

Remote Access

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Welcome to Remote Access

Remote Access enables you to use a PC to access a remote controller. During a Remote Access session, the remote controller is displayed, on-line, on your PC screen. You can 'press' keypad keys and touch-screen objects, check system status and run-time values, as well as test and troubleshoot problems in remote controllers and applications. You can access:

- Stand-alone controllers that are directly connected to the PC via a cable.
- Controllers within a network.
- Either stand-alone or networked controllers via GSM or landline modem.
- Devices with IP addresses, via Ethernet.

Remote Access can be used with either Vision or M90/91 controllers. Vision controllers require O/S versions 2.96 and higher; M90/91 require V3.00 and higher.



Using Remote Access

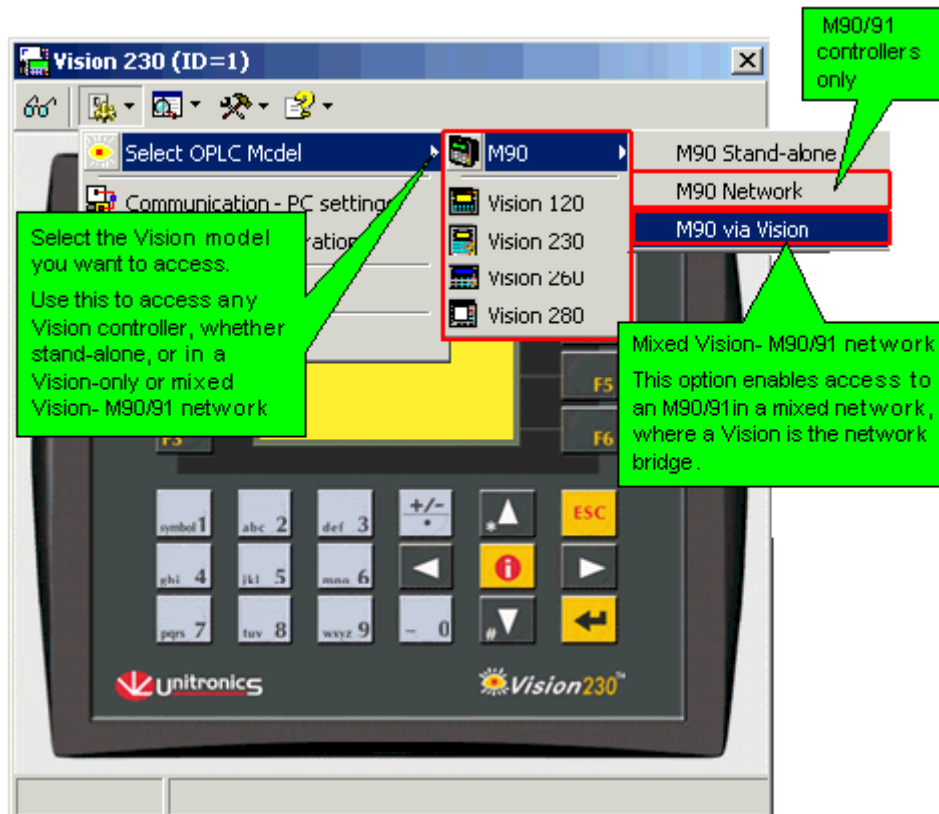
The Remote Access package includes additional utilities:

- M90 Downloader
- Operand Access
- Data Tables

Using Remote Access

Selecting an OPLC model

Select the controller model from the Configuration menu.



Note ♦ Vision model controllers:

Select the model. If the controller is in a network, open Communication-PC Settings from the options menu, and select the controller's ID number.

♦M90/91model controllers within a network:

Select which type of network, and then select the controller's ID number.

Communication-PC Settings

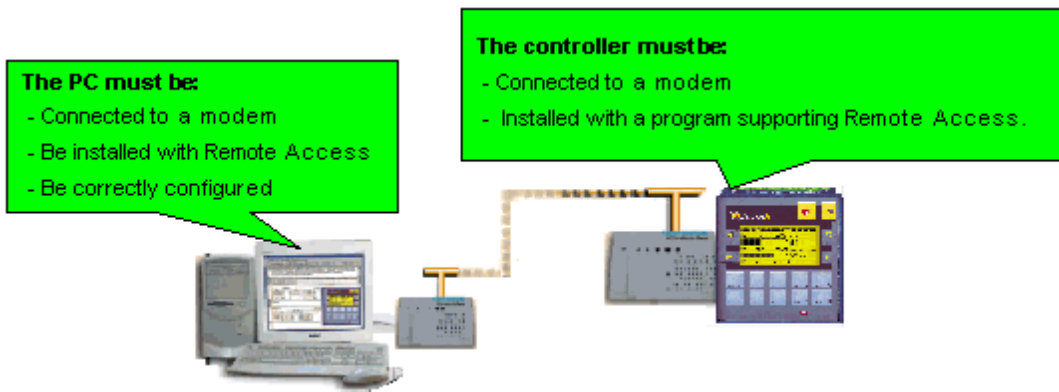
This enables you to check communication parameters and perform certain actions.

- PC Communication Settings
- Run, Reset, Initialize
- Get Com Parameters and PLC status
- Check Network Status

Remote Access via Modem

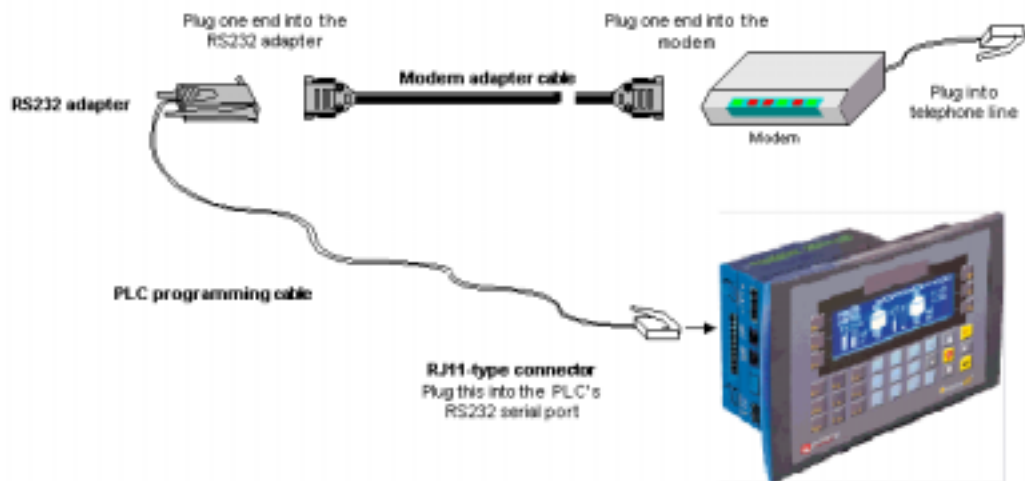
To access either stand-alone or networked controllers via GSM or landline modem:

Remote Access

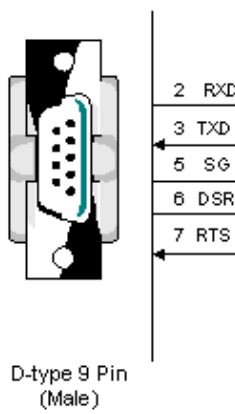


Modems: Setting Up

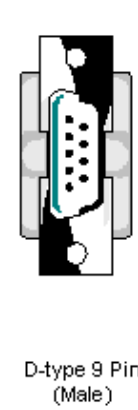
PLC-Modem Connection



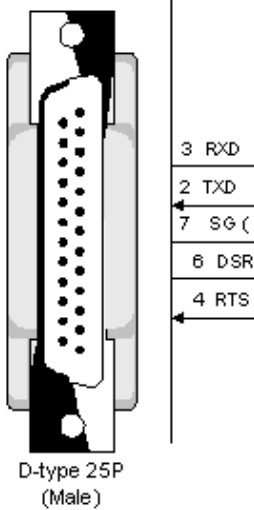
To Modem with a 9-pin connector



To PLC's Download Cable (RS232 adapter)



To Modem with 25-pin connector

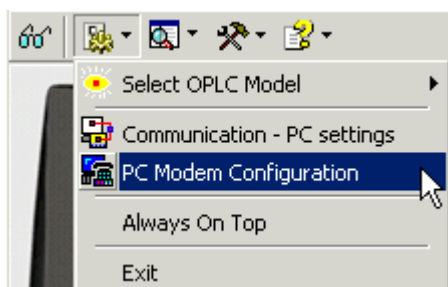


To PLC's Download Cable (RS232 adapter)

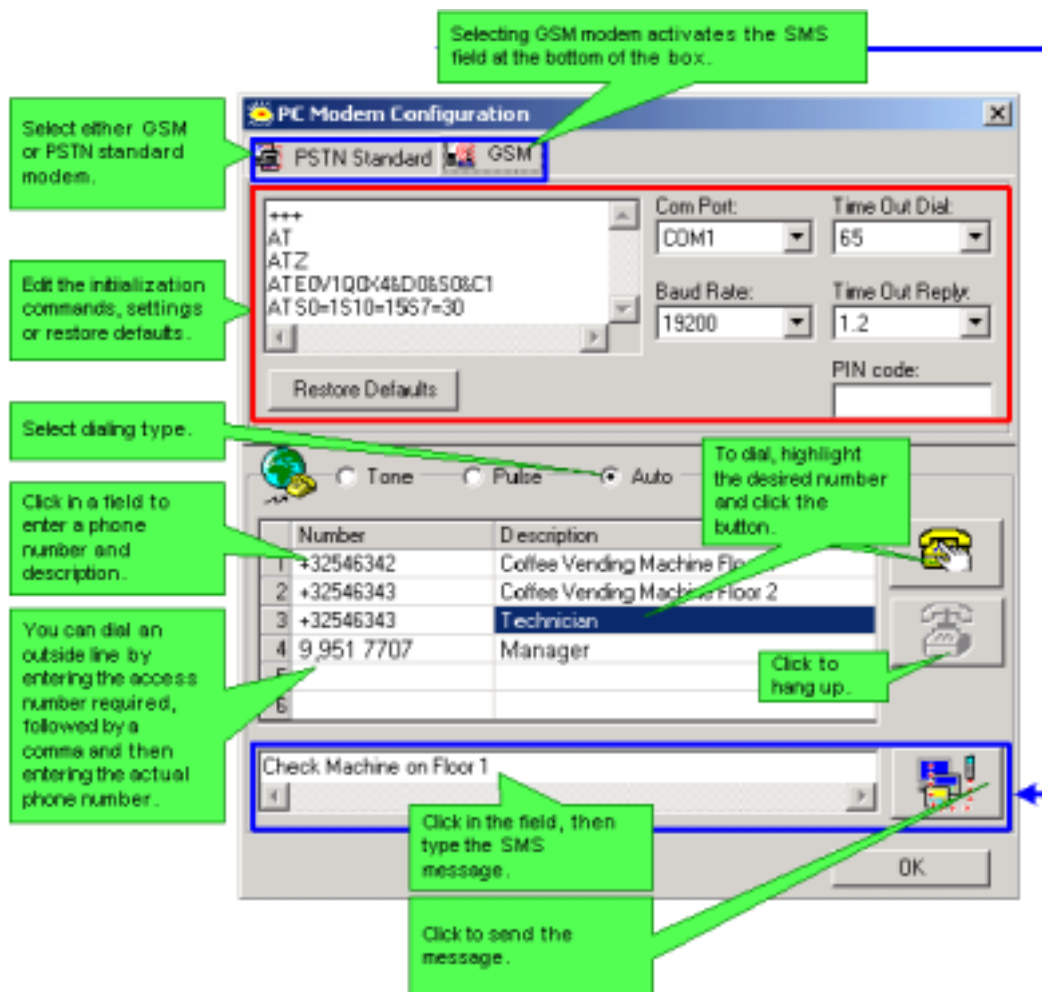


PC Modem Configuration


Open PC Modem Configuration from the *Configuration menu*.




Remote Access



Online Mode

Once you have configured Remote Access, enter Online mode by clicking the button .

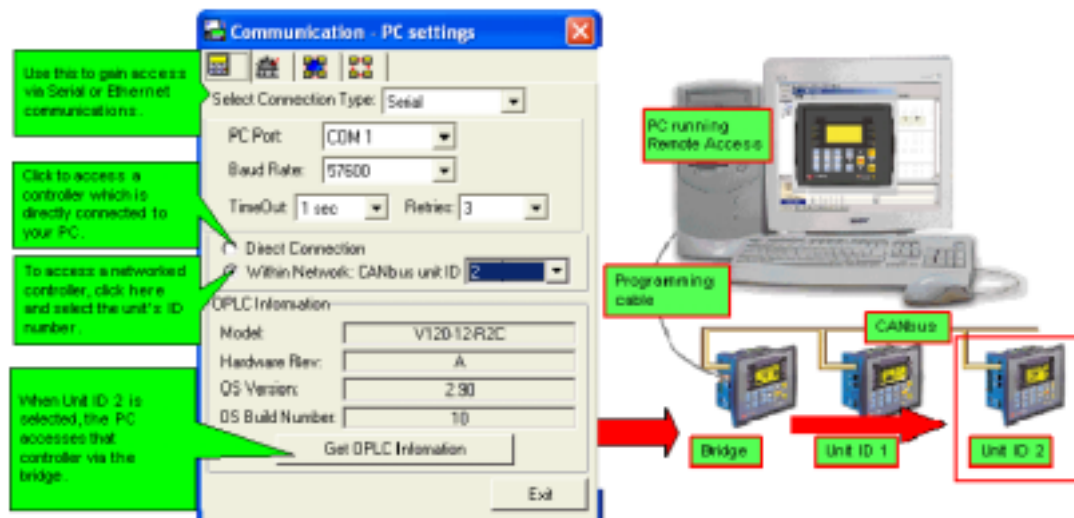
In this mode, you can:

- Use your cursor to operate the controller keypad and activate touch-screen objects (relevant models).
- Use your PC keyboard to operate the controller keypad (numeric keys, function keys <F1> to <F8>). Note that the Vision <ESC> key is <E> on the PC keyboard, and that <F9> is reserved for activating Online mode.
- Enter Information Mode by pressing the <i> key with your cursor.
- Select a View .

Note ♦ The Zoom option on the View menu can be activated only if you select Hide Keys. Zoom cannot be used with M90/91 or V280 controllers.

PC Com Parameters (non-modem)

Display the current communication settings by selecting Communication - PC Settings from the Options menu.



Select Connection type

Use the drop-down arrow to select serial or Ethernet.

PC Com Parameters

Port, Retries and Time-Out are the communication settings between Remote Access and the controller. Note that if you are working with a network, the TimeOut should be greater than 1 second.

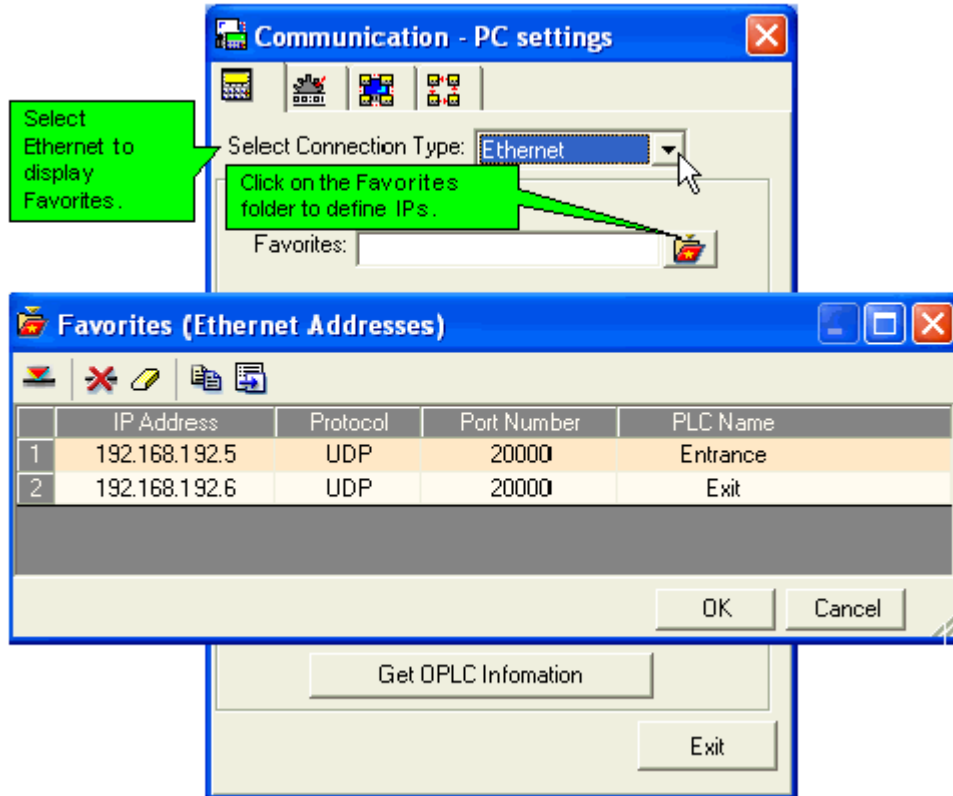
Communicate with OPLC

Use these options to communicate with networked controllers.
Direct Connection: select this to communicate with any controller that is connected to your PC via the download cable, including a network bridge.
Within Network:select this to communicate with a controller that is integrated into a network, then select the controller's ID number

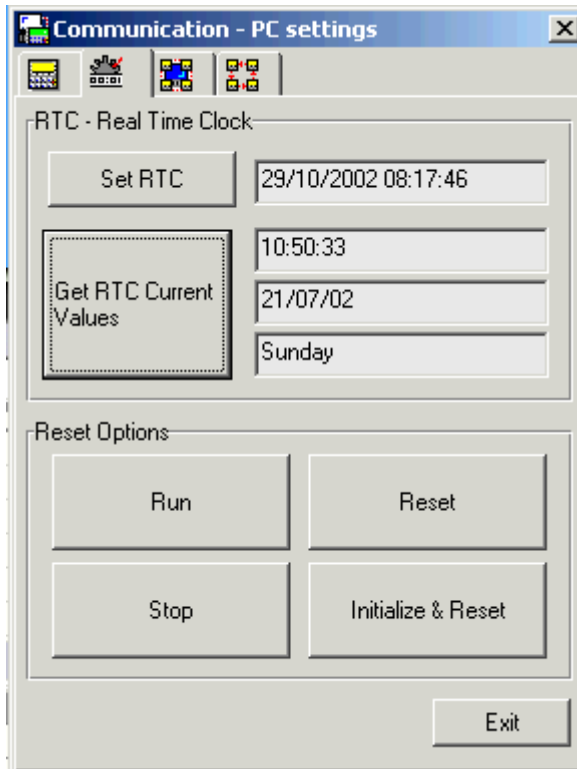
Vision OPLC Information

Click **Get OPLC Information** to display information about the controller you have selected in **Communicate with OPLC**.

Remote Access



Run, Reset, Initialize



Note ♦ When you click a button, your PC will access the controller selected in **PC Communication Settings**.

Set RTC	These are the values of your PC's clock. Click Set RTC to import these values into the RTC of the controller.
Get Vision RTC Current Values	Click to view the current PLC settings
Run	Click to run the current program in the PLC.
Stop	Click to stop the current PLC program.
Reset	Click to reset the PLC, and reinstall any values preset in the program, such as Timers.
Reset & Initialize	Click to reset, reinstall any preset values, and initialize all memory operands

Get Com Parameters and PLC status

Communication - PC settings

Get Com Parameters

RS232 Baud Rate: 57600

CANbus Baud Rate: 500 Kb

Unit ID: 1

Get

PLC Status

Run\Stop: Run

Flash status: Idle

Memory status: Idle

Compiler status: Ready

Compiler error: No Error

Get

Exit

Select Get to view communication parameters and PLC status in the controller you are currently communicating with.

This is the controller selected in **PC Communication Settings**.

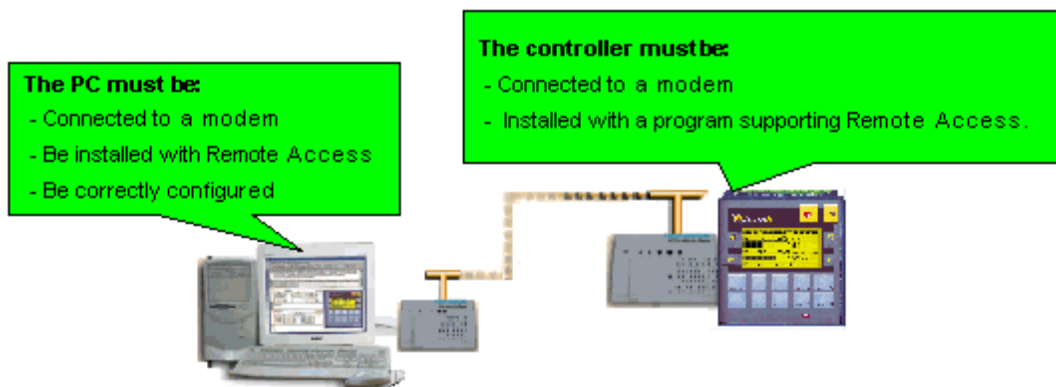
Check Network Status

The network status is checked via the bridge.



Remote Access via Modem

To access either stand-alone or networked controllers via GSM or landline modem:

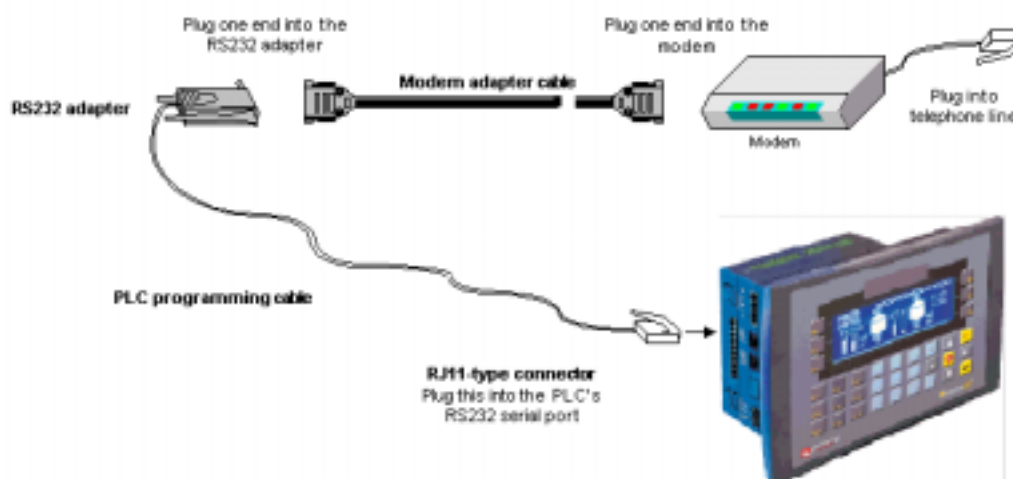


Note ♦ The PC-modem cable is not the same type of cable used to connect between the controller and the modem. Ensure that the cable used to connect the PC to the modem provides connection points for all of the modem's pins.

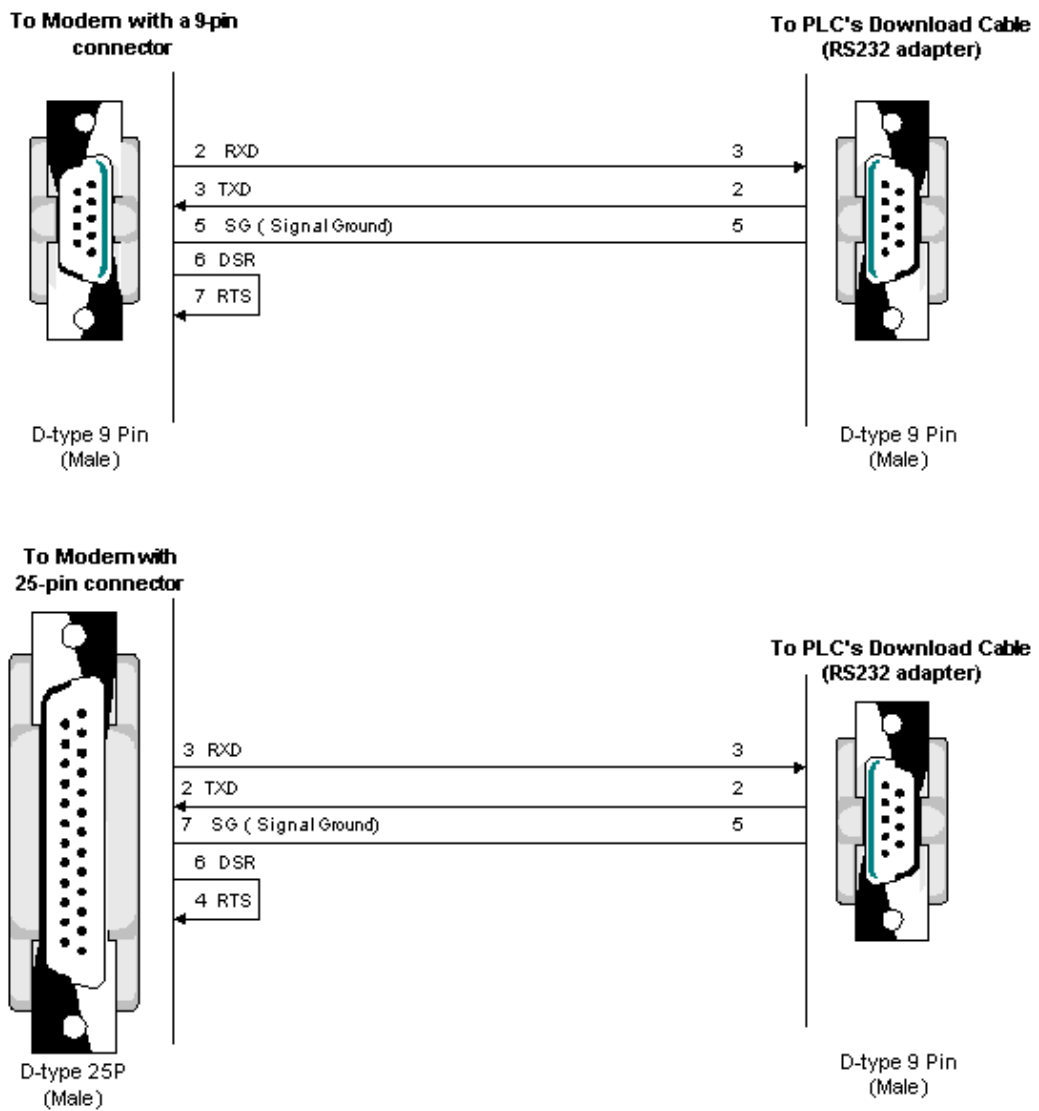
- ♦ Both PC and controller must use the same type of modem: either landline or GSM.
- ♦ Internal modems must be used in conjunction with the driver provided by the modem's manufacturer.
- ♦ If call are routed via a switchboard, note that the switchboard settings may interfere with communications. Consult with your switchboard provider.

Modems: Setting Up

PLC-Modem Connection

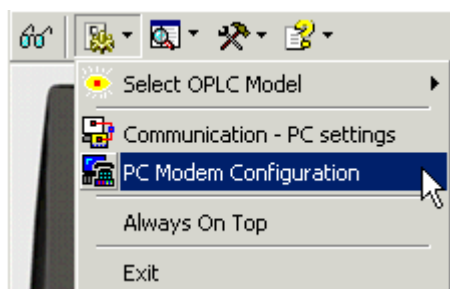


Remote Access



PC Modem Configuration

Open PC Modem Configuration from the *Configuration menu*.



Remote Access via Modem (PC-Modem Configuration)

The image shows the 'PC Modem Configuration' dialog box with several callouts explaining its features:

- Modem Selection:** A callout points to the 'GSM' radio button, stating: "Selecting GSM modem activates the SMS field at the bottom of the box."
- Initialization:** A callout points to the text area containing AT commands, stating: "Edit the initialization commands, settings or restore defaults."
- Dialing Type:** A callout points to the 'Auto' radio button, stating: "Select dialing type."
- Number Entry:** A callout points to the 'Number' column of the dialing list, stating: "Click in a field to enter a phone number and description."
- Outside Line:** A callout points to the 'Number' column, stating: "You can dial an outside line by entering the access number required, followed by a comma and then entering the actual phone number."
- Dialing:** A callout points to the 'Dial' button (phone handset icon), stating: "To dial, highlight the desired number and click the button."
- Hang Up:** A callout points to the 'Hang Up' button (phone handset icon), stating: "Click to hang up."
- SMS Message:** A callout points to the 'SMS' text area, stating: "Click in the field, then type the SMS message."
- Send Message:** A callout points to the 'Send' button (envelope icon), stating: "Click to send the message."

The dialog box contains the following elements:

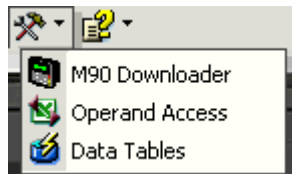
- Buttons: PSTN Standard, GSM
- Text Area:


```
+++
AT
ATZ
ATE0V1Q0X4&D0&S0&C1
AT S0=1510=1557=30
```
- Fields: Com Port (COM1), Time Out Dial (65), Baud Rate (19200), Time Out Reply (1.2), PIN code
- Buttons: Restore Defaults
- Radio Buttons: Tone, Pulse, Auto
- Table:

Number	Description
1 +32546342	Coffee Vending Machine Floor 1
2 +32546343	Coffee Vending Machine Floor 2
3 +32546343	Technician
4 9 951 7707	Manager
5	
6	
- Buttons: Dial, Hang Up
- SMS Text Area: Check Machine on Floor 1
- Buttons: Send, OK

Operand Access

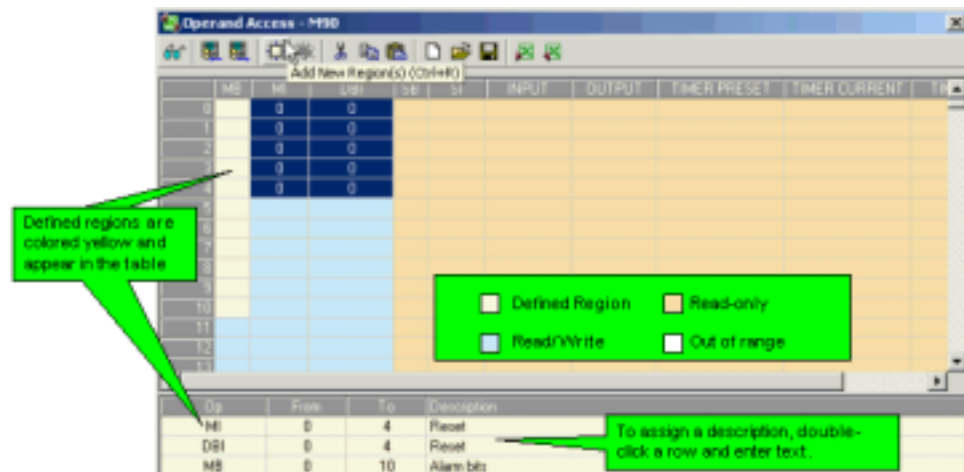
Operand Access is located on the *Tools menu*. This utility enables you to access operands in a local or remote controller and perform the operations listed below.



- View remote operands in the Operand Access table, then define and name regions.

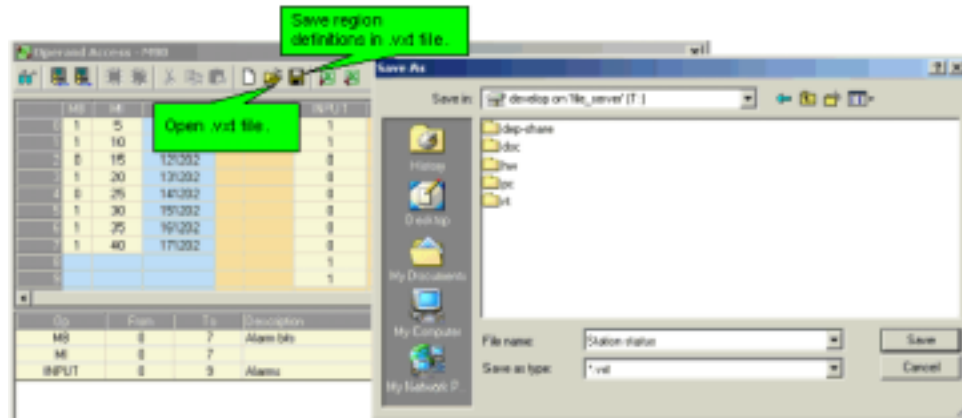
To define regions:

1. Click and drag the cursor over regions to select them.
2. Click the Add New Region button.



- Save region definitions in .vxt files.

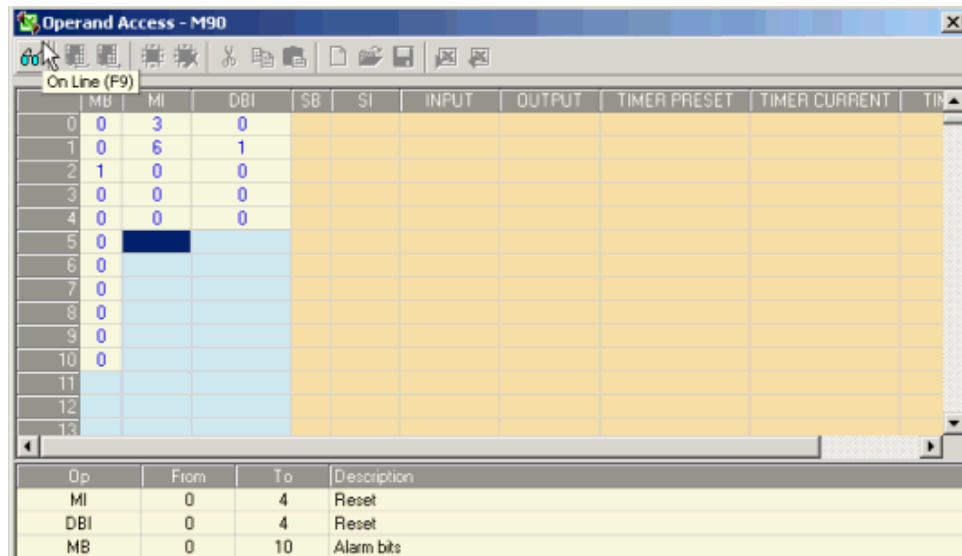
Remote Access



In order to open a .vxt file, you must select the controller series (Configure>OPLC model, either Vision or M90/91) which was selected when the .vxt file was saved.

- View real-time operand values in Online mode.

1. Click the Online icon; real-time values appear in blue.



- Read operand values from the controller.

1. Click the Read icon; all values are read in all of the defined regions.

Read

	MB	MI	DBI	SB	SI	INPUT	OUTPUT	TIMER PRESET	TIMER CURRENT	TIN
0	0	0	0		0	0	0	0		
1	0	0	0		9359	0	0	0		
2	1	0	0		1	0	0	0		
3	0	0	0		1	1	0	0		
4	0	0	0		0	0	0	0		
5	0				0	0	0	0		
6	0				0	0	0	0		
7	0				0	0	0	0		
8	0				2	0	0	0		
9	0				2048	0	0	0		
10	0									
11										
12										
13										

Op	From	To	Description
MI	0	4	Reset
DBI	0	4	Reset
MB	0	10	Alarm bits
SI	0	9	
INPUT	0	9	
OUTPUT	0	9	
TIMER PRESET	0	9	

Regions within the tan sections are read-only.

- Write MB, MI, ML and DW values to the controller.

Note ♦ You can also write values to the M90 Database integers.

1. Enter values, then click write; all of the values in all of the defined regions are written to the controller.

Write

	MB	MI	DBI	SB	SI	INPUT	OUTPUT	TIMER PRESET	TIMER CURRENT	TIN
0	0	0	0		0	0	0	0		
1	0	0	0		9359	0	0	0		
2	0	0	0		1	0	0	0		
3	0	0	0		1	1	0	0		
4	0	0	0		0	0	0	0		
5	0				0	0	0	0		
6	0				0	0	0	0		
7	0				0	0	0	0		
8	0				0	0	0	0		
9	0				0	0	0	0		
10	0									
11										
12										
13										

Op	From	To	Description
MI	0	4	Reset
DBI	0	4	Reset
MB	0	10	Alarm bits
SI	0	9	
INPUT	0	9	
OUTPUT	0	9	
TIMER PRESET	0	9	

Double-click in a cell and type in a value.

- Use the Windows Clipboard to Cut/Copy/Paste values to/from the Operand Access table and third-party editors such as Excel.

Note ♦ The Paste destination within Operand Access must be large enough to hold the Clipboard contents. Clipboard contents are pasted to the right and down.

Remote Access

	MB	MI	DBI	Copy (Ctrl+C)	INPUT	OUTPUT	TIMER PRESET	TIMER CURRENT	TI
0	1	5	101202		1				
1	1	10	111202		1				
2	0	15	121202		0				
3	1	20	131202		0				
4	0	25	141202		0				

- **Export/Import Operand values to/from an Excel spreadsheet customized to Unitronics' PLC Data Types.**

Within Excel, values can be edited, imported to Operand Access, then written to the controller



To export real-time values from the PLC to Excel:

1. Create a region containing the operand values you wish to export.
2. Select Read Regions in order to update those values,.
3. Select Export to Excel.

Note ♦ Not all operand values are updated with real-time values when you run On Line mode. When you run On Line mode, only the values that are displayed within the Operand Access window are updated. Operands that are not displayed in the Operand Access window during On Line are not updated.

Therefore, running On Line mode immediately before Export to Excel does not guarantee the export of all updated operand values.

	MB	MI	ML	DW	SB	SI
0			60			
1			144			
2			180			
3			890			
4		0	264			
5		0	420			
6		20	600			
7		0	108			

MI 8 and ML 108 are not in the current view. These values are not updated.

Op	From	To	Description
MI	4	10	Process definitions
ML	0	15	Production Quantity

M90 Downloader

M90 Downloader enables you to install control applications in local or remote M90/91 controllers. These applications are in .d90 format.

The utility is located on the *Tools menu*.



To download files:

1. Select a work mode. The Network definitions are set in the Remote Access PC Com Parameters (non-modem)
2. Click Select File; the Select file box opens.
3. Navigate to the desired.d90 file, then click Download to install the application in the controller.

Information Mode

Information Mode is a utility that is embedded in the operating system of the controller. Via Information Mode, you can view data on the LCD screen, use the controller's keyboard to directly edit data, and perform certain actions such as resetting the controller. You can enter Information Mode at any time without regard to what is currently displayed on the LCD screen.

Enter Information Mode by pressing the <i> key for a few seconds. The default password is 1111.



Viewing data does not affect the controller's program. Performing actions, such as initializing the controller, can influence the program.

Note ♦ When you use Information Mode, the keyboard is dedicated to that purpose. The keys return to normal application functions when you exit Information Mode.

Using Information Mode

1. To enter Information mode, press the <i> button on the Vision's keyboard.
2. Enter your password. The default password is 1111. This password remains in effect until you change it via the Information Mode screen described in the table below.
3. The controller enters Information Mode, showing the first category, Data Types.



The controller will block entry into Information mode until the correct password has been entered. This is why you must record any password you set for your controller.

The data in Information Mode is arranged in Categories. Each Category contains several Subjects. You navigate Information Mode by using the keyboard buttons.

To exit Information mode, press the <ESC> button on the Vision's keyboard. Each press returns one level up. Press the number of times necessary to exit.

Note ♦ When you reenter Information Mode, the controller will return to the last Category viewed.

Remote Access

The table below shows the categories of information that can be accessed in this mode.

Category	Subject	Possible Actions
Data Types	Memory Bits	<ul style="list-style-type: none"> View bit status
	System Bits	<ul style="list-style-type: none"> Change bit status (Set/Reset)
	Memory Integers	<ul style="list-style-type: none"> View integer/long integer/double word value.
	System Integers	<ul style="list-style-type: none"> Change values
	Memory Longs	<ul style="list-style-type: none"> Toggle Base: view the value in decimal or hexadecimal form.
	System Longs	
	Memory Double Words	
	System Double Words	
	Inputs	<ul style="list-style-type: none"> View input status. Force input status to 1 (FR1) or 0 (FR0). Forced values stay in effect until Normal mode (NRM) is selected, or until the controller is initialized or reset. <p>Note ♦ Forced values do influence your program. This can be useful in testing the effect of an input condition on an output status.</p>
	Outputs	<ul style="list-style-type: none"> View output status. Force output status to 1 (FR1) or 0 (FR0). Note that forced output values do not affect your program. Set/Reset output status.
Timers	<ul style="list-style-type: none"> Enter a Preset Timer value. View the current timer value and status by selecting the R.T. option. 	
System	Model & O/S Ver	<ul style="list-style-type: none"> Check the controller's model number and operating system version. Check whether the controller is in Run or Stop mode.
	Working Mode	<ul style="list-style-type: none"> Check whether the controller is in Run or Stop mode. Reset the controller. This restarts your program; restoring power-up values to all data types except for those protected by the battery memory backup. Initialize the controller. This restarts your program and initializes all values, restoring 0 values to all data types.
	Time & Date	<ul style="list-style-type: none"> View the Real Time Clock (RTC) settings. Note that the RTC settings control all time-based functions. Change the RTC settings via the controller's keyboard.
	Unit ID	<p>The Unit ID number identifies a networked controller. You can:</p> <ul style="list-style-type: none"> Change the ID number. The new ID number will remain in effect until the controller is reset. Burn the ID number into the controller's FLASH

		memory. This is a permanent change.
	Serial Port 1 Serial Port 2	<ul style="list-style-type: none"> • View and edit communication settings. • Select to Change or Burn the new settings.
	CANbus Baud Rate	<ul style="list-style-type: none"> • Change the CANbus baud rate.
Function Block	Reserved for future use	
Password	New	Set a New Password
Hardware Configuration		<ul style="list-style-type: none"> • Check if I/O Expansion Modules are installed. Note that I/O Expansion Modules are represented by letters. Identical module types are represented by identical letters as shown below. • Shows if an I/O module is short-circuited.



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