# Application Note B&R PLC and Automation Studio

This document guides you through the setup of proprietary vendor specific software installed on you 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

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#### **Prerequisites for This Guide**

The following guide will assist you to setup a remote and online connection to the B&R equipment placed on the customer site using the B&R Automation Studio Software.

This guide concentrates on a B&R X20 1483 PLC with Ethernet, but may also work with other Ethernet enabled B&R PLCs.

This guide refer to Automation Studio version 3.081, but other versions and other B&R software packages may also work.

Prerequisites for this guide are:

- You have an operational LinkManager installed on your PC with a LinkManager certificate that allows you to connect to the SiteManager agents.
- You have the B&R PLC and the B&R Automation Studio software installed.
- You have the B&R / Ethernet device agent installed and configured on the SiteManager at the remote site, and there is access between the SiteManager and the PLC.

If this is not the case, we kindly ask you to contact the person / department responsible within your own company or at the company responsible hereof.

### **System Overview**

The communication path is as follows:

Automation Studio  $\rightarrow$  LinkManager  $\rightarrow$  GateManager  $\rightarrow$  SiteManager  $\rightarrow$  PLC.

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

The following system overview depicts a SiteManager 3134 at the customer location.



The procedures in the following apply to any SiteManager model.



### 1. Ethernet Connection

1. Login with your LinkManager and locate the agent that represents your TCPI/IP attached PLC. Click the text (that turns orange at mouse over) to connect to the PLC.



2. You will not see any activity on it yet. This only starts when you connect to the PLC via your project (Make a note of the IP address of the PLC):

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			B&R X20* (SiteM	lanager)	172.24	1.2.200				
		Agent	Address	Status	Conr	nects	Pac	kets	By	tes
	88 <b>1</b>		170 04 0 000-11150 (	TRUE	ok	tail	tx o	PX 0	tx o	PX 0
	265		172.24.2.200(11159 (Udp)	IDLE	0	0	J	0	J	0
			:80,5900	IDLE	0	0	0	0	0	0

**Hint:** You are in princple now connected to the PLC, and you could make a ping to the PLC IP address.

3. Start the Automation Studio and communicate on the IP address as you would normally have done if you were sitting in the local network with the PLC. The following illustrates some basic screenshots:

**NOTE:** The Automation Studio's network Browse function will not work via the LinkManager connection. This is due to the UDP discovery from Automation Studio not being directed to available routes of the PC, but is done as a UDP broadcast.



4. Open your project in the Automation Studio, and select **Online → Settings**.

C:\Ins\BR\Secomea project for CP 1483\sec	omea.apj/Config1	Automation Studio V	3.0.81.18	
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Changes the online settings			COM1	/RT=1000 OFFLINE

5. Ensure that your project's AR010 connection is configured with the IP address that the LinkManager is connected to.

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6. If matching the LinkManager, you can go Online on the PLC by pressing Connect:

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Object Name	Descri 🔺	Ethernet Serial Moder	m Remote		
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	IEC 61	🗗 AR010		1	172.24.2.200
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7. You can now also observe data traffic in the LinkManager:

Link	(M( lea	חב	ager								1	1
			RC	Disconnect Logout	Senmark.Co	ervices J <b>stome</b>	Sr F.Produc	iffer tion Pla	nt 1			
				B&R X20* (SiteM	lanager)	- 172.24	4.2.200					
			Agent	Adduose	Conne		nects	Packets		Bytes		
			Agent	Address	status	ok	fail	tx	۳x	tx	۳x	
	€3*	-	B&R X20*	172.24.2.200:11159 (udp)	UP:1	0	0	32	32	845	2,730	
		8		:80,5900	IDLE	0	0	0	0	0	0	

8. You can also try to click the globe icon.

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	RC	Disconnect Logout	Se nmark.Cu	ervices J <b>stome</b> i	Sr Sr <b>F.Produ</b> e	niffer	nt 1			
		B&R X20* (SiteM	lanager)	- 172.24	4.2.200					
	Agent	Adress	Status	Conr	nects	Pac	kets	By	tes	
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😳 💙 🖳	B&R X20*	172.24.2.200:11159 (udp)	UP:1	0	0	32	32	845	2,730	
		:80,5900	IDLE	0	0	0	0	0	0	

9. This will start your default web browser for the PLC. Here you can enter immediately the HTML based Diagnostics Manager menu:

System	Software	Har	dware	Logger		Profiler	
General	Memory		Timin	g	CP	U Usage	
Operat	ional Values			CPU Configur	ation		
Node Number:	255 /	0×FF	Host name:			br-automa	
Current CPU mode:	RUN		CPU mode s	witch:		0×04	
Battery status:	OK		Reboot Mode	;			
CPU temperature:	45°C/113°F		after reset:			service	
CPU usage:	65%		after power	fail:		warm start	
Target time:	2008-08-17/0	7:39:11	after chang	e of CF/HD:		warm start	
Operating hours:	-		Preserve pe	rmanent PV mem	ory		
Power-on cycles:	-		after chang	e of CF/HD:		no	
Softwa	re Versions		Time zone:			GMT	
Automation Runtime:	V03.	06	SNTP server			disabled	٦
Visual Components:	-		SNTP client:			disabled	
Motion Control:	-		Server IP ac	ddress:		-	
CNC Software:	-		SNTP synch	ronisation interv	al:	-	
			RTC synchr	onisation interval	:	-	
			Profiling:			enabled	
			FTP:			enabled	
			USB remote	install:		disabled	
			CF remote in	istall:		disabled	

10. If you want to enter the advanced Diagnostics Manager GUI, you may have to download the Renesis Player-Browser.msi plugin by clicking the link.

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ſ	🏉 B&R System Diagnostics Manager - Windows Internet Explorer
	🚱 🕞 🗢 📓 http://172.24.2.200/sdm/svg.cgi?type=loadSvgFile&file=index.html 🛛 🔹 😓 🍫 🗙
	🖕 Favorites 🏾 🎉 B&R System Diagnostics Manager 🛛 🖄 🔻 🔊
	B&R System Diagnostics Manager
	To view B&R System Dragnostics Manager you need to install an SVG-plugin in your browser.
	Click here to download the plugin from the target.
	After successful installation click continue to start B&R System Diagnostics Manager.
	If for any reason you cannot install the SVG-plugin in your browser you can <u>click here</u> to view the B&R System Diagnostics Manager in HTML-technology.

**NOTE:** After installing pressing continue does not bring you the advanced GUI, you may have an incompatibility between your browser and the SVG plugin.

11. You also have the option to access the PLC Web GUI before you actually connect to the PLC with the LinkManager. This is done by clicking the globe icon next to the PLC in the tree view:

✓-⊡- SiteManager <connect all=""></connect>	<b>e</b>
- 💮 🕈 B&R X20* (SiteManager) - 172.24.2.200	
—💮 🕈 Fatek 111 (SiteManager) - 172.24.2.204	
—ਹ ✓ Fatek FBS* (SiteManager) - 172.24.2.204	Go To Device
—∰✓ Mitsubishi 16M* (SiteManager) - 192.168.3.1	
—💮 🗹 MitsubishiQ61P (SiteManager) - 192.168.0.160	
—∰ ✓ Omron PLC* (SiteManager) - 172.24.2.122	<b>6</b>
—∰✓ Phoenix Contact* (SiteManager) - 172.24.2.128	
—∰✓ Rockwell Micrologic 1100* (SiteManager) - 172.24	.2.120 🎨
—錢✓ Schneider M340* (SiteManager) - 172.24.2.131	<b>6</b>
——≪√ Siemens MPIbus (SiteManager)	
—∰✓ Siemens S7-300* (SiteManager) - 172.24.2.129	<b>6</b>
—💮 🗹 Siemens1200* (SiteManager) - 172.24.2.205	<b>6</b>
—∰✓ SiemensPanel* (SiteManager) - 172.24.2.191	
└─∰️ ✓ Wago* (SiteManager) - 172.24.2.135	<b>6</b>
Show all Expand all Refresh	



#### 2. Ethernet connection via WindowsXP under VMWare

You can run the Automation Studio software inside a VMWare engine, to a PLC that is Ethernet attached to a SiteManager.

**Note:** LinkManager must be installed on the hosting machine, and <u>NOT</u> inside the VMWare Windows XP image. LinkManager cannot run inside a VMWare virtual machine.

The following illustrates VMWare Player, which can be downloaded from <a href="http://www.vmware.com/support/product-support/player/">http://www.vmware.com/support/product-support/player/</a>

1. Locate your WindowsXP that has Automation Studio installed, and enter Edit virtual machine settings.

😵 VMware Player File + VM + Help +	_ ×
Home Home Windows XP Professional 2	
	Windows XP Professional 2
	State: Powered Off OS: Windows XP Professional Version: Workstation 5.x virtual machine RAM: 1024 MB
	Play virtual machine
	🗐 <b>vm</b> ware:

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

Device	Summary	Device status
<ul> <li>Memory</li> <li>Processors</li> <li>Hard Disk (IDE)</li> <li>CD/DVD (IDE)</li> <li>Floppy</li> </ul>	1024 MB 1 8 GB (Preallocated) Auto detect Using drive A:	Connected Connect at power on Network connection Bridged: Connected directly to the physical network
OUSB Controller	Present Using port COM6	Replicate physical network connection state     NAT: Used to share the host's IP address     Host-only: A private network shared with the host

- 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



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#### Notices

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