

Application Note

IDEC MicroSmart Pentra PLC and WindLDR V6



This document guides you through the setup of proprietary vendor specific software installed on your PC. Your supervisor may provide you with additional or alternative instructions.

The document consists of standard instructions that may not fit your particular solution. Please visit our support website for latest revisions of documentation and firmware:

<http://www.secomea.com>

Version: 1.0, February 2013



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Prerequisites for This Guide

The following guide will assist you to setup a remote and online connection to an IDEC PLC placed on the customer site using your WindLDR software installed on your PC.

Prerequisites for this guide are:

- You have an operational LinkManager installed on your PC with a GateManager certificate that allows you to connect to the SiteManager agents.
- You have WindLDR v6 installed.
- You have the IDEC device agent installed and configured on the SiteManager at the remote site, and there is access between the SiteManager and the IDEC PLC.
 - A network attached IDEC PLC must be configured with agent device type **IDEC / Ethernet PLC** on the SiteManager.
 - A USB attached IDEC PLC must be configured with agent device type **IDEC / PLC USB** on the SiteManager. Note that this connection type requires a SiteManager model with USB support and minimum SiteManager version 13025 and LinkManager version 13063.

If any of these prerequisites are not met, you should contact the person / department responsible within your own company or at the company responsible hereof.

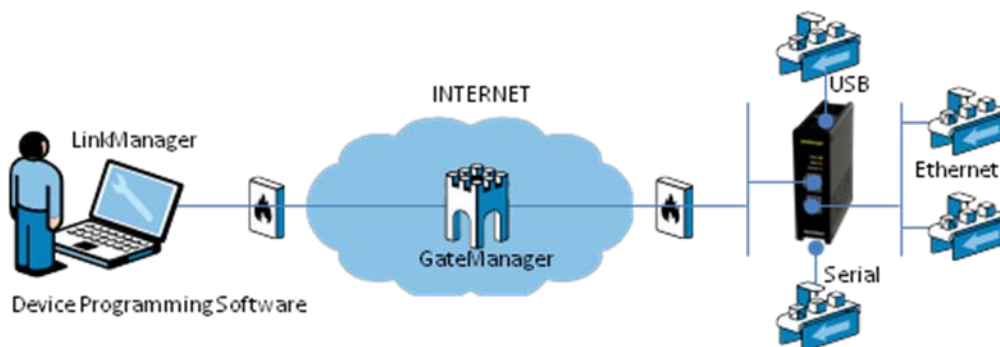
System Overview

The communication path is as follows:

WindLDR → **LinkManager** → GateManager → SiteManager → PLC.

This guide will elaborate on the components marked with **bold**.

The following system overview depicts a SiteManager 1029 at the customer location:

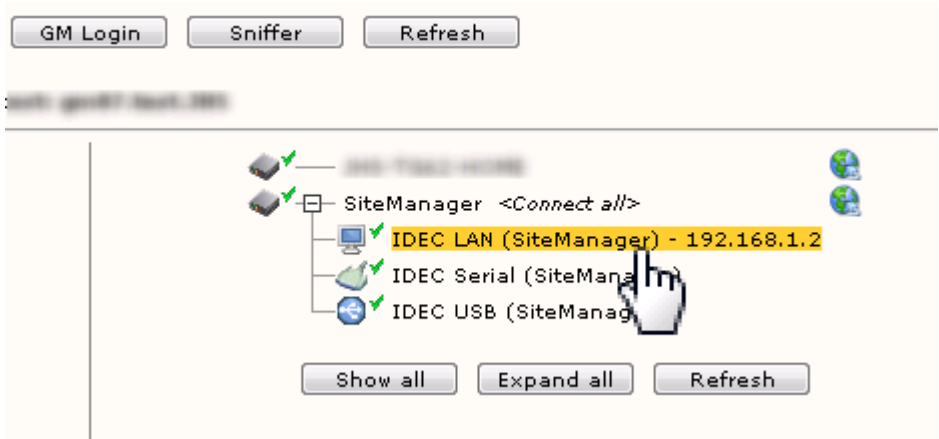


1. Ethernet connection

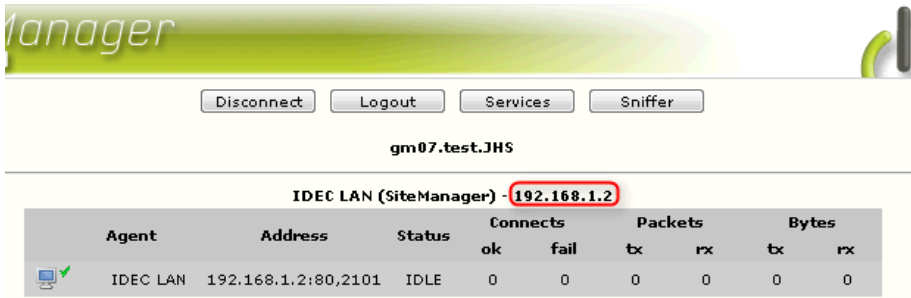
The following describes how to connect WindLDR to an IDEC PLC that is attached to a SiteManager via Ethernet. The test has been performed on a FC5A-D12x1E PLC, but may work with other models as well.

Note: A network attached PLC must be configured with agent device type **IDEC / Ethernet PLC** on the SiteManager.

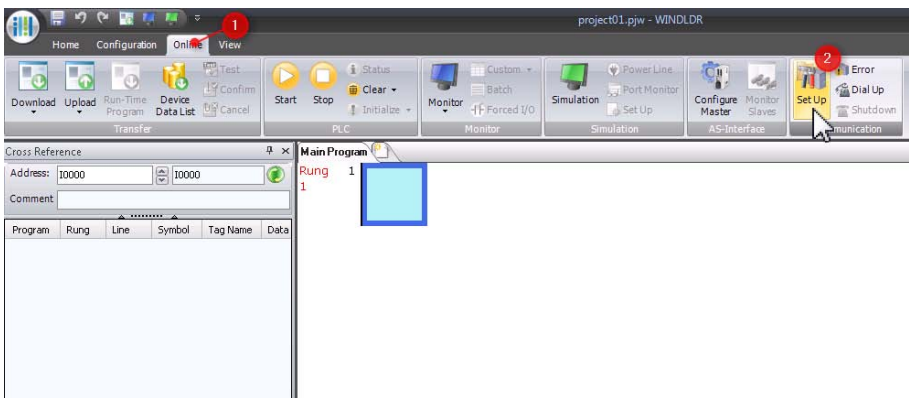
1. Locate the agent that represents you TCPI/IP attached IDEC PLC.



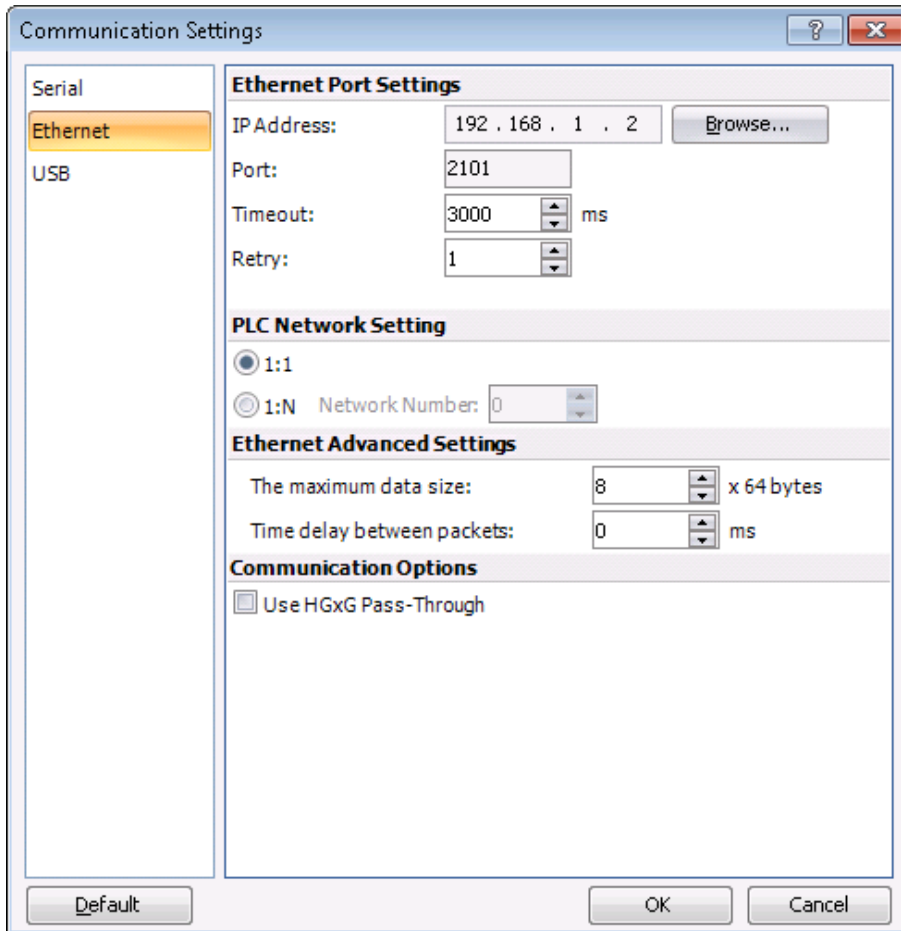
2. Make a note of the IP address (in this case, it is 192.168.1.2):



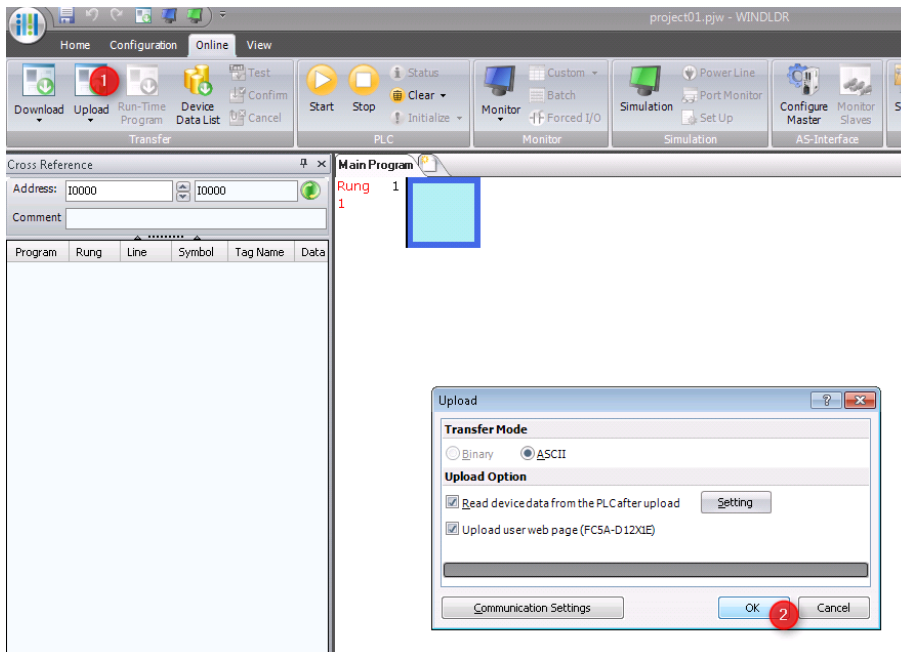
3. Start WindLDR and Go to Online → Set Up:



4. Select Ethernet from the left menu, and type in the IP address from section 2, adjust the timeout if necessary (in this scenario, we connected to the SiteManager with a delay of ~350ms. 3000ms in timeout seemed to work for us):



5. You are now able to upload from the IDEC PLC.

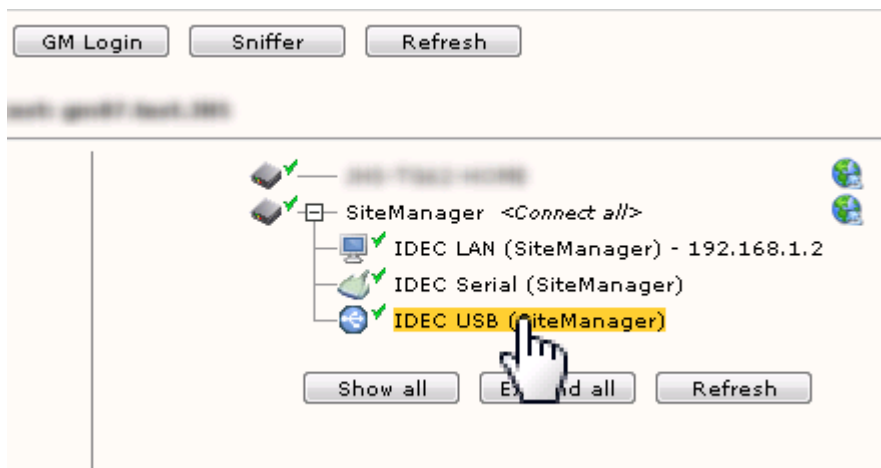


2. USB Connection

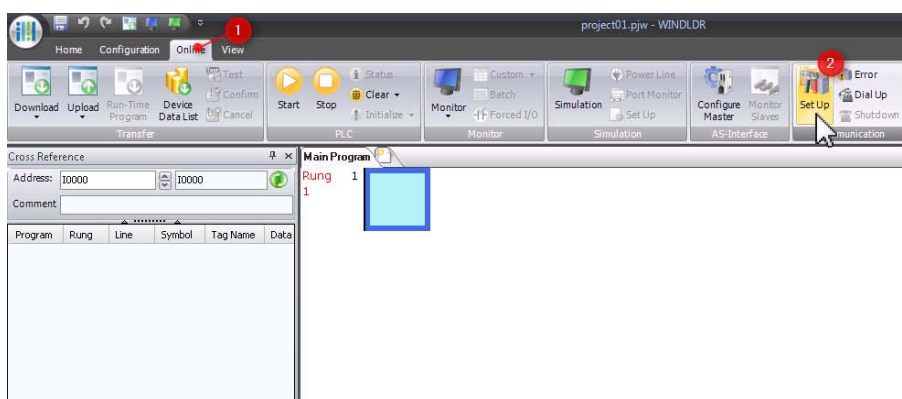
To establish a USB connection to the PLC through the LinkManager, you will need to upgrade your LinkManager and SiteManager to firmware v13063 or later for LinkManager, and v13025 or later for SiteManager.

Note: A USB attached PLC (Such as the IDEC PLC FC5A-D12x1E) must be configured with agent device type **IDEC / USB PLC** on the SiteManager.

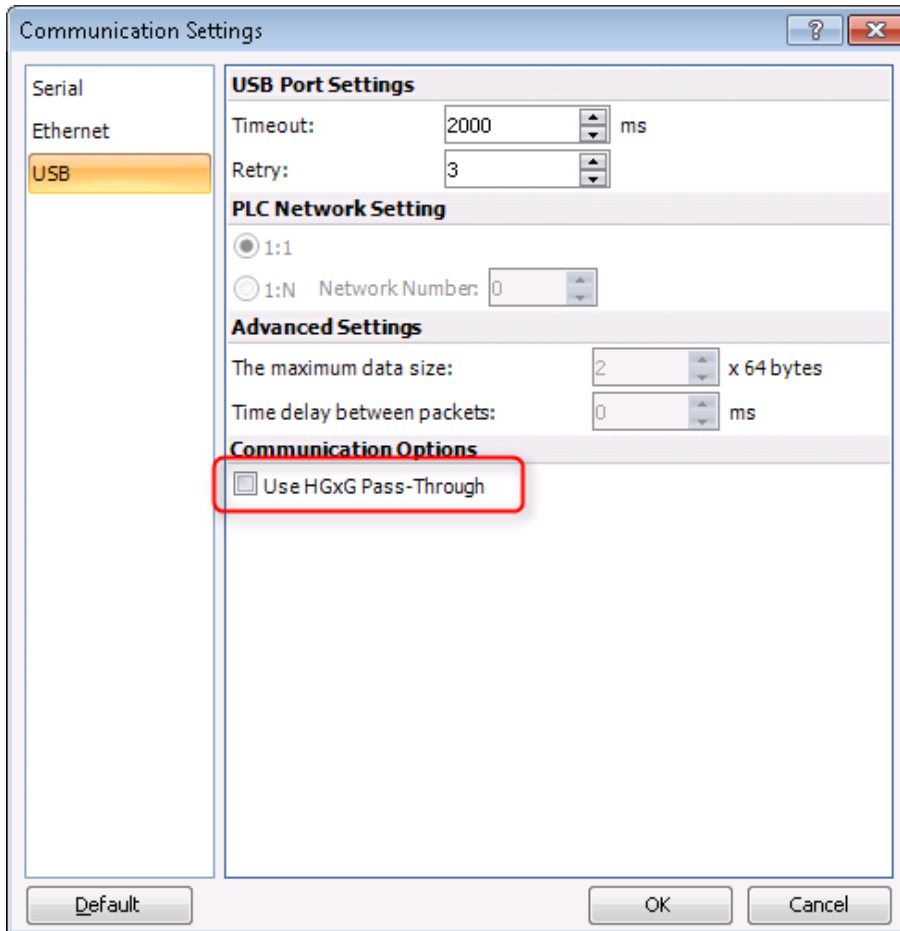
1. Locate the agent that represents your USB attached IDEC PLC, and click on it to establish a connection.



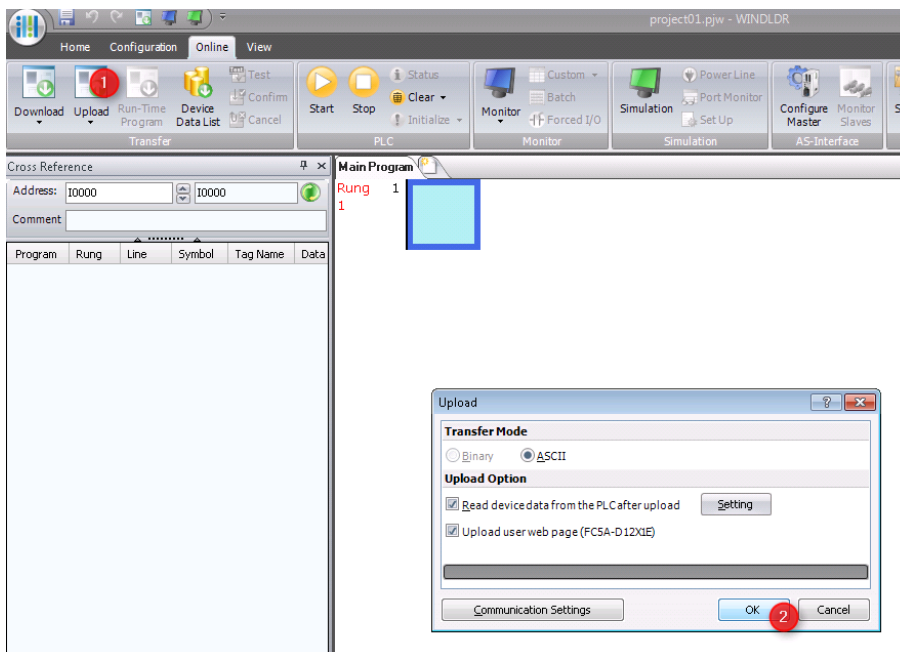
2. Start WindLDR and Go to Online → Set Up:



3. Select USB from the left menu, and make sure that "Use HGxG Pass-Through" is disabled if the PLC is connected to SiteManager directly (enable it **only** if the PLC is connected to SiteManager via HGxG HMI). Adjust the timeout if necessary (2000ms has been seen to work with a Internet connection delay of up to ~350ms):



4. You are now able to upload from the IDEC PLC.

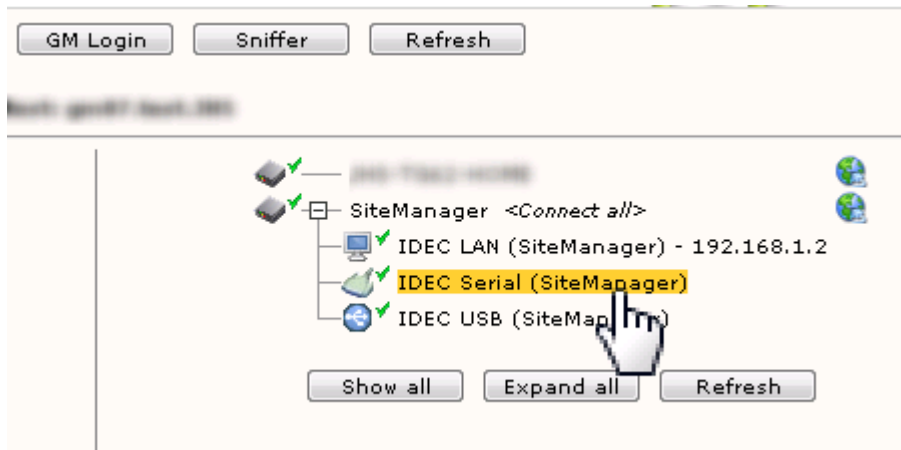


3. Serial connection

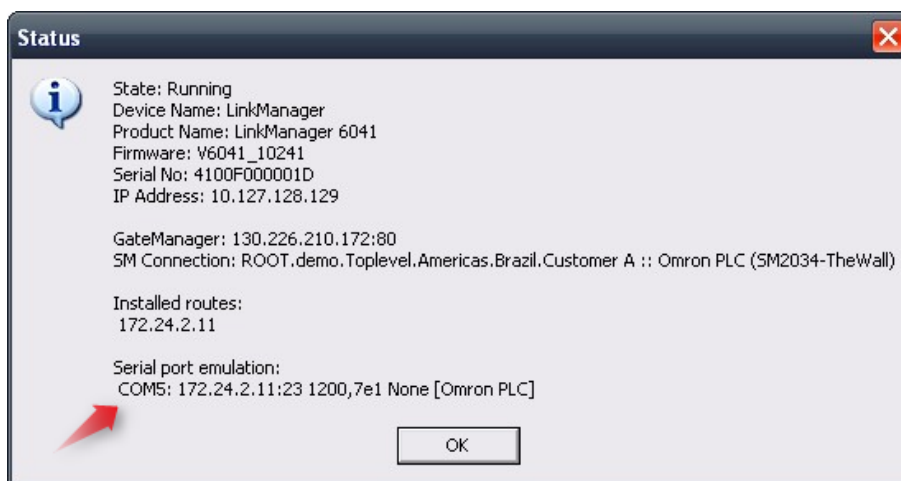
The following describes how to connect the WindLDR to an IDEC PLC that is attached to a SiteManager via a serial cable.

Note: A Serial attached PLC (Such as the IDEC PLC FC5A-D12x1E with FC4A-HPC1 RS232C adapter) must be configured with agent device type **IDEC / Serial PLC** on the SiteManager.

1. Locate the agent that represents you Serial attached IDEC PLC, and click on it to establish a connection.

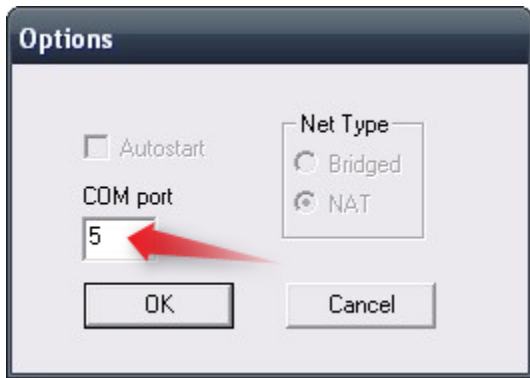


2. Now right click the LinkManager system tray icon, and select **Status**. Make note of the Serial port that has been assigned (in this case COM5):



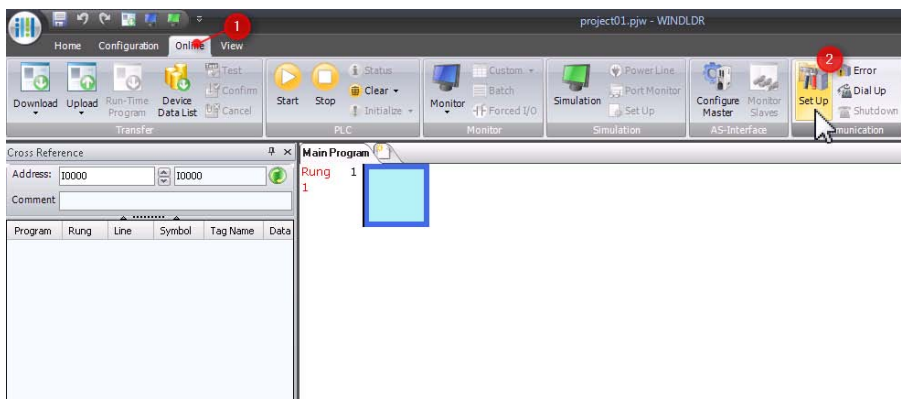
3. Right click the LinkManager system tray icon again, and select **Options**. Enter the number of the COM port you found under status. This will ensure that you will always get this port in the future.

IMPORTANT: if you change the port you must stop and start the LinkManager.

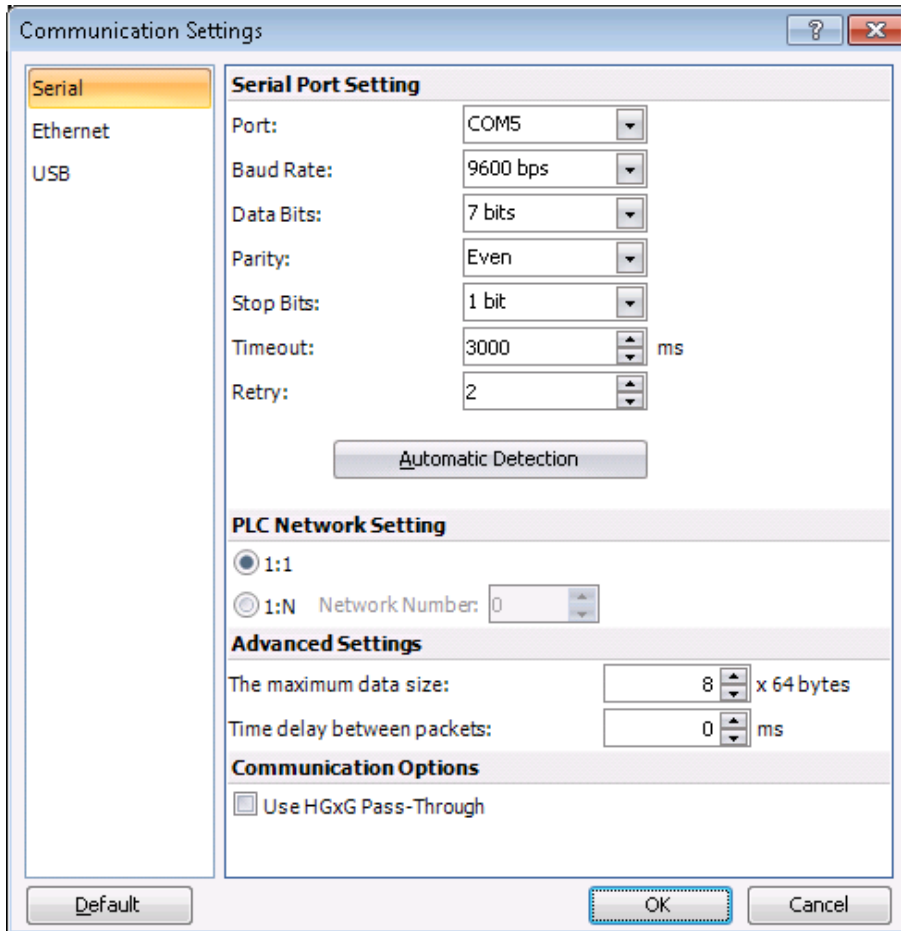


Note: You can also force another COM port (e.g. COM2). Just ensure in your Windows device manager, that the port is not conflicting with an existing COM port. See Appendix A for info on how to organize COM ports.

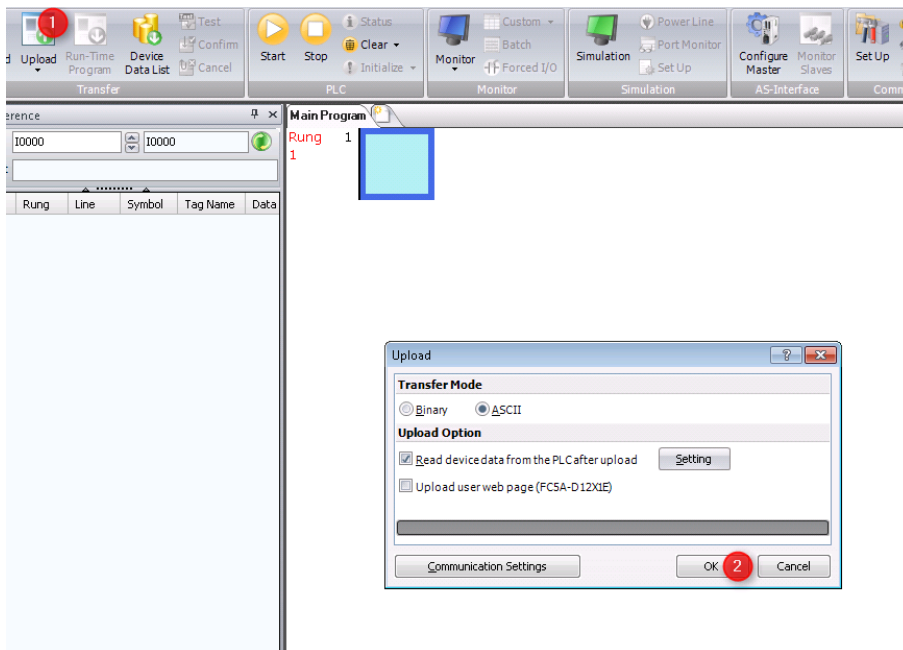
4. Start WindLDR and Go to Online → Set Up:



- Select Serial from the left menu, and choose the COM port obtained in section 2. Then, match the settings to correspond to the PLC's settings. Also, adjust the Timeout if necessary. (3000ms has been seen to work with a Internet connection delay of up to ~350ms):



- You are now able to upload from the IDEC PLC.



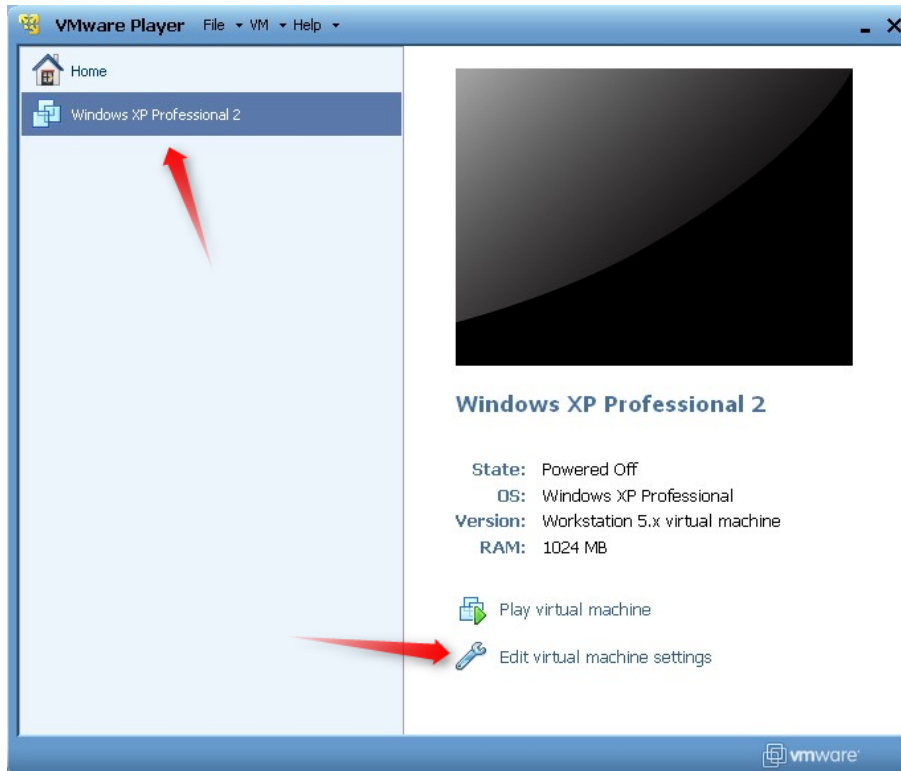
4. Ethernet connection via Windows XP under VMWare

You can run the WindLDR software inside a VMWare engine, to an IDEC PLC that is Ethernet attached to a SiteManager.

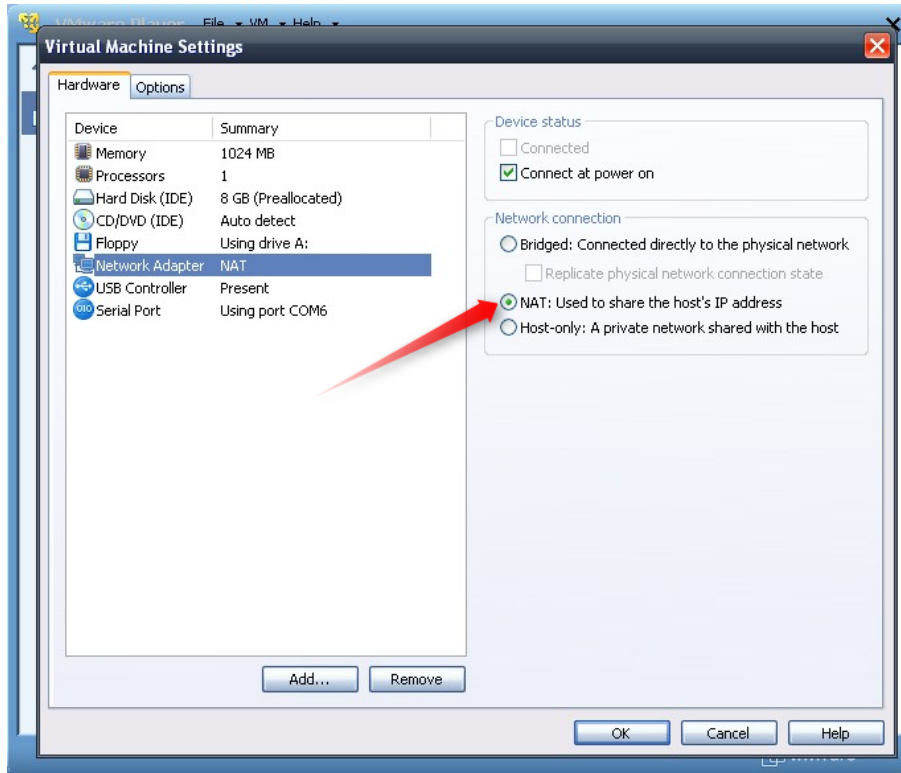
You can choose to run the LinkManager inside or outside the virtual machine. Note that LinkManager can only run inside VMWare if the host OS is Windows 7 and the PC's CPU has support for virtualization.

The following illustrates VMWare Player, which can be downloaded from <http://www.vmware.com/support/product-support/player/>, and for LinkManager running outside the virtual machine (i.e. on the host OS system)

1. Locate your virtual PC, that has WindLDR installed, and enter **Edit virtual machine settings**.



2. Make sure the Network Adapter settings is set to **NAT**:



3. Start the VMWare engine and on the host PC start LinkManager.
4. Follow the procedure of section 1 Ethernet connection to get access to the PLC via LinkManager.

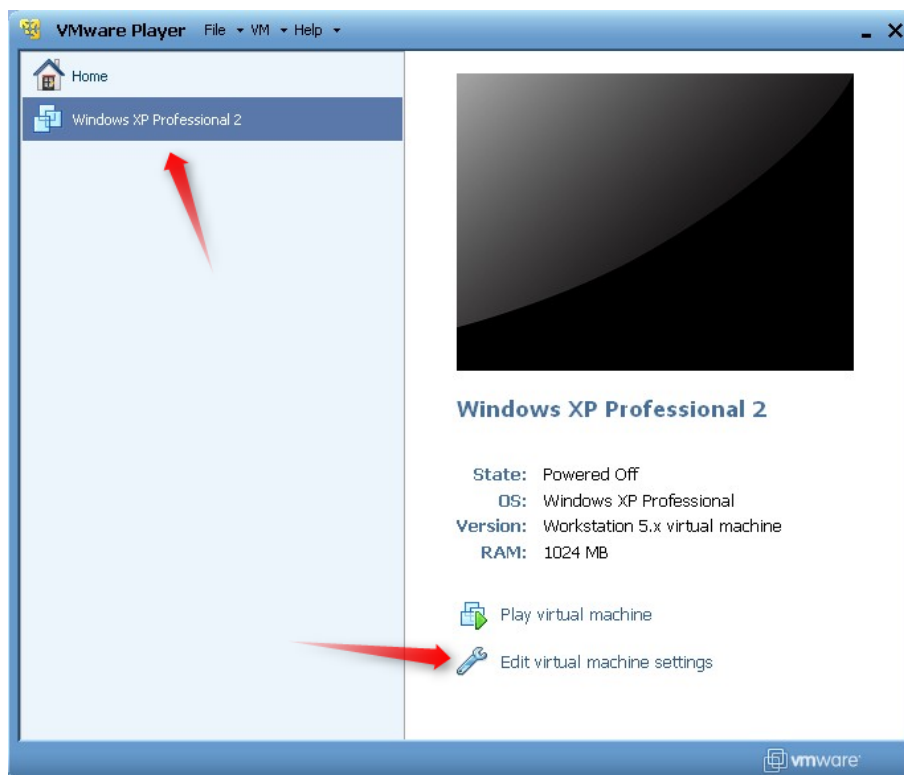
5. USB connection via Windows XP under VMWare

You can run the WindLDR software inside a VMWare engine, to an IDEC PLC that is USB attached to a SiteManager.

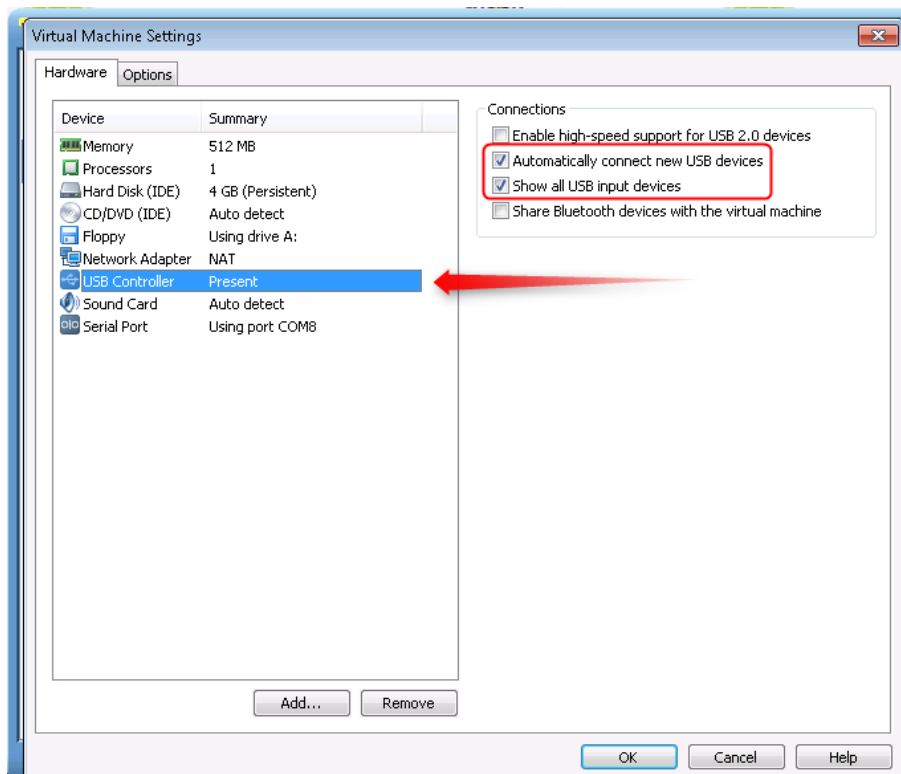
Important: LinkManager must run inside the virtual machine also and must be version 12155 or later. Note that LinkManager can only run inside VMWare if the host OS is Windows 7 and the PC's CPU has support for virtualization.

The following illustrates VMWare Player, which can be downloaded from <http://www.vmware.com/support/product-support/player/>, and for LinkManager running outside the virtual machine (i.e. on the host system)

5. Locate your virtual PC that has WindLDR installed, and enter **Edit virtual machine settings**.



6. Make sure that **USB Controller** has been added as Hardware component:



7. Start the VMWare engine and the LinkManager inside the VMWare engine.

8. Follow the procedure of section **2 USB Connection** on page **6** to get access to the PLC via LinkManager.

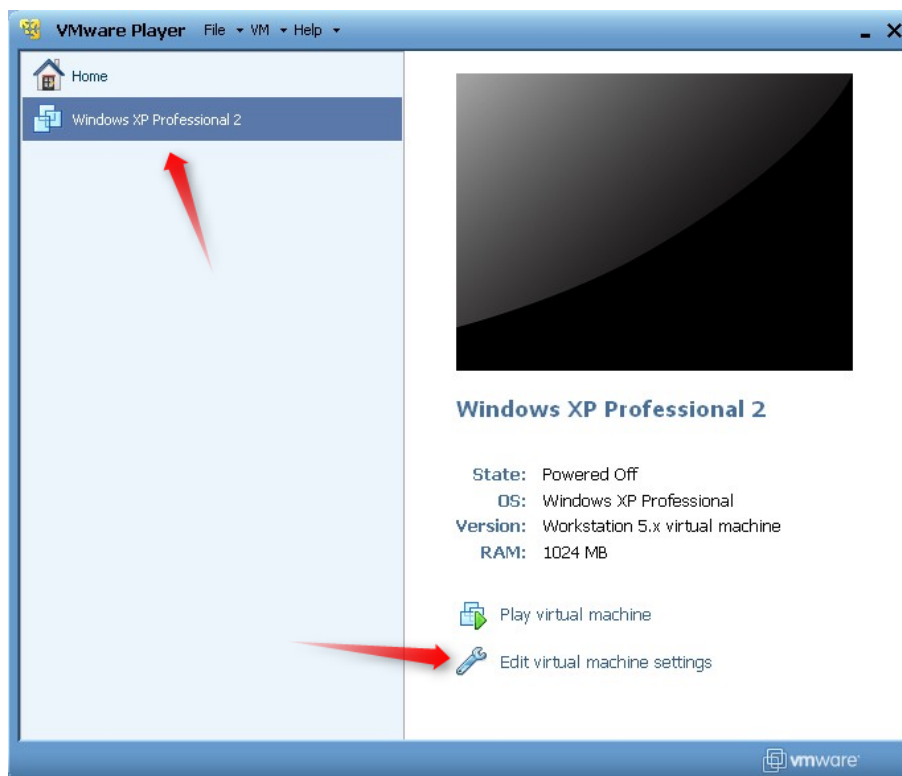
6. Serial connection via Windows XP under VMWare

You can run the WindLDR inside a VMWare engine, to an IDEC PLC that is Serial attached to a SiteManager.

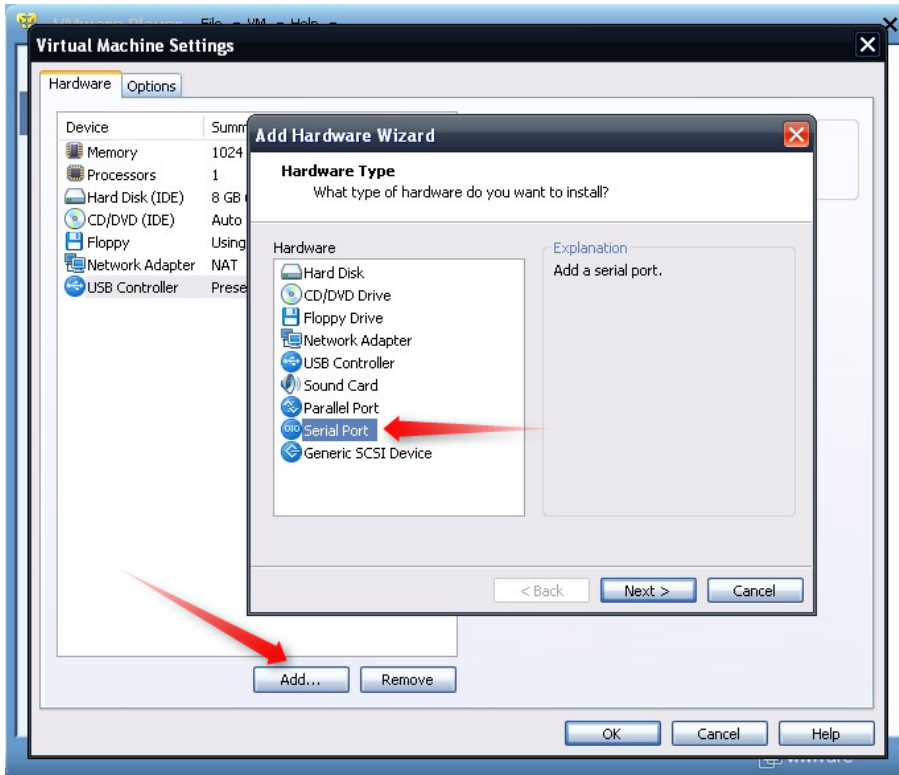
Note: LinkManager must be installed on the hosting machine - and **NOT** inside the VMWare Windows XP image. LinkManager cannot run inside a VMWare virtual machine.

The following illustrates VMWare Player, which can be downloaded free of charge from <http://www.vmware.com/support/product-support/player/>

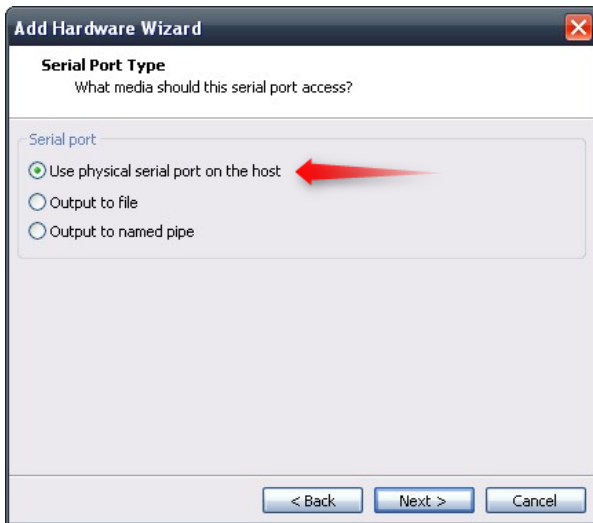
1. Follow step 1-3 of section **3 Serial connection** on page **8**. This will create a COM port even if the PC does not have a physical COM port.
2. Locate your virtual PC that has WindLDR installed, and without starting it, enter **Edit virtual machine settings**.



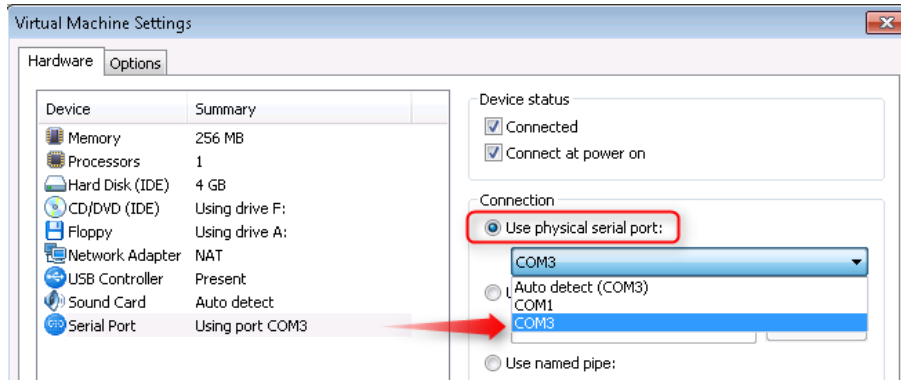
3. Add Serial Port to the Hardware list (if it does not already exist).



4. Select "Use physical port" (Even though LinkManager makes a virtual COM port, VMWare sees it as a physical port)



5. Set the port to the COM port used by the LinkManager (see section 3 **Serial connection**)



6. If VMWare does not allow you to add a Serial port, it may be because the PC does not have a physical Serial port.
7. Press **OK** twice, and select the Select **Finish** and **OK**, Start the VMWare WindowsXP image, and start WindLDR.
8. Follow the procedure described in section 3 **Serial connection** on getting access to the PLC via LinkManager.

Note: VMWare will typically make the physical COM port of the host system (e.g. COM3) appear to the virtual OS as COM1. You should configure the XG5000 Program to use the port of VMWare (COM1) and not the physical port of the host system (COM3) that is used by LinkManager.

6.1. Startup order of VMWare, LinkManager and WindLDR

If you have already preset a COM port in LinkManager as well as in VMWare, the startup order would be irrelevant. You can stop and start the components individually.

If you encounter problems, or you have changed the COM port setting of LinkManager it is recommended to do the following:

1. Stop the VMWare engine.
2. Stop LinkManager completely.
3. Start LinkManager.
4. Connect to the Serial PLC and check the assigned COM port under Status (by right-clicking the LinkManager tray icon)
5. Check the COM port settings of the Virtual Machine Settings of the Windows image with WindLDR installed.
6. Start the VMWare image.
7. Start WindLDR and connect to the PLC

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