



**Revision list**

**What's new cifX  
Communication Solution DVD  
2017-03-1**

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# 1 Introduction

## 1.1 About this document

This manual informs about major changes regarding the new release of the **Communication Solutions DVD** for cifX PC cards and is about:

- firmware,
- driver and toolkit
- configuration software, tools, and
- documents.

## 1.2 List of revisions

Rev	Date	Name	Revision
7	2015-07-13	HH	Created for Communication Solution DVD 2015-07-1.
8	2017-04-04	HH	Created for Communication Solution DVD 2017-03-1.

*Table 1: List of revisions*

## 2 What's new cifX - Communication Solutions DVD

This chapter describes the major changes from **Communication Solution DVD 2015-07-1** to **Communication Solution DVD 2017-03-1**.

### 2.1 Firmware

#### 2.1.1 PC cards with one channel

The following list compares the cifX firmware versions on the Communication Solutions DVD.

Protocol	File name	Version 2015-07-1	Version 2017-03-1
CANopen Master	cifxcom.nxf	2.11.3.0	2.14.0.1
CANopen Slave	cifxcos.nxf	3.6.4.0	3.7.0.0
CC-Link Slave	cifxccs.nxf	2.11.2.0	2.11.2.4
DeviceNet Master	cifxdnm.nxf	2.3.17.0	2.4.0.0
DeviceNet Slave	cifxdns.nxf	2.3.23.0	2.5.0.2
EtherCAT Master	cifxecm.nxf	-	4.4.0.0
	cifxecm.nxf Located in the folder Firmware\CIFX\ Outdated versions\ECM V3	3.0.9.0	3.0.10.0
EtherCAT Slave	cifxecs.nxf	4.2.12.0	4.6.0.1
	cifxecs.nxf Located in the folder Firmware\CIFX\ Outdated versions\ECS V2	2.5.34.0	2.5.42.0
EtherNet/IP Scanner	cifxeim.nxf	2.6.7.1	2.9.0.2
EtherNet/IP Adapter	cifxeis.nxf	2.7.13.0	2.11.0.6
Open Modbus/TCP	cifxomb.nxf	2.5.11.0	2.6.0.2
POWERLINK Controlled Node	cifxpls.nxf	2.1.39.0	2.1.53.0
PROFIBUS DP Master	cifxdpm.nxf	2.6.13.0	2.7.0.0
PROFIBUS DP Slave	cifxdps.nxf	2.7.2.0	2.9.0.1
PROFIBUS MPI Device	cifxmpi.nxf	2.4.2.0	2.4.3.0
PROFINET IO Controller	C010C000.nxf	-	3.2.0.0
	cifxpnm.nxf Located in the folder Firmware\CIFX\ Outdated versions\PNM V2	2.6.10.0	2.7.0.7
PROFINET IO Device (V3)	cifxpns.nxf	3.5.43.0	3.10.0.9
	cifxpns.nxf Located in the folder Firmware\CIFX\ Outdated versions\PNS V3.4	3.4.44.0	3.4.47.0
Sercos Master	cifxs3m.nxf	2.1.5.0	2.1.9.0
Sercos Slave	cifxs3s.nxf	3.1.19.0	3.4.0.0
VARAN Client (Slave)	cifxvrs.nxf	1.0.7.1	1.1.0.0

Table 2: cifX 1-channel firmware versions

The Changelog for each Firmware is on the DVD in the directory:

DVD:\Firmware\Changelog

## 2.1.2 PC cards with two channels

The following list compares the cifX firmware versions on the Communication Solutions DVD.

Protocol Channel 0	Protocol Channel 1	File name	Version 2015-07-1	Version 2017-03-1
AS-Interface Master	AS-Interface Master	cifx2asm.nxf	2.3.2.0	2.4.0.0
CANopen Master	CANopen Master	C0204040.nxf	1.0.3.0	1.1.0.0
CANopen Master	CANopen Slave	C0204050.nxf	-	1.1.0.0
CANopen Master	DeviceNet Master	C0204060.nxf	1.0.3.0	1.1.0.0
CANopen Slave	CANopen Slave	C0205050.nxf	1.0.3.0	1.1.0.0
CANopen Slave	DeviceNet Slave	C0205070.nxf	1.0.4.0	1.1.0.0
DeviceNet Master	DeviceNet Master	C0206060.nxf	1.0.3.0	1.1.0.0
DeviceNet Master	DeviceNet Slave	C0206070.nxf	-	1.1.0.0
DeviceNet Slave	DeviceNet Slave	C0207070.nxf	1.0.4.0	1.1.0.0
PROFIBUS DP Master	PROFIBUS DP Master	cifx2dpm.nxf	1.0.4.0	1.1.0.0
PROFIBUS DP Master	PROFIBUS DP Slave	C0201020.nxf	-	1.1.0.0
PROFIBUS DP Master	CANopen Master	C0201040.nxf	1.0.3.0	1.1.0.0
PROFIBUS DP Master	DeviceNet Master	C0201060.nxf	1.0.3.0	1.1.0.0
PROFIBUS DP Slave	PROFIBUS DP Slave	cifx2dps.nxf	1.0.3.0	1.1.0.0
PROFIBUS DP Slave	CANopen Slave	C0202050.nxf	1.0.3.0	1.1.0.0
PROFIBUS DP Slave	DeviceNet Slave	C0202070.nxf	1.0.4.0	1.1.0.0

Table 3: cifX 2-channel firmware versions

The following 2-channel firmware are now available:

- CANopen Master / CANopen Slave
- DeviceNet Master / DeviceNet Slave
- PROFIBUS DP Master / PROFIBUS DP Slave

The Changelog for each Firmware is on the DVD in the directory:

DVD:\Firmware\Changelog

### 2.1.3 EtherCAT Master V4.4

The new EtherCAT Master version 4.4 is introduced. EtherCAT Master version 3.0 is still available.

Performance improvement and new functions with EtherCAT Master firmware V4:

- General performance improvement up to five times
- Improvements in network and individual Slave control, Slave diagnostics
- Support of CoE, SoE, EoE, FoE, ExtSync
- Support of redundancy in different, even complex topologies, including DC and DC resynchronization and hot-connect
- Minimum cycle time 250 µs

### 2.1.4 EtherNet/IP Adapter V2.11

New: Time Sync Object (0x43) added which is a prerequisite that the application can use CIP\_SYNC for clock synchronization.

### 2.1.5 Open Modbus/TCP V2.6

New: FC 43 is supported.

New: Configuration API for client functionality (Command table). The application can configure up to 16 server devices and up to 256 commands.

## 2.1.6 PROFINET IO-Controller V3.2

The new PROFINET IO Controller version 3.2 is introduced. PROFINET IO Controller version 2.7 is still available.

The PROFINET IO-Controller V3 offers several new features, which are not available in the PROFINET IO-Controller V2:

- IRT operating mode
- Optimized process data performance
- Automatic name assignment
- Automatic alarm acknowledgement
- MRP Client and Manager for media redundancy (MRP Manager requires a license)
- Requirements PROFINET Specification 2.3: e. g. Advanced Startup, MultipleInterfaceMode, network load requirements.

The process data handling in PROFINET IO-Controller V3 (process data image structure and process data timing) was reworked to achieve the required performance improvement and to support synchronized applications.

Removed features and incompatibilities:

- PROFINET IO-Controller V3 does neither support swapping of IO data nor automatic IOPS handling.
- The configuration parameters have been extended to meet the IRT configuration requirements. The structure of the configuration database has been changed. Therefore, the PROFINET IO-Controller V3 can not be configured with a configuration database of the PROFINET IO-Controller V2 and vice versa.
- The configuration API of PROFINET IO-Controller V2 are not supported by PROFINET IO-Controller V3. The new configuration API of PROFINET IO-Controller V3 is to be used.
- The PROFINET IO-Controller V3 does not support process data in little endian format. This feature was rarely used and has been removed for better performance.

For migration, a "Migration Guide PROFINET IO Controller Migrating from version 2 to 3" is available.

PROFINET IO-Controller firmware version 3 requires SYCON.net version 1.400 or higher. SYCON.net V1.400 (or higher) includes the PROFINET IO IRT DTM and the Topology Editor.

## 2.1.7 PROFINET IO-Device V3.10

Compared to version 3.5, PROFINET IO-Device version V3.10 offers the following improvements:

- netX 51/100-based devices support to 8 IO-ARs (up to 2 IO-ARs before, netX 50-based devices still support up to 2 IO-ARs)
- New: I&M5 supported
- netX 51-based devices support 250 µs minimum cycle time for RT\_CLASS\_3 (500 µs before)
- Read/write record with up to 8 KB, fragmented (1 KB before)
- Advanced Startup according to PROFINET specification 2.3 supported

## 2.1.8 POWERLINK Controlled Node V3.2

The new POWERLINK Controlled Node version 3.2 is introduced (for netX 51-based products).

POWERLINK Controlled Node version 3 (compared to V2) offers the following improvements:

- Performance improvements
- IPV4 support according to EPSG specification
- Multiple ASnd

## 2.1.9 Sercos Slave V3.4

New: Hot plug is supported.

New: Cross communication is supported.

netX 51-based devices offer more I/O data:

- Up to 284 bytes of cyclic produced data (including Connection Control and IO Status)
- Up to 276 bytes of cyclic consumed data (including Connection Control and IO Control)

## 2.2 Driver and toolkit

### **cifX Device Driver**

Windows® 10 support added.

NDIS 6 version of cifXNDIS to support Windows® 10.

For detailed changes, see \Driver and Toolkit\Device Driver (NXDRV-WIN)\driver\_history.txt.

### **Toolkit**

Updated version.

For detailed changes, see \Driver and Toolkit\Driver Toolkit (NXDRV-TKIT)\cifXToolkit\version\_history.txt.

## 2.3 Configuration software and tools

### **SYCON.net**

SYCON.net was updated from V1.360.140808.12914 to V1.400.170125.19044.

Windows® 10 is supported.

PROFINET IO IRT Controller DTM and Topology Editor added to configure the PROFINET IO Controller for IRT communication.

### **netX Configuration Tool**

Windows® 10 is supported.

## 2.4 Documentation

### Installation Guide

User manual "Software Installation and Documentation Overview" updated to revision 6.

### User manuals

The user manuals are updated. The main changes are

**User manual „PC Cards CIFX 50 50E 70E 100EH“** updated to revision 47:

- PROFINET IO Controller V3 added.
- EtherCAT Master V4 added.
- LED descriptions added respectively revised.
- Technical data added respectively updated.

**User manual „PC Cards CIFX 80 90 90E 104C“** updated to revision 48:

- PROFINET IO Controller V3 added.
- EtherCAT Master V4 added.
- LED descriptions added respectively revised.
- Technical data added respectively updated.

**User manual „PC Cards CIFX 104“** updated to revision 47:

- PROFINET IO Controller V3 added.
- EtherCAT Master V4 added.
- LED descriptions added respectively revised.
- Technical data added respectively updated.

### Operating instructions

All operating instructions manuals for SYCON.net updated to Windows® 10.

### Protocol API

AS-Interface Master Protocol API updated.

CANopen Master Protocol API updated.

CANopen Slave Protocol API updated.

CC-Link Salve Protocol API updated.

DeviceNet Master Protocol API updated.

DeviceNet Slave Protocol API updated.

EtherCAT Master V4 Protocol API added.

EtherCAT Slave Protocol API updated.

EtherNet/IP Scanner Protocol API updated.

EtherNet/IP Adapter Protocol API updated.

Open Modbus/TCP Protocol API updated.

PROFINET IO Controller V3 Protocol API added.

PROFINET IO Device Protocol API updated.

Sercos Slave Protocol API updated.

**Application note**

Application note: EtherNet/IP Adapter CIP Sync added.

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