutdown | 0 (0 ~ 3) | |

**F06.6x group: virtual input and output terminals**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F06.60 (0x063C) STOP | Virtual vX1 terminal function selection | V/F SVC See terminal X function | 0 (0 ~ 63) | |
| F06.61 (0x063D) STOP | Virtual vX2 terminal function selection | V/F SVC See terminal X function | 0 (0 ~ 63) | |
| F06.62 (0x063E) STOP | Virtual vX3 terminal function selection | V/F SVC See terminal X function | 0 (0 ~ 63) | |
| F06.63 (0x063F) STOP | Virtual vX4 terminal function selection | V/F SVC See terminal X function | 0 (0 ~ 63) | |
| F06.64 (0x0640) RUN | vX terminal valid status source | V/F SVC 0: Internal connection with virtual vYn 1: Link to physical terminal Xn 2: Is the function code setting valid? LED "0" digit: virtual vX1 LED "00" digit: virtual vX2 LED "000" digit: Virtual vX3 LED "0000" digit: Virtual vX4 | 0000 (0000 ~ 2222) | |
| F06.65 (0x0641) RUN | Virtual vX terminal function code setting valid status | V/F SVC 0: invalid; 1: valid LED "0" digit: Virtual vX1 LED "00" digit: virtual vX2 LED "000" digit: Virtual vX3 LED "0000" digit: virtual vX4 | 0000 (0000 ~ 1111) | |
| F06.66 (0x0642) RUN | Virtual vY1 output selection | V/F SVC See Y terminal function | 0 (0~31) | |
| F06.67 (0x0643) RUN | Virtual vY2 output selection | V/F SVC See Y terminal function | 0 (0~31) | |
| F06.68 (0x0644) RUN | Virtual vY3 output selection | V/F SVC See Y terminal function | 0 (0~31) | |
| F06.69 (0x0645) RUN | Virtual vY4 output selection | V/F SVC See Y terminal function | 0 (0~31) | |
| F06.70 (0x0646) RUN | vY1 output ON delay time | V/F SVC | 0.010s (0.000~60.000s) | |
| F06.71 (0x0647) RUN | vY2 output ON delay time | V/F SVC | 0.010s (0.000~60.000s) | |
| F06.72 (0x0648) RUN | vY3 output ON delay time | V/F SVC | 0.010s (0.000~60.000s) | |
| F06.73 (0x0649) RUN | vY4 output ON delay time | V/F SVC | 0.010s (0.000~60.000s) | |

| Parameter | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F06.74 (0x064A) RUN | vY1 output OFF delay time | V/F SVC | 0.010s (0.000~60.000s) | |
| F06.75 (0x064B) RUN | vY2 output OFF delay time | V/F SVC | 0.010s (0.000~60.000s) | |
| F06.76 (0x064C) RUN | vY3 output OFF delay time | V/F SVC | 0.010s (0.000~60.000s) | |
| F06.77 (0x064D) RUN | vY4 output OFF delay time | V/F SVC | 0.010s (0.000~60.000s) | |

## 4.11 Group F07: Operation Control

**F07.0x group: start control**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F07.00 (0x0700) STOP | Start mode | V/F SVC 0: started by the start frequency 1: DC braking first starts again from the starting frequency 2: Start after the speed tracking and direction judgment | 0 (0 ~ 2) | S/T2 models do not support speed tracking |
| F07.01 (0x0701) STOP | Start pre-excitation time | V/F SVC Just asynchronous machine vector control (no PG) supports pre-excitation, others would be ignored | 0.00s (0.00~60.00s) | S/T2 models do not support starting pre-excitation |
| F07.02 (0x0702) STOP | Starting frequency | V/F SVC When the given frequency is less than this value, it does not start and is in standby state. | 0.50Hz (0.00~Upper limit frequency digital setting) | |
| F07.03 (0x0703) STOP | Start protection selection | V/F SVC 0: off 1: on LED "0" digit: terminal start protection when exiting abnormal LED "00" digit: Jog terminal start protection when exiting abnormal LED "000" digit: Terminal start protection when the command channel is switched to the terminal LED "0000" digit: Reserved Note: The terminal start protection is enabled by default when the free stop, emergency stop and forced stop commands are valid. | 0111 (0000~1111) | |
| F07.05 (0x0705) STOP | Direction of rotation | V/F SVC LED "0" digit: reverse the running direction 0: the direction is unchanged 1: direction reversal LED "00" digit: no direction of operation 0: Allow forward and reverse commands 1: Only forward commands are allowed 2: Only reverse command is allowed LED "000" digit: Frequency Control Command Direction 0: The frequency control direction is invalid. 1: Frequency control direction is valid LED "0000" digit: Reserved | 0000 (0000~1111) | |
| F07.06 | Power failure | V/F SVC | 0 | |

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| (0x0706) STOP | restart action selection | 0: invalid 1: valid | (0 ~ 1) | |
| F07.07 (0x0707) STOP | Power failure restart waiting time | V/F SVC | 0.50s (0.00～60.00s) | |

**F07.1x group: shutdown control**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F07.10 (0x070A) RUN | Stop mode | V/F SVC 0: deceleration stop 1: Free stop | 0 (0 ~ 1) | |
| F07.11 (0x070B) RUN | Shutdown detection frequency | V/F SVC When decelerating to stop, when the inverter output frequency is less than this value, it will enter the stop state. | 0.50Hz (0.00～Upper limit frequency digital setting) | |
| F07.12 (0x070C) STOP | Stop and restart limit time | V/F SVC Waiting time after restarting after shutdown | 0.00s (0.00～60.00s) | |
| F07.15 (0x070F) RUN | Insufficient lower limit frequency action selection | V/F SVC 0 : Run according to frequency command 1 : Free running stops, enters the pause state 2 : The following limited frequency operation 3 : Zero speed operation | 0 (0～3) | |
| F07.16 (0x0710) RUN | Zero speed torque retention factor | V/F SVC | 60.0% (0.0～150.0%) | |
| F07.17 (0x0711) RUN | Zero speed torque holding time | V/F SVC | 0s (0.0～6000.0s) | |
| F07.18 (0x0712) STOP | Positive reversal dead time | V/F SVC Positive and negative switching, zero frequency maintenance time | 0.0s (0.0～120.0s) | |

**F07.2x group: DC braking and speed tracking**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F07.20 (0x0714) STOP | Braking current before starting | V/F SVC | 60.0% (0.0～150.0%) | |
| F07.21 (0x0715) STOP | Braking time before starting | V/F SVC | 0.0s (0.0～60.0s) | |
| F07.22 (0x0716) STOP | DC braking start frequency | V/F SVC | 1.00Hz (0.00～50.00Hz) | |
| F07.23 (0x0717) STOP | DC braking current | V/F SVC The reference is the rated current of the inverter, and the internal limit does not exceed the rated current of the motor. | 60.0% (0.0～150.0%) | |
| F07.24 (0x0718) STOP | DC braking time during shutdown | V/F SVC | 0.0s (0.0～60.0s) | |
| F07.25 (0x0719) | Speed tracking mode | V/F SVC LED "0" digit: search method | 0000 (0000～0111) | |

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| STOP | | 0: Search from the maximum frequency 1: Search from stop frequency LED "00" digit: reverse search 0: off 1: open LED "000" digit: Search Source 0: Software search 1: Hardware search LED "0000" digit: Reserved | | |
| F07.26 (0x071A) STOP | Speed tracking speed | V/F SVC | 0.5s (0.0～60.0s) | |
| F07.27 (0x071B) STOP | Speed tracking stop delay | V/F SVC | 1.00s (0.0～60.0s) | |
| F07.28 (0x071C) STOP | Speed tracking current | V/F SVC | 120.0% (0.0～400.0%) | |

**F07.3x group: jog**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F07.30 (0x071E) RUN | Jog running frequency setting | V/F SVC | 5.00Hz (0.00～Maximum frequency) | |
| F07.31 (0x071F) RUN | Jog acceleration time | V/F SVC | 10.0s (0.0～650.0s) | |
| F07.32 (0x0720) RUN | Jog deceleration time | V/F SVC | 10.0s (0.0～650.0s) | |
| F07.33 (0x0721) RUN | Jog S curve selection | V/F SVC 0: Invalid 1: Valid | 0 (0～1) | |
| F07.34 (0x0722) RUN | Jog stop mode selection | V/F SVC 0: Same as F7.10    1: Deceleration only | 0 (0～1) | |

**F07.4x group: start, stop frequency maintenance and skip frequency**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F07.40 (0x0728) STOP | Maintain frequency at startup | V/F SVC Startup maintenance frequency is greater than the start frequency, less than the upper limit digital set frequency | 0.50Hz (0.00～Upper limit frequency digital setting) | |
| F07.41 (0x0729) STOP | Maintain frequency time at startup | V/F SVC The set value needs to be greater than the start frequency, and when it is insufficient, press the start frequency. | 0.0s (0.0～60.0s) | |
| F07.42 (0x072A) STOP | Maintain frequency during shutdown | V/F SVC | 0.50Hz (0.00～Upper limit frequency digital setting) | |

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F07.43<br>(0x072B)<br>STOP | Maintain frequency time during shutdown | V/F SVC<br>The terminal DC braking and jogging are invalid. When the stop DC braking is valid, it is invalid when the shutdown maintenance frequency is less than the DC braking frequency.<br>No stop DC braking, it's invalid when the shutdown maintenance frequency is less than the shutdown detection frequency. | 0.0s<br>(0.0～60.0s) | |
| F07.44<br>(0x072C)<br>RUN | Jump frequency 1 | V/F　SVC | 0.00Hz<br>(0.00～Maximum frequency) | |
| F07.45<br>(0x072D)<br>RUN | Jump frequency amplitude | V/F　SVC | 0.00Hz<br>(0.00～Maximum frequency) | |
| F07.46<br>(0x072E)<br>RUN | Jump frequency 2 | V/F　SVC | 0.00Hz<br>(0.00～Maximum frequency) | |
| F07.47<br>(0x072F)<br>RUN | Jump frequency amplitude | V/F　SVC | 0.00Hz<br>(0.00～Maximum frequency) | |

## 4.12　Group F08: Auxiliary Control

**F08.0x group: counting and timing**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F08.00<br>(0x0800)<br>RUN | Counter input source | V/F SVC<br>0: normal X terminal<br>1: input terminal PUL<br>2~5: Reserved | 0<br>(0 ~ 5) | |
| F08.01<br>(0x0801)<br>RUN | Count input crossover | V/F　SVC | 0<br>(0 ~ 6000) | |
| F08.02<br>(0x0802)<br>RUN | Counter maximum | V/F　SVC | 1000<br>(0 ~ 65000) | |
| F08.03<br>(0x0803)<br>RUN | Counter setting | V/F　SVC | 500<br>(0 ~ 65000) | |
| F08.04<br>(0x0804)<br>RUN | Pulse number per meter | V/F SVC<br>Count value per meter | 10.0<br>(0.1～6500.0) | |
| F08.05<br>(0x0805)<br>STOP | Set length | V/F SVC<br>Add a length to the output, one terminal length reset | 1000<br>(0 ~ 65000M) | |
| F08.06<br>(0x0806)<br>STOP | Actual length | V/F SVC<br>Power is not saved, consider whether the power is saved | 0<br>(0 ~ 65000M) | |
| F08.07<br>(0x0807)<br>STOP | Timer time unit | V/F SVC<br>0: second<br>1: minute<br>2: hour | 0<br>(0 ~ 2) | |
| F08.08<br>(0x0808) | Timer setting | V/F　SVC | 0<br>(0 ~ 65000) | |

| | | | | |
|---|---|---|---|---|
| STOP | | | | |

**F08.1x group: reserved**

**F08.2x group: reserved**

**F08.3x group: swing frequency control**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F08.30<br>(0x081E)<br>STOP | Swing frequency control | V/F SVC<br>0: swing control is invalid<br>1: swing frequency control is effective | 0<br>(0 ~ 1) | |
| F08.31<br>(0x081F)<br>STOP | Swing frequency amplitude control | V/F SVC<br>LED "0" digit: Startup mode<br>0: Automatic 1: Terminal manual<br>LED "00" digit: swing amplitude control:<br>0: Relative center frequency<br>1: Relative maximum frequency.<br>LED "000" digit: preset frequency enable:<br>0: not enabled 1: enabled<br>LED "0000" digit: reserved | 0000<br>(0000～0111) | |
| F08.32<br>(0x0820)<br>STOP | Swing frequency preset frequency | V/F　SVC | 0.00Hz<br>(0-upper frequency) | |
| F08.33<br>(0x0821)<br>STOP | Swing frequency preset frequency waiting time | V/F　SVC | 0.0s<br>(0.0～3600.0s) | |
| F08.34<br>(0x0822)<br>STOP | Swing frequency amplitude | V/F　SVC | 10.0%<br>(0.0～50.0%) | |
| F08.35<br>(0x0823)<br>STOP | Kick frequency | V/F　SVC | 10.0%<br>(0.0～50.0%) | |
| F08.36<br>(0x0824)<br>STOP | Triangle wave rise time | V/F　SVC | 5.00s<br>(0.1～999.9s) | |
| F08.37<br>(0x0825)<br>STOP | Triangle wave fall time | V/F　SVC | 5.00s<br>(0.0~100.0s) | |

## 4.13　Group F09: Reserved

## 4.14　Group F10: Protection Parameters

**F10.0x group: current protection**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F10.00 (0x0A00) RUN | Overcurrent suppression | V/F SVC<br>The automatic limiting output current does not exceed the set overcurrent suppression point to prevent overcurrent faults from being triggered by excessive current.<br>0: Inhibition is always valid<br>1: Acceleration/deceleration is valid, constant speed is invalid | 0<br>(0 ~ 1) | |
| F10.01 (0x0A01) RUN | Overcurrent suppression point | V/F SVC<br>Set the load current limit level, 100% corresponds to the rated motor current. | 160.0%<br>(0.0 ～ 300.0%) | |
| F10.02 (0x0A02) RUN | Overcurrent suppression gain | V/F SVC<br>Set the response effect of overcurrent suppression. | 100.0%<br>(0.0 ～ 500.0%) | |
| F10.03 (0x0A03) STOP | Current protection setting 1 | V/F SVC<br>Set whether current-related protection is enabled<br>LED "0" digit: wave-by-wave current limit (CBC)<br>0: off 1: on<br>LED "00" digit: OC protection interference suppression<br>0: normal<br>1: Primary interference suppression<br>2: Secondary interference suppression<br>LED "000" digit: SC Protection Interference Suppression<br>0: normal<br>1: Primary interference suppression<br>2: Secondary interference suppression<br>LED "0000" digit: Reserved | 0001<br>(0000~0221) | |
| F10.04 (0x0A04) STOP | Current protection setting 2 | V/F SVC<br>LED unit: reserved<br>0: off<br>1: on | 0001<br>(0000~0001) | |

**F10.1x group: voltage protection**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F10.10 (0x0A0A) STOP | Bus overvoltage hardware protection | V/F SVC<br>Set whether the bus overvoltage hardware protection function is enabled.<br>0: off<br>1: on | 0<br>(0 ~ 1) | |
| F10.11 (0x0A0B) STOP | Bus overvoltage suppression | V/F SVC<br>When the bus voltage is greater than the overvoltage suppression point, it will slow down or stop the acceleration and deceleration to prevent overvoltage faults.<br>LED "0" digit: overvoltage suppression function<br>0: off<br>1: only open when decelerating<br>2: Both open and decelerate<br>LED "00" digit: overexcitation function<br>0: off<br>1: on | 0012<br>(0000 ~0012) | |

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F10.12 (0x0A0C) STOP | Bus overvoltage suppression point | V/F SVC<br>Set bus voltage value for trigger overvoltage suppression function | T3：780<br>S2：370<br>(T3：650 ~760<br>S2：340 ~380)<br>Also subject to overvoltage limit | T3 overvoltage point：820V (750 ~840) S2 overvoltage point: 400V (360 ~410) |
| F10.13 (0x0A0D) RUN | Bus overvoltage suppression gain | V/F SVC<br>Set the response of overvoltage suppression | 100.0%<br>(0.0～500.0%) | |
| F10.14 (0x0A0E) RUN | Energy brake enable | V/F SVC<br>Set whether the energy brake function is on<br>0: off<br>1: Turn on, but turn off the overvoltage suppression function<br>2: Turn on, and turn on the overvoltage suppression function. | 2<br>(0 ~2) | |
| F10.15 (0x0A0F) RUN | Energy consumption braking action voltage | V/F SVC<br>Set the energy consumption braking action voltage, when the bus voltage is greater than this value, the energy consumption brake starts to act. | T3：740<br>S2：360<br>(T3：650 ~800<br>S2：350 ~390)<br>Also subject to overvoltage limit | T3 overvoltage point：820V (750 ~840) S2 overvoltage point 400V (360 ~410) |
| F10.16 (0x0A10) STOP | Bus undervoltage suppression | V/F SVC<br>When the bus voltage is lower than the undervoltage suppression point, the operating frequency is automatically adjusted to suppress the bus voltage from decreasing, preventing the undervoltage fault.<br>0: off<br>1: on | 0<br>(0 ~ 1) | |
| F10.17 (0x0A11) STOP | Bus undervoltage suppression point | V/F SVC<br>Set bus voltage value for trigger undervoltage suppression function | T3：430<br>S2：240<br>(T3：350 ~450<br>S2：180 ~260)<br>Also subject to overvoltage limit | T3 overvoltage point：820V (750 ~840) S2 overvoltage point 400V (360 ~410) |
| F10.18 (0x0A12) RUN | Bus undervoltage suppression gain | V/F SVC<br>Set the response effect of undervoltage suppression | 100.0%<br>(0.0～500.0%) | |
| F10.19 (0x0A13) STOP | Bus undervoltage protection point | V/F SVC<br>The lower limit voltage allowed by the set bus voltage. Below this value, the inverter reports an undervoltage fault. | T3：320<br>S2：190<br>(T3：300 ~400<br>S2：160 ~240)<br>Also subject to overvoltage limit | T3 overvoltage point：820V (750 ~840) S2 overvoltage point 400V (360 ~410) |

**F10.2x group: auxiliary protection**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F10.20 (0x0A14) STOP | Input and output phase loss protection options | V/F SVC<br>Set whether the input and output phase loss protection functions are enabled.<br>LED "0" digit: output phase loss protection<br>0: off 1: on<br>LED "00" digit: input phase loss protection<br>0: off<br>1: On, detected the input missing phase report warning A.ILF, continue to run<br>2: Turn on, detect input missing phase report fault E.ILF, free stop | 021 (000 ~ 121) | |
| F10.21 (0x0A15) STOP | Input phase loss threshold | V/F SVC<br>Set the percentage of voltage detection of the input phase loss detection function, 100% corresponds to the rated bus voltage. | 10% (0 ~30.0%) | |
| F10.22 (0x0A16) STOP | Ground short circuit protection option | V/F SVC<br>Set whether the inverter output and the inverter cooling fan ground short circuit protection function are enabled.<br>LED "0" digit: output short circuit protection<br>0: off 1: on<br>LED "00" digit: fan to ground short circuit protection<br>0: off 1: on | 11 (00 ~12) | |
| F10.23 (0x0A17) RUN | Fan ON/OFF control selection | Set the inverter cooling fan operation mode<br>0: The fan runs after the inverter is powered on.<br>1: After the shutdown, the fan operation is related to temperature, and the operation is running.<br>2: After the shutdown, the fan stops after F10.24, and the operation is related to temperature. | 1 (0~2) | |
| F10.24 (0x0A18) STOP | Fan control delay time | V/F SVC<br>Set the time from when the run command is canceled to when the cooling fan stops running. | 30.00s (0 ~600.00) | |
| F10.25 (0x0A19) RUN | Inverter overheating oH1 warning detection level | V/F SVC<br>Set the temperature value of the inverter overheat warning, which is greater than the value to report the overheat warning. | 80.0℃ (0 ~100.0) | |

**F10.3x group: load protection**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F10.30 (0x0A1E) STOP | Motor overload protection curve coefficient | V/F SVC<br>Set the coefficient of overload protection for the load motor. Increasing this value can increase the overload capacity of the motor. | 100.0% (0 ~250.0%) | |
| F10.31 (0x0A1F) STOP | Selection of inverter overload characteristics at low speed | V/F SVC<br>When the low speed (less than 5Hz) is set, the overload protection function of the inverter is valid.<br>0: Invalid 1: Valid | 0 (0 ~1) | |
| F10.32 (0x0A20) STOP | Load warning checkout setting | V/F SVC<br>Set the inverter load warning detection mode and the early warning mode at this time<br>LED "0" digit: load warning detection 1 setting<br>0: no detection<br>1: Detection load is too large<br>2: Excessive load detection only at constant speed<br>3: Insufficient detection load<br>4: Insufficient load detection only at constant speed<br>LED "00" digit: alarm setting when the alarm is detected<br>0: continue to run, report A.LD1<br>1: Free stop, reported to E.LD1<br>LED "000" digit: Load Warning Checkout 2 Settings<br>0: no detection<br>1: Detection load is too large<br>2: Excessive load detection only at constant speed<br>3: Insufficient detection load<br>4: Insufficient load detection only at constant speed<br>LED "0000" digit: Early warning setting when load warning is detected 2<br>0: continue to run, report A.LD1<br>1: Free stop, reported to E.LD1 | 0000 (0000 ~1414) | |
| F10.33 (0x0A21) STOP | Load warning detection level 1 | V/F SVC<br>Set the detection value of load warning 1<br>When VF is controlled, this value is 100% corresponding to the rated current of the motor. When vector control, this value corresponds to 100% of the rated output torque of the motor. | 130.0% (0 ~200.0%) | |
| F10.34 (0x0A22) STOP | Load warning detection time 1 | V/F SVC<br>Set the duration of the detected load warning 1 and the load is greater than the load warning detection level for the duration, and the load warning is detected. | 5.0s (0 ~60.0) | |
| F10.35 (0x0A23) STOP | Load warning detection level 2 | V/F SVC<br>Set the detection value of load warning 2<br>When VF is controlled, this value is 100% corresponding to the rated current of the motor. When vector control, this value corresponds to 100% of the rated output torque of the motor. | 130.0% (0 ~200.0%) | |
| F10.36 (0x0A24) STOP | Load warning detection time 2 | V/F SVC<br>Set the duration of the detected load warning 2, the load is greater than the load warning detection level and continue for that time, and the load warning is detected 2 | 5.0s (0 ~60.0) | |

**F10.4x group: stall protection**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F10.40 (0x0A28) STOP | Too large peed deviation protection action | V/F SVC Set the warning detection mode selection and alarm mode selection when the motor reference speed and feedback speed deviation are too large LED "0" digit: check out options 0: no detection 1: only at constant speed detection 2: Always testing LED "00" digit: alarm selection 0: Free stop and report failure 1: alarm and continue to run | 00 (00 ~12) | |
| F10.41 (0x0A29) STOP | Speed deviation excessive detection threshold | V/F SVC Set the detected value whose speed deviation is too large. This value corresponds to F01.10 [maximum frequency]. | 10.0% (0 ~60.0%) | |
| F10.42 (0x0A2A) STOP | Speed deviation too large detection time | V/F SVC Set the duration of the detection speed deviation too large, the deviation of the given speed and feedback speed is greater than F10.41 and continues to be like that, an early warning of excessive speed deviation is detected. | 2s (0 ~60) | |
| F10.43 (0x0A2B) STOP | Speed protection action | V/F SVC Set the alarm detection mode selection and alarm mode selection when the motor is rotating too fast LED "0" digit: check out options 0: no detection 1: only at constant speed detection 2: Always testing LED "00" digit: alarm selection 0: Free stop and report failure 1: alarm and continue to run | 00 (00 ~12) | |
| F10.44 (0x0A2C) STOP | Rapid detection threshold | V/F SVC Set the detection value of the fast warning, which corresponds to F01.10 [maximum frequency] | 110.0% (0 ~150.0%) | |
| F10.45 (0x0A2D) STOP | Rapid speed detection time | V/F SVC Set the duration of the detection of the rotating speed, the feedback speed is greater than F10.44 and continues like that, and the speed warning is detected. | 0.01s (0 ~2) | |

**F10.5x group: fault recovery protection**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F10.50 (0x0A32) STOP | Failure self-recovery | V/F SVC Set the number of fault self-recovery that is allowed to be performed. Note: A value of 0 indicates that the fault self-recovery function is turned off, otherwise it indicates that the function is enabled. | 0 (0 ~10) | |
| F10.51 (0x0A33) STOP | Failure self-recovery interval | V/F SVC Set the waiting time before the inverter resets to the time before each reset. | 1.0s (0 ~100.0) | |
| F10.52 (0x0A34) STOP | Numbers of failures recovered | V/F SVC Indicates the number of self-recovery faults that have been performed. This parameter is a read-only parameter. | 0 | |

## 4.15 Group F11: Operator Parameters

**F11.0x group: button operation**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F11.00 (0x0B00) RUN | Key lock selection | V/F SVC 0: not locked 1: keyboard function parameter modification lock 2: function parameters and non-start stop button lock 3: Function parameters and button full lock | 0 (0 ~ 3) | |
| F11.01 (0x0B01) RUN | Key lock password | V/F SVC | 0 (0 ~ 65535) | |
| F11.02 (0x0B02) STOP | Keyboard multi-function key selection | V/F SVC 0: invalid 1: Reverse run key 2: Forward jog operation key 3: Reverse jog run key 4: Keyboard command channel and terminal naming channel switch 5: Keyboard command channel and communication naming channel switch 6: Terminal command channel and communication naming channel switch 7: keyboard, terminal, communication command channel cycle switching | 1 (0 ~ 7) | |
| F11.03 (0x0B03) STOP | Keyboard STOP button settings | V/F SVC 0: Non-keyboard control mode is invalid 1: Non-keyboard control mode stops according to stop mode 2: Non-keyboard control mode stops in free mode | 0 (0 ~ 2) | |
| F11.04 (0x0B04) STOP | Status interface up and down keys (knob) function selection | V/F SVC LED "0" digit: keyboard up and down keys to modify the selection 0: invalid 1: used to adjust the frequency keyboard given F01.09 2: used to adjust the PID keyboard given F13.01 3: Keyboard up and down keys to modify the | 0011 (0000~0213) | |

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| | | parameter number setting<br>LED "00" digit: power-down storage<br>   0: frequency is not stored when power is off<br>   1: frequency power down storage<br>LED "000" digit: Action Limit<br>   0: adjustable operation stop<br>   1: Adjustable only during operation, stop and keep<br>   2: Adjustable during operation, stop and clear<br>LED "0000" digit: Reserved | | |
| F11.05<br>(0x0B05)<br>RUN | Up and down keys to quickly change the parameter code setting | V/F SVC<br>LED "0" and "00" digit: yy setting in function parameter number Fxx.yy<br>00～99<br>LED "000" and "0000" digit: xx setting in function parameter number Fxx.yy<br>00~15 | 0109<br>(0000 ~ 1563) | |
| F11.06<br>(0x0B06)<br>STOP | Keyboard command key selection | V/F SVC<br>LED "0" digit: built-in, external keyboard button commands<br>(run command, stop/reset command)<br>0: External priority, when the external is valid, the built-in is invalid.<br>1: Built-in priority, when the built-in is valid, the external is invalid<br>2: Both internal and external are valid, the stop/reset command takes precedence; when both forward and reverse are active, the command is invalid.<br>LED "00" digit: keyboard communication options<br>0: Both internal and external keyboards are valid<br>1: Only the built-in keyboard is valid<br>2: Only external keyboard is valid | 0000<br>(0000 ~ 1122) | |

**F11.1x group: status interface cyclic monitoring**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F11.10<br>(0x0B0A)<br>STOP | Status interface left shift, right shift key function selection | V/F SVC<br>LED "0" digit: left shift key to adjust the first line of monitoring<br>0: invalid, 1: valid<br>LED "00" digit: right shift key to adjust the second line of monitoring<br>0: invalid, 1: valid | 0011<br>(0000 ~ 0011) | |
| F11.11<br>(0x0B0B)<br>RUN | Parameter 1 showed up on first line of the keyboard | V/F SVC<br>LED "0" and "00" digit: setting yy setting in monitoring parameter number Cxx.yy<br>00～63<br>LED "000" and "0000" digit: monitoring parameter number Cxx.yy xx setting<br>00～07 | 0000<br>(0000 ~ 0763) | |
| F11.12<br>(0x0B0C)<br>RUN | Parameter 2 showed up on first line of the keyboard | V/F SVC<br>LED "0" and "00" digit: setting yy setting in monitoring parameter number Cxx.yy<br>00～63<br>LED "000" and "0000" digit: monitoring parameter number Cxx.yy xx setting<br>00～07 | 0001<br>(0000 ~ 0763) | |

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F11.13<br>(0x0B0D)<br>RUN | Parameter 3 showed up on first line of the keyboard | V/F SVC<br>LED "0" and "00" digit: setting yy setting in monitoring parameter number Cxx.yy<br>00～63<br>LED "000" and "0000" digit: monitoring parameter number Cxx.yy xx setting<br>00～07 | 0002<br>(0000 ~ 0763) | |
| F11.14<br>(0x0B0E)<br>RUN | Parameter 4 showed up on first line of the keyboard | V / F SVC<br>LED "0" and "00" digit: monitor parameter number Cxx.yy YY setting<br>00~63<br>LED "000" and "0000" digit: monitoring parameter number Cxx.yy XX setting<br>00~07 | 0011<br>(0000 ~ 0763) | |
| F11.15<br>(0x0B0F)<br>RUN | Parameter 1 showed up on second line of the keyboard | V/F SVC<br>LED "0" and "00" digit: setting yy setting in monitoring parameter number Cxx.yy<br>00～63<br>LED "000" and "0000" digit: monitoring parameter number Cxx.yy xx setting<br>00～07 | 0002<br>(0000 ~ 0763) | |
| F11.16<br>(0x0B10)<br>RUN | Parameter 2 showed up on second line of the keyboard | V / F SVC<br>LED "0" and "00" digit: monitor parameter number Cxx.yy YY setting<br>00~63<br>LED "000" and "0000" digit: monitoring parameter number Cxx.yy XX setting<br>00~07 | 0004<br>(0000 ~ 0763) | |
| F11.17<br>(0x0B11)<br>RUN | Parameter 3 showed up on second line of the keyboard | V/F SVC<br>LED "0" and "00" digit: setting yy setting in monitoring parameter number Cxx.yy<br>00～63<br>LED "000" and "0000" digit: monitoring parameter number Cxx.yy xx setting<br>00～07 | 0010<br>(0000 ~ 0763) | |
| F11.18<br>(0x0B12)<br>RUN | Parameter 4 showed up on second line of the keyboard | V/F SVC<br>LED "0" and "00" digit: setting yy setting in monitoring parameter number Cxx.yy<br>00～63<br>LED "000" and "0000" digit: monitoring parameter number Cxx.yy xx setting<br>00～07 | 0012<br>(0000 ~ 0763) | |

**F11.2x group: monitoring parameter control**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F11.20<br>(0x0B14)<br>RUN | Keyboard display item settings | V/F SVC<br>LED "0" digit: output frequency display selection<br>0: target frequency<br>1: operating frequency<br>LED "00" digit: reserved<br>0: invalid<br>1: Active power to remove stator resistance loss<br>LED "000" digit: Power Display Dimensions<br>0: Power display percentage (%)<br>1: Power display kilowatt (KW)<br>LED "0000" digit: Reserved | 0000<br>(0000 ~ 1111) | |

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F11.21 (0x0B15) RUN | Speed display factor | V/F   SVC | 100.0% (0.0～500.0%) | |
| F11.22 (0x0B16) RUN | Power display factor | V/F   SVC | 100.0% (0.0～500.0%) | |
| F11.23 (0x0B17) RUN | Monitoring parameter group display selection | V/F SVC<br>LED "0" digit: reserved<br>0: invalid<br>1: valid<br>LED "00" digit: C05 display selection<br>0: Automatically switch according to the control mode<br>1:VF mode related parameters<br>2: VC mode related parameters<br>LED "000" digit: C00.40~C00.63 display selection<br>0: not displayed<br>1: display<br>LED "0000" digit: Reserved | 0000 (0000 ~ FFFF) | |
| F11.24 (0x0B18) RUN | Reserved | | | |
| F11.25 (0x0B19) STOP | Display selection when the motor is self-tuning | V/F SVC<br>0: Display the status of the self-learning process<br>1: Do not display the status of the self-learning process | 0 (0 ~ 1) | S/T2 models do not support this parameter. |

**F11.3x group: keyboard special features**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F11.30 (0x0B1E) STOP | AC10 serial port function selection | V/F SVC<br>0: RS485<br>1: external keyboard<br>The terminal 485 bus and the external keyboard function are selected one by one. When the external keyboard is selected, the 485 bus (master/slave) cannot be used. | 0 (0 ~ 1) | |
| F11.31 (0x0B1F) RUN | Keyboard potentiometer lower limit voltage | V/F   SVC | 0.50v (0.00-3.00v) | |
| F11.32 (0x0B20) RUN | Keyboard potentiometer lower limit corresponding value | V/F   SVC | 0.00% (0.00-100.00%) | |
| F11.33 (0x0B21) RUN | Keyboard potentiometer upper limit voltage | V/F   SVC | 2.80v (0.00-3.00v) | |
| F11.34 (0x0B22) RUN | Keyboard potentiometer upper limit corresponding value | V/F   SVC | 100.0% (0.00-100.00%) | |

## 4.16    Group F12: Communication Parameters

**Note: When F11.30 selects the external keyboard, the MODBUS bus (master/slave) cannot be used.**

**F12.0x group: MODBUS slave parameters**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F12.00 (0x0C00) STOP | Master-slave choice | V/F SVC<br>0: slave<br>1: host | 0 (0 ~ 1) | |
| F12.01 (0x0C01) STOP | Modbus communication address | V/F   SVC | 1 (1 ~ 247) | |
| F12.02 (0x0C02) STOP | Communication baud rate selection | V/F   SVC<br>0：1200 bps<br>1：2400 bps<br>2：4800 bps<br>3：9600 bps<br>4：19200 bps<br>5：38400 bps<br>6：57600 bps | 3 (0 ~ 6) | |
| F12.03 (0x0C03) STOP | Modbus data format | V/F SVC<br>0: (N, 8, 1) no parity,<br>Data bits: 8,<br>Stop position: 1<br>1: (E, 8, 1) even parity,<br>Data bits: 8,<br>Stop position: 1<br>2: (O, 8, 1) odd parity,<br>Data bits: 8,<br>Stop position: 1<br>3: (N, 8, 2) no parity,<br>Data bits: 8,<br>Stop position: 2<br>4: (E, 8, 2) even parity,<br>Data bits: 8,<br>Stop position: 2<br>5: (O, 8, 2) odd parity,<br>Data bits: 8,<br>Stop position: 2 | 0 (0 ~ 5) | |
| F12.04 (0x0C04) RUN | Modbus transmission response processing | V/F SVC<br>0: The writing operation has a response<br>1: The writeing operation has no response | 0 (0 ~ 1) | |
| F12.05 (0x0C05) RUN | Modbus communication response delay | V/F   SVC | 0ms (0 ~ 500ms) | |
| F12.06 (0x0C06) RUN | Modbus communication timeout failure time | V/F   SVC | 1.0s (0.1 ~ 100s) | |
| F12.07 (0x0C07) RUN | Communication disconnection processing | V/F SVC<br>0: Do not detect timeout failure<br>1: fault and free parking<br>2: Warning and continue to run<br>3: Forced shutdown | 0 (0 ~ 3) | |
| F12.08 (0x0C08) RUN | Receive data (address 0x3000) zero bias | V/F   SVC | 0.00 (-100.00-100.00) | |
| F12.09 (0x0C09) RUN | Receive data (address 0x3000) gain | V/F   SVC | 100.0% (0.0～500.0%) | |

**F12.1x group: MODBUS host parameters**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F12.10 (0x0C0A) RUN | Host cyclically send parameter selection | V/F SVC<br>LED "0", "00", "000", "0000" digit:<br>0: invalid<br>1: Host running command<br>2: host given frequency<br>3: host output frequency<br>4: Host upper limit frequency<br>5: the given torque of the host<br>6: host output torque<br>7: Reserved<br>8: Reserved<br>9: Host PID given<br>A: Host PID feedback<br>B: Reserved<br>C: active current component | 0031 (0000 ~ CCCC) | |
| F12.11 (0x0C0B) RUN | Frequency given custom address setting | V/F   SVC | 0000 (0000 ~ FFFF) | |
| F12.12 (0x0C0C) RUN | Command given custom address settings | V/F   SVC | 0000 (0000 ~ FFFF) | |
| F12.13 (0x0C0D) RUN | Command given as forward run command value | V/F   SVC | 0001 (0000 ~ FFFF) | |
| F12.14 (0x0C0E) RUN | Command given as reverse run command value | V/F   SVC | 0002 (0000 ~ FFFF) | |
| F12.15 (0x0C0F) RUN | Command given as stop command value | V/F   SVC | 0005 (0000 ~ FFFF) | |
| F12.16 (0x0C10) RUN | Command given as reset command value | V/F   SVC | 0007 (0000 ~ FFFF) | |

## 4.17   Group F13: Process PID Control

**F13.00-F13.06: PID given and feedback**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F13.00 (0x0D00) RUN | PID controller given signal source | V/F SVC<br>0: keyboard digital PID given<br>1: Keyboard analog potentiometer given<br>2: Current/voltage analog AI given<br>3: Reserved<br>4: Reserved<br>5: terminal pulse PUL given<br>6: RS485 communication given<br>7: Option card<br>8: Terminal selection<br>9: Communication given active current | 0 (0 ~ 9) | |
| F13.01 (0x0D01) RUN | Keyboard digital PID given / feedback | V/F   SVC | 50.0% (0.00～100.0%) | |
| F13.02 (0x0D02) RUN | PID given change time | V/F   SVC | 1.00s (0.00～60.00s) | |

| | | | | |
|---|---|---|---|---|
| F13.03 (0x0D03) RUN | PID controller feedback signal source | V/F SVC<br>0: keyboard digital PID feedback<br>1: keyboard analog potentiometer feedback<br>2: Current/voltage analog AI feedback<br>3: Reserved<br>4: Reserved<br>5: terminal pulse PUL feedback<br>6: RS485 communication feedback<br>7: Option card<br>8: Terminal selection<br>9: Local active current | 2 (0 ~ 9) | |
| F13.04 (0x0D04) RUN | Feedback signal low pass filtering time | V/F   SVC | 0.010s (0.000～6.000s) | |
| F13.05 (0x0D05) RUN | Feedback signal gain | V/F   SVC | 1.00 (0.00～10.00) | |
| F13.06 (0x0D06) RUN | Feedback signal range | V/F   SVC | 100.0 (0～100.0) | |

**F13.07-F13.24: PID Adjustment**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F13.07 (0x0D07) RUN | PID control selection | V/F SVC<br>LED "0" digit: feedback characteristics selection<br>0: Positive characteristic 1: Negative characteristic<br>LED "00" digit: reserved<br>LED "000" digit: Reserved<br>LED "0000" digit: Differential Adjustment Properties<br>0: Differentiate the deviation<br>1: Differentiate the feedback | 0000 (0000 ~ 1111) | |
| F13.08 (0x0D08) RUN | PID preset output | V/F   SVC | 100.0% (0.0～100.0%) | |
| F13.09 (0x0D09) RUN | PID preset output running time | V/F   SVC | 0.0s (0.0～6500.0s) | |
| F13.10 (0x0D0A) RUN | PID control deviation limit | V/F   SVC | 0.0% (0.0～100.0%) | |
| F13.11 (0x0D0B) RUN | Proportional gain P1 | V/F   SVC | 0.100 (0.000～4.000) | |
| F13.12 (0x0D0C) RUN | Integration time I1 | V/F   SVC | 1.0s (0.0～600.0s) | |
| F13.13 (0x0D0D) RUN | Differential gain D1 | V/F   SVC | 0.000s (0.000～6.000s) | |
| F13.14 (0x0D0E) RUN | Proportional gain P2 | V/F   SVC | 0.100 (0.000～4.000) | |
| F13.15 (0x0D0F) RUN | Integration time I2 | V/F   SVC | 1.0s (0.0～600.0s) | |

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F13.16 (0x0D10) RUN | Differential gain D2 | V/F   SVC | 0.000s (0.000～6.000s) | |
| F13.17 (0x0D11) RUN | PID parameter switching condition | V/F SVC 0: Do not switch 1: Switch using DI terminal 2: Switch according to the deviation | 0 (0 ~ 2) | |
| F13.18 (0x0D12) RUN | Switching deviation low value | V/F SVC When the PID deviation is less than this value, the gain 1 parameter is used. | 20.0% (0.0～100.0%) | |
| F13.19 (0x0D13) RUN | Switching deviation high value | V/F SVC When the PID deviation is greater than this value, the gain 2 parameter is used. | 80.0% (0.0～100.0% | |
| F13.20 (0x0D14) RUN | Reserved | V/F   SVC | | |
| F13.21 (0x0D15) RUN | Differential limiting | V/F   SVC | 5.0% (0.0～100.0%) | |
| F13.22 (0x0D16) RUN | PID output upper limit | V/F   SVC | 100.0% (0.0～100.0%) | |
| F13.23 (0x0D17) RUN | PID output lower limit | V/F   SVC | 0.0% (-100.0～Fb.19) | |
| F13.24 (0x0D18) RUN | PID output filtering time | V/F   SVC | 0.000s (0.000～6.000s) | |

**F13.25-F13.28: PID feedback disconnection judgment**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F13.25 (0x0D19) STOP | Feedback disconnection action selection | V/F SVC 0: Continue PID operation without reporting failure 1: Stop and report failure 2: Continue PID operation and output alarm signal 3: Run at the current frequency, output alarm signal | 0 (0 ~ 3) | |
| F13.26 (0x0D1A) RUN | Feedback disconnection detection time | V/F   SVC | 1.0s (0.0～120.0s) | |
| F13.27 (0x0D1B) RUN | Wire break alarm upper limit | V/F   SVC | 100.0 (0.0～100.0%) | |
| F13.28 (0x0D1C) RUN | Wire break alarm lower limit | V/F   SVC | 0.0% (0.0～100.0%) | |

**F13.29-F13.33: PID sleep function**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F13.29 (0x0D1D) RUN | Sleep selection | V/F SVC 0: off 1: valid | 0 (0 ~ 1) | |
| F13.30 (0x0D1E) RUN | Sleep frequency | V/F   SVC | 10.00Hz (0.00～50.00Hz) | |
| F13.31 (0x0D1F) RUN | Sleep delay | V/F   SVC | 60.0S (0.0～3600.0S) | |
| F13.32 (0x0D20) RUN | Wake up deviation | V/F   SVC | 5.0% (0.0～50.0%) | |
| F13.33 (0x0D21) RUN | Wake-up delay | V/F   SVC | 1.0S (0.0～60.0S) | |

## 4.18   Group F14: Multi-Speed and Simple PLC

**F14.00~F14.14: Multi-speed frequency given**

| Parameter code (address) adjustable attribute | Name | Content | Factory default (setting range) | Notes |
|---|---|---|---|---|
| F14.00 (0x0E00) RUN | PLC multi-speed 1 | V/F   SVC | 10.00Hz (0.00～Maximum frequency) | |
| F14.01 (0x0E01) RUN | PLC multi-speed 2 | V/F   SVC | 20.00Hz (0.00~Maximum frequency) | |
| F14.02 (0x0E02) RUN | PLC multi-speed 3 | V/F   SVC | 30.00Hz (0.00~Maximum frequency) | |
| F14.03 (0x0E03) RUN | PLC multi-speed 4 | V/F   SVC | 40.00Hz (0.00~Maximum frequency) | |
| F14.04 (0x0E04) RUN | PLC multi-speed 5 | V/F   SVC | 50.00Hz (0.00~Maximum frequency) | |
| F14.05 (0x0E05) RUN | PLC multi-speed 6 | V/F   SVC | 40.00Hz (0.00~Maximum frequency) | |
| F14.06 (0x0E06) RUN | PLC multi-speed 7 | V/F   SVC | 30.00Hz (0.00~Maximum frequency) | |
| F14.07 (0x0E07) RUN | PLC multi-speed 8 | V/F   SVC | 20.00Hz (0.00~Maximum frequency) | |
| F14.08 (0x0E08) RUN | PLC multi-speed 9 | V/F   SVC | 10.00Hz (0.00~Maximum frequency) | |

| | | | |
|---|---|---|---|
| F14.09<br>(0x0E09)<br>RUN | PLC multi-speed 10 | V/F   SVC | 20.00Hz<br>(0.00~Maximum frequency) |
| F14.10<br>(0x0E0A)<br>RUN | PLC multi-speed 11 | V/F   SVC | 30.00Hz<br>(0.00~Maximum frequency) |
| F14.11<br>(0x0E0B)<br>RUN | PLC multi-speed 12 | V/F   SVC | 40.00Hz<br>(0.00~Maximum frequency) |
| F14.12<br>(0x0E0C)<br>RUN | PLC multi-speed 13 | V/F   SVC | 50.00Hz<br>(0.00~Maximum frequency) |
| F14.13<br>(0x0E0D)<br>RUN | PLC multi-speed 14 | V/F   SVC | 40.00Hz<br>(0.00~Maximum frequency) |
| F14.14<br>(0x0E0E)<br>RUN | PLC multi-speed 15 | V/F   SVC | 30.00Hz<br>(0.00~Maximum frequency) |

**F14. 15: PLC operation mode selection**

| Parameter code (address)<br>adjustable attribute | Name | Content | Factory default<br>(setting range) | Notes |
|---|---|---|---|---|
| F14.15<br>(0x0E0F)<br>RUN | PLC operation mode selection | V/F SVC<br>LED "0" digit: cycle mode<br>0: stop after single cycle<br>1: continuous cycle<br>2: Keep the final value after a single cycle<br>LED "00" digit: timing unit<br>0: second<br>1: minute<br>2: hour<br>LED "000" digit: Power-down storage<br>0: no storage 1: storage<br>LED "0000" digit: Startup mode<br>0: Re-run from the first stage<br>1: Re-run from the phase of the downtime<br>2: continue to run for the rest of the downtime phase | 0000<br>(0000 ~ 2122) | |

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

| Parameter code (address)<br>adjustable attribute | Name | Content | Factory default<br>(setting range) | Notes |
|---|---|---|---|---|
| F14.16<br>(0x0E10)<br>RUN | PLC first stage running time | V/F   SVC | 10.0<br>(0.0～6500.0(s/m/h)) | |
| F14.17<br>(0x0E11)<br>RUN | PLC second stage running time | V/F   SVC | 10.0<br>(0.0～6500.0(s/m/h)) | |
| F14.18<br>(0x0E12)<br>RUN | PLC third stage running time | V/F   SVC | 10.0<br>(0.0～6500.0(s/m/h)) | |
| F14.19<br>(0x0E13)<br>RUN | PLC fourth stage running time | V/F   SVC | 10.0<br>(0.0～6500.0(s/m/h)) | |

| | | | |
|---|---|---|---|
| F14.20<br>(0x0E14)<br>RUN | PLC fifth stage running time | V/F   SVC | 10.0<br>(0.0～6500.0(s/m/h)) |
| F14.21<br>(0x0E15)<br>RUN | PLC sixth stage running time | V/F   SVC | 10.0<br>(0.0～6500.0(s/m/h)) |
| F14.22<br>(0x0E16)<br>RUN | PLC seventh stage running time | V/F   SVC | 10.0<br>(0.0～6500.0(s/m/h)) |
| F14.23<br>(0x0E17)<br>RUN | PLC eighth stage running time | V/F   SVC | 10.0<br>(0.0～6500.0(s/m/h)) |
| F14.24<br>(0x0E18)<br>RUN | PLC ninth stage running time | V/F   SVC | 10.0<br>(0.0～6500.0(s/m/h)) |
| F14.25<br>(0x0E19)<br>RUN | PLC tenth stage running time | V/F   SVC | 10.0<br>(0.0～6500.0(s/m/h)) |
| F14.26<br>(0x0E1A)<br>RUN | PLC eleventh stage running time | V/F   SVC | 10.0<br>(0.0～6500.0(s/m/h)) |
| F14.27<br>(0x0E1B)<br>RUN | PLC twelveth stage running time | V/F   SVC | 10.0<br>(0.0～6500.0(s/m/h)) |
| F14.28<br>(0x0E1C)<br>RUN | PLC thirteenth stage running time | V/F   SVC | 10.0<br>(0.0～6500.0(s/m/h)) |
| F14.29<br>(0x0E1D)<br>RUN | PLC fourteenth stage running time | V/F   SVC | 10.0<br>(0.0～6500.0(s/m/h)) |
| F14.30<br>(0x0E1E)<br>RUN | PLC fifteenth stage running time | V/F   SVC | 10.0<br>(0.0～6500.0(s/m/h)) |

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

| Parameter code (address)<br>adjustable attribute | Name | Content | Factory default<br>(setting range) | Notes |
|---|---|---|---|---|
| F14.31<br>(0x0E1F)<br>RUN | PLC first direction and acceleration and deceleration time | V/F SVC<br>LED "0" digit: the running direction of this segment (compared with the running command)<br>0: same direction 1: reverse<br>LED "00" digit: the acceleration and deceleration time of this segment<br>0: Acceleration/deceleration time 1<br>1: Acceleration and deceleration time 2<br>2: Acceleration and deceleration time 3<br>3: Acceleration and deceleration time 4<br>LED "000" digit: Reserved<br>LED "0000" digit: Reserved | 0000<br>(0000~0031) | |
| F14.32<br>(0x0E20)<br>RUN | PLC second direction and acceleration and deceleration time | V/F SVC<br>The same settings as F14.31 | 0000<br>(0000~0031) | |
| F14.33<br>(0x0E21)<br>RUN | PLC third direction and acceleration and deceleration time | V/F SVC<br>The same settings as F14.31 | 0000<br>(0000~0031) | |

| | | | | | |
|---|---|---|---|---|---|
| F14.34 (0x0E22) RUN | PLC fourth direction and acceleration and deceleration time | V/F SVC The same settings as F14.31 | 0000 (0000~0031) | | |
| F14.35 (0x0E23) RUN | PLC fifth direction and acceleration and deceleration time | V/F SVC The same settings as F14.31 | 0000 (0000~0031) | | |
| F14.36 (0x0E24) RUN | PLC sixth direction and acceleration and deceleration time | V/F SVC The same settings as F14.31 | 0000 (0000~0031) | | |
| F14.37 (0x0E25) RUN | PLC seventh direction and acceleration and deceleration time | V/F SVC The same settings as F14.31 | 0000 (0000~0031) | | |
| F14.38 (0x0E26) RUN | PLC eighth direction and acceleration and deceleration time | V/F SVC The same settings as F14.31 | 0000 (0000~0031) | | |
| F14.39 (0x0E27) RUN | PLC ninth direction and acceleration and deceleration time | V/F SVC The same settings as F14.31 | 0000 (0000~0031) | | |
| F14.40 (0x0E28) RUN | PLC tenth direction and acceleration and deceleration time | V/F SVC The same settings as F14.31 | 0000 (0000~0031) | | |
| F14.41 (0x0E29) RUN | PLC eleventh direction and acceleration and deceleration time | V/F SVC The same settings as F14.31 | 0000 (0000~0031) | | |
| F14.42 (0x0E2A) RUN | PLC twelveth direction and acceleration and deceleration time | V/F SVC The same settings as F14.31 | 0000 (0000~0031) | | |
| F14.43 (0x0E2B) RUN | PLC thirteenth direction and acceleration and deceleration time | V/F SVC The same settings as F14.31 | 0000 (0000~0031) | | |
| F14.44 (0x02C) RUN | PLC fourteenth direction and acceleration and deceleration time | V/F SVC The same settings as F14.31 | 0000 (0000~0031) | | |
| F14.45 (0x0E2D) RUN | PLC fifteenth direction and acceleration and deceleration time | V/F SVC The same settings as F14.31 | 0000 (0000~0031) | | |

## 4.19  Group F15: Reserved

## 4.20  Group C0x: Monitoring Parameters

**Group C00: basic monitoring**

| Parameter code (address) | Name | Content | Signal level of multi-function analog output | Notes |
|---|---|---|---|---|
| C00.00 (0x2100) | Given frequency | V/F SVC | 10V corresponds to the maximum frequency (60Hz) | |
| C00.01 (0x2101) | Output frequency | V/F SVC | 10V corresponds to the maximum frequency | |
| C00.02(0x2102) | Output current | V/F SVC | 10V corresponds to the rated current of the double motor (5A) | |
| C00.03 (0x2103) | Input voltage | V/F SVC | 10V corresponds to 380V | |
| C00.04 (0x2104) | The output voltage | V/F SVC | 10V corresponds to the rated voltage of the motor 360V | |

| | | | | |
|---|---|---|---|---|
| C00.05 (0x2105) | Mechanical speed | V/F SVC | 10V corresponds to the maximum frequency of mechanical speed | |
| C00.06 (0x2106) | Given torque | V/F SVC | 10V corresponds to +/-200% | |
| C00.07 (0x2107) | Output torque | V/F SVC | 10V corresponds to +/-200% | |
| C00.08 (0x2108) | PID given | V/F SVC | 10V corresponds to 100% | |
| C00.09 (0x2109) | PID feedback | V/F SVC | 10V corresponds to 100% | |
| C00.10 (0x210A) | Output Power | V/F SVC | | |
| C00.11 (0x210B) | bus voltage | V/F SVC | 5V corresponding rated bus voltage | |
| C00.12 (0x210C) | Module temperature 1 | V/F SVC | 10V corresponds to 100 ° C | |
| C00.13 (0x210D) | Module temperature 2 | V/F SVC | 10V corresponds to 100 ° C | |
| C00.14 (0x210E) | Input terminal X is on | V/F SVC | | |
| C00.15 (0x210F) | Output terminal Y is on | V/F SVC | | |
| C00.16(0x2110) | Analog AI input value | V/F SVC | 10V corresponds to 10V | |
| C00.17 (0x2111) | Reserved | V/F SVC | | |
| C00.18 (0x2112) | Keyboard potentiometer input value | V/F SVC | 10V corresponds to 10V | |
| C00.19 (0x2113) | Pulse signal PUL input value | V/F SVC | | |
| C00.20 (0x2114) | Analog output AO | V/F SVC | | |
| C00.21 (0x2115) | Reserved | V/F SVC | | |
| C00.22 (0x2116) | Counter count value | V/F SVC | | |
| C00.23 (0x2117) | Power-on running time | V/F SVC | | |
| C00.24 (0x2118) | Accumulated running time of the machine | V/F SVC | | |
| C00.25 (0x2119) | Inverter power level | V/F SVC | | |
| C00.26 (0x211A) | Inverter rated voltage | V/F SVC | | |
| C00.27 (0x211B) | Inverter rated current | V/F SVC | | |
| C00.28 (0x211C) | Software version | V/F SVC | | |
| C00.29 (0x211D) | PG feedback frequency | V/F SVC | | |
| C00.30 (0x211E) | Timer timing | V/F SVC | | |
| C00.31 (0x211F) | PID output value | V/F SVC | | |
| C00.32 (0x2120) | Inverter software subversion | V/F SVC | | |
| C00.33(0x2121) | Encoder feedback angle | V/F SVC | | |
| C00.34 (0x2122) | Z pulse cumulative error | V/F SVC | | |
| C00.35 (0x2123) | Z pulse count | V/F SVC | | |
| C00.36 (0x2124) | Failure warning code | V/F SVC | | |
| C00.37 (0x2125) | Cumulative power consumption (low level) | V/F SVC | | |
| C00.38 (0x2126) | Cumulative power consumption (high) | V/F SVC | | |
| C00.39 (0x2127) | Power factor angle | V/F SVC | | |

**Group C01: Fault monitoring**

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

## 4.21 Terminal Input and Output Function Selection

| X | Functional interpretation | X | Functional interpretation | X | Functional interpretation |
|---|---|---|---|---|---|
| 0 | No function | 21 | PID control pause | 42 | Counter clock input terminal |
| 1 | Forward running | 22 | PID characteristic switching | 43 | Counter clear terminal |
| 2 | Reverse run | 23 | PID parameter switching | 44 | DC brake command |
| 3 | Three-wire operation control (Xi) | 24 | PID given switch 1 | 45 | Pre-excitation command terminal |
| 4 | Forward turn | 25 | PID given switch 2 | 46 | Reserved |
| 5 | Reverse jog | 26 | PID given switch 3 | 47 | Reserved |
| 6 | Free parking | 27 | PID feedback switching 1 | 48 | Command channel switch to keyboard |
| 7 | emergency pull over | 28 | PID feedback switching 2 | 49 | Command channel switch to terminal |

| 8 | Fault reset | 29 | PID feedback switching 3 | 50 | Command channel switch to communication |
|---|---|---|---|---|---|
| 9 | External fault input | 30 | Program run (PLC) pause | 51 | Command channel switch to expansion card |
| 10 | Frequency increment (UP) | 31 | Program run (PLC) restart | 52 | Run prohibition |
| 11 | Frequency decrement (DW) | 32 | Acceleration/deceleration time selection terminal 1 | 53 | Forward prohibition |
| 12 | Frequency increment decrement clear (UP/DW clear) | 33 | Acceleration/deceleration time selection terminal 2 | 54 | Reverse prohibition |
| 13 | Channel A switches to channel B | 34 | Suspension acceleration | 55 | Reserved |
| 14 | Switch the frequency channel combination to A | 35 | Swing frequency input | 56 | Reserved |
| 15 | Switch the frequency channel combination to B | 36 | Swing frequency pause | 57 | Zero servo command |
| 16 | Multi-speed terminal 1 | 37 | Swing frequency reset | 58 | Run output blocking command |
| 17 | Multi-speed terminal 2 | 38 | Keyboard button and display self-test selection | 59 | Reserved |
| 18 | Multi-speed terminal 3 | 39 | X4 frequency measurement | 60 | Speed torque control switching |
| 19 | Multi-speed terminal 4 | 40 | Timer trigger terminal | 61 | Reserved |
| 20 | PID control canceled | 41 | Timer clear terminal | 62 | Reserved |

| Y | Functional interpretation | Y | Functional interpretation | Y | Functional interpretation |
|---|---|---|---|---|---|
| 0 | no output | 14 | Lower limit frequency is reached | 28 | Underload pre-alarm output 2 |
| 1 | The inverter is running | 15 | Program run cycle is completed | 29 | Inverter is warning |
| 2 | Inverter running in reverse | 16 | The running phase of the program is completed. | 30 | Communication address 0x3018 control output |
| 3 | The inverter is running in forward rotation | 17 | PID feedback exceeds the upper limit | 31 | Inverter overheat warning |
| 4 | Fault trip alarm 2 (no alarm during fault self-recovery) | 18 | PID feedback is below the lower limit | 32 | Motor overheat alarm output |
| 5 | Fault trip alarm 2 (no alarm during fault self-recovery) | 19 | PID feedback sensor disconnection | 33 | Frequency (speed) is consistent 1 |
| 6 | External downtime | 20 | Meter length arrives | 34 | Any frequency (speed) is consistent 1 |
| 7 | Inverter is under-voltage | 21 | Timer time is up | 35 | Frequency detection 1 |
| 8 | The inverter is ready for operation | 22 | Counter reaches maximum | 36 | Frequency detection 2 |
| 9 | Output frequency level detection 1 (FDT1) | 23 | Counter reaches the set value | 37 | Frequency (speed) is consistent 2 |
| 10 | Output frequency level detection 2 (FDT2) | 24 | Energy consumption braking | 38 | Any frequency (speed) is consistent 2 |
| 11 | Arrived at a given frequency | 25 | PG feedback disconnection | 39 | Frequency detection 3 |
| 12 | Zero speed operation | 26 | Emergency stop | 40 | Frequency detection 4 |
| 13 | Upper limit frequency is reached | 27 | Overload pre-alarm output 1 | | |

## 4.22 Fault Code Table

**Note: The numbers in parentheses in the code column are fault codes or warning codes (Dec stands for decimal).**

| Keyboard Display(DEC.) | Fault Name | Fault Type | Keyboard Display(DEC.) | Fault Name | Fault Type |
|---|---|---|---|---|---|
| E.SC1 (1) | System failure during acceleration | Fault | E.SPD (78) | Rapid failure | Fault |
| E.SC2 (2) | System failure during deceleration | Fault | E.LD1 (79) | Load protection 1 | Fault |
| E.SC3 (3) | System failure in constant speed | Fault | E.LD2 (80) | Load protection 2 | Fault |
| E.SC4 (4) | System failure in downtime | Fault | E.CPU (81) | CPU timeout failure | Fault |
| E.OC1 (5) | Overcurrent in acceleration | Fault | Reserved (82) | Reserved | Fault |
| E.OC2 (6) | Overcurrent during deceleration | Fault | Reserved (83) | Reserved | Fault |
| E.OC3(7) | Overcurrent at constant speed | Fault | Reserved (84) | Reserved | Fault |
| E.OC4 (8) | AC10 software overcurrent | Fault | E.LOC (85) | Chip lock | Fault |
| E.OU1 (9) | Over-voltage during acceleration | Fault | E.EEP (86) | Parameter storage failure | Fault |
| E.OU2 (10) | Over-voltage during deceleration | Fault | Reserved (87) | Reserved | Fault |
| E.OU3 (11) | Over-voltage at constant speed | Fault | Reserved (88) | Reserved | Fault |
| Reserved (12) | Reserved | Fault | Reserved (89) | Reserved | Fault |
| E.LU (13) | Under-voltage in operation | Fault | Reserved (90) | Reserved | Fault |
| E.OL1 (14) | Motor overload | Fault | E.BUS1 (91) | Expansion card A disconnected | Fault |
| E.OL2 (15) | Inverter overload 1 | Fault | E.BUS2 (92) | Expansion card B is disconnected | Fault |
| E.OL3 (16) | Inverter overload 2 CBC continues to generate | Fault | E.BUS3 (93) | CAN expansion card failure | Fault |
| E.OL4 (17) | Inverter overload 3 | Fault | E.BUS4 (94) | Other expansion card failure | Fault |
| E.ILF (18) | Input phase loss | Fault | E.BUS5 (95) | Other expansion card failure | Fault |
| E.OLF(19) | Three-phase output loss | Fault | E.BUS6 (96) | Other expansion card disconnection | Fault |
| E.OLF1 (20) | U phase output phase loss | Fault | E.CP1 (97) | Monitor compare output 1 fault | Fault |
| E.OLF2 (21) | V phase output phase loss | Fault | E.CP2 (98) | Monitor compare output 2 fault | Fault |
| E.OLF3 (22) | W phase output phase loss | Fault | E.DAT (99) | Parameter setting error | Fault |
| Reserved (23) | Reserved | Fault | Reserved (100~109) | Reserved | Fault |
| Reserved (24) | Reserved | Fault | E.FA1 (110) | External extension reserve 1 | Fault |
| Reserved (25) | Reserved | Fault | E.FA2 (111) | External extension reserve 2 | Fault |
| Reserved (26) | Reserved | Fault | E.FA3 (112) | External extension reserve 3 | Fault |
| Reserved (27) | Reserved | Fault | E.FA4 (113) | External extension reserve 4 | Fault |
| Reserved (28) | Reserved | Fault | E.FA5 (114) | External extension reserve 5 | Fault |
| Reserved (29) | Reserved | Fault | E.FA6 (115) | External extension reserve 6 | Fault |
| E.OH1 (30) | Rectifier module is over-temperature | Fault | E.FA7 (116) | External extension reserve 7 | Fault |

| | | | | | |
|---|---|---|---|---|---|
| E.OH2 (31) | IGBT module is over-temperature | Fault | E.FA8( 117) | External extension reserve 8 | Fault |
| E.OH3 (32) | Motor is over-temperature | Fault | Reserved (118~126) | Reserved | Fault |
| E.EF (33) | External fault | Fault | A.LU1 (128) | Undervoltage during shutdown | Warning |
| E.CE (34) | Modbus communication failure | Fault | A.OU (129) | Over-voltage during shutdown | Warning |
| E.HAL1 (35) | U phase zero drift | Fault | A.ILF(130) | Input phase loss | Warning |
| E.HAL2 (36) | V phase zero drift | Fault | A.PID (131) | PID feedback disconnection | Warning |
| E.HAL (37) | Three-phase current and not 0 fault | Fault | A.EEP (132) | Parameter storage warning | Warning |
| E.HAL3 (38) | W phase zero drift | Fault | A.DEF (133) | Speed deviation is too large | Warning |
| Reserved (39) | Reserved | Fault | A.SPD (134) | Speed warning | Warning |
| E.SGxx (40) | Short circuit to ground | Fault | A.GPS1 (135) | GPS lock machine | Warning |
| E.FSG (41) | Fan short circuit | Fault | A.GPS2 (136) | GPS disconnection | Warning |
| E. PID (42) | PID feedback disconnection | Fault | A.CE (137) | External warning | Warning |
| E.COP (43) | Parameter copy failure | Fault | A.LD1 (138) | Load protection 1 | Warning |
| E.PG (44) | PG parameter setting error | Fault | A.LD2 (139) | Load protection 2 | Warning |
| Reserved (45) | Reserved | Fault | A.BUS (140) | Expansion card disconnection warning | Warning |
| Reserved (46) | Reserved | Fault | A.OH1 (141) | Module over-temperature warning | Warning |
| Reserved (47) | Reserved | Fault | A.OH3 (142) | Motor over temperature warning | Warning |
| Reserved (48) | Reserved | Fault | A.RUN1 (143) | Running warning 1 | Warning |
| Reserved (49) | Reserved | Fault | A.PA2 (144) | External keyboard disconnection warning | Warning |
| E.BRU (50) | Brake unit failure | Fault | A.COP (145) | Parameter copy warning | Warning |
| Reserved (51) | Reserved | Fault | A.CP1 (146) | Monitor comparison output 1 warning | Warning |
| E.TExx (52) | Self-tuning output current overrun | Fault | A.CP2 (147) | Monitor comparison output 2 warning | Warning |
| Reserved (53~70) | Reserved | Fault | A.RUN2 (148) | Running warning 2 | |
| E.IAE1 (71) | Motor angle learning fault 1 | Fault | A.RUN3 (149) | Running warning 3 | Warning |
| E.IAE2 (72) | Motor angle learning fault 2 | Fault | A.FA1 (150) | External extension reserve 1 | Warning |
| E.IAE3 (73) | Motor angle learning fault 3 | Fault | A.FA2 (151) | External extension reserve 2 | Warning |
| E.PST1 (74) | PMSM out of step fault 1 | Fault | A.FA3 (152) | External extension reserve 3 | Warning |
| E.PST2 (75) | PMSM out of step fault 2 | Fault | A.FA4 (153) | External extension reserve 4 | Warning |
| E.PST3 (76) | PMSM out of step fault 3 | Fault | A.FA5 (154) | External extension reserve 5 | Warning |
| E.DEF (77) | Speed deviation is too large | Fault | A.FA6 (155) | External extension reserve 6 | Warning |

# Chapter Ⅴ  Periodic Overhaul and Maintenance

## 5.1  Overhaul

Frequency inverter is composed by semi-conductive components, passive electronic component and motive component. All of these components have useful life. Even under normal working environment, some of the components can not work after the life time. To avoid malfunction, daily checking, periodic overhaul, component changing and other maintenance should be carried out to prevent. We suggest one overhaul every 3-4 months after installation.

### ● Daily checking

To avoid machine damage and to prolong life time, please check the following items everyday.

| Items | Checking content | Treatment |
|---|---|---|
| Power supply | Check if power supply meets the requirement and whether there is lack-phase. | Treat it as nameplate explains. |
| Surroundings | Check whether it meets the environment requirement. | Make sure the problem and solve it. |
| Cooling system | Check whether the inverter or the motor heat or change color abnormally and cooling fan working state. | Check whether it overload. Tighten screw. Check whether cooling fan is dirty or stall rotate. |
| Motor | Check if there is abnormal vibration or noise. | Tighten machine and electric connection and lubricate the machine components. |
| Load | Check whether output current is over the rated value of the motor or the inverter and has lasted for a period. | Make sure whether it overload and whether the machine model is right. |

### ● Periodic overhaul:

Under normal state, one overhaul every 3 or 4 months is ok. Please confirm the actual overhaul period according to the machine use condition and work circumstance while using the machine.

| Items | Checking content | Treatment |
|---|---|---|
| Whole | ●Check insulated resistance;<br>●Check circumstance. | ●Tighten and change bad component;<br>●Clear and improve circumstance. |
| Electric connection | ● Check whether the wire and connector color changes, whether there is disrepair, crack color change or aging in insulated layer.<br>● Check whether the connect terminals are frayed, damaged or loose.<br>● Earth checking. | ● Change bad wires.<br>● Fasten terminals and change bad terminals.<br>● Measure earth resistance and fasten earth terminals. |
| Mechanical connection | ● Check if there is abnormal vibration or noise or something is loose. | ●Tighten, lubricate and change the bad components. |
| semi-conductive component | ● Check whether there is dust or rubbish.<br>● If there is obvious out change | ● Clean operation environment<br>● Change damaged component |
| Electrolytic capacitor | ● Whether there is liquid leak, color change or crack. Whether the safety valve outcrop, inflation, creak or liquid leak. | ● Change damaged component |
| Peripheral equipment | ● Peripheral equipment outlook and insulation checking. | ● Clear and change damaged component. |
| PCB | ● Peculiar smell color change, bad rust and connector checking. | ● Fasten connector<br>● Clear PCB<br>● Change damaged PCB |
| Cooling system | ● Check whether the fan is damaged or blocked up.<br>● Whether rubbish and dust is stuck to the heatsink .<br>● whether the air inlet/outlet blocked Or is there something sticking to the inlet/outlet. | ●Clean operation environment<br>● Change damaged component |

| Keyboard | ● Whether it is damaged. Check whether display is complete. | ● Change damaged component |
|---|---|---|
| Motor | ● Check if there is abnormal vibration or noise. | ● Tighten machine and electric connection and lubricate the machine components. |

Do not perform related work while the power is on, otherwise there is a danger of death due to electric shock. When performing related work, please cut off the power supply and confirm that the DC voltage of the main circuit has dropped to a safe level, and wait 5 minutes before performing related work.

## 5.2  Maintenance

All equipment and components have useful life. Right maintenance can prolong the lifetime. But it can not avoid damage. Please change the components before their lifetime over.

| Component | Lifespan | Component | Lifespan | Component | Lifespan |
|---|---|---|---|---|---|
| Fan | 2~3 years | Electrolytic capacitor | 4~5 years | PCB | 8~10 years |

The replacement of the other components has strict requirements on maintenance technology and product familiarity. And they cannot be used without strict detection after replacement. So we suggest the user not to replace the other inner components. If they need to change indeed, please contact to the dealer or the sales department of Manufacture Company.

## 5.3  Product Warranty

1. The product during the warranty period is faulty. For details, please refer to the warranty terms in the warranty card.

2. Primary fault diagnosis is implemented by your company in principle, but can be provided by the company or the company's service network according to the requirements of your company. According to the results of negotiations with your company, the company will provide free services for the reasons of the failure.

3. Liability exemption, due to the company's product failure, the inconvenience caused to your company or your company's customers and the damage caused by non-Company products, whether within the warranty period or not, are not within the scope of the company's responsibility.

# Appendix: Modbus Communication Protocol

● **Communication Frame Structure**

Communication data format is as follows:

The byte composition: Including initiation bit, 8 data bit, check bit and stop bit.

| Initiation Bit | Bit1 | Bit2 | Bit3 | Bit4 | Bit5 | Bit6 | Bit7 | Bit8 | Check bit | Stop bit |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |

One frame message must be transmitted as a continued data flow, and if there is a interval over 1.5 byte before ending, the receiving equipment will clear the half-baked information. And the next byte will be considered as the address field of a new frame. Similarly, if the interval between a new frame start-up and the former frame is smaller than 3.5 byte time, the receiving equipment will consider that it is the continuation of former one frame. Since the jumbled frame, the final CRC checking value is incorrect, which would lead to the communication mistake.

● **Communication Control Parameter Group Address Specification:**

| Function Specification | Address Definition | Data meaning description | | R/W attribute |
|---|---|---|---|---|
| Communication Given Frequency | 0x3000 or 0x2000 | 0～32000 is corresponding to 0.00Hz～320.00Hz | | W/R |
| Communication Command Setting | 0x3001 or 0x2001 | 0000H: No order<br>0001H: FWD running<br>0002H: REV running<br>0003H: FWD jog<br>0004H: REV jog | 0005H: DEC stop<br>0006H: free stop<br>0007H: malfunction reset<br>0008H: Running banned command<br>0009H: Running allowed command | W/R |
| State of Inverter | 0x3002 or 0x2002 | Bit0 | 0: stop | 1:running | R |
| | | Bit1 | 0:non-acc state | 1: ACC | |
| | | Bit2 | 0:non-dec state | 1: DEC | |
| | | Bit3 | 0: Forward | 1: REV | |
| | | Bit4 | 0：no fault | 1: fault | |
| | | Bit5 | 0: GPRS unlocked | 1:GPRS locked | |
| | | Bit6 | 0: no pre- alarm | 1: pre alarm | |
| Frequency Inverter Fault Code | 0x3003 or 0x2003 | current inverter fault code(refer to fault code table) | | R |
| Communication Given Upper Frequency | 0x3004 or 0x2004 | 0～32000 corresponds to 0.00Hz～320.00Hz | | W/R |
| Communication Torque Setting | 0x3005 or 0x2005 | 0～1000 corresponds to 0.0～100.0% | | W/R |
| The FWD Max Frequency limit in Torque Control | 0x3006 or 0x2006 | 0～1000 corresponds to 0.0～100.0% | | W/R |
| The REV Max Frequency limit in Torque Control | 0x3007 or 0x2007 | 0～1000 corresponds to 0.0～100.0% | | W/R |
| Communication Given PID Setting | 0x3008 or 0x2008 | 0～1000 corresponds to 0.0～100.0% | | W/R |
| Communication Given PID Feedback | 0x3009 or 0x2009 | 0～1000 corresponds to 0.0～100.0% | | W/R |
| Fault and warning code reading | 0x3010 or 0x2010 | 0-63- fault code<br>64- warning code | | R |
| Output terminal state | 0x3018 or 0x2018 | External borrowing inverter output terminal, BII0 – Y | BIT1-- TA1-TB1-TC1;<br>BIT2 – TA2-TB2-TC2 | R |
| AO output | 0x3019 or 0x2019 | 0-10000 corresponds to 0-10V，0-20mA | | R |

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

When using the write command (06H) to write the F00~F15 parameter group parameters, if the function code parameter address field highest bit is 0, it is only written into the inverter RAM, and the power is not stored; if the function code parameter address field is high nibble As 1, write to EEPROM, that is, power down storage. For example, group F00: 0x00XX (write RAM) 0x10XX (stored in EEPROM).

When using the write command (06H) to write the F16~F29 parameter group parameters, if the function code parameter address field has the highest bit of 5, it is only written into the inverter RAM, and the power is not stored; if the function code parameter address field is high nibble Write D, write to EEPROM, that is, power down storage. For example, F16 group: 0x50XX (write RAM) 0xD0XX (stored in EEPROM); F17 group: 0x51XX (write RAM) 0xD1XX (stored in EEPROM).

●**The error code meaning of the slave responding to the exception information**

| Fault Code | Meanings | Fault Code | Meanings | Fault Code | Meanings |
|---|---|---|---|---|---|
| 1 | Order code fault | 3 | CRC checking fault | 4 | Illegal address |
| 5 | Illegal data | 6 | Unable to modify when running | 8 | Inverter is busy(EEPROM is storing) |
| 9 | Value over limit | 10 | Reserved parameters can't be modify | 11 | Number of Bytes wrong when reading |