



Using Gesytec Easylon[®] Interfaces⁺ with Siemens DESIGO[™] Software

There are three software products bearing the DESIGO[™] name that you can use with LonWorks technology:

- DESIGO RXT
- DESIGO XWORKS
- DESIGO INSIGHT

DESIGO RXT is a program for administering LON networks in accordance with the LonMark standard, while DESIGO XWORKS and DESIGO INSIGHT use LON as a transport medium for BACnet. The requirements on the LON PC interface card thus vary from product to product.

A special setup routine for the Easylon[®] Interfaces⁺ drivers when using DESIGO software is available to make installation of a Gesytec LON card easier for users.

This document describes how to use the setup options and provides tips on specific uses. In addition to this, it also provides basic information about LON interfaces.

What is a LON Interface?

In order to be able to connect to a LON network you need the right interface card, the LON interface¹. A large number of vendors are on the market; the cards can either be connected as a plug-in board in a PCI or a PCI Express slot or be connected to the PC as an external USB device. These interfaces come along with Windows drivers. The drivers for the interfaces provided by various manufacturers are all integrated into the Windows operating system in the same way, meaning that the software that uses them doesn't need to differentiate between the different manufacturers in any way. To achieve this, the drivers save a logical name for the interface and the actual Windows driver names to a specific location in the Windows registry during installation.

Setting up the DESIGO Software

Gesytec provides a special setup routine to make it easier to handle its interfaces with the various variants of DESIGO. This setup routine installs the drivers with logical names for the LON interfaces which allow an easy assignment to the version of DESIGO you are using. The LON drives can then be selected in DESIGO using the names

DESIGO software	Driver name	Mode
DESIGO RXT	RXT-Vni	VNI
DESIGO XWORKS	XWORKS	MIP
DESIGO INSIGHT	INSIGHT	MIP
	MIP3	MIP
	MIP4	MIP

If you intend to run DESIGO software with these interfaces we strongly recommend that you use the DESIGO-specific setup routine.

Please note

that then you can to use only a single plug-in card or one external USB device. If you wish to use several LON interfaces at once it is necessary to use the normal Easylon interface setup routine. In the device manager it is then necessary to specify a name that is not longer than 15 characters, especially if you are using DESIGO RXT. For further information, please refer to the manual for your Easylon Interface.

The drivers MIP3 and MIP4 are intended as place holders for further LON software, e.g. the device and infrastructure test tool NLUtil or an OPC server, or for the Gesytec test tool EasyCheck.

¹ They are also commonly referred to as LonTalk adapter or NIC.

What's Special About the EasyLyon Interfaces⁺?

With many LON Interfaces it is only possible to use the interface with one application at a time. With EasyLyon Interfaces⁺ however it is possible to install up to 8 drivers per interface, meaning that up to 8 applications can access the LON network simultaneously without interfering with each other.

Identifying Interfaces on Your Computer

Since there may be several interfaces installed in one computer or connected via USB, the driver name for the LON interface card/device comprises a reference to the port it is connected to, allowing each interface to be identified precisely. This is important in instances where several separate LON networks have to be connected to a single PC, which can result in driver names for the interfaces getting very long, especially for such using USB with multiple hubs.

The user can change the driver names of EasyLyon Interfaces in the operating system, thus making it possible to adjust according to personal preferences or software requirements.

MIP, NSI and VNI

You will frequently encounter these terms in connection with LON interface cards. They describe the functionality of the interface. MIP stands for "Microprocessor Interface Program", the first and oldest firmware for LON interfaces. It was replaced by the NSI, which stands for "Network Service Interface". This software was introduced together with the LON network operating system LNS by the technology supplier Echelon and has a wider range of functionality than MIP. Both variants use the LON interface's processor for addressing and transmission checking, too.

With LNS version 3.0 a new variant was introduced: VNI, which stands for "Virtual Network Interface". With these LON interfaces it is possible to access the LON network transparently without the need for any further processing on the LON interface card itself. With modern PCs this results in a significant improvement in per-

formance in comparison to previous LON interfaces.

EasyLyon Interfaces⁺ can be operated in every mode listed here.

Overcoming Problems with DESIGO RXT

The DESIGO RXT software uses Echelon's basic LNS software to administer the LON network. Access to the LON interface is made via LNS. Unfortunately, LNS has the restriction that the name of the driver for the LON interface must not be longer than 15 characters. If the name is longer, an error message will be displayed when you switch to the online mode of DESIGO RXT.

The special DESIGO setup routine for EasyLyon interfaces was written to avoid this problem. For DESIGO RXT a LON driver called RXT is created, which you should select in the software as the name for the LON port.

Please note:

Sometimes a part of the LNS software may fail to shut down correctly when switching to the offline mode of DESIGO RXT. This causes problems when going online again. If this happens, shut down DESIGO RXT and check with the task manager whether the application VniServer.exe is still active. If so, you have to stop the process manually in the task manager.

Overcoming Problems with DESIGO XWORKS and INSIGHT

Both DESIGO XWORKS and DESIGO INSIGHT are only able to use LON interfaces running in MIP mode. The fact that the normal setup routine for EasyLyon interfaces also installs a VNI driver, in addition to the MIP driver, can lead to mix ups. DESIGO XWORKS and DESIGO INSIGHT can open drivers for VNI mode, but this stops the software from working.

To prevent such mix ups, the special DESIGO setup routine installs one driver for each in MIP mode, called XWORKS and INSIGHT.

Unambiguous driver allocation

When allocating a LON interface to the network service stations, you should then use the driver called XWORKS in DESIGO XWORKS, and analogously the driver called INSIGHT in DESIGO INSIGHT. Both drivers can be used simultaneously. In the past situations have been reported where the same driver was specified for both, DESIGO XWORKS and in DESIGO INSIGHT. Running DESIGO XWORKS and DESIGO INSIGHT simultaneously will then cause malfunctions.

Changing the configuration of network service stations

When making changes to the configuration of the network service stations there are two pitfalls to watch out for:

- First of all, it is necessary to close the CFC Editor before changing the configuration,

since it may otherwise still attempt to access the current LON interface. This would prevent the changes to the network service station from taking effect.

- Also, it is important to check whether network access has been installed as a service. After making changes to the configuration of the network service station you need to stop the service and restart it for the new configuration to take effect.

The use of DESIGO setup routine thus makes it possible to avoid mix ups between MIP and VNI, and furthermore to provide separate drivers for DESIGO XWORKS and DESIGO INSIGHT.

When making changes to the network service station settings it is also important to observe the general information that applies to all LON interfaces, irrespective of the manufacturer.

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