Principal Computer V2.0 User Manual

1) Control interface	7
2) Parameter Interface	9
3) Oscilloscope Interface	



1. Software Installation

1) Decompress Zip file.

 Unzip
 Unzip
 Volume
 2016/8/19 14:38

 Windows Windows 2000_XP_Server 2003_Vista_Server 2008_7
 2016/8/22 15:48

2) Enter "Volume" and find the "setup.exe", then click to install.



3) Choose the file install path, click next till installation finished.

Upper_PC	
Destination Directory Select the primary installation directory.	
All software will be installed in the following locations. To install software into a different location, click the Browse button and select another directory.	
Directory for Upper_PC	
C:\Program Files (x86)\Upper_PC\	Browse
Directory for National Instruments products C:\Program Files (x86)\National Instruments\	Browse
<pre></pre>	Cancel

4) Program shortcut can be found in the desktop after installation completed.





2. Software Usage

1) This Principal Computer monitoring software is developed based on MODBUS 485 communication protocol. A USB to 485 transverter and a serial port driver software are required to realize the communication between PC and the frequency inverter.





T/R+ connect 485+ T/R- connect 485- GND connect GND USB connect PC USB port



2) Install USB to 485 drive program, click sequentially the files that red arrows pointed.





Press Enter



3) Insert the converter to USB port and check its corresponding COM port, currently the COM port is COM6.

🌆 计算机管理		
文件(F) 操作(A) 查看(V) 帮助	助(H)	
🗢 🤿 🖄 🖬 🗐 🚺	- 20 😥 👰 🕫	
🌆 计算机管理(本地)	▲ 🛁 USER-20160518XM	操作
▲ 前 系统工具	▷·c IDE ATA/ATAPI 控制器	设备管理器 ▲
▷ 🕒 任务计划程序	⊳-🔮 Jungo	更多操作 ▶
▷ 🛃 事件查看器	P 🔮 SIMATIC NET	
▷ 📓 共享文件夹	▶ - □ 处理器	
▷ 🌆 本地用户和组	▶ : 磁盘驱动器	
▶ 🔊 性能	▶ ◆ 存储控制器	
🛁 设备管理器		
▲ 📇 存储	▲ 『 端口 (COM 和 LPT)	
₩ 磁盘管理	USB Serial Port (COM6)	
▷ 🔜 服务和应用程序	USB Serial Port (COM8)	
	▶ ▶ ▶ 监视器	
	▷ ~~ 一 声音、 他观和游戏分词箭 ··································	
	2. 医中毒化学化学学科学	
	▶ ● 週出中行怎就推制商	
	1	

4) Open the monitoring software, set communication port as COM6->Click OpenComm.

😰 main.vi			
FRECON	PC MONI	TOR	
			www.frecon.com.cn
Control interface Parameters Oscillograph	Run 5PEED Error 200 Param 200 Communicating 200	VFD Address VED Address VED Address Set frequency Running frequency Bus voltage D	Serial Set
	Control Pannel		
	Run Forward Run Reverse Forward Inching Reverse Inching Decelerating stop Free stop Reset	20 25 30 10 5 Freq/Hz 50	



🔁 main.vi				
FRECON		PC MONI	TOR	
Control Interface Parameters Oscillograph	Run Error Param Communicating Run Forward Run Deceierating stop	SPED 500 100 100 100 100 200 200 200 2	VFD Address ▼01#Inventer Set frequency 9.93 Running frequency 0 Bus voltage 240 10 10 10 10 10 10 10 10 10 1	Serial Set COMS Serial Set Second Second None CloseComm
			0 Freq/Hz 50	

**If successfully communicated, the signal lamp (communicating) lights.

3. Operation Instructions



1) Control interface

*Zone Description

- a) Zone one: Button for interface switch
- b) Zone two: Parameter monitoring zone

Clicking the location where red arrow pointed could select parameters to monitor, as shown below.



In the location where red arrow pointed, the range of speed could be modified, as shown below.

		VFD Address
Run	SPEED	✓ 01#Inverter Serial baud rate.
	1400 1600 1200 0 1800	Set frequency
Error	1000 2000 800 2200 ⁻	19.93
Param	- 600 2400 - 400 2600 200 2800	Running frequency
	3000 000 1	Bus voltage 387
	Control Pannel	
Run Forward R	In Reverse Forward Inching Reverse Inching	20 25 30 15 0 40 5 0 Ereo(Hz 50



c) Zone three: Control panel

	SPEED	VFD Address	Serial Set	
	SPEED	♥ 01#Inverter	K COM6	-
Run			Baud Rate	
	1400 1600	Set frequency	9600	-
	1200 1800		Byte	
	1000 2000	27.25	8	-
Error	800 2200		Odd-even	
	FWD		None	-
	- 600 2400 -	Running frequency	Stop Bit	
	_400 _ 2600	0	1.0	-
Param	200 _ 2800	U C	Flow Control	
	Range 3000		None	-
	1 5000	Bus voltage		
Communicating		290	CloseComm	1
	Control Pannel			-
		20 23 20		
Run Forward Run I	Reverse Forward Inching Reverse Inch	ing 15		
	1		.4	
Decelerating stop	e stop Reset	54	5	

Above: 1-----Control (run/stop/reset)

2-----Frequency given knob (the frequency given mode is communication given: F01.01 = 3)

d) Zone four: Port communicating parameter area

Control Interface FUNCTION CODE PARAMETERS Parameters Current Value Min Max Image: Control Code Parameters Control Interface Oscillograph F01Frequency Command Image: Control Code Parameters Control Interface Min Max Image: Control Code Parameters Control Interface Image: Control Code Parameters Image: Control Code Param	RECON	PC N	10NI	TOR			
Function Code PARAMETERS Current Value Min Max Parameters 0							www.frecon.com
Parameters Current Value Nm Max Image: Control Value Nm Max Image: Control Value Reset Control Value Image: Control Value <th< th=""><th>ontrol interface</th><th>FUNCTION CODE PARAMETERS</th><th></th><th></th><th></th><th></th><th></th></th<>	ontrol interface	FUNCTION CODE PARAMETERS					
Parameters		Function Code	Current Value	Min M	ax ^		
Productor Productor <t< td=""><td>Darameters</td><td>600System Parameters</td><td></td><td></td><td></td><td>Reset</td><td>Connect 🥚</td></t<>	Darameters	600System Parameters				Reset	Connect 🥚
Oscillograph Image: Control Starty Step Control	Parameters	FOIFrequency Command					
Oscillograph Image: Control Processes PID Image: Control Parameters Image: Contr		Brite Fu2start/stop Control				Download Param	Upload Param
Image: Control Parameters Im	Oscillograph	B. FUSACCElerate/Decelerate Parameters				File Path	
Image: Proceedings of Duplic Image: Proceedings of Duplic <td< td=""><td></td><td>W FU4Digital Input</td><td></td><td></td><td></td><td>8</td><td>2</td></td<>		W FU4Digital Input				8	2
Image: Constraint of the second sec		Borne FOSDigital Output				->Please Download	parameters before
Image: Set output Image: Set output		Born FUbAnalog and Pulse Input				you upload !!	
Image: Construction of the second s		6 F07Analog and Pulse Output					
B		Home FU8Parameters of Motor 1					
W- F10Vector Control Parameters of Motor 1 W- F11Protection Parameters W- F12Publis-Reference and Simple PLC Function W- F12Publis-Reference and Simple PLC Function W- F13Process PID W- F13Process PID W- F13Process PID W- F13Process PID W- F13EVector Parameters		B F09v/f Control Parameters of Motor 1					
Image: Bit Protection Parameters Image: Bit Protection Parameters Image: Bit Process PID Image: Bit Process PID Image: Bit Process PID Image: Bit Pin		F10Vector Control Parameters of Motor 1					
Image: Big Stream Image: Big Stream Image: Big Stream		F11Protection Parameters					
Image: Bip Display of Keypad Parameters Image: Bip Display of Keypad Parameters Image: Bip Display of Keypad Parameters Image: Bip Display of Keypad Parameters Image: Bip Display of Keypad Parameters Image: Bip Display Parameters		F12Multi-Reference and Simple PLC Function					
ŵ - F134swing Frequency, Sred Length, Count and Wake up with an analysis minipage with an analysis minipage with an analysis minipage		F13Process PID					
Image: Big Stress Image: Big Stress		F14Swing Frequency, Fixed Length, Count and Wake up					
⊕ F16Keys and Display of Keypad Parameters □ F17User-defined Display Parameters		F15Communication Parameters					
©── F17User-defined Display Parameters		F16Keys and Display of Keypad Parameters					
		F17User-defined Display Parameters					

2) Parameter Interface

a)Parameter modification(e.g. change digital frequency given F01.02)

Left click where the red arrow points can check the current value of this function code.

RECON	PC N	ΙΟΝΙΤ		R		
					www.freco	n.co
ontrol interface	FUNCTION CODE PARAMETERS	Current Value	8.4Ca	Mari		
	Function code	Current value	WIN	Wax	<u> </u>	
Parameters	Brin FOUSystem Parameters		_		Reset Connect	•
- diameters	F01.00 Frequency source selection		0	7	Download Param Upload Pa	aram
Ossilla search		1: keypad potentiometer	0	9		
Oschlograph	F01.02 Digital Setting of Master Frequency	0.00	0	Emax	File Path	
	F01.03 Auxiliary Frequency Command Source		0	9	8	2
	F01.04 Digital setting of auxiliary frequency		0	Fmax	= ->Please Download parameters be	efore
	F01.05 Range of auxiliary frequency		0	1	you upload ii	
	F01.06 Coeff of auxiliary frequency		0.0	150.0		
	F01.07 Jog frequency		0.00	Fmax		
	F01.08 Maximum frequency		20.00	600.00		
	F01.09 Upper limit frequency		Fdown	Fmax		
	F01.10 Lower limit frequency		0.00	Fup		
	F01.11 Operation when command frequency lower than I	c	0	1		
	F01.12 Lower limit frequency running time		0.0	6000.0		
	F02Start/Stop Control					
	F03Accelerate/Decelerate Parameters					
	🐵 F04Digital Input					
	F05Digital Output					
	F06Analog and Pulse Input					

Click again will popup a input box, then input a value (e.g. 20) and click blank, the setting finished.

	FUNCTION CODE PARAMETERS				
Control interface	Function Code	Current Value	Min	Max	<u>^</u>
	F00System Parameters				Reset Connect
Parameters	F01Frequency Command				
	F01.00 Frequency source selection		0	7	Download Param Upload Param
Oscillograph	F01.01 Master Frequency Command Source	1: keypad potentiometer	0	9	
	F01.02 Digital Setting of Master Frequency	20	þ	Fmax	File Path
	F01.03 Auxiliary Frequency Command Source		0	9	
	F01.04 Digital setting of auxiliary frequency		0	Fmax	you upload II
	F01.05 Range of auxiliary frequency		0	1	
	F01.06 Coeff of auxiliary frequency		0.0	150.0	
	F01.07 Jog frequency		0.00	Fmax	
	F01.08 Maximum frequency		20.00	600.00	
	F01.09 Upper limit frequency		Fdown	Fmax	
	F01.10 Lower limit frequency		0.00	Fup	
	F01.11 Operation when command frequency lower than l	c	0	1	1
	F01.12 Lower limit frequency running time		0.0	6000.0	
	F02Start/Stop Control				1
	F03Accelerate/Decelerate Parameters				
	F04Digital Input				1
	F05Digital Output				1
	F06Analog and Pulse Input				11
	F07Analog and Pulse Output				

The current value has been modified to 20.

RECON		ΙΟΝΙΊ	0	ĸ		
						www.frecon.co
Control Interface	FUNCTION CODE PARAMETERS					
	Function Code	Current Value	Min	Max	- îl	
Parametere	6 FOUSystem Parameters				Reset	Connect 🥚
Falalleters	Fot oo Frequency Command				Developed Deve	
	For an analysis of the selection		0	/	Download Para	Opload Param
Oscillograph	F01.01 Master Frequency Command Source	1: keypad potentiometer		9	File Path	
	F01.02 Digital Setting of Master Frequency	20.00	°	Fmax	3	~
	F01.03 Auxiliary Frequency Command Source		0	9	-> Please Down	load parameters before
	F01.04 Digital setting of auxiliary frequency		0	Fmax	you upload !!	
	F01.05 Range of auxiliary frequency		0	1		
	F01.06 Coeff of auxiliary frequency		0.0	150.0		
	F01.07 Jog frequency		0.00	Fmax		
	F01.08 Maximum frequency		20.00	600.00		
	F01.09 Upper limit frequency		Fdown	Fmax		
	F01.10 Lower limit frequency		0.00	Fup		
	F01.11 Operation when command frequency lower that	n le	0	1		
	F01.12 Lower limit frequency running time		0.0	6000.0		
	F02Start/Stop Control					
	F03Accelerate/Decelerate Parameters					
	F05Digital Output					
	. F06Analog and Pulse Input					

Other parameters modify by example.

RECON	PC N	<u>10NI</u>	TOR	
Control interface	FUNCTION CODE PARAMETERS		•	www.frecon.co
Parameters Oscillograph	Processor Processor Bit F005ystem Parameters Bit F015ystem Parameters Bit F035xcelerate/Doceslerate Bit F035xcelerate/Doceslerate Bit F035xcelerate/Doceslerate Bit F035xcelerate Bit F035xcelerate<	Corrent Value 2	Am Mee Close All Items	Connect Connec

b) Click reset button, all the function codes showing reset

c) Download parameters: Download inverter's parameter to computer

ainvi o B						
FRECON	PCMONITOR					
Control interface	FUNCTION CODE PARAMETERS	ww.frecon.com.ci				
Parameters Oscillograph	Operation Operation Operation Operation	Connect 🥥 Upload Param				
	00-r F03Digital Output File Path 00-r F03Digital Output Piezes wait while downloading the data 00-r F03Datog and Pulse Dutp 00-r F03Datog and Pulse Outp 00-r F03Datog and Pulse Outp 00-r F03Datag and Pulse Outp 00-r F03Datag and Pulse Outp 00-r F03Datag and Pulse Outp	arameters before				
	00- F10Vector Control Parameters of Motor 00- F11Protection Parameters 00- F12Multi-Reference and Simple PLC Function 00- F12Mrocess PID 00- F12Mrocess PID					
	W F1350mmunication Parameters					

Click the location where the red arrow points as shown below.

An excel file (that is, parameter save file) will popup automatically after download completed, then click to save (book1).

	- <u>(</u>) =	Book1 [兼容	译模式] - Microso	oft Excel			_		×
「日本 日本 日	插入 页面布属	· 公式 数据	审阅 视	图 尹	开发工具	加戴项	0		×
	- 11		常规 → 300 →	A 样式 ·	計●插入~ 計●删除~ 前格式~	Σ · A · Z · 排序和 · C · 筛选 ·	查找和 选择 •		
剪贴板 '*	字体 '*	对开方式 '*	数字 14		单元格	编辑			
A1	- (fx	FOOSystem Pa	rameters						×
🖾 funcode.xls 🖻	Book1								×
A	вс	D	E F		G	H	I	.T.	
386 F17.17 U≤	803								
387 F17.18 Us	804								
388 F17.19 U≤	805								
389 F17.20 Us	830								
390 F17.21 Us	1110								
391 F17.22 Us	1300								
392 F17.23 Us	1301								
393 F17.24 Us	1302								
394 F17.25 Us	1308								
395 F17. 26 Us	1309								
396 F17.27 Us	0								
397 F17.28 Us	0								_
390 FIT. 29 US	0								-
A A A A Sheet1	Sheet2 Sheet3	/0/						•	II.
就结						100% 🕞		G	

d) Upload parameters: Click file selection button to find the file (book1) that saved before

🔛 main.vi					
FRI	打开 ○ □ 桌面 →		 <	R	
Contro Para Osci	EUY 新建文件× ★ の選次 ● 下教 ■ 声教 ■ 単近の同時の位置 ■ 単 ● PTV形成成 ● TVK成成 ● TVK成 ● TVK成 ● TVK成 ● TVK成 ● TVK成	360余金別流器 ・設定方式 1.89 K8 1.89 K8 1.30 K8 1.31 JPOA番 doct Microsoft Officiator 1.16 M8 ComMonitor Microsoft Billithic 4.0.01 Formal - th世方式	300余日日 300余日日 782 年日 782 年日 18月75氏 782 年日 18月75氏 18月76氏 18月76氏 18月76氏 18月76氏 18月76氏 18月76氏 18月76氏 18月76氏 18月76氏 18月76氏 18月76日 18月77日 18月76日 18月77日 18月77日 18月77日 18月77日 18月78日	Max Reset Download P File Path S Perser Dec yeu upload I	Connect () aram Upload Param 1 miload parameters below
	Ż#	B(N): Image: F13Process PID Image: F14Swing Frequency,Fixed Length, C Image: F14Swing F14	All Files (*.) OK OK ameters rs		

Click upload param to start uploading, attention this action is irrevocable.



RECON	PC MONITOR					
Control interface Parameters	FUNCTION CODE PARAMETERS Function Code Function Code Function Code Function Code Function Code Function Code Function Code Function Code Function Code Function Code Func	Min Mex Connect O				
Oscillograph	Image: Grand Starty Stop Control Image: Grand Starty Stop Control Starty Stop Control Image: Grand Starty Stop Control Starty	Download Param Upload Param File Path % C/User\Desktop\Book1.vls				
	Image: Second					

3) Oscilloscope Interface

RECON		PC MONITO	R	
Control interface	Gannet	Orrillograph		www.frecon.co
Parameters Oscillograph	1		Ø CH1 00 Ø CH2 00 Ø CH3 00	Sample drive
	Amplihude o		CH1 (data source) CH2 (data source) CH3 (data source)	Freq out Volt out Curr out
	4		CH4 (data source)	Speed •

- *Marking instruction: 1——Channel selection
 - 2—Oscillogram selection
 - 3—Current param of each channel
 - 4——Sampling time
 - 5—Each channel monitoring items selection