



Operating Instruction Manual

cifX TCP/IP Server

Diagnosis Connection via Ethernet

**Windows 2000 / Windows XP / Windows Vista / Windows 7 V2.1.0.0 (Windows CE
V1.1.0.0, Linux V1.0.0.0, QNX V1.0.0.0, VxWorks V1.0.0.0)**

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1 Introduction

1.1 About this Manual

This guide describes the requirements, the basics and the handling of the program **cifX TCP/IP Server for SYCON.net** and for its user interface **TCP/IP Server for cifX** for the TCP/IP communication.

The description is exemplified for the cifX TCP/IP server for Windows® 32 systems 2000, XP or Vista and is valid as well for the cifX TCP/IP Server for Windows® CE, Linux, QNX and VxWorks. The section *System Requirements* on page 10 and the section *File Download via cifX TCP/IP Server* on page 13 refer only to those Windows® systems.

1.1.1 List of Revisions

Index	Date	Version	Chapter	Revision
1	2010/06/29	Windows 2000 / Windows XP / Windows Vista / Windows 7 V2.0.13.0	All	created
2	2011/01/05	Windows 2000 / Windows XP / Windows Vista / Windows 7 V2.1.0.0 (Windows CE V1.1.0.0, Linux V1.0.0.0, QNX V1.0.0.0, VxWorks V1.0.0.0)	1.1, 1.2.6, 1.3, 2.3, 2.4, 2.6, 2.5, 2.7	Section <i>About this Manual</i> actualized, Section <i>Registered Trademarks</i> completed, Section <i>About cifX TCP/IP Server</i> revised and completed, Section <i>System Overview for Remote Diagnosis via Ethernet</i> revised, Sections <i>File Download via cifX TCP/IP Server</i> , <i>Communication via cifX TCP/IP Server</i> actualized, Sections <i>Starting cifX TCP/IP Server for SYCON.net</i> , <i>Show Host Information</i> added.

1.1.2 Conventions in this Manual

Operation instructions, a result of an operation step or notes are marked as follows:

Operation Instructions:

➤ <instruction>

Or

1. <instruction>

2. <instruction>

Results:

↪ <result>

Notes:



Important: <important note>



Note: <note>



<note, were to find further information>

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1.2.6 Registered Trademarks

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1.3 About cifX TCP/IP Server

1.3.1 cifXTCP/IP Server for different Operating Systems

The cifX TCP/IP Server is available for the following operating systems:

Operating System	Software Version
Windows® CE	V1.1.0.0
Windows® 2000, Windows® XP, Windows® Vista, Windows® 7	V2.1.0.0
Linux	V1.0.0.0
QNX	V1.0.0.0
VxWorks	V1.0.0.0

Table 1: cifX TCP/IP Server for different Operating Systems

1.3.2 Where to find the cifXTCPServer.exe?

The program **cifX TCP/IP Server for SYCON.net** can be opened via the *cifXTCPServer.exe* file. This one can be found on the cifX DVD in the directory *tools\cifXTCPServer* or on the corresponding driver CD in the directory *Sources\cifXTCPServer* as given in the subsequent table:

Operating System	Product DVD	Driver CD	Revision DVD / CD	Directory
Windows® CE	-	NXDRV-CE	2010-08-1	Sources\cifXTCPServer\
Windows® 2000, Windows® XP, Windows® Vista, Windows® 7	CIFX	-	2010-07-1	Tools\cifXTCPServer\
Linux	-	NXDRV-Linux	2010-06-1	Sources\cifXTCPServer\
QNX	-	NXDRV-QNX	2010-06-1	Sources\cifXTCPServer\
VxWorks	-	NXDRV-VXWorks	2010-06-1	Sources\cifXTCPServer\

Table 2: cifX TCP/IP Server for different Operating Systems

1.3.3 Reference on Driver and Software

Driver and Software	Version
cifX Device Driver cifX Device Driver Setup.exe	1.0.x.x
netX Configuration Tool-Setup netX Configuration Tool.exe	1.0500.x.x
SYCON.net SYCONnet netX setup.exe	V1.310.x.x

Table 3: Reference on Driver and Software

1.3.4 Documentation cifX



For more information to the hardware and software installation and on the requirements, please refer to:

- the user manual **cifX Cards Real-Time Ethernet**,
- the user manual **cifX Cards PROFIBUS-DP, CANopen, DeviceNet, AS-Interface, CompoNet, CC-Link**
- or to the operating instruction manual **cifX Device Driver** on the product DVD of your cifX card.

All these documents are available on the CIFX DVD delivered with the device underneath the directory **Documentation**, in Adobe Acrobat® Reader format (PDF).

The following documentation overview gives information, for which items you can find further information in which manual.

Manual	Contents	File Name of the Document	Dokument-ID
User Manual, cifX Cards Fieldbus: PROFIBUS-DP, CANopen, DeviceNet, AS-Interface, CompoNet, CC-Link	Installation, Operation and Hardware Description	CIFX-FB_usermanual_en.doc	DOC080201UM10EN
User Manual, cifX Cards Real-Time Ethernet	Installation, Operation and Hardware Description	CIFX-RE_usermanual_en.pdf	DOC060501UM18 EN
Operating Instruction Manual cifX Device Driver	Installation and Operation	cifX Device Driver_usermanual_en.pdf	DOC060601DRV04 EN
Operating Instruction Manual cifX TCP/IP Server	Diagnosis Connection via Ethernet	cifX TCP-IP-Server_en.pdf	DOC100610OI01 EN

Table 4: Documentations cifX

2 cifX TCP/IP Server Program

The program **cifX TCP/IP Server for SYCON.net** allows remote diagnostics via Ethernet. Therefore a cifX card installed in PC 2 is accessed with use of the configuration software SYCON.net from PC 1 (remote computer) via a TCP/IP network (Ethernet).

2.1 System Requirements

The following system requirements are valid for the TCP/IP Communication:

- PC 1 (remote PC) and PC 2 (with cifX card) each with 1 GHz processor or higher
- Operating system: Windows® 2000 / Windows® XP / Windows Vista® / Windows® 7
- Internet Explorer 5.5 or higher
- Free hard disk space: 400 MB
- DVD-ROM drive
- RAM: minimum 512MB, recommended 1024 MB
- Graphics Resolution: 1024 x 768 pixels minimum
- Keyboard and mouse

2.2 Requirements TCP/IP Communication

The following requirements must be valid to allow to access from PC 1 (remote PC) via TCP/IP to the cifX card in PC 2:

No	PC 1 (Remote PC)	PC 2
Hardware Installation		
1	PC 1 (remote PC) and PC 2 must be connected via TCP/IP, i. e. via an Ethernet network cable.	
2		The cifX card must be installed in the PC 2.
Software Installation		
3		The cifX Device Driver (from V1.0.x.x) must be installed on the PC 2.
4	The configuration software SYCON.net must be installed on the PC 1 (Remote PC).	On PC 2, the configuration software SYCON.net must be installed or another application program, to allow a firmware download or a configuration download to the cifX card (Master). For a cifX card (Slave) also the program netX Configuration Tool can be installed to allow the download.
Operation		
5		The cifX card must be ready in PC 2, i. e., the firmware and the configuration must be loaded already to the cifX card.
6		The program cifX TCP/IP Server for SYCON.net must be executed on the PC 2.
7	The configuration software SYCON.net must be started on the PC 1 (Remote PC).	
8	For Master devices: From the Master DTM in PC 1 (Remote PC) an online connection to the Master device in PC 2 must be established via the cifX TCP/IP server. For Slave devices: From the Slave DTM in PC 1 (Remote PC) an online connection to the Slave device in PC 2 must be established via the cifX TCP/IP server.	

Table 5: Requirements for the TCP/IP Communication

2.3 System Overview for Remote Diagnosis via Ethernet

Via Ethernet the program **SYCON.net** can be establish for diagnosis purposes a connection to another PC, in which the cifX card is installed (in the example PC 2).

The system overview in *Figure 1* shows which components must be installed on which PC and how they communicate together, so that the diagnosis functions can be used.

The following software components are required for PC 1 (remote PC):

- Program **SYCON.net** (contains the installed component Online Data Manager ODMV3)

The following software components are required for PC 2:

- Server program (cifX TCP/IP server)
- Device Driver (cifX Device Driver)

and for the firmware download and the configuration download:

- Program **SYCON.net** with ODMV3 (for Master or Slave) or
- configuration and diagnosis program **netX Configuration Tool** (only for Slave) or
- an alternative application program (for Master or Slave)

Example: IP Address PC 1: 192.168.6068

IP Address PC 2: 192.168.6052

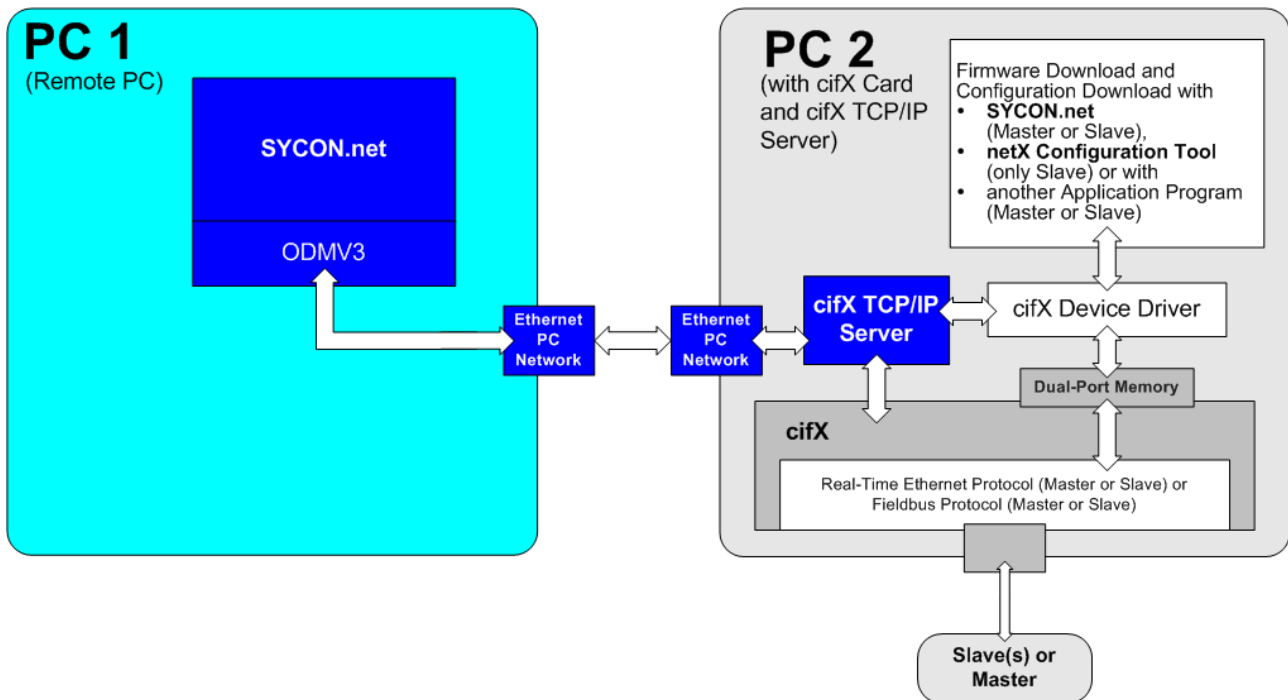


Figure 1: System Overview cifX (Master or Slave) with Remote Diagnosis via Ethernet

Figure 1 shows the case that the cifX card in PC 1 works as a Master with several connected Slave devices or as a Slave. For remote diagnostics are required (marked blue): cifX TCP/IP-Server on PC 1, PC 2, **SYCON.net** ODMV3 on PC 2, Ethernet PC network between PC 1 and PC 2.

2.4 File Download via cifX TCP/IP Server

cifX cards are not using any flash memory to store a firmware or configuration on the card. Every time the card is powered-up the firmware and configuration must be downloaded to the hardware. For this reason a firmware or configuration file which is downloaded via the cifX TCP/IP Server, needs to be stored on the remote file system.

The storage of these files is done automatically by the cifX TCP/IP Server depending on the operating system the remote machine is running with.



Note: Currently, the automatic download is only supported by the Windows® CE, Windows® 2000, Windows® XP, Windows® Vista und Windows® 7 versions of the cifX TCP/IP server.



For detailed information about the firmware and configuration file storage for Windows® CE, Windows® 2000, Windows® XP, Windows® Vista und Windows® 7 please consult the operating instruction manual **cifX Device Driver** on the product DVD of your cifX card. Therefore refer to section *Documentation cifX* on page 9.

For Linux, QNX und VxWorks please refer to the corresponding driver manual how to proceed the firmware and configuration download.



Note: After a firmware download the cifX card needs to be restarted so the firmware update can take effect. This restart cannot be processed via the remote machine and thus must be performed manually on the local machine.

2.5 Starting cifX TCP/IP Server for SYCON.net

The program **cifX TCP/IP Server for SYCON.net** must not be installed, but need only be executed.

- Therefore start the *cifXTCPServer.exe* file.

2.6 Communication via cifX TCP/IP Server

To connect the PC 1 (remote PC) to the cifX card in PC 2 via an Ethernet connection, the requirements of section *Requirements TCP/IP Communication* on page 11 must be fulfilled.

How to proceed:

1. Start the configuration software **SYCON.net** on PC 1 (remote PC).
 2. Start the *cifXTCPServer.exe* file on PC 2.
- ⇒ On PC 2 the window **TCP/IP Server for cifX** is displayed:

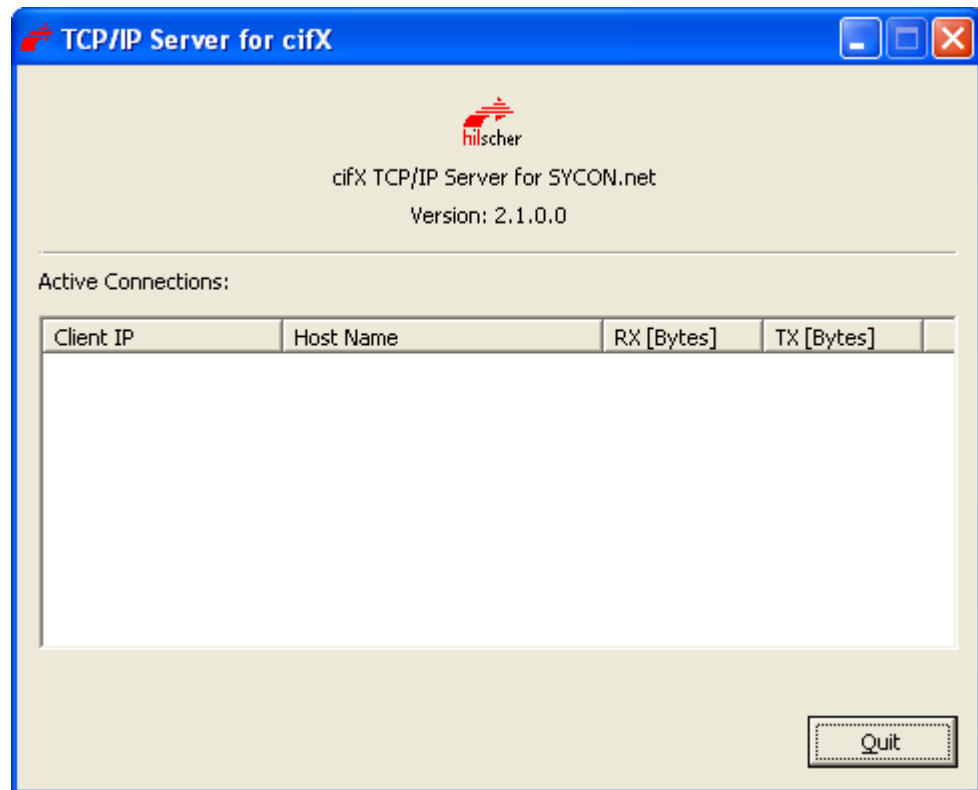


Figure 2: Window „TCP/IP Server for cifX“ (on PC 2), no TCP/IP Connection

3. In the configuration software **SYCON.net** on PC 1 (remote PC) establish an online connection from the DTM in PC 1 (remote PC) to the cifX device in PC 2.



For detailed information refer to the online help of the configuration software SYCON.net or of the DTM.

For Master Devices:

- Establish an online connection from the Master DTM in PC 1 (remote PC) to the Master device in PC 2.

For Slave Devices:

- Establish an online connection from the Slave DTM in PC 1 (remote PC) to the Slave device in PC 2.

➤ The Ethernet connection from the DTM in PC 1 (remote PC) to the cifX device in PC 2 is displayed in the **TCP/IP Server for cifX** window:

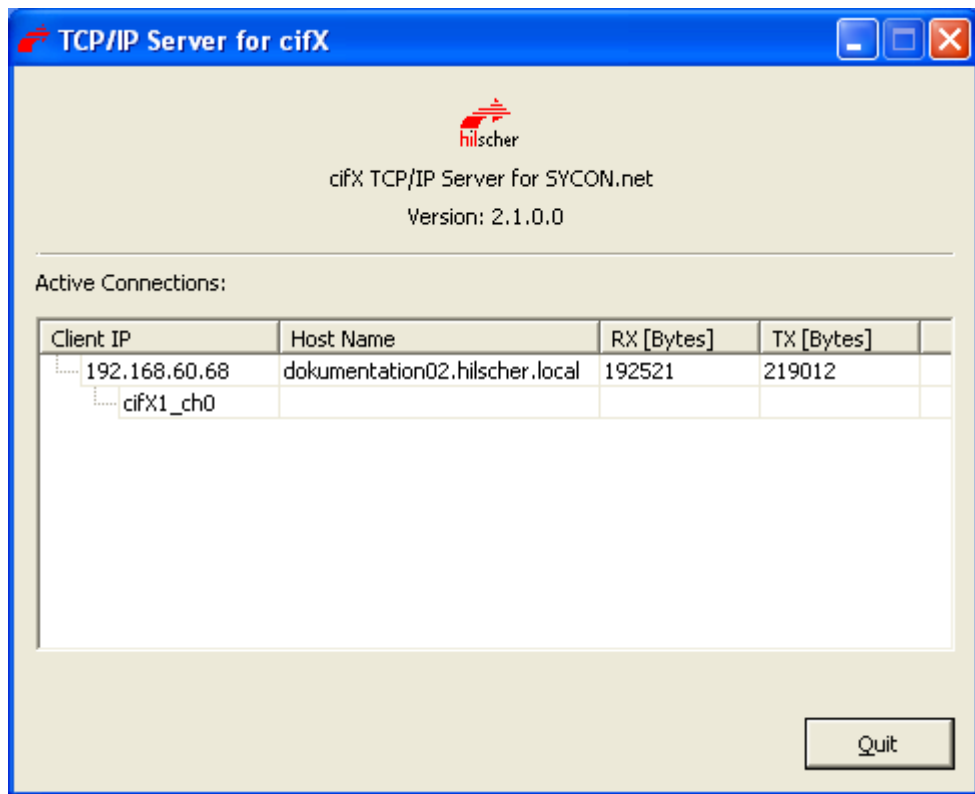


Figure 3: Window „TCP/IP Server for cifX“ (on PC 2), TCP/IP Connection to the cifX Card 1/ Channel°0

Item	Description
Active Connections	All active Ethernet connections from a remote computer (in the example PC 1) via the cifX TCP/IP server to a cifX card in another PC (PC 2 in the example) are displayed.
Client IP	The IP address of the remote PC is displayed (in the example, PC 1: 192.168.6068). In addition, the card identification cifX[card ID 0 ... N] and the occupied channel _ch[channel-number 0 ... 5] (in the example cifX1_ch0) are displayed. Without firmware and configuration download to the card, only the system channel "_SYS" is displayed (for example cifX0_SYS).
Host Name	Name of the remote PC in the network
RX [Bytes]	Receive data in [Bytes]
TX [Bytes]	Transfer data in [Bytes]

Table 6: Description Window „TCP/IP Server for cifX“

2.7 Show Host Information

- In the user interface **TCP/IP Server for cifX** select **Show Host Information** ①:

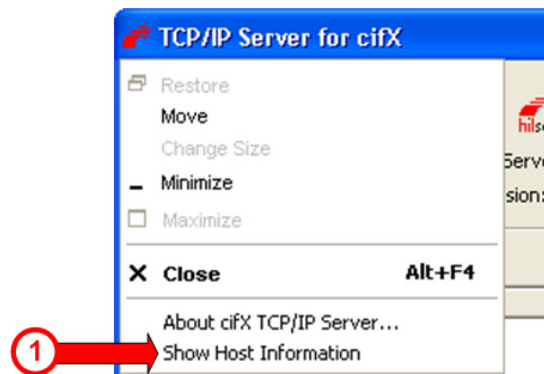


Figure 4: Show Host Information

- The window **Host Information** displays the host information for the cifX devices that are installed in the system to which the particular TCP/IP server accesses. For each device, the host information **Alias**, **Device Number**, **Serial Number**, **Channels** and **DPM Size** are displayed.

The figure below shows the data for the two sample devices **cifX0** ② and **cifX1** ③.

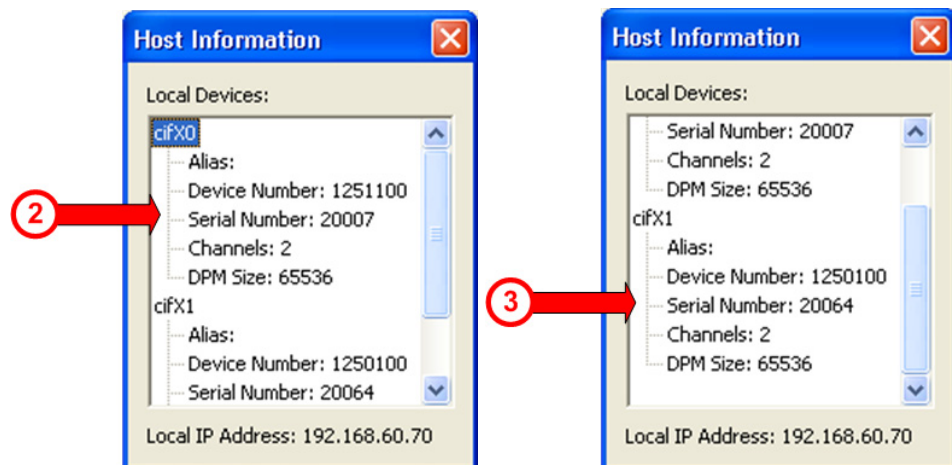


Figure 5: Host Information of Example Devices

Item	Description
Local Devices	Devices installed in the local computer
cifX0, cifX1 ...	Device name in the cifX Driver Setup Utility of the currently by the driver identified device.
Alias	As Alias you can enter in the cifX Driver Setup Utility a separate name for the device.
Device-Number	Number of the device
Serial Number	Serial number of the device
Channels	Number of the Communication channels used
DPM Size	Size of the Dual-Port Memory
Local IP Address	IP address of the local PC in the network.

Table 7: Description Window „Host Information“

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