



Add: J1-J2, 3rd Floor, No. 44, GuanRi Road, SoftWare Park, XiaMen, China 1 Tel: +86 592-6300320, +86 592-6300321, +86 592-6300322 Fax: +86 592-5912735



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### **Chapter 1 Brief Introduction of Product**

### 1.1 General

F1303 EDGE MODEM is based on EDGE network and adopts industrial wireless EDGE module. It supports SMS, CSD and data function. It is designed with industrial standard and has been widely used on finance, water supply, environment protection, electric power system, post, weather fields and so on.

### **1.2 Product Features**

- ♦ Designed with industrial standard
- ♦ Support SMS, CSD and data function
- ♦ Support RS232
- ♦ Power range: DC 5~35V

### **1.3 System Component**

The MODEM is composed of the following parts mainly:

- ♦ Industrial EDGE module
- ♦ DC/DC module
- ♦ RS232 module

### **1.4 Working Principle**

The principle chart of the MODEM is as following:



### **1.5 Technical Specification**

### Wireless specification:

- ♦ GSM850/900/1800/1900MHz
- ♦ Multislot Class 10
- ♦ Support DTMF
- ♦ Support SMS, CSD and data function
- $\diamond$  Standard AT command interface



#### Interface:

- ♦ RS232 serial port, rates: 110~230400bits/s
- ♦ Indicator lights: "Power", "ACT", "Online"
- ♦ Antenna interface: standard SMA female interface, 50 ohm
- ♦ SIM/UIM interface: standard user card interface
- ♦ Power interface: standard 3-PIN power jack

#### **Power supply:**

- ♦ Standard power: DC 12V/0.5A
- ♦ Power range: DC 5~35V

#### **Others:**

- $\diamond$  Operation temperature:-25~+65°C
- $\diamond$  Storage temperature: -40~+85°C
- ♦ Humidity: 95% (unfreezing)
- ♦ Outline dimension: 91x58.5x22 mm



### **Chapter 2 Installation Introduction**

### 2.1 General

The MODEM must be installed correctly to make it work properly. Warning: Forbid to install the MODEM when powered!

### 2.2 Encasement List

Name	Quantity	Remark
MODEM host	1	
Antenna	1	
Power adapter	1	
RS232 data cable	1	
Manual CD	1	
Certification card	1	
Maintenance card	1	

#### 2.3 Installation and Cable Connection

Dimension: (unit: mm)



#### Installation of SIM/UIM card:

Firstly power off the MODEM, and press the out button of the SIM/UIM card outlet with a needle object. Then the SIM/UIM card sheath will flick out at once. Put SIM/UIM card into the card sheath (Pay attention to put the side which has metal point



outside), and insert card sheath back to the SIM/UIM card outlet.

Warning: Forbid to install SIM/UIM card when powered!

#### Installation of antenna:

Screw the SMA male pin of the antenna to the female SMA outlet of the MODEM tightly. Warning: The antenna must be screwed tightly, or the signal quality of antenna will be influenced!

#### Installation of cable:

Insert DB9F end of the RS232 data cable into the DB9M interface of MODEM, and connect the other end with user's device.

The signal connection of the RS232 data cable is as follows:



#### RS232 data cable

### 2.4 Power

The power range of the MODEM is DC 5~35V.

Warning: When we use other power, we should make sure that the power can supply power above 4W.

We recommend user to use the standard DC 12V/0.5A power adaptor.

### **2.5 Indicator Lights Introduction**

The MODEM provides three indicator lights: "Power", "ACT", "Online".

Indicator	State	Introduction	
Light			
Power	Bright	MODEM is powered on	
	Dark	MODEM is powered off	
ACT	Twinkle	Data is communicating	
	Dark	No data	
Online	Bright/	MODEM has logged on network	
	Twinkle		
	Dark	MODEM hasn't logged on network	



## **Chapter 3 Dial-Up Settings**

### **3.1 MODEM Connection**





Power Adapter

### **3.2 Dial-Up Settings**

1. Press "start"  $\rightarrow$  "Settings"  $\rightarrow$  "Control Panel", Double click "Phone and Modem Options"

Control Panel									
ile Edit View Favorites	Tools I	Help							
3 Back 🔹 🌍 🝷 🏂	🔎 Sea	rch 😥 Fok	ders 🛄 🔻						
ddress 📴 Control Panel									💌 🔁 Go
Control Panel	(2)	Ġ.	Ż	<b>S</b>	-	2	P	<u>s</u>	I
Switch to Category View		Accessibility Options	Add Hardware	Add or Remov	Administrative Tools	Automatic Updates	Date and Time	Display	Folder Options
See Also	۲	d	and a	<b>9</b>	1	C		۵	B
🍓 Windows Update		Fonts	Game Controllers	Internet Options	Keyboard	Mouse	Network Connections	Network Setup Wizard	Phone and Modem Ontions
Help and Support		4			3	1	۲	O,	33
	F	ower Options	Printers and Faxes	Regional and Language	Scanners and Cameras	Scheduled Tasks	Security Center	Sounds and Audio Devices	Speech
		3		82	6				
		System	Taskbar and Start Menu	User Accounts	Windows Firewall	Wireless Network Set			

2. Choose "Modems", Press "Add" button



Phone an	d Modem Options 🛛 🛛 🛛 💽
Dialing Ru	les Modems Advanced
	The following modems are installed:
Moder	n Attached To
	OK Cancel Apply

3. Choose "Don't detect my modem; I will select it from a list", and click "Next"



4. Manufacture choose "Standard Modem Types", Models choose "Standard 33600 bps Modem", click "Next" button



Add Hardware Wizard
Install New Modem
Select the manufacturer and model of your modem. If your modem is not listed, or if you have an installation disk, click Have Disk.
Manufacturer  IStandard Modem Types)  Standard 28900 bps Modem  Standard 33600 bps Modem  Standard 56000 bps Modem
This driver is digitally signed. Have Disk <u>Tell me why driver signing is important</u>
< Back Next > Cancel

5. "Selected ports" choose the actual COM port which connects to Modem, click "Next" button.



6. click "Finish" button, return back to "Modems" page





Phone and Modem Options	? 🗙
Dialing Rules Modems Advanced	
The following modems are installed:	
Modem Attached To	
Standard 33600 bps Modem COM1	
Add Remove Prop	erties
OK Cancel	Apply

7. Choose the modem you have just installed, click "properties" button to configure the modem driver



Phone and Modem Options 🛛 ? 🗙
Dialing Rules Modems Advanced
The following modems are installed:
Modem Attached To
Standard 33600 bps Modem COM1
Add Remove Properties
OK Cancel Apply

8. Choose "Modem" page, set Maximum Port Speed as 115200.

Standard 33600 bps Modem Properties	? 🔀
General Modem Diagnostics Advanced Driver	
Port: COM1	
Speaker volume	
Low High	
Maximum Port Speed	
115200	
Dial Control	
Wait for dial tone before dialing	
OK L	Cancel

9. Choose "Advanced" page, input Extra Initialization commands: AT+CGDCONT=1,"IP","CMNET", CMNET is the Access Point Name(APN) of China, please replace it with your own APN name, click "Change Default Preferences" button



Standard 33600 bps Modem Properties 🛛 🔹 🛛 🤇
General Modem Diagnostic Advanced Triver Extra Settings Extra initialization commands: AT+CGDCONT=1,"IP","CMNET"
Change Default Preferences OK Cancel

10. "Port Speed" choose 115200, "Flow control" choose None, click "OK" button.

General Advanced	
Call preferences	
Disconnect a ca	all if idle for more than <b>mins</b>
Cancel the call	if not connected within secs
1 on speed.	
Data Protocol: Compression: Flow contrat	None
Data Protocol: Compression: Flow contre	None

11. On the "Advanced" page, click "OK" button return to "Phone and Modems" page, click "OK" button to finish the Modem driver installation



Standard 33600 bps Modem Properties 🛛 🛛 🛛
General Modem Diagnostics Advanced Driver
Extra Settings
Extra initialization commands: AT+CGDCONT=1,"IP","CMNET"
Change Default Preferences
OK Cancel

Phone and Modem Options	? 🛛
Dialing Rules Modems Advanced	
The following modems are	installed:
Modem	Attached To
Standard 33600 bps Modem	COM1
Add	Remove Properties
Сок	Cancel Apply

12. Finish installing Modem driver, It's necessary to install the Dial-Up connection. Open "Control Panel", double click "Network connections"





13. Click "Create a new connection" to start creating a new Dial-Up connection.



#### 14. Click "Next" button

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15. Choose "Connect to the Internet", click "Next" button





16. Choose "Set up my connection manually", click "Next"



17. Choose "Connect using a dial-up modem", click "Next"





18. Choose the Modem driver installed just now, click "Next" button



#### 19. Input the ISP Name, click "Next" button





20.	Input the	call center	number	of your	ISP. In	China,	It is	*99***	1#. C	Click '	'Next"
butte	on.										

New Connection Wizard
Phone Number to Dial What is your ISP's phone number?
Type the phone number below.  Bloose number:  99***1#  You might need to include a "1" or the area code, or both. If you are not sure you need the extra numbers, dial the phone number on your telephone. If you hear a modem sound, the number dialed is correct.
< Back Next> Cancel

New Connection Wizard	
Internet Account Inform You will need an accou	ation nt name and password to sign in to your Internet account.
Type an ISP account na safe place. (If you have	ame and password, then write down this information and store it in a forgotten an existing account name or password, contact your ISP.)
User name:	
Password:	
Confirm password:	
Use this account in this computer	ame and password when anyone connects to the Internet from
🗹 Make this the defau	It Internet connection
	< Back Next > Cancel

- 22. Choose "Add a shortcut to this connection to my desktop", click "Finish" button.
- 21. Input the username and password. In china they are both null. Click "Next".





23. Double click the Dial-Up shortcut on your desktop to run Dial-Up program.

Connect GPRS	_DIAL		? 🗙
P			N
User name: Password:			
Save this us Me only Anyone v	er name and passwor	<b>d for the following</b>	users:
Dial:	*99***1#		~
Dial	Cancel	Properties	Help

25. Choose the Modem driver installed before, Click "Configure" button



24. Click the "Properties" button of the Dial-Up program



GPRS_DIAL Properties
General Options Security Networking Advanced
Connect using
Modem - Standard 33600 bps Modem (COM1)
Modem - Standard 33600 bps Modem #2 (LUM3)
< · · · · · · · · · · · · · · · · · · ·
All devices call the same numbers
Phone number
Area code: Phone number:
×99***1# Alternates
Country/region code:
×
Use dialing rules Dialing Rules
Show icon in notification area when connected
OK Cancel

26. Set "Maximum Speed [bps]" as 115200, set Hardware features as following, click "OK" button

Modem Configuration
Standard 33600 bps Modern (COM1)
Maximum speed (bps): 115200
Modem protocol
Hardware features  Enable hardware flow control  Enable modem error control Enable modem compression
Show terminal window
Enable modem speaker

27. Click "OK" button to finish Dial-Up program configuration



GPRS_DIAL Properties
General Options Security Networking Advanced
Connect using:
Modem - Standard 33600 bps Modem (COM1) Modem - Standard 33600 bps Modem #2 (COM3)
✓ All devices call the same numbers Configure
Phone number
Area code: Phone number: *99***1# Alternates
Country/region code:
Use dialing rules Dialing Rules
Show icon in notification area when connected
OK Cancel

28. Click "Dial" button to start dial

Connect GPRS_DIAL
User name:
<ul> <li>Save this user name and password for the following users:</li> <li>Me only</li> <li>Anyone who uses this computer</li> </ul>
Dial: *99***1#
Dial Cancel Properties Help

29. When dial success, There is a connection icon *on the right of your taskbar.* 





### Chapter 4 SMS Test

Modem can also be used to send and receive SMS (Short Message Service) except setting up dial-up connection. To simplify customer program, we supply a DLL(Dynamic Link Library) and sample program source code, all the SMS operations can be processed through simple API functions. The following describes how to test the SMS function.

- 1. Connect PC and Modem with the shipped RS-232 cable and power on Modem, The connection diagram please refer chapter 3.1
- 2. Run FfSmsTestTool-En.exe



3. Choose the COM port which connect to MODEM, baud rate is 15200, click "Start" button

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4. The tool will initiate Modem after clicking the "Start" button, If initiate success, the log column will show "Start Success", It's now ready for sending and receiving SMS.





5. Input the phone to receive this test SMS, click "Send" button



6. The result state will display in the Log column



7. When received SMS, It will display in the receive column



8. Complete SMS test.