Application Note Omron Safety PLC and G9SP Configurator

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 Omron safety PLC placed on the customer site using your Omron G9SP Configurator 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 the Omron software installed.
- You have the Omron device agent installed and configured on the SiteManager at the remote site, and there is access between the SiteManager and the Omron PLC.
 - A USB attached PLC (such as the G9SP) must be configured with agent device type Omron / USB PLC on the SiteManager. Note that this connection type requires a SiteManager model with USB support and minimum SiteManager version 12035 and LinkManager version 12155.

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:

G9SP Configurator \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 3229 at the customer location:





1. USB Connection with G9SP

1. Locate the Omron USB PLC agent and click on it to establish a connection to it:



2. First time the connection is opened, the "Found New Hardware" Wizard will pop up. Select to not search for drivers on Windows Update site.

Found New Hardware Wizard				
Welcome to the Found New Hardware Wizard				
	Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission). <u>Read our privacy policy</u>			
	Can Windows connect to Windows Update to search for software?			
	\bigcirc Yes, this time only			
	Yes, now and every time I connect a device			
	No, not this time			
	Click Next to continue.			
	< <u>B</u> ack <u>N</u> ext > Cancel			



3. Select Installs from a specific location.



NOTE: In later LinkManager firmware the text "USB Device Over IP" may change to reflect the name of device USB driver.

4. Even though the driver is already installed into the Windows driver store, Windows may not automatically choose to bind it (because it is not WHQL signed). So select don't search as in most cases In most cases it is necessary to select the driver manually

Found New Hardware Wizard				
Please choose your search and installation options.				
○ <u>S</u> earch for the best driver in these locations.				
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.				
Search removable media (floppy, CD-ROM)				
Include this location in the search:				
D:\ Browse				
Don't search. I will choose the driver to install.				
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.				
< <u>B</u> ack <u>N</u> ext > Cancel				



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5. In the Hardware Type list select **Show All Devices**:

Found New Hardware Wizard	
Hardware Type.	Ð
Select a hardware type, and then click Next. Common <u>h</u> ardware types:	
Show All Devices Show All Device Show All Device Class AVC Device Class Batteries Batteries Bluetooth Radios Computer Show All Device Display adapters	
< <u>B</u> ack Next >	Cancel

6. Browse to the location of the Omron USB driver files (**omrg9spusb.inf** and **G9SP_CUSB.sys**)

Install From Disk 🛛 🔀					
-	Insert the manufacturer's installation disk, and then make sure that the correct drive is selected below.	OK Cancel			
	Copy manufacturer's files from: Y:\omron\Safety PLC	<u>B</u> rowse			



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7. Select the OMRON G9SP driver

Found New Hardware Wizard				
Select the device driver you want to install for this hardware				
Select the manufacturer and model of your hardware device and then click Next. If you have a disk that contains the driver you want to install, click Have Disk.				
Model OMRON G9SP USB Port Driver				
This driver is not digitally signed! <u>Tell me why driver signing is important</u>	<u>H</u> ave Disk			
< <u>B</u> ack <u>N</u> e	xt > Cancel			

8. Windows may warn that the driver may be incompatible with the hardware. Select "Yes" to continue installing anyhow:

Update	e Driver Warning
⚠	Installing this device driver is not recommended because Windows cannot verify that it is compatible with your hardware. If the driver is not compatible, your hardware will not work correctly and your computer might become unstable or stop working completely. Do you want to continue installing this driver?
	Yes No

9. You will get a warning that the driver is not WHQL signed. Select "Continue Anyway".





10. The driver should now be installed.



11. Optionally, you can verify that the driver started correctly.

Omron has (incorrectly) classified the PLC USB driver as a USB controller, so you will find the driver in the section "Universal Serial Bus controllers":





12. Check that Device status says "This device is working properly".

OMRON O	OMRON G9SP USB Port Driver Properties 🛛 🔗 🔀						
General	General Driver Details						
÷	OMRON G9SP USB Port Driver						
	Device type:	Universal Serial Bus controllers					
	Manufacturer:	OMRON					
	Location:	Location 1 (on USB/IP Enumerator)					
Devic This If you start	Device status This device is working properly. If you are having problems with this device, click Troubleshoot to start the troubleshooter. Troubleshoot						
Device usage: Use this device (enable)							
	OK Cancel						



13. In G9SP Configurator, select Communication > Connect

👎 Untitled - G9SP Configurator			X
Elle Edit View Communication Online Debug Help			
┆ D ☞ 문 局 智 / ● C , ┆ 로 炅 ◆ ◆ V ▶ ■ 合 合 , ┆ 終 왕 孫 ⊚ 承 ♀ び ,			
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Project v 4 x			Ð
			Ope
			ration
			Gui
			8
Project Function Block List Output	•	φ×	ĺ
I/O Tag List 🗸 🕂 X Clear 👚 Jump			
2012/04/11 21:48:21 Connection to the device was completed.			
Watch			
Text Boxes : (0/128) Jump Tags : (0/64) Function Blocks : (0/128) GUI Size : (0 Byte/22000 Byte) Cycle Time : 4	ms (3	800 L	is)

14. Select Communication > Upload





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15. Project uploaded and displayed in G9SP Configurator:

F Untitled(updated) - G9SP Configurator - Page1 (297mm x 210mm)	
Elle Edit View Communication Online Debug Help	
: D ☞ 묘 日 賢 魯 Q _ : 三 炅 ◆ ◆ V → ■ 日 日 日 : # # ※ ※ ※ ※ ◇ ◇ ◇ 。	
Project • 4 ×	
GSSP	Operation Guid
Project Function Block List	• 4 ×
I/O Tag List	
Dutput 🕲 Output 121:51:35 Device parameter uploaded.	
G9SP G9SP G9SP G00:Safety Sv (02:No Name (02:No Name	
Text Boxes : (0/128) Jump Tags : (0/64) Function Blocks : (2/128) GUI Size : (332 Byte/22000 Byte) Cycle Time : 4 m:	s (3851 us)
Access Level : Free 📓 Verified[]	Locked1

IMPORTANT: If LinkManager status is DOWN:

LinkMana sec!mea	ager								ch
Disconnect Logout Services Sniffer									
ROOT.PH									
		Omron l	JSB (SiteManage	r3239)					
Agent Address Status Connects Packets					cets	Byt	tes		
Agen		Address	Status	ok	fail	tx	rx	tx	rx
⊙ Y Omro	on USB 172.24	1 4.2.57:3240> 127.0	0.0.1 DOWN						

In the current LinkManager version, the connection is not automatically restored in case the PLC restarts, or if the cable is un-plugged/re-plugged.

It is necessary to Disconnect and re-establish the connection (first step of this section).



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2. USB connection via Windows XP under VMWare

You can run the G9SP Configurator software inside a VMWare engine, to an Omron safety PLC that is USB attached to a SiteManager.

Important: LinkManager must run inside the virtual machine also and must be version 12155 or later.

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

1. Locate your Windows XP that has the G9SP Configurator installed, and enter **Edit virtual machine settings.**

😵 VMware Player File + VM + Help +	_ ×
Home Windows XP Professional 2	
	Windows XP Professional 2
	State: Powered Off DS: Windows XP Professional Version: Workstation 5.x virtual machine RAM: 1024 MB
	 Play virtual machine Edit virtual machine settings
	🗐 vm ware'



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

Virtual Machine Settings		
Hardware Options		
Device Memory Processors Hard Disk (IDE) CD/DVD (IDE) Floppy Network Adapter Sound Card Serial Port	Summary 512 MB 1 4 GB (Persistent) Auto detect Using drive A: NAT Present Auto detect Using port COM8	Connections Connections Connections Automatically connect new USB devices Show all USB input devices Share Bluetooth devices with the virtual machine
		OK Cancel Help

- 3. Start the VMWare engine and the LinkManager inside the VMWare engine.
- 4. Follow the procedure of section **1 USB Connection with G9SP** to get access to the PLC via LinkManager



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