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COMPETENCE IN COMMUNICATION

Product Catalog

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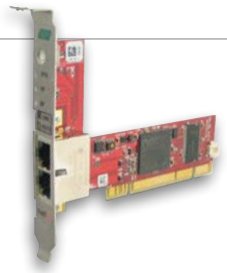
Gateways and Proxies



PC-Based Applications

Visualization and Analysis

Siemens-Compatible Products

Embedded Products

Embed a network interface and controller into any device and engineered solution

netTAP 100

Fully Featured Gateway

netTAP 100 is the protocol converter for sophisticated conversions and supports two port Real-Time Ethernet to serial, Fieldbus to Fieldbus, Real-Time Ethernet to Fieldbus and Real-Time Ethernet to Ethernet conversions. It supports Slave and Master functionality in any combination, with no restrictions on the Master functionality when it is Master licensed.

A memory card slot enables the user to save firmware and configuration data on a removable card, enabling fast device replacement in the field.

netTAP 100 includes a full-featured development environment. It allows rapid, user-friendly programming of any proprietary serial protocol and pre-processes the I/O data during the conversion into the other field protocol. netSCRIPT is used to create custom serial protocols with the Lua scripting language. Explicit messaging exchange is supported, so diagnostics and alarm data can be passed directly between two networks.

- **2-port Real-Time Ethernet, Fieldbus, serial RS232/485/422 (isolated)**
- **Over 200 different protocol conversions available**
- **5–10 msec processing time**
- **Unrestricted Master functionality (with license)**
- **Programmable serial port with scripting language**
- **Memory card option for data backup, configuration**
- **Explicit (acyclic) messaging exchange**

Technical Data

Protocol	Cyclic Process Data Max.	
	Bytes I/O-Data Master	Bytes I/O-Data Slave
ASCII	2024	2024
CANopen	7168	1024
CC-Link		736
DeviceNet	7168	510
EtherCAT	11520	400
EtherNet/IP	11520	1008
Modbus RTU	11520	11520
Modbus TCP	11520	11520
netSCRIPT	2048	2048
POWERLINK		2980
PROFIBUS	11472	488
PROFINET-IO	11520	2048
SERCOS III	11520	256

The effectively convertible number of I/O data of a protocol conversion is determined by the protocol with the lower I/O data number.

Parameter	Value
Diagnostic Interface	Mini-USB
LED Indicators	SYS, COM, LINK, Rx/Tx, protocol specific
Configuration	SYCON.net, Windows® 2000, XP, 7
Power Supply	18–30 V/130 mA @ 24 V
Connector	Mini-COMBICON 2-pin
Operating Temp.	0°C to 60°C
Dimensions (L x W x H)	100 x 52 x 70 mm (without connector)
Mounting	DIN Rail, DIN EN 60715
Weight	150 g
CE Mark	Yes
UL Approval	UL 508
Emission	CISPR 11 Class A
Noise Immunity	EN 61131-2:2003
Card Slot	SD card

netTAP 50

Single-Slave Device Gateway

netTAP 50 is a compact protocol converter for simple conversions. It supports conversions of one port Real-Time Ethernet to Fieldbus to serial automation protocols. The conversion can be either Slave-to-Slave or Slave-to-Master. As a Master, netTAP 50 provides full Master functionality to one Fieldbus Slave device only. This enables an effortless integration of a single field device into any higher-level network. The serial Master handles multiple Slaves.

The netTAP 50 converter addresses a market segment focused on simplicity and cost savings. The space-saving, cost-optimized design combined with its numerous protocol conversions makes netTAP 50 an attractive entry-level gateway in terms of price and universality.

- **1-port Real-Time Ethernet, Fieldbus, serial RS232/485/422**
- **Over 60 different protocol conversions available**
- **Loadable firmware for flexible protocol conversion**
- **10–20 msec processing time**
- **Master functionality to single Slave**
- **Configuration over Ethernet**

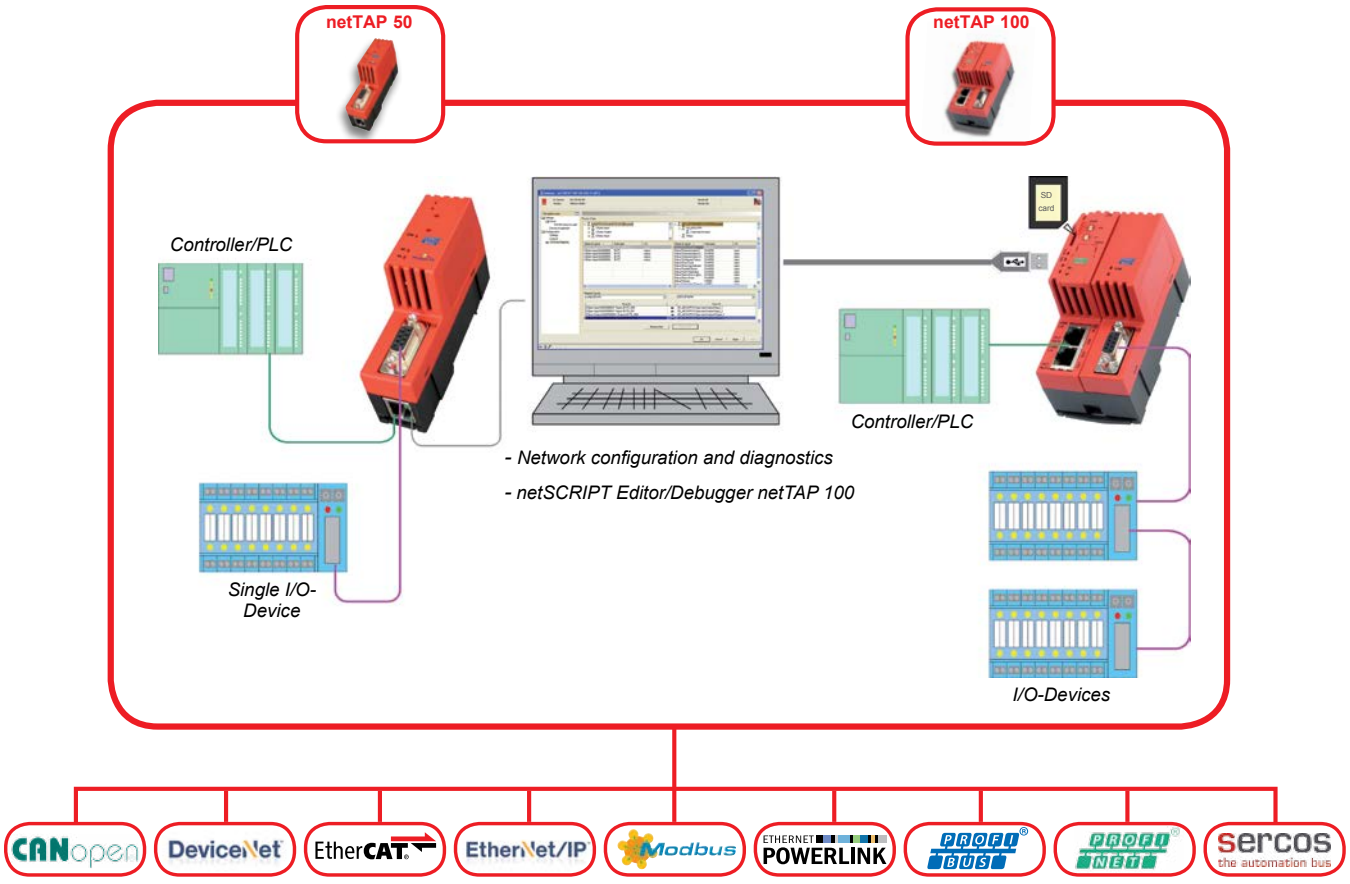
Technical Data

Protocol	Cyclic Process Data Max.	
	Bytes I/O-Data Master*	Bytes I/O-Data Slave
ASCII	2024	2024
CANopen	1024	1024
CC-Link		736
DeviceNet	510	510
EtherNet/IP	1008	1008
Modbus RTU	1024	1024
Modbus TCP	1024	1024
PROFIBUS	488	488
PROFINET-IO	2048	2048

*Master functionality to one Slave.

The effectively convertible number of I/O data of a protocol conversion is determined by the protocol with the lower I/O data number.

Parameter	Value
Diagnostic Interface	Ethernet, RJ45 female connector
LED Indicators	SYS, COM, LINK, Rx/Tx, protocol specific
Configuration	SYCON.net, Windows® 2000, XP, 7
Power Supply	18–30 V/130 mA @ 24 V
Connector	Mini-COMBICON 2-pin
Operating Temp.	0°C to 60°C
Dimensions (L x W x H)	100 x 25 x 70 mm (without connector)
Mounting	DIN Rail, DIN EN 60715
RS232/485/422	Not electrically isolated
Weight	80 g
CE Mark	Yes
Emission	CISPR 11 Class A
Noise Immunity	EN 61131-2:2003



Gateways for Industrial Communications

The netTAP gateways transfer and convert data between two identical or two different industrial automation networks. The gateways provide cost-effective and easy-to-deploy solutions for any type of data conversion, whether the application is simple serial bus, classic Fieldbus, Ethernet, Real-Time Ethernet or a mix of these protocols.

netTAP gateways are designed for mounting in a control cabinet or a distribution box. The modular gateway design combines the two network interfaces in a 35-mm DIN Rail mountable IP 20 housing per IEC 60715.

netTAP is configured with SYCON.net, a Windows-based tool providing network set up and diagnostic information. LED indicators provide status information for rapid on-site diagnostics. The protocol conversions are pre-programmed and loaded as firmware into the device on demand. Conversions needing the same physical network interface can be managed by a single device variant. This means that a single device can serve, for example, as a PROFIBUS Slave or a PROFIBUS Master through a simple firmware change.

Technical Data/Product Overview

Supported Protocol Conversions/Ordering Code

Primary / Secondary	CANopen	DeviceNet	PROFIBUS	EtherCAT	EtherNet/IP	Modbus TCP	Modbus RTU	ETHERNET POWERLINK	PROFINET	sercos the automation bus	ASCII
CANopen	NT 100-CO-CO ●	NT 100-DN-CO ●	NT 100-DP-CO ●	NT 100-RE-CO ●	NT 100-RE-CO NT 50-CO-EN ●	NT 100-RE-CO NT 50-CO-EN ●	NT 100-CO-RS NT 50-CO-RS ●	NT 100-RE-CO ●	NT 100-RE-CO NT 50-CO-EN ●	NT 100-RE-CO ●	NT 100-CO-RS NT 50-CO-RS ●
CC-Link	NT 100-CO-CC ●	NT 100-DN-CC ●	NT 100-DP-CC ●	NT 100-RE-CC ●	NT 100-RE-CC NT 50-CC-EN ●	NT 100-RE-CC NT 50-CC-EN ●	NT 50-CC-RS ●	NT 100-RE-CC ●	NT 100-RE-CC NT 50-CC-EN ●	NT 100-RE-CC ●	NT 50-CC-RS ●
DeviceNet	NT 100-CO-DN ●	NT 100-DN-DN ●	NT 100-DP-DN ●	NT 100-RE-DN ●	NT 100-RE-DN NT 50-DN-EN ●	NT 100-RE-DN NT 50-DN-EN ●	NT 100-DN-RS NT 50-DN-RS ●	NT 100-RE-DN ●	NT 100-RE-DN NT 50-DN-EN ●	NT 100-RE-DN ●	NT 100-DN-RS NT 50-DN-RS ●
EtherNet/IP	NT 100-RE-CO NT 50-CO-EN ●	NT 100-RE-DN NT 50-DN-EN ●	NT 100-RE-DP NT 50-DP-EN ●	NT 100-RE-EN ●	NT 100-RE-EN ●	NT 100-RE-EN ●	NT 100-RE-RS NT 50-RS-EN ●	NT 100-RE-EN ●	NT 100-RE-EN ●	NT 100-RE-EN ●	NT 100-RE-RS NT 50-RS-EN ●
Modbus RTU	NT 100-CO-RS NT 50-CO-RS ●	NT 100-DN-RS NT 50-DN-RS ●	NT 100-DP-RS NT 50-DP-RS ●	NT 100-RE-RS ●	NT 100-RE-RS NT 50-RS-EN ●	NT 100-RE-RS NT 50-RS-EN ●	—	NT 100-RE-RS ●	NT 100-RE-RS NT 50-RS-EN ●	NT 100-RE-RS ●	–
Modbus TCP	NT 100-RE-CO NT 50-CO-EN ●	NT 100-RE-DN NT 50-DN-EN ●	NT 100-RE-DP NT 50-DP-EN ●	NT 100-RE-EN ●	NT 100-RE-EN ●	NT 100-RE-EN ●	NT 100-RE-RS NT 50-RS-EN ●	NT 100-RE-EN ●	NT 100-RE-EN ●	NT 100-RE-EN ●	NT 100-RE-RS NT 50-RS-EN ●
PROFIBUS	NT 100-CO-DP ●	NT 100-DN-DP ●	NT 100-DP-DP ●	NT 100-RE-DP ●	NT 100-RE-DP NT 50-DP-EN ●	NT 100-RE-DP NT 50-DP-EN ●	NT 100-DP-RS NT 50-DP-RS ●	NT 100-RE-DP ●	NT 100-RE-DP NT 50-DP-EN ●	NT 100-RE-DP ●	NT 100-DP-RS NT 50-DP-RS ●
ASCII	NT 100-CO-RS NT 50-CO-RS ●	NT 100-DN-RS NT 50-DN-RS ●	NT 100-DP-RS NT 50-DP-RS ●	NT 100-RE-RS ●	NT 100-RE-RS NT 50-RS-EN ●	NT 100-RE-RS NT 50-RS-EN ●	—	NT 100-RE-RS ●	NT 100-RE-RS NT 50-RS-EN ●	NT 100-RE-RS ●	—
DFI	NT 100-CO-RS ●	NT 100-DN-RS ●	NT 100-DP-RS ●	NT 100-RE-RS ●	NT 100-RE-RS ●	NT 100-RE-RS ●	—	NT 100-RE-RS ●	NT 100-RE-RS ●	NT 100-RE-RS ●	—
netSCRIPT	NT 100-CO-RS ●	NT 100-DN-RS ●	NT 100-DP-RS ●	NT 100-RE-RS ●	NT 100-RE-RS ●	NT 100-RE-RS ●	—	NT 100-RE-RS ●	NT 100-RE-RS ●	NT 100-RE-RS ●	—

NT 100 (netTAP 100): Master license optional; For master conversions it has to be ordered separately (except Modbus RTU,TCP)
NT 50 (netTAP 50): Master license included; Master functionality restricted to one Slave only (except Modbus RTU,TCP)

- ○ Primary-Secondary
- ● Slave-Slave
- ● Slave-Slave; Master-Slave
- ● Slave-Slave; Slave-Master
- ● Master-Slave; Slave-Slave; Slave-Master
- ● Master-Slave; Master-Master; Slave-Slave; Slave-Master
- ● Slave-Serial
- ● Slave-Serial; Master-Serial

Overview

Article	Article Number	Article Description
NXLIC-MASTER	8211.000	Master license
SD-CARD	1719.003	SD card for netTAP 100

SmartWire-DT

Ethernet POWERLINK or PROFINET Gateway

The SmartWire-DT Gateway is a modular node that integrates any SmartWire-DT network into Ethernet POWERLINK or PROFINET networks. The SmartWire-DT stations' process data is converted transparently between the SmartWire-DT protocol and the POWERLINK or PROFINET protocols, depending on the gateway version used. Up to 1,000 bytes of process input/output data can be exchanged with up to 99 SmartWire-DT stations.

The SmartWire-DT POWERLINK gateway is a single POWERLINK node, commissioned using SWD-Assist planning and diagnostic software over USB. A scan function automatically determines the network configuration, which is transformed by SWD-Assist into a standard POWERLINK XDD device description file.

The SmartWire-DT PROFINET gateway is a PROFINET IO device, commissioned by pushing a configuration button that automatically saves the scanned SmartWire-DT network configuration. A PROFINET GSDML file is provided that contains the gateway parameters and all SmartWire-DT stations as configurable modules. SWD-Assist software may be used to plan, dimension and document the network offline.

SWD-Assist software can be downloaded free at www.hilscher.com, or ordered as a DVD with USB cable.

PROFINET

ETHERNET POWERLINK

- **Integrates SmartWire-DT into POWERLINK or PROFINET networks**
- **Full support of up to 99 SmartWire-DT stations**

Technical Data

Parameter	Value
Amount of Input Data	800 Byte
Amount of Output Data	642 Byte
Input/Output Data in Sum	1000 Byte
SWD Number of Stations	99
SWD Baud Rate	125/250 kBaud
Diagnostic Interface	Mini-USB
Ethernet Interface	2-Port Switch (RJ45)/100 MBit
Power Supply U_{POW}/U_{AUX} 24 V	700 mA/3000 mA
Operating Temp.	-25°C to 55°C
Dimensions (L x W x H)	90 x 35 x 127 mm

Overview

Article	Article Number	Article Description
EU5C-SWD-PROFINET	9233.920	SmartWire-DT/PROFINET Gateway
EU5C-SWD-SW	3233.920	SWD-Assist planning and diagnostics software DVD ROM and USB Cable
EU5C-SWD-POWERLINK	9233.921	SmartWire-DT/POWERLINK Gateway
EU5C-SWD-SW	3233.920	SWD-Assist planning and diagnostics software DVD ROM and USB cable

netBRICK

Gateway for Harsh Industrial Conditions

netBRICK is the gateway solution for applications in harsh industrial environments. Packaged in an IP67-compliant housing, the rugged netBRICK resists the most extreme conditions, and can be used without an enclosure even in outdoor, humid or hazardous areas.

netBRICK is firmware compatible with the netTAP family of products. It transfers and converts data between two identical or two different industrial automation networks. The cost-effective and easy-to-deploy solution handles any type of data conversion, whether the application is simple serial bus, classic Fieldbus, Ethernet, Real-Time Ethernet or a mix of these protocols.

netBRICK is configured with SYCON.net, a Windows-based tool providing network set up and diagnostic information. A USB port embedded into an M16 socket with blind plug acts as the service interface. LED indicators allow rapid on-site visual diagnostics.

The M12 connectors of each netBRICK version are arranged in accordance with the respective network standards. One connector pair shares one network. It is either physically wired together or separated when operating as a switch, enabling inline installations without the need for T-connectors. An additional male M12 connector serves to connect the 24 V supply voltage.

With its robust and compact housing, simple screw mounting and highly flexible loadable firmware modules, netBRICK is the most powerful gateway on the market.

- **For direct field installations**
- **Protection Class IP67, M12 connectors**
- **Real-Time Ethernet to Fieldbus, serial RS-232/422/485 to Fieldbus**
- **UL 1604 Approval**
- **Extended temperature range**

Technical Data/Product Overview

Supported Protocol Conversions/Ordering Code

Primary / Secondary	EtherCAT	EtherNet/IP	Modbus TCP	Modbus RTU	ETHERNET POWERLINK	PROFINET	sercos the automation bus	ASCII	netSCRIPT
CANopen	NB 100-RE-CO ●	NB 100-RE-CO ●	NB 100-RE-CO ●	NB 100-RS-CO ●	NB 100-RE-CO ●	NB 100-RE-CO ●	NB 100-RE-CO ●	NB 100-RS-CO ●	NB 100-RS-CO ●
DeviceNet	NB 100-RE-DN ●	NB 100-RE-DN ●	NB 100-RE-DN ●	NB 100-RS-DN ●	NB 100-RE-DN ●	NB 100-RE-DN ●	NB 100-RE-DN ●	NB 100-RS-DN ●	NB 100-RS-DN ●
PROFIBUS	NB 100-RE-DP ●	NB 100-RE-DP ●	NB 100-RE-DP ●	NT 100-RS-DP ●	NB 100-RE-DP ●	NB 100-RE-DP ●	NB 100-RE-DP ●	NB 100-RS-DP ●	NB 100-RS-DP ●

- ○ Primary-Secondary
- ● Slave-Slave
- ● Slave-Slave; Master-Slave
- ● Slave-Slave; Slave-Master
- ● Master-Slave; Slave-Slave; Slave-Master
- ● Master-Slave; Master-Master; Slave-Slave; Slave-Master
- ● Slave-Serial; Master-Serial

Note: A master license needs to be ordered separately for conversions with master functionality (except Modbus RTU/TCP)

Technical Data

Protocol	Cyclic Process Data Max.	
	Bytes I/O-Data Master*	Bytes I/O-Data Slave
ASCII	2024	2024
CANopen	7168	1024
DeviceNet	7168	510
EtherCAT	11520	400
EtherNet/IP	11520	1008
Modbus RTU	11520	11520
Modbus TCP	11520	11520
netSCRIPT	2048	2048
POWERLINK	2980	
PROFIBUS-DP	7168	488
PROFINET-IO	11520	2048
SERCOS III	11520	396

The effectively convertible number of I/O data of a protocol conversion is determined by the protocol with the lower I/O data number.

Parameter	Value
Diagnostic Interface	Mini-USB
LED Indicators	SYS, APL, protocol specific
Power Supply	18–30 V/130 mA @ 24 V
Supply Connector	M12 Male A-coded
Operating Temp.	-20°C to 70°C
Dimensions (L x W x H)	140 x 60 x 25 mm
Mounting	Screw mounting
Weight	350 g
CE Mark	Yes
Connectors	M12 B-coded for PROFIBUS/serial M12 A-coded for CANopen/DeviceNet M12 D-coded for Ethernet
UL Approval	UL 1604 registered
Emission	CISPR 11 Class A
Noise Immunity	EN 61131-2:2003

Overview

Article	Article Number	Article Description
NB 100-RE-CO	1782.160	netBRICK 100 Real-Time Ethernet—CANopen
NB 100-RE-DN	1782.170	netBRICK 100 Real-Time Ethernet—DeviceNet
NB 100-RE-DP	1782.180	netBRICK 100 Real-Time Ethernet—PROFIBUS-DP
NB 100-RS-CO	1780.160	netBRICK 100 Serial—CANopen
NB 100-RS-DN	1780.170	netBRICK 100 Serial—DeviceNet
NB 100-RS-DP	1780.180	netBRICK 100 Serial—PROFIBUS-DP

netLINK PROXY

PROFIBUS to PROFINET PROXY in a Connector

netLINK PROXY upgrades PROFIBUS Slave to PROFINET by seamlessly integrating any PROFIBUS-DP Slave into a PROFINET network. As a connector, the device is plugged directly onto the PROFIBUS-DP interface of the DP Slave and connects to the PROFINET network via the integrated RJ45 connector.

On the PROFINET side, netLINK PROXY behaves like an ordinary IO device. The DP Slave's process data are mapped in accordance with the PROFIBUS & PROFINET International (PI) organization's current guideline into the PROFINET slot/subslot addressing model.

Commissioning is done via the Ethernet port with either a direct connection to the PC or, if already installed, during run time via a PROFINET switch. netLINK PROXY is configured with SYCON.net, an FDT/DTM based planning, configuration and diagnostic tool.

With just a few steps, the netLINK PROXY is up and running. If there is no Slave GSD file available, a scan function is able to auto-identify the Slave on PROFIBUS. After the configuration and the I/O process data length is known, SYCON.net converts the parameters automatically into a standardized GSDML file. This file imports to any PROFINET controller configuration utility, making for effortless operation.

The netLINK PROXY is powered by 24 V. During mounting the voltage can be tapped from the DP Slave and via the 2-pin COMBICON connector. The short distance on PROFIBUS makes a terminator unnecessary.

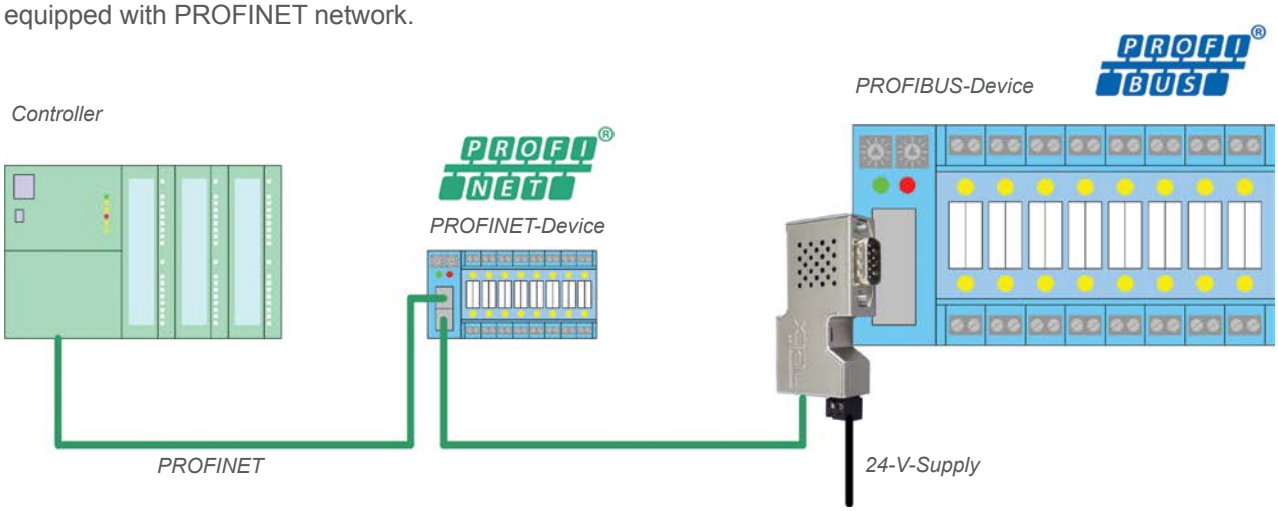
netLINK PROXY is a cost-efficient and easy alternative to upgrade from PROFIBUS Slave to PROFINET without having to redesign or replace your PROFIBUS device.

- **Integrate a single PROFIBUS-DP Slave into a PROFINET network**
- **Eliminate the redesign/replacement of existing PROFIBUS devices for PROFINET**
- **Easily mounts directly on PROFIBUS Slave port**
- **Compatible with any PROFIBUS Slave**
- **Features alarm, diagnostics and DPV1 support**
- **Automatic PROFINET GSDML file generation**
- **Certified device without need for own PROFINET certification**

Technical Data/Product Overview

Application

The following illustration shows a typical application of one or more netLINK PROXIES in an automation plant equipped with PROFINET network.



netLINK PROXY is plugged directly onto the PROFIBUS-DP connector of the Slave. It is powered by 24 V. The RJ45 PROFINET jack is connected to PROFINET. The PROXY is configured via a PC with the SYCON.net configuration tool suite.

The DP Slave configuration data is identified by scan and GSD file. Based on this configuration SYCON.net generates a GSDML file for the PROFINET controller configuration.

Technical Data

Parameter	Value
Processor	netX 50
Connectors	Mini-COMBICON 2-pole RJ45-female connector, D-Sub 9-pin male connector
LED Indicators	SYS, COM, LINK, Rx/Tx
Power Supply	18–30 V/100 mA @ 24 V
Dimensions (L x W x H)	65 x 48 x 16 mm

Parameter	Value
Operating Temp.	0°C to 50°C
Mounting	Onto PROFIBUS female connector
Weight	40 g
CE Mark	Yes
Emission	CISPR 11 Class A
Noise Immunity	EN 61131-2:2003

Overview

Article	Article Number	Article Description
NL 51N-DPL	1703.430	netLINK Proxy Ethernet PROFIBUS-DP-Link

cifX

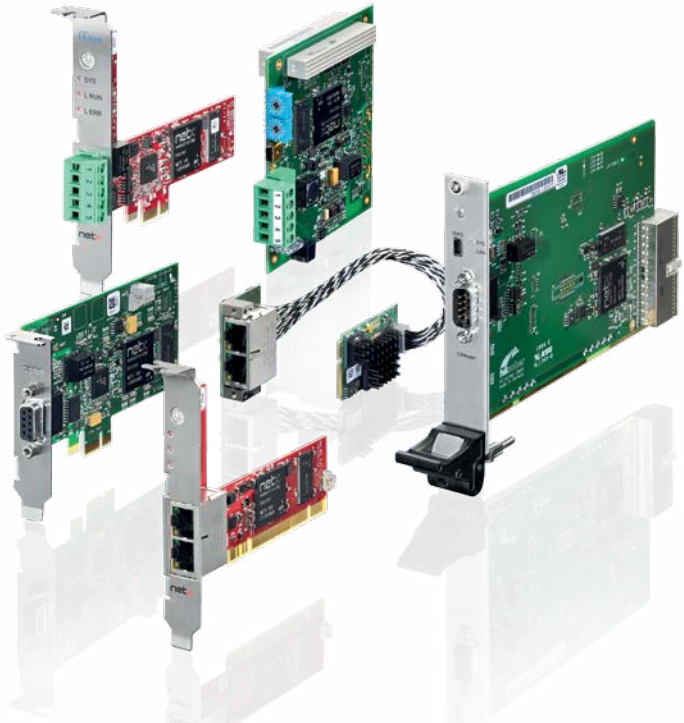
PC Cards for Real-Time Ethernet and Fieldbus

The cifX PC card family provides the fastest and easiest way to enhance automation systems with a Fieldbus or Real-Time Ethernet interface. Built on Hilscher's netX network controller chips, the cifX cards are offered in a variety of PC form factors, such as PCI, PCI Express, Compact PCE, Mini PCI and PC/104. With standardized interfaces, cifX cards use the same driver and tools to support a range of protocol options, including all network standards for Fieldbus and Real-Time Ethernet, independent of card format.

The protocol stack is executed autonomously on the PC card and process data exchange with the host is done via Dual-Port-Memory or DMA (Direct Memory Access). A change of communication protocol is done by simply loading a different firmware. A rotary switch delivers an easy and reliable slot assignment for the PCI and PCI Express card types. Also available are special configurations, such as integrated NVRAM, 2-channel cards, or detached network interface.

A complete software package is included with product delivery. This package includes the FDT-based configuration tool (IEC standard) for all products and networks, loadable firmware, documentation and a driver toolkit.

Since the cifX cards are based on Hilscher's netX network controller chip, Hilscher can guarantee a minimum 10 years of availability.



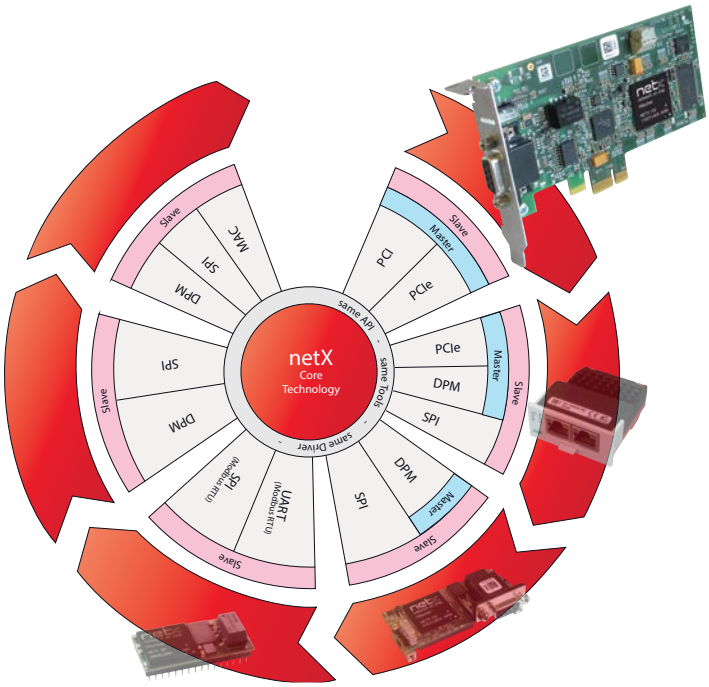
- **Supports all major industrial protocols**
- **Available in all common PC card formats**
- **One hardware for all Real-Time Ethernet protocols**
- **Master and Slave**
- **Wide range of device drivers**
- **Same application interface for all networks**

cifX—Communication for PC-based Automation

Same Function—Same API—Same Tools

The cifX Platform Strategy presents a wide range of communication solutions to the user—from standard PC cards to the integration of the multi-protocol netX chip. All solutions—whether Master or Slave—have the same interface to the application and use the same tools.

After the initial integration of the application interface, the change to a different hardware format or a different physical host interface is strictly a hardware optimization process—there are no fundamental changes needed in the software structure.



Real-Time Ethernet and Fieldbus Protocols

As specialists in industrial communication, Hilscher offers the largest selection of protocols used in factory automation. Besides traditional Fieldbus, all major Real-Time Ethernet protocols are available as Master or Slave.

Widest Range of Device Drivers

For quick and easy integration, Hilscher offers a wide range of device drivers. In addition to the free included C Toolkit, drivers for third-party softPLCs and all relevant operating systems are available.

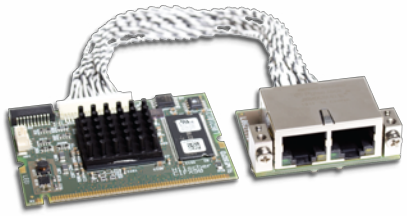
NVRAM Included

Hilscher offers cifX cards with integrated NVRAM for secure data storage, especially useful in compact box PCs. The user can freely access the non-volatile memory via standard device driver. In case of a voltage loss, key data will remain available. NVRAM is available for:

- Mini PCI Express—incl. 128 kByte MRAM
- Low Profile Express—incl. 128 kByte MRAM

Mini PCI Express

Low Profile PCIe



Mini PCI

PCI

PCI Express

Detached Network Interface

For flexible usage in encapsulated systems, the embedded cifX cards provide a detached network interface. Available for:

- Mini PCI—incl. 15-cm cable
- Mini PCI Express—incl. 15-cm cable
- PC/104—optional 15-cm cable
- PCI-104—optional 15-cm cable

Universal PC Card

The Hilscher cifX PC cards are based on the netX 100 multi-protocol chip and are designed as universal cards, which means the same card can be used as a Master or as a Slave. One hardware supports all Real-Time Ethernet systems—all using the same application interface. A change of functionality is done by simply loading the appropriate firmware and adding a software license for the Master.

Compact PCI

PC/104

PCI 104

Technical Data/Product Overview

Technical Data

Parameter	Value
Weight	Max. 150 g
CE Mark	Yes
Certification	RoHS, Reach, UL
Emission	EN 55011:2009 + A1:2010, CISPR 11 Class A
Galvanic Isolation	Potential free isolated

Parameter	Value
\ET	Extended temperature range
\MR	128 kByte MRAM
\F	Detached network interface
Dual-Port-Memory	16 kByte, 8-/16 Bit
LED Indicators	SYS, COM 0, COM 1, LINK, Rx/Tx

Article	System Interface	Operating Voltage	Operating Temp.	Dimensions (LxHxW)
CIFX 50-XX	PCI, 33 MHz, DPM, IO-DMA	3.3 V/typ. 650 mA	-20°C to 55°C/-20°C to 70°C	120 x 86 x 18.5 mm
CIFX 50E-XX	PCI Express, One-Lane-Port	3.3 V/typ. 800 mA	-20°C to 55°C/-20°C to 70°C	120 x 73.2 x 18.5 mm
CIFX 70E-XX	Low Profile PCI Express, One-Lane-Port	3.3 V/typ. 800 mA	-20°C to 65°C	119 x 69 x 18.5 mm
CIFX 80-XX	Compact PCI, 33 MHz, DPM, IO-DMA	3.3 V/typ. 650 mA	-20°C to 70°C	162.2 x 100 x 20 mm
CIFX 90-XX\F	Mini PCI, 33 MHz, DPM, IO-DMA	3.3 V/typ. 650 mA	-20°C to 70°C	60 x 45 x 9.5 mm
CIFX 90E-XX\F	Mini PCI Express, One-Lane-Port	3.3 V/typ. 800 mA	-20°C to 55°C/-20°C to 70°C	51 x 30.2 x 11 mm
CIFX 104-XX	PC/104, 33 MHz, DPM	3.3 V/typ. 650 mA	-20°C to 70°C	97 x 91 x 24 mm
CIFX 104C-XX	PCI 104, 33 MHz, DPM, IO-DMA	3.3 V/typ. 650 mA	-20°C to 70°C	97 x 91 x 24 mm

System bus / Article	Universal Card (Master & Slave)	2)	CANopen	CC-Link 1)	DeviceNet	PROFIBUS	EtherCAT	EtherNet/IP	POWERLINK 1)	Modbus	PROFINET	Sercos	COMX 1)	NVRAM	2-Channel
PCI CIFX 50	✓	✓	✓	✓	✓	✓ 5)	✓	✓	✓	✓	✓	✓	✓	–	✓ 4)
PCI Express CIFX 50E	✓	✓	✓	✓	✓	✓ 5)	✓	✓	✓	✓	✓	✓	✓	–	✓ 4)
Low Profile PCIe CIFX 70E	✓	–	✓	–	✓	✓ 5)	✓	✓	✓	✓	✓	✓	✓	✓ 3)	–
Compact PCI CIFX 80	✓	–	✓	–	✓	✓ 5)	✓	✓	✓	✓	✓	✓	✓	–	–
Mini PCI CIFX 90	✓	–	✓	✓	✓	✓ 5)	✓	✓	✓	✓	✓	✓	✓	–	–
Mini PCIe CIFX 90E	✓	–	✓	✓	✓	✓ 5)	✓	✓	✓	✓	✓	✓	✓	✓ 3)	✓ 4)
PC/104 CIFX 104	✓	–	✓	✓	✓	✓ 5)	✓	✓	✓	✓	✓	✓	✓	–	–
PCI 104 CIFX 104C	✓	–	✓	✓	✓	✓ 5)	✓	✓	✓	✓	✓	✓	✓	–	–

1) Slave only
2) Master only
3) NVRAM available for all protocols
4) 2-Channel card available in following combinations:
PCI: 2ASM, 2DP, 2CO, 2DN, 2DP\CO, 2DP\DN, 2CO\DN
PCI Express: 2ASM
Mini PCI Express: 2DP, 2CO, 2DN, 2DP\CO 2DP\DN, 2CO\DN
5) Also MPI

netHOST FB

LAN-Controlled Fieldbus Master for DIN Rail

The netHOST FB is a full-featured and autonomously operating Fieldbus Master allowing industrial PCs and other embedded systems without PC card slots to control Fieldbus networks over an ordinary Ethernet network.

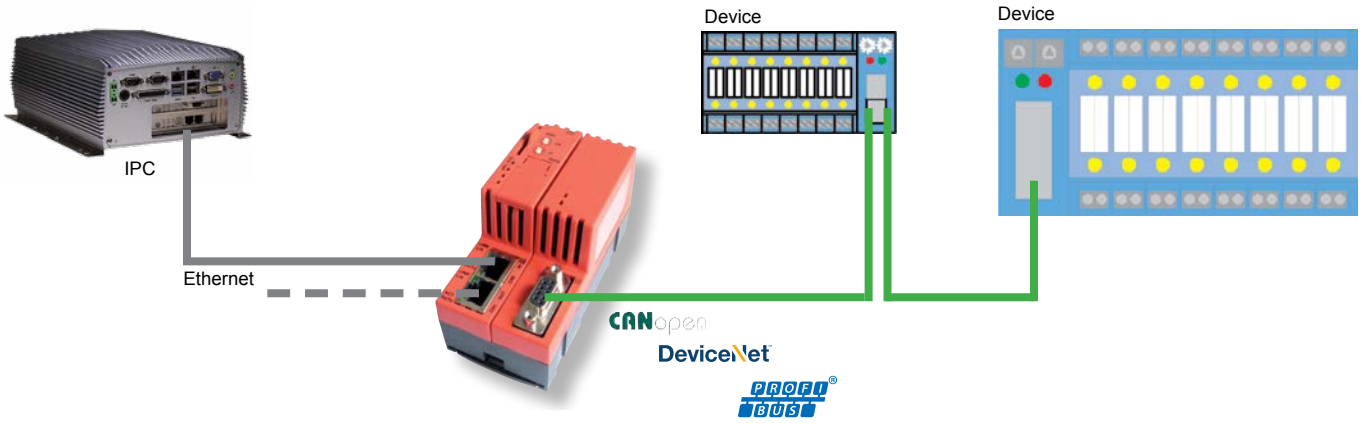
A simple TCP/IP-based transport protocol transfers the services between the controller and netHOST FB. For device integration, a DLL for Windows and a 'C' source code for embedded solutions is provided. In both cases, the interface (API) is identical to Hilscher's cifX PC cards. This makes the netHOST FB a remotely controllable PC card for field installations.

100 bytes of process data inputs and outputs can be exchanged over Ethernet in about one millisecond. Acyclic services are supported as well. SYCON.net configuration software is included.

Two devices can be used in combination for redundant applications. Services are provided to execute a controlled switchover in the event one device fails or there is a line break. In case of failure, the memory card slot allows service personnel to perform a firmware and configuration recovery on a replacement device in less than a minute.

- **Controlled via simple TCP/IP-based access protocol**
- **For PROFIBUS, CANopen and DeviceNet**
- **Identical API as Fieldbus PC cards**
- **With application example, TCP/IP driver/coding and DLL as source code**
- **In dual-mode applicable for redundant operations**

The following illustration shows a typical application of the netHOST FB module connecting CANopen, DeviceNet or PROFIBUS fieldbus networks in an automation plant over a standard Ethernet network to an embedded industrial PC.



Technical Data/Product Overview

Technical Data

Parameter	Value
LAN Ethernet	IEEE 802.3 10/100 Base-T Open TCP/IP transport protocol Port 50111 and 50112 128 Bytes I and O in 1.33 msec typical
PROFIBUS Master	IEC 61158 DP, DPV1, Class 1/Class 2 Master 125 Slaves/5736 Bytes I and O data
CANopen Master	EN 50325-4 SDO, PDO, NMT, SYNC EMCY 126 Nodes/3854 Bytes I and O data 11 Bit, 29 Bit Identifier CAN Layer 2
DeviceNet Master	IEC 62026-3 UCMM, Predefined Master/Slave Conn. COS, Poll, Cyclic I/O-Connection 64 Slaves/3854 Bytes I and O data Explicit Message Channel data access

Parameter	Value
Operating Temp.	0°C to 60°C
Storage Temp.	-40°C to 85°C
Operating Voltage	18–30 V/130 mA @ 24 V
Dimensions (L x W x H)	100 x 52 x 70 mm (without connector)
Interfaces	USB Mini-B, 2 x RJ45, D-Sub DE-9 connector, COMBICON 5-pin
LED Indicators	SYS, APL, L/A, Rx/Tx, bus specific
Weight	150 g
CE Mark	Yes
UL Approval	UL 508
RoHS Conform	Yes
REACH EG Nr.1907/2006	Yes
Emission	CISPR 11 Class A
Noise Immunity	EN 61131-2:2003
Vibration, Shock	EN 61131-2:2003
Mounting	DIN Rail, EN-50022 35 x 7.5 mm
Processor	netX 100
Card Slot	MMC, SD

Overview

Article	Article Number	Article Description
NHST-T100-DP/DPM	1890.410	netHOST PROFIBUS Master
NHST-T100-CO/COM	1890.500	netHOST CANopen Master
NHST-T100-DN/DNM	1890.510	netHOST DeviceNet Master

netHOST RTE

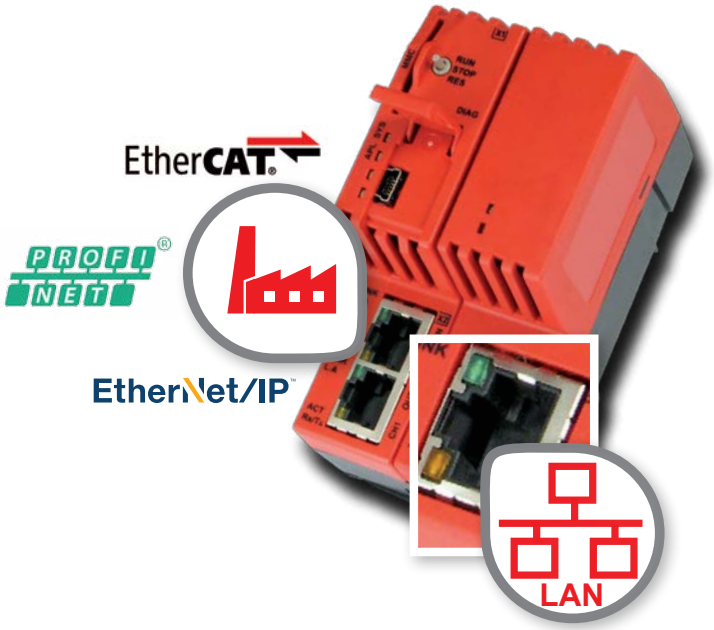
LAN-Controlled Real-Time Ethernet Master for DIN Rail

The netHOST RTE is a full-featured and autonomously operating Real-Time Ethernet Master allowing industrial PCs and other embedded systems without PC card slots to control Real-Time Ethernet networks over an ordinary Ethernet network.

A simple TCP/IP-based transport protocol transfers the services between the controller and netHOST RTE. For device integration, a DLL for Windows and a 'C' source code for embedded solutions is provided. In both cases, the interface (API) is identical to Hilscher's cifX PC cards. This makes the netHOST RTE a remotely controllable PC card for field installations.

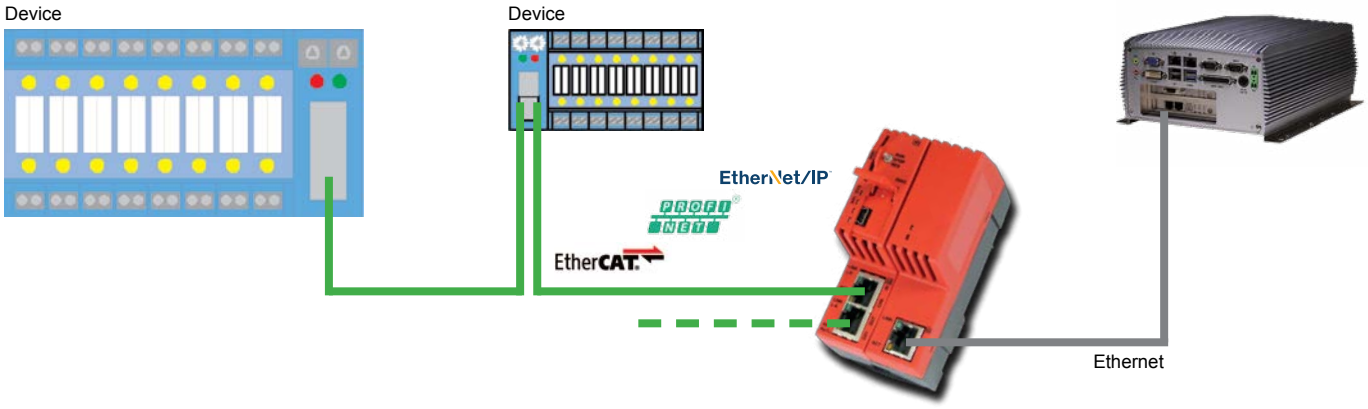
100 bytes of process data inputs and outputs can be exchanged over Ethernet in about one millisecond. Acyclic services are supported as well. SYCON.net configuration software is included.

Two devices can be used in combination for redundant applications. Services are provided to execute a controlled switchover in the event one device fails or there is a line break. In case of failure, the memory card slot allows service personnel to perform a firmware and configuration recovery on a replacement device in less than a minute.



- **Controlled via simple TCP/IP-based access protocol**
- **For PROFINET, EtherCAT and EtherNet/IP**
- **Identical API as Real-Time Ethernet PC cards**
- **With application example, TCP/IP driver/coding and DLL as source code**
- **In dual-mode applicable for redundant operations**

The following illustration shows a typical application of the netHOST RTE module connecting EtherCAT, EtherNet/IP or PROFINET Real-Time Ethernet networks in an automation plant over a standard Ethernet network to an embedded industrial PC.



Technical Data/Product Overview

Technical Data

Parameter	Value
LAN Ethernet	IEEE 802.3 10 Base-T/100 Base-TX Open TCP/IP transport protocol Port 50111 and 5011 128 Bytes E and A in 1.33 ms typical
EtherCAT Master	IEC 61158 PDO and SDO(CoE) 200 Slaves/5760 I, 5760 O Data Bytes
PROFINET Master	IEC 61158 RTC, RTA, DCP, CL-RPC, Alarms 128 Slaves/5712 I, 5760 O Data Bytes
EtherNet/IP Scanner	IEC 61158 UCMM Class 3, DLR Beacon Explicit Message Get/Set Attribute Single/All 64 Slaves/5712 I, 5760 O Data Bytes

Parameter	Value
Operating Temp.	0°C to 60°C
Storage Temp.	-40°C to 85°C
Operating Voltage	18–30 V/130 mA @ 24 V
Dimensions (L x W x H)	100 x 52 x 70 mm (without connector)
Interfaces	USB Mini-B, 2 x RJ45, D-Sub DE-9 connector, COMBICON-5 pin
LED Indicators	SYS, APL, L/A, Rx/Tx, bus specific
Weight	150 g
CE Mark	Yes
UL Approval	UL 508
RoHS Conform	Yes
REACH EG Nr.1907/2006	Yes
Emission	CISPR 11 Class A
Noise Immunity	EN 61131-2:2003
Vibration, Shock	EN 61131-2:2003
Mounting	DIN Rail, EN-50022 35 x 7.5 mm
Processor	netX 100
Card Slot	MMC, SD

Overview

Article	Article Number	Article Description
NHST-T100-EN/ECM	1890.110	netHOST EtherCAT Master
NHST-T100-EN/PNM	1890.840	netHOST PROFINET Master
NHST-T100-EN/EIM	1890.820	netHOST EtherNet/IP Scanner

netSCADA Modbus®

Modbus Node with Integrated Web Visualization

netSCADA Modbus upgrades any Modbus-enabled network with visualization and control using standard web browsers and user-friendly point-and-click tools. Visualization pages can be accessed and displayed on any device with browser support including smartphones and tablets. Installation costs are minimized because the unit is accessed by the existing Ethernet infrastructure.

The device itself links to the network with simple Modbus RTU protocol over serial RS-232, RS-422 or RS-485. Two Ethernet ports, with integrated 2-port switch functionality, connect the unit to the existing network with no need for additional Ethernet switches.

The web visualization pages are accessed with any of the common web browsers, without having to use plugins such as ActiveX,® Flash,® Java® or Silverlight.™ Multiple browsers at a time can be supported. Although native web technology is being used, there is no HTML code programming necessary. Front-end page creation and dynamic elements are easily and quickly configured with a few mouse clicks. Standard features include color change, movement, scaling, user rights, multilingual support, and the support of all common graphic formats.

In addition to the monitoring of online data, netSCADA Modbus supports Alarming and Acknowledgment and Data Trending. A large catalog of high-quality graphics designed for the industrial sector is optionally available as a library.

- **Upgrade a simple Modbus-enabled network into a full-featured Visualization and Control System**
- **Monitor and control the automation system over any standard web browser**
- **Use browser-enabled mobile phone, tablet or computer to access machine or process data—at any time and from anywhere.**
- **Reduce costs by using existing IT infrastructures**
- **Minimize set-up time with point-and-click engineering tools**

Technical Data/Product Overview

Technical Data

Parameter	Value
Processor	netX 52
Power Supply Supply Connection	18–30 V/60 mA @ 24 V COMBICON MC 1.5/5 5-pin, light gray
Ethernet Connection Ethernet	2 x RJ45 with integrated switch 10/100 Base-TX Ethernet
Modbus Connection Modbus Interface	COMBICON MSTB 2.5/5 5-pin, green RS-232, RS-485, RS-422 each non-isolated
LED Indicators	SYS, CONFIG, MODBUS, ACT, LOAD
Operating Temp.	0°C to 50°C
Dimensions (L x W x H)	88 x 22.5 x 78 mm
Weight	Approx. 84 g
Protection Class	IP20
Mounting	DIN EN 60715
EC Conformity	Directive 2004/108/EG
Real-Time Clock Real-Time Clock Buffering Clock Synchronization	Hardware supported, precision 20 ppm 7 days min., maintenance-free by SuperCap Manually/cyclic over SNTP protocol
Web Application Memory Trending Memory	6 MByte, non-volatile FLASH memory 8 MByte, non-volatile FLASH memory

Parameter	Value
Modbus-RTU Function Codes Baud Rate	Slave/Master to 16 Slaves FC1, FC2, FC3, FC4, FC5, FC15, FC16 1.2 kBaud to 115.2 kBaud
SNTP Client FTP Server HTTP Server	RFC 2030, Port 123, Time Synchronization RFC 959, Port 21, Passive Mode RFC 2616, Port 80, HTTP/1.1
Supported Browsers	Internet Explorer 8/9/10, Mozilla Firefox 24, Safari 5.1.7, Chrome 31, Opera 16.0, Blackberry 6 or 10 with 3 simultaneous connections
Web Visualization Engineering Tool Variables/Data Points Web Memory Consumption Standard Functions Adaptability Multilingualism	atvise® (webMI) with Hilscher Plug-in atvise builder, Multi-user License Unlimited 200 kByte per page typically Alarm, Trend and User Management Entirely customizable using Java Scripting Yes, German/English as standard
Trend Variables Recording Time	32 max., Sampl. Rate 200 msec to 24 hours 8 Variables @ 60 seconds Rate = 45 days 18 Variables @ 1 hour Rate = 1200 days

Overview

Article	Article Number	Article Description
NSCD-T52-RS/ATVISE/MBR	1880.100/ATVISE/MBR	netSCADA Modbus, Modbus Node with integrated Web Visualization atvise
ATVISE ELEMENTS	1701.432	Vector Graphics Library with over 4000 images of the industrial sector
ATVISE SUPPORT SERVICE	0027.002	Half-day atvise Phone Support/Adaption/Programming/Personal Training @Hattersheim

netSCADA Modbus® TCP

Web-HMI Server for Modbus TCP/IP Systems

The netSCADA Modbus TCP brings your Modbus TCP-networked automation equipment and industrial manufacturing systems to the web. The device links to the targeted system with the vendor-neutral Modbus TCP/IP protocol as client or server. The integrated 2-port Ethernet switch on the underside connects the device to the existing LAN network. The independent third port Ethernet on the front connects to the Modbus TCP network.

The web visualization pages are accessed with any of the common web browsers, without having to use plugins such as ActiveX,® Flash,® Java® or Silverlight.™ The interface scales automatically and adjusts to work on any web browser-enabled device from a smartphone to a web-enabled High-definition television. Multiple browsers at a time can be supported.

Although native web technology is being used, there is no HTML code programming necessary. Front-end page creation and dynamic elements are easily and quickly configured with a few mouse clicks. The Modbus values as basis are defined as tags in a symbol editor and applied to the controls afterwards. Standard features include color change, movement, scaling, user rights, multilingual support, and the support of all common graphic formats.

In addition to the monitoring of online data, netSCADA Modbus TCP supports Alarming and Acknowledgment and Data Trending. A large catalog of high-quality graphics designed for the industrial sector is optionally available as a library.

- **Bring your Modbus TCP-networked automation equipment to the web**
- **Enable platform neutral and free-of-charge visualization over all common browsers**
- **Monitor and operate your machinery from any mobile device anytime, anywhere**
- **Touchscreen-ready controls and gadgets enable fast implementation without programming**

Technical Data/Product Overview

Technical Data

Parameter	Value
Processor	netX 52
Power Supply Supply Connection	18–30 V/60 mA @ 24 V COMBICON MC 1.5/5 5-pin, light gray
LAN Connection Tranmission Speed	2 x RJ45 with integrated switch 10/100 Base-TX Ethernet
Modbus Connection Tranmission Speed	1 x RJ45 10/100 Base-TX Ethernet
LED Indicators	SYS, CONFIG, MODBUS, ACT, LOAD
Operating Temp.	0°C to 50°C
Dimensions (L x W x H)	88 x 22.5 x 78 mm
Weight	Approx. 84 g
Protection Class	IP20
Mounting	DIN EN 60715
EC Conformity	Directive 2004/108/EG
Real-Time Clock Real-Time Clock Buffering Clock Synchronization	Hardware supported, precision 20 ppm 7 days min., maintenance-free by SuperCap Manually/cyclic over SNTP protocol
Web Application Memory Trending Memory	6 MByte, non-volatile FLASH memory 8 MByte, non-volatile FLASH memory

Parameter	Value
Modbus TCP/IP Modes Modbus Function Codes	Server or Client to 16 servers FC1, FC2, FC3, FC4, FC5, FC15, FC16
SNTP Client FTP Server HTTP Server	RFC 2030, Port 123, Time Synchronization RFC 959, Port 21, Passive Mode RFC 2616, Port 80, HTTP/1.1
Supported Browsers	Internet Explorer 8/9/10, Mozilla Firefox 24, Safari 5.1.7, Chrome 31, Opera 16.0, Blackberry 6 or 10 with 3 simultaneous connections
Web Visualization Engineering Tool Variables/Data Points Web Memory Consumption Standard Functions Adaptability Multilingualism	atvise® (webMI) with Hilscher Plugin atvise builder, Multi-user License Unlimited 200 kByte per page typically Online, Alarm, Trend, User Management Entirely customizable using Java Scripting Yes, German/English as standard
Trend Variables Recording Time	32 max., Sampl. Rate 200 msec to 24 hours 8 Variables @ 60 seconds Rate = 45 days 18 Variables @ 1 hour Rate = 1200 days

Overview

Article	Article Number	Article Description
NSCD-T52-EN/ATVISE/OMB	1880.110/ATVISE/OMB	netSCADA ModbusTCP, Web-HMI Server for Modbus TCP/IP systems
ATVISE ELEMENTS	1701.432	Vector Graphics Library with over 4000 images of the industrial sector
ATVISE SUPPORT SERVICE	0027.002	Half-day atvise Phone Support/Adaption/Programming/Personal Training @ Hattersheim

netANALYZER Scope

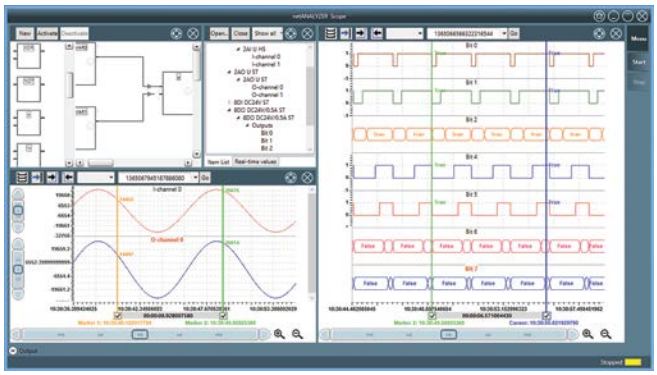
The Oscilloscope for Your Process Data

The netANALYZER Scope is a software-based oscilloscope for the acquisition and analysis of process automation data. It captures all process signals directly from the network and presents data visually in graphical or tabular views. Each process signal is provided with a time-stamp, which allows the exact correlation of the single samples to each other. Triggers, markers and cursors assist the user during data analysis.

netANALYZER Scope supports automation processes that require the transmission of many cyclic process signals. Process data transmitted on the automation system's Real-Time Ethernet network originate from a variety of sources, including, for example, sensors, drives' controls and valve positioners. Even if the communication on the Ethernet network is operating correctly, error-free operation of the process is not guaranteed. A control value of a drive may be faulty, or a sensor may deliver an erroneous value. This can lead to malfunction, and in the worst case to a breakdown of production.

To provide troubleshooting in the event of a failure, netANALYZER Scope acquires and analyzes process data directly from the Ethernet network. An adaption of the automation process itself is not necessary to perform the data analysis, as neither the Slave software nor PLC program are touched. Since only the standardized Ethernet traffic serves as a basis for analysis, netANALYZER Scope performs in any automation environment, including in networks comprised of components from different manufacturers. All recorded data can be fully stored, copied and reloaded, making it possible to get a remote expert's advice quickly and without delay.

Clear text names of process signals can be imported directly from the engineering project or Slave definition files. If the project file is not available on site, the configuration can be entered manually.



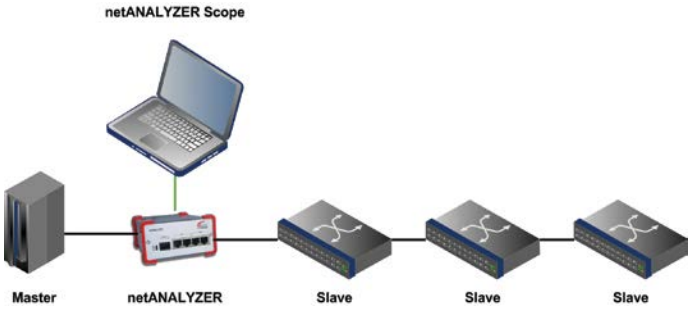
- **Analysis of automation processes**
- **Investigate sporadic problems using the comprehensive trigger functionality**
- **Acquisition of all process signals directly from the network**
- **No adaption of the PLC software necessary**
- **Supports EtherCAT and PROFINET Real-Time Ethernet networks**

Technical Data/Product Overview

Passive and Cycle-Accurate Recording of Process Data

The netANALYZER Scope software, in combination with the proven netANALYZER hardware, allows the cycle-accurate recording of all process values that are transmitted via the automation network.

This is achieved by placing the netANALYZER, as a passive and non-reactive component, directly behind the network's Master in the communication line. Since all process data to and from all Slaves pass this network point, a complete and accurate representation of all cyclic process values can be recovered by the netANALYZER Scope analysis software.



Technical Details

netANALYZER Scope	
History Depth and Signal Count	Unlimited, only restricted by PC memory
Signal Types	Input and output process values
Required for Live Capture	netANALYZER device NANL-C500-RE or NANL-B500E-RE or NANL-B500G-RE
Full Version	Unlimited capture duration Requires netANALYZER device with activated netANALYZER Scope license
Free Evaluation Version	Limited captured duration Runs on any netANALYZER device without netANALYZER Scope license
Offline Mode	Loading and viewing of previously saved capture data of any length is always possible, even without an attached netANALYZER device and without license
Trigger	Freely configurable complex trigger conditions (comparison, boolean operations, signal change detection)
Operating Systems	Windows XP Windows Vista Windows 7 Windows 8
Supported Systems	EtherCAT PROFINET
Project Import	EtherCAT: ENI PROFINET: GSDML And/or manual signals configuration

Overview

Article	Article Number	Article Description
LIC/SCP-2013-10	8582.010	netANALYZER Scope software license (no netANALYZER device included)
NANL-C500-RE/SCP	7310.100/SCP	netANALYZER Scope software plus NANL-C500-RE device (licensed)
NANL-B500E-RE/SCP	7311.100/SCP	netANALYZER Scope software plus NANL-B500E-RE device (licensed)
NANL-B500G-RE/SCP	7313.100/SCP	netANALYZER Scope software plus NANL-B500G-RE device (licensed)

netLINK SCADA

Web Visualization in a Connector for S7 300/400 PLCs

netLINK SCADA allows the user to operate and monitor SIMATIC® S7® controlled applications over the web. The device links to the PLC via PROFIBUS or MPI and builds a web site displaying the contents of the PLC on any web browser. The bus connector is looped through to allow seamless integration into existing PROFIBUS/MPI installations. netLINK SCADA can be powered from an external supply with 24 V or directly over the S7 PLC connector.

The visualization project is stored in the connector without consuming any resources of the PLC, ideal for retrofit projects. The web visualization pages are accessed with any of the common web browsers, without having to use plugins such as ActiveX,® Flash,® Java® or Silverlight.™ Multiple browsers at a time can be supported.

Although native web technology is being used, there is no HTML code programming necessary. Front-end page creation and dynamic elements are easily and quickly configured with a few mouse clicks. Standard features include color change, movement, scaling, user rights, multilingual support, and the support of all common graphic formats.

In addition to the monitoring of online data, netLINK SCADA supports Alarming and Acknowledgment and Data Trending. A large catalog of high-quality graphics designed for the industrial sector is optionally available as a library.

- **Upgrade a PROFIBUS/MPI SIMATIC S7 system into a fully featured visualization and control system**
- **Use browser-enabled mobile phone, tablet or computer to access machine or process data—at any time and from anywhere.**
- **Import symbols and variables directly from a STEP 7® project**
- **Minimize set-up time with point-and-click engineering tools**

Technical Data/Product Overview

Technical Data

Parameter	Value
Processor	netX 50
Power Supply Supply Connection	18–30 V/60 mA @ 24 V Mini-COMBICON 2-pin or D-Sub-9
Ethernet Connection Ethernet	1 x RJ45 10/100 Base-TX Ethernet
Profibus/MPI Connection Baud Rate	D-Sub-9 pinout in acc. with IEC 61158 9.6 kBaud–12 MBaud, automatic detection
LED Indicators	SYS, COM, ACT, LINK
Operating Temp.	0 °C to 50°C
Dimensions (L x W x H)	65 x 48 x 16 mm
Weight	Approx. 40 g
Protection Class	IP20
Mounting	Directly on PLC/On any free bus connector
EG Conformity	Directive 2004/108/EG
Real-Time Clock Real-Time Clock Buffering Clock Synchronization	Software supported, precision 50 ppm None Manually/cyclic over SNTP protocol
Web Application Memory Trending Memory	3.5 MByte, non-volatile FLASH memory 2 Mbyte, volatile RAM memory

Parameter	Value
PLC Type Profibus/MPI Connections	SIMATIC S7 300, 400 CPUs/CPs with Profibus/MPI connectivity To 32 PLCs simultaneously
SNTP Client FTP Server HTTP Server	RFC 2030, Port 123, Time Synchronization RFC 959, Port 21 RFC 2616 HTTP/1.1, Port 80
Supported Browsers	Internet Explorer 8/9/10, Mozilla Firefox 24, Safari 5.1.7, Chrome 31, Opera 16.0, Blackberry 6 or 10 with 3 simultaneous connections
Web Visualization Engineering Tool Variables/Data Points Web Memory Consumption Standard Functions Adaptability Multilingualism	atvise® webMI by CERTEC atvise builder, Multi-user License, for free Unlimited 200 kByte per page, typically Alarm, Trend and User Management Entirely customizable using Java Scripting Yes, German/English as standard
Trend Variables	32 max., Sampl. Rate 200 msec to 24 hours
Recording Time	8 Variables @ 60 seconds Rate = 11 days 18 Variables @ 1 hour Rate = 300 days

Overview

Article	Article Number	Article Description
NL 50N-MPI-ATVISE	1701.431	Web Visualization in a connector for S7 300/400 PLCs
ATVISE ELEMENTS	1701.432	Vector Graphics Library with over 4000 images of the industrial sector
ATVISE SUPPORT SERVICE	0027.002	Half-day atvise Phone Support/Adaption/Programming/Personal Training @ Hattersheim

netSCADA PROFINET

Web-HMI Server for SIMATIC® PROFINET Controllers

The netSCADA PROFINET brings PROFINET S7 PLC-controlled automation equipment and industrial manufacturing systems to the web. The device links to the targeted PLC with the Ethernet protocol ISO on TCP (RFC1006) that is supported by any PROFINET S7 PLC. The integrated 2-port Ethernet switch on the underside connects the device to the existing LAN network. The independent third Ethernet port on the front connects to the PLC.

The web visualization pages are accessed with any of the common web browsers, without having to use plugins such as ActiveX,® Flash,® Java® or Silverlight.™ The interface scales automatically and adjusts to work on any web browser-enabled device from a smartphone to a web-enabled High-definition television. Multiple browsers at a time can be supported.

Although native Web Technology is being used, there is no HTML code programming necessary. Front-end page creation and dynamic elements are easily and quickly configured with a few mouse clicks. The PLC values as basis are defined as tags in a symbol editor and applied to the controls afterwards. Standard features include color change, movement, scaling, user rights, multilingual support, and the support of all common graphic formats.

In addition to the monitoring of online data, netSCADA PROFINET supports Alarming and Acknowledgment and Data Trending. A large catalog of high-quality graphics designed for the industrial sector is optionally available as a library.

- **Bring your PROFINET S7 PLC-controlled machinery to the web**
- **Enable platform neutral and free-of-charge visualization over all common browsers**
- **Monitor and operate your machinery from any mobile device anytime, anywhere**
- **Touchscreen-ready controls and gadgets enable fast implementation without programming**

Technical Data/Product Overview

Technical Data

Parameter	Value
Processor	netX 52
Power Supply Supply Connection	18–30 V/60 mA @ 24 V COMBICON 1.5/5 5-pin, light gray
LAN Connection Transmission Speed	2 x RJ45 with integrated switch 10/100 Base-TX Ethernet
PROFINET Connection Transmission Speed	1 x RJ45 10/100 Base-TX Ethernet
LED Indicators	SYS, CONFIG, RFC1006, ACT, LOAD
Operating Temp.	0 °C to 50°C
Dimensions (L x W x H)	88 x 22.5 x 78 mm
Weight	Approx. 84 g
Protection Class	IP20
Mounting	DIN EN 60715
EG Conformity	Directive 2004/108/EG
Real-Time Clock Real-Time Clock Buffering Clock Synchronization	Hardware supported, precision 20 ppm 7 days min., maintenance-free by SuperCap Manual/cyclic over SNTP protocol
Web Application Memory Trending Memory	6 MByte, non-volatile FLASH memory 8 Mbyte, non-volatile FLASH memory

Parameter	Value
PLC Types PLC Data Area Access PLC Ethernet Protocol	S7-1200/1500, PROFINET S7-300/400 Input, Output, Merker, Counters, Timers RFC 1006, Port 102, on PROFINET
SNTP Client FTP Server HTTP Server	RFC 2030, Port 123, Time Synchronization RFC 959, Port 21, Passive Mode RFC 2616, Port 80, HTTP/1.1
Supported Browsers	Internet Explorer 8/9/10, Mozilla Firefox 24, Safari 5.1.7, Chrome 31, Opera 16.0, Blackberry 6 or 10 with 3 simultaneous connections
Web Visualization Engineering Tool Variables/Data Points Web Memory Consumption Standard Functions Adaptability Multilingualism	atvise® (webMI) with Hilscher Plugin atvise builder, Multi-user License Unlimited 200 kByte per page, typically Online, Alarm, Trend, User Management Entirely customizable using Java Scripting Yes, German/English as standard
Trend Variables	32 max., Sampl. Rate 200 msec to 24 hours
Recording Time	8 Variables @ 60 seconds Rate = 45 days 18 Variables @ 1 hour Rate = 1200 days

Overview

Article	Article Number	Article Description
NSCD-T52-EN/ATVISE/PN	1880.110/ATVISE/PN	netSCADA PROFINET, Web-HMI server for SIMATIC® PROFINET controllers
ATVISE ELEMENTS	1701.432	Vector Graphics Library with over 4000 images of the industrial sector
ATVISE SUPPORT SERVICE	0027.002	Half-day atvise Phone Support/Adaption/Programming/Personal Training @Hattersheim

netLINK-MPI/ netTAP-MPI

MPI/DP/PPI to Ethernet Converter for SIMATIC® S7®

netLINK-MPI and netTAP-MPI enable direct communication between two or more PLCs over Ethernet. It's also possible to connect multiple PLCs that don't have an internal Ethernet connection, by using the netLINK adaptor.

Available as a directly mountable adaptor or as a DIN Rail mount, netLINK-MPI and netTAP-MPI not only replace expensive CP communications processors but also free up valuable slot space enabling programming, visualization and control of S7-200, S7-300 and S7-400 PLCs over Ethernet.

The provided driver integrates into all common SIMATIC S7 engineering tools, such as STEP 7 and TIA portal, as the PG/PC programming interface. The device is set up within the engineering tool or with conventional web browsers over the integrated web configuration pages. Full PROFIBUS diagnostics and Master Class 2 DPV1 services are available, enabling unrestricted DP Slave device configuration and parameterization in STEP 7.

The netLINK-MPI adaptors can program or change S7-PLC control programs and can serve to engineer HMI devices with WinCC visualization software. By supporting the "ISO on TCP" RFC1006 Ethernet protocol, any third-party or SIMATIC visualization station can be coupled to the PLC.

Since standard TCP/IP protocol access mechanisms are used, remote maintenance and logging over a router is possible once the netLINK-MPI is integrated into the office or plant network and connected to the internet.

24 V DC power is required. If supported by the S7 PLC, the netLINK-MPI adaptor alternatively may be powered over the DSUB9 connector and its extra feed-through DSUB9 connector used to connect additional devices to the same MPI/DP network.

netLINK-MPI

netTAP-MPI

- **Parallel communication to 32 PLCs with up to 16 TCP connections**
- **Direct PLC-to-PLC communication, also as projected connection**
- **Works with all S7 engineering tools including TIA Portal**
- **Web-based configuration, protocol support of RFC1006 and DHCP**
- **Full access to PROFIBUS diagnostics and services in STEP 7**
- **Automatic DP/MPI baud rate detection**

Technical Data/Product Overview

Technical Data

netLINK–MPI Parameter	Value
Processor	netX 50
Power Supply	18-30 V/60 mA @ 24 V
Supply	Mini-COMBICON 3.81 mm 2-pole or via S7 D-Sub-9 MPI/PROFIBUS
Interfaces	Fast Ethernet 10/100 BASE-TX, MPI/PROFIBUS 12 MBaud IEC 61158
LED Indicators	SYS, COM, ACT, LINK
Operating Temp.	0°C to 55°C
Dimensions (L x W x H)	65 x 48 x 16 mm
Weight	Approx. 40 g
Emission	CISPR 11 Class A
Immunity	EN 61131-2:2003
Supported PLCs	SIMATIC S7® 200, 300, 400 CPU/CPs with MPI/PROFIBUS/PPI Interface

netTAP–MPI Parameter	Value
Processor	netX 50
Power Supply	18–30 V/130 mA @ 24 V
Supply	Mini-COMBICON 3.81 mm 2-pole
Interfaces	Fast Ethernet 10/100 BASE-TX, MPI/PROFIBUS 12 MBaud IEC 61158
LED Indicators	SYS, COM, ACT, LINK
Operating Temp.	0°C to 60°C
Dimensions (L x W x H)	100 x 52 x 70 mm
Weight	Approx. 150 g
Emission	CISPR 11 Class A
Immunity	EN 61131-2:2003
Supported PLCs	SIMATIC S7® 200, 300, 400 CPU/CPs with MPI/PROFIBUS/PPI Interface

Overview

Article	Article Number	Article Description
NL 50-MPI	1701.430	netLINK-MPI, SIMATIC S7 Programming Adaptor
NT 50-MPI	1758.111	netTAP-MPI, SIMATIC S7 Programming Adaptor DIN Rail mountable

cifX WinAC® Driver

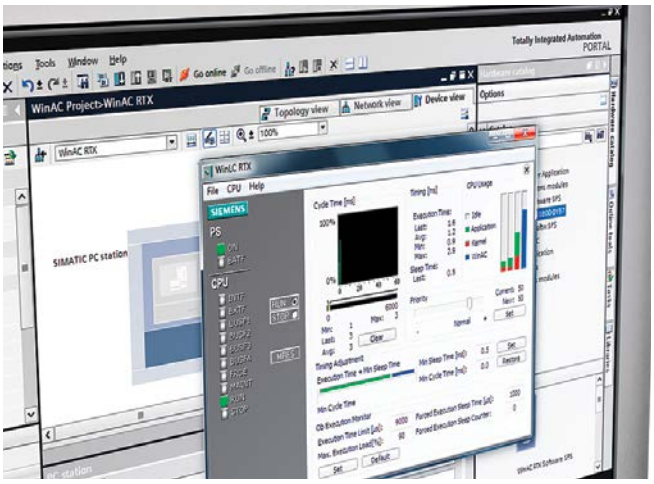
WinAC RTX-2010 Device Driver for cifX PC Cards

The cifX WinAC Driver allows Siemens' SIMATIC WinAC systems to access Hilscher cifX-based communication hardware. The driver can be used for all cifX PCI and PCI Express products and supports all Fieldbus and Real-Time Ethernet systems as Master or Slave.

WinAC from Siemens AG is an integrated solution that runs on a standard PC for Control, HMI, Networking and Data Processing functionality. One of its modules is WinLC (Windows Logic Controller), which turns the PC into a PLC. This functionality has been used to implement Hilscher's netX Communication InterFaces (cifX) into the WinAC RTX systems.

The cifX WinAC driver is a DLL extension and accessed from STEP 7/TIA via function blocks. The I/O data are mapped into data blocks (DB) of the STEP 7 program (one DB for input and one DB for output data).

The configuration of the cifX WinAC driver takes place in one general configuration block (DB_CIFXConfig) and the fieldbus configuration is done with Hilscher's fieldbus system configuration software, SYCON.net. The driver is able to use SYCON.net exported PDI (Process Data Information) XML files to convert input data into the STEP 7/TIA format and vice versa. Without a configuration XML file, the driver creates a one-to-one mapping of input/output data to the PLC I/O data blocks. The driver also includes a converter tool (SYCON.net XML to SCL Converter) to create TIA importable SCL code, describing the input and output data blocks corresponding to the SYCON.net configuration.



- **Allows WinAC systems to access cifX PC cards**
- **Based on the Hilscher cifX RTX device driver**
- **Supports unlimited number of cifX PCI and PCI Express based devices**
- **Supports all Fieldbus and Real-Time Ethernet systems in Master and Slave**
- **Cyclic data (Input/Output) and acyclic data packets (SDOs) supported**
- **Configuration support by SYCON.net or importing of PDI XML**
- **Conversion of I/O data to and from TIA data representation via PDI XML file**
- **I/O data block generation via SYCON.net XML to SCL code converter**
- **1:1 mapping of I/O data without a configuration XML file**

Requirements

Software	Version
Siemens	
Siemens SIMATIC WinAC RTX 2010	2010 SP1
Siemens SIMATIC Step 7 Professional	V12 or later
Hilscher	
Hilscher SYCON.net (Fieldbus System Configurator)	V1.360.131205 or later (Media: Communication Solution DVD)
Hilscher cifX WinAC Driver for WinAC RTX 2010	V2.000 or later (Media: NXDRV-WINAC DVD)
Hilscher cifX RTX Driver for IntervalZero RTX 2009 (Hardware driver for ISA, PCI/PCIe cards)	V1.1.0.0 or later (Media: NXDRV-WINAC DVD)
Hilscher SYCON.net XML to Siemens SCL Converter	V2.0.0.0 or later
Hilscher Hardware	
• cifX PCI/PCIe/netJACK100 • Evaluation boards NXSB-PCA/NXSB100/NXHX boards or NX-PCA-PCI/NXHX	

Overview

Article	Article Number	Article Description
NXDRV-WINAC	6211.080	cifX Device Driver for WinAC

IO Module Expansion Rack for Siemens Microbox PC

The Siemens PC IO Kit 030 is an IO module expansion rack for the Siemens Microbox PC 42x, and is used for mounting up to two I/O modules on the housing of the Microbox PC.

Siemens PC IO Kit 030

Siemens Microbox PC 42x

Manufacturer	Part Number	Description
Siemens	6ES7648-1AA20-0XF0 PC IO Kit 030	IO module expansion rack for Siemens Microbox PC 42x for installation of up to 2 IO modules, including fixing material and one cover panel

Embedded Products

Embed a Network Interface and Controller Into Any Device and Engineered Solution

With a full range of performance capabilities from a single trusted source, Hilscher's diverse range of network solutions, including chips, stacks, and custom configurations, can solve any networking challenge.

netX

Scalable Controller for Industrial Communication

Family of seven chips that supports up to 12 different network protocols and 24 protocol stacks in Master and Slave configurations. All protocol stacks have the same Driver Interface. Master Stacks include FDT-based Configuration Tool. Options range from universal network transceiver to complete System-on-Chip.

netJACK

IP40 Exchangeable Communication Module

Network coprocessor supports SPI, PCI-Express or Dual Port Memory. Can be installed by the supplier or end-user. Also available with CoDeSys and/or I/O, or as an SoC for your own development. Both Master and Slave Stacks available.

netIC

DIL-32 Communication IC

Simple DIL32-compatible network Slave coprocessor communicates MB/RTU via SPI to host. Also available with shift register-based output lines to drive I/O.

netRAPID

netX Chip Carrier for Rapid Development

Fully functional Network Slave coprocessor on solder-ready substrate. Minimal connections allow easy OEM integration of industrial networks in a few days. SPI or DPM Interface.

comX

Communication Module for Device Integration

Network coprocessor module with dual port memory or SPI, for sophisticated high-performance network applications. Both Master and Slave Stacks available.

Enlist Our Engineers for Your Custom Solutions

Let Us Put Our World of Expertise to Work for You

At Hilscher, we've earned our reputation as world leaders in the field of industrial communications through the innovation of dynamic products that deliver real-world benefits. We are happy to bring our experience to your application through a variety of engineering services that range from consultation and development through production and delivery. No matter what your needs, we have the people, facilities, specialty equipment and worldwide resources to generate your solution.

Multi-Protocol Development

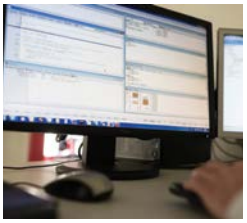
With Hilscher, you get everything from one source and can rely on one point of contact for all Fieldbus and Real-Time Ethernet protocols. Our netX ASIC components can load any communication protocol. Paired with our proven protocol stack firmware, your custom solutions are ready for certification.

- Adapts to all bus systems via firmware download
- One hardware supports many communications standards
- Delivers solutions on the cutting edge of industrial network specifications

Hardware Development

We offer individual hardware development of industrial communication interfaces based on our netX chip family for any automation device. You determine the form factor of the component as well as the interface with your electronic system and we provide you with a custom-designed communications interface for your device that supports all popular Real-Time Ethernet or Fieldbus protocols.

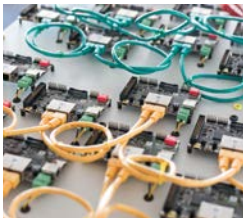
- Leverage Hilscher's experience and extensive know-how in network protocols
- Fast implementation into your automation equipment



Software Development

For integrating a netX controller into your device, we offer software implementation of protocol stacks for Fieldbus and Real-Time Ethernet protocols.

- Proven protocol stacks available for all network systems
- Reliable interoperability of implemented Bus Protocols
- Fast time-to-market for your communication interface



Production Services

After developing a custom communications solution for you, Hilscher can also fabricate your custom components—from a single unit to mass production. Our advanced SMD production facility in Hattersheim, Germany, uses flying probe testers and 3D X-ray testers to guarantee the highest quality level.

- One-stop shopping for custom development and manufacturing
- Flexible production from single to large quantities

For more information about Hilscher Custom Solutions, contact Hilscher North America, Inc., (630) 505-5301, email: info@hilscher.us.

Note: All technical data is subject to change.

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