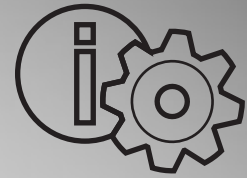


FOR ALL EURA DRIVES PRODUCTS

PC SOFTWARE

for E800 - E2000 - EP66 - EM30



www.ac-dc-hotline.com

engineering@ac-dc-hotline.com

**Safety instructions Installation
& operating manual**



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1. Overview

EuraDV is Drivers PC monitoring software of inverter E2000/E2100/E800/E810/EP66/EM30/E2000-P/E600/EVD10 and servo SD20-G/SD20-E/SDP10/SD10-Z products, which independently developed by EURA DRIVES ELECTRIC CO., LTD. EuraDV can support oscilloscope, parameters management, system status monitor and other dedicated function module.

1.1 Operating Environment

➤ Hardware Environment

CPU: Main frequency 1G Hz and above

RAM: Above 256MB

Hard Disk: Above 40GB

➤ Software Environment

Operating System: Windows XP、Windows 7、Windows 8、Windows 10

➤ Field Environment

If the site interference, please use the industrial computer, isolated serial conversion equipment and shielded connection line, so as not to interfere with the data transmission error, resulting in abnormal EuraDV operation.

1.2 Software Parameters

➤ **Servo Station Number:**Inverter(0~255) ,Servo(1~254)

➤ **Quantity of Supported Parameter:** 2048

➤ **Real-time Oscilloscope Sampling Period:** 20~500ms

➤ **Max Quantity of Cam Point:** 450

1.3 Corresponding to the lower computer program version number

➤ **Servo SD20-G:** 1.0408 and above versions;

➤ **Servo SD20-E:** 1.0304 and above versions;

➤ **Servo SDP10:** 1.12 and above versions;

- **Servo SD10-Z: 1.34 and above versions;**
- **Inverter E2000/E2100: 5.20 and above versions;**
- **Inverter E800L/E810L: 3.00 and above versions;**
- **Inverter E800H/E810H: 5.20 and above versions;**
- **Inverter EP66: 1.20 and above versions;**
- **Inverter EM30: 1.14 and above versions;**
- **Inverter E2000-P: 1.10 and above versions;**
- **Inverter E600: 1.00 and above versions;**
- **Inverter EVD10: 1.01 and above versions;**

2. Software Installation

- Run the installing software: EuraDV V1.15 Setup_EN.exe, the first page of setup wizard displays. Operate in sequence as prompts till the automatic installation has finished.

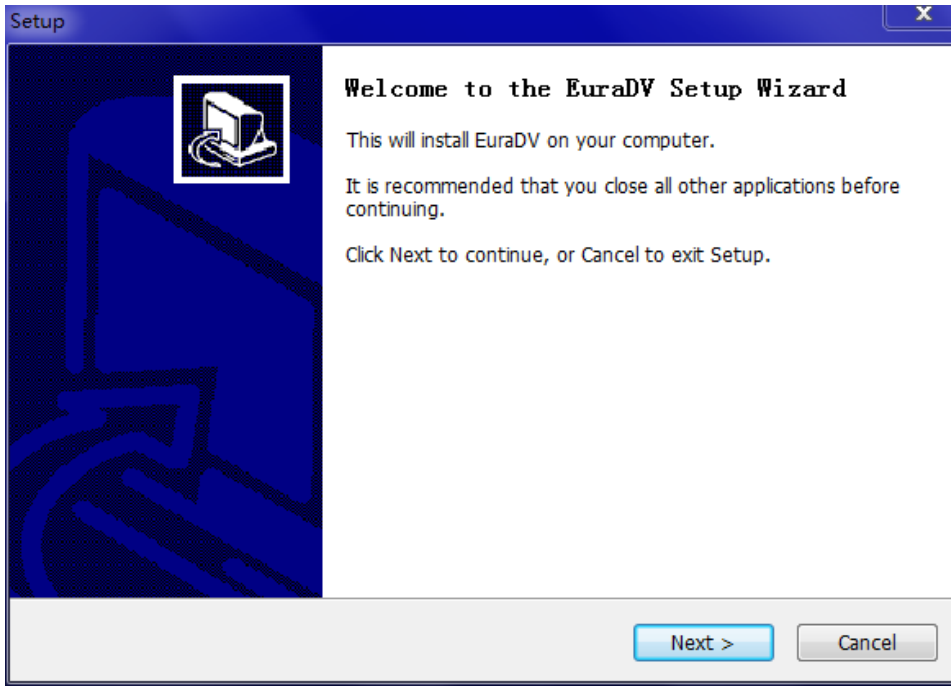


Fig 2-1 Setup Wizard

- Left click "Next", enter the interface of install, repair or uninstall options, select "Install".

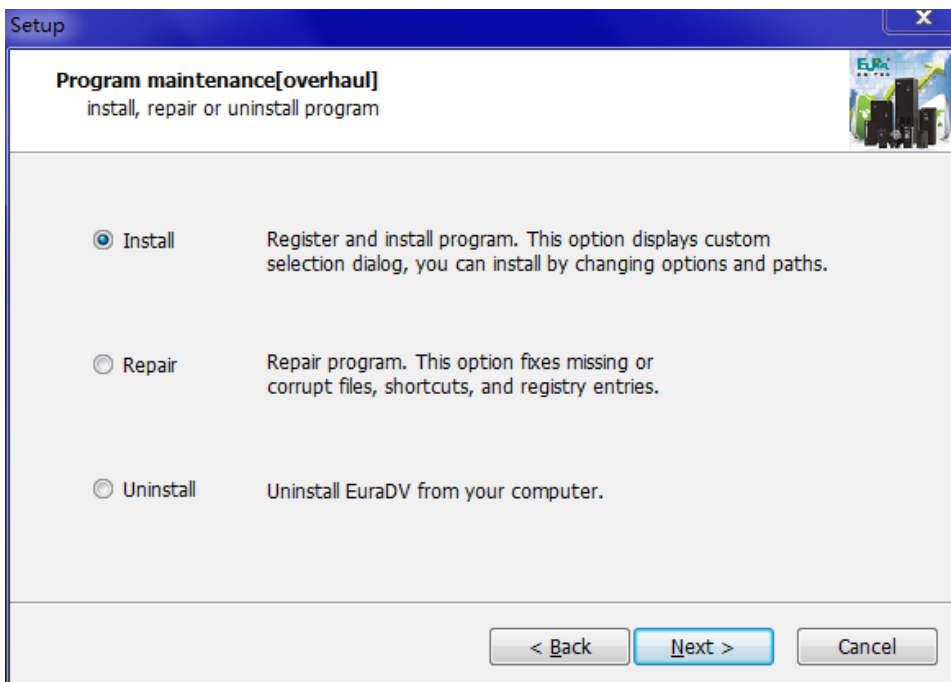


Fig 2-2 Setup Wizard

- Left click “Next” to confirm the installation agreement, select “I accept the agreement”.

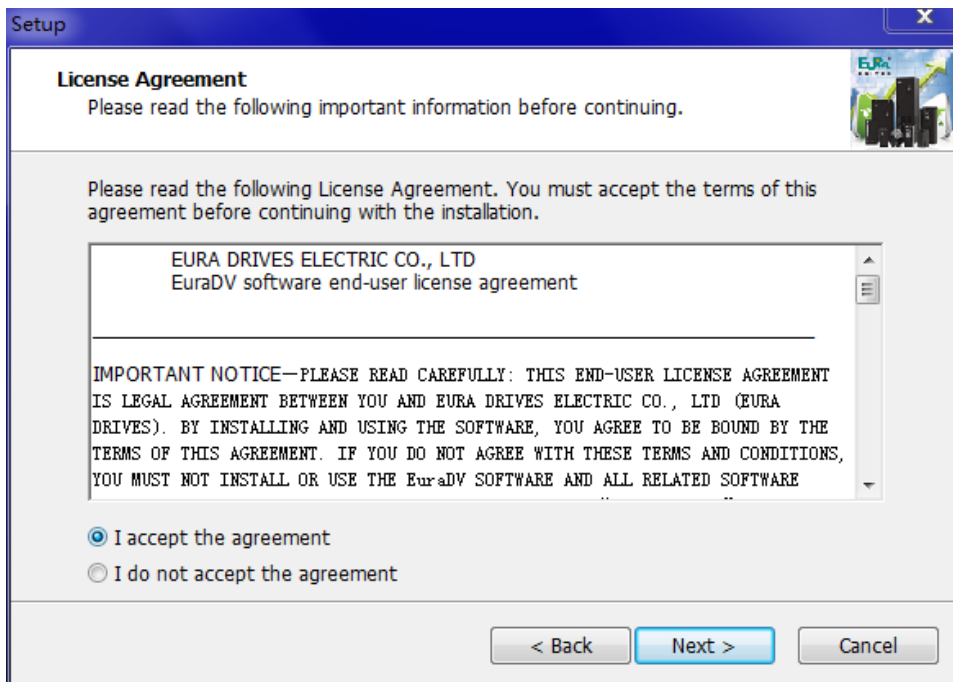


Fig 2-3 Setup Wizard

- Left click “Next” to confirm the installation path of EuraDV. User can select either default path or other installation path.

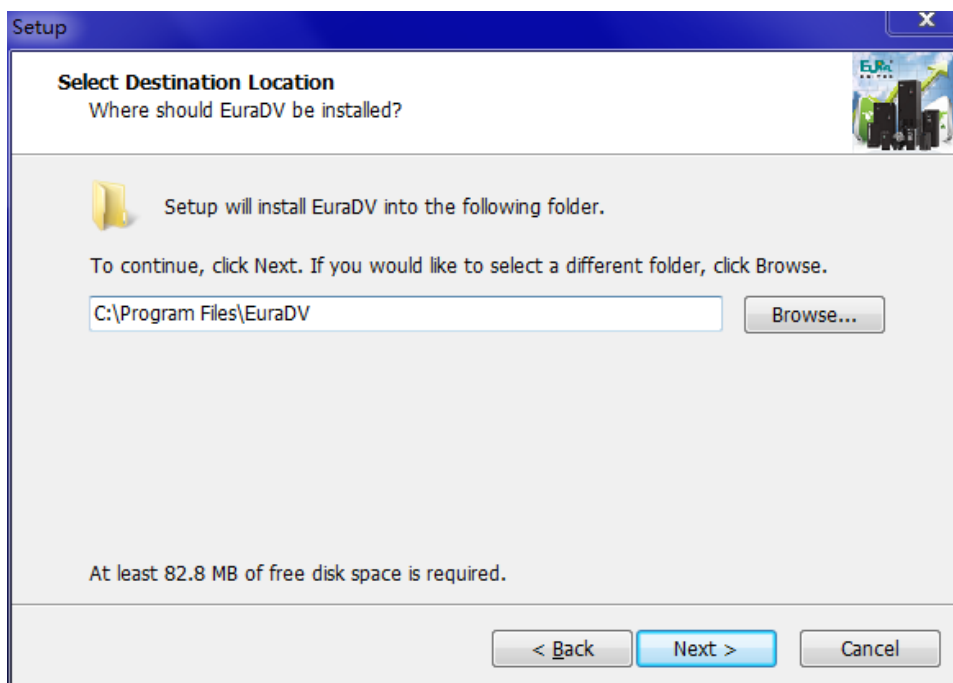


Fig 2-4 Setup Wizard

- Left click “Next” to confirm whether to create a desktop icon or not.

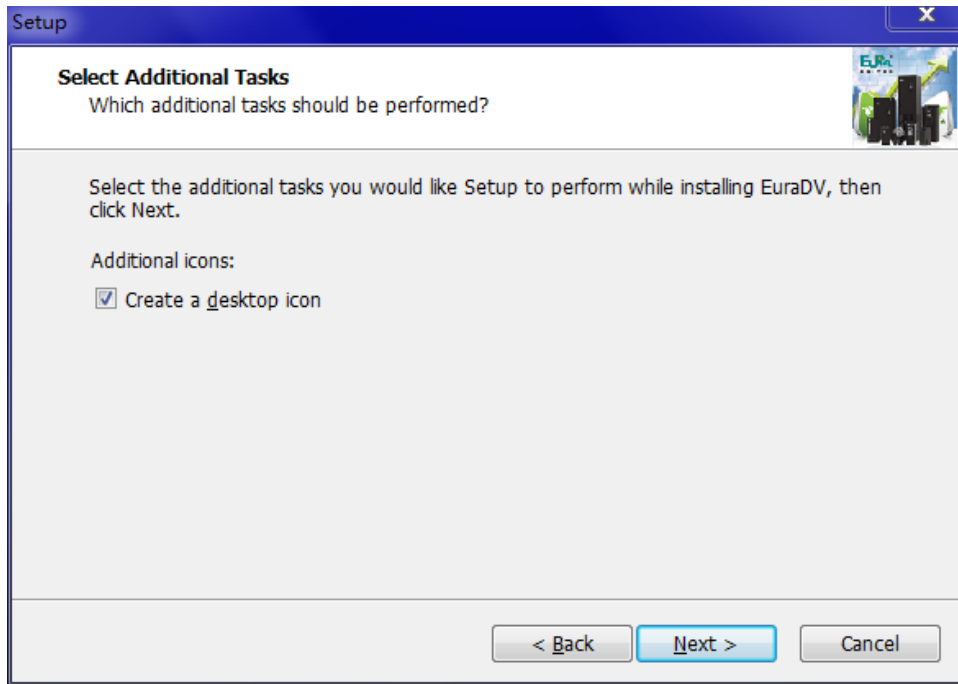


Fig 2-5 Additional Task

- After user select whether to create a desktop icon or not, click “Next”, it will prompt: Setup is ready to begin.

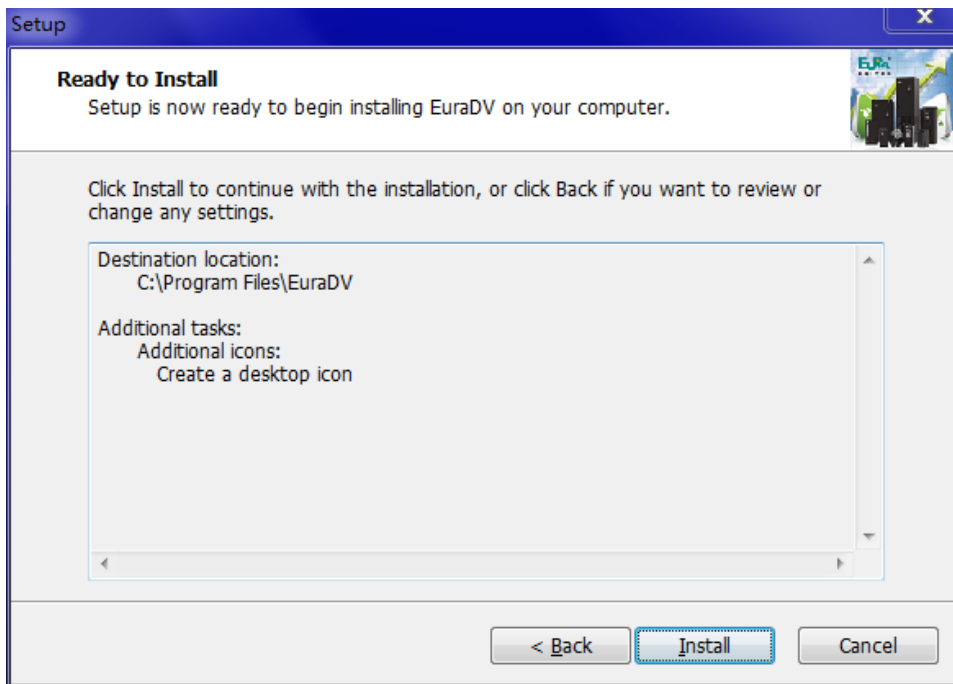


Fig 2-6 Ready to Setup

- Click “Install” to start installation. Click “Finish”, see fig 2-7.

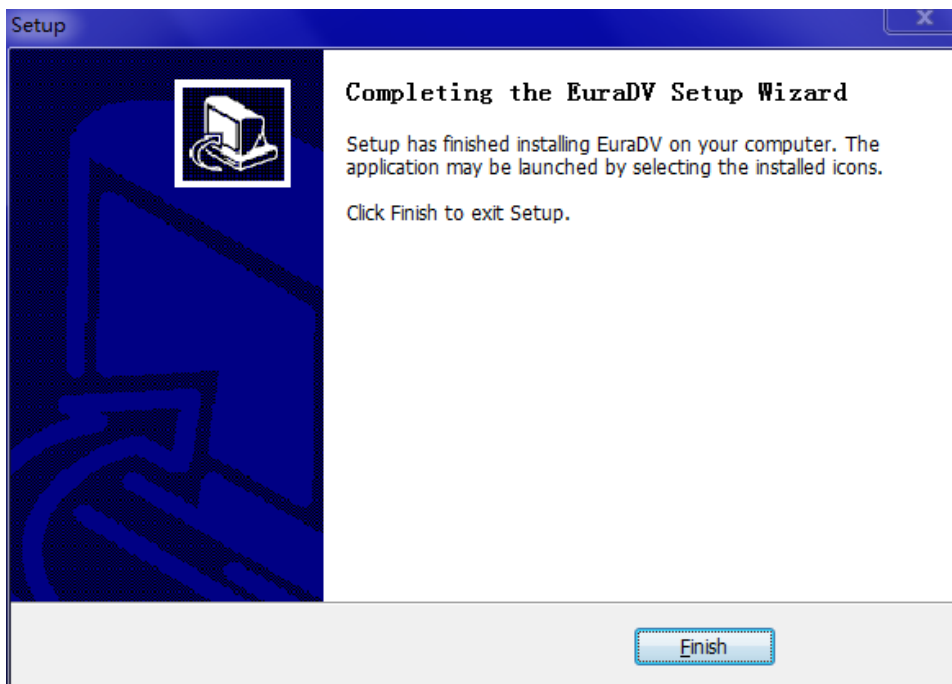


Fig 2-7 Installation Completed

3. Software Instructions

This chapter mainly introduces the use and functions of software, which includes create a project, communication setting, open function module, the use of function module and other functions.

3.1 Use Flow of Program

1. User double-clicks EuraDV.exe or desktop shortcut. First use will popup language selection window(Fig 3-1);

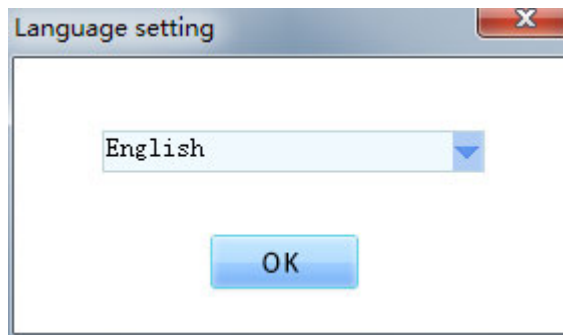


Fig 3-1 Language Selection

2. Language selection finished, click “OK” to access main interface of program (Fig 3-2);

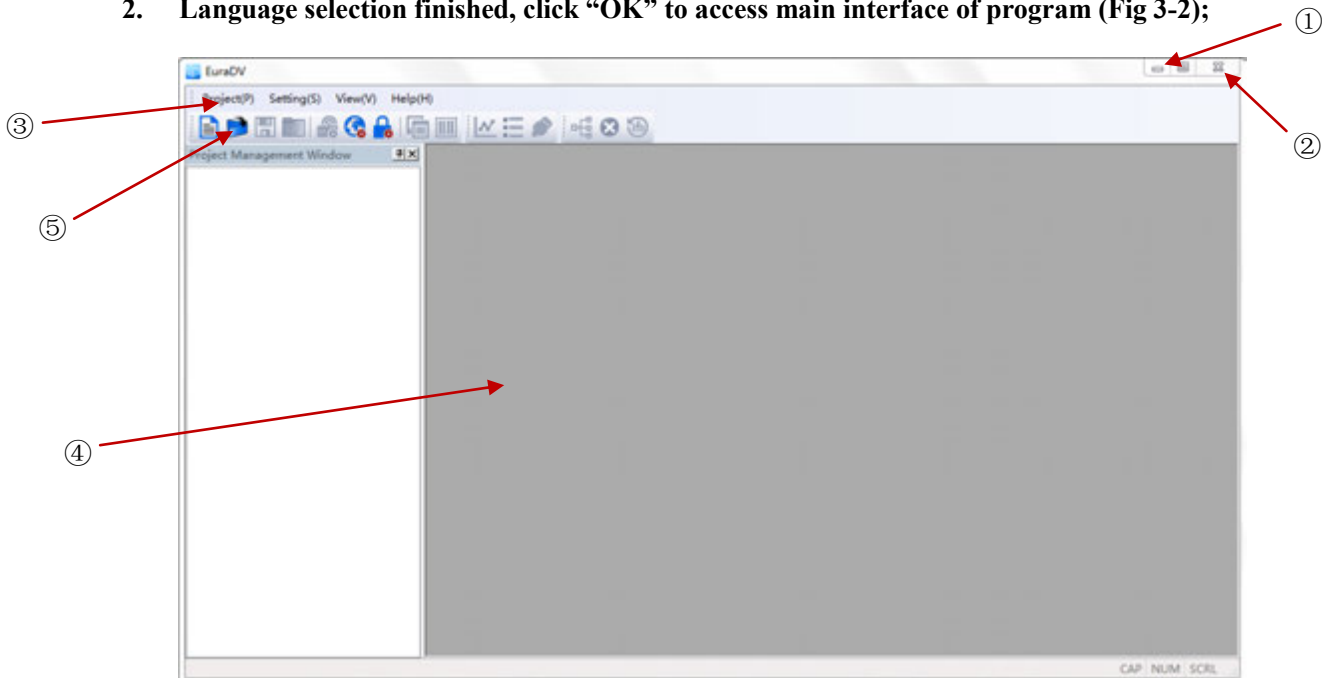


Fig 3-2 Main Interface

- ① Minimize button ② Close button ③ Toolbar ④ Program main function zone
⑤ Feature bar shortcut

3. Create new project, user clicks [Project] → [New Project], enter project name firstly, popup new project window after [Save](Fig 3-3);

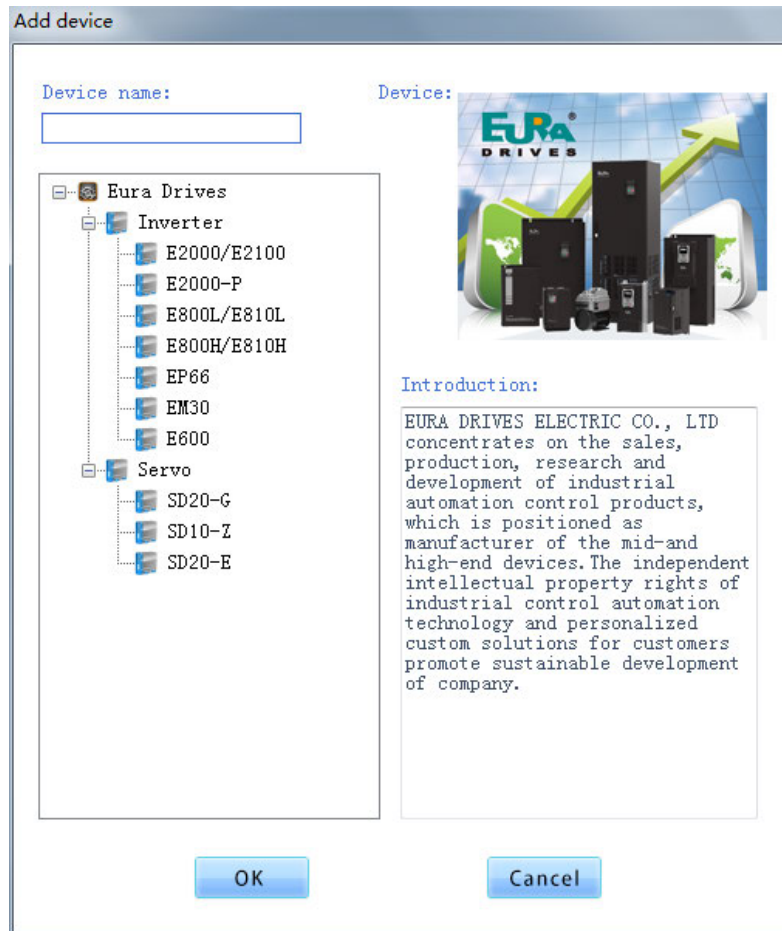


Fig 3-3 New Project Interface

4. After user selects product type, click “OK” to popup new project window(Fig 3-4);

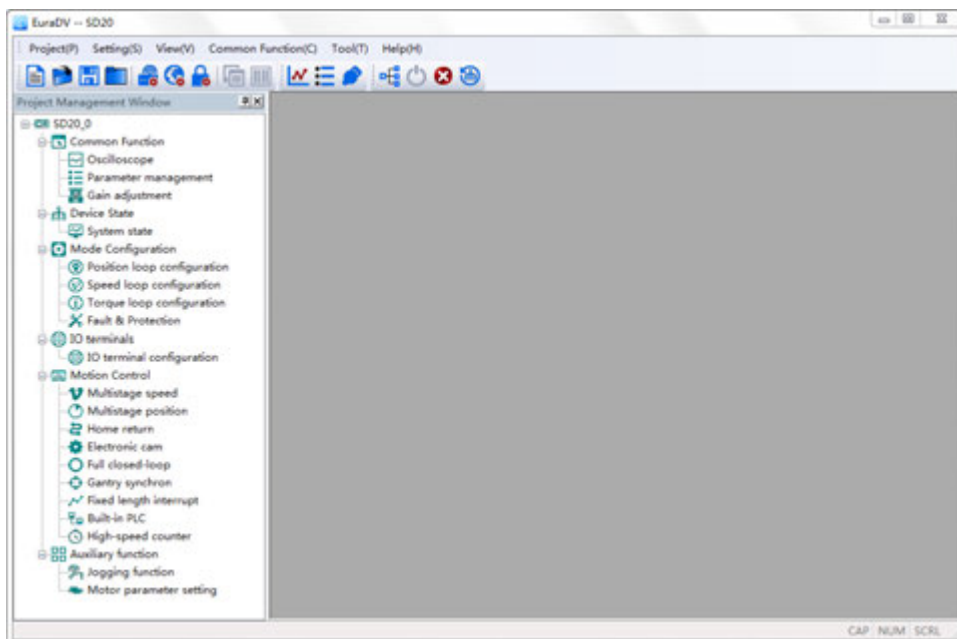


Fig 3-4 New Project Main Interface

- Connect hardware equipment, user clicks [Setting]→ [Communication Setting] or click corresponding shortcut to access communication setting window(Fig 3-5); User selects corresponding [Device Address] & [COM port], then set parameters according to demands, click [Link] button or [Auto detection] button, program will search the communication parameter information automatically, click [Link] button again to realize the communication link after searching finished.

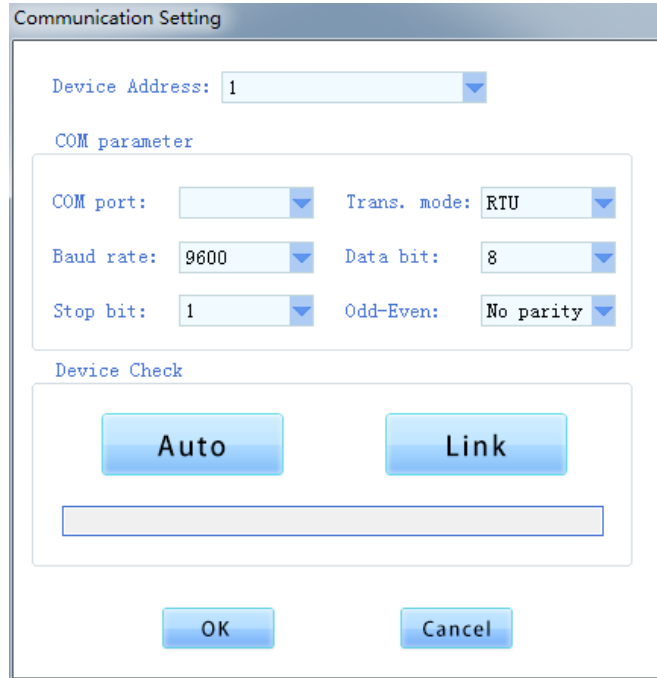


Fig 3-5 Communication Setting Interface

- User can double-click the program function tree in the left side of interface to enter the corresponding function interface, for instance, click “parameter management” , the window of parameter management will display in the right side of program interface (Fig 3-6);

SN	Parame...	Function Definition	Current Value	Min Value	Max Value	Unit	Effective Mode
0	F102	Rated current of drive	-	2.0	6500.0	A	Factory-only
1	F103	Rated power of drive	-	0.00	650.00	kW	Factory-only
2	F105	Software version	-	1.00	10.00	N/A	Factory-only
3	F111	Max frequency	166.66	F113	650.00	Hz	Stop/Run
4	F112	Min frequency	0.00	0.00	F113	Hz	Stop/Run
5	F113	Target frequency in speed mode	1.00	F112	F111	Hz	Stop/Run
6	F114	Acceleration time	-	0.001	32.000	S	Stop/Run
7	F115	Deceleration time	-	0.001	32.000	S	Stop/Run
8	F131	Running display items	79	0	511	N/A	Stop/Run
9	F132	Display items of stop	46	0	511	N/A	Stop/Run
10	F153	Carrier frequency setting	-	2500	7000	Hz	Stop
11	F200	Source of start command	2	0	4	N/A	Stop
12	F201	Source of stop command	2	0	4	N/A	Stop
13	F202	Mode of direction setting	0	0	2	N/A	Stop
14	F203	Frequency source in speed mode	0	0	12	N/A	Stop
15	F208	Terminal two-line/three-line operation ...	0	0	5	N/A	Stop
16	F209	Selecting the mode of stopping the motor	0	0	1	N/A	Stop
17	F219	EEPROM lock	1	0	1	N/A	Stop/Run
18	F300	Relay token output	1	0	19	N/A	Stop/Run
19	F301	D01 token output	11	0	29	N/A	Stop/Run
20	F316	OP1 terminal function setting	9	0	46	N/A	Stop/Run
21	F317	OP2 terminal function setting	19	0	46	N/A	Stop/Run
22	F318	OP3 terminal function setting	1	0	46	N/A	Stop/Run
23	F319	OP4 terminal function setting	7	0	46	N/A	Stop/Run
24	F320	OP5 terminal function setting	8	0	46	N/A	Stop/Run
25	F321	OP6 terminal function setting	15	0	46	N/A	Stop/Run
26	F324	Free stop terminal logic	0	0	1	N/A	Stop
27	F325	Motor PTC protection terminal logic	1	0	1	N/A	Stop
28	F328	Terminal filtering times	5	0	100	N/A	Stop/Run
29	F400	Lower limit of AI1 channel input in FA3...	0.10	0.00	F402	V	Stop/Run
30	F402	Upper limit of AI1 channel input in FA3...	10.00	F400	10.00	V	Stop/Run
31	F406	Lower limit of AI2 channel input in FA3...	0.01	0.00	F408	V	Stop/Run
32	F408	Upper limit of AI2 channel input in FA3...	10.00	F406	10.00	V	Stop/Run
33	F412	Lower limit of AI3 channel input in FA3...	0.00	0.00	F414	V	Stop/Run

Fig 3-6 Interface of Parameter Management

3.2 Shortcut Feature Bar& Primary Function

◆ Shortcut Feature Bar



: New Project


: Open Project

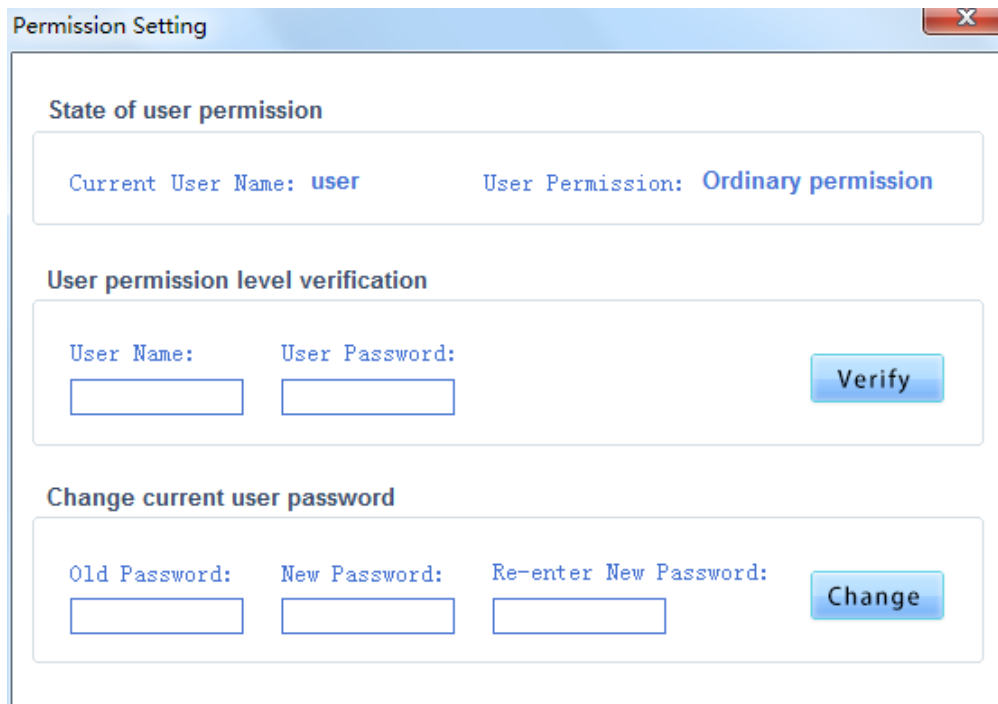
: Save Project

: Close Project

: Parameter Setting

: Language Setting: Chinese & English

: Permission Setting: set password for project



Permission Setting

State of user permission

Current User Name: user User Permission: Ordinary permission

User permission level verification

User Name: User Password:

 Verify


Change current user password

Old Password: New Password: Re-enter New Password:

 Change

Fig 3-7 Permission Setting Windows

The user rights account name is user, the initial password is 12345, the user can change the password and modify the password by the user.

: Stack Windows: opened windows are displayed in stacked way to users. (Fig 3-8)

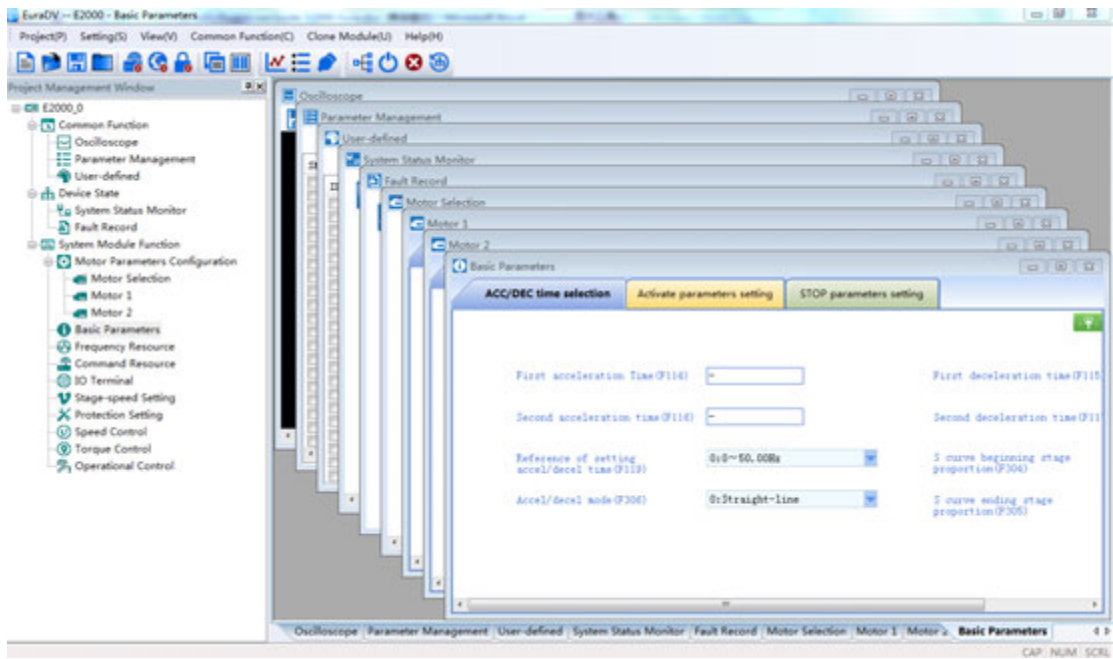



Fig 3-8 Stack Windows

: Tiled Windows: opened windows are displayed in tiled way to users. (Fig 3-9)

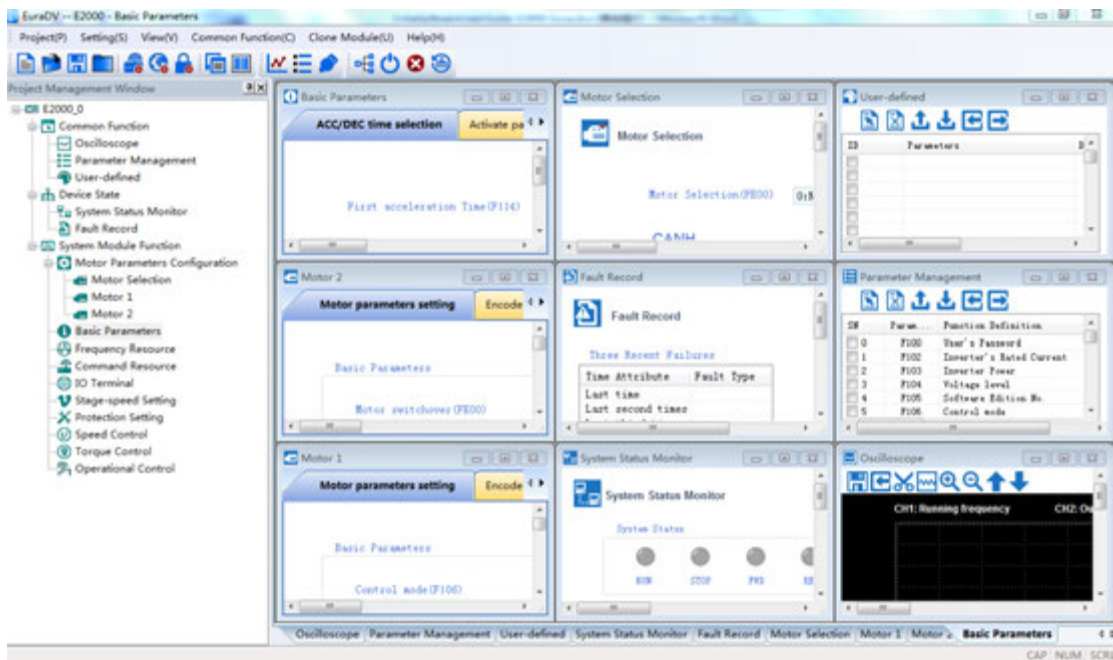


Fig 3-9 Tiled Windows

: Oscilloscope: quick open [Real-time Oscilloscope] interface

: Parameter Management: quick open [Parameter Management] interface


Note: Copy U disk and the function to import and export of Parameter Management cannot be used to each other.

 : Clone Module

Firstly, modify communication parameters, select com. port, set transaction mode as RTU mode, baud rate as 9600, data bit as 8, stop bit as 2, see figure 3-10. Click [OK] after completion. Don't click on [Auto] or [Link]. (Fig 3-10)



Fig 3-10 Communication Parameter Setting of Clone Module

Click , then the interface displays as fig 3-11 below.

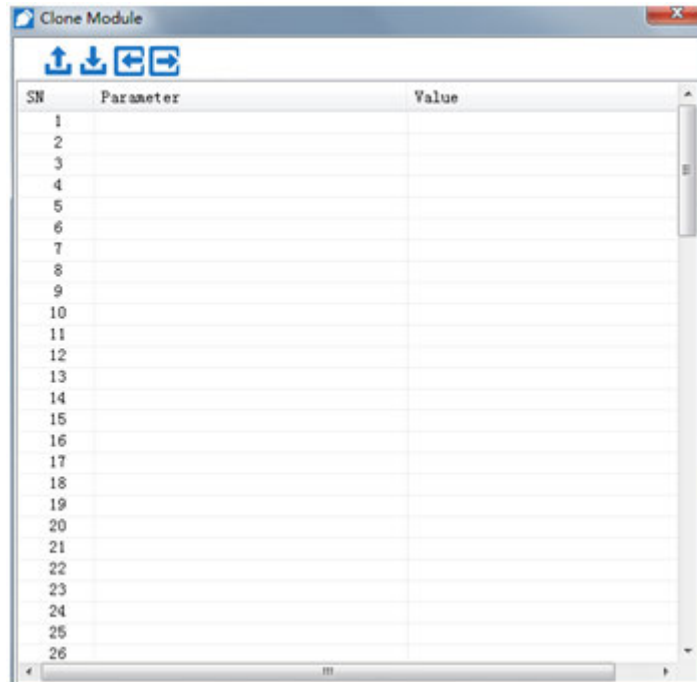



Fig 3-11 Parameter Setting of Clone Module

Click  to upload parameter.(Fig 3-12)

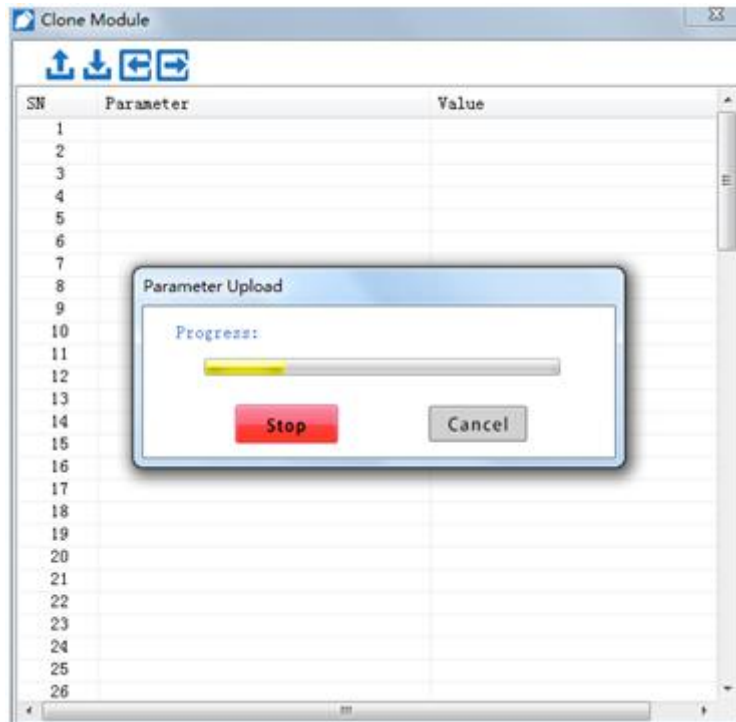


Fig 3-12 Upload Parameter

After modifying the parameter, click  to download the parameter. (Fig 3-13)

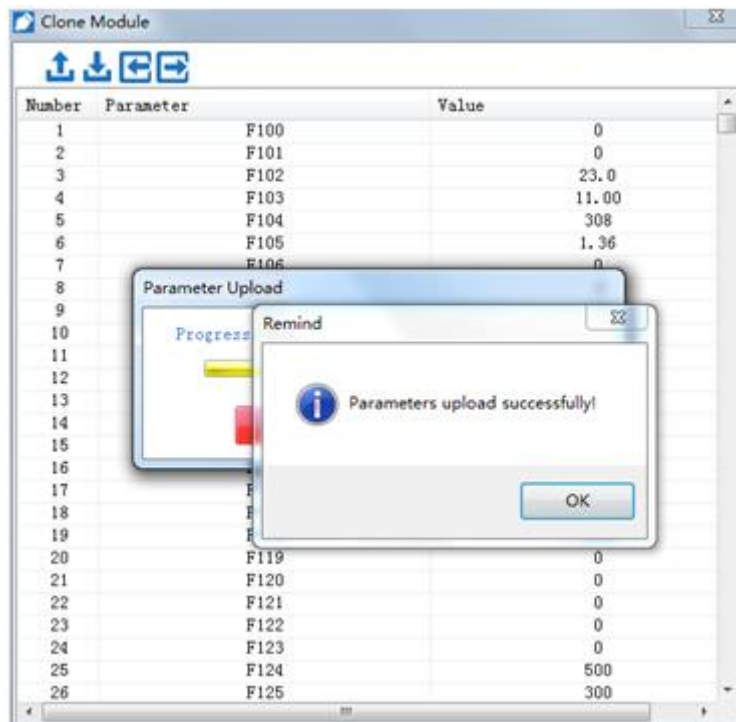



Fig 3-13 Download Parameter


Note: when copying the U disk to switch between the U disk and the communication converter function, we need to restart the host computer software, so as not to appear the

failure of the host computer serial port lookup.

Click  to complete local import/export function of parameter list.

: Connecting Device

: Run(servo for "servo restart" function)

: Emergency Shut Down (The mode of stop for SD10-Z & E2000 is free halt.)

: Reset

◆ Primary Function

Find "Manual Framing" in "Tool" option ,Tool Bar.The following is the introduction of the "Manual Framing". (Fig 3-14)

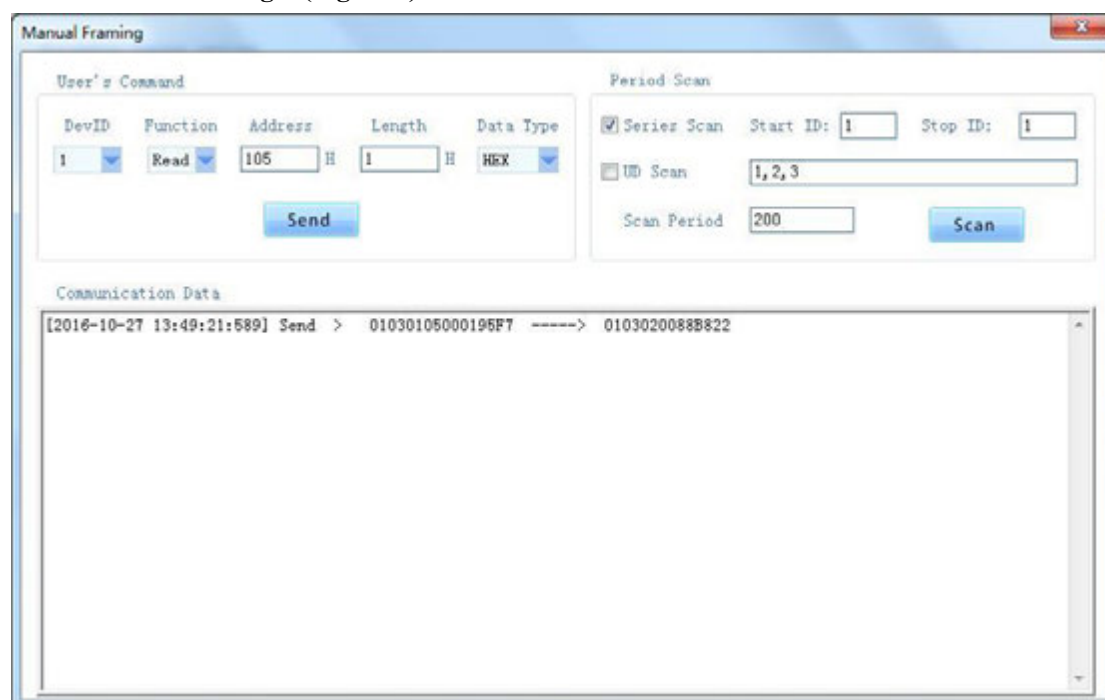


Fig 3-14 Manual Framing

Upper left is the user instruction area, the user can set the "equipment", "function", "address", "length or data" and "data types" parameter, address of the default as hexadecimal data, through the "data types" drop-down box to modify the "length" input field data types;Setup has been completed, the user can click on "send" button to send data, send content will be displayed in the "communications data frames below.

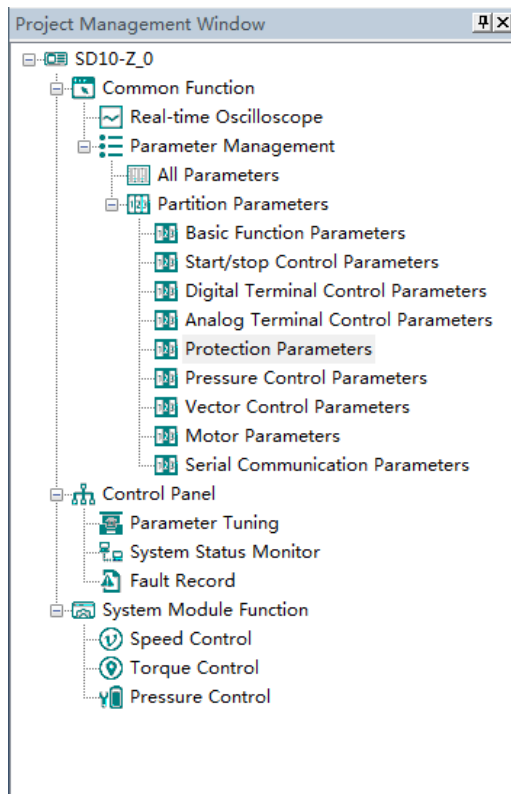
For scanning "cycle" at the upper right area, scanning mode is divided into "sequential scan" and "custom scan".

Sequential scan is based on the user set the start and end of station, station number increase or decrease according to the order modified, click the "scan" button, the program will be subject to scan cycle scanning action in turn.

Custom scan functions can be user manual editing for scanning equipment station number sequence, middle stand number ', 'space, click the "scan" button, the program will be based on user defined according to the scanning cycle sequence scan.

3.3 Project Management

◆ SD10-Z



The main program interface left for engineering management window, the user can in the toolbar of the "view" select the "show" and "hidden", the double tree above the module name you can open the corresponding function module window.

1. Common Function

➤ Oscilloscope



Save: Save the current oscilloscope graphics as a custom file.



Import: Import saved oscilloscope image from local storage.



Screen Shot: Save the current oscilloscope graphics as an BMP file.



Cursor: Cursor can be displayed for measuring time and amplitude.



Channel Select Switch: Switch the selected on the left side of the channel.



Increase amplitude range: Increasing the channel amplitude range.



Reduce amplitude range: Reduce the channel amplitude range.



Move Up: Move up the curve.



Move Down: Move down the curve;



Left Shift: Move the curve left;



Right Shift: Move the curve right;



Zoom In: Zoom In can enlarge the operation of the curve.



Zoom Out: Zoom Out can be reduced to the curve operation.

(1) when the user selects a real-time oscilloscope, the user can perform the following operation:

After setting the sampling time, click [Start], real-time oscilloscope starts to present waveform (Fig 3-1-1)

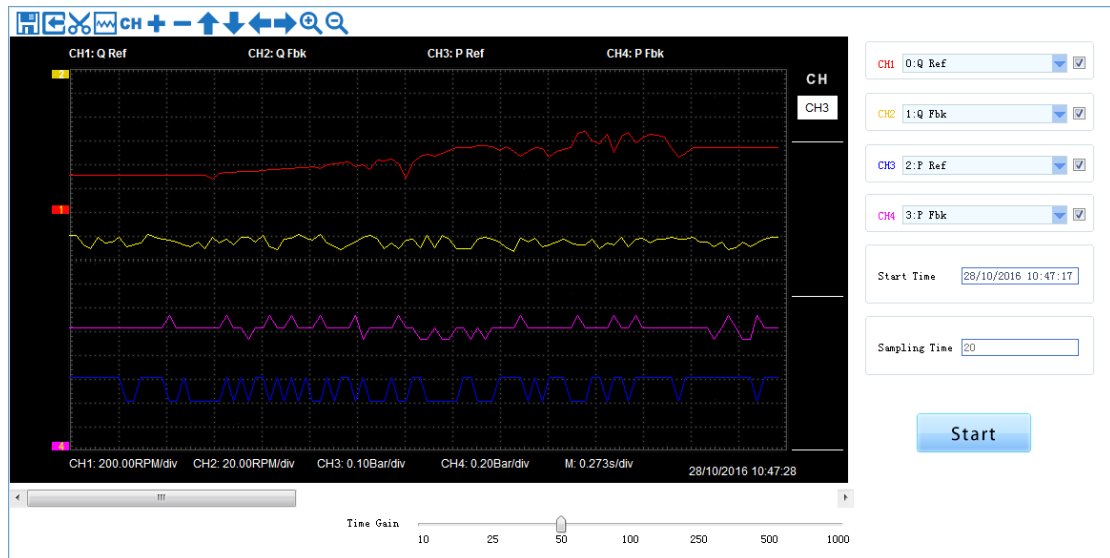


Fig 3-1-1 Real-time Oscilloscope Interface



3)After sampling, the operation can be carried out as follows:

Channel waveform amplitude adjustment:

Select waveform number, scroll up or down to adjust waveform amplitude.

Time shaft adjustment:

Drag [Time gain] to adjust, horizontal axis presents the time for each box.

Select the picture on the left waveform corresponding to the number, click  or  button to zoom in and out of the waveform curve.

Note: To ensure the display of oscilloscope being real-time, set communication mode as RTU and baud rate as 57600, are recommended.

➤ Parameter Management

Click “Parameter Management” and “All Parameters” or shortcut icon in the function tree of left side to open parameter management interface (Fig 3-1-2).Click “Partition Parameters” to show the Parameters by different type.

①

SN	Parame...	Function Definition	Current Value	Min Value	Max Value	Unit	Effective Mode
0	F102	Rated current of drive	-	2.0	6500.0	A	Factory-only
1	F103	Rated power of drive	-	0.00	650.00	kW	Factory-only
2	F105	Software version	-	1.00	10.00	N/A	Factory-only
3	F111	Max frequency	166.66	F113	650.00	Hz	Stop/Run
4	F112	Min frequency	0.00	0.00	F113	Hz	Stop/Run
5	F113	Target frequency in speed mode	1.00	F112	F111	Hz	Stop/Run
6	F114	Acceleration time	-	0.001	32.000	S	Stop/Run
7	F115	Deceleration time	-	0.001	32.000	S	Stop/Run
8	F131	Running display items	79	0	511	N/A	Stop/Run
9	F132	Display items of stop	46	0	511	N/A	Stop/Run
10	F153	Carrier frequency setting	-	2500	7000	Hz	Stop
11	F200	Source of start command	2	0	4	N/A	Stop
12	F201	Source of stop command	2	0	4	N/A	Stop
13	F202	Mode of direction setting	0	0	2	N/A	Stop
14	F203	Frequency source in speed mode	0	0	12	N/A	Stop
15	F208	Terminal two-line/three-line operation ...	0	0	5	N/A	Stop
16	F209	Selecting the mode of stopping the motor	0	0	1	N/A	Stop
17	F219	EEPROM lock	1	0	1	N/A	Stop/Run
18	F300	Relay token output	1	0	19	N/A	Stop/Run
19	F301	DO1 token output	11	0	29	N/A	Stop/Run
20	F316	OP1 terminal function setting	9	0	46	N/A	Stop/Run
21	F317	OP2 terminal function setting	19	0	46	N/A	Stop/Run
22	F318	OP3 terminal function setting	1	0	46	N/A	Stop/Run
23	F319	OP4 terminal function setting	7	0	46	N/A	Stop/Run
24	F320	OP5 terminal function setting	8	0	46	N/A	Stop/Run
25	F321	OP6 terminal function setting	15	0	46	N/A	Stop/Run
26	F324	Free stop terminal logic	0	0	1	N/A	Stop
27	F325	Motor PTC protection terminal logic	1	0	1	N/A	Stop
28	F328	Terminal filtering times	5	0	100	N/A	Stop/Run
29	F400	Lower limit of AI1 channel input in FA3...	0.10	0.00	F402	V	Stop/Run
30	F402	Upper limit of AI1 channel input in FA3...	10.00	F400	10.00	V	Stop/Run
31	F406	Lower limit of AI2 channel input in FA3...	0.01	0.00	F408	V	Stop/Run
32	F408	Upper limit of AI2 channel input in FA3...	10.00	F406	10.00	V	Stop/Run
33	F412	Lower limit of AI3 channel input in FA3...	0.00	0.00	F414	V	Stop/Run

②

Fig 3-1-2 Parameter management interface

① Function shortcut icon ② Parameter information display area



Select All

Select current all parameters for the subsequent operation;



Unselect

Unselect current parameters;



Import

Import parameters from local storage .EXCEL file or .Par file;



Export

This function can support all function code information exported to EXCEL or Par file to save, also can support the export modified or checked function code information to the EXECL file to save;



The function is to upload the current selected function code parameter values from the device to the program. After uploading successfully, the function code is changed to green;



Download current selected parameters from PC/PLC to servo drive;

2. Control Panel



Upload parameters displayed in current page from servo drive.



Download parameters in the box

Note: Click on the [Rigidity parameter setting] to refresh the rigidity table.

➤ Parameter Tuning

Parameter Tuning

Parameter tuning setting

Motor rated power (F801)	<input type="text" value="20.0"/>	Number of motor poles (F804)	<input type="text" value="8"/>
Motor rated voltage (F802)	<input type="text" value="380"/>	Motor rated rotary speed (F805)	<input type="text" value="1900"/>
Motor rated current (F803)	<input type="text" value="43.0"/>	Maximum rotary speed (F806)	<input type="text" value="2300"/>
Motor rated frequency (F810)	<input type="text" value="126.66"/>	Motor resolver pole pairs (FB42)	<input type="text" value="1"/>
Selection of motor over-heat protection mode (F704)	<input type="text" value="1:KTY84"/>		

Tuning parameters

Motor d axis inductance (F815)	<input type="text" value="1.23"/>	Motor Q' axis inductance (F907)	<input type="text" value="2.45"/>
Back EMF voltage (F816)	<input type="text" value="155"/>	Motor phase resistor of stator coil (F910)	<input type="text" value="0.105"/>
Poles position compensation value (F817)	<input type="text" value="25"/>		

Tuning operation

Static tuning
 Dynamic tuning

Para. Tuning

Motor Parameters
Serial Communication Parameters
Parameter Tuning
System Status Monitor
Fault Record
Speed Control
Torque Control
Pr

Fig 3-1-3 Parameter Tuning Interface

Modify the parameters in "Parameter tuning setting" column and click to download parameters displayed in current interface to servo. Then click the selection

button “Static turning” or “Dynamic turning”. Finally, click **【Para. Tuning】** to refresh the value of Parameters in the “Tuning Parameters” bar.

➤ **System Status Monitor**

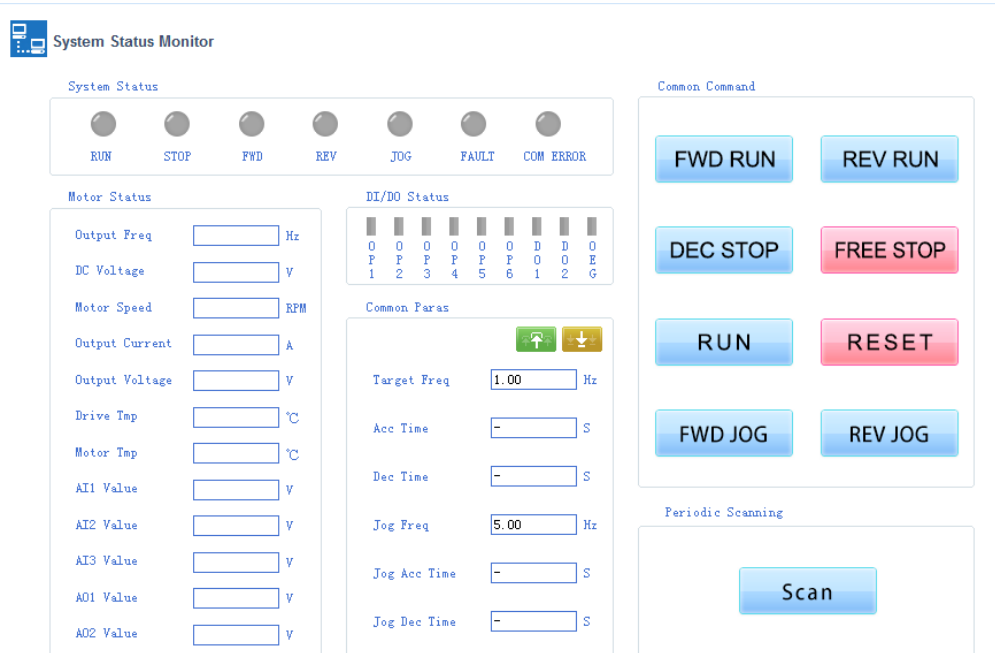


Fig 3-1-4 System Status Monitor Interface

Click **【Scan】** to refresh the parameters in the “System Status Monitor”, “Motor Status” and “DI/DO Status” bars. Control the servo driver by buttons in the “Common Command” bar.

➤ **Fault Record**

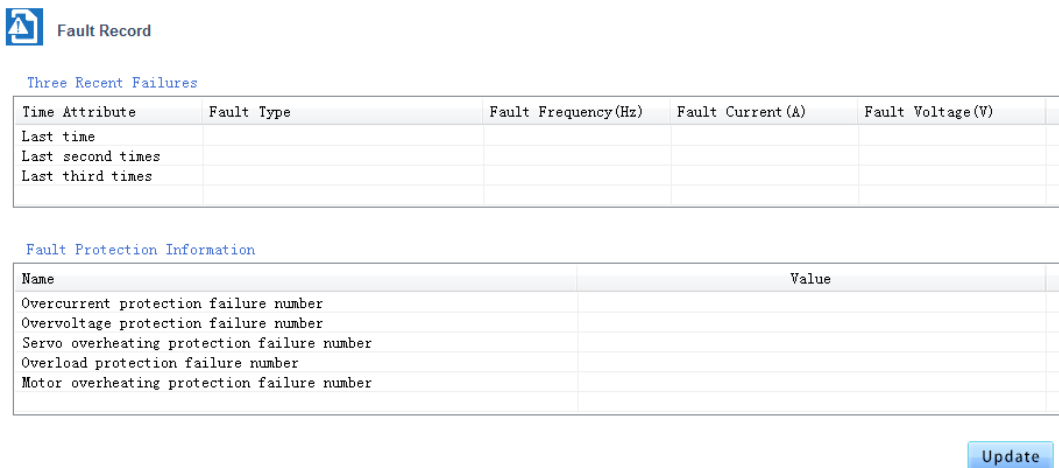


Fig 3-1-5 Fault Record Interface

Click **【Update】** to refresh the parameters in the “Three Recent Failures” and “Fault Protection Information” bars.

3. System Module Function

The function is composed of Speed Control ,Torque Control , Pressure Control .

Parameter Quick Search Catalogue

Speed Control	System inertia(F809)
	Speed loop bandwidth(F812)
	Rotary speed loop Kp(F813)
	Rotary speed loop Ki(F814)
Torque Control	Torque given mode(F212)
	Motor output torque limit (FA23)
Pressure Control	Pressure stable region(F760)
	Pressure ascent segment proportional Kp1(F735)
	Pressure ascent segment proportional Kp2(F741)
	Pressure ascent segment integration Ki1(F736)
	Pressure ascent segment integration Ki2(F742)
	Pressure ascent segment differential Kd1(F737)
	Pressure ascent segment differential Kd2(F743)
	Pressure descent segment proportional Kp1(F738)
	Pressure descent segment proportional Kp2(F744)
	Pressure descent segment integration Ki1(F739)
	Pressure descent segment integration Ki2(F745)
	Pressure descent segment differential Kd1(F740)
Pressure descent segment differential Kd2(F746)	



Upload

Upload parameters displayed in current page from servo drive.

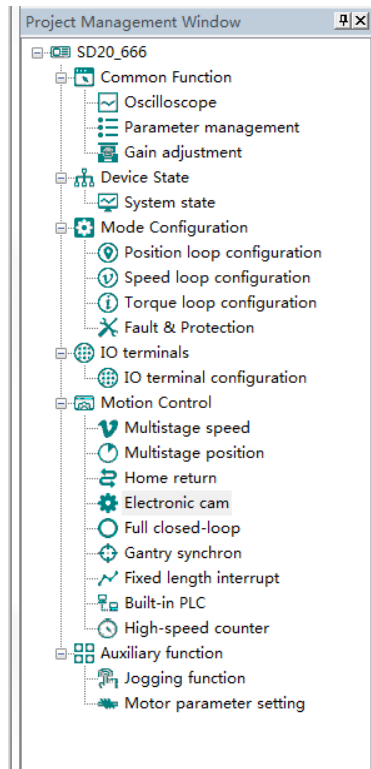


Download

Download parameters displayed in current interface to servo drive.

See details for the description of parameters in Servo drive user manual.









◆ SD20-G








The main program interface left for engineering management window, the user can in the toolbar of the "view" select the "show" and "hidden", the double tree above the module name you can open the corresponding function module window.

1. Common Function

➤ Oscilloscope

-  **Save:** Save the current oscilloscope graphics as a custom file.
-  **Import:** Import saved oscilloscope image from local storage.
-  **Screen Shot:** Save the current oscilloscope graphics as an BMP file.
-  **Cursor:** Cursor can be displayed for measuring time and amplitude.
-  **CH** **Channel Select Switch:** Switch the selected on the left side of the channel.
-  **Increase amplitude range:** Increasing the channel amplitude range.
-  **Reduce amplitude range:** Reduce the channel amplitude range.
-  **Move Up:** Move up the curve.

-  **Move Down:** Move down the curve;
-  **Left Shift:** Move the curve left;
-  **Right Shift:** Move the curve right;
-  **Zoom In:** Zoom In can enlarge the operation of the curve.
-  **Zoom Out:** Zoom Out can be reduced to the curve operation.

Oscilloscope type selection

Click on the lower left corner of the selection button Oscilloscope

Real-time oscilloscope, complete oscilloscope type switch.

1) when the user selects an oscilloscope, the user can perform the following operation:

First, click  to popup trigger setting window (Fig 3-2-1)

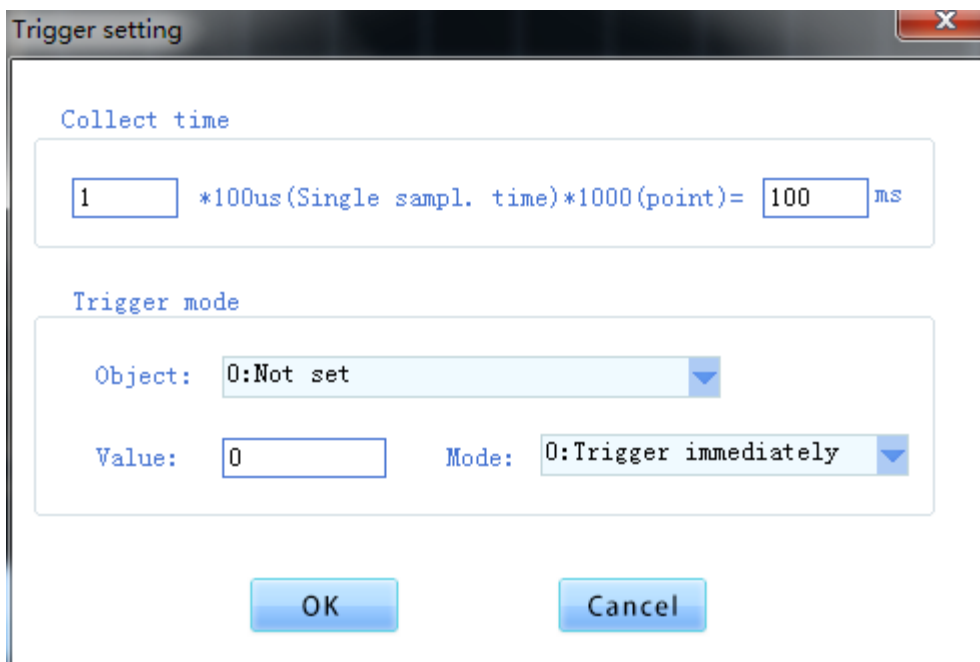


Fig 3-2-1 window of trigger setting

After setting complete, click , Click  or  to start sampling (Fig 3-2-2)

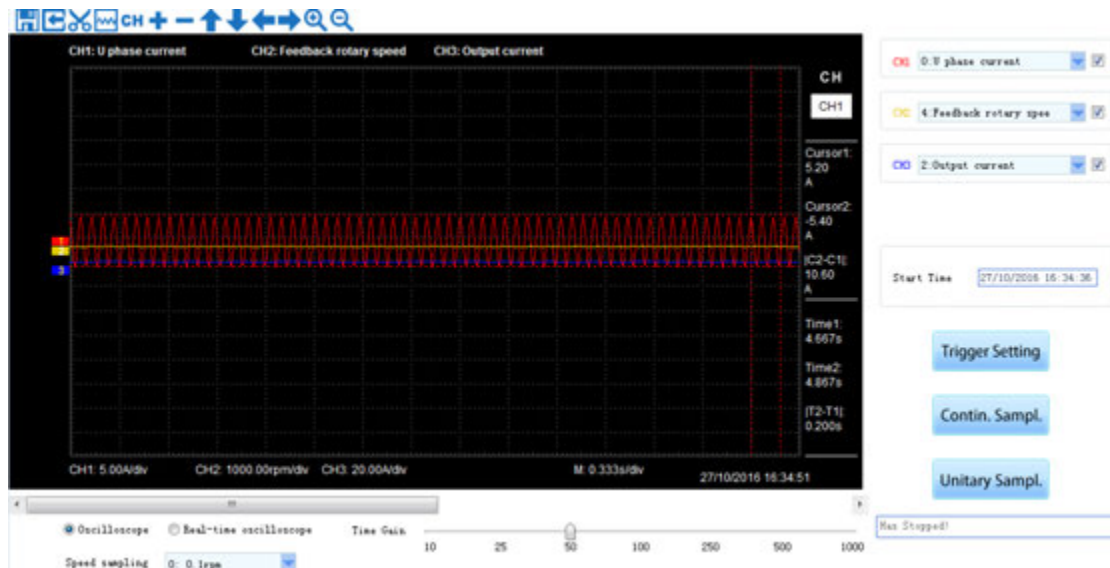


Fig 3-2-2 Oscilloscope Interface

2) when the user selects a real-time oscilloscope, the user can perform the following operation:

After setting the sampling time, click [Start], real-time oscilloscope starts to present waveform (Fig 3-2-3)

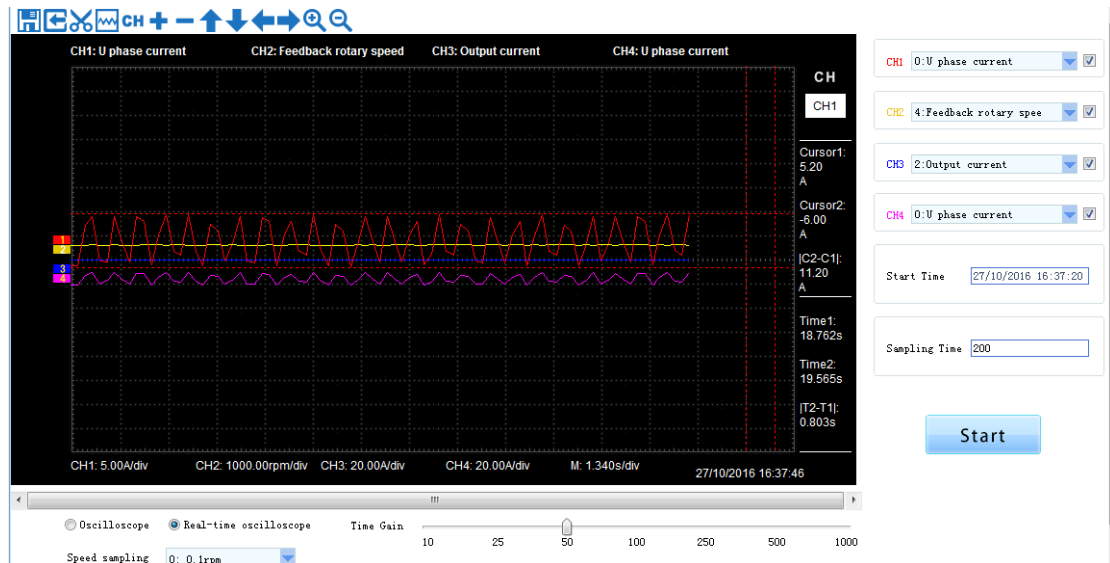


Fig 3-2-3 Real-time Oscilloscope Interface

3)After sampling, the operation can be carried out as follows:



Channel waveform amplitude adjustment:

Select waveform number, scroll up or down to adjust waveform amplitude.

Time shaft adjustment:

Drag[Time gain] to adjust, horizontal axis presents the time for each box.

Waveform curve zoom operation:

Select the picture on the left waveform corresponding to the number, click  or  button to zoom in and out of the waveform curve.

Note: 1.To ensure the display of oscilloscope being real-time, set communication mode as RTU and baud rate as 57600, are recommended.

2. The machine without electricity or by PC after reset, the machine will need about 6 seconds, initialization time, please don't collect during initialization waveform, so as to avoid mistakes

➤ **Parameter Management**

Note: The software of servo drive needs to update the latest version, so that it can support the parameter setting function of motor.

Click “parameter management” or shortcut icon in the function tree of left side to open parameter management interface (Fig 3-2-4).

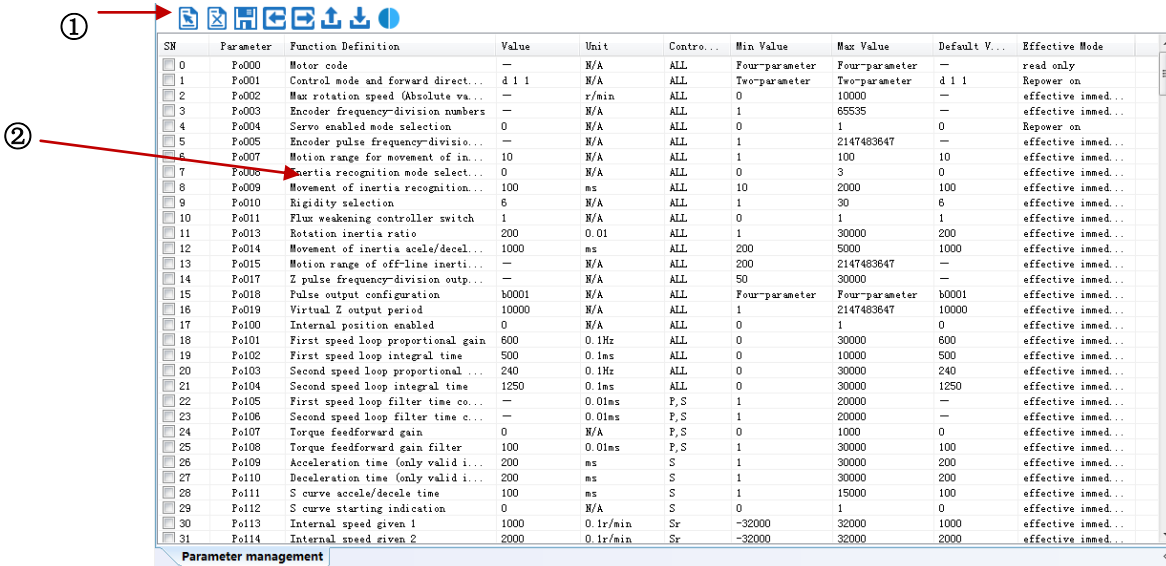


Fig 3-2-4 Parameter management interface

① Function shortcut icon ②Parameter information display area

 **Select All**

Select current all parameters for the subsequent operation;

 **Unselect**

Unselect current parameters;

 **Save**

Save the current set value of all parameters to project file;



Import

Import parameters from local storage, EXCEL file or .Par file;



Export

This function can support all function code information exported to EXCEL or Par file to save, also can support the export modified or checked function code information to the EXECL file to save;



Upload

The function is to upload the current selected function code parameter values from the device to the program. After uploading successfully, the function code is changed to green;



Download

Download current selected parameters from PC/PLC to servo drive;



Comparison

Compare selected parameter value with current value of servo drive, popup the window of corresponding comparison results.

➤ Gain Adjustment

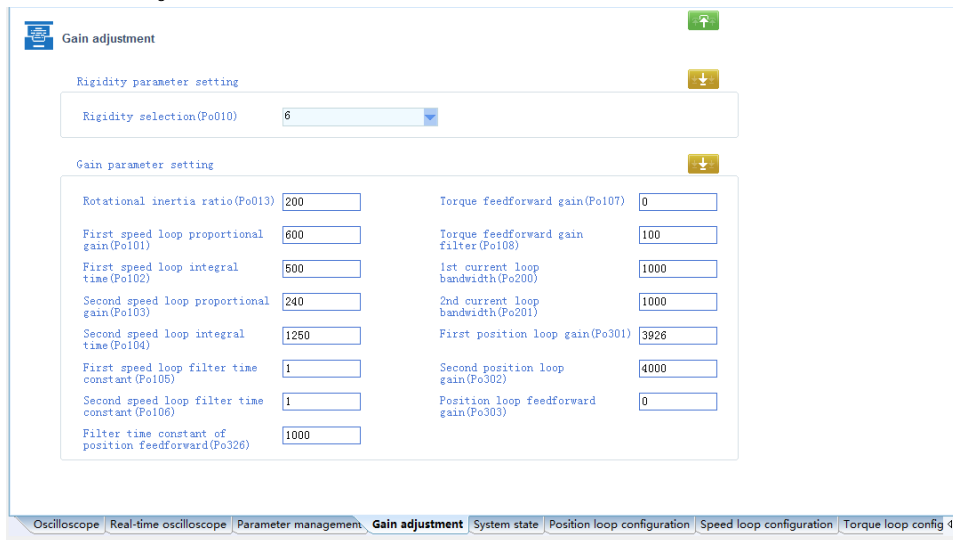


Fig 3-2-5 Gain Adjustment Interface




Upload

Upload parameters displayed in current page from servo drive.



Download

Download parameters in the box

- Note: 1. Click  on the [Rigidity parameter setting] to refresh the rigidity table.
 2. The function table module to modify the servo rigidity does not refresh gain table.

2. Device State

System State

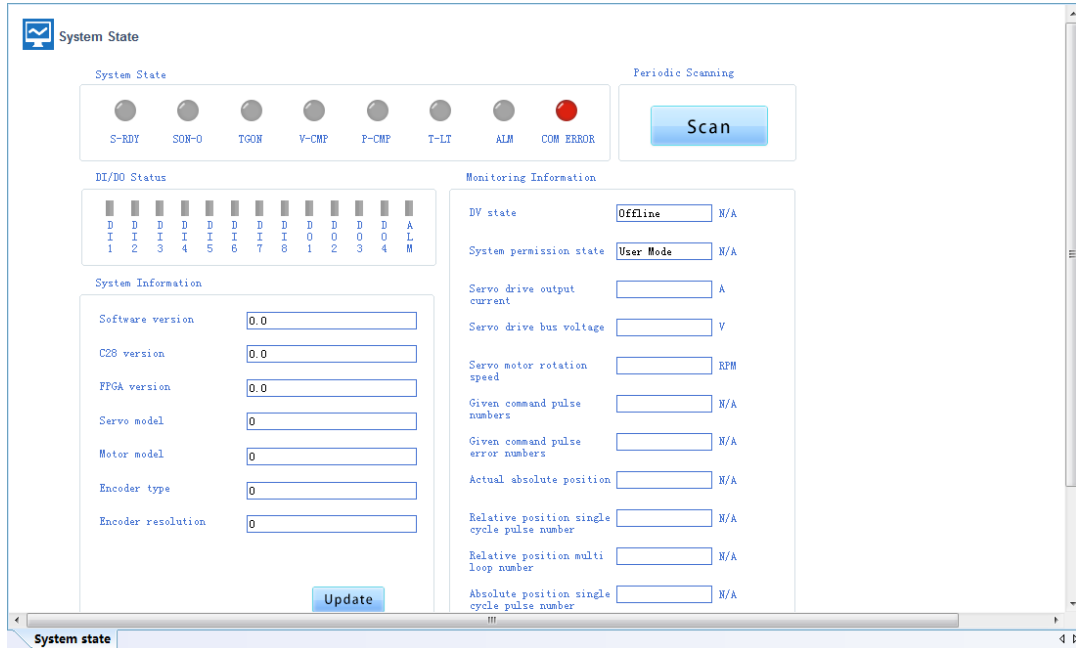



Fig 3-2-6 System State Interface

Click  to read and update current servo drive information.

Click  to scan and update current servo drive status.

3. Mode Configuration

The function is composed of position-loop configuration, speed-loop configuration, torque-loop configuration, Fault&Protection.

Parameter Quick Search Catalogue

Position-loop Configuration	Input Set	Command source mode selection
		Command source setting
	Electronic Gear	Electronic gear selection(Po339)
		First group electronic gear numerator(Po304)
		First group electronic gear denominator(Po305)
		Second group electronic gear numerator(Po344)
	Position Command Filter	Second group electronic gear denominator(Po346)
		Position loop filter time constant(Po306)
		Position mode FIR filter(Po340)

		Acceleration time in position mode(Po343)	
		Speed Feedforward	Position loop feedforward gain(Po303)
			Filter time constant of position feedforward(Po326)
	Positioning complete	Command pulse clear function(Po308)	
		Pulses numbers range of position arrival(Po307)	
		Position error alarm pulses numbers(Po309)	
Speed Loop Configuration	Accel/decel time	S curve starting indication(Po112)	
		Acceleration time (only valid in speed mode)(Po109)	
		Deceleration time (only valid in speed mode)(Po110)	
		S curve accele/decele time(Po111)	
	Zero speed clamp	Zero clamp enabled(Po127)	
		Speed value in the zero clamp(Po126)	
	Torque feedforward	Torque feedforward gain(Po107)	
		Torque feedforward gain filter(Po108)	
	Speed reached	Range of target speed(Po117)	
		Rotation detection value(Po118)	
	Speed feedback filter	First speed loop filter time constant(Po105)	
		Second speed loop filter time constant(Po106)	
Torque Loop Configuration	Torque mode command filter	Torque increasing time(Po212)	
		Torque decreasing time(Po213)	
	Torque mode command limit	Torque limiting by analog(Po203)	
		Internal max torque limit value(Po202)	
		Forward max torque limit(Po208)	
		Reverse max torque limit(Po209)	
	Torque mode speed limit	Speed limit during torque control(Po210)	
		Internal speed limit(Po211)	
	Torque mode status output	Target torque range(Po237)	
		Torque filter frequency(Po238)	
Fault and Protection	Overload Protection	Motor overload coefficient setting(So-37)	
	Stop Mode	Servo OFF stop mode(So-07)	
		Dynamic braking delay time(So-08)	
	Overtravel Protection	Forward run prohibited(So-17)	
		Reverse run prohibited(So-18)	
		Fwd/Rev run prohibited torque setting(Po216)	
		Fwd/Rev run prohibited and emergency stop torque(Po207)	
		Overtravel limit function(So-39)	
		Forward running range pulse when overtravel protection(Po140)	
		Forward running range multi-loop numbers when overtravel protection(Po142)	
		Reverse running range pulse when overtravel protection(Po143)	
	Reverse running range multi-loop numbers when overtravel protection(Po145)		

	Input Phase	Input power phase-loss protection(So-06)
	Regenerative Brake	Braking resistor value(So-04)
		Discharge duty ratio(So-05)
	Brake Output	Delay time for servo OFF(So-02)
		Speed threshold of electromagnetic braking(So-16)
		Delay time for electro-magnetic braking OFF(So-03)

 **Upload**

Upload parameters displayed in current page from servo drive.

 **Download**

Download parameters displayed in current interface to servo drive.

See details for the description of parameters in Servo drive user manual.

4. IO Terminal

IO Terminal Configuration

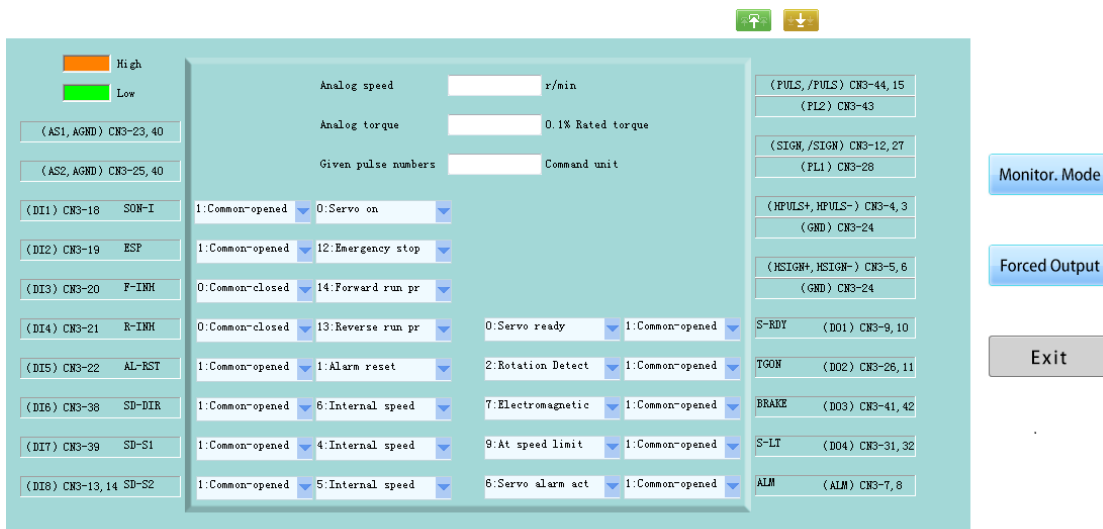


Fig 3-2-7 IO Terminal Configuration Interface

Click  to start real-time data refreshing. (Fig 3-2-8)

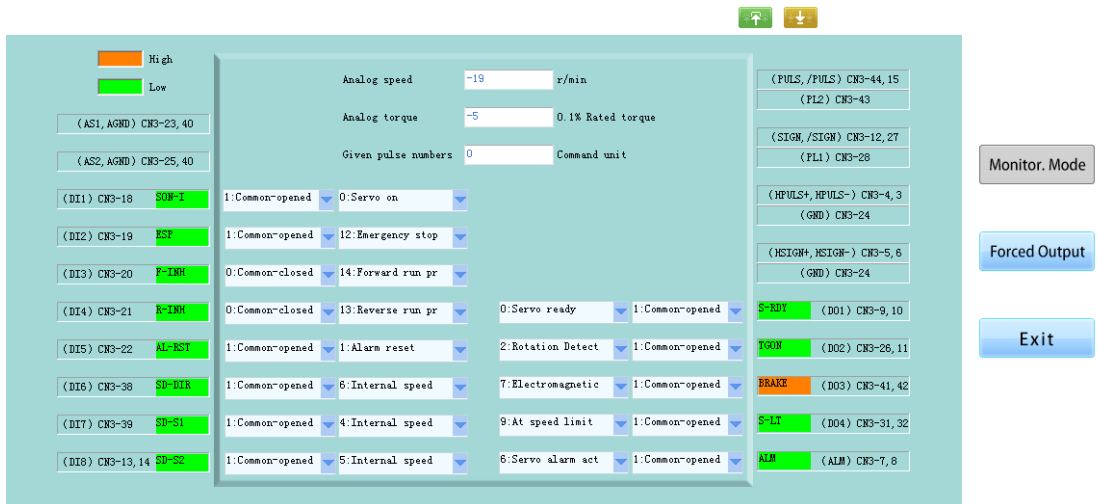


Fig 3-2-8 IOterminal interface

Click **Forced Output** to upper or lower parameter bit, click **Valid** or **Invalid** to switch high-low bit. (Fig 3-2-9)



Fig 3-2-9 IO Configuration Forced Output Interface

Terminal force description:

Terminal force can be in the invalid function of the terminal force for the effective state, if the terminal function has been in effective state mandatory function will not produce effect.

5. Motion Control

➤ Multistage Speed

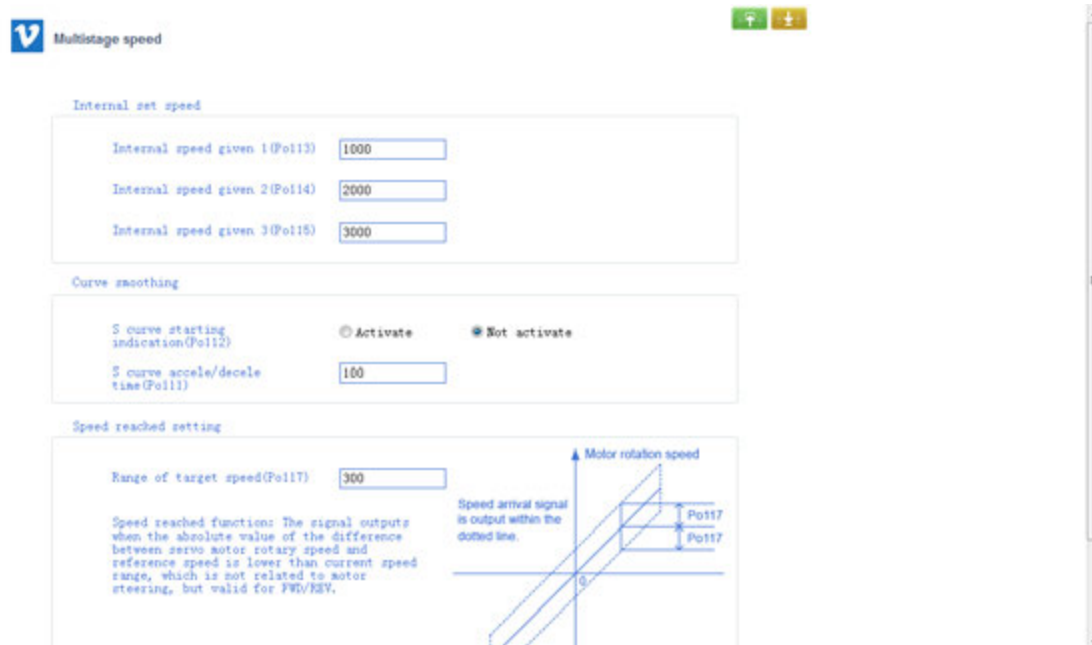




Fig 3-2-10 Multistage Speed Interface

Click  to upload parameters in current page, after modifying, click  to download parameters in current interface. If current parameters are known, they can be download directly without uploading.

Note: See details for the description of parameters in Servo drive user manual.

➤ Multistage Position

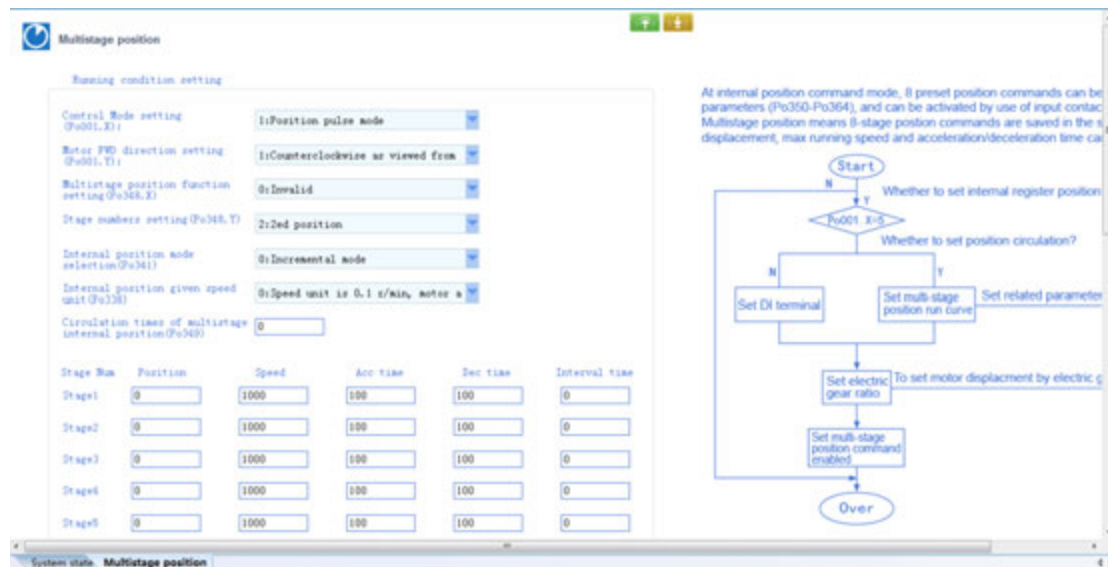


Fig 3-2-11 Multistage position interface-1

When [Multistage position function setting Po348.X] selects [0: Invalid], only 1st stage position is valid and can be set; when selecting [1: Valid], valid stage number can be selected by [Stage number setting Po348.Y], the parameter of the corresponding stage can be set (Fig

3-2-11 Multistage position interface-1)

Note: When P0349=0, cycle time is unlimited.

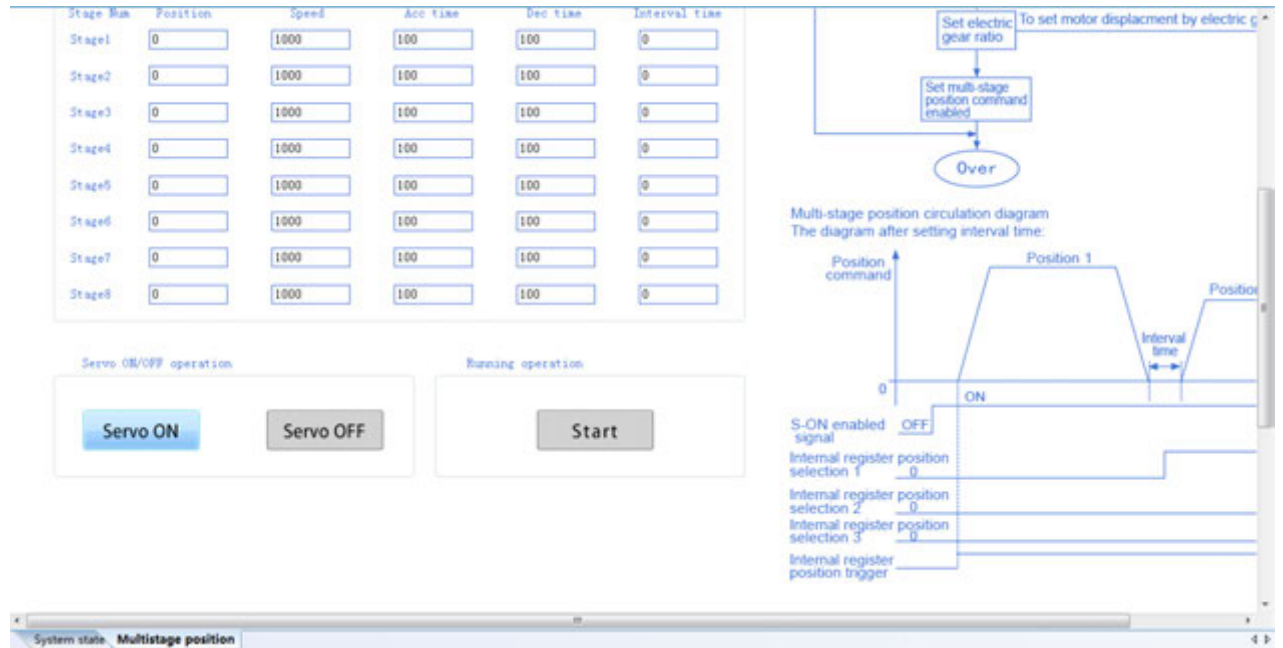




Fig 3-2-11 multistage position interface-2

After setting parameters, click  to download the parameter modification.

 Then click  to make servo motor power-up, click, servo motor starts to run as set.(Fig 3-2-11 multistage position interface-2)

➤ Home Return

The screenshot displays the 'Home return' configuration interface. It is divided into several sections:

- Home position searching setting:** A list of parameters with dropdown menus and input fields.

Home search setting A (Po119.A)	0:Reverse searching home
Home search setting B (Po119.B)	0:Searching HOME by left/righ
Home search setting C (Po119.C)	0:After finding HOME position
Home search setting D (Po119.D)	0:After finding Z phase pulse
Home search selection (Po125)	0:Not searching home
Home searching first speed (Po120)	500
Home searching second speed (Po121)	200
Home searching acceleration/deceleration time (Po122)	0
Home searching offset (No. of revolutions) (Po123)	0
Duration time of home found signal (Po128)	100
Delay time of home searching (Po129)	10000
- Servo ON/OFF operation:** Contains 'Servo ON' and 'Servo OFF' buttons, and a 'Servo OFF' input field.
- Mechanical origin setting:** Contains a 'Mech. origin set' button.
- Home search operation:** Contains a 'Searching home' button and a 'Not starting searching home!' input field.

Fig 3-2-12 Home return interface

Set the parameter of [Home position searching setting] firstly, then click [Servo ON], the status bar in [Servo ON/OFF operation] will display [Servo ON].

Click [Mechanical home setting], servo drive will set current rotary position of servo motor as mechanical home. Click [Home searching] to return the record position.

Note: [Searching home] function is to force the search for the origin, click the button will perform Po125 "Searching home by software trigger" option, and the Po125 value is set to 3.

➤ **Electric Cam**

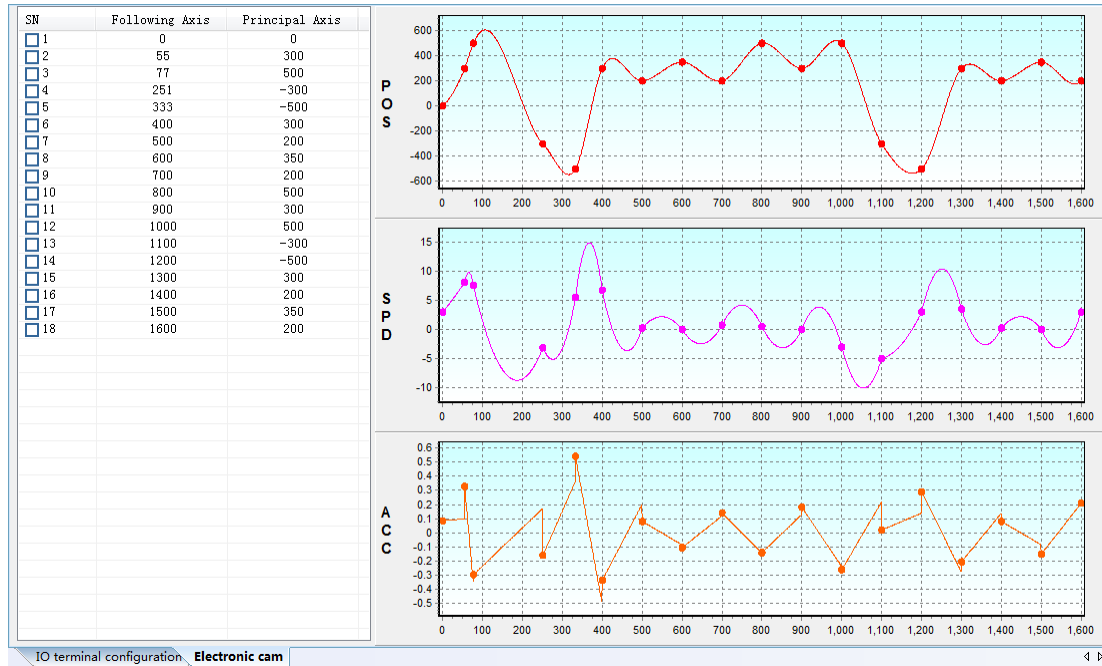


Fig 3-2-13 Electric cam interface

(1) Edit Row

Right-click to show menu bar (Fig 3-2-14)

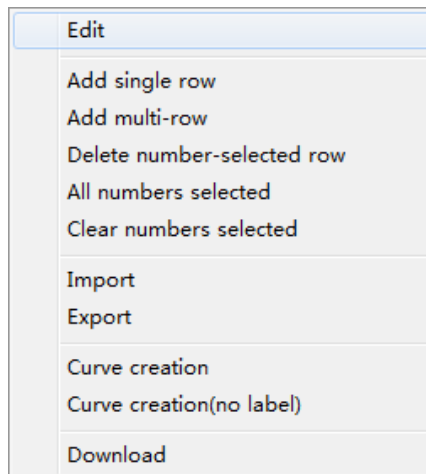


Fig 3-2-14 Menu bar interface

Edit: Edit for the selected row in blue box (Fig 3-2-15), click [OK] to finish.

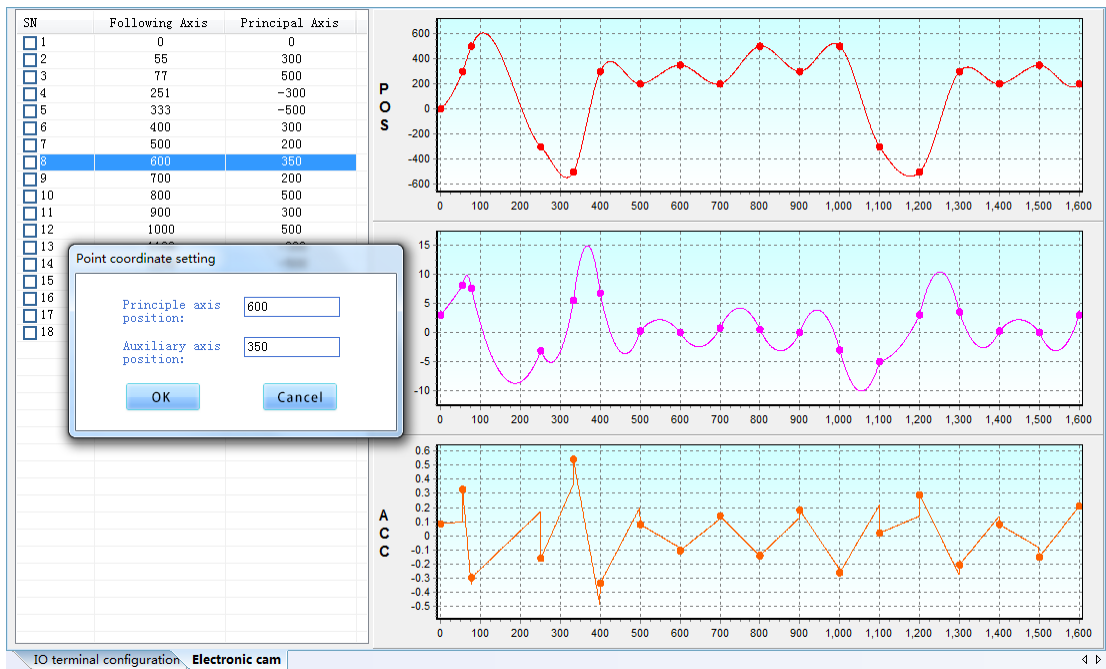


Fig 3-2-15 Electric cam editing interface

Add single row: Add one row in original list.

Add multi-row: Add some rows in original list, click [OK]. (Fig3-2-16)

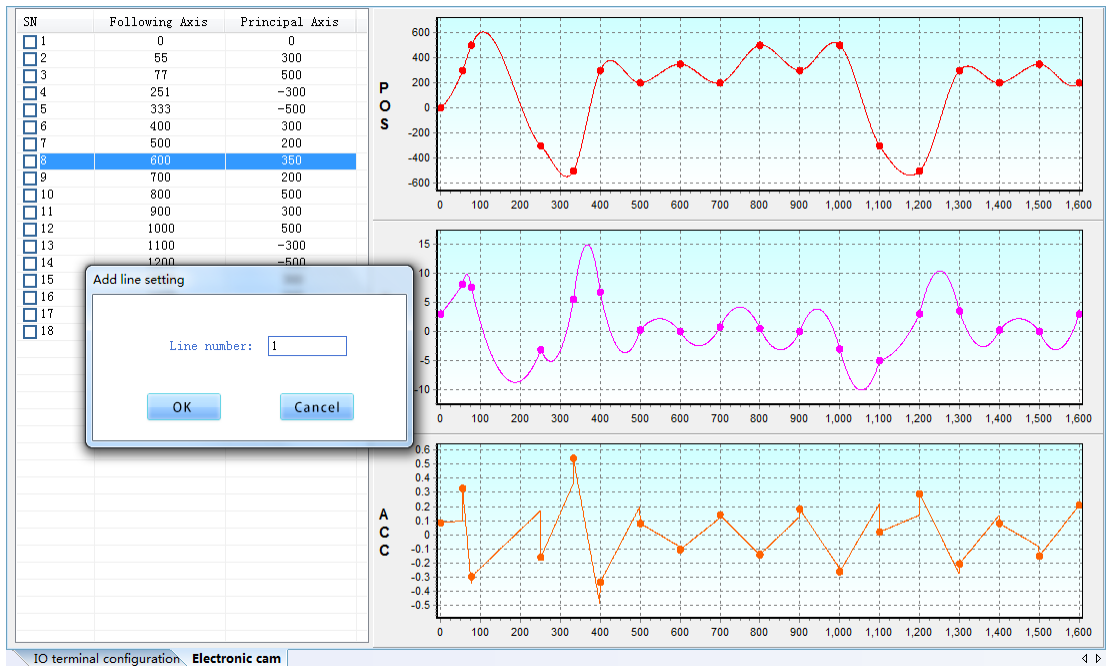


Fig 3-2-16 Electric cam add multi-row

(2) **Delete selected row:** click serial number box to select row, right click to select [Delete number-selected row], click [YES]. (Fig 3-2-17)

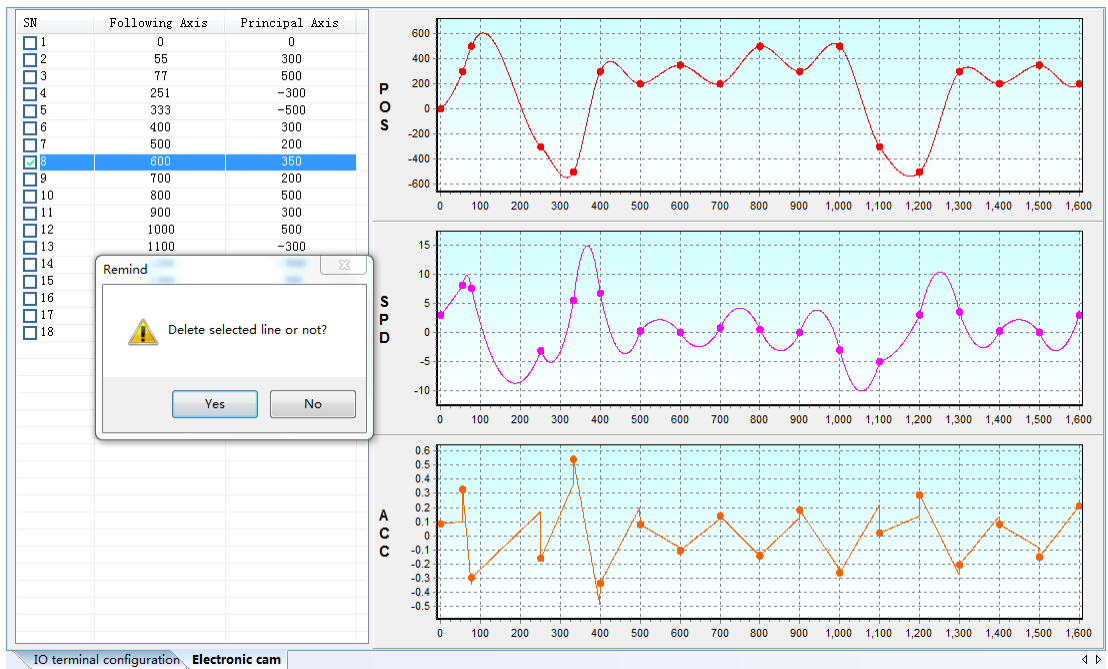


Fig 3-2-17 Delete multi-row

(3) Curve Creation

After editing the list, right click to select [Curve creation], curve will be created in the coordinate system on the right of list (Fig 3-2-18)

Select [Curve creation(no label)], points in the list will not display on curve.

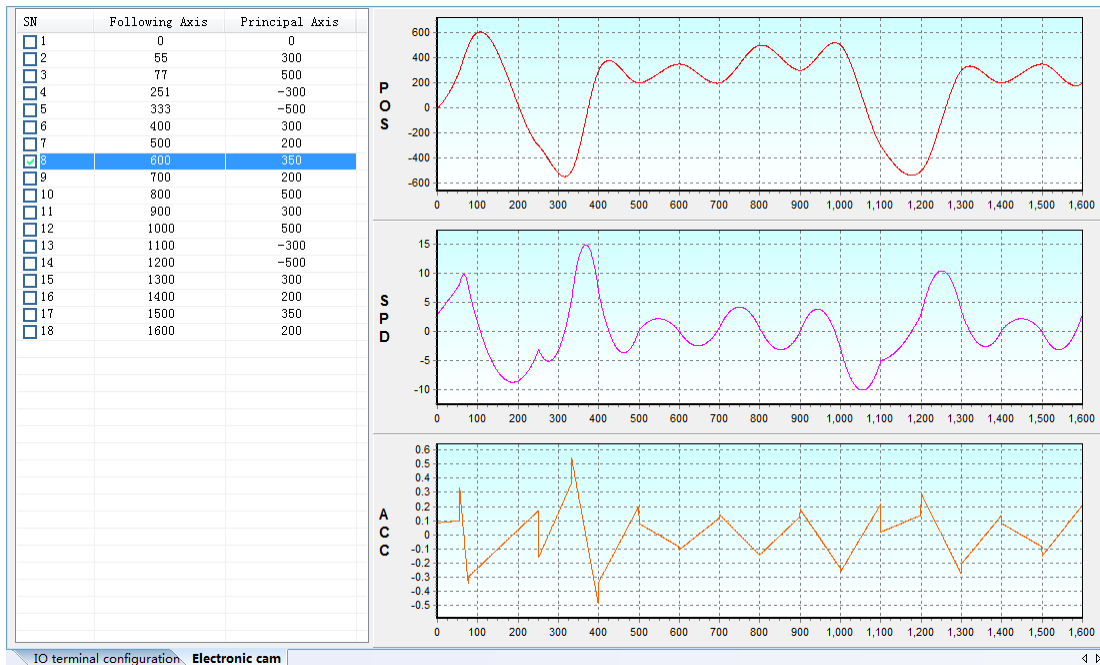


Fig 3-2-18 Electric cam curve creation

(4) Download

After confirming the points and curves in the list, right click to select [Download], click [start] to download the data in the list to servo drive (Fig 3-2-19).

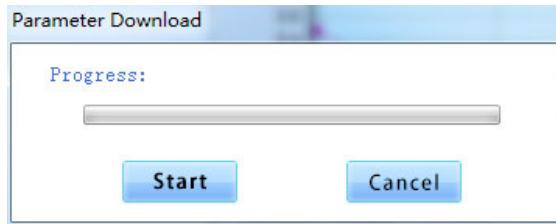


Fig 3-2-19 Electric cam download

(5) Import/export

Import: right click to select [Import], search the location of ECAM file and select to open. (Fig 3-2-20)

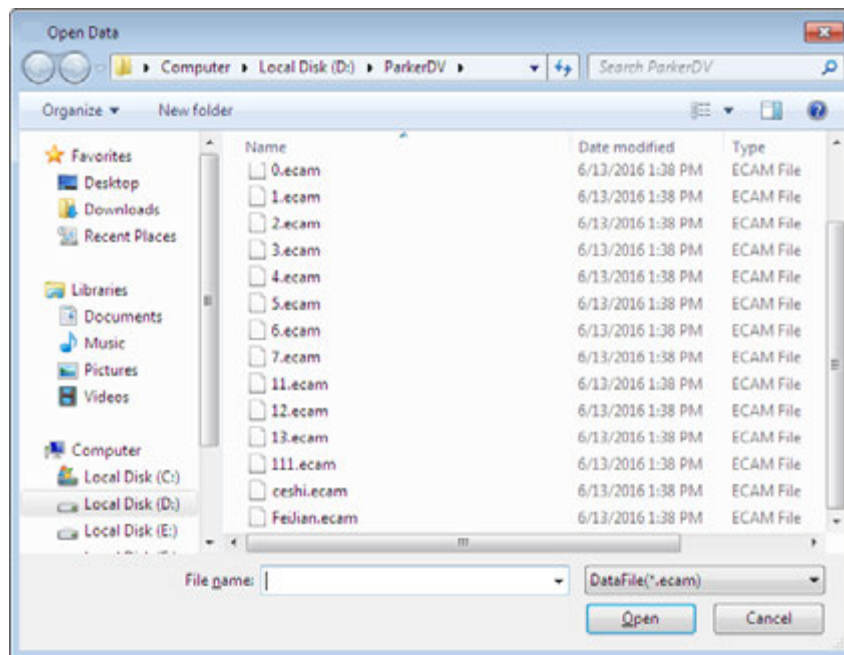


Fig 3-2-20 Electric cam import data

Export: right click to select [export], then select exported path, and edit project name, click [Save] to complete export. (Fig 3-2-21)

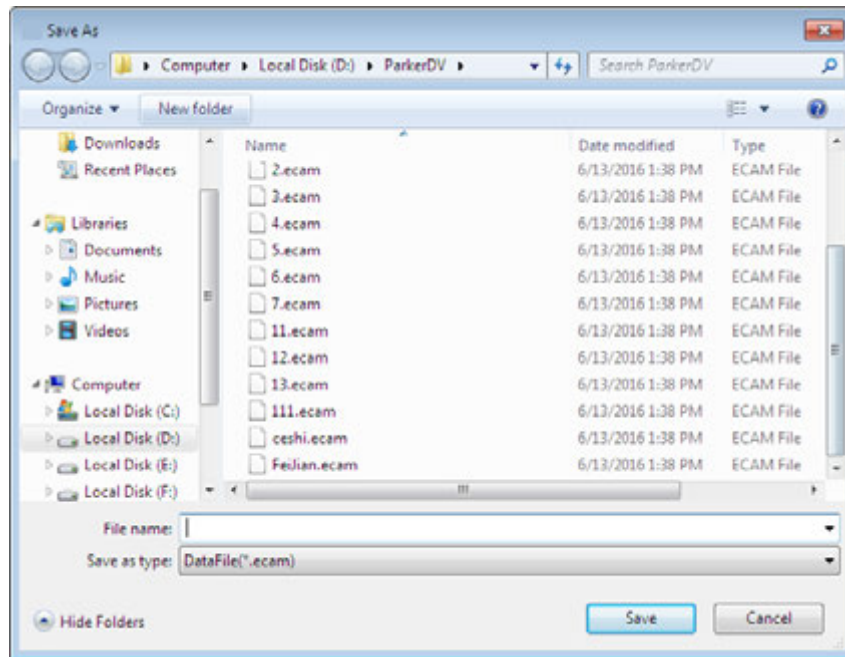


Fig 3-2-21 Electric cam data export

(6)Graph editing command instruction:

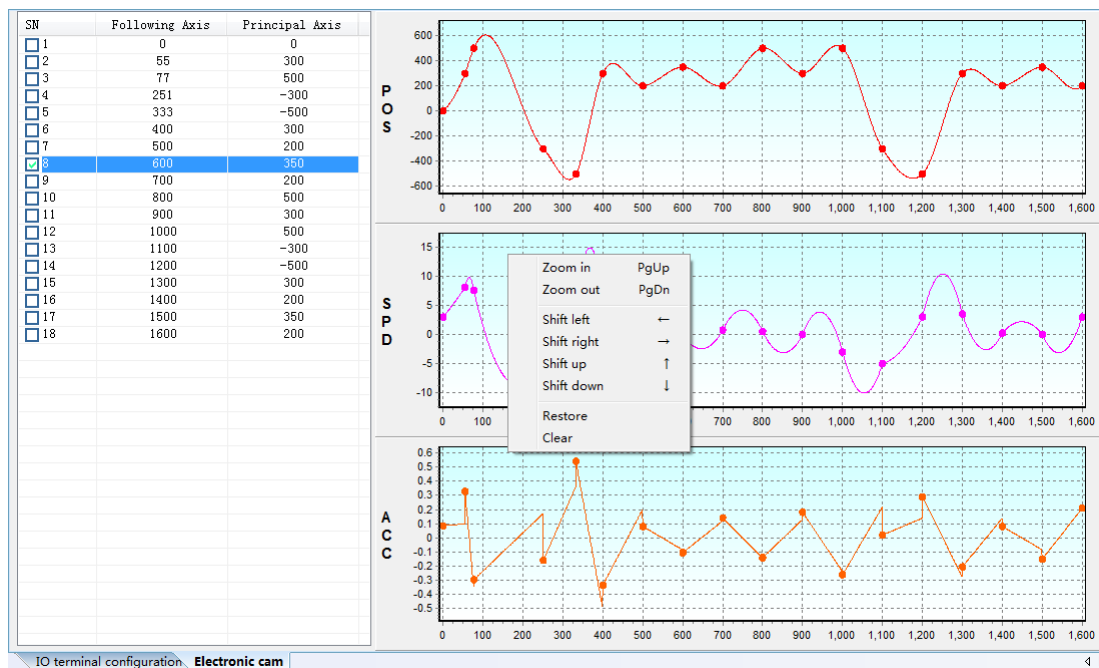


Fig 3-2-22 Graph editing command window

① Curve Zoom in & Zoom out

Execute [Project]→[Graph]→[Zoom in]/[Zoom out] or the corresponding commands in context menu, program will synchronous process zoom-in and zoom-out to three curves of “position”, “velocity” and “acceleration”. Meanwhile, [Zoom in] and [Zoom out] is bond to the shortcut key “PageUp” and “PageDown” respectively.

② Curve shift

Execute [Project]→[Graph]→[Shift left]/[Shift right]/[Shift up]/[Shift down] or the corresponding commands in context menu, program will synchronous process shift to

“position”, “velocity” and “acceleration”. Meanwhile, [Shift left], [Shift right], [Shift up] and [Shift down] is bond to the shortcut key of “→”, “←”, “↑” and “↓” .

③ Curve restore

Execute [Project]→[Graph]→[Restore] or corresponding commands in context menu, program will synchronous process restoring command to the three curves of “position”, “velocity” and “Acceleration”, restoring to the original state.

④ Curve clear

Execute [Project]→[Graph]→[Clear] or corresponding commands in context menu, program will delete the three curves of “Position”, “Velocity” and “Acceleration” .

➤ Full closed-loop

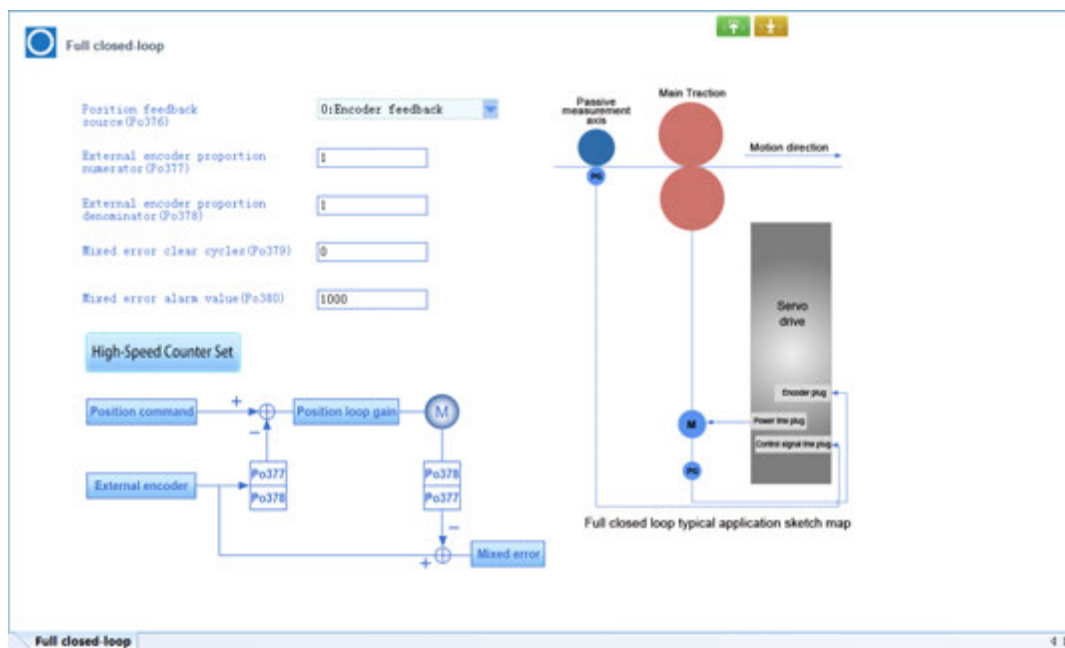


Fig 3-2-23 Full closed-loop interface

Please refer to the setting mode of <[multistage speed](#)>.

Note: This module can be related to the high speed counter function module by clicking the button **High-Speed Counter Set** .

➤ **Gantry Synchron**

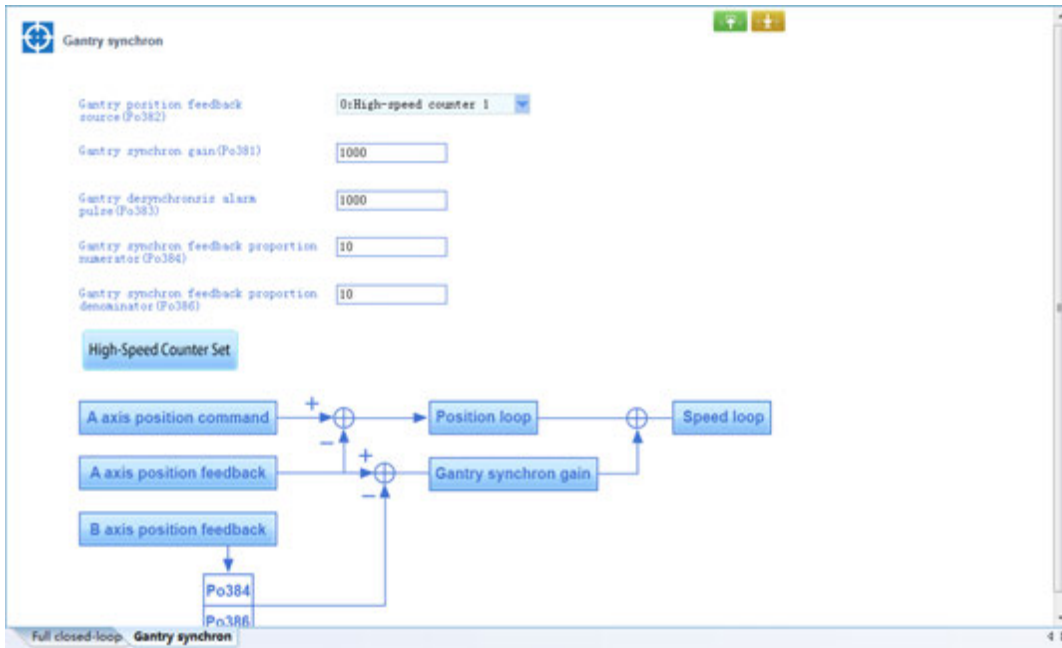


Fig 3-2-24 Gantry synchron interface

Please refer to the setting mode of <[multistage speed](#)>.

Note: This module can be related to the high speed counter function module by clicking

the button **High-Speed Counter Set**.

➤ **Fixed length interrupt**

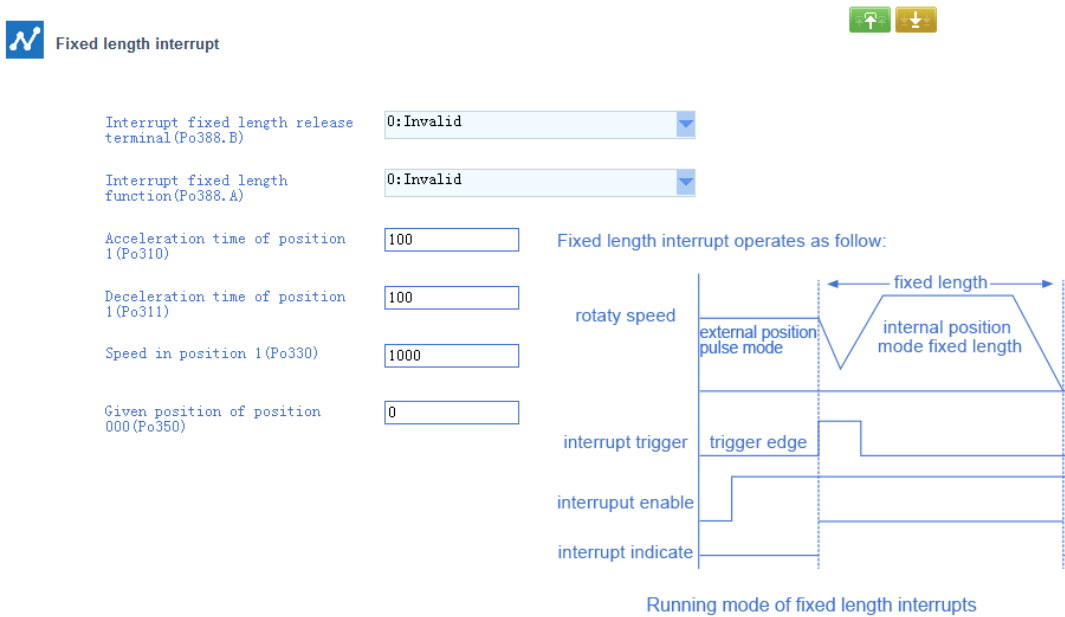


Fig 3-2-25 Fixed length interrupt interface

Please refer to the setting mode of <[multistage speed](#)>

➤ **Built-in PLC**

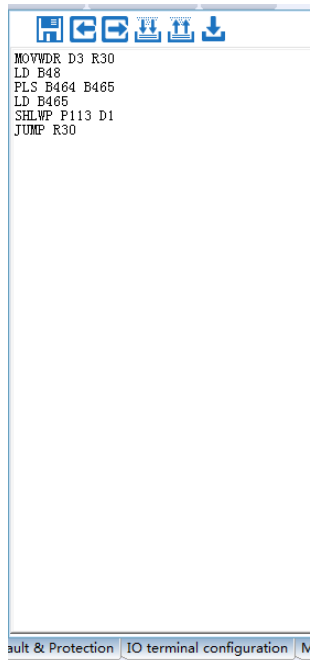


Fig 3-2-26 Built-in PLC interface

(1) Save Project

After completing edit, click  to save dialog box (Fig 3-2-27)

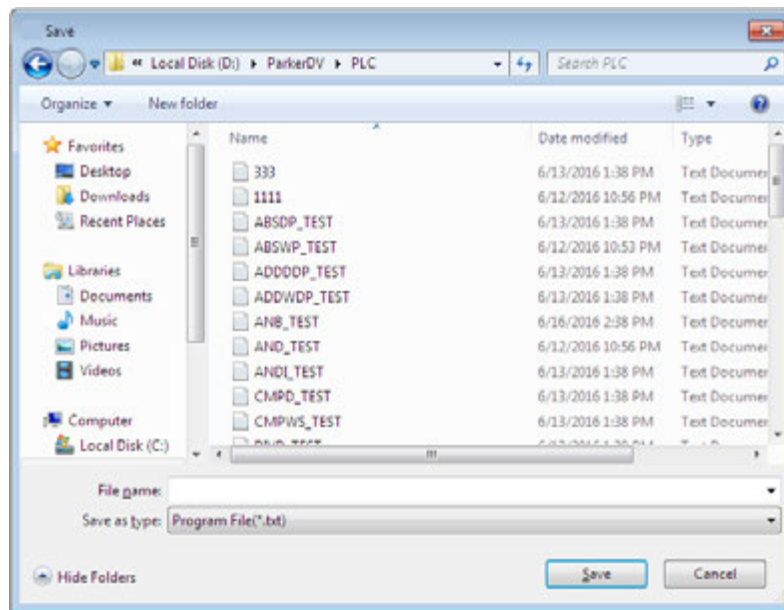


Fig 3-2-27 New Project interface

User selects project file saving path, and input project name, click [save] to complete project.

(2) Import Project

Click  to import, popup the window of “open program”(Fig 3-2-28)

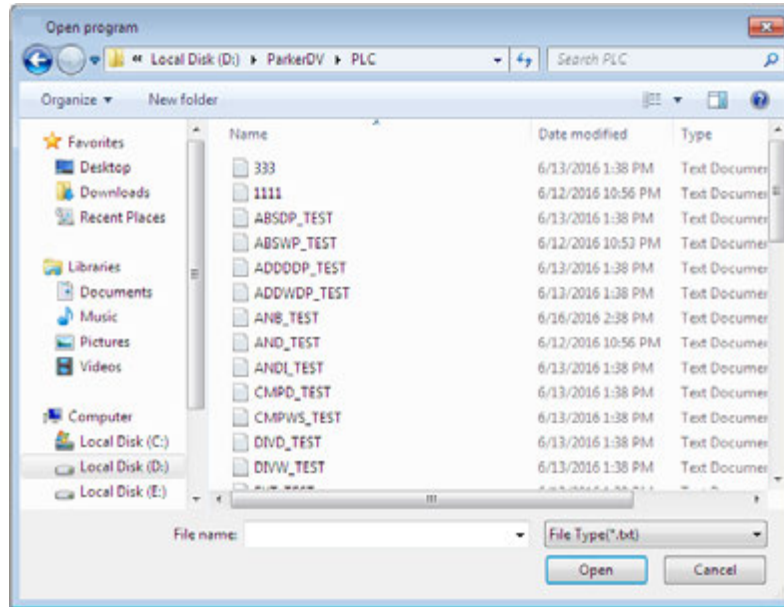



Fig 3-2-28 Open program interface

User selects project, click [open] to open this project.

(3) Export Project

Export saved project, click  to export firstly, popup dialog box, select storage path and file name, click [Save] to complete operation. (Fig 3-2-29)

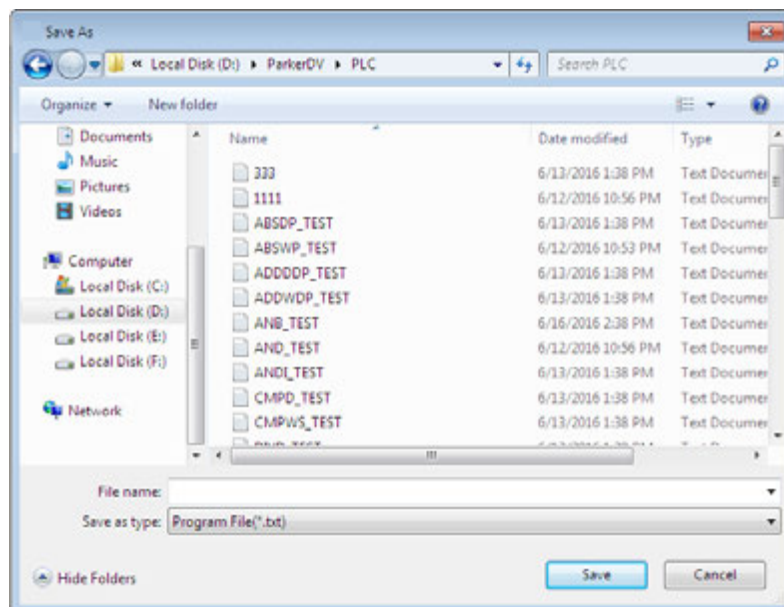



Fig 3-2-29 Export project interface

(4) Download

Click  to download, popups window. User clicks [Start] to download the project data to servo drive. (Note: Servo drive should be in stop status when downloading) (Fig 3-2-30)

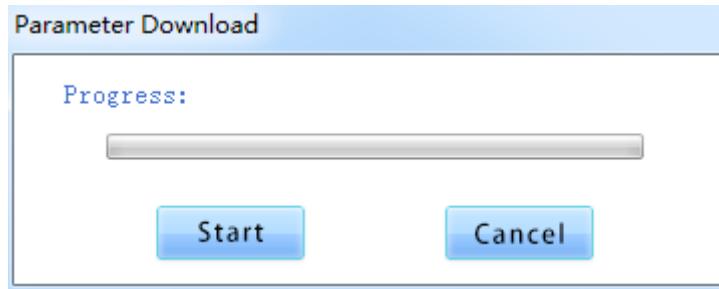


Fig 3-2-30 Download window

(5) Program Edit

PLC editor has similar function as Notepad, user can program based on PLC instructions.

(6) Program compiling

Click  to compile, the interface of compiling shows as below if no error. (Fig 3-2-31)

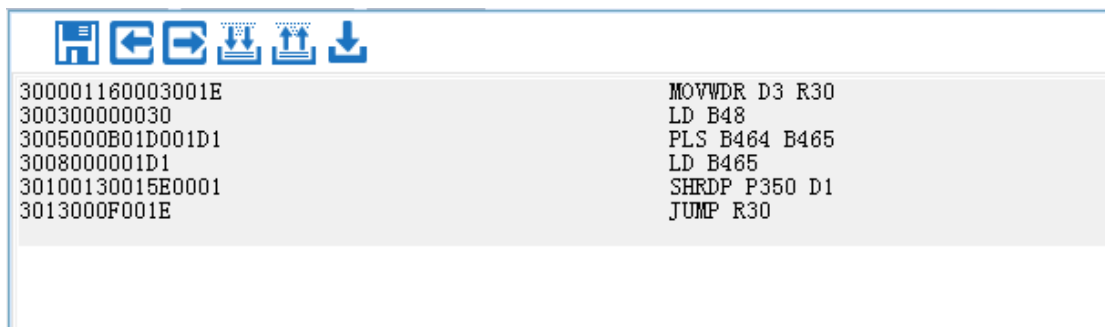


Fig 3-2-31 Program compiling interface

If compiling error, the remind box of error pops up. (Fig 3-2-32)

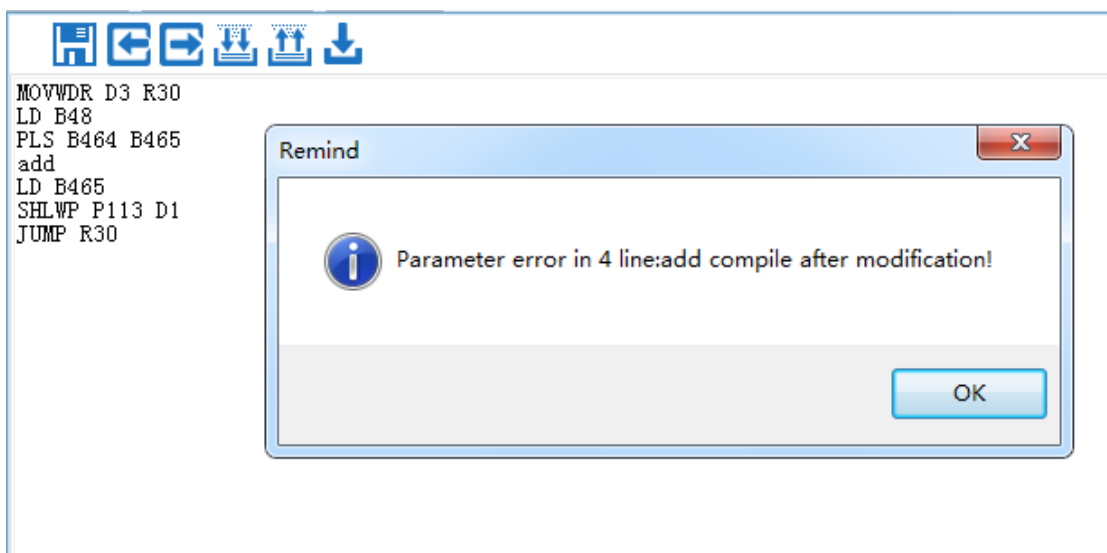


Fig 3-2-32 Remid dialog box interface

Click [OK], user can modify the error line according to the remind dialog box, then compile again until it succeed. (Fig 3-2-32)

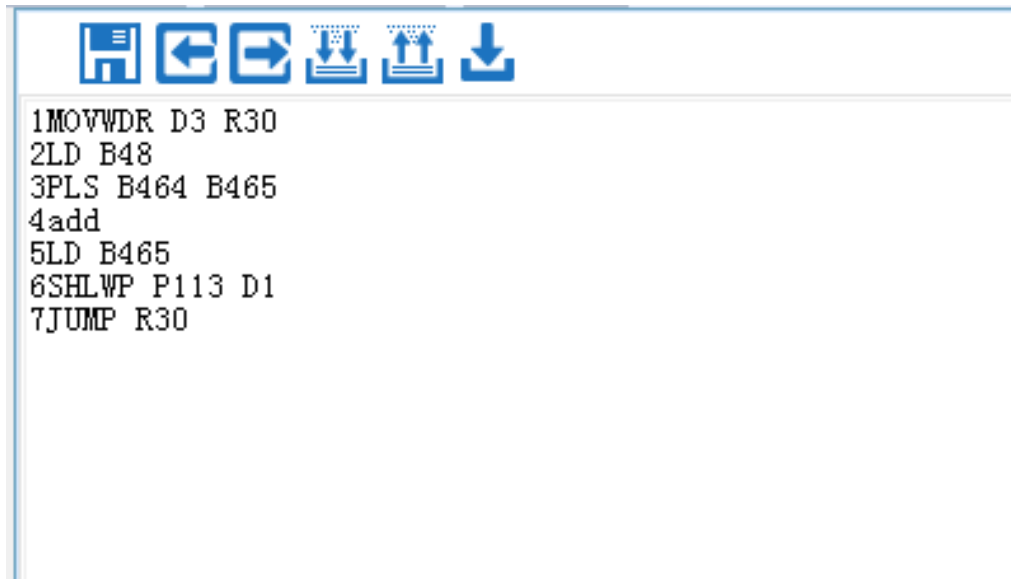


Fig 3-2-33 Program with row number

(7) Program decompiling

Click  to re-read the per-compile program, the decompiling interface pops up. (Fig 3-2-34)

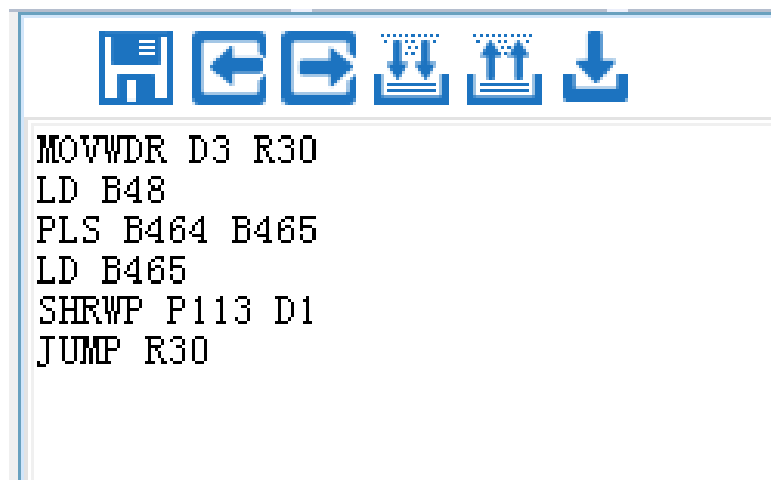


Fig 3-2-34 Decompiling interface

➤ **High-speed counter**

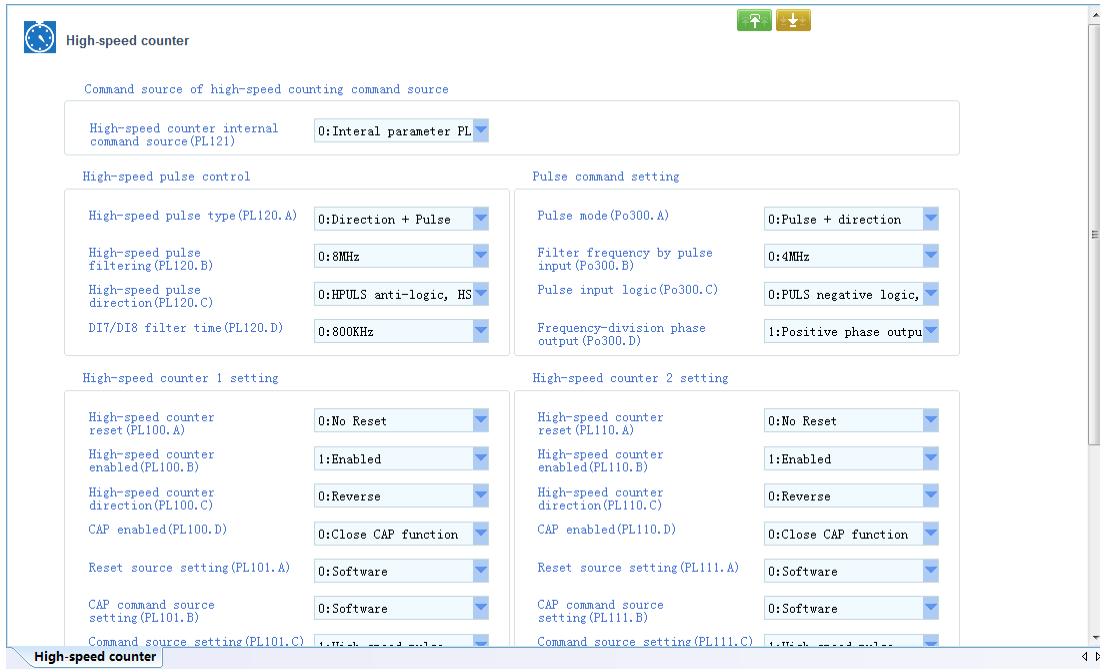


Fig 3-2-35 High-speed counter interface

Please refer to the setting mode of [<multistage speed>](#)

6. Auxiliary Function

➤ **JOG**



Fig 3-2-36 Jogging interface

Set [Jogging speed setting] firstly, then click **Servo ON** to power up the servo motor. Click **FWD JOG**, servo motor rotates forward, click **REV JOG**, servo motor rotates reversely.

➤ Motor parameter setting



Motor parameter setting

Setting type selection

Inertia recognition mode selection (Po008)



Electrical angle identification settings (So-25)

Parameter setting


Rated current (Ho001)	<input type="text" value="-"/>	D-axis inductance (Ho006)	<input type="text" value="-"/>
Max rotary speed (Ho002)	<input type="text" value="-"/>	Q-axis inductance (Ho007)	<input type="text" value="-"/>
Rated rotary speed (Ho003)	<input type="text" value="-"/>	Back EMF line voltage value (Ho008)	<input type="text" value="-"/>
Motor pole pairs (Ho004)	<input type="text" value="-"/>	Servo motor rated power (Ho011)	<input type="text" value="-"/>
Resistance between phases (Ho005)	<input type="text" value="-"/>	Motor movement inertia (Ho012)	<input type="text" value="-"/>
Movement of inertia recognition gap time (Po009)	<input type="text" value="100"/>	Movement of inertia acele/decel time (Po014)	<input type="text" value="1000"/>
Motion range of off-line inertia recognition (Po015)	<input type="text" value="-"/>		

Current inertia ratio: 300%

Fig 3-2-37 Motor parameter setting interface

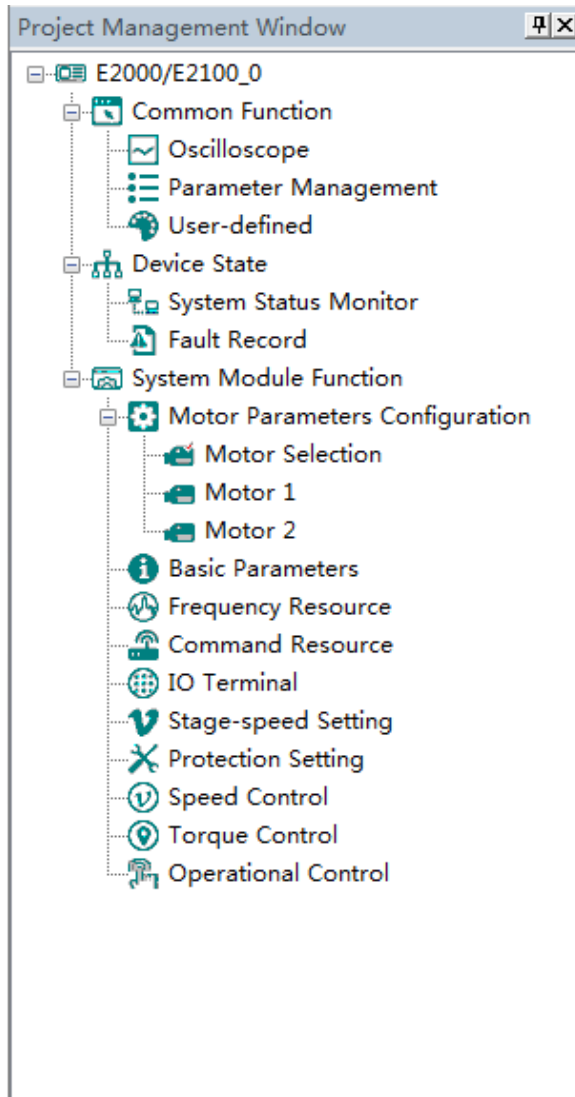
Firstly, set parameter content of [Setting type selection], there is no [upload] [download] in this content; then click  to upload the original parameters of [motor parameter setting], or modify directly without [upload]; then click  to download the set parameters.

After downloading the parameters, click  to complete forward

identification function, click  to complete reverse identification function.

Note: when Po008=1, forward identification will run forward firstly then reverse, reverse identification will run reverse firstly then forward. When Po008=2, forward identification will run forward, reverse identification will run reverse.

◆ E2000/E2100



The main program interface left for engineering management window, the user can in the toolbar of the "view" select the "show" and "hidden", the double tree above the module name you can open the corresponding function module window.

1. Common Function

➤ Oscilloscope



Save: Save the current oscilloscope graphics as a custom file.



Import: Import saved oscilloscope image from local storage.



Screen Shot: Save the current oscilloscope graphics as an BMP file.



Cursor: Cursor can be displayed for measuring time and amplitude.



Channel Select Switch: Switch the selected on the left side of the channel.



Increase amplitude range: Increasing the channel amplitude range.



Reduce amplitude range: Reduce the channel amplitude range.



Move Up: Move up the curve.



Move Down: Move down the curve;



Left Shift: Move the curve left;



Right Shift: Move the curve right;



Zoom In: Zoom In can enlarge the operation of the curve.




Zoom Out: Zoom Out can be reduced to the curve operation.

Oscilloscope type selection

Click on the lower left corner of the selection button Oscilloscope

Real-time oscilloscope, complete oscilloscope type switch.

1) when the user selects an oscilloscope, the user can perform the following operation:

First, click  to popup trigger setting window (Fig 3-3-1)

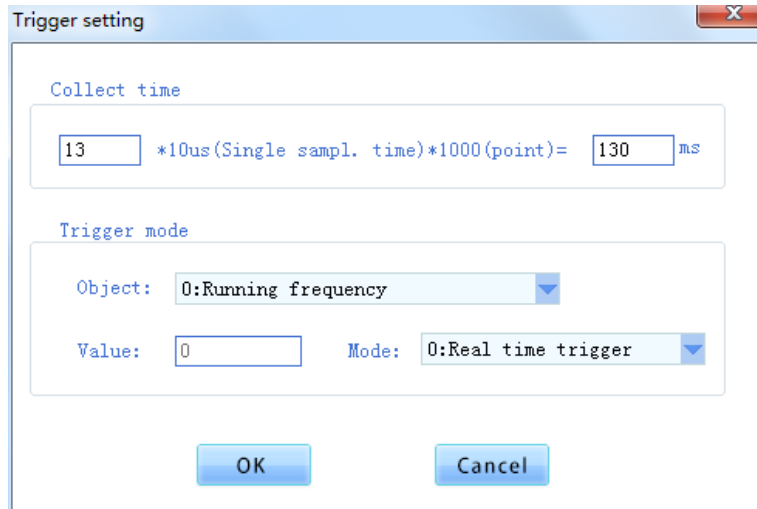


Fig 3-3-1 window of trigger setting

After setting complete, Click , Click  or  to start sampling (Fig 3-3-2)



Fig 3-3-2 Oscilloscope Interface

2) when the user selects a real-time oscilloscope, the user can perform the following operation:

After setting the sampling time, click [Start], real-time oscilloscope starts to present waveform (Fig 3-3-3)



Fig 3-3-3 Real-time Oscilloscope Interface

3)After sampling, the operation can be carried out as follows:



Channel waveform amplitude adjustment:

Select waveform number, scroll up or down to adjust waveform amplitude.

Time shaft adjustment:

Drag [Time gain] to adjust, horizontal axis presents the time for each box.

Waveform curve zoom operation:

Select the picture on the left waveform corresponding to the number, click  or  button to zoom in and out of the waveform curve.

Note: To ensure the display of oscilloscope being real-time, set communication mode as RTU and baud rate as 57600, are recommended.

➤ Parameter Management

Click “Parameter Management” in the function tree of left side to open parameter management interface (Fig 3-3-4).

SM	Parameters	Function Definition	Current Value	Min Value	Max Value	Unit	Effective Mode
0	F100	User's Password	0	0	9999	N/A	Stop/Run
1	F102	Inverter's Rated Current	-			A	Factory-only
2	F103	Inverter Power	-			kW	Factory-only
3	F104	Voltage Level	-			N/A	Factory-only
4	F105	Software Edition No.	-	1.00	10.00	N/A	Read-only
5	F106	Control mode	2	0	6	N/A	Stop
6	F107	Password Valid or Not	0	0	1	N/A	Stop/Run
7	F108	Setting User's Password	8	0	9999	N/A	Stop/Run
8	F109	Starting Frequency	0.00	0.00	10.00	Hz	Stop/Run
9	F110	Holding Time of Starting Frequency	0.0	0.0	999.9	S	Stop/Run
10	F111	Max Frequency	50.00	F113	650.0	Hz	Stop/Run
11	F112	Min Frequency	0.50	0.00	F113	Hz	Stop/Run
12	F113	Target Frequency	50.00	F112	F111	Hz	Stop/Run
13	F114	First Acceleration Time	-	0.1	3000.0	S	Stop/Run
14	F115	First Deceleration Time	-	0.1	3000	S	Stop/Run
15	F116	Second Acceleration Time	-	0.1	3000	S	Stop/Run
16	F117	Second Deceleration Time	-	0.1	3000	S	Stop/Run
17	F118	Turnover Frequency	50.00	15.0	650.00	Hz	Stop
18	F119	Reference of setting accel/decel time	0	0	1	N/A	Stop
19	F120	Forward/Reverse Switchover dead-Time	0.0	0.0	3000.0	S	Stop/Run
20	F122	Reverse Running Forbidden	0	0	1	N/A	Stop
21	F123	Minus frequency is valid in the mode of combined speed control	0	0	1	N/A	Stop
22	F124	Jogging Frequency	5.00	F112	F111	Hz	Stop/Run
23	F125	Jogging Acceleration Time	-	0.1	3000.0	S	Stop/Run
24	F126	Jogging Deceleration Time	-	0.1	3000.0	S	Stop/Run
25	F127	Skip Frequency A	0.00	0.00	650.0	Hz	Stop/Run
26	F128	Skip Width A	0.00	0.00	2.50	Hz	Stop/Run
27	F129	Skip Frequency B	0.00	0.00	650.0	Hz	Stop/Run
28	F130	Skip Width B	0.00	0.00	2.50	Hz	Stop/Run
29	F131	Running Display Items	15	0	8191	N/A	Stop/Run
30	F132	Display items of stop	6	0	1023	N/A	Stop/Run
31	F133	Drive Ratio of Driven System	1.00	0.10	200.0	N/A	Stop/Run
32	F134	Transmission-wheel radius	0.001	0.001	1.000	m	Stop/Run
33	F135	User macro	0	0	2	N/A	Stop
34	F136	Slip compensation	0	0	10	%	Stop
35	F137	Modes of torque compensation	0	0	4	N/A	Stop

Fig 3-3-4 Parameter management interface

①Function shortcut icon ② Parameter information display area



Select All

Select current all parameters for the subsequent operation;



Unselect

Unselect current parameters;



Import

Import parameters from local storage .EXCEL file or .Par file;



Export

This function can support all function code information exported to EXCEL or Par file to save, also can support the export modified or checked function code information to the EXECL file to save;



Upload

The function is to upload the current selected function code parameter values from the

device to the program. After uploading successfully, the function code is changed to green;

 **Download**

Download current selected parameters from PC/PLC to inverterdrive;

➤ **User-defined**

Click “User-defined” in the function tree of left side to open user-defined parameter management interface (Fig 3-3-5).

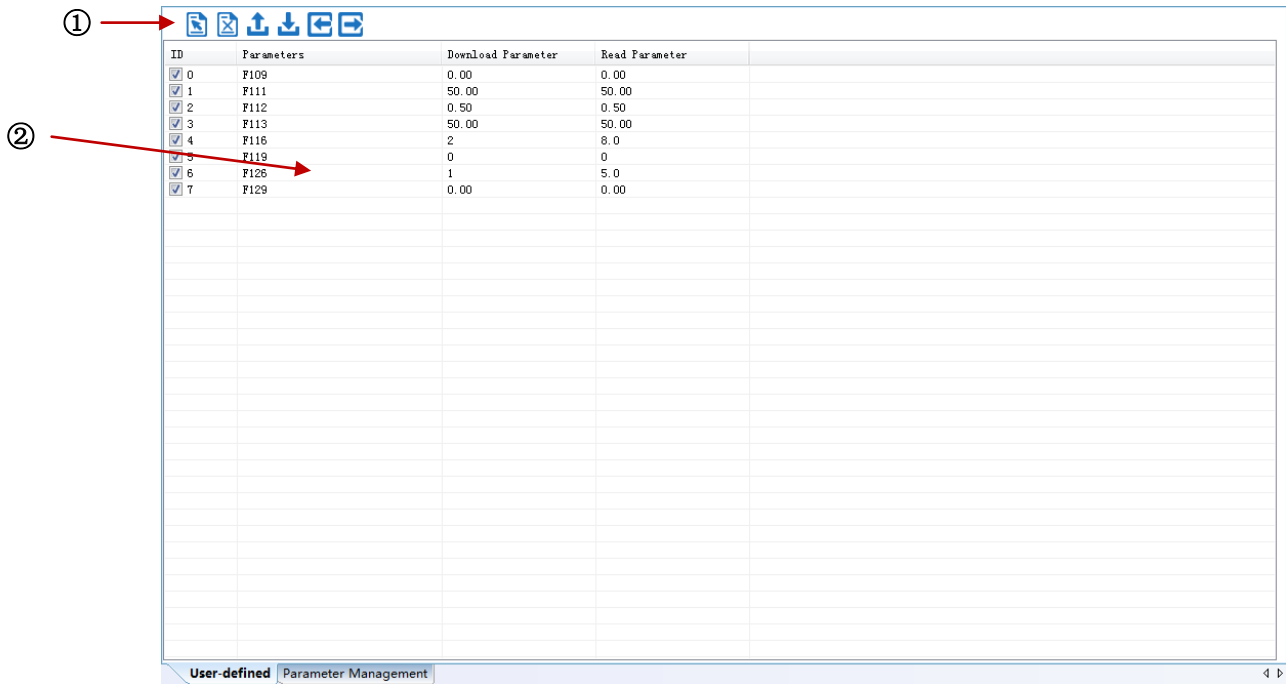


Fig 3-3-5 User-defined interface

① Function shortcut icon ②Parameter information edit area

 **Select All**

Select current all parameters for the subsequent operation;

 **Unselect**

Unselect current parameters;

 **Import**

Import parameters from local storage .EXCEL file or .Par file;

 **Export**

Export current all parameters information, and save to .EXCEL file or .Par file;

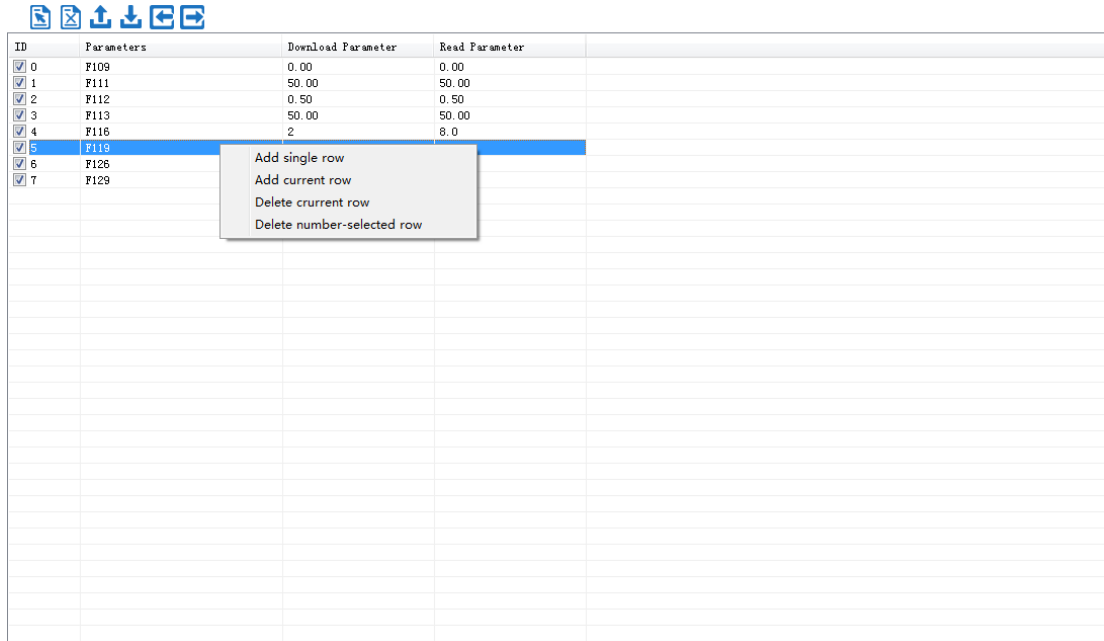
 **Upload**

Upload current selected parameter from inverterdrive to program, refresh to display;



Download current selected parameters from PC/PLC to inverterdrive;

Click the right mouse button on the custom function code table, and the edit menu will pop up (Fig 3-3-6).



The screenshot shows a software interface for editing parameters. At the top, there is a toolbar with icons for saving, deleting, adding, downloading, and uploading. Below the toolbar is a table with four columns: 'ID', 'Parameters', 'Download Parameter', and 'Read Parameter'. The table contains seven rows of data. The fifth row (ID 5) is selected and highlighted in blue. A context menu is overlaid on the table, displaying the following options: 'Add single row', 'Add current row', 'Delete current row', and 'Delete number-selected row'.

ID	Parameters	Download Parameter	Read Parameter
<input checked="checked" type="checkbox"/>	F109	0.00	0.00
<input checked="checked" type="checkbox"/>	F111	50.00	50.00
<input checked="checked" type="checkbox"/>	F112	0.50	0.50
<input checked="checked" type="checkbox"/>	F113	50.00	50.00
<input checked="checked" type="checkbox"/>	F116	2	8.0
<input checked="checked" type="checkbox"/>	F119		
<input checked="checked" type="checkbox"/>	F126		
<input checked="checked" type="checkbox"/>	F129		

Fig 3-3-6 User-defined parameter editor

2. Device State

➤ System Status Monitor

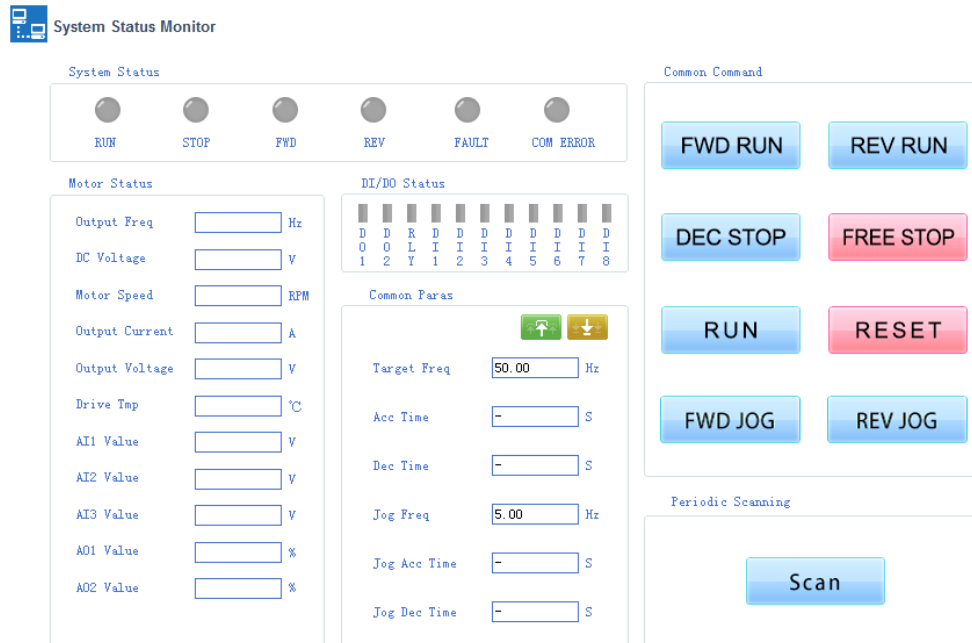


Fig 3-3-7 System Status Monitor Interface

Click **【Scan】** to refresh the parameters in the “System Status Monitor”, “Motor Status” and “DI/DO Status” bars . Control the inverter driver by buttons in the “Common Command” bar.

➤ Fault Record

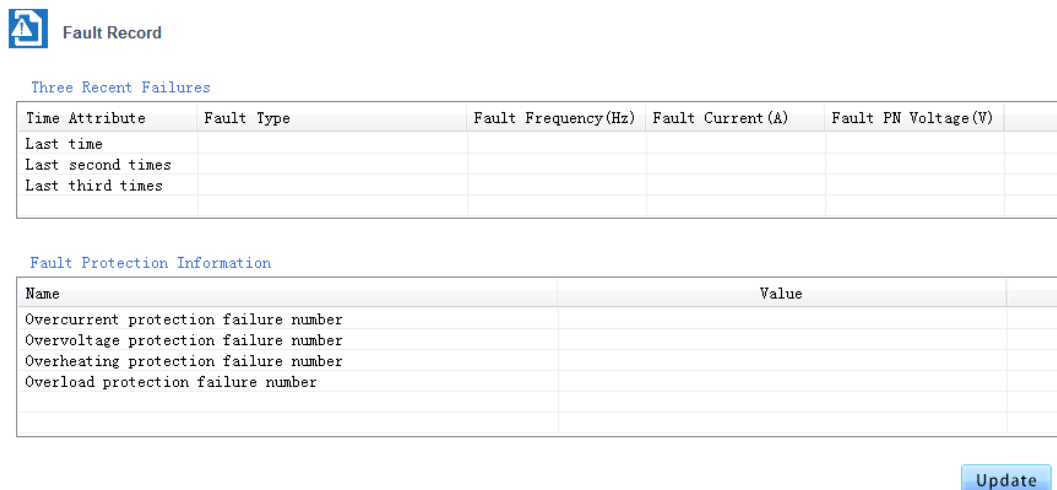


Fig 3-3-8 Fault Record Interface

Click **【Update】** to refresh the parameters in the “Three Recent Failures” and “Fault Protection Information” bars .

3. System Module Function

The function is composed of Speed Control ,Torque Control , Pressure Control .

Parameter Quick Search Catalogue

Motor Parameters Configuration	Motor Selection	Motor Selection(FE00)
	Motor 1 parameters setting	Control mode(F106)
		Rated power(F801)
		Rated voltage(F802)
		Rated current(F803)
		Motor rated frequency(F810)
		Rated rotary speed(F805)
		Motor's parameters selection(F800)
		Stator resistance(F806)
		Rotor resistance(F807)
		Leakage inductance(F808)
		Mutual inductance(F809)
		Motor current without load(F844)
		PMSM stator resistance(F873)
		PMSM D-axis inductance(F871)
		PMSM Q-axis inductance(F872)
	PMSM back electromotive force(F870)	
	Encoder 1 parameters setting	Encoder resolution(F851)
		Encoder phase sequence(F854)
	Motor 2 parameters setting	Motor switchover(FE00)
		Rated power of motor 2(FE01)
		Rated voltage of motor 2(FE02)
		Rated current of motor 2(FE03)
		Motor 2 rated frequency(FE10)
		Rated speed of motor 2(FE05)
		Motor's parameters selection(F800)
		Motor 2 stator resistor(FE06)
		Motor 2 rotor resistor(FE07)
		Motor 2 leakage inductance(FE08)
		Motor 2 mutual inductance(FE09)
		Motor 2 no-load current(FE11)
		Motor 2 PMSM stator resistance(FE73)
		Motor 2 PMSM D-axis inductance(FE71)
Motor 2 PMSM Q-axis inductance(FE72)		
Motor 2 PMSM back electromotive force(FE70)		
Encoder 2 parameters setting	Encoder resolution(FE51)	
	Encoder phase sequence(FE54)	
Basic	ACC/DEC time	First acceleration Time(F114)

Parameters	selection	Second acceleration time(F116)
		First deceleration time(F115)
		Second deceleration time(F117)
		Accel/decel mode(F306)
		Reference of setting accel/decel time(F119)
		S curve beginning stage proportion(F304)
		S curve ending stage proportion(F305)
	Activate parameters setting	Max Frequency(F111)
		Min Frequency(F112)
		Target Frequency(F113)
		Turnover Frequency(F118)
		Starting Frequency(F109)
		Holding Time of Starting Frequency(F110)
		Speed track(F613)
		Speed track mode(F614)
		Speed track rate(F615)
		Inhibition of current oscillation at low frequency(F641)
		DC Braking Function Selection(F600)
		Initial Frequency for DC Braking(F601)
		DC Braking efficiency before Starting(F602)
		Braking Lasting Time Before Starting(F604)
		Modes of torque compensation(F137)
		Linear compensation(F138)
		Square compensation(F139)
		Voltage compensation point frequency(F140)
		Voltage compensation point 1(F141)
		User-defined frequency point 2(F142)
		User-defined voltage point 2(F143)
		User-defined frequency point 3(F144)
		User-defined voltage point 3(F145)
		User-defined frequency point 4(F146)
		User-defined voltage point 4(F147)
		User-defined frequency point 5(F148)
		User-defined voltage point 5(F149)
		User-defined frequency point 6(F150)
User-defined voltage point 6(F151)		
STOP parameters setting	Selecting the mode of stopping the motor(F209)	
	DC Braking Function Selection(F600)	
	Initial Frequency for DC Braking(F601)	
	DC Braking efficiency During Stop(F603)	
	Braking Lasting Time During Stopping(F605)	
	DC brake waiting time(F656)	

Speed setpoint source		Frequency source selecting(F207)
		Main frequency source X(F203)
		Accessorial frequency source Y(F204)
		Reference for selecting accessorial frequency source Y range(F205)
		Accessorial frequency Y range(F206)
Command source		Source of start command(F200)
		Source of stop command(F201)
		Mode of direction setting(F202)
		Jogging Frequency(F124)
		Jogging Acceleration Time(F125)
		Jogging Deceleration Time(F126)
		Terminaltwo-line/three-line operation control(F208)
IO Terminal	AI terminals	Monitoring AI1(F331)
		Monitoring AI2(F332)
		Monitoring AI3(F333)
		Lower limit of AI1 channel input(F400)
		Upper limit of AI1 channel input(F402)
		AI1 channel proportional gain K1(F404)
		Corresponding setting for lower limit of AI1 input(F401)
		Corresponding setting for upper limit of AI1 input(F403)
		AI1 filtering time constant(F405)
		Lower limit of AI2 channel input(F406)
		Upper limit of AI2 channel input(F408)
		AI2 channel proportional gain K2(F410)
		Corresponding setting for lower limit of AI2 input (F407)
		Corresponding setting for upper limit of AI2 input(F409)
		AI2 filtering time constant(F411)
		Lower limit of AI3 channel input(F412)
		Upper limit of AI3 channel input(F414)
		AI3 channel proportional gain K1(F416)
		Corresponding setting for lower limit of AI3 input(F413)
		Corresponding setting for upper limit of AI3 input(F415)
	AI3 filtering time constant(F417)	
	AO terminals	AO1 analog output signal selecting(F431)
		AO1 output range(F423)
		AO1 output compensation(F426)

		AO1 lowest corresponding frequency(F424)
		AO1 highest corresponding frequency(F425)
		AO2 analog output signal selecting(F432)
		AO2 output range(F427)
		AO2 output compensation(F430)
		AO2 lowest corresponding frequency(F428)
		AO2 highest corresponding frequency(F429)
	DI terminals	DI1 terminal functionsetting(F316)
		DI2 terminal function setting(F317)
		DI3 terminal functionsetting(F318)
		DI4 terminal functionsetting(F319)
		DI5 terminal function setting(F320)
		DI6 terminal function setting(F321)
		DI7 terminal function setting(F322)
		DI8 terminal function setting(F323)
		Expansion input DIA(FF05)
		Expansion input DIB(FF06)
		Expansion input DIC(FF07)
		Expansion input DID(FF08)
		Diagnostics of DIX terminal(F330)
		DO terminals
DO1 token output(F301)		
DO2 token output(F302)		
Expansion relay 1 output(FF00)		
Expansion relay 2 output(FF01)		
Fixed frequency setting	Main frequency source X(F203)	
	Stage speed type(F500)	
	Selection of Stage Speed Under Auto-circulation Speed Control(F501)	
	Selection of Times of Auto- Circulation Speed Control(F502)	
	Status after auto circulation running Finished(F503)	
	Frequency setting of stagespeed (F504-F518)	
	Acceleration timesetting of stagespeed (F519-F533)	
	Deceleration timesetting of stagespeed (F534-F548)	
	Running directionsof stage speed 1-8 (F549-F556)	
	Running directionsof stage speed 9-15 (F573-F579)	
	Running time of stagespeed (F557-F564)	
	Stop time after finishing stage (F565-F572)	
Protection Setting	Overload protection	Inverter Overloading pre-alarm Coefficient(F704)
		Inverter Overloading coefficient(F706)
		Overloading adjusting gains(F705)
		Motor Overloading coefficient(F707)

	Phase loss protection	Input phase loss(F724)
		Input phase loss filtering constant(F728)
		Output phase loss(F727)
	Overheat protection	Carrier frequency auto-adjusting(F747)
		Overheat(F726)
		Overheat protection filtering constant(F730)
		Threshold of pre-alarm overheat(F745)
	Stop Mode	Selection of terminal free stop mode(F700)
		Delay time for free stop and programmable terminal action(F701)
	Zero-current Detection	Zero-current threshold(F754)
		Duration time of zero-current(F755)
	Other Protection	Grounding protection(F760)
		Over-current 1 protection(F737)
		Over-current 1 protection coefficient(F738)
Under-voltage filtering constant(F729)		
Under-voltage protection voltage threshold(F732)		
Analog disconnected protection(F741)		
Threshold of analog disconnected protection(F742)		
Speed Control	Rotary speed loop KP1(F813)	
	Rotary speed loop KI1(F814)	
	Rotary speed loop KP2(F815)	
	Rotary speed loop KI2(F816)	
	PID switching frequency 1(F817)	
	PID switching frequency 2(F818)	
Torque Control	Torque Setpoint	Torque given channel(FC06)
		Torque given coefficient(FC07)
		Torque given command value(FC09)
	Torque boost	Offset torque given channel(FC14)
		Offset torque coefficient(FC15)
		Offset torque cut-off frequency(FC16)
		Offset torque command value(FC17)
	Motor torque limit	Electric torque limited channel(FC28)
		Electric torque limited coefficient(FC29)
		Electric torque limited(FC30)
	Regenerated torque limit	Braking torque limited channel(FC33)
Braking torque limited coefficient(FC34)		
Braking torque limited(FC35)		



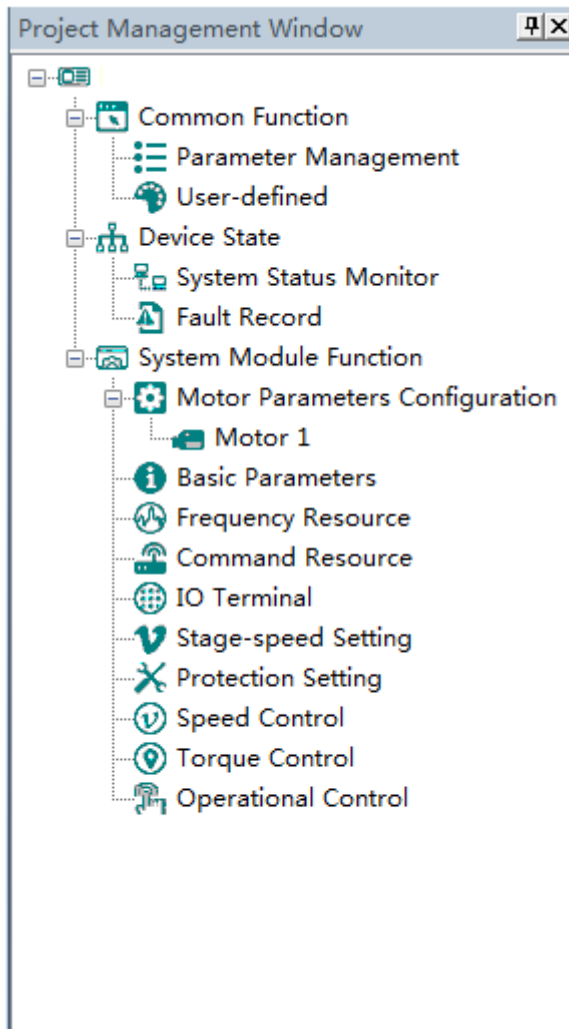
Upload parameters displayed in current page from inverterdrive.



Download parameters displayed in current interface to inverterdrive.

See details for the description of parameters in inverterdrive user manual.

◆ E800L/E810L/E800H/E810H/EP66/EM30/E600



The main program interface left for engineering management window, the user can in the toolbar of the "view" select the "show" and "hidden", the double tree above the module name you can open the corresponding function module window.

1. Common Function

➤ Parameter Management

Click “Parameter Management” in the function tree of left side to open parameter management interface (Fig 3-4-1).

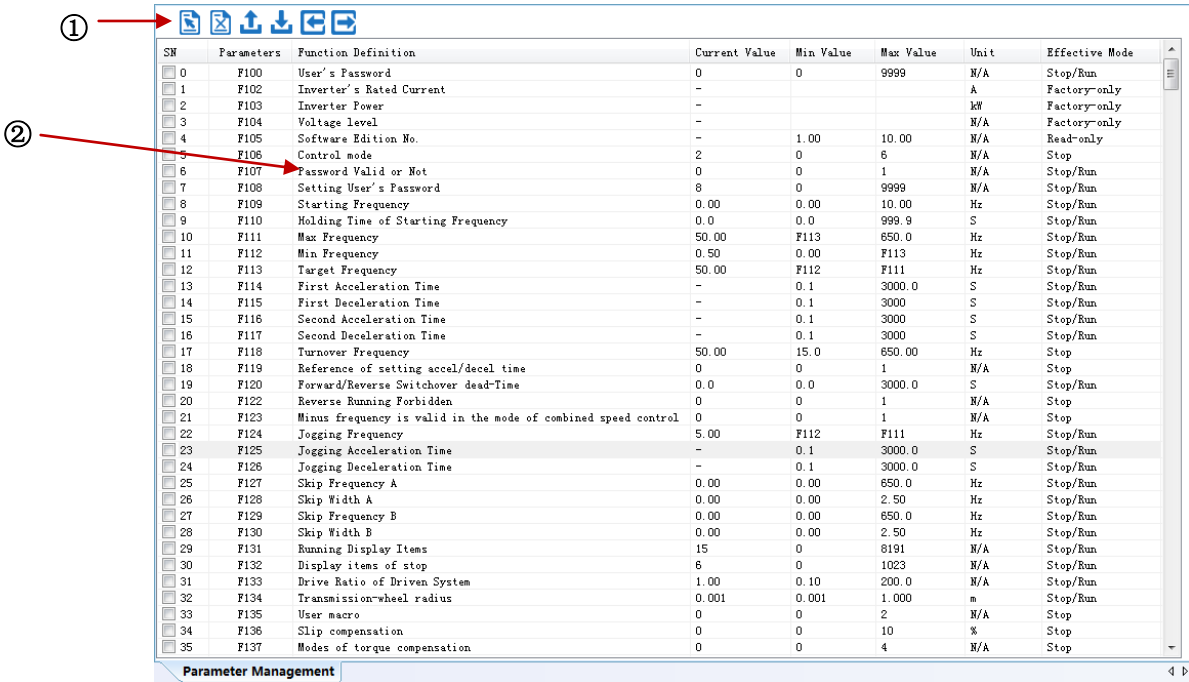


Fig 3-4-1 Parameter management interface

①Function shortcut icon ② Parameter information display area



Select All

Select current all parameters for the subsequent operation;



Unselect

Unselect current parameters;



Import

Import parameters from local storage .EXCEL file or .Par file;



Export

This function can support all function code information exported to EXCEL or Par file to save, also can support the export modified or checked function code information to the EXECL file to save;



Upload

The function is to upload the current selected function code parameter values from the device to the program. After uploading successfully, the function code is changed to green;

 **Download**

Download current selected parameters from PC/PLC to inverterdrive;

➤ **User-defined**

Click “User-defined” in the function tree of left side to open user-defined parameter management interface (Fig 3-4-2).

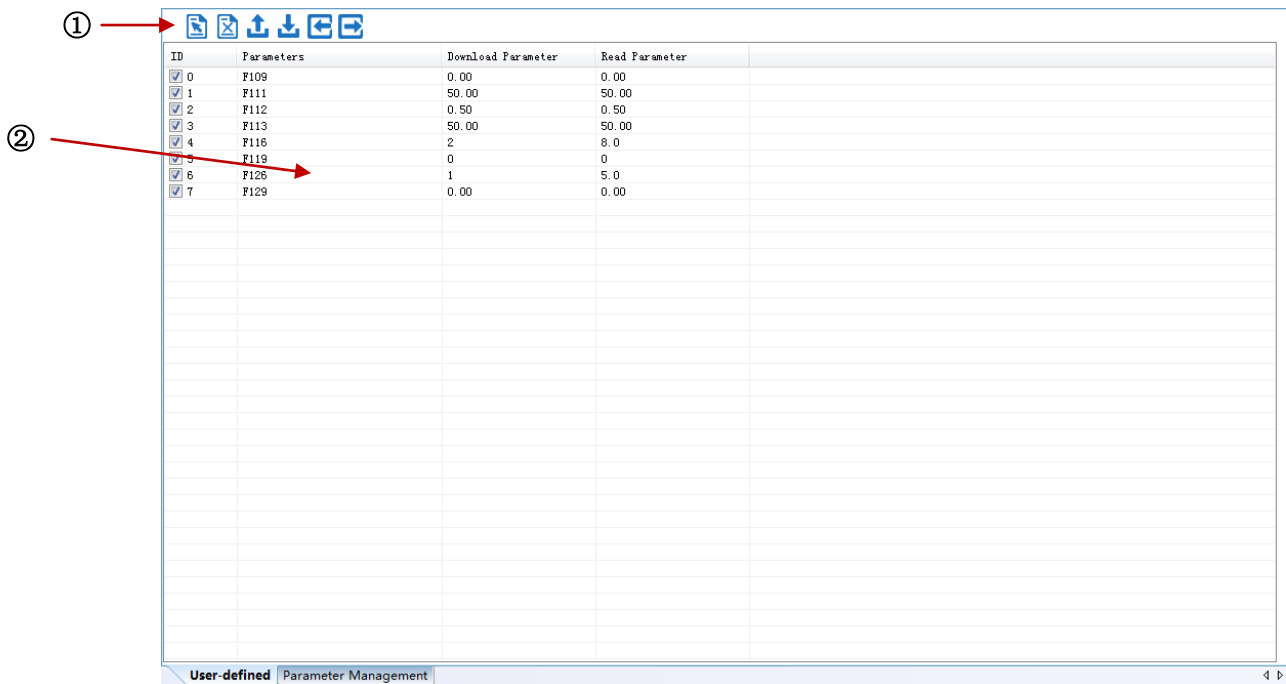


Fig 3-4-2 User-defined interface

① Function shortcut icon ②Parameter information edit area

 **Select All**

Select current all parameters for the subsequent operation;

 **Unselect**

Unselect current parameters;

 **Import**

Import parameters from local storage .EXCEL file or .Par file;

 **Export**

Export current all parameters information, and save to .EXCEL file or .Par file;



Upload current selected parameter from inverterdrive to program, refresh to display;



Download current selected parameters from PC/PLC to inverterdrive;

Click the right mouse button on the custom function code table, and the edit menu will pop up (Fig 3-4-3).

ID	Parameters	Download Parameter	Read Parameter
<input checked="" type="checkbox"/>	F109	0.00	0.00
<input checked="" type="checkbox"/>	F111	50.00	50.00
<input checked="" type="checkbox"/>	F112	0.50	0.50
<input checked="" type="checkbox"/>	F113	50.00	50.00
<input checked="" type="checkbox"/>	F116	2	8.0
<input checked="" type="checkbox"/>	F119		
<input checked="" type="checkbox"/>	F126		
<input checked="" type="checkbox"/>	F129		

Context menu options:

- Add single row
- Add current row
- Delete current row
- Delete number-selected row

Fig 3-4-3 User-defined parameter editor

2. Device State

➤ System Status Monitor

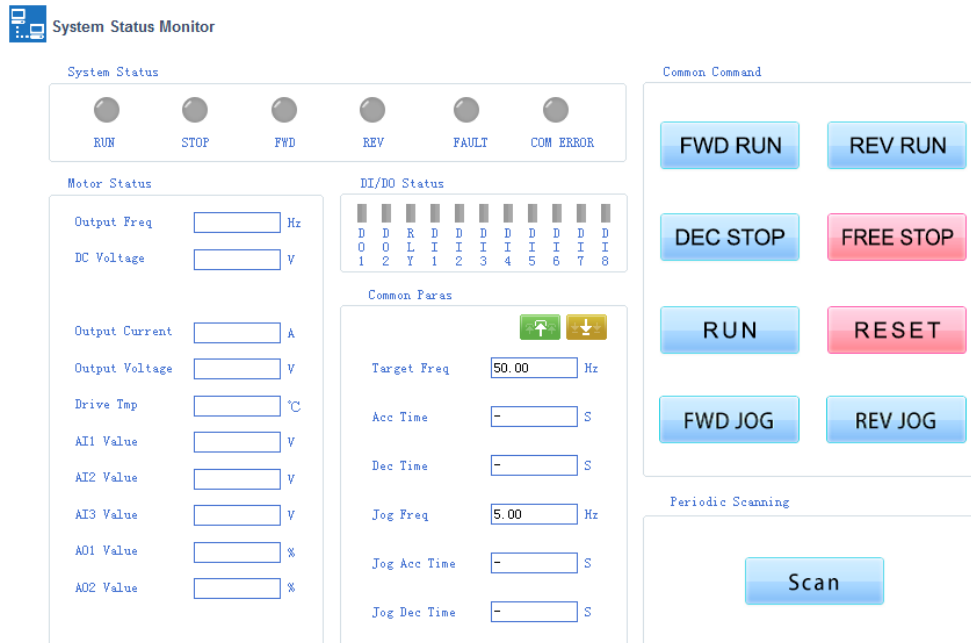


Fig 3-4-4 System Status Monitor Interface

Click **【Scan】** to refresh the parameters in the “System Status Monitor”, “Motor Status” and “DI/DO Status” bars . Control the inverter driver by buttons in the “Common Command” bar.

➤ Fault Record

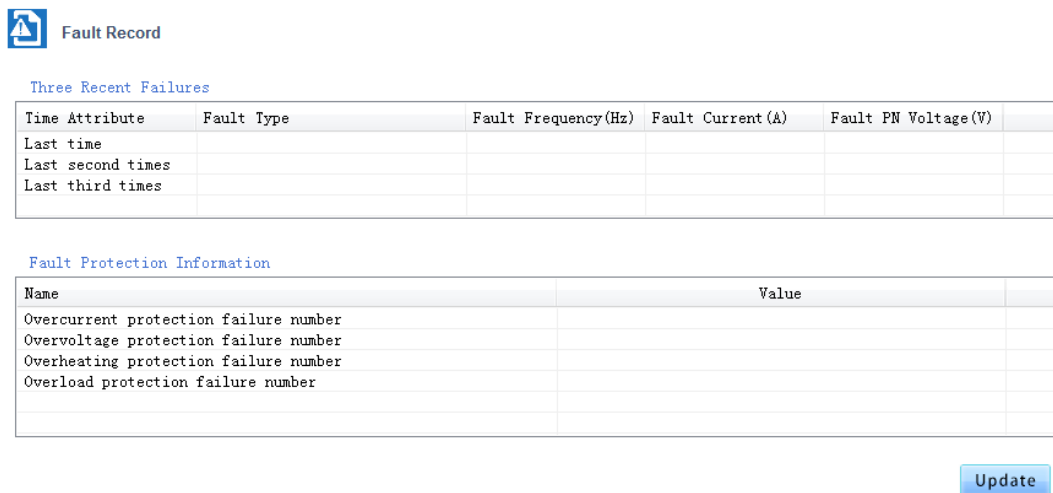


Fig 3-4-5 Fault Record Interface

Click **【Update】** to refresh the parameters in the “Three Recent Failures” and “Fault Protection Information” bars .

3. System Module Function

The function is composed of Speed Control ,Torque Control , Pressure Control .

Parameter Quick Search Catalogue

	Motor Selection	Motor Selection(FE00)
Motor Parameters Configuration	Motor 1 parameters setting	Control mode(F106)
		Rated power(F801)
		Rated voltage(F802)
		Rated current(F803)
		Motor rated frequency(F810)
		Rated rotary speed(F805)
		Motor's parameters selection(F800)
		Stator resistance(F806)
		Rotor resistance(F807)
		Leakage inductance(F808)
		Mutual inductance(F809)
		Motor current without load(F844)
		PMSM stator resistance(F873)
		PMSM D-axis inductance(F871)
		PMSM Q-axis inductance(F872)
PMSM back electromotive force(F870)		
Basic Parameters	ACC/DEC time selection	First acceleration Time(F114)
		Second acceleration time(F116)
		First deceleration time(F115)
		Second deceleration time(F117)
		Accel/decel mode(F306)
		Reference of setting accel/decel time(F119)
		S curve beginning stage proportion(F304)
		S curve ending stage proportion(F305)
	Activate parameters setting	Max Frequency(F111)
		Min Frequency(F112)
		Target Frequency(F113)
		Turnover Frequency(F118)
		Starting Frequency(F109)
		Holding Time of Starting Frequency(F110)
		Speed track(F613)
		Speed track mode(F614)
		Speed track rate(F615)
		Inhibition of current oscillation at low frequency(F641)
		DC Braking Function Selection(F600)
		Initial Frequency for DC Braking(F601)

		DC Braking efficiency before Starting(F602)
		Braking Lasting Time Before Starting(F604)
		Modes of torque compensation(F137)
		Linear compensation(F138)
		Square compensation(F139)
		Voltage compensation point frequency(F140)
		Voltage compensation point 1(F141)
		User-defined frequency point 2(F142)
		User-defined voltage point 2(F143)
		User-defined frequency point 3(F144)
		User-defined voltage point 3(F145)
		User-defined frequency point 4(F146)
		User-defined voltage point 4(F147)
		User-defined frequency point 5(F148)
		User-defined voltage point 5(F149)
		User-defined frequency point 6(F150)
	User-defined voltage point 6(F151)	
	STOP parameters setting	Selecting the mode of stopping the motor(F209)
		DC Braking Function Selection(F600)
		Initial Frequency for DC Braking(F601)
DC Braking efficiency During Stop(F603)		
Braking Lasting Time During Stopping(F605)		
DC brake waiting time(F656)		
Speed setpoint source	Frequency source selecting(F207)	
	Main frequency source X(F203)	
	Accessorial frequency source Y(F204)	
	Reference for selecting accessorial frequency source Y range(F205)	
	Accessorial frequency Y range(F206)	
Command source	Source of start command(F200)	
	Source of stop command(F201)	
	Mode of direction setting(F202)	
	Jogging Frequency(F124)	
	Jogging Acceleration Time(F125)	
	Jogging Deceleration Time(F126)	
	Terminaltwo-line/three-line operation control(F208)	
IO Terminal	AI terminals	Monitoring AI1(F331)
		Monitoring AI2(F332)
		Monitoring AI3(F333)
		Lower limit of AI1 channel input(F400)
		Upper limit of AI1 channel input(F402)
		AI1 channel proportional gain K1(F404)
		Corresponding setting for lower limit of AI1

		input(F401)
		Corresponding setting for upper limit of AI1 input(F403)
		AI1 filtering time constant(F405)
		Lower limit of AI2 channel input(F406)
		Upper limit of AI2 channel input(F408)
		AI2 channel proportional gain K2(F410)
		Corresponding setting for lower limit of AI2 input (F407)
		Corresponding setting for upper limit of AI2 input(F409)
		AI2 filtering time constant(F411)
		Lower limit of AI3 channel input(F412)
		Upper limit of AI3 channel input(F414)
		AI3 channel proportional gain K1(F416)
		Corresponding setting for lower limit of AI3 input(F413)
		Corresponding setting for upper limit of AI3 input(F415)
		AI3 filtering time constant(F417)
	AO terminals	AO1 analog output signal selecting(F431)
		AO1 output range(F423)
		AO1 output compensation(F426)
		AO1 lowest corresponding frequency(F424)
		AO1 highest corresponding frequency(F425)
		AO2 analog output signal selecting(F432)
		AO2 output range(F427)
		AO2 output compensation(F430)
		AO2 lowest corresponding frequency(F428)
		AO2 highest corresponding frequency(F429)
	DI terminals	DI1 terminal functionsetting(F316)
		DI2 terminal function setting(F317)
		DI3 terminal functionsetting(F318)
		DI4 terminal functionsetting(F319)
		DI5 terminal function setting(F320)
		DI6 terminal function setting(F321)
		DI7 terminal function setting(F322)
		DI8 terminal function setting(F323)
Expansion input DIA(FF05)		
Expansion input DIB(FF06)		
Expansion input DIC(FF07)		
Expansion input DID(FF08)		
Diagnostics of DIX terminal(F330)		

	DO terminals	Relay token output(F300)
		DO1 token output(F301)
		DO2 token output(F302)
		Expansion relay 1 output(FF00)
		Expansion relay 2 output(FF01)
Fixed frequency setting		Main frequency source X(F203)
		Stage speed type(F500)
		Selection of Stage Speed Under Auto-circulation Speed Control(F501)
		Selection of Times of Auto- Circulation Speed Control(F502)
		Status after auto circulation running Finished(F503)
		Frequency setting of stagespeed (F504-F518)
		Acceleration timesetting of stagespeed (F519-F533)
		Deceleration timesetting of stagespeed (F534-F548)
		Running directionsof stage speed 1-8 (F549-F556)
		Running directionsof stage speed 9-15 (F573-F579)
		Running time of stagespeed (F557-F564)
		Stop time after finishing stage (F565-F572)
Protection Setting	Overload protection	Inverter Overloading pre-alarm Coefficient(F704)
		Inverter Overloading coefficient(F706)
		Overloading adjusting gains(F705)
		Motor Overloading coefficient(F707)
	Phase loss protection	Input phase loss(F724)
		Input phase loss filtering constant(F728)
		Output phase loss(F727)
	Overheat protection	Carrier frequency auto-adjusting(F747)
		Overheat(F726)
		Overheat protection filtering constant(F730)
		Threshold of pre-alarm overheat(F745)
	Stop Mode	Selection of terminal free stop mode(F700)
		Delay time for free stop and programmable terminal action(F701)
	Zero-current Detection	Zero-current threshold(F754)
		Duration time of zero-current(F755)
	Other Protection	Grounding protection(F760)
		Over-current 1 protection(F737)
		Over-current 1 protection coefficient(F738)
		Under-voltage filtering constant(F729)
		Under-voltage protection voltage threshold(F732)
Analog disconnected protection(F741)		
Threshold of analog disconnected protection(F742)		
Speed Control		Rotary speed loop KP1(F813)

		Rotary speed loop KI1(F814)
		Rotary speed loop KP2(F815)
		Rotary speed loop KI2(F816)
		PID switching frequency 1(F817)
		PID switching frequency 2(F818)
Torque Control	Torque Setpoint	Torque given channel(FC06)
		Torque given coefficient(FC07)
		Torque given command value(FC09)
	Torque boost	Offset torque given channel(FC14)
		Offset torque coefficient(FC15)
		Offset torque cut-off frequency(FC16)
		Offset torque command value(FC17)
	Motor torque limit	Electric torque limited channel(FC28)
		Electric torque limited coefficient(FC29)
		Electric torque limited(FC30)
	Regenerated torque limit	Braking torque limited channel(FC33)
		Braking torque limited coefficient(FC34)
		Braking torque limited(FC35)



Upload

Upload parameters displayed in current page from inverterdrive.

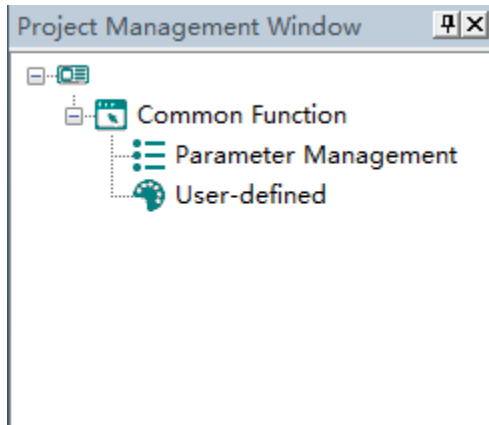


Download

Download parameters displayed in current interface to inverterdrive.

See details for the description of parameters in inverterdrive user manual.

◆ E2000-P



The main program interface left for engineering management window, the user can in the toolbar of the "view" select the "show" and "hidden", the double tree above the module name you can open the corresponding function module window.

1. Common Function

➤ Parameter Management

Click “Parameter Management” in the function tree of left side to open parameter management interface (Fig 3-5-1).

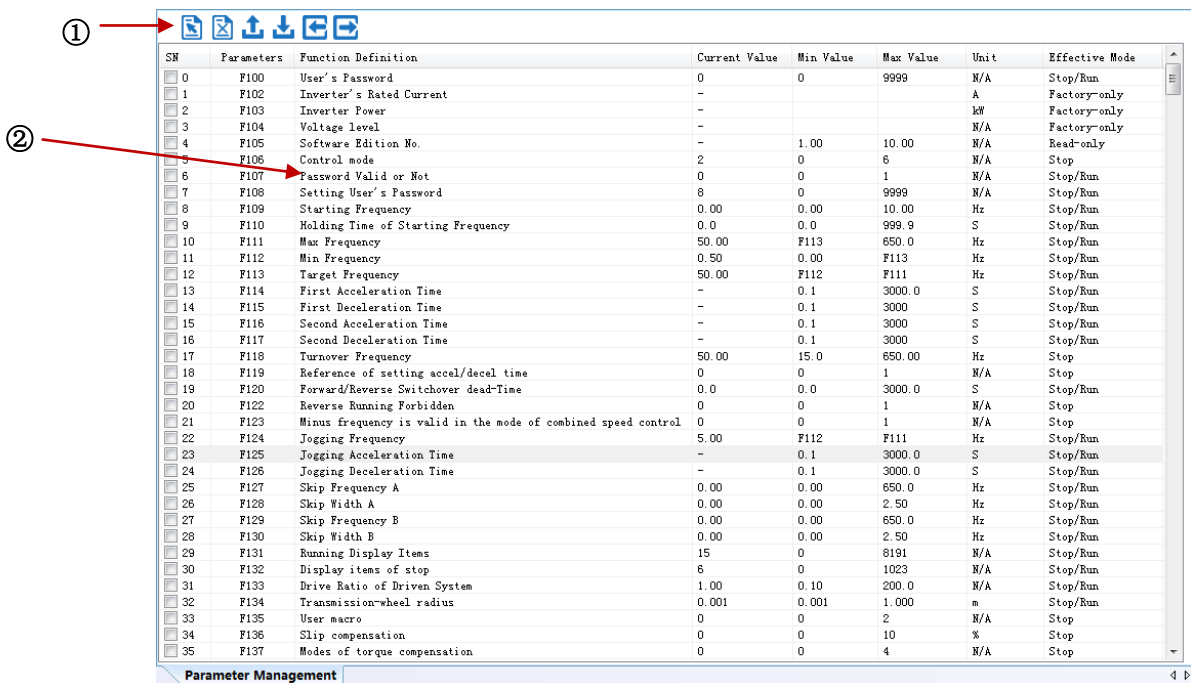


Fig 3-5-1 Parameter management interface

①Function shortcut icon ② Parameter information display area



Select current all parameters for the subsequent operation;



Unselect current parameters;



Import parameters from local storage .EXCEL file or .Par file;



This function can support all function code information exported to EXCEL or Par file to save, also can support the export modified or checked function code information to the EXECL file to save;



The function is to upload the current selected function code parameter values from the device to the program. After uploading successfully, the function code is changed to green;



Download current selected parameters from PC/PLC to inverterdrive;

➤ **User-defined**

Click “User-defined” in the function tree of left side to open user-defined parameter management interface (Fig 3-5-2).

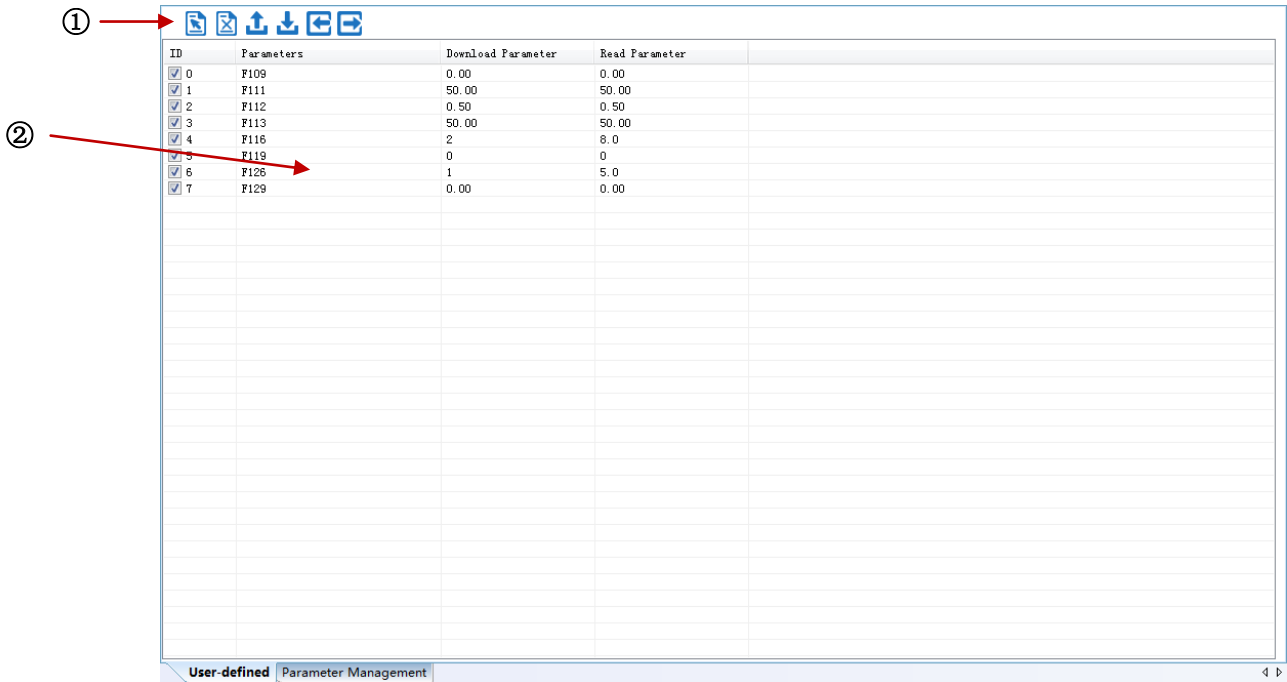


Fig 3-5-2 User-defined interface

① Function shortcut icon ②Parameter information edit area

 **Select All**

Select current all parameters for the subsequent operation;

 **Unselect**

Unselect current parameters;

 **Import**

Import parameters from local storage .EXCEL file or .Par file;

 **Export**

Export current all parameters information, and save to .EXCEL file or .Par file;

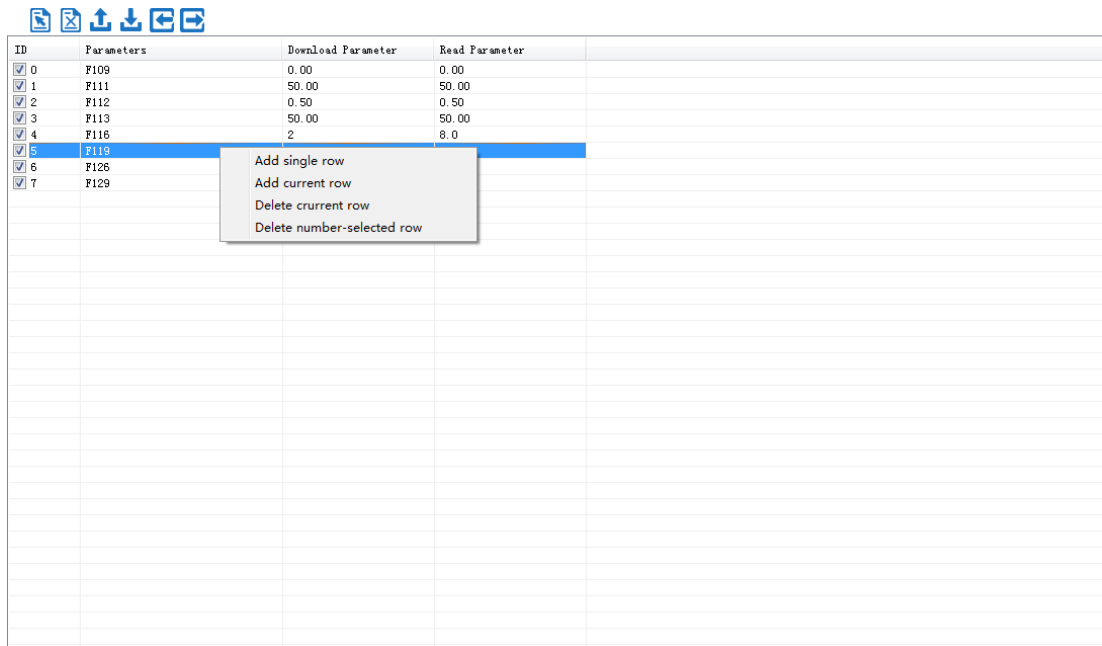
 **Upload**

Upload current selected parameter from inverterdrive to program, refresh to display;

 **Download**

Download current selected parameters from PC/PLC to inverterdrive;

Click the right mouse button on the custom function code table, and the edit menu will pop up (Fig 3-5-3).

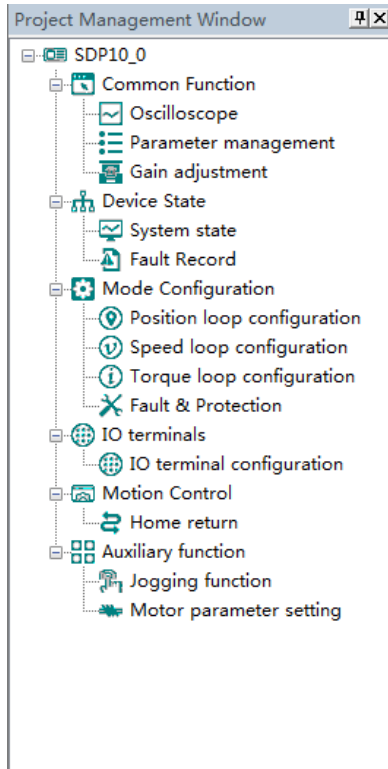


The screenshot shows a table with four columns: ID, Parameters, Download Parameter, and Read Parameter. The table contains several rows, with row 5 (ID: 5, Parameters: F119) selected. A context menu is open over row 5, displaying four options: "Add single row", "Add current row", "Delete current row", and "Delete number-selected row".

ID	Parameters	Download Parameter	Read Parameter	
<input checked="" type="checkbox"/>	0	F109	0.00	0.00
<input checked="" type="checkbox"/>	1	F111	50.00	50.00
<input checked="" type="checkbox"/>	2	F112	0.50	0.50
<input checked="" type="checkbox"/>	3	F113	50.00	50.00
<input checked="" type="checkbox"/>	4	F116	2	8.0
<input checked="" type="checkbox"/>	5	F119		
<input checked="" type="checkbox"/>	6	F126		
<input checked="" type="checkbox"/>	7	F129		

Fig 3-5-3 User-defined parameter editor

◆ SDP10




The main program interface left for engineering management window, the user can in the toolbar of the "view" select the "show" and "hidden", the double tree above the module name you can open the corresponding function module window.

1. Common Function

➤ Oscilloscope

➤  Save: Save the current oscilloscope graphics as a custom file.

➤  Import: Import saved oscilloscope image from local storage.

➤  Screen Shot: Save the current oscilloscope graphics as an BMP file.






➤  Cursor: Cursor can be displayed for measuring time and amplitude.

➤ **CH** Channel Select Switch: Switch the selected on the left side of the channel.

➤ **+** Increase amplitude range: Increasing the channel amplitude range.

➤ **-** Reduce amplitude range: Reduce the channel amplitude range.

➤  Move Up: Move up the curve.

-  **Move Down:** Move down the curve;
-  **Left Shift:** Move the curve left;
-  **Right Shift:** Move the curve right;
-  **Zoom In:** Zoom In can enlarge the operation of the curve.
-  **Zoom Out:** Zoom Out can be reduced to the curve operation.

Oscilloscope type selection

Click on the lower left corner of the selection button Oscilloscope

Real-time oscilloscope, complete oscilloscope type switch.

1) when the user selects an oscilloscope, the user can perform the following operation:

First, click  to popup trigger setting window (Fig 3-6-1)

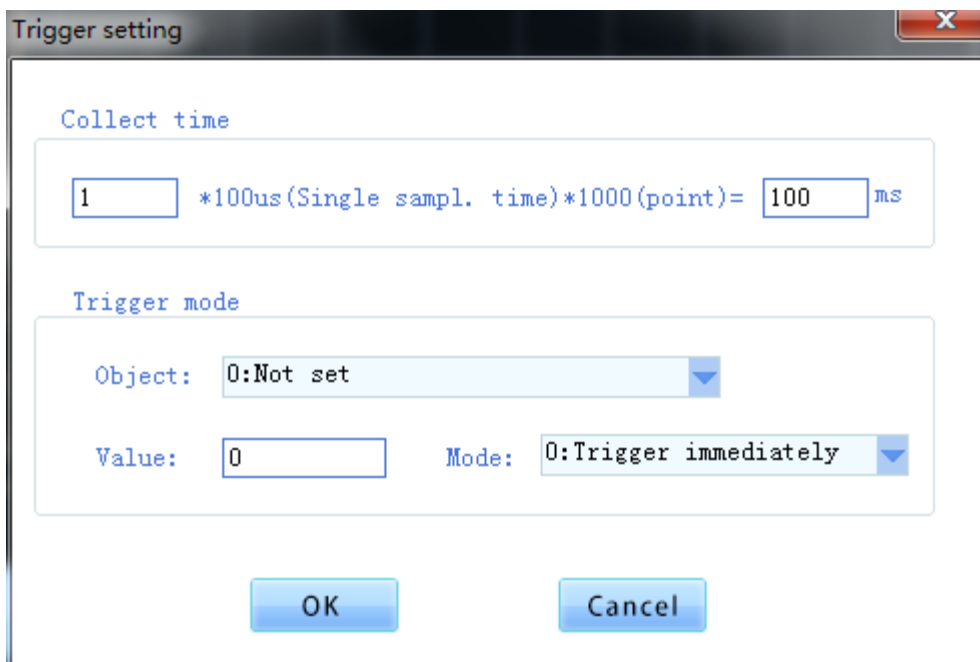


Fig 3-6-1 window of trigger setting

After setting complete, click , Click  or  to start sampling (Fig 3-6-2)

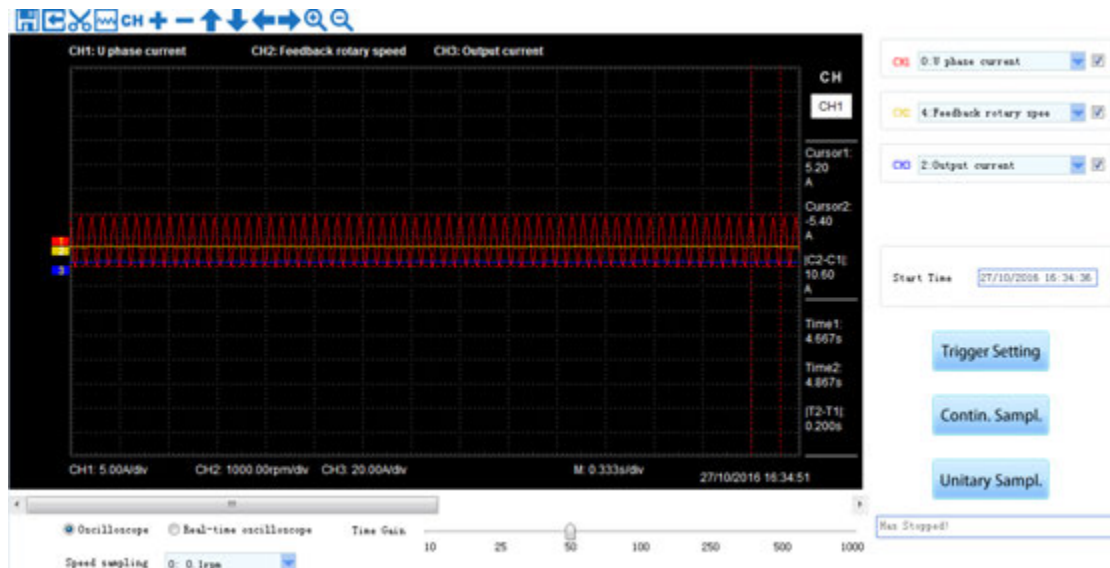


Fig 3-6-2 Oscilloscope Interface

2) when the user selects a real-time oscilloscope, the user can perform the following operation:

After setting the sampling time, click [Start], real-time oscilloscope starts to present waveform (Fig 3-6-3)

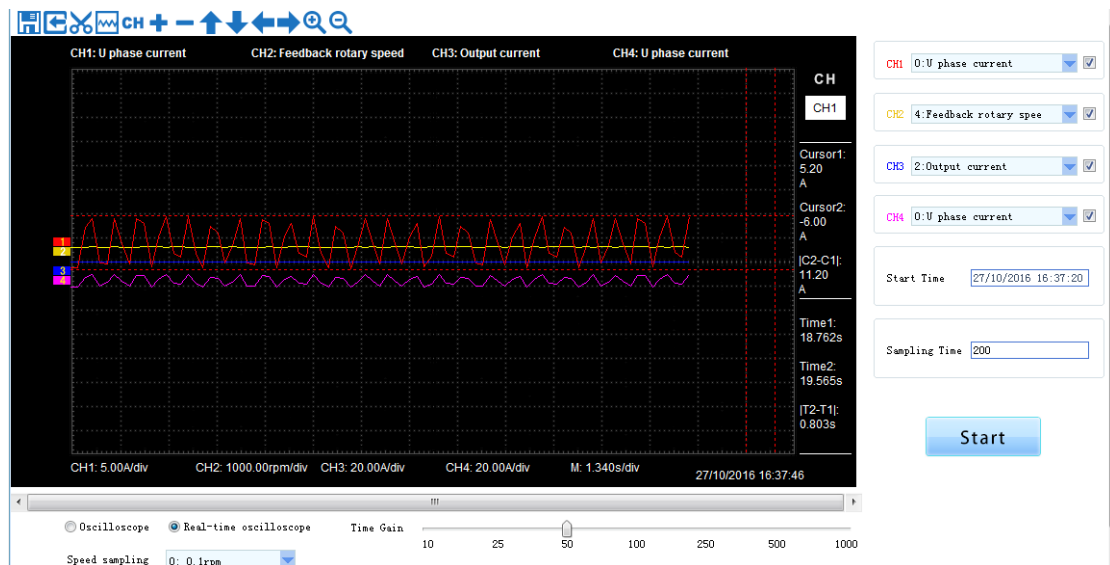


Fig 3-6-3 Real-time Oscilloscope Interface

3)After sampling, the operation can be carried out as follows:



Channel waveform amplitude adjustment:

Select waveform number, scroll up or down to adjust waveform amplitude.

Time shaft adjustment:

Drag[Time gain] to adjust, horizontal axis presents the time for each box.

Waveform curve zoom operation:

Select the picture on the left waveform corresponding to the number, click  or  button to zoom in and out of the waveform curve.

Note: 1.To ensure the display of oscilloscope being real-time, set communication mode as RTU and baud rate as 57600, are recommended.

2. The machine without electricity or by PC after reset, the machine will need about 6 seconds, initialization time, please don't collect during initialization waveform, so as to avoid mistakes

➤ **Parameter Management**

Note: The software of servo drive needs to update the latest version, so that it can support the parameter setting function of motor.

Click “parameter management” or shortcut icon in the function tree of left side to open parameter management interface (Fig 3-6-4).

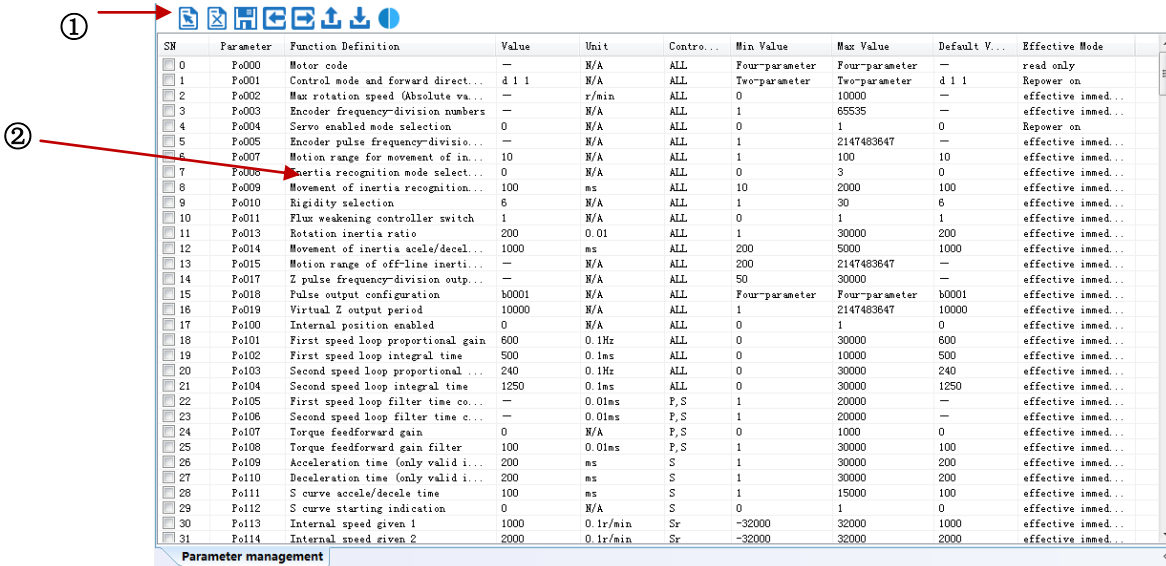


Fig 3-6-4 Parameter management interface

① **Function shortcut icon** ② **Parameter information display area**

 **Select All**

Select current all parameters for the subsequent operation;

 **Unselect**

Unselect current parameters;

 **Save**

Save the current set value of all parameters to project file;



Import

Import parameters from local storage, EXCEL file or .Par file;



Export

This function can support all function code information exported to EXCEL or Par file to save, also can support the export modified or checked function code information to the EXECL file to save;



Upload

The function is to upload the current selected function code parameter values from the device to the program. After uploading successfully, the function code is changed to green;



Download

Download current selected parameters from PC/PLC to servo drive;



Comparison

Compare selected parameter value with current value of servo drive, popup the window of corresponding comparison results.

➤ Gain Adjustment

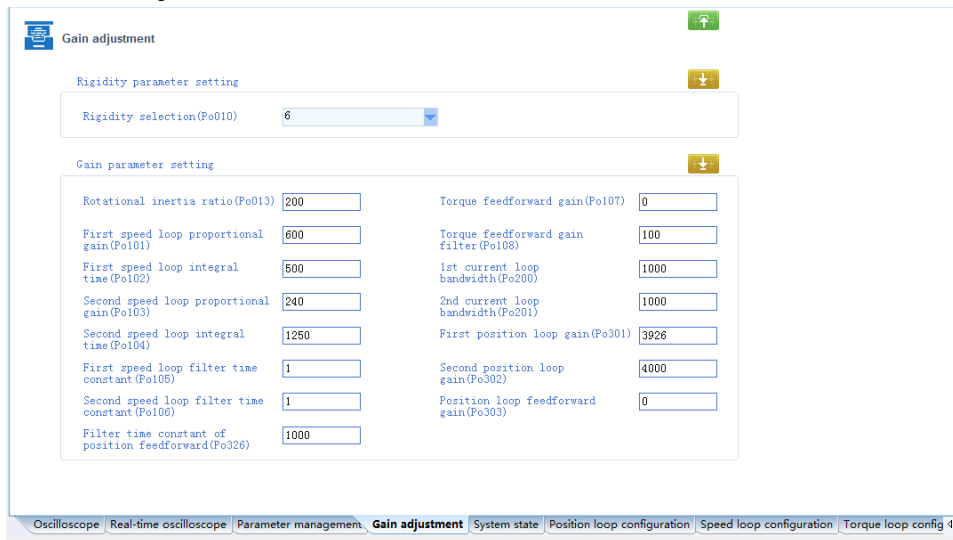


Fig 3-6-5 Gain Adjustment Interface




Upload

Upload parameters displayed in current page from servo drive.



Download

Download parameters in the box

- Note: 1. Click  on the [Rigidity parameter setting] to refresh the rigidity table.
 2. The function table module to modify the servo rigidity does not refresh gain table.

2. Device State

System State

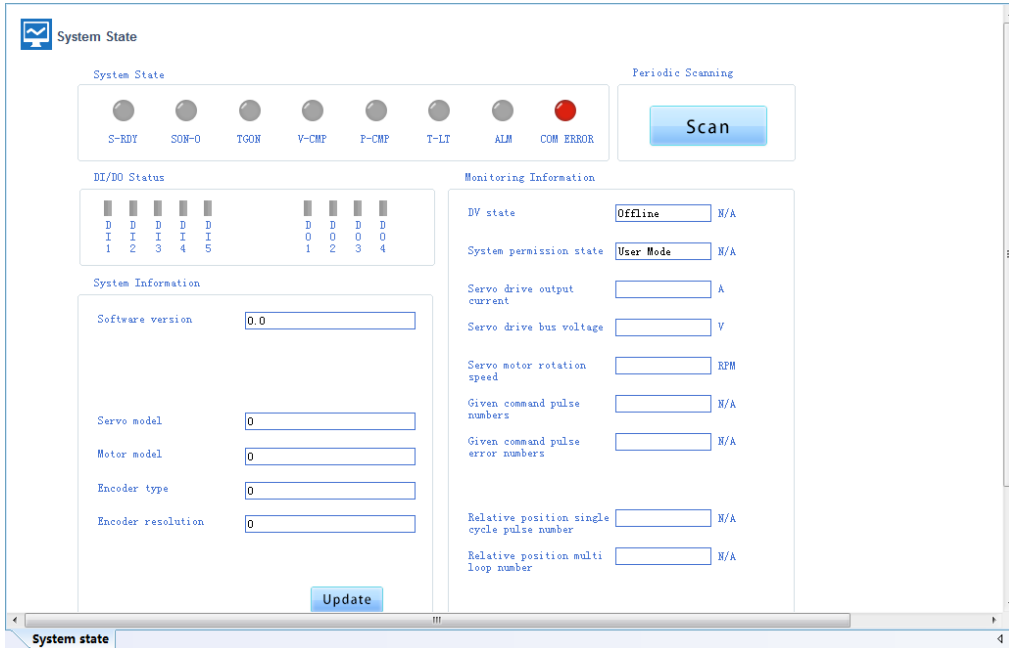



Fig 3-6-6 System State Interface

Click  to read and update current servo drive information.

Click  to scan and update current servo drive status.

3. Mode Configuration

The function is composed of position-loop configuration, speed-loop configuration, torque-loop configuration, Fault&Protection.

Parameter Quick Search Catalogue

	Electronic gear	First group electronic gear numerator(Po304)
		First group electronic gear denominator(Po305)
	Position Command Filter	Position loop filter time constant(Po306)
		Position mode FIR filter(Po340)
		Acceleration time in position mode(Po343)
	Speed Feedforward	Position loop feedforward gain(Po303)
		Filter time constant of position feedforward(Po326)
	Positioning complete	Command pulse clear function(Po308)
		Pulses numbers range of position arrival(Po307)

		Position error alarm pulses numbers(Po309)
Speed Loop Configuration	Accel/decel time	S curve starting indication(Po112)
		Acceleration time (only valid in speed mode)(Po109)
		Deceleration time (only valid in speed mode)(Po110)
		S curve accele/decele time(Po111)
	Zero speed clamp	Zero clamp enabled(Po127)
		Speed value in the zero clamp(Po126)
	Torque feedforward	Torque feedforward gain(Po107)
		Torque feedforward gain filter(Po108)
	Speed reached	Range of target speed(Po117)
		Rotation detection value(Po118)
Speed feedback filter	First speed loop filter time constant(Po105)	
	Second speed loop filter time constant(Po106)	
Torque Loop Configuration	Torque mode command limit	Internal max torque limit value(Po202)
		Forward max torque limit(Po208)
		Reverse max torque limit(Po209)
Fault and Protection	Overload Protection	Motor overload coefficient setting(So-37)
		Servo OFF stop mode(So-07)
	Stop Mode	Dynamic braking delay time(So-08)
		Delay time for servo OFF(So-02)
	Brake Output	Speed threshold of electromagnetic braking(So-16)
		Delay time for electro-magnetic braking OFF(So-03)

 Upload

Upload parameters displayed in current page from servo drive.

 Download

Download parameters displayed in current interface to servo drive.

See details for the description of parameters in Servo drive user manual.

4. IO Terminal

IO Terminal Configuration

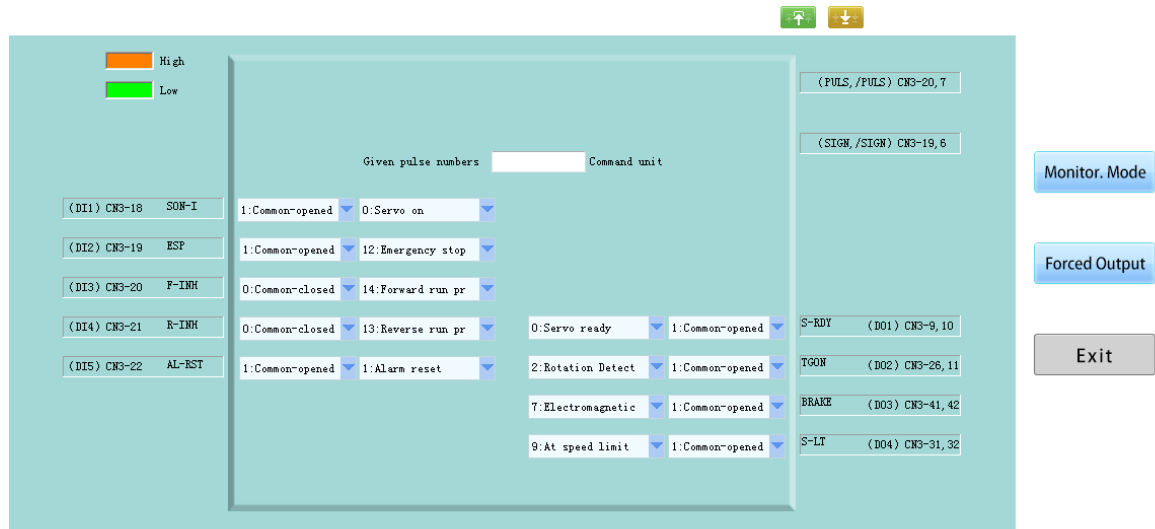


Fig 3-6-7 IO Terminal Configuration Interface

Click **Monitor. Mode** to start real-time data refreshing.

Click **Forced Output** to upper or lower parameter bit, click **Valid** or **Invalid** to switch high-low bit.

Terminal force description:

Terminal force can be in the invalid function of the terminal force for the effective state, if the terminal function has been in effective state mandatory function will not produce effect.

5. Motion Control

➤ Multistage Speed

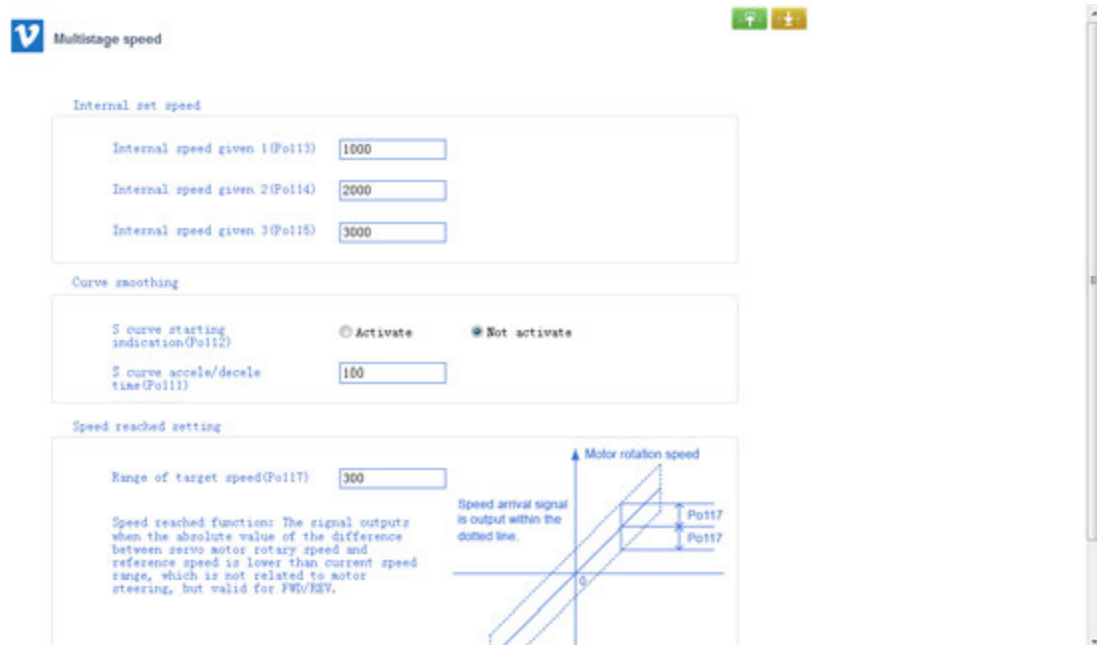




Fig 3-6-8 Multistage Speed Interface

Click  to upload parameters in current page, after modifying, click  to download parameters in current interface. If current parameters are known, they can be download directly without uploading.

Note: See details for the description of parameters in Servo drive user manual.

➤ Multistage Position

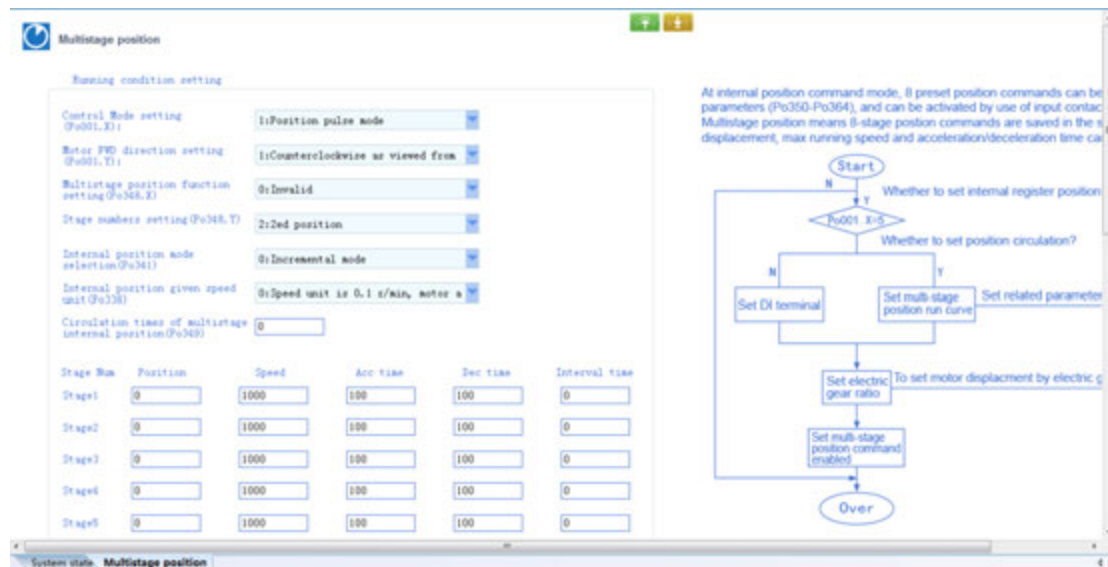


Fig 3-6-9 Multistage position interface-1

When [Multistage position function setting Po348.X] selects [0: Invalid], only 1st stage position is valid and can be set; when selecting [1: Valid], valid stage number can be selected by [Stage number setting Po348.Y], the parameter of the corresponding stage can be set (Fig

3-6-9 Multistage position interface-1)

Note: When Po349=0, cycle time is unlimited.

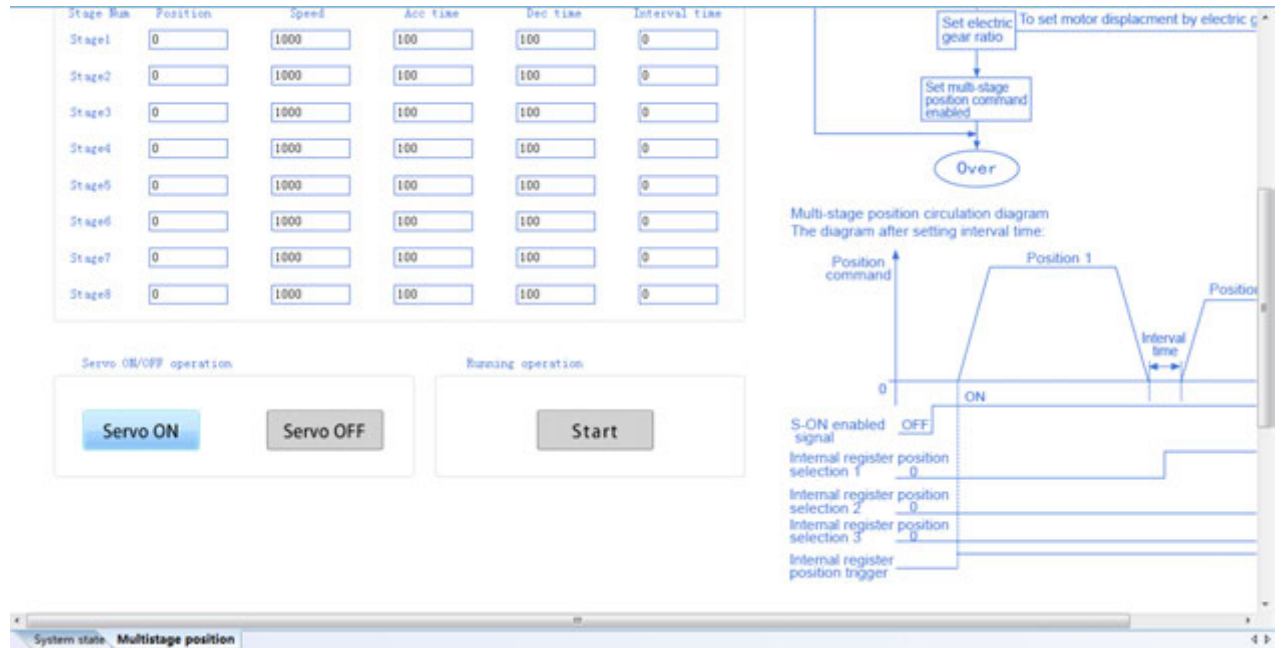



Fig 3-6-9 multistage position interface-2

After setting parameters, click  to download the parameter modification.

Then click  to make servo motor power-up, click, servo motor starts to run as set.(Fig 3-6-9 multistage position interface-2)

➤ Home Return

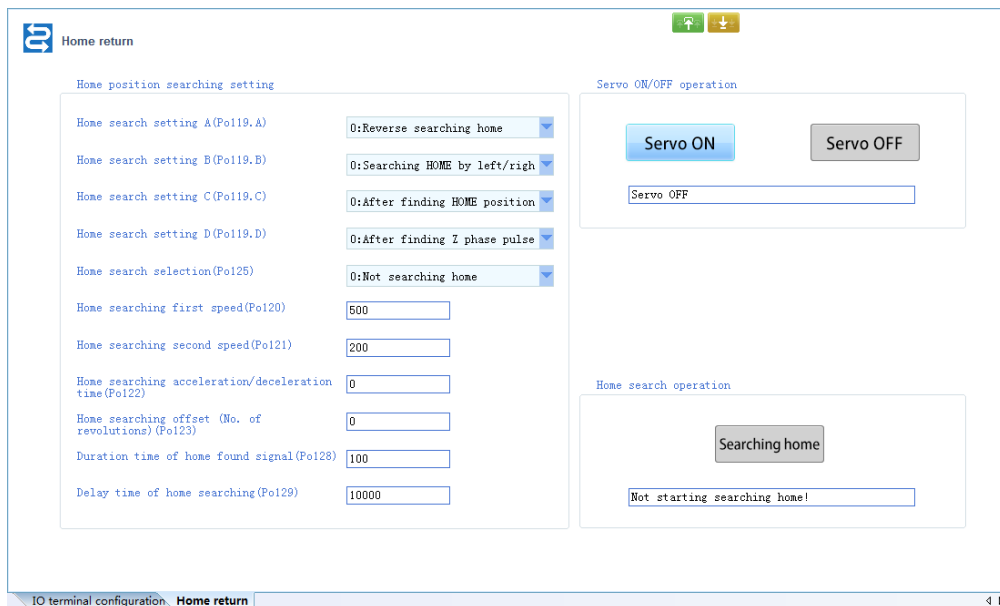


Fig 3-6-10 Home return interface

Set the parameter of [Home position searching setting] firstly, then click [Servo ON], the status bar in [Servo ON/OFF operation] will display [Servo ON].

Click [Home searching] to return the record position.

Note: [Searching home] function is to force the search for the origin, click the button will perform Po125 "Searching home by software trigger" option, and the Po125 value is set to 3.

6. Auxiliary Function

➤ JOG



Fig 3-6-11 Jogging interface

Set [Jogging speed setting] firstly, then click **Servo ON** to power up the servo motor. Click **FWD JOG**, servo motor rotates forward, click **REV JOG**, servo motor rotates reversely.

➤ Motor parameter setting



Motor parameter setting

Setting type selection

Inertia recognition mode selection (Po008)



Electrical angle identification settings (So-25)



Parameter setting

Rated current (Ho001)	<input type="text" value="-"/>	D-axis inductance (Ho006)	<input type="text" value="-"/>
Max rotary speed (Ho002)	<input type="text" value="-"/>	Q-axis inductance (Ho007)	<input type="text" value="-"/>
Rated rotary speed (Ho003)	<input type="text" value="-"/>	Back EMF line voltage value (Ho008)	<input type="text" value="-"/>
Motor pole pairs (Ho004)	<input type="text" value="-"/>	Servo motor rated power (Ho011)	<input type="text" value="-"/>
Resistance between phases (Ho005)	<input type="text" value="-"/>	Motor movement inertia (Ho012)	<input type="text" value="-"/>
Movement of inertia recognition gap time (Po009)	<input type="text" value="100"/>	Movement of inertia acele/decel time (Po014)	<input type="text" value="1000"/>
Motion range of off-line inertia recognition (Po015)	<input type="text" value="-"/>		

Current inertia ratio: 300%

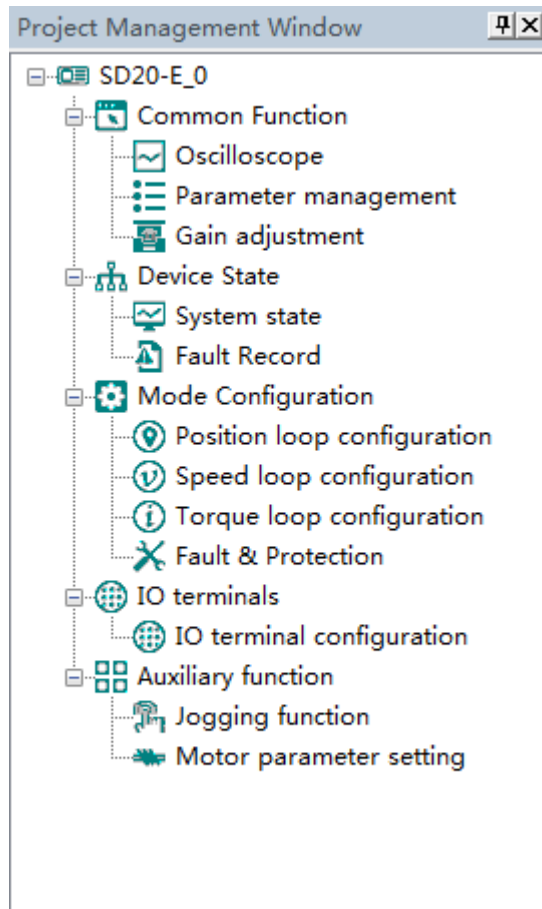
Fig 3-6-12 Motor parameter setting interface

Firstly, set parameter content of [Setting type selection], there is no [upload] [download] in this content; then click  to upload the original parameters of [motor parameter setting], or modify directly without [upload]; then click  to download the set parameters.

After downloading the parameters, click  to complete forward identification function, click  to complete reverse identification function.

Note: when Po008=1, forward identification will run forward firstly then reverse, reverse identification will run reverse firstly then forward. When Po008=2, forward identification will run forward, reverse identification will run reverse.







◆ SD20-E









The main program interface left for engineering management window, the user can in the toolbar of the "view" select the "show" and "hidden", the double tree above the module name you can open the corresponding function module window.

1. Common Function

➤ Oscilloscope

-  Save: Save the current oscilloscope graphics as a custom file.
-  Import: Import saved oscilloscope image from local storage.
-  Screen Shot: Save the current oscilloscope graphics as an BMP file.
-  Cursor: Cursor can be displayed for measuring time and amplitude.
- **CH** Channel Select Switch: Switch the selected on the left side of the channel.
-  Increase amplitude range: Increasing the channel amplitude range.
-  Reduce amplitude range: Reduce the channel amplitude range.

-  **Move Up:** Move up the curve.
-  **Move Down:** Move down the curve;
-  **Left Shift:** Move the curve left;
-  **Right Shift:** Move the curve right;
-  **Zoom In:** Zoom In can enlarge the operation of the curve.
-  **Zoom Out:** Zoom Out can be reduced to the curve operation.

Oscilloscope type selection

Click on the lower left corner of the selection button Oscilloscope

Real-time oscilloscope, complete oscilloscope type switch.

1) when the user selects an oscilloscope, the user can perform the following operation:

First, click  to popup trigger setting window (Fig 3-7-1)

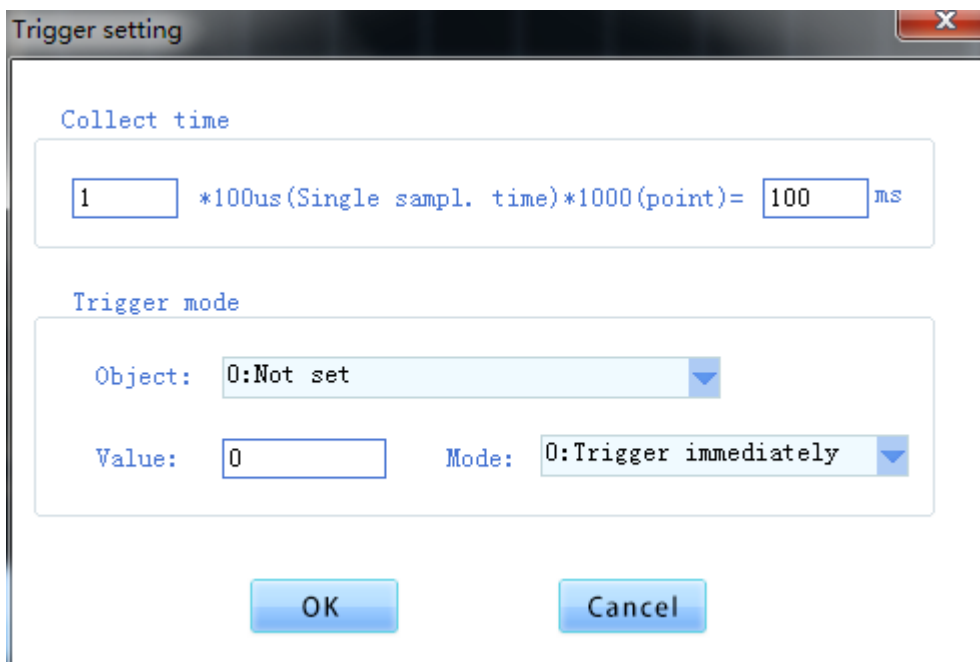


Fig 3-7-1 window of trigger setting

After setting complete, click , Click  or  to start sampling (Fig 3-7-2)

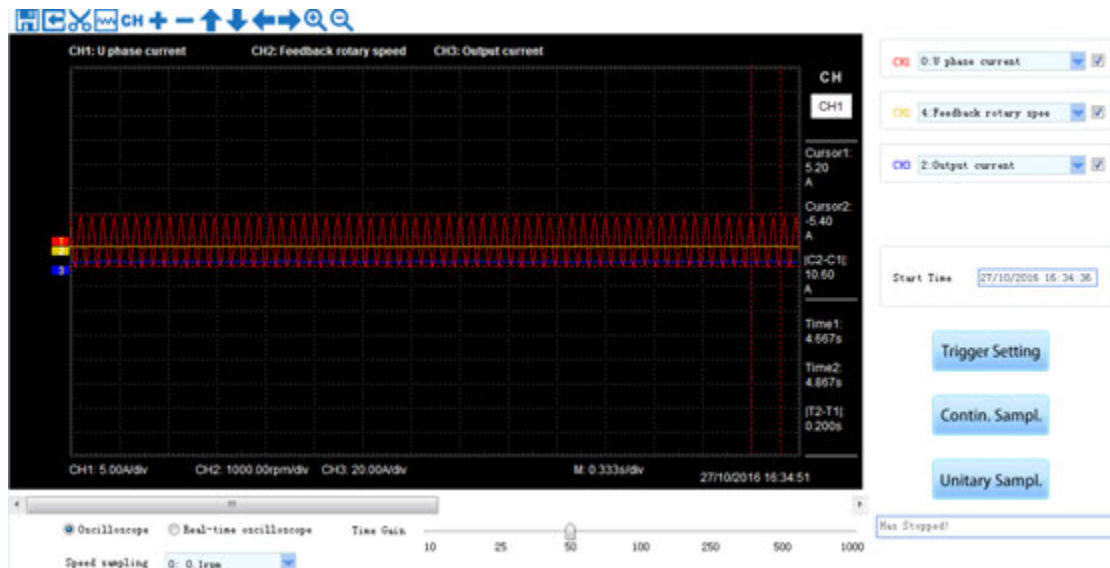


Fig 3-7-2 Oscilloscope Interface

2) when the user selects a real-time oscilloscope, the user can perform the following operation:

After setting the sampling time, click [Start], real-time oscilloscope starts to present waveform (Fig 3-7-3)

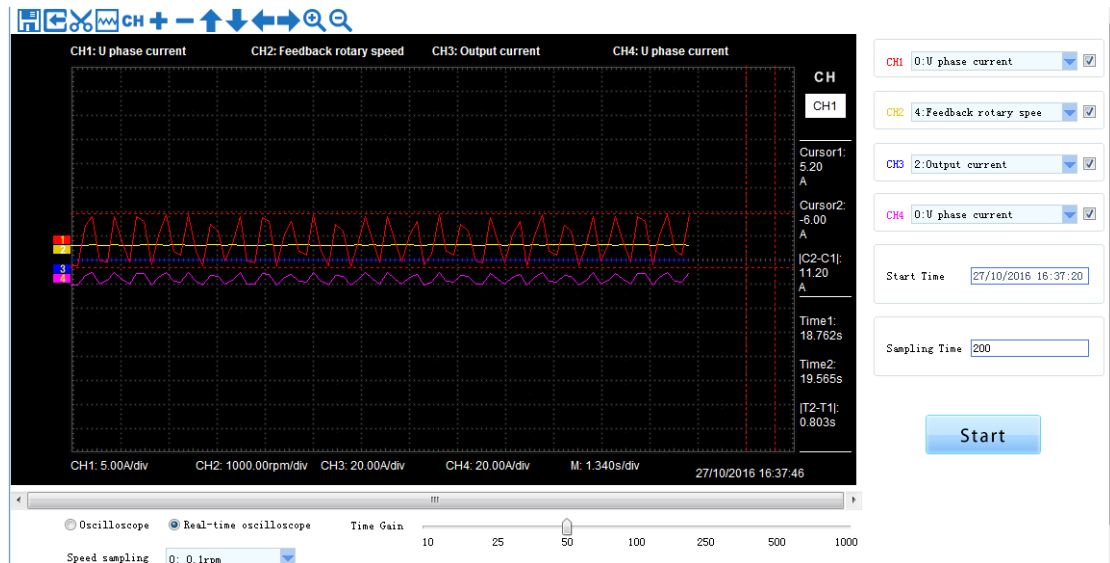


Fig 3-7-3 Real-time Oscilloscope Interface

3)After sampling, the operation can be carried out as follows:



Channel waveform amplitude adjustment:

Select waveform number, scroll up or down to adjust waveform amplitude.

Time shaft adjustment:

Drag[Time gain] to adjust, horizontal axis presents the time for each box.

Waveform curve zoom operation:

Select the picture on the left waveform corresponding to the number, click  or  button to zoom in and out of the waveform curve.

Note: 1. To ensure the display of oscilloscope being real-time, set communication mode as RTU and baud rate as 57600, are recommended.

2. The machine without electricity or by PC after reset, the machine will need about 6 seconds, initialization time, please don't collect during initialization waveform, so as to avoid mistakes

➤ Parameter Management

Note: The software of servo drive needs to update the latest version, so that it can support the parameter setting function of motor.

Click “parameter management” or shortcut icon in the function tree of left side to open parameter management interface (Fig 3-7-4).

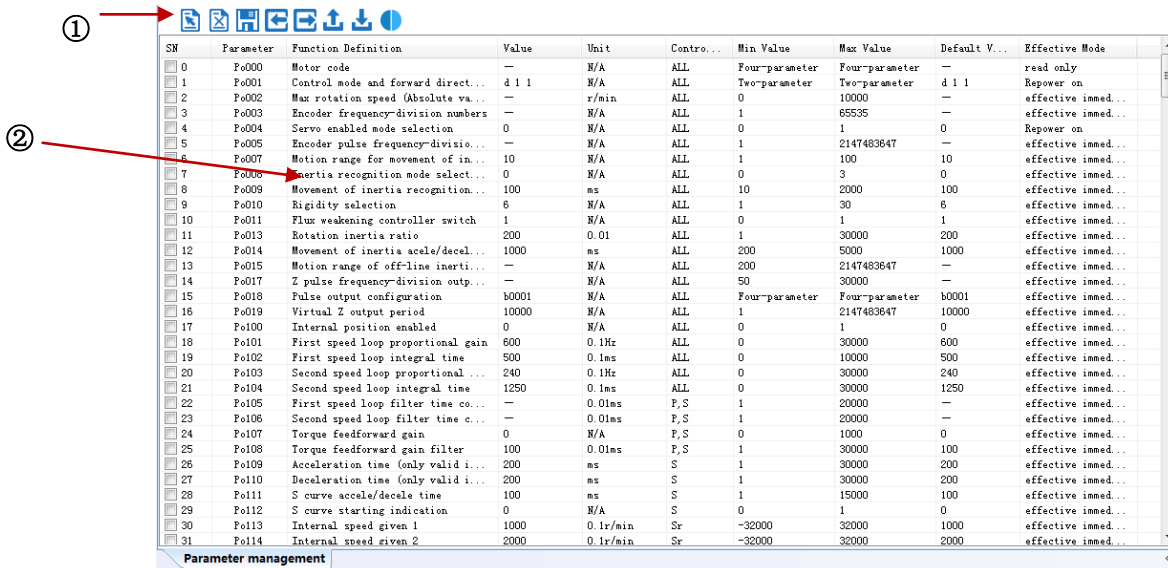


Fig 3-7-4 Parameter management interface

① Function shortcut icon ②Parameter information display area

 Select All

Select current all parameters for the subsequent operation;

 Unselect

Unselect current parameters;

 Save

Save the current set value of all parameters to project file;



Import parameters from local storage, EXCEL file or .Par file;



This function can support all function code information exported to EXCEL or Par file to save, also can support the export modified or checked function code information to the EXECL file to save;



The function is to upload the current selected function code parameter values from the device to the program. After uploading successfully, the function code is changed to green;



Download current selected parameters from PC/PLC to servo drive;



Compare selected parameter value with current value of servo drive, popup the window of corresponding comparison results.

➤ Gain Adjustment

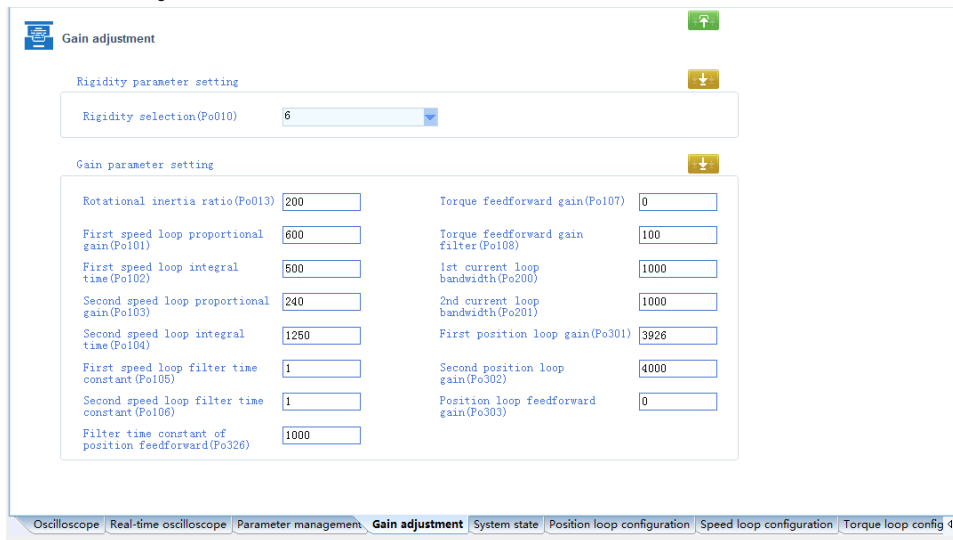



Fig 3-7-5 Gain Adjustment Interface



Upload parameters displayed in current page from servo drive.



Download parameters in the box

- Note: 1. Click  on the [Rigidity parameter setting] to refresh the rigidity table.
 2. The function table module to modify the servo rigidity does not refresh gain table.

2. Device State

System State

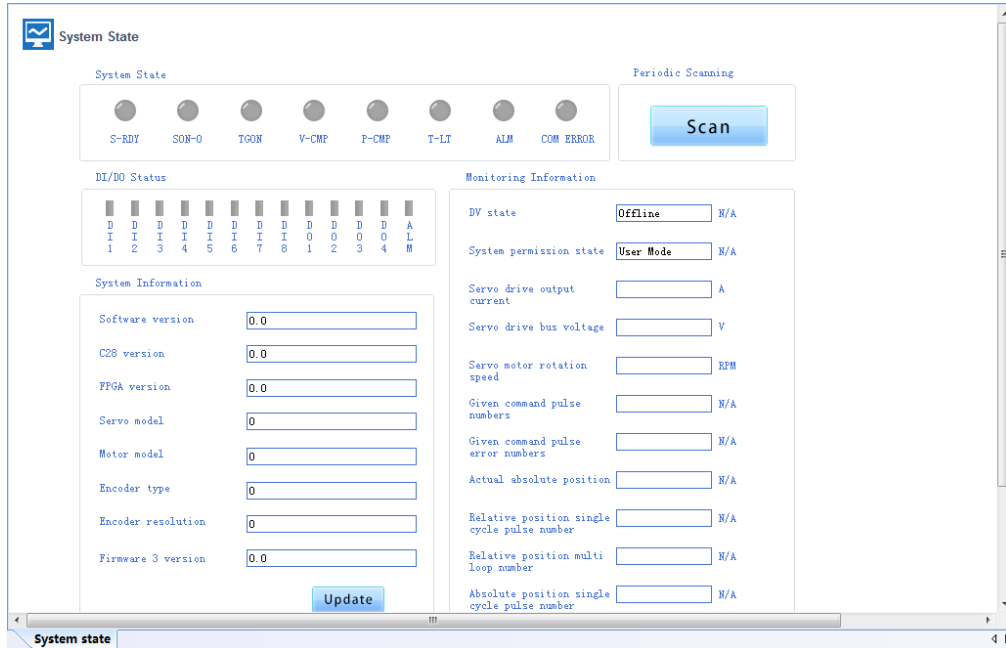



Fig 3-7-6 System State Interface

Click  to read and update current servo drive information.

Click  to scan and update current servo drive status.

3. Mode Configuration

The function is composed of position-loop configuration, speed-loop configuration, torque-loop configuration, Fault&Protection.

Parameter Quick Search Catalogue

Position-loop Configuration	Input Set	Command source mode selection
		Command source setting
	Electronic Gear	Electronic gear selection(Po339)
		First group electronic gear numerator(Po304)
		First group electronic gear denominator(Po305)
		Second group electronic gear numerator(Po344)
	Second group electronic gear denominator(Po346)	
	Position Command	Position loop filter time constant(Po306)

	Filter	Position mode FIR filter(Po340)
		Acceleration time in position mode(Po343)
	Speed Feedforward	Position loop feedforward gain(Po303)
		Filter time constant of position feedforward(Po326)
	Positioning complete	Command pulse clear function(Po308)
		Pulses numbers range of position arrival(Po307)
Position error alarm pulses numbers(Po309)		
Speed Loop Configuration	Accel/decel time	S curve starting indication(Po112)
		Acceleration time (only valid in speed mode)(Po109)
		Deceleration time (only valid in speed mode)(Po110)
		S curve accele/decele time(Po111)
	Zero speed clamp	Zero clamp enabled(Po127)
		Speed value in the zero clamp(Po126)
	Torque feedforward	Torque feedforward gain(Po107)
		Torque feedforward gain filter(Po108)
	Speed reached	Range of target speed(Po117)
		Rotation detection value(Po118)
	Speed feedback filter	First speed loop filter time constant(Po105)
		Second speed loop filter time constant(Po106)
Torque Loop Configuration	Torque mode command filter	Torque increasing time(Po212)
		Torque decreasing time(Po213)
	Torque mode command limit	Torque limiting by analog(Po203)
		Internal max torque limit value(Po202)
		Forward max torque limit(Po208)
		Reverse max torque limit(Po209)
	Torque mode speed limit	Speed limit during torque control(Po210)
		Internal speed limit(Po211)
	Torque mode status output	Target torque range(Po237)
		Torque filter frequency(Po238)
Fault and Protection	Overload Protection	Motor overload coefficient setting(So-37)
	Stop Mode	Servo OFF stop mode(So-07)
		Dynamic braking delay time(So-08)
	Overtravel Protection	Forward run prohibited(So-17)
		Reverse run prohibited(So-18)
		Fwd/Rev run prohibited torque setting(Po216)
		Fwd/Rev run prohibited and emergency stop torque(Po207)
		Overtravel limit function(So-39)
		Forward running range pulse when overtravel protection(Po140)
		Forward running range multi-loop numbers when overtravel protection(Po142)
		Reverse running range pulse when overtravel protection(Po143)
Reverse running range multi-loop numbers when		

		overtravel protection(Po145)
	Input Phase	Input power phase-loss protection(So-06)
	Regenerative Brake	Braking resistor value(So-04)
		Discharge duty ratio(So-05)
	Brake Output	Delay time for servo OFF(So-02)
		Speed threshold of electromagnetic braking(So-16)
		Delay time for electro-magnetic braking OFF(So-03)

 Upload

Upload parameters displayed in current page from servo drive.

 Download

Download parameters displayed in current interface to servo drive.

See details for the description of parameters in Servo drive user manual.

4. IO Terminal

IO Terminal Configuration

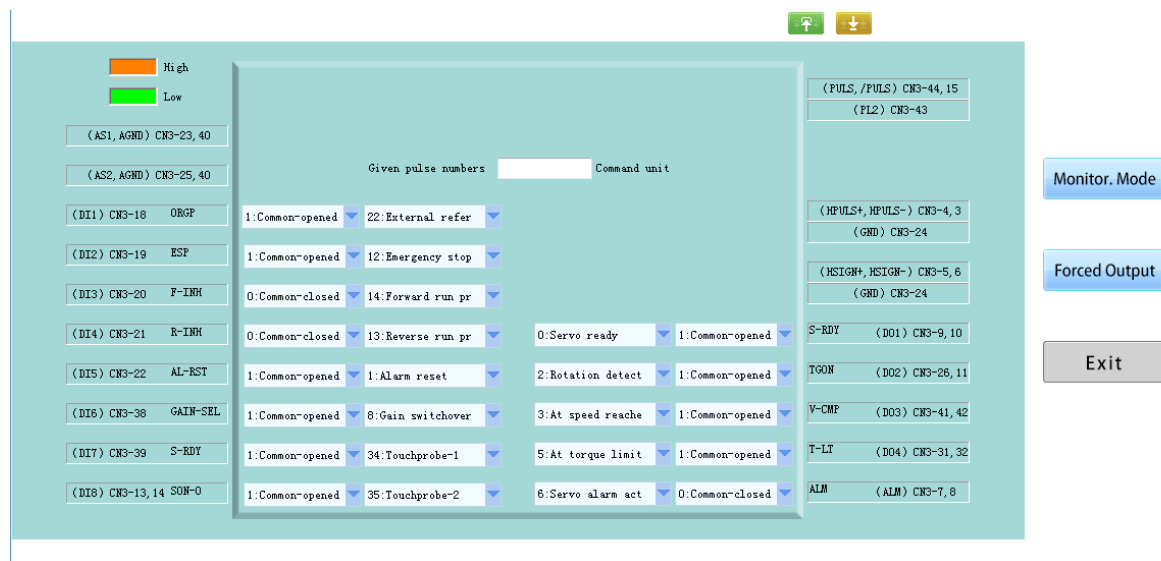
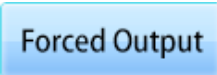




Fig 3-7-7 IO Terminal Configuration Interface

Click  to start real-time data refreshing.

Click  to upper or lower parameter bit, click  or  to switch high-low bit.

Terminal force description:




Terminal force can be in the invalid function of the terminal force for the effective state, if the terminal function has been in effective state mandatory function will not produce effect.

5. Auxiliary Function

➤ JOG





Fig 3-7-8 Jogging interface

Set [Jogging speed setting] firstly, then click  to power up the servo motor. Click , servo motor rotates forward, click , servo motor rotates reversely.

➤ Motor parameter setting




Fig 3-7-9 Motor parameter setting interface

Firstly, set parameter content of [Setting type selection], there is no [upload] [download] in this content; then click  to upload the original parameters of [motor parameter setting], or modify directly without [upload]; then click  to download the set

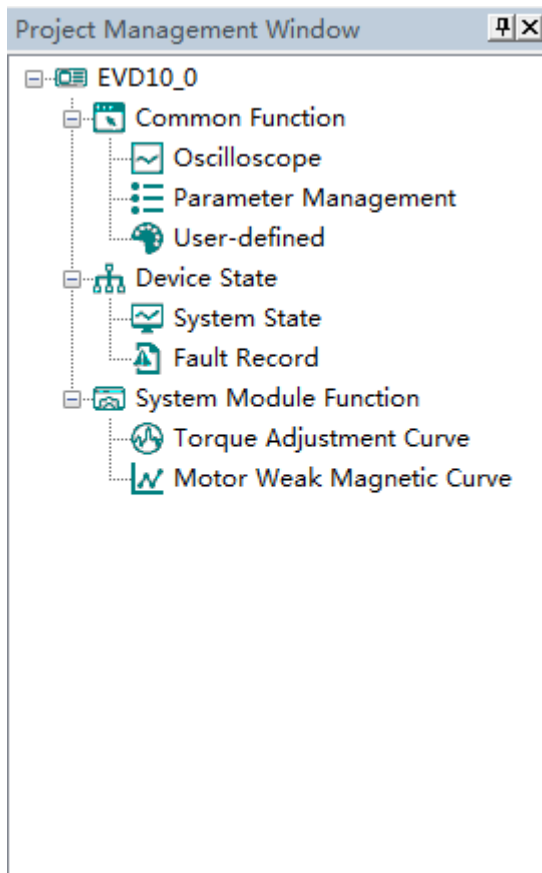
parameters.

After downloading the parameters, click  to complete forward

identification function, click  to complete reverse identification function.

Note: when Po008=1, forward identification will run forward firstly then reverse, reverse identification will run reverse firstly then forward. When Po008=2, forward identification will run forward, reverse identification will run reverse.

◆ EVD10



The main program interface left for engineering management window, the user can in the toolbar of the "view" select the "show" and "hidden", the double tree above the module name you can open the corresponding function module window.

1. Common Function

➤ Oscilloscope



Save: Save the current oscilloscope graphics as a custom file.



Import: Import saved oscilloscope image from local storage.



Screen Shot: Save the current oscilloscope graphics as an BMP file.



Cursor: Cursor can be displayed for measuring time and amplitude.



Channel Select Switch: Switch the selected on the left side of the channel.



Increase amplitude range: Increasing the channel amplitude range.



Reduce amplitude range: Reduce the channel amplitude range.



Move Up: Move up the curve.



Move Down: Move down the curve;



Left Shift: Move the curve left;



Right Shift: Move the curve right;



Zoom In: Zoom In can enlarge the operation of the curve.



Zoom Out: Zoom Out can be reduced to the curve operation.

1) The user can perform the following operation:

After setting the sampling time, click [Start], real-time oscilloscope starts to present waveform (Fig 3-8-1)



Fig 3-8-1 Real-time Oscilloscope Interface

2) After sampling, the operation can be carried out as follows:



Channel waveform amplitude adjustment:

Select waveform number, scroll up or down to adjust waveform amplitude.

Time shaft adjustment:

Drag [Time gain] to adjust, horizontal axis presents the time for each box.

Waveform curve zoom operation:

Select the picture on the left waveform corresponding to the number, click  or  button to zoom in and out of the waveform curve.

Note: To ensure the display of oscilloscope being real-time, set communication mode as RTU and baud rate as 57600, are recommended.

➤ Parameter Management

Click “Parameter Management” in the function tree of left side to open parameter management interface (Fig 3-8-2).

SM	Parameters	Function Definition	Current Value	Min Value	Max Value	Unit	Effective Mode
0	F100	User's Password	0	0	9999	N/A	Stop/Run
1	F102	Inverter's Rated Current	-			A	Factory-only
2	F103	Inverter Power	-			kW	Factory-only
3	F104	Voltage Level	-			N/A	Factory-only
4	F105	Software Edition No.	-	1.00	10.00	N/A	Read-only
5	F106	Control mode	2	0	6	N/A	Stop
6	F107	Password Valid or Not	0	0	1	N/A	Stop/Run
7	F108	Setting User's Password	8	0	9999	N/A	Stop/Run
8	F109	Starting Frequency	0.00	0.00	10.00	Hz	Stop/Run
9	F110	Holding Time of Starting Frequency	0.0	0.0	999.9	S	Stop/Run
10	F111	Max Frequency	50.00	F113	650.0	Hz	Stop/Run
11	F112	Min Frequency	0.50	0.00	F113	Hz	Stop/Run
12	F113	Target Frequency	50.00	F112	F111	Hz	Stop/Run
13	F114	First Acceleration Time	-	0.1	3000.0	S	Stop/Run
14	F115	First Deceleration Time	-	0.1	3000	S	Stop/Run
15	F116	Second Acceleration Time	-	0.1	3000	S	Stop/Run
16	F117	Second Deceleration Time	-	0.1	3000	S	Stop/Run
17	F118	Turnover Frequency	50.00	15.0	650.00	Hz	Stop
18	F119	Reference of setting accel/decel time	0	0	1	N/A	Stop
19	F120	Forward/Reverse Switchover dead-Time	0.0	0.0	3000.0	S	Stop/Run
20	F122	Reverse Running Forbidden	0	0	1	N/A	Stop
21	F123	Minus frequency is valid in the mode of combined speed control	0	0	1	N/A	Stop
22	F124	Jogging Frequency	5.00	F112	F111	Hz	Stop/Run
23	F125	Jogging Acceleration Time	-	0.1	3000.0	S	Stop/Run
24	F126	Jogging Deceleration Time	-	0.1	3000.0	S	Stop/Run
25	F127	Skip Frequency A	0.00	0.00	650.0	Hz	Stop/Run
26	F128	Skip Width A	0.00	0.00	2.50	Hz	Stop/Run
27	F129	Skip Frequency B	0.00	0.00	650.0	Hz	Stop/Run
28	F130	Skip Width B	0.00	0.00	2.50	Hz	Stop/Run
29	F131	Running Display Items	15	0	8191	N/A	Stop/Run
30	F132	Display items of stop	6	0	1023	N/A	Stop/Run
31	F133	Drive Ratio of Driven System	1.00	0.10	200.0	N/A	Stop/Run
32	F134	Transmission-wheel radius	0.001	0.001	1.000	m	Stop/Run
33	F135	User macro	0	0	2	N/A	Stop
34	F136	Slip compensation	0	0	10	%	Stop
35	F137	Modes of torque compensation	0	0	4	N/A	Stop

Fig 3-8-2 Parameter management interface

①Function shortcut icon ② Parameter information display area

Select All

Select current all parameters for the subsequent operation;

Unselect

Unselect current parameters;

Import

Import parameters from local storage .EXCEL file or .Par file;

Export

This function can support all function code information exported to EXCEL or Par file to save, also can support the export modified or checked function code information to the EXECL file to save;

Upload

The function is to upload the current selected function code parameter values from the

device to the program. After uploading successfully, the function code is changed to green;

 **Download**

Download current selected parameters from PC/PLC to inverterdrive;

➤ **User-defined**

Click “User-defined” in the function tree of left side to open user-defined parameter management interface (Fig 3-8-3).

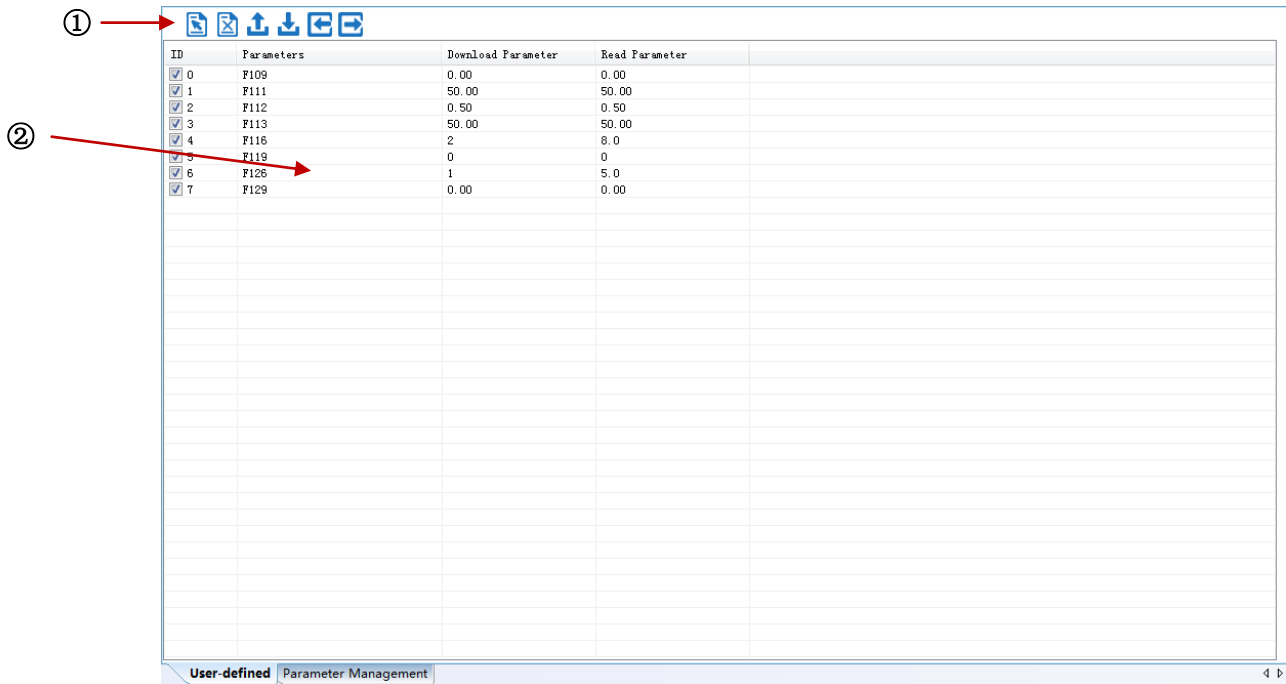


Fig 3-8-3 User-defined interface

① Function shortcut icon ②Parameter information edit area

 **Select All**

Select current all parameters for the subsequent operation;

 **Unselect**

Unselect current parameters;

 **Import**

Import parameters from local storage .EXCEL file or .Par file;

 **Export**

Export current all parameters information, and save to .EXCEL file or .Par file;

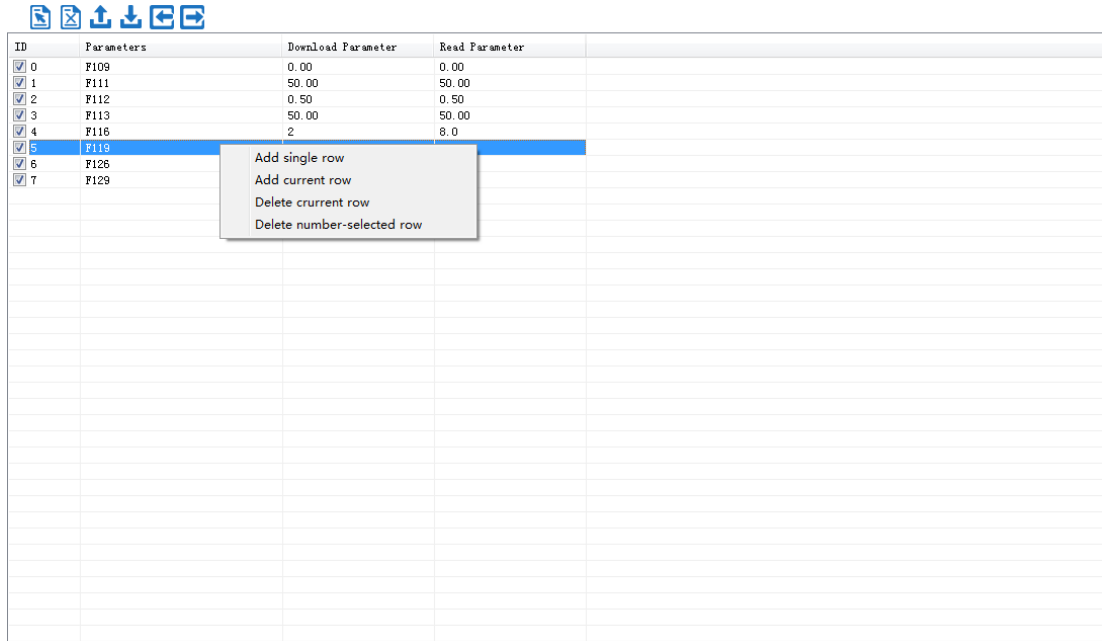
 **Upload**

Upload current selected parameter from inverterdrive to program, refresh to display;



Download current selected parameters from PC/PLC to inverterdrive;

Click the right mouse button on the custom function code table, and the edit menu will pop up (Fig 3-8-4).



The image shows a software interface for editing parameters. At the top left, there are five icons: a printer, a close button, an upload arrow, a download arrow, and a refresh button. Below these icons is a table with four columns: ID, Parameters, Download Parameter, and Read Parameter. The table contains eight rows, with the fifth row (ID 5, Parameter F119) highlighted in blue. A context menu is open over the highlighted row, containing four options: "Add single row", "Add current row", "Delete current row", and "Delete number-selected row".

ID	Parameters	Download Parameter	Read Parameter	
<input checked="" type="checkbox"/>	0	F109	0.00	0.00
<input checked="" type="checkbox"/>	1	F111	50.00	50.00
<input checked="" type="checkbox"/>	2	F112	0.50	0.50
<input checked="" type="checkbox"/>	3	F113	50.00	50.00
<input checked="" type="checkbox"/>	4	F116	2	8.0
<input checked="" type="checkbox"/>	5	F119		
<input checked="" type="checkbox"/>	6	F126		
<input checked="" type="checkbox"/>	7	F129		

Fig 3-8-4 User-defined parameter editor

2. Device State

➤ System Status Monitor

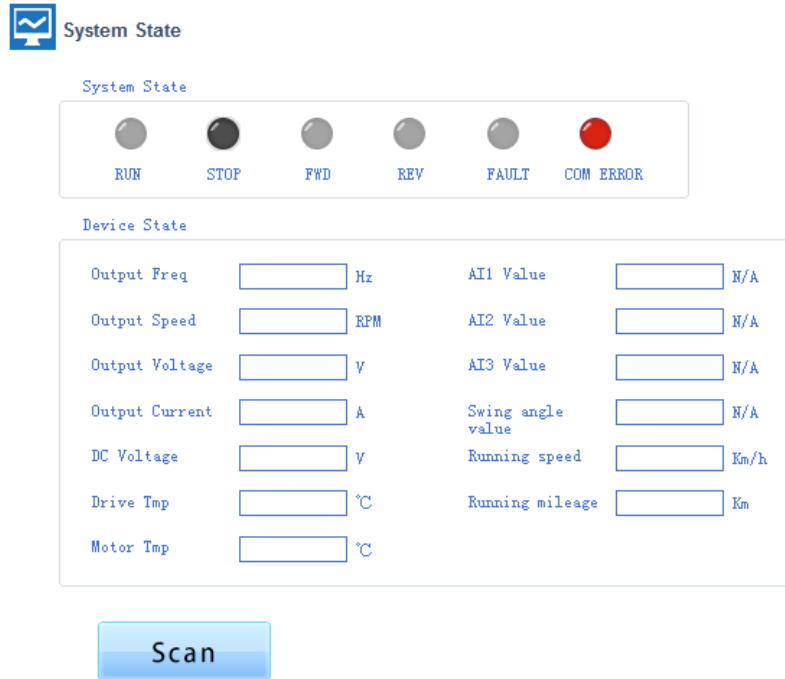


Fig 3-8-5 System Status Monitor Interface

Click **【Scan】** to refresh the parameters.

➤ Fault Record

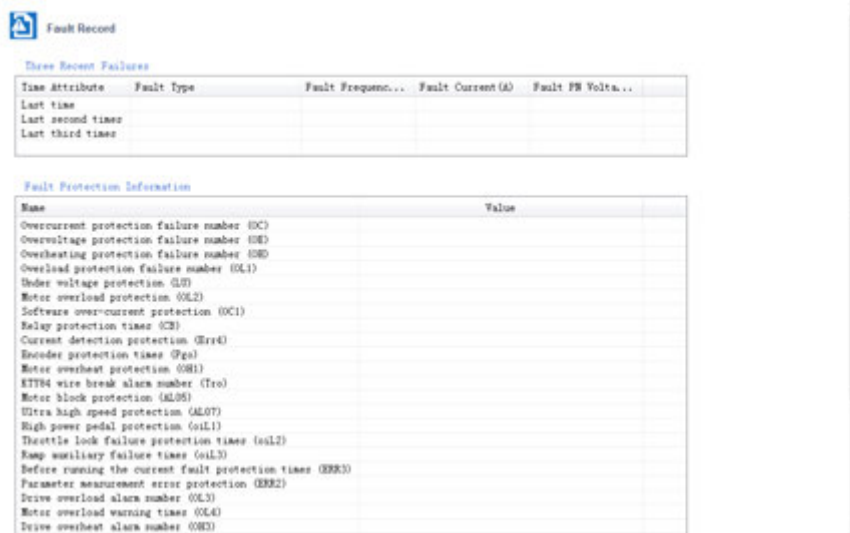


Fig 3-8-6 Fault Record Interface

Click **【Update】** to refresh the parameters in the “Three Recent Failures” and “Fault Protection Information” bars .

3. System Module Function

The function is composed of “Torque Adjustment Curve” 、 “Motor Weak Magnetic Curve” .

➤ Torque Adjustment Curve

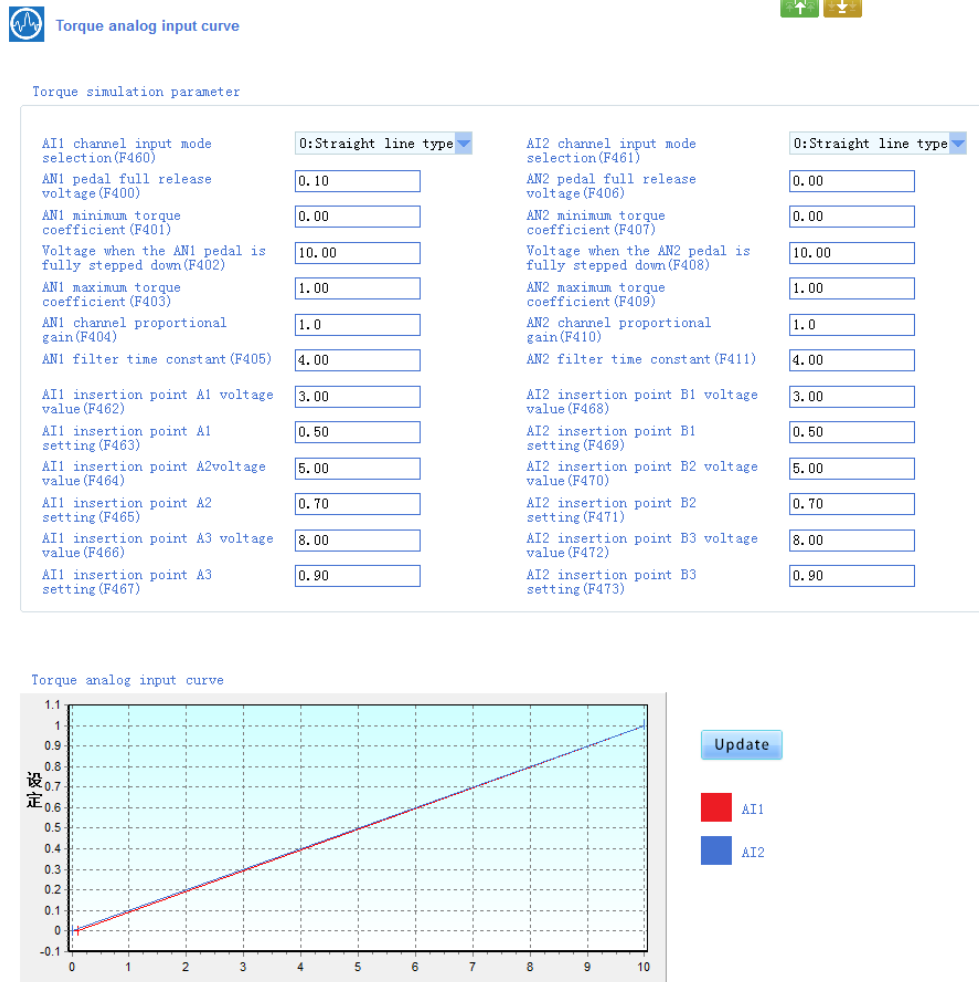


Fig 3-8-7 Torque Adjustment Curve Interface

Click **【Scan】** to refresh the Curve.

➤ **Motor Weak Magnetic Curve**

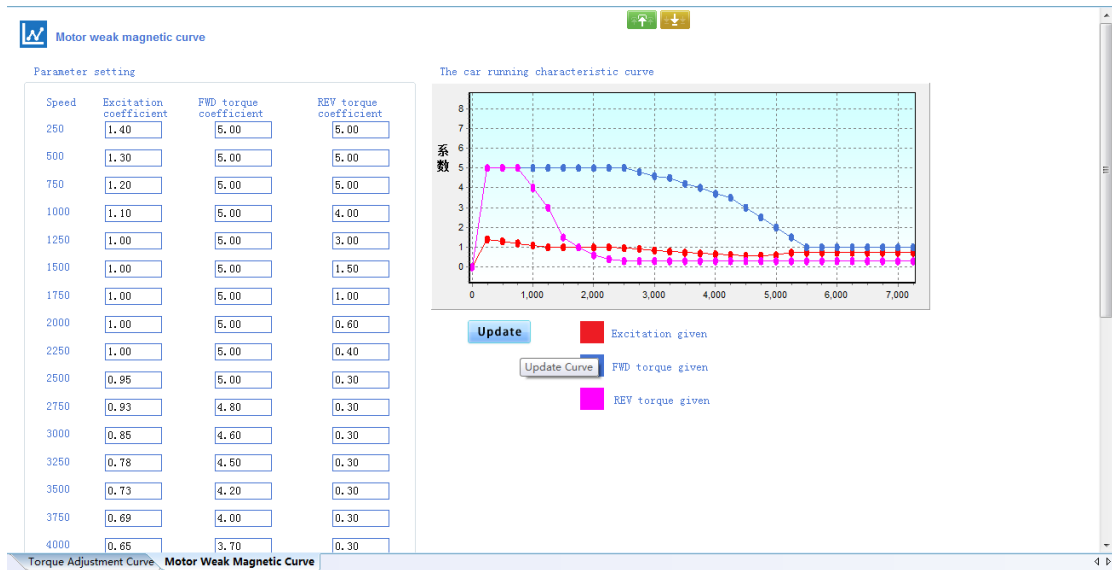


Fig 3-8-8 Motor Weak Magnetic Curve Interface

Click **【Scan】** to refresh the Curve.

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