FOR ALL EURA DRIVES PRODUCTS



for E800 - E2000 - EP66 - EM30

Safety instructions Installation & operating manual







ENGLISH

EuraDV V1.05 Setup_Lite_EN © 2019 EURA Drives GmbH

Contents

DI	RIVES PC	MONITORING SOFTWARE USER MANUAL	1
1.	Overviev	w	1 -
	1.1	Operating Environment	1 -
	1.2	Software Parameters	1 -
	1 2	Corresponding to the lower computer program version number	_ 1 _
_	1.5	corresponding to the lower computer program version number	
2.	Softwar	e Installation	3 -
3.	Softwar	e Instructions	7 -
	3.1	Use Flow of Program	7 -
	3.2	Shortcut Feature Bar& Primary Function	10 -
	•	Shortcut Feature Bar	- 10 -
	•		
	•	Primary Function	14 -
	3.3	Project Management	15 -
	•	SD10-Z	15 -
		1. Common Function	16 -
		2. Control Panel	19 -
		3. System Module Function	21 -
	•	SD20-G	22 -
		1. Common Function	22 -
		2. Device State	27 -
		3. Mode Configuration	27 -
		4. IO Terminal	29 -
		5. Motion Control	31 -
		6. Auxiliary Function	45 -
	•	E2000/E2100	47 -
		1. Common Function	48 -
		2. Device State	54 -
		3. System Module Function	55 -
	•	E800L/E810L/E800H/E810H/EP66/EM30/E600	61 -
		1. Common Function	62 -
		2. Device State	65 -
		3. System Module Function	66 -
	•	Е2000-Р	71 -
		1. Common Function	71 -
	•	SDP10	75 -

1.	Common Function75	-
2.	Device State 80	-
3.	Mode Configuration 80	-
4.	IO Terminal 82	-
5.	Motion Control 83	-
6.	Auxiliary Function 85	-
SD2	0-E 87	-
1.	Common Function 87	-
2.	Device State 92	-
3.	Mode Configuration 92	-
4.	IO Terminal 94	-
5.	Auxiliary Function 95	-
EVD	10 97	-
1.	Common Function 98	-
2.	Device State 103	-
3.	System Module Function 104	-
	 1. 2. 3. 4. 5. 6. SD2 1. 2. 3. 4. 5. EVD 1. 2. 3. 	1. Common Function - 75 2. Device State - 80 3. Mode Configuration - 80 4. IO Terminal - 82 5. Motion Control - 83 6. Auxiliary Function - 85 SD20-E - 87 1. Common Function - 87 2. Device State - 92 3. Mode Configuration - 92 3. Mode Configuration - 92 4. IO Terminal - 92 5. Mode Configuration - 92 6. Auxiliary Function - 92 7. Device State - 92 7. Common Function - 93 7. Common Function - 93 7. Common Function - 93 7. Common Function - 98 7. Device State - 103 7. System Module Function - 104

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".

Setup		×
Program maintena install, repair or ur	nce[overhaul] ninstall program	
Install	Register and install program. This option displays custom selection dialog, you can install by changing options and paths.	
🔘 Repair	Repair program. This option fixes missing or corrupt files, shortcuts, and registry entries.	
🔘 Uninstall	Uninstall EuraDV from your computer.	
	< <u>B</u> ack <u>N</u> ext >	Cancel

Fig 2-2 Setup Wizard

> Left click "Next" to confirm the installation agreement, select "I accept the agreement".

Setup	Ľ
License Agreement Please read the following important information before continuing.	
Please read the following License Agreement. You must accept the terms of this agreement before continuing with the installation.	
EURA DRIVES ELECTRIC CO., LTD EuraDV software end-user license agreement	* III
IMPORTANT NOTICE—PLEASE READ CAREFULLY: THIS END-USER LICENSE AGREEMENT IS LEGAL AGREEMENT BETWEEN YOU AND EURA DRIVES ELECTRIC CO., LTD (EURA DRIVES). BY INSTALLING AND USING THE SOFTWARE, YOU AGREE TO BE BOUND BY THE TERMS OF THIS AGREEMENT. IF YOU DO NOT AGREE WITH THESE TERMS AND CONDITIONS YOU MUST NOT INSTALL OR USE THE EuraDV SOFTWARE AND ALL RELATED SOFTWARE	5, +
 I accept the agreement I do not accept the agreement 	
< Back Next >	Cancel

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.

Setup	<u> </u>
Select Destination Location Where should EuraDV be installed?	
Setup will install EuraDV into the following folder.	
To continue, click Next. If you would like to select a different folder, click Browse.	
C:\Program Files\EuraDV Browse	
At least 82.8 MB of free disk space is required.	
< <u>B</u> ack Next > Canc	el

Fig 2-4 Setup Wizard

> Left click "Next" to confirm whether to create a desktop icon or not.

Setup	×
Select Additional Tasks Which additional tasks should be performed?	
Select the additional tasks you would like Setup to perform while installing EuraDV, click Next.	then
Additional icons:	
Create a <u>d</u> esktop icon	
< <u>B</u> ack <u>N</u> ext >	Cancel

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.

Setup	×
Ready to Install Setup is now ready to begin installing EuraDV on your computer.	
Click Install to continue with the installation, or click Back if you want to review o change any settings.	or
Destination location: C:\Program Files\EuraDV Additional tasks: Additional icons: Create a desktop icon	* *
< <u>B</u> ack Install	Cancel

Fig 2-6 Ready to Setup

> Click "Install" to start installation. Click "Finish", seefig 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);

Lang	uage setting	×
	English	
	ОК	

Fig 3-1 Language Selection



Fig 3-2 Main Interface

Minimize button@Close button@Toolbar@Program main function zone
 ⑤Feature 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);





5. 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.

COM parame	ter		
COM port:		Trans. mode:	RTU
Baud rate:	9600 🔽	Data bit:	8
Stop bit:	1	Odd-Even:	No parity 🥆
Device Che	ck		
	Auto	Li	nk

Fig 3-5 Communication Setting Interface

6. 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);

l Par	ame	Function Definition	Current Value	Min Value	Max Value	Unit	Effective Mode
) 1	F102	Rated current of drive	-	2.0	6500.0	A	Factory-only
1 I	F103	Rated power of drive	-	0.00	650.00	kW	Factory-only
2 I	F105	Software version	-	1.00	10.00	N/A	Factory-only
3 I	F111	Max frequency	166.66	F113	650.00	Hz	Stop/Run
4 I	F112	Min frequency	0.00	0.00	F113	Hz	Stop/Run
5 B	F113	Target frequency in speed mode	1.00	F112	F111	Hz	Stop/Run
5 I	7114	Acceleration time	-	0.001	32.000	S	Stop/Run
7 H	F115	Deceleration time	-	0.001	32.000	S	Stop/Run
8 I	7131	Running display items	79	0	511	N/A	Stop/Run
9 I	7132	Display items of stop	46	0	511	N/A	Stop/Run
10 H	F153	Carrier frequency setting	-	2500	7000	Hz	Stop
11 H	F200	Source of start command	2	0	4	N/A	Stop
12 I	F201	Source of stop command	2	0	4	N/A	Stop
13 I	F202	Mode of direction setting	0	0	2	N/A	Stop
14 H	F203	Frequency source in speed mode	0	0	12	N/A	Stop
15 H	F208	Terminal two-line/three-line operation	0	0	5	N/A	Stop
16 I	F209	Selecting the mode of stopping the motor	0	0	1	N/A	Stop
17 H	F219	EEPROM lock	1	0	1	N/A	Stop/Run
.8 I	F300	Relay token output	1	0	19	N/A	Stop/Run
9 I	7301	D01 token output	11	0	29	N/A	Stop/Run
20 1	7316	OP1 terminal function setting	9	0	46	N/A	Stop/Run
21 H	7317	OP2 terminal function setting	19	0	46	N/A	Stop/Run
22 1	7318	OP3 terminal function setting	1	0	46	N/A	Stop/Run
23 I	7319	OP4 terminal function setting	7	0	46	N/A	Stop/Run
24 I	7320	OP5 terminal function setting	8	0	46	N/A	Stop/Run
25 H	7321	OP6 terminal function setting	15	0	46	N/A	Stop/Run
26 H	7324	Free stop terminal logic	0	0	1	N/A	Stop
27 1	7325	Motor PTC protection terminal logic	1	0	1	N/A	Stop
8 I	7328	Terminal filtering times	5	0	100	N/A	Stop/Run
9 1	7400	Lower limit of AI1 channel input in FA3	0.10	0.00	F402	v	Stop/Run
0 I	7402	Upper limit of AI1 channel input in FA3	10.00	F400	10.00	v	Stop/Run
31 H	7406	Lower limit of AI2 channel input in FA3	0.01	0.00	F408	v	Stop/Run
32 H	7408	Upper limit of AI2 channel input in FA3	10.00	F406	10.00	v	Stop/Run
33 1	8419	Lower limit of ATS sharped input in EAS	0.00	0.00	R414	1Z	Stan/Run

Fig 3-6 Interface of Parameter Management

3.2 Shortcut Feature Bar& Primary Function

• Shortcut Feature Bar

	= 📖 ; 🛄 🍋 🚍 🏓 ; = 4 🔾 🐼 🥗
. New Project	
) : Open Project	
: Save Project	
Close Project	
Rarameter Setting	
🚱: Language Setting: Chinese & En	nglish
Permission Setting: set password	for project
Permission Setting	X
State of user permission	
State of user permission Current User Name: user	User Permission: Ordinary permission
State of user permission Current User Name: user User permission level verification	User Permission: Ordinary permission
State of user permission Current User Name: user User permission level verification User Name: User Password:	User Permission: Ordinary permission Verify
State of user permission Current User Name: user User permission level verification User Name: User Password: Change current user password	User Permission: Ordinary permission Verify
State of user permission Current User Name: user User permission level verification User Name: User Password:	User Permission: Ordinary permission Verify Re-enter New Password:

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.

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

ject Management Window					1
CR E2000,0 Contraction Contrection Contraction Contraction Contraction Contraction Contra	Conflorence Conf	t Monitor ell (Selection fater)			
System Module Function Motor Farameters Configuration Motor Selection Motor 1 Motor 2 Sale Parameters Frequency Resource		Motor 2 C Basic Parameters ACC/DEC time selection	Activate parameters setting	STOP parameters setting	
Connard Resource D Terminal Stop-speed Setting X Protection Setting O Speed Control O Torque Control	-	First acceleration Second acceleration	Time (7114)		First deceleration time(F) Second deceleration time(F)
- 3 Operational Control		Accel/Secel ander	0:5+-50.000 0:5traight-1:	ine 💌	5 curve ending stage propertion(2000) 5 curve ending stage propertion(2000)
		-			

Fig 3-8 Stack Windows

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

Project Management Window	Basic Parameters Co. 60 12	Motor Selection	Uter-defined
Common Function Common Function Colloscope Parameter Management Use defined	ACC/DEC time selection Activate pa	Motor Selection	
Cuer-cenned Device State Cuer State Cuer State Cuer State System Status Monitor State Monitor Subtem Monitor Subtem Monitor	First scoleration Time(F114)	Retor Selection(9800) 018	
Or System Module Function One System Module Function One System Module Function	Motor 2 Co CO CO	B Fault Record	Parameter Management
Motor 1 Motor 2 Mater 2 Forquercy Resource Command Resource Soft Terminal Sage speed Setting X Protection Setting Or Seed Control	Motor parameters setting Encode 4	Fault Record Tase Attrabute Fault Type Last time Last second tase	No. Description SP Furse Postriction Definition SP Furse Postriction Definition
- 🛞 Torque Control 🎘 Operational Control	Motor parameters setting Encode 1	System Status Monitor 0 0 12	Cutilescope
	Darie Pargantern Centrol, ande (F100)		

Fig 3-9 Tiled Windows

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

E: 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.



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)

COM parame	COM4	Turne and a	PTII
Baud rate:	9600	Data bit:	8
Stop bit:	2	Odd-Even:	No parity 🧹
Device Che	ck		
	Auto	Li	nk

Fig 3-10 Communication Parameter Setting of Clone Module

Click Click

1000	module		
t	±€€		
SN	Parameter	Value	
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			

Fig 3-11 Parameter Setting of Clone Module

Click 1 to upload parameter.(Fig 3-12)

£	7 EE		
SN .	Parameter	Value	1
1			
2			
3			1
4			
5			
6			
7	C		
8	Parameter Upload		
9			
10	Progress:		
11			
12			
13			
14	Sto	Cancel	
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			

Fig 3-12 Upload Parameter

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

Number	Farameter	Value	- 6
1	F100	0	
2	F101	0	
3	F102	23.0	
4	F103	11.00	
5	F104	308	
6	F105	1.36	
1	Co		
8	Parameter Upload		
9	Remind	23	
11	Progress		
12			
13		and the second sec	
14	- I I I I I I I I I I I I I I I I I I I	arameters upload successfully	
15			
16			
17	7		
18	1	OK	
19	F		
20	F119	0	
21	F120	0	
22	F121	0	
23	F122	0	
24	F123	0	
25	F124	500	
25 26	F124 F125	500 300	

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.



Connecting Device



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

適: 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.

- **E** 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.

- **T**Move Up: Move up the curve.
- Move Down: Move down the curve;
- Left Shift: Move the curve left;
- **P**Right Shift: Move the curve right;
- **Q** Zoom In: Zoom In can enlarge the operation of the curve.
- **Q** 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 Qor Q

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.

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	kï	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	٧	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	٧	Stop/Run
	¥408	Monor limit of AT2 sharped input in FA3	10.00	R406	10.00	V	Stop/Bup

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;

EImport

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;

1Upload

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;

2. Control Panel



Upload parameters displayed in current page from servo drive.

Download

Download parameters in the box

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

Parameter Tuning

Parameter tuning setting			
Motor rated power(F801)	20.0	Number of motor poles(F804)	8
Motor rated voltage(F802)	380	Motor rated rotary speed(F805)	1900
Motor rated current(F803)	43.0	Maximum rotary speed(F806)	2300
Motor rated frequency(F810)	126.66	Motor resolver pole pairs(FB42)	1
Selection of motor over-heat protection mode(F704)	1:KTY84	¥	
Tuning parameters			
Motor d axis inductance(F815)	1.23	Motor Q'axis inductance(F907)	2.45
Back EMF voltage(F816)	155	Motor phase resistor of stator	0.105
Poles position compensation value(F817)	25	0011(1010)	
Tuning operation			

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

Fig 3-1-3 Parameter TuningInterface

Modifythe 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 State	us Monitor							
	System Stat	tus							Common Command
	RUN	STOP	FWD	REV	JОG	FAULT	COM	ERROR	FWD RUN REV RUN
	Motor State	15			DI/DO State	15			
	Output Fro	eq 🗌]	Кz	0 0 0 P P P	0 0 P P	0 D P 0	D O	DEC STOP FREE STOP
	DC Voltage			/	1 2 3	4 5	6 Î	2 Ğ	Ğ
	Motor Spee	ed	1	RPM	Common Par:	as			
	Output Cu	rrent	i	A			Ŧ	±±±	RUN RESET
	Output Vol	Ltage		v	Target Fr	eq 1	. 00	Hz	Hz
	Drive Tmp		•	c	Acc Time	E		s	FWD JOG REV JOG
	Motor Tmp		•	C	D	Г			
	AI1 Value			/	Dec lime	Ľ		>	
	AI2 Value			v	Jog Freq	5	5.00	Hz	Hz Ferlodic Scanning
	AI3 Value		, I	/	Jog Acc T	ime –		s	s
	AO1 Value		1	V		_			Scan
	AO2 Value			/	Jog Dec Ti	ime -	•	S	S

System Status Monitor

Fig 3-1-4 System Status MonitorInterface

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

Fault Record

Time Attribute	Fault Type	Fault Frequency(Hz)	Fault Current(A)	Fault Voltage(V)
Last time				
Last second times				
Last third times				

Name	Value
Overcurrent protection failure number	
Overvoltage protection failure number	
Servo overheating protection failure number	
Overload protection failure number	
Motor overheating protection failure number	

Update

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.

Tarameter Quick Search Catalogue					
	System inertia(F809)				
Speed Control	Speed loop bandwidth(F812)				
Speed Control	Rotary speed loop Kp(F813)				
	Rotary speed loop Ki(F814)				
Tongue Control	Torque given mode(F212)				
forque Control	Motor output torque limit (FA23)				
	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 Control	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)				

Parameter Quick Search Catalogue

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.
- > C Import: Import saved oscilloscope image from local storage.
- > K 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.
- > **T**Move Up: Move up the curve.

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

Oscilloscope type selection

Click on the lower left corner of the selection button^{O Oscilloscope}

Real-time oscilloscope, complete oscilloscope type switch.

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

First,click	Trigger Setting	to popup trig	ger setting window (l	Fig 3-2-1)
Trigger setti	ng			×
Collect	time			
1	*100us (Sing	le sampl. tim	ue)*1000(point)= [1	00 ns
Trigge	r mode			
Obje	ct: O:Not set		•	
Valu	e: 0	Mode:	0:Trigger immedia	ately 🔽
	ОК		Cancel	
	Fig 3	3-2-1 window of	trigger setting	
fter setting c	omplete, click	OK .Cli	Contin. Sampl.	Unitary Sa
art sampling	(Fig 3-2-2)	,	-	-

CH1: U phase current C	H2: Feedback rolary speed CH3: Or	riput current	СН	CN 0.9 phase current
			СН1	CC 4 Feedback rotary spee
			Cursor1: 5:20 A	CKO 2. Output current
			Cursor2: -5.40	
			10:50 A	Start Time 27/10/2006 16:34
			Time1: 4.667s	Tringer Setting
			Time2 4.867s	ringger setting
			[T2-T1] 0.2008	Contin. Sampl.
CH1: 5:00Aldiv CH2: 1000.0	00rpm/div CH3 20.004/div	M. 0.3335/dw 27	7/10/2016 16:34:51	Unitary Sampl.
				6

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 Qor Q

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).

-	SN	Parameter	Function Definition	Value	Unit	Contro	Min Value	Max Value	Default V	Effective Mode
	0	Po000	Motor code	-	N/A	ALL	Four-parameter	Four-parameter	-	read only
	1	Po001	Control mode and forward direct	d 1 1	N/A	ALL	Two-parameter	Two-parameter	d 1 1	Repower on
	2	Po002	Max rotation speed (Absolute va	-	r/min	ALL	0	10000	-	effective immed.
	3	Po003	Encoder frequency-division numbers	-	N/A	ALL	1	65535	-	effective immed.
	4	Po004	Servo enabled mode selection	0	N/A	ALL	0	1	0	Repower on
	5	Po005	Encoder pulse frequency-divisio	-	N/A	ALL	1	2147483647	-	effective immed.
	6	Po007	Motion range for movement of in	10	N/A	ALL	1	100	10	effective immed.
	7	PoUUO	🖕 nertia recognition mode select	0	N/A	ALL	0	3	0	effective immed.
	8	Po009	Movement of inertia recognition	100	n s	ALL	10	2000	100	effective immed.
	9	Po010	Rigidity selection	6	N/A	ALL	1	30	6	effective immed.
	10	Po011	Flux weakening controller switch	1	N/A	ALL	0	1	1	effective immed.
	11	Po013	Rotation inertia ratio	200	0.01	ALL	1	30000	200	effective immed.
	12	Po014	Movement of inertia acele/decel	1000	n s	ALL	200	5000	1000	effective immed.
	13	Po015	Motion range of off-line inerti	-	N/A	ALL	200	2147483647	-	effective immed.
	14	Po017	Z pulse frequency-division outp	-	N/A	ALL	50	30000	-	effective immed.
	15	Po018	Pulse output configuration	Ъ0001	N/A	ALL	Four-parameter	Four-parameter	Ъ0001	effective immed.
	16	Po019	Virtual Z output period	10000	N/A	ALL	1	2147483647	10000	effective immed.
	17	Po100	Internal position enabled	0	N/A	ALL	0	1	0	effective immed.
	18	Po101	First speed loop proportional gain	600	0.1Hz	ALL	0	30000	600	effective immed.
	19	Po102	First speed loop integral time	500	0.1ms	ALL	0	10000	500	effective immed.
	20	Po103	Second speed loop proportional	240	0.1Hz	ALL	0	30000	240	effective immed.
	21	Po104	Second speed loop integral time	1250	0.1ms	ALL	0	30000	1250	effective immed.
	22	Po105	First speed loop filter time co	-	0.01ms	P, S	1	20000	-	effective immed.
	23	Po106	Second speed loop filter time c	-	0.01ms	P, S	1	20000	-	effective immed.
	24	Po107	Torque feedforward gain	0	N/A	P, S	0	1000	0	effective immed.
	25	Po108	Torque feedforward gain filter	100	0.01ms	P, S	1	30000	100	effective immed.
	26	Po109	Acceleration time (only valid i	200	m s	S	1	30000	200	effective immed.
	27	Po110	Beceleration time (only valid i	200	m s	S	1	30000	200	effective immed.
	28	Po111	S curve accele/decele time	100	m s	S	1	15000	100	effective immed.
	29	Po112	S curve starting indication	0	N/A	S	0	1	0	effective immed.
	30	Po113	Internal speed given 1	1000	0.1r/min	Sr	-32000	32000	1000	effective immed.
	31	Po114	Internal speed given 2	2000	0.1r/min	Sr	-32000	32000	2000	effective immed.

Fig 3-2-4 Parameter management interface

① Function shortcut icon@Parameter information display area

Select All

Select current all parameters for the subsequent operation;

Unselect

Unselect current parameters;

H_{Save}

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



Import parameters fromlocal 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;

1Upload

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.

Fig 3-2-5 Gain Adjustment Interface



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			Periodic Scanning
S-RDY SON-O	TGON V-CMP	P-CMP T-LT	ALM COM ERBOR
DI/DO Status			Monitoring Information
D D D D D I I I I I 1 2 3 4 5	D D D D D I I I 0 0 6 7 8 1 2	D D A 0 0 L 3 4 M	DV state Offline N/A
System Information			Servo drive output A
Software version	0.0		Servo drive bus voltage
C28 version	0.0		Servo motor rotation RFM speed
Servo model	0		Given command pulse N/A numbers
Motor model	0		Given command pulse N/A error numbers
Encoder type	0		Actual absolute position N/A
Encoder resolution	0		Relative position single N/A cycle pulse number
			Relative position multi N/A
	_		loop number

Fig 3-2-6 System State Interface

Click	Update	to rea	ad and update current servo drive information.
Click	Scan		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.

	Input Set	Command source mode selection Command source setting
		Electronic gear selection(Po339)
Position-loop Configuration		First group electronic gear numerator(Po304)
	Electronic Gear	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)

Parameter Quick Search Catalogue

		Acceleration time in position mode(Po343)					
		Position loop feedforward gain(Po303)					
	Speed Feedforward	Filter time constant of position feedforward(Po326)					
	.	Command pulse clear function(Po308)					
	Positioning	Pulses numbers range of position arrival(Po307)					
	compiete	Position error alarm pulses numbers(Po309)					
		S curve starting indication(Po112)					
	A	Acceleration time (only valid in speed mode)(Po109)					
	Accel/decel time	Deceleration time (only valid in speed mode)(Po110)					
		Position loop feedforward gain(Po303)Filter time constant of position feedforward(Po326)Command pulse clear function(Po308)Pulses numbers range of position arrival(Po307)Position error alarm pulses numbers(Po309)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 clamp enabled(Po127)Speed value in the zero clamp(Po126)Torque feedforward gain filter(Po108)Range of target speed(Po117)Rotation detection value(Po118)First speed loop filter time constant(Po105)Second speed loop filter time constant(Po106)Torque increasing time(Po213)Torque limiting by analog(Po203)Internal max torque limit(Po208)Reverse max torque limit(Po209)Speed limit during torque control(Po210)Internal speed limit(Po211)Target torque range(Po237)Torque filter frequency(Po238)Motor overload coefficient setting(So-37)Servo OFF stop mode(So-07)Dynamic braking delay time(So-08)Forward run prohibited (So-17)Reverse run prohibited (So-18)Fwd/Rev run prohibited and emergency stoptorque(Po207)Overtravel limit function(So-39)Forward running range pulse when overtravelprotection(Po142)Reverse running range pulse when overtravelprotection(Po142)Reverse running range pulse when overtravelprotection(Po142)Reverse running range pulse when overtravel					
	Zene meed alarma	Zero clamp enabled(Po127)					
Speed Loop	Zero speed clamp	Speed value in the zero clamp(Po126)					
Configuration	Torque	Torque feedforward gain(Po107)					
	feedforward	Torque feedforward gain filter(Po108)					
	~	Range of target speed(Po117)					
	Speed reached	Rotation detection value(Po118)					
	Speed feedback	First speed loop filter time constant(Po105)					
	filter	Second speed loop filter time constant(Po106)					
	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)					
Torque Loop		Forward max torque limit(Po208)					
Configuration		Filter time constant of position feedforward(Po326)Command pulse clear function(Po308)Pulses numbers range of position arrival(Po307)Position error alarm pulses numbers(Po309)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 clamp enabled(Po127)Speed value in the zero clamp(Po126)Torque feedforward gain filter(Po108)Range of target speed(Po117)Rotation detection value(Po118)First speed loop filter time constant(Po105)Second speed loop filter time constant(Po106)Torque increasing time(Po213)Torque limiting by analog(Po203)Internal max torque limit value(Po202)Forward max torque limit(Po208)Reverse max torque limit(Po209)Speed limit during torque control(Po210)Internal speed limit(Po211)Target torque range(Po237)Torque filter frequency(Po238)Motor overload coefficient setting(So-37)Servo OFF stop mode(So-07)Dynamic braking delay time(So-08)Forward run prohibited (So-17)Reverse run prohibited orque setting(Po216)Fwd/Rev run prohibited and emergency stoptorque(Po207)Overtravel limit function(So-39)Forward running range multi-loop numbers whenovertravel protection(Po142)Reverse running range multi-loop numbers whenovertravel protection(Po142)Reverse running range multi-loop numbers when					
_	Torque mode speed	Speed limit during torque control(Po210)					
	limit	Internal speed limit(Po211)					
	Torque mode status	Target torque range(Po237)					
	output	Torque filter frequency(Po238)					
	Overload	Motor overload coefficient setting(So-37)					
	Protection	Some OFF stop mode(So 07)					
	Stop Mode	Dynamia braking dalay time(So 08)					
		Forward run prohibited(So 17)					
		Powerse run prohibited (So 18)					
		Evel/Dev. up prohibited (50-18)					
		Fwd/Rev run prohibited and emergency stop					
Fault and Protection		torque(Po207)					
110000000	Overtravel	Overtravel limit function(So-39)					
	Protection	Forward running range pulse when overtravel					
		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	Braking resistor value(So-04) Discharge duty ratio(So-05) Delay time for servo OFF(So-02)	
	Brake		
		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

Analog speed r/sin (PULS, /PULS) CN3-44, 15	
Low (P12) CN3-43	
(AS1, AGRD) CK3-23, 40 Analog torque 0.1% Rated torque	
Given nulse numbers Command unit (SIGN) CM-12, 27	
(AS2, AGRU) CR3-25, 40 · · · · · · · · · · · · · · · · · ·	. Mode
(DI1) CN3-18 SON-I 1:Common-opened > 0:Servo on > (HPULS+, HPULS-) CN3-4, 3	
(GRD) CN3-24	
(BI2) CHS-19 ESF 1:Common=opened VI2:Emergency stop V (HSIGH+ HSIGH-) CHS-5.6 Forced	Dutput
(DI3) CNS-20 F-INH 0:Common-closed V14:Forward run pr V (GHD) CN3-24	
(DIA) CNS-21 K-LMM U:Lommon-closed 13:Reverse run pr V U:Servo Feady V:Lommon-opened V S-KDI (DDI) CNS-9, 10	
(DI5) CNS-22 AL-EST 1:Common-opened V 1:Alarm reset V 2:Rotation Detect V 1:Common-opened V TGON (D02) CNS-28,11	it
(IIIS) UN3-38 SI"BIA I. Common opened O Internal Speed I. Lietto magnetic I. Lommon opened (IUU3) UN3-81, 42	
(DIT) CN3-39 SD-S1 1:Common-opened V 4:Internal speed V 9:At speed limit V 1:Common-opened V S-LT (D04) CN3-31, 32	
Tank and a contract the second s	
(ILIS) LRS-13, 14 SP SA 1. Common opened S. Internal Speed S. Science all and a common opened And (ALIR) LRS-7, 8	

Fig 3-2-7 IO Terminal Configuration Interface

Click

Monitor. Mode

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

			÷₽÷ ▼	
Hi gh	1			
Low	Analog speed	-19 r/min	(PULS, /PULS) CN3-44, 15	
(AS1 AGNT) CN3-23 40	Analog torque	-5 0.1% Rated torque	(112) 083 43	
			(SIGN,/SIGN) CN3-12,27	
(AS2, AGHD) CN3-25, 40	Given pulse numbers	U Command unit	(PL1) CN3-28	Monitor. Mode
(DI1) CN3-18 SON-I	1:Common-opened 🤟 O:Servo on	-	(HPULS+, HPULS-) CN3-4, 3	
			(GND) CN3-24	
(DI2) CN3-19 ESP	1:Common-opened 22:Emergency stop		(HSIGN+. HSIGN-) CN3-5.6	Forced Output
(DI3) CN3-20 F-INH	O:Common-closed 🤟 14:Forward run pr	-	(GND) CN3-24	
(DT4) CVC-01 R-TNH	O'Common-closed - 13:Beverse rup pr	D'Servo ready1'Compontenend	S-RDY (DO1) CW2-9 10	
(D14) CR5-21 A 184	Common Crosed V To never se Tun pr		(5017 CM3 5, 10	Fult
(DI5) CN3-22 AL-RST	1:Common-opened 🔽 1:Alarm reset	2:Rotation Detect 🔽 1:Common-opened 🔽	TGON (DO2) CN3-26,11	Exit
(DI6) CN3-38 SD-DIR	1:Common-opened 😽 6:Internal speed	7:Electromagnetic 🔷 1:Common-opened 🗸	BRAKE (DO3) CN3-41, 42	
(DI7) CN3-39 SD-S1	1:Common-opened 4:Internal speed	9:At speed limit V1:Common-opened	S-LT (DO4) CN3-31, 32	
(DI8) CN3-13, 14 SD-S2	1:Common-opened 🚽 5:Internal speed	6:Servo alarm act 🔽 1:Common-opened 🔽	ALM (ALM) CN3-7,8	

Fig 3-2-8 IOterminal interface

	Forced (Dutput	4			Valid		Invalid
Chek			to upper o	or lower pa	rameter bit,		or	to
switch hi	gh-low bit	. (Fig 3-2	2-9)					
~	8	. (8)					
						÷		
	Nich h							
	Lev		Analog speed	r/sia		(PILS, /PILS) CIO-44, 15		
			-		1.000	(PL2) CH0-43		
(AS1, A	(80) (90-23, 40		Analog torga	0.15.5	tes torque	(SDGK /SDGR) CK0-12, 27		
(432, 4	(80) (80-25, 40		Given pulse numbers	Communi	sani t	(PLI) CHI-28		Monitor, Mode
and the second						(10185) 10185-) (101-4.3		
Valid (att) Ck	2-10 	:Connestropened	0.Serve en			(680) 080-24		
Valid (BE2) CK	0-19 1	Conneropened	12 Beergency stop					Famil Canad
Wallet (203) CR		Commentational	14 Terrard on an			(163169+,163169+) (30+5,6 (680) (30-24		Forced Output
		Comme ervine	it rates in p					
Valid (II4) CK	9-21 1-108 0	Common-closed	13:Beverae run pr 💌	0.Serve ready	1:Concerspend	5-82E (301) CK0-9, 10	Invalid	
Valid (BIS) CK	0-22 AL-821	:Consumptioned	1:Alara reset	2:Botation Dates	t 💌 1:Connerropened 💌	1008 (102) 080-26, 1	Valid	Exit
Malid (106) CK		Constant	6 Internal mond	7 Electrosometi	I Constrained	IRALE (203) CHO-41, 4	Valid	
		Comme options	· manual data					
Valid (317) CK	0-39 59-51 1	Conneropened	4 Internal speed	9.At speed limit	1:Concerepted	(204) CIO-31, 3	Valid	
Valid (318) CK	0-13, 14 50-52	Conneropened	5 Internal speed	6:Serve allers at	1 💌 1:Constantigated 💌	ALM (ALM) CHO-7, 0	Invalid	
	-					2		

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

ultistage s	speed				
Internal	l set speed				
In	sternal speed given 1(Pol13)	1000	1		
In	ternal speed given 2(Pol14)	2000]		
In	sternal speed given 3(Pol15)	3000]		
Curve at	eoothing				
Sim	curve starting dication(Poll2)	© Activate	Sot activate		
5	curve accele/decele me(Poll1)	100	1		
Speed re	eached setting				
Ra	inge of target speed(Poll7)	300	Motor rotation to	seed	
South the second	eed reached function: The si on the absolute value of the tween serve motor rotary spe ference speed is lower than ange, which is not related to cersing, but valid for PWEV/NE	gnal outputs difference ed and current speed sotor W.	Speed armst signal is cotput within the dotted line.	Po117 Po117	
			(//		

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 p	osition				Ŧ	
Burning	condition setting					At internal position command mode. It preset position commands
Control Ro (Public X) (de setting	1:Position	s pulse mode			parameters (Po350-Po364), and can be activated by use of input Multistage position means 8-stage position commands are saved i
Bater PRD (Pu001.T)	direction settin	a IsCounter	clockwise as viewed	from 🔚		(Start)
Bultistage setting the	position functi SER.X)	0:Invalid				Whether to set internal register p
Stage could	ers setting (Po34	8. 17 2:2ed post	ition			Pool 1.15
Internal porition mode selection (Pu341)		0) Increase	stal mode			N Y
Internal p unit (Folds	osition given ap	eed OrSpeed w	uit is 0.1 s/min, m	otor a 🐂		Set Di terminal Set multi-stage Set related par
Circulatio Internal p	n times of multi orition(Po349)	etage [0	2			Construction Data and
Stage Ban	Portian	Speed	Acc time	Dec time	Interval time	Set electric To set motor displacment by ele
Stagel	0	1000	100	100	0	gear ratio
Stage2	0	1000	100	100	0	Set multi-stage
Stage 3	0	1000	100	100	0	enabled
Stagel	0	1000	100	100	0	Over
Stage5	0	1000	100	100	0	

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 Po349=0, cycle time is unlimited.



starts to run as set.(Fig 3-2-11 multistage position interface-2)

Home Return

Home position searching setting		Servo ON/OFF operation
Home search setting A(Poll9.A)	0:Reverse searching home 🚽	Servo ON Servo OFF
Home search setting B(Poll9.B)	0:Searching HOME by left/righ 🚽	
Home search setting C(Poll9.C)	0:After finding HOME position 🔽	Servo OFF
Home search setting D(Poll9.D)	O:After finding Z phase pulse 🔽	Mechanical origin setting
Home search selection(Po125)	0:Not searching home 🔽	
Home searching first speed(Po120)	500	Mech. origin set
Home searching second speed(Po121)	200	
Home searching acceleration/deceleration time(Po122)	0	Home search operation
Home searching offset (No. of revolutions)(Po123)	0	Constitution
Duration time of home found signal(Po128)	100	Searching nome

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)

Edit	
Add single row Add multi-row Delete number-selected ro All numbers selected	w
Clear numbers selected Import Export	
Curve creation Curve creation(no label)	
Download	

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).

ameter Download	-
Progress:	
(

Fig 3-2-19 Electric cam download

(5) Import/export

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

) 🕗 📕 🕨 Compu	iter Local Disk (D:) ParkerDV		
Organize 💌 New fol	lder	je • 🛙	
Favorites Desktop Downloads Recent Places	Name 0.ecam 1.ecam 2.ecam 3.ecam	Date modified Type 6/13/2016 1:38 PM ECAM F 6/13/2016 1:38 PM ECAM F	ile ile ile
Libraries Documents Music Pictures Videos	4.ecam 5.ecam 5.ecam 7.ecam 11.ecam 12.ecam	6/13/2016 1:38 PM ECAM F 6/13/2016 1:38 PM ECAM F	ile ile ile ile ile
Computer Local Disk (C:) Local Disk (D:) Local Disk (E:)		6/13/2016 1:38 PM ECAM F 6/13/2016 1:38 PM ECAM F 6/13/2016 1:38 PM ECAM F 6/13/2016 1:38 PM ECAM F	ile ile ile
File	name:	- DataFile(*.ecam)	

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)

Save As	nputer	Local Disk (D:) Parker	DV .	• 4 Search ParkerDV		х р
Organize • New	folder)E •	0
Downloads	*	Name		Date modified	Туре	-
💹 Recent Places		2.ecam		6/13/2016 1:38 PM	ECAM File	
		3.ecam		6/13/2016 1:38 PM	ECAM File	
4 🧊 Libraries		4.ecam		6/13/2016 1:38 PM	ECAM File	
Documents		5.ecam		6/13/2016 1:38 PM	ECAM File	
🖻 🎝 Music		6.ecam		6/13/2016 1:38 PM	ECAM File	
Pictures	E	7.ecam		6/13/2016 1:38 PM	ECAM File	
Videos		11.ecam		6/13/2016 1:38 PM	ECAM File	
		12.ecam		6/13/2016 1:38 PM	ECAM File	=
4 🛤 Computer		13.ecam		6/13/2016 1:38 PM	ECAM File	
🖻 🚢 Local Disk (C:)	-	111.ecam		6/13/2016 1:38 PM	ECAM File	
Dea Local Disk (D:)		ceshi.ecam		6/13/2016 1:38 PM	ECAM File	
🖻 👝 Local Disk (E:)		Feilian.ecam		6/13/2016 1:38 PM	ECAM File	
🖻 👝 Local Disk (F:)		(<u> </u>				•
File name:						•
Save as type:	DataFile	e(*.ecam)				•
Hide Folders				Save	Cancel	

Fig 3-2-21 Electric cam data export





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

Full closed-loop			
Position feedback source(PolT6) External mooder proportion measure(PolT6)	0:Encoder feedback	Passive measurement attraction	Motion direction
External encoder proportion denominator (Po378)	1	•	_
Rixed error clear cycles(Fo350)	[1000		Servo drive
High-Speed Counter Set			Encoder plug +
External encoder	P-0378		Four the plot
P-0378	+ Mixed err	Full closed loop typical ap	plication sketch map

Fig 3-2-23 Full closed-loop interface

Please refer to the setting mode of <<u>multistage speed</u>>.

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

High-Speed Counter Set

Gantry Synchron

Gantry synchron	· · · · · · · · · · · · · · · · · · ·	
Gantry position feedback source(Po382)	0:High-speed counter 1	
Gantry synchron gain(Po381)	1000	
Gastry desynchronzis alarm pulse(Po383)	1000	
Gastry synchron feedback proportion numerator (Po384)	10	
Gantry synchron feedback proportion demonstrator (Po386)	10	
High-Speed Counter Set		
A axis position command	Position loop Speed loop	
A axis position feedback	Gantry synchron gain	
8 axis position feedback		
Po384		
ull closed-loop. Gantry synchron		4

Fig 3-2-24 Gantry synchron interface

Please refer to the setting mode of <<u>multistage speed</u>>.

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

High-Speed Counter Set

> Fixed length interrupt

N	Fixed length interrupt			
	Interrupt fixed length release terminal(Po388.B)	0:Invalid	•	
	Interrupt fixed length function (Po388.A)	0:Invalid	•	
	Acceleration time of position 1(Po310)	100	Fixed length inter	rupt operates as follow:
	Deceleration time of position 1(Po311)	100	rotaty speed	fixed length
	Speed in position 1(Po330)	1000		pulse mode mode fixed length
	Given position of position 000(Po350)	0	interrupt trigger	trigger edge
			interruput enable	
			interrupt indicate	

Running mode of fixed length interrupts

Fig 3-2-25 Fixed length interrupt interface Please refer to the setting mode of <<u>multistage speed</u>> 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)

Organize • New fol	der		10 v
🔶 Equation 🖉	Name	Date modified	Туре
Desktop	333	6/13/2016 1-38 PM	Text Docum
Downloads	1111	6/12/2016 10:56 PM	Text Docum
Secent Places	ABSDP_TEST	6/13/2016 1:38 PM	Text Docum
1	ABSWP_TEST	6/12/2016 10:53 PM	Text Docum
Cibraries	ADDDDP_TEST	6/13/2016 1-38 PM	Text Docum
Documents	ADDWDP_TEST	6/13/2016 1:38 PM	Text Docum
Music	ANB_TEST	6/16/2016 2:38 PM	Text Docum
Pictures	AND_TEST	6/12/2016 10:56 PM	Ted Docum
Videos	ANDI_TEST	6/13/2016 1:38 PM	Text Docum
	CMPD_TEST	6/13/2016 1:38 PM	Text Docum
1 Computer	CMPWS_TEST	6/13/2016 1:38 PM	Text Docum
🕌 Local Disk (C:) 🖕	· · · · · · · · · · · · · · · · · · ·		T
File pame:			
Save as type: Pene	warm File(*.ht)		

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

Density a New field		jer.	
Organize * New fold	er	144	·
📩 Favorites	Name	Date modified	Type
E Desktop	333	6/13/2016 1-38 PM	Text Docume
Downloads	1111	6/12/2016 10:56 PM	Text Docume
Secent Places	ABSDP_TEST	6/13/2016 1:38 PM	Text Docume
	ABSWP_TEST	6/12/2016 10:53 PM	Text Docume
😹 Libraries 💡	ADDODP_TEST	6/13/2016 1-38 PM	Text Docume
Documents	ADDWDP_TEST	6/13/2016 1:38 PM	Text Docume
Music	ANB_TEST	6/16/2016 2:38 PM	Text Docume
E Pictures	AND_TEST	6/12/2016 10:56 PM	Text Docume
Videos	ANDL TEST	6/13/2016 1:38 PM	Text Docume
1.1.2.1.1.2.0.1	CMPD_TEST	6/13/2016 1:38 PM	Text Docume
Computer	CMPWS_TEST	6/13/2016 1:38 PM	Text Docume
🚢 Local Disk (C:)	DIVD_TEST	6/13/2016 1-38 PM	Text Docume
Ca Local Disk (D:)	DIVW_TEST	6/13/2016 1:38 PM	Text Docume
👝 Local Disk (E:) 💡	· · · · · · · · · · · · · · · · · · ·		· · · · · ·
Eler		- File Tunel" (vt)	

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)

Organize - Nev	folder			E
Documents Music Pictures Videos Computer Computer Cocal Disk (C:) Cocal Disk (C:) Cocal Disk (E:) Cocal Disk (F:) Cocal Disk	•	Name 333 1111 ABSDP_TEST ADBODP_TEST ADDODP_TEST ADDWOP_TEST AND_TEST AND_TEST AND_TEST CMPD_TEST	Date modified 6/13/2016 1:38 PM 6/13/2016 1:38 PM	Type Text Docume Text Docume Text Docume Text Docume Text Docume Text Docume Text Docume Text Docume Text Docume
File name:	•	COMMS_151	6/13/2016 1:58 PM	Text Docume

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)

Parameter Download	
Progress:	
Start	Cancel

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)

用ᢗС型型な	
300001160003001E 300300000030 3005000B01D001D1 3008000001D1 30100130015E0001 3013000F001E	MOVWDR D3 R30 LD B48 PLS B464 B465 LD B465 SHRDP P350 D1 JUMP R30

Fig 3-2-31 Progarm compiling interface

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

MOVWDR D3 R30 LD B48		
PLS B464 B465 add	Remind	×
LD B465 SHLWP P113 D1 JUMP R30	Parameter error in 4 line:add compile after m	odification!
		ОК

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)

╫╘╘╨╨┸

1MOVWDR D3 R30 2LD B48 3PLS B464 B465 4add 5LD B465 6SHLWP P113 D1 7JUMP R30

Fig 3-2-33 Program with row number

(7) Program decompiling

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



Fig 3-2-34 Decompiling interface

High-speed counter

h-speed counter		[≉7	ter in the second se
Command source of high-speed co	unting command source		
High-speed counter internal command source(PL121)	0:Interal parameter PL		
ligh-speed pulse control		Pulse command setting	
High-speed pulse type(PL120.A)	0:Direction + Pulse	Pulse mode(Po300.A)	0:Pulse + direction
High-speed pulse filtering(PL120.B)	0:8MHz	Filter frequency by pulse input(Po300.B)	0:4MHz
High-speed pulse direction(PL120.C)	0:HPULS anti-logic, HS	Pulse input logic(Po300.C)	0:PULS negative logic, 🔽
DI7/DI8 filter time(PL120.D)	0:800KHz	Frequency-division phase output (Po300.D)	1:Positive phase outpu
High-speed counter 1 setting		High-speed counter 2 setting	
High-speed counter reset(PL100.A)	0:No Reset	High-speed counter reset(PL110.A)	0:No Reset
High-speed counter enabled(PL100.B)	1:Enabled	High-speed counter enabled(PL110,B)	1:Enabled
High-speed counter direction(PL100.C)	0:Reverse	High-speed counter direction(PL110.C)	0:Reverse
CAP enabled(PL100.D)	0:Close CAP function	CAP enabled(PL110.D)	0:Close CAP function
Reset source setting(PL101.A)	0:Software	Reset source setting(PL111.A)	O:Software
CAP command source setting(PL101.B)	0:Software	CAP command source setting(PL111.B)	0:Software
Command source setting(PL101.C)	я.тто II. II. I II. I II.	Command source setting(PL111.C)	4.тта ца ца са а сла са на 🗸

Fig 3-2-35 High-speed counter interface

Please refer to the setting mode of <<u>multistage speed</u>>

6. Auxiliary Function

> JOG

Parameter setting	
Jogging speed	90
Servo start/stop	
Servo ON	Servo OFF
JOG operation	
EWD IOG	REV IOG

Fig 3-2-36 Jogging interface

Set [Jogging speed s	etting] firstly, then click	Servo ON	to power up t	he servo motor.
Click	FWD JOG	, servo motor rotates fo	orward, click	REV JOG	. servo motor
rotates	reversely.	,	,		,

> Motor parameter setting

function.

Motor parameter setting			
Setting type selection			
Inertia recognition mode selection(Po008)	0:Movement of inertia recognition 🔽		Servo ON
Electrical angle identification settings(So-25)	0:No motor parameter indentificati 🍟		
Parameter setting		≉ ¶ ≉ <mark>±±</mark> ±	Servo OFF
Rated current (Ho001) -	D-axis inductance(Ho006)	-	
Max rotary speed(Ho002) -	Q-axis inductance(Ho007)	-	FWD Tuning
Rated rotary speed(Ho003) _	Back EMF line voltage value(Ho008)	-	
Motor pole pairs(Ho004) -	Servo motor rated power(Ho011)	-	PEV/Tuping
Resistance between phases(Ho005)	Motor movement inertia(Ho012)	-	NEV runing
Movement of inertia recognition gap time(Po009)	Movement of inertia acele/decel time(Po014)	1000	Current inertia ratio: 300
Motion range of off-line - inertia recognition(Po015)			Not start identification!

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 th	ie orig	inal parame	eters of [motor parameter
setting], or modify directly wit	hout [upload	l]; the	n click 🛃	to download the set
parameters.				
After downloading the para	meters, click	FW	D Tuning	to complete forward
identification function, click	REV Tuni	ng	to complet	e reverse identification

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.

E 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;

PRight Shift: Move the curve right;

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

Q 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 Trigger Setting to popup trigger setting window (Fig 3-3-1)

	gersetting					
	Collect tim	e				
	13 *	10us(Single :	sampl. time)*1000(point)=	130 ms	
	Trigger mo	de				
	Object:	0:Running f	requency	-		
	Value:	0	Mode:	O:Real time tr	igger 🔽	
		OK		Cancel		
		Fig 3-3-1	window o	f trigger setti	ıg	
er setting co	mplete, Cl	ick 01	K,Cli	Contin. S	ampl.	Unitary Sa
er setting co rt sampling (mplete, Cl Fig 3-3-2)	ick OI	K,Cli	Contin. S	ampl. or	Unitary Sa
er setting con rt sampling (mplete, Cl Fig 3-3-2) ←→ Q Q (22 lbalang A1	ick Ol	K,Cli	Contin. S	or	Unitary Sa
er setting co rt sampling (Concut + - + +	mplete, Cl Fig 3-3-2) ←→ Q Q CH2 Monthemy AT	CHC: Montering A	,Cli	Contin. S	ampl. or	Unitary Sa
er setting co rt sampling (See cu + - + +	mplete, Cl Fig 3-3-2)	CHC. Montering A	,Cli	Contin. S	ampl. or 3.75 voltage CE 0.75 voltage CE 0.8 maitering	
er setting co rt sampling (Con cu + - + + to re vetage	mplete, Cl Fig 3-3-2)	ick OI	K,Cli	Contin. S	ampl. or 3.75 voltage CO (3.75 voltage CO (3.8mitering	Unitary Sa
er setting co rt sampling (mplete, Cl Fig 3-3-2) (++) @ @ (R2 Montering AT	ick OI	K,Cli	Contin. S	ampl. or	
er setting co rt sampling (mplete, Cl Fig 3-3-2) ←→ @ @ CH2 Montarray AT	CH3. Monthering A	×,Cli	Contin. S	ampl. or (R) 3.75 voltage (R) 4. Bastering (R) 5. Bastering (R) 5. Bastering (R) 7. Trigger 5	
er setting co rt sampling (mplete, Cl Fig 3-3-2)	CH: Montering A	×,Cli	Contin. S	ampl. or (CE 2.75 voltage (CE 2.75 voltage (C	Unitary Sa Unitary Sa 20 20 20 20 20 20 20 20 20 20 20 20 20
er setting co rt sampling (mplete, Cl Fig 3-3-2)	CH: Montering A	K, Cli	Contin. S	ampl. or 2 35 vilue 1 Con 2 35 vilue 1 Con 5 Bastering Start Time Trigger S Contin. Unitary	Unitary S

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 Q or Q 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).

SN	Parameters	Function Definition	Current Value	Min Value	Max Value	Uni t	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	-			k#	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
0 🔲 🔲	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

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

Select All

Select current all parameters for the subsequent operation;

Unselect

Unselect current parameters;

EImport

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;

1Upload

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).

	ID	Parameters	Download Parameter	Read Parameter	
	V 0	F109	0.00	0.00	
	☑ 1	F111	50.00	50.00	
	2	F112	0.50	0.50	
	V 3	F113	50.00	50.00	
-	☑ 4	F116	2	8.0	
	V 5	F119	0	0	
	☑ 6	F126	1	5.0	
	7	F129	0.00	0.00	

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;

EImport

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



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

1Upload

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

LDownload

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).

S	🖹 🕹 🗄 🔁 🖻	2				
ID	Parameters		Download Parameter	Read Parameter		
V 0	F109		0.00	0.00		
1	F111		50.00	50.00		
2	F112		0.50	0.50		
3	F113		50.00	50.00		
V 4	F116		2	8.0		
V 5	F119					
6	F126	Add	single row			
7	F129	Add	current row			
		Dela	te crurrent row			
		Dele	to cranent row			
		Dele	ete number-selected rov	v		

Fig 3-3-6 User-defined parameter editor

2. Device State

System Status Monitor

₽ g	System Status Mo	onitor							
	System Status							Common Command	
	RUN	STOP	FWD	REV	FAULT	COM ERRO	R	FWD RUN	REV RUN
	Motor Status			DI/DO Statu	5				
	Output Freq		Hz	D D R D	D D I	D D D D	Đ	DEC STOP	FREE STOP
	DC Voltage		٧		2 3		8		
	Motor Speed		RPM	Common Par	85				
	Output Current		Å				*	RUN	RESET
	Output Voltage		V	Target Fre	eg 50	. 00	Kz		
	Drive Tmp		D, L	Acc Time	-	:	5	FWD JOG	REV JOG
	AI1 Value		v		_				
	AI2 Value		v	Dec Time	-	:	5		
	AI3 Value		٧	Jog Freq	5.	00	Кz	Periodic Scanning	
	A01 Value		*	Jog Acc Ti	me –	:	5	6.5	
	AO2 Value		%	Jog Dec Ti	me –		5	50	an

Fig 3-3-7 System Status MonitorInterface

Click **[**Scan **]** to refresh the parameters in the "System Status Monitor", "Motor Status" and "DI/DO Status" bars . Control the inverterdriver by buttons in the "Common Command" bar.

> Fault Record

Fault Record

Ihree Kecent Failu	res	P 1: P (T)	P N G N (1)	
lime Attribute	Fault lype	Fault Frequency(Hz)	Fault Current(A)	Fault PN Voltage(V)
Last time				
Last second times				
Last third times				

Fault Protection Information

Name	Value
Overcurrent protection failure number	
Overvoltage protection failure number	
Overheating protection failure number	
Overload protection failure number	

Update

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 .

	i ui uiitete			
	Motor Selection	Motor Selection(FE00)		
		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)		
	Motor 1	Stator resistance(F806)		
	parameters setting	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)		
Motor	Encoder 1	Encoder resolution(F851)		
Parameters	parameters setting	Encoder phase sequence(F854)		
Configuration		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	Motor 2 stator resistor(FE06)		
	parameters setting	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	Encoder resolution(FE51)		
	parameters setting	Encoder phase sequence(FE54)		
Basic	ACC/DEC time	First acceleration Time(F114)		

Parameter	Onick	Search	Catalogue
	Vuith	Scarch	Catalogue

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)				
		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)				
		Inhibitionof current oscillation at low				
		frequency(F641)				
		DC Braking Function Selection(F600)				
	Activate parameters setting	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)				
		Selecting the mode of stopping the motor(F209)				
	~~~~	DC Braking Function Selection(F600)				
	STOP parameters	Initial Frequency for DC Braking(F601)				
	setting	DC Braking efficiency During Stop(F603)				
		Braking Lasting Time During Stopping(F605)				
		DC brake waiting time(F656)				

		Frequency source selecting(F207)			
		Main frequency source X(F203)			
Speed setpoint		Accessorial frequency source Y(F204)			
source		Reference for selecting accessorial frequency source			
		Y range(F205)			
		Accessorial frequency Y range(F206)			
		Source of start command(F200)			
		Source of stop command(F201)			
		Mode of direction setting(F202)			
Command		Jogging Frequency(F124)			
source		Jogging Acceleration Time(F125)			
		Jogging Deceleration Time(F126)			
		Terminaltwo-line/three-line operation control(F208)			
		Monitoring AI1(F331)			
		Monitoring AI2(F332)			
		Monitoring AI3(F333)			
		Lower limit of All channel input(F400)			
		Unper limit of AI1 channel input(F402)			
		All 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)			
	AI terminals	AI2 channel proportional gain K2(F410)			
		Corresponding setting for lower limit of AI2 input			
IO Terminal		(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)			
		AO1 analog output signal selecting(F431)			
	AO terminals	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)
		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)
	DI terminals	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)
		Relav token output(F300)
		DO1 token output(F301)
	DO terminals	DO2 token output(F302)
		Expansion relay 1 output(FF00)
		Expansion relay 2 output(FF01)
		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)
Fixed		Status after auto circulation running Finished(F503)
frequency		Frequency setting of stagespeed (F504-F518)
setting		Acceleration timesetting of stagespeed (F519-F533)
		Deceleration timesetting of stagespeed (F534-F548)
		Running directions of stage speed 1-8 (F549-F556)
		Running directions f stage speed 9-15 (F573-F579)
		Running time of stagespeed (F557-F564)
		Stop time after finishing stage (F565-F572)
		Inverter Overloading pre-alarm Coefficient(F704)
Protection	Overload	Inverter Overloading coefficient(F706)
Setting	protection	Overloading adjusting gains(F705)
	-	Motor Overloading coefficient(F707)

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



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.

#### 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).

SN	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	-			k#	Factory-only
3	F104	Voltage level	-			N/A	Factory-only
<b>a</b>	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
<b>I</b> 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 3-4-1 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;

# EImport

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;

**1**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 current parameters;

**E**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).

<b>S</b> [	🖹 🛨 🛨 🔁 🔁			
ID	Parameters	Download Parameter	Read Parameter	
0	F109	0.00	0.00	
<b>V</b> 1	F111	50.00	50.00	
2	F112	0.50	0.50	
3	F113	50.00	50.00	
<b>V</b> 4	F116	2	8.0	
▼ 5	F119			
6	F126	Add single row		
7	F129	Add current row		
		Delete crurrent row		
		Delete number-selected row		

Fig 3-4-3 User-defined parameter editor

#### 2. Device State

#### System Status Monitor

₽ g	System Status M	onitor							
	System Status							Common Command	
	RUN	STOP	FWD	REV	FAULT	COM ERI	ROR	FWD RUN	REV RUN
	Motor Status			DI/DO Statu	s				
	Output Freq		Hz	D D R I	D D		D D	DEC STOP	FREE STOP
	DC Voltage		V	1 2 ¥ 1	2 3	4 5 6	78		
				Common Par	85				
	Output Current		A			<b>₩</b> ₽	±±	RUN	RESET
	Output Voltage		v	Target Fr	eq 50	). 00	Hz		
	Drive Tmp		tc	Acc Time	-		s	FWD JOG	REV JOG
	AI1 Value		v	Dec Tire	_		l e		
	AI2 Value		v	Dec IIme			5		
	AI3 Value		v	Jog Freq	5.	00	Hz	Feriodic Scanning	
	AO1 Value		*	Jog Acc T	ime –		s	6.5	
	AO2 Value		*	Jog Dec T	ime -		s	50	an

#### Fig 3-4-4 System Status MonitorInterface

Click **[**Scan **]** to refresh the parameters in the "System Status Monitor", "Motor Status" and "DI/DO Status" bars . Control the inverterdriver by buttons in the "Common Command" bar.

#### > Fault Record

#### Fault Record

Three Recent Failures								
Time Attribute	Fault Type	Fault Frequency(Hz)	Fault Current(A)	Fault PN Voltage(V)				
Last time								
Last second times								
Last third times								

#### Fault Protection Information

Name	Value
Overcurrent protection failure number	
Overvoltage protection failure number	
Overheating protection failure number	
Overload protection failure number	

Update

#### 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 .

Motor Selection       Motor Selection(FE00)         Control mode(F106)       Rated power(F801)         Rated voltage(F802)       Rated current(F803)         Motor rated frequency(F810)       Motor rated frequency(F810)
Control mode(F106)         Rated power(F801)         Rated voltage(F802)         Rated current(F803)         Motor rated frequency(F810)
Rated power(F801)         Rated voltage(F802)         Rated current(F803)         Motor rated frequency(F810)
Rated voltage(F802)         Rated current(F803)         Motor rated frequency(F810)
Rated current(F803)       Motor rated frequency(F810)
Motor rated frequency(F810)
Rated rotary speed(F805)
Motor Motor's parameters selection(F800)
ParametersMotor 1Stator resistance(F806)
Configuration parameters setting 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)
First acceleration Time(F114)
Second acceleration time(F116)
First deceleration time(F115)
ACC/DEC time Second deceleration time(F117)
selection Accel/decel mode(F306)
Reference of setting accel/decel time(F119)
S curve beginning stage proportion(F304)
S curve ending stage proportion(F305)
Max Frequency(F111)
Min Frequency(F112)
Basic Target Frequency(F113)
Turnover Frequency(F118)
Starting Frequency(F109)
Holding Time of Starting Frequency(F110)
Activate Speed track(F613)
parameters setting 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)
		Selecting the mode of stopping the motor(F209)
		DC Braking Function Selection(F600)
	<b>STOP</b> parameters	Initial Frequency for DC Braking(F601)
	setting	DC Braking efficiency During Stop(F603)
		Braking Lasting Time During Stopping(F605)
		DC brake waiting time(F656)
		Frequency source selecting(F207)
		Main frequency source X(F203)
Speed setpoint		Accessorial frequency source Y(F204)
source		Reference for selecting accessorial frequency source
		Y range(F205)
		Accessorial frequency Y range(F206)
		Source of start command(F200)
		Source of stop command(F201)
C I		Mode of direction setting(F202)
Command		Jogging Frequency(F124)
source		Jogging Acceleration Time(F125)
		Jogging Deceleration Time(F126)
		Terminaltwo-line/three-line operation control(F208)
		Monitoring AI1(F331)
		Monitoring AI2(F332)
		Monitoring AI3(F333)
IO Tomminal	AI terminals	Lower limit of AI1 channel input(F400)
10 Terminai		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)
		AO1 analog output signal selecting(F431)
		AO1 output range(F423)
		AO1 output compensation(F426)
		AO1 lowest corresponding frequency(F424)
		AO1 highest corresponding frequency(F425)
	AU terminais	AO2 analog output signal selecting(F432)
		AO2 output range(F427)
		AO2 output compensation(F430)
		AO2 lowest corresponding frequency(F428)
		AO2 highest corresponding frequency(F429)
		DI1 terminal functionsetting(F316)
		DI2 terminal function setting(F317)
		DI3 terminal functionsetting(F318)
		DI4 terminal functionsetting(F319)
DI teri		DI5 terminal function setting(F320)
		DI6 terminal function setting(F321)
	<b>DI</b> terminals	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)

		Relay token output(F300)
	DO terminals	DO1 token output(F301)
		DO2 token output(F302)
		Expansion relay 1 output(FF00)
		Expansion relay 2 output(FF01)
		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)
Fixed		Status after auto circulation running Finished(F503)
frequency		Frequency setting of stagespeed (F504-F518)
setting		Acceleration timesetting of stagespeed (F519-F533)
		Deceleration timesetting of stagespeed (F534-F548)
		Running directions f stage speed 1-8 (F549-F556)
		Running directions f stage speed 9-15 (F573-F579)
		Running time of stagespeed (F557-F564)
		Stop time after finishing stage (F565-F572)
		Inverter Overloading pre-alarm Coefficient(F704)
	Overload	Inverter Overloading coefficient(F706)
	protection	Overloading adjusting gains(F705)
		Motor Overloading coefficient(F707)
		Input phase loss(F724)
	Phase loss protection	Input phase loss filtering constant(F728)
		Output phase loss(F727)
		Carrier frequency auto-adjusting(F747)
	Overheat	Overheat(F726)
	protection	Overheat protection filtering constant(F730)
	-	Threshold of pre-alarm overheat(F745)
Protection		Selection of terminal free stop mode(F700)
Setting	Stop Mode	Delay time for free stop and programmable terminal
		action(F701)
	Zero-current	Zero-current threshold(F754)
	Detection	Duration time of zero-current(F755)
		Grounding protection(F760)
	Other Protection	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 given channel(FC06)
	<b>Torque Setpoint</b>	Torque given coefficient(FC07)
		Torque given command value(FC09)
	Torque boost	Offset torque given channel(FC14)
		Offset torque coefficient(FC15)
Tonguo		Offset torque cut-off frequency(FC16)
Torque		Offset torque command value(FC17)
Control	Motor torque limit	Electric torque limited channel(FC28)
		Electric torque limited coefficient(FC29)
		Electric torque limited(FC30)
	Description	Braking torque limited channel(FC33)
	torque limit	Braking torque limited coefficient(FC34)
	torque limit	Braking torque limited(FC35)



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).

SN	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 3-5-1 Parameter management interface

①Function shortcut icon ② Parameter information display area



Select current all parameters for the subsequent operation;

Unselect

Unselect current parameters;

**E**Import

Import parameters fromlocal 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;

**1**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 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).

♥ 0         ₱109         0.00           ♥ 1         ₽111         50.00           ♥ 2         ₱112         0.50           ♥ 3         ₱113         50.00           ♥ 4         ₱116         2           ♥ 5         ₱119         0           ♥ 6         ₱128         1           ♥ 7         ₱129         0.00	0.00 50.00 0.50 50.00 8.0 0 5.0 0.00		
♥       1       F111       50.00         ♥       2       F112       0.50         ♥       3       F113       50.00         ♥       4       F116       2         ♥       5       F119       0         ♥       5       F128       1         ♥       7       F129       0.00         ●       9       1       9         ●       1       9       1         ●       7       F129       0.00	50.00 0.50 50.00 8.0 0 5.0 0.00		
Image: 2         F112         0.50           Image: 3         F113         50.00           Image: 4         F116         2           Image: 5         F128         1           Image: 7         F129         0.00	0.50 50.00 0.0 5.0 0.00		
√             3	50.00 8.0 0 5.0 0.00		
Image: Problem         Print         2           Image: Print         0         0           Image: Print         1         1	8.0 0 5.0 0.00		
Image: Second	0 5.0 0.00		
Ø       6       F128       1         Ø       7       F129       0.00	5.0 0.00		
▼ 7 F129 0.00	0.00		

### 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;

EImport

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

Export

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

**1**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).

R	🖹 🕹 🕹 🔁 🔁			
ID	Parameters	Download Parameter	Read Parameter	
<b>V</b> 0	F109	0.00	0.00	
<b>V</b> 1	F111	50.00	50.00	
2	F112	0.50	0.50	
3	F113	50.00	50.00	
<b>V</b> 4	F116	2	8.0	
✓ 5	F119			
<b>V</b> 6	F126	Add single row		
7	F129	Add current row		
		Delete crurrent row		
		E la contraction de la contraction		
		Delete number-selected rov	v	

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.
- > C Import: Import saved oscilloscope image from local storage.
- > K 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.
- > **T**Move Up: Move up the curve.

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

### **Oscilloscope type selection**

Click on the lower left corner of the selection button^{O Oscilloscope}

Real-time oscilloscope, complete oscilloscope type switch.

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

First,click	Trigger Setting	to popup trigger setting window (Fig 3-6-1)
Trigger sett	ing	
Collec	t time	
1	*100us(Sing	gle sampl. time)*1000(point)= 100 ms
Trigge	er mode	
Obje	ect: O:Not set	t 🗸
Valu	.e: 0	Mode: 0:Trigger immediately 🔽
	ОК	Cancel
	Fig 3	3-6-1window of trigger setting
fter setting a	complete, click	OK Click Contin. Sampl. Unitary Sam
tart sampling	(Fig 3-6-2)	

CH1: U phase current C	H2: Feedback rolary speed CH3: Or	riput current	СН	CN 0.9 phase current
			СН1	CC 4 Feedback rotary spee
			Cursor1: 5:20 A	CKO 2. Output current
			Cursor2: -5.40	
			10:50 A	Start Time 27/10/2006 16:34
			Time1: 4.667s	Tringer Setting
			Time2 4.867s	ringger setting
			[T2-T1] 0.2008	Contin. Sampl.
CH1: 5:00Aldiv CH2: 1000.0	00rpm/div CH3 20.004/div	M. 0.3335/dw 27	7/10/2016 16:34:51	Unitary Sampl.
				6

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 Qor Q

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).

SN	Parameter	Function Definition	Value	Unit	Contro	Min Value	Max Value	Default V	Effective Mode
0	Po000	Motor code	-	N/A	ALL	Four-parameter	Four-parameter	-	read only
1	Po001	Control mode and forward direct	d 1 1	N/A	ALL	Two-parameter	Two-parameter	d 1 1	Repower on
2	Po002	Max rotation speed (Absolute va	-	r/min	ALL	0	10000	-	effective imme
3	Po003	Encoder frequency-division numbers	-	N/A	ALL	1	65535	-	effective imme
4	Po004	Servo enabled mode selection	0	N/A	ALL	0	1	0	Repower on
5	Po005	Encoder pulse frequency-divisio	-	N/A	ALL	1	2147483647	-	effective imme
6	Po007	Motion range for movement of in	10	N/A	ALL	1	100	10	effective imme
7	PoUUS		0	N/A	ALL	0	3	0	effective imme
8	Po009	Movement of inertia recognition	100	ms	ALL	10	2000	100	effective imme
9	Po010	Rigidity selection	6	N/A	ALL	1	30	6	effective imme
10	Po011	Flux weakening controller switch	1	N/A	ALL	0	1	1	effective imme
11	Po013	Rotation inertia ratio	200	0.01	ALL	1	30000	200	effective imme
12	Po014	Movement of inertia acele/decel	1000	m S	ALL	200	5000	1000	effective imme
13	Po015	Motion range of off-line inerti	-	N/A	ALL	200	2147483647	-	effective imme
14	Po017	Z pulse frequency-division outp	-	N/A	ALL	50	30000	-	effective imme
15	Po018	Pulse output configuration	Ъ0001	N/A	ALL	Four-parameter	Four-parameter	Ъ0001	effective imme
16	Po019	Virtual Z output period	10000	N/A	ALL	1	2147483647	10000	effective imme
17	Po100	Internal position enabled	0	N/A	ALL	0	1	0	effective imme
18	Po101	First speed loop proportional gain	600	0.1Hz	ALL	0	30000	600	effective imme
19	Po102	First speed loop integral time	500	0.1ms	ALL	0	10000	500	effective imme
20	Po103	Second speed loop proportional	240	0.1Hz	ALL	0	30000	240	effective imme
21	Po104	Second speed loop integral time	1250	0.1ms	ALL	0	30000	1250	effective imme
22	Po105	First speed loop filter time co	-	0.01ms	P, S	1	20000	-	effective imme
23	Po106	Second speed loop filter time c	-	0.01ms	P, S	1	20000	-	effective imme
24	Po107	Torque feedforward gain	0	N/A	P, S	0	1000	0	effective imme
25	Po108	Torque feedforward gain filter	100	0.01ms	P, S	1	30000	100	effective imme
26	Po109	Acceleration time (only valid i	200	ms	S	1	30000	200	effective imme
27	Po110	Deceleration time (only valid i	200	ms	S	1	30000	200	effective imme
28	Po111	S curve accele/decele time	100	ms	S	1	15000	100	effective imme
29	Po112	S curve starting indication	0	N/A	S	0	1	0	effective imme
30	Po113	Internal speed given 1	1000	0.1r/min	Sr	-32000	32000	1000	effective imme
31	Po114	Internal speed given 2	2000	0.1r/min	Sr	-32000	32000	2000	effective imme

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;

H Save

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



Import parameters fromlocal 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;

**1**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.

ain adjustment				
Rigidity parameter setting			±±±	
Rigidity selection(Po010)	6	×		
Gain parameter setting			<u>s</u> ±≥	
Rotational inertia ratio(Po013)	200	Torque feedforward gain(Po107)	0	
First speed loop proportional gain(Po101)	600	Torque feedforward gain filter(Po108)	100	
First speed loop integral time(Po102)	500	1st current loop bandwidth(Po200)	1000	
Second speed loop proportional gain(Po103)	240	2nd current loop bandwidth(Po201)	1000	
Second speed loop integral time(Po104)	1250	First position loop gain(Po301)	3926	
First speed loop filter time constant(Po105)	1	Second position loop gain(Po302)	4000	
Second speed loop filter time constant(Po106)	1	Position loop feedforward gain(Po303)	0	
Filter time constant of position feedforward(Po326)	1000			

Fig 3-6-5 Gain Adjustment Interface



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

System State				Periodic Scanning
S-RDY SON-O	TGON V-CMP	P-CMP T-L:	ALM COM ERROR	Scan
DI/DO Status			Monitoring Information	
D D D D D I I I I I I	D D 0 O	D D 0 0	DV state	Offline N/A
1 2 3 4 5	1 2	3 4	System permission state	User Mode N/A
System Information			Servo drive output current	A
Software version	0.0		Servo drive bus voltage	V
			Servo motor rotation speed	RPM
Servo model	0		Given command pulse numbers	N/A
Motor model	0		Given command pulse error numbers	N/A
Encoder type	0			
Encoder resolution	0		Relative position single cycle pulse number	N/A
			Relative position multi loop number	N/A

Fig 3-6-6 System State Interface

Click	Update	to rea	ad and update current servo drive information.
Click	Scan		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.

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

Parameter	Quick	Search	Catalogue
-----------	-------	--------	-----------

		Position error alarm pulses numbers(Po309)		
		S curve starting indication(Po112)		
	A 1/J 1 4	Acceleration time (only valid in speed mode)(Po109)		
	Accel/decel time	Deceleration time (only valid in speed mode)(Po110)		
		S curve accele/decele time(Po111)		
	Zone speed slown	Zero clamp enabled(Po127)		
Speed Loop	Zero speed clamp	Speed value in the zero clamp(Po126)		
Configuration	Torque	Torque feedforward gain(Po107)		
	feedforward	Torque feedforward gain filter(Po108)		
	Concerd and a head	Range of target speed(Po117)		
	Speed reached	Rotation detection value(Po118)		
	Speed feedback	First speed loop filter time constant(Po105)		
	filter	Second speed loop filter time constant(Po106)		
Tangua Laan	<b></b>	Internal max torque limit value(Po202)		
Configuration	Torque mode	Forward max torque limit(Po208)		
Configuration	communu mint	Reverse max torque limit(Po209)		
	Overload Protection	Motor overload coefficient setting(So-37)		
	Stor Mode	Servo OFF stop mode(So-07)		
Fault and	Stop Mode	Dynamic braking delay time(So-08)		
Protection		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

			Pr	
High Low	firm roles unberg	Canada mite	(PULS, /PULS) CN3-20,7 (SIGH, /SIGN) CN3-19,6	
	orver parae number a	Commute are		Monitor. Mode
(DI1) CN3-18 SON-I	1:Common-opened V O:Servo on V			
(DI2) CN3-19 ESP	1:Common-opened 🔽 12:Emergency stop 🔽			Forced Output
(DI3) CN3-20 F-INH	O:Common-closed 🔽 14:Forward run pr 🔽			Torced output
(DI4) CN3-21 R-INH	O:Common-closed 🔽 13:Reverse run pr 🔽	O:Servo ready T:Common-opened	S-RDY (D01) CN3-9,10	
(DI5) CN3-22 AL-RST	1:Common-opened 🔽 1:Alarm reset 🔽	2:Rotation Detect 🔽 1:Common-opened 🔽	TGON (D02) CN3-26,11	Exit
		7:Electromagnetic 🔽 1:Common-opened 🔽	BRAKE (1003) CN3-41, 42	
		9:At speed limit 🔽 1:Common-opened 🔽	S-LT (D04) CN3-31, 32	

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 hi	gh-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

inal set speed				
Internal speed given 1(Pol13)	1000	1		
Internal speed given 2(Pol14)	2000	]		
Internal speed given 3(Pol15)	3000	1		
re smoothing				
S curve starting indication(Poll2)	© Activate	Sot activate		
S curve accele/decele time(Poll1)	100	]		
nd reached setting				
Range of target speed(Poll7) Speed reached function: The si- when the shealute value of the	300	Speed arrival signal is output within the dotted line.	Poli7	
between serve motor rotary spe reference speed is lower than range, which is not related to steering, but valid for FWL/FS	ed and current speed motor V.			
	Internal speed given 1(Poll3) Internal speed given 2(Poll4) Internal speed given 3(Poll5) re smoothing S curve starting indication(Poll2) S curve accele/decele time(Poll1) reached setting Range of target speed(Poll7) Speed reached function: The si when the abcolute value of the between serve autor strary spe reference speed is Lower that to steering, but walld for PWD/MS	Internal speed given 1(Pol13) 1000 Internal speed given 2(Pol14) 2000 Internal speed given 3(Pol15) 3000 re smoothing S curve starting indication(Pol12) © Activate S curve accele/decele time(Pol11) 100 reached setting Range of target speed(Pol17) 900 Speed reached function: The signal outputs when the abcolute value of the difference between serve accelsised the softer range which is not rotary speed and reference speed is lower than current speed range, but valid for PWD/NEV.	Internal speed given 1(Pol13) [1000 Internal speed given 2(Pol14) [2000 Internal speed given 3(Pol15) [3000 re smoothing S curve starting indication(Pol12) @ Activate & Not activate time(Pol13) [100 d reached setting Range of target speed(Pol17) [300 Speed reached function: The signal outputs when the absolute value of the difference between speed is lower than current speed indication (but is not related to whote steering, but walld for PWD/NEV.	Internal speed given 100113) 1000 Internal speed given 200140 2000 Internal speed given 300180 3000 re smoothing 5 curve starting indication(00112) 5 curve accole/decele time(Fol11) 5 curve secole/decele time(Fol11) 5 curve secole/decele time(Fol11) 5 curve secole/decele time(Fol11) 5 peed section speed farget speed(Fol17) 5 peed section function: The signal outputs when the absolute value of the difference between speed is lower that difference streeg speed is lower that difference streeg, but valid for FWU/MBV. 5 peed section function speed 100 5 peed section function speed 5 curve starting 5 peed section function speed 5 peed section function speed 5 peed section function speed 5 peed section function speed 5 peed section function function speed 5 peed section function function speed 5 peed section function funct

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				÷.	
Burning	condition settis	4				At internal position command mode. It preset position commands
Control N Grobbl. 33	ode setting	1:Positio	n pulse mode			parameters (Po350-Po364), and can be activated by use of input Multistage position means 8-stage position commands are saved dentisement areas a varies accord and increased technological
Bater PRD (Pu001-T)	direction settin	1:Counter	clockwire ar viewed	fron 🔚		(Start)
Bultistag	* position funct: o348.X)	0:Invalid		H		Whether to set internal register p
Stage sum	ders setting (Po)	18. 17 2:2ed post	ition			25001 X-5
Internal selection	position mode (Pu341)	0) Increase	stal mode	H		Whether to set position circulation
Internal unit (Fold)	position given a	ored OrSpeed u	nit is 0.1 s/min, m	otor a 🐂		Set Di terminal Set multi-stage Set related par
Circulati	on times of mult) perition(Po3490	Latine (0				Downey in the set
Stage Ban	Portian	Speed	Acc time	Dec time	Interval time	Set electric To set motor displacment by el
Stagel	0	1000	100	100	0	gear ratio
Stage2	0	1000	100	100	0	Set multi-stage
Stage3	0	1000	100	100	0	position command enabled
Stagel	0	1000	100	100	0	(Durar
Stage5	0	1000	100	100	0	(Wer)

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.

Stage Bun	Position	Speed	Acc time	Dec time	Interval time	Set electric To set motor displacment by electric	C C *
Stagel	0	1000	100	100	0	gear ratio	
Stage2	0	1000	100	100	0	Set multi-stane	
Stage3	0	1000	100	100	0	position command enabled	
Staged	0	1000	100	100	0		
Stage5	0	1000	100	100	0	Over	
Stages	0	1000	100	100	0	Multi-stage position circulation diagram The diagram after setting interval time:	
Stage7	0	1000	100	100	٥	Position 1	
Stage8	0	1000	100	100	0	Posi	io
Servo ON	/OPP operation		have	ing operation		0 ON	
		1	_		_	0 ON	-
Serv	o ON	Servo OF	F	Star	t	S-ON enabled OFF signal	-
						selection 1	
						Internal register position selection 2 0	-
						selection 3 0	=
						position trgger	
							. *
System state, Mu	Itistage position						4.1-
			Fig 3-6	-9 multist	age position	interface-2	
After set	ting para	meters, c	lick 🔛	to downlo	ad the para	meter modification.	
Start	ТЬ		Servo ON	4			
	I ner	і спск		ю таке	servo motor	power-up, click, servo motor	

starts to run as set.(Fig 3-6-9 multistage position interface-2)

### ➢ Home Return

Home position searching setting		Servo ON/OFF operation
Home search setting A(Poll9.A)	0:Reverse searching home	Santo ON
Home search setting B(Poll9.B)	0:Searching HOME by left/righ	SEIVOON
Home search setting C(Po119.C)	0:After finding HOME position 🚩	Servo OFF
Home search setting D(Poll9.D)	0:Åfter 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 search operation
Home searching offset (No. of revolutions)(Po123)	0	
Duration time of home found signal(Po128)	100	Searching home
Delay time of home searching(Po129)	10000	Not starting searching home!
buration time of home found signal(Po128)	100	Searching home

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
----	-----------	----------

Parameter setting	
Jogging speed	500
Servo start/stop	
Servo ON	Servo OFF
JOG operation	
FWD JOG	REV JOG

Fig 3-6-11 Jogging interface

Set [	Jogging speed s	etting] firstly, then click	Servo ON	to power up t	he servo motor.
Click	FWD JOG	, servo motor rotates fo	orward, click	REV JOG	. servo motor
rotates	reversely.	,	,		,

### Motor parameter setting

function.

Motor parameter setting			
Setting type selection			
Inertia recognition mode selection(Po008)	0:Movement of inertia recognition 🔽		Servo ON
Electrical angle identification settings(So-25)	0:No motor parameter indentificati 🍟		
Parameter setting		≉ <del>¶</del> ≉ <mark>±±</mark> ±	Servo OFF
Rated current (Ho001) -	D-axis inductance(Ho006)	-	
Max rotary speed(Ho002) -	Q-axis inductance(Ho007)	-	FWD Tuning
Rated rotary speed(Ho003) _	Back EMF line voltage value(Ho008)	-	
Motor pole pairs(Ho004) -	Servo motor rated power(Ho011)	-	PEV/Tuping
Resistance between phases(Ho005)	Motor movement inertia(Ho012)	-	NEV runing
Movement of inertia recognition gap time(Po009)	Movement of inertia acele/decel time(Po014)	1000	Current inertia ratio: 300
Motion range of off-line - inertia recognition(Po015)			Not start identification!

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 th	e orig	inal parame	ters of [motor parameter
setting], or modify directly wit	hout [upload	l]; the	n click 🛃	to download the set
parameters.				
After downloading the para	meters, click	FW	D Tuning	to complete forward
identification function, click	REV Tuni	ng	to complet	e reverse identification

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.
- > **W**ove Down: Move down the curve;
- > **C**Left Shift: Move the curve left;
- Right Shift: Move the curve right;
- > 🭳 Zoom In: Zoom In can enlarge the operation of the curve.
- > **Q** 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	Trigger Setting	to popup trig	ger setting window (J	Fig 3-7-1)
Trigger set	ing			×
Colled	t time			
	*100us(Sing	le compl ti	$(p_{a}) * 1000 (p_{a}) = 1000 (p_{$	00 ms
	*10003 (J11g	ie sampi. (i)		
Trigg	er mode			
ОЪј	ect: O:Not set		<b>•</b>	
Val	1e: 0	Mode:	0:Trigger immedia	tely 🔽
	OK		Cancol	
	UK		Cancer	
	Fig 3	-7-1 window of	f trigger setting	
e, ,,•		ОК	Contin. Sampl.	Unitary Sa
ter setting art sampling	complete, click (Fig 3-7-2)	,Cli	CK	or

CH1: U phase current	CH2: Feedback rotary speed	30: Output current	CH 0.7 phase current
			CH1 CC & Feedback rotary spee
			Cursort: 520 A
			Cursor2 -5.40 A
			102-C1E 10.60 A Start Time 27/10/2006 16
			Time 1: 4.667s
			Time2: 4.867s
			Contin, Sampl.
CH1: 500Alav CH2	1000 00rpm/dw CH3 20.004/dw	M: 0.3336/dw 27/10/201	16 1834.51 Unitary Sampl.
	#		

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 Qor Q

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).

SN	Parameter	Function Definition	Value	Unit	Contro	Min Value	Max Value	Default V	Effective Mode
0	Po000	Motor code	-	N/A	ALL	Four-parameter	Four-parameter	-	read only
1	Po001	Control mode and forward direct	d 1 1	N/A	ALL	Two-parameter	Two-parameter	d 1 1	Repower on
2	Po002	Max rotation speed (Absolute va	-	r/min	ALL	0	10000	-	effective imme
3	Po003	Encoder frequency-division numbers	-	N/A	ALL	1	65535	-	effective imme
4	Po004	Servo enabled mode selection	0	N/A	ALL	0	1	0	Repower on
5	Po005	Encoder pulse frequency-divisio	-	N/A	ALL	1	2147483647	-	effective imme
6	Po007	Hotion range for movement of in	10	N/A	ALL	1	100	10	effective imme
7	PoUU8	mertia recognition mode select	0	N/A	ALL	0	3	0	effective imme
8	Po009	Movement of inertia recognition	100	ns	ALL	10	2000	100	effective imme
9	Po010	Rigidity selection	6	N/A	ALL	1	30	6	effective imme
10	Po011	Flux weakening controller switch	1	N/A	ALL	0	1	1	effective imme
11	Po013	Rotation inertia ratio	200	0.01	ALL	1	30000	200	effective imme
12	Po014	Movement of inertia acele/decel	1000	ns	ALL	200	5000	1000	effective imme
13	Po015	Motion range of off-line inerti	-	N/A	ALL	200	2147483647	-	effective imme
14	Po017	Z pulse frequency-division outp	-	N/A	ALL	50	30000	-	effective imme
15	Po018	Pulse output configuration	Ъ0001	N/A	ALL	Four-parameter	Four-parameter	Ъ0001	effective imme
16	Po019	Virtual Z output period	10000	N/A	ALL	1	2147483647	10000	effective imme
17	Po100	Internal position enabled	0	N/A	ALL	0	1	0	effective imme
18	Po101	First speed loop proportional gain	600	0.1Hz	ALL	0	30000	600	effective imme
19	Po102	First speed loop integral time	500	0.1ms	ALL	0	10000	500	effective imme
20	Po103	Second speed loop proportional	240	0.1Hz	ALL	0	30000	240	effective imme
21	Po104	Second speed loop integral time	1250	0.1ms	ALL	0	30000	1250	effective imme
22	Po105	First speed loop filter time co	-	0.01ms	P, S	1	20000	-	effective imme
23	Po106	Second speed loop filter time c	-	0.01ms	P, S	1	20000	-	effective imme
24	Po107	Torque feedforward gain	0	N/A	P, S	0	1000	0	effective imme
25	Po108	Torque feedforward gain filter	100	0.01ms	P, S	1	30000	100	effective imme
26	Po109	Acceleration time (only valid i	200	ns	S	1	30000	200	effective imme
27	Po110	Deceleration time (only valid i	200	ms	S	1	30000	200	effective imme
28	Po111	S curve accele/decele time	100	m s	S	1	15000	100	effective imme
29	Po112	S curve starting indication	0	N/A	S	0	1	0	effective imme
30	Po113	Internal speed given 1	1000	0.1r/min	Sr	-32000	32000	1000	effective imme
31	Po114	Internal speed given 2	2000	0.1r/min	Sr	-32000	32000	2000	effective imme

Fig 3-7-4 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;

H Save

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



Import parameters fromlocal 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;

**1**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.

Fig 3-7-5 Gain Adjustment Interface



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

System State		Periodic Scanning
S-RDY SON-O T	TGON V-CMP P-CMP T-L	ALH CON ERROR
DI/DO Status		Monitoring Information
		DV state Offline N/A
1 2 3 4 5 6	7 8 1 2 3 4 M	System permission state User Mode N/A
System Information		Servo drive output 📃 🔺
Software version	0.0	Servo drive bus voltage V
C28 version	0.0	Servo motor rotation RPM
FPGA version Servo model	0.0	Given command pulse N/A numbers
Motor model	0	Given command pulse N/A error numbers
Encoder type	0	Actual absolute position N/A
Encoder resolution	0	Relative position single N/A cycle pulse number
Firmware 3 version	0.0	Relative position multi N/A loop number
	Update	Absolute position single N/A

Fig 3-7-6 System State Interface



### 3. Mode Configuration

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

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

Parameter	Quick	Search	Catalogue
-----------	-------	--------	-----------

	Filter	Position mode FIR filter(Po340)		
		Acceleration time in position mode(Po343)		
		Position loop feedforward gain(Po303)		
	Speed Feedforward	Filter time constant of position feedforward(Po326)		
		Command pulse clear function(Po308)		
	Positioning	Pulses numbers range of position arrival(Po307)		
	complete	Position error alarm pulses numbers(Po309)		
		S curve starting indication(Po112)		
		Acceleration time (only valid in speed mode)(Po109)		
	Accel/decel time	Deceleration time (only valid in speed mode)(Po110)		
		S curve accele/decele time(Po111)		
	7 11	Zero clamp enabled(Po127)		
Speed Loop	Zero speed clamp	Speed value in the zero clamp(Po126)		
Configuration	tion Torque	Torque feedforward gain(Po107)		
	feedforward	Torque feedforward gain filter(Po108)		
	Second marshad	Range of target speed(Po117)		
5	Speed reached	Rotation detection value(Po118)		
	Speed feedback	First speed loop filter time constant(Po105)		
	filter	Second speed loop filter time constant(Po106)		
	Torque mode	Torque increasing time(Po212)		
	command filter	Torque decreasing time(Po213)		
		Torque limiting by analog(Po203)		
	Torque mode	Internal max torque limit value(Po202)		
Torque Loop	command limit	Forward max torque limit(Po208)		
Configuration		Reverse max torque limit(Po209)		
	Torque mode speed	Speed limit during torque control(Po210)		
	limit	Internal speed limit(Po211)		
	Torque mode status	Target torque range(Po237)		
	output	Torque filter frequency(Po238)		
	Overload Protection	Motor overload coefficient setting(So-37)		
	Stop Modo	Servo OFF stop mode(So-07)		
	Stop Mode	Dynamic braking delay time(So-08)		
		Forward run prohibited(So-17)		
		Reverse run prohibited(So-18)		
		Fwd/Rev run prohibited torque setting(Po216)		
Fault and Protection		Fwd/Rev run prohibited and emergency stop		
Trotection	Overtrevel	torque(Po207) Overtravel limit function(So_39)		
	Protection	Forward running range pulse when overtravel		
		protection(Po140)		
		Forward running range multi-loop numbers when		
		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	Braking resistor value(So-04)
Brake	Discharge duty ratio(So-05)
	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)

## T 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**

High				
Low.			(PULS, /PULS) CN3-44, 15	
			(PL2) CN3-43	
(AS1, AGND) CN3-23, 40				
(AS2, AGND) CN3-25, 40	Given pulse numbers	Command unit		Monitor. Mode
(DI1) CN3-18 ORGP	1:Common-opened 🔽 22:External refer 🔽		(HPULS+, HPULS-) CN3-4, 3	
(TTO) CVD to FSP			(GND) CN3-24	
(DI2) CN3-19 EST	1:Common-opened 12:Emergency stop		(HSIGN+, HSIGN-) CN3-5,6	Forced Output
(DI3) CN3-20 F-INH	O:Common-closed 🔽 14:Forward run pr 🔽		(GND) CN3-24	
(DI4) CN3-21 R-INH	0:Componentiated V 13:Revenue vun pr	D:Serve ready	S-RDY (DO1) CN3-9.10	
			·	Evit
(DI5) CN3-22 AL-RST	1:Common-opened 🔽 1:Alarm reset 🔽	2:Rotation detect 💙 1:Common-opened 💙	TGON (D02) CN3-26, 11	LAIT
(DI6) CN3-38 GAIN-SEL	1:Common-opened 💙 8:Gain switchover 💙	3:At speed reache 🔽 1:Common-opened 🔽	V-CMP (1003) CN3-41, 42	
(DI7) CN3-39 S-RDY	1:Common-opened 💙 34:Touchprobe-1 🔍	5:At torque limit 🔽 1:Common-opened 🔽	T-LT (1004) CN3-31, 32	
(DI8) CN3-13, 14 SON-0	1:Common-opened 💙 35:Touchprobe-2 💙	6:Servo alarm act 🔽 0:Common-closed 🔽	ALM (ALM) CN3-7,8	

Fig 3-7-7 IO Terminal Configuration 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. Auxiliary Function
- > JOG

Parameter setting	
Jogging speed	500
Servo start/stop	
Servo ON	Servo OFF
JOG operation	
EWD IOG	REV JOG

Fig 3-7-8 Jogging interface

Set [	Jogging speed s	setting] firstly, then click	Servo ON	to power up t	he servo motor.
Click	FWD JOG	, servo motor rotates fo	orward, click	REV JOG	, servo motor
rotates	reversely.	,	,		

$\triangleright$	Motor parameter	settir	ıg			
***	Motor parameter setting					
	Setting type selection					
	Inertia recognition mode selection (Po008)		0:Movemen	t of inertia recognition 🚩		Servo ON
	Electrical angle identifics settings(So-25)	ation	0:No moto	r parameter indentificati 🚩		Servoon
	Parameter setting				≈ <del>₹</del> ≈]±±±	Servo OFF
	Rated current (Ho001)	-		D-axis inductance(Ho006)	-	
	Max rotary speed(Ho002)	-		Q-axis inductance(Ho007)	-	FWD Tuning
	Rated rotary speed(Ho003)	-		Back EMF line voltage value(Ho008)	-	
	Motor pole pairs(Ho004)	-		Servo motor rated power(HoO11)	-	
	Resistance between phases(Ho005)	-		Motor movement inertia(Ho012)	-	REVTUNING
	Movement of inertia recognition gap time(Po009)	100		Movement of inertia acele/decel time(Po014)	1000	Current inertia ratio: 300%
	Motion range of off-line inertia recognition(Po015)	-				Not start identification!

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 - 95 -

### parameters.

After downloading the parameters, click FWD Tuning to complete forward identification function, click REV Tuning 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.

E 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.

**T**Move Up: Move up the curve.

Move Down: Move down the curve;

Left Shift: Move the curve left;

**Right Shift:** Move the curve right;

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

**Q** 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 Qor Q

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).

SN	Parameters	Function Definition	Current Value	Min Value	Max Value	Uni t	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	-			k#	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 3000	S S	Stop/Run
14	F115	First Deceleration Time	-				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 6	0	8191	N/A	Stop/Run
<b></b> 30	F132	Display items of stop		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

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

# Select All

Select current all parameters for the subsequent operation;

Unselect

Unselect current parameters;

## EImport

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;

**1**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).

	ID	Parameters	Download Parameter	Read Parameter	
	<b>V</b> 0	F109	0.00	0.00	
	☑ 1	F111	50.00	50.00	
	2	F112	0.50	0.50	
	<b>V</b> 3	F113	50.00	50.00	
_	☑ 4	F116	2	8.0	
	V 5	F119	0	0	
	✓ 6	F126	1	5.0	
	7	F129	0.00	0.00	

### 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;

EImport

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



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

**1**Upload

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

**L**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 3-8-4).

	2 ± ± E e	•		
ID	Parameters		Download Parameter	Read Parameter
<b>V</b> 0	F109		0.00	0.00
<b>V</b> 1	F111		50.00	50.00
<b>V</b> 2	F112		0.50	0.50
<b>V</b> 3	F113		50.00	50.00
☑ 4	F116		2	8.0
✓ 5	F119		d stands same	
<b>V</b> 6	F126	Add	a single row	
7	F129	Ade	d current row	
		Del	ete crurrent row	
		Del	ete number-celected rou	
		De	ete number-selected for	v

Fig 3-8-4 User-defined parameter editor

### 2. Device State

### System Status Monitor

System Sta	te					
RUN	STOP	FWD	REV	FAULT	COM ERROR	
Device Sta	te					
Output Fr	eq	Э	[z	AI1 Value		
Output Sp	eed	F	РM	AI2 Value		
Output Vo	ltage	۷	r	AI3 Value		
Output Cu	rrent	Å		Swing angle value		
DC Voltag	e	V	r	Running spe	ed	
Drive Tmp		1	C	Running mil	.eage	
Motor Tmp		1	c			

### Fig 3-8-5 System Status MonitorInterface Click 【Scan】 to refresh the parameters.

### > Fault Record

Time Attribute	Fault Type	Fault Frequenc	Fault Current (A)	Fault FW Volta.
Last time				
Last second times				
Last third times				
Fault Protection	Information			
late			Value	
Discourrent prote-	ction failure number ()	xc)		
Overvoltage prote-	ction failure number 41	(D)		
Overheating prote-	ction failure number 6	940		
Overload protection	on failure number (OL1)	)		
Under woltage prov	tection GD			
Noter overload pr	otection (OL2)			
Software over-cur	cent protection (OC1)			
Relay protection (	times (CB)			
Current detection	protection (Err4)			
Encoder protection	n times (Pgo)			
Rotor overheat pr	otection (OB1)			
ETT64 wire break	alars number (Tro)			
Motor block prote-	ction (ML05)			
Ultra high speed ;	protection (ALOT)			
Righ power pedal	protection (oiL1)			
Throttle lock fail	lure protection times (	(1412)		
Ramp suriliary fa	ilure times CoiL30			
Before running the	e current fault protect	tion times (EER3)		
Parameter measure	ment error protection	(ERR2)		
Drive overload al	ara number (05.3)			
Hotor overload wa	rning times (014)			
	a company			

## 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

orque sumulation parameter			
AI1 channel input mode selection(F460)	0:Straight line type	AI2 channel input mode selection(F461)	0:Straight line typ
AN1 pedal full release voltage(F400)	0.10	AN2 pedal full release voltage(F406)	0.00
UN1 minimum torque coefficient(F401)	0.00	AN2 minimum torque coefficient(F407)	0.00
Voltage when the AN1 pedal is fully stepped down(F402)	10.00	Voltage when the AN2 pedal is fully stepped down(F408)	10.00
AN1 maximum torque coefficient(F403)	1.00	AN2 maximum torque coefficient(F409)	1.00
MN1 channel proportional gain(F404)	1.0	AN2 channel proportional gain(F410)	1.0
N1 filter time constant(F405)	4.00	AN2 filter time constant(F411)	4.00
Il insertion point Al voltage value(F462)	3.00	AI2 insertion point B1 voltage value(F468)	3.00
AI1 insertion point A1 setting(F463)	0.50	AI2 insertion point B1 setting(F469)	0.50
AI1 insertion point A2voltage value(F464)	5.00	AI2 insertion point B2 voltage value(F470)	5.00
All insertion point A2 setting(F465)	0.70	AI2 insertion point B2 setting(F471)	0.70
AII insertion point A3 voltage value(F466)	8.00	AI2 insertion point B3 voltage value(F472)	8.00
All insertion point A3 setting(F467)	0.90	AI2 insertion point B3 setting(F473)	0.90
rque analog input curve		Update	

Fig 3-8-7 Torque Adjustment Curve Interface

8

9

10

ż

5

6

Click **[**Scan**]** to refresh the Curve.

3

4

2

0.2 0.1 0 -0.1

Ó

Motor Weak Magnetic Curve



Fig 3-8-8 Motor Weak Magnetic Curve Interface

Click **[**Scan**]** to refresh the Curve.
## EURA Drives GmbH

Mühlenweg 143 22844 Norderstedt (Germany)

Tel.: +49 40 589 7950 0 Fax.: +49 40 589 7950 29

www.euradrives.eu

