

VT-MODEM Interfaces with the Modicon 612/00 PLC

using Schneider ProWORXNxT Software

Abstract: The information in this document was determined by in-house testing and with the assistance of Philips Brother Electrical Contractors of Glenmoore, Pennsylvania, Johnson Associates of Millsboro, Delaware, and United Electric Supply of New Castle, Delaware. It explains the procedure for interfacing a SIXNET General Purpose Industrial Telephone Modem with the Modicon 612/00 PLC using Schneider ProWORXNxT2.0 control software. This setup will allow a remote computer to go on-line with a Modicon PLC via a telephone modem connection.

Hardware and Software Used:

- SIXNET Industrial Modem (Part Number: VT-MODEM-1US)
- SIXNET VT-MODEM Setup Wizard v1.15
- Serial cable (Part Number: VT-CABLE-MDM) (Incl. with VT-MODEM-1US)
- Modicon 612/00 CPU PLC
- PC serial port to Modicon RJ45 port cables (Modicon p/n's 110XCA28202 + 110XCA20300)
- Modem DB9 to Modicon RJ45 port cable (see pinout on page 5)
- Schneider ProWORXNxT 2.0 software (with XMIT instruction)
- Modem modicon_612-00.6ms config file (find in Modem Setup Wizard or create your own)
- Internal modem in PC
- <u>Analog</u> phone line connections at both ends (digital lines may not work). The phone line at the MicroLogix end must also be a direct-dial number from the outside (It is recommended that if possible the analog line should not be routed through a PBX system).

Receiving Modem (SIXNET VT-MODEM-1) Setup Procedure :

Use the VT-Modem Wizard to configure your modem:

Connect modem to PC with VT-CABLE-MDM. Run the VT-Modem Setup Wizard. Click "Open Configuration File" and select "modicon_612-00.6ms", if available, and then click to last screen and write settings to modem (SCREEN SHOT 4). If "modicon_612-00.6ms" is not available:

Select VT-MODEM-1 at the "Read Configuration" screen (SCREEN SHOT 1). At the "Com Parameters" screen, select PC com port, baud rate 9600, hardware flow control, even parity, 7 data bits, 1 stop bit (SCREEN SHOT 2). At the "Modem Parameters" screen, select "no flow control" and "modem-to-modem speed fixed at 9600", and use all other defaults (SCREEN SHOT 3). Save configuration to file (SCREEN SHOTS 4 & 5), and then write modem settings to modem (SCREEN SHOT 4).

Connect modem to PLC using a cable conforming to the pinout shown on page 5. You are now ready to remotely program your Modicon PLC!

SIXNET VT-MODEM Wizard - Read Configuration	×
Use this quick setup wizard to configure your Industrial Modem. If you have previously saved a configuration file, you may load it at this time.	
Open Configuration File Run On-line Modern Documentation	
Modem Type: VT-MODEM-1 (Industrial Modem) VT-MODEM-2 (PLC Self-Dialing Modem) VT-MODEM-3 (Modem with RS485 Port) Country: United States of America	
Software License v1.15_08MAY02	ļ
< <u>B</u> ack. <u>N</u> ext > Cancel Help	

SCREEN SHOT 1

SIXNET VT-MODEM Wizard - COM Parameters	
Please specify the communications parameters for the modem. You may also run the terminal emulator to test the modem or manually enter setup parameters.	Restore Factory COM Defaults
Computer COM Port Settings: Device: COM4 Flow Control: Hardware (RTS/CTS)	Computer/Modem Port Settings: Baud Rate: 9600
	Data Bits: 7
Run Terminal Emulator	NOTE: Make sure these settings match the COM settings in the field device that will be connected to the modem.
< <u>B</u> ack	Next > Cancel Help

SCREEN SHOT 2

SIXNET VT-MODEM Wizard - Modem Parameters	
Select the proper modem parameters for your application.	Restore Factory Modern Defaults
Basic Modem Parameters:	
Phone Number 1:	Enable Auto-Answer on 1 🔽 Rings
Ignore DTR (assume ON)	Ignore Carrier Detect (force ON)
Advanced Modem Parameters:	
Disable Command Echo	Disable Error Correction
Flow Control: None	🗖 Disable Data Compression
Modem to Modem Speed:	
C Auto-detect Speed to: 9600	Fixed Speed
User-Defined "AT" String:	
< <u> </u>	ack <u>N</u> ext > Cancel Help

SCREEN SHOT 3



SCREEN SHOT 4

Save As			? ×
			an a
Save <u>i</u> n:	🔄 Sixtrak	▼ .	
datashts Udr AB500.6ms ABPLC5.6ms ABSLC504.6 Iflow4003.6m GE9030.6ms GLplc.6ms	s ims s	gnl.6ms hayssen.6ms koyo250_pager.6ms mdm2cont_connect_test.6ms mitsufx2n_vt2.6ms modem3test.6ms modicon.6ms motorola_num_pager.6ms	 a) omron_c200hx_vtmd a) omron_cs1.6ms a) omron_remote.6ms a) omron200hs.6ms a) omroncs1.6ms a) opto22slv.6ms a) opto22slv.6ms a) pos4000.6ms
File <u>n</u> ame:	modicon_612-00)	Save
Save as type:	VT-MODEM File	es (*.6ms)	Cancel
Description:	SIXNET industria	al modem config. file for Modicor	PLC

SCREEN SHOT 5

CABLE CONFIG: PLC-TO-MODEM

MODICON RJ45

MODEM DB9 PORT

-PIN2: RXD
-PIN3: TXD
PIN4,6: DTR,DSR TIED
PIN7: RTS
-PIN8: CTS

CABLE CONFIG: MODICON-TO- PC

MODICON RJ45

PC COM (DB9) PORT

PIN1: NOT CONNECTED*	PIN1: DCD
PIN3: TXD	PIN2: RXD
PIN4: RXD	PIN3: TXD
PIN2: DSR	PIN4: DTR
	PIN6: DSR
PIN5: GND	PIN5: GND
PIN7: CTS	PIN7: RTS
PIN6: RTS	PIN8: CTS
	PIN9: RI
PIN8: CHASSIS GND	CONNECTOR CASE

*CAUTION: Pin 1 receives 5V from the PLC