FinsGateway

Modem Module
User's Manual

First Version

November, 1999

OMRON Corporation

CONTENTS

1 Introduction

The Modem Module is an add-on software for FinsGateway remote communication.

You can develop a remote PLC data acquisition application quickly and easily using the modem module.

Analog Phone Line

PLC

PLC

FinsGateway + Modem Module
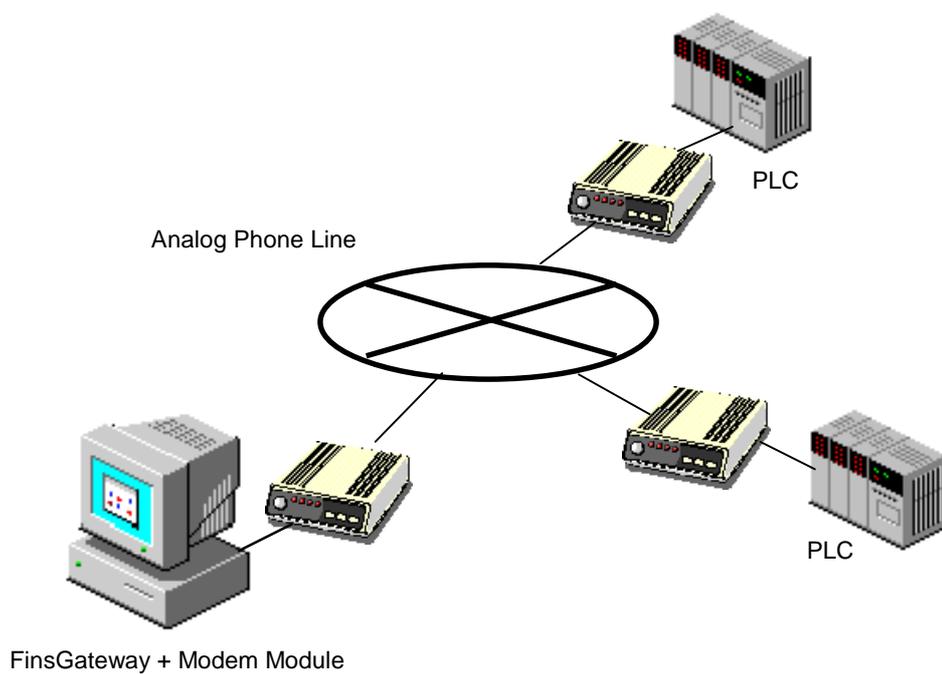
2 System Requirements

The Modem Module is an add-on software for FinsGateway. Therefore, the environment must support the operation of FinsGateway. The following system specifications are recommended to operate the Modem Module.

Item	Recommended System Specifications
CPU	Pentium 200MHz or higher
RAM	64MB or higher
OS	Microsoft® Windows NT, Windows95 or Windows98
Software	FinsGateway Ver2.0 or higher
Modem	Modem for Windows.

3 Setting the PLC Modem

3 – 1 Communications Settings for the PLC Modem

Modems can detect the communication settings automatically to communicate with the computer when the computer sends the AT command to the modem. That is why you do not need to set the communications settings for the computer modem.

However, the PLC modem cannot detect the communications settings, because PLC is not a computer and does not send the AT command to the modem. The communications settings for the PLC modem must match the settings of the computer modem and the PLC.
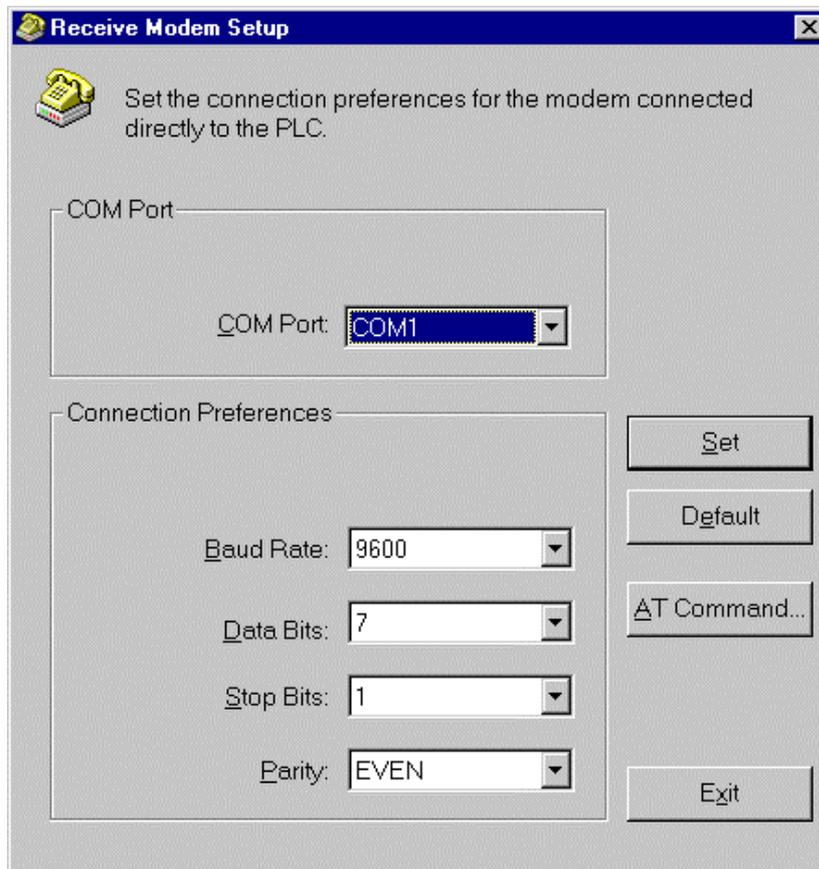
Modems can detect the communications settings automatically to communicate with the computer when the computer sends the AT command to the modem.

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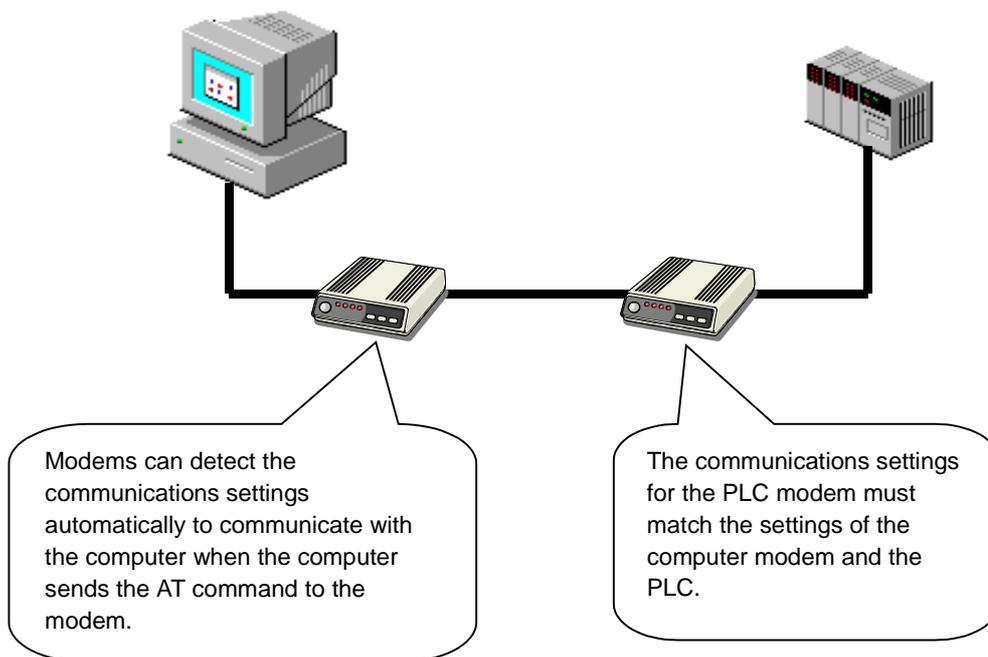
1. Plug the PLC modem into the COM port of the computer.

2. Click on the Start button, point to Programs, point to FinsGateway, and point to PLC Modem Setup.

3. Select the COM port for the modem in the COM port box.

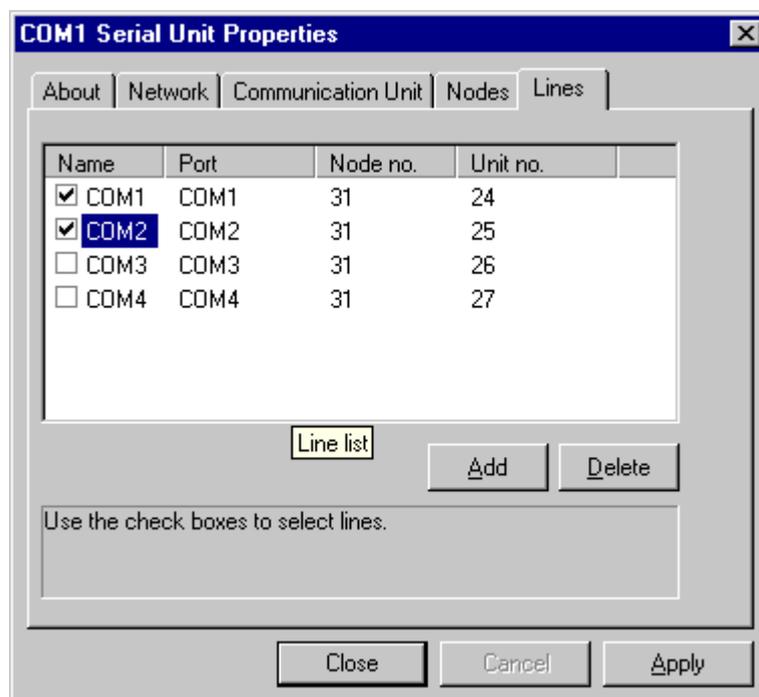4. Select the communications settings in the dialog to match the communications settings of the PLC.

default: BaudRate: 9600bps, Data Bits: 7, Stop Bit: 1, Parity: Even

5. Click on the [Set] button.

The PLC modem setting is done. Unplug the modem from the computer and plug it into the PLC.

3 – 2 Serial Communications Driver Settings

1. Exit PLC Reporter if it is running.

2. Click on the Start button, point to Programs, point to FinsGateway, and point to Serial Communications Setup.

3. Click the Communications Line tab and select the check box of the COM port for the modem to add the phone line.

COM1 Serial Unit Properties

About | Network | Communication Unit | Nodes | Lines

Name	Port	Node no.	Unit no.
☑ COM1	COM1	31	24
☑ COM2	COM2	31	25
☐ COM3	COM3	31	26
☐ COM4	COM4	31	27

Line list   Add   Delete

Use the check boxes to select lines.

Close   Cancel   Apply

4. Click [OK] to close the dialog.

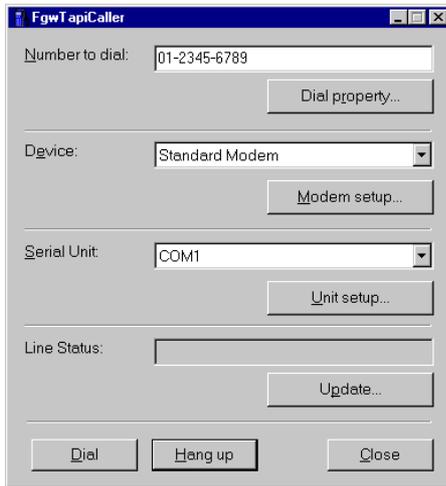5. Set the network address for the added phone line if necessary.

4 Operation

Register a telephone number to identify each destination modem and PLC.

4 – 1 Registering Telephone Numbers
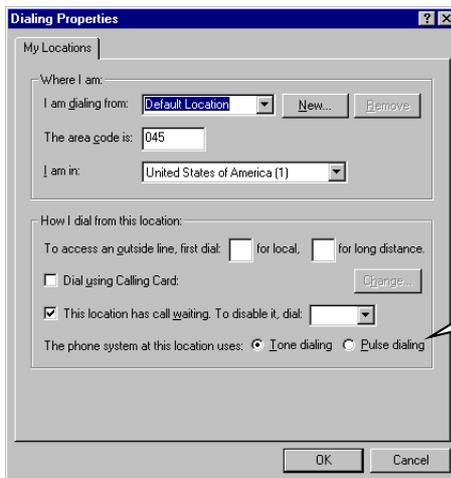
1. FgwTapiCaller Settings

Click on the Start button, point to Programs, point to FinsGateway, and point to FgwTapiCaller.

2. Select Phone Line Type

Click on the Dialing Properties button. Select Tone dialing or Pulse dialing in the Dialing Properties dialog to set the dialing type.

Click the Tone dialing or Pulse dialing in the Dialing Properties dialog to select the dialing type.

3. Type the name and the telephone number of the destination to call in the telephone number setup dialog.

  You can enter a comma (,), or – in the telephone number box to make the telephone number easy to identify.

4. Click on the Modem Setup button in the telephone number setup dialog to start the modem settings dialog.

  Select the modem in the Modem to use field and set the communication settings to match the settings of the remote PLC.
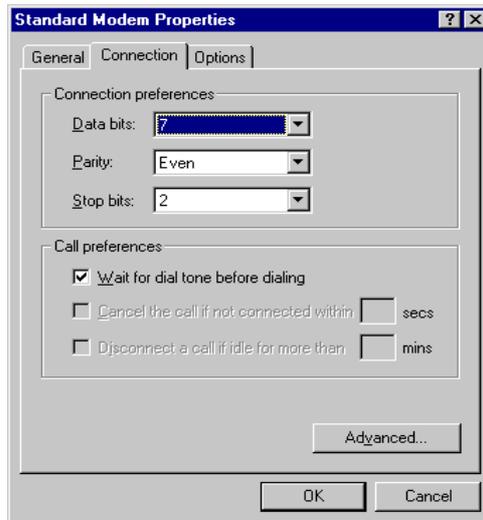
5. Click the Unit setup button in the telephone number setup dialog to start the modem settings dialog.

  Select the COM port which connecting the Modem.
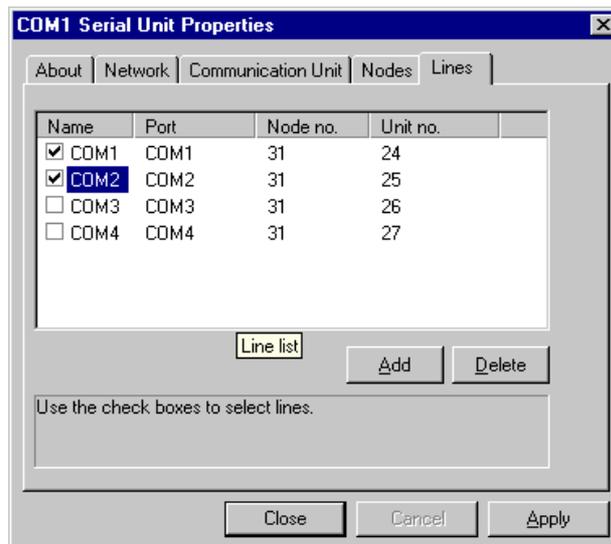
6. Confirm that the new telephone number appears in the telephone numbers dialog

7. Click [OK] to finish the telephone number setup. Click [cancel] to cancel the settings and quit.

4 – 2 Serial Communications Driver Settings

1. Dial the destination.

After the telephone number is registered, Click the [Dial] button and start dialing. You can monitor status and perform one-shot communications with a remote PLC after dialing is completed successfully.
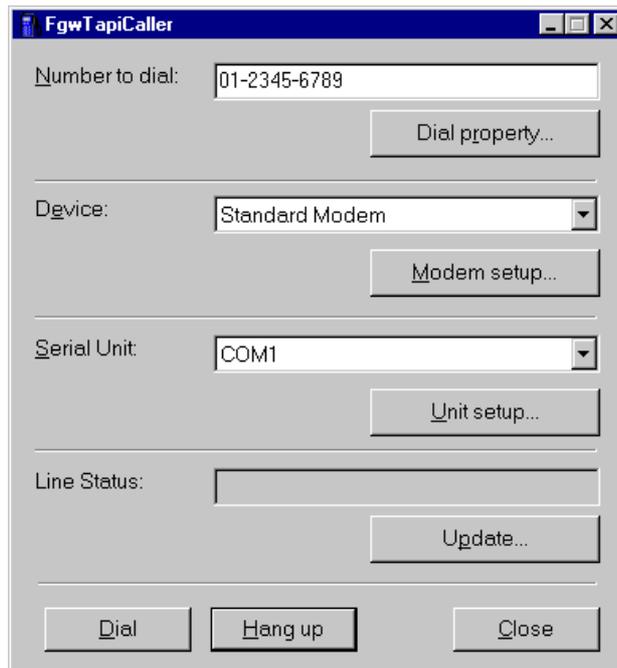
The line status dialog appears when dialing. After dialing is completed successfully, the dialog is minimized automatically.

Click the icon to see the dialog again.
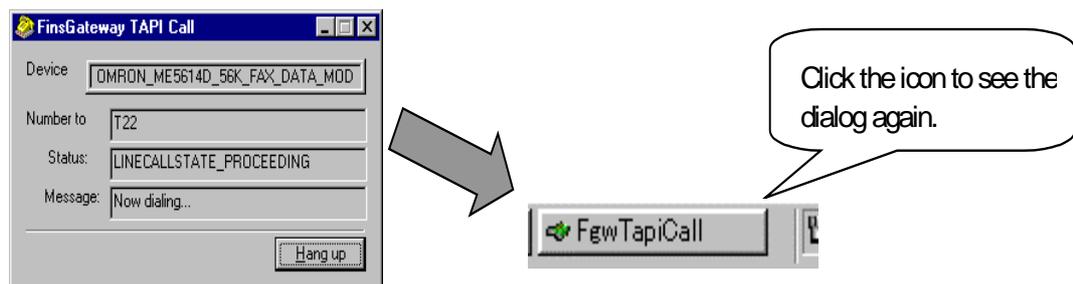
4 – 3 Close the Line

1. Click the [Hang up] button in the FgwTapiCaller.

Closing the Line Manually

You can also close the line by clicking on the Disconnect button in the line status dialog.

Close the line manually.

5 Caution

5 – 1 Communications Settings

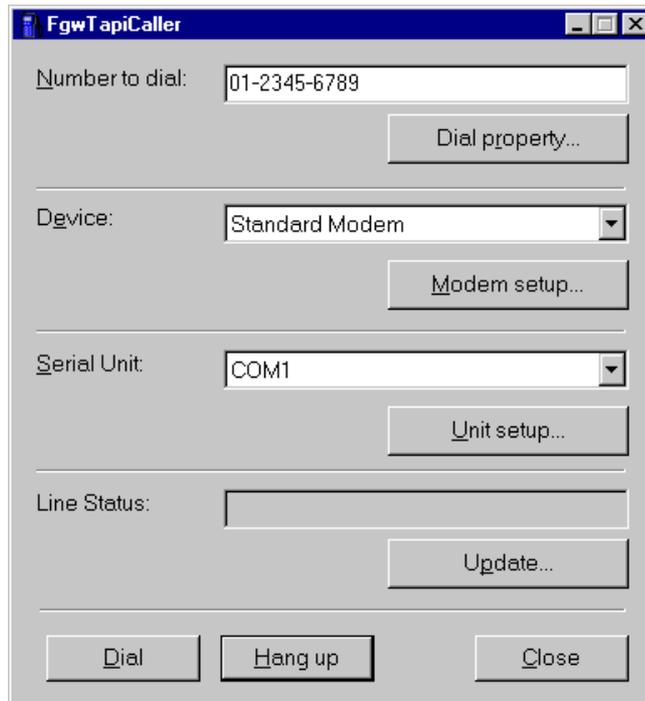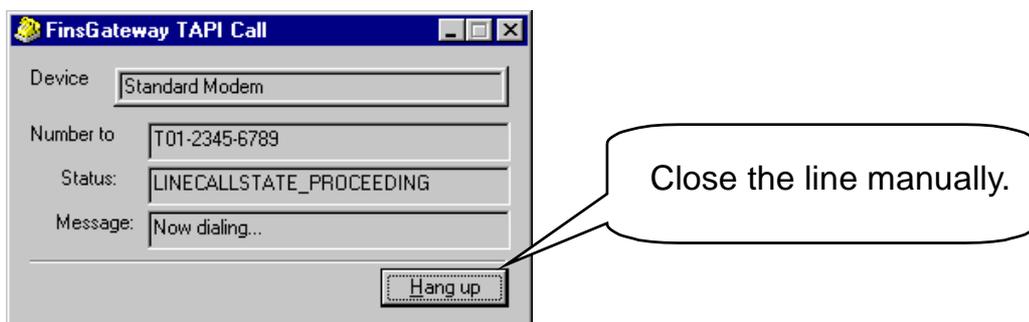Some modems have fixed settings: 10 bits for character bits. Select the one of the 4 settings below for the communications settings.

Start bits	Data bits	Parity	Stop bits	Character bits
1 fixed	7	Even	1	10
1 fixed	7	Odd	1	10
1 fixed	7	None	2	10
1 fixed	8	None	1	10

Confirm that the communications settings of the computer and the PLC match, except the speed.

Refer to the PLC manual to see how to set the communications settings for the PLC.

5 – 2 Speed Setting

You can set the speed for the computer with the communications settings of Modem Module, and set the speed at the PLC with the PLC modem settings utility. The speed setting will vary between modems.

Computer - Modem
19200 bps

Modem - Modem
33600 bps
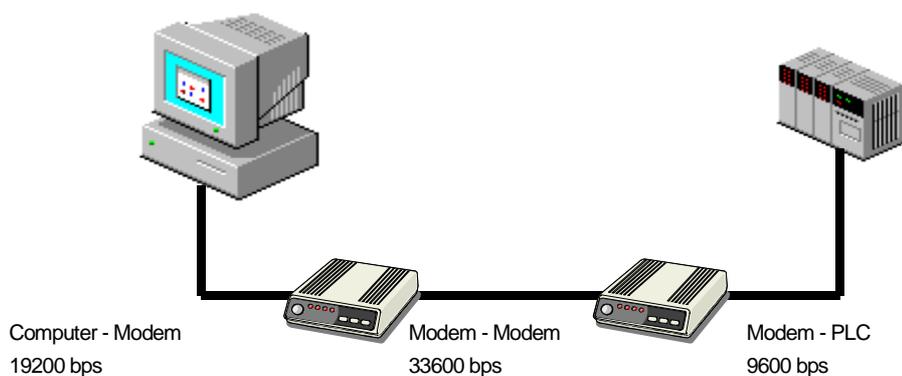
Modem - PLC
9600 bps

5 – 3 Connecting the PLC Modem

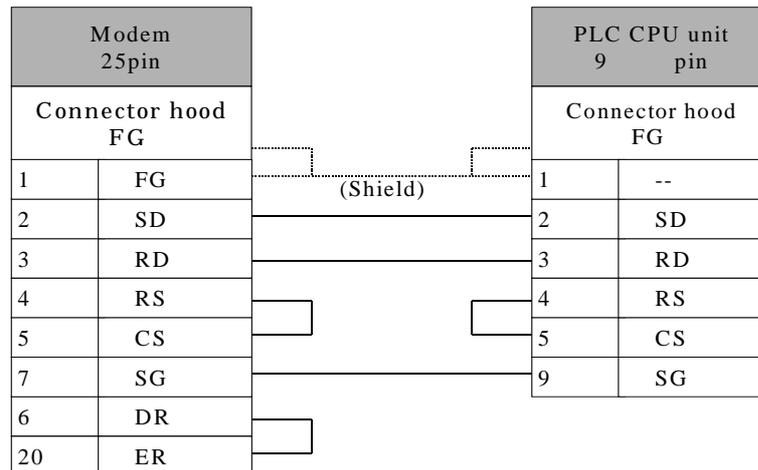Prepare the cable according to the figures below to connect the modem to the PLC. The cable included with the modem works to connect to a computer but not a PLC.

| Modem 25pin		PLC CPU unit 9 pin	
Connector hood FG		Connector hood FG	
1	FG	1	--
2	SD	2	SD
3	RD	3	RD
4	RS	4	RS
5	CS	5	CS
7	SG	9	SG
6	DR		
20	ER		

For wiring details, refer to the modem and PLC manuals.

5 – 4 Send the AT Command

The PLC modem setup utility may not work for old modems. If the utility does not work, send the AT command to set it.

Send any AT command using the PLC modem setup utility. See the modem manual for the setting details.

Function	AT Command
Set the number of rings for auto answer. The example shows setting 1 ring.	ATS0=1
Save the settings in non-volatile RAM. The example is saving the settings to profile 0.	AT&W0
Select the profile to load when the modem is turned on. The example is loading profile 0.	AT&Y0
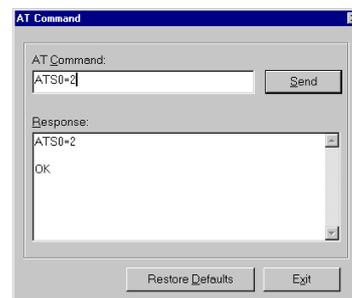
Flow control or the CD/DR/ER signal control settings may be required for the modem. See the modem manual and determine the AT commands to set them.

6 Troubleshooting

Is the equipment turned on?

Confirm that that the modem and the PLC are turned on.

Is the equipment all connected?

Confirm that the modems are connected to the computer and the PLC. Confirm that the modem and the telephone lines are wired. Refer to the modem manual for the wiring.

Is it the right cable?

A special cable is required to connect the PLC and the modem. Prepare the right cable.

Is the right type selected for the telephone line?

Confirm that the right type of telephone line is selected: tone dialing or pulse dialing.

Is the PLC modem set?

Set the PLC modem. The modem will not work with the default settings. The settings will be erased if the modem has been turned off for a long time. Set the modem again.

Is the telephone number right?

Is Modem Module dialing the right number?

Do the communications settings of the PLC and the modem match?

Confirm that the communications settings of the PLC and the modem match.

Are the modem settings right?

Confirm that the right modem is selected if multiple modems are installed.

Confirm that the modem is connected to the right COM port.

Confirm that the COM port for the internal modem matches the settings.