SIEMENS

SIPLUS CMS4000

CMB - Communication Bundle

CMB IEEE1394A T011 for SIMATIC IPC

6AT8000-6AA00-0XA0

Operating Instructions - English

Release 2010 - 09

Safety Guidelines

This document contains notices which you should observe to ensure your own personal safety as well as to avoid property damage. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring to property damage only have no safety alert symbol.

Danger

Indicates an **imminently** hazardous situation which, if not avoided, will result in death or serious injury.

Warning

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

Caution

Used with the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

Caution

Used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

Notice

Used without the safety alert symbol indicates a potential situation which, if not avoided, may result in an undesirable result or state.

When several danger levels apply, the notices of the highest level (lower number) are always displayed. If a notice refers to personal damages with the safety alert symbol, then another notice may be added warning of property damage.

Qualified Personnel

The device / system may only be set up and operated in conjunction with this documentation. Only qualified personnel should be allowed to install and work on the equipment. Qualified persons are defined as persons who are authorized to commission, to earth, and to tag circuits, equipment and systems in accordance with established safety practices.

Intended Use

Please note the following:

Warning

This device and its components may only be used for the applications described in the catalog or technical description, and only in connection with devices or components from other manufacturers approved or recommended by Siemens.

Trademarks

All designations marked with ® are registered trademarks of Siemens AG. Other designations in this documentation might be trademarks which, if used by third parties for their purposes, might infringe upon the rights of the proprietors.

Disclaimer of Liability

We have checked the contents of this document for agreement with the hardware and software described. Since deviations cannot be precluded entirely, we cannot guarantee full agreement. However, the data in the manual are reviewed regularly, and any necessary corrections will be included in subsequent editions. Suggestions for improvement are welcomed.

Siemens AG
Industry Sector
Control Components and Systems Engineering
P.O. Box 23 55
90713 Fuerth
Germany

Table of Contents

1 Preface

1.1 Purpose of this Document

This operating instructions support you to operate the PC/104 card SIPLUS CMS4000 CMB IEEE1394A T011, named CMB (Communication Bundle), in SIPLUS CMS4000.

1.2 Required Basic Knowledge

Basic knowledge of automation technology and equipment condition monitoring is necessary.

This operating instructions contain a description of the components, which are valid at the time of publishing the manual. We reserve the right, to enclose product information with current information to new components and updated components.

1.3 Validity of this Document

This document is valid for the CMB.

1.4 Modification compared with the Previous Version

- Change of port configuration, see chapter 4.2.

Notice

The version of the operation instructions can be identified by the number in the footer: A5E02316887-03.

1.5 CE Marking

The CMB meets the requirements and objectives of the EG-Guideline according to 2004/108/EG.

1.6 Standards

You will find detailed information in chapter 5.1 of this operation instructions.

Notice

The specified concessions are only valid according to an authorized label on the product.

1.7 Classification of Information

Additional to this operation instructions, you need the operation instructions of

SIPLUS CMS4000 X-Tools.

1.8 Directory

The operating instructions describe the hardware CMB.

It contains the following topics:

- Product verview (chapter 2)
- Installation (chapter 3)
- Commissioning (chapter 4)
- Technical data (chapter 5)

1.9 Recycling and Disposal

The CMB is environmental compatibility and recyclable.

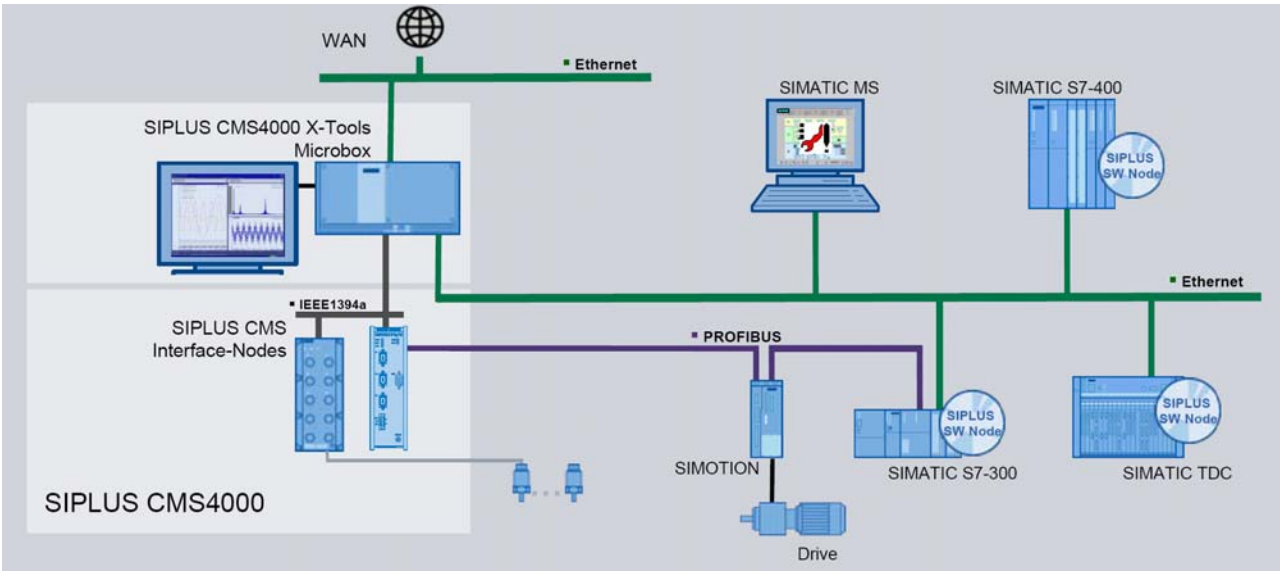
For environmentally compatible recycling and disposal of your old device contact a certified waste disposal for electronic.

2 Product Overview

2.1 What is SIPLUS CMS?

SIPLUS CMS is an industrial-suited Condition Monitoring System for technical and technological services in industrial plants. SIPLUS CMS is a modular, scalable analysis and diagnosis system. It is optimized for reactionless measurement of analog, binary and numerical data. SIPLUS CMS can be integrated in existing and new industrial plants.

SIPLUS CMS can be integrated into the TIA-Architecture.



Picture 1 Typical configuration

2.2 What is a CMB IEEE1394A T011?

Definition

The "Communication Bundle" CMB IEEE1394A T011 is a set to enhance the IPCs with two FireWire interfaces according DIN IEEE1394A. The CMB connects via FireWire bus (IEEE1394) SIPLUS CMS Interface Nodes with 400 Mbps with the Industrial-PC. The CMB consists of PC/104 card, two plug moduls, two connection cables and a mounting set.

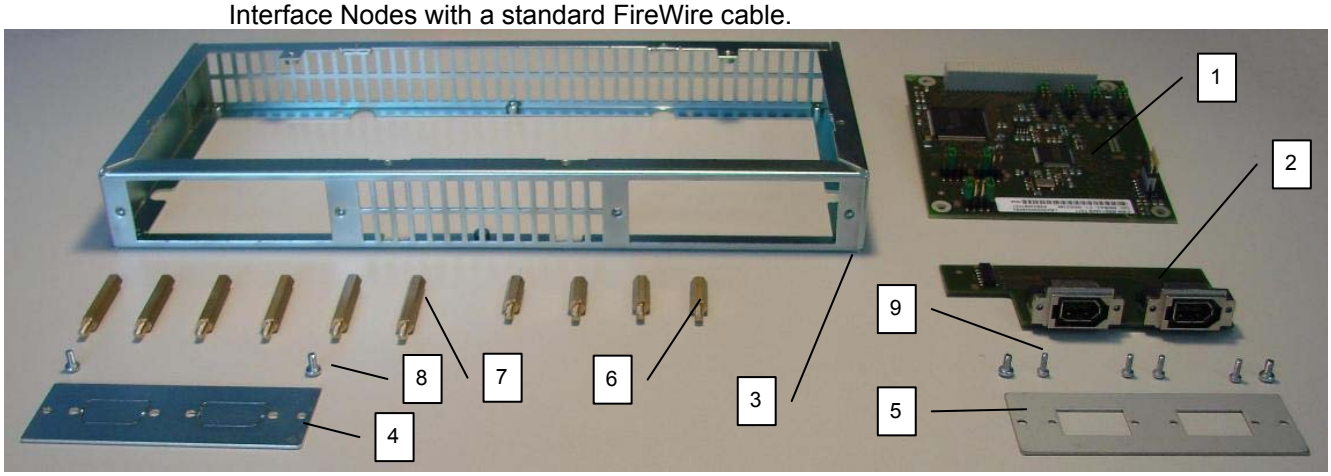
PC/104-card

The FireWire card CMM IEEE1394A T011 is connected with the PC mainboard of the IPC via standard PC/104 plus bus.

The plug module provides the FireWire interface.

Plug module

The plug module ②contains a six pole FireWire plug interface to connect SIPLUS CMS Interface Nodes with a standard FireWire cable.



Picture 2 Delivery contents

Notice

No bus power is supplied via FireWire connectors. See pin assignment of the FireWire connector.

2.3 Delivery contents

Table 1 Delivery contents

component	count	Position in Picture 2
FireWire card CMM IEEE1394A	1	*1*
Plug module	1	*2*
Expansion frame 30 mm	1	*3*
Cover plate	1	*4*
Mounting plate	1	*5*
Stud bolt M3 x 15mm	4	*6*

component	count	Position in Picture 2
Stud bolt M3 x 28mm	6	*7*
Lens head screw M2,5 x 5 mm	4	*8*
Lens head screw M2 x 6 mm	4	*9*
Operation Instructions	1	-

Unpacking and Checking

After unpacking, please check

- the packet for completeness and
- all parts for transport damages.

Warning

Do not use any parts that show signs of damage!

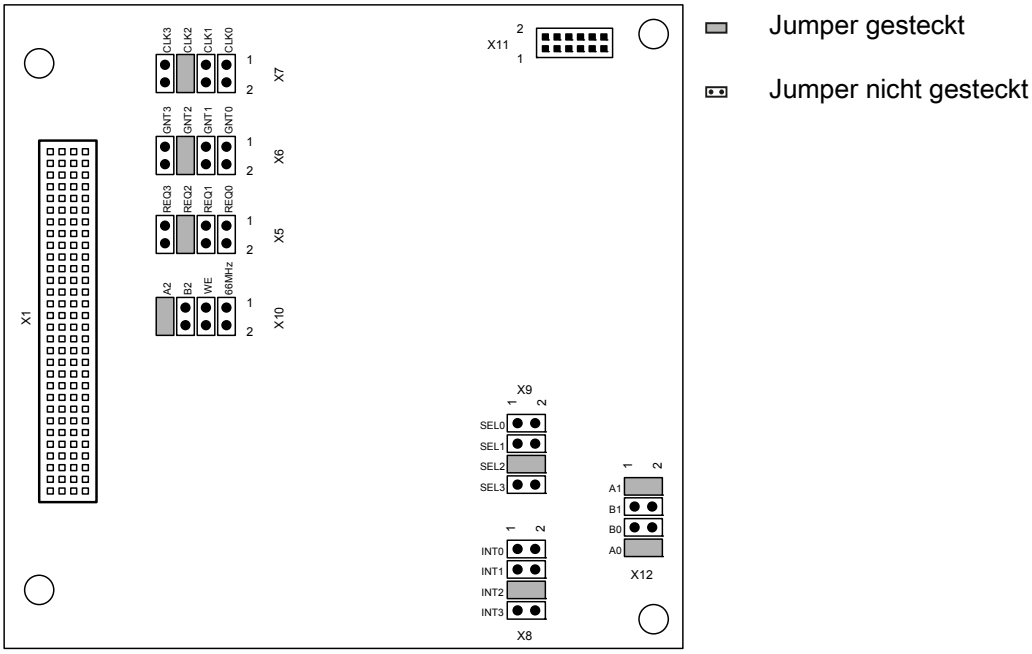
3 Mounting

Attention

The assembly may only be implemented by trained and qualified personnel. Switch off and disconnect the IPC before opening: Unplug the 24 V DC connector. ESD guidelines must be complied with to prevent damage to the electrostatic sensitive components.

3.1 Jumper

The FireWire card features several jumpers for the configuration of Interrupt, Select, Clock, Request and Grant. The jumpers are preset ex work onto INT2, SEL2, CLK2, REQ2, GNT2, A0, A1, A2 and are suitable for Siemens IPCs, see figure below.



Picture 3 Jumper CMB

3.2 Assembling

Table 2 Assembling the PC/104 card

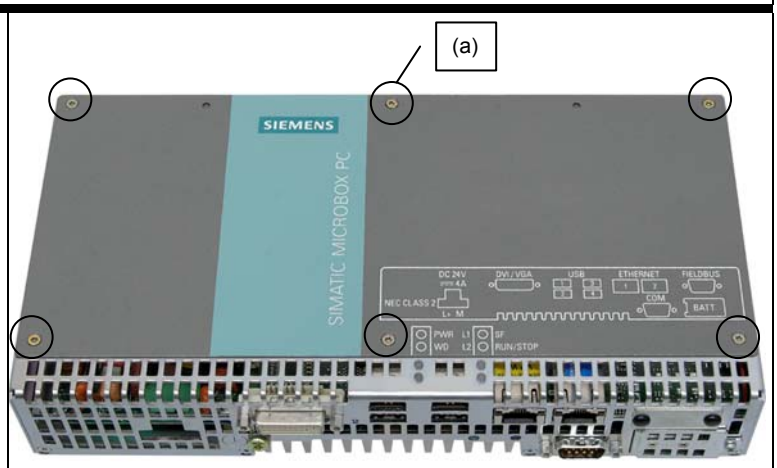
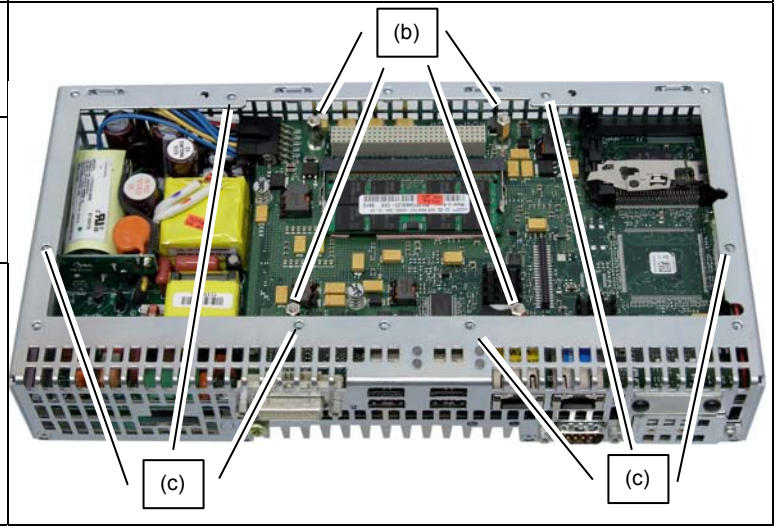
Assembling the PC/104 card		
1	Remove the six fixing screws (a) on the cover of the IPC and take off the cover.	
2	Connect the FireWire card ① to the PC104 connector of the IPC.	
3	Fix the FireWire card with four stud bolts M3 x 16 mm ⑥ on the existing stud bolts (b).	
4	Attach the expansion frame ③ and fix it at the positions (c) using six stud bolts M3 x 28 mm ⑦.	

Table 3 Mounting the plug-in modules

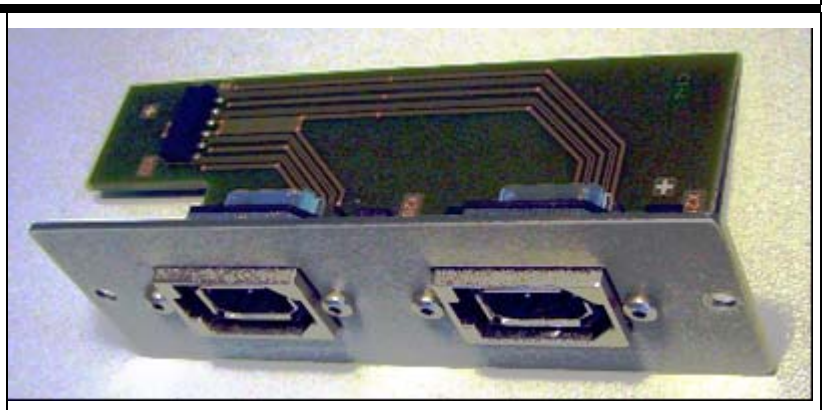
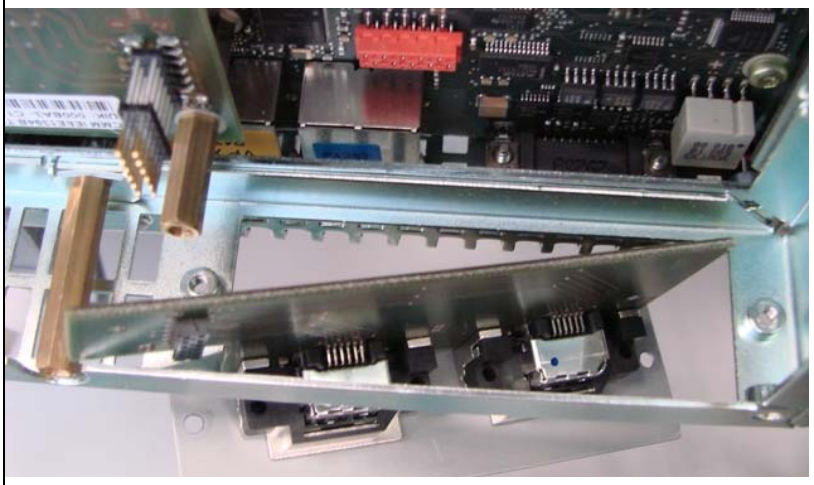
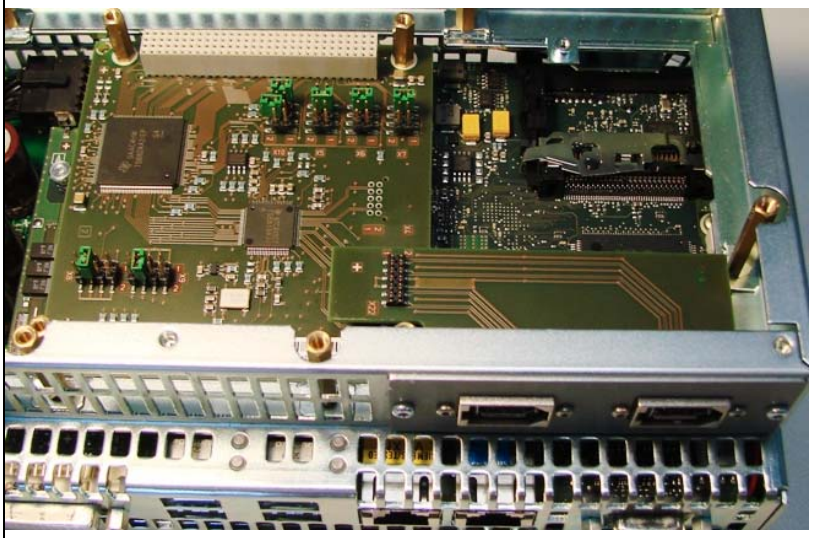
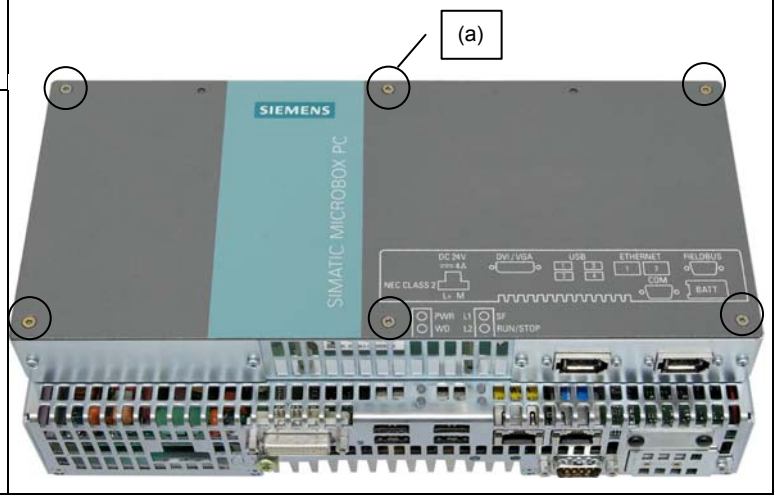
Mounting the plug-in modules		
1	Screw the plug-module ② onto the fixing plate ⑤ using four lens head screws M2 x 6 mm ⑨.	
2	Insert the plug-module through the right cutout. Plug the module onto PC104 fire wire card (interface X11).	
3	Fix the fixing plate at the right cutout of the expansion frame using two lens head screws M2.5 x 5 mm ⑧. Close the left cutout of the expansion frame. Therefor mount the blanking plate ④ from the front onto the expansion frame using two lens head screws M2.5 x 5 mm ⑧.	

Table 4 Screw on the cover of the IPC

Steps for screwing on the cover of the IPC		
1	After completed mounting, place the cover on the expansion frame.	
2	Screw the cover onto the expansion frame using the six fixing screws (a).	

4 Commissioning

Picture 4 IPC with IEEE1394A plug

4.1 Configuration with IFN AI and IFN VIB-ACC

All configurations with ION, PRN or IFN (ION Profibus Spy, ION BI, ION AI, ION VIB-A, RPN IEEE1394, IFN VIB-A, IFN AI, …) can be connected to plug 1 or plug 2.

4.2 Configurations with MCN11

MCN11 can not directly be connected with CMB. Networks with fibre optics start from a RPN IEEE1394 connected to the IPC. In case of connecting IFN AI or IFN VIB-A after MCN11, MCN11 is the coupling partner of RPN IEEE1394 at the end of the fibre optics network..

5 Technical Data

5.1 Standards and Approvals

Product Name

Device	**SIPLUS CMS4000 CMB IEEE1394A T011**

EC Directive

The product is designed for use in an industrial environment.

Operation range	**Interference Emission acc. as**	**Interference Immunity acc. as**
Industry environment	**EN 55016-2-3:2006** **EN 55016-2-1:2004**	EN 61000-6-4:2007 und EN 61000-6-2:2005
		EN 61000-4-2:1995
		EN 61000-4-3:2002
		EN 61000-4-4:2004
		EN 61000-4-5:1995
		EN 61000-4-6:Edition 3.0:2008

Installation Guide Lines

The product is conform to requirements if you comply with the installation instructions and safety-related notices as described in this manual.

Conformity Certificates

The EC Declaration of Conformity is available for the responsible authorities according to the abovementioned EC Directive at the following address:

SIEMENS AG

I IA CE

WUERZBURGER STR. 121

90766 FUERTH

GERMANY

Notes for manufactures of machines

This product is not a machine interms of of the EC Machinery Directive. Therefore no declaration of conformity relating to the EC Machinery Directive 89/392/ECC exists for this product.

If the product is part of the equipment of a machine, it must be included in the declaration of conformity by the manufacturer of the machine.

5.2 Technical specification

Table 5 Preconditions

Preconditions	**Explanation**
Runtime System	MICROSOFT WINDOWS XP Professional from SP 2 or MICROSOFT WINDOWS XP Embedded from SP 2

Table 6 PC/104 card

PC/104 card	**Explanation**
Power supply	Via PC/104-Plus Bus. No external power supply necessary.
Power dissipation	Typ. 2W
Interfaces	1 x internal: PC104-Plus Bus 1 x intern : X11
Protocol	IEEE1394A or IEEE1394B, adjustable for CMS4000 is IEEE1394A required
Data rate	400 Mbps
Galvanic isolation	no
Jumper	5 x Jumper (PCI-Bus): INT, SEL, CLK, REQ, GNT 3 x Jumper (FireWire 1394A/B): A0/B0, A1/B1, A2/B2
Dimensions	90,17 x 95,89 mm

Table 7 Environmental conditions

Environmental conditions	**Explanation**
Operating temperature PC/104 card	- 25 … + 85 °C, condensation not allowed
Transport- and storage temperatur	- 40 … + 85 °C
Humidity	95% (t+28…32^{o}C)
Air pressure	80 – 110 kPa
Installation height	<2000m
Protection class	IP20 (integrated in IPC)

Table 8 Pin-Assingment

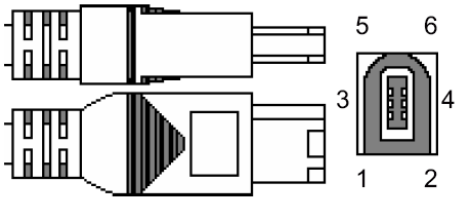
Pin-Assignment of the FireWire plug	Pin	Explanation
	1	Not used
	2	GND, shield
	3	TPB- (Twisted Pair B, difference signal)
	4	TPB+ (Twisted Pair B, difference signal)
	5	TPA- (Twisted Pair A, difference signal)
	6	TPA+ (Twisted Pair A, difference signal)
	Pin Case	GND, Shield

Table 9 Approvals

Approval	Explanantion
Declaration of conformity	**CE**

5.3 Service & Support in the Internet

In addition to our documentation pool we offer our complete knowledge online on the Internet:

www.siemens.com/automation/service&support

There you find:

- the newsletter, which is permanent updated to provide you with the latest information about the products.
- important documents by a search function in Service & Support.
- a bulletin board for a worldwide knowledge exchange for users and experts.
- Your local representative for Industry Automation & Drives Technologies via our representatives database.
- informations about on-site services, repairs, spare parts, and lots more under ”Support”.

5.4 List of Abbreviations

Abbreviations	**Explanation**
CMB	CoMmunication Bundle SIPLUS CMS4000 CMB IEEE1394A T011
CMS	Condition Monitoring System
IEEE	Institute of Electrical and Electronics Engineers
IFN	Interface Nodes: IFN AI and IFN VIB-A (protection class IP67)
ION	Interface Nodes: ION Profibus Spy, ION AI, ION BI (protection class IP20)
IPC	SIMATIC Industrial PC
MCN11	Media Converter Node
TIA	Totally Integrated Automation