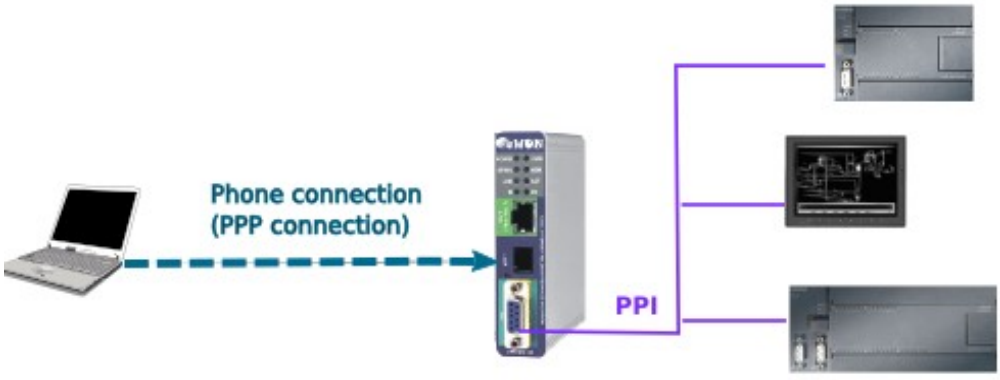
eWON Application User Guide

AUG 018 / Rev 1.0

You Select, We Connect

S7-200 PPI Multimaster Remote connection How To



Content

The purpose of this guide is to explain in a few steps how to configure your system to establish a PPI multimaster remote connection in order to reach your PLCs on the PPI Network

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Hardware and software requirements

Hardware requirements

In order to follow this guide you will need:

- 1 eWON with an integrated MPI port (for example: eWON 2001, eWON 4101)
- At least 1 Siemens PLC S7-200
- 1 standard Profibus cable to link both equipments
- 1 PC with internal or attached modem

Software requirements

eWON configuration software:

The eWON is configured through its web server. So all you need is a standard Web Browser software like Internet Explorer[i] or Firefox[ii].

Additionally we suggest you to download the eBuddy utility on our website : http://support.ewon.biz.
This utility allows to list all the eWONs on your network and to change the default IP address of an eWON to match your LAN IP address range. With eBuddy you can also easily upgrade the firmware of your eWON (if required).

Other programming software:

MicroWin Software from Siemens to establish the connection to the PLC.

eWON Firmware Version

To be able to follow this guide, your eWON needs a firmware version 5.5s1 or higher. A simple way to upgrade the eWON firmware is to use eBuddy, the eWON software companion.

eWON IP address configuration

Every eWON™ is shipped with the pre-configured IP address **10.0.0.53** and **adm/adm** as User Name/ Password.

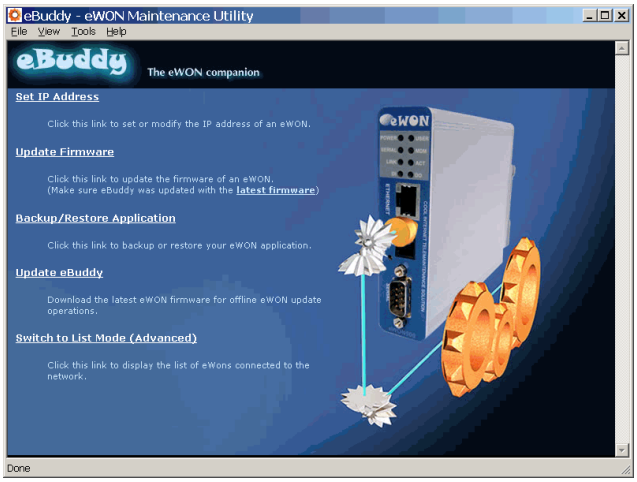
Probably the network settings of your PC do not allow you to connect to the pre-configured IP address.

You can find on our website a software called «eBuddy» that will allow you to change the IP address of the eWON even if your PC is not on the same IP address range.

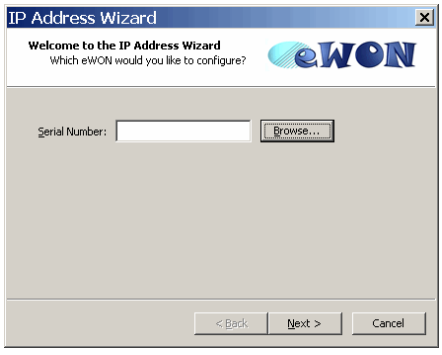
eBuddy : http://support.ewon.biz

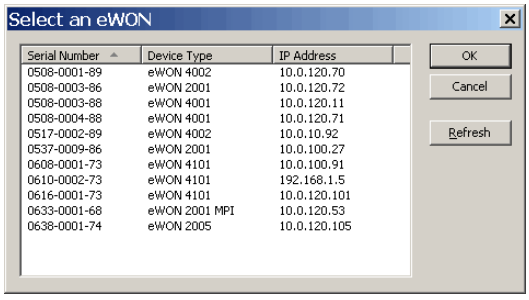
To change the IP address of your eWON using eBuddy, follow the steps below:

Launch the eBuddy application (eBuddy.exe)

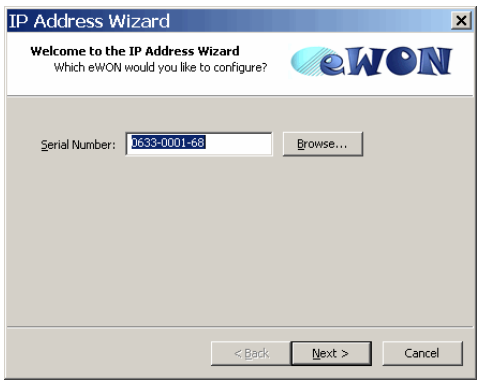


Click on the «Set IP address» link





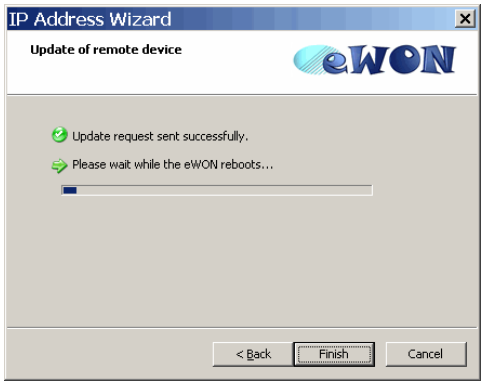
Enter the eWON serial number in the **Serial Number** field if you know it, or click on the Browse button. In this case, the dialog box «Select an eWON» will appear showing you all the eWON existing on your Network.

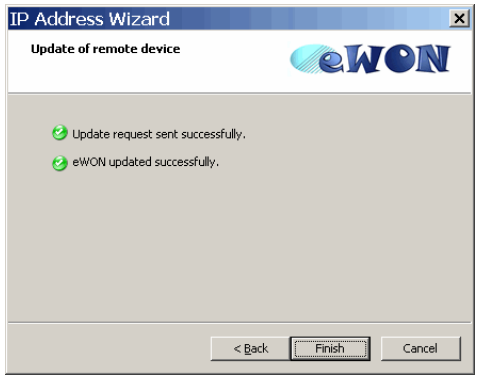


Once the Serial Number has been entered, click **Next**.

Set the new **IP Address** and the **Subnet Mask**.

Click on **Next** to launch the update and wait for the eWON to reboot:





When done click on **Finish** to exit the IP Address Wizard.

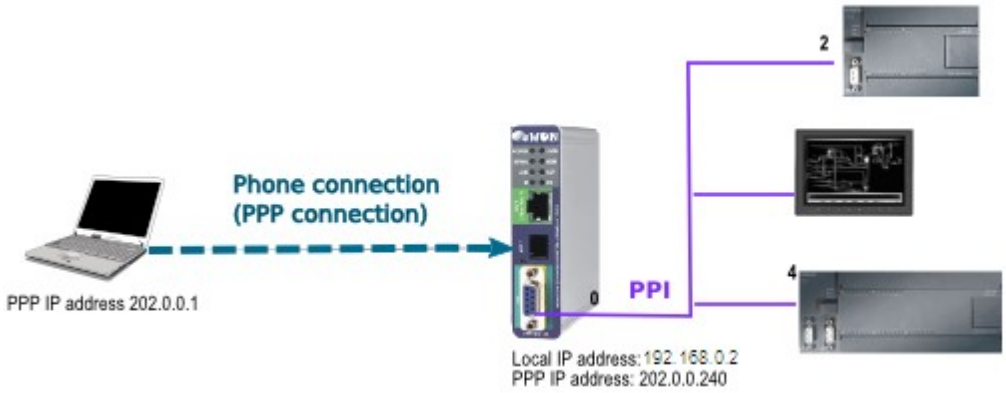
eWON Configuration for Remote Connection

In opposition to an eWON with a serial port, when you use an eWON with an MPI port, then the eWON must not be the only Master of the PPI network (Multimaster). Other masters (HMI or PPI multimaster programming cables) may be present at the same time on the PPI bus.

The remote connection that we will use in our example is a *Direct Phone Connection*. This connection consists in calling the eWON using a standard modem to set up a PPP (point-to-point) connection. For this, we need to configure the eWON as PPP server. The eWON will then pick up the phone, authenticate the caller and assign a PPP IP address to the eWON and to the PC for the remote connection.

Bear in mind that other types of remote connections (**VPN**, **Talk2M**, **callbacks**) are also applicable.

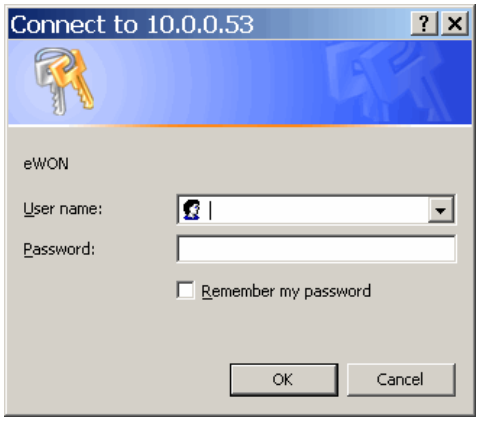
For our example, let us assume that we have a layout and address settings as described in the following picture:



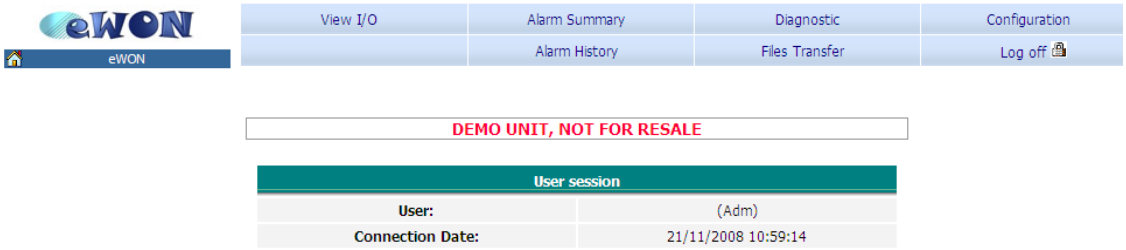
Access your eWON

Accessing your eWON is very simple:

Enter the IP address of your eWON in the address bar of your Web browser (Internet Explorer, ...): http:// 10.0.0.53 or http://192.168.0.2 in our example.



In the «Connect to» pop-up window, enter adm (User Name)/ adm (Password) and click on **OK**. Your are now navigating on your eWON.

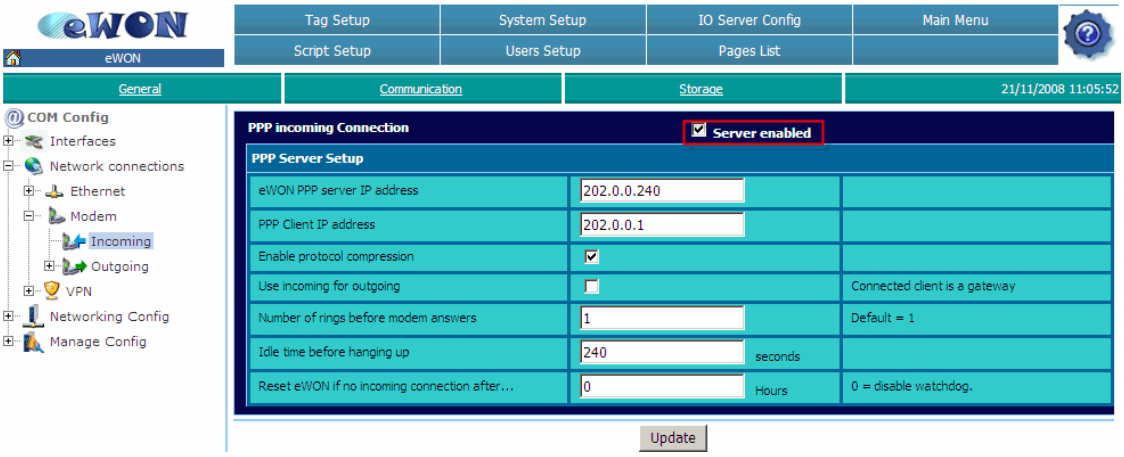


The menu bar on the top of the ***Main*** page allows you to navigate through the different displays and configuration pages of your eWON.

eWON Configuration for Incoming PPP Connections

The eWON PPP configuration page can be reached on the web page (starting from the main page, see above) following the link:

Configuration → System Setup → Communication → Network Connections → Modem → Incoming



In ***Modem*** – ***Incoming***, make sure that the ***PPP incoming Connection*** is enabled.

Once you have checked the ***Server enabled*** box, set the ***Idle time before hanging up*** (by default, the line is interrupted after 240 seconds of inactivity). Bear in mind that there is no need to change the ***eWON PPP server IP address*** and the ***PPP Client IP address.***

When the PPP connection is established, the eWON receives a PPP IP address and will thus be reachable at address 202.0.0.240 over the PPP connection. Of course, you can still reach it through its local LAN IP address using the same PPP connection.

Click on ***Update.***

NOTE

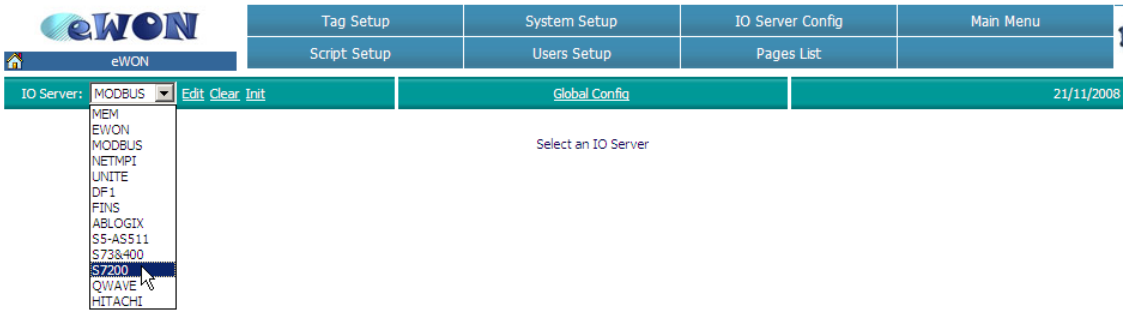
The PPP IP address range MUST differ from the eWON local IP address range. Otherwise, the routing is impossible. That is the reason why there is no need to change the default settings.

eWON Configuration for PPI Connection

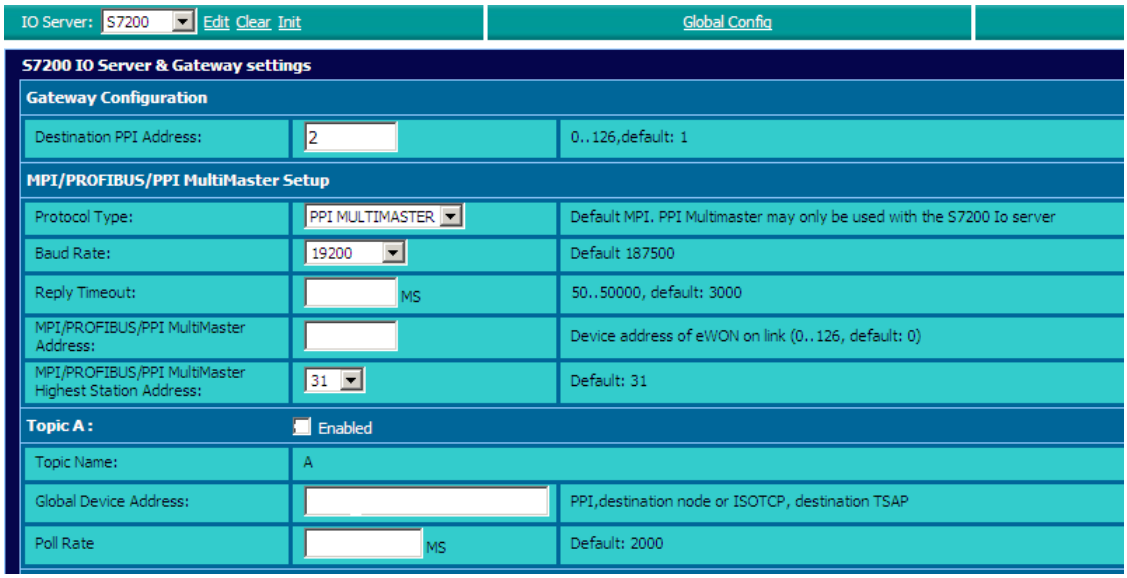
eWON S7-200 IO Server Configuration

To allow your eWON to communicate with a S7-200 using the PPI protocol, the internal IO Server S7-200 must be used. To configure the eWON PPI Interface open the ***S7200 IO Server*** settings page by following the path:

Configuration → IO Server Config



Select the ***S7200*** in the IO Server list. The following page appears:



In the ***Destination PPI Address*** field enter the PPI address of the PLC that you want to access remotely. In ***Protocol Type***, select ***PPI Multimaster***.

Set the eWON Com Settings corresponding to your PLC com settings (communication settings of the PPI port of the PLC).

Tag Polling

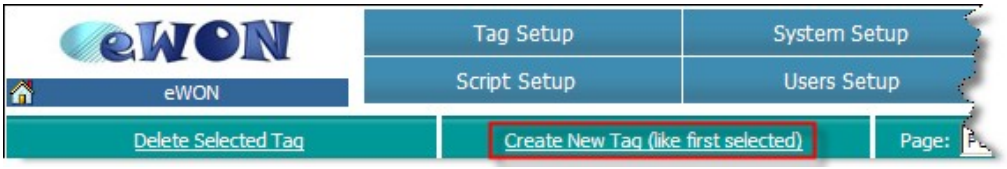
The easiest way to test the PPI connection is to poll a data on your S7-200.

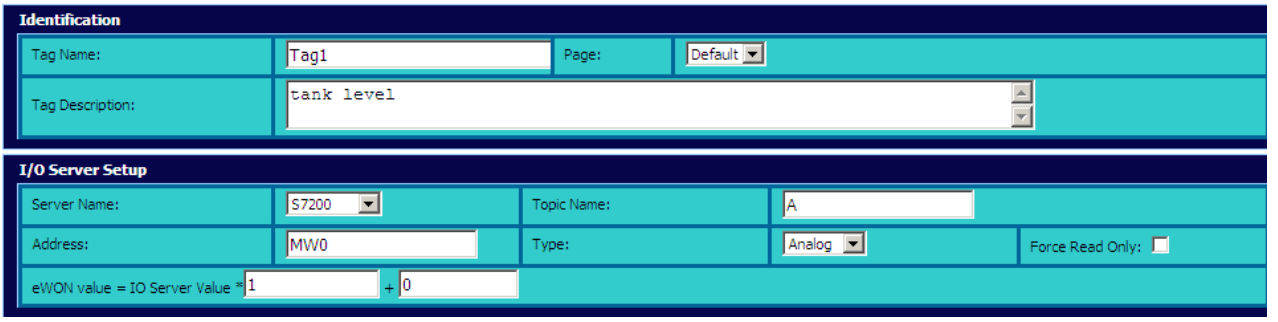
If the Tags polling works, you can disable the polling by deactivating the ***Topic*** linked to your Tags or by deleting your Tags.

Tag Creation

Configuration → Tag Setup → Create new tag

Click on ***Create New Tag***, the following window opens:





In the ***Tag Name*** field, insert the name of the Tag that you are creating. In the ***Tag description*** field, you may insert a description of the Tag.

Then, select the ***Server Name***, in our case: S7200. Choose A as ***Topic Name*** and finally, the ***Address*** to poll.

Examples of variables:

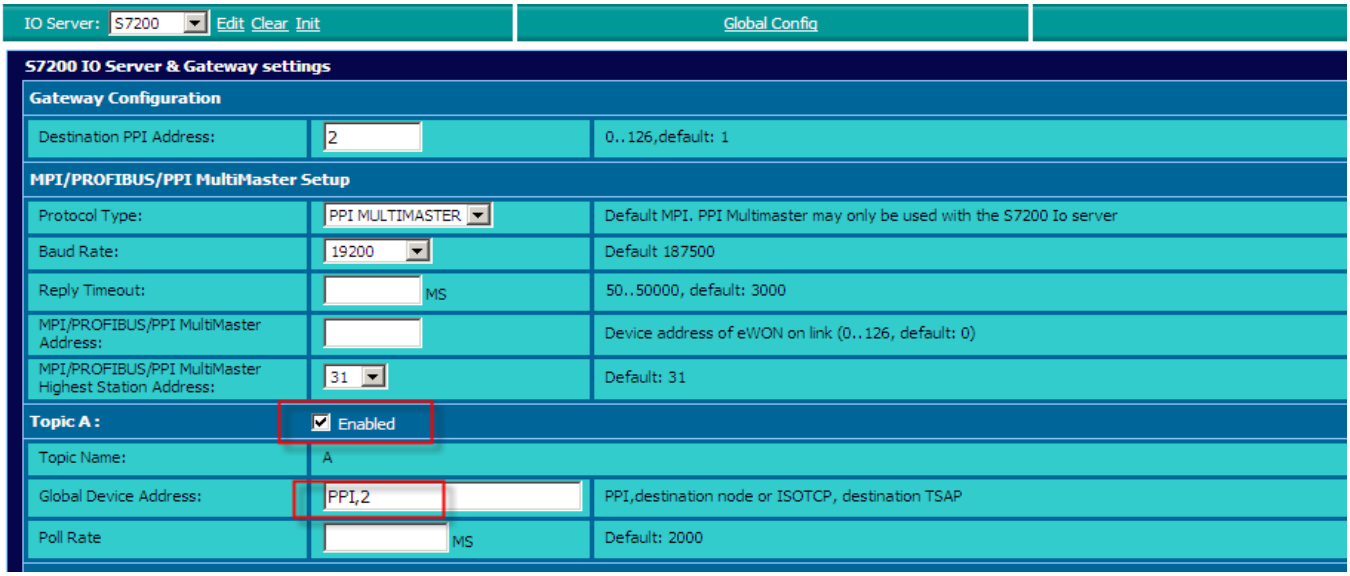
MW4	the Word at address 4 in the Internal Memory.
IB3	the Byte at address 3 in the Discrete Inputs zone
VW2	the Word at address 2 in the Variable Memory

For more information on variables, please refer to our ***eWON General Reference Guide (RG-001-0-EN),*** on http://support.ewon.biz.

Click on the ***Add/Update*** Only button.

We now need to enable the ***Topic A*** in order to allow the PLC polling.

Configuration → IO Server Config

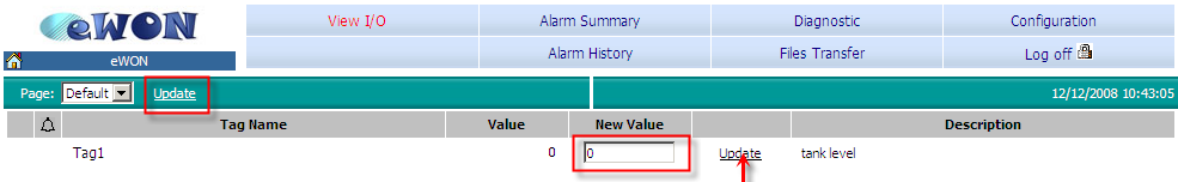


Select IO Server ***S7200***, enable ***Topic A*** and insert the ***Global Device Address***. (PPI,2=the Tag will be polled at address 2 through the PPI connection).

Tag Visualization

To display the result of the created Tag, go to the ***View I/O*** page:

Configuration → View I/O



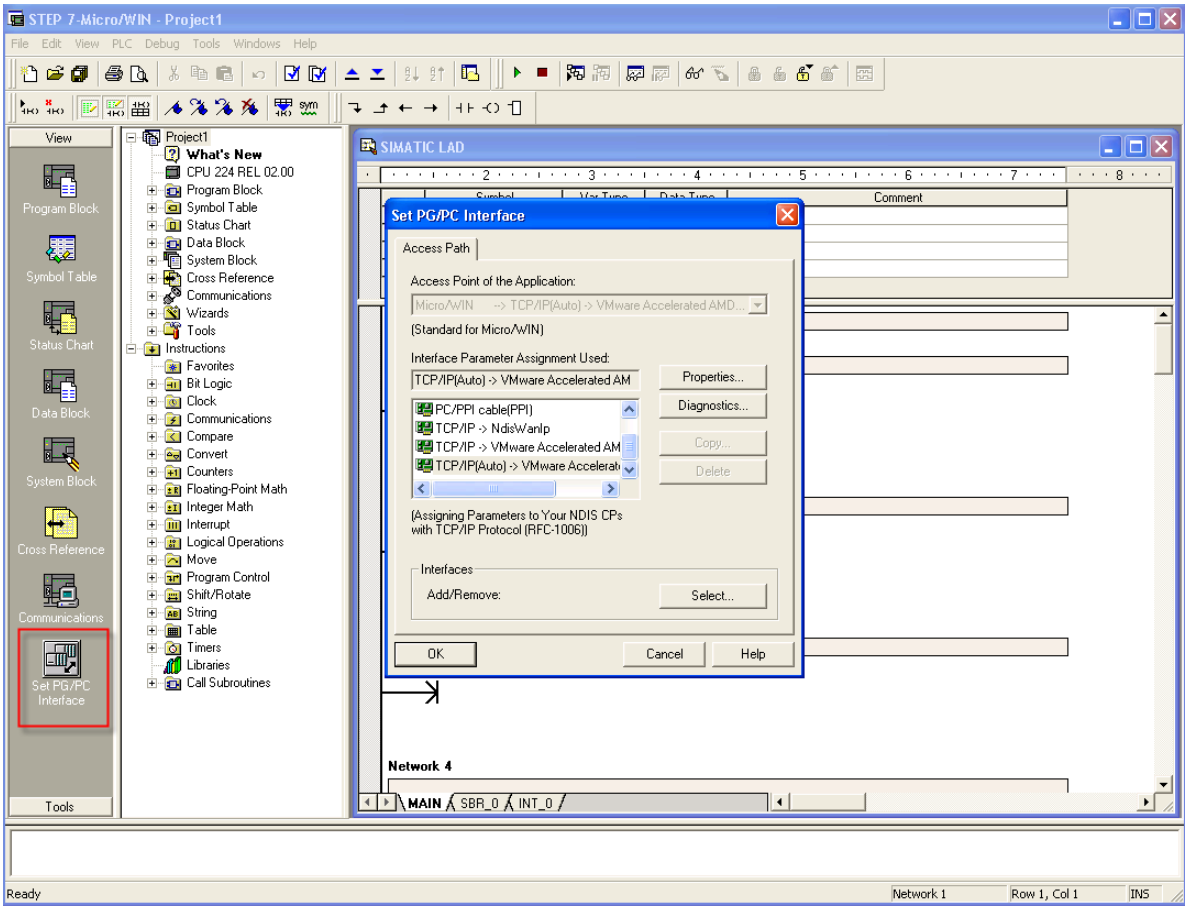
When this page is opened, click the ***Update*** link (in the green bar) to see if the variable changes. If you want to send a new value to the variable of the PLC, write it in the ***New Value*** field and click on the *Update* link just next to it before clicking again on the first ***Update*** link to refresh the value display.

MicroWin Configuration

To allow the remote connection through the eWON, your MicroWin software must be configured like explained below.

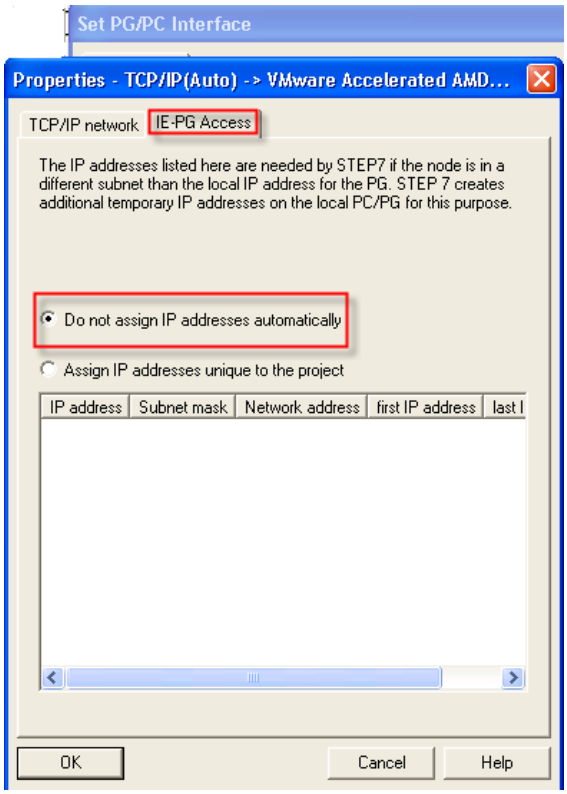
PG/PC Interface Configuration

First of all, click on the ***Set PG/PC Interface*** icon:



Assign it now to your local Ethernet card.

Click on ***Properties*** and then on the ***IE-PG Access*** tab.



Check ***Do not assign IP addresses automatically***.

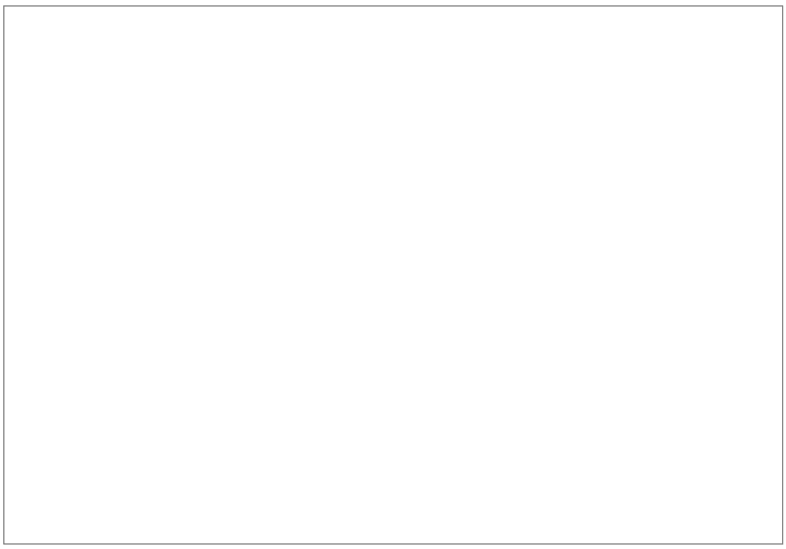
NOTE If you select ***Assign IP...***, MicroWin will create an additional address on your PC which is compatible with the PLC and the routing through the remote connection becomes thus impossible.

Remote Connection

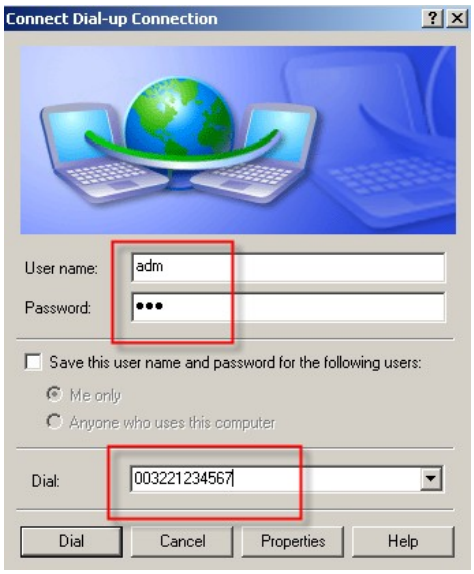
Establish a Dial-up Connection to the eWON

You need first to create a dial-up connection on your PC. If you do not know how to create a dial-up connection on your PC, please refer to our website (http://support.ewon.biz/RemoteAccess.html)

Once the dial-up has been created, go to the *Network Connections* window (***Start***/ ***Settings***/ ***Control Panel***) and double-click on the *Dial-up connection*:



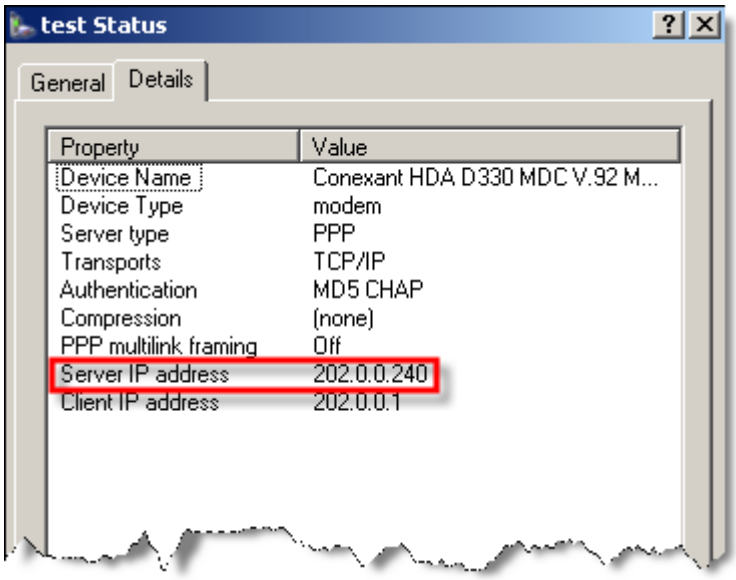
The following window opens:



Type a valid eWON *user name* and *password,* verify the phone number and click on *Dial*.

Once the connection is established, if you let the default settings, the eWON receives the address 202.0.0.240 through the PPP connection. The eWON is thus reachable at this address.

To check the allocated PPP addresses, go to the *Network Connections* window and double-click on the dial-up connection to see its properties.

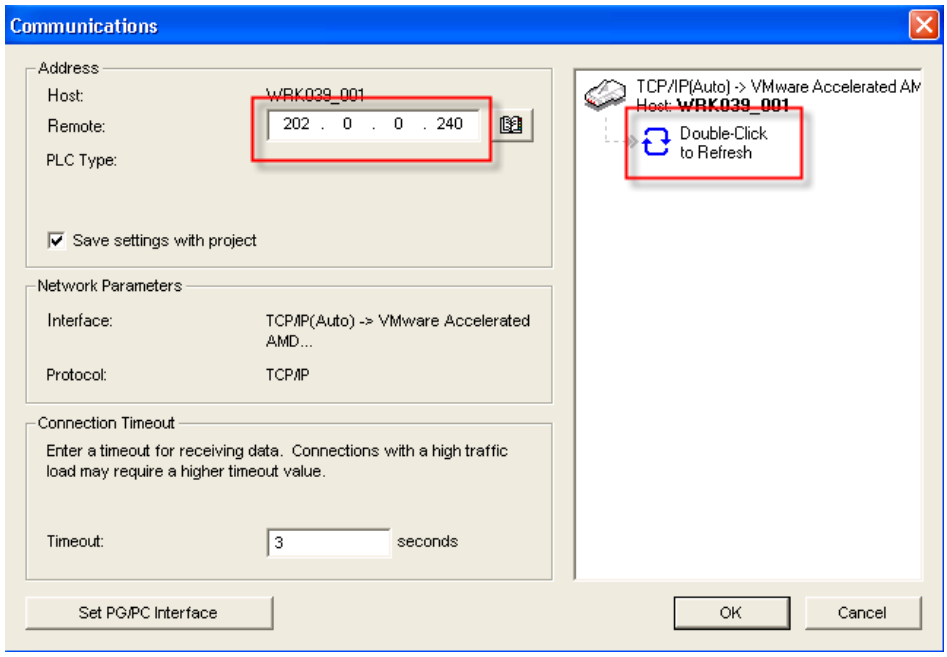


NOTE To open the *Network Connections* properties window, you can also click on the small icon in the task bar of your PC once your have called your eWON.

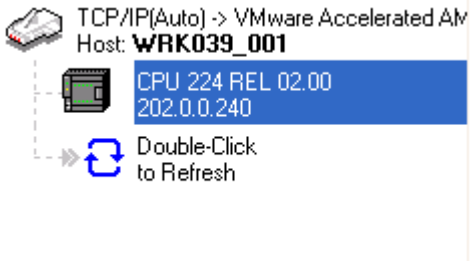
In this window you can see the settings of the PPP Connection, the *IP address* used for the remote connection on the eWON (Server IP address) and on the PC (Client IP address).

Go Online

In MicroWin, click on the ***Communication*** icon (above the ***Set PG/PC Interface*** button).



Enter the IP address of your eWON (Ethernet, PPP or Internet address), and double-click the ***Refresh*** option to see your PLC device. Following our example, we can now use both 202.0.0.240 or the local IP address of your eWON.

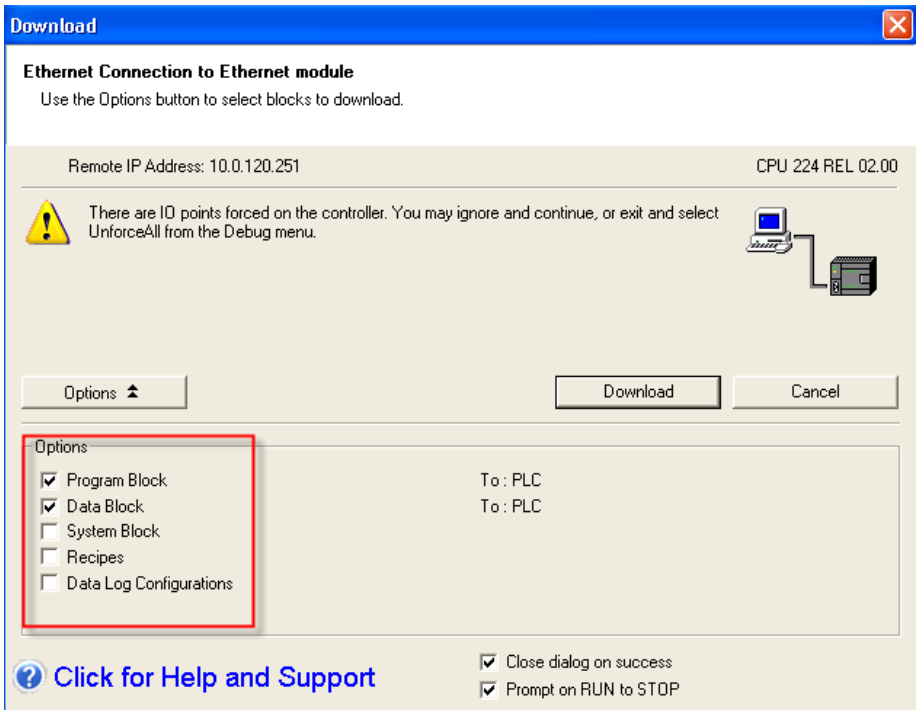


Select the device and click on ***OK***.

You can now upload the program and work online.

Download a Program

If you want to download a program, click on the blue dart on the toolbar.



Be aware of the following limitation during download:

If you have to download your program to the PLC and if the PPI address of the PLC is different from 2, then do not check the ***System Block*** for the download. Otherwise the download will fail and you will not be able to connect to the device through the eWON back again.

Troubleshooting

PC cannot connect to the eWON

- Check the phone number, user name and password used for the PPP connection.
- You may need to add an access code (0) before your phone number:

  (e.g. 0, 003221234567)

PC connects to the eWON, but not to the PLC

- Check the communication setup in the IO server S7-200 and the ***Destination PPI Address*** field.

Tag Polling in the eWON does not work

- Go to ***Diagnostic***/ ***Events Log*** to obtain more information on the problem.
- Check also the position of the dipswitches. They should be set as in the following picture.

Positions	Mode
	MPI WITH polarisation and termination resistors
	MPI WITHOUT polarisation and termination resistors

NOTE Bear in mind that for eWON CD types (2005CD, 4500CD, etc.) there are no dipswitch settings for the MPI port.

Revisions

Revision Level	Date	Description
1.0	2008-12-20	First release.

i Microsoft, Internet Explorer, Windows and Windows XP are either registered trademarks or trademarks of Microsoft Corporation
ii Firefox is a trademark of the Mozilla Foundation

Document build number: *124*

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