# VFDSoft User Manual (English Version)

This software only supports VFD-B, VFD-F, VFD-M, VFD-S, VFD-E, VFD-L(0.25HP-2HP) and VFD-VE, its function to support other VFD models is under development

## Table of contents

Chapter 1 General Introduction	1-1
1.1 Guide of installation	1-1
1.2 Starting preparation	1-1
1.2.1 System configuration	
1.2.2 Applicable VFD models	1-1
1.2.3 Other required equipments	1-1
1.2.4 Installation	1-1
1.2.5 Uninstalling the software	
Chapter 2 Functions	
2.1 How to start VFDSoft	
2.1.1 Opening the software	
2.1.2 You can select your preference language interface	
2.2 Software functions summary	
2.2.1 Functions table	
2.2.2 Tools introduction	
2.2.3 History message	
2.3 Connecting communication cable	
2.4 Quick setup	
2.5 Parameters management	
2.6 Online keypad	
2.7 Trend record	
2.7.1 Start trend record	
2.7.2 Page of data status	
2.8 Instant monitoring	
2.9 Advanced functions	
2.9.1 Page A	
2.9.2 Page B	
2.10 Other functions	
2.10.1 PID controlling	
2.10.2 Automatically measuring of motor parameters	

## 1.1 Guide of installation

Before using this software for a VFD, please prepare well for the following equipments: a Delta's VFD, a converting interface for RS485/232/USB, an RS485 connecting cable (RJ11 or RJ45) and an RS232 or USB connecting cable.

## 1.2 Starting preparation

## 1.2.1 System configuration



#### 1.2.2 Applicable VFD models

VFD-B, VFD-F, VFD-M, VFD-S, VFD-E, VFD-L (0.25HP-2HP) and VFD-VE

#### 1.2.3 Other required equipments

Please use RJ11 connector for the models of VFD-B, VFD-F, VFD-M, VFD-S, VFD-L (0.25HP-2HP) and VFD-VE, and use RJ45 connector for the model of VFD-E.



Or you can select to link a PC's USB through a communication converter which is generally used to link RS485 to USB.

#### 1.2.4 Installation

Step 1. Please download the installation file from web site: http://www.delta.com.tw/



Step 2. Please execute installation file

Step 3. Detecting system information



Next >

Step 4. This is a welcome dialogue box; please click

to continue this installing process



Step 5. If you wish to change the folder's installing destination, please click and move to step 6; or receive default value then click and jump to step 7.

🙀 YFDSof	ft - InstallShield Wizard	×
Destinat Click Ne:	tion Folder ext to install to this folder, or dick Change to install to a different folder.	3
	Install VFDSoft to: C:\Program Files\Delta\AC Motor Drive\VFDSoft\ Change	
InstallShield -	< <u>B</u> ack Next > Cancel	

Step 6. Please select a destination folder according to your preference

i ♥FDSoft - InstallShield Wizard		
Change Current Destination Folder Browse to the destination folder.		
Look in:		
→ VFDSoft	~	<b>E A</b>
		ad et
Eolder name:		
C:\Program Files\Delta\AC Motor Drive\VFDSoft\		1
InstallShield		
	ОК	Cancel

Step 7. Ready to install, please click **Install** to continue if all settings are OK

🖁 ¥FDSoft - InstallShield ₩izard	
Ready to Install the Program	
The wizard is ready to begin installation.	
If you want to review or change any of your installation settings exit the wizard.	, <mark>click Back.</mark> Click Cancel to
Current Settings:	
Setup Type:	
Destination Folder:	
C:\Program Files\Delta\AC Motor Drive\VFDSoft\	
User Information:	
Name:	
Company:	
13 - 35	
nstaliShield	
Back	Install Cancel

## Step 8. Installing

🙀 VFDSoft	t - InstallShield Wizard
Installing The prog	VFDSoft gram features you selected are being installed.
	Please wait while the InstallShield Wizard installs VFDSoft. This may take several minutes. Status:
InstallShield -	< Back Next > Cancel

Step 9. Installing completed, please click

🙀 ¥FDSoft - InstallShield W	izard	×
VPDSoff - InstallShield W	InstallShield Wizard Completed The InstallShield Wizard has successfully installed VFDSoft. Click Finish to exit the wizard.	
	< Back Finish Cancel	

Einish

to end this program

## 1.2.5 Uninstalling the software

1. Open executable file

	Accessories	
	Cartup	
	Ver DAP Fruiteilu	
	Contractionation Direct roots	
<b>• •</b>	Delta Finiti VI.05.70 (build 1.000)	
Set Program Access and Defaults		
Windows Update		
	Spagit 7	
New Office Document	TITE-Box 1.02	
	Trend Mirro OfficeScon Client	
open office bocaliteric	Arrobat Dictiller 7.0	
Microsoft Update	5 Adobe Acrobet 7 0 Standard	
9	MSN Mescencer 7.0	
😨 🚋 Programs	Delta	
lo 🗼	VFDSoft 1.10	
g 🖸 Documents		
Etta Settings	•	
2 ****		
Search	▶ <mark> </mark>	
🕺 🛷 Help		
5 🚈 Run		
2		
Shut Down		
A Chart		<b>KA-200</b> 11:00 0
ladacare    Fra 🗠 🗠		1.00 ×

2. If you really wish to uninstall please click



Yes

### 3. Uninstalling



This page intentionally left blank

## 2.1 How to start VFDSoft

Please double click the executable file on desktop to start



Or start from the lower left menu of the system

			-		- 10				
				Accessories	×				
				Dell Accessories	•				
			(m)	Startup	•				
			ē	Internet Explorer					
			5	Outlook Express					
			(m)	Corel Graphics Suite 11	•				
			(A)	FinePrint 2000					
			(m)	HTTPort 3SNE2	•				
			(m)	OuickTime	•				
				SAP Frontend	•				
			(m)	Yo-Yo Ma	•				
				AutomationDirect Tools					
			<b>G</b>	Delta HMI V1.05.70 (Build 1.06E)					
Г	See.	C. D. C. Martin A. S. C. Martin and D. C. Martin	(A)	Delta Servo	•				
	<b>1</b>	Set Program Access and Deraults		DirectSOFT 4	•				
	19 A	Windows Update	ñ	Microsoft Office					
				Spanit 7					
		New Office Document		TPEditor - 1.08					
		Open Office Document		Trend Micro OfficeScan Client					
	5	open office becamene	1×	Acrobat Distiller 7.0					
		Microsoft Update	T	Adobe Acrobat 7.0 Standard					
			38	MSN Messenger 7.0					
	N	Programs •		Delta	ЪÌ	VED PC Software	💦 🛃 Uninstall		
							VFDSoft 1.10		
	g 🕒	Documents							
E	E Sta	Settings							
	MAN -	-							
		Search							
		Help							
	<u> </u>	nop							
		Run							
Ē	3	Shut Down							_
	Start	] 🖄 爸 😂 🗍						54 <b>3</b> 0	11:00 AM

## 2.1.1 Opening the software

Entering the initialization file after clicking the executable file



## 2.1.2 You can select your preference language interface

🚾 Delta ¥FDSoft												- 8 🛛
File Drive Diagnosti	c Optic	ons Help			_							
19 1		Set Language	•	Chinese (traditional)	Die			AA.				
Com Satura	an	Save L		Chinese(simplified)	TAN	Advance	Keinad	Trend	Monitor			
com setup op	on	34%6	-	English	Intecer	Advance	Koypad	nond	monitor			
0				French								
Off Line				Japanese								
OTT LING				Portuguese								
				Russian								
				Spanish								
Drive:												
Version:						/	t	-				
kW(Hn):					/	1						
Retript.						~						
Rated voltage:					11	MARK AL	P					
Rated Current:							H < c		Man			
						198						
					$\overline{V}$	77	A					
					1							
				G	Profe	ssional	AC Mot	vhd ro	0			
History Message:												
												~
												100
1												
									Off - Lin	ie immediatel	مر المحدة (عددة المحدة	المحد المحد المحد ا

## 2.2 Software functions summary

🚾 Delta VFDSoft		
File Drive Diagnostic Options Help		
Image: Com Setup         Open         Save         Exit         Quick Setup         Parameter         Advance         Keypad         Trend	Monitor	
Off Line		
Drive: Version: kW(Hp): Rated Voltage: Rated Current:		
History Message:		
		< 3
	Off - Line	

### 2.2.1 Functions table

File Drive Diagnostic Options Help

File: here you can save the operating environment



Drive: it can be used for communication settings, parameter controlling, quick setup and other advanced functions

D	rive
	Com Setup
	Parameter
	Quick Setup
	Advance

Diagnostics: it has the functions of online keypad, trend records, instant monitoring, PID controlling and automatically measuring of motor's parameters

	Keypad
	Trend
	Monitor
-	PID Control
	Auto Tuning

## Options: multi-language settings



Help: it will help you to get information about software manual, VFD manual and software

announcement



#### 2.2.2 Tools introduction





: For PC to set VFD's communication connecting



: Open project file



: Save project file



: Exit this software



: Set some basic functions for VFD



: Can write in and read out VFD parameters



: Has advanced functions of communicating



: Has the function of online digital operating



: Can monitor and record VFD's different working status



: To monitor VFD's working status in the form of meter

## 2.2.3 History message

To display history message of software and VFD's status



## 2.3 Connecting communication cable



Step 1, Double click the icon Com Setup

Off Line to enter communication setup dialogue box



Step 2, To set according to the indication showed in the dialogue box

- Step 3, You can select manual way or auto-detect way to set communication parameters, and then click
  - a. If you select manual way it will do connecting cable test only on the indicated communication parameters
  - b. If you select auto-detect then it will do communication test as bellowing



Step 4, Please select the right computer communication port. If your selection is wrong, it will appear the following false message



Step 5, If communication connecting succeeds, it will appear the following message



Step 6, If communication connecting fails, it will appear the following message. Then please check if the communication port, communication parameters and hardware connecting are all right.

Faile setting and go on line.          OK       it will appear a dialogue box         it will appear a dialogue box		Communication Setup	X	
Success Place move to step 3. Click       K       it will appear a dialogue box         It will appear a dialogue box       K       it will appear a dialogue box		<b>1.</b> Please make sure the communication cable is already connected to PC.	/	
Image: Compositive of the setting and go on line.         Image: Step 7, When connecting succeeds please move to step 3. Click         Image: Compositive of the setting and go on line.		RJ11 or RJ45 JAC K RJ11 or RJ45 PLUG Warning Warning X Can not detect any driver !!	Êr	
Step 7, When connecting succeeds please move to step 3. Click       OK       it will appear a dialogue box like this		2. Please : ок		
Step 7, When connecting succeeds please move to step 3. Click OK it will appear a dialogue box like this		Com Port Protocol Com Port Manual Contract Auto Detect	2	
3. Accept the setting and go on line. OK Step 7, When connecting succeeds please move to step 3. Click OK it will appear a dialogue box like this Cofirm Do you want to On - Line now ?		Success 🥝 Fail Test		
Step 7, When connecting succeeds please move to step 3. Click OK it will appear a dialogue box like this		3. Accept the setting and go on line. OK		
Cofirm III Do you want to On - Line now ?	Step 7, When connecting like this	succeeds please move to step 3. Click	к	it will appear a dialogue box
Do you want to On - Line now ?		Cofirm 🔀		
		Do you want to On - Line now ?		

Step 8, Select Yes to enter the connecting window. Then you will see the upper left light <sup>On Line</sup>, VFD's basic specifications and pictures.

No

Yes

VFD PC sultware			_ 8
Con Selup Tiew Open Save	Sources Ext Queck Setup Paramet	er Advance Keypad Tiered Monitor	
🥝 In Line			
Vrive: VFD-B fersion: 4.08 (W(Hp): 45 ( 60 ) tated Voltage: 460V Rated Current: 91A	A DELTA		
History Merrage:			
12/11/2006 6:09:16 PM > Setup the Comport and p	rotocol		-
			-
		ASCI1 9600 < 7, N, 2 >	

## 2.4 Quick setup

Please select Quick setup to set VFD's basic parameters



1. Please select the way of loading parameters either from file or from communication. We advise you first to select the latter.

E Source of Parameter Settings	
Source of Parameter Settings	
O Load parameter Settings from project (file)	
Coad parameter Settings from drive (communication)	ОК

2. Please do basic settings according to Step 1, Step 2, Step 3 and Step 4

Qu	nick Setup	
S	tep 1 Step 2 Step 3 Step 4	
	User Parameters & Motor Paran	neters
	02-08 Start-up Display Selection	00: Display the frequency command value (LED F)
	02-09 Special Display	00: A displays output current of AC drive
	[Note] Display the user-defined unit, w	/here unit = H x Pr.00-05
	02-10 User Defined Coefficient	10.0
	The coefficient K determines the r Display value = output frequency	nultiplying factor for the user-defined unit. The display value is calculated as follows: $\times K$
	07-02 Full-load Current of Motor	100 A cy Command Source of the AC drive output current in order to prevent the motor from
	07-03 No-load Current of Motor	30 A
	The rated current of the AC drive i setting value must be less than m	s regarded as 100%. Motor setting of no-load current will effect the slip compensation. The otor rated current setting Pr. 7-00. 4
	(3-1)	
		Next Step 🔿 🗸 OK

Q	nick Setup										×
S	step 1 Step 2 Step 3 Step 4										
	Basic Parameters										
	01-00 Maximum Output Frequency	60.00 Hz	V/F Cu	rve	0.00	%		60.00	%		
	01-01 Maximum Voltage Frequency	60.00 Hz		Volt	age <sup>Output</sup>	Frequency		Output F	requen	су	
	01-02 Maximum Output Voltage	220.0 V			- Lower	LIMA		opper Li	ima		
	01-03 Mid-Point Frequency	1.50 Hz	220.0 V	Maximum Output Voltage			/				
	01-04 Mid-Point Voltage	5.5 V		Tonigo		1					
	01-05 Minimum Output Frequency	1.50 Hz	5.5 V	Mid-point Voltage							
	01-06 Minimum Output Voltage	5.5 V				Th	e limit of				
	01-07 Upper Bound of Output Freq.	60.00 %		Minimum		Fre	quency	$\square$	Fre	quency	,
	01-08 Lower Bound of Output Freq.	0.00 %	5.5 V	Output	<u> </u>	Mid-point	Ma	ximum V	oltage	Maximur	n
	The Upper/Lower Limits are to operation errors and machine of	prevent damage.		Voltage	Output Freq.	Freq.	Fre (Ba	quency se Frequ	ency)	Output Frequen	cy
				[1	.50 Hz	1.50	Hz	60.00	Hz	60.00	Hz
	01-09 Acceleration Time1 (Taccel 1)	) 10.0 sec									
	01-10 Deceleration Time1 (Tdecel 1	10.0 sec									
		//10.0									
						1	15				-
						🗢 Back	Step	Next Ste	ep 🔿		🗸 ОК



p 1   Step 2   Step 3 Step 4								
utput & Input Function Parameters								
Dutput Input								
04-00 Multi-Function Intput Terminal 1	01: Multi-speed terminal 1	•						
04-01 Multi-Function Intput Terminal 2	02: Multi-speed terminal 2	-						
04-02 Multi-Function Intput Terminal 3	03: Multi-speed terminal 3	-						
04-03 Multi-Function Intput Terminal 4	04: Multi-speed terminal 4	-						
04-04 Multi-Function Intput Terminal 5	05: Reset (N.O.)	•						
04-05 Multi-Function Intput Terminal 6	07: JOG operation(JOG)							
04-06 Multi-Function Intput Terminal 7	00: No Function							
04-07 Multi-Function Intput Terminal 8	00: No Function	-						
Relay & Digital Outtput Terminals	Digital Intput Terminals							
RA RB RC MO1 MCM	MI0 MI1 MI2: MI3 MI4 MI5 GND							
	🗢 Back Step	~						

3. When all settings completed click

to write in parameters.

Cofirm			×
?	Do you want wr	ite these setting	s to drive ?
	Yes	No	

## 2.5 Parameters management



1. Please select the way of loading parameters for VFD either from file or from communication.

🚰 Parameter Management		
File Drive Table		
Current File Read Drive Vide Clark Vide All Current Print		
Save Exit field file write select write All Compare		
roder       Parameter         Image: Parameter       Image: P		
Name A Siz E comdata.txt 1 Ki		
	On - Line	12/11/2006 6:05:10 PM

2. Following is the window of reading parameters when loading from communication.

Save Exit Head File Re	ad Drive Write !	Select Wr	rite All Compare	Print						
Ider     Parameter       Image: Drive [VFD-B]     Image: Drameters       Image: Drameters     Image: Drameters	Drive: Version:	VFD-B 4.08	Rated Curre Rated Volta kW(Hp):	nt: 91A ge: 460V 45 (1	, 50 )					
	Pr. No	MODBUS	Description	Unit	Data	Default	Min	Мах	Attribute	
	*****	жаюююк	User parameters	жжысыс	NORMORE	NORMORE	****	****	жоююк	
	00-00	0000H	Identity code		29	0	0	65535	Read-Only	
	00-01	0001H	Rated current		91.0	0.0	0.0	6553.5	Read-Only	
	00-02	0002H	Parameter reset		0	0	0	10	Writable	
	00-03	000 Read	ling Parameters				0	4	Writable	
	00-04	000	Reading pa	rameters fr	om VFD-B .		0	14	Writable	
	00-05	000	Dragona Dr.	12.12. Com		EC	0.01	160.00	Writable	
	00-06	000	Flocess FI	12-12. CUII			0.00	655.35	Read-Only	
	00-07	000					0	65535	Writable	
	00-08	0008H	Password setting		0	-0	0	65535	Writable	
	00-09	0009H	Control methods		0	0	0	3	Writable	
	00-10	000AH	Reserved		0	0	0	1	Read-Only	
	****	****	Basic Parameters	****	****	****	****	****	****	
	01-00	0100H	Max output freq	Hz	60.00	60.00	50.00	400.00	Writable	
	01-01	0101H	Max volt freq	Hz	60.00	60.00	0.10	400.00	Writable	
	01-02	0102H	Max output volt	V	440.0	440.0	0.2	510.0	Writable	
	01-03	0103H	Mid-point freq	Hz	0.50	0.50	0.10	400.00	Writable	
	01-04	0104H	Mid-point volt	V	3.4	3.4	0.2	510.0	Writable	
	01-05	0105H	Min output freq	Hz	0.50	0.50	0.10	400.00	Writable	
	01-06	0106H	Min output volt	v	3.4	3.4	0.2	510.0	Writable	
	01-07	0107H	Upper bound freq	%	100	100	1	120	Writable	

3. When reading completed it will appear the following window. Parameters are classified according to different parameter groups which displayed on the left of the window. Their details are displayed on right.

Parameter Management File Drive Table	Parameter	r comn iddres:	nunication s	Unit		Defa	ult valu	le	Ma	ximum xope
Folder Parameter Parameters	meters No.		Parameter na	ame	Cur da	rrent ata	/ M	inimum scope		Whether can read or write
Output Function Parameters	Pr. No	MODBU	5 Description	Unit	Data	Default	Min	Мах	Attribute	
Input Function Parameters	*****	****	User parameters	****	****	*****	**	***	****	
Protection Parameters	00-00	0000H	Identity code		29	0	0	65535	Read-Only	
Motor Parameters	00-01	0001H	Rated current		91.0	0.0	0.0	6553.5	Read-Only	
Special Parameters	00-02	0002H	Parameter reset		0	0	0	10	Writable	
En Control Parameters	00-03	0003H	Start-up display		0	0	0	4	Writable	
Fan Pump Control Parameters	00-04	0004H	Multi-Func displ		0	0	0	14	Writable	
File	00-05	0005H	User-defined K		1.00	1.00	0.01	160.00	Writable	
	00-06	0006H	Software version		4.08	4.08	0.00	655.35	Read-Only	
	00-07	0007H	Password decode		0	0	0	65535	Writable	
	00-08	0008H	Password setting		0	0	0	65535	Writable	
	00-09	0009H	Control methods		0	0	0	3	Writable	
	00-10	000AH	Reserved		0	0	0	1	Read-Only	
	Rokołow	HOROROR	Basic Parameters	solotok	NORONOR	NOROROR	NOROROR	skokokok	Notokok	
1	01-00	0100H	Max output freq	Hz	60.00	60,00	50.00	400.00	Writable	
	01-01	0101H	Max volt freg	Hz	60.00	60.00	0.10	400.00	Writable	
	01-02	0102H	Max output volt	V	440.0	440.0	0.2	510.0	Writable	
	01-03	0103H	Mid-point freq	Hz	0.50	0.50	0.10	400.00	Writable	
	01-04	0104H	Mid-point volt	V	3.4	3.4	0.2	510.0	Writable	
	01-05	0105H	Min output free	Hz	0.50	0.50	0.10	400.00	Writable	
	01-06	0106H	Min output volt	V	3.4	3.4	0.2	510.0	Writable	
	01-07	0107H	Linner bound freq	%	100	100	1	120	Writable	
	01-08	0108H	Lower bound freq	%	0	0	0	100	Writable	
		010011	covid board ridg	10	, in the second			100	ATTRODIC .	<u> </u>

Note: All VFD series have parameter group classification except VFD-M.

4. Select one group from the left then only appropriate parameters will be listed as following.

Drive [VFD-B] All Parameters Diser parameters Parameters Basic Parameters Dependent Parameters	Drive: Version:	VFD-8 4.08	Rated Curr Rated Volta kW(Hp):	ent: 91A ige: 460V 45 (1	i0 )				
Output Function Parameters     Output Function Parameters	Pr. No	MODBUS	Description	Unit	Data	Default	Min	Мах	Attribute
Input Function Parameters	00-00	0000H	Identity code		29	0	0	65535	Read-Only
Protection Parameters	00-01	0001H	Rated current		91.0	0.0	0.0	6553.5	Read-Only
B Motor Parameters	00-02	0002H	Parameter reset		0	0	0	10	Writable
Special Parameters	00-03	0003H	Start-up display		0	0	0	4	Writable
PID Control Parameters	00-04	0004H	Multi-Func displ		0	0	0	14	Writable
Fan Pump Control Parameters	00-05	0005H	User-defined K		1.00	1.00	0.01	160.00	Writable
file	00-06	0006H	Software version		4.08	4.08	0.00	655.35	Read-Only
	00-07	0007H	Password decode		0	0	0	65535	Writable
	00-08	0008H	Password setting		0	0	0	65535	Writable
	00-09	0009H	Control methods		0	0	0	3	Writable
	00-10	000AH	Reserved		0	0	0	1	Read-Only

5. Please select .txt or.xls file if parameters loaded from files. We advise you to load them from communication if it is the first time to use no parameter file.

Open		? ×
Look in:	🚍 ENG System (C:) 🔹 🗲 💼 📸	
History Desktop My Documents My Computer	Adobe WINNT AvisSys E comdata Dell DirectSOFT4 Documents and Settings drvrtmp HAPTools Ij5100 Program Files Sonyyoyo Temp	
	File name:	Open
My Network P	Files of type: Text Files(*.txt)	Cancel

The following window shows that parameters are loaded form file. So its way of displaying is different with loaded from communication on the right part of the window.

🚰 Parameter Management											_ <u>8</u> ×
File Drive Table											
🔚 🐂 🏼 🏠	1 🎽										
Save Exit Read File Read D	rive Write	Select Wri	ite All Compare								
Folder Parameter	able from	Drive									
Drive [VFD-B]     Drive [VFD-B]     Dive [VFD-B]     Dive parameters     Dive par	Orive: /ersion:	VFD-8 4.08	Rated Current Rated Voltage kW(Hp):	: 91A : 460V 45 (60	)						
Output Function Parameters	Pr. No	MODBUS	Description	Unit	Data	Default	Min	Мах	Att	ribute	
Input Function Parameters	*****	****	User parameters	****	****	***	****	*****	k ¥okoko	**	
Multi-speed, PLL Parameters	00-00	0000H	Identity code		29	0	0	65535	5 Rea	d-Only	
Motor Parameters	00-01	0001H	Rated current		91.0	0.0	0.0	6553.	5 Rea	d-Only	
Special Parameters	00-02	0002H	Parameter reset		0	0	0	10	Writ	able	
Communication Parameters	00-03	0003H	Start-up display		0	0	0	4	Writ	able	
Fan Pump Control Parameters	00-04	0004H	Multi-Func displ		0	0	0	14	Writ	able	
File	00-05	0005H	User-defined K		1.00	1.00	0.01	160.0	0 Writ	able	
	00-06	0006H	Software version		4.08	4.08	0.00	655.3	5 Rea	d-Only	
	00-07	0007H	Password decode		0	0	0	65535	5 Writ	able	
	00-08	0008H	Password setting		0	0	0	65535	5 Writ	able	
	00-09	0009H	Control methods		0	0	0	3	Writ	able	
	00-10	000AH	Reserved		0	0	0	1	Rea	d-Only	
	ankolook	***	Basic Parameters	10101010	****	NORM	NOROROR	1000	k skolo	łok	
	01-00	0100H	Max output freq	Hz	60.00	60.00	50.00	400.0	0 Writ	able	
	01-01	0101H	Max volt freq	Hz	60.00	60.00	0.10	400.0	0 Writ	able	
	01-02	0102H	Max output volt	V	440.0	440.0	0.2	510.0	Writ	able	
	01-03	0103H	Mid-point freq	Hz	0.50	0.50	0.10	400.0	0 Writ	able	
	01-04	0104H	Mid-point volt	V	3.4	Double click	here to modif	v parar	meter's valu	e <sup>þle</sup>	
	01-05	0105H	Min output freq	Hz	0.50	0.50	0.10	400.0	0 Writ	able	
	01-06	0106H	Min output volt	V	3.4	3.4	0.2	510.0	Writ	able	
	01-07	0107H	Upper bound freq	%	100	100	1	120	Writ	able	
	01-08	0108H	Lower bound freq	%	0	0	0	100	Writ	able	
	01-09	0109H	Accel time 1	sec	60.0	10.0	0.1	3600.	0 Writ	able	
	01-10	010AH	Decel time 1	sec	60.0	10.0	0.1	3600.	0 Writ	able	
									On - Line		1/9/2007 9:19:22 AM

6. If you want to modify parameters please double click the parameters that listed on the left of the diagram



When modifying finished, the left square frame will be ticked. Now parameters are not really written into VFD.

or

✓ 01-00 0100H Max output freq Hz 60.00 60.00 50.00 400.00 Writable	01-00	0100H	Max output freq	Hz	60.00	60.00	50.00	400.00	Writable
--	-------	-------	-----------------	----	-------	-------	-------	--------	----------

If you wish to write the modified parameters into VFD please select the icon Write Select

a. If you select *write select* it will only write in the modified parameters

Pr. No	MODBUS	Description	Unit	Data	Default	Min	Max
00-03	0003H	Start-up display		0	0	0	5
00-04	0004H	User display		0	0	0	11
00-08	0008H	Password disable		0	0	0	9999
00-10	000AH	Sensorless mode		0	0	0	1
01-00	0100H	Max output freq	Hz	60.00	60.00	50.00	600.00
01-03	0103H	Mid-point freq	Hz	1.50	1.50	0.10	600.00
01-04	0104H	Mid-point volt	V	10.0	10.0	0.1	255.0
01-05	0105H	Min output freq	Hz	1.50	1.50	0.10	600.00
07-01	0701H	No-load current	A	0.6	0.6	0.0	1.5
07-02	0702H	Torque compens.		0.0	0.0	0.0	10.0
07-03	0703H	Slip compens.		0.00	0.00	0.00	10.00
07-04	0704H	Auto-tuning		0	0	0	2

b. If you select *write all*, all parameters will be written into VFD, no matter whether they have any change or not.



#### Writing status looks like this

Pr. No	MODBUS	Description	Unit	Data	Default	Min	Max
00-03	0003H	Start-up display		0	0	0	5
00-04	0004H	User display		0	0	0	11
00-08	0008H	Password disable		0	0	0	9999
00-10	000AH	Sensorless mode		0	0	0	1
01-00	0100H	Max output freq	Hz	60.00	60.00	50.00	600.00
01-03	0103H	Mid-point freq	Hz	1.50	1.50	0.10	600.00
01-04	0104H	Mid-point volt	V	10.0	10.0	0.1	255.0
01-05	0105H	Min output freq	Hz	1.50	1.50	0.10	600.00
07-01	0701H	No-load current	A	0.6	0.6	0.0	1.5
07-02	0702H	Torque compens.		0.0	0.0	0.0	10.0
07-03	0703H	Slip compens.		0.00	0.00	0.00	10.00
07-04	0704H	Auto-tuning		0	0	0	2

Reading parameters again so as to update the parameters content that showed in the window



## 7. Saving files

It can be saved as either Text format or Excel format



It needs a transferring progress as bellowing if it is to be saved as Excel format.

Cofirm	×	Transfer file format	
•	Parameter table will be transfered to EXCEL file !!	Transfer Pr. 01-07	
	ОК	i i i i i i i i i i i i i i i i i i i	

It can be rectified and edited directly after being saved, no matter in Text format or Excel format.

8. Function of parameter comparing

No matter comparing a file to another one or comparing a drive to a file, it will finally list out the parameters that have different setting values.

a. Select comparing kind



b. Comparing result

ne Exit Read File F	Read Drive Write	Z 👩	z III rite All Compare	Print						
r Parameter	Table from	Drive   Ta	ble from File Com	parison Resu	it					
Drive [VFD-B]	Comparis	on Type:	Drive vs. File							
Barrameters									<b>.</b>	1
Ban 1 - Basic	drive	ource			VED	e Series	4 08	914	460V	45 ( 60 )
B 3 - Output Function	C:\test.t	xt			VFD	B	4.08	91A	460V	45 ( 60 )
■ 🕒 4 - Input Function							1.11.616.1	10.02101		
Ba 6 - Protection	Pr. No	MODBUS	Description	Unit	Data	Def	ault I	1in Max	Attribute	Note
- 単画 7 - Motor - 国語 8 - Special	03-00	0300H	MF output relay		1	8	C	29	Writable	Drive
B 9 - Communication	03-00	0300H	MF output relay		8	8	C	29	Writable	File
10 - PID Control      11 - Fan Pump Control      File (VFD.B)				-						
	06-08	0608H	Present fault		9	0	0	65535	Read-Only	Drive
All Parameters	06-08	0608H	Present fault		13	0	U	05535	Read-Only	File
Basic	06-10	060AH	3rd recent fault		13	0	C	65535	Read-Only	Drive
Image: Partial Contraction	06-10	060AH	3rd recent fault		9	0	0	65535	Read-Only	File
■●     1- Input Function       ■●     5 - Multi-speed, PLC       ■●     6 - Protection       ■●     7 - Motor       ■●     8 - Special       ■●     9 - Communication       ■●     10 - PID Control       ■●     11 - Fan Pump Control										

9. Or you can also execute the functions from the above element drop down menu

<u>File Drive Table</u>

## 2.6 Online keypad



You can use online keypad to control the drive, adjust its speed, monitor its status and write in or read out parameters. If you wish to use online keypad to adjust drive's speed and to start or stop it, then please set the parameters of frequency command source and operating command source to be controlled by communication.

VFD series	Frequency Command Source	Operating Command Source
VFD-B	02-00=04 or 05	02-01=03 or 04
VFD-F	02-00=04	02-01=03 or 04
VFD-S	2-00=04 or 05	2-01=03 or 04
VFD-M	P00=03	P01=03 or 04
VFD-E	02.00=03	02.01=03 or 04
VFD-VE	00-20=1	00-21=2



Press PROG/DATA to set parameters



After the selection of a parameter double click its value, and then you can modify it.

💷 Input Value	
01-00: Max output freq	(50.00 - 600.00 )
Input Value	Нг Ок

## 2.7 Trend record

Setup	0pen	Save	Exit	Quick Setup	Parameter	Q Advance	Ke	ypad	Trend	Monitor				
Trend	<u>I</u> ools Drive: Version:	VFD-M 3.03		Rated Current: Rated Voltage: kW(Hp):	2.5A 230V 0.4 ( 0.5 )		Save Data	Load Data	Save PIC		<b>Print</b>	<b>E</b> Keypad	Exit	
Clear Clear Coption Cursor	Hz 1.00 0.90 0.80 0.70 0.60 0.50 0.50 0.40 0.30 0.20 0.10 0.00 0.													↓ Up Vup Vup Zoom Rese Zoom V Dow
rend St Channe Chann Chan Chan Chan	80.00 - 60.00 - 40.00 - 20.00 - etal atus   Status nel Value		Logic Logic Run L2RUN Reco	Status /STDP(Cmd) /STDP(Sta) Ord Cursor NO: Total NO:	FwD/REV(Cr FwD/REV(St	nd) a)	Channel So Cha Ch Ch2 Ch Ch2 Ch Ch4 Ch	elect 1 Frequence 2 Output F 3 Output C	y command equency H: urrent A: Voltage U:	F:		h5 Ch5 Ош h6 Ch6 Sta h7 Ch7 Va h8 Ch8 Th	tput Voltage E: ep Number of N lue of External e Corresponde	v Iulti-Step Spe ▼ Trigger: ▼ at Value of Pc ▼

You need to click **Start** so as to start data trend record.

Following displays actual recording status



1. Select **option** on the left it will appear the following frame. Then you can change the wave's thickness degree and each channel's maximum value.

.cn i i	channel	Select	Set Pen	Width		
1 🥥	5 🔿		Ch1	Ch2	Ch3	Ch4
2 🔿	6 🔿		1 -	1 💌	1 💌	1 💌
3 🔿	7 ()	Input Max Value	Ch5	Ch6	Ch7	Ch8
4 ()	8 🔿	66	1 💌	1 💌	1 💌	1 💌

- 2. You can select Save Data Load Data from top of the upper window to save or load trend record wave (\*.trd)
- 3. You can select **Save PIC** from top of upper window to save current page as picture format (\*.bmpor\*.jpg)





5. You can select *Keypad* from top of upper window to use online operating tool (Please refer to3-3)

6. You also can select to execute these functions by menu items File Scope Tools on upper left

## 2.7.2 Page of data status

It can display the information of each data's current value, VFD status and error code

Fault Status of Drive	Name	Data	Unit	Name	Data	Unit
C Error Code: 0	Frequency command F:	0.00	Hz	Value of External Trigger:	0	
B N errors occurred	Output Frequency H:	0.00	Hz	The Correspondent Value of Power Factor:	0.0	
	Output Current A:	0.0	A	Pr.65 X Low word of H:	0.00	
Status of AC Drive	DC-BUS Voltage U:	250.3	V	Pr.65 X High word of H:	0	
🔿 RUN 🔿 JOG 🤷 FWD	Output Voltage E:	0.0	V	AC Drive Temperature:	30.1	
	Step Number of Multi-Step Speed Operation:	0		PID Feedback Signal:	0.00	Hz
	Time of PLC Operation:	0		PID Target Value:	0.00	Hz

Click here it will appear error history message as bellowing:

	a miscory	1		
	Error Code	Error Description	Time	
1	2	ou : Over-voltage	1/9/2007 9:19:50 AM	
	1	oc : Over-current	1/9/2007 9:20:03 AM	
	13	GFF : Ground fault	1/9/2007 9:20:11 AM	
ŀ	2	ou : Over-voltage	1/9/2007 9:20:24 AM	
5	1	oc : Over-current	1/9/2007 9:20:39 AM	
6	13	GFF : Ground fault	1/9/2007 9:21:03 AM	
			4	
			Clear	Evi

## 2.8 Instant monitoring



## 1. Click **Start** to start instant monitoring



2. Click to select meter type



- 3. The bellowing oscillograph has the same function with trend record, but it has only one channel

000

4. You can select keypad to use online operating tool (Please refer to3-3)

## 2.9 Advanced functions



	New Upen Save	Save As	Exit	Uu	iick Se	etup Para	imeter Ai	dvance	Keypad Ire	end Monitor
Here is as	s for communication data showed in the following	a monitor window	ing							
elect mo Monitor	odels elete Inset		im F	Here please sou	e ca firs irce	n con t chan to cor	trol VFI ge the mmunic	D's opera operating cation cor	ting, but commanc trolling	Add Checksum into Command     Check Message by Delta Rules
Select driv	e series Default command to se eries FF0321000010	nd			-	1	_ → B	ead 💌 2	100 H 1	D Send
RUN	STOP FWD/REV JC	IG RES	ET	EF		Inpu	ut any data	a to send		
O RUN	STOP JOG FWD	O REV	) EXT	O PU			Hey	Dec	Bin	
2100	Error Code:	butu (bee)	ome	0	Ī	2100H	ПСА	Dec	UII	
2101	Status of AC Drive			0						
	Frequency command F:		Hz	2						
2102			Hz	2						
2102 2103	Output Frequency H:		-	1						
2102 2103 2104	Output Frequency H: Output Current A:		A	1 -						
2102 2103 2104 2105	Output Frequency H: Output Current A: DC-BUS Voltage U:		V	1						
2102 2103 2104 2105 2106	Output Frequency H: Output Current A: DC-BUS Voltage U: Output Voltage E:		V V	1						
2102 2103 2104 2105 2106 2107	Output Frequency H: Output Current A: DC-BUS Voltage U: Output Voltage E: Step Number of		V V	1 1 0						
2102 2103 2104 2105 2106 2107 2108	Output Frequency H: Output Current A: DC-BUS Voltage U: Output Voltage E: Step Number of Time of PLC Operation:		V V	1 1 0 0						
2102 2103 2104 2105 2106 2107 2108 2109	Output Frequency H: Output Current A: DC-BUS Voltage U: Output Voltage E: Step Number of Time of PLC Operation: Value of External		v v	1 1 0 0 0	~	5				
2102 2103 2104 2105 2106 2107 2108 2109 Histor	Output Frequency H: Output Current A: DC-BUS Voltage U: Output Voltage E: Step Number of Time of PLC Operation: Value of External		A V V	1 1 0 0 0						
2102 2103 2104 2105 2106 2107 2108 2109 Histor	Output Frequency H: Output Current A: DC-BUS Voltage U: Output Voltage E: Step Number of Time of PLC Operation: Value of External		V V	1 1 0 0 0						

Advance -	Com 5 , BaudRate 9600 , Protocol	< ASCII, 7	, N , 2	>												(	. 6 🛛
file <u>S</u> elect																-	
Protocol	New Delete Inseit PUN	STOP T	imeOut	Repeat	time	s ( 0. alvva	ys do )	Terminate Error Occi	ed Cond	<b>itions</b> ime Out	ম ম ম	Add Che	Checks ck Mess	sum into sage by	Commar Delta Ru	d Ies	
Monitor D	) rive Status					Input	Comma	and									
Select drive	e series Default command to ser les 💽 FF0321000010	nd			1	ID 1	⊖ı ÷ R	otion / ead 💌 🛛	Address 2100 H	Leng	th		Send	]			
RUN	STOP FWD/REV JO	G RES	ET	EF O PU		Inpu	it any data	a to send			_	]	Send				
Address	Name	Data (Dec)	Unit	Decimal	^		Hex	Dec	Bin					1			
2100	Error status	0		0		2100H											
2101	AC drive status	42		0													
2102	頻率命令(F):	50.00	Hz	2													
2103	輸出頻率(H):	0.00	Hz	2													
2104	輸出電流(A):	0.0	A	1													
2105	DC-BUS電壓(U):	634.0	v	1													
2106	輸出電壓(E):	0.0	v	1													
2107	多段速指令目前執行的段速	0		0													
2108	程序運轉該段速剩餘時間	0		0													
2109	外部 TRIGER 的內容值:	0		0	~	51											
9 Histor	v Messaae																
[2006/12/ [2006/12/ [2006/12/ [2006/12/ [2006/12/ [2006/12/	1 13:34:12:05] Send > :FF 1 13:34:11:94] Send > :FF 1 13:34:11:81] Send > :FF 1 13:34:11:69] Send > :FF 1 13:34:11:57] Send > :FF 1 13:34:11:45] Send > :FF	032100001 032100001 032100001 032100001 032100001 032100001	.OCD\> .OCD\> .OCD\> .OCD\> .OCD\>	COD\XOA COD\XOA COD\XOA COD\XOA COD\XOA COD\XOA	· · · · · · · · · · · ·	····	Receive Receive Receive Receive Receive Receive	<pre>&gt; :FF032 &gt; :FF032</pre>	:000000 :000000 :000000 :000000 :000000	02A138 02A138 02A138 02A138 02A138 02A138	380000 380000 380000 380000 380000		018C1 018C4 018BF 018C0 018C2	10000 10000 70000 50000 20000			00000 00000 00000 00000 00000 00000
Total Records	71 Error Records	1	1	limeout		0											

ou car	n input communicatio	on comn	nano	d into	rig	ht of	the wi	ndow		From soft add checl	ware ksum	to automatically into command	
Advance - e Select	- Com 5 , BaudRate 9600 , Protoco	I < ASCII, 7,	N,2		lsir nes	ng the sage l	function by Delta	of chec rules	k	Litions A Time Out	add Chec Check Mi	essage by Delta Rules	
B Monitor Select driv	r Drive Status ve series Default command to s eries FF0321000010	and				Inpu IP	ut Comm	and ion A ad 🖌 2	ddress 1100 H	Length I I D	Cor con auto	nmunication code can npiled and transmitted omatically through so	n be d ftware
RUN	STOP FWD/REV J	OG RES	et _) ext	EF PU			it any data	to send				Communication code be input in manual wa	shoul iy
Address	Name	Data (Dec)	Unit	Decimal	~		Hex	Dec	Bin				7
2100	Error Code:	0		0		2100H							
2101	Status of AC Drive	5481		0									
2102	Frequency command F:	60.00	Hz	2									
2103	Output Frequency H:	19.77	Hz	2									
2104	Output Current A:	0.0	A	1									
2105	DC-BUS Voltage U:	382.1	v	1									
2106	Output Voltage E:	72.7	V	1									
2107	Step Number of	0		0									
2108	Time of PLC Operation:	0		0									
2109	Value of External	0		0	~	2							
/ Histo	ry Messgae												
2006/12, 2006/12, 2006/12, 2006/12, 2006/12, 2006/12,	<pre>/7 16:45:35:76] Send &gt; :F /7 16:45:35:64] Send &gt; :F /7 16:45:35:52] Send &gt; :F /7 16:45:35:26] Send &gt; :F /7 16:45:35:28] Send &gt; :F /7 16:45:35:15] Send &gt; :F</pre>	F032100001 F032100001 F032100001 F032100001 F032100001 F032100001	0CD\3 0CD\3 0CD\3 0CD\3 0CD\3 0CD\3	KOD\XOA KOD\XOA KOD\XOA KOD\XOA KOD\XOA	  	· · · · · · · · · · · · · · · · · · ·	Receive Receive Receive Receive Receive	<pre>&gt; :FF032 &gt; :FF032 &gt; :FF032 &gt; :FF032 &gt; :FF032 &gt; :FF032</pre>	000001 000001 000001 000001 000001	569177007B90 5691770076F0 569177007270 569177006DE0 569177006910	00000E 00000E 00000E 00000E	ED02D7000000000000000 ED02BB00000000000000 E802A10000000000000034 E802860000000000000035 E8026A000000000000035	
													110
	10 X X				10								

Ē

-

## 2.9.2 Page B

You can continuously and freely do communication command tests by Page B



## Operating status looks like this

	RIN STOP TIMEOU	t times ( 0. alvrays do ) <b>Terminated C</b>	onditions 🔽 🔽 Add Ch	ecksum into Command Message by Delta Rules
B	inter inter and interve			
Command to Send	Replied Message	Replied Data (Hex)	Note	5-1 
010620010457	:01860475\x0D\x0A	CE4		
010620000001	:01860475\x0D\x0A	CE4		
010321020001	:01030207ED06\x0D\x0A	07EDH		
010321030001	:01030207ED06\x0D\x0A	07EDH		
010321040001	:0103020000FA\x0D\x0A	0000H		
010620010278	- 01 0 00 (75) 07) 07	CEA		
010050010318	:UIDOU4/S/XUD/XUA	UL 1		
010020010378	1013604/5/X0D/X0A	CE 4		
11022010378	:015604/5(X0D)X0A			
History Messgae	:015604/5(X0D(X0A			
History Messgae	8:30] Send > :010321030001D7\x0D\x0A		75006\ ¥00\ ¥03	
History Messgae	8:30] Send > :010321030001D7\x0D\x0A 8:24] Send > :010321020001D7\x0D\x0A 8:19] Send > :010321020001D8\x0D\x0A	L L	7ED06\x0D\x0A 5\x0D\x0A	
History Messgae 1006/11/17 18:01:1 1006/11/17 18:01:1 1006/11/17 18:01:1 1006/11/17 18:01:1	8:30] Send > :010321030001D7\x0D\x0A 8:24] Send > :010321020001D8\x0D\x0A 8:19] Send > :010321020001D8\x0D\x0A 8:14] Send > :0106200104577D\x0D\x0A	L L	7ED06\x0D\x0A 5\x0D\x0A 5\x0D\x0A	
History Messgae 006/11/17 18:01:1 006/11/17 18:01:1 006/11/17 18:01:1 006/11/17 18:01:1	8:30] Send > :010321030001D7\x0D\x0A 8:30] Send > :010321030001D7\x0D\x0A 8:24] Send > :010321020001D8\x0D\x0A 8:19] Send > :0106200104577D)x0D\x0A 8:19] Send > :0106200104577D)x0D\x0A	L Receive > :0103020 LReceive > :0186047 LReceive > :0186047 Receive > :0186047 LReceive > :0186047	7ED06\x0D\x0A 5\x0D\x0A 5\x0D\x0A 5\x0D\x0A	

## 2.10 Other functions

#### 2.10.1 PID controlling 🚾 Delta ¥FDSoft File Drive Diagnostic Options Help Keypad 四 P Sum 100 A. $\wedge$ 5 Trend Monitor Com Setup Quick Setup Parameter Advance Monito Exit Keypad Trend PID Control 0 Auto Tuning On Line PID Control PID Diagram Troubleshooting Decrease Integral time(I) and increase Differential P time(D) L Targeted value Pr.121 Pr.117 Pr.118 Pr.122 D



## 2.10.2 Automatically measuring of motor parameters



