

BACnet Application Note

Siemens Desigo

Introduction

The Siemens (Landis & Staefa) Desigo range is a BACnet compatible system.

Desigo Insight

The Desigo Insight top-end sits within the management layer and connects a BACnet/IP network. The PXG80-N BACnet routers provide a gateway to the Desigo PX range below, or the top-end can have a LON card fitted.

BACnet/IP is compatible with North Building Technologies BACnetIP interface, available for ObSys.

Desigo PX

The Desigo PX range of controllers sits within the automation layer and operates on a BACnet/LON network. A BACnet/Point-to-Point (RS232) gateway is provided on controller types with the suffix "-T", for example PXC22-T. Additionally, some PX controllers may be fitted with the interface card PXA30-T.

BACnet/Point-to-Point is compatible with North Building Technologies BACnet interface.

Desigo RX

The Desigo RX range of devices sits within the field bus layer and utilizes various protocols, such as LonMark. The NIDES product presents Desigo points in the form of a Staefa NICO legacy controller.

The NIDES product is compatible with North's StaefaNICO interface. LonMark devices are compatible with our LonSLTA interface.

North BACnet Interface

The North BACnet/Point-to-Point interface is available for Compass and ObSys and operates on RS232.

The driver can connect directly to a Desigo PXCxx-T type controller or the optional interface card, which have a 9-way RS232 modem port.

~~The driver does not currently support a password when connecting.~~ The BACnet v1.2 interface now supports a password option. However, it is recommended to clear the password within Desigo.

The PXA30-T interface card has some additional configuration parameters: Configure the modem type to Null modem, Hayes compatible.

The baud rate is 38400.

PX Controller BACnet Device Instance

Desigo PX controllers have a unique BACnet device instance.

From the PXM20 display, device numbers are presented in hexadecimal, i.e. 0x02200401.

The BACnet device instance is a decimal conversion of last 6 digits.

E.g. 0x02200401 -> last 6 digits: 0x200401 -> convert to decimal: 2098177

From the driver you can scan for BACnet device objects within the controller. The name of these objects is the 'technical designation (TD)' from the Siemens Xworks configuration tool, e.g. "Plt1'A1'MxX4'X4".

BACnet Objects

A list of BACnet objects may be produced from the 'BBI.log' file generated by Desigo Xworks.

From the folder \Desigo Toolset\bin\ run the EIDE Export utility (select 'include pins in export').

This utility produces an Excel spreadsheet file (a sample is available from North).

The BACnet driver supports the following BACnet object types from the Desigo PX range:

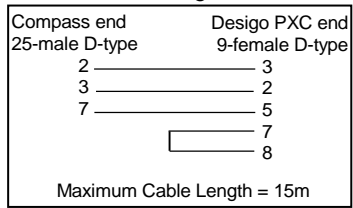
Read/Write: Analog Output, Analog Value, Binary Value

Read only: Analog Input, Binary Input, Binary Output (requires further investigation)

Object descriptions are currently not available from the driver as Desigo supports a different character set.

Cable Specification

The cable between the Compass Point and the Desigo PXCxx-T RS232 port is as follows:



The cable between the ObSys PC and the Desigo PXCxx-T RS232 port is as follows:

