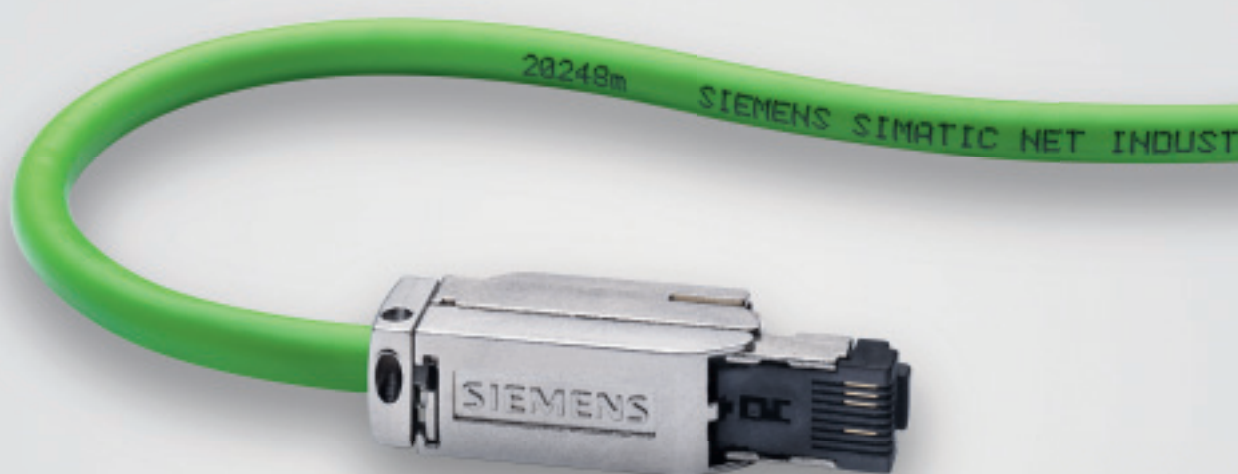


# Industrial Communication

Short Catalog SIMATIC NET • 10/2009



## SIMATIC NET

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**SIEMENS**

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<b>SINUMERIK &amp; SINAMICS</b> Automation Systems for Machine Tools  E86060-K4461-A101-A2-7600	NC 61		<b>Industry Mall</b> Information and Ordering platform in the Internet:  <a href="http://www.siemens.com/automation/mall">www.siemens.com/automation/mall</a>		

<sup>1)</sup> Available soon  
For further information contact your local Siemens representative.

# SIMATIC NET

## Industrial Communication

### Short Catalog

### SIMATIC NET · 10/2009



Supersedes:  
Short Catalog SIMATIC NET · 11/2008

Refer to the Industry Mall for current  
updates of this catalog:  
[www.siemens.com/automation/mall](http://www.siemens.com/automation/mall)

The products contained in this catalog are also  
contained in the electronic Catalog CA 01.

Order No.:  
E86060-D4001-A510-C8-7600 (DVD)

Please contact your local  
Siemens branch office.

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<b>PROFINET/Industrial Ethernet</b>	
Introduction	2
Data communication	3
Cabling technology	4
Industrial Ethernet Switches/Media Converters	30
Industrial Security	54
System interfacing for SIMATIC S7	57
System interfacing for PG/PC	74
Accessories	91
<b>PROFIBUS</b>	
Introduction	92
Electric networks (RS485)	96
Electric networks (PROFIBUS PA)	108
Optical networks with OLM	110
Optical networks with OBT and integrated interface	120
System interfacing for SIMATIC S7	124
System interfacing for PG/PC	129
Technology components	152
<b>AS-Interface</b>	
Introduction	154
Masters for SIMATIC S7	155
System components and accessories	159
<b>Industrial Wireless Communication</b>	
Introduction	161
Network components for IWLAN	163
Accessories	174
Engineering/Network management/Diagnostics	177
<b>Network transitions</b>	
Introduction	178
IWLAN	
– PROFIBUS network transition	179
Industrial Ethernet	
– WirelessHART network transition	182
Industrial Ethernet	
– Industrial Ethernet network transition	183
Industrial Ethernet	
– PROFIBUS network transition	184
Industrial Ethernet	
– AS-Interface network transition	186
PROFIBUS DP	
– AS-Interface network transition	187
PROFIBUS DP	
– PROFIBUS PA network transition	190
<b>Conditions of Sale and Delivery</b>	192

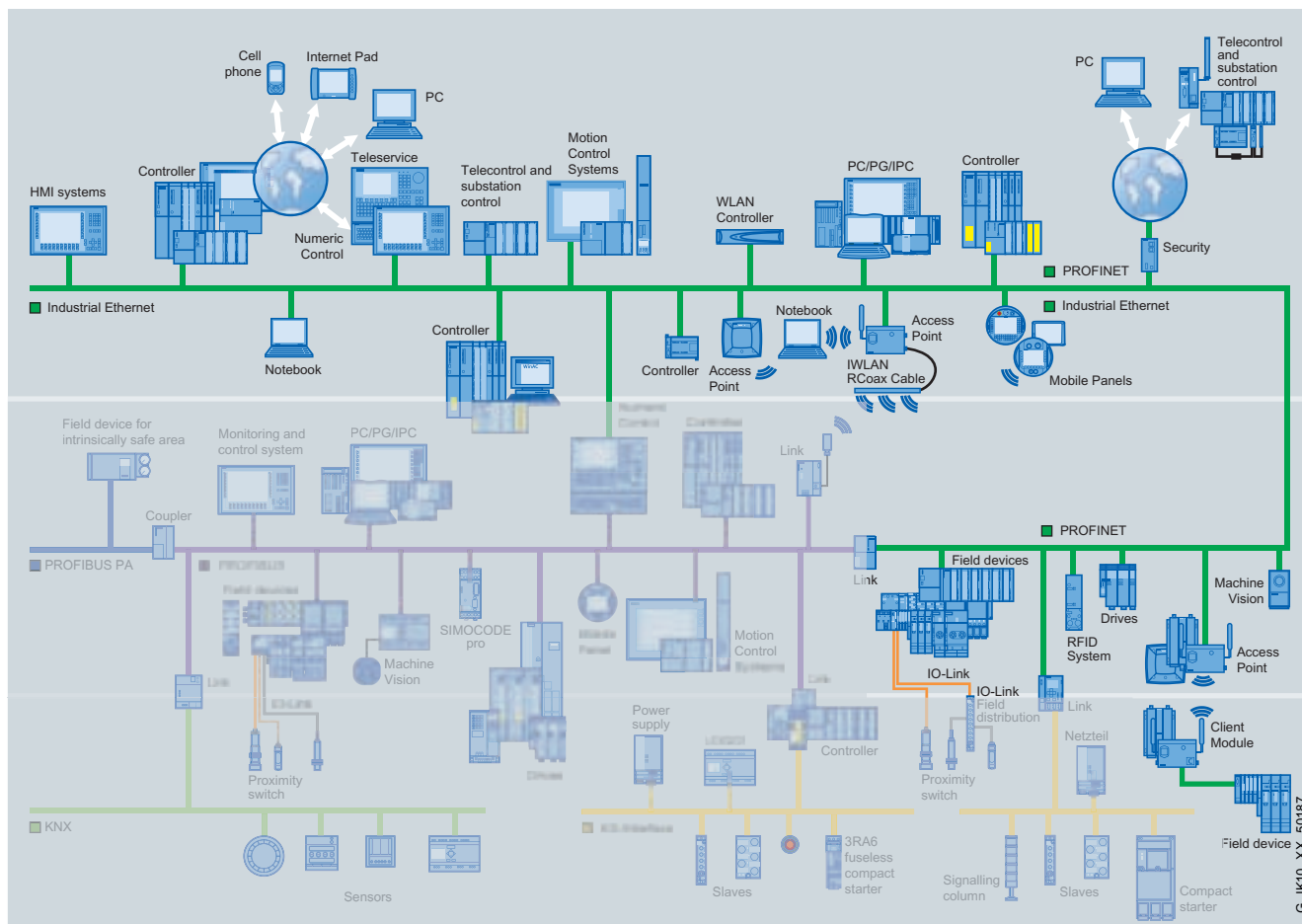
# PROFINET/Industrial Ethernet

## Industrial Ethernet

### Introduction

#### Overview

- Area and cell network according to the international standards IEEE 802.3 (Ethernet) and IEEE 802.11 a/b/g/h (wireless LAN) designed for the industrial environment right down to the field level
- Connection of automation components (controllers and field devices) to each other and to PCs and workstations as well as components for wireless communication
- PROFINET, the Industrial Ethernet standard for automation, is based on Industrial Ethernet and supports the connection of devices from field level up to management level
- Comprehensive open network solutions can be implemented
- High transmission performance up to 1 gigabit/s
- Industrial Ethernet is the industry standard, well-proven world-wide with international acceptance
- Wireless expansion by means of Industrial Wireless LAN (IWLAN) as per IEEE 802.11
- Integration of conventional IT functionalities such as Web server and e-mail in the automation sector
- A safety solution specially designed for industrial automation with the industrial security concept covering all aspects of SCALANCE S



Industrial Ethernet in the communications landscape

#### Overview

##### Standard communication

This comprises standardized protocols for data communication.

##### ISO, TCP/IP, UDP transport protocols

ISO, TCP/IP and UDP are available as transport protocols.

##### PROFINET

Based on Industrial Ethernet, PROFINET enables direct communication of field devices (IO Devices) with controllers (IO Controllers) as well the solution of isochronous drive controls for motion control applications.

PROFINET also supports distributed automation with the help of component engineering (Component Based Automation).

##### Media Redundancy Protocol (MRP)

Procedure specified in the IEC 61158 Type 10 standard for increasing the network availability in a ring topology.

##### Information technology (IT)

IT integrates SIMATIC into the information technology via Industrial Ethernet. These communication media and paths are also available to SIMATIC as a result of the TCP/IP protocol. Depending on the product and stage of expansion, communications processors support technologies from the IT environment such as:

- *E-mail;*  
Via the integral e-mail client, network components, communications processors and network transitions can send emails to provide information about plant states, e.g. plant standstill or imminent overload, or to automatically request a service call.
- *Freely definable HTML pages;*  
Communications processors can perform web diagnostics using static HTML pages and a user-specific display is supported by means of freely definable HTML pages.
- *FTP;*  
the File Transfer Protocol (FTP) permits simple, universal coupling, e.g. the PLC can be connected to different computers or embedded systems

##### IP routing (IP-R)

The connection for the SIMATIC S7 to Industrial Ethernet (CP 343-1 Advanced and CP 443-1 Advanced), with two separate interfaces (integrated network separation) and SCALANCE S and SCALANCE X414-3E, supports the forwarding of IP messages between Gigabit and PROFINET interfaces.

##### OPC (Openness, Productivity & Collaboration)

OPC is a standardized, open and manufacturer-independent interface and allows OPC-capable Windows applications to interface to S7 communication (SEND/ RECEIVE). Internet communication can be implemented over the OPC XML DA interface.

##### PG/OP communication

Integral communication functions that are used by the SIMATIC automation systems to perform data communication with HMI devices (e.g. TP/OP) and SIMATIC PGs (STEP 7, STEP 5). PG/OP communication is supported by MPI, PROFIBUS and Industrial Ethernet.

##### S7 communication

S7 communication is the integral communications function (SFB) that has been optimized within the SIMATIC S7/C7. It enables PCs and workstations to be connected. The maximum volume of user data per task is 64 KB. S7 communication offers simple, powerful communication services and provides a network independent software interface for all networks.

##### Open communication

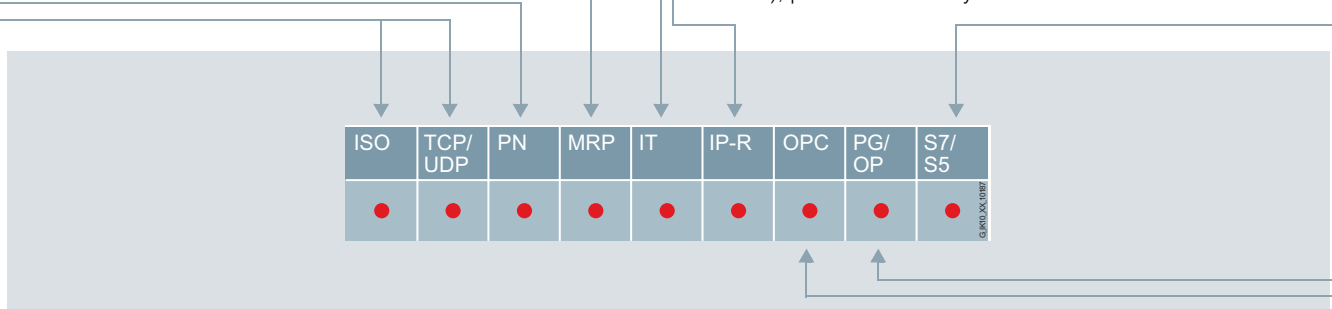
The open communication (SEND/RECEIVE) allows the SIMATIC S7 controller to communicate with other SIMATIC S7 and SIMATIC S5 controllers (S5-compatible communication), PCs and third-party systems. In addition, for the simple connection of HMI stations, FETCH and WRITE are offered.

##### System connections

For many data terminals, communications processors (CPs) are available that already have the communications functions implemented as firmware and which therefore relieve the data terminal of communication tasks (e.g. flow control, blocking, etc.).

##### Time synchronization

By means of SIMATIC procedures or NTP (Network Time Protocol), plant-wide time synchronization is achieved.



# PROFINET/Industrial Ethernet

## Cabling technology

### Industrial Ethernet FastConnect

#### Overview



- With the FastConnect (FC) system for Industrial Ethernet, structured cabling from the office environment becomes industry-compatible for installation in the production hall.
- Time-saving, error-free installation on-site
- RJ45 cabling technology is used as the permanent standard
- The ideal solution for installation of RJ45 connectors in the field area with 4-core (2 x 2) Industrial Ethernet FC cables
- The ideal solution for installation of IE FC RJ45 Modular Outlet on 8-core (4 x 2) Industrial Ethernet FC cables
- Reliable shield attachment and strain relief are integrated
- Mistakes are prevented thanks to color coding and the transparent contact cover
- Integrated system of FC plug-in connectors and an extensive FC cable spectrum with appropriate UL approvals

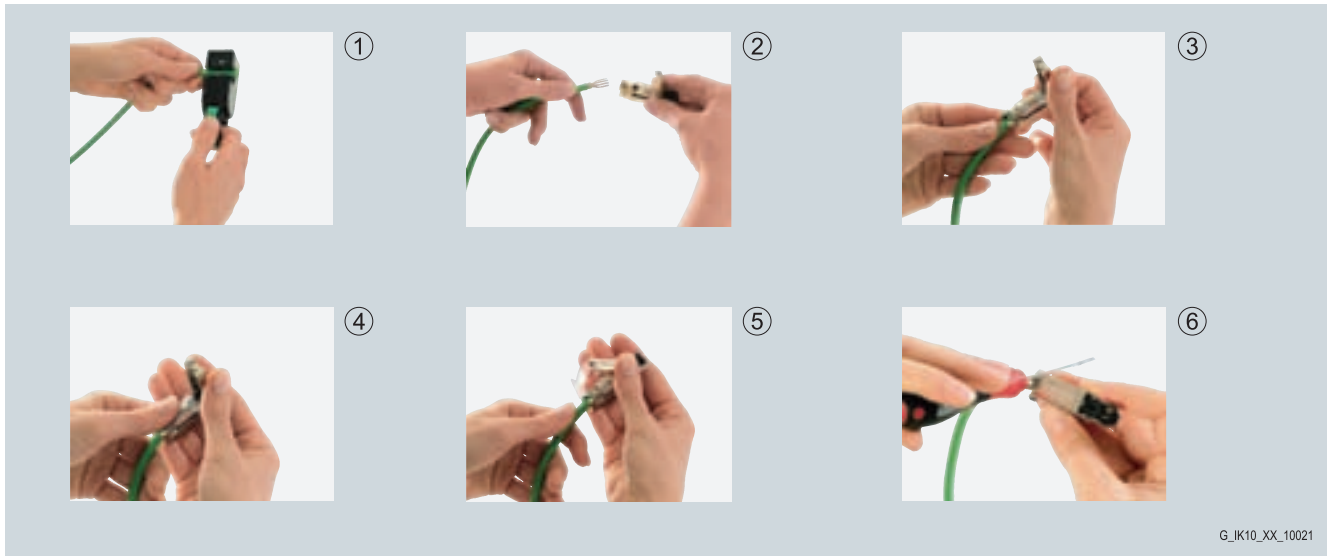
#### Benefits



- Comprehensive product range for flexible wiring in industry in accordance with the innovative Industrial Ethernet standard PROFINET (PROFINET Cabling and Interconnection Technology Guideline <sup>1)</sup>)
- Faster connection of data terminals thanks to safe stripping of the outer sheath and braided shield in one step
- Easy connection technique (insulation displacement contacts) for 4-core (Cat5) and 8-core (Cat6) Industrial Ethernet FC Twisted Pair installation cables
- Easy assembly of both cable types with the preadjusted FC stripping tool
- Reliable shield contact and strain relief thanks to bolt-on cover
- Excellent EMC shielding and deflection (metal housing)
- Mistakes are prevented thanks to color coding and the transparent contact cover
- RJ45 cabling technology is used as the permanent standard

<sup>1)</sup> Available as a download under [www.profinet.com](http://www.profinet.com)

#### Application



#### Design

The complete system:

- Industrial Ethernet FC installation cables designed for fast assembly;
  - 4-core (2x2) Cat5e;
    - IE FC TP Standard Cable GP
    - IE FC TP Flexible Cable GP
    - IE FC TP Trailing Cable GP
    - IE FC TP Trailing Cable
    - IE TP Torsion Cable
    - IE FC TP Marine Cable
    - IE FC TP FRNC Cable GP
    - IE FC TP Food Cable
    - IE FC TP Festoon Cable GP
  - 8-core (4 x 2) Cat6 certified, with appropriate UL approval:
    - IE FC TP Standard Cable GP (AWG 22/AWG 24)
    - IE FC TP Flexible Cable (AWG 24)
- User-friendly stripping technique with FC Stripping Tool
- FC RJ45 Plug immune to interference (10/100 Mbps/s). The rugged metal casing makes it an ideal solution for installing RJ45 plug-in connectors to 4-core IE FC cables at the field level.
- The prepared cable is connected in the Industrial Ethernet FC Outlet RJ45 (10/100 Mbps/s; 4-core) or IE FC RJ45 Modular Outlet (10/100/1000 Mbps/s; 8-core) using insulation displacement technology

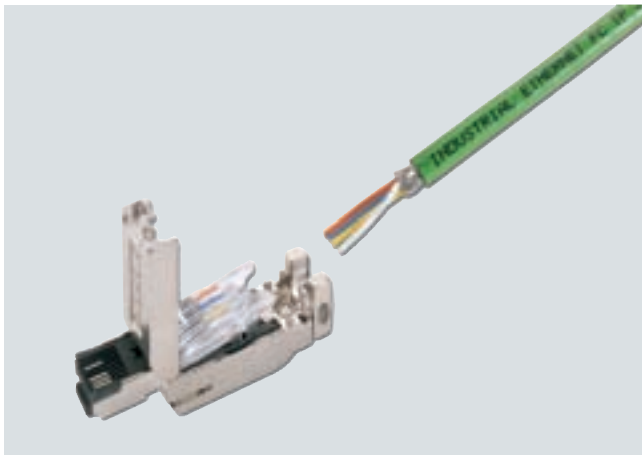


# PROFINET/Industrial Ethernet

## Cabling technology

### IE FC RJ45 Plug 2 x 2

#### Overview



- Implementation of direct device connections over distances of up to 100 m with Industrial Ethernet FC installation cable 2 x 2 without patching
- Easy connection (insulation displacement contacts) for 4-core Twisted Pair installation cables (100 Mbit/s) without the need for special tools
- Error-minimizing connection technique thanks to visible connection area as well as colored insulation displacement termination
- Industry-compatible design (rugged metal housing, no easily lost small parts)
- Excellent EMC shielding and deflection (metal housing)
- Integrated strain-relief for installation cables
- Compatible with the EN 50173 (RJ45) / ISO IEC 11801 standard
- Additional strain and bending relief of plug connector possible through latching of plug on device housing, e.g. with SCALANCE X, SCALANCE S.

#### Ordering data

#### Order No.

##### IE FC RJ45 Plug

RJ45 plug connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables

##### IE FC RJ45 Plug 180

180° cable outlet; for network components and CPs/CPUs with Industrial Ethernet interface

- 1 pack = 1 item
- 1 pack = 10 items
- 1 pack = 50 items

**6GK1 901-1BB11-2AA0**

**6GK1 901-1BB11-2AB0**

**6GK1 901-1BB11-2AE0**

##### IE FC RJ45 Plug 90

90° cable outlet; e.g. for ET 200S

- 1 pack = 1 item
- 1 pack = 10 items
- 1 pack = 50 items

**6GK1 901-1BB20-2AA0**

**6GK1 901-1BB20-2AB0**

**6GK1 901-1BB20-2AE0**

##### IE FC RJ45 Plug 145

145° cable outlet; e. g. for SIMOTION and SINAMICS

- 1 pack = 1 item
- 1 pack = 10 items
- 1 pack = 50 items

**6GK1 901-1BB30-0AA0**

**6GK1 901-1BB30-0AB0**

**6GK1 901-1BB30-0AE0**

##### IE FC Stripping Tool

Pre-adjusted stripping tool for fast stripping of Industrial Ethernet FC cables

**6GK1 901-1GA00**

##### IE FC TP Standard Cable GP 2 x 2 (Type A)

Sold by the meter

**6XV1 840-2AH10**

Max. length

- 1000 m

**6XV1 840-2AU10**

##### IE FC TP Flexible Cable GP 2 x 2 (Type B)

**6XV1 870-2B**

##### IE FC TP Trailing Cable GP 2 x 2 (Type C)

**6XV1 870-2D**

##### IE FC TP Trailing Cable 2 x 2 (Type C)

**6XV1 840-3AH10**

##### IE TP Torsion Cable GP 2 x 2 (Type C)

**6XV1 870-2F**

##### IE FC TP Marine Cable 2 x 2 (Type B)

**6XV1 840-4AH10**

##### IE FC TP FRNC Cable GP 2 x 2 (Type B)

**6XV1 871-2F**

##### IE FC TP Festoon Cable GP 2 x 2 (Type B)

**6XV1 871-2S**

##### IE FC TP Food Cable GP 2 x 2 (Type C)

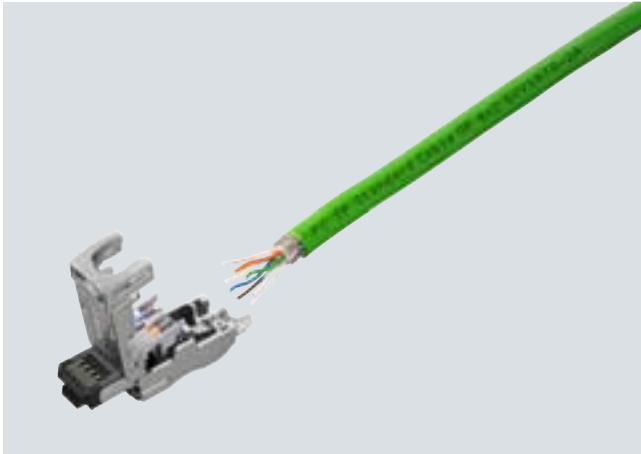
**6XV1 871-2L**

##### IE FC Blade Cassettes (5 mm)

**6XV1 870-2B**



#### Overview



- Implementation of direct device connections of up to 60 m with Industrial Ethernet FC installation cable 4 x 2 without using patch technology
- Easy connection (insulation displacement contacts) for 8-core twisted pair installation cables (10/100/1000 Mbit/s) without the need for special tools
- Error-minimizing connection technique thanks to visible connection area as well as colored insulation displacement termination
- Industry-compatible design (rugged metal housing, no easily lost small parts)
- Excellent EMC shielding and deflection (metal housing)
- Integrated strain-relief for installation cables
- Compatible with the EN 50173 (RJ45) / ISO IEC 11801 standard
- Additional strain and bending relief of plug connector possible through latching of plug on device housing, e.g. with SCALANCE X, SCALANCE S.

#### Ordering data

#### Order No.

##### IE FC RJ45 Plug 4 x 2

RJ45 plug connector for Industrial Ethernet (10/100/1000 Mbit/s) with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; 180° cable outlet; for network components and CPs/CPU's with Industrial Ethernet interface

- 1 pack = 1 item
- 1 pack = 10 items
- 1 pack = 50 items

**6GK1 901-1BB11-2AA0**

**6GK1 901-1BB11-2AB0**

**6GK1 901-1BB11-2AE0**

##### IE FC Stripping Tool

Pre-adjusted stripping tool for fast stripping of Industrial Ethernet FC cables

**6GK1 901-1GA00**

##### IE FC TP Standard Cable GP 4 x 2

8-core, shielded TP installation cable for universal applications; with UL approval; sold by the meter; max. length 1000 m, minimum order 20 m

- AWG 22, for connection to IE FC RJ45 Modular Outlet

**6XV1 870-2E**

- AWG 24, for connection to IE FC RJ45 Plug 4 x 2

**6XV1 878-2A**

##### IE FC TP Flexible Cable GP 4 x 2

8-core, shielded TP installation cable for occasional movement; with UL approval; sold by the meter; max. quantity 1000 m, minimum order 20 m

- AWG 24, for connection to IE FC RJ45 Plug 4 x 2

**6XV1 878-2B**

##### IE FC Blade Cassettes (5 mm)

Replacement blade cassette for the Industrial Ethernet stripping tool; for use with IE FC RJ45 Plugs and Modular Outlet, 5 items

**6GK1 901-1GB01**

# PROFINET/Industrial Ethernet

## Cabling technology

### IE Push Pull Plug PRO

#### Overview



- Data plug-in connectors suitable for on-site assembly of IE FC TP and POF/PCF cables for transmitting data up to 100 Mbit/s
- Power plug-in connector suitable for on-site assembly for transmitting 2 x 24 V between Industrial Ethernet stations
- Degree of protection IP65/67
- The plug-in connectors make contact using a push-pull mechanism.

#### IE RJ45 Plug PRO

- Industrial Ethernet RJ45 plug-in connector suitable for on-site assembly of SCALANCE X-200IRT PRO and SIMATIC ET200pro switches
- Simple connection (insulation displacement contacts) for 4-core Twisted Pair FC installation cables (100 Mbit/s) without special tool
- Industrial design (rugged plastic housing)
- Good EMC shielding and discharge

#### IE SC RJ Plug PRO

- Industrial Ethernet SC RJ plug-in connector suitable for on-site assembly of:
  - POF cables for SCALANCE X-200IRT PRO and SIMATIC ET200pro switches
  - PCF cables for SCALANCE X-200IRT PRO switches
- Industrial design (rugged plastic housing)

#### Power Plug PRO

- 5-pole power plug-in connector suitable for on-site assembly, for 2 x 24 V voltage supply of the SCALANCE X-200IRT PRO and SIMATIC ET200pro switches

#### Ordering data

#### Order No.

##### IE Push Pull Plug PRO

RJ45 plug-in connector suitable for on-site assembly in degree of protection IP65/67; plastic casing

##### IE RJ45 Plug PRO

insulation displacement technology  
1 package = 1 item

##### IE SC RJ POF Plug PRO

for POF fiber optic cables  
1 package = 1 item

##### IE SC RJ PCF Plug PRO

for PCF fiber optic cables  
1 package = 1 item

##### Power Plug PRO

for 2 x 24 V voltage supply  
1 package = 1 item

6GK1 901-1BB10-6AA0

6GK1 900-0MB00-6AA0

6GK1 900-0NB00-6AA0

6GK1 907-0AB10-6AA0

##### IE FC TP cables

##### IE FC TP Standard Cable GP 2 x 2 (Type A)

6XV1 840-2AH10

##### IE FC TP Flexible Cable GP 2 x 2 (Type B)

6XV1 870-2B

##### IE FC TP Trailing Cable GP 2 x 2 (Type C)

6XV1 870-2D

##### IE FC TP Trailing Cable 2 x 2 (Type C)

6XV1 840-3AH10

##### IE TP Torsion Cable 2 x 2 (Type C)

6XV1 870-2F

##### IE FC TP Marine Cable 2 x 2 (Type B)

6XV1 840-4AH10

##### IE FC TP Food Cable GP 2 x 2 (Type C)

6XV1 871-2L

##### IE FC TP Festoon Cable GP 2 x 2 (Type B)

6XV1 871-2S

##### IE FC TP FRNC Cable GP 2 x 2 (Type B)

6XV1 871-2F

##### FO cables

##### POF Standard Cable GP 980/1000

6XV1 874-2A

sold by the meter

##### POF Trailing Cable 980/1000

6XV1 874-2B

with rugged PUR sheath;  
sold by the meter

##### PCF Standard Cable GP 200/230

6XV1 861-2A

sold by the meter

##### PCF Trailing Cable 200/230

6XV1 861-2C

sold by the meter

##### PCF Trailing Cable GP 200/230

6XV1 861-2D

sold by the meter

##### Power cables

##### Energy Cable 5 x 1,5

6XV1 830-8AH10

sold by the meter

#### Overview



Flexible connecting cables and FastConnect (FC) plug-in connectors that can be assembled in the field for transmission of data (up to 100 Mbit/s) between Industrial Ethernet stations with degree of protection IP65

#### Industrial Ethernet connecting cable M12-180/M12-180 (D-coded)

- Pre-assembled connecting cable (IE FC TP trailing cable GP) for connecting Industrial Ethernet stations (e.g. SIMATIC ET 200pro and SCALANCE X208PRO) with degree of protection IP65/IP67
- For transmission rates 10/100 Mbit/s

#### Industrial Ethernet FC M12 Plug PRO (D-coded)

- Industrial Ethernet M12 plug-in connector with FastConnect connection system for on-site assembly for SCALANCE X208PRO and IM 154-4 PN
- Easy connection (insulation displacement contacts) for 4-core twisted pair FC installation cables (100 Mbit/s) without the need for special tools
- Fault-preventing connection method thanks to visible contacting area and color-coded insulation piercing connecting devices
- Industry-compatible design (rugged metal housing)
- Excellent EMC shielding and deflection (metal housing)
- Integrated strain-relief for installation cables

#### Industrial Ethernet panel feedthrough

- Control cabinet feedthrough for conversion from M12 connection method (D coded, IP65/IP67) to RJ45 connection method (IP20)

#### Ordering data

#### Order No.

##### IE Connecting Cable M12-180/M12-180

Pre-assembled IE FC TP Trailing Cable GP 2 x 2 (PROFINET Type C) with two 4-pin M12 connectors (D-coded) up to 85 m, degree of protection IP65/IP67  
Length:

- 0.3 m
- 0.5 m
- 1.0 m
- 1.5 m
- 2.0 m
- 3.0 m
- 5.0 m
- 10 m
- 15 m

Additional special lengths with 90° or 180° cable outlet

**6XV1 870-8AE30**

**6XV1 870-8AE50**

**6XV1 870-8AH10**

**6XV1 870-8AH15**

**6XV1 870-8AH20**

**6XV1 870-8AH30**

**6XV1 870-8AH50**

**6XV1 870-8AN10**

**6XV1 870-8AN15**

See

<http://support.automation.siemens.com/WW/view/en/26999294>

##### IE FC M12 Plug PRO

M12 plug-in connector (D-coded, IP65/IP67) that can be assembled in the field, metal enclosure, FastConnect connection method, for SCALANCE X208PRO and IM 154-4 PN

- 1 item
- 8 items

A

A

**6GK1 901-0DB20-6AA0**

**6GK1 901-0DB20-6AA8**

##### IE Panel Feedthrough

Control cabinet feedthrough for conversion from M12 connection method (D coded, IP65/IP67) to RJ45 connection method (IP20)

- 1 pack = 5 items

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**6GK1 901-0DM20-2AA5**

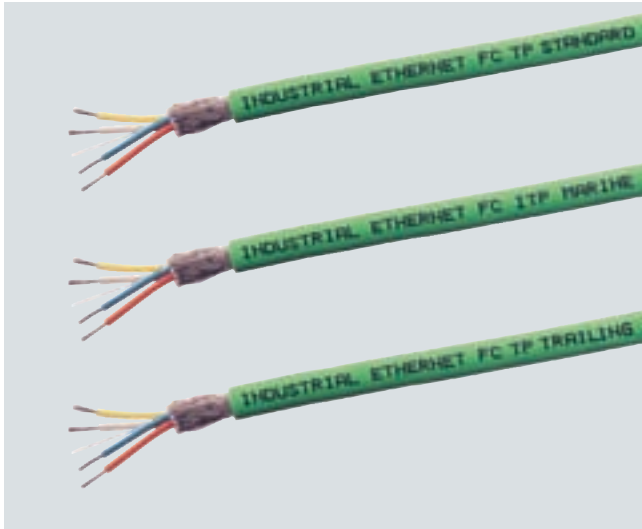
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# PROFINET/Industrial Ethernet

## Cabling technology

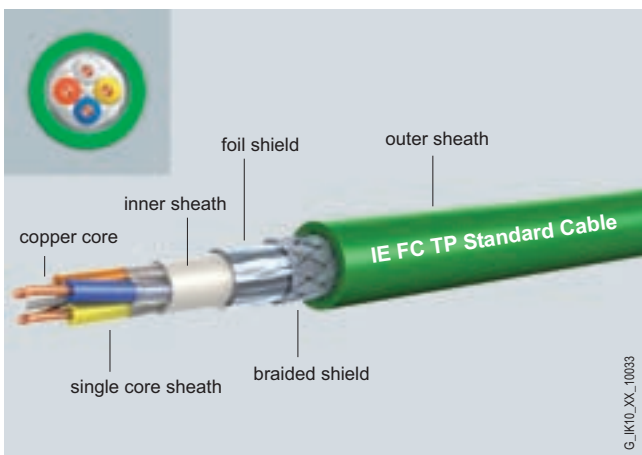
### IE FC TP Cable 2 x 2

#### Overview



- For structured cabling in the factory hall; specially designed for fast assembly
- Easy stripping with the FastConnect Stripping Tool; the outer sheath and the braided shield are stripped accurately in one step
- Connection to FastConnect products using insulation displacement technology
- Exceeds Category 5 (Cat5e) of the international cabling standards ISO/IEC 11801 and EN 50173
- PROFINET-compatible
- UL approval
- Different variants for different applications
  - IE FC TP Standard Cable GP
  - IE FC TP Flexible Cable GP
  - IE FC TP FRNC Cable GP
  - IE FC TP Trailing Cable GP
  - IE FC TP Trailing Cable
  - IE FC TP Festoon Cable
  - IE FC TP Festoon Cable GP
  - IE TP Torsion Cable
  - IE FC TP Food Cable
  - IE FC TP Marine Cable
- High interference immunity thanks to double shielding
- Easy length measurement thanks to printed meter markings

#### Design



#### Ordering data

#### Order No.

##### IE FC TP Standard Cable GP 2 x 2 (Type A)

4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug; PROFINET-compatible; with UL approval;

Sold by the meter

max. length 1,000 m; minimum order 20 m

Preferred length

- 1000 m

**6XV1 840-2AH10**

**6XV1 840-2AU10**

##### IE FC TP Flexible Cable GP 2 x 2 (Type B)

4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug for occasional movement; PROFINET-compatible; with UL approval; sold by the meter; max. length 1000 m, minimum order 20 m

**6XV1 870-2B**

##### IE FC TP FRNC Cable GP 2 x 2 (Type B)

4-core, shielded, halogen-free TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug for occasional movement; PROFINET-compatible; with UL approval; sold by the meter; max. length 1000 m, minimum order 20 m

**6XV1 871-2F**

##### IE FC TP Trailing Cable GP 2 x 2 (Type C)

4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug for use in trailing cables; PROFINET-compatible; with UL approval; sold by the meter; max. length 1000 m, minimum order 20 m

**6XV1 870-2D**

Ordering data	Order No.	Order No.
<b>IE FC TP Trailing Cable 2 x 2 (Type C)</b> 4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug 180/90 for use in trailing cables; PROFINET-compatible; with UL approval; sold by the meter; max. length 1000 m, minimum order 20 m	<b>6XV1 840-3AH10</b>	<b>Accessories</b> <b>IE FC Stripping Tool</b> Preadjusted stripping tool for fast stripping of Industrial Ethernet FC cables <b>6GK1 901-1GA00</b>
<b>IE FC TP Festoon Cable GP 2 x 2 (Type B)</b> 4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug 180/90 for use in festoon applications; PROFINET-compatible; with UL approval; sold by the meter; max. length 1000 m, minimum order 20 m	<b>6XV1 871-2S</b>	<b>IE FC Blade Cassettes (12 mm)</b> Replacement blade cassette for the Industrial Ethernet stripping tool; for use with IE FC Outlet RJ45, ELS TP40, 5 items <b>6GK1 901-1GB00</b>
<b>IE TP Torsion Cable 2 x 2 (Type C)</b> 4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug for use with robots; PROFINET-compatible; with UL approval; sold by the meter; max. length 1000 m, minimum order 20 m	<b>6XV1 870-2F</b>	<b>IE FC Blade Cassettes (5 mm)</b> Replacement blade cassette for the Industrial Ethernet stripping tool; for use with IE FC RJ45 Plugs and IE FC RJ45 Modular Outlet, 5 items <b>6GK1 901-1GB01</b>
<b>IE FC TP Food Cable GP 2 x 2 (Type C)</b> 4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug 180/90 for the food and beverages industry; PROFINET-compatible; sold by the meter; max. length 1000 m, minimum order 20 m	<b>6XV1 871-2L</b>	<b>IE FC RJ45 Plugs</b> RJ45 plug connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables <b>IE FC RJ45 Plug 180</b> 180° cable outlet; for network components and CPs/CPU's with Industrial Ethernet interface • 1 pack = 1 item • 1 pack = 10 items • 1 pack = 50 items <b>6GK1 901-1BB10-2AA0</b> <b>6GK1 901-1BB10-2AB0</b> <b>6GK1 901-1BB10-2AE0</b>
<b>IE FC TP Food Cable GP 2 x 2 (Type C)</b> 4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug 180/90 for the food and beverages industry; PROFINET-compatible; sold by the meter; max. length 1000 m, minimum order 20 m	<b>6XV1 871-2L</b>	<b>IE FC RJ45 Plug 90</b> 90° cable outlet; e.g. for ET 200S • 1 pack = 1 item • 1 pack = 10 items • 1 pack = 50 items <b>6GK1 901-1BB20-2AA0</b> <b>6GK1 901-1BB20-2AB0</b> <b>6GK1 901-1BB20-2AE0</b>
<b>IE FC TP Marine Cable 2 x 2 (Type B)</b> 4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug 180/90; marine approval; max. length 1000 m, minimum order 20 m	<b>6XV1 840-4AH10</b>	<b>IE FC RJ45 Plug 145</b> 145° cable outlet; e.g. for SIMOTION and SINAMICS • 1 pack = 1 item • 1 pack = 10 items • 1 pack = 50 items <b>6GK1 901-1BB30-0AA0</b> <b>6GK1 901-1BB30-0AB0</b> <b>6GK1 901-1BB30-0AE0</b>
<b>IE Hybrid Cable 2x2 + 4x0.34</b> Flexible cable, 4 x Cu Cat5, shielded (0.75 mm) and 4 x Cu (0.34 mm <sup>2</sup> ) with IE FC modular outlet and power insert and IP67 hybrid plug connector; sold by the meter; up to 1000 m; minimum order 20 m	<b>6XV1870-2J</b>	<b>SIMATIC NET Manual Collection</b> Electronic manuals for communication systems, communication protocols, and communication products; on DVD; German/English <b>6GK1 975-1AA00-3AA0</b>
		<b>PROFINET Cabling and Interconnection Technology Guideline</b> See <a href="http://www.profinet.com">http://www.profinet.com</a>

# PROFINET/Industrial Ethernet

## Cabling technology

### IE FC TP Cable 4 x 2

#### Overview



- 8-core FastConnect installation cables for cabling system with Gigabit capability (AWG 22 and AWG 24 versions)
- Easy stripping with the FastConnect Stripping Tool; the outer sheath and the braided shield are stripped accurately in one step
- Connection to IE FC RJ45 Modular Outlet (AWG 22) or IE FC RJ45 Plug 4 x 2 (AWG 24) using insulation-displacement technology
- Satisfies Category 6 (Cat6) of the international cabling standards ISO/IEC 11801 and EN 50173
- UL approval
- Easy length measurement thanks to printed meter markings

#### Ordering data

#### Order No.

##### IE FC TP Standard Cable GP 4 x 2

8-core, shielded TP installation cable for universal applications; with UL approval; sold by the meter; max. length 1000 m, minimum order 20 m

- AWG 22, for connection to IE FC RJ45 Modular Outlet
- AWG 24, for connection to IE FC RJ45 Plug 4 x 2

**6XV1 870-2E**

**6XV1 878-2A**

##### IE FC TP Flexible Cable GP 4 x 2

8-core, shielded TP installation cable for occasional movement; with UL approval; sold by the meter; max. length 1000 m, minimum order 20 m

- AWG 24, for connection to IE FC RJ45 Plug 4 x 2

**6XV1 878-2B**

##### IE FC Stripping Tool

Preadjusted stripping tool for fast stripping of Industrial Ethernet FC cables 4 x 2

**6GK1 901-1GA00**

#### Ordering data

#### Order No.

##### IE FC Blade Cassettes (5 mm)

Replacement blade cassette for the Industrial Ethernet stripping tool, for use with IE FC RJ45 Plugs and IE FC RJ45 Modular Outlet, 5 items

**6GK1 901-1GB01**

##### IE FC RJ45 Modular Outlet

FastConnect RJ45 Outlet for Industrial Ethernet with interface for a replaceable insert;

- **Without replaceable insert**
- **With 2FE insert;** ; replaceable insert for 2 x 100 Mbit/s interfaces
- **With 1GE insert;** replaceable insert for 1 x 1000 Mbit/s interfaces
- **With power insert;** replaceable insert for 1 x 24 V DC and 1 x 100 Mbit/s interface

**6GK1 901-1BE00-0AA0**

**6GK1 901-1BE00-0AA1**

**6GK1 901-1BE00-0AA2**

**6GK1 901-1BE00-0AA3**

##### IE FC RJ45 Modular Outlet Insert 2FE

Replaceable insert for FC Modular Outlet Base; 2 x RJ45 for 2 x 100 Mbit/s interfaces; 1 pack = 4 items

**6GK1 901-1BK00-0AA1**

##### IE FC RJ45 Modular Outlet Insert 1GE

Replaceable insert for FC Modular Outlet Base; 1 x RJ45 for 1 x 1000 Mbit/s interface; 1 pack = 4 items

**6GK1 901-1BK00-0AA2**

##### IE FC RJ45 Plug 4 x 2

RJ45 plug connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables 4 x 2; 180° cable outlet; for network components and CPs/CPU's with Industrial Ethernet interface

- 1 pack = 1 item
- 1 pack = 10 items
- 1 pack = 50 items

**6GK1 901-1BB11-2AA0**

**6GK1 901-1BB11-2AB0**

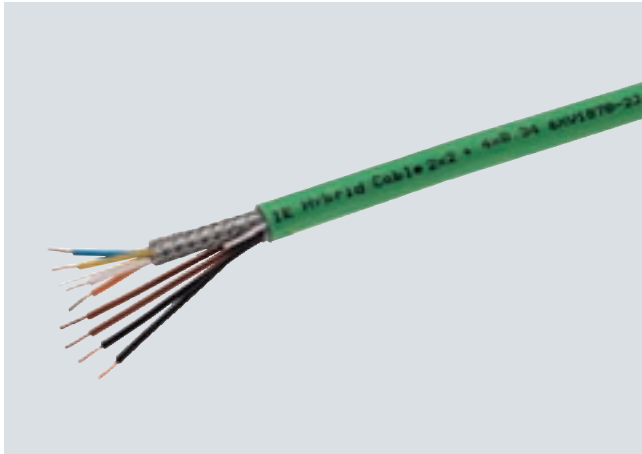
**6GK1 901-1BB11-2AE0**

##### SIMATIC NET Manual Collection

Electronic manuals for communication systems, communication protocols, and communication products; on DVD; German/English

**6GK1 975-1AA00-3AA0**

#### Overview



- Industry-standard Industrial Ethernet hybrid cable for transmitting data (10/100 Mbit) and power (24 V/400 mA)
- The IE Hybrid cable 2x2 + 4x0.34 contains:
  - Industrial Ethernet cable 2 x 2 Cat5e, shielded as twisted quad (stranded, 4-core)
  - four power cores 0.34 mm<sup>2</sup> (stranded)

#### Ordering data

#### Order No.

##### IE Hybrid Cable 2x2 + 4x0,34

Flexible cable, 4 x Cu Cat 5E, shielded (AWG22) and 4 x Cu (0.34 mm<sup>2</sup>) with IE FC RJ45 modular outlet and power insert and IP67 hybrid plug connector; sold by the meter

**6XV1 870-2J**

#### Additional components

##### IE TP Cord RJ45/RJ45

TP cable 4 x 2 with 2 RJ45 plugs

- 0.5 m
- 1 m
- 2 m
- 6 m
- 10 m

**6XV1 870-3QE50**

**6XV1 870-3QH10**

**6XV1 870-3QH20**

**6XV1 870-3QH60**

**6XV1 870-3QN10**

##### IE TP XP Cord RJ45/RJ45

Twisted TP cable 4 x 2 with 2 RJ45 plugs

- 0.5 m
- 1 m
- 2 m
- 6 m
- 10 m

**6XV1 870-3RE50**

**6XV1 870-3RH10**

**6XV1 870-3RH20**

**6XV1 870-3RH60**

**6XV1 870-3RN10**

##### IE FC RJ45 Modular Outlet

FastConnect RJ45 Outlet for Industrial Ethernet with interface for a replaceable insert;

- **With 2FE insert:**  
replaceable insert for 2 x 100 Mbit/s interfaces
- **With 1GE insert:**  
replaceable insert for 1 x 1000 Mbit/s interfaces
- **With power insert:**  
replaceable insert for 1 x 24 V DC and 1 x 100 Mbit/s interface

**6GK1 901-1BE00-0AA1**

**6GK1 901-1BE00-0AA2**

**6GK1 901-1BE00-0AA3**

##### IP67 hybrid connector

Plug connector for connecting SCALANCE W-700 to Industrial Ethernet and Power over Ethernet (PoE), with assembly instructions, 1 item

**09 45 125 1300.00**

Order directly from:  
HARTING Deutschland  
GmbH & Co. KG  
PO Box 24-51  
D -32381 Minden  
Tel. +49 571-8896-0  
Fax. +49 571-8896-354  
Email: [de.sales@HARTING.com](mailto:de.sales@HARTING.com)  
Internet:  
<http://www.HARTING.com>

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Electronic manuals for communication systems, communication protocols, and communication products; on DVD; German/English

**6GK1 975-1AA00-3AA0**

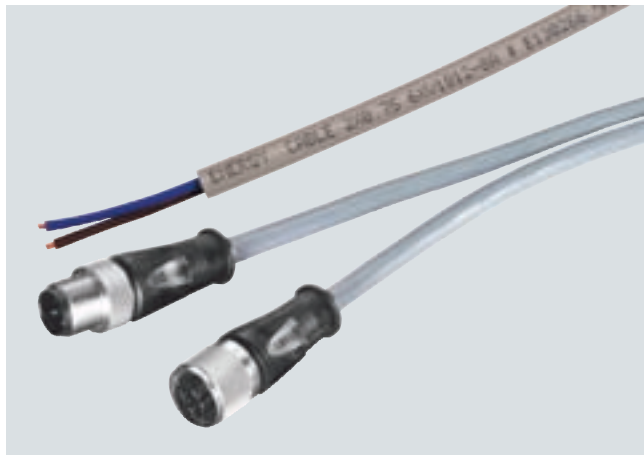


# PROFINET/Industrial Ethernet

## Cabling technology

### Power cables

#### Overview



- Different versions (5-core, 2-core) for different fields of application
- Rugged cable design for installation in industrial applications
- UL approvals
- Easy length measurement thanks to printed meter markings

#### Ordering data

#### Order No.

##### Power cable 2 x 0.75

Power cable with trailing capability with 2 copper cores (0.75 mm<sup>2</sup>) for connecting to M12 plug-in connector; sold by the meter; max. 1000 m; minimum order quantity 20 m

**6XV1 812-8A**

##### Power cable 5 x 1.5

Power cable with trailing capability with 5 copper cores (1.5 mm<sup>2</sup>) for connecting to 7/8" plug-in connector; sold by the meter; max. 1000 m; minimum order quantity 20 m

**6XV1 830-8AH10**

#### Additional components

##### M12 Power Connecting Cable M12-180/M12-180

Flexible 4-core power connecting cable, assembled with A-coded 5-pin M12 connector and A-coded, 5-pin M12 socket to supply the ET 200 with 24 V DC; length:

- 0.3 m
- 0.5 m
- 1 m
- 1.5 m
- 2.0 m
- 3.0 m
- 5.0 m
- 10 m
- 15 m

**6XV1 801-5DE30**  
**6XV1 801-5DE50**  
**6XV1 801-5DH10**  
**6XV1 801-5DH15**  
**6XV1 801-5DH20**  
**6XV1 801-5DH30**  
**6XV1 801-5DH50**  
**6XV1 801-5DN10**  
**6XV1 801-5DN15**

#### Ordering data

#### Order No.

#### Additional components (continued)

##### 7/8" plug-in connector

Plug with axial cable outlet for field assembly for ET 200, 5-core, plastic enclosure, 1 pack = 5 items

- Male pins
- Socket insert

**6GK1 905-0FA00**

**6GK1 905-0FB00**

##### 7/8" Power T-Tap PRO

Power T-piece for ET 200 with two 7/8" socket inserts and one 7/8" pin insert 1 pack = 5 items

**6GK1 905-0FC00**

##### Signaling Contact M12 Cable Connector PRO

Socket for connection of SCALANCE X208PRO for signaling contact; 5-pole, B-coded, with assembly instructions; 3 items

**6GK1908-0DC10-6AA3**

##### Power M12 Cable Connector PRO

Socket for connection of SCALANCE W-700 for 24 V DC supply voltage; 4-pole, A-coded, with assembly instructions, 3 items

**6GK1 907-0DC10-6AA3**

##### Power M12 Plug PRO

Plug for connection to PS791-1PRO power supply for 24 V DC supply voltage; 4-pole, A-coded, with assembly instructions, 3 items

**6GK1 907-0DB10-6AA3**

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Electronic manuals for communication systems, communication protocols, and communication products; on DVD, German/English

**6GK1 975-1AA00-3AA0**

#### Overview



- Patch cable, available as preassembled cables (max. length 10 m)
- With 2 x 2 cores for 10/100 Mbit/s and 4 x 2 cores for 10/100/1000 Mbit/s Ethernet
- Small cable diameter
- Category Cat5e (2 x 2) and Cat6 (4 x 2) of the international cabling standards ISO/IEC 11801 and EN 50173

#### Ordering data

#### Order No.

##### IE TP Cord RJ45/RJ45

TP cable 4 x 2 with 2 RJ45 plugs

- 0.5 m
- 1 m
- 2 m
- 6 m
- 10 m

**6XV1 870-3QE50**  
**6XV1 870-3QH10**  
**6XV1 870-3QH20**  
**6XV1 870-3QH60**  
**6XV1 870-3QN10**

##### IE TP XP Cord RJ45/RJ45

Twisted TP cable 4 x 2 with 2 RJ45 plugs

- 0.5 m
- 1 m
- 2 m
- 6 m
- 10 m

**6XV1 870-3RE50**  
**6XV1 870-3RH10**  
**6XV1 870-3RH20**  
**6XV1 870-3RH60**  
**6XV1 870-3RN10**

##### IE TP Cord 9/RJ45

TP cable 2 x 2 with one 9-pole Sub-D connector and one RJ45 connector

- 0.5 m
- 1 m
- 2 m
- 6 m
- 10 m

**6XV1 850-2JE50**  
**6XV1 850-2JH10**  
**6XV1 850-2JH20**  
**6XV1 850-2JH60**  
**6XV1 850-2JN10**

##### IE TP XP Cord 9/RJ45

Twisted TP cable 2 x 2 with one 9-pole Sub-D connector and one RJ45 connector

- 0.5 m
- 1 m
- 2 m
- 6 m
- 10 m

**6XV1 850-2ME50**  
**6XV1 850-2MH10**  
**6XV1 850-2MH20**  
**6XV1 850-2MH60**  
**6XV1 850-2MN10**

##### IE TP Cord 9-45/RJ45

TP cable 2 x 2 with one RJ45 connector and one Sub-D connector with 45° cable outlet (for OSM/ESM only)

- 1 m

**6XV1 850-2NH10**

##### IE TP XP Cord 9-45/RJ45

Twisted TP cable 2 x 2 with one RJ45 connector and one Sub-D connector with 45° cable outlet (for OSM/ESM only)

- 1 m

**6XV1 850-2PH10**

## Cabling technology

## IE TP Cord

Ordering data (continued)	Order No.	Order No.	
<b>IE TP XP Cord 9/9</b>  Twisted TP cable 2 x 2 for direct connection of two Industrial Ethernet components with an ITP interface with two 9-pole Sub-D connectors  • 1 m	<b>6XV1 850-2RH10</b>	<b>IE FC Outlet RJ45</b>  For connecting Industrial Ethernet FC cables and TP Cords; graded prices from 10 and 50 items  <b>IE FC RJ45 Modular Outlet</b>  FastConnect RJ45 Outlet for Industrial Ethernet with interface for a replaceable insert;  • <b>With 2FE insert</b> ; replaceable insert for 2 x 100 Mbit/s interfaces  • <b>With 1GE insert</b> ; replaceable insert for 1 x 1000 Mbit/s interfaces  • <b>With power insert</b> ; replaceable insert for 1 x 24 V DC and 1 x 100 Mbit/s interface	<b>6GK1 901-1FC00 0AA0</b>   <

#### Overview



- Easy installation of structured Twisted Pair cabling.
- Extremely fast installation thanks to insulation displacement technology.
- Rugged solid metal module certified to Category 5.
- Reliable shield contact and strain relief thanks to bolt-on cover
- Preventing mistakes with the help of color markings

#### Ordering data

#### Order No.

##### IE FC Outlet RJ45

For connection of Industrial Ethernet FC cables and TP Cords; graded prices from 10 and 50 items upwards

**6GK1 901-1FC00 0AA0**

##### IE TP Cord 9/RJ45

TP cable 2 x 2 with one 9-pole Sub-D connector and one RJ45 connector

- 0.5 m
- 1 m
- 2 m
- 6 m
- 10 m

**6XV1 850-2JE50**  
**6XV1 850-2JH10**  
**6XV1 850-2JH20**  
**6XV1 850-2JH60**  
**6XV1 850-2JN10**

##### IE TP XP Cord 9/RJ45

Twisted TP cable 2 x 2 with one 9-pole Sub-D connector and one RJ45 connector

- 0.5 m
- 1 m
- 2 m
- 6 m
- 10 m

**6XV1 850-2ME50**  
**6XV1 850-2MH10**  
**6XV1 850-2MH20**  
**6XV1 850-2MH60**  
**6XV1 850-2MN10**

#### Ordering data (continued)

#### Order No.

##### IE TP Cord 9-45/RJ45

TP cable 2 x 2 with one RJ45 connector and one Sub-D connector with 45° cable outlet (for OSM/ESM only)

- 1 m

**6XV1 850-2NH10**

##### IE TP XP Cord 9-45/RJ45

Twisted TP cable with one RJ45 connector and one Sub-D connector with 45° cable outlet (for OSM/ESM only)

- 1 m

**6XV1 850-2PH10**

##### IE TP XP Cord 9/9

Twisted TP cable 2 x 2 for direct connection of two Industrial Ethernet components with an ITP interface with two 9-pole Sub-D connectors

- 1 m

**6XV1 850-2RH10**

##### IE TP Cord RJ45/15

TP cable 2 x 2 with one 15-pole Sub-D connector and one RJ45 connector

- 0.5 m
- 1 m
- 2 m
- 6 m
- 10 m

**6XV1 850-2LE50**  
**6XV1 850-2LH10**  
**6XV1 850-2LH20**  
**6XV1 850-2LH60**  
**6XV1 850-2LN10**

##### IE TP XP Cord RJ45/15

Twisted TP cable 2 x 2 with one 15-pole Sub-D connector and one RJ45 connector

- 0.5 m
- 1 m
- 2 m
- 6 m
- 10 m

**6XV1 850-2SE50**  
**6XV1 850-2SH10**  
**6XV1 850-2SH20**  
**6XV1 850-2SH60**  
**6XV1 850-2SN10**

##### IE TP Converter Cord 15/RJ45

TP connecting cable 2 x 2 for connecting data terminals with RJ45 interfaces to the ITP cabling technology; with a 15-pole Sub-D socket with slide locking and an RJ45 connector.

- 0.5 m
- 1 m

**6XV1 850-2EE50**  
**6XV1 850-2EH20**

##### SIMATIC NET Manual Collection

Electronic manuals for communication systems, communication protocols, and communication products; on DVD; German/English

**6GK1 975-1AA00-3AA0**

# PROFINET/Industrial Ethernet

## Cabling technology

### IE FC RJ45 Modular Outlet

#### Overview



- Simple connection technology (insulation displacement contacts) for 8-core Industrial Ethernet FC twisted pair installation cables (Cat6)
- Safe connection technology thanks to visible connection area
- Industry-standard design
  - Rugged metal housing
  - Dust caps
- Wall and DIN rail mounting inside or outside control cubicles thanks to degree of protection IP40
- Good electromagnetic shielding and conduction due to metal housing
- Integral strain relief for 8-core installation cables
- Replaceable inserts for
  - 2 x Fast Ethernet connection  
**IE FC RJ45 modular outlet insert 2FE**
  - 1 x Gigabit Ethernet connection  
**IE FC RJ45 Modular Outlet insert 1GE**
  - 1 x Fast Ethernet connection, 1 x 24 V DC connection  
**IE FC RJ45 Modular Outlet Power Insert**

#### Ordering data

#### Order No.

##### IE FC RJ45 Modular Outlet

FastConnect RJ45 Outlet for Industrial Ethernet with interface for a replaceable insert;

- without replaceable insert
- **with 2FE insert;**  
replaceable insert  
for 2 x 100 Mbit/s interfaces
- **with 1GE insert;**  
replaceable insert  
for 1 x 1000 Mbit/s interfaces
- **with power insert;**  
replaceable insert  
for 1 x 24 V DC and  
1 x 100 Mbit/s interface

**6GK1 901-1BE00-0AA0**

**6GK1 901-1BE00-0AA1**

**6GK1 901-1BE00-0AA2**

**6GK1 901-1BE00-0AA3**

##### IE FC RJ45 Modular Outlet Insert 2FE

Replaceable insert for FC Modular Outlet Base; 2 x RJ45 for 2 x 100 Mbit/s interfaces; 1 pack = 4 items

**6GK1 901-1BK00-0AA1**

##### IE FC RJ45 Modular Outlet Insert 1GE

Replaceable insert for FC Modular Outlet Base; 1 x RJ45 for 1 x 1000 Mbit/s interface; 1 pack = 4 items

**6GK1 901-1BK00-0AA2**

##### IE FC TP Standard Cable 4 x 2

8-core FastConnect cable (Cat6) for permanent wiring; sold by the meter

**6XV1 870-2E**

##### IE Hybrid Cable 2x2 + 4x0.34

Flexible cable, 4 x Cu Cat5, shielded (0.75 mm<sup>2</sup>) and 4 x Cu (0.34 mm<sup>2</sup>) with IE FC modular outlet and power insert and IP67 hybrid plug connector; sold by the meter; up to 1000 m; minimum order 20 m

**6XV1870-2J**

##### Energy Cable

2-wire power cable; stranded wire, 2 x 0.75 mm<sup>2</sup>, can be trailed, sold by the meter; up to 1000 m; minimum order 20 m

**6XV1812-8A**

##### IE TP Cord

8-core patch cable for connection between FC Modular Outlet base modules and data terminal; available in different lengths

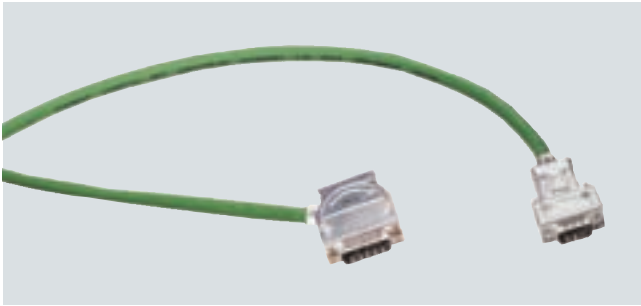
see TP Cord

##### IE FC stripping tool

Preadjusted stripping tool for fast stripping of Industrial Ethernet FC cables

**6GK1 901-1GA00**

#### Overview



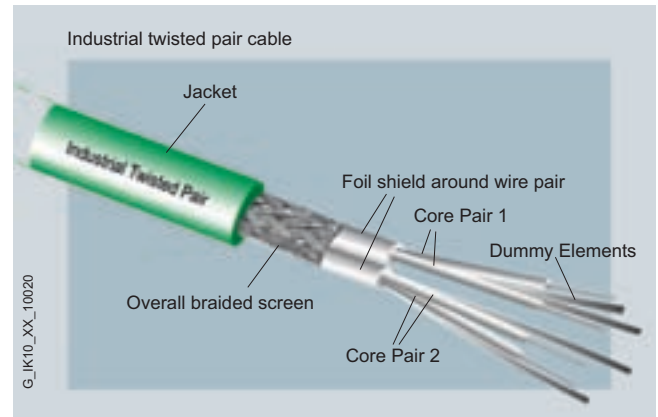
#### *Industrial Twisted Pair cable*

- For constructing Industrial Twisted Pair (ITP) networks
- Double cable shield for industrial use
- Easy to lay
- Low-cost connection of data terminals
- Exceeds Category 5 of the international cabling standards ISO/IEC 11801 and EN 50173
- Available as standard type and as halogen-free variant (FRNC)

#### *Industrial Twisted Pair connector*

- Connector is assembled on site with screw terminals without the need for special tools
- Data transfer is noise resistant thanks to
  - Rugged metal connector
  - System-wide grounding concept
- Fast, error-free installation using factory-tested preassembled cables.

#### Design



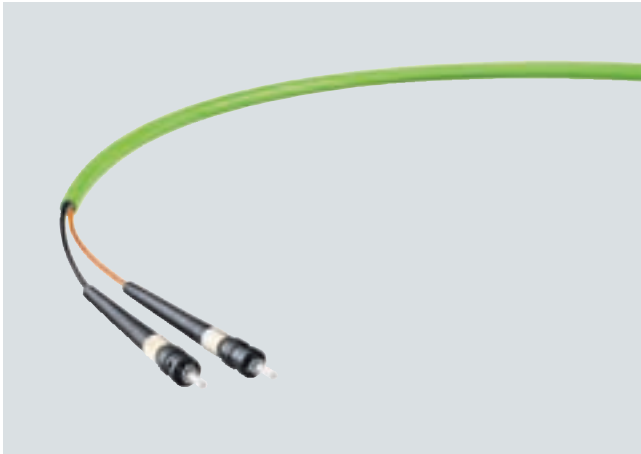
## Cabling technology

## Industrial Twisted Pair – Cables/connectors

Ordering data	Order No.		Order No.
<b>ITP Standard Cable for Industrial Ethernet</b>  Not pre-assembled, sold by the meter, 2 x 2-core, without plug  For connecting a data terminal, for self-assembly of plug, or for connecting the patch field to the outlet	<b>6XV1 850-0AH10</b>	<b>ITP XP Standard Cable 15/15</b>  Twisted ITP installation cable for direct connection of two data terminals with an ITP interface; with two 15-pin Sub-D connectors  • 2 m • 6 m • 10 m	<b>6XV1 850-0DH20</b> <b>6XV1 850-0DH60</b> <b>6XV1 850-0DN10</b>
<b>ITP Standard Cable 9/15</b>  ITP installation cable for the direct connection of data terminals with an ITP interface to Industrial Ethernet network components with an ITP interface; with one 9-pin and one 15-pin Sub-D connector  • 2 m • 5 m • 8 m • 12 m • 15 m • 20 m • 30 m • 40 m • 50 m • 60 m • 70 m • 80 m • 90 m • 100 m	<b>6XV1 850-0BH20</b> <b>6XV1 850-0BH50</b> <b>6XV1 850-0BH80</b> <b>6XV1 850-0BN12</b> <b>6XV1 850-0BN15</b> <b>6XV1 850-0BN20</b> <b>6XV1 850-0BN30</b> <b>6XV1 850-0BN40</b> <b>6XV1 850-0BN50</b> <b>6XV1 850-0BN60</b> <b>6XV1 850-0BN70</b> <b>6XV1 850-0BN80</b> <b>6XV1 850-0BN88</b> <b>6XV1 850-0BT10</b>	<b>ITP FRNC Cable for Industrial Ethernet</b>  Not pre-assembled, halogen-free, sold by the meter, 2 x 2-core, without plug  For connecting a data terminal, for self-assembly of plug, or for connecting the patch field to the outlet	<b>6XV1 851-0AH10</b>
<b>ITP XP Standard Cable 9/9</b>  Twisted ITP installation cable for direct connection of two Industrial Ethernet network components with an ITP interface; with two 9-pin Sub-D connectors  • 2 m • 5 m • 8 m • 12 m • 15 m • 20 m • 30 m • 40 m • 50 m • 60 m • 70 m • 80 m • 90 m • 100 m	<b>6XV1 850-0CH20</b> <b>6XV1 850-0CH50</b> <b>6XV1 850-0CH80</b> <b>6XV1 850-0CN12</b> <b>6XV1 850-0CN15</b> <b>6XV1 850-0CN20</b> <b>6XV1 850-0CN30</b> <b>6XV1 850-0CN40</b> <b>6XV1 850-0CN50</b> <b>6XV1 850-0CN60</b> <b>6XV1 850-0CN70</b> <b>6XV1 850-0CN80</b> <b>6XV1 850-0CN88</b> <b>6XV1 850-0CT10</b>	<b>ITP FRNC Cable 9/15</b>  ITP installation cable for the direct connection of data terminals with an ITP interface to Industrial Ethernet network components with an ITP interface; with one 9-pin and one 15-pin Sub-D connector  • 2 m • 5 m • 8 m • 12 m • 15 m • 20 m • 30 m	<b>6XV1 851-1AH20</b> <b>6XV1 851-1AH50</b> <b>6XV1 851-1AH80</b> <b>6XV1 851-1AN12</b> <b>6XV1 851-1AN15</b> <b>6XV1 851-1AN20</b> <b>6XV1 851-1AN30</b>
		<b>ITP Plugs</b>  <b>ITP Plug for Industrial Ethernet 9-pin</b>  For connection to OLM/ELM and OSM/ESM	<b>6GK1 901-0CA00-0AA0</b>
		<b>ITP Plug for Industrial Ethernet 15-pin</b>  For connection to a data terminal with an ITP interface	<b>6GK1 901-0CA01-0AA0</b>
		<b>SIMATIC NET Manual Collection</b>  Electronic manuals for communication systems, communication protocols, and communication products; on DVD; German/English	<b>6GK1 975-1AA00-3AA0</b>



#### Overview



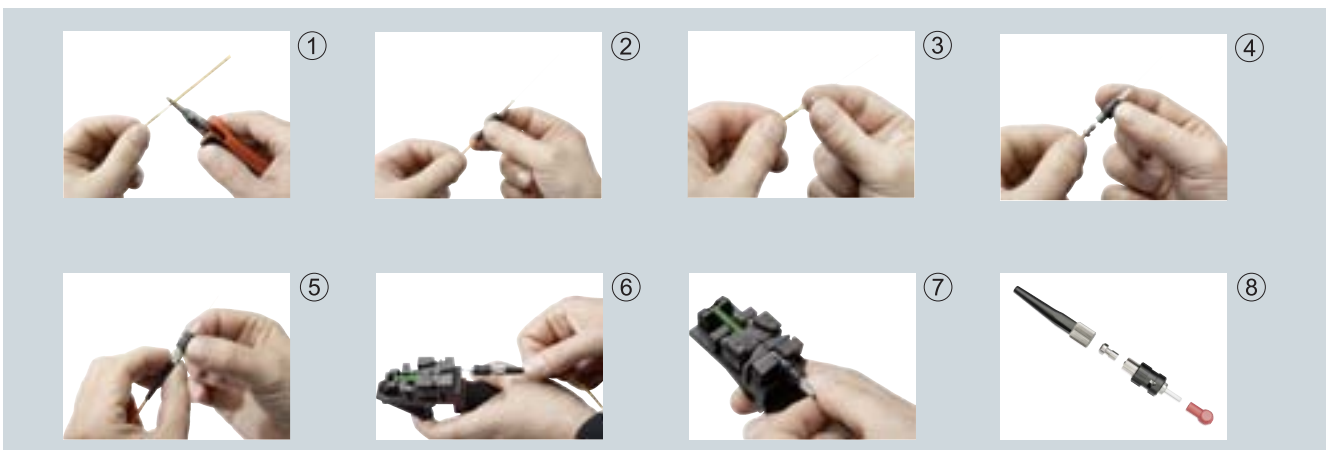
- Simple on-site assembly of glass FOC in the field
- Optical signal transmission
- No radiation emission from the cable
- Unaffected by external noise fields
- No grounding problems
- Electrical isolation
- Low weight
- Simple laying of cables

#### Application

The fiber-optic cable (FOC) is used for the transmission of signals in very extensive plants and where there are significant potential differences within a plant. The light beam is guided by total reflection at the transition from core to cladding which has

a lower refractive index than the core. The FC FO system enables the fast on-site assembly of glass fiber-optic cables with the right lengths to suit the respective application.

#### Assembly of FastConnect glass fiber-optic cables



#### Design

Fiber-optic cables with glass core (62.5/200/230) are offered for the FastConnect fiber-optic cable system:

- FC glass fiber-optic cable; duplex cable for indoor and outdoor fiber-optic networks

The fiber structure corresponds to that of the PCF. This allows simple assembly on site.

Sheath material	Application
PVC	Standard use in indoor and outdoor areas of industrial applications
PUR	Highly mobile applications (tow chains) for high mechanical or chemical stress in harsh industrial environments
PE	Routing of cables in moist areas indoors and outdoors, and for direct burying in earth
FRNC	Standard applications with high fire protection requirements

#### Approvals

UL listing (safety standard) for network lines is especially necessary for the American and Canadian markets. The requirements for the appropriate approvals depend on where the cable is routed within the building. This applies to all cables which have to be routed from a machine to a remote control cabinet and are positioned on cable racks secured in the building. These cables are identified by the suffix "GP" (general purpose) in the product name and have the corresponding UL approvals

# PROFINET/Industrial Ethernet

## Cabling technology

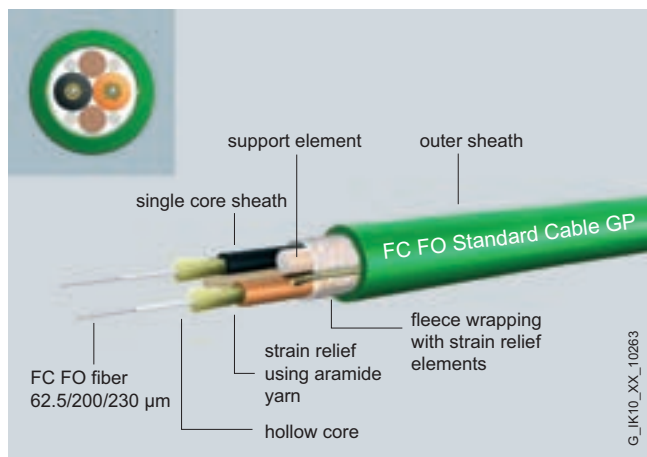
### FC Glass fiber optic cables

#### Overview



- FastConnect standard fiber-optic cable for use in optical Industrial Ethernet and PROFIBUS networks
- For all users who want to install and assemble the glass fiber-optic cables themselves over longer distances on site for office or industrial applications.
- Simple FastConnect SC/BFOC connector assembly on site
- Rugged construction for industrial applications both indoors and outdoors
- High interference immunity, as they are not sensitive to electromagnetic interference
- Extensive range of approvals (UL approvals)
- SIMATIC NET FastConnect glass fiber-optic cables are used to construct optical indoor and outdoor Industrial Ethernet/PROFINET and PROFIBUS networks. Devices with integral optical interface (SC or BFOC connection technology) are, for example, optical link modules (OLM) and SCALANCE X switches.
- FastConnect glass fiber-optic cables are to be assembled on site using FastConnect SC or FastConnect BFOC connectors. A corresponding assembly kit (FC FO Termination Kit) is available for this purpose. The termination kit permits the stripping and the "cleaving" of the fiber in the assembled connector, as is familiar from PCF fiber-optic cables.

#### Design



#### FC FO standard cable GP (General Purpose);

Rugged round cable with green outer sheath, Kevlar strain relief elements, and 62.5/200/230 FC FO fibers for indoor/outdoor applications

#### FC FO trailing cable;

Rugged round cable with green outer sheath, Kevlar strain relief elements and 62.5/200/230 FC FO fibers for use in tow chains and moving applications

Maximum cable length between two devices:

- 3000 m for 100 Mbit/s Ethernet or for PROFIBUS
- 350 m for 1000 Mbit/s Ethernet (1000Base-SX)
- 550 m for 1000 Mbit/s Ethernet (1000Base-LX)

The maximum cable lengths can be assembled from partial lengths using FastConnect couplings (SC or BFOC; maximum 2 couplings, approx. 2.5 dB attenuation per coupling). It is also possible to combine existing installed, conventional 62.5/125 μm multimode glass fiber-optic cable sections with the new FastConnect fiber-optic cables.

Ordering data	Order No.
<b>FC FO Standard Cable GP</b> 62.5/200/230	
FC FO standard cable for fixed installation indoors with PVC sheath; sold by the meter	<b>6XV1 847-2A</b>
<b>FC FO Trailing Cable</b>	
FC FO trailing cable for use in tow chains and moving applications; sold by the meter	<b>6XV1 847-2C</b>
<b>FC FO Termination Kit</b>	
Assembly case for local assembly of FC SC and FC BFOC connectors to FC FO standard cable, comprising a stripping tool, Kevlar cutters, fiber breaking tool and microscope	<b>6GK1 900-1GL00-0AA0</b>
<b>FC SC Plug</b>	
Screw connector for on-site assembly on FC fiber-optic cable; (1 pack = 10 duplex plugs + cleaning cloths)	<b>6GK1 900-1LB00-0AC0</b>
<b>FC BFOC Plug</b>	
Screw connector for on-site assembly on FC fiber-optic cable; (1 pack = 20 items + cleaning cloths)	<b>6GK1 900-1GB00-0AC0</b>
<b>FC SC Coupler</b>	
FC SC duplex coupling; (1 pack = 5 items)	<b>6GK1 900-1LP00-0AB0</b>
<b>FC BFOC Coupler</b>	
FC BFOC coupling; (1 pack = 10 items)	<b>6GK1 900-1GP00-0AB0</b>
<b>SIMATIC NET Manual Collection</b>	
Electronic manuals for communication systems, communication protocols, and communication products; on DVD; German/English	<b>6GK1 975-1AA00-3AA0</b>

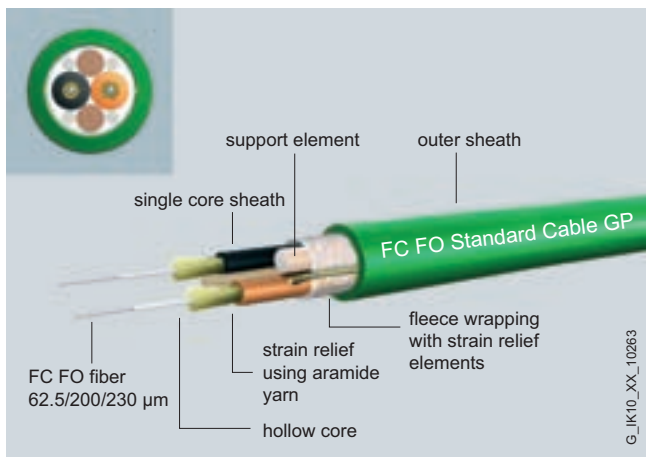
A) Subject to export regulations: AL: N and ECCN: EAR99H

## Overview



- Compact, rugged assembly case for FastConnect glass fiber-optic cables
- Simple fitting of SC and BFOC connectors to FastConnect glass fiber-optic cables
- The quality of the assembly can be checked using the enclosed microscope

## Design



The kit is available in an assembly case for on-site installation of FC SC and FC BFOC connectors on FC glass fiber-optic cables.

It consists of a stripping tool, buffer stripping tool, Kevlar scissors, fiber breaking tool and microscope.

## Ordering data

### Order No.

#### FC FO Termination Kit

Assembly case for local assembly of FC SC and FC BFOC connectors to FC FO standard cable, comprising a stripping tool, Kevlar cutters, fiber breaking tool and microscope

**6GK1 900-1GL00-0AA0**

#### Accessories

##### FC SC Plug

Screw connector for on-site assembly on FC fiber-optic cable; (1 pack = 10 duplex plugs + cleaning cloths)

**6GK1 900-1LB00-0AC0**

##### FC BFOC Plug

Screw connector for on-site assembly on FC fiber-optic cable; (1 pack = 20 items + cleaning cloths)

**6GK1 900-1GB00-0AC0**

##### FC SC Coupler

FC SC duplex coupling; (1 pack = 5 items)

**6GK1 900-1LP00-0AB0**

##### FC BFOC Coupler

FC BFOC coupling; (1 pack = 10 items)

**6GK1 900-1GP00-0AB0**

A) Subject to export regulations: AL: N and ECCN: EAR99H

# PROFINET/Industrial Ethernet

## Cabling technology

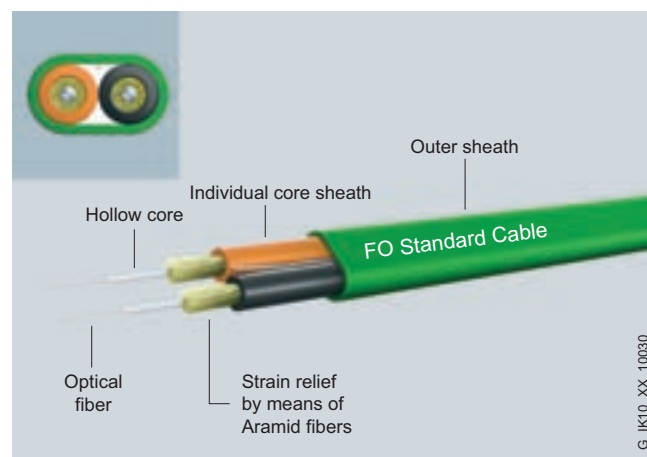
### Glass fiber optic cables

#### Overview



- Used for the optical Industrial Ethernet and PROFIBUS networks
- Rugged design for industrial applications indoors and outdoors
- Halogen-free design for installation inside buildings
- Trailing cable for the special application of forced motion control
- High immunity to noise thanks to insensitivity to electro-magnetic fields
- Available preassembled
- Extensive approvals (UL)

#### Design



Cable construction glass fiber optic cables

Cable types	50/125 $\mu\text{m}$	62,5/125 $\mu\text{m}$
FO Standard Cable GP	●	—
FO FRNC Cable	●	—
FO Trailing Cable	●	—
FO Trailing Cable GP	●	—
FO Ground Cable	●	—
FIBER OPTIC standard cable	—	●
INDOOR Fiber Optic indoor cable	—	●
Flexible Fiber Optic trailing cable	—	●

Ordering data	Order No.		Order No.
<b>FO Standard Cable GP</b> 50/125 <sup>2)</sup> <u>Sold by the meter;</u> max. length 1000 m; minimum order 20 m;  <u>Preferred lengths</u> <sup>1)</sup> pre-assembled with 4 BFOC connectors  • 0.5 m  • 1 m  • 2 m  • 3 m  • 5 m  • 10 m  • 15 m  • 20 m  • 30 m  • 40 m  • 50 m  • 80 m  • 100 m  • 150 m  • 200 m  • 300 m  <u>Preferred lengths</u> <sup>1)</sup> pre-assembled with 4 SC connectors  • 0.5 m  • 1 m  • 2 m  • 3 m  • 5 m  • 10 m  • 15 m  • 20 m  • 30 m  • 40 m  • 50 m  • 80 m  • 100 m  • 150 m  • 200 m  • 300 m	<b>6XV1 873-2A</b>  <b>6XV1 873-3AH05</b> <b>6XV1 873-3AH10</b> <b>6XV1 873-3AH20</b> <b>6XV1 873-3AH30</b> <b>6XV1 873-3AH50</b> <b>6XV1 873-3AN10</b> <b>6XV1 873-3AN15</b> <b>6XV1 873-3AN20</b> <b>6XV1 873-3AN30</b> <b>6XV1 873-3AN40</b> <b>6XV1 873-3AN50</b> <b>6XV1 873-3AN80</b> <b>6XV1 873-3AT10</b> <b>6XV1 873-3AT15</b> <b>6XV1 873-3AT20</b> <b>6XV1 873-3AT30</b>  <b>6XV1 873-6AH05</b> <b>6XV1 873-6AH10</b> <b>6XV1 873-6AH20</b> <b>6XV1 873-6AH30</b> <b>6XV1 873-6AH50</b> <b>6XV1 873-6AN10</b> <b>6XV1 873-6AN15</b> <b>6XV1 873-6AN20</b> <b>6XV1 873-6AN30</b> <b>6XV1 873-6AN40</b> <b>6XV1 873-6AN50</b> <b>6XV1 873-6AN80</b> <b>6XV1 873-6AT10</b> <b>6XV1 873-6AT15</b> <b>6XV1 873-6AT20</b> <b>6XV1 873-6AT30</b>	<b>FO Trailing Cable</b> 50/125 <sup>2)</sup> <u>Sold by the meter;</u> max. length 1000 m; minimum order 20 m;  <u>Preferred lengths</u> <sup>1)</sup> preassembled with 4 BFOC connectors  • 3 m  • 5 m  • 10 m  • 20 m  • 50 m  • 100 m  <u>Preferred lengths</u> <sup>1)</sup> preassembled with 4 SC connectors  • 3 m  • 5 m  • 10 m  • 20 m  • 50 m  • 100 m	<b>6XV1 873-2C</b>  <b>6XV1 873-3CH30</b> <b>6XV1 873-3CH50</b> <b>6XV1 873-3CN10</b> <b>6XV1 873-3CN20</b> <b>6XV1 873-3CN50</b> <b>6XV1 873-3CT10</b>  <b>6XV1 873-6CH30</b> <b>6XV1 873-6CH50</b> <b>6XV1 873-6CN10</b> <b>6XV1 873-6CN20</b> <b>6XV1 873-6CN50</b> <b>6XV1 873-6CT10</b>
<b>FO FRNC Cable</b> 50/125 <sup>2)</sup> <u>Sold by the meter;</u> max. length 1000 m; minimum order 20 m	<b>6XV1 873-2B</b>	<b>FO Trailing Cable GP</b> 50/125 <sup>2)</sup> <u>Sold by the meter;</u> max. length 1000 m; minimum order 20 m;  <u>Preferred lengths</u> <sup>1)</sup> preassembled with 4 BFOC connectors  • 3 m  • 5 m  • 10 m  • 20 m  • 50 m  • 100 m  <u>Preferred lengths</u> <sup>1)</sup> preassembled with 4 SC connectors  • 3 m  • 5 m  • 10 m  • 20 m  • 50 m  • 100 m	<b>6XV1 873-2D</b>  <b>6XV1 873-3DH30</b> <b>6XV1 873-3DH50</b> <b>6XV1 873-3DN10</b> <b>6XV1 873-3DN20</b> <b>6XV1 873-3DN50</b> <b>6XV1 873-3DT10</b>  <b>6XV1 873-6DH30</b> <b>6XV1 873-6DH50</b> <b>6XV1 873-6DN10</b> <b>6XV1 873-6DN20</b> <b>6XV1 873-6DN50</b> <b>6XV1 873-6DT10</b>
		<b>FO Ground Cable</b> 50/125 <sup>2)</sup> <u>Sold by the meter;</u> max. length 2000 m; minimum order 20 m;  <u>Preferred lengths</u> <sup>1)</sup> pre-assembled with 4 BFOC connectors  • 100 m  • 200 m  • 300 m  <u>Preferred lengths</u> <sup>1)</sup> pre-assembled with 4 SC connectors  • 100 m  • 200 m  • 300 m	<b>6XV1 873-2G</b>  <b>6XV1 873-3GT10</b> <b>6XV1 873-3GT20</b> <b>6XV1 873-3GT30</b>  <b>6XV1 873-6GT10</b> <b>6XV1 873-6GT20</b> <b>6XV1 873-6GT30</b>

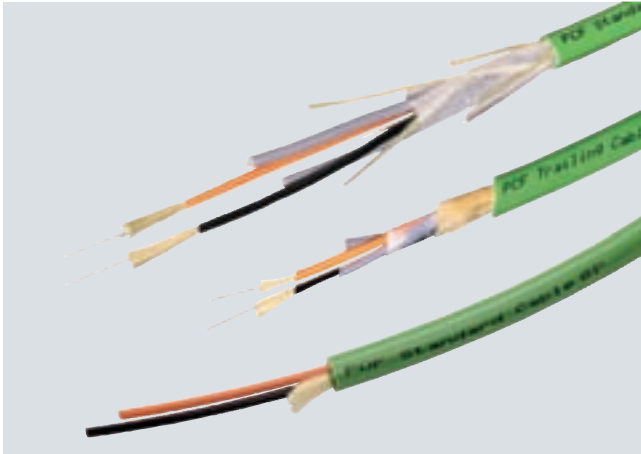
<sup>1)</sup> Special fiber-optic cables, lengths and accessories available on request

<sup>2)</sup> Special tools and specially trained personnel are required for pre-assembling glass fiber-optic cables

- 1) Special fiber-optic cables, lengths and accessories available on request
- 2) Special tools and specially trained personnel are required for pre-assembling glass fiber-optic cables

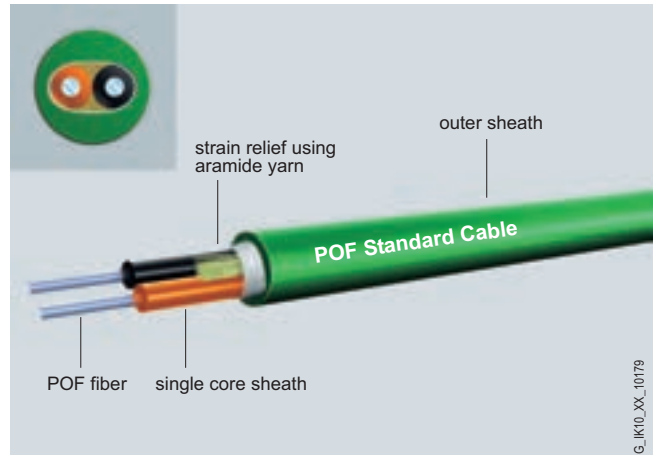
A) Subject to export regulations: AL: N and ECCN: EAR99H

#### Overview

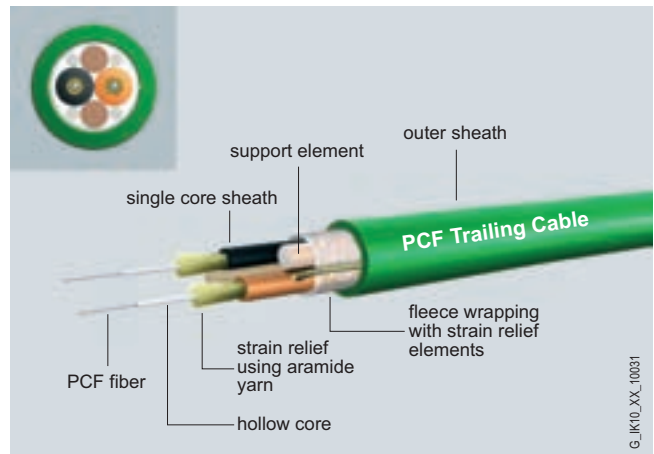


- Electrical isolation of PROFINET/Ethernet devices
- Protection of the transmission path against electromagnetic interference
- Up to 50 m cable length with plastic fiber optic cables and up to 100 m with PCF fiber optic cables
- Rugged fiber-optic standard cables, designed for industrial applications
- Extensive approvals (UL)

#### Design



Cable construction POF fiber optic cables



Cable construction PCF fiber optic cables



# PROFINET/Industrial Ethernet

## Cabling technology

### POF and PCF fiber-optic cables

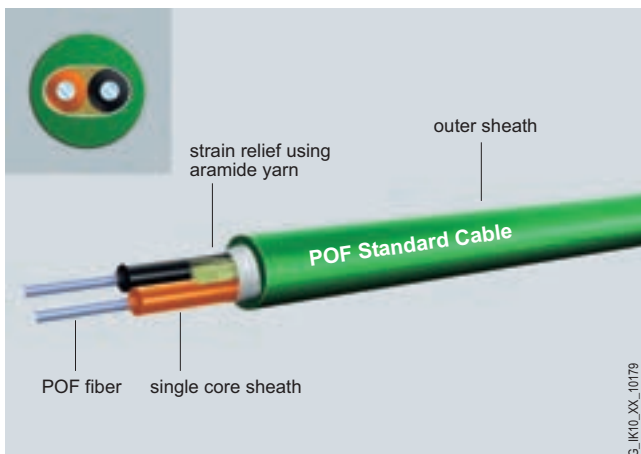
Ordering data	Order No.		Order No.
<b>POF Standard Cable GP 980/1000</b> POF standard cable for fixed routing indoors, with PVC sheath; <u>sold by the meter</u>	<b>6XV1 874-2A</b>	<b>IE SC RJ POF Plug</b> Screw connector for local assembly on POF FOC (1 pack = 20 items)	<b>6GK1 900-0MB00-0AC0</b>
<b>POF Trailing Cable 980/1000</b> POF trailing cable for tow chain use with rugged PUR sheath; <u>sold by the meter</u>	<b>6XV1 874-2B</b>	<b>IE SC RJ POF refill set</b> Refill set for Termination Kit SC RJ POF Plug consisting of grinding paper and grinding base (set of 5)	<b>6GK1 900-0MN00-0AA0</b>
<b>PCF Standard Cable GP 200/230</b> Standard cable, segmentable, <u>sold by the meter</u> ; max. quantity 2000 m; minimum order 20 m;	<b>6XV1 861-2A</b>	<b>Termination Kit SC RJ PCF Plug</b> Assembly case for local assembly of SC RJ connectors, comprising a stripping tool, buffer stripping tool, Kevlar scissors, fiber breaking tool, microscope	<b>6GK1 900-0NL00-0AA0</b>
<b>PCF Trailing Cable 200/230</b> Trailing cable, segmentable, <u>sold by the meter</u> ; max. quantity 2000 m; minimum order 20 m;	<b>6XV1 861-2C</b>	<b>Industrial Ethernet SC RJ PCF Plug</b> Screw connector for local assembly on POF FOC (1 pack = 10 items)	<b>6GK1 900-0NB00-0AC0</b>
<b>PCF Trailing Cable GP 200/230</b> Trailing cable, segmentable, <u>sold by the meter</u> ; max. length 2000 m; minimum order quantity 20 m;	<b>6XV1 861-2D</b>	<b>SIMATIC NET Manual Collection</b> Electronic manuals for communication systems, communication protocols, and communication products; on DVD; German/English	<b>6GK1 975-1AA00-3AA0</b>
<b>Termination Kit SC RJ POF Plug</b> Assembly case for local assembly of SC RJ connectors, comprising a stripping tool, Kevlar scissors, microscope, grinding paper and grinding base	<b>6GK1 900-0ML00-0AA0</b>		

#### Overview

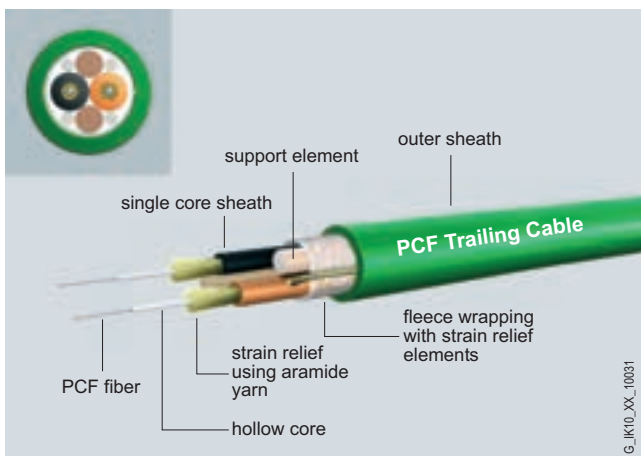


- Compact, rugged assembly case for POF and PCF fiber-optic cables
- Special versions for easy assembly of SC RJ plugs on POF and PCF fiber-optic cables
- The quality of the assembly can be checked using the enclosed microscope.

#### Design



Cable construction POF plastic optical fiber



Cable construction PCF plastic optical fiber

#### Ordering data

#### Order No.

##### Termination Kit SC RJ POF Plug

6GK1 900-0ML00-0AA0

Assembly case for on-site installation of SC RJ POF connectors; consisting of stripping tool, Kevlar cutters, SC RJ grinding plate, grinding paper, grinding base and microscope

##### Termination Kit SC RJ PCF Plug

6GK1 900-0NL00-0AA0

Assembly case for local assembly of SC RJ POF connectors, comprising a stripping tool, buffer stripping tool, Kevlar cutters, fiber breaking tool, microscope

#### Accessories

##### IE SC RJ POF Plug

Plugs for on-site assembly

1 item (IP65)

6GK1 900-0MB00-6AA0

20 items (IP20)

6GK1 900-0MB00-0AC0

##### IE SC RJ PCF Plug

Plugs for on-site assembly

1 item (IP65)

6GK1 900-0NB00-6AA0

10 items (IP20)

6GK1 900-0NB00-0AC0

##### IE SC RJ POF refill set

6GK1 900-0MN00-0AA0

Refill set for Termination Kit SC RJ POF Plug consisting of grinding paper and grinding plate (set of 5)

# PROFINET/Industrial Ethernet

## Industrial Ethernet Switches/Media Converters

### CSM 1277 unmanaged

#### Overview



- Unmanaged switch for connecting a SIMATIC S7-1200 to an Industrial Ethernet network with a line, tree or star topology
- Multiplication of Ethernet interfaces on a SIMATIC S7-1200 for additional connection of up to three programming devices, operator controls, and further Ethernet nodes
- Simple, space-saving mounting on the SIMATIC S7-1200 mounting rail
- Low-cost solution for implementing small, local Ethernet networks
- Connection without any problems using RJ45 standard connectors
- Simple and fast status display via LEDs on the device
- Integral autocrossover function permits use of uncrossed connecting cables

#### Ordering data

#### Order No.

##### Compact Switch Module CSM 1277

Unmanaged switch for connecting a SIMATIC S7-1200 and up to three further nodes to Industrial Ethernet with 10/100 Mbit/s; 4 x RJ45 ports; external 24 V DC power supply; diagnostics on LEDs, S7-1200 module including electronic manual on CD-ROM

**6GK7 277-1AA00-0AA0**

##### Accessories

##### IE TP Cord RJ45/RJ45

TP cable 4 x 2 with 2 RJ45 connectors

- 0.5 m

**6XV1 870-3QE50**

##### IE FC TP Standard Cable GP 2 x 2 (Type A)

4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/IE FC RJ45 Plug; PROFINET-compatible; with UL approval; sold by the meter; max. length 1000 m, minimum order quantity 20 m

**6XV1 840-2AH10**

##### FC TP Trailing Cable 2 x 2 (Type C)

4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/IE FC RJ45 Plug 180/90 for use as trailing cable; PROFINET-compatible; with UL approval; sold by the meter; max. length 1000 m, minimum order quantity 20 m

**6XV1 840-3AH10**

##### IE FC RJ45 Plug 180

RJ45 plug-in connector for Industrial Ethernet with rugged metal enclosure and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; 180° cable outlet; for network components and CPUs/CPUs with Industrial Ethernet interface

- 1 pack = 1 item
- 1 pack = 10 items
- 1 pack = 50 items

**6GK1 901-1BB10-2AA0**  
**6GK1 901-1BB10-2AB0**  
**6GK1 901-1BB10-2AE0**

##### IE FC Stripping Tool

Preadjusted stripping tool for fast stripping of the Industrial Ethernet FC cables

**6GK1 901-1GA00**

##### IE FC Outlet RJ45

For connecting Industrial Ethernet FC cables and TP cords; graded prices for 10 and 50 items or more

**6GK1 901-1FC00 0AA0**

##### SIMATIC NET Manual Collection

Electronic manuals on communications systems, protocols, products; on DVD; German/English

**6GK1 975-1AA00-3AA0**

#### Overview



- For connecting a SIMATIC S7-300 with integral PROFINET interface or with an Industrial Ethernet CP or ET 200M to an Industrial Ethernet in an electrical linear, tree or star structure
- As many as three additional nodes can be connected
- As an unmanaged switch, the CSM 377 is used for integrating small machines into existing automation networks or for the standalone operation of the machines
- Simple, space-saving attachment to S7-300 mounting rail due to design as single-width module in S7-300 format
- Economical solution for the implementation of small, local Ethernet networks
- Rugged, industry-standard node connections with PROFINET-compliant RJ45 connectors that latch onto the enclosure to offer additional strain and bending relief

#### Ordering data

#### Order No.

##### Compact Switch Module CSM 377

Unmanaged switch for the connection of a SIMATIC S7-300, ET 200M and as many as three other nodes to an Industrial Ethernet operating at 10/100 Mbit/s; 4 x RJ45 ports; external 24 V DC power supply, LED diagnostics, S7-300 module incl. electronic equipment manual on CD-ROM

**6GK7 377-1AA00-0AA0**

##### Accessories

##### IE TP Cord RJ45/RJ45

TP cable 4 x 2  
with 2 RJ45 connectors

- 0.5 m

**6XV1 870-3QE50**

##### IE FC TP Standard Cable GP 2 x 2 (Type A)

4-core, shielded TP installation cable for connection to IE FC outlet RJ45/ IE FC RJ45 plug; PROFINET-compliant; with UL approval; sold by the meter; max. quantity 1000 m, minimum order 20 m

**6XV1 840-2AH10**

##### IE FC Trailing Cable 2 x 2 (Type C)

4-core, shielded TP installation cable for connection to IE FC outlet RJ45/ IE FC RJ45 plug 180/90 for tow chain use; PROFINET-compliant; with UL approval; sold by the meter; max. quantity 1000 m, minimum order 20 m

**6XV1 840-3AH10**

##### IE FC RJ45 Plug 180

RJ45 plug connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; 180° cable outlet; for network components and CPs/CPU's with Industrial Ethernet interface

- 1 pack = 1 item
- 1 pack = 10 items
- 1 pack = 50 items

**6GK1 901-1BB10-2AA0**  
**6GK1 901-1BB10-2AB0**  
**6GK1 901-1BB10-2AE0**

##### IE FC Stripping Tool

Pre-adjusted stripping tool for the fast stripping of Industrial Ethernet FC cables

**6GK1 901-1GA00**

##### IE FC RJ45 Outlet

For connecting Industrial Ethernet FC cables and TP Cords; block pricing for quantities of more than 10 or 50 items

**6GK1 901-1FC00 0AA0**

##### SIMATIC NET Manual Collection

Electronic manuals for communication systems, communication protocols, and communication products; on DVD; German/English

**6GK1 975-1AA00-3AA0**

# PROFINET/Industrial Ethernet

## Industrial Ethernet Switches/Media Converters

### SCALANCE X005 unmanaged

#### Overview



- The unmanaged Industrial Ethernet Entry Level Switch SCALANCE X005 is optimized for low-cost installation of small Industrial Ethernet networks with 10/100 Mbit/s in a line and star topology
- Five electrical nodes or network connections
- Rugged metal housing for space-saving cubicle mounting on standard rails, S7-300 DIN rail or for wall mounting
- Rugged, industry-standard station connections with PROFINET-compatible RJ45 connectors that offer additional strain relief and bending strain relief thanks to latching on the housing
- Diagnostics on the device by means of LEDs (power, link status, data communication)

#### Ordering data

#### Order No.

##### SCALANCE X005

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**6GK5 005-0BA00-1AA3**

Industrial Ethernet Switch for 10/100 Mbit/s; with five 10/100 Mbit/s RJ45 ports

#### Accessories

##### IE FC RJ45 Plugs

RJ45 plug connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables

##### IE FC RJ45 Plug 180

180° cable outlet; for network components and CPs/CPU with Industrial Ethernet interface

- 1 pack = 1 item
- 1 pack = 10 items
- 1 pack = 50 items

**6GK1 901-1BB10-2AA0**

**6GK1 901-1BB10-2AB0**

**6GK1 901-1BB10-2AE0**

##### IE FC RJ45 Plug 145

145° cable outlet; e.g. for SIMOTION and SINAMICS

- 1 pack = 1 item
- 1 pack = 10 items
- 1 pack = 50 items

**6GK1 901-1BB30-0AA0**

**6GK1 901-1BB30-0AB0**

**6GK1 901-1BB30-0AE0**

A) Subject to export regulations: AL: N and ECCN: EAR99H

#### Overview



The unmanaged Industrial Ethernet switches of the SCALANCE XB-000 line are optimized for installing Industrial Ethernet networks in a line and star topology. Versions are available for Fast Ethernet (10/100 Mbit/s, XB-000) and Gigabit Ethernet (10/100/1000 Mbit/s, XB-000G)

- Electrical or optical station or network connection
- Enclosure for space-saving installation in control cabinets or boxes on a standard rail
- Diagnostics on the device by means of LEDs (power, link status, data communication)
- Front connection for data cable
- Connection on bottom for power supply

#### Ordering data

#### Order No.

##### Industrial Ethernet Switches SCALANCE XB-000

Industrial Ethernet Switch for 10/100 Mbit/s; degree of protection IP20; incl. operating instructions, Industrial Ethernet network manual and configuration software on CD-ROM

##### SCALANCE XB-005

5 x RJ45 ports (10/100 Mbit/s)

**6GK5 005-0BA00-1AB2**

##### SCALANCE XB-008

8 x RJ45 ports (10/100 Mbit/s)

**6GK5 008-0BA00-1AB2**

##### SCALANCE XB-004-1

4 x RJ45 ports (10/100 Mbit/s)  
1 x multimode glass FOC with SC ports up to 3 km (100 Mbit/s)

**6GK5 004-1BD00-1AB2**

##### SCALANCE XB-004-1LD

4 x RJ45 ports (10/100 Mbit/s)  
1 x singlemode glass FOC with SC ports up to 26 km (100 Mbit/s)

**6GK5 004-1BF00-1AB2**

##### SCALANCE XB005G

5 x 10/100/1000 Mbit/s RJ45 electrical ports

A

**6GK5 005-0GA00-1AB2**

##### SCALANCE XB008G

8 x 10/100/1000 Mbit/s RJ45 electrical ports

A

**6GK5 008-0GA00-1AB2**

##### SCALANCE XB004-1G

4 x 10/100/1000 Mbit/s RJ45 electrical ports and  
1 x 1000 Mbit/s optical SC port (multimode, glass), up to 3 km

A

**6GK5 004-1GL00-1AB2**

##### SCALANCE XB004-1LDG

4 x 10/100/1000 Mbit/s RJ45 electrical ports and  
1 x 1000 Mbit/s optical SC port (single mode, glass), up to 10 km

A

**6GK5 004-1GM00-1AB2**

#### Accessories

##### IE TP Cord RJ45/RJ45

TP cable 4 x 2  
with 2 RJ45 connectors

- 0.5 m
- 1 m
- 2 m
- 6 m
- 10 m

**6XV1 870-3QE50**  
**6XV1 870-3QH10**  
**6XV1 870-3QH20**  
**6XV1 870-3QH60**  
**6XV1 870-3QN10**

##### FO Standard Cable GP 50/125

Glass FOC pre-assembled  
with 4 SC connectors

- 80 m
- 100 m
- 150 m
- 200 m
- 300 m

**6XV1 873-6AN80**  
**6XV1 873-6AT10**  
**6XV1 873-6AT15**  
**6XV1 873-6AT20**  
**6XV1 873-6AT30**

A) Subject to export regulations: AL: N and ECCN: EAR99H

# PROFINET/Industrial Ethernet

## Industrial Ethernet Switches/Media Converters

### SCALANCE X-100 unmanaged

#### Overview



The unmanaged Industrial Ethernet switches of the SCALANCE X-100 product line are optimized for installing Industrial Ethernet networks with 10/100 Mbit/s in a line and star topology

- Depending on the port type of the devices, the connection to a station or network electrical or optical (with SCALANCE X-108PoE also with Power-over-Ethernet according to Standard IEEE 802.3af)
- Rugged metal housing for space-saving cabinet mounting on standard rails, S7-300 DIN rail or for wall mounting
- Rugged, industry-standard station connections with PROFINET-compatible RJ45 connectors that offer additional strain relief and bending strain relief thanks to latching on the housing
- Redundant power supply
- Diagnostics on the device by means of LEDs (power, link status, data communication)
- Error signaling contact with easy adjustment using the SET button

#### Ordering data

#### Order No.

##### SCALANCE X-100 Industrial Ethernet Switches

Industrial Ethernet switches for 10/100 Mbit/s, incl. operating instructions, Industrial Ethernet network manual and configuration software on CD-ROM

<b>• SCALANCE X104-2</b> 4 x 10/100 Mbit/s RJ45 ports, electrical 2 x BFOC ports, optical (multimode, glass) up to 3 km		<b>6GK5 104-2BB00-2AA3</b>
<b>• SCALANCE X106-1</b> 6 x 10/100 Mbit/s RJ45 ports, electrical 1 x BFOC port, optical (multimode, glass) up to 3 km		<b>6GK5106-1BB00-2AA3</b>
<b>• SCALANCE X112-2</b> 12 x 10/100 Mbit/s RJ45 ports, electrical 2 x BFOC ports, optical (multimode, glass) up to 3 km	A	<b>6GK5 112-2BB00-2AA3</b>
<b>• SCALANCE X108</b> 8 x 10/100 Mbit/s RJ45 ports, electrical		<b>6GK5 108-0BA00-2AA3</b>
<b>• SCALANCE X108PoE</b> 6 x 10/100 Mbit/s RJ45 ports, electrical 2 x 10/100 Mbit/s RJ45 PoE ports, electrical	A	<b>6GK5108-0PA00-2AA3</b>
<b>• SCALANCE X116</b> 16 x 10/100 Mbit/s RJ45 ports, electrical	A	<b>6GK5 116-0BA00-2AA3</b>
<b>• SCALANCE X124</b> 24 x 10/100 Mbit/s RJ45 ports, electrical	A	<b>6GK5108-0PA00-2AA3</b>

#### Accessories

<b>IE FC TP Standard Cable GP 2 x 2 (Type A)</b>  4-core, shielded TP installation cable for connection to IE FC RJ45 outlet / IE FC RJ45 plug; PROFINET-compliant; with UL approval sold by the meter; max. quantity 1000 m, minimum order 20 m	<b>6XV1 840-2AH10</b>
<b>IE FC RJ45 Plug 180</b>  RJ45 plug connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; with 180° cable outlet; for network components and CPUs/CPUUs with Industrial Ethernet interface	<b>6GK1 901-1BB10-2AA0</b> <b>6GK1 901-1BB10-2AB0</b> <b>6GK1 901-1BB10-2AE0</b>

A) Subject to export regulations: AL: N and ECCN: EAR99H



# PROFINET/Industrial Ethernet

## Industrial Ethernet Switches/Media Converters

### SCALANCE X-100 unmanaged media converter

#### Overview



- The unmanaged Industrial Ethernet media converters of the SCALANCE X-100 product line are ideally suited for implementing various transmission media in Industrial Ethernet networks operating at 10/100 Mbit/s in a line, star and ring topology
- Electrical or optical connection to stations or network in accordance with the port type of the devices
- Rugged metal housing for space-saving cubicle mounting on standard rails, S7-300 DIN rail or for wall mounting
- Rugged, industry-standard station connections with PROFINET-compatible RJ45 connectors that offer additional strain relief and bending strain relief thanks to latching on the housing
- Redundant power supply
- Diagnostics on the device by means of LEDs (power, link status, data communication)
- Error signaling contact with easy adjustment using the SET button
- Connection of existing 10 Mbit/s fiber optic networks
- Connection of existing 10Base5 networks (e.g. SINEC H1)

#### Ordering data

#### Order No.

##### SCALANCE X-100 unmanaged media converters

Industrial Ethernet media converters, LED diagnostics, fault signaling contact with SET key, redundant power supply, PROFINET-compatible retaining collar; incl. Operating Instructions, Industrial Ethernet network manual and configuration software on CD-ROM

• <b>SCALANCE X101-1</b> 1 x 10/100 Mbit/s RJ45 port 1 x 100 Mbit/s multimode BFOC	A	<b>6GK5 101-1BB00-2AA3</b>
• <b>SCALANCE X101-1LD</b> 1 x 10/100 Mbit/s RJ45 port 1 x 100 Mbit/s singlemode BFOC	A	<b>6GK5 101-1BC00-2AA3</b>
• <b>SCALANCE X101-1POF</b> 1 x 10/100 Mbit/s RJ45 port 1 x 100 Mbit/s POF SC RJ	A	<b>6GK5 101-1BH00-2AA3</b>
• <b>SCALANCE X101-1AUI</b> 1 x 10/100 Mbit/s RJ45 port 1 x 10 Mbit/s AUI segment port	A	<b>6GK5 101-1BX00-2AA3</b>
• <b>SCALANCE X101-1FL</b> 1 x 10/100 Mbit/s RJ45 port 1 x 10 Mbit/s multimode BFOC	A	<b>6GK5 101-1BY00-2AA3</b>

##### Accessories

##### IE FC RJ45 Plugs

RJ45 plug connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables;

##### IE FC RJ45 Plug 180

180° cable outlet; for network components and CPs/CPU's with Industrial Ethernet interface

• 1 pack = 1 item	<b>6GK1 901-1BB10-2AA0</b>
• 1 pack = 10 items	<b>6GK1 901-1BB10-2AB0</b>
• 1 pack = 50 items	<b>6GK1 901-1BB10-2AE0</b>

##### SIMATIC NET Manual Collection

Electronic manuals for communication systems, communication protocols, and communication products; on DVD; German/English

**6GK1 975-1AA00-3AA0**

A) Subject to export regulations: AL: N and ECCN: EAR99H

# PROFINET/Industrial Ethernet

## Industrial Ethernet Switches/Media Converters

### SCALANCE X-200 managed

#### Overview



- The managed Industrial Ethernet switches of the SCALANCE X-200 product line are optimized for installing Industrial Ethernet networks with 10/100 Mbit/s in a line, star and ring topology
- Integrated redundancy manager for constructing Fast Ethernet ring topologies with high-speed media redundancy (excluding SCALANCE X208 PRO)
- Electrical or optical connection to stations or network in accordance with the port type of the devices
- High-speed media redundancy through integrated redundancy manager for gigabit Ethernet (SCALANCE X-300, SCALANCE X-400) as well as for Fast Ethernet (SCALANCE X-300 switches in ring in combination with SCALANCE X-200 switches)
- Rugged metal housing in S7-300 format for mounting on standard rail, S7-300 standard mounting rail or for direct wall mounting in various positions
- Rugged, industry-standard station connections with PROFINET-compatible RJ45 connectors that offer additional strain relief and bending strain relief thanks to latching on the housing
- Redundant power supply
- Diagnostics on the device by means of LEDs (power, link status, data communication)
- Error signaling contact with easy adjustment using the SET button
- The devices feature PROFINET diagnostics, SNMP access, integral web server and automatic e-mail sending function for remote diagnosis and signaling over the network.

#### Ordering data

#### Order No.

##### SCALANCE X-200 Industrial Ethernet Switches

Industrial Ethernet switches with integral SNMP access, online diagnostics, copper cable diagnostics and PROFINET diagnostics for configuring line, star and ring topologies; with integrated redundancy manager (exception: SCALANCE X208PRO); incl. operating instructions, Industrial Ethernet network manual and configuration software on CD-ROM

##### - SCALANCE X204-2

4 x 10/100 Mbit/s  
RJ45 electrical ports,  
2 x BFOC ports  
(multimode, glass),  
optical, up to 3 km

**6GK5 204-2BB10-2AA3**

##### - SCALANCE X206-1;

6 x 10/100 Mbit/s  
RJ45 electrical ports,  
1 x BFOC ports  
(multimode, glass),  
optical, up to 3 km

**6GK5 206-1BB10-2AA3**

##### - SCALANCE X212-2

12 x 10/100 Mbit/s  
RJ45 electrical ports,  
2 x BFOC ports  
(multimode, glass),  
optical, up to 3 km

**6GK5 212-2BB00-2AA3**

##### - SCALANCE X204-2LD

4 x 10/100 Mbit/s  
RJ45 electrical ports,  
2 x BFOC ports  
(singlemode, glass),  
optical, up to 26 km

**6GK5 204-2BC10-2AA3**

##### - SCALANCE X206-1LD

6 x 10/100 Mbit/s  
RJ45 electrical ports,  
1 x BFOC ports  
(singlemode, glass),  
optical, up to 26 km

**6GK5 206-1BC10-2AA3**

##### - SCALANCE X212-2LD

12 x 10/100 Mbit/s  
RJ45 electrical ports,  
2 x BFOC ports  
(singlemode, glass),  
optical, up to 26 km

**6GK5 212-2BC00-2AA3**

##### - SCALANCE X208

8 x 10/100 Mbit/s  
RJ45 electrical ports

**6GK5 208-0BA10-2AA3**

##### - SCALANCE X208PRO

8 x 10/100 Mbit/s  
M12 electrical ports,  
incl. eleven M12  
dust protection caps,  
degree of protection IP65

**6GK5 208-0HA00-2AA6**

##### - SCALANCE X216

16 x 10/100 Mbit/s  
RJ45 electrical ports

**6GK5 216-0BA00-2AA3**

##### - SCALANCE X224

24 x 10/100 Mbit/s  
RJ45 electrical ports

**6GK5 224-0BA00-2AA3**

Ordering data (continued)	Order No.		Order No.
Accessories		Accessories (continued)	
<b>IE FC RJ45 Plug 180</b>  RJ45 plug-in connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; with 180° cable outlet; for network components and CPs/CPU's with Industrial Ethernet interface  • 1 pack = 1 item • 1 pack = 10 items • 1 pack = 50 items	  		

A) Subject to export regulations: AL: N and ECCN: EAR99H

# PROFINET/Industrial Ethernet

## Industrial Ethernet Switches/Media Converters

### SCALANCE XF-200 managed

#### Overview



- The managed Industrial Ethernet switches of the SCALANCE XF-200 line are optimized for setting up Industrial Ethernet networks with 10/100 Mbit/s in a line, star or ring topology
- Integrated redundancy manager for constructing Fast Ethernet ring topologies with fast media redundancy
- Electrical or optical connection to stations or network in accordance with the port type of the devices
- Enclosure in ET 200S format (slim design) for use in small control boxes
- Rugged, industry-standard node connections with PROFINET-compliant RJ45 connectors that latch onto the enclosure to offer additional strain and bending relief
- The devices feature PROFINET diagnostics, SNMP access, integral web server and automatic e-mail sending function for remote diagnosis and signaling over the network.

#### Ordering data

#### Order No.

##### SCALANCE XF-200 Industrial Ethernet Switches

Industrial Ethernet switches with integrated SNMP access, online diagnostics, copper cable diagnostics and PROFINET diagnostics for configuring line, star and ring topologies; with integrated redundancy manager; incl. operating instructions, Industrial Ethernet network manual and configuration software on CD-ROM

- **SCALANCE XF204-2**  
4 x 10/100 Mbit/s RJ45 electrical ports;  
2 x 100 Mbit/s BFOC optical port (multimode, glass), up to 3 km
- **SCALANCE XF206-1**  
6 x 10/100 Mbit/s RJ45 electrical ports;  
1 x 100 Mbit/s BFOC optical port (multimode, glass), up to 3 km
- **SCALANCE XF204**  
4 x 10/100 Mbit/s RJ45 electrical ports
- **SCALANCE XF208**  
8 x 10/100 Mbit/s RJ45 electrical ports

**6GK5 204-2BC00-2AF2**

**6GK5 206-1BC00-2AF2**

**6GK5 204-0BA00-2AF2**

**6GK5 208-0BA00-2AF2**

#### Ordering data (continued)

#### Order No.

##### Accessories

##### IE FC RJ45 Plug 180

RJ45 plug-in connector for Industrial Ethernet with a rugged metal enclosure and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; with 180° cable outlet; for network components and CPs/CPU with Industrial Ethernet interface

- 1 pack = 1 item
- 1 pack = 10 items
- 1 pack = 50 items

**6GK1 901-1BB10-2AA0**

**6GK1 901-1BB10-2AB0**

**6GK1 901-1BB10-2AE0**

##### FC FO Standard Cable GP 62.5/200/230

FC FO standard cable for fixed installation indoors with PVC sheath; sold by the meter

**6XV1 847-2A**

##### FC FO Trailing Cable 62,5/200/230

FC FO trailing cable for use in tow chains and moving applications; sold by the meter

**6XV1 847-2C**

##### FC FO Termination Kit

Assembly case for local assembly of FC SC and FC BFOC connectors to FC FO standard cable, comprising a stripping tool, Kevlar cutters, fiber breaking tool and microscope

**6GK1 900-1GL00-0AA0**

##### FC BFOC Plug

Screw connector for on-site assembly on FC fiber-optic cable; (1 pack = 20 items + cleaning cloths)

**6GK1 900-1GB00-0AC0**

##### IE TP Cord RJ45/RJ45

TP cable 4 x 2 with two RJ45 connectors

- 0.5 m
- 1 m
- 2 m
- 6 m
- 10 m

**6XV1 870-3QE50**

**6XV1 870-3QH10**

**6XV1 870-3QH20**

**6XV1 870-3QH60**

**6XV1 870-3QN10**

##### C-PLUG

Swap medium for simple replacement of devices in the event of a fault; for storing configuration or application data; can be used for SIMATIC NET products with C-PLUG slot

**6GK1 900-0AB00**

##### SIMATIC NET Manual Collection

Electronic manuals for communication systems, communication protocols, and communication products; on DVD; German/English

**6GK1 975-1AA00-3AA0**

A) Subject to export regulations: AL: N and ECCN: EAR99H

#### Overview



- Especially designed for constructing isochronous real-time (IRT) Industrial Ethernets in line, star and ring topologies with 10/100 Mbit/s (Redundancy Manager integrated); construction of redundant ring connections possible
- Combination of the switching mechanisms "Cut Through" and "Store and Forward" for optimized performance
- Electrical or optical connection to stations or network in accordance with the port type of the devices
- High-speed media redundancy through integrated redundancy manager for gigabit Ethernet (SCALANCE X-300, SCALANCE X-400) as well as for Fast Ethernet (SCALANCE X-300 switches in ring in combination with SCALANCE X-200 switches)
- Rugged metal enclosure with same dimensions as S7-300 for space-saving cabinet mounting on standard rails, S7-300 DIN rail or for wall mounting
- Rugged, industry-standard station connections with PROFINET-compatible plug-in connectors that offer additional strain relief and bending strain relief thanks to latching on the housing
- Redundant power supply
- Can be used for fault-tolerant applications and can be replaced during normal operation thanks to redundant transmission characteristics
- Diagnostics on the device by means of LEDs (power, link status, data communication)
- Error signaling contact with easy adjustment using the SET button
- The devices feature PROFINET diagnostics, SNMP access, integral Web server and automatic e-mail sending function for remote diagnosis and signaling over the network
- Different device versions with copper and fiber-optic interfaces (BFOC, SC RJ)
- Device variants with degree of protection IP65/67 for cabinet-free plant concepts with PROFINET-compliant push pull connection systems

# PROFINET/Industrial Ethernet

## Industrial Ethernet Switches/Media Converters

### SCALANCE X-200IRT managed

Ordering data	Order No.	Order No.
<b>Industrial Ethernet Switches SCALANCE X-200IRT</b>  Managed Industrial Ethernet switches; Isochronous Real-Time, LED diagnostics, fault signaling contact with SET button, redundant power supply; incl. operating instructions, Industrial Ethernet network manual and configuration software on CD-ROM		<b>IE RJ45 Plug PRO</b> RJ45 push-pull plug with degree of protection IP65/67 for connection of the Industrial Ethernet FC installation cables; with 180° cable exit; 1 plug (IP65/67) for on-site assembly  <b>6GK1 901-1BB10-6AA0</b>
<ul style="list-style-type: none"> <li>• <b>SCALANCE X204IRT;</b> 4 x 10/100 Mbit/s RJ45 ports</li> </ul>	<b>6GK5 204-0BA00-2BA3</b>	<b>SC RJ POF Plug</b> 20 plugs for on-site assembly  <b>6GK1 900-0MB00-0AC0</b>
<ul style="list-style-type: none"> <li>• <b>SCALANCE X204IRT PRO;</b> A 4 x 10/100 Mbit/s RJ45 push-pull ports</li> </ul>	<b>6GK5 204-0JA00-2BA6</b>	<b>SC RJ POF Plug PRO</b> 1 plug (IP65/67) for on-site assembly  <b>6GK1 900-0MB00-6AA0</b>
<ul style="list-style-type: none"> <li>• <b>SCALANCE X202-2IRT;</b> 2 x 10/100 Mbit/s RJ45 ports, 2 x 100 Mbit/s multimode BFOC ports</li> </ul>	<b>6GK5 202-2BB00-2BA3</b>	<b>IE SC RJ POF refill set</b> Refill set for Termination Kit SC RJ POF Plug consisting of grinding paper and grinding plate (set of 5)  <b>6GK1 900-0MN00-0AA0</b>
<ul style="list-style-type: none"> <li>• <b>SCALANCE X202-2P IRT;</b> 2 x 10/100 Mbit/s RJ45 ports, 2 x 100 Mbit/s POF/PCF SC RJ ports</li> </ul>	<b>6GK5 202-2BH00-2BA3</b>	<b>SC RJ PCF Plug</b> 10 plugs for on-site assembly  <b>6GK1 900-0NB00-0AC0</b>
<ul style="list-style-type: none"> <li>• <b>SCALANCE X202-2P IRT PRO;</b> A 2 x 10/100 Mbit/s RJ45 push-pull ports, 2 x 100 Mbit/s POF/PCF SC RJ push-pull ports</li> </ul>	<b>6GK5 202-2JR00-2BA6</b>	<b>SC RJ PCF Plug PRO</b> 1 plug (IP65/67) for on-site assembly  <b>6GK1 900-0NB00-6AA0</b>
<ul style="list-style-type: none"> <li>• <b>SCALANCE X201-3P IRT;</b> 1 x 10/100 Mbit/s RJ45 port, 3 x 100 Mbit/s POF/PCF SC RJ ports</li> </ul>	<b>6GK5 201-3BH00-2BA3</b>	<b>Termination Kit SC RJ POF Plug</b> Assembly case for on-site installation of SC RJ POF connectors; consisting of stripping tool, Kevlar cutters, SC RJ grinding plate, grinding paper, grinding base and microscope  <b>6GK1 900-0ML00-0AA0</b>
<ul style="list-style-type: none"> <li>• <b>SCALANCE X200-4P IRT;</b> 4 x 100 Mbit/s POF/PCF SC RJ</li> </ul>	<b>6GK5 200-4AH00-2BA3</b>	
<b>Industrial Ethernet media converter SCALANCE X-100</b>  Industrial Ethernet media converters, LED diagnostics, fault signaling contact with SET key, redundant power supply, PROFINET-compatible securing collars		<b>Termination Kit SC RJ PCF Plug</b> Assembly case for local assembly of SC RJ PCF connectors, comprising a stripping tool, buffer stripping tool, Kevlar cutters, fiber breaking tool and microscope  <b>6GK1 900-0NL00-0AA0</b>
<ul style="list-style-type: none"> <li>• <b>SCALANCE X101-1POF;</b> A 1 X 10/100 Mbit/s RJ45 port, 1 X 100 Mbit/s POF SC RJ port</li> </ul>	<b>6GK5 101-1BH00-2AA3</b>	<b>Power Plug PRO</b> 1 plug (IP65/67) for on-site assembly (5-core)  <b>6GK1 907-0AB10-6AA0</b>
<b>IE FC RJ45 Plug 180</b>  RJ45 plug-in connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; with 180° cable outlet; for network components and CPUs/CPUs with Industrial Ethernet interface		<b>C-PLUG</b> Swap medium for simple replacement of devices in the event of a fault; for storing configuration or engineering and application data; can be used for SIMATIC NET products with C-PLUG slot  <b>6GK1 900-0AB00</b>
<ul style="list-style-type: none"> <li>• 1 pack = 1 item</li> <li>• 1 pack = 10 items</li> <li>• 1 pack = 50 items</li> </ul>	<b>6GK1 901-1BB10-2AA0</b> <b>6GK1 901-1BB10-2AB0</b> <b>6GK1 901-1BB10-2AE0</b>	<b>SIMATIC NET Manual Collection</b> Electronic manuals for communication systems, communication protocols, and communication products; on DVD; German/English  <b>6GK1 975-1AA00-3AA0</b>

A) Subject to export regulations: AL: N and ECCN: EAR99H



# PROFINET/Industrial Ethernet

## Industrial Ethernet Switches/Media Converters

### SCALANCE X-200IRT managed

#### Overview



- The SCALANCE XF204IRT Industrial Ethernet switch is suitable for the construction of deterministic and isochronous real-time Industrial Ethernet 10/100 Mbit/s networks in line, star, and ring topologies
- Connection of up to four terminal items possible
- Enclosure in ET 200S format (slim design, 75 mm width) for space-saving use in small control boxes
- Hot swapping of RJ45 plugs through diagonally positioned RJ45 connectors on the device
- Integrated redundancy manager for constructing Fast Ethernet ring topologies with fast media redundancy
- The device features PROFINET diagnostics, SNMP access, integral web server and automatic e-mail sending function for remote diagnosis and signaling over the network.

#### Ordering data

#### Order No.

##### SCALANCE XF-200IRT Industrial Ethernet Switches

Managed Industrial Ethernet Switches for setting up line, star and ring topologies; Isochronous Real Time, LED diagnostics, fault signaling contact with SET button, redundant power supply; incl. operating instructions, Industrial Ethernet network manual and configuration software on CD-ROM

- **SCALANCE XF204IRT**  
4 x 10/100 Mbit/s RJ45 electrical port;

**6GK5 204-2BA00-2BF2**

#### Accessories

##### IE FC RJ45 Plug 180

RJ45 plug-in connector for Industrial Ethernet with a rugged metal enclosure and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; with 180° cable outlet; for network components and CPUs/CPU with Industrial Ethernet interface

- 1 pack = 1 item
- 1 packs= 10 items
- 1 pack = 50 items

**6GK1 901-1BB10-2AA0**

**6GK1 901-1BB10-2AB0**

**6GK1 901-1BB10-2AE0**

##### FC FO Standard Cable GP 62.5/200/230

FC FO standard cable for fixed installation indoors with PVC sheath; sold by the meter

A

**6XV1 847-2A**

##### FC FO Trailing Cable 62,5/200/230

FC FO trailing cable for use in tow chains and moving applications; sold by the meter

**6XV1 847-2C**

##### FC FO Termination Kit

Assembly case for local assembly of FC SC and FC BFOC connectors to FC FO standard cable, comprising a stripping tool, Kevlar cutters, fiber breaking tool and microscope

A

**6GK1 900-1GL00-0AA0**

##### FC BFOC Plug

Screw connector for on-site assembly on FC fiber-optic cable; (1 pack = 20 items + cleaning cloths)

**6GK1 900-1GB00-0AC0**

##### IE TP Cord RJ45/RJ45

TP cable 4 x 2 with two RJ45 connectors

- 0.5 m
- 1 m
- 2 m
- 6 m
- 10 m

**6XV1 870-3QE50**

**6XV1 870-3QH10**

**6XV1 870-3QH20**

**6XV1 870-3QH60**

**6XV1 870-3QN10**

##### C-PLUG

Swap medium for simple replacement of devices in the event of a fault; for storing configuration or application data; can be used for SIMATIC NET products with C-PLUG slot

**6GK1 900-0AB00**

##### SIMATIC NET Manual Collection

Electronic manuals for communication systems, communication protocols, and communication products; on DVD; German/English

**6GK1 975-1AA00-3AA0**

A) Subject to export regulations: AL: N and ECCN: EAR99H



# PROFINET/Industrial Ethernet

## Industrial Ethernet Switches/Media Converters

### SCALANCE X-300 managed

#### Overview



- The SCALANCE X-300 product line consists of compact Industrial Ethernet switches for establishing electrical and/or optical line, ring and star topologies at 10/100/1000 Mbit/s
- SCALANCE X-300 is available in versions with integrated electrical and optical Ethernet ports or as a partly modular version with four integrated electrical Ethernet ports and four modular slots for equipping with 2-port media modules
- High-speed media redundancy through integral redundancy manager both for Gigabit Ethernet (SCALANCE X-300, SCALANCE X-400) and Fast Ethernet (SCALANCE X-300 switches in the ring in combination with SCALANCE X-200 switches)
- Switches from the SCALANCE X-300 product line support numerous IT standards and thus permit seamless integration of automation networks into existing corporate networks. Virtual networks (VLAN) can be set up.
- The support of standardized redundancy procedures (Rapid Spanning Tree Protocol) permits redundant integration into higher-level enterprise networks.
- Fault signaling contact, can be easily set by means of the SELECT/SET pushbutton for simple display of faults
- The devices have PROFINET diagnostics, SNMP access, integral web server, and automatic e-mail function for remote diagnostics and signaling over the network.

#### Ordering data

#### Order No.

##### SCALANCE X-300 Industrial Ethernet switches

Industrial Ethernet switches for setting up electrical and/or optical Industrial Ethernet networks; integrated redundancy manager, IT functions (RSTP, VLAN, etc.), network management via SNMP and web server; incl. operating instructions, Industrial Ethernet network manual and configuration software on CD-ROM; C-PLUG included in the scope of supply

<b>• SCALANCE X310;</b> 3 x 10/100/1000 Mbit/s RJ45 electrical ports 7 x 10/100 Mbit/s RJ45 electrical ports		<b>6GK5 310-0FA00-2AA3</b>
<b>• SCALANCE X310FE;</b> 10 x 10/100 Mbit/s RJ45 electrical ports	A	<b>6GK5 310-0BA00-2AA3</b>
<b>• SCALANCE X308-2;</b> 2 x 1000 Mbit/s optical SC ports (multimode, glass), up to 750 m 1 x 10/100/1000 Mbit/s RJ45 electrical ports 7 x 10/100 Mbit/s RJ45 electrical ports		<b>6GK5 308-2FL00-2AA3</b>
<b>• SCALANCE X308-2LD;</b> 2 x 1000 Mbit/s optical SC ports (singlemode, glass), up to 10 km 1 x 10/100/1000 Mbit/s RJ45 electrical ports 7 x 10/100 Mbit/s RJ45 electrical ports		<b>6GK5 308-2FM00-2AA3</b>
<b>• SCALANCE X308-2LH;</b> 2 x 1000 Mbit/s optical SC ports (singlemode, glass), up to 40 km 1 x 10/100/1000 Mbit/s RJ45 electrical ports 7 x 10/100 Mbit/s RJ45 electrical ports	A	<b>6GK5 308-2FN00-2AA3</b>
<b>• SCALANCE X308-2LH+;</b> 2 x 1000 Mbit/s optical SC ports (singlemode, glass), up to 70 km 1 x 10/100/1000 Mbit/s RJ45 electrical ports 7 x 10/100 Mbit/s RJ45 electrical ports	A	<b>6GK5 308-2FP00-2AA3</b>
<b>• SCALANCE X307-3;</b> 3 x 1000 Mbit/s optical SC ports (multimode, glass), up to 750 m 7 x 10/100 Mbit/s RJ45 electrical ports	A	<b>6GK5 307-3BL00-2AA3</b>
<b>• SCALANCE X307-3LD;</b> 3 x 1000 Mbit/s optical SC ports (singlemode, glass), up to 10 km 7 x 10/100 Mbit/s RJ45 electrical ports	A	<b>6GK5 307-3BM00-2AA3</b>

A) Subject to export regulations: AL: N and ECCN: EAR99H

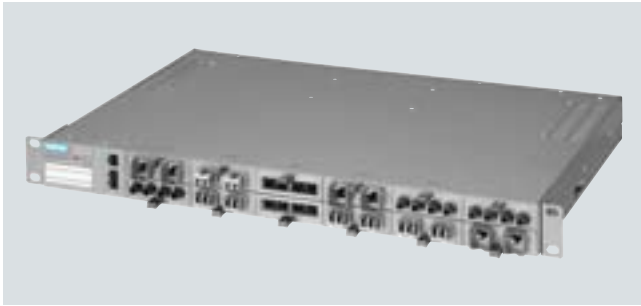
Ordering data (continued)	Order No.		Order No.
Fast Ethernet Switches		Accessories (continued)	
SCALANCE X306-1LD FE; 1 x 100 Mbit/s optical SC ports (singlemode, glass), up to 26 km 6 x 10/100 Mbit/s RJ45 electrical ports	6GK5 306-1BF00-2AA3	IE TP Cord RJ45/RJ45 TP cable 4 x 2 with two RJ45 plugs <ul style="list-style-type: none"><li>• 0.5 m</li><li>• 1 m</li><li>• 2 m</li><li>• 6 m</li><li>• 10 m</li></ul>	6XV1 870-3QE50 6XV1 870-3QH10 6XV1 870-3QH20 6XV1 870-3QH60 6XV1 870-3QN10
SCALANCE X320-1FE; 1 x 100 Mbit/s optical SC ports (multimode, glass), up to 3 km 20 x 10/100 Mbit/s RJ45 electrical ports	6GK5 320-1BD00-2AA3		
SCALANCE X320-3LD FE; 1 x 100 Mbit/s optical SC ports (multimode, glass), up to 3 km 2 x 100 Mbit/s optical SC ports (singlemode, glass), up to 26 km 20 x 10/100 Mbit/s RJ45 electrical ports	6GK5 320-3BF00-2AA3	IE FC RJ45 Plug 180 RJ45 plug-in connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; with 180° cable outlet; for network components and CPs/CPUs with Industrial Ethernet interface <ul style="list-style-type: none"><li>• 1 pack = 1 item</li><li>• 1 pack = 10 items</li><li>• 1 pack = 50 items</li></ul>	6GK1 901-1BB10-2AA0 6GK1 901-1BB10-2AB0 6GK1 901-1BB10-2AE0
Full Gigabit Ethernet Switches			
SCALANCE X308-2M; 4 x 10/100/1000 Mbit/s RJ45 electrical ports 2 x 10/100/1000 Mbit/s slots for 2 port media modules, electrical or optical	6GK5 308-2GG00-2AA2	IE FC RJ45 Plug 4 x 2 RJ45 plug connector for Industrial Ethernet (10/100/1000 Mbit/s) with a rugged metal enclosure and integrated insulation dis- placement contacts for connect- ing Industrial Ethernet FC installation cables; 180° cable outlet; for network components and CPs/CPUs with Industrial Ethernet interface <ul style="list-style-type: none"><li>• 1 pack = 1 item</li><li>• 1 pack = 10 items</li><li>• 1 pack = 50 items</li></ul>	6GK1 901-1BB11-2AA0 6GK1 901-1BB11-2AB0 6GK1 901-1BB11-2AE0
Media modules for SCALANCE X-300 (see page 50)			
Accessories			
IE FC RJ45 Modular Outlet FastConnect RJ45 outlet for Industrial Ethernet with interface for replaceable insert; <ul style="list-style-type: none"><li>• With 2FE insert; replaceable insert for 2 x 100 Mbit/s interfaces</li><li>• With 1GE insert; replaceable insert for 1 x 1000 Mbit/s interfaces</li></ul>	6GK1 901-1BE00-0AA1  6GK1 901-1BE00-0AA2		
IE FC TP Standard Cable GP 2 x 2 (Type A) 4-core, shielded TP installation cable for connection to IE FC RJ45 outlet / IE FC RJ45 plug; PROFINET-conforming; with UL approval; sold by the meter; max. quantity 1000 m, minimum order 20 m	6XV1 840-2AH10	C-PLUG Swap medium for simple replace- ment of devices in the event of a fault; for storing configuration or engineering and application data; can be used for SIMATIC NET products with C-PLUG slot	6GK1 900-0AB00
IE FC TP Standard Cable GP 4 x 2 8-core, shielded TP installation cable for connection to IE FC RJ45 Modular Outlet for universal application; with UL approval; sold by the meter; max quantity 1000 m, minimum order 20 m	6XV1 870-2E	SIMATIC NET Manual Collection Electronic manuals for communication systems, communication protocols, and communication products; on DVD; German/English	6GK1 975-1AA00-3AA0

# PROFINET/Industrial Ethernet

## Industrial Ethernet Switches/Media Converters

### SCALANCE XR-300 managed

#### Overview



- The SCALANCE XR-300 Industrial Ethernet switches are fully modular, high-performance, industry-standard switches for the construction of optical line, ring and star topologies operating at 10/100/1000 Mbit/s, designed for installation in 19" control cabinets
- As many as 24 electrical and/or optical interfaces (10/100/1000 Mbit/s); up to 12 electrical and/or optical 2-port media modules can be inserted at any position in the basic unit
- High-speed media redundancy through integral redundancy manager both for Gigabit Ethernet (with SCALANCE X-300, SCALANCE X-400) and Fast Ethernet (SCALANCE X-300 switches in the ring in combination with SCALANCE X-200 switches). The redundant connection of rings by means of high-speed media redundancy is integrated in the SCALANCE XR-300.
- Switches from the SCALANCE XR-300 product line support numerous IT standards (VLANs, IGMP Snooping/Querier, STP/RSTP, Link Aggregation, Quality of Service) and thus permit seamless integration of automation networks into existing corporate networks.
- The support of standardized redundancy procedures (Spanning Tree Protocol/Rapid Reconfiguration Spanning Tree Protocol/MRP) permits redundant integration into higher-level enterprise networks
- Remote diagnostics is possible by means of PROFINET diagnostics, web browser, CLI, or SNMP.

Ordering data	Order No.	Order No.
<b>SCALANCE XR324-12M Industrial Ethernet Switches</b> Fully modular 19" Industrial Ethernet switches for the construction of electrical Industrial Ethernet networks; all ports can optionally be equipped with optical or electrical 2-port media modules; all ports support Gigabit Ethernet (blocking), integrated redundancy manager, RSTP, RMON, IGMP snooping querier, network management via SNMP, PROFINET and Web server 12 x 10/100/1000 Mbit/s slots for 2-port media modules, electrical or optical <u>24 V DC power supply:</u> Data cable outlet at front Data cable outlet at rear <u>230 V AC power supply:</u> Data cable outlet at front Data cable outlet at rear	<b>6GK5 324-0GG00-1AR2</b> <b>6GK5 324-0GG00-1HR2</b> <b>6GK5 324-0GG00-3AR2</b> <b>6GK5 324-0GG00-3HR2</b>	<b>IE TP Cord RJ45/RJ45</b> TP cable 4 x 2 with two RJ45 plugs <ul style="list-style-type: none"> <li>• 0.5 m</li> <li>• 1 m</li> <li>• 2 m</li> <li>• 6 m</li> <li>• 10 m</li> </ul> <b>6XV1 870-3QE50</b> <b>6XV1 870-3QH10</b> <b>6XV1 870-3QH20</b> <b>6XV1 870-3QH60</b> <b>6XV1 870-3QN10</b>
<b>Media modules for SCALANCE X-300</b> (see page 50) <b>Accessories</b> <b>IE FC RJ45 Modular Outlet</b> FastConnect RJ45 outlet for Industrial Ethernet with interface for replaceable insert; <ul style="list-style-type: none"> <li>• <b>with 2FE insert;</b> replaceable insert for 2 x 100 Mbit/s interfaces</li> <li>• <b>with 1GE insert;</b> replaceable insert for 1 x 1000 Mbit/s interfaces</li> </ul>	<b>6GK1 901-1BE00-0AA1</b> <b>6GK1 901-1BE00-0AA2</b>	<b>IE FC RJ45 Plug 180</b> RJ45 plug-in connector for Industrial Ethernet with a rugged metal enclosure and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; with 180° cable outlet; for network components and CPs/CPU's with Industrial Ethernet interface <ul style="list-style-type: none"> <li>• 1 pack = 1 item</li> <li>• 1 pack = 10 items</li> <li>• 1 pack = 50 items</li> </ul> <b>6GK1 901-1BB10-2AA0</b> <b>6GK1 901-1BB10-2AB0</b> <b>6GK1 901-1BB10-2AE0</b>
<b>IE FC TP Standard Cable GP 2 x 2 (Type A)</b> 4-core, shielded TP installation cable for connection to IE FC RJ45 outlet / IE FC RJ45 plug; PROFINET-compliant; with UL approval; sold by the meter; max. quantity 1000 m, minimum order 20 m	<b>6XV1 840-2AH10</b>	<b>IE FC RJ45 Plug 4 x 2</b> RJ45 plug connector for Industrial Ethernet (10/100/1000 Mbit/s) with a rugged metal enclosure and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables 4 x 2; 180° cable outlet; for network components and CPs/CPU's with Industrial Ethernet interface <ul style="list-style-type: none"> <li>• 1 pack = 1 item</li> <li>• 1 pack = 10 items</li> <li>• 1 pack = 50 items</li> </ul> <b>6GK1 901-1BB11-2AA0</b> <b>6GK1 901-1BB11-2AB0</b> <b>6GK1 901-1BB11-2AE0</b>
<b>IE FC TP Standard Cable GP 4 x 2</b> 8-core, shielded TP installation cable for connection to IE FC RJ45 modular outlet for universal application; with UL approval; sold by the meter; max quantity 1000 m, minimum order 20 m	<b>6XV1 870-2E</b>	<b>C-PLUG</b> Swap medium for simple replacement of devices in the event of a fault; for storing configuration or engineering and application data; can be used for SIMATIC NET products with C-PLUG slot <b>6GK1 900-0AB00</b>
		<b>SIMATIC NET Manual Collection</b> Electronic manuals for communication systems, communication protocols, and communication products; on DVD; German/English <b>6GK1 975-1AA00-3AA0</b>

# PROFINET/Industrial Ethernet

## Industrial Ethernet Switches/Media Converters

### SCALANCE X-300EEC managed

#### Overview



- The SCALANCE X-300EEC (Enhanced Environmental Conditions) product line comprises compact Industrial Ethernet switches with IT functions for constructing electrical and/or optical line, star and ring topologies operating at 10/100/1000 Mbit/s
- Due to the extended temperature range (-40 to +70 °C, temporarily up to +85 °C), special conformal coating, support of special protocols (IEEE 1588 V2) and hardware supported standards (IEEE 1613 and IEC 61850-3), as well as wide-range mains adapters (AC/DC 60 to 250 V), they are suitable for use in extremely tough industrial environments and in low and high-voltage substations
- As many as nine integrated electrical and/or optical Ethernet interfaces (10/100/1000 Mbit/s) support the interconnection of a number of switches, the construction of optical/electrical rings, or the connection of several Industrial Ethernet nodes
- High-speed media redundancy through integral redundancy manager both for Gigabit Ethernet and Fast Ethernet
- Switches from the SCALANCE X-300EEC product line support numerous IT standard functions (VLANs, IGMP Snooping/Querier, STP/RSTP) and thus permit seamless integration of automation networks into existing corporate networks.
- The devices feature PROFINET diagnostics, SNMP access, integral web server, and CLI for remote diagnosis and signaling over the network.

#### Ordering data

#### Order No.

##### SCALANCE X-300EEC Industrial Ethernet Switches

Compact Industrial Ethernet switches for setting up electrical and/or optical Industrial Ethernet networks; RSTP, RMON, IGMP Snooping/Querier, management functionality via SNMP, PROFINET and web server, 24 V power supply

**SCALANCE X302-7EEC;**  
2 x 10/100/1000 Mbit/s RJ45 ports, electrical;  
7 x 100 Mbit/s LC ports, optical (multimode, glass) up to 3 km

##### 24 V DC power supply

- 1 power supply
- 2 power supplies
- 1 power supply with conformal coating
- 2 power supplies with conformal coating

6GK5 302-7GD00-1EA3  
6GK5 302-7GD00-2EA3  
6GK5 302-7GD00-1GA3  
6GK5 302-7GD00-2GA3

##### 230 V AC/DC power supply

- 1 power supply
- 2 power supplies
- 1 power supply with conformal coating
- 2 power supplies with conformal coating

6GK5 302-7GD00-3EA3  
6GK5 302-7GD00-4EA3  
6GK5 302-7GD00-3GA3  
6GK5 302-7GD00-4GA3

**SCALANCE X307-2EEC;**  
5 x 10/100 Mbit/s RJ45 ports, electrical;  
2 x 10/100/1000 Mbit/s RJ45 ports, electrical  
2 x 100 Mbit/s LC ports, optical (multimode, glass) up to 3 km

##### 24 V DC power supply

- 1 power supply
- 2 power supplies
- 1 power supply with conformal coating
- 2 power supplies with conformal coating

6GK5 307-2FD00-1EA3  
6GK5 307-2FD00-2EA3  
6GK5 307-2FD00-1GA3  
6GK5 307-2FD00-2GA3

##### 230 V AC/DC power supply

- 1 power supply
- 2 power supplies
- 1 power supply with conformal coating
- 2 power supplies with conformal coating

6GK5 307-2FD00-3EA3  
6GK5 307-2FD00-4EA3  
6GK5 307-2FD00-3GA3  
6GK5 307-2FD00-4GA3

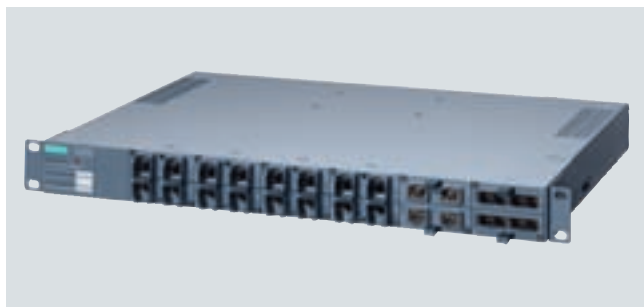
Ordering data (continued)	Order No.	Order No.	
<b>Accessories</b>		<b>Accessories (continued)</b>	
<b>IE FC RJ45 Modular Outlet</b> FastConnect RJ45 outlet for Industrial Ethernet with interface for replaceable insert <ul style="list-style-type: none"><li>• <b>with 2FE insert;</b> replaceable insert for 2 x 100 Mbit/s interfaces</li><li>• <b>with 1GE insert;</b> replaceable insert for 1 x 1000 Mbit/s interfaces</li></ul>	<b>6GK1 901-1BE00-0AA1</b>  <b>6GK1 901-1BE00-0AA2</b>	<b>IE FC RJ45 Plug 180</b> RJ45 plug-in connector for Industrial Ethernet with a rugged metal enclosure and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; with 180° cable outlet; for network components and CPs/CPU's with Industrial Ethernet interface <ul style="list-style-type: none"><li>• 1 pack = 1 item</li><li>• 1 pack = 10 items</li><li>• 1 pack = 50 items</li></ul>	<b>6GK1 901-1BB10-2AA0</b> <b>6GK1 901-1BB10-2AB0</b> <b>6GK1 901-1BB10-2AE0</b>
<b>IE FC TP Standard Cable GP 2 x 2 (Type A)</b> 4-core, shielded TP installation cable for connection to IE FC RJ45 outlet / IE FC RJ45 plug; PROFINET-compliant; with UL approval; sold by the meter; max. quantity 1000 m, minimum order 20 m	<b>6XV1 840-2AH10</b>	<b>IE FC RJ45 Plug 4 x 2</b> RJ45 plug connector for Industrial Ethernet with a rugged metal enclosure and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables 4 x 2; 180° cable outlet; for network components and CPs/CPU's with Industrial Ethernet interface <ul style="list-style-type: none"><li>• 1 pack = 1 item</li><li>• 1 pack = 10 items</li><li>• 1 pack = 50 items</li></ul>	<b>6GK1 901-1BB11-2AA0</b> <b>6GK1 901-1BB11-2AB0</b> <b>6GK1 901-1BB11-2AE0</b>
<b>IE FC TP Standard Cable GP 4 x 2</b> 8-core, shielded TP installation cable for connection to IE FC RJ45 modular outlet for universal application; with UL approval; sold by the meter; max quantity 1000 m, minimum order 20 m	<b>6XV1 870-2E</b>	<b>C-PLUG</b> Swap medium for simple replacement of devices in the event of a fault; for storing configuration or application data; can be used for SIMATIC NET products with C-PLUG slot	<b>6GK1 900-0AB00</b>
<b>IE TP Cord RJ45/RJ45</b> TP cable 4 x 2 with two RJ45 plugs <ul style="list-style-type: none"><li>• 0.5 m</li><li>• 1 m</li><li>• 2 m</li><li>• 6 m</li><li>• 10 m</li></ul>	<b>6XV1 870-3QE50</b> <b>6XV1 870-3QH10</b> <b>6XV1 870-3QH20</b> <b>6XV1 870-3QH60</b> <b>6XV1 870-3QN10</b>	<b>SIMATIC NET Manual Collection</b> Electronic manuals for communication systems, communication protocols, and communication products; on DVD; German/English	<b>6GK1 975-1AA00-3AA0</b>

# PROFINET/Industrial Ethernet

## Industrial Ethernet Switches/Media Converters

### SCALANCE XR-300EEC managed

#### Overview



- The SCALANCE XR-300EEC (Enhanced Environmental Conditions) industrial Ethernet switches are partly modular, high-performance, industry-standard switches for the construction of electrical and/or optical line, ring and star topologies operating at 10/100/1000 Mbit/s, designed for installation in 19" control cabinets
- As many as 24 electrical and/or optical interfaces (10/100/1000 Mbit/s), of which 16 are integral RJ45 ports; up to four electrical and/or optical 2-port media modules can also be inserted in the media module slots of the basic device
- Due to the extended temperature range (-40 to +70 °C, temporarily up to +85 °C), support of special protocols (IEEE 1588 V2) and standards (IEEE 1613 and IEC 61850-3), as well as wide-range mains adapters (60 to 250 V AC/DC), they are suitable for use in extremely harsh industrial environments and in low and high-voltage substations
- High-speed media redundancy through integral redundancy manager both for Gigabit Ethernet (with SCALANCE X-300, SCALANCE X-400) as well as for Fast Ethernet (SCALANCE X-300 switches in the ring in combination with SCALANCE X-200 switches). Redundant connection of rings by means of rapid media redundancy is integrated in the SCALANCE XR-300 as well.
- Switches from the SCALANCE XR-300EEC product line support numerous IT standards (VLANs, IGMP Snooping/Querier, STP/RSTP, Link Aggregation, Quality of Service) and thus permit seamless integration of automation networks into existing corporate networks.
- The support of standardized redundancy procedures (Rapid Spanning Tree Protocol) permits redundant integration into higher-level enterprise networks
- Remote diagnostics is possible by means of PROFINET diagnostics, web browser, CLI, or SNMP.

#### Ordering data

#### Order No.

##### SCALANCE XR324-4M EEC Industrial Ethernet Switches

Partly modular 19" Industrial Ethernet switches for the construction of electrical and optical Industrial Ethernet networks; 24 ports in total, of which 16 are integral RJ45 ports; four media module slots can optionally be equipped with optical or electrical 2-port media modules; All ports support Gigabit Ethernet (blocking), integrated redundancy manager, RSTP, RMON, IGMP snooping querier, network management via SNMP, PROFINET and Web server  
16 x 10/100/1000 Mbit/s RJ45 ports, electrical  
4 x 10/100/1000 Mbit/s slots for 2-port media modules, electrical or optical

##### 1 x 24 V DC power supply

- Data cable outlet at front
- Data cable outlet at rear

**6GK5 324-4GG00-1ER2**

**6GK5 324-4GG00-1ER6**

##### 1 x 230 V AC power supply

- Data cable outlet at front
- Data cable outlet at rear

**6GK5 324-4GG00-1ER4**

**6GK5 324-4GG00-1ER8**

##### 2 x 24 V DC power supply

- Data cable outlet at front
- Data cable outlet at rear

**6GK5 324-4GG00-1ER3**

**6GK5 324-4GG00-1ER7**

##### 2 x 230 V AC power supply

- Data cable outlet at front
- Data cable outlet at rear

**6GK5 324-4GG00-1ER5**

**6GK5 324-4GG00-1ER9**

*Media modules for SCALANCE X-300 (see page 50)*



Ordering data (continued)	Order No.	Order No.
<b>Accessories</b>		<b>Accessories (continued)</b>
<b>IE FC RJ45 Modular Outlet</b> FastConnect RJ45 outlet for Industrial Ethernet with interface for replaceable insert <ul style="list-style-type: none"> <li>• <b>with 2FE insert;</b> replaceable insert for 2 x 100 Mbit/s interfaces</li> <li>• <b>with 1GE insert;</b> replaceable insert for 1 x 1000 Mbit/s interfaces</li> </ul>	<b>6GK1 901-1BE00-0AA1</b>  <b>6GK1 901-1BE00-0AA2</b>	<b>6GK1 901-1BB10-2AA0</b> <b>6GK1 901-1BB10-2AB0</b> <b>6GK1 901-1BB10-2AE0</b>
<b>IE FC TP Standard Cable GP 2 x 2 (Type A)</b> 4-core, shielded TP installation cable for connection to IE FC RJ45 outlet / IE FC RJ45 plug; PROFINET-compliant; with UL approval; sold by the meter; max. quantity 1000 m, minimum order 20 m	<b>6XV1 840-2AH10</b>	
<b>IE FC TP Standard Cable GP 4 x 2</b> 8-core, shielded TP installation cable for connection to IE FC RJ45 modular outlet for universal application; with UL approval; sold by the meter; max quantity 1000 m, minimum order 20 m	<b>6XV1 870-2E</b>	
<b>IE TP Cord RJ45/RJ45</b> TP cable 4 x 2 with two RJ45 connectors <ul style="list-style-type: none"> <li>• 0.5 m</li> <li>• 1 m</li> <li>• 2 m</li> <li>• 6 m</li> <li>• 10 m</li> </ul>	<b>6XV1 870-3QE50</b> <b>6XV1 870-3QH10</b> <b>6XV1 870-3QH20</b> <b>6XV1 870-3QH60</b> <b>6XV1 870-3QN10</b>	<b>IE FC RJ45 Plug 180</b> RJ45 plug-in connector for Industrial Ethernet with a rugged metal enclosure and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; with 180° cable outlet; for network components and CPs/CPU's with Industrial Ethernet interface <ul style="list-style-type: none"> <li>• 1 pack = 1 item</li> <li>• 1 pack = 10 items</li> <li>• 1 pack = 50 items</li> </ul>
		<b>IE FC RJ45 Plug 4 x 2</b> RJ45 plug connector for Industrial Ethernet with a rugged metal enclosure and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables 4 x 2; 180° cable outlet; for network components and CPs/CPU's with Industrial Ethernet interface <ul style="list-style-type: none"> <li>• 1 pack = 1 item</li> <li>• 1 pack = 10 items</li> <li>• 1 pack = 50 items</li> </ul>
		<b>C-PLUG</b> Configuration plug, swap medium for simple replacement of the module in the event of a fault

# PROFINET/Industrial Ethernet

## Industrial Ethernet Switches/Media Converters

### Media modules for SCALANCE X-300

#### Overview



- 2-port media modules for flexible, 2-port-granular equipping of partly and fully modular versions of the SCALANCE X-300 switches (e.g. SCALANCE X308-2M, SCALANCE XR324-12M)
- Electrical versions with RJ45 ports are available as well as optical versions with BFOC, SC and LC ports for the use of multimode and single-mode fiber-optic cables
- 2-Port SFP media module for the optional use of fiber optic SFP (Small Form-factor Pluggable) transceivers with LC connection technology

#### Ordering data

#### Order No.

##### Electrical media modules

with 2 x 10/100/1000 Mbit/s  
RJ45 ports, electrical

**MM992-2CUC**  
with retaining sleeve

6GK5 992-2GA00-8AA0

**MM992-2CU**  
without retaining sleeve

6GK5 992-2SA00-8AA0

##### Fiber optic modules

with 2 x 100 Mbit/s BFOC ports,  
optical

**MM991-2;**  
multimode, glass, up to 3 km

6GK5 991-2AB00-8AA0

**MM991-2LD;**  
single-mode, glass, up to 26 km

6GK5 991-2AC00-8AA0

with 2 x 100 Mbit/s SC ports,  
optical

**MM991-2;**  
multimode, glass, up to 3 km

6GK5 991-2AD00-8AA0

**MM991-2LD;**  
single-mode, glass, up to 26 km

6GK5 991-2AF00-8AA0

**MM991-2LH+;**  
single-mode, glass, up to 70 km

6GK5 991-2AE00-8AA0

with 2 x 1000 Mbit/s SC ports,  
optical

**MM992-2;**  
multimode, glass, up to 750 m

6GK5 992-2AL00-8AA0

**MM992-2LD;**  
single-mode, glass, up to 10 km

6GK5 992-2AM00-8AA0

**MM991-2LH;**  
single-mode, glass, up to 40 km

6GK5 992-2AN00-8AA0

**MM991-2LH+;**  
single-mode, glass, up to 70 km

6GK5 992-2AP00-8AA0

**MM991-2ELH;**  
single-mode, glass, up to 120 km

6GK5 992-2AQ00-8AA0

with 2 x 100/1000 Mbit/s for SFP  
pluggable transceiver, optical

**MM992-2SFP;**  
for SFP pluggable transceivers  
with 1 x 100 or 1 x 1000 Mbit/s  
multimode or single-mode, glass

6GK5 992-2AS00-8AA0

##### SFP pluggable transceiver, optical

The SFP pluggable transceivers,  
optical (Small Form Factor Plug-  
gable) are only applicable with  
the SFP pluggable transceiver  
MM992-2SFP

with 1 x 100 Mbit/s LC port,  
optical

**SFP991-1;**  
multimode, glass, up to 3 km

6GK5 991-1AD00-8AA0

**SFP991-1LD;**  
single-mode, glass, up to 26 km

6GK5 991-1AF00-8AA0

**SFP991-1LH+;**  
single-mode, glass, up to 70 km

6GK5 991-1AE00-8AA0

with 1 x 1000 Mbit/s LC port,  
optical

**SFP992-1;**  
multimode, glass, up to 750 m

6GK5 992-1AL00-8AA0

**SFP992-1LD;**  
single-mode, glass, up to 10 km

6GK5 992-1AM00-8AA0

**SFP992-1LH;**  
single-mode, glass, up to 40 km

6GK5 992-1AN00-8AA0

**SFP992-1LH+;**  
single-mode, glass, up to 70 km

6GK5 992-1AP00-8AA0

**SFP992-1ELH;**  
single-mode, glass, up to 120 km

6GK5 992-1AQ00-8AA0

#### Overview



- The SCALANCE X-400 product range comprises modular Industrial Ethernet switches expandable by various media modules and partially by extenders. It supports 10/100/1000-Mbit technology for various transmission media (twisted pair, fiber optic) and increased port requirements. The main applications are high-performance plant networks (control level). Thanks to its partly modular design, the X-400 product line is also designed for future requirements and can be adapted to the relevant task.
- The SCALANCE X-400 Industrial Ethernet switches have two to four integral Gigabit Ethernet twisted pair interfaces (10/100/1000 Mbit/s) for connecting a number of switches to one another. Nodes are connected via the Fast Ethernet twisted pair ports (10/100 Mbit/s) integrated in the basic device.
- In the case of SCALANCE X414-3E, another eight stations can be connected via extender modules on the basic device. The following extender modules are available:
  - Extenders with eight Fast Ethernet twisted-pair ports
  - Extenders with four media module slots for up to eight Fast Ethernet fiber optic ports
- The integrated redundancy manager facilitates high-speed media redundancy even for large networks, both for Gigabit Ethernet (SCALANCE X-400 switches in the ring) and for Fast Ethernet (SCALANCE X-300/X-400 switches in the ring in combination with SCALANCE X-200 switches).
- For the construction of optical Gigabit Ethernet rings, the integrated Gigabit Ethernet ports can be converted to fiber optic via a 2-port Gigabit Ethernet media module (MM). Module variants for multimode (up to 750 m FOC) and single mode (up to 70 km) are available.
- By means of pluggable 2-port Fast Ethernet media modules for multimode or alternatively single-mode fiber-optic cable, SCALANCE X-400 switches can also be integrated into 100-Mbit/s rings, e.g. with SCALANCE X204-2. It is then possible to also provide an optical link to remote stations.
- Remote diagnosis is possible by means of PROFINET diagnostics, CLI, web browser or SNMP.
- Switches of the SCALANCE X-400 product line support IT standards and thus permit seamless integration of automation networks into existing corporate networks. Virtual networks (VLAN) can be set up.
- The support of standardized redundancy procedures (Rapid Spanning Tree Protocol) permits the redundant integration into higher level enterprise networks.
- Through learning the Multicast sources and targets (IGMP (Internet Group Management Protocol snooping), SCALANCE X-400 switches can also filter Multicast data traffic and therefore limit the load in the network.

- In the case of SCALANCE X414-3E, Layer 3 switching (IP routing) permits the creation of IP subnets and IP router communication
  - Static routing
  - Dynamic routing OSPF (Open Shortest Path First) and RIPv1/2 (Routing Information Protocol)
  - Redundant routing VRRP (Virtual Router Redundancy Protocol)

Ordering data	Order No.
<b>SCALANCE X-400 Industrial Ethernet Switches</b> Modular Industrial Ethernet switches with integrated RJ45 ports for setting up electrical and/or optical Industrial Ethernet networks; integrated redundancy manager, IT functions (RSTP, VLAN, etc.), PROFINET IO Device, network management via SNMP and web server; incl. operating instructions, Industrial Ethernet network manual and configuration software on CD-ROM; C-PLUG included in the scope of delivery	
<b>• SCALANCE X408-2:</b> 4 x 10/100/1000 Mbit/s and 4 x 10/100 Mbit/s RJ45 ports; 2 x Gigabit/Fast Ethernet media module slots	<b>6GK5 408-2FD00-2AA2</b>
<b>• SCALANCE X414-3E:</b> 2 x 10/100/1000 Mbit/s and 12 x 10/100 Mbit/s RJ45 ports; 1 x Gigabit-Ethernet and 2 x Fast Ethernet media module slots; 1 x extender interface	<b>6GK5 414-3FC00-2AA2</b>
<b>MM491/MM492 media modules</b> Media modules with 2 ports; 1 Gbit/s	
<b>MM492-2;</b> 1000BaseSX, SC connection, multimode FOC up to 750 m	A <b>6GK5 492-2AL00-8AA2</b>
<b>MM492-2LD;</b> 1000BaseLX, SC connection, single-mode FOC up to 10 km	A <b>6GK5 492-2AM00-8AA2</b>
<b>MM492-2LH;</b> 1000BaseLX, SC connection, single-mode FOC up to 40 km	<b>6GK5 492-2AN00-8AA2</b>
<b>MM492-2LH+;</b> 1000BaseLX, SC connection, single-mode FOC up to 70 km	<b>6GK5 492-2AP00-8AA2</b>
<b>MM492-2ELH;</b> 1000BaseLX, SC connection, singlemode FOC up to 120 km	<b>6GK5 492-2AQ00-8AA2</b>
Media modules with 2 ports; 100 Mbit/s	
<b>MM491-2;</b> 100BaseLX, BFOC interface, multimode FOC up to 3 km	<b>6GK5 491-2AB00-8AA2</b>
<b>MM491-2LD;</b> 100BaseFX, BFOC interface, singlemode FOC up to 26 km	<b>6GK5 491-2AC00-8AA2</b>
<b>MM491-2LH+;</b> 100BaseFX, SC connection, single-mode FOC up to 70 km	<b>6GK5 491-2AE00-8AA2</b>
<b>EM495/EM496 extender modules</b> Extender modules for SCALANCE X414-3E	
<b>• EM495-8;</b> with 8 x 10/100 Mbit/s TP ports	<b>6GK5 495-8BA00-8AA2</b>
<b>• EM496-4;</b> with 4 slots for 100 Mbit/s media modules	<b>6GK5 496-4MA00-8AA2</b>

A) Subject to export regulations: AL: N and ECCN: EAR99H

# PROFINET/Industrial Ethernet

## Industrial Ethernet Switches/Media Converters

### SCALANCE X-400

Ordering data (continued)	Order No.	Order No.
<b>Accessories</b>		
<b>IE FC RJ45 Modular Outlet</b> FastConnect RJ45 outlet for Industrial Ethernet with interface for replaceable insert; <ul style="list-style-type: none"> <li>• <b>With 2FE insert:</b> replaceable insert for 2 x 100 Mbit/s interfaces</li> <li>• <b>With 1GE insert:</b> replaceable insert for 1 x 1000 Mbit/s interfaces</li> </ul>	<b>6GK1 901-1BE00-0AA1</b>  <b>6GK1 901-1BE00-0AA2</b>	<b>6XV1 840-2AH10</b>          <b>6GK1 901-1BB11-2AA0</b> <b>6GK1 901-1BB11-2AB0</b> <b>6GK1 901-1BB11-2AE0</b>
<b>IE FC TP Standard Cable GP 4 x 2</b> 8-core, shielded TP installation cable for connection to IE FC RJ45 Modular Outlet for universal applications; with UL approval; sold by the meter; max. quantity 1000 m, minimum order 20 m	<b>6XV1 870-2E</b>	
<b>IE FC RJ45 Plugs</b> RJ45 plug connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables		
<b>IE FC RJ45 Plug 180</b> 180° cable outlet; for network components and CPs/CPU's with Industrial Ethernet interface <ul style="list-style-type: none"> <li>• 1 pack = 1 item</li> <li>• 1 pack = 10 items</li> <li>• 1 pack = 50 items</li> </ul>	<b>6GK1 901-1BB10-2AA0</b> <b>6GK1 901-1BB10-2AB0</b> <b>6GK1 901-1BB10-2AE0</b>	
<b>IE FC RJ45 Plug 145</b> 145° cable outlet; e.g. for SIMOTION and SINAMICS <ul style="list-style-type: none"> <li>• 1 pack = 1 item</li> <li>• 1 pack = 10 items</li> <li>• 1 pack = 50 items</li> </ul>	<b>6GK1 901-1BB30-0AA0</b> <b>6GK1 901-1BB30-0AB0</b> <b>6GK1 901-1BB30-0AE0</b>	
		<b>IE FC RJ45 Plug 4 x 2</b> RJ45 plug connector for Industrial Ethernet (10/100/1000 Mbit/s) with a rugged metal enclosure and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; 180° cable outlet; for network components and CPs/CPU's with Industrial Ethernet interface <ul style="list-style-type: none"> <li>• 1 pack = 1 item</li> <li>• 1 pack = 10 items</li> <li>• 1 pack = 50 items</li> </ul>
		<b>C-PLUG</b> Swap medium for simple replacement of devices in the event of a fault; for storing configuration or engineering and application data; can be used for SIMATIC NET products with C-PLUG slot
		<b>Spare parts</b> <b>CV490 cover set</b> consisting of covers for: 1 x Gbit submodule slot, 1 x 100 Mbit/s submodule slot, 3 x 10/100 Mbit/s TP slot
		<b>Label sheet</b> 10 sheets DIN A4, color: petrol, 10 strips/sheet, pre-perforated for printing with laser printer 10 sheets per pack
		<b>4-pole and 5-pole terminal set</b> Straight, with locking lug
		<b>SIMATIC NET Manual Collection</b> Electronic manuals for communication systems, communication protocols, and communication products; on DVD; German/English

# PROFINET/Industrial Ethernet

## Industrial Ethernet Switches/Media Converters

### Industrial Ethernet OSM/ESM

#### Overview



- The managed Industrial Ethernet OSM and ESM switches are used to construct Industrial Ethernet networks at the control level
- The modules are interconnected (backbone) at 100 Mbit/s over
  - Glass fiber-optic cables for OSM
  - Twisted pair cables for ESM
- Connection of data terminals or network segments depending on the OSM/ESM type through
  - 2 to 8 Twisted Pair ports in RJ45 or 9-pole Sub-D version with 10/100 Mbit/s
  - 3 or 8 fiber-optic ports with 100 Mbit/s
- Integrated redundancy manager supports high-speed media redundancy also for large networks
- Very easy network configuration and network extension without complex configuration rules or parameterization
- SNMP and Web-based Management and RMON
- Error signaling by e-mail
- Integration of digital signals, e.g. door switch, temperature monitoring or signaling contacts into the management system by means of digital inputs

#### Ordering data

#### Order No.

##### Industrial Ethernet OSM ITP62

**6GK1 105-2AA10**

Optical switch module with 2 fiber-optic ports 100 Mbit/s, 6 ITP ports 10/100 Mbit/s and 8 digital inputs; redundant 24 V DC supply and signaling contact; with network management

##### Industrial Ethernet OSM TP62

**6GK1 105-2AB10**

Optical switch module with 2 fiber-optic ports 100 Mbit/s, 6 RJ45 ports 10/100 Mbit/s and 8 digital inputs; redundant 24 V DC supply and signaling contact; with network management

##### Industrial Ethernet OSM ITP62-LD

**6GK1 105-2AC10**

Optical switch module with 2 fiber-optic ports 100 Mbit/s long distance (single-mode fiber-optic cable up to 26 km), 6 ITP ports 10/100 Mbit/s and 8 digital inputs; redundant 24 V DC supply and signaling contact; with network management

#### Ordering data

#### Order No.

##### Industrial Ethernet OSM ITP53

**6GK1 105-2AD10**

Optical switch module with 3 fiber-optic ports 100 Mbit/s, 5 ITP ports 10/100 Mbit/s and 8 digital inputs; redundant 24 V DC supply and signaling contact; with network management

##### Industrial Ethernet OSM TP22

**6GK1 105-2AE00**

Optical switch module with 2 fiber-optic ports 100 Mbit/s, 2 RJ45 ports 10/100 Mbit/s and 4 digital inputs; redundant 24 V DC supply and signaling contact; with network management

##### Industrial Ethernet OSM BC08

**6GK1 105-4AA00**

Optical switch module with 8 fiber-optic ports 100 Mbit/s and 8 digital inputs; redundant 24 V DC supply and signaling contact; with network management

##### Industrial Ethernet ESM ITP80

**6GK1 105-3AA10**

Electrical switch module with 8 ITP ports 10/100 Mbit/s and 8 digital inputs; redundant 24 V DC supply and signaling contact; with network management

##### Industrial Ethernet ESM TP80

**6GK1 105-3AB10**

Electrical switch module with 8 RJ45 ports 10/100 Mbit/s and 8 digital inputs; redundant 24 V DC supply and signaling contact; with network management

##### Industrial Ethernet ESM TP40

**6GK1 105-3AC00**

Electrical switch module with 4 RJ45 ports 10/100 Mbit/s and 4 digital inputs; redundant 24 V DC supply and signaling contact; with network management

##### IE FC RJ45 outlet

**6GK1 901-1FC00 0AA0**

For connecting Industrial Ethernet FC cables and TP Cords; block pricing for quantities of more than 10 or 50 items

##### IE FC RJ45 Plug 180

RJ45 cable connector for Industrial Ethernet with rugged metal housing and integrated insulation displacement contacts for connection of the Industrial Ethernet FC installation cables; with 180° cable outlet; for network components and CPs/CPU's with Industrial Ethernet interface

- 1 pack = 1 item

**6GK1 901-1BB10-2AA0**

- 1 pack = 10 items

**6GK1 901-1BB10-2AB0**

- 1 pack = 50 items

**6GK1 901-1BB10-2AE0**

##### ITP XP Standard Cable 9/9

ITP installation cable with two 9-pin Sub-D connectors for synchronizing two ESMs via the standby port with redundant coupling of subnets

- 2 m

**6XV1 850-0CH20**

- 5 m

**6XV1 850-0CH50**

- 8 m

**6XV1 850-0CH80**

- 12 m

**6XV1 850-0CN12**

- 15 m

**6XV1 850-0CN15**

- 20 m

**6XV1 850-0CN20**

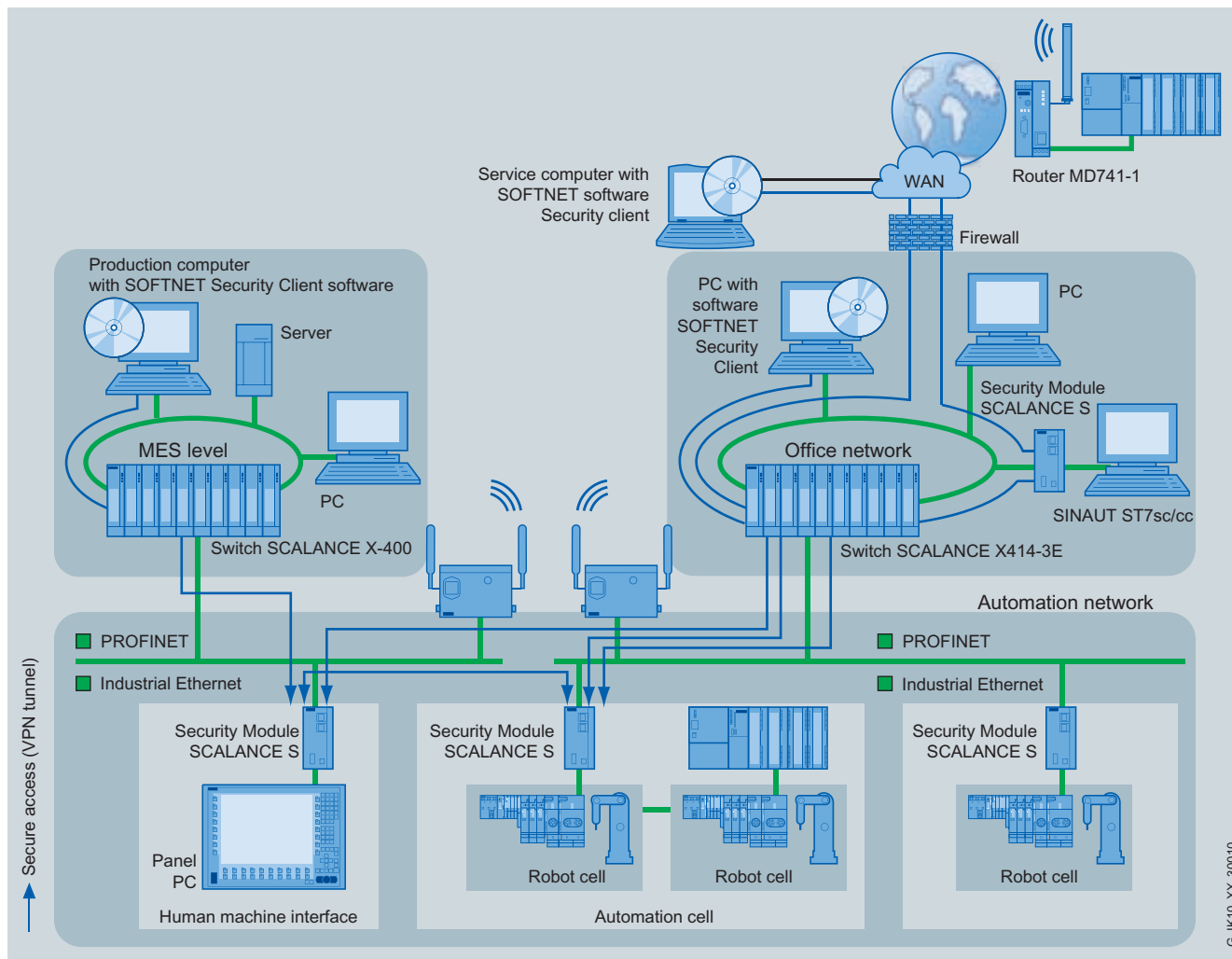
- 30 m

**6XV1 850-0CN30**

- 40 m

**6XV1 850-0CN40**





Secure communication with SCALANCE S

Modern automation technology is based on communication and the trend toward increased networking of individual manufacturing islands. It is becoming more and more important to integrate all the manufacturing components into a uniform network that merges with the office network and the corporate Intranet. There is also a requirement for remote access for servicing, the increasing use of IT mechanisms such as Web servers and e-mail with programmable controllers as well as the use of wireless LANs. In this manner, industrial communication interacts more and more with the IT environment and is now subjected to the same dangers that are well-known from the office and IT environment, such as hackers, viruses, worms and Trojans.

The current security concepts are tailored to the office world and require constant administration and specialist knowledge. They are not usually conversant with the special protocol landscape of industrial communication and are not designed to withstand the harsh environmental conditions.

With its security concept, Siemens offers a safety solution specially designed for industrial automation engineering that satisfies the specific requirements of this application environment.

#### Advantages of industrial security concept:

- Protection from espionage and data manipulation
- Protection against overloading of the communication system
- Protection against mutual interference
- Protection against addressing mistakes
- Secure remote access also over the Internet
- User-friendly and simple configuration and administration without specialist knowledge of IT security
- No changes or modification of the existing network structure are necessary
- No changes or modification of the existing applications or network stations are necessary
- Rugged, industry-compatible design

**SCALANCE S security modules** offer a scaleable security functionality:

- Firewall for protecting the programmable controllers from unauthorized access regardless of the size of the network to be protected.
- Supplementary or alternative VPN (Virtual Private Network) for reliable authentication of the communication partners and encryption of the transmitted data
- SOFTNET Security Client for secure access of PCs/notebooks to programmable controllers protected by SCALANCE S (in bridge mode).

#### Overview



- Security modules for the protection of automation networks and security during data exchange between automation systems.
- Communication is only possible between authenticated and authorized devices
  - protection against operator mistakes
  - prevention of unauthorized access
  - prevention of faults and communications overload
- Rugged, industry-standard station connections with PROFINET-compatible RJ45 connectors that offer additional strain relief and bending strain relief thanks to latching on the housing
- Easier handling thanks to minimal configuration and no special knowledge of IT security is required
- No modification or adaptation of the existing network structure, applications or stations is required
- Safeguarding of communication is independent of the protocol (e.g. PROFINET or other Ethernet-based fieldbus solutions)
- Module replacement without the need for a programming device, using the C-PLUG swap media for backing up the configuration data (not included in the scope of supply)

#### SCALANCE S602

- Stateful Inspection Firewall
- In addition to bridge mode, can also be operated in router mode and can therefore also be used directly at IP subnet limits
- Address translation
  - NAT (Network Address Translation) permits the use of private IP addresses in the internal network in that public IP addresses are converted to private ones
  - NAPT (Network Address and Port Translation) permits the use of private IP addresses in the internal network in that frames are converted to private IP addresses depending on the communications port used
- Internal network nodes can receive their IP addresses from the integral DHCP server
- Log files can also be evaluated by the Syslog server
- Simple and fast configuration of the firewall through global firewall rules and symbolic names for IP addresses

#### SCALANCE S612 and SCALANCE S613

- Encryption of data transmission with VPN (IPSec)
  - protection against espionage
  - protection against unauthorized manipulation
- Secure remote access through Internet gateways (e.g. DSL routers) or via GPRS with SINAUT GPRS router MD740-1

#### Ordering data

#### Order No.

##### SCALANCE S

##### Industrial Security Modules

For protection of programmable controllers and automation networks, and for safeguarding of industrial communication; configuring tool and electronic manual on CD-ROM  
German, English, French, Italian, Spanish

- |  |   |                            |
|--|---|----------------------------|
| • <b>SCALANCE S602</b>   | E | <b>6GK5 602-0BA00-2AA3</b> |
| uses Stateful Inspection Firewall to protect network segments against unauthorized access  |   |                            |
| • <b>SCALANCE S612</b>   | X | <b>6GK5 612-0BA00-2AA3</b> |
| uses Stateful Inspection Firewall to protect network segments against unauthorized access; protects up to 32 devices up to 64 VPN tunnels simultaneously   |   |                            |
| • <b>SCALANCE S613</b>   | X | <b>6GK5 613-0BA00-2AA3</b> |
| uses Stateful Inspection Firewall to protect network segments against unauthorized access; protects up to 64 devices, up to 128 VPN tunnels simultaneously; enhanced temperature range (-20 to +70 °C) |   |                            |

##### IE FC RJ45 Plug 180

RJ45 plug-in connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; with 180° cable outlet; for network components and CPs/CPU's with Industrial Ethernet interface

- |                     |                            |
|---------------------|----------------------------|
| • 1 pack = 1 item   | <b>6GK1 901-1BB10-2AA0</b> |
| • 1 pack = 10 items | <b>6GK1 901-1BB10-2AB0</b> |
| • 1 pack = 50 items | <b>6GK1 901-1BB10-2AE0</b> |

##### SOFTNET Security Client Edition 2008

Software for designing secure IP-based VPN connections from programming device/PC to network segments which are secured by SCALANCE S in bridge mode; single license for 1 installation, runtime software (German/English), configuring tool (German/English) and electronic manual on CD-ROM (German/English/French/Italian/Spanish) for 32-bit Windows, XP Professional + SP1, 2, 3 Windows Vista Ultimate/Business + SP1

##### C-PLUG

Swap medium for simple replacement of devices in the event of a fault; for storing configuration or engineering and application data; can be used for SIMATIC NET products with C-PLUG slot

**6GK1 900-0AB00**

E) Subject to export regulations: AL: N And ECCN: 5D002ENC3

X) Subject to export regulations: AL: 5A002A1A2 and ECCN: 5A002ENC3



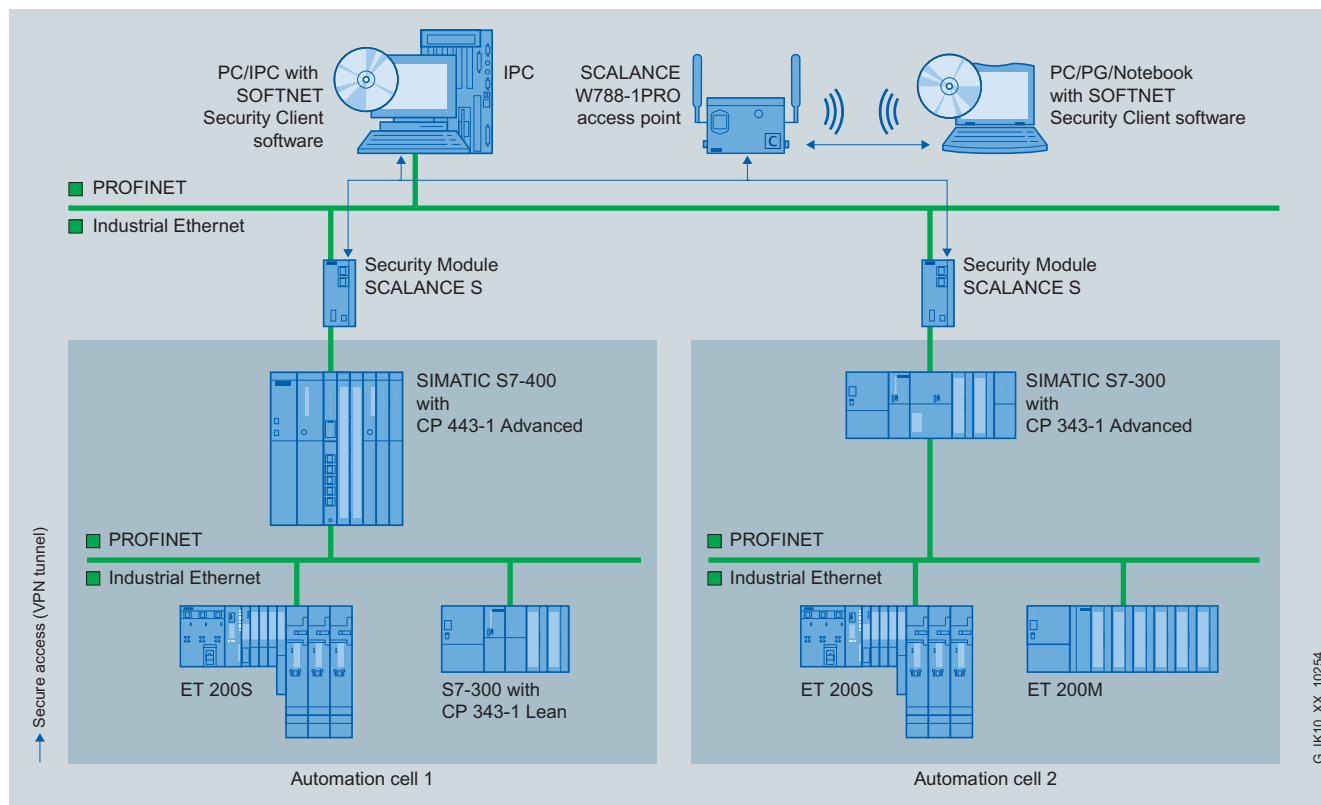
# PROFINET/Industrial Ethernet

## Industrial security

### SOFTNET Security Client

#### Overview

- The SOFTNET Security Client is a component of the industrial security concept for protecting automation devices and for security during data exchange between automation systems.
- VPN Client for programming devices, PCs and Notebooks in industrial environments; supports secure VPN client access to automation systems protected by SCALANCE S via LAN or even WAN (e.g. for remote maintenance via the Internet)
- Data transmission is protected against maloperation, eavesdropping/espionage and manipulation; communication can only take place between authenticated and authorized devices.
- Uses the IPSec mechanisms already tried and tested in the office sector for setting up and operating VPNs.



Secure access to automation cells protected by SCALANCE S612/S613 with SOFTNET Security Client

#### Ordering data

##### SOFTNET Security Client Edition 2008

Software for designing secure IP-based VPN connections from programming device/PC to network segments which are secured by SCALANCE S; single license for 1 installation, runtime software (German/English), configuring tool (German/English) and electronic manual on CD-ROM (German/English/French/Italian/Spanish) for 32-bit Windows, XP Professional + SP1, 2, 3 Windows Vista Ultimate/Business + SP1

Order No.  
**6GK1 704-1VW02-0AA0**

##### SCALANCE S Industrial Security Modules

For protection of programmable controllers and automation networks, and for safeguarding of industrial communication; configuring tool and electronic manual on CD-ROM German, English, French, Italian, Spanish

#### Order No.

**SCALANCE S612**

X

**SCALANCE S613**

X

#### IE FC RJ45 Plug 180

- 1 pack = 1 item
- 1 pack = 10 items
- 1 pack = 50 items

#### EGPRS-Router MD741-1

For wireless IP communication from Ethernet-based programmable controllers via GSM mobile radio networks; integrated firewall and VPN router (IPsec); quad band GSM; EGPRS Multislot Class 12

#### Accessories

##### ANT794-4MR antenna

Quad band antenna for MD720-3 and MD741-1, omnidirectional with 5 m cable

#### Order No.

**6GK5 612-0BA00-2AA3**

**6GK5 613-0BA00-2AA3**

**6GK1 901-1BB10-2AA0**

**6GK1 901-1BB10-2AB0**

**6GK1 901-1BB10-2AE0**

**6NH9 741-1AA00**

**6NH9 860-1AA00**

E) Subject to export regulations: AL: N And ECCN: 5D002ENC3

X) Subject to export regulations: AL: 5A002A1A2 and ECCN: 5A002ENC3

### Overview



- Connection of S7-200 to Industrial Ethernet
  - 1 x RJ45 interface for 10/100 Mbit/s full/half duplex connection (with autosensing for automatic switchover and autocrossover function)
- Communication services:
  - PG/OP communication
  - S7 communication
- Configuration, remote programming and service with STEP 7 Micro/WIN over Industrial Ethernet possible (program upload and program download, status)
- CPU/CPU communication over Industrial Ethernet possible (client + server, 8 S7 connections + 1 PG connection)
- An S7 OPC server (e.g. SOFTNET-S7 or S7-1613) allows PLC data to be further processed in PC applications
- Module replacement possible without PG

ISO	TCP	PN	MRP	IT	IP-R	PG/OP	S7
	•					•	•

## CP 243-1

1) Upgrade for all previous STEP 7-Micro/WIN and STEP 7-Micro/DOS versions

B) Subject to export regulations: AL: N and ECCN: EAR99S

Z) Subject to export regulations: AL: N and ECCN: 5D992

### Overview



- Connection of S7-200 to Industrial Ethernet
  - 1 x RJ45 interface for 10/100 Mbit/s full/half duplex connection (with autosensing for automatic switchover and autocrossover function)
- Communication services:
  - PG/OP communication
  - S7 communication
- Configuration, remote programming and service with STEP 7 Micro/WIN over Industrial Ethernet possible (program upload and program download, status)
- CPU/CPU communication over Industrial Ethernet possible (client + server, 8 S7 connections + 1 PG connection)
- IT communication
  - Web function
  - E-mail function
  - FTP client function for program-controlled data communication (e.g. DOS, UNIX, Linux, embedded systems)
- FTP server with 8 MB memory
- An S7 OPC server (e.g. SOFTNET-S7 or S7-1613) allows PLC data to be further processed in PC applications

ISO	TCP	PN	MRP	IT	IP-R	PG/OP	S7
	•			•		•	•

# PROFINET/Industrial Ethernet

## System interfacing for SIMATIC S7

CP 243-1 IT

Ordering data		Order No.		Order No.
<b>CP 243-1 IT communications processor</b> for connection of SIMATIC S7-200 to Industrial Ethernet; for S7 communication, PG communication, E-mail and WWW server; with electronic manual on CD-ROM German, English, French, Italian, Spanish	Z	<b>6GK7 243-1GX00-0XE0</b>	<b>S7-1613 Edition 2008</b> Software for S7 and open communication, incl. PG/OP communication, OPC server and NCM PC; up to 120 connections, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 1613/CP 1613 A2/CP 1623; German/English	
<b>SOFTNET Edition 2008 for Industrial Ethernet</b> Software for S7 and open communication, incl. OPC server, PG/OP communication and NCM PC, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; German/English			<ul style="list-style-type: none"> <li>• Single license for 1 installation Z <b>6GK1 716-1CB71-3AA0</b></li> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version <b>6GK1 716-1CB00-3AL0</b></li> <li>• Upgrade S7-1613 from Edition 2006 to Edition 2008 Z <b>6GK1 716-1CB00-3AE0</b></li> <li>• Upgrade S7-1613 from V6.0, V6.1, V6.2 or V6.3 to S7-1613 Edition 2008 Z <b>6GK1 716-1CB00-3AE1</b></li> </ul>	
<b>SOFTNET-S7 Edition 2008 for Industrial Ethernet</b> up to 64 connections			<b>STEP 7-Micro/WIN V4 programming software</b> <i>Target system:</i> All CPUs of the SIMATIC S7-200 <i>Prerequisite:</i> Windows 2000/XP on PG or PC <i>Type of delivery:</i> German, English, French, Spanish, Italian, Chinese; with online documentation	
<ul style="list-style-type: none"> <li>• Single license for 1 installation Z <b>6GK1 704-1CW71-3AA0</b></li> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version <b>6GK1 704-1CW00-3AL0</b></li> <li>• Upgrade from Edition 2006 to Edition 2008 Z <b>6GK1 704-1CW00-3AE0</b></li> <li>• Upgrade from V6.0, V6.1, V6.2 or V6.3 to Edition 2008 Z <b>6GK1 704-1CW00-3AE1</b></li> </ul>			<ul style="list-style-type: none"> <li>• Single license B <b>6ES7 810-2CC03-0YX0</b></li> <li>• Upgrade Single License<sup>1)</sup> B <b>6ES7 810-2CC03-0YX3</b></li> </ul>	
<b>SOFTNET-S7 Lean Edition 2008 for Industrial Ethernet</b> up to 8 connections			<b>IE FC TP Standard Cable GP 2x2</b> 4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug; PROFINET-compatible; with UL approval; sold by the meter	<b>6XV1 840-2AH10</b>
<ul style="list-style-type: none"> <li>• Single license for 1 installation Z <b>6GK1 704-1LW71-3AA0</b></li> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version <b>6GK1 704-1LW00-3AL0</b></li> <li>• Upgrade from Edition 2006 to Edition 2008 Z <b>6GK1 704-1LW00-3AE0</b></li> <li>• Upgrade from V6.0, V6.1, V6.2 or V6.3 to Edition 2008 Z <b>6GK1 704-1LW00-3AE1</b></li> </ul>			<b>FO Standard Cable GP (50/125)</b> Standard cable, splittable, UL approval, sold by the meter	<b>6XV1 873-2A</b>
			<b>SCALANCE X204-2 Industrial Ethernet Switch</b> Industrial Ethernet Switches with integral SNMP access, web diagnostics, copper cable diagnostics and PROFINET diagnostics for configuring line, star and ring topologies; four 10/100 Mbit/s RJ45 ports and two FO ports	<b>6GK5 204-2BB10-2AA3</b>
			<b>IE FC RJ45 plugs</b> RJ45 plug connector for Industrial Ethernet with a rugged metal enclosure and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables	
			<b>IE FC RJ45 Plug 180</b> 180° cable outlet	
			<ul style="list-style-type: none"> <li>• 1 item <b>6GK1 901-1BB10-2AA0</b></li> <li>• 10 items <b>6GK1 901-1BB10-2AB0</b></li> <li>• 50 items <b>6GK1 901-1BB10-2AE0</b></li> </ul>	

<sup>1)</sup> Upgrade for all previous STEP 7-Micro/WIN and STEP 7-Micro/DOS versions

B) Subject to export regulations: AL: N and ECCN: EAR99S

Z) Subject to export regulations: AL: N and ECCN: 5D992

### Overview



ISO	TCP/UDP	PN	MRP	IT	IP-R	PG/OP	S7/S5
	●	●	●			●	●

- Interface for the SIMATIC S7-300 to Industrial Ethernet (not for SINUMERIK)
  - 2 x RJ45 interface for 10/100 Mbit/s full/half duplex connection (with autosensing for automatic switchover and autocrossover function)
  - Integral 2-port real-time switch ERTEC
  - Multiprotocol operation with TCP and UDP transport protocol and PROFINET I/O
  - Keep Alive function
- Communication services:
  - Open communication (TCP/IP and UDP)
  - PG/OP communication
  - S7 communication (server)
  - PROFINET I/O device
- Media redundancy (MRP);  
The CP supports the media redundancy procedure MRP (V2.2 upwards) with an Ethernet network with ring topology
- Multicast for UDP
- Remote programming and initial start-up is possible exclusively over Industrial Ethernet
- Web diagnostics
- Integration into network management through SNMP
- Configuration with STEP 7
- Cross-network programming device/operator panel communication through S7 routing
- Diagnostic possibilities in STEP 7 and with web browser

# PROFINET/Industrial Ethernet

## System interfacing for SIMATIC S7

CP 343-1 Lean

Ordering data	Order No.	Order No.
<b>CP 343-1 Lean communications processor</b> For connecting SIMATIC S7-300 to Industrial Ethernet through TCP/IP and UDP, Multicast, S7 communication, open communication (SEND/RECEIVE), FETCH/WRITE, PROFINET IO device, MRP, integral 2-port switch ERTEC, comprehensive diagnostics facilities, module replacement without PG, SNMP, initial commissioning over LAN; with electronic manual on CD-ROM	<b>6GK7 343-1CX10-0XE0</b>	<b>SOFTNET-S7 Edition 2008 for Industrial Ethernet</b> up to 64 connections <ul style="list-style-type: none"> <li>• Single license for 1 installation Z <b>6GK1 704-1CW71-3AA0</b></li> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version</li> <li>• Upgrade from Edition 2006 to Edition 2008 Z <b>6GK1 704-1CW00-3AE0</b></li> <li>• Upgrade from V6.0, V6.1, V6.2 or V6.3 to Edition 2008 Z <b>6GK1 704-1CW00-3AE1</b></li> </ul>
<b>IE FC TP Standard Cable GP 2x2</b> 4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug; PROFINET-compatible; with UL approval; sold by the meter	<b>6XV1 840-2AH10</b>	<b>SOFTNET-S7 Lean Edition 2008 for Industrial Ethernet</b> up to 8 connections <ul style="list-style-type: none"> <li>• Single License for 1 installation Z <b>6GK1 704-1LW71-3AA0</b></li> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version</li> <li>• Upgrade from Edition 2006 to Edition 2008 Z <b>6GK1 704-1LW00-3AE0</b></li> <li>• Upgrade from V6.0, V6.1, V6.2 or V6.3 to Edition 2008 Z <b>6GK1 704-1LW00-3AE1</b></li> </ul>
<b>FO Standard Cable GP (50/125)</b> Standard cable, splittable, UL approval, sold by the meter	<b>6XV1 873-2A</b>	
<b>SCALANCE X204-2 Industrial Ethernet Switch</b> Industrial Ethernet switches with integral SNMP access, online diagnostics, copper cable diagnostics and PROFINET diagnostics for configuring line, star and ring topologies; four 10/100 Mbit/s RJ45 ports and two FO ports	<b>6GK5 204-2BB10-2AA3</b>	
<b>Compact Switch Module CSM 377</b> Unmanaged switch for connection of a SIMATIC S7-300-CPU, ET 200M and as many as three further nodes to Industrial Ethernet operating at 10/100 Mbit/s; 4 x RJ45 ports; external 24 V DC power supply, LED diagnostics, S7-300 module including electronic equipment manual on CD-ROM	<b>6GK7 377-1AA00-0AA0</b>	<b>S7-1613 Edition 2008</b> Software for S7 and open communication, incl. PG/OP communication, OPC server and NCM PC; up to 120 connections, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 1613/CP 1613 A2/CP 1623; German/English <ul style="list-style-type: none"> <li>• Single License for 1 installation Z <b>6GK1 716-1CB71-3AA0</b></li> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version</li> <li>• Upgrade S7-1613 from Edition 2006 to Edition 2008 Z <b>6GK1 716-1CB00-3AE0</b></li> <li>• Upgrade S7-1613 from V6.0, V6.1, V6.2 or V6.3 to S7-1613 Edition 2008 Z <b>6GK1 716-1CB00-3AE1</b></li> </ul>
<b>IE FC RJ45 Plug 180</b> RJ45 plug connector for Industrial Ethernet with a rugged metal enclosure and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables with 180° cable outlet; <ul style="list-style-type: none"> <li>• 1 pack = 1 item</li> <li>• 1 pack = 10 items</li> <li>• 1 pack = 50 items</li> </ul>	<b>6GK1 901-1BB10-2AA0</b> <b>6GK1 901-1BB10-2AB0</b> <b>6GK1 901-1BB10-2AE0</b>	
<b>SOFTNET Edition 2008 for Industrial Ethernet</b> Software for S7 and open communication, incl. OPC server, PG/OP communication and NCM PC, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; German/English		<b>STEP 7 Version 5.4</b> <i>Target system:</i> SIMATIC S7-300/-400, SIMATIC C7, SIMATIC WinAC <i>Requirement:</i> Windows 2000 Prof./XP Prof. <i>Delivery package:</i> German, English, French, Spanish, Italian; incl. 3.5" authorization diskette, without documentation <ul style="list-style-type: none"> <li>• Floating License on CD <b>6ES7 810-4CC08-0YA5</b></li> <li>• Rental license for 50 hours <b>6ES7 810-4CC08-0YA6</b></li> <li>• Software Update Service on CD (requires current software version) <b>6ES7 810-4BC01-0YX2</b></li> <li>• Upgrade Floating License 3.x/4.x/5.x to V5.4; on CD <b>6ES7 810-4CC08-0YE5</b></li> <li>• Trial License STEP 7 V5.4; on CD, runs for 14 days <b>6ES7 810-4CC08-0YA7</b></li> </ul>

Z) Subject to export regulations: AL: N and ECCN: 5D992



### Overview



ISO	TCP/UDP	PN	MRP	IT	IP-R	PG/OP	S7/S5
●	●	●	●			●	●

- Connection of SIMATIC S7-300/SINUMERIK 840D powerline to Industrial Ethernet
  - 2 x RJ45 interface for 10/100 Mbit/s full/half duplex connection with autosensing/autonegotiation and autocrossover function
  - Integral 2-port real-time switch ERTEC
  - Multiprotocol operation with ISO, TCP and UDP transport protocol and PROFINET I/O
  - Adjustable Keep Alive function
- Communication services:
  - Open communication (ISO, TCP/IP and UDP)
  - PROFINET IO Controller or PROFINET IO Device
  - Programming device/operator panel communication:
    - Cross-network by means of S7 routing
    - S7 communication (client, server, multiplexing)
- Media redundancy (MRP);
 

The CP supports the media redundancy procedure MRP (V2.2 upwards) with an Ethernet network with ring topology
- Multicast for UDP
- IP address assignment via DHCP, simple PC tool or via the user program (e.g. HMI)
- Access protection by means of configurable access list
- Remote programming and initial startup via Industrial Ethernet
- Configuration with STEP 7
- Automatic setting of the CPU clock via Ethernet with NTP or SIMATIC procedure
- Web diagnostics
- Integration in network management systems over SNMP (MIB2 diagnostic information)
- Diagnostic possibilities in STEP 7 and with web browser

# PROFINET/Industrial Ethernet

## System interfacing for SIMATIC S7

CP 343-1

Ordering data	Order No.	Order No.
<b>CP 343-1 communications processor</b> For connection of SIMATIC S7-300 to Industrial Ethernet over ISO and TCP/IP; PROFINET IO Controller or PROFINET IO Device, MRP, integrated 2-port switch ERTEC; S7 communication, open communication (SEND/RECEIVE), FETCH/WRITE, with and without RFC 1006, multicast, DHCP, CPU clock synchronization via SIMATIC procedure and NTP, diagnostics, SNMP, access protection through IP access list, initialization over LAN 10/100 Mbit/s; with electronic manual on DVD	<b>6GK7 343-1EX30-0XE0</b>	<b>SOFTNET-S7 Edition 2008 for Industrial Ethernet</b> up to 64 connections <ul style="list-style-type: none"> <li>• Single license for 1 installation Z <b>6GK1 704-1CW71-3AA0</b></li> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version <b>6GK1 704-1CW00-3AL0</b></li> <li>• Upgrade from Edition 2006 to Edition 2008 Z <b>6GK1 704-1CW00-3AE0</b></li> <li>• Upgrade from V6.0, V6.1, V6.2 or V6.3 to Edition 2008 Z <b>6GK1 704-1CW00-3AE1</b></li> </ul>
<b>IE FC TP Standard Cable GP 2x2</b> 4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug; PROFINET-compatible; with UL approval; sold by the meter	<b>6XV1 840-2AH10</b>	<b>SOFTNET-S7 Lean Edition 2008 for Industrial Ethernet</b> up to 8 connections <ul style="list-style-type: none"> <li>• Single License for 1 installation Z <b>6GK1 704-1LW71-3AA0</b></li> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version <b>6GK1 704-1LW00-3AL0</b></li> <li>• Upgrade from Edition 2006 to Edition 2008 Z <b>6GK1 704-1LW00-3AE0</b></li> <li>• Upgrade from V6.0, V6.1, V6.2 or V6.3 to Edition 2008 Z <b>6GK1 704-1LW00-3AE1</b></li> </ul>
<b>FO Standard Cable GP (50/125)</b> Standard cable, splittable, UL approval, sold by the meter	<b>6XV1 873-2A</b>	
<b>SCALANCE X204-2 Industrial Ethernet Switch</b> Industrial Ethernet switches with integral SNMP access, online diagnostics, copper cable diagnostics and PROFINET diagnostics for configuring line, star and ring topologies; four 10/100 Mbit/s RJ45 ports and two FO ports	<b>6GK5 204-2BB10-2AA3</b>	<b>S7-1613 Edition 2008</b> Software for S7 and open communication, incl. PG/OP communication, OPC server and NCM PC; up to 120 connections, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 1613/CP 1613 A2/CP 1623; German/English <ul style="list-style-type: none"> <li>• Single License for 1 installation Z <b>6GK1 716-1CB71-3AA0</b></li> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version <b>6GK1 716-1CB00-3AL0</b></li> <li>• Upgrade S7-1613 from Edition 2006 to Edition 2008 Z <b>6GK1 716-1CB00-3AE0</b></li> <li>• Upgrade S7-1613 from V6.0, V6.1, V6.2 or V6.3 to S7-1613 Edition 2008 Z <b>6GK1 716-1CB00-3AE1</b></li> </ul>
<b>Compact Switch Module CSM 377</b> Unmanaged switch for connection of a SIMATIC S7-300-CPU and as many as three further nodes to Industrial Ethernet operating at 10/100 Mbit/s; 4 x RJ45 ports; external 24 V DC power supply, LED diagnostics, S7-300 module including electronic device manual on CD-ROM	<b>6GK7 377-1AA00-0AA0</b>	
<b>IE FC RJ45 Plug 145</b> RJ45 plug connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; 145° cable outlet <ul style="list-style-type: none"> <li>• 1 pack = 1 item <b>6GK1 901-1BB30-0AA0</b></li> <li>• 1 pack = 10 items <b>6GK1 901-1BB30-0AB0</b></li> <li>• 1 pack = 50 items <b>6GK1 901-1BB30-0AE0</b></li> </ul>		
<b>SOFTNET Edition 2008 for Industrial Ethernet</b> Software for S7 and open communication, incl. OPC server, PG/OP communication and NCM PC, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32 bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; German/English		<b>STEP 7 Version 5.4</b> <i>Target system:</i> SIMATIC S7-300/-400, SIMATIC C7, SIMATIC WinAC <i>Requirement:</i> Windows 2000 Prof./XP Prof. <i>Delivery package:</i> German, English, French, Spanish, Italian; incl. 3.5" authorization diskette, without documentation <ul style="list-style-type: none"> <li>• Floating License on CD <b>6ES7 810-4CC08-0YA5</b></li> <li>• Rental license for 50 hours <b>6ES7 810-4CC08-0YA6</b></li> <li>• Software Update Service on CD (requires current software version) <b>6ES7 810-4BC01-0YX2</b></li> <li>• Upgrade Floating License 3.x/4.x/5.x to V5.4; on CD <b>6ES7 810-4CC08-0YE5</b></li> <li>• Trial License STEP 7 V5.4; on CD, runs for 14 days <b>6ES7 810-4CC08-0YA7</b></li> </ul>

Z) Subject to export regulations: AL: N and ECCN: 5D992

### Overview



ISO	TCP/UDP	PN	MRP	IT	IP-R	PG/OP	S7/S5
●	●	●	●	●	●	●	●

- For connecting SIMATIC S7-300/SINUMERIK 840D powerline to Industrial Ethernet
  - Multiprotocol operation with TCP and UDP transport protocol
  - Adjustable Keep Alive function
- Two separate interfaces (integrated network separation):
  - Gigabit interface with an RJ45 connection with 10/100/1000 Mbit/s full/half duplex with autosensing functionality
  - PROFINET interface with two RJ45 connections with 10/100 Mbit/s full/half duplex with autosensing and auto-crossover functionality via integrated 2-port switch
- Communication services via both interfaces:
  - Open communication (TCP/IP and UDP): Multicast for UDP, incl. routing between both interfaces
  - PG/OP communication:
    - Cross-network by means of S7 routing
  - S7 communication (client, server, multiplexing) incl. routing between both interfaces
  - IT communication:
    - HTTP communication allows access to process data using its own web sites;
    - e-mail client function, sending of e-mails with authentication directly from the user program;
    - FTP communication allows program-controlled FTP client communication;
    - access to data blocks via FTP servers
- Communication services via PROFINET interfaces:
  - PROFINET IO Controller and IO Device with real-time properties (RT and IRT)<sup>1)</sup>
  - PROFINET CBA
  - IP address assignment via DHCP, simple PC tool or via program block (e.g. for HMI)
- Configuration with STEP 7
- Media redundancy (MRP):
  - The CP supports the media redundancy procedure MRP within an Ethernet network with ring topology.
- Access protection by means of a configurable IP access list
- Module replacement without PG;
  - all information is stored on the C-PLUG (also file system for IT functions)
- Extensive diagnostic functions for all modules in the rack
- IT communication
  - Web function
  - E-mail function
  - FTP
- Integration into network management systems through the support of SNMP V1 MIB-II

<sup>1)</sup> Possible combinations in parallel mode:  
 - IO Controller with IRT and IO Device with RT  
 - IO Controller with RT and IO Device using IRT

### Ordering data

### Order No.

#### CP 343-1 Advanced communications processor

For connecting SIMATIC S7-300 to Industrial Ethernet; PROFINET IO Controller and IO Device with RT and IRT, MRP, PROFINET CBA, TCP/IP and UDP, S7 communication, open communication (SEND/RECEIVE), FETCH/WRITE, with and without RFC 1006, diagnostic expansions, multicast, web server, HTML diagnostics, FTP server, FTP client, e-mail client, setting of CPU's clock using SIMATIC and NTP procedures, access protection through IP access list, SNMP, DHCP, initialization over LAN 10/100 Mbit/s; with electronic manual on DVD; C-Plug is contained in the scope of supply

**6GK7 343-1GX30-0XE0**

#### C-PLUG

Swap medium for simple replacement of devices in the event of a fault; for storing configuration or engineering and application data; can be used for SIMATIC NET products with C-PLUG slot

**6GK1 900-0AB00**

#### SOFTNET Edition 2008 for Industrial Ethernet

Software for S7 and open communication, incl. OPC server, PG/OP communication and NCM PC, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; German/English

#### SOFTNET-S7 Edition 2008 for Industrial Ethernet

up to 64 connections

- |   |   |                            |
|---|---|----------------------------|
| • Single License for 1 installation   | Z | <b>6GK1 704-1CW71-3AA0</b> |
| • Software Update Service for 1 year, with automatic extension; requirement: Current software version |   | <b>6GK1 704-1CW00-3AL0</b> |
| • Upgrade from Edition 2006 to Edition 2008   | Z | <b>6GK1 704-1CW00-3AE0</b> |
| • Upgrade from V6.0, V6.1, V6.2 or V6.3 to Edition 2008   | Z | <b>6GK1 704-1CW00-3AE1</b> |

#### SOFTNET-S7 Lean Edition 2008 for Industrial Ethernet

up to 8 connections

- |   |   |                            |
|---|---|----------------------------|
| • Single License for 1 installation   | Z | <b>6GK1 704-1LW71-3AA0</b> |
| • Software Update Service for 1 year, with automatic extension; requirement: Current software version |   | <b>6GK1 704-1LW00-3AL0</b> |
| • Upgrade from Edition 2006 to Edition 2008   | Z | <b>6GK1 704-1LW00-3AE0</b> |
| • Upgrade from V6.0, V6.1, V6.2 or V6.3 to Edition 2008   | Z | <b>6GK1 704-1LW00-3AE1</b> |

Z) Subject to export regulations: AL: N and ECCN: 5D992

# PROFINET/Industrial Ethernet

## System interfacing for SIMATIC S7

### CP 343-1 Advanced

Ordering data (continued)	Order No.	Order No.
<b>S7-1613 Edition 2008</b> Software for S7 and open communication, incl. PG/OP communication, OPC server and NCM PC; up to 120 connections, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 1613/CP 1613 A2/CP 1623; German/English		
<ul style="list-style-type: none"> <li>• Single License for 1 installation Z</li> </ul>	<b>6GK1 716-1CB71-3AA0</b>	<b>SCALANCE X204-2 Industrial Ethernet Switch</b> with four 10/100 Mbit/s RJ45 ports and two fiber-optic ports
<ul style="list-style-type: none"> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version</li> </ul>	<b>6GK1 716-1CB00-3AL0</b>	<b>SCALANCE X308-2 Industrial Ethernet Switch</b> 2 x 1000 Mbit/s multimode fiber-optic ports (SC sockets), 1 x 10/100/1000 Mbit/s RJ45 port, 7 x 10/100 Mbit/s RJ45 ports; for glass fiber-optic cables (multimode) up to a max. 750 m.
<ul style="list-style-type: none"> <li>• Upgrade S7-1613 from Edition 2006 to S7-1613 Edition 2008 Z</li> </ul>	<b>6GK1 716-1CB00-3AE0</b>	<b>STEP 7 Version 5.4</b> <i>Target system:</i> SIMATIC S7-300/-400, SIMATIC C7, SIMATIC WinAC <i>Requirement:</i> Windows 2000 Prof./XP Prof. <i>Delivery package:</i> German, English, French, Spanish, Italian; incl. 3.5" authorization diskette, without documentation
<ul style="list-style-type: none"> <li>• Upgrade S7-1613 from V6.0, V6.1, V6.2 or V6.3 to S7-1613 Edition 2008 Z</li> </ul>	<b>6GK1 716-1CB00-3AE1</b>	<ul style="list-style-type: none"> <li>• Floating license on CD</li> <li>• Rental license for 50 hours</li> <li>• Software Update Service on CD (requires current software version)</li> </ul>
<b>IE FC RJ45 Plug 180</b> RJ45 plug connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; with 180° cable outlet; for network components and CPs/CPU with Industrial Ethernet interface		<b>6ES7 810-4CC08-0YA5</b> <b>6ES7 810-4CC08-0YA6</b> <b>6ES7 810-4BC01-0YX2</b>
<ul style="list-style-type: none"> <li>• 1 pack = 1 item</li> <li>• 1 pack = 10 items</li> <li>• 1 pack = 50 items</li> </ul>	<b>6GK1 901-1BB10-2AA0</b> <b>6GK1 901-1BB10-2AB0</b> <b>6GK1 901-1BB10-2AE0</b>	
<b>IE FC RJ45 Plug 4 x 2</b> RJ45 plug connector for Industrial Ethernet (10/100/1000 Mbit/s) with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; 180° cable outlet; for network components and CPs/CPU with Industrial Ethernet interface		
<ul style="list-style-type: none"> <li>• 1 pack = 1 item</li> <li>• 1 pack = 10 items</li> <li>• 1 pack = 50 items</li> </ul>	<b>6GK1 901-1BB11-2AA0</b> <b>6GK1 901-1BB11-2AB0</b> <b>6GK1 901-1BB11-2AE0</b>	
<b>Compact Switch Module CSM 377</b> Unmanaged switch for connection of a SIMATIC S7-300-CPU, ET 200M and as many as three further nodes to Industrial Ethernet operating at 10/100 Mbit/s; 4 x RJ45 ports; external 24 V DC power supply, LED diagnostics, S7-300 module including electronic equipment manual on CD-ROM	<b>6GK7 377-1AA00-0AA0</b>	
<ul style="list-style-type: none"> <li>• Upgrade Floating License 3.x/4.x/5.x to V5.4; on CD</li> <li>• Trial License STEP 7 V5.4; auf CD, runs for 14 days</li> </ul>	<b>6ES7 810-4CC08-0YE5</b> <b>6ES7 810-4CC08-0YA7</b>	
		<b>SIMATIC iMap V3.0</b> for configuring PROFINET CBA,  <i>Requirement:</i> Windows 2000 Prof. with Service Pack 4 or higher or Windows XP Prof. with Service Pack 1 or higher or Windows 2003 Server with Service Pack 1 or higher; on PG or PC with Pentium processor, min. 1 GHz; STEP 7 V5.3 or higher with Service Pack 3, PN OPC Server V6.3 or higher  <i>Type of supply:</i> German, English, with electronic documentation
		<ul style="list-style-type: none"> <li>• Single License Z</li> <li>• Software Update Service Z</li> <li>• Upgrade to V3.0, Single License Z</li> </ul>

Z) Subject to export regulations: AL: N and ECCN: 5D992

### Overview



ISO	TCP/UDP	PN	MRP	IT	IP-R	PG/OP	S7/S5
	●					●	●

The CP 343-1 ERPC (Enterprise Connect) is a communications processor for connecting the SIMATIC S7-300 to an Industrial Ethernet

- Support of a connection of the SIMATIC S7-300 to various database systems for the vertical integration by means of a firmware expansion from ILS-Technology to be ordered separately
- RJ45 interface for 10/100/1000 Mbit/s full/half duplex with autosensing/autonegotiation/autocrossover and sleeve
- Communication services
  - Open communication (SEND/RECEIVE)
  - PG/OP communication
  - S7 communication (client, server, multiplexing) incl. routing between both interfaces
- Access protection by means of a configurable IP access list
- Remote programming and first commissioning via Industrial Ethernet
- Configuring with STEP 7
- Time synchronization by means of NTP or SIMATIC procedure (SNAP)
- Support of module replacement without programming device; all configuration data is stored on the C-PLUG. When using the database function, the CP 343-1 ERPC must be prepared for the exchange, i.e. the firmware extension from ILS-Technology must already be installed on the replacement module.
- Extensive diagnostics functions via STEP 7 or web browser
- Integration into network management systems through the support of SNMP V1 (MIB-II diagnostics information)

### Ordering data

### Order No.

#### CP 343-1 ERPC (Enterprise Connect) communications processor

For connecting SIMATIC S7-300 to Industrial Ethernet and for the support of the database connection of the SIMATIC S7-300 to various databases; TCP/UDP, S7 communication, open communication (SEND/RECEIVE), with and without RFC 1006, multicast, web server, setting of CPU's clock using SIMATIC procedures and NTP, access protection via IP access list, SNMP, DHCP, initialization over LAN 10/100/1000 Mbit/s; with electronic manual on DVD, C-PLUG included in scope of delivery

**6GK7 343-1FX00-0XE0**

#### deviceWISE Embedded Edition for SIMATIC S7

to be ordered at:  
ILS Technology LLC  
5300 Broken Sound Blvd. Suite 150  
Boca Raton, FL, USA, 33487  
Tel.: +1-561-982-9898 x124  
Fax.: +1-561-982-8638  
E-mail:  
devicewise@ilstechnology.com

**3011-1-002-21**

#### C-PLUG

Swap medium for simple replacement of devices in the event of a fault; for recording configuration or engineering and application data; can be used for SIMATIC NET products with C-PLUG slot

**6GK1 900-0AB00**

#### SOFTNET Edition 2008 for Industrial Ethernet

Software for S7 and open communication, incl. OPC server, PG/OP communication and NCM PC, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A, for 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; German/English

#### SOFTNET-S7 Edition 2008 for Industrial Ethernet

up to 64 connections

- Single license for 1 installation Z **6GK1 704-1CW71-3AA0**
- Software Update Service for 1 year, with automatic extension; requirement: current software version **6GK1 704-1CW00-3AL0**
- Upgrade from Edition 2006 and higher to Edition 2008 Z **6GK1 704-1CW00-3AE0**
- Upgrade from V6.0, V6.1, V6.2 or V6.3 to Edition 2008 Z **6GK1 704-1CW00-3AE1**

#### SOFTNET-S7 Lean Edition 2008 for Industrial Ethernet

up to 8 connections

- Single license for 1 installation Z **6GK1 704-1LW71-3AA0**
- Software Update Service for 1 year, with automatic extension; requirement: current software version **6GK1 704-1LW00-3AL0**
- Upgrade from Edition 2006 and higher to Edition 2008 Z **6GK1 704-1LW00-3AE0**
- Upgrade from V6.0, V6.1, V6.2 or V6.3 to Edition 2008 Z **6GK1 704-1LW00-3AE1**

Z) Subject to export regulations: AL: N and ECCN: 5D992

# PROFINET/Industrial Ethernet

## System interfacing for SIMATIC S7

CP 343-1 ERPC

Ordering data (continued)		Order No.	Order No.
<b>S7-1613 Edition 2008</b>			
Software for S7 and open communication, incl. PG/OP communication, OPC server and NCM PC; up to 120 connections, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 1613/CP 1613 A2/CP 1623; German/English			
• Single license for 1 installation	Z	<b>6GK1 716-1CB71-3AA0</b>	
• Software Update Service for 1 year, with automatic extension; requirement: current software version		<b>6GK1 716-1CB00-3AL0</b>	
• Upgrade S7-1613, Edition 2006 to S7-1613 Edition 2008	Z	<b>6GK1 716-1CB00-3AE0</b>	
• Upgrade S7-1613 from V6.0, V6.1, V6.2 or V6.3 to S7-1613 Edition 2008	Z	<b>6GK1 716-1CB00-3AE1</b>	
<b>IE FC RJ45 Plug 180</b>			
RJ45 plug connector for Industrial Ethernet with a rugged metal enclosure and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; with 180° cable outlet; for network components and CPs/CPU with Industrial Ethernet interface			
• 1 pack = 1 item		<b>6GK1 901-1BB10-2AA0</b>	
• 1 pack = 10 items		<b>6GK1 901-1BB10-2AB0</b>	
• 1 pack = 50 items		<b>6GK1 901-1BB10-2AE0</b>	
<b>IE FC RJ45 Plug 4 x 2</b>			
RJ45 plug connector for Industrial Ethernet (10/100/1000 Mbit/s) with a rugged metal enclosure and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; 180° cable outlet; for network components and CPs/CPU with Industrial Ethernet interface			
• 1 pack = 1 item			<b>6GK1 901-1BB11-2AA0</b>
• 1 pack = 10 items			<b>6GK1 901-1BB11-2AB0</b>
• 1 pack = 50 items			<b>6GK1 901-1BB11-2AE0</b>
<b>SCALANCE X308-2 Industrial Ethernet Switch</b>			
2 x 1000 Mbit/s multimode fiber-optic cable ports (SC sockets), 1 x 10/100/1000 Mbit/s RJ45 port, 7 x 10/100 Mbit/s RJ45 ports; for glass fiber-optic cable (multimode) up to 750 m long			<b>6GK5 308-2FL00-2AA3</b>
<b>STEP 7 Version 5.4</b>			
<i>Target system:</i> SIMATIC S7-300/-400, SIMATIC C7, SIMATIC WinAC			
<i>Requirement:</i> Windows 2000 Prof./XP Prof.			
<i>Type of delivery:</i> German, English, French, Spanish, Italian; including 3.5" authorization diskette, without documentation			
• Floating License on CD			<b>6ES7 810-4CC08-0YA5</b>
• Rental License for 50 hours			<b>6ES7 810-4CC08-0YA6</b>
• Software Update Service on CD (requires current software version)			<b>6ES7 810-4BC01-0YX2</b>

Z) Subject to export regulations: AL: N and ECCN: 5D992



# PROFINET/Industrial Ethernet

## System interfacing for SIMATIC S7

CP 343-1 BACnet

### Overview



BACnet	TCP/ UDP	PN	MRP	IT	IP-R	PG/OP	S7/S5
●	●					●	●

BACnet (Building Automation and Control Networks) is a communication protocol for data networks in building automation and control developed by ASHRAE (American Society of Heating, Refrigeration and Air Conditioning Engineers Inc.) and customers and planners. It is equally suitable for both the management and automation level and is recognized as an ANSI, CEN and ISO standard.

- The CP 343-1 BACnet is a communications processor for connecting the SIMATIC S7-300 to the Industrial Ethernet. Using the BACnet protocol it also permits the integration of third-party systems that support the BACnet protocol
- 2 x RJ45 interfaces for 10/100 Mbit/s full/half duplex connection with autosensing/autonegotiation/autocrossover functionality
- Integrated 2-port switch
- Communication services
  - open communication (SEND/RECEIVE)
  - PG/OP communication (TCP/IP)
  - S7 communication (server)
  - BACnet communication based on TCP/IP, BACnet server in accordance with EN 16484 Part 5
- Dynamic addressing using DHCP
- Module exchange without PG; all information is contained on the C-PLUG
- Extensive diagnostics functions via STEP 7
- Integration into network management systems through the support of SNMP V1 MIB-II

### Ordering data

### Order No.

#### CP 343-1 BACnet communications processor

6FL4 343-1CX10-0XE0

For connecting the SIMATIC S7-300 to Industrial Ethernet and for the integration of the SIMATIC S7 into BACnet systems; BACnet protocol, S7 communication, open communication (SEND/RECEIVE), with/without RFC 1006; UDP, PG/OP communication

#### IE FC TP Standard Cable GP 2x2

6XV1 840-2AH10

4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/IE FC RJ45 Plug; PROFINET-compatible; with UL approval; sold by the meter

#### FO Standard Cable GP (50/125)

6XV1 873-2A

Standard cable, segmentable, UL approval, sold by the meter

#### IE FC RJ45 Plug 145

RJ45 plug connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; 145° cable outlet

- 1 pack = 1 item
- 1 pack = 10 items
- 1 pack = 50 items

6GK1 901-1BB30-0AA0  
6GK1 901-1BB30-0AB0  
6GK1 901-1BB30-0AE0

#### Industrial Ethernet Switch SCALANCE X204-2

6GK5 204-2BB00-2AA3

Industrial Ethernet switches with integral SNMP access, online diagnostics, copper cable diagnostics and PROFINET diagnostics for configuring line, star and ring topologies; four 10/100 Mbit/s RJ45 ports and two FO ports

#### STEP 7 Version 5.4

*Target system*  
SIMATIC S7-300/-400, SIMATIC C7, SIMATIC WinAC

*Requirement:*  
Windows 2000 Prof./XP Prof.

*Delivery package:*  
German, English, French, Spanish, Italian;  
incl. 3.5" authorization diskette, without documentation

- Floating License on CD
- Rental license for 50 hours
- Software Update Service on CD (requires current software version)
- Upgrade Floating License 3.x/4.x/5.x to V5.4; on CD
- Trial License STEP 7 V5.4; on CD, runs for 14 days

6ES7 810-4CC08-0YA5  
6ES7 810-4CC08-0YA6  
6ES7 810-4BC01-0YX2  
6ES7 810-4CC08-0YE5  
6ES7 810-4CC08-0YA7

### More information

For further information regarding the CP 343-1 BACnet contact:

Common Support Entry:

Siemens AG SBT HQ

Tel: +41 (0) 41 724 5500

Fax: +41 (0) 41 724 5501

E-Mail: [fieldsupport-zug.ch.sbt@siemens.com](mailto:fieldsupport-zug.ch.sbt@siemens.com)

To order the performance package contact your local Siemens I BT branch office.

# PROFINET/Industrial Ethernet

## System interfacing for SIMATIC S7

CP 443-1

### Overview



ISO	TCP/UDP	PN	MRP	IT	IP-R	PG/OP	S7/S5
●	●	●	●			●	●

- Connection of SIMATIC S7-400 to Industrial Ethernet
  - 2 x RJ45 interface for 10/100 Mbit/s full/half duplex connection with autosensing/autonegotiation and autocrossover function
  - Integrated real-time switch ERTEC with two ports
  - Multiprotocol operation for ISO, TCP/IP, UDP and PROFINET IO protocols
  - Adjustable Keep Alive function
- Communication services:
  - Open communication (ISO, TCP/IP and UDP)
  - PROFINET IO Controller with RT and IRT real-time properties
  - PG/OP communication: Across networks by means of S7 routing
  - S7 communication
- Media redundancy (MRP);  
The CP supports the media redundancy procedure MRP within an Ethernet network with ring topology
- Multicast for UDP
- Access protection by means of configurable access list
- Support for fail-safe programmable controllers in combination with SIMATIC S7-400 CPU 416F-3PN/DP
- Module replacement without PG
- SIMATIC H system operation for redundant S7 communication
- Configuration with STEP 7
- Diagnostic possibilities in STEP 7 and with web browser
- Automatic setting of the CPU clock by means of Industrial Ethernet with NTP or SIMATIC procedure
- Integration of network management systems via SNMP (MIB II diagnostic information)

Ordering data	Order No.	Order No.
<b>CP 443-1 communications processor</b> For connecting SIMATIC S7-400 to Industrial Ethernet through TCP/IP, ISO and UDP; PROFINET IO Controller, MRP, integrated real-time switch ERTEC with two ports; 2 x RJ45 interface; S7 communication, open communication (SEND/RECEIVE) with FETCH/WRITE, with and without RFC 1006, DHCP, SNMP V2, diagnostics, multicast, access protection over IP access list, initialization over LAN 10/100 Mbit/s with electronic manual on DVD	<b>6GK7 443-1EX20-0XE0</b>	<b>SOFTNET-S7 Lean Edition 2008 for Industrial Ethernet</b> up to 8 connections <ul style="list-style-type: none"> <li>Single license for 1 installation Z <b>6GK1 704-1LW71-3AA0</b></li> <li>Software Update Service for 1 year, with automatic extension; requirement: Current software version <b>6GK1 704-1LW00-3AL0</b></li> <li>Upgrade from Edition 2006 to Edition 2008 Z <b>6GK1 704-1LW00-3AE0</b></li> <li>Upgrade from V6.0, V6.1, V6.2 or V6.3 to Edition 2008 Z <b>6GK1 704-1LW00-3AE1</b></li> </ul>
<b>IE FC TP Standard Cable GP 2x2</b> 4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug; PROFINET-compatible; with UL approval; sold by the meter	<b>6XV1 840-2AH10</b>	<b>S7-1613 Edition 2008</b> Software for S7 and open communication, incl. PG/OP communication, OPC server and NCM PC; up to 120 connections, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 1613/CP 1613 A2/CP 1623; German/English <ul style="list-style-type: none"> <li>Single license for 1 installation Z <b>6GK1 716-1CB71-3AA0</b></li> <li>Software Update Service for 1 year, with automatic extension; requirement: Current software version <b>6GK1 716-1CB00-3AL0</b></li> <li>Upgrade S7-1613 from Edition 2006 to Edition 2008 Z <b>6GK1 716-1CB00-3AE0</b></li> <li>Upgrade S7-1613 from V6.0, V6.1, V6.2 or V6.3 to S7-1613 Edition 2008 Z <b>6GK1 716-1CB00-3AE1</b></li> </ul>
<b>FO Standard Cable GP (50/125)</b> Standard cable, splittable, UL approval, sold by the meter	<b>6XV1 873-2A</b>	
<b>SCALANCE X204-2 Industrial Ethernet Switch</b> Industrial Ethernet switches with integral SNMP access, online diagnostics, copper cable diagnostics and PROFINET diagnostics for configuring line, star and ring topologies; four 10/100 Mbit/s RJ45 ports and two FO ports	<b>6GK5 204-2BB10-2AA3</b>	
<b>IE FC RJ45 Plug 180</b> RJ45 plug connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; with 180° cable outlet; for network components and CPUs/CPUs with Industrial Ethernet interface <ul style="list-style-type: none"> <li>1 pack = 1 item <b>6GK1 901-1BB10-2AA0</b></li> <li>1 pack = 10 items <b>6GK1 901-1BB10-2AB0</b></li> <li>1 pack = 50 items <b>6GK1 901-1BB10-2AE0</b></li> </ul>		
<b>SOFTNET Edition 2008 for Industrial Ethernet</b> Software for S7 and open communication, incl. OPC server, PG/OP communication and NCM PC, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 German/English		<b>STEP 7 Version 5.4</b> <i>Target system:</i> SIMATIC S7-300/-400, SIMATIC C7, SIMATIC WinAC <i>Requirement:</i> Windows 2000 Prof./XP Prof. <i>Delivery package:</i> German, English, French, Spanish, Italian; incl. 3.5" authorization diskette, without documentation <ul style="list-style-type: none"> <li>Floating license on CD <b>6ES7 810-4CC08-0YA5</b></li> <li>Rental license for 50 hours <b>6ES7 810-4CC08-0YA6</b></li> <li>Software Update Service on CD (requires current software version) <b>6ES7 810-4BC01-0YX2</b></li> <li>Upgrade Floating License 3.x/4.x/5.x to V5.4; on CD <b>6ES7 810-4CC08-0YE5</b></li> <li>Trial License STEP 7 V5.4; on CD, runs for 14 days <b>6ES7 810-4CC08-0YA7</b></li> </ul>
<b>SOFTNET-S7 Edition 2008 for Industrial Ethernet</b> up to 64 connections <ul style="list-style-type: none"> <li>Single license for 1 installation Z <b>6GK1 704-1CW71-3AA0</b></li> <li>Software Update Service for 1 year, with automatic extension; requirement: Current software version <b>6GK1 704-1CW00-3AL0</b></li> <li>Upgrade from Edition 2006 to Edition 2008 Z <b>6GK1 704-1CW00-3AE0</b></li> <li>Upgrade from V6.0, V6.1, V6.2 or V6.3 to Edition 2008 Z <b>6GK1 704-1CW00-3AE1</b></li> </ul>		

Z) Subject to export regulations: AL: N and ECCN: 5D992

# PROFINET/Industrial Ethernet

## System interfacing for SIMATIC S7

### CP 443-1 Advanced

#### Overview



ISO	TCP/UDP	PN	MRP	IT	IP-R	PG/OP	S7/S5
●	●	●	●	●	●	●	●

- Connection of SIMATIC S7-400 to Industrial Ethernet
  - Multiprotocol operation for ISO, TCP/IP, UDP and PROFINET IO protocols
  - Adjustable Keep Alive function
- Two separate interfaces (integrated network separation):
  - Gigabit interface with an RJ45 connection with 10/100/1000 Mbit/s full/half duplex with autosensing functionality
  - PROFINET interface with four RJ45 connections with 10/100 Mbit/s full/half duplex with autosensing and auto-crossover functionality via integrated 4-port switch
- Communication services via both interfaces
  - Open communication (ISO, TCP/IP and UDP), Multicast with UDP, incl. routing between two interfaces
  - PG/OP communication:
    - Cross-network by means of S7 routing
  - S7 communication (client, server, multiplexing) incl. routing between both interfaces
  - IT communication:
    - HTTP communication allows access to process data via own web sites;
    - e-mail client function, sending of e-mails with authentication directly from the user program;
    - FTP communication allows program-controlled FTP client communication;
    - access to data blocks via FTP servers
- Communication services via PROFINET interface
  - PROFINET IO Controller with real-time properties (RT and IRT)
  - PROFINET CBA
  - IP address assignment via DHCP, simple PC tool or via the user program (e.g. HMI)
  - Support of prioritized start-ups of PROFINET IO Devices
- Media redundancy (MRP);
  - The CP supports the media redundancy procedure MRP within an Ethernet network with ring topology
- Configuration with STEP 7
- Access protection by means of a configurable IP access list
- Module replacement without PG;
  - all information is stored on the C-PLUG (also file system for IT functions)
- Extensive diagnostic functions for all modules in the rack
- Integration into network management systems through the support of SNMP V1 MIB-II
- Operation in SIMATIC H system for redundant S7 communication
- Operation in fail-safe applications (PROFIsafe) in combination with SIMATIC S7-400 CPU 416F

#### Ordering data

#### Order No.

##### CP 443-1 Advanced communications processor

For connecting the SIMATIC S7-400 to Industrial Ethernet; PROFINET IO Controller with RT and IRT, MRP, PROFINET CBA; TCP/IP, ISO and UDP; S7 communication, open communication (SEND/RECEIVE) with FETCH/WRITE, with and without RFC 1006, diagnostic expansions, multicast, clock synchronization by means of SIMATIC procedure or NTP, access protection by means of IP access list, FTP client/server, HTTP server, HTML diagnostics, SNMP, DHCP, e-mail, data storage on C-PLUG; PROFINET connection: 4 x RJ45 (10/100 Mbit/s) via switch; Gigabit connection: 1 x RJ45 (10/100/1000 Mbit/s); with electronic manual on DVD; C-PLUG contained in the scope of supply

- For use with SIMATIC S7-400 CPU, V5.2 or higher;

**6GK7 443-1GX20-0XE0**

##### C-PLUG

Swap medium for simple replacement of devices in the event of a fault; for storing configuration or engineering and application data; can be used for SIMATIC NET products with C-PLUG slot

**6GK1 900-0AB00**

##### SOFTNET Edition 2008 for Industrial Ethernet

Software for S7 and open communication, incl. OPC server, PG/OP communication and NCM PC, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; German/English

##### SOFTNET-S7 Edition 2008 for Industrial Ethernet

up to 64 connections

- Single License for 1 installation Z
- Software Update Service for 1 year, with automatic extension; requirement: Current software version
- Upgrade from Edition 2006 to Edition 2008
- Upgrade from V6.0, V6.1, V6.2 Z or V6.3 to Edition 2008

**6GK1 704-1CW71-3AA0**

**6GK1 704-1CW00-3AL0**

**6GK1 704-1CW00-3AE0**

**6GK1 704-1CW00-3AE1**

A) Subject to export regulations: AL: N and ECCN: EAR99H

Z) Subject to export regulations: AL: N and ECCN: 5D992

Ordering data (continued)	Order No.	Order No.
<b>SOFTNET-S7 Lean Edition 2008 for Industrial Ethernet</b> up to 8 connections <ul style="list-style-type: none"> <li>• Single License for 1 installation Z</li> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version</li> <li>• Upgrade from Edition 2006 to Edition 2008</li> <li>• Upgrade from V6.0, V6.1, V6.2 Z or V6.3 to Edition 2008</li> </ul>	<b>6GK1 704-1LW71-3AA0</b> <b>6GK1 704-1LW00-3AL0</b>  <b>6GK1 704-1LW00-3AE0</b> <b>6GK1 704-1LW00-3AE1</b>	<b>SCALANCE X204-2 Industrial Ethernet Switch</b> with four 10/100 Mbit/s RJ45 ports and two fiber-optic ports <b>6GK5 204-2BB10-2AA3</b>  <b>SCALANCE X308-2 Industrial Ethernet Switch</b> 2 x 1000 Mbit/s multimode fiber-optic ports (SC sockets), 1 x 10/100/1000 Mbit/s RJ45 port, 7 x 10/100 Mbit/s RJ45 ports; for glass fiber-optic cables (multimode) up to a max. 750 m. <b>6GK5 308-2FL00-2AA3</b>
<b>S7-1613 Edition 2008</b> Software for S7 and open communication, incl. PG/OP communication, OPC server and NCM PC; up to 120 connections, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 1613/CP 1613 A2/CP 1623; German/English <ul style="list-style-type: none"> <li>• Single License for 1 installation Z</li> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version</li> <li>• Upgrade S7-1613 from Edition 2006 to S7-1613 Edition 2008 Z</li> <li>• Upgrade S7-1613 from V6.0, V6.1, V6.2 or V6.3 to S7-1613 Edition 2008 Z</li> </ul>	<b>6GK1 716-1CB71-3AA0</b> <b>6GK1 716-1CB00-3AL0</b>  <b>6GK1 716-1CB00-3AE0</b> <b>6GK1 716-1CB00-3AE1</b>	<b>STEP 7 Version 5.4</b> <i>Target system:</i> SIMATIC S7-300/-400, SIMATIC C7, SIMATIC WinAC <i>Requirement:</i> Windows 2000 Prof./XP Prof. <i>Delivery package:</i> German, English, French, Spanish, Italian; incl. 3.5" authorization diskette, without documentation <ul style="list-style-type: none"> <li>• Floating license on CD</li> <li>• Rental license for 50 hours</li> <li>• Software Update Service on CD (requires current software version)</li> <li>• Upgrade Floating License 3.x/4.x/5.x to V5.4; on CD</li> <li>• Trial License STEP 7 V5.4; on CD, runs for 14 days</li> </ul> <b>6ES7 810-4CC08-0YA5</b> <b>6ES7 810-4CC08-0YA6</b> <b>6ES7 810-4BC01-0YX2</b>  <b>6ES7 810-4CC08-0YE5</b> <b>6ES7 810-4CC08-0YA7</b>
<b>IE FC RJ45 Plug 180</b> RJ45 plug connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; with 180° cable outlet; for network components and CPUs/CPU with Industrial Ethernet interface <ul style="list-style-type: none"> <li>• 1 pack = 1 item</li> <li>• 1 pack = 10 items</li> <li>• 1 pack = 50 items</li> </ul>	<b>6GK1 901-1BB10-2AA0</b> <b>6GK1 901-1BB10-2AB0</b> <b>6GK1 901-1BB10-2AE0</b>	<b>SIMATIC iMap V3.0</b> for configuring PROFINET CBA, <i>Requirement:</i> Windows 2000 Prof. with Service Pack 4 or higher or Windows XP Prof. with Service Pack 1 or higher or Windows 2003 Server with Service Pack 1 or higher; on PG or PC with Pentium processor, min. 1 GHz; STEP 7 V5.3 or higher with Service Pack 3, PN OPC Server V6.3 or higher <i>Scope of supply:</i> German, English, with electronic documentation <ul style="list-style-type: none"> <li>• Single License Z</li> <li>• Software Update Service Z</li> <li>• Upgrade to V3.0, Single License Z</li> </ul> <b>6ES7 820-0CC04-0YA5</b> <b>6ES7 820-0CC01-0YX2</b> <b>6ES7 820-0CC04-0YE5</b>
<b>IE FC RJ45 Plug 4 x 2</b> RJ45 plug connector for Industrial Ethernet (10/100/1000 Mbit/s) with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; 180° cable outlet; for network components and CPUs/CPU with Industrial Ethernet interface <ul style="list-style-type: none"> <li>• 1 pack = 1 item</li> <li>• 1 pack = 10 items</li> <li>• 1 pack = 50 items</li> </ul>	<b>6GK1 901-1BB11-2AA0</b> <b>6GK1 901-1BB11-2AB0</b> <b>6GK1 901-1BB11-2AE0</b>	

Z) Subject to export regulations: AL: N and ECCN: 5D992

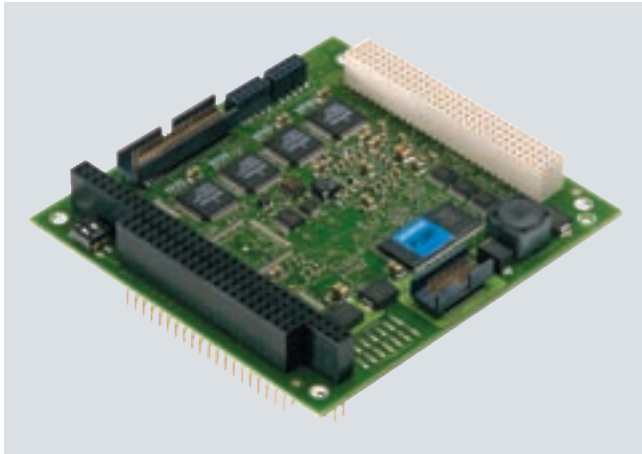


# PROFINET/Industrial Ethernet

## System interfacing for PG/PC

### CP 1604

#### Overview



ISO	TCP/ UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
	●	●					

- PC/104 Plus module for connecting PC/104 Plus systems to PROFINET IO
- Full/half duplex with autonegotiation
- With Ethernet real-time ASIC ERTEC 400
- Integral 4-port real-time switch
- Communication services:
  - PROFINET IO controller and/or PROFINET IO device
  - Support of IRT in motion control applications
- High performance through direct memory access
- Integration in network management systems through the support of SNMP
- Comprehensive diagnostics possibilities for installation, start-up and operation of the module
- Powerful configuration tools are included in delivery of module

#### Ordering data

#### Order No.

##### CP 1604 communications processor

PCI/104 Plus Card (32 bit) with ASIC ERTEC 400 for connecting PC/104 Plus systems to PROFINET IO with 4-Port-Real-Time-Switch (RJ45); incl. IO Base Software for PROFINET IO Controller and NCM PC; single license for one installation, runtime software, software and electronic manual on CD-ROM, Class A, for 32 Bit Windows XP Professional; other operating systems by means of Development Kit DK-16xx PN IO German/English

**6GK1 160-4AA00**

##### CP 1604 Microbox Package

Package for implementing the CP 1604 in the SIMATIC Microbox PC; comprising the CP 1604, connection board, power supply and expansion racks for Microbox PC; for use with Development Kit DK-16xx PN IO; NCM PC

**6GK1 160-4AU00**

#### Ordering data (continued)

#### Order No.

##### Accessories

##### Connection board for CP 1604 A

Connection board for CP 1604 with four RJ45 sockets incl. connecting cable

**6GK1 160-4AC00**

##### Power supply for CP 1604

Redundant power supply for CP 1604 for operating the integral 4-port switch of the CP 1604 with the PC/104 system switched off; includes connecting cable

**6GK1 160-4AP00**

##### DK-16xx PN IO V2.1 development kit

Software development kit for CP 1616/CP 1604; driver and IO-Base software for CP 1616/CP 1604 as PN IO controller and IO device in source code for transfer to other PC-based operating systems; including executable example code for SUSE Linux 9.3 and Windows XP Professional

see <http://www.siemens.com/simatic-net/dk16xx>

##### IE FC RJ45 Plug 180

RJ45 plug-in connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; with 180° cable outlet; for network components and CPs/CPU's with Industrial Ethernet interface

- 1 pack = 1 item
- 1 pack = 10 items
- 1 pack = 50 items

**6GK1 901-1BB10-2AA0**

**6GK1 901-1BB10-2AB0**

**6GK1 901-1BB10-2AE0**

##### SCALANCE X204-2

with four 10/100 Mbit/s RJ45 ports and two fiber-optic ports

**6GK5 204-2BB10-2AA3**

##### SCALANCE X204IRT

4 x 10/100 Mbit/s RJ45 Ports

**6GK5 204-0BA00-2BA3**

##### IE FC TP Standard Cable GP 2 x 2 (Type A)

4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug; PROFINET-compatible; with UL approval; sold by the meter; max. length 1000 m, minimum order 20 m

**6XV1 840-4AH10**

##### IE FC TP Flexible Cable GP 2 x 2 (Type B)

4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug for occasional movement; PROFINET-compatible; with UL approval; sold by the meter; max. length 1000 m, minimum order 20 m

**6XV1 870-2B**

A) Subject to export regulations: AL: N and ECCN: EAR99H



### Overview



ISO	TCP/UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
	●	●					

- PCI module for connecting PCs and SIMATIC PGs/PCs to PROFINET IO (Universal Keyed 3.3 V and 5 V; 33 MHz/66 MHz; 32-bit, runs in 64-bit PCI-X systems)
- Full/half duplex with autonegotiation
- With Ethernet real-time ASIC ERTEC 400
- Integral 4-port real-time switch
- Communication services:
  - PROFINET IO controller and/or PROFINET IO device
  - Support of IRT in motion control applications
- High performance through direct memory access
- Integration in network management systems through the support of SNMP
- Comprehensive diagnostics possibilities for installation, start-up and operation of the module
- Powerful configuration tools are part of the scope of delivery of the module

### Ordering data

### Order No.

#### CP 1616 communications processor

PCI Card (32 Bit; 3.3/5 V universal keyed) with ASIC ERTEC 400 for connecting PCs to PROFINET IO with 4-Port-Real-Time-Switch (RJ45); incl. IO Base Software for PROFINET IO Controller and NCM PC; single license for one installation, runtime software, software and electronic manual on CD-ROM, Class A, for 32 Bit Windows XP Professional; other operating systems via Development Kit DK-16xx PN IO German/English

**6GK1 161-6AA00**

#### Accessories

#### DK-16xx PN IO V2.1 development kit

Software development kit for CP 1616/CP 1604; driver and IO-Base software for CP 1616/CP 1604 as PN IO controller and IO device in source code for transfer to other PC-based operating systems; including executable example code for SUSE Linux 10 and Windows XP Professional

see  
<http://www.siemens.com/simatic-net/dk16xx>

#### IE FC RJ45 Plug 180

RJ45 plug-in connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; with 180° cable outlet; for network components and CPs/CPUs with Industrial Ethernet interface

- 1 pack = 1 item
- 1 pack = 10 items
- 1 pack = 50 items

**6GK1 901-1BB10-2AA0**  
**6GK1 901-1BB10-2AB0**  
**6GK1 901-1BB10-2AE0**

#### IE FC TP Standard Cable GP 2 x 2 (Type A)

4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug; PROFINET-compatible; with UL approval; sold by the meter; max. length 1000 m, minimum order 20 m

**6XV1 840-4AH10**

#### IE FC TP Flexible Cable GP 2 x 2 (Type B)

4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug for occasional movement; PROFINET-compatible; with UL approval; sold by the meter; max. length 1000 m, minimum order 20 m

**6XV1 870-2B**

# PROFINET/Industrial Ethernet

## System interfacing for PG/PC

CP 1612 A2

### Overview



ISO	TCP/UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
●	●	●		●	●	●	●

- PCI card (32 bit; 33 MHz/66 MHz; 3.3 V/5 V Universal Key) for the connection of PG/PC to Industrial Ethernet
- 1 x 10/100/1000 Mbit/s RJ45 port, electrical
- Automatic data transmission rate detection (10/100/1000 Mbit/s), with autosensing and autocrossover function
- Communication services via
  - PROFINET
  - ISO or TCP/IP transport protocol
  - PG/OP communication
  - S7 communication
  - Open communication (SEND/RECEIVE)
- Designed for use in industrial environments
- The appropriate OPC servers and configuration tools are included in the scope of supply of the respective communication software.

### Ordering data

### Order No.

<b>CP 1612 A2 communications processor</b>	B	<b>6GK1 161-2AA01</b>
PCI card (32 bit, 33 MHz/66 MHz; 3.3 V/5 V universal keyed) for connection to Industrial Ethernet (10/100/1000 Mbit/s) with RJ45 interface, incl. driver for 32-bit Windows XP Professional SP2/3, 2003 R2 Server SP2, Vista Business/Ultimate SP1, Windows 2008 Server; German/English		
<b>SOFTNET Security Client Edition 2008</b>	E	<b>6GK1 704-1VW02-0AA0</b>
Software for designing secure IP-based VPN connections from a programming device/PC to network segments which are secured by SCALANCE S in bridge mode; Single License for 1 installation, runtime software (German/English), configuring tool (German/English) and electronic manual on CD-ROM (German/English/French/Italian/Spanish) for 32-bit Windows, XP Professional + SP1, SP2, SP3, Windows Vista Ultimate/Business + SP1		

B) Subject to export regulations: AL: N and ECCN: EAR99S  
 E) Subject to export regulations: AL: N And ECCN: 5D002ENC3  
 Z) Subject to export regulations: AL: N and ECCN: 5D992

### Ordering data (continued)

### Order No.

<b>SOFTNET PN IO Edition 2008</b>		
Software for PROFINET IO Controller with OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A, for 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; German/English		
• Single License for one installation	Z	<b>6GK1 704-1HW71-3AA0</b>
• Software Update Service for 1 year, with automatic extension; requirement: current software version		<b>6GK1 704-1HW00-3AL0</b>
• Upgrade SOFTNET PN IO Edition 2006 or higher to SOFTNET PN IO Edition 2008	Z	<b>6GK1 704-1HW00-3AE0</b>
• Upgrade SOFTNET PN IO from V6.0, V6.1, V6.2 or V6.3 to SOFTNET PN IO Edition 2008	Z	<b>6GK1 704-1HW00-3AE1</b>
<b>SOFTNET Edition 2008 for Industrial Ethernet</b>		
Software for S7 and open communication, incl. OPC server, PG/OP communication and NCM PC, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A, for 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; German/English		
<b>SOFTNET-S7 Edition 2008 for Industrial Ethernet</b>		
up to 64 connections		
• Single license for 1 installation	Z	<b>6GK1 704-1CW71-3AA0</b>
• Software Update Service for 1 year, with automatic extension; requirement: current software version		<b>6GK1 704-1CW00-3AL0</b>
• Upgrade from Edition 2006 and higher to Edition 2008	Z	<b>6GK1 704-1CW00-3AE0</b>
• Upgrade from V6.0, V6.1, V6.2 or V6.3 to Edition 2008	Z	<b>6GK1 704-1HW71-3AA0</b>
<b>SOFTNET-S7 Lean Edition 2008 for Industrial Ethernet</b>		
up to 8 connections		
• Single license for 1 installation	Z	<b>6GK1 704-1LW71-3AA0</b>
• Software Update Service for 1 year, with automatic extension; requirement: current software version		<b>6GK1 704-1LW00-3AL0</b>
• Upgrade from Edition 2006 and higher to Edition 2008	Z	<b>6GK1 704-1LW00-3AE0</b>
• Upgrade from V6.0, V6.1, V6.2 or V6.3 to Edition 2008	Z	<b>6GK1 704-1LW00-3AE1</b>
<b>SOFTNET-PG Edition 2008 for Industrial Ethernet</b>		
Software for PG/OP communication, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A, for 32-bit Windows XP Professional SP 2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; German/English		
• Single license for 1 installation	Z	<b>6GK1 704-1PW71-3AA0</b>
• Software Update Service for 1 year, with automatic extension; requirement: current software version		<b>6GK1 704-1PW00-3AL0</b>
• Upgrade from Edition 2006 and higher to Edition 2008	Z	<b>6GK1 704-1PW00-3AE0</b>
• Upgrade from V6.0, V6.1, V6.2 or V6.3 to Edition 2008	Z	<b>6GK1 704-1PW00-3AE1</b>

### Overview



ISO	TCP/UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
●	●			●	●	●	●

- PCI card (32 bit; 33 MHz/66 MHz; 3.3 V/5 V universal key) with microprocessor for connection of PG/PC to Industrial Ethernet with 10/100 Mbit/s Autosensing/Autonegotiation
- Communication services using
  - Open IE communication via TCP/IP and UDP)
  - ISO transport protocol
  - PG/OP communication
  - S7 communication
  - Open communication (SEND/RECEIVE)
- 15-pole ITP connection
- RJ45 connection
- Time synchronization
- ISO and TCP/IP transport protocol onboard
- SNMP-supported diagnostics
- The appropriate OPC server and configuration tools are included in the respective scope of supply of the communication software

### Ordering data

### Order No.

**CP 1613 A2 communications processor**  
 PCI card (32-bit, 33 MHz/66 MHz; 3.3 V/5 V universal keyed) for connection to Industrial Ethernet (10/100 Mbit/s) with ITP and RJ45 connection over S7-1613 and S7-REDCONNECT, incl. drivers for 32-bit Windows XP Professional, SP2/3, 2003 R2 Server SP2, Vista Business/Ultimate SP1

**6GK1 161-3AA01**

### S7-1613 Edition 2008

Software for S7 and open communication, incl. PG/OP communication, OPC server and NCM PC; up to 120 connections, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 1613/CP 1613 A2/CP 1623; German/English

### Ordering data (continued)

### Order No.

- Single license for 1 installation Z **6GK1 716-1CB71-3AA0**
- Software Update Service for 1 year, with automatic extension; requirement: Current software version **6GK1 716-1CB00-3AL0**
- Upgrade S7-1613 from Edition 2006 to S7-1613 Edition 2008 Z **6GK1 716-1CB00-3AE0**
- Upgrade S7-1613 from V6.0, V6.1, V6.2 or V6.3 to S7-1613 Edition 2008 Z **6GK1 716-1CB00-3AE1**

### S7-REDCONNECT Edition 2008

Software for fail-safe S7 communication over redundant networks incl. S7-OPC server, S7-1613 2008, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 1613/CP 1613 A2/CP 1623; German/English

- Single License for 1 installation Z **6GK1 716-0HB71-3AA0**
- Software Update Service for 1 year, with automatic extension; requirement: Current software version **6GK1 716-0HB00-3AL0**
- Upgrade S7-REDCONNECT from Edition 2006 to S7-REDCONNECT Edition 2008 Z **6GK1 716-0HB00-3AE0**
- Upgrade S7-REDCONNECT from V6.0, V6.1, V6.2 or V6.3 to S7-REDCONNECT Edition 2008 Z **6GK1 716-0HB00-3AE1**

### Power Pack S7-REDCONNECT Edition 2008

For expanding S7-1613 2008 to S7-REDCONNECT, single license for 1 installation, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Server; for CP 1613/CP 1613 A2/CP 1623; German/English

- 1) also S5-compatible communication  
 Z) Subject to export regulations: AL: N and ECCN: 5D992

# PROFINET/Industrial Ethernet

## System interfacing for PG/PC

CP 1623

### Overview



- PCI Express Card (PCIe x1) with an internal microprocessor for connection of PG/PC to Industrial Ethernet
- 10/100/1000 Mbit/s (autosensing/autocrossover/autonegotiation)
- Integrated 2-port switch (2 x RJ45 connection)
- Communications services via
  - Open IE communication (TCP/IP and UDP)
  - ISO transport protocol
  - PG/OP communication
  - S7 communication
  - Open communication (SEND/RECEIVE)
- Time synchronization
- ISO and TCP/IP transport protocol on board
- SNMP-supported diagnostics
- The appropriate OPC server and configuration tools are included in the scope of supply of the respective communication software.

ISO	TCP/UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
●	●			●	●	●	●

Ordering data		Order No.		Order No.
<b>CP 1623 communications processor</b> PCI Express x1 card for connection to Industrial Ethernet (10/100/1000 Mbit/s) with 2 port switch (RJ45) connection via S7-1613 and S7-REDCONNECT, incl. drivers for 32-bit Windows XP Professional SP2/3, 2003 R2 Server SP2, Vista Business/Ultimate SP1	A	<b>6GK1 162-3AA00</b>	<b>Power Pack S7-REDCONNECT Edition 2008</b> For expanding S7-1613 2008 to S7-REDCONNECT, single license for 1 installation, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit ; Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 1613/CP 1613 A2/CP 1623; German/English	<b>6GK1 716-0HB71-3AC0</b>
<b>S7-1613 Edition 2008</b> Software for S7 and open communication, incl. PG/OP communication, OPC server and NCM PC; up to 120 connections, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 1613/CP 1613 A2/CP 1623; German/English			<b>IE FC RJ45 Plug 4 x 2</b> RJ45 plug connector for Industrial Ethernet (10/100/1000 Mbit/s) with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; 180° cable outlet; for network components and CPUs/CPUs with Industrial Ethernet interface	
<ul style="list-style-type: none"> <li>• Single license for 1 installation</li> </ul>	Z	<b>6GK1 716-1CB71-3AA0</b>	<ul style="list-style-type: none"> <li>• 1 pack = 1 item</li> </ul>	<b>6GK1 901-1BB11-2AA0</b>
<ul style="list-style-type: none"> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version</li> </ul>		<b>6GK1 716-1CB00-3AL0</b>	<ul style="list-style-type: none"> <li>• 1 pack = 10 items</li> </ul>	<b>6GK1 901-1BB11-2AB0</b>
<ul style="list-style-type: none"> <li>• Upgrade S7-1613 from Edition 2006 to S7-1613 Edition 2008</li> </ul>	Z	<b>6GK1 716-1CB00-3AE0</b>	<ul style="list-style-type: none"> <li>• 1 pack = 50 items</li> </ul>	<b>6GK1 901-1BB11-2AE0</b>
<ul style="list-style-type: none"> <li>• Upgrade S7-1613 from V6.0, V6.1, V6.2 or V6.3 to S7-1613 Edition 2008</li> </ul>	Z	<b>6GK1 716-1CB00-3AE1</b>	<b>Switches SCALANCE X-400</b> Modular Industrial Ethernet switches with integrated RJ45 ports for setting up electrical and/or optical Industrial Ethernet networks; integrated redundancy manager, IT functions (RSTP, VLAN, etc.), PROFINET IO Device, network management via SNMP and web server; incl. operating instructions, Industrial Ethernet network manual and configuration software on CD-ROM; C-PLUG included in the scope of supply	
<b>S7-REDCONNECT Edition 2008</b> Software for fail-safe S7 communication over redundant networks incl. S7-OPC server, S7-1613 2008, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 1613/CP 1613 A2/CP 1623; German/English			<ul style="list-style-type: none"> <li>• <b>SCALANCE X408-2;</b> 4 x 10/100/1000 Mbit/s and 4 x 10/100 Mbit/s RJ45 ports; 2 x Gigabit/Fast Ethernet media module slots</li> </ul>	<b>6GK5 408-2FD00-2AA2</b>
<ul style="list-style-type: none"> <li>• Single license for 1 installation</li> </ul>	Z	<b>6GK1 716-0HB71-3AA0</b>	<ul style="list-style-type: none"> <li>• <b>SCALANCE X414-3E;</b> 2 x 10/100/1000 Mbit/s and 12 x 10/100 Mbit/s RJ45 ports; 1 x Gigabit Ethernet and 2 x Fast Ethernet media module slots; 1 x Extender interface</li> </ul>	<b>6GK5 414-3FC00-2AA2</b>
<ul style="list-style-type: none"> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version</li> </ul>		<b>6GK1 716-0HB00-3AL0</b>		
<ul style="list-style-type: none"> <li>• Upgrade S7-REDCONNECT from Edition 2006 to S7-REDCONNECT Edition 2008</li> </ul>	Z	<b>6GK1 716-0HB00-3AE0</b>		
<ul style="list-style-type: none"> <li>• Upgrade S7-REDCONNECT from V6.0, V6.1, V6.2 or V6.3 to S7-REDCONNECT Edition 2008</li> </ul>	Z	<b>6GK1 716-0HB00-3AE1</b>		

A) Subject to export regulations: AL: N and ECCN: EAR99H

Z) Subject to export regulations: AL: N and ECCN: 5D992

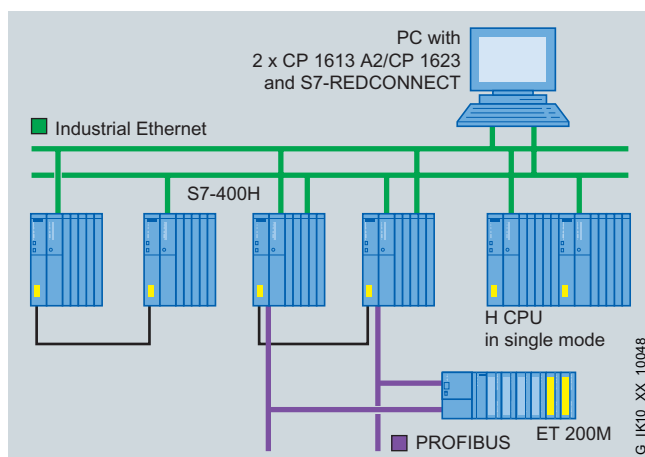
# PROFINET/Industrial Ethernet

## System interfacing for PG/PC

### S7-REDCONNECT

#### Overview

- For connecting PCs over redundant Industrial Ethernet to the SIMATIC S7-400H
- Protected from communication failures arising from a fault in the double bus or in redundant rings
- For redundantly configured Industrial Ethernet
- Can also be implemented in non-redundant networks
- No additional programming overhead for the PC and in H systems
- The appropriate OPC server and configuration tools are included in the scope of supply of the respective communication software
- Enhanced redundancy over 4-way communication (STEP 7 V5.1 + SP4 and higher)



System configuration for S7-REDCONNECT

ISO	TCP/UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
●				●	●	●	

#### Ordering data

#### Order No.

##### S7-REDCONNECT Edition 2008

Software for fail-safe S7 communication over redundant networks incl. S7-OPC server, S7-1613 2008, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 1613/CP 1613 A2/CP 1623; German/English

- Single license for 1 installation Z **6GK1 716-0HB71-3AA0**
- Software Update Service for 1 year, with automatic extension; requirement: Current software version **6GK1 716-0HB00-3AL0**
- Upgrade S7-REDCONNECT from Edition 2006 to S7-REDCONNECT Edition 2008 Z **6GK1 716-0HB00-3AE0**
- Upgrade S7-REDCONNECT from V6.0, V6.1, V6.2 or V6.3 to S7-REDCONNECT Edition 2008 Z **6GK1 716-0HB00-3AE1**

##### Power Pack S7-REDCONNECT Edition 2008

For expanding S7-1613 2008 to S7-REDCONNECT, single license for 1 installation, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 1613/CP 1613 A2/CP 1623; German/English

**6GK1 716-0HB71-3AC0**

##### CP 1613 A2 communications processor

PCI card (32-bit, 33 MHz/66 MHz; 3.3 V/5 V universal keyed) for connection to Industrial Ethernet (10/100 Mbit/s) with ITP and RJ45 connection over S7-1613 and S7-REDCONNECT, incl. driver for 32-bit Windows XP Professional SP2/3, 2003 R2 Server SP2, Vista Business/Ultimate SP1

**6GK1 161-3AA01**

##### CP 1623 communications processor

PCI Express x1 card (3.3 V/12) for connection to Industrial Ethernet (10/100/1000 Mbit/s) with 2-port switch (RJ45) connection via S7-1613 and S7-REDCONNECT, incl. driver for 32-bit Windows XP Professional SP2/3, 2003 R2 Server SP2, Vista Business/Ultimate SP1

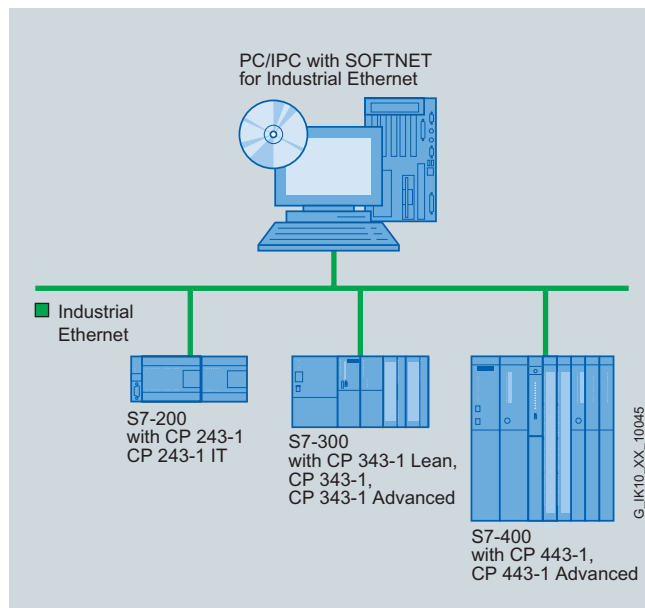
**6GK1 162-3AA00**

A) Subject to export regulations: AL: N and ECCN: EAR99H  
Z) Subject to export regulations: AL: N and ECCN: 5D992



#### Overview

- For coupling programming devices/PCs/workstations to programmable controllers
- Communication services:
  - PG/OP communication
  - S7 communication
  - Open communication (SEND/RECEIVE)
- Can be used with
  - Layer 2 Ethernet card (PCI/PCle)
  - Integrated Industrial Ethernet interface
  - Modem (Remote Access Service RAS)
- Complete protocol stack as a software package
- The appropriate OPC server and configuration tools are included in the scope of supply of the respective communication software



System configuration SOFTNET for Industrial Ethernet

ISO	TCP/UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
●	●			●	●	●	

#### Ordering data

#### Order No.

##### SOFTNET Edition 2008 for Industrial Ethernet

Software for S7 and open communication, incl. OPC server, PG/OP communication and NCM PC, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; German/English

##### SOFTNET-S7 Edition 2008 for Industrial Ethernet

up to 64 connections

- Single license for 1 installation Z **6GK1 704-1CW71-3AA0**
- Software Update Service for 1 year, with automatic extension; requirement: Current software version **6GK1 704-1CW00-3AL0**
- Upgrade from Edition 2006 to Edition 2008 Z **6GK1 704-1CW00-3AE0**
- Upgrade from V6.0, V6.1, V6.2 or V6.3 to Edition 2008 Z **6GK1 704-1CW00-3AE1**

##### SOFTNET-S7 Lean Edition 2008 for Industrial Ethernet

up to 8 connections

- Single license for 1 installation Z **6GK1 704-1LW71-3AA0**
- Software Update Service for 1 year, with automatic extension; requirement: Current software version **6GK1 704-1LW00-3AL0**
- Upgrade from Edition 2006 to Edition 2008 Z **6GK1 704-1LW00-3AE0**
- Upgrade from V6.0, V6.1, V6.2 or V6.3 to Edition 2008 Z **6GK1 704-1LW00-3AE1**

##### SOFTNET-PG Edition 2008 for Industrial Ethernet

Software for PG/OP-communication; runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; German/English

- Single license for 1 installation Z **6GK1 704-1PW71-3AA0**
- Software Update Service for 1 year, with automatic extension; requirement: Current software version **6GK1 704-1PW00-3AL0**
- Upgrade from Edition 2006 to Edition 2008 Z **6GK1 704-1PW00-3AE0**
- Upgrade from V6.0, V6.1, V6.2 or V6.3 to Edition 2008 Z **6GK1 704-1PW00-3AE1**

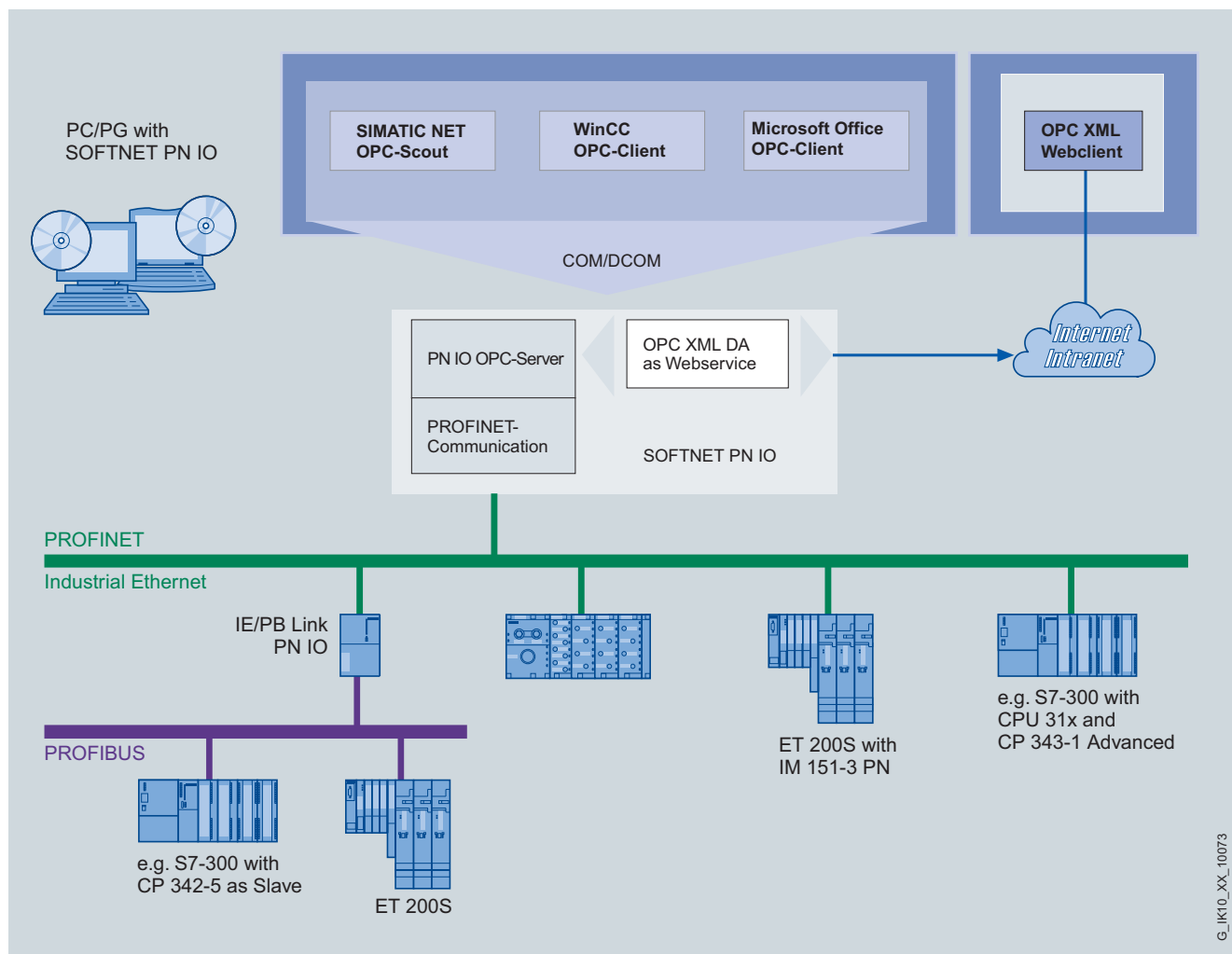
Z) Subject to export regulations: AL: N and ECCN: 5D992

# PROFINET/Industrial Ethernet

## System interfacing for PG/PC

### SOFTNET PN IO

#### Overview



PC with SOFTNET PN IO as PROFINET IO Controller

ISO	TCP/UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
	●	●		●			

- Software with PROFINET IO Controller function for coupling PG/PC and IPC with PROFINET IO Devices
- Possible applications:
  - PC-based control systems
  - HMI systems
  - Test applications
- Communication services:
  - PROFINET IO Controller
- Can be used with
  - Integrated interfaces of SIMATIC PG/PC
  - You can find more information about the operational environment under: [www.siemens.com/simatic-net/ik-info](http://www.siemens.com/simatic-net/ik-info)
- Cost-effective solution for the low-end performance range
- OPC server for I/O interfacing over PROFINET included in scope of supply

#### Ordering data

#### Order No.

##### SOFTNET PN IO Edition 2008

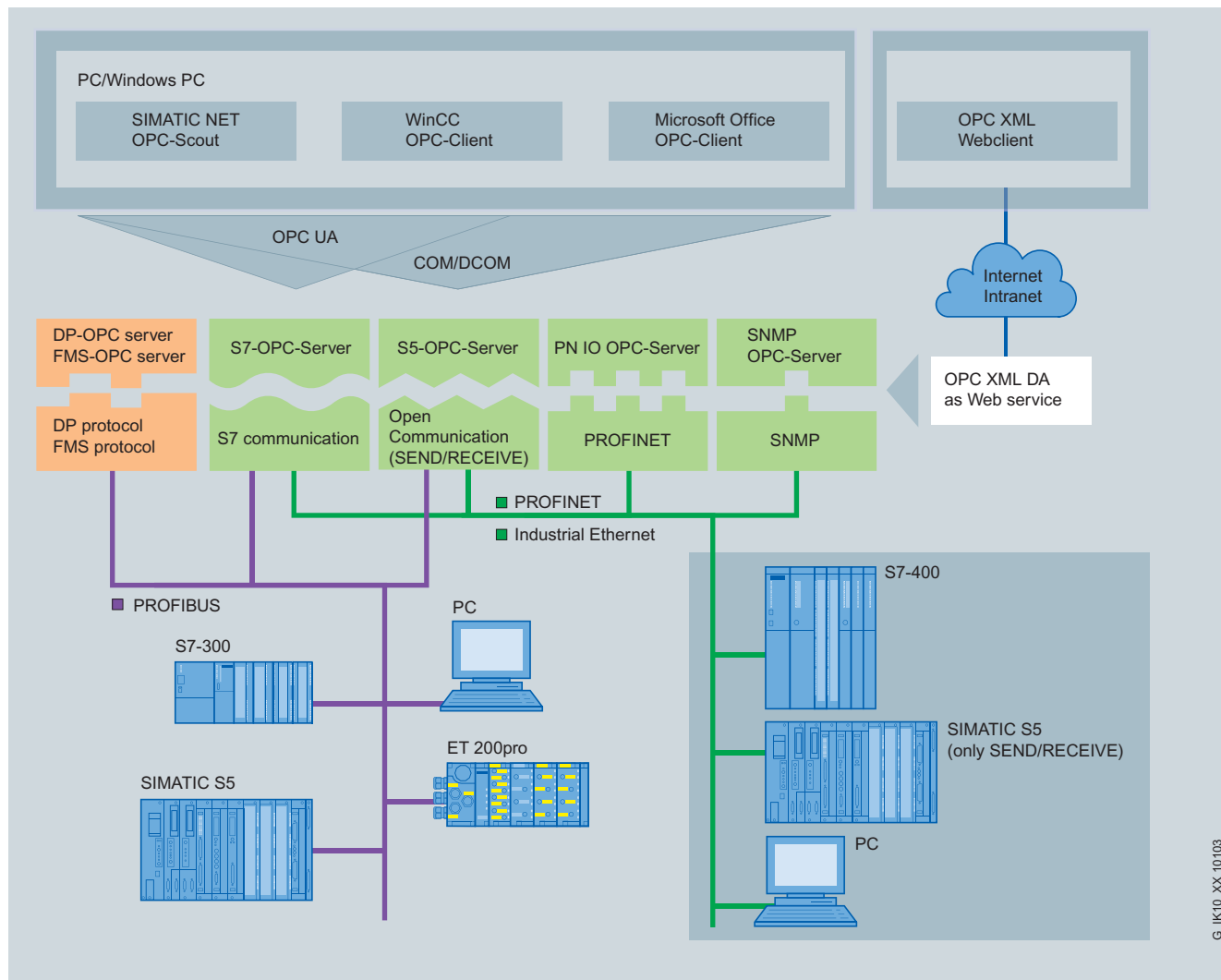
Software for PROFINET IO controller with OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; German/English

- |   |   |                            |
|---|---|----------------------------|
| • Single license for one installation   | Z | <b>6GK1 704-1HW71-3AA0</b> |
| • Software Update Service for 1 year, with automatic extension; requirement: Current software version |   | <b>6GK1 704-1HW00-3AL0</b> |
| • Upgrade SOFTNET-PN IO from Edition 2006 to SOFTNET-PN IO, Edition 2008                              | Z | <b>6GK1 704-1HW00-3AE0</b> |
| • Upgrade SOFTNET-PN IO from V6.0, V6.1, V6.2 or V6.3 to SOFTNET-PN IO Edition 2008                   | Z | <b>6GK1 704-1HW00-3AE1</b> |

Z) Subject to export regulations: AL: N and ECCN: 5D992

#### Overview

- The appropriate OPC servers are included in the scope of supply of the respective communication software
- Standardized, open multi-vendor interface
- It permits interfacing of OPC-capable Windows applications to S7-communication, open communication (SEND/RECEIVE), PROFINET and SNMP.
- OPC Scout with browser functionality as an OPC client and OCX Data Control



System integration with OPC server

# PROFINET/Industrial Ethernet

## System interfacing for PG/PC

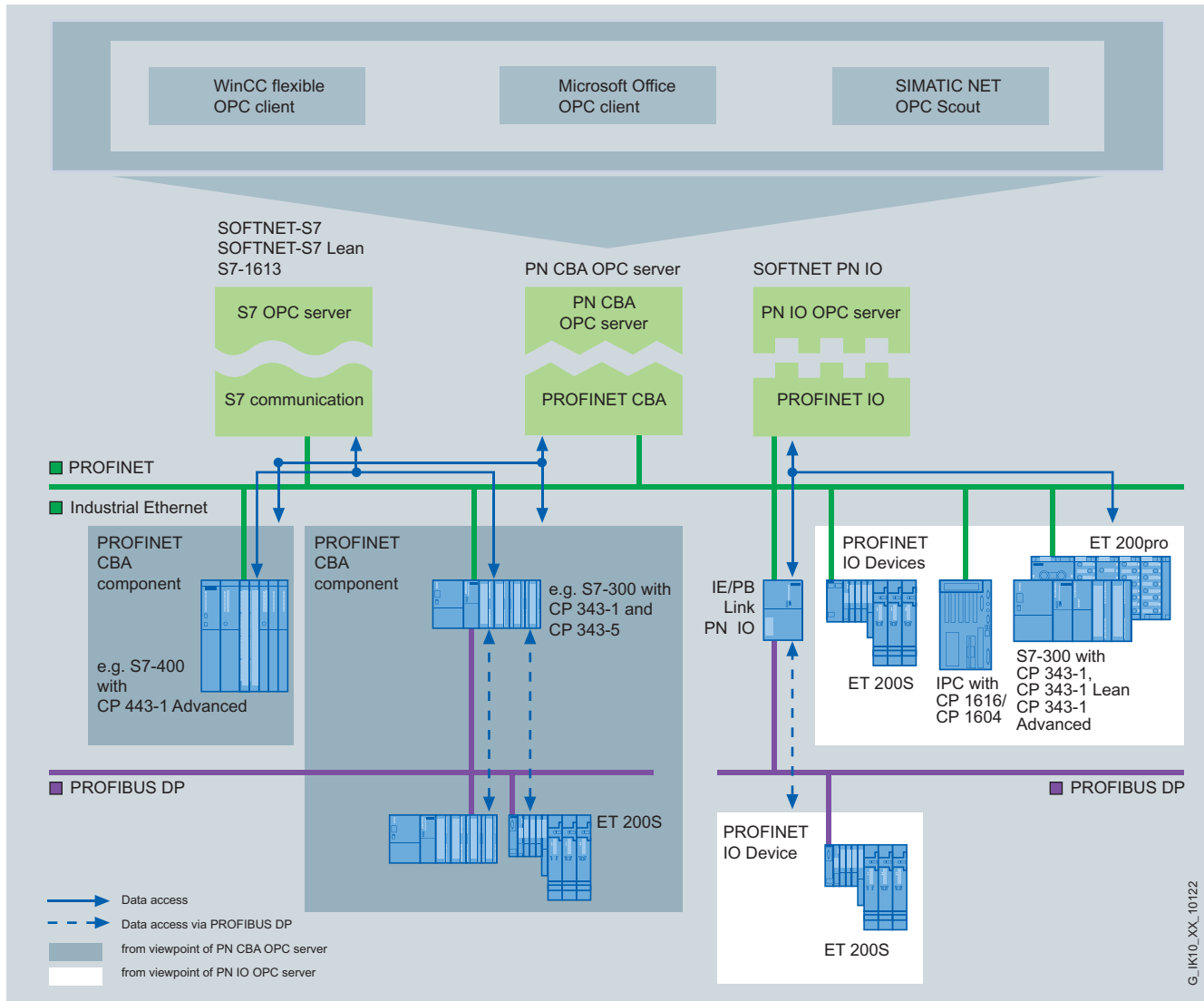
### OPC server for Industrial Ethernet

Ordering data	Order No.	Order No.
<b>PN CBA OPC-Server Edition 2008</b> PROFINET OPC server for CBA; runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; German/English		
• Single license for 1 installation Z	<b>6GK1 706-0HB71-3AA0</b>	
• Software Update Service for 1 year, with automatic extension; requirement: Current software version	<b>6GK1 706-0HB00-3AL0</b>	
• Upgrade from Edition 2006 to Edition 2008, single license Z	<b>6GK1 706-0HB00-3AE0</b>	
• Upgrade from V6.0 to Edition 2008, single license Z	<b>6GK1 706-0HB00-3AE1</b>	
		<b>SNMP OPC-Server Edition 2008</b> Including MIB compiler; single license for 1 installation of the runtime software, software and electronic manual on CD-ROM; license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 1612 A2 / CP 1613 / CP 1623 German/English
		• <b>Basic 2008</b> Z <b>6GK1 706-1NW71-3AA0</b> Administration of up to 20 IP addresses; Single license for 1 installation
		- Upgrade from Edition 2006 to Edition 2008, single license Z <b>6GK1 706-1NW00-3AE0</b>
		- Software Update Service for 1 year, with automatic extension; requirement: current software version <b>6GK1 706-1NX00-3AL0</b>
		- Upgrade from V6.0 to Edition 2008, single license Z <b>6GK1 706-1NW00-3AE1</b>
		• <b>Extended 2008</b> Z <b>6GK1 706-1NX71-3AA0</b> Administration of up to 200 IP addresses
		- Upgrade from Edition 2006 to Edition 2008, single license Z <b>6GK1 706-1NX00-3AE0</b>
		- Upgrade from V6.0 to Edition 2008, single license Z <b>6GK1 706-1NX00-3AE1</b>
		• <b>Power Pack 2008;</b> Z <b>6GK1 706-1NX71-3AC0</b> upgrade from SNMP OPC Server Basic to SNMP OPC Server Extended Edition 2008

Z) Subject to export regulations: AL: N and ECCN: 5D992

### Overview

- Access to variables in PROFINET CBA components over the OPC interface
- Use of the objects and symbols defined using the PROFINET engineering tool SIMATIC iMap and STEP 7
- Adding PROFINET functionality to existing installations. This enables it to be used in parallel with other communication protocols such as S7 communication with SOFTNET-S7 for Industrial Ethernet.
- OPC Scout as an OPC client with browser functions for the variables of the PROFINET CBA components



System integration with the PN CBA OPC server

# PROFINET/Industrial Ethernet

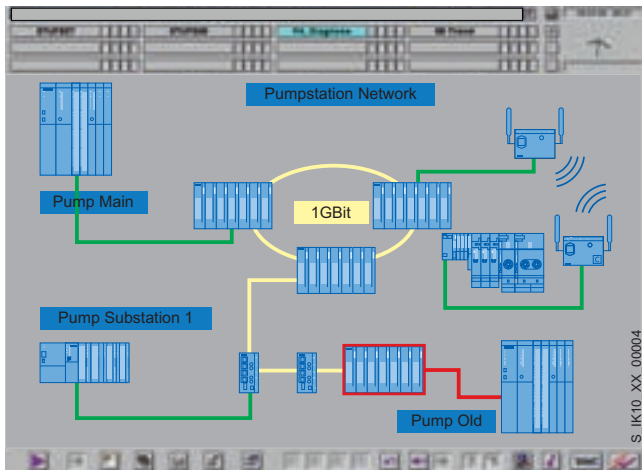
## System interfacing for PG/PC

### PN CBA OPC server

Ordering data	Order No.		Order No.
<b>PN CBA OPC-Server Edition 2008</b> PROFINET OPC server for CBA; runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/ Ultimate SP1; Windows 2008 Server; German/English			
<ul style="list-style-type: none"> <li>• Single license for 1 installation Z</li> </ul>	<b>6GK1 706-0HB71-3AA0</b>		
<ul style="list-style-type: none"> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version</li> </ul>	<b>6GK1 706-0HB00-3AL0</b>		
<ul style="list-style-type: none"> <li>• Upgrade of PN CBA OPC Server Z from Edition 2006 to PN CBA OPC Server Edition 2008</li> </ul>	<b>6GK1 706-0HB00-3AE0</b>		
<ul style="list-style-type: none"> <li>• Upgrade of PN CBA OPC Server Z from V6.0, V6.1, V6.2 or V6.3 to PN CBA OPC Server Edition 2008</li> </ul>	<b>6GK1 706-0HB00-3AE1</b>		
		<b>Software iMap V3.0</b> for configuring PROFINET CBA  <i>Requirement:</i> Windows 2000 Prof. with Service Pack 4 or higher or Windows XP Prof. with Service Pack 1 or higher or Windows 2003 Server with Service Pack 1 or higher on PG or PC with Pentium processor, min. 1 GHz; STEP 7 V5.3 or higher with Service Pack 3, PN OPC Server V6.3 or higher  <i>Scope of supply:</i> German, English with electronic documentation	
		<ul style="list-style-type: none"> <li>• Single license Z</li> </ul>	<b>6ES7 820-0CC04-0YA5</b>
		<ul style="list-style-type: none"> <li>• Software Update Service Z</li> </ul>	<b>6ES7 820-0CC01-0YX2</b>
		<ul style="list-style-type: none"> <li>• Upgrade to V3.0, single license Z</li> </ul>	<b>6ES7 820-0CC04-0YE5</b>

Z) Subject to export regulations: AL: N and ECCN: 5D992

#### Overview



- Status monitoring and network management of SNMP-capable devices in any OPC client systems; e.g. SIMATIC HMI/SCADA, office application
- Easy access to SNMP-capable devices over the OPC interface
- Devices without SNMP agents can be monitored using the ping mechanism
- Complete integration in the SIMATIC NET OPC server environment
- SNMP can be implemented in parallel with other communications protocols such as PROFINET or S7 communication
- Configuring with STEP 7 or NCM PC
- Autodiscovery function for integrating accessible Ethernet devices (STEP 7 V5.3+SP3 or higher)

#### Ordering data

#### Order No.

##### SNMP OPC-Server Edition 2008

Including MIB compiler; single license for 1 installation of the runtime software, software and electronic manual on CD-ROM; license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 1613/CP 1613 A2, CP 1623; German/English

##### • Basic 2008

Administration of up to 20 IP addresses; Single license for 1 installation

- Upgrade of SNMP OPC Server Basic from Edition 2006 to SNMP OPC Server Basic Edition 2008

- Software Update Service for 1 year, with automatic extension; requirement: current software version

- Upgrade of SNMP OPC Server Basic from V6.0, V6.1, V6.2 or V6.3 to SNMP OPC Server Basic Edition 2008

##### • Extended 2008

Administration of up to 200 IP addresses

- Upgrade of SNMP OPC Server Extended from Edition 2006 to SNMP OPC Server Extended Edition 2008

- Upgrade of SNMP OPC Server Extended from V6.0, V6.1, V6.2 or V6.3 to SNMP OPC Server Extended Edition 2008

##### • Power Pack 2008

upgrade from SNMP OPC Server Basic to SNMP OPC Server Extended Edition 2008

Z 6GK1 706-1NW71-3AA0

Z 6GK1 706-1NW00-3AE0

6GK1 706-1NX00-3AL0

Z 6GK1 706-1NW00-3AE1

Z 6GK1 706-1NX71-3AA0

Z 6GK1 706-1NX00-3AE0

Z 6GK1 706-1NX00-3AE1

Z 6GK1 706-1NX71-3AC0

Z) Subject to export regulations: AL: N and ECCN: 5D992

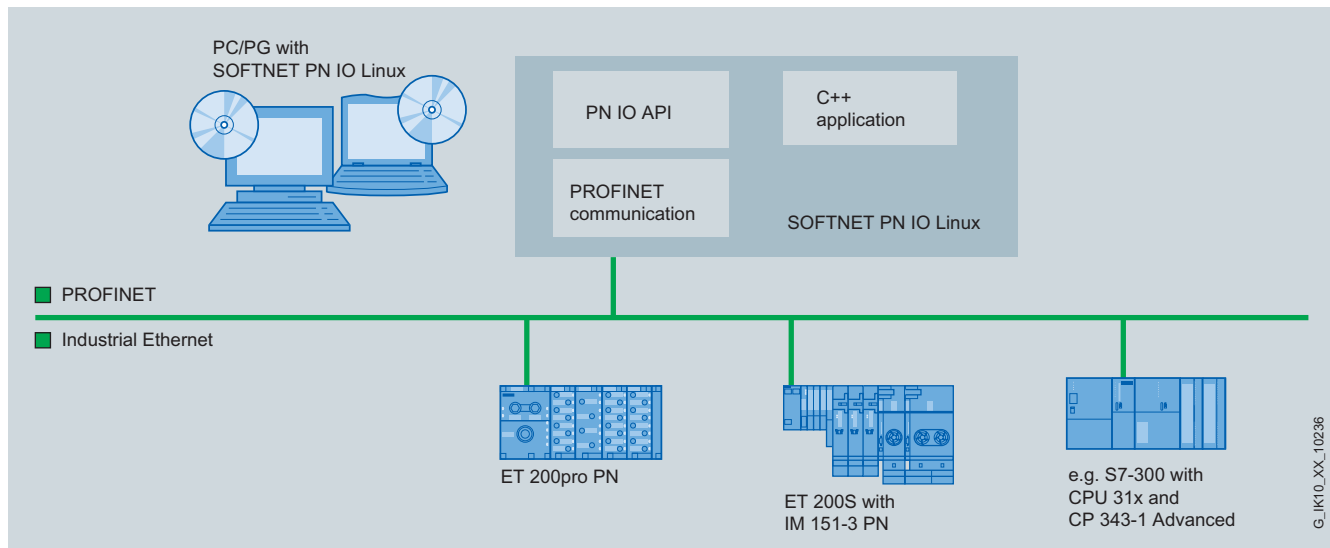


# PROFINET/Industrial Ethernet

## System interfacing for PG/PC

### SOFTNET PN IO Linux

#### Overview



PC with SOFTNET PN IO Linux as PROFINET IO Controller

- Software with PROFINET IO Controller function for coupling PCs and IPCs with PROFINET IO Devices
- Possible applications:
  - PC-based control systems
  - HMI systems
  - Test applications
- Communication services:
  - PROFINET IO Controller
- Can be used in combination with integrated Ethernet interface
- Cost-effective solution for the low-end performance range

#### Ordering data

#### Order No.

##### SOFTNET PN IO Linux

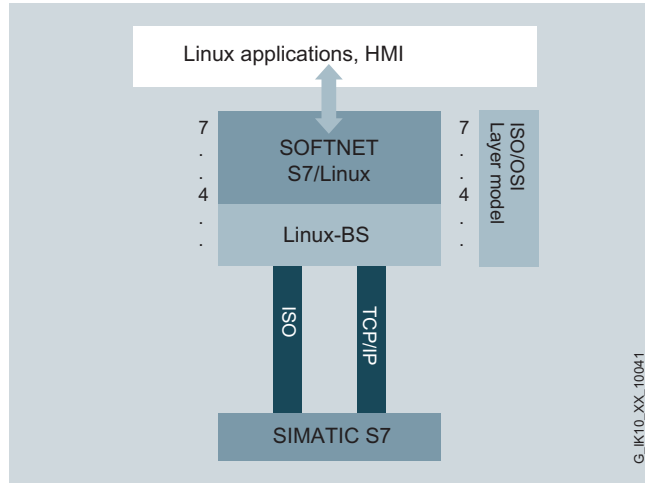
Software for PROFINET IO Controller; runtime software, software and electronic manual on CD-ROM, for Linux Kernel 2.6.x and glibc 2.3.x; German/English

- Single License for one installation

**2XV9 450-1PN00**

#### Overview

- Software for connecting SIMATIC S7
- Provision of S7 communication via SAPI-S7 interface
- Support of ISO and TCP/IP (RFC 1006) protocol
- Available on Linux operating systems
- Simultaneous operation of several cards



SOFTNET-S7/Linux system configuration

#### Ordering data

#### Order No.

##### **SOFTNET-S7/Linux for Industrial Ethernet**

**2XV9 4501CG00**

Software for S7 communication for SIMATIC S7 including Level 4 interface over ISO or TCP/IP, single license for 1 installation, runtime software, software and electronic manual on CD-ROM, license key by fax, Class A, German/English

Version 2.0

The original distribution of SUSE and RedHat Linux is supported. Please contact your Siemens representative for information about current versions

Please contact your Siemens contacts for information about the latest versions and their variants (32-bit and 64-bit).

#### More information

Support for Linux distributors:  
Contact for Sales, Service and Training:  
SIEMENS AG  
I IS IN E&C OC

Contact  
Your IT4Industry Team  
Werner-von-Siemens-Str. 60  
91052 Erlangen  
Tel.: +49 (0)9131/7-4 61 11  
Fax: +49 (0)9131/7-4 47 57  
E-mail: [it4.industry@siemens.com](mailto:it4.industry@siemens.com)

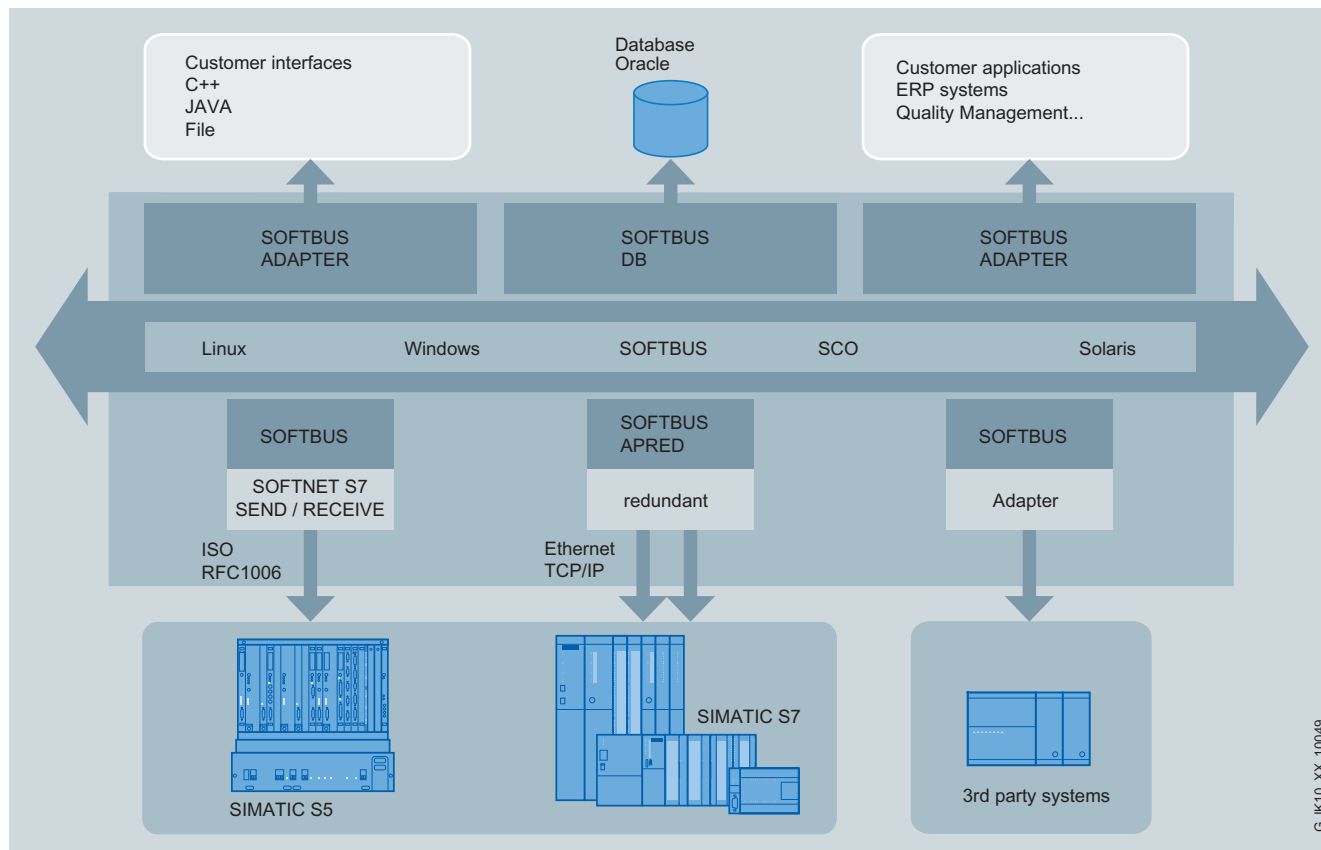
# PROFINET/Industrial Ethernet

## System interfacing for PG/PC

### SOFTBUS for Linux

#### Overview

- Integrated communication
- Cross-computer communication
- Uniform interface
  - To databases
  - Link to ERP and DB systems
  - To SIMATIC S7



System configuration for SOFTBUS-SOFTNET

#### Ordering data

#### Order No.

##### SOFTBUS

Version 2.3

##### SOFTBUS Linux

- SOFTBUS/Linux redundant (TCP) (32 bit)
- SOFTBUS/Linux redundant (ISO) (32 bit)
- SOFTBUS/Linux (TCP) (32 bit)
- SOFTBUS/Linux (ISO) (32 bit)

Please contact your Siemens contacts for information about the latest versions and their variants (32-bit and 64-bit).

**2XV9 450-1CG02**

**2XV9 450-1CG04**

**2XV9 450-1CG08**

**2XV9 450-1CG10**

#### More information

Support for Linux distributors:

SIEMENS AG  
I IS IN E&C OC

Contact

Your IT4Industry Team  
Werner-von-Siemens-Str. 60  
91052 Erlangen, Germany  
Tel.: +49 (0)9131/7-4 61 11  
Fax: +49 (0)9131/7-4 47 57  
E-mail: [it4.industry@siemens.com](mailto:it4.industry@siemens.com)

#### Overview



- Swap medium that supports the fast and easy replacement of SIMATIC NET components without a programming device in the event of a fault
- For implementation in all SIMATIC NET products with C-PLUG slot
- For automatic backing up of configuration or engineering data from the SIMATIC NET components
- The C-PLUG can also be used to store application data such as documents or Web pages
- In some SIMATIC S7 CP modules, such as the CP 443-1 Advanced, the C-PLUG is a standard component of the scope of supply and is required to guarantee the complete functional scope of the respective component.

#### Integration

##### Supported products

##### SCALANCE X Industrial Ethernet switches

- SCALANCE X-200
- SCALANCE X-200IRT
- SCALANCE X-300 (included in scope of supply)
- SCALANCE X-400 (included in scope of supply)

##### Industrial Security SCALANCE S

- SCALANCE S-600

##### Industrial Wireless LAN SCALANCE W

- SCALANCE W-740
- SCALANCE W-780

##### System connections for SIMATIC S7

- CP 443-1 Advanced (included in scope of supply)
- CP 343-1 Advanced (included in scope of supply)
- CP 343-1 ERPC (included in scope of supply)

##### Network transitions

- IWLAN/PB Link PN IO
- IE/PB Link PN IO
- IE/AS-i LINK PN IO
- DP/AS-i LINK Advanced

#### Ordering data

#### Order No.

##### C-PLUG

Swap medium for simple replacement of devices in the event of a fault; for storing configuration or engineering and application data; can be used for SIMATIC NET products with C-PLUG slot

**6GK1 900-0AB00**

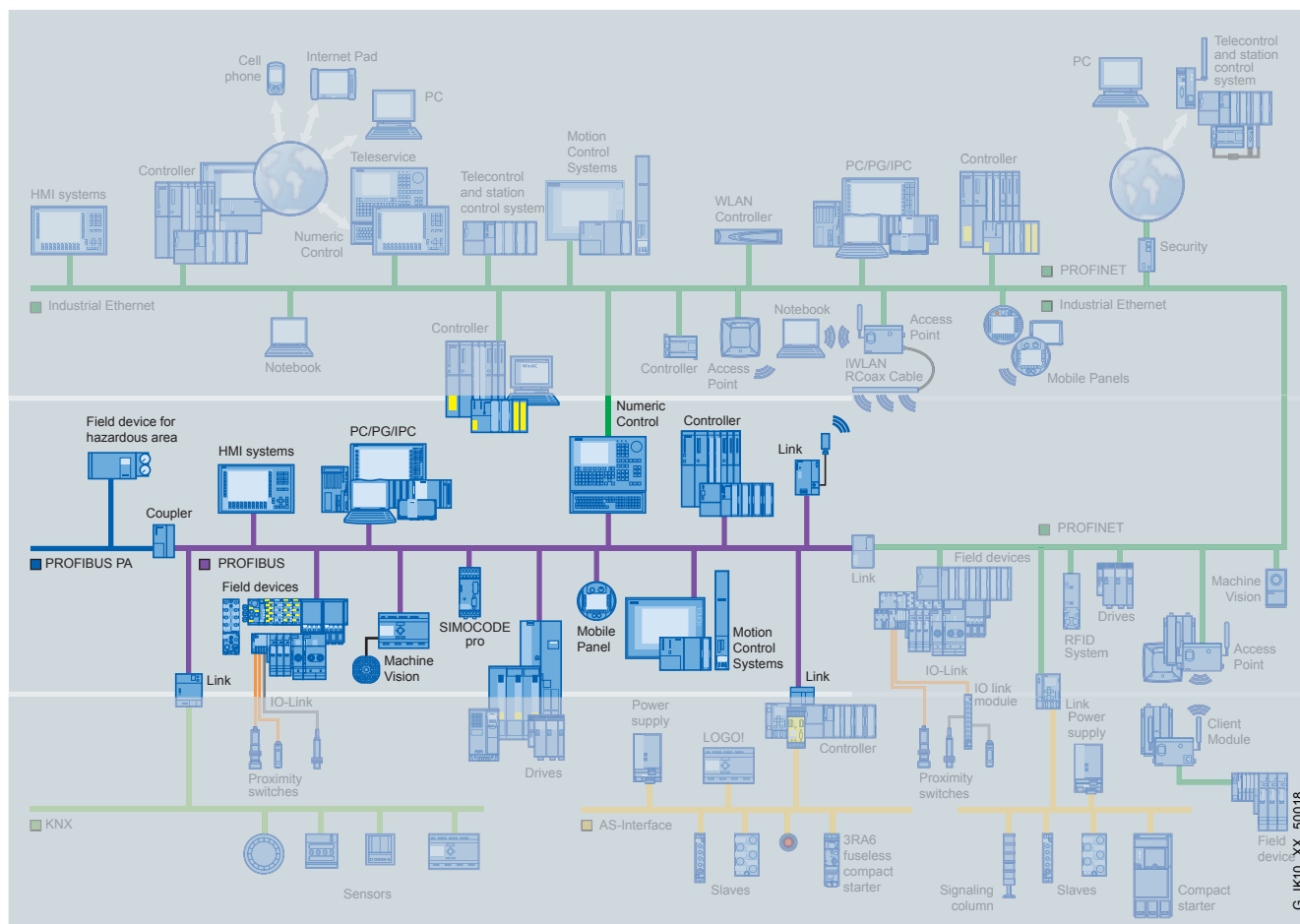
# PROFIBUS

## Introduction

### General information

#### Overview

- Bus system
  - For process and field communication in cell networks with a small number of stations and with field devices
  - and for data communication acc. to IEC 61158/61784
- PROFIBUS – the fieldbus standard in production and process engineering comprises:
  - Specification of the standards for the physical characteristics of the bus and the access procedure
  - Specification of the user protocol and the user interface
- Offers openness for interfacing to standardized non-Siemens components
- Process or field communication
  - PROFIBUS DP for fast, cyclic data exchange with field devices
  - PROFIBUS PA for applications in process automation and in the intrinsically safe area
- Data communication
  - PROFIBUS FMS for data communication between programmable controllers of different manufacturers



PROFIBUS in the communication landscape

#### Overview

##### Communication functions

Process or field communication (PROFIBUS DP, PROFIBUS PA) is used to link field devices to a programmable controller, HMI system or control system.

Interfacing is performed over integrated interfaces on the CPU or through interface modules (IMs) and communications processors (CPs).

With modern high-performance automation systems, it is often more effective to link more than one PROFIBUS DP line to one system, not just to increase the number of I/O devices that can be connected, but also to enable individual production areas to be handled independently of one another (segmentation).

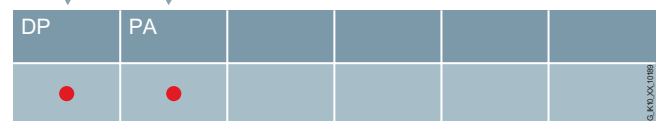
PROFIBUS standardized to IEC 61158/61784 is a high-performance, open, rugged fieldbus system with short response times and the following protocols:

##### PROFIBUS DP

(Distributed I/O) is used to connect distributed I/O stations, such as SIMATIC ET 200 with extremely fast response times in accordance with the IEC 61158/EN 50170 standard.

##### PROFIBUS PA

(Process Automation) extends PROFIBUS DP with failsafe transmission technology in accordance with the international standard IEC 61158-2.





#### Overview (continued)

##### DP device types

PROFIBUS DP distinguishes between two different master classes and different DP functions:

##### DP-Master Class 1

The DP-Master Class 1 is the central component on PROFIBUS DP. The central controller or PC exchanges information with distributed stations (DP-Slaves) in a fixed, repeated message cycle.

##### DP-Master Class 2

Devices of this type are used (programming, configuration or control devices) during start-up, for configuring the DP system or for controlling the plant during normal operation (diagnostics). A DP-Master Class 2 can be used, for example, to read the input, output, diagnostics and configuration data of the slaves.

##### DP-Slave

A DP-Slave is an I/O device that reads in input data and forwards output data to the I/O. The volume of input and output data depends on the device and can be up to 244 byte.

The functional scope can differ between DP-Masters of Class 1 and 2 or DP-Slaves. This determines the performance and availability of a communications processor.

##### DP-V0

The DP-Master functions (DP-V0) comprise configuration, parameterization, read input data and write outputs in cycles, read diagnostics data.

##### DP-V1

The additional DP function expansions (DP-V 1) make it possible to perform non-isochronous read and write functions as well as acknowledgement of alarms at the same time as processing cyclic data communication. These extended DP functions comprise acyclic access to the parameters and measured values of a slave (e.g. field devices of process automation and intelligent HMI devices). This type of slave must be supplied with extensive parameter data during start-up and during normal operation. Data transferred in acyclic mode (e.g. parameterization data) is only rarely changed, in comparison to the cyclic measured values, and is transferred at lower priority in parallel with the cyclic high-speed user data transfer. Alarm acknowledgement by the master ensures reliable transfer of the alarms from DP-Slaves.

##### DP-V2

The DP-Master functions (DP-V2) comprise functions for isochronous mode and cross-data traffic between DP-Slaves.



#### Overview

##### Communication functions

Data communication (e.g. PROFIBUS FMS) serves to exchange data between programmable controllers or between a programmable controller and intelligent partners (PC, computers, etc.).

The following communication functions are available for this purpose:

##### Standard communication

This comprises standardized protocols for data communication.

- PROFIBUS FMS (Fieldbus Message Specification)

This is ideally suited for communication from different automation systems (e.g. PLCs, PCs) of different manufacturers at the cell level with only a few stations (max. 16). Communication with field devices using the FMS interface is also possible.

With the FMS services READ, WRITE and INFORMATION REPORT, read or write access to variables of the communication partner is possible from the user program by means of a variable index or variable name, or the user program can transfer its own variable values to a communications partner. Partial access to variables is supported. The communication is processed over acyclic connections (master-to-master, master-to-slave), over acyclic connections with a slave initiative or with cyclic connections (master-to-slave). The INFORMATION REPORT can also be used to send a message to all stations on the network using a broadcast service. The FMS service IDENTIFY (request for identification characteristics of the partner) and STATUS (request partner status) can also be activated.

##### OPC server

The basic principle of OPC (Openness, Productivity & Collaboration) is that OPC client applications communicate with the OPC server over a standardized, open and manufacturer-independent interface.

The appropriate OPC servers are included in the scope of supply of the respective communication software.

##### PG/OP communication

Comprises integral communication functions that are used by the SIMATIC programmable controllers to perform data communication with HMI devices (e.g. TD/OP) and SIMATIC PG (STEP 7). PG/OP communication is supported by MPI, PROFIBUS and Industrial Ethernet networks.

##### S7 routing

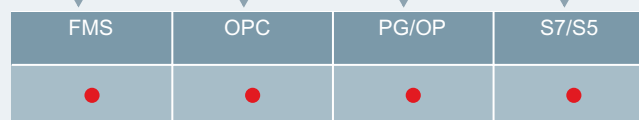
S7 routing enables programming device communication across networks.

##### S7 communication

S7 communication is the integral communications function that has been optimized within the SIMATIC S7/C7 which enables PCs and workstations to be connected. The maximum volume of user data per task is 64 KB. S7 communication offers simple, powerful communication services and provides a network-independent software interface for MPI, PROFIBUS and Industrial Ethernet networks.

##### Open communication

The open communication (SEND/RECEIVE) allows the SIMATIC S7 controllers to communicate with other SIMATIC S7 and SIMATIC S5 controllers (S5-compatible communication), PCs and third-party systems.



# PROFIBUS

## Electrical networks (RS485)

### PROFIBUS FastConnect

#### Overview



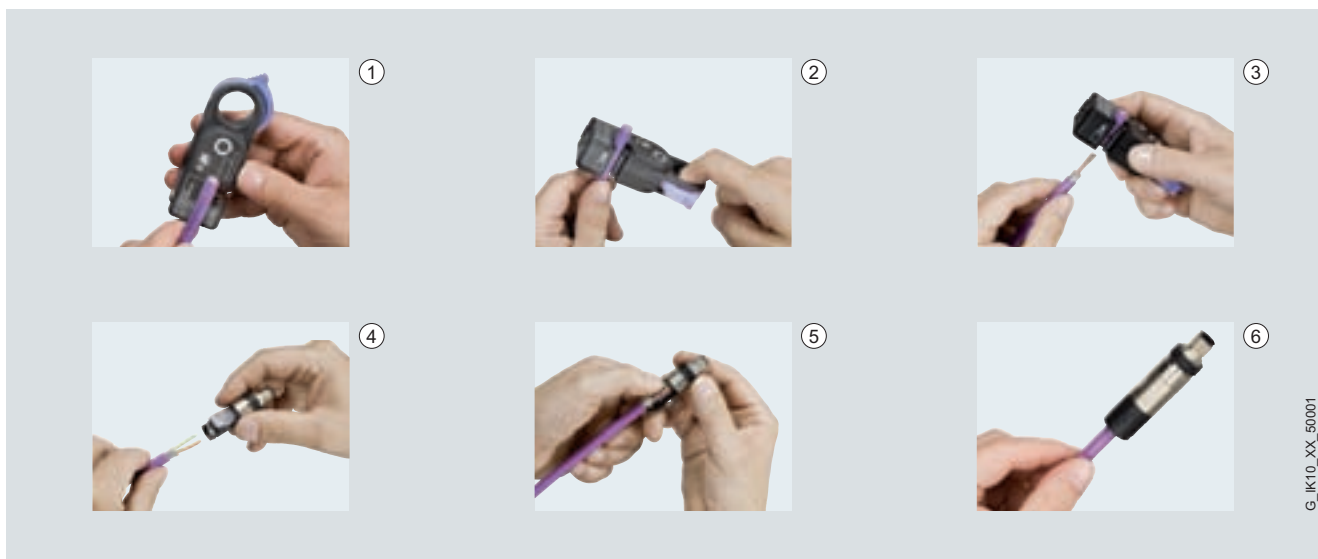
- Quick and easy assembly of PROFIBUS copper cables
- Assembly mistakes such as short-circuits between the shield and core are excluded

#### Benefits



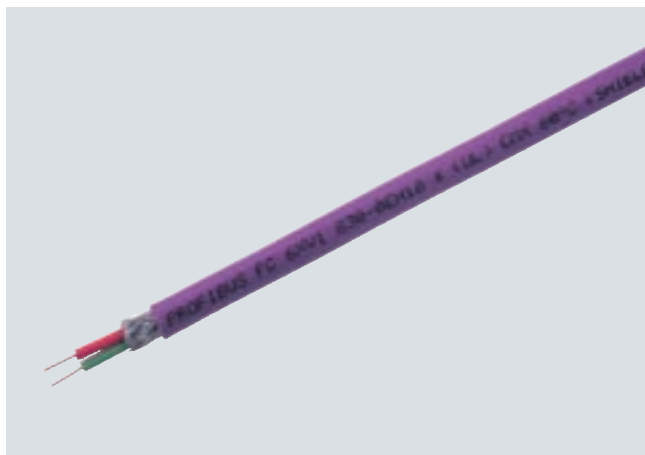
- Shorter connection times for terminals by stripping of the outer cladding and woven shield in one step
- Installation faults, such as short-circuits between the shield and cores, are excluded
- Easy assembly due to preset insulation stripping tool (FC stripping tool)
- Termination can be checked in the assembled state through the transparent cover for the insulation piercing terminals thanks to color coding.

#### Application



PROFIBUS FastConnect is a system for fast and easy assembly of PROFIBUS copper cables.

#### Overview



- Different variants for different application areas (e.g. underground cables, trailing cables, hazardous area (zone 1 and zone 2))
- High interference immunity thanks to double shielding
- Flame-retardant bus cable (halogen-free)
- Easy length measurement thanks to printed meter markings
- UL approvals

#### Ordering data

#### Order No.

##### PROFIBUS FC Standard Cable GP

Standard type with special design for fast mounting, 2-core, shielded,

Sold by the meter;  
delivery item max. 1000 m,  
minimum order quantity 20 m

##### Preferred lengths

- 20 m
- 50 m
- 100 m
- 200 m
- 500 m
- 1000 m

##### In spool box

- 50 m
- 100 m

6XV1 830-0EH10

6XV1 830-0EN20

6XV1 830-0EN50

6XV1 830-0ET10

6XV1 830-0ET20

6XV1 830-0ET50

6XV1 830-0EU10

6XV1 830-1EN50

6XV1 830-1ET10

##### PROFIBUS FC Standard Cable IS GP

Standard type with special design for quick assembly, 2-core, shielded, for intrinsically safe distributed I/O systems

Sold by the meter;  
max. length 1000 m,  
minimum order 20 m

6XV1 831-2A

##### PROFIBUS FC Robust Cable

2-core, shielded

Sold by the meter;  
max. length 1000 m,  
minimum order 20 m

6XV1 830-0JH10

##### PROFIBUS FC Food Cable

2-core, shielded

Sold by the meter;  
max. length 1000 m,  
minimum order 20 m

6XV1 830-0GH10

##### PROFIBUS FC Ground Cable

2-core, shielded

Sold by the meter;  
max. length 1000 m,  
minimum order 20 m

6XV1 830-3FH10

##### PROFIBUS FC Flexible Cable

2-core, shielded

Sold by the meter;  
max. length 1000 m,  
minimum order 20 m

6XV1 831-2K

##### PROFIBUS FC Trailing Cable

2-core, shielded

Sold by the meter;  
max. length 1000 m,  
minimum order 20 m

6XV1 830-3EH10

# PROFIBUS

## Electrical networks (RS485)

### PROFIBUS bus cables

Ordering data (continued)	Order No.	Order No.
<b>PROFIBUS Festoon Cable GP</b> 2-core, shielded Sold by the meter; max. length 1000 m, minimum order 20 m	<b>6XV1 830-3GH10</b>	
<b>PROFIBUS FC FRNC Cable GP</b> 2-core, shielded, nonflammable, with copolymer outer sheath FRNC Sold by the meter; max. length 1000 m, minimum order 20 m	<b>6XV1 830-0LH10</b>	
<b>PROFIBUS Torsion Cable</b> 2-core, shielded Sold by the meter; max. length 1000 m, minimum order 20 m	<b>6XV1 830-0PH10</b>	
<b>PROFIBUS cable for ET 200X</b> <ul style="list-style-type: none"> <li>5-core, sold by the meter, for bus signals, power supply: oil-resistant, partially weld-resistant, can be trailed, PUR material, minimum order quantity 10 m</li> <li>5-core, sold by the meter, for bus signals, power supply: Standard, PVC material</li> </ul>	<b>6ES7 194-1LY10-0AA0</b> Length (specify in m)  <b>6ES7 194-1LY00-0AA0-Z</b> Z = Length (specify in m)	
<b>PROFIBUS Hybrid Standard Cable GP</b> Standard PROFIBUS hybrid cable with 2 power conductors (1.5 mm <sup>2</sup> ) for supply of data and power to ET 200pro	<b>6XV1 860-2R</b>	
<b>PROFIBUS Hybrid Robust Cable</b> Rugged PROFIBUS hybrid cable suitable as trailing cable and resistant to welding spatter, with 2 power conductors (1.5 mm <sup>2</sup> ) for supply of data and power to ET 200pro	<b>6XV1 860-2S</b>	
<b>Special bus cables</b> <b>SIENOPYR PROFIBUS shipboard cable</b> Copper cable for ships and offshore items	<b>6XV1 830-0MH10</b>	
		<b>Additional components</b> <b>PROFIBUS FastConnect Stripping Tool</b> Preadjusted stripping tool for fast stripping of PROFIBUS FastConnect bus cables <b>6GK1 905-6AA00</b> <b>PROFIBUS FastConnect Blade Cassettes</b> Spare blade cassettes for PROFIBUS FastConnect stripping tool, 5 items <b>6GK1 905-6AB00</b> <b>PROFIBUS FastConnect bus connector RS485 with 90° cable outlet</b> Insulation displacement technology <ul style="list-style-type: none"> <li>Without PG interface <b>6ES7 972-0BA51-0XA0</b></li> <li>With PG interface <b>6ES7 972-0BB51-0XA0</b></li> </ul> <b>PROFIBUS FastConnect bus connector RS485 Plug 180</b> With 180° cable outlet, insulation displacement technology <b>6GK1 500-0FC10</b>
		<b>Accessories</b> <b>Manual for PROFIBUS networks <sup>1)</sup></b> Network architecture, project management, network components, installation <ul style="list-style-type: none"> <li>German <b>6GK1 970-5CA20-0AA0</b></li> <li>English <b>6GK1 970-5CA20-0AA1</b></li> </ul> <b>Lightning protection modules for reliable transmission between buildings with overvoltage protection <sup>2)</sup></b> Basic protection <ul style="list-style-type: none"> <li>Basic section <b>919506</b></li> <li>Protection module Type B <b>919510</b></li> <li>Protective housing <b>906055</b></li> <li>Terminal element <b>919508</b></li> </ul> Low-voltage protection <ul style="list-style-type: none"> <li>Basic section <b>919506</b></li> <li>Protection module <b>919570</b></li> <li>Terminal element <b>919508</b></li> </ul> <b>SIMATIC NET Manual Collection</b> <b>6GK1 975-1AA00-3AA0</b> Electronic manuals for communication systems, communication protocols, and communication products; on DVD; German/English

<sup>1)</sup> Further language variants and manuals can be found for the respective products under: <http://www.siemens.com/automation/csi/net>

<sup>2)</sup> Order from:  
 DEHN & Söhne  
 Hans-Dehn-Str.1  
 92318 Neumarkt/Opf, Germany

**Note:**  
 Additional components of the SIMATIC NET wiring range can be ordered from your local contact person.  
 For technical advice contact:

J. Hertlein, I IA SE IP S BD 1  
 Tel.: +49 (0)911/750 44 65  
 Fax.: +49 (0)911/750 99 91  
 E-mail: [juergen.hertlein@siemens.com](mailto:juergen.hertlein@siemens.com)

#### Overview



In the ECOFAST system, all operational devices are connected to PROFIBUS DP using the bus cables.

The bus cable is implemented as a hybrid cable and contains:

- PROFIBUS DP in copper RS 485;
- Four additional copper cores for carrying 24 V DC:
  - 24 V DC, not switched (for electronics and inputs)
  - 24 V DC, switched (for outputs, disconnectable e.g. for EMERGENCY OFF)

The ECOFAST hybrid cables are sold by the meter or in fixed lengths preassembled with ECOFAST connector (Han Brid) and socket.

#### Ordering data

#### Order No.

##### PROFIBUS ECOFAST Hybrid Cable - Cu

Trailing cable (PUR sheath), with two shielded Cu wires for PROFIBUS DP plus four Cu wires of 1.5 mm<sup>2</sup>

Sold by the meter;  
max. quantity 1000 m;  
minimum order 20 m

Not pre-assembled

- 20 m
- 50 m
- 100 m

Pre-assembled  
with ECOFAST male and female connectors, fixed length

- 0,5 m
- 1,0 m
- 1,5 m
- 3 m
- 5 m
- 10 m
- 15 m
- 20 m
- 25 m
- 30 m
- 35 m
- 40 m
- 45 m
- 50 m

Pre-assembled  
with two ECOFAST connectors, variable lengths

**6XV1 830-7AH10**

**6XV1 830-7AN20**

**6XV1 830-7AN50**

**6XV1 830-7AT10**

**6XV1 830-7BH05**

**6XV1 830-7BH10**

**6XV1 830-7BH15**

**6XV1 830-7BH30**

**6XV1 830-7BH50**

**6XV1 830-7BN10**

**6XV1 830-7BN15**

**6XV1 830-7BN20**

**6XV1 830-7BN25**

**6XV1 830-7BN30**

**6XV1 830-7BN35**

**6XV1 830-7BN40**

**6XV1 830-7BN45**

**6XV1 830-7BN50**

#### Ordering data (continued)

#### Order No.

##### PROFIBUS ECOFAST Hybrid Cable GP

Trailing cable with 4 x Cu and 2 x Cu, shielded, with UL approval

Sold by the meter;  
max. quantity 1000 m;  
minimum order 20 m

Not pre-assembled

- 20 m
- 50 m
- 100 m

Pre-assembled  
with ECOFAST male and female connectors

- 0.5 m
- 1 m
- 1.5 m
- 3 m
- 5 m
- 10 m
- 15 m
- 20 m
- 25 m
- 30 m
- 35 m
- 40 m
- 45 m
- 50 m

**6XV1 860-2P**

**6XV1 860-4PN20**

**6XV1 860-4PN50**

**6XV1 860-4PT10**

**6XV1 860-3PH05**

**6XV1 860-3PH10**

**6XV1 860-3PH15**

**6XV1 860-3PH30**

**6XV1 860-3PH50**

**6XV1 860-3PN10**

**6XV1 860-3PN15**

**6XV1 860-3PN20**

**6XV1 860-3PN25**

**6XV1 860-3PN30**

**6XV1 860-3PN35**

**6XV1 860-3PN40**

**6XV1 860-3PN45**

**6XV1 860-3PN50**

#### Additional components

##### PROFIBUS Cu bus connector

with 2 x Cu shielded and 4 x Cu 1.5 mm<sup>2</sup>; type of contact: POF, Han D for 24 V; tool: crimping tool, polishing set; 5 items; with assembly instructions

- with pin insert
- with socket insert

**6GK1 905-0CA00**

**6GK1 905-0CB00**

##### PROFIBUS ECOFAST Hybrid Plug angled;

with 2 x Cu shielded and 4 x Cu 1.5 mm<sup>2</sup>; 5 items; with installation instructions

- Male pins
- Female pins;

**6GK1 905-0CC00**

**6GK1 905-0CD00**

##### ECOFAST Terminating Plug

Bus termination plug-in connector for PROFIBUS DP; with 2 x Cu and 4 x Cu 1.5 mm<sup>2</sup>; male pins, integrated termination resistors

- Pack of 1
- Pack of 5

**6GK1 905-0DA10**

**6GK1 905-0DA00**

##### Data T piece

For 2 x 24 V auxiliary voltage (switched and non-switched) and PROFIBUS DP

- for Cu RS 485
- for fiber-optic cable

G

**3RK1 911-2AG00**

G

**3RK1 911-2AH00**

##### Addressing plug

For setting the PROFIBUS DP addresses

**6ES7 194-1KB00-0XA0**

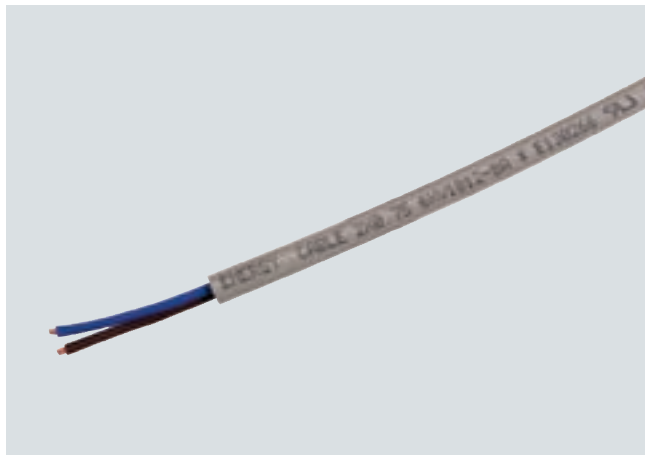


# PROFIBUS

## Electrical networks (RS485)

### Power cables

#### Overview



- Different versions (5-core, 2-core) for different fields of application
- Rugged cable design for installation in industrial applications
- UL approvals
- Easy length measurement thanks to printed meter markings

#### Ordering data

#### Order No.

##### Power cable 2 x 0.75

Power cable with trailing capability with 2 copper cores (0.75 mm<sup>2</sup>) for connecting to M12 plug-in connector; sold by the meter; max. 1000 m, minimum order quantity 20 m

6XV1812-8A

00,-

##### Power cable 5 x 1.5

Power cable with trailing capability with 5 copper cores (1.5 mm<sup>2</sup>) for connecting to 7/8" plug-in connector; sold by the meter; max. 1000 m, minimum order quantity 20 m

6XV1 830-8AH10

#### Additional components

##### 7/8" plug-in connector

Plug with axial cable outlet for field assembly for ET 200, 5-core, plastic enclosure, 1 pack = 5 items

- Male pins

6GK1 905-0FA00

- Socket insert

6GK1 905-0FB00

##### 7/8" Power T-Tap PRO

Power T-piece for ET 200 with two 7/8" socket inserts and one 7/8" pin insert 1 pack = 5 items

6GK1 905-0FC00

##### Signaling Contact M12 Cable Connector PRO

Socket for connection of SCALANCE X208PRO for signaling contact; 5-pole, B-coded, with assembly instructions; 3 items

6GK1908-0DC10-6AA3

##### Power M12 Cable Connector PRO

Socket for connection of SCALANCE W-700 for 24 V DC supply voltage; 4-pole, A-coded, with assembly instructions, 3 items

6GK1 907-0DC10-6AA3

##### Power M12 Plug PRO

Plug for connection to PS791-1PRO power supply for 24 V DC supply voltage; 4-pole, A-coded, with assembly instructions, 3 items

6GK1 907-0DB10-6AA3

##### SIMATIC NET Manual Collection

Electronic manuals for communication systems, communication protocols, and communication products; on DVD, German/English

6GK1 975-1AA00-3AA0

#### Overview



- Used for connecting PROFIBUS nodes to the PROFIBUS bus cable
- Easy installation
- FastConnect plugs ensure extremely short assembly times due to their insulation-displacement technology
- Integrated terminating resistors (not in the case of 6ES7 972-0BA30-0XA0)
- PG connection with special bus connector possible without additional installation of network nodes.

Ordering data	Order No.	Order No.
<b>RS485 bus connector with axial cable outlet (180°)</b> For industrial PC, SIMATIC HMI OP, OLM; max. transmission rate 12 Mbit/s	<b>6GK1 500-0EA02</b>	
<b>SIPLUS DP PB RS485 connector with axial cable outlet (180°)</b> for medial stress; Based-on 6GK1 500-0EA02	<b>6AG1 500-0EA02-2AA0</b>	
<b>RS485 bus connector with cable outlet (90°)</b> With screw-terminals, max. transmission rate 12 Mbit/s <ul style="list-style-type: none"> <li>• without PG interface</li> <li>• with PG interface</li> </ul>	<b>6ES7 972-0BA12-0XA0</b> <b>6ES7 972-0BB12-0XA0</b>	
<b>SIPLUS DP PB RS485 connector with 90° cable outlet</b> for extended temperature range -25 ... + 60 °C <ul style="list-style-type: none"> <li>• without PG interface Based on 6ES7 972-0BA12-0XA0</li> <li>• with PG interface Based on 6ES7 972-0BB12-0XA0</li> </ul>	<b>6AG1 972-0BA12-2XA0</b> <b>6AG1 972-0BB12-2XA0</b>	
<b>RS485 bus connector with angled cable outlet (35°)</b> With screw-terminals, max. transmission rate 12 Mbit/s <ul style="list-style-type: none"> <li>• without PG interface</li> <li>• with PG interface</li> </ul>	<b>6ES7 972-0BA41-0XA0</b> <b>6ES7 972-0BB41-0XA0</b>	
<b>SIPLUS DP PB RS485 connector with inclined cable outlet (35°)</b> for extended temperature range -25 ... + 60 °C <ul style="list-style-type: none"> <li>• without PG interface Based on 6ES7 972-0BA41-0XA0</li> <li>• with PG interface Based on 6ES7 972-0BB41-0XA0</li> </ul>	<b>6AG1 972-0BA41-2XA0</b> <b>6AG1 972-0BB41-2XA0</b>	
<b>RS485 bus connector with cable outlet (30°)</b> With screw-terminals, low-cost variant, max. transmission rate 1.5 Mbit/s	<b>6ES7 972-0BA30-0XA0</b>	
<b>PROFIBUS bus connector RS485 with FastConnect technology</b>		
<b>PROFIBUS FastConnect bus connector RS485 with 90° cable outlet</b> With insulation displacement technology, max. transmission rate 12 Mbit/s <ul style="list-style-type: none"> <li>• without PG interface</li> <li>• with PG interface</li> </ul>		<b>6ES7 972-0BA51-0XA0</b> <b>6ES7 972-0BB51-0XA0</b>
<b>PROFIBUS FastConnect RS485 bus connector with angled cable outlet (35°)</b> With insulation displacement technology, max. transmission rate 12 Mbit/s <ul style="list-style-type: none"> <li>• without PG interface</li> <li>• with PG interface</li> </ul>		<b>6ES7 972-0BA60-0XA0</b> <b>6ES7 972-0BB60-0XA0</b>
<b>PROFIBUS FastConnect bus connector RS485 Plug 180</b> With insulation displacement technology, with 180° cable outlet, for industrial PC, SIMATIC HMI OP, OLM; max. transmission rate 12 Mbit/s		<b>6GK1 500-0FC10</b>
<b>SIMATIC S5/S7 plug-in cable for PROFIBUS</b> Preassembled with two 9-pin Sub-D connectors; max. transmission rate 12 Mbit/s; 3 m		<b>6ES7 901-4BD00-0XA0</b>
<b>Manual for PROFIBUS networks</b> Paper version Network architecture, configuration, network components, installation <ul style="list-style-type: none"> <li>• German</li> <li>• English</li> </ul>		<b>6GK1 970-5CA20-0AA0</b> <b>6GK1 970-5CA20-0AA1</b>
<b>SIMATIC NET Manual Collection</b> Electronic manuals for communication systems, communication protocols, and communication products; on DVD; German/English		<b>6GK1 975-1AA00-3AA0</b>

# PROFIBUS

## Electrical networks (RS485)

### 830-1T connecting cable

#### Overview



- Preassembled cable for fast and cost-effective connection of PROFIBUS nodes to OLM and OBT
- Flexible PROFIBUS connecting cable

#### Ordering data

##### 830-1T PROFIBUS connecting cable

for terminal connection, preassembled, with two Sub-D plugs, 9-pin terminated at both ends

- 1.5 m long
- 3 m long

#### Order No.

**6XV1 830-1CH15**

**6XV1 830-1CH30**

#### Overview



- Preassembled cable for connection of PROFIBUS nodes (e.g. HMI) to PLCs
- Flexible PROFIBUS connection cable for up to 12 Mbit/s

#### Ordering data

##### 830-2 PROFIBUS connecting cable

Preassembled, with two 9-pin connectors

- 3 m long
- 5 m long
- 10 m long

#### Order No.

**6XV1 830-2AH30**

**6XV1 830-2AH50**

**6XV1 830-2AN10**

# PROFIBUS

## Electrical networks (RS485)

PROFIBUS M12- and 7/8"  
connecting cable/plug-in connector

### Overview



Flexible connecting cables and FastConnect (FC) plug-in connectors that can be assembled in the field for transmission of data (up to 12 Mbit/s) or for power supply between PROFIBUS nodes with degree of protection IP65

#### **PROFIBUS M12 plug-in cable**

- Preassembled plug-in cable (PROFIBUS FC Trailing Cable) for connecting PROFIBUS nodes (e.g. SIMATIC ET 200) to degree of protection IP65
- For transmission rates up to 12 Mbit/s

#### **7/8" connecting cable**

- Preassembled plug-in cable for supplying power to PROFIBUS nodes (e.g. SIMATIC ET 200) to degree of protection IP65

#### **PROFIBUS FC M12 Plug PRO (D-coded) and 7/8" plug-in connector**

- For establishing direct connections between devices on PROFIBUS installation and power cables with M12 or 7/8" connections
- Excellent EMC shielding and deflection (metal housing)
- Easy assembly due to integrated FastConnect technology (FC M12 Plug)
- Viewable contact area prevents errors

Ordering data	Order No.	Order No.
<b>PROFIBUS M12 plug-in cable</b> Pre-assembled with two 5-pole M12 male/female connectors up to 100 m max.; length: <ul style="list-style-type: none"> <li>• 0.3 m</li> <li>• 0.5 m</li> <li>• 1.0 m</li> <li>• 1.5 m</li> <li>• 2.0 m</li> <li>• 3.0 m</li> <li>• 5.0 m</li> <li>• 10 m</li> <li>• 15 m</li> </ul> Further special lengths with 90° or 180° cable outlet	A <ul style="list-style-type: none"> <li>6XV1 830-3DE30</li> <li>6XV1 830-3DE50</li> <li>6XV1 830-3DH10</li> <li>6XV1 830-3DH15</li> <li>6XV1 830-3DH20</li> <li>6XV1 830-3DH30</li> <li>6XV1 830-3DH50</li> <li>6XV1 830-3DN10</li> <li>6XV1 830-3DN15</li> </ul> See <a href="http://support.automation.siemens.com/WW/view/en/26999294">http://support.automation.siemens.com/WW/view/en/26999294</a>	<b>Plug-in connector for assembly in the field</b> <b>PROFIBUS M12 connectors</b> 5-pole, B-coded, metal casing, 1 pack = 5 pieces <ul style="list-style-type: none"> <li>• Male pins</li> <li>• Socket insert</li> </ul> <b>PROFIBUS FC M12 Plug PRO</b> M12 plug-in connector (B-coded) that can be assembled in the field, 5-pin, metal enclosure, FastConnect technology, pin insert; <ul style="list-style-type: none"> <li>• 1 pack = 5 items</li> </ul> <b>PROFIBUS FC M12 Cable Connector PRO</b> M12 plug-in connector (B-coded) that can be assembled in the field, 5-pin, metal enclosure, FastConnect technology, socket insert; <ul style="list-style-type: none"> <li>• 1 pack = 5 items</li> </ul> <b>7/8" plug-in connector</b> 5-pole, plastic casing, 1 pack = 5 pieces <ul style="list-style-type: none"> <li>• Male pins</li> <li>• Socket insert</li> </ul> <b>Power cables</b> <b>Energy Cable (5 x 1.5 mm<sup>2</sup>)</b> Power cable with trailing capability with 5 copper cores (1.5 mm <sup>2</sup> ) for connecting to 7/8" plug-in connector; sold by the meter; max. 1000 m; minimum order quantity 20 m <b>7/8" Power T-Tap PRO</b> Power T-piece for ET 200 with two 7/8" socket inserts and one 7/8" pin insert 1 pack = 5 items
<b>7/8" plug-in cable</b> For power supply; pre-assembled with two 5-pole 7/8" male/female connectors up to 50 m max.; length: <ul style="list-style-type: none"> <li>• 0.3 m</li> <li>• 0.5 m</li> <li>• 1.0 m</li> <li>• 1.5 m</li> <li>• 2.0 m</li> <li>• 3.0 m</li> <li>• 5.0 m</li> <li>• 10 m</li> <li>• 15 m</li> </ul> Additional special lengths with 90° or 180° cable outlet	A <ul style="list-style-type: none"> <li>6XV1 822-5BE30</li> <li>6XV1 822-5BE50</li> <li>6XV1 822-5BH10</li> <li>6XV1 822-5BH15</li> <li>6XV1 822-5BH20</li> <li>6XV1 822-5BH30</li> <li>6XV1 822-5BH50</li> <li>6XV1 822-5BN10</li> <li>6XV1 822-5BN15</li> </ul> See <a href="http://support.automation.siemens.com/WW/view/en/26999294">http://support.automation.siemens.com/WW/view/en/26999294</a>	6GK1 905-0EA00 6GK1 905-0EB00 6GK1 905-0EA10 6GK1 905-0EB10 6GK1 905-0FA00 6GK1 905-0FB00 6XV1 830-8AH10 6GK1 905-0FC00

A) Subject to export regulations: AL: N and ECCN: EAR99H



# PROFIBUS

## Electrical networks (RS485)

### Bus terminals

#### Overview



- For connecting PROFIBUS nodes with an RS485 interface to a segment
- Versions with transmission rates from 9.6 kbit/s to 12 Mbit/s
- Clear and easy mounting (can be snapped onto DIN rail)
- Clear location of faulty bus termination when bus terminal 12M is used
- PG connection with special bus terminal and PG connecting cable possible without additional installation of network nodes for bus terminal RS485.

#### Ordering data

#### Order No.

##### Bus terminal RS485 for PROFIBUS

6GK1 500-0AB00

Transmission rate 9.6 Kbit/s to 1500 Kbit/s with plug-in cable 3.0 m long

##### Bus terminal RS485 for PROFIBUS

6GK1 500-0DA00

With installed PG interface and plug-in cable 1.5 m long

##### PROFIBUS bus terminal 12M

6GK1 500-0AA10

Bus terminal for connection of PROFIBUS stations up to 12 Mbit/s with plug-in cable 1.5 m long

##### Manual for PROFIBUS networks, paper version

Network architecture, configuration, network components, installation

- German

6GK1 970-5CA20-0AA0

- English

6GK1 970-5CA20-0AA1

##### SIMATIC NET Manual Collection

6GK1 975-1AA00-3AA0

Electronic manuals for communication systems, communication protocols, and communication products; on DVD; German/English

#### Overview



- Interconnecting two PROFIBUS DP networks
- The interchange of data between both DP networks takes place by internal copying in the coupler.

#### Technical specifications

PROFIBUS transmission rate	max. 12 Mbit/s
Interfaces	
• PROFIBUS DP	9-pin Sub-D connector
Supply voltage	24 V DC
Current consumption typ.	150 mA
Mounting	Upright (DIP switches above)
Perm. environmental conditions	
• Operating temperature	
- horizontal mounting	0°C ... +60°C
- all other mounting positions	0°C ... +40°C
• Transport/storage temperature	-40 °C ... +70 °C
• Relative humidity	10-95 % at +25 °C
Design	
• Dimensions (W x H x D) in mm	40 x 127 x 117
• Weight	approx. 250 g
Degree of protection	IP20

#### Ordering data

#### Order No.

<b>DP/DP coupler</b>	<b>6ES7 158-0AD01-0XA0</b>
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#### Note:

The manual is available in the Internet free of charge.

# PROFIBUS

## Electrical networks (PROFIBUS PA)

### SpliTConnect

#### Overview



- Used for constructing fieldbus segments as per IEC 61 158-2 (e.g. PROFIBUS PA) with field device interface points.
- Easy assembly of the bus cable thanks to the FastConnect system (FastConnect stripping tool, FC process cable compliant with IEC 61 158-2).
- The terminal devices can be connected using the FC Process Cable in accordance with IEC 61 158-2 or the SpliTConnect M12 Outlet/M12 Jack.
- Combination of terminating resistors can be integrated (SpliTConnect terminator)

#### Ordering data

#### Order No.

##### SpliTConnect Tap

For assembling PROFIBUS PA segments and connecting PA field devices, insulation displacement technology IP67

Type of delivery:  
1 package = 10 items

**6GK1 905-0AA00**

##### SpliTConnect M12 outlet

Element for direct connection of PROFIBUS PA field devices to the SpliTConnect tap through M12 connection

Type of delivery:  
1 package = 5 items

**6GK1 905-0AB10**

##### SpliTConnect coupler

Coupling element for connecting SpliTConnect taps in series to configure star points

Type of delivery:  
1 package = 10 items

**6GK1 905-0AC00**

##### SpliTConnect terminator (Ex version)

For terminating PROFIBUS PA segments, can be used in hazardous areas

Type of delivery:  
1 package = 5 items

**6GK1 905-0AD00**

##### SpliTConnect terminator (non-Ex version)

For terminating PROFIBUS PA segments, cannot be used in hazardous area

Type of delivery:  
1 package = 5 items

**6GK1 905-0AE00**

##### SpliTConnect M12 jack

Connector element for direct connection of PROFIBUS PA field devices to the PROFIBUS PA segment through M12 connection

Type of delivery:  
1 package = 5 items

**6GK1 905-0AF00**

#### Overview



- Bus cable for fieldbus systems according to IEC 61158-2, e.g. PROFIBUS PA
- High interference immunity thanks to double shielding
- Different variants for different applications (hazardous areas, non-hazardous areas)
- Easy length measurement thanks to printed meter markings

#### Ordering data

#### Order No.

##### PROFIBUS FC Process Cable

2-core, shielded

- Blue for Ex applications
- Black for non-Ex applications

Sold by the meter: Max. quantity 1,000 m; minimum order 20 m

**6XV1 830-5EH10**

**6XV1 830-5FH10**

##### PROFIBUS FastConnect Stripping Tool

Stripping tool for fast stripping of the PROFIBUS FastConnect bus cable

**6GK1 905-6AA00**

##### PROFIBUS FastConnect Blade Cassettes

Spare blade cassettes for PROFIBUS FastConnect stripping tool, 5 items

**6GK1 905-6AB00**

##### Manual for PROFIBUS networks

Paper version

Network architecture, configuration, network components, installation

- German
- English

**6GK1 970-5CA20-0AA0**

**6GK1 970-5CA20-0AA1**

##### SIMATIC NET Manual Collection

Electronic manuals for communication systems, communication protocols, and communication products; on DVD; German/English

**6GK1 975-1AA00-3AA0**

# PROFIBUS

## Optical networks with OLM

### Overview of FC FOC

#### Overview



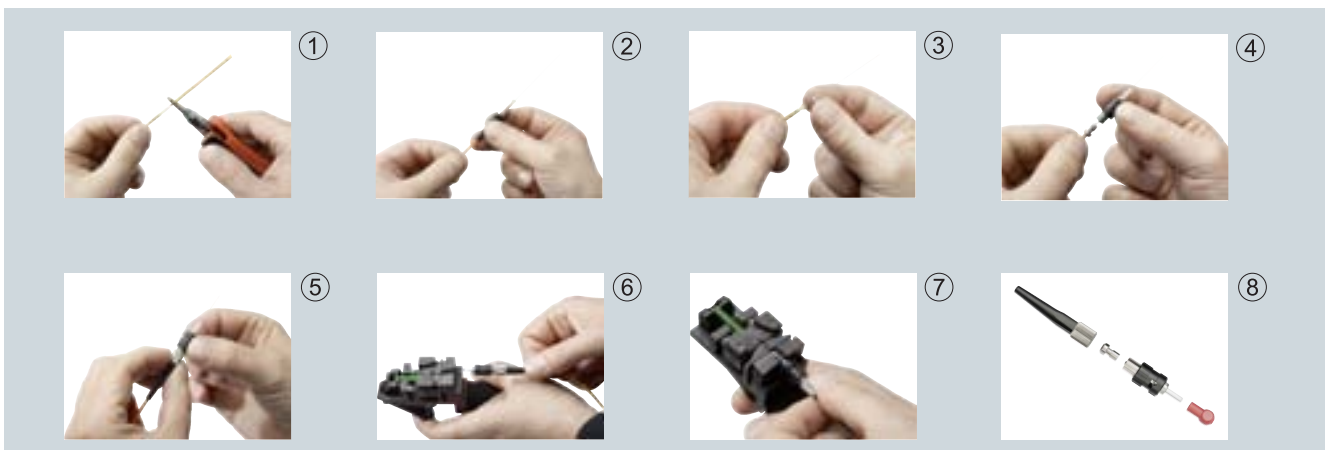
- Simple on-site assembly of glass FOC in the field
- Optical signal transmission
- No radiation emission from the cable
- Unaffected by external noise fields
- No grounding problems
- Electrical isolation
- Low weight
- Simple laying of cables

#### Application

The fiber-optic cable (FOC) is used for the transmission of signals in very extensive plants and where there are significant potential differences within a plant. The light beam is guided by total reflection at the transition from core to cladding which has a lower refractive index than the core.

The FC FO system enables the fast on-site assembly of glass fiber-optic cables with the right lengths to suit the respective application.

#### Assembly of FastConnect glass fiber-optic cables



#### Design

Fiber-optic cables with glass core (62.5/200/230) are offered for the FastConnect fiber-optic cable system:

- FC glass fiber-optic cable; duplex cable for indoor and outdoor fiber-optic networks

The fiber structure corresponds to that of the PCF. This allows simple assembly on site.

Sheath material	Application
PVC	Standard use in indoor and outdoor areas of industrial applications
PUR	Highly mobile applications (tow chains) for high mechanical or chemical stress in harsh industrial environments
PE	Routing of cables in moist areas indoors and outdoors, and for direct burying in earth
FRNC	Standard applications with high fire protection requirements

#### Approvals

UL listing (safety standard) for network lines is especially necessary for the American and Canadian markets. The requirements for the appropriate approvals depend on where the cable is routed within the building. This applies to all cables which have to be routed from a machine to a remote control cabinet and are positioned on cable racks secured in the building. These cables are identified by the suffix "GP" (general purpose) in the product name and have the corresponding UL approvals.

#### Overview

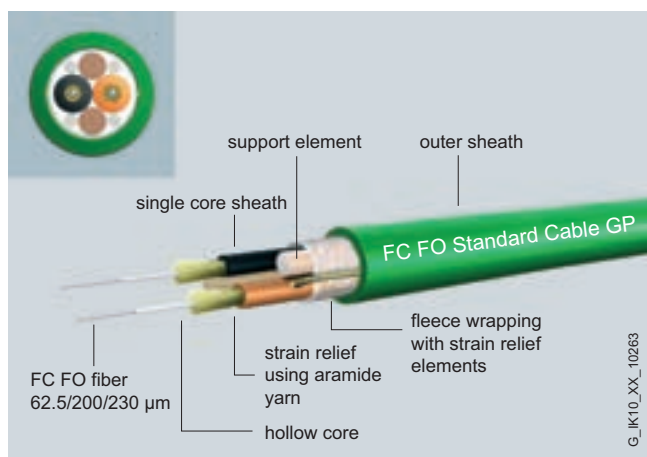


- FastConnect standard fiber-optic cable for use in optical Industrial Ethernet and PROFIBUS networks
- For all users who want to install and assemble the glass fiber-optic cables themselves over longer distances on site for office or industrial applications.
- Simple FastConnect SC/BFOC connector assembly on site
- Rugged construction for industrial applications both indoors and outdoors
- High interference immunity, as they are not sensitive to electromagnetic interference
- Extensive range of approvals (UL approvals)

SIMATIC NET FastConnect glass fiber-optic cables are used to construct optical indoor and outdoor Industrial Ethernet/PROFINET and PROFIBUS networks. Devices with integral optical interface (SC or BFOC connection technology) are, for example, optical link modules (OLM) and SCALANCE X switches.

FastConnect glass fiber-optic cables are to be assembled on site using FastConnect SC or FastConnect BFOC connectors. A corresponding assembly kit (FC FO Termination Kit) is available for this purpose. The termination kit permits the stripping and the "cleaving" of the fiber in the assembled connector, as is familiar from PCF fiber-optic cables.

#### Design



#### FC FO standard cable GP (General Purpose);

rugged round cable with green outer sheath, Kevlar strain relief elements, and 62.5/200/230 FC FO fibers for indoor/outdoor applications.

#### FC FO trailing cable;

rugged round cable with green outer sheath, Kevlar strain relief elements and 62.5/200/230 FC FO fibers for use in tow chains and moving applications.

Maximum cable length between two devices:

- 3000 m for 100 Mbit/s Ethernet or for PROFIBUS
- 350 m for 1000 Mbit/s Ethernet (1000Base-SX)
- 550 m for 1000 Mbit/s Ethernet (1000Base-LX)

The maximum cable lengths can be assembled from partial lengths using FastConnect couplings (SC or BFOC; maximum 2 couplings, approx. 2.5 dB attenuation per coupling). It is also possible to combine existing installed, conventional 62.5/125 μm multimode glass fiber-optic cable sections with the new FastConnect fiber-optic cables.

Ordering data	Order No.
<b>FC FO Standard Cable GP</b> 62.5/200/230	
FC FO standard cable for fixed installation indoors with PVC sheath; sold by the meter	<b>6XV1 847-2A</b>
<b>FC FO Trailing Cable</b>	
FC FO trailing cable for use in tow chains and moving applications; sold by the meter	<b>6XV1 847-2C</b>
<b>FC FO Termination Kit</b>	
Assembly case for local assembly of FC SC and FC BFOC connectors to FC FO standard cable, comprising a stripping tool, Kevlar cutters, fiber breaking tool and microscope	<b>6GK1 900-1GL00-0AA0</b>
<b>FC SC Plug</b>	
Screw connector for on-site assembly on FC fiber-optic cable; (1 pack = 10 duplex plugs + cleaning cloths)	<b>6GK1 900-1LB00-0AC0</b>
<b>FC BFOC Plug</b>	
Screw connector for on-site assembly on FC fiber-optic cable; (1 pack = 20 items + cleaning cloths)	<b>6GK1 900-1GB00-0AC0</b>
<b>FC SC Coupler</b>	
FC SC duplex coupling; (1 pack = 5 items)	<b>6GK1 900-1LP00-0AB0</b>
<b>FC BFOC Coupler</b>	
FC BFOC coupling; (1 pack = 10 items)	<b>6GK1 900-1GP00-0AB0</b>
<b>SIMATIC NET Manual Collection</b>	
Electronic manuals for communication systems, communication protocols, and communication products; on DVD; German/English	<b>6GK1 975-1AA00-3AA0</b>

A) Subject to export regulations: AL: N and ECCN: EAR99H

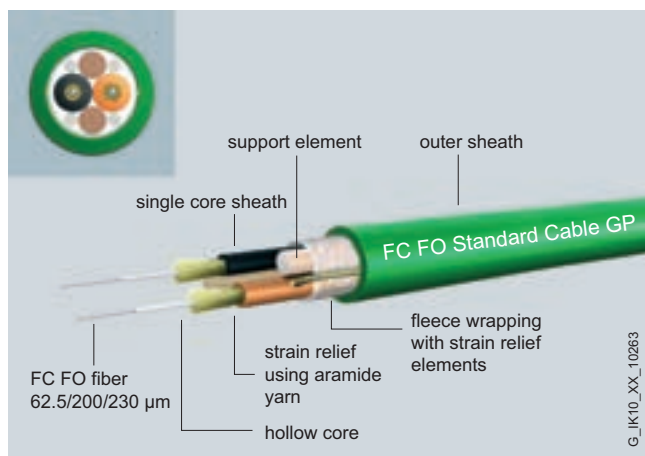
### FC FO Termination Kit

#### Overview



- Compact, rugged assembly case for FastConnect glass fiber-optic cables
- Simple fitting of SC and BFOC connectors to FastConnect glass fiber-optic cables
- The quality of the assembly can be checked using the enclosed microscope

#### Design



The kit is available in an assembly case for on-site installation of FC SC and FC BFOC connectors on FC glass fiber-optic cables.

It consists of a stripping tool, buffer stripping tool, Kevlar scissors, fiber breaking tool and microscope.

#### Ordering data

#### Order No.

##### FC FO Termination Kit

Assembly case for local assembly of FC SC and FC BFOC connectors to FC FO standard cable, comprising a stripping tool, Kevlar cutters, fiber breaking tool and microscope

**6GK1 900-1GL00-0AA0**

##### Accessories

##### FC SC Plug

Screw connector for on-site assembly on FC fiber-optic cable; (1 pack = 10 duplex plugs + cleaning cloths)

**6GK1 900-1LB00-0AC0**

##### FC BFOC Plug

Screw connector for on-site assembly on FC fiber-optic cable; (1 pack = 20 items + cleaning cloths)

**6GK1 900-1GB00-0AC0**

##### FC SC Coupler

FC SC duplex coupling; (1 pack = 5 items)

**6GK1 900-1LP00-0AB0**

##### FC BFOC Coupler

FC BFOC coupling; (1 pack = 10 items)

**6GK1 900-1GP00-0AB0**

A) Subject to export regulations: AL: N and ECCN: EAR99H

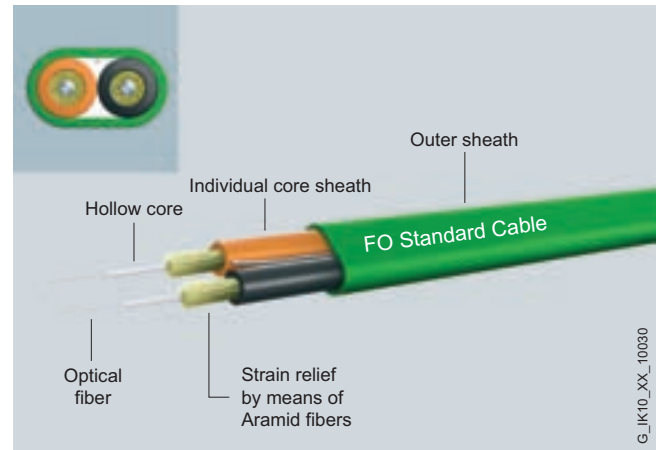


#### Overview



- Used for the optical Industrial Ethernet and PROFIBUS networks
- Rugged design for industrial applications indoors and outdoors
- Halogen-free design for installation inside buildings
- Trailing cable for the special application of forced motion control
- High immunity to noise thanks to insensitivity to electro-magnetic fields
- Available preassembled
- Extensive approvals (UL)

#### Design



Cable construction Glass fiber optic cables

Cable types	50/125 $\mu\text{m}$	62.5/125 $\mu\text{m}$
FO Standard Cable GP	●	—
FO FRNC Cable	●	—
FO Trailing Cable	●	—
FO Trailing Cable GP	●	—
FO Ground Cable	●	—
FIBER OPTIC standard cable	—	●
INDOOR Fiber Optic indoor cable	—	●
Flexible Fiber Optic trailing cable	—	●

# PROFIBUS

## Optical networks with OLM

### Glass fiber optic cables

Ordering data	Order No.		Order No.
<b>FO Standard Cable GP 50/125 <sup>2)</sup></b> Sold by the meter; max. length 1000 m; minimum order 20 m Preferred lengths <sup>1)</sup> pre-assembled with 4 BFOC connectors	<b>6XV1 873-2A</b>  <b>6XV1 873-3AH05</b> <b>6XV1 873-3AH10</b> <b>6XV1 873-3AH20</b> <b>6XV1 873-3AH30</b> <b>6XV1 873-3AH50</b> <b>6XV1 873-3AN10</b> <b>6XV1 873-3AN15</b> <b>6XV1 873-3AN20</b> <b>6XV1 873-3AN30</b> <b>6XV1 873-3AN40</b> <b>6XV1 873-3AN50</b> <b>6XV1 873-3AN80</b> <b>6XV1 873-3AT10</b> <b>6XV1 873-3AT15</b> <b>6XV1 873-3AT20</b> <b>6XV1 873-3AT30</b>	<b>FO Ground Cable 50/125 <sup>2)</sup></b> Sold by the meter; max. length 2000 m; minimum order 20 m Preferred lengths <sup>1)</sup> pre-assembled with 4 BFOC connectors	<b>6XV1 873-2G</b>  <b>6XV1 873-3GT10</b> <b>6XV1 873-3G T20</b> <b>6XV1 873-3G T30</b>
<ul style="list-style-type: none"> <li>• 0.5 m</li> <li>• 1 m</li> <li>• 2 m</li> <li>• 3 m</li> <li>• 5 m</li> <li>• 10 m</li> <li>• 15 m</li> <li>• 20 m</li> <li>• 30 m</li> <li>• 40 m</li> <li>• 50 m</li> <li>• 80 m</li> <li>• 100 m</li> <li>• 150 m</li> <li>• 200 m</li> <li>• 300 m</li> </ul>		<b>Standard FIBER OPTIC CABLE</b> (62.5/125), segmentable <sup>2)</sup> Sold by the meter; max. length 2000 m; minimum order 20 m Preferred lengths <sup>1)</sup> pre-assembled with 4 BFOC plugs	A <b>6XV1 820-5AH10</b>  A  <b>6XV1 820-5BH10</b> <b>6XV1 820-5BH20</b> <b>6XV1 820-5BH30</b> <b>6XV1 820-5BH40</b> <b>6XV1 820-5BH50</b> <b>6XV1 820-5BN10</b> <b>6XV1 820-5BN15</b> <b>6XV1 820-5BN20</b> <b>6XV1 820-5BN30</b> <b>6XV1 820-5BN40</b> <b>6XV1 820-5BN50</b> <b>6XV1 820-5BN55</b> <b>6XV1 820-5BN60</b> <b>6XV1 820-5BN65</b> <b>6XV1 820-5BN70</b> <b>6XV1 820-5BN75</b> <b>6XV1 820-5BN80</b> <b>6XV1 820-5BT10</b> <b>6XV1 820-5BT12</b> <b>6XV1 820-5BT13</b> <b>6XV1 820-5BT15</b> <b>6XV1 820-5BT20</b> <b>6XV1 820-5BT25</b> <b>6XV1 820-5BT30</b>
<b>FO FRNC Cable 50/125 <sup>2)</sup></b> Sold by the meter; max. length 1000 m; minimum order 20 m	<b>6XV1 873-2B</b>	<ul style="list-style-type: none"> <li>• 1 m</li> <li>• 2 m</li> <li>• 3 m</li> <li>• 4 m</li> <li>• 5 m</li> <li>• 10 m</li> <li>• 15 m</li> <li>• 20 m</li> <li>• 30 m</li> <li>• 40 m</li> <li>• 50 m</li> <li>• 55 m</li> <li>• 60 m</li> <li>• 65 m</li> <li>• 70 m</li> <li>• 75 m</li> <li>• 80 m</li> <li>• 100 m</li> <li>• 120 m</li> <li>• 130 m</li> <li>• 150 m</li> <li>• 200 m</li> <li>• 250 m</li> <li>• 300 m</li> </ul>	
<b>FO Trailing Cable 50/125 <sup>2)</sup></b> Sold by the meter; max. length 1000 m; minimum order 20 m Preferred lengths <sup>1)</sup> pre-assembled with 4 BFOC connectors	<b>6XV1 873-2C</b>  <b>6XV1 873-3CH30</b> <b>6XV1 873-3CH50</b> <b>6XV1 873-3CN10</b> <b>6XV1 873-3CN20</b> <b>6XV1 873-3CN50</b> <b>6XV1 873-3CT10</b>		
<b>FO Trailing Cable GP 50/125 <sup>2)</sup></b> Sold by the meter; max. length 1000 m; minimum order 20 m Preferred lengths <sup>1)</sup> pre-assembled with 4 BFOC connectors	<b>6XV1 873-2D</b>  <b>6XV1 873-3DH30</b> <b>6XV1 873-3DH50</b> <b>6XV1 873-3DN10</b> <b>6XV1 873-3DN20</b> <b>6XV1 873-3DN50</b> <b>6XV1 873-3DT10</b>		
<ul style="list-style-type: none"> <li>• 3 m</li> <li>• 5 m</li> <li>• 10 m</li> <li>• 20 m</li> <li>• 50 m</li> <li>• 100 m</li> </ul>			

<sup>1)</sup> Special fiber-optic cables, lengths and accessories available on request

<sup>2)</sup> Special tools and specially trained personnel are required for pre-assembling glass fiber-optic cables

A) Subject to export regulations: AL: N and ECCN: EAR99H

- 1) Special fiber-optic cables, lengths and accessories available on request
- 2) Special tools and specially trained personnel are required for pre-assembling glass fiber-optic cables
- 3) Further language variants and manuals can be found for the respective products at: <http://www.siemens.com/automation/csi/en>

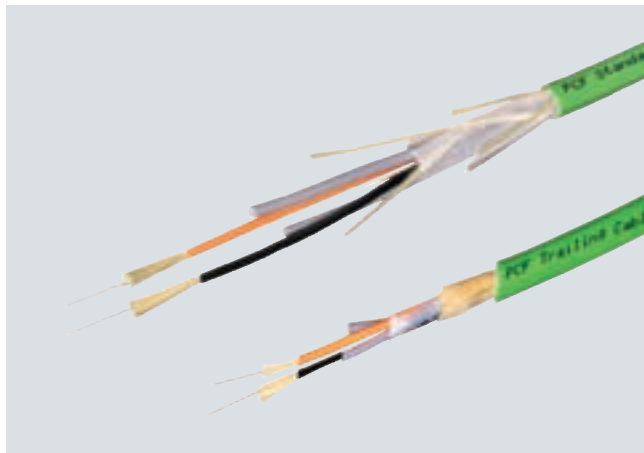
A) Subject to export regulations: AL: N and ECCN: EAR99H

# PROFIBUS

## Optical networks with OLM

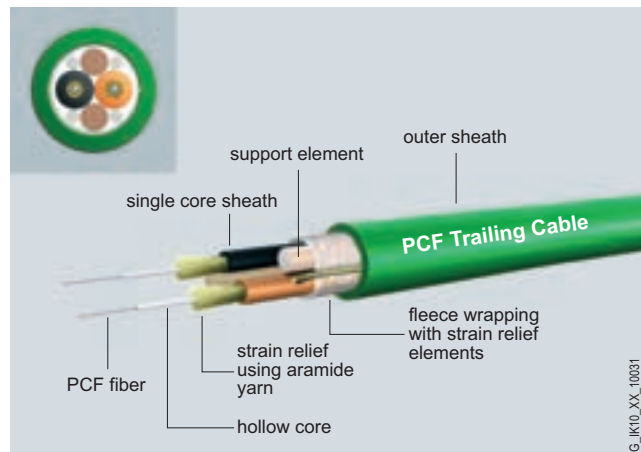
### Plastic- and PCF fiber-optic cables

#### Overview



- Electrical isolation of PROFIBUS devices and PROFIBUS segments
- Protection of the transmission path against electromagnetic interference
- Up to 80 m cable length with plastic fiber-optic cables and up to 400 m with PCF fiber-optic cables
- Rugged fiber-optic standard cables, designed for industrial applications
- Extensive approvals (UL)

#### Design



Cable construction PCF plastic optical fiber

#### Ordering data

#### Order No.

##### PROFIBUS Plastic Fiber Optic, standard cable

Rugged round cable with 2 plastic fiber-optic cores, PVC outer sheath and PA inner sheath, for indoor use

Without connector

- Sold by the meter
- 50 m ring
- 100 m ring

Preferred lengths  
pre-assembled with 2 x 2 BFOC plugs, lash length 20 cm each, for connecting OLM/P..

- 1 m
- 2 m
- 5 m
- 10 m
- 15 m
- 20 m
- 25 m
- 30 m
- 50 m
- 65 m
- 80 m

6XV1 821-0AH10

A 6XV1 821-0AN50

A 6XV1 821-0AT10

A

6XV1 821-0BH10

6XV1 821-0BH20

6XV1 821-0BH50

6XV1 821-0BN10

6XV1 821-0BN15

6XV1 821-0BN20

6XV1 821-0BN25

6XV1 821-0BN30

6XV1 821-0BN50

6XV1 821-0BN65

6XV1 821-0BN80

#### Order No.

##### PROFIBUS Plastic Fiber Optic, duplex core

Plastic fiber-optic cable with 2 cores, PVC outer sheath, for use in environments with low mechanical stress, without connector

- 50 m ring

A

6XV1 821-2AN50

##### PROFIBUS Plastic Fiber Optic, stripping tool set

Tools for removing the outer sheath or core sheath of PROFIBUS Plastic Fiber Optic cables

A

6GK1 905-6PA10

##### PROFIBUS Plastic Fiber Optic, BFOC connector set

20 BFOC plugs for assembly of PROFIBUS Plastic Fiber Optic cables for OLM/P.

6GK1 905-1PA00

##### PROFIBUS Plastic Fiber Optic, BFOC crimping tool

For assembly of BFOC plug on PROFIBUS Plastic Fiber Optic cables

A

6GK1 905-6PB00

##### PROFIBUS Plastic Fiber Optic, BFOC polishing set

Polishing set for grinding and polishing the BFOC plug face for PROFIBUS Plastic Fiber Optic cables with OLM/P.

A

6GK1 905-6PS00

A) Subject to export regulations: AL: N and ECCN: EAR99H

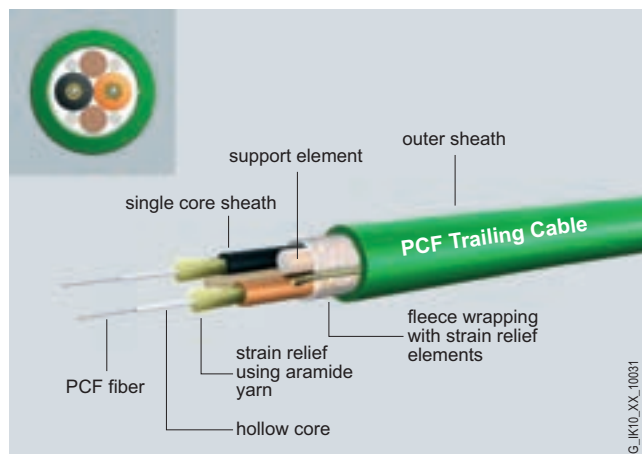
A) Subject to export regulations: AL: N and ECCN: EAR99H

#### Overview



- Compact, rugged assembly case for PCF fiber-optic cables
- Special versions for easy assembly of HP Simplex and BFOC plugs on PCF fiber-optic cables
- The quality of the assembly can be checked using the enclosed microscope

#### Design



Cable construction PCF plastic optical fiber

#### Ordering data

#### Order No.

##### Termination Kit for Simplex connectors

**6GK1 900-0KL00-0AA0**

Assembly case for local assembly of PCF Simplex connectors; comprising a stripping tool, buffer stripping tool, Kevlar cutters, fiber breaking tool, crimping tool and microscope

##### Termination Kit for BFOC connectors

**6GK1 900-0HL00-0AA0**

Assembly case for local assembly of BFOC connectors; comprising a stripping tool, buffer stripping tool, Kevlar cutters, fiber breaking tool, and microscope

#### Connector

##### Simplex connector

A

**6GK1 900-0KB00-0AC0**

with cleaning materials; 50 crimp connectors for assembly on PCF fiber-optic cables on site

##### BFOC connector

A

**6GK1 900-0HB00-0AC0**

with cleaning materials; 20 screw connectors for assembly on PCF fiber-optic cables on site

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#### Overview



- Construction of optical PROFIBUS networks (line, star, ring) with glass, PCF and plastic fiber optic cables
- High availability can be achieved using a redundant power supply and redundant cable routing
- Function monitoring by means of signaling contact
- All PROFIBUS data transmission rates from 9.6 Kbit/s to 12 Mbit/s inclusive 45.45 Kbit/s for PROFIBUS PA
- Monitoring of the fiber optic cable routes on LEDs for channel monitoring or using a voltmeter across measurement terminals

Ordering data	Order No.
<b>PROFIBUS OLM/P11</b> Optical link module with 1 x RS 485 and 1 x plastic fiber-optic interface (2 BFOC sockets), with signaling contact and measuring output incl. 2 BFOC plugs for plastic fiber-optic cables	<b>6GK1 503-2CA00</b>
<b>PROFIBUS OLM/P12</b> A Optical link module with 1 x RS 485 and 2 x plastic fiber-optic interface (4 BFOC sockets), with signaling contact and measuring output incl. 4 BFOC plugs for plastic fiber-optic cables	<b>6GK1 503-3CA00</b>
<b>PROFIBUS OLM/G11</b> Optical link module with 1 x RS 485 and 1 x glass fiber-optic interface (2 BFOC sockets), for standard distances, with signaling contact and measuring output	<b>6GK1 503-2CB00</b>
<b>PROFIBUS OLM/G12</b> Optical link module with 1 x RS 485 and 2 x glass fiber-optic interface (4 BFOC sockets), for standard distances up to 3000 m, with signaling contact and measuring output	<b>6GK1 503-3CB00</b>
<b>PROFIBUS OLM/G12 EEC</b> Optical link module with 1 x RS 485 and 2 x glass fiber-optic interface (4 BFOC sockets), for standard distances up to 3000 m, for extended temperature range -25 °C to +60 °C, with signaling contact and measuring output	<b>6GK1 503-3CD00</b>
<b>PROFIBUS OLM/G11-1300</b> Optical link module with 1 x RS 485 and 1 x glass fiber-optic interface (2 BFOC sockets), 1300 nm wavelength for large distances up to 15 km, with signaling contact and measuring output	<b>6GK1 503-2CC00</b>
<b>PROFIBUS OLM/G12-1300</b> A Optical link module with 1 x RS 485 and 2 x glass fiber-optic interface (4 BFOC sockets), 1300 nm wavelength for large distances up to 15 km, with signaling contact and measuring output	<b>6GK1 503-3CC00</b>
<b>PROFIBUS OLM mounting plate</b> For wall mounting of PROFIBUS OLM V4	<b>6GK1 503-8AA00</b>
<b>Manual for PROFIBUS networks</b> Paper version Network architecture, configuration, network components, installation • German • English	<b>6GK1 970-5CA20-0AA0</b> <b>6GK1 970-5CA20-0AA1</b>
<b>SIMATIC NET Manual Collection</b> Electronic manuals for communication systems, communication protocols, and communication products; on DVD; German/English	<b>6GK1 975-1AA00-3AA0</b>

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### Plastic and PCF fiber-optic cables

#### Overview



- Galvanic isolation of DP devices
- Protection of the transmission path against electromagnetic interference
- Up to 50 m cable length with plastic fiber-optic cables and up to 300 m with PCF fiber-optic cables
- Rugged fiber-optic standard cables, designed for industrial applications
- Hybrid cable for the shared transmission of data and power supply
- Extensive approvals (UL)

#### Ordering data

#### Order No.

##### PROFIBUS Plastic Fiber Optic standard cable

Rugged round cable with 2 plastic fiber-optic cores, PVC outer sheath and PA inner sheath, for indoor use; without connector

- Sold by the meter
- 50 m ring
- 100 m ring

**6XV1 821-0AH10**  
**6XV1 821-0AN50**  
**6XV1 821-0AT10**

##### PROFIBUS Plastic Fiber Optic duplex core

Plastic fiber-optic cable with 2 cores, PVC outer sheath, for use in environments with low mechanical stress; without connector

- 50 m ring

**6XV1 821-2AN50**

##### PROFIBUS Plastic Fiber Optic simplex plug/polishing set

100 simplex connectors and 5 polishing sets for assembling PROFIBUS plastic fiber optic cables for the optical PROFIBUS DP

**6GK1 901-0FB00-0AA0**

##### PROFIBUS Plastic Fiber Optic stripping tool set

Tools for removing the outer sheath or core sheath of Plastic Fiber Optic cables

**6GK1 905-6PA10**

##### PROFIBUS PCF Fiber Optic standard cable

PCF fiber-optic cable with 2 cores, PVC outer sheath, for covering larger distances up to 300 m, for connecting devices to the optical PROFIBUS DP

Preferred lengths  
Precut/preassembled with 2 x 2 Simplex connectors, lash length 30 cm each, with insertion tool mounted on one end

- 50 m
- 75 m
- 100 m
- 150 m
- 200 m
- 250 m
- 300 m

**6XV1 821-1CN50**  
**6XV1 821-1CN75**  
**6XV1 821-1CT10**  
**6XV1 821-1CT15**  
**6XV1 821-1CT20**  
**6XV1 821-1CT25**  
**6XV1 821-1CT30**

A) Subject to export regulations: AL: N and ECCN: EAR99H

Siemens Short Catalog SIMATIC NET · October 2009

### ECOFAST Fiber Optic Hybrid Cable

#### Overview



- Electrical isolation of DP devices
- Protection of the transmission path against electromagnetic interference
- Up to 50 m cable length with plastic fiber-optic cable
- Rugged fiber-optic cables, designed for industrial applications
- Hybrid cable for the shared transmission of data and power supply

#### Ordering data

#### Order No.

##### ECOFAST fiber optic hybrid cable (DESINA-compatible)

Trailing cable with 2 plastic fiber-optic conductors and 4 copper cores, 1.5 mm<sup>2</sup> for use in DESINA-compatible devices only

Sold by the meter;  
max. quantity 1000 m,  
minimum order 20 m

##### Not pre-assembled

- 20 m
- 50 m
- 100 m

##### Preassembled with 2 DESINA connectors

- 1.5 m
- 3 m
- 5 m
- 10 m
- 15 m

**6XV1 830-6CH10**

**6XV1 830-6CN20**

**6XV1 830-6CN50**

**6XV1 830-6CT10**

**6XV1 830-6DH15**

**6XV1 830-6DH30**

**6XV1 830-6DH50**

**6XV1 830-6DN10**

**6XV1 830-6DN15**

##### ECOFAST Fiber Optic Hybrid Plug 180, DESINA-compatible (ECOFAST FOC)

2 x FO; 4 x 1.5 mm<sup>2</sup> Cu

- With male pins (Hanbrid connector)
- With female pins (Hanbrid connector)

**6GK1 905-0BA00**

**6GK1 905-0BB00**

##### Manual for PROFIBUS networks

Paper version:  
Network architecture,  
project management, network  
components, installation

- German
- English

**6GK1 970-5CA20-0AA0**

**6GK1 970-5CA20-0AA1**

##### SIMATIC NET Manual Collection

Electronic manuals for  
communication systems,  
communication protocols,  
and communication products;  
on DVD:  
German/English

**6GK1 975-1AA00-3AA0**

# PROFIBUS

## Optical networks with OBT and integrated interface

### Optical Bus Terminal OBT

#### Overview



- For connecting a PROFIBUS station without an integrated fiber-optic cable interface or an RS 485 segment to an optical line
- Quick and easy installation of the plastic fiber-optic cable without the need for special tools

#### Ordering data

#### Order No.

##### PROFIBUS OBT

Optical bus terminal for connecting a PROFIBUS node or an RS485 segment without an integrated optical interface to the optical PROFIBUS; without a Simplex connector

**6GK1 500-3AA00**

##### PROFIBUS plug-in cable 830-1T

For connecting a data terminal, completely pre-assembled with two Sub-D connectors, 9-pin

- 1.5 m
- 3 m

**6XV1 830-1CH15**  
**6XV1 830-1CH30**

##### Manual for PROFIBUS networks

Paper version  
Network architecture, configuration, network components, installation

- German
- English

**6GK1 970-5CA20-0AA0**  
**6GK1 970-5CA20-0AA1**

##### SIMATIC NET Manual Collection

Electronic manuals for communication systems, communication protocols, and communication products; on DVD; German/English

**6GK1 975-1AA00-3AA0**

# PROFIBUS

## System interfacing for SIMATIC S7

CP 342-5

### Overview



DP-M	DP-S	FMS	PG/OP	S7/S5	
●	●		●	●	

- PROFIBUS DP master or slave with electrical interface for connecting the SIMATIC S7-300 and the SIMATIC C7 to PROFIBUS at up to 12 Mbit/s (including 45.45 kbit/s)
- Communication services:
  - PROFIBUS DP-V0
  - PG/OP communication (OP multiplexing)
  - S7 communication (client, server)
  - Open communication (SEND/RECEIVE)
- Easy configuration and programming over PROFIBUS
- Cross-network programming device communication through S7 routing
- Modules can be replaced without the need for a PG

### Ordering data

### Order No.

#### CP 342-5 communications processor

Communications processor for electrical connection of SIMATIC S7-300 to PROFIBUS at up to 12 Mbit/s, with electronic manual on CD-ROM

**6GK7 342-5DA02-0XE0**

#### STEP 7 Version 5.4

##### Target system:

SIMATIC S7-300/-400, SIMATIC C7, SIMATIC WinAC

##### Requirement:

Windows 2000 Prof./XP Prof.

##### Delivery package:

German, English, French, Spanish, Italian; incl. 3.5" authorization diskette, without documentation

- Floating license on CD
- Rental license for 50 hours
- Software Update Service on CD (requires current software version)
- Upgrade Floating License 3.x/4.x/5.x to V5.4; on CD
- Trial License STEP 7 V5.4; on CD, runs for 14 days

**6ES7 810-4CC08-0YA5**

**6ES7 810-4CC08-0YA6**

**6ES7 810-4BC01-0YX2**

**6ES7 810-4CC08-0YE5**

**6ES7 810-4CC08-0YA7**

#### PROFIBUS FastConnect bus connector RS485

With 90° cable outlet; insulation displacement technology, max. transmission rate 12 Mbit/s

- without PG interface
- with PG interface

**6ES7 972-0BA51-0XA0**

**6ES7 972-0BB51-0XA0**

#### PROFIBUS bus connector IP20

With connection to PPI, MPI, PROFIBUS

- without PG interface
- with PG interface

**6ES7 972-0BA12-0XA0**

**6ES7 972-0BB12-0XA0**

#### PROFIBUS bus terminal 12M

Bus terminal for connection of PROFIBUS nodes at up to 12 Mbit/s with connecting cable

**6GK1 500-0AA10**

#### SIMATIC S7-300 DM 370

Dummy module; used for module replacement

**6ES7 370-0AA01-0AA0**

### Overview



DP-M	DP-S	FMS	PG/OP	S7/S5	
●	●		●	●	

- PROFIBUS DP master or slave with optical interface for connecting the SIMATIC S7-300 and the SIMATIC C7 to PROFIBUS at up to 12 Mbit/s (including 45.45 kbit/s)
- Direct connection to the optical PROFIBUS network over the integrated fiber-optic interface for plastic and PCF fiber-optic cables
- Communication services:
  - PROFIBUS DP-V0
  - PG/OP communication (OP multiplexing)
  - S7 communication (client, server)
  - Open communication (SEND/RECEIVE)
- Easy configuration and programming over PROFIBUS
- Cross-network programming device communication through S7 routing
- Modules can be replaced without the need for a PG

### Ordering data

### Order No.

#### CP 342-5 FO communications processor

Communications processor for optical connection of SIMATIC S7-300 to PROFIBUS to 12 Mbit/s with electronic manual on CD-ROM

**6GK7 342-5DF00-0XE0**

#### STEP 7 Version 5.4

##### Target system:

SIMATIC S7-300/-400, SIMATIC C7, SIMATIC WinAC

##### Requirement:

Windows 2000 Prof./XP Prof.

##### Delivery package:

German, English, French, Spanish, Italian; incl. 3.5" authorization diskette, without documentation

- Floating license on CD

**6ES7 810-4CC08-0YA5**

- Rental license for 50 hours

**6ES7 810-4CC08-0YA6**

- Software Update Service on CD (requires current software version)

**6ES7 810-4BC01-0YX2**

- Upgrade Floating License 3.x/4.x/5.x to V5.4; on CD

**6ES7 810-4CC08-0YE5**

- Trial License STEP 7 V5.4; on CD, runs for 14 days

**6ES7 810-4CC08-0YA7**

#### Manual for PROFIBUS networks

Paper version

Network architecture, components (OLM (V3), OBT, ILM), configuring and installation

- German

**6GK1 970-5CA20-0AA0**

- English

**6GK1 970-5CA20-0AA1**

#### PROFIBUS Plastic Fiber Optic, A Simplex Connector/ Polishing Set

100 simplex connectors and 5 polishing sets for assembling PROFIBUS plastic fiber optic cables for the optical PROFIBUS DP

**6GK1 901-0FB00-0AA0**

#### PROFIBUS Plastic Fiber Optic, A Stripping Tool Set

Tools for removing the outer sheath or core sheath of Plastic Fiber Optic cables

**6GK1 905-6PA10**

#### Plug-in adapter

For assembling the plastic Simplex connector in combination with CP 342-5 FO, IM 467 FO, IM 153-2 FO and IM 151 FO  
50 items

**6ES7 195-1BE00-0XA0**

A) Subject to export regulations: AL: N and ECCN: EAR99H

# PROFIBUS

## System interfacing for SIMATIC S7

CP 343-5

### Overview



DP-M	DP-S	FMS	PG/OP	S7/S5	
		•	•	•	

Connection of SIMATIC S7-300 and SIMATIC C7 to PROFIBUS at up to 12 Mbit/s (including 45.45 kbit/s)

- Communication services:
  - PG/OP communication
  - S7 communication
  - Open communication (SEND/RECEIVE)
  - PROFIBUS FMS
- Easy configuration and programming over PROFIBUS
- Can be easily integrated into the S7-300 system
- Cross-network programming device communication through S7 routing
- Modules can be replaced without the need for a PG

### Ordering data

### Order No.

#### CP 343-5 communications processor

Communications processor for connection of S7-300 to PROFIBUS, FMS, open communication, PG/OP and S7 communication; with electronic manual on CD-ROM

6GK7 343-5FA01-0XE0

#### STEP 7 Version 5.4

*Target system:*  
SIMATIC S7-300/-400, SIMATIC C7, SIMATIC WinAC

*Requirement:*  
Windows 2000 Prof./XP Prof.

*Delivery package:*  
German, English, French, Spanish, Italian; incl. 3.5" authorization diskette, without documentation

- Floating license on CD
- Rental license for 50 hours
- Software Update Service on CD (requires current software version)
- Upgrade Floating License 3.x/4.x/5.x to V5.4; on CD
- Trial License STEP 7 V5.4; on CD, runs for 14 days

6ES7 810-4CC08-0YA5

6ES7 810-4CC08-0YA6

6ES7 810-4BC01-0YX2

6ES7 810-4CC08-0YE5

6ES7 810-4CC08-0YA7

#### PROFIBUS FastConnect bus connector RS485

With 90° cable outlet; insulation displacement technology, max. transmission rate 12 Mbit/s

- without PG interface
- with PG interface

6ES7 972-0BA51-0XA0

6ES7 972-0BB51-0XA0

#### PROFIBUS bus connector IP20

With connection to PPI, MPI, PROFIBUS

- without PG interface
- with PG interface

6ES7 972-0BA12-0XA0

6ES7 972-0BB12-0XA0

#### PROFIBUS bus terminal 12M

Bus terminal for connection of PROFIBUS nodes at up to 12 Mbit/s with connecting cable

6GK1 500-0AA10

#### SIMATIC S7-300 DM 370

Dummy module; used for module replacement

6ES7 370-0AA01-0AA0



### Overview



DP-M	DP-S	FMS	PG/OP	S7/S5	
		●	●	●	

- Connection of the S7-400 to PROFIBUS
- Communication services:
  - PG/OP communication
  - S7 communication
  - Open communication (SEND/RECEIVE)
  - PROFIBUS FMS
- Time synchronization
- Easy programming and configuration over PROFIBUS
- Cross-network programming device communication through S7 routing
- Can be easily integrated into the SIMATIC S7-400 system
- Modules can be replaced without the need for a PG
- SIMATIC H system operation for redundant S7 communication (depending on the type of S7-400 CPU)

### Ordering data

### Order No.

#### CP 443-5 communications processor

Communications processor for connection of S7-400 to PROFIBUS, FMS, open communication, PG/OP and S7 communication; with electronic manual on CD-ROM

**6GK7 443-5FX02-0XE0**

#### STEP 7 Version 5.4

*Target system:*  
SIMATIC S7-300/-400, SIMATIC C7, SIMATIC WinAC

*Requirement:*  
Windows 2000 Prof./XP Prof.

*Delivery package:*  
German, English, French, Spanish, Italian; incl. 3.5" authorization diskette, without documentation

- Floating license on CD
- Rental license for 50 hours
- Software Update Service on CD (requires current software version)
- Upgrade Floating License 3.x/4.x/5.x to V5.4; on CD
- Trial License STEP 7 V5.4; on CD, runs for 14 days

**6ES7 810-4CC08-0YA5**

**6ES7 810-4CC08-0YA6**

**6ES7 810-4BC01-0YX2**

**6ES7 810-4CC08-0YE5**

**6ES7 810-4CC08-0YA7**

#### PROFIBUS FastConnect bus connector RS485

With 90° cable outlet; insulation displacement technology, max. transmission rate 12 Mbit/s

- without PG interface
- with PG interface

**6ES7 972-0BA51-0XA0**

**6ES7 972-0BB51-0XA0**

#### PROFIBUS bus connector IP20

With connection to PPI, MPI, PROFIBUS

- without PG interface
- with PG interface

**6ES7 972-0BA12-0XA0**

**6ES7 972-0BB12-0XA0**

#### PROFIBUS bus terminal 12M

Bus terminal for connection of PROFIBUS stations up to 12 Mbit/s with plug-in cable

**6GK1 500-0AA10**

# PROFIBUS

## System interfacing for SIMATIC S7

### CP 443-5 Extended

#### Overview



DP-M	DP-S	FMS	PG/OP	S7/S5	
●			●	●	

- DP-V1 master connection of the S7-400 to PROFIBUS
- For setting up additional PROFIBUS DP lines
- Communication services:
  - PROFIBUS DP
  - PG/OP communication
  - S7 communication
  - Open communication (SEND/RECEIVE)
- Time synchronization
- Easy programming and configuration over PROFIBUS
- Cross-network programming device communication through S7 routing
- Can be easily integrated into the SIMATIC S7-400 system
- Module replacement without PG
- SIMATIC H system operation for redundant S7 communication or DP-Master communication
- Data record routing (PROFIBUS DP)
- Adding or modifying distributed I/O during operation

#### Ordering data

#### Order No.

##### CP 443-5 Extended communications processor

6GK7 443-5DX04-0XE0

for connection of the SIMATIC S7-400 to PROFIBUS, Extended version for PROFIBUS DP; with electronic manual on CD-ROM

##### STEP 7 Version 5.4

###### Target system:

SIMATIC S7-300/-400, SIMATIC C7, SIMATIC WinAC

###### Requirement:

Windows 2000 Prof./XP Prof.

###### Delivery package:

German, English, French, Spanish, Italian; incl. 3.5" authorization diskette, without documentation

- Floating license on CD
- Rental license for 50 hours
- Software Update Service on CD (requires current software version)
- Upgrade Floating License 3.x/4.x/5.x to V5.4; on CD
- Trial License STEP 7 V5.4; on CD, runs for 14 days

6ES7 810-4CC08-0YA5

6ES7 810-4CC08-0YA6

6ES7 810-4BC01-0YX2

6ES7 810-4CC08-0YE5

6ES7 810-4CC08-0YA7

##### PROFIBUS FastConnect bus connector RS485

With 90° cable outlet; insulation displacement technology, max. transmission rate 12 Mbit/s

- without PG interface
- with PG interface

6ES7 972-0BA51-0XA0

6ES7 972-0BB51-0XA0

##### PROFIBUS bus connector IP20

With connection to PPI, MPI, PROFIBUS

- without PG interface
- with PG interface

6ES7 972-0BA12-0XA0

6ES7 972-0BB12-0XA0

##### PROFIBUS bus terminal 12M

Bus terminal for connection of PROFIBUS nodes at up to 12 Mbit/s with connecting cable

6GK1 500-0AA10

### Overview



DP-M	DP-S	FMS	PG/OP	S7/S5	
●			●	●	

- PCI104 interface card with microprocessor for connecting embedded systems with PC/104Plus Interface to PROFIBUS at up to 12 Mbit/s
- Function compatible with CP 5613 A2
- Communication services:
  - PROFIBUS DP master conforming to IEC 61158/61784
  - PG/OP communication with STEP 5 and STEP 7
  - S7 communication
  - Open communication (SEND/RECEIVE) based on the FDL interface
  - PROFIBUS FMS conforming to IEC 61158/61784
- Extensive diagnostics options for installation, commissioning and operation of the module
- High performance via direct dual port RAM access
- Event and filter mechanism for reducing the load on the host CPU
- Multiprotocol operation and parallel operation of up to 3 CPs
- Use for motion control applications possible due to support of the equidistant mode
- The appropriate OPC server and configuration tools are included in the scope of delivery of the respective communication software
- Linux-based development kit with driver sources for integration into "non-Windows" environments.

# PROFIBUS

## System interfacing for PG/PC

CP 5603

Ordering data		Order No.		Order No.
<b>CP 5603 communications processor</b> PCI104 card for connection to PROFIBUS incl. DP-Base software with NCM PC; DP-RAM interface for DP master, incl. PG and FDL protocol; single license for 1 installation, runtime software, software and electronic manual on CD-ROM, Class A, for 32 bit Windows XP Professional SP2/3; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5603, CP 5613, CP 5613 A2, CP 5613 FO, CP 5614, CP 5614 A2; German/English	A	<b>6GK1 560-3AA00</b>	<b>S7-5613 Edition 2008</b> Software for S7-communication, including PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on USB flash drive, Class A, for 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5603, CP 5613, CP 5613 A2, CP 5613 FO, CP 5614, CP 5614 A2; German/English	
<b>CP 5603 Microbox Package</b> comprising CP 5603 module and Microbox expansion rack	A	<b>6GK1 560-3AU00</b>	<ul style="list-style-type: none"> <li>• Single license for 1 installation</li> </ul>	<b>6GK1 713-5CB71-3AA0</b> <b>6GK1 713-5CB00-3AL0</b>
<b>CP 5603 Expansion Rack</b> for use in Microbox 420/427B with mounting material		<b>6GK1 560-3AA00-3AU0</b>	<ul style="list-style-type: none"> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version</li> </ul>	
<b>CP 5603 mEC Package</b> consisting of CP 5603 and insert plate for CP 5603	A	<b>6GK1 560-3AE00</b>	<ul style="list-style-type: none"> <li>• Upgrade S7-5613, Edition 2006 or higher, to S7-5613 Edition 2008</li> </ul>	<b>6GK1 713-5CB00-3AE0</b>
<b>CP 5603 Insert Plate</b> Metal plate with RS485 cutout for inserting for the S7 modular embedded controller		<b>6GK1 560-3AA00-0AE0</b>	<ul style="list-style-type: none"> <li>• Upgrade S7-5613 from V6.0, V6.1, V6.2 or V6.3 to S7-5613 Edition 2008</li> </ul>	<b>D6GK1 713-5CB00-3AE1</b>
<b>DK-5613 Development Kit</b> Software development kit for CP 5603/CP 5613/CP 5614/CP 5613 A2/CP 5614 A2/CP 5613 FO/CP 5614 FO for integration into other operating system environments on systems with an PCI slot		See <a href="http://www.siemens.com/simatic-net/dk5613">http://www.siemens.com/simatic-net/dk5613</a>	<b>FMS-5613 Edition 2008</b> Software for FMS protocol, including PG/OP communication, FDL, FMS-OPC server and NCM PC; runtime software, software and electronic manual on USB flash drive, Class A for 32-bit Windows XP Professional SP2/3, Windows 2003 Server R2, SP2, Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5603, CP 5613, CP 5613 A2, CP 5613 FO, CP 5614, CP 5614 A2; German/English	
<b>DP-5613 Edition 2008</b> Software for DP, including PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A, for 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5603, CP 5613, CP 5613 A2, CP 5613 FO, CP 5614, CP 5614 A2; German/English			<ul style="list-style-type: none"> <li>• Single license for 1 installation</li> </ul>	<b>6GK1 713-5FB71-3AA0</b> <b>6GK1 713-5FB00-3AL0</b>
<ul style="list-style-type: none"> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version</li> </ul>	Z	<b>6GK1 713-5DB71-3AA0</b> <b>6GK1 713-5DB00-3AL0</b>	<ul style="list-style-type: none"> <li>• Upgrade FMS-5613, Edition 2006 or higher, to FMS-5613 Edition 2008</li> </ul>	<b>6GK1 713-5FB00-3AE0</b>
<ul style="list-style-type: none"> <li>• Upgrade DP-5613 Edition 2006 to DP-5613 Edition 2008</li> </ul>	Z	<b>6GK1 713-5DB00-3AE0</b>	<ul style="list-style-type: none"> <li>• Upgrade FMS-5613 from V6.0, V6.1, V6.2 or V6.3 to FMS-5613 Edition 2008</li> </ul>	<b>6GK1 713-5FB00-3AE1</b>
<ul style="list-style-type: none"> <li>• Upgrade DP-5613 from V6.0, V6.1, V6.2 or V6.3 to DP-5613 Edition 2008</li> </ul>	Z	<b>6GK1 713-5DB00-3AE1</b>	<b>PROFIBUS FastConnect bus connector RS 485 Plug 180</b> with 180° cable outlet	<b>6GK1 500-0FC00</b>
			<b>PROFIBUS bus terminal 12M</b> Bus terminal for connection of PROFIBUS stations at up to 12 Mbit/s with plug-in cable	<b>6GK1 500-0AA10</b>

A) Subject to export regulations: AL: N and ECCN: EAR99H  
 Z) Subject to export regulations: AL: N and ECCN: 5D992

### Overview



DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
•		•	•	•	•

- PCI card (universal keyed 5 V/3.3 V) with microprocessor for system connection for PCs and SIMATIC PG/PC to PROFIBUS with up to 12 Mbit/s
- Communication services:
  - PROFIBUS DP-Master according to IEC 61158/61784
  - PG/OP communication with STEP 5 and STEP 7
  - S7 communication
  - Open communication (SEND/RECEIVE) based on the FDL interface
  - PROFIBUS FMS acc. to IEC 61158/61784
- Comprehensive diagnostics possibilities for installation, commissioning and operation of the module
- High performance over direct dual-port RAM access
- Event and filter mechanisms to reduce the loading on the host CPU
- Multiprotocol mode and parallel operation of up to 4 CPs
- Implementation in Motion Control applications is possible because a constant bus cycle time is supported
- The appropriate OPC servers and configuration tools are included in the scope of supply of the respective communications software.

# PROFIBUS

## System interfacing for PG/PC

CP 5613 A2

Ordering data	Order No.		Order No.
<b>CP 5613 A2 communications processor</b>  PCI card (32-bit; 3.3 V/5 V) for connection to PROFIBUS including DP-Base software with NCM PC; DP-RAM interface for DP-Master, including PG and FDL protocol; single license for 1 installation, runtime software, software and electronic manual on CD-ROM, Class A, for 32 bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; German/English	<b>6GK1 561-3AA01</b>		<b>S7-5613 Edition 2008</b>  Software for S7-communication, including PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5613, CP 5613 A2, CP 5613 FO, CP 5614, CP 5614 A2, German/English
<b>Software Upgrade</b>  for CP 5613 A2 and CP 5613 FO from V6.0 to Edition 2008	<b>6GK1 561-3AA01-3AE0</b>	<ul style="list-style-type: none"><li>• Single license for 1 installation</li><li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version</li></ul>	<b>6GK1 713-5CB71-3AA0</b> <b>6GK1 713-5CB00-3AL0</b>
<b>DK-5613 Development Kit</b>  Software development kit for CP 5613/CP 5614/CP 5613 A2/CP 5614 A2/CP 5613 FO for integration in other operating system environments on systems with a PCI slot	see <a href="http://www.siemens.com/simatic-net/dk5613">http://www.siemens.com/simatic-net/dk5613</a>	<ul style="list-style-type: none"><li>• Upgrade S7-5613 from Edition 2006 to S7-5613 Edition 2008</li><li>• Upgrade S7-5613 from V6.0, V6.1, V6.2 or V6.3 to S7-5613 Edition 2008</li></ul>	<b>6GK1 713-5CB00-3AE0</b> <b>6GK1 713-5CB00-3AE1</b>
<b>DP-5613, Edition 2008</b>  Software for DP, including PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5613, CP 5613 A2, CP 5613 FO, CP 5614, CP 5614 A2, German/English		<ul style="list-style-type: none"><li>• Single license for 1 installation</li><li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version</li><li>• Upgrade DP-5613 from Edition 2006 to DP-5613 Edition 2008</li><li>• Upgrade DP-5613 from V6.0, V6.1, V6.2 or V6.3 to DP-5613 Edition 2008</li></ul>	<b>6GK1 713-5DB71-3AA0</b> <b>6GK1 713-5DB00-3AL0</b> <b>6GK1 713-5DB00-3AE0</b> <b>6GK1 713-5DB00-3AE1</b>
		<ul style="list-style-type: none"><li>• Single license for 1 installation</li><li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version</li><li>• Upgrade FMS-5613 from Edition 2006 to FMS-5613 Edition 2008</li><li>• Upgrade FMS-5613 from V6.0, V6.1, V6.2 or V6.3 to FMS-5613 Edition 2008</li></ul>	<b>6GK1 713-5FB71-3AA0</b> <b>6GK1 713-5FB00-3AL0</b> <b>6GK1 713-5FB00-3AE0</b> <b>6GK1 713-5FB00-3AE1</b>
		<b>PROFIBUS FastConnect bus connector RS 485 Plug 180</b>  With 180° cable outlet	<b>6GK1 500-0FC00</b>
		<b>PROFIBUS bus terminal 12M</b>  Bus terminal for connection of PROFIBUS stations up to 12 Mbit/s with plug-in cable	<b>6GK1 500-0AA10</b>

Z) Subject to export regulations: AL: N and ECCN: 5D992

### Overview



DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●		●	●	●	●

- PCI card with microprocessor for system connection for PC and SIMATIC PG/PC to the optical PROFIBUS at up to 12 Mbit/s
- Integrated fiber-optic interface for FO direct connection
- Communication services:
  - PROFIBUS DP master according to IEC 61158/61784
  - PG/OP communication with STEP 5 and STEP 7
  - S7 communication
  - Open communication (SEND/RECEIVE) based on the FDL interface
  - PROFIBUS FMS acc. to IEC 61158/61784
- Comprehensive diagnostics possibilities for installation, commissioning and operation of the module
- High performance over direct dual-port RAM access
- Event and filter mechanisms to reduce the loading on the host CPU
- Multiprotocol mode and parallel operation of up to 4 CPs
- Implementation in Motion Control applications is possible because a constant bus cycle time is supported
- The appropriate OPC servers and configuration tools are included in the scope of supply of the respective communications software.



# PROFIBUS

## System interfacing for PG/PC

### CP 5613 FO

Ordering data		Order No.		Order No.
<b>CP 5613 FO communications processor</b> PCI card (32-bit; 5 V) for connection to optical PROFIBUS including DP-base software with NCM PC; DP-RAM interface for DP-Master, including PG and FDL protocol; single license for 1 installation, runtime software, software and electronic manual on CD-ROM, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; German/English	Z	<b>6GK1 561-3FA00</b>	<b>S7-5613, Edition 2008</b> Software for S7-communication, including PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5613, CP 5613 A2, CP 5613 FO, CP 5614, CP 5614 A2 German/English <ul style="list-style-type: none"> <li>• Single license for 1 installation</li> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version</li> </ul>	<b>6GK1 713-5CB71-3AA0</b> <b>6GK1 713-5CB00-3AL0</b>
<b>Software Upgrade</b> for CP 5613 A2 and CP 5613 FO from V6.0 to Edition 2008		<b>6GK1 561-3AA01-3AE0</b>	<ul style="list-style-type: none"> <li>• Upgrade S7-5613 from Edition 2006 to S7-5613 Edition 2008</li> <li>• Upgrade S7-5613 from V6.0, V6.1, V6.2 or V6.3 to S7-5613 Edition 2008</li> </ul>	<b>6GK1 713-5CB00-3AE0</b> <b>6GK1 713-5CB00-3AE1</b>
<b>DK-5613 Development Kit</b> Software Development Kit for CP 5613/CP 5614/CP 5613 A2/CP 5614 A2/CP 5613 FO for integration in other operating system environments on systems with a PCI slot		see <a href="http://www.siemens.com/simatic-net/dk5613">http://www.siemens.com/simatic-net/dk5613</a>		
<b>DP-5613, Edition 2008</b> Software for DP, including PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB stick, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5613, CP 5613 A2, CP 5613 FO, CP 5614, CP 5614 A2, German/English <ul style="list-style-type: none"> <li>• Single license for 1 installation</li> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version</li> <li>• Upgrade DP-5613 from Edition 2006 to DP-5613 Edition 2008</li> <li>• Upgrade DP-5613 from V6.0, V6.1, V6.2 or V6.3 to DP-5613 Edition 2008</li> </ul>	Z Z Z Z	<b>6GK1 713-5DB71-3AA0</b> <b>6GK1 713-5DB00-3AL0</b> <b>6GK1 713-5DB00-3AE0</b> <b>6GK1 713-5DB00-3AE1</b>	<b>FMS-5613, Edition 2008</b> Software for FMS protocol, including PG/OP communication, FDL, FMS-OPC server and NCM PC; runtime software, software and electronic manual on USB stick, Class A for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5613, CP 5613 A2, CP 5613 FO, CP 5614, CP 5614 A2, German/English <ul style="list-style-type: none"> <li>• Single license for 1 installation</li> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version</li> <li>• Upgrade FMS-5613 from Edition 2006 to FMS-5613 Edition 2008</li> <li>• Upgrade FMS-5613 from V6.0, V6.1, V6.2 or V6.3 to FMS-5613 Edition 2008</li> </ul>	<b>6GK1 713-5FB71-3AA0</b> <b>6GK1 713-5FB00-3AL0</b> <b>6GK1 713-5FB00-3AE0</b> <b>6GK1 713-5FB00-3AE1</b>

Z) Subject to export regulations: AL: N and ECCN: 5D992

### Overview



DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●	●	●	●	●	●

- PCI card (universal keyed 5 V/3.3 V) with microprocessor for system connection for PCs and SIMATIC PG/PC to PROFIBUS with up to 12 Mbit/s
- Communication services:
  - PROFIBUS DP master and slave interface according to IEC 61158/61784 on one PCI card
  - PG/OP communication with STEP 5 and STEP 7
  - S7 communication
  - Open communication (SEND/RECEIVE) based on the FDL interface
  - PROFIBUS FMS acc. to IEC 61158/61784
- Comprehensive diagnostics possibilities for installation, commissioning and operation of the module
- High performance over direct dual-port RAM access
- Event and filter mechanisms to reduce the loading on the host CPU
- Multiprotocol mode and parallel operation of up to 4 CPs
- Implementation of Motion Control applications is possible because a constant bus cycle time is supported
- The appropriate OPC servers and configuration tools are included in the scope of supply of the respective communications software.

# PROFIBUS

## System interfacing for PG/PC

### CP 5614 A2

Ordering data	Order No.	Order No.
<b>CP 5614 A2 communications processor</b> PCI card (32-bit; 3.3 V/5 V) master and slave interface to PROFIBUS including DP-Base software with NCM PC; DP-RAM interface for DP-Master, including PG and FDL protocol; single license for 1 installation, runtime software, software and electronic manual on CD-ROM, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; German/English	<b>6GK1 561-4AA01</b>	<b>S7-5613 Edition 2008</b> Software for S7-communication, including PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5613, CP 5613 A2, CP 5613 FO, CP 5614, CP 5614 A2, German/English • Single license for 1 installation Z <b>6GK1 713-5CB71-3AA0</b> • Software Update Service for 1 year, with automatic extension; requirement: Current software version <b>6GK1 713-5CB00-3AL0</b> • Upgrade S7-5613 from Edition 2006 to S7-5613 Edition 2008 Z <b>6GK1 713-5CB00-3AE0</b> • Upgrade S7-5613 from V6.0, V6.1, V6.2 or V6.3 to S7-5613 Edition 2008 Z <b>6GK1 713-5CB00-3AE1</b>
<b>Software Upgrade</b> for CP 5613 A2 and CP 5613 FO from V6.0 to Edition 2008	<b>6GK1 561-3AA01-3AE0</b>	
<b>DK-5613 Development Kit</b> Software development kit for CP 5613/CP 5614/CP 5613 A2/CP 5614 A2/CP 5613 FO for integration in other operating system environments on systems with a PCI slot	siehe <a href="http://www.siemens.com/simatic-net/dk5613">http://www.siemens.com/simatic-net/dk5613</a>	
<b>DP-5613, Edition 2008</b> Software for DP, including PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5613, CP 5613 A2, CP 5613 FO, CP 5614, CP 5614 A2; German/English • Single license for 1 installation Z <b>6GK1 713-5DB71-3AA0</b> • Software Update Service for 1 year, with automatic extension; requirement: Current software version <b>6GK1 713-5DB00-3AL0</b> • Upgrade DP-5613 from Edition 2006 to DP-5613 Edition 2008 Z <b>6GK1 713-5DB00-3AE0</b> • Upgrade DP-5613 from V6.0, V6.1, V6.2 or V6.3 to DP-5613 Edition 2008 Z <b>6GK1 713-5DB00-3AE1</b>		<b>FMS-5613, Edition 2008</b> Software for FMS protocol, including PG/OP communication; FDL, FMS-OPC server and NCM PC; runtime software, software and electronic manual on USB stick, Class A for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5613, CP 5613 A2, CP 5613 FO, CP 5614, CP 5614 A2, German/English • Single license for 1 installation Z <b>6GK1 713-5FB71-3AA0</b> • Software Update Service for 1 year, with automatic extension; requirement: Current software version <b>6GK1 713-5FB00-3AL0</b> • Upgrade FMS-5613 from Edition 2006 to FMS-5613 Edition 2008 Z <b>6GK1 713-5FB00-3AE0</b> • Upgrade FMS-5613 from V6.0, V6.1, V6.2 or V6.3 to FMS-5613 Edition 2008 Z <b>6GK1 713-5FB00-3AE1</b>
		<b>PROFIBUS FastConnect bus connector RS 485 Plug 180</b> With 180° cable outlet
		<b>PROFIBUS bus terminal 12M</b> Bus terminal for connection of PROFIBUS stations up to 12 Mbit/s with plug-in cable
		<b>6GK1 500-0FC00</b>  <b>6GK1 500-0AA10</b>

Z) Subject to export regulations: AL: N and ECCN: 5D992

### Overview



DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
•	•	•	•	•	•

- PCI Express card (PCIe x1) with its own microprocessor for connecting PC and SIMATIC PG/PC to PROFIBUS at up to 12 Mbit/s
- Communication services:
  - PPROFIBUS DP Master Class 1 and 2 or DP slave according to IEC 61158/61784
  - PG/OP communication with STEP 5 and STEP 7
  - S7 communication with S7-5613 software package
  - Open communication (SEND/RECEIVE) based on the FDL interface
  - PROFIBUS FMS according to IEC 61158/61784 with FMS-5613 software package
- Extensive diagnostics options for installation, commissioning and operation of the module
- High performance over direct dual-port RAM access
- Event and filter mechanism for reducing the load on the host CPU
- Multiprotocol operation and parallel operation of up to four CPs
- Implementation of Motion Control applications is possible because a constant bus cycle time is supported
- The appropriate OPC servers and configuration tools are included in the scope of supply of the respective communication software

# PROFIBUS

## System interfacing for PG/PC

CP 5623

Ordering data	Order No.	Order No.
<b>CP 5623 communications processor</b> PCI Express x1 card (32 bit) for connection to PROFIBUS incl. DP-Base software with NCM PC; DP-RAM interface for DP master or DP slave, incl. PG and FDL protocol; single license for 1 installation, runtime software, software and electronic manual on CD-ROM, Class A, Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; German/English	<b>6GK1 562-3AA00</b>	<b>S7-5613 Edition 2008</b> Software for S7-communication, incl. PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on USB stick, Class A, for 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5613, CP 5613 A2, CP 5623, CP 5613 FO, CP 5614, CP 5614 A2, CP 5624; German/English <ul style="list-style-type: none"> <li>• Single license for 1 installation Z <b>6GK1 713-5CB71-3AA0</b></li> <li>• Software Update Service for 1 year, with automatic extension; requirement: current software version <b>6GK1 713-5CB00-3AL0</b></li> <li>• Upgrade from S7-5613 Edition 2006 or 2007 to S7-5613 Edition 2008 Z <b>6GK1 713-5CB00-3AE0</b></li> <li>• Upgrade from S7-5613 V6.0, V6.1, V6.2 or V6.3 to S7-5613 Edition 2008 Z <b>6GK1 713-5CB00-3AE1</b></li> </ul>
<b>DK-5613 Development Kit</b> Software development kit for CP 5613/CP 5614/ CP 5613 A2/ CP 5623/ CP 5614 A2/CP 5624/ CP 5613 FO for integration into other operating system environments on systems with PCI or PCI Express slot	see <a href="http://www.siemens.com/simatic-net/dk5613">http://www.siemens.com/simatic-net/dk5613</a>	
<b>DP-5613 Edition 2008</b> Software for DP, incl. PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A, for 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5613, CP 5613 A2, CP 5623, CP 5613 FO, CP 5614, CP 5614 A2, CP 5624; German/English <ul style="list-style-type: none"> <li>• Single license for 1 installation Z <b>6GK1 713-5DB71-3AA0</b></li> <li>• Software Update Service for 1 year, with automatic extension; requirement: current software version <b>6GK1 713-5DB00-3AL0</b></li> <li>• Upgrade from DP-5613 Edition 2006 or 2007 to DP-5613 Edition 2008 Z <b>6GK1 713-5DB00-3AE0</b></li> <li>• Upgrade from DP-5613 V6.0, V6.1, V6.2 or V6.3 to DP-5613 Edition 2008 Z <b>6GK1 713-5DB00-3AE1</b></li> </ul>		<b>FMS-5613 Edition 2008</b> Software for FMS protocol, incl. PG/OP communication; FDL, FMS-OPC server and NCM PC; runtime software, software and electronic manual on USB flash drive, Class A, for 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5613, CP 5613 A2, CP 5623, CP 5613 FO, CP 5614, CP 5614 A2, CP 5624; German/English <ul style="list-style-type: none"> <li>• Single license for 1 installation Z <b>6GK1 713-5FB71-3AA0</b></li> <li>• Software Update Service for 1 year, with automatic extension; requirement: current software version <b>6GK1 713-5FB00-3AL0</b></li> <li>• Upgrade from FMS-5613 Edition 2006 or 2007 to FMS-5613 Edition 2008 Z <b>6GK1 713-5FB00-3AE0</b></li> <li>• Upgrade from FMS-5613 V6.0, V6.1, V6.2 or V6.3 to FMS-5613 Edition 2008 Z <b>6GK1 713-5FB00-3AE1</b></li> </ul>
		<b>PROFIBUS FastConnect bus connector RS 485 Plug 180</b> with 180° cable outlet <b>6GK1 500-0FC10</b>
		<b>PROFIBUS bus terminal 12M</b> Bus terminal for connection of PROFIBUS nodes at up to 12 Mbit/s with connecting cable <b>6GK1 500-0AA10</b>

E) Subject to export regulations: AL: N and ECCN: 5D002ENC3

Z) Subject to export regulations: AL: N and ECCN: 5D992

### Overview



DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●	●	●	●	●	●

- PCI Express card (PCIe x1) with its own microprocessor for connecting PC and SIMATIC PG/PC to PROFIBUS at up to 12 Mbit/s
- Communication services:
  - PROFIBUS DP master and slave interface according to IEC 61158/61784 on one PCI card
  - PG/OP communication with STEP 5 and STEP 7
  - S7 communication with S7-5613 software package
  - Open communication (SEND/RECEIVE) based on the FDL interface
  - PROFIBUS FMS according to IEC 61158/61784 with FMS-5613 software package
- Extensive diagnostics options for installation, commissioning and operation of the module
- High performance over direct dual-port RAM access
- Event and filter mechanism for reducing the load on the host CPU
- Multiprotocol operation and parallel operation of up to four CPs
- Implementation of Motion Control applications is possible because a constant bus cycle time is supported
- The appropriate OPC servers and configuration tools are included in the scope of supply of the respective communication software

# PROFIBUS

## System interfacing for PG/PC

CP 5624

Ordering data	Order No.	Order No.
<b>CP 5614 A2 communications processor</b> PCI Express x1 card (32 bit) master and slave connection to PROFIBUS incl. DP-base software with NCM PC; DP-RAM interface for DP master, incl. PG and FDL protocol; single license for 1 installation, runtime software, software and electronic manual on CD-ROM, Class A, Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; German/English	<b>6GK1 562-4AA00</b>	<b>S7-5613 Edition 2008</b> Software for S7-communication, incl. PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on USB flash drive, Class A, for 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5613, CP 5613 A2, CP 5623, CP 5613 FO, CP 5614, CP 5614 A2, CP 5624; German/English • Single license for 1 installation Z <b>6GK1 713-5CB71-3AA0</b> • Software Update Service for 1 year, with automatic extension; requirement: current software version <b>6GK1 713-5CB00-3AL0</b> • Upgrade from S7-5613 Edition 2006 or 2007 to S7-5613 Edition 2008 Z <b>6GK1 713-5CB00-3AE0</b> • Upgrade from S7-5613 V6.0, V6.1, V6.2 or V6.3 to S7-5613 Edition 2008 Z <b>6GK1 713-5CB00-3AE1</b>
<b>DK-5613 Development Kit</b> Software development kit for CP 5613/CP 5614/ CP 5613 A2/CP 5623/ CP 5614 A2/ CP 5624/ CP 5613 FO for integration into other operating system environments on systems with PCI or PCI Express slot	see <a href="http://www.siemens.com/simatic-net/dk5613">http://www.siemens.com/simatic-net/dk5613</a>	
<b>DP-5613 Edition 2008</b> Software for DP, incl. PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A, for 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5613, CP 5613 A2, CP 5623, CP 5613 FO, CP 5614, CP 5614 A2, CP 5624; German/English • Single license for 1 installation Z <b>6GK1 713-5DB71-3AA0</b> • Software Update Service for 1 year, with automatic extension; requirement: current software version <b>6GK1 713-5DB00-3AL0</b> • Upgrade from DP-5613 Edition 2006 or 2007 to DP-5613 Edition 2008 Z <b>6GK1 713-5DB00-3AE0</b> • Upgrade from DP-5613 V6.0, V6.1, V6.2 or V6.3 to DP-5613 Edition 2008 Z <b>6GK1 713-5DB00-3AE1</b>		<b>FMS-5613 Edition 2008</b> Software for FMS protocol, incl. PG/OP communication; FDL, FMS-OPC server and NCM PC; runtime software, software and electronic manual on USB flash drive, Class A, for 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5613, CP 5613 A2, CP 5623, CP 5613 FO, CP 5614, CP 5614 A2, CP 5624; German/English • Single license for 1 installation Z <b>6GK1 713-5FB71-3AA0</b> • Software Update Service for 1 year, with automatic extension; requirement: current software version <b>6GK1 713-5FB00-3AL0</b> • Upgrade from FMS-5613 Edition 2006 or 2007 to FMS-5613 Edition 2008 Z <b>6GK1 713-5FB00-3AE0</b> • Upgrade from FMS-5613 V6.0, V6.1, V6.2 or V6.3 to FMS-5613 Edition 2008 Z <b>6GK1 713-5FB00-3AE1</b>
		<b>PROFIBUS FastConnect bus connector RS 485 Plug 180</b> with 180° cable outlet <b>6GK1 500-0FC10</b>
		<b>PROFIBUS bus terminal 12M</b> Bus terminal for connection of PROFIBUS nodes at up to 12 Mbit/s with connecting cable <b>6GK1 500-0AA10</b>

E) Subject to export regulations: AL: N and ECCN: 5D002ENC3

Z) Subject to export regulations: AL: N and ECCN: 5D992



### Overview



DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●	●		●	●	●

- For the connection of PG/PC and notebooks using PC-card slot (CardBus 32-bit) to PROFIBUS and MPI of the SIMATIC S7
- Communication services:
  - PROFIBUS DP Master Class 1 incl. acyclic DP expansions with SOFTNET-DP
  - PROFIBUS DP Master Class 2 incl. acyclic DP expansions with SOFTNET-DP
  - PROFIBUS DP slave with SOFTNET-DP slave
  - PG/OP communication
  - S7 communication with SOFTNET-S7
  - Open communication (SEND/RECEIVE on basis of the FDL interface) with SOFTNET-DP or SOFTNET-S7
- PC card Type II (CardBus 32-bit); for programming device/PC with PC card slot and notebooks
  - Can be used with:
    - STEP 7 and NCM PC; (ProTool, Micro/Win, ProTool/Pro, SIMATIC PDM for PG/OP communication)
    - SOFTNET-S7 (for S7-communication)
    - SOFTNET-DP, SOFTNET-DP slave (for DP)
- The appropriate OPC servers are included in the scope of supply of the respective communication software

# PROFIBUS

## System interfacing for PG/PC

CP 5512

Ordering data	Order No.	Order No.
<b>CP 5512 communications processor</b> PC-Card (CardBus, 32-bit) for connection of a programming device or notebook to PROFIBUS or MPI, under 32 bit in connection with PROFIBUS SOFTNET software or STEP 7; German/English	<b>6GK1 551-2AA00</b>	
<b>SOFTNET-S7 Edition 2008</b> Software for S7 communication, incl. FDL protocol with OPC server and NCM PC, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP1, 2, Windows 2003 Server SP1, R2, SP2, Windows Vista Business/Ultimate; for CP 5512, CP 5611, CP 5611 A2, CP 5621; German/English		
<ul style="list-style-type: none"> <li>• Single license for 1 installation Z</li> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version</li> <li>• Upgrade SOFTNET-S7 from Edition 2006 to SOFTNET-S7, Edition 2008 Z</li> <li>• Upgrade SOFTNET-S7 from V6.0, V6.1, V6.2 or V6.3 to SOFTNET-S7 Edition 2008 Z</li> </ul>	<b>6GK1 704-5CW71-3AA0</b> <b>6GK1 704-5CW00-3AL0</b> <b>6GK1 704-5CW00-3AE0</b> <b>6GK1 704-5CW00-3AE1</b>	
<b>SOFTNET-DP Edition 2008</b> Software for DP protocol (Master Class 1 and 2) including FDL protocol with OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit, Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5512, CP 5611, CP 5611 A2, CP 5621 German/English		
<ul style="list-style-type: none"> <li>• Single license for 1 installation Z</li> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version</li> <li>• Upgrade SOFTNET-DP from Edition 2006 to SOFTNET-DP, Edition 2008 Z</li> <li>• Upgrade SOFTNET-DP from V6.0, V6.1, V6.2 or V6.3 to SOFTNET-DP Edition 2008 Z</li> </ul>	<b>6GK1 704-5DW71-3AA0</b> <b>6GK1 704-5DW00-3AL0</b> <b>6GK1 704-5DW00-3AE0</b> <b>6GK1 704-5DW00-3AE1</b>	
<b>SOFTNET-DP Slave Edition 2008</b> Software for DP-Slave, with DP-OPC server and NCM PC; single license for 1 installation, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5512, CP 5611, CP 5611 A2, CP 5621 German/English		
<ul style="list-style-type: none"> <li>• Single license for 1 installation Z</li> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version</li> <li>• Upgrade SOFTNET-DP Slave from Edition 2006 to SOFTNET-DP Slave, Edition 2008 Z</li> <li>• Upgrade SOFTNET-DP Slave from V6.0, V6.1, V6.2 or V6.3 to SOFTNET-DP Slave, Edition 2008 Z</li> </ul>	<b>6GK1 704-5SW71-3AA0</b> <b>6GK1 704-5SW00-3AL0</b> <b>6GK1704-5SW00-3AE0</b> <b>6GK1704-5SW00-3AE1</b>	
<b>PROFIBUS FastConnect bus connector RS 485 Plug 180</b> With 180° cable outlet		<b>6GK1 500-0FC00</b>
<b>PROFIBUS adapter for CP 5512</b>		<b>C79459-A1890-A10</b>

Z) Subject to export regulations: AL: N and ECCN: 5D992

### Overview



DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●	●		●	●	●

- PCI card (universal-keyed 5 V/3.3 V) for connecting PCs and SIMATIC PG/PC to PROFIBUS at up to 12 Mbit/s and to the MPI interface of SIMATIC S7
- Communication services:
  - PROFIBUS DP Master Class 1 incl. acyclic DP expansions with SOFTNET-DP
  - PROFIBUS DP Master Class 2 incl. acyclic DP expansions with SOFTNET-DP
  - PROFIBUS DP slave with SOFTNET-DP slave
  - PG/OP communication
  - S7 communication with SOFTNET-S7
  - Open communication (SEND/RECEIVE on basis of the FDL interface) with SOFTNET-DP or SOFTNET-S7
- Can be used with:
  - STEP 7, STEP 7-Micro/Win, ProTool, ProTool/Pro, SIMATIC PDM (for PG/OP communication)
  - COM PROFIBUS
  - SOFTNET-S7 (for S7-communication)
  - SOFTNET-DP, SOFTNET-DP slave (for DP)
- The appropriate OPC servers and configuration tools are included in the scope of supply of the respective communication software.

# PROFIBUS

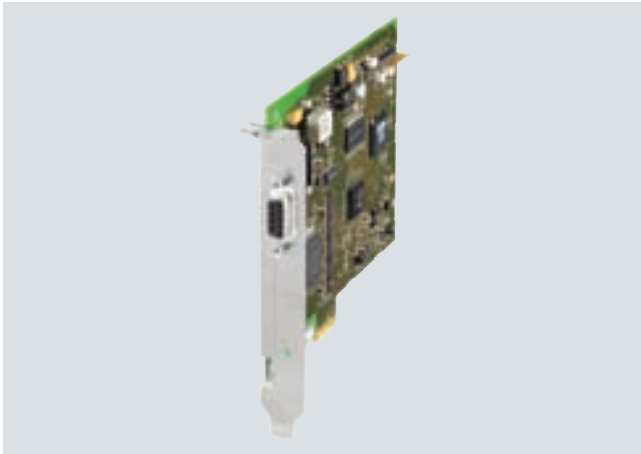
## System interfacing for PG/PC

### CP 5611 A2

Ordering data	Order No.	Order No.
<b>CP 5611 A2 communications processor</b> <ul style="list-style-type: none"> <li>• PCI card (32-bit) for connecting a PG or PC to PROFIBUS</li> <li>• PCI card (32-bit) CP 5611 A2 and MPI cable, 5 m <sup>A</sup></li> </ul>	<b>6GK1 561-1AA01</b>  <b>6GK1 561-1AM01</b>	
<b>CP 5611 MPI communications processor</b> consisting of PCI card 32 bit, 3.3 V/5 V, 33/66 MHz)		
<b>SOFTNET-S7 Edition 2008</b> Software for S7 communication, including FDL protocol with OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5512, CP 5611, CP 5611 A2, CP 5621 German/English		
<ul style="list-style-type: none"> <li>• Single license for 1 installation</li> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version</li> <li>• Upgrade SOFTNET-S7 from Edition 2006 to SOFTNET-S7, Edition 2008</li> <li>• Upgrade SOFTNET-S7 from V6.0, V6.1, V6.2 or V6.3 to SOFTNET-S7 Edition 2008</li> </ul>	Z <b>6GK1 704-5CW71-3AA0</b> <b>6GK1 704-5CW00-3AL0</b>  Z <b>6GK1 704-5CW00-3AE0</b> Z <b>6GK1 704-5CW00-3AE1</b>	
<b>SOFTNET-DP Edition 2008</b> Software for DP protocol (Master Class 1 and 2) including FDL protocol with OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB stick, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5512, CP 5611, CP 5611 A2, CP 5621 German/English		
<ul style="list-style-type: none"> <li>• Single License for 1 installation</li> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version</li> <li>• Upgrade SOFTNET-DP from Edition 2006 to SOFTNET-DP, Edition 2008</li> <li>• Upgrade SOFTNET-DP from V6.0, V6.1, V6.2 or V6.3 to SOFTNET-DP Edition 2008</li> </ul>	Z <b>6GK1 704-5DW71-3AA0</b> <b>6GK1 704-5DW00-3AL0</b>  Z <b>6GK1 704-5DW00-3AE0</b> Z <b>6GK1 704-5DW00-3AE1</b>	
<b>SOFTNET-DP Slave Edition 2008</b> Software for DP-Slave, with DP-OPC server and NCM PC; single license for 1 installation, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5512, CP 5611, CP 5611 A2, CP 5621 German/English		
<ul style="list-style-type: none"> <li>• Single License for 1 installation</li> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version</li> <li>• Upgrade SOFTNET-DP Slave from Edition 2006 to SOFTNET-DP Slave, Edition 2008</li> <li>• Upgrade SOFTNET-DP Slave from V6.0, V6.1, V6.2 or V6.3 to SOFTNET-DP Slave, Edition 2008</li> </ul>	Z <b>6GK1 704-5SW71-3AA0</b> <b>6GK1 704-5SW00-3AL0</b>  Z <b>6GK1 704-5SW00-3AE0</b> Z <b>6GK1 704-5SW00-3AE1</b>	
<b>PROFIBUS FastConnect bus connector RS 485 Plug 180</b> With 180° cable outlet		<b>6GK1 500-0FC00</b>
<b>PROFIBUS bus terminal 12M</b> Bus terminal for connection of PROFIBUS stations up to 12 Mbit/s with plug-in cable		<b>6GK1 500-0AA10</b>

A) Subject to export regulations: AL: N and ECCN: EAR99H  
 Z) Subject to export regulations: AL: N and ECCN: 5D992

### Overview



DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●	●		●	●	●

- PCI Express x1 card for connection of PCs and SIMATIC PG/PC to PROFIBUS at up to 12 Mbit/s and to the MPI of the SIMATIC S7
- Communication services:
  - PROFIBUS DP Master Class 1 incl. acyclic DP expansions with SOFTNET-DP
  - PROFIBUS DP Master Class 2 incl. acyclic DP expansions with SOFTNET-DP
  - PROFIBUS DP slave with SOFTNET-DP slave
  - PG/OP communication
  - S7 communication with SOFTNET-S7
  - Open communication (SEND/RECEIVE on basis of the FDL interface) with SOFTNET-DP or SOFTNET-S7
- Can be used with:
  - STEP 7, STEP 7-Micro/Win, ProTool, ProTool/Pro, SIMATIC PDM (for PG/OP communication)
  - COM PROFIBUS
  - SOFTNET-S7 (for S7-communication)
  - SOFTNET-DP, SOFTNET-DP slave (for DP)
- The appropriate OPC server and configuration tools are included in the scope of supply of the respective communication software.

# PROFIBUS

## System interfacing for PG/PC

CP 5621

Ordering data	Order No.	Order No.
<b>CP 5621 communications processor</b> <ul style="list-style-type: none"> <li>• PCI Express x1 card (32-bit) for connection of a PG or PC to PROFIBUS E <b>6GK1 562-1AA00</b></li> <li>• PCI Express x1 card (32-bit) CP 5621 and MPI cable, 5 m E <b>6GK1 562-1AM00</b></li> </ul>		
<b>SOFTNET-S7, Edition 2008</b> <p>Software for S7 communication, including FDL protocol with OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5512, CP 5611, CP 5611 A2, CP 5621 German/English</p> <ul style="list-style-type: none"> <li>• Single license for 1 installation Z <b>6GK1 704-5CW71-3AA0</b></li> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version <b>6GK1 704-5CW00-3AL0</b></li> <li>• Upgrade SOFTNET-S7 from Edition 2006 to SOFTNET-S7 Edition 2008 Z <b>6GK1 704-5CW00-3AE0</b></li> <li>• Upgrade SOFTNET-S7 from V6.0, V6.1, V6.2 or V6.3 to SOFTNET-S7, Edition 2008 Z <b>6GK1 704-5CW00-3AE1</b></li> </ul>		
<b>SOFTNET-DP, Edition 2008</b> <p>Software for DP protocol (Master Class 1 and 2) including FDL protocol with OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5512, CP 5611, CP 5611 A2, CP 5621 German/English</p> <ul style="list-style-type: none"> <li>• Single license for 1 installation Z <b>6GK1 704-5DW71-3AA0</b></li> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version <b>6GK1 704-5DW00-3AL0</b></li> <li>• Upgrade SOFTNET-DP from Edition 2006 to SOFTNET-DP Edition 2008 Z <b>6GK1 704-5DW00-3AE0</b></li> <li>• Upgrade SOFTNET-DP from V6.0, V6.1, V6.2 or V6.3 to SOFTNET-DP, Edition 2008 Z <b>6GK1 704-5DW00-3AE1</b></li> </ul>		
<b>SOFTNET-DP Slave, Edition 2008</b> <p>Software for DP-Slave, with DP-OPC server and NCM PC; single license for 1 installation, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5512, CP 5611, CP 5611 A2, CP 5621 German/English</p> <ul style="list-style-type: none"> <li>• Single license for 1 installation Z <b>6GK1 704-5SW71-3AA0</b></li> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version <b>6GK1 704-5SW00-3AL0</b></li> <li>• Upgrade SOFTNET-DP Slave from Edition 2006 to SOFTNET-DP Slave, Edition 2008 Z <b>6GK1 704-5SW00-3AE0</b></li> <li>• Upgrade SOFTNET-DP Slave from V6.0, V6.1, V6.2 or V6.3 to SOFTNET-DP Slave, Edition 2008 Z <b>6GK1 704-5SW00-3AE1</b></li> </ul>		
<b>PROFIBUS FastConnect bus connector RS 485 Plug 180</b> <p>with 180° cable outlet</p>		<b>6GK1 500-0FC00</b>
<b>PROFIBUS bus terminal 12M</b> <p>Bus terminal for connection of PROFIBUS stations at up to 12 Mbit/s with connecting cable</p>		<b>6GK1 500-0AA10</b>

E) Subject to export regulations: AL: N and ECCN: 5D002ENC3  
 Z) Subject to export regulations: AL: N and ECCN: 5D992

### Overview



DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●	●		●	●	●

- USB adapter for connecting PCs and SIMATIC PG/PC to PROFIBUS DP or MPI via USB 2.0.  
Operation in extended temperature range of -20 °C to +60 °C
- Active PROFIBUS termination to supply the PROFIBUS network as end station of a segment
- Communication services:
  - PROFIBUS DP Master Class 1 and 2 according to IEC 61158/61784 with SOFTNET-DP software package
  - PROFIBUS DP slave with SOFTNET-DP Slave software package
  - PG/OP communication with STEP 5 or STEP 7 software package
  - S7 communication with SOFTNET-S7 software package
  - Open communication (SEND/RECEIVE on basis of the FDL interface) with SOFTNET-DP or SOFTNET-S7 software package
- PROFIBUS connection with up to 12 Mbit/s  
Can be used with:
  - STEP 7, STEP 7 Micro/WIN, WinCC/WinCC flexible, NCM PC, SIMATIC PDM (for PG/OP communication)
  - SOFTNET-S7 (for S7 communication)
  - SOFTNET-DP, SOFTNET-DP slave (for DP)
- The appropriate OPC servers and configuration tools are included in the scope of supply of the respective communication software



# PROFIBUS

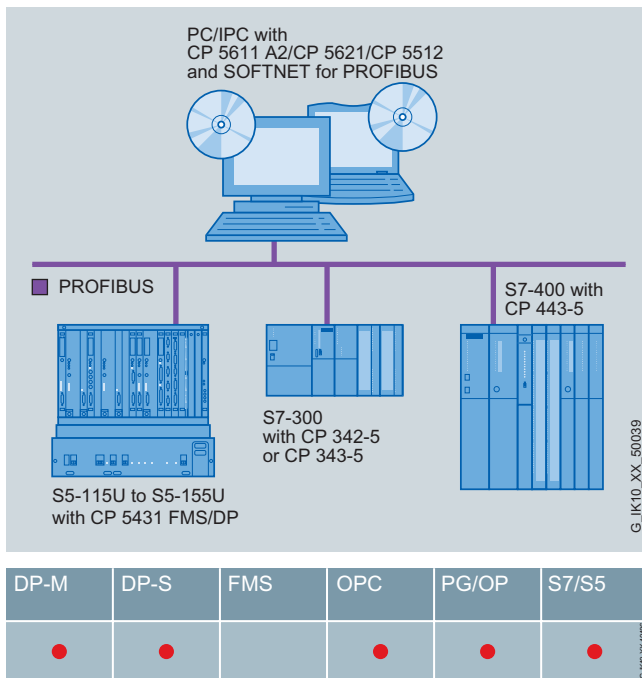
## System interfacing for PG/PC

CP 5711

Ordering data	Order No.	Order No.
<b>CP 5711 communications processor</b> for connection of a programming device or notebook to PROFIBUS or MPI, under 32 bit in connection with PROFIBUS SOFTNET software or STEP 7; German/English <ul style="list-style-type: none"> <li>• USB V2.0 adapter A <b>6GK1 571-1AA00</b></li> <li>• USB V2.0 adapter CP 5711 and MPI cable, 5 m A <b>6GK1 571-1AM00</b></li> </ul>		
<b>Mounting rail support for CP 5711</b> Compartment for CP 5711-enclosure; fastened mechanically to 35 mm DIN rail	<b>6GK1 571-1AA00-0AH0</b>	
<b>SOFTNET-S7 Edition 2008</b> Software for S7 communication, including FDL protocol with OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32 bit Windows XP Professional SP2/3, Windows 2003 Server R2, SP2, Windows Vista Business/Ultimate SP1; Windows 2008 Server, for CP 5512, CP 5611, CP 5611 A2, CP 5621, CP 5711; German/English <ul style="list-style-type: none"> <li>• Single license for 1 installation Z <b>6GK1 704-5CW71-3AA0</b></li> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version <b>6GK1 704-5CW00-3AL0</b></li> <li>• Upgrade of SOFTNET-S7 Edition 2006 or 2007 to SOFTNET-S7 Edition 2008 Z <b>6GK1 704-5CW00-3AE0</b></li> <li>• Upgrade of SOFTNET-S7 V6.0, V6.1, V6.2 or V6.3 to SOFTNET-S7 Edition 2008 Z <b>6GK1 704-5CW00-3AE1</b></li> </ul>		
<b>SOFTNET-DP Edition 2008</b> Software for DP protocol (Master Class 1 and 2) including FDL protocol with OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32 bit, Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server, for CP 5512, CP 5611, CP 5611 A2, CP 5621, CP 5711; German/English <ul style="list-style-type: none"> <li>• Single license for 1 installation Z <b>6GK1 704-5DW71-3AA0</b></li> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version <b>6GK1 704-5DW00-3AL0</b></li> <li>• Upgrade of SOFTNET-DP Edition 2006 or 2007 to SOFTNET-DP Edition 2008 Z <b>6GK1 704-5DW00-3AE0</b></li> <li>• Upgrade of SOFTNET-DP V6.0, V6.1, V6.2 or V6.3 to SOFTNET-DP Edition 2008 Z <b>6GK1 704-5DW00-3AE1</b></li> </ul>		
<b>SOFTNET-DP Slave Edition 2008</b> Software for DP-Slave, with DP-OPC server and NCM PC; single license for 1 installation runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5512, CP 5611, CP 5611 A2, CP 5621 German/English <ul style="list-style-type: none"> <li>• Single license for 1 installation Z <b>6GK1 704-5SW71-3AA0</b></li> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version <b>6GK1 704-5SW00-3AL0</b></li> <li>• Upgrade of SOFTNET-DP Edition 2006 or 2007 to SOFTNET-DP Edition 2008 Z <b>6GK1704-5SW00-3AE0</b></li> <li>• Upgrade of SOFTNET-DP V6.0, V6.1, V6.2 or V6.3 to SOFTNET-DP Edition 2008 Z <b>6GK1704-5SW00-3AE1</b></li> </ul>		
<b>PROFIBUS FastConnect bus connector RS 485 Plug 180</b> with 180° cable outlet	<b>6GK1 500-0FC10</b>	

A) Subject to export regulations: AL: N and ECCN: EAR99H  
 Z) Subject to export regulations: AL: N and ECCN: 5D992

#### Overview



- Software for coupling programming devices, PG and notebooks to programmable controllers
- Communication services:
  - PROFIBUS DP Master Class 1 and 2 with acyclic expansions
  - PROFIBUS DP slave
  - PG/OP communication
  - S7 communication
  - Open communication (SEND/RECEIVE) based on the FDL interface
- The appropriate OPC servers are included in the scope of supply of the respective communication software

# PROFIBUS

## System interfacing for PG/PC

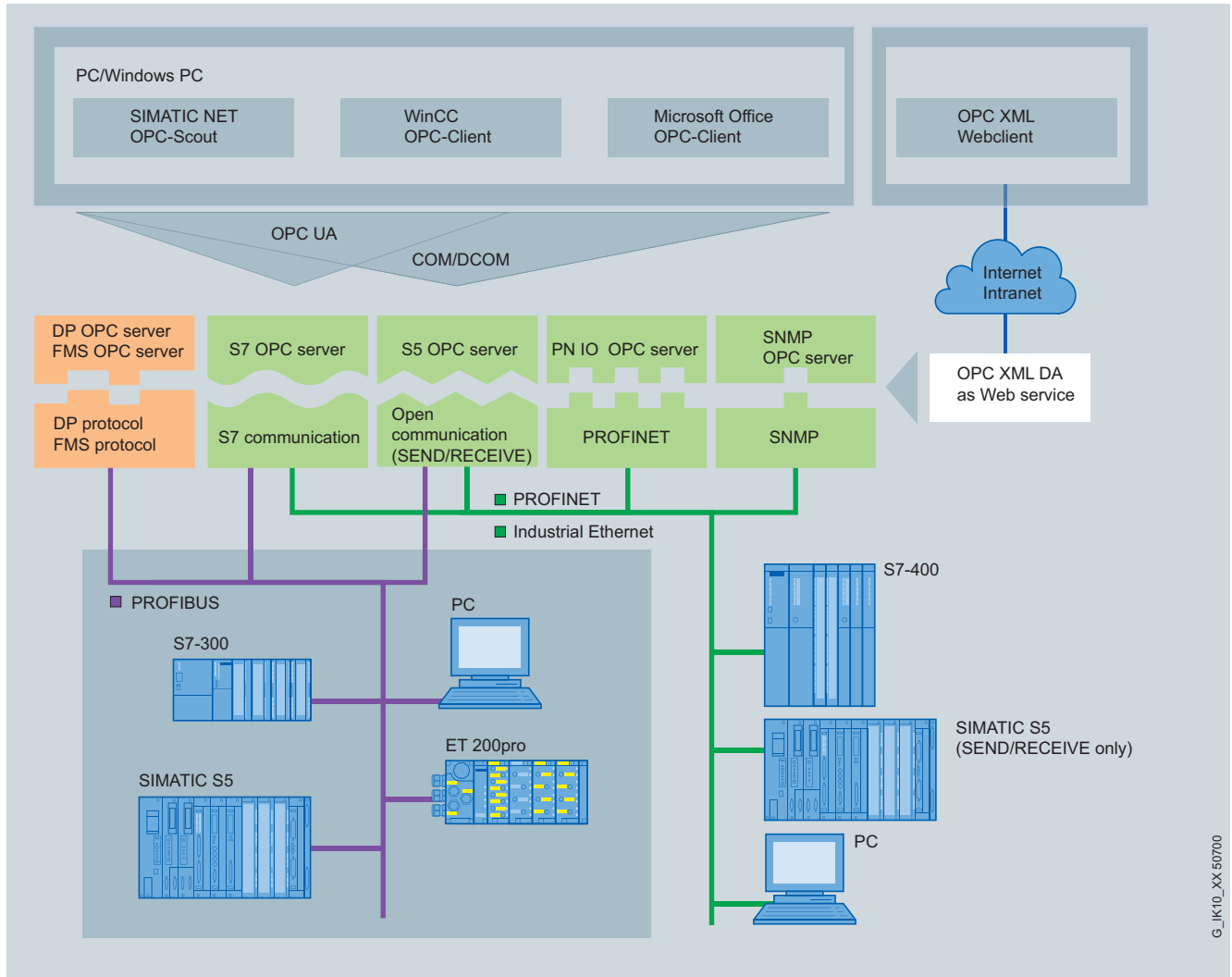
### SOFTNET for PROFIBUS

Ordering data	Order No.	Order No.
<b>SOFTNET-S7 Edition 2008</b> Software for S7 communication, including FDL protocol with OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5512, CP 5611, CP 5611 A2, CP 5621 German/English		
<ul style="list-style-type: none"> <li>• Single license for 1 installation Z</li> </ul>	<b>6GK1 704-5CW71-3AA0</b>	
<ul style="list-style-type: none"> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version</li> </ul>	<b>6GK1 704-5CW00-3AL0</b>	
<ul style="list-style-type: none"> <li>• Upgrade SOFTNET-S7 from Edition 2006 to SOFTNET-S7, Edition 2008 Z</li> </ul>	<b>6GK1 704-5CW00-3AE0</b>	
<ul style="list-style-type: none"> <li>• Upgrade SOFTNET-S7 from V6.0, V6.1, V6.2 or V6.3 to SOFTNET-S7 Edition 2008 Z</li> </ul>	<b>6GK1 704-5CW00-3AE1</b>	
<b>SOFTNET-DP Edition 2008</b> Software for DP protocol (Master Class 1 and 2) including FDL protocol with OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32 bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5512, CP 5611, CP 5611 A2, CP 5621 German/English		
<ul style="list-style-type: none"> <li>• Single license for 1 installation Z</li> </ul>	<b>6GK1 704-5DW71-3AA0</b>	
<ul style="list-style-type: none"> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version</li> </ul>	<b>6GK1 704-5DW00-3AL0</b>	
<ul style="list-style-type: none"> <li>• Upgrade SOFTNET-DP from Edition 2006 to SOFTNET-DP, Edition 2008 Z</li> </ul>	<b>6GK1 704-5DW00-3AE0</b>	
<ul style="list-style-type: none"> <li>• Upgrade SOFTNET-DP from V6.0, V6.1, V6.2 or V6.3 to SOFTNET-DP Edition 2008 Z</li> </ul>	<b>6GK1 704-5DW00-3AE1</b>	
<b>SOFTNET-DP Slave, Edition 2008</b> Software for DP-Slave, with DP-OPC server and NCM PC; single license for 1 installation, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for 32-bit Windows XP Professional SP 2, 3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5512, CP 5611, CP 5611 A2, CP 5621 German/English		
<ul style="list-style-type: none"> <li>• Single license for 1 installation Z</li> </ul>	<b>6GK1 704-5SW71-3AA0</b>	
<ul style="list-style-type: none"> <li>• Software Update Service for 1 year, with automatic extension; requirement: Current software version</li> </ul>	<b>6GK1 704-5SW00-3AL0</b>	
<ul style="list-style-type: none"> <li>• Upgrade SOFTNET-DP Slave from Edition 2006 to SOFTNET-DP Slave, Edition 2008 Z</li> </ul>	<b>6GK1 704-5SW00-3AE0</b>	
<ul style="list-style-type: none"> <li>• Upgrade SOFTNET-DP Slave from V6.0, V6.1, V6.2 or V6.3 to SOFTNET-DP Slave, Edition 2008 Z</li> </ul>	<b>6GK1 704-5SW00-3AE1</b>	

Z) Subject to export regulations: AL: N and ECCN: 5D992

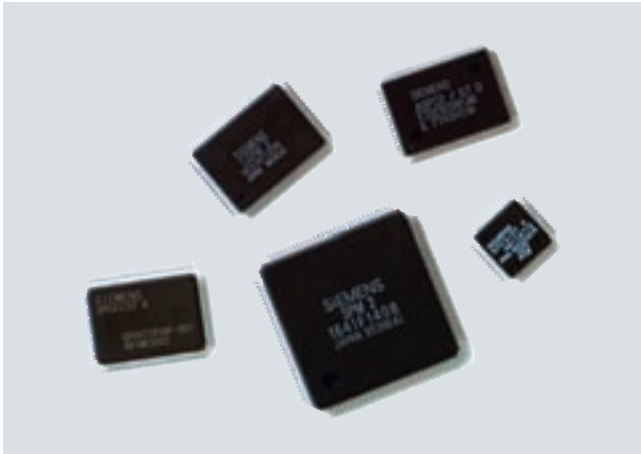
#### Overview

- Standardized, open multi-vendor interface
- Interfacing of OPC-capable Windows applications to DP, FMS, S7 communication and open communication (SEND/RECEIVE) based on the FDL interface
- OPC Scout with browser functionality as an OPC client and OCX Data Control
- The relevant OPC servers are supplied with each communication software package



System integration with OPC server

#### Overview



- Easy connection of field devices to PROFIBUS FMS/DP/PA
- Low Power Management is integrated for SPC 4-2, DPC 31 and SIM 1-2
- Various ASICs are available for different functional requirements and fields of application

Ordering data	Order No.	Order No.
<b>ASIC ASPC 2</b> For designing master interfaces (quantity discount) <ul style="list-style-type: none"> <li>• 6 items (lead-free) A <b>6ES7 195-0AA05-0XA0</b></li> <li>• 66 items (lead-free) A <b>6ES7 195-0AA15-0XA0</b></li> <li>• 660 items (lead-free) A <b>6ES7 195-0AA25-0XA0</b></li> <li>• 4620 items (lead-free) A <b>6ES7 195-0AA35-0XA0</b></li> </ul>		
<b>ASIC LSPM 2</b> For designing simple slave interfaces (quantity discount) <ul style="list-style-type: none"> <li>• 6 items (lead-free) A <b>6ES7 195-0BA02-0XA0</b></li> <li>• 66 items (lead-free) A <b>6ES7 195-0BA12-0XA0</b></li> <li>• 330 items (lead-free) A <b>6ES7 195-0BA22-0XA0</b></li> <li>• 4950 items (lead-free) A <b>6ES7 195-0BA32-0XA0</b></li> </ul>		
<b>ASIC SPC 3</b> For designing intelligent slave interfaces (quantity discount) <ul style="list-style-type: none"> <li>• 6 items (lead-free) A <b>6ES7 195-0BD04-0XA0</b></li> <li>• 96 items (lead-free) A <b>6ES7 195-0BD14-0XA0</b></li> <li>• 960 items (lead-free) A <b>6ES7 195-0BD24-0XA0</b></li> <li>• 4800 items (lead-free) A <b>6ES7 195-0BD34-0XA0</b></li> <li>• 750 items (lead-free) T&amp;R A <b>6ES7 195-0BD44-0XA0</b></li> </ul>		
<b>ASIC FOCSI</b> Fiber Optic Controller from Siemens for conditioning signals for the optical PROFIBUS <ul style="list-style-type: none"> <li>• 40 items A <b>6ES7 195-0EA20-0XA0</b></li> </ul>		
<b>ASIC DPC 31 STEP B</b> For designing intelligent slave interfaces (quantity discounts) <ul style="list-style-type: none"> <li>• 6 items (lead-free) A <b>6ES7 195-0BE02-0XA0</b></li> <li>• 60 items (lead-free) A <b>6ES7 195-0BE12-0XA0</b></li> <li>• 300 items (lead-free) A <b>6ES7 195-0BE22-0XA0</b></li> <li>• 5100 items (lead-free) A <b>6ES7 195-0BE32-0XA0</b></li> </ul>		
		<b>ASIC DPC 31 STEP C</b> For designing intelligent slave interfaces (quantity discounts) <ul style="list-style-type: none"> <li>• 6 items (lead-free) A <b>6ES7 195-0BF01-0XA0</b></li> <li>• 66 items (lead-free) A <b>6ES7 195-0BF11-0XA0</b></li> <li>• 660 items (lead-free) A <b>6ES7 195-0BF21-0XA0</b></li> <li>• 4620 items (lead-free) A <b>6ES7 195-0BF31-0XA0</b></li> </ul>
		<b>ASIC SPC 4-2</b> For designing intelligent slave interfaces (quantity discounts) <ul style="list-style-type: none"> <li>• 5 items for laboratory development (lead-free) <b>6GK1 588-3AA00</b></li> <li>• 160 items (lead-free, 1 tray) <b>6GK1 588-3AA15</b></li> </ul>
		<b>ASIC SIM 1-2</b> For connection according to IEC H1 for PROFIBUS PA with a transmission rate of 31.25 kbit/s <ul style="list-style-type: none"> <li>• 60 items (in tube) A <b>6GK1 588-3BB02</b></li> <li>• 1000 items (tape &amp; reel) A <b>6GK1 588-3BB21</b></li> </ul>
		<b>Accessories</b> <b>Firmware for Siemens ASIC SPC 3</b> <ul style="list-style-type: none"> <li>• DP firmware <b>6ES7 195-2BA00-0XA0</b></li> <li>• DPV1 firmware <b>6ES7 195-2BA01-0XA0</b></li> <li>• DPV1 firmware upgrade <b>6ES7 195-2BA02-0XA0</b></li> </ul>
		<b>Firmware for Siemens ASIC DPC 31</b> <ul style="list-style-type: none"> <li>• DPV1 firmware A <b>6ES7 195-2BB00-0XA0</b></li> </ul>

A) Subject to export regulations: AL: N and ECCN: EAR99H

# AS-Interface

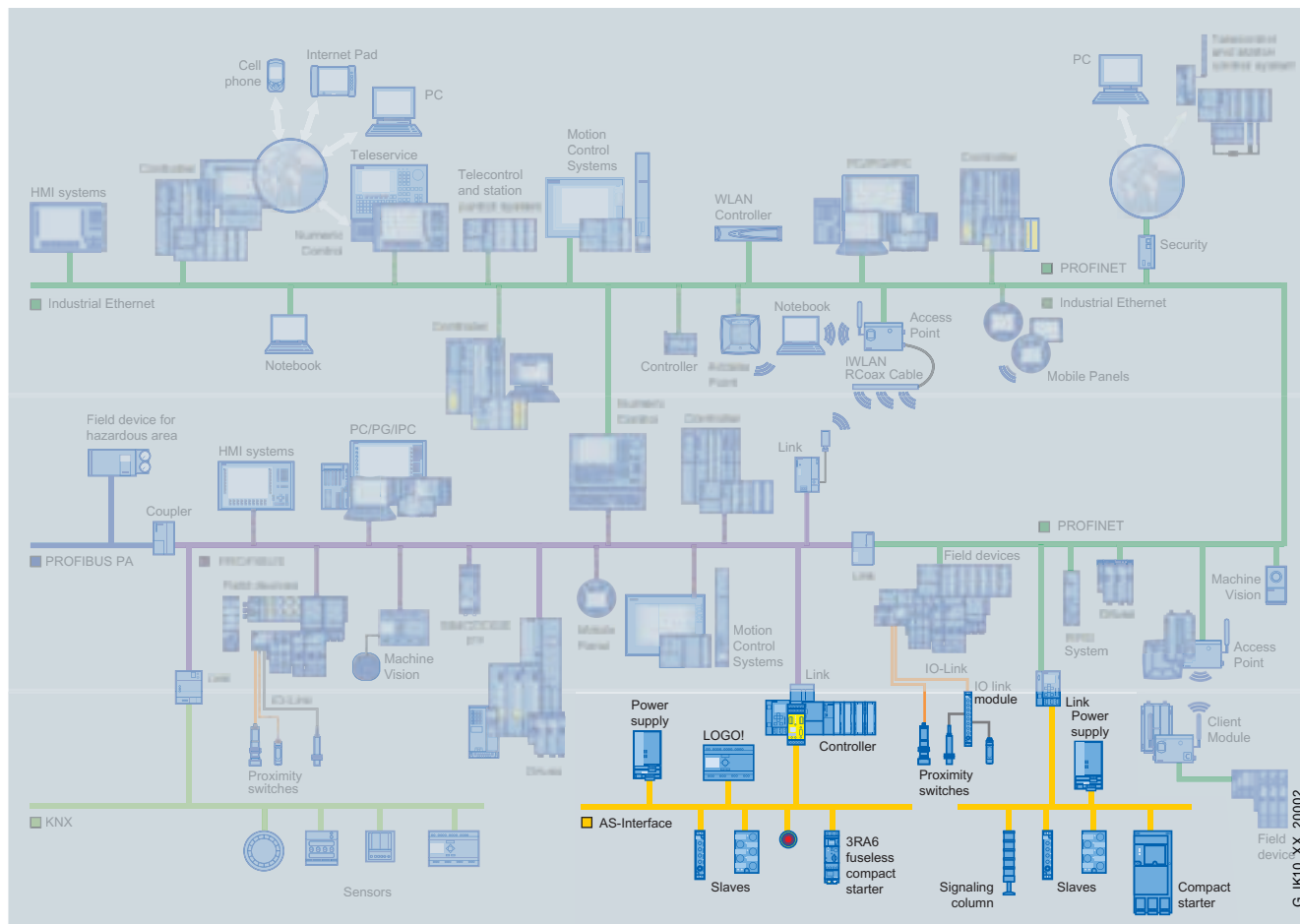
## Introduction

### Transmission technology

#### Overview

The AS-Interface is an open, international standard in accordance with EN 50295 and IEC 62026-2 for field communication. Leading manufacturers of actuators and sensors worldwide support AS-Interface. The electrical and mechanical specifications of the AS-Interface Association are made open to interested companies.

The AS-Interface is a single master system. For automation systems from Siemens, there are communications processors (CPs) and network transitions (Links) that function as masters to control process or field communication as well as sensors and actuators that are accessed as AS-Interface slaves.



#### Benefits



An important characteristic of AS-Interface technology is the use of a common two-core cable for data transmission and distribution of auxiliary power to the sensors and actuators. For distributing the auxiliary power, an AS-Interface power supply is used which satisfies the requirements of the AS-Interface transmission procedure. The AS-Interface cable is mechanically coded which prevents polarity reversal during wiring, and the insulation displacement technology allows easy contact.

Complex control cable wiring in the control cabinet and terminal blocks can be replaced with AS-Interface.

Thanks to a specially developed cable and insulation displacement technology, the AS-Interface cable can be connected anywhere.

This concept results in enormous flexibility and significant cost savings.



### Overview



- Master connection for the ET 200X distributed I/O station to AS-Interface over a 12-pin connector
- Easy operation in the I/O address area of SIMATIC ET 200X
- No CP configuration required for AS-Interface
- Activation of up to 31 AS-Interface slaves in accordance with the AS-Interface specification V2.0
- Monitoring of the supply voltage on the AS-Interface shaped cable
- Significant increase in the number of inputs and outputs of ET 200X

### Ordering data

### Order No.

#### CP 142-2 communications processor

**6GK7 142-2AH00-0XA0**

for connection of the SIMATIC ET 200X to AS-Interface

#### Electronic manuals

**6GK1 975-1AA00-3AA0**

Communication systems, protocols, products on CD-ROM, German/English

Free download in the Internet

<http://support.automation.siemens.com/WW/view/de/10805930/133300>

# AS-Interface Master

## Master for SIMATIC S7

CP 243-2

### Overview



The CP 243-2 is the AS-Interface master for the innovated generation of SIMATIC S7-200. The communications processor (6GK1 243-2AX01-0AX0) supports the extended AS-Interface specification V2.1 and has the following functions:

- Up to 62 AS-Interface slaves can be connected; integrated analog value transfer (according to the extended AS-Interface specification V2.1)
- Supports all AS-Interface master functions in accordance with the extended AS-Interface specification V2.1
- Status displays for operating states and display of the functional readiness of connected slaves with LEDs in the front panel
- Indication of errors (incl. AS-Interface voltage errors, configuration errors) with LEDs in the front panel
- Compact enclosure designed to match the new generation of SIMATIC S7-200.
- Further configuration of CPs is not required

### Ordering data

### Order No.

#### CP 243-2 communications processor

**6GK1 243-2AX01-0XA0**

for connection of the  
SIMATIC S7-200 to AS-Interface

#### Electronic manuals

**6GK1 975-1AA00-3AA0**

Communication systems,  
protocols, products on CD-ROM,  
German/English

Free download in Internet at  
<http://support.automation.siemens.com/WWW/view/com/10805930/133300>

### Overview



The CP 343-2 is the AS-Interface master for the SIMATIC S7-300 PLC and the ET 200M distributed I/O device. The communications processor has the following functions:

- Up to 62 AS-Interface slaves can be connected; integrated analog value transfer (according to the AS-Interface specification V3.0)
- Supports all AS-Interface master functions in accordance with the AS-Interface specification V3.0
- Status displays of the operating statuses and display of the operational readiness of connected slaves with LEDs on the front panel
- Error displays (such as AS-Interface voltage errors, configuration errors) with LEDs on the front plate
- Compact enclosure in SIMATIC S7-300 design

### Ordering data

### Order No.

#### CP 343-2 communications processor

**6GK7 343-2AH01-0XA0**

for the connection of SIMATIC S7-300 and ET 200M to AS-Interface; configuration of the AS-i network by means of SET-key; including manual on CD-ROM (German, English, French, Spanish, Italian); without front panel connector

#### Front connector

**6ES7 392-1AJ00-0AA0**

20-pin, with screw contacts

#### Electronic manuals

**6GK1 975-1AA00-3AA0**

Communication systems, protocols, products on CD-ROM, German/English

Free download in the Internet  
<http://support.automation.siemens.com/WW/view/com/10805930/133300>

# AS-Interface Master

## Master for SIMATIC S7

CP 343-2 P

### Overview



The CP 343-2 P is the AS-Interface master for the SIMATIC S7-300 PLC and the ET 200M distributed I/O device. The communications processor has the following functions:

- **Supports the configuration of the AS-Interface network with STEP 7, V5.2 and higher**
- Up to 62 AS-Interface slaves can be connected and integrated analog value transfer (according to the AS-Interface specification V3.0)
- Supports all AS-Interface master functions in accordance with the AS-Interface specification V3.0
- Error displays (such as AS-Interface voltage errors, configuration errors) with LEDs on the front plate
- Compact enclosure in SIMATIC S7-300 design

### Ordering data

### Order No.

#### CP 343-2 P communications processor

**6GK7 343-2AH11-0XA0**

for the connection of SIMATIC S7-300 and ET 200M to AS-Interface; configuration of the AS-i network by means of SET-key or via STEP 7 (V5.2 or higher); including manual on CD-ROM (German, English, French, Spanish, Italian); without front panel connector

#### Front connector

**6ES7 392-1AJ00-0AA0**

20-pin, with screw contacts

#### Electronic manuals

**6GK1 975-1AA00-3AA0**

Communication systems, protocols, products on CD-ROM, German/English

Free download in the Internet  
<http://support.automation.siemens.com/WW/view/com/10805930/133300>

#### Overview



- Repeater for extending the AS-Interface cable by 100 m in each case
- Up to two repeaters, can be used in series
- A parallel connection of several repeaters is possible (star configuration possible)
- Maximum extension of an AS-Interface network can thus be increased to 500 m
- Simple assembly technology
- IP67 module housing

#### Ordering data

#### Order No.

**Repeater for AS-Interface**  
for cable extension including  
mounting plate

A

**6GK1 210-0SA01**

A) Subject to export regulations: AL: N and ECCN: EAR99H

# AS-Interface

## System components and accessories

### Extension Plug

#### Overview



With the Extension Plug / Extension Plug Plus it is possible to double the cable length possible in an AS-Interface segment from 100 to 200 m.

The Extension Plug / Extension Plug Plus is a passive component which is connected to that point of the AS-Interface network furthest away from the power supply. It has an M12 plug for quick connection to the AS-Interface M12 feeder with degree of protection IP67.

Only one power supply unit is needed to supply power to the slaves on the segment which can be extended up to 200 m.

The Extension Plug / Extension Plug Plus has integrated undervoltage detection for monitoring the AS-Interface voltage in order to be sure that the necessary voltage still exists at the end of the bus cable. Undervoltage is signaled on the extension plug by means of a diagnostics LED. The Extension Plug Plus is equipped with an AS-Interface slave and communicates this diagnostics information directly to the AS-Interface master.

networks, processes can be designed for greater efficiency. The main advantage of wireless solutions is easy and flexible access to mobile stations.



Siemens supports communication with a whole family of networks. The individual members satisfy the different performance and application requirements:

The individual members can exchange data over different levels, between different subsystems or between different automation stations.

Industrial wireless communication plays an important role: Industrial wireless communication stands for the industrial mobile communication products for wireless communication. These are based on global wireless standards such as IEEE 802.11, GSM, GPRS or UMTS.

Thanks to the carefully graded performance, application-specific communication can be achieved with these products, from the simplest device through to the most complex installation. The SCALANCE W industrial wireless LAN access points can communicate over all IEEE 802.11 standardized frequencies (b/g, a/h).



# Industrial Wireless Communication

## Introduction

### General

#### Overview (continued)

##### *SCALANCE W – wireless communication*

The products of SCALANCE W offer the unique combination of reliability, ruggedness and security in one product:

- For implementation at industrial and automation customer sites
- For outdoor environments with demanding climatic requirements
- For low-cost integration in the control cabinet or in devices

The Industrial Wireless LAN (IWLAN) technology provides an extension to the IEEE 802.11 standard that is particularly suited to demanding industrial applications with real-time and redundancy requirements. For the first time customers are getting a single radio network both for data critical to the process (e.g. alarm signaling) (IWLAN) as well as for uncritical communication (WLAN), e.g. for service and diagnostics. SCALANCE W products stand out through the reliability of their radio channel and their rugged type of construction with high requirements with respect to mechanical durability for which SIMATIC is known. To protect against unauthorized access, the products provide modern standard mechanisms for user identification (authentication) and encryption of data, which, however, can also be easily integrated into existing security concepts.

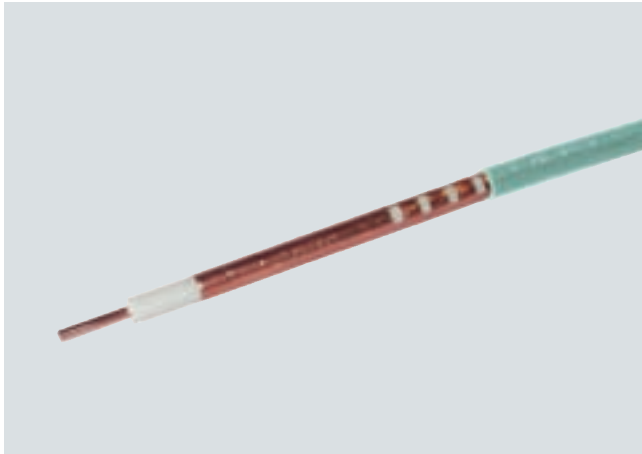
##### *Radio infrastructure*

Instead of copper cables and fiber-optic cables, wireless transmission techniques use radio waves. The propagation characteristics of the electromagnetic waves can differ considerably and depend on the spatial environment and the installed wireless infrastructure.

SCALANCE W modules use techniques such as antenna switchover (antenna diversity), high-quality receivers and fault-tolerant modulation procedures to enhance reception and to prevent interruption of radio communication. Extensions to the IEEE 802.11 standard also permit reliable, wireless transmission from PROFINET, form the basis for wireless safety applications or the transmission of video data with extremely short reply and update data.

Industrial wireless communication uses different radio networks, e.g. WLAN, GSM and GPRS in harmony with each other. This concerns primarily the assignment of different frequency ranges for different applications, limitation to maximum permissible transmission power levels, and the selection of specific transmission procedures.

#### Overview



The RCoax cables are radiating cables that function as special antennas for the SCALANCE W Access Points in environments with complex radio coverage. Its design means that a defined, cone-shaped radio field is generated along the RCoax cable. The radiating cables are therefore perfectly suitable for use in environments with complex radio coverage and in any type of track vehicle.

- Rugged coaxial cable which can be easily installed
- Two cables for use in the Industrial Wireless LAN sector with frequency bands 2.4 GHz and 5 GHz
- Connection as external antenna to SCALANCE W-780 Access Points
- Linking of mobile stations via SCALANCE W-740 client modules and IWLAN/PB Link PN IO
- Suitable for use in hazardous areas (Zone 2); no special approvals necessary

Ordering data	Order No.		Order No.
<b>IWLAN RCoax cables</b> Radiating cable for complex radio environments as special antenna for SCALANCE W Access Points; for wider temperature range (-40 °C ... + 85 °C); sold by the meter (minimum order quantity 20 m)			
<ul style="list-style-type: none"> <li>• 2.4 GHz</li> <li>• 5 GHz</li> </ul>	<b>6XV1 875-2A</b> <b>6XV1 875-2D</b>		
<b>Accessories</b>			
<b>IWLAN RCoax N-Connect stripping tool</b> Stripping tool for fast stripping of RCoax cable on site	<b>6GK1 901-1PH00</b>		
<b>RCoax N-Connect female N-connector</b> Plug connector for assembly on site; connection unit of RCoax cable for connection of further components, N-female connection.	<b>6GK5 798-0CN00-0AA0</b>		
<b>RCoax N-Connect male termination impedance</b> Terminating resistor for RCoax cable, 50 Ohm impedance, N-male connection	<b>6GK5 795-1TN00-1AA0</b>		
		<b>IWLAN N-Connect/R-SMA Male/male flexible connection cable</b> Flexible cable for connection of RCoax cable or antenna to a SCALANCE W-700 Access Point; assembled with N-Connect male and R-SMA male connectors	
		<ul style="list-style-type: none"> <li>• 1 m</li> <li>• 2 m</li> <li>• 5 m</li> <li>• 10 m</li> </ul>	<b>6XV1 875-5CH10</b> <b>6XV1 875-5CH20</b> <b>6XV1 875-5CH50</b> <b>6XV1 875-5CN10</b>
		<b>IWLAN N-Connect male/male Flexible connection cable</b> Flexible cable for connection of two RCoax cables; assembled with two N-Connect male connectors	
		<ul style="list-style-type: none"> <li>• 1 m</li> <li>• 2 m</li> <li>• 5 m</li> <li>• 10 m</li> </ul>	<b>6XV1 875-5AH10</b> <b>6XV1 875-5AH20</b> <b>6XV1 875-5AH50</b> <b>6XV1 875-5AN10</b>

# Industrial Wireless Communication

## Network components for IWLAN

### IWLAN RCoax cables

Ordering data	Order No.	Order No.
<b>IWLAN R-SMA/SMA male/male Flexible connection cable</b> Flexible cable for connecting an IWLAN/PB Link PN IO to components with RSMA and SMA connections, e.g. cabinet feedthrough; assembled with two R-SMA male to SMA male connectors <ul style="list-style-type: none"> <li>• 0.3 m</li> <li>• 2 m</li> </ul>	<b>6XV1 875-5DE30</b> <b>6XV1 875-5DH20</b>	<b>6GK5 798-0PT00-2AA0</b>
<b>IWLAN RCoax N-Connect female ANT792-4DN antenna</b> RCoax helical antenna with circular polarization for RCoax systems; 2.4 GHz; N-Connect female connection; antenna gain 1 dB at 2.4 GHz; degree of protection IP67; ambient temperature -40 °C ... +70 °C	<b>6GK5 792-4DN00-0AA6</b>	<b>6GK5 798-8MB00-0AC1</b> <b>6GK5 798-8MB00-0AM1</b>
<b>IWLAN RCoax N-Connect female ANT793-4MN antenna</b> RCoax 5/8 antenna with vertical polarization for RCoax systems; 5 GHz; N-Connect female connection; degree of protection IP67; ambient temperature -40 °C ... +70 °C	<b>6GK5 793-4MN00-0AA6</b>	<b>6GK5 798-8MC00-0AC1</b> <b>6GK5 798-8MC00-0AM1</b>
<b>RCoax N-Connect female Power splitter</b> 2-way cable splitter, Y-element for dividing the RCoax cable	<b>6GK5 798-0SN00-0EA0</b>	
<b>RCoax N-Connect male/male Coupler</b> RF coupling for connecting an RCoax antenna to an RCoax cable; two N-Connect male connectors	<b>6GK5 798-0CP00-1AA0</b>	
<b>RCoax N-Connect male/female Attenuator</b> Attenuator with N-Connect male/ N-Connect female connectors <ul style="list-style-type: none"> <li>• 10 dB</li> </ul>	<b>6GK5 798-0AP00-4CA0</b>	
		<b>RCoax N-Connect/ SMA female/female Panel feedthrough</b> Panel feedthrough for wall thicknesses up to 5.5 mm, SMA female and N-Connect female connections <b>IWLAN RCoax cable clip 1/2"</b> Cable holder for RCoax cable <ul style="list-style-type: none"> <li>• 10 items</li> <li>• 100 items</li> </ul> <b>IWLAN RCoax threaded washer M6</b> Threaded washer M6 for RCoax cable clip 1/2", for assembly with M6 threaded bolts <ul style="list-style-type: none"> <li>• 10 items</li> <li>• 100 items</li> </ul> <b>IWLAN RCoax spacer 85 mm</b> Spacer 85 mm for RCoax cable clip 1/2" <ul style="list-style-type: none"> <li>• 10 items</li> <li>• 100 items</li> </ul>
		<b>Additional components</b> <b>IWLAN/PB Link PN IO</b> Network transition between Industrial Wireless LAN and PROFIBUS with PROFINET IO functionality, TCP/IP, S7 routing, 10/100 Mbit/s Fast Ethernet, 9.6 ... 12 Mbit/s PROFIBUS; including electronic manual on CD-ROM German, English, French, Spanish, Italian <ul style="list-style-type: none"> <li>• National approvals for operation outside the U.S.A. S <b>6GK1 417-5AB00</b></li> <li>• National approvals for operation in the U.S.A. S <b>6GK1 417-5AB01</b></li> </ul>

S) Subject to export regulations: AL: 5A002A1A2 and ECCN: 5D002ENC3

#### Overview



- The Access Points of the SCALANCE W-780 product line are optimized for the configuration of Industrial Wireless LAN (IWLAN) wireless networks for 2.4 GHz or 5 GHz with data transmission rates up to 54 Mbit/s; they can be used in all applications that require a high degree of operational reliability especially under extremely harsh environmental conditions
- Suitable for any application:
  - SCALANCE W-788 for cabinet-free assembly
  - SCALANCE W-786 for demanding climatic requirements
  - SCALANCE W-784 for installation in a cabinet or integration in devices
- Reliable thanks to rugged, impact-resistant housing, protected from water and dust (IP65), resistant to shock, vibration and electromagnetic fields
- Approved for operation in hazardous areas in Zone 2
- Demanding applications with real-time and redundancy requirements, such as PROFINET, PROFIsafe or Video
- Conforms with standards since it supports IEEE 802.11; additional expansion by means of software functions especially for applications demanding high reliability: channel hopping procedure (iHOP), cyclic real-time data traffic and very fast roaming (iPCF)
- Several operating modes in one device:
  - Set up of wide area wireless networks (infrastructure) with ranges of up to 30 m indoors and approx. 100 m outdoors
  - Point-to-point connection of Industrial Ethernet segments over large distances (several 100 m)
- Support with planning, simulation, configuration, site survey and documentation with the SINEMA E engineering tool, wizards and online help; easy management with Web server and SNMP
- Quick commissioning of Access Points with the optional swap medium PRESET-PLUG and quick device exchange in case of faults with the optional swap medium C-PLUG (Configuration Plug)

#### Ordering data

#### Order No.

##### SCALANCE W-788 Access Points

IWLAN Access Points with built-in radio interfaces; radio networks IEEE 802.11b/g/a/n at 2.4/5 GHz to 54 Mbit/s. National approvals; WPA2/AES; Power over Ethernet (PoE), degree of protection IP65 (-20 °C ... +60 °C); scope of supply: 2 antennas ANT795-4MR, IP67 hybrid plug-in connector, mounting hardware; manual on CD ROM, German/English

##### SCALANCE W788-1PRO

IWLAN Access Point with one built-in radio interface

- |   |   |                            |
|---|---|----------------------------|
| • National approvals for operation outside the U.S.A. | X | <b>6GK5 788-1AA60-2AA0</b> |
| • National approvals for operation in the U.S.A.      | X | <b>6GK5 788-1AA60-2AB0</b> |

##### SCALANCE W788-2PRO

IWLAN Dual Access Point with two built-in radio interfaces

- |   |   |                            |
|---|---|----------------------------|
| • National approvals for operation outside the U.S.A. | X | <b>6GK5 788-2AA60-2AA0</b> |
| • National approvals for operation in the U.S.A.      | X | <b>6GK5 788-2AA60-2AB0</b> |

##### SCALANCE W788-1RR

IWLAN Access Point with one built-in radio interface for establishment of radio links with iPCF

- |   |   |                            |
|---|---|----------------------------|
| • National approvals for operation outside the U.S.A. | X | <b>6GK5 788-1AA60-6AA0</b> |
| • National approvals for operation in the U.S.A.      | X | <b>6GK5 788-1AA60-6AB0</b> |

##### SCALANCE W788-2RR

IWLAN Dual Access Point with two built-in radio interfaces for establishment of radio links with iPCF

- |   |   |                            |
|---|---|----------------------------|
| • National approvals for operation outside the U.S.A. | X | <b>6GK5 788-2AA60-6AA0</b> |
| • National approvals for operation in the U.S.A.      | X | <b>6GK5 788-2AA60-6AB0</b> |

X) Subject to export regulations: AL: 5A002A1A2 and ECCN: 5A002ENC3

# Industrial Wireless Communication

## Network components for IWLAN

### SCALANCE W-780 Access Points

Ordering data (continued)	Order No.	Order No.
<b>SCALANCE W-786 Access Points</b>		
IWLAN Access Points with built-in radio interfaces; radio networks IEEE 802.11b/g/a/h at 2.4/5 GHz to 54 Mbit/s. National approvals; WPA2/AES; Power over Ethernet (PoE), degree of protection IP65 (-40 °C ... +70 °C); scope of supply: Mounting hardware, 48 V DC terminal block; manual on CD-ROM German/English;		
<b>SCALANCE W786-1PRO</b>		
IWLAN Access Points with <u>one</u> built-in radio interface		
<u>RJ45 connection</u>		
• Two internal antennas		
- National approvals for operation outside the U.S.A.	X	<b>6GK5 786-1BA60-2AA0</b>
- National approvals for operation in the U.S.A.	X	<b>6GK5 786-1BA60-2AB0</b>
• Connections for two external antennas		
- National approvals for operation outside the U.S.A.	X	<b>6GK5 786-1AA60-2AA0</b>
- National approvals for operation in the U.S.A.	X	<b>6GK5 786-1AA60-2AB0</b>
<u>Fiber-optic cable connection</u>		
• Two internal antennas		
- National approvals for operation outside the U.S.A.	X	<b>6GK5 786-1BB60-2AA0</b>
- National approvals for operation in the U.S.A.	X	<b>6GK5 786-1BB60-2AB0</b>
• Connections for two external antennas		
- National approvals for operation outside the U.S.A.	X	<b>6GK5 786-1AB60-2AA0</b>
- National approvals for operation in the U.S.A.	X	<b>6GK5 786-1AB60-2AB0</b>
<b>SCALANCE W786-2PRO</b>		
IWLAN Access Points with <u>two</u> built-in radio interfaces		
<u>RJ45 connection</u>		
• Four internal antennas		
- National approvals for operation outside the U.S.A.	X	<b>6GK5 786-2BA60-2AA0</b>
- National approvals for operation in the U.S.A.	X	<b>6GK5 786-2BA60-2AB0</b>
• Connections for four external antennas		
- National approvals for operation outside the U.S.A.	X	<b>6GK5 786-2AA60-2AA0</b>
- National approvals for operation in the U.S.A.	X	<b>6GK5 786-2AA60-2AB0</b>
<u>Fiber-optic cable connection</u>		
• Four internal antennas		
- National approvals for operation outside the U.S.A.	X	<b>6GK5 786-2BB60-2AA0</b>
- National approvals for operation in the U.S.A.	X	<b>6GK5 786-2BB60-2AB0</b>
• Connections for four external antennas		
- National approvals for operation outside the U.S.A.	X	<b>6GK5 786-2AB60-2AA0</b>
- National approvals for operation in the U.S.A.	X	<b>6GK5 786-2AB60-2AB0</b>
<b>SCALANCE W786-3PRO</b>		
IWLAN Access Points with <u>three</u> built-in radio interfaces		
<u>RJ45 connection</u>		
• Connection for six external antennas		
- National approvals for operation outside the U.S.A.	X	<b>6GK5 786-3AA60-2AA0</b>
- National approvals for operation in the U.S.A.	X	<b>6GK5 786-3AA60-2AB0</b>
<u>Fiber-optic cable connection</u>		
• Connection for six external antennas		
- National approvals for operation outside the U.S.A.	X	<b>6GK5 786-3AB60-2AA0</b>
- National approvals for operation in the U.S.A.	X	<b>6GK5 786-3AB60-2AB0</b>
<b>SCALANCE W786-2RR</b>		
IWLAN Dual Access Point with two built-in radio interfaces for establishment of radio links with iPCF		
<u>RJ45 connection</u>		
• Four internal antennas		
- National approvals for operation outside the U.S.A.	X	<b>6GK5 786-2BA60-6AA0</b>
- National approvals for operation in the U.S.A.	X	<b>6GK5 786-2BA60-6AB0</b>
• Connections for four external antennas		
- National approvals for operation outside the U.S.A.	X	<b>6GK5 786-2AA60-6AA0</b>
- National approvals for operation in the U.S.A.	X	<b>6GK5 786-2AA60-6AB0</b>
<b>SCALANCE W-784 Access Points</b>		
IWLAN Access Points with built-in radio interfaces; radio networks IEEE 802.11b/g/a/h at 2.4/5 GHz to 54 Mbit/s. National approvals; WPA2/AES; Power over Ethernet (PoE), degree of protection IP30 (-20 °C ... +60 °C); scope of supply: Mounting hardware, 24 V DC terminal block; manual on CD-ROM German/English;		
<b>SCALANCE W784-1</b>		
IWLAN Access Points with <u>one</u> built-in radio interface		
• National approvals for operation outside the U.S.A.	X	<b>6GK5 784-1AA30-2AA0</b>
• National approvals for operation in the U.S.A.	X	<b>6GK5 784-1AA30-2AB0</b>
<b>SCALANCE W784-1RR</b>		
IWLAN Access Point with <u>one</u> built-in radio interface for establishment of radio links with iPCF		
• National approvals for operation outside the U.S.A.	X	<b>6GK5 784-1AA30-6AA0</b>
• National approvals for operation in the U.S.A.	X	<b>6GK5 784-1AA30-6AB0</b>

X) Subject to export regulations: AL: 5A002A1A2 and ECCN: 5A002ENC3

Ordering data (continued)	Order No.	Order No.
<b>Antennas</b>  <b>Antennas with omni-directional characteristic;</b> national approvals, brief instruction manual on paper, German/English  <u>For mounting directly onto SCALANCE W</u>  Antenna gain incl. R-SMA connector 4 dBi, 2.4/5 GHz  <ul style="list-style-type: none"> <li>• <b>ANT795-4MR antenna</b> IP65 (-20 °C ... +60 °C)</li> <li>• <b>ANT795-4MS antenna</b> IP30; radial rotation possible with additional joint; scope of supply: 2 antennas;</li> </ul> IP65 (-40 ... +70 °C), Wi-Fi compliance, with terminating resistor 1 x TI795-1R; incl. mounting hardware  <u>Wall or mast mounting</u>  <ul style="list-style-type: none"> <li>• <b>ANT792-6MN antenna</b> Antenna gain incl. N-Connect connector 6 dBi, 2.4 GHz</li> <li>• <b>ANT793-6MN antenna</b> Antenna gain incl. N-Connect connector 5 dBi, 5 GHz</li> </ul> <u>For mounting on a roof</u>  <ul style="list-style-type: none"> <li>• <b>ANT795-6MN antenna</b> Antenna gain incl. N-Connect connector 6/8 dBi, 2.4/5 GHz</li> <li>• <b>Antenna mounting tool (ANT795-6MN)</b> Mounting support for installing ANT795-6MN under a roof</li> </ul>		
<b>Directional antennas;</b> -40 ... +70 °C, Wi-Fi compliance and national approvals, with terminating resistor 1 x TI795-1R; incl. mounting hardware; brief instructions on paper, German/English  <u>Wall or mast mounting</u>  <ul style="list-style-type: none"> <li>• <b>ANT795-6DN antenna</b> Wide-angle antenna, slightly directional; antenna gain incl. N-Connect connector 9/9 dBi, 2.4/5 GHz</li> <li>• <b>ANT792-8DN antenna</b> Strongly directional antenna; antenna gain incl. N-Connect connector 14 dBi, 2.4 GHz</li> <li>• <b>ANT793-8DN antenna</b> Strongly directional antenna; antenna gain incl. N-Connect connector 19 dBi, 5 GHz</li> </ul>		
<b>Accessories</b>  <b>SIMATIC Mobile Panel 277 IWLAN</b>  <ul style="list-style-type: none"> <li>• Communication via WLAN (PROFINET) E</li> <li>• Communication via WLAN (PROFINET) with integrated handwheel, key-operated switch and two illuminated pushbuttons E</li> </ul> <b>SIMATIC Mobile Panel 277F IWLAN</b>  <ul style="list-style-type: none"> <li>• Communication via WLAN (PROFINET) with acknowledgement button and emergency stop button E</li> <li>• Communication via WLAN (PROFINET) with acknowledgment button and emergency stop button with integrated handwheel, key-operated switch, and two illuminated pushbuttons E</li> </ul> Note: Please also order the desktop power supply or battery charger!  <ul style="list-style-type: none"> <li>• Table-top power supply incl. power cable for EU, US, UK, JP (only suitable for operation under laboratory/office conditions)</li> <li>• Charger for safe storage and charging the device incl. lock for securing the device in the charger. Charging capabilities for up to two additional batteries</li> <li>• Additional battery with LED indicator for indicating the charge status</li> <li>• Transponder incl. batteries (3x AA)</li> </ul> <b>IE FC RJ45 modular outlet with power insert</b> Fast Connect RJ45 modular outlet for Industrial Ethernet with a replaceable insert for 1 x 24 V and 1 x 100 Mbit/s interface  <b>IE Hybrid Cable 2x2 + 4x0.34</b> 4-wire, shielded installation cable; sold by the meter, up to 1000 m, minimum order 20 m		6AV6 645-0DD01-0AX0  6AV6 645-0DE01-0AX0  6AV6 645-0DB01-0AX0  6AV6 645-0DC01-0AX0  6AV6 671-5CN00-0AX1  6AV6 671-5CE00-0AX0  6AV6 671-5CL00-0AX0  6AV6 671-5CM00-0AX0  6GK1 901-1BE00-0AA3  6XV1 870-2J

E) Subject to export regulations: AL: N and ECCN: 5D002ENC3  
 Z) Subject to export regulations: AL: N and ECCN: 5D992



# Industrial Wireless Communication

## Network components for IWLAN

### SCALANCE W-780 Access Points

Ordering data (continued)	Order No.		Order No.
<b>IE FC Standard Cable GP 2 x 2</b> 4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug; PROFINET-compatible; with UL approval; sold by the meter; max. quantity 1000 m, minimum order 20 m	<b>6XV1 840-2AH10</b>	<b>IE Hybrid RJ45 Socket Dust Cover</b> Dust cap for RJ45 port socket (Industrial Ethernet/PoE) of SCALANCE W-700	<b>6ES7 194-1JB10-0XA0</b>
<b>IWLAN RCoax cables</b> Radiating cables for complex radio environments as special antenna for SCALANCE W Access Points; for expanded temperature range -40 °C ... + 85 °C; sold by the meter Minimum order quantity 20 m		<b>LP798-1N lightning protector</b> Lightning protection element with N/N female/female connection, IP65 (-40 ... + 100 °C)	<b>6GK5 798-2LP00-2AA6</b>
<ul style="list-style-type: none"><li>• 2.4 GHz</li><li>• 5 GHz</li></ul>	<b>6XV1 875-2A</b> <b>6XV1 875-2D</b>	<b>TI795-1R terminal impedance</b> Antenna termination impedance 50 ohms for terminating the second R-SMA antenna socket, when operating a SCALANCE W-700 radio interface with only one antenna, IP65 (-20 °C ... +60 °C); 3 items	<b>6GK5 795-1TR10-0AA6</b>
<b>IWLAN R-SMA/SMA male/male Flexible connection cable</b> Flexible cable for connecting an IWLAN/PB Link PN IO to components with RSMA and SMA connections, e.g. cabinet feedthrough; assembled with two R-SMA male to SMA male connectors		<b>C-PLUG</b> Configuration plug, swap medium for simple replacement of the module in the event of a fault; for storing configuration or engineering and application data; can be used for SIMATIC NET products with C-PLUG slot	<b>6GK1 900-0AB00</b>
<ul style="list-style-type: none"><li>• 0.3 m</li><li>• 2 m</li></ul>	<b>6XV1 875-5DE30</b> <b>6XV1 875-5DH20</b>	<b>PS791-2DC power supply</b> A 24 V DC power supply for installation in the SCALANCE W-786 products, operating instructions German/English	<b>6GK5 791-2DC00-0AA0</b>
<b>IP67 hybrid connector</b> Connector for connecting SCALANCE W-700 to Industrial Ethernet and Power over Ethernet (PoE), with assembly instructions, 1 item	<b>09 45 125 1300.00</b> Order directly from: HARTING Deutschland GmbH & Co. KG P.O. Box 24-51 32381 Minden, Germany Phone: +49 571-8896-0 Fax: +49 571-8896-354 E-mail: <a href="mailto:de.sales@HARTING.com">de.sales@HARTING.com</a> Internet: <a href="http://www.HARTING.com">http://www.HARTING.com</a>	<b>PS791-2AC power supply</b> A 110 ... 230 V AC power supply for installation in the SCALANCE W-786 products; operating instructions German/English	<b>6GK5 791-2AC00-0AA0</b>
<b>Power M12 Cable Connector PRO</b> Terminal socket for connection of SCALANCE W-700 for 24 V DC supply voltage; 4-pole, A-coded, with assembly instructions, 3 items	<b>6GK1 907-0DC10-6AA3</b>	<b>PRESET-PLUG</b> Swap medium for simple initial startup of IWLAN clients, e.g. SCALANCE W-740 Client Modules or IWLAN/PB Link PN IO	<b>6GK5 798-8AB00</b>
<b>PS791-1PRO power supply</b> A AC/DC power supply, 10 W, IP65 (-20 ... +60 °C), input: 90 ... 265 V AC, output: 24 V DC, metal housing; scope of supply: AC power 3+PE cable connector, DC power cord M12, mounting hardware; operating instructions German/English	<b>6GK5 791-1PS00-0AA6</b>	<b>MS1 mounting set</b> Mounting set for fixing the SCALANCE W-786 products onto an S7-300 mounting rail or a 35 mm DIN rail	<b>6GK5 798-8MG00-0AA0</b>
<ul style="list-style-type: none"><li>• <b>SCALANCE X108PoE</b> A with six 10/100 Mbit/s RJ45 ports and two 10/100 Mbit/s RJ45 ports with PoE functionality for designing star and line structures</li></ul>	<b>6GK5108-0PA00-2AA3</b>	<b>MS2 mounting set</b> Mounting set for fixing the SCALANCE W-784 products onto an S7-300 mounting rail or a 35 mm standard mounting rail	<b>6GK5 798-8MJ00-0AA0</b>

A) Subject to export regulations: AL: N and ECCN: EAR99H

#### More information

##### Wireless approvals:

Current approvals can be found in the Internet at:

<http://www.siemens.com/simatic-net/ik-info>



# Industrial Wireless Communication

## Network components for IWLAN

### SCALANCE W-780 Access Points and WLAN Controllers

#### Overview



SCALANCE W786-2HPW can be used as an Access Point for operation with the HiPath WLAN controller, thus opening up the advantages of this architecture to industrial and outdoor areas.

- Use with HiPath wireless LAN controller for comprehensive solutions in office and production environments. Integration of optiPoint WLAN phones (Voice over WLAN) is possible
- SCALANCE W786-2HPW can only be used with the HiPath WLAN controller
- Approved for operation in hazardous areas in Zone 2

#### Ordering data

#### Order No.

##### SCALANCE W786-2HPW

Dual Access Point for operating using the HiPath WLAN controller; with two built-in radio interfaces

##### RJ45 connection

- |  |   |                            |
|--|---|----------------------------|
| • Four internal antennas                 | X | <b>6GK5 786-2BA60-1CA0</b> |
| • Connections for four external antennas | X | <b>6GK5 786-2AA60-1CA0</b> |

##### Fiber-optic connection

- |  |   |                            |
|--|---|----------------------------|
| • Four internal antennas                 | X | <b>6GK5 786-2BB60-1CA0</b> |
| • Connections for four external antennas | X | <b>6GK5 786-2AB60-1CA0</b> |

##### Antennas

##### Antennas with omni-directional characteristics;

country permits, compact instructions (hard copy), German/English; IP65 (-40 ... +70 °C), Wi-Fi compliance, with terminating resistor 1 x TI795-1R; incl. mounting hardware

##### Wall or mast mounting

- |  |                            |
|--|----------------------------|
| • <b>ANT792-6MN antenna</b><br>Antenna gain incl. N-Connect connector 6 dBi, 2.4 GHz | <b>6GK5 792-6MN00-0AA6</b> |
| • <b>ANT793-6MN antenna</b><br>Antenna gain incl. N-Connect connector 5 dBi, 5 GHz   | <b>6GK5 793-6MN00-0AA6</b> |

##### For mounting on a roof

- |  |                            |
|--|----------------------------|
| • <b>ANT795-6MN antenna</b><br>Antenna gain incl. N-Connect connector 6/8 dBi, 2.4/5 GHz               | <b>6GK5 795-6MN00-0AA6</b> |
| • <b>Antenna mounting tool (ANT795-6MN)</b><br>Mounting support for installing ANT795-6MN below a roof | <b>6GK5 795-6MN01-0AA6</b> |

##### Directional antennas;

-40 ... +70 °C, Wi-Fi compliance and national approvals, with terminating resistor 1 x TI795-1R; incl. mounting hardware; brief instructions on paper, German/English

##### Wall or mast mounting

- |  |                            |
|--|----------------------------|
| • <b>ANT795-6DN antenna</b><br>Wide-angle antenna, slightly directional; antenna gain incl. N-Connect connector 9/9 dBi, 2.4/5 GHz | <b>6GK5 795-6DN00-0AA6</b> |
| • <b>ANT792-8DN antenna</b><br>Strongly directional antenna; antenna gain incl. N-Connect connector 14 dBi, 2.4 GHz                | <b>6GK5 792-8DN00-0AA6</b> |
| • <b>ANT793-8DN antenna</b><br>Strongly directional antenna; antenna gain incl. N-Connect connector 19 dBi, 5 GHz                  | <b>6GK5 793-8DN00-0AA6</b> |

X) Subject to export regulations: AL: 5A002A1A2 and ECCN: 5A002ENC3

# Industrial Wireless Communication

## Network components for IWLAN

### SCALANCE W-780 Access Points and WLAN Controllers

Ordering data (continued)	Order No.	Order No.
<b>Antenna cables</b>		
IWLAN N-Connect Male/Male Flexible Connection Cable		
• 1 m	<b>6XV1 875-5AH10</b>	
• 2 m	<b>6XV1 875-5AH20</b>	
• 5 m	<b>6XV1 875-5AH50</b>	
• 10 m	<b>6XV1 875-5AN10</b>	
IWLAN N-Connect/R-SMA Male/Male Flexible Connection Cable		
• 1 m	<b>6XV1 875-5CH10</b>	
• 2 m	<b>6XV1 875-5CH20</b>	
• 5 m	<b>6XV1 875-5CH50</b>	
• 10 m	<b>6XV1 875-5CN10</b>	
IWLAN R-SMA/SMA Male/Male Flexible Connection Cable		
• 0.3 m	<b>6XV1 875-5DE30</b>	
• 2 m	<b>6XV1 875-5DH20</b>	
<b>Accessories</b>		
<b>IE FC Standard Cable GP 2 x 2</b>	<b>6XV1 840-2AH10</b>	
4-core, shielded TP installation cable for connection to IE FC outlet RJ45/ IE FC RJ45 plug; PROFINET-compatible; with UL approval; sold by the meter; max. length 1000 m, minimum order 20 m		
<b>LP798-1N lightning protector</b>	<b>6GK5 798-2LP00-2AA6</b>	
Lightning protection element with N/N female/female connection, IP65 (-40 ... + 100 °C)		
<b>TI795-1R termination impedance</b>	<b>6GK5 795-1TR10-0AA6</b>	
Antenna termination impedance 50 ohms for terminating the second R-SMA antenna socket, when operating a SCALANCE W-700 radio interface with only one antenna, IP65 (-20 °C ... +60 °C); 3 items		
<b>PS791-2DC power supply</b> A	<b>6GK5 791-2DC00-0AA0</b>	
12 ... 24 V DC power supply for installation in the SCALANCE W-786-2HPW products, operating instructions German/English		
<b>PS791-2AC power supply</b> A	<b>6GK5 791-2AC00-0AA0</b>	
110 ... 230 V AC power supply for installation in the SCALANCE W786-2HPW products; operating instructions German/English		
• <b>SCALANCE X108PoE</b> A	<b>6GK5108-0PA00-2AA3</b>	
with six 10/100 Mbit/s RJ45 ports and two 10/100 Mbit/s RJ45 ports with PoE functionality for designing star and line structures		
<b>MS1 mounting set</b>		<b>6GK5 798-8MG00-0AA0</b>
Mounting set for fixing the SCALANCE W786-2HPW products onto an S7-300 mounting rail or a 35 mm standard DIN rail		
<b>IE TP Torsion Cable 2 x 2 (Type C)</b>		<b>6XV1 870-2F</b>
4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug for use with robots; PROFINET-compatible; with UL approval; sold by the meter; max. length 1000 m, minimum order length 20 m		
<b>IE FC TP Trailing Cable 2 x 2 (Type C)</b>		<b>6XV1 840 3AH10</b>
4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug 180/90 for use as trailing cable; PROFINET-compatible; with UL approval; sold by the meter; max. length 1000 m, minimum order 20 m		
<b>FO Standard Cable GP (50/125)</b>		<b>6XV1 873-2A</b>
Sold by the meter; max. length 1,000 m; minimum order 20 m		
<b>HiPath Wireless Hardware and HiPath Wireless Controller Software</b>		Available for purchase from Siemens Enterprise Communications GmbH & Co KG <a href="http://enterprise.siemens.com/open">http://enterprise.siemens.com/open</a>
<b>HiPath Wireless C10 Controller, max. 30 AP</b>		<b>L30250-F600-A956</b>
<b>HiPath Wireless C2400 Controller, 1...200 AP</b>		<b>L30250-F600-A890</b>
<b>HiPath Wireless Manager V2 Software CD</b>		<b>L30250-F600-A461</b>
<b>HiPath Wireless Convergence SW C10 V4</b>		<b>L30250-F622-A470</b>
<b>HiPath Wireless Convergence SW C2400 Campus max. 100 AP</b>		<b>L30250-F622-A423</b>
<b>HiPath Wireless Convergence SW C2400 Enterprise max. 200 AP</b>		<b>L30250-F622-A422</b>

A) Subject to export regulations: AL: N and ECCN: EAR99H

### More information

#### Wireless approvals:

Current approvals can be found in the Internet at:

<http://www.siemens.com/simatic-net/ik-info>

#### Enterprise communication solutions from Siemens

Additional information can be found in the Internet under:

<http://enterprise.siemens.com/open>

# Industrial Wireless Communication

## Network components for IWLAN

### SCALANCE W-740 Client Modules

#### Overview



- The Ethernet Client Modules from the SCALANCE W-740 product line are optimal for linking Industrial Ethernet stations to an Industrial Wireless LAN (IWLAN) radio network for 2.4 GHz or 5 GHz with baudrates of up to 54 Mbit/s.
- Suitable for any application: Cabinet-free design for industrial and automation environments or integrated in devices and cabinets
- Reliable thanks to rugged housing, protected from water and dust (IP65), resistant to shock, vibration and electromagnetic fields
- Approved for operation in hazardous areas complying with Zone 2
- Radio communication suitable for demanding applications with real-time and redundancy requirements, such as PROFINET, PROFI-safe or video
- Conforms with standards since it supports IEEE 802.11; additional expansion by means of software functions especially for applications demanding high reliability: channel hopping procedure (iHOP), cyclic real-time data traffic and very fast roaming (iPCF)
- The SINEMA E engineering tool, wizards and online help support planning, simulation, configuration, site survey and documentation; easy management with the web server and SNMP
- Quick commissioning of Client Modules with the optional swap medium PRESET-PLUG and quick device exchange in case of faults with the optional swap medium C-PLUG (Configuration Plug)

#### Ordering data

#### Order No.

##### SCALANCE W-740 Client Modules

IWLAN Ethernet Client Modules with built-in radio interface; radio networks IEEE 802.11b/g/a/h at 2.4/5 GHz to 54 Mbit/s. National approvals; WPA/AES; Power over Ethernet (PoE), with mounting hardware, manual on CD-ROM; German/English

##### SCALANCE W744-1PRO

For administration of the radio link of one device with Industrial Ethernet connection; degree of protection IP65; scope of delivery: 2 antennas ANT795-4MR, IP67 hybrid plug connector

- |   |   |                            |
|---|---|----------------------------|
| • National approvals for operation outside the U.S.A. | X | <b>6GK5 744-1AA60-2AA0</b> |
| • National approvals for operation in the U.S.A.      | X | <b>6GK5 744-1AA60-2AB0</b> |

##### SCALANCE W746-1PRO

For administration of the radio link of up to eight devices with Industrial Ethernet connection; degree of protection IP65; scope of delivery: 2 antennas ANT795-4MR, IP67 hybrid plug connector

- |   |   |                            |
|---|---|----------------------------|
| • National approvals for operation outside the U.S.A. | X | <b>6GK5 746-1AA60-4AA0</b> |
| • National approvals for operation in the U.S.A.      | X | <b>6GK5 746-1AA60-4AB0</b> |

##### SCALANCE W747-1RR

For administration of the radio link with iPCF of up to eight devices with Industrial Ethernet connection; degree of protection IP65; scope of delivery: 2 antennas ANT795-4MR, IP67 hybrid plug connector

- |   |   |                            |
|---|---|----------------------------|
| • National approvals for operation outside the U.S.A. | X | <b>6GK5 747-1AA60-6AA0</b> |
| • National approvals for operation in the U.S.A.      | X | <b>6GK5 747-1AA60-6AB0</b> |

##### SCALANCE W744-1

For administration of the radio link of one device with Industrial Ethernet connection; degree of protection IP30

- |   |   |                            |
|---|---|----------------------------|
| • National approvals for operation outside the U.S.A. | X | <b>6GK5 744-1AA30-2AA0</b> |
| • National approvals for operation in the U.S.A.      | X | <b>6GK5 744-1AA30-2AB0</b> |

##### SCALANCE W746-1

For administration of the radio link of up to eight devices with Industrial Ethernet connection; degree of protection IP30

- |   |   |                            |
|---|---|----------------------------|
| • National approvals for operation outside the U.S.A. | X | <b>6GK5 746-1AA30-4AA0</b> |
| • National approvals for operation in the U.S.A.      | X | <b>6GK5 746-1AA30-4AB0</b> |

##### SCALANCE W747-1

For administration of the radio link with iPCF of up to eight devices with Industrial Ethernet connection; degree of protection IP30

- |   |   |                            |
|---|---|----------------------------|
| • National approvals for operation outside the U.S.A. | X | <b>6GK5 747-1AA30-6AA0</b> |
| • National approvals for operation in the U.S.A.      | X | <b>6GK5 747-1AA30-6AB0</b> |

X) Subject to export regulations: AL: 5A002A1A2 and ECCN: 5A002ENC3

# Industrial Wireless Communication

## Network components for IWLAN

### SCALANCE W-740 Client Modules

Ordering data (continued)	Order No.		Order No.
<b>Antennas</b>			
<b>Antennas with omni-directional characteristic;</b> national approvals, brief instruction manual on paper, German/English  <u>For mounting directly onto SCALANCE W</u>  Antenna gain incl. R-SMA connector 4 dBi, 2.4/5 GHz;			
• <b>ANT795-4MR antenna</b> IP65 (-20 ... +60 °C)	<b>6GK5 795-4MR00-0AA6</b>	<b>IE FC RJ45 modular outlet with power insert</b>  Fast Connect RJ45 modular outlet for Industrial Ethernet with a replaceable insert for 1 x 24 V and 1 x 100 Mbit/s interface	<b>6GK1 901-1BE00-0AA3</b>
• <b>ANT795-4MS antenna</b> IP30; radial rotation possible with additional joint; scope of supply: 2 antennas;	<b>6GK5 795-4MS00-0AA6</b>	<b>IE Hybrid Cable 2x2 + 4x0.34</b>  4-wire, shielded installation cable; sold by the meter, up to 1000 m, minimum order 20 m	<b>6XV1 870-2J</b>
IP65 (-40 ... +70 °C), Wi-Fi compliance, with terminating resistor 1 x TI795-1R; incl. mounting hardware		<b>IE FC Standard Cable GP 2 x 2</b>  4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug; PROFINET-compatible; with UL approval; sold by the meter; max. quantity 1000 m, minimum order 20 m	<b>6XV1 840-2AH10</b>
<u>Wall or mast mounting</u>		<b>IP67 hybrid connector</b>  Connector for connecting SCALANCE W-700 to Industrial Ethernet and Power over Ethernet (PoE), with assembly instructions, 1 item	<b>09 45 125 1300.00</b>  Order directly from: HARTING Deutschland GmbH & Co. KG P.O. Box 24-51 32381 Minden, Germany Phone: +49 571-8896-0 Fax: +49 571-8896-354 E-mail: de.sales@HARTING.com Internet: <a href="http://www.HARTING.com">http://www.HARTING.com</a>
• <b>ANT792-6MN antenna</b> Antenna gain incl. N-Connect connector 6 dBi, 2.4 GHz	<b>6GK5 792-6MN00-0AA6</b>	<b>Power M12 Cable Connector PRO</b>  Terminal socket for connection of SCALANCE W-700 for 24 V DC supply voltage; 4-pole, A-coded, with assembly instructions, 3 items	<b>6GK1 907-0DC10-6AA3</b>
• <b>ANT793-6MN antenna</b> Antenna gain incl. N-Connect connector 5 dBi, 5 GHz	<b>6GK5 793-6MN00-0AA6</b>		
<u>For mounting on a roof</u>			
• <b>ANT795-6MN antenna</b> Antenna gain incl. N-Connect connector 6/8 dBi, 2.4/5 GHz	<b>6GK5 795-6MN00-0AA6</b>		
• <b>Antenna mounting tool (ANT795-6MN)</b> Mounting aid for installing ANT795-6MN below a roof	<b>6GK5 795-6MN01-0AA6</b>		
<b>Directional antennas;</b> -40 ... +70 °C, Wi-Fi compliance and national approvals, with terminating resistor 1 x TI795-1R; incl. mounting hardware; brief instructions on paper, German/English  <u>Wall or mast mounting</u>		<b>PS791-1PRO power supply</b> A  AC/DC power supply, 10 W, IP65 (-20 ... +60 °C), input: 90 ... 265 V AC, output: 24 V DC, metal housing; scope of supply: AC power 3+PE cable connector, DC power cord M12, mounting hardware, operating instructions German/English	<b>6GK5 791-1PS00-0AA6</b>
• <b>ANT795-6DN antenna</b> Wide-angle antenna, slightly directional; antenna gain incl. N-Connect connector 9/9 dBi, 2.4/5 GHz	<b>6GK5 795-6DN00-0AA6</b>	• <b>SCALANCE X108PoE</b> A with six 10/100 Mbit/s RJ45 ports and two 10/100 Mbit/s RJ45 ports with PoE functionality for designing star and line structures	<b>6GK5108-0PA00-2AA3</b>
• <b>ANT792-8DN antenna</b> Strongly directional antenna; antenna gain incl. N-Connect connector 14 dBi, 2.4 GHz	<b>6GK5 792-8DN00-0AA6</b>		
• <b>ANT793-8DN antenna</b> Strongly directional antenna; antenna gain incl. N-Connect connector 19 dBi, 5 GHz	<b>6GK5 793-8DN00-0AA6</b>	<b>IE Hybrid RJ45 Socket Dust Cover</b>  Dust cap for RJ45 port socket (Industrial Ethernet/PoE) of SCALANCE W-700	<b>6ES7 194-1JB10-0XA0</b>
<b>IWLAN RCoax Cable</b>  Radiating cables for complex radio environments as special antenna for SCALANCE W Access Points; for expanded temperature range -40 °C ... + 85 °C; sold by the meter Minimum order quantity 20 m			
• 2.4 GHz	<b>6XV1 875-2A</b>		
• 5 GHz	<b>6XV1 875-2D</b>		

A) Subject to export regulations: AL: N and ECCN: EAR99H

Ordering data (continued)	Order No.		Order No.
<b>TTI795-1R termination impedance</b> Antenna termination impedance 50 ohm for terminating the second R-SMA antenna socket, when operating a SCALANCE W-700 radio interface with only one antenna, IP65 (-20 ... +60 °C), 3 items	<b>6GK5 795-1TR10-0AA6</b>		
<b>IWLAN N-Connect/R-SMA male/male Flexible connection cable</b> Flexible cable for connection of RCoax cable or antenna to a SCALANCE W-700 Access Point; assembled with N-Connect male and R-SMA male connectors <ul style="list-style-type: none"> <li>• 1 m</li> <li>• 2 m</li> <li>• 5 m</li> <li>• 10 m</li> </ul>	<b>6XV1 875-5CH10</b> <b>6XV1 875-5CH20</b> <b>6XV1 875-5CH50</b> <b>6XV1 875-5CN10</b>	<b>IWLAN R-SMA/SMA male/male Flexible connection cable</b> Flexible cable for connecting an IWLAN/PB Link PN IO to components with RSMA and SMA connections, e.g. cabinet feedthrough; assembled with two R-SMA male to SMA male connectors <ul style="list-style-type: none"> <li>• 0.3 m</li> <li>• 2 m</li> </ul>	<b>6XV1 875-5DE30</b> <b>6XV1 875-5DH20</b>
		<b>C-PLUG</b> Configuration plug, swap medium for simple replacement of the module in the event of a fault; for storing configuration or engineering and application data; can be used for SIMATIC NET products with C-PLUG slot	<b>6GK1 900-0AB00</b>
<b>IWLAN N-Connect male/male Flexible connection cable</b> Flexible cable for connection of two RCoax cables; assembled with two N-Connect male connectors <ul style="list-style-type: none"> <li>• 1 m</li> <li>• 2 m</li> <li>• 5 m</li> <li>• 10 m</li> </ul>	<b>6XV1 875-5AH10</b> <b>6XV1 875-5AH20</b> <b>6XV1 875-5AH50</b> <b>6XV1 875-5AN10</b>	<b>PRESET-PLUG</b> • Swap medium for simple initial startup of IWLAN clients, e.g. SCALANCE W-740 Client Modules or IWLAN/PB Link PN IO	<b>6GK5 798-8AB00</b>
		<b>MS2 mounting set</b> Mounting set for fixing the SCALANCE W-784 products onto an S7-300 mounting rail or a 35 mm standard mounting rail	<b>6GK5 798-8MJ00-0AA0</b>

#### More information

##### Wireless approvals:

Current approvals can be found in the Internet under:  
<http://www.siemens.com/simatic-net/ik-info>

#### Overview



#### Antennas

- Separate antennas with generally available N-Connect plugs increase the reliability of radio links by optimizing the receiving and radiation of signals
- Implementation in Industrial Wireless LAN (IWLAN) networks as well as in Standard Wireless LAN (IEEE 802.11) networks at 2.4 GHz and 5 GHz with data transfer rates of up to 54 Mbit/s
- Tailored selection with connecting leads and cabinet bushing
- All antenna cables are flame-resistant, chemical-resistant and silicone-free
- Suitable for use in hazardous areas (Zone 2); no special approvals necessary

#### TI795-1R termination impedance

- The TI795-1R termination impedance is required when only one antenna is installed

#### LP798-1N lightning protector

- The LP798-1N lightning protector supports the use of separate antennas outdoors
- Flexible industrial use thanks to protection from the ingress of dust and water with the degree of protection IP65
- Operation is also possible outdoors in climates with extended temperature range
- The accessories are suitable for use with SCALANCE W-700 including the national approvals

Ordering data	Order No.		Order No.
<b>Antennas</b>			
<b>Antennas with omni-directional characteristic;</b> national approvals, brief instruction manual on paper, German/English		<b>LP798-1N lightning protector</b>	<b>6GK5 798-2LP00-2AA6</b>
<u>For mounting directly onto SCALANCE W</u>		Lightning protection element with N/N female/female connection, IP65 (-40 ... + 100 °C)	
Antenna gain incl. R-SMA connector 4 dBi, 2.4/5 GHz;		<b>TI795-1R termination impedance</b>	<b>6GK5 795-1TR10-0AA6</b>
• <b>ANT795-4MR antenna;</b> IP65 (-20 ... +60 °C),	<b>6GK5 795-4MR00-0AA6</b>	Antenna termination impedance 50 ohms for terminating the second R-SMA antenna socket, when operating a SCALANCE W-700 radio interface with only one antenna, IP65 (-20 °C ... +60 °C); 3 items	
• <b>ANT795-4MS antenna</b> IP30; radial rotation possible with additional joint; scope of supply: 2 antennas	<b>6GK5 795-4MS00-0AA6</b>		
IP65 (-40 ... +70 °C), Wi-Fi compliance, with terminating resistor 1 x TI795-1R; incl. mounting hardware		<b>Accessories</b>	
<u>Wall or mast mounting</u>		<b>IWLAN N-Connect/R-SMA male/male Flexible connection cable</b>	
• <b>ANT792-6MN antenna</b> Antenna gain incl. N-Connect connector 6 dBi, 2.4 GHz	<b>6GK5 792-6MN00-0AA6</b>	Flexible cable for connection of RCoax cable or antenna to a SCALANCE W-700 Access Point; assembled with N-Connect male and R-SMA male connectors	
• <b>ANT793-6MN antenna</b> Antenna gain incl. N-Connect connector 5 dBi, 5 GHz	<b>6GK5 793-6MN00-0AA6</b>	• 1 m	<b>6XV1 875-5CH10</b>
		• 2 m	<b>6XV1 875-5CH20</b>
		• 5 m	<b>6XV1 875-5CH50</b>
		• 10 m	<b>6XV1 875-5CN10</b>
<u>For mounting on a roof</u>		<b>IWLAN N-Connect male/male Flexible connection cable</b>	
• <b>ANT795-6MN antenna</b> Antenna gain incl. N-Connect connector 6/8 dBi, 2.4/5 GHz	<b>6GK5 795-6MN00-0AA6</b>	Flexible cable for connection of two RCoax cables; assembled with two N-Connect male connectors	
• <b>Antenna mounting tool (ANT795-6MN)</b> Mounting support for installing ANT795-6MN below a roof	<b>6GK5 795-6MN01-0AA6</b>	• 1 m	<b>6XV1 875-5AH10</b>
		• 2 m	<b>6XV1 875-5AH20</b>
		• 5 m	<b>6XV1 875-5AH50</b>
		• 10 m	<b>6XV1 875-5AN10</b>
<b>Directional antennas;</b> -40 ... +70 °C, Wi-Fi compliance and national approvals, with terminating resistor 1 x TI795-1R; incl. mounting hardware; brief instructions on paper, German/English		<b>IWLAN R-SMA/SMA male/male Flexible connection cable</b>	
<u>Wall or mast mounting</u>		Flexible cable for connecting an IWLAN/PB Link PN IO to components with RSMA and SMA connections, e.g. cabinet feedthrough; assembled with two R-SMA male to SMA male connectors	
• <b>ANT795-6DN antenna</b> Wide-angle antenna, slightly directional; antenna gain incl. N-Connect connector 9/9 dBi, 2.4/5 GHz	<b>6GK5 795-6DN00-0AA6</b>	• 0.3 m	<b>6XV1 875-5DE30</b>
• <b>ANT792-8DN antenna</b> Strongly directional antenna; antenna gain incl. N-Connect connector 14 dBi, 2.4 GHz	<b>6GK5 792-8DN00-0AA6</b>	• 2 m	<b>6XV1 875-5DH20</b>
• <b>ANT793-8DN antenna</b> Strongly directional antenna; antenna gain incl. N-Connect connector 19 dBi, 5 GHz	<b>6GK5 793-8DN00-0AA6</b>		



# Industrial Wireless Communication

## Accessories

### PS791-1PRO power supply

#### Overview



- The PS791-1 PRO power supply is an AC/DC power supply for input voltages of 90 to 265 V AC for all SCALANCE products with degree of protection IP65.
- Mounted directly onto the SCALANCE W-700 and SCALANCE X-200 devices, but also suitable for wall or standard rail mounting (S7-300)
- Robust metal housing with degree of protection IP65 against water and dust
- Operating temperature -20 °C to +60 °C

#### Ordering data

#### Order No.

##### PS791-1PRO power supply

A

**6GK5 791-1PS00-0AA6**

AC/DC power supply,  
10 W, IP65 (-20 ... +60 °C),  
input: 90 ... 265 V AC,  
output: 24 V DC,  
metal housing;  
scope of supply:  
AC power 3+PE cable connector,  
DC power cord M12, installation  
materials, instruction manual  
German/English

##### Power M12 Plug PRO

**6GK1 907-0DB10-6AA3**

Plug for connection to  
PS791-1PRO power supply for  
24 V DC supply voltage;  
4-pole, A-coded,  
with assembly instructions,  
3 items

##### AC Power 3+PE cable connector

**6GK1 907-0FC10-0AA5**

Connection socket  
for connection of Power Supply  
PS791-1PRO to AC voltage  
supply, with assembly  
instructions,  
5 items

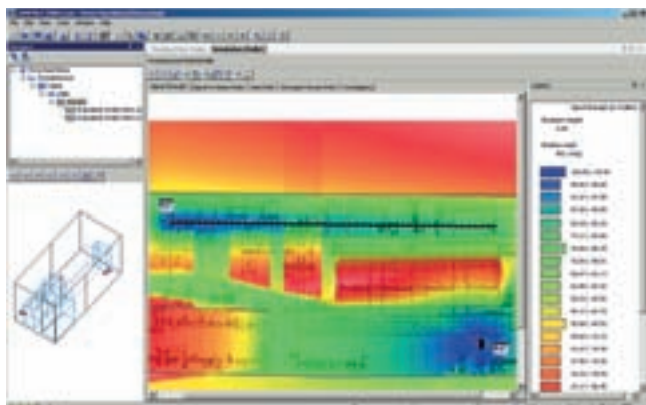
##### 2 x 0.75 power cable

**6XV1 812-8A**

Connecting cable for  
PS791-1PRO power supply,  
sold by the meter

A) Subject to export regulations: AL: N and ECCN: EAR99H

### Overview



- Engineering tool for support with planning, configuration, simulation and measurement of an IWLAN radio field on site (Site Survey) according to the IEEE 802.11 a/b/g/h standard
- Automatic determination of the WLAN infrastructure for new and existing networks
- Optimization functions for minimization of channel interference
- Visualization and analysis of WLAN networks according to signal strength, data rate, signal-to-noise ratio, overlapping and applications (PROFINET, TCP/IP, Voice over WLAN)
- Configuration of single and multiple devices as well as uploading/downloading of IWLAN device parameters
- Site survey functions (measurements) for the acquisition, conditioning, evaluation and visualization of measured WLAN signals
- Integrated and expandable catalog entries for WLAN devices, antennas and radio hindrances as well as standard graphics formats for importing layout plans
- Report function for documenting the configured and measured WLAN infrastructure

### Ordering data

### Order No.

#### SINEMA E

Engineering software for planning, configuring, simulating and measuring (Site Survey) industrial WLAN applications in office and industrial environments on PG/PC in accordance with the IEEE 802.11 a/b/g/h standard; software and electronic manual on CD-ROM, license key on diskette, Class A, for 32-bit Windows XP Professional +SP2; German/English

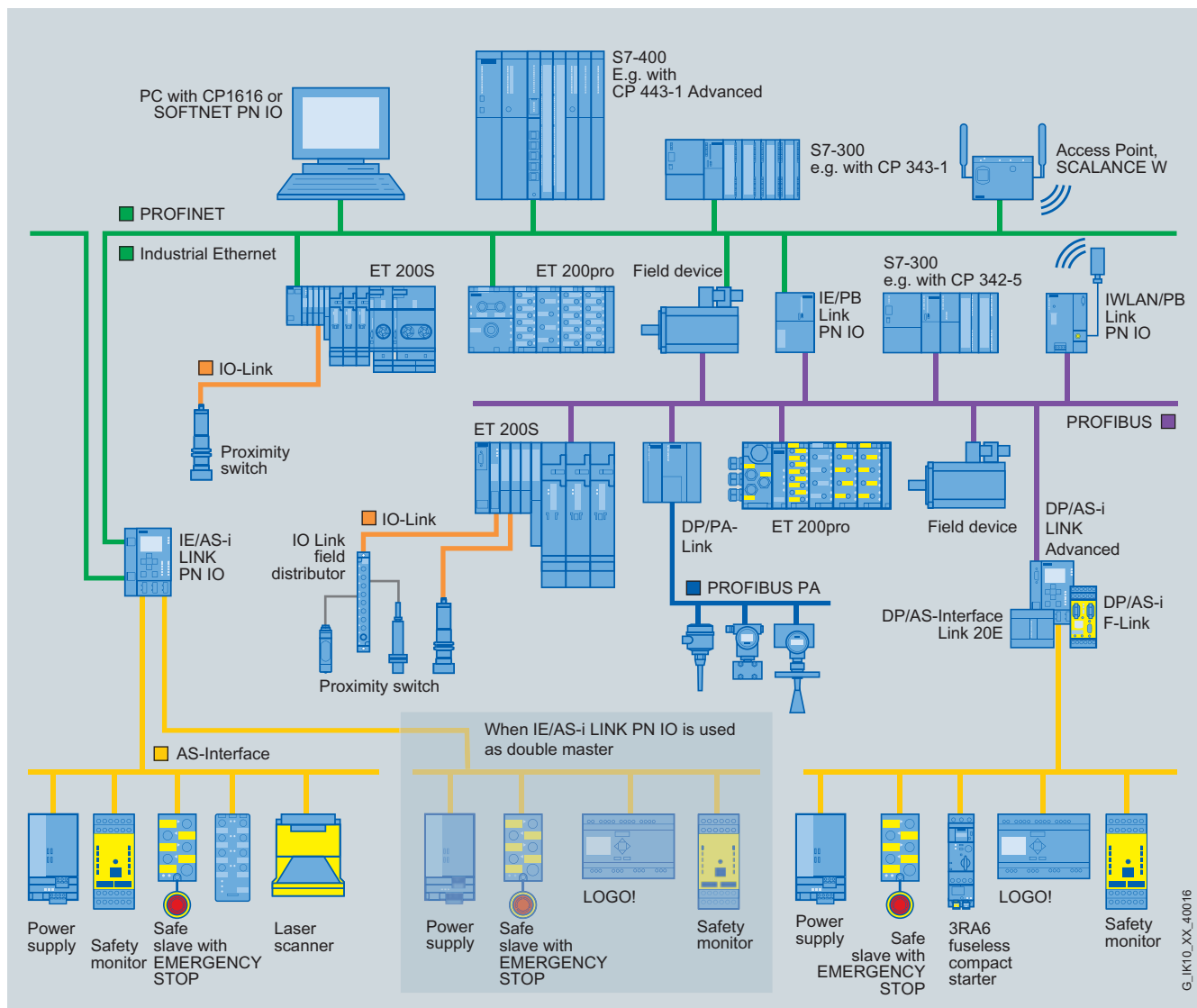
- |  |   |                            |
|--|---|----------------------------|
| • <b>SINEMA E 2006 Lean</b>  | Z | <b>6GK1 781-0AA00-6AA0</b> |
| Planning, configuring and simulating WLAN applications   |   |                            |
| • <b>SINEMA E 2006 standard</b>  | Z | <b>6GK1 782-0AA00-6AA0</b> |
| Extended planning, configuring, simulating and measuring (site survey) of WLAN applications (automatic placement, application profile, contour presentation, storage/comparison of simulations, extended filter options) |   |                            |
| • <b>SINEMA E 2006 Powerpack</b>   | Z | <b>6GK1 782-4AA00-6AC0</b> |
| Software upgrade from SINEMA E Lean to SINEMA E Standard   |   |                            |

Z) Subject to export regulations: AL: N and ECCN: 5D992

## Introduction

### Overview

PROFINET/Industrial Ethernet, PROFIBUS and AS-Interface can be combined ideally in an overall solution through special network transitions.



Network transitions from one bus system to another are implemented using links, PLCs or PCs. In the case of PLCs or PCs, this can take place via integrated interfaces and communications processors (CPs). Links pass on the data autonomously from one network to the other.

The following links are available:

- IWLAN/PB Link PN IO for the transition from IWLAN to PROFIBUS (also for safety-oriented communication)
- PN/PN coupler for data exchange between two PROFINET networks
- IE/PB Link PN IO for the transition from PROFINET/Industrial Ethernet to PROFIBUS (also for safety-oriented communication)
- IE/AS-i LINK PN IO for the transition from PROFINET/Industrial Ethernet to AS-Interface
- DP/DP coupler for the transition from PROFIBUS DP to PROFIBUS DP
- DP/PA Link and DP/PA coupler for the transition from PROFIBUS DP to PROFIBUS PA
- DP/AS-i LINK Advanced, DP/AS-Interface Link 20E and DP/AS-i F-Link (also for safety-oriented communication) for the transition from PROFIBUS to AS-Interface

G\_K10\_XX\_40016

#### Overview



PN	DP-M	DP-S	ASi-M		
●	●				

- Compact network transition between Industrial Wireless LAN (IWLAN) and PROFIBUS
- Wireless connection to IWLAN (e.g. SCALANCE W Access Points) according to IEEE 802.11a/b/g/h with up to 54 Mbit/s at 2.4 GHz and 5 GHz
- PROFINET IO proxy; connection of PROFIBUS DP slaves to PROFINET IO controller according to PROFINET standard:
  - From the viewpoint of the IO-controller, all DP slaves are handled like I/O devices with Ethernet interface, i.e. the IWLAN/PB Link PN IO is their proxy.
  - From the viewpoint of the DP slaves, the IWLAN/PB Link PN IO is the DP master
- High, deterministic data throughput and very fast roaming through support of iPCF; the iPCF mechanism represents an extension of the IEEE 802.11 standard and must also be available on the access point, e.g. SCALANCE W788-1RR
- Full support of the security options defined in the IEEE 802.11i standard for authentication via WPA2 with TLS, TTLS, PEAP
- High degree of protection against unauthorized access thanks to 128-bit encoding (AES)
- Direct substitution of solutions with Power Rail Booster for PROFIBUS with non-contact data transmission technology; Advantages: No wear of sliding contacts
- Cross-network PG/OP communication by means of S7 routing, i.e. all S7 stations can be remotely programmed using the programming device on the Industrial Ethernet or PROFIBUS.
- Cross-network access to data of S7 stations for visualization by means of S7 OPC server and S7 routing; Via the IE/PB Link PN IO access can be made from the PC on the Industrial Ethernet (e.g. for HMI applications with OPC Client interface) by means of S7 OPC server, to all data of the S7 stations on the PROFIBUS.
- Module replacement without the need for a programming device, using the C-PLUG swap media for backing up the configuration data
- Configuring in STEP 7

# Network transitions

## IWLAN – PROFIBUS network transition

### IWLAN/PB Link PN IO

Ordering data		Order No.
<b>IWLAN/PB Link PN IO</b>		
Network transition between Industrial Wireless LAN and PROFIBUS with PROFINET IO functionality, TCP/IP, S7 routing, IEEE 802.11 b/g/a at 2.4/5 GHz to 54 Mbit/s, 9.6 Kbit/s to 12 Mbit/s PROFIBUS; including electronic manual on CD-ROM German, English, French, Spanish, Italian		
• National approvals for operation outside the U.S.A.	S	<b>6GK1 417-5AB00</b>
• National approvals for operation in the U.S.A.	S	<b>6GK1 417-5AB01</b>
<b>C-PLUG</b>		<b>6GK1 900-0AB00</b>
Swap medium for simple replacement of devices in the event of a fault; for storing configuration or engineering and application data; can be used for SIMATIC NET products with C-PLUG slot		
<b>STEP 7 Version 5.4</b>		
<i>Target system:</i> SIMATIC S7-300/-400, SIMATIC C7, SIMATIC WinAC <i>Requirement:</i> Windows 2000 Prof./XP Prof. <i>Delivery package:</i> German, English, French, Spanish, Italian; incl. 3.5" authorization diskette, without documentation		
• Floating License on CD		<b>6ES7 810-4CC08-0YA5</b>
• Rental license for 50 hours		<b>6ES7 810-4CC08-0YA6</b>
• Software Update Service on CD (requires current software version)		<b>6ES7 810-4BC01-0YX2</b>
• Upgrade Floating License 3.x/4.x/5.x to V5.4; on CD		<b>6ES7 810-4CC08-0YE5</b>
• Trial License STEP 7 V5.4; on CD, runs for 14 days		<b>6ES7 810-4CC08-0YA7</b>
<b>S7-300 PS 307 load power supply</b> 24 V DC		<b>6ES7 307-1BA00-0AA0</b>
<b>IWLAN RCoax cables</b>		
Radiating cable for complex radio environments as special antenna for SCALANCE W Access Points; for wider temperature range (-40 °C ... + 85 °C); sold by the meter (minimum order quantity 20 m)		
• 2.4 GHz		<b>6XV1 875-2A</b>
• 5 GHz		<b>6XV1 875-2D</b>
<b>IWLAN RCoax N-Connect female ANT792-4DN antenna</b>		<b>6GK5 792-4DN00-0AA6</b>
RCoax helix antenna with circular polarization for RCoax systems; 2.4 GHz; connection N-Connect female connection; antenna gain at 2.4 GHz 1 dB; degree of protection IP67; ambient temperature -20 °C ... +60 °C		
<b>IWLAN RCoax N-Connect female ANT793-4MN antenna</b>		<b>6GK5 793-4MN00-0AA6</b>
RCoax 5/8 omni-directional antenna with vertical polarization for RCoax systems; 5 GHz; N-Connect female connection; degree of protection IP67; ambient temperature -20 °C ... +60 °C		

SCALANCE W-788 Access Points		
IWLAN Access Points with built-in wireless interface; wireless networks IEEE 802.11b/g/a/h at 2.4/5 GHz to 54 Mbit/s; national approvals; WPA2/AES; Power over Ethernet (PoE), degree of protection IP65 (-20°C to +60°C); scope of delivery: 2 ANT795-4MR antennas, IP67 hybrid connector, installation material, manual on CD-ROM, German/English		
<b>SCALANCE W788-1PRO</b>		
IWLAN Access Point with <u>one</u> integral wireless interface		
• National approvals for operation outside the U.S.A.	X	<b>6GK5 788-1AA60-2AA0</b>
• National approvals for operation in the U.S.A.	X	<b>6GK5 788-1AA60-2AB0</b>
<b>SCALANCE W788-2PRO</b>		
IWLAN Dual Access Point with <u>two</u> integral wireless interfaces		
• National approvals for operation outside the U.S.A.	X	<b>6GK5 788-2AA60-2AA0</b>
• National approvals for operation in the U.S.A.	X	<b>6GK5 788-2AA60-2AB0</b>
<b>SCALANCE W788-1RR</b>		
IWLAN Access Point with <u>one</u> built-in radio interface for establishment of radio links with rapid roaming		
• National approvals for operation outside the U.S.A.	X	<b>6GK5 788-1AA60-6AA0</b>
• National approvals for operation in the U.S.A.	X	<b>6GK5 788-1AA60-6AB0</b>
<b>SCALANCE W788-2RR</b>		
IWLAN Dual Access Point with <u>two</u> built-in wireless interfaces for establishing wireless connections with rapid roaming or alternative operation on HiPath Wireless Controller		
• National approvals for operation outside the U.S.A.	X	<b>6GK5 788-2AA60-6AA0</b>
• National approvals for operation in the U.S.A.	X	<b>6GK5 788-2AA60-6AB0</b>
<b>SCALANCE W786-1PRO</b>		
IWLAN Access Points with one integrated radio interface RJ45 connection		
• Two internal antennas		
- National approvals for operation outside the U.S.A.	X	<b>6GK5 786-1BA60-2AA0</b>
- National approvals for operation in the U.S.A.	X	<b>6GK5 786-1BA60-2AB0</b>
• Connections for two external antennas		
- National approvals for operation outside the U.S.A.	X	<b>6GK5 786-1AA60-2AA0</b>
- National approvals for operation in the U.S.A.	X	<b>6GK5 786-1AA60-2AB0</b>
<b>SCALANCE W784-1</b>		
IWLAN Access Points with one built-in radio interface		
• National approvals for operation outside the U.S.A.	X	<b>6GK5 784-1AA30-2AA0</b>
• National approvals for operation in the U.S.A.	X	<b>6GK5 784-1AA30-2AB0</b>

S) Subject to export regulations: AL: 5A002A1A2 and ECCN: 5D002ENC3

X) Subject to export regulations: AL: 5A002A1A2 and ECCN: 5A002ENC3

Ordering data (continued)	Order No.	Order No.
<b>Accessories</b>		<b>Accessories (continued)</b>
<b>RCoax N-Connect male termination impedance</b> Terminating resistance, 50 ohms	6GK5 795-1TN00-1AA0	<b>PROFIBUS FC Standard Cable GP</b> Standard type with special design for fast mounting, 2-core, shielded, <b>6XV1 830-0EH10</b>
<b>RCoax N-Connect female N-connector</b> Connector for assembly in the field	6GK5 798-0CN00-0AA0	<b>PROFIBUS FastConnect bus connector RS485 with 90° cable outlet</b> With insulation displacement technology, max. transmission rate 12 Mbit/s • without PG interface • with PG interface <b>6ES7 972-0BA51-0XA0</b> <b>6ES7 972-0BB51-0XA0</b>
<b>IWLAN N-Connect male/male Flexible connection cable</b> Flexible connection cable, for example, between two RCoax segments • 1 m • 5 m	6XV1 875-5AH10 6XV1 875-5AH50	<b>PROFIBUS FastConnect RS485 bus connector with angled cable outlet (35°)</b> With insulation displacement technology, max. transmission rate 12 Mbit/s • without PG interface • with PG interface <b>6ES7 972-0BA60-0XA0</b> <b>6ES7 972-0BB60-0XA0</b>
<b>IWLAN N-Connect/R-SMA male/male Flexible connection cable</b> Flexible connection cable for components with R-SMA connection and RCoax N-Connect • 1 m • 5 m	6XV1 875-5CH10 6XV1 875-5CH50	<b>PROFIBUS FastConnect bus connector RS485 Plug 180</b> with insulation displacement technology, with 180° cable outlet, for industrial PC, SIMATIC HMI OP, OLM; max. transmission rate 12 Mbit/s <b>6GK1 500-0FC10</b>
<b>IWLAN R-SMA/SMA male/male Flexible connection cable</b> Flexible cable for connecting an IWLAN/PB Link PN IO to components with R-SMA and SMA connection, for example, panel feedthrough; prepared with two R-SMA to N-male connections • 0.3 m	6XV1 875-5DE30	<b>PROFIBUS FastConnect Stripping Tool</b> Preadjusted stripping tool for fast stripping of PROFIBUS FastConnect bus cables <b>6GK1 905-6AA00</b>
<b>RCoax N-Connect/R-SMA female/female Panel feedthrough</b> Panel feedthrough for panel widths up to 5.5 mm, R-SMA female and N-female connections	6GK5 798-0PT00-2AA0	
<b>Preset-PLUG</b> Swap medium for simple initial startup of IWLAN clients, e.g. IWLAN/PB Link PN IO	6GK5 798-8AB00	

### IE/WSN-PA LINK

#### Overview



WirelessHART is the standard defined by the HCF (HART Communication Foundation). Communication is performed in encrypted form based on the Advanced Encryption Standard to avoid unauthorized data transfer and parameterization of field devices. Wireless HART communication is a component part of the HART Specification V 7. Radio transmission is based on the wireless communication standard IEEE 802.15.4. WirelessHART is an open interface that is increasingly supported by vendors of related products.

- The IE/WSN-PA LINK is a gateway for connecting WirelessHART sensors (HART V7.1) to Industrial Ethernet as an alternative or supplement to wired connection of HART sensors
- Connection of up to 100 WirelessHART devices
- Approved for operation in hazardous areas in Zone 2
- Open TCP/IP communication and Modbus TCP via the Ethernet interface
- Can be used with HCF HART-OPC server

#### Ordering data

#### Order No.

##### IE/WSN-PA LINK

WirelessHART gateway for connecting WirelessHART devices to Industrial Ethernet; transmission frequency: 2.4 GHz

- |   |   |                            |
|---|---|----------------------------|
| • With integral, non-detachable antenna           | W | <b>6GK1 411-6CA40-0AA0</b> |
| • N-connector for connecting of external antennas | W | <b>6GK1 411-6CA40-0BA0</b> |

##### HART-OPC server

Available via the HART Communication Foundation; the guidelines of the HART Communication Foundation are to be observed for licensing

##### Antennas

Antennas with omni-directional characteristics; country permits, compact instructions (hard copy), German/English

##### Wall or mast-mounting

- |  |                            |
|--|----------------------------|
| • <b>ANT792-6MN antenna</b><br>Antenna gain including N-Connect connector 6 dBi, 2.4 GHz | <b>6GK5 792-6MN00-0AA6</b> |
|--|----------------------------|

##### Roof mounting

- |  |                            |
|--|----------------------------|
| • <b>ANT795-6MN antenna</b><br>Antenna gain incl. N-Connect connector 6/8 dBi, 2.4/5 GHz                 | <b>6GK5 795-6MN00-0AA6</b> |
| • <b>Antenna mounting tool (ANT795-6MN)</b><br>Mounting tool for installation of ANT795-6MN under a roof | <b>6GK5 795-6MN01-0AA6</b> |

##### LP798-1N lightning protector

Lightning protector with N/N female/female connector, IP65 (-40 ... + 100 °C)

**6GK5 798-2LP00-2AA6**

##### Antenna cables

##### IWLAN N-Connect male/male

##### Flexible connection cable

Flexible connecting cable for connecting two RCoax cables; assembled with two N-Connect male connectors

- |        |                       |
|--------|-----------------------|
| • 1 m  | <b>6XV1 875-5AH10</b> |
| • 2 m  | <b>6XV1 875-5AH20</b> |
| • 5 m  | <b>6XV1 875-5AH50</b> |
| • 10 m | <b>6XV1 875-5AN10</b> |

##### HF coupling

**6GK5 798-0CP00-1AA00**

##### HARTING adapter cable

**21 03 683 6420**

M12 female NPT 1/2 thread on RJ45 11 cm, (minimum order quantity: 10 items); the adapter is available for the simple connection of the link to Industrial Ethernet; when using the Harting adapter cable for the Ethernet connection, an ATEX approval is no longer necessary. However, when used in an application relevant for the ATEX guideline, an approval by the authorized registration institute is essential.

Not included in the scope of delivery of the IE/WSN-PA links;

You can find further information in the Internet under:

<http://www.harting.com>

W) Subject to export regulations: AL: 5A002A1A2 and ECCN: 5A002A1A



#### Overview



- Maximum data exchange of 256-byte input data and 256-byte output data between two PROFINET networks
- Maximum of 16 input/output ranges for the exchange of data
- Electrical isolation between the two PROFINET IO subnets
- Redundant power supply
- Supported Ethernet services
  - ping
  - arp
  - Network diagnostics (SNMP/MIB-2)
- Diagnostic interrupts
- ReturnOfSubmodule interrupts

#### Ordering data

**PN/PN coupler**  
for connecting two  
PROFINET networks

#### Order No.

**6ES7158-3AD00-0XA0**

#### Overview



PN	DP-M	DP-S	ASi-M		
●	●				

- Compact network transition between Industrial Ethernet and PROFIBUS
- Connection to Industrial Ethernet with 10/100 Mbit/s full/half duplex connection with autosensing for automatic switchover
- Connection to PROFIBUS with 9.6 kbit/s to 12 Mbit/s incl. 45.45 kbit/s for PROFIBUS PA
- PROFINET IO proxy; connection of PROFIBUS DP slaves to PROFINET IO controller according to PROFINET standard:
  - From the viewpoint of the I/O controller, all DP slaves are handled like I/O devices of the Ethernet interface, i.e. the IE/PB Link PN IO is its proxy.
- Cross-network programming device/operator panel communication by S7 routing, i.e. all S7 stations can be remotely programmed by the programming device on the Industrial Ethernet or PROFIBUS.
- Cross-network access to data of S7 stations for visualization by means of S7 OPC server and S7 routing;
  - Via the IE/PB Link PN IO access can be made from the PC on the Industrial Ethernet (e.g. for HMI applications with OPC Client interface) by means of S7 OPC server, to all data of the S7 stations on the PROFIBUS.
- Module replacement without the need for a programming device, using the C-PLUG swap media for backing up the configuration data

# Network transitions

## Industrial Ethernet – PROFIBUS network transition

IE/PB Link PN IO

Ordering data	Order No.		Order No.
<b>IE/PB Link PN IO</b> Network transition between Industrial Ethernet and PROFIBUS with PROFINET IO functionality, TCP/IP, S7 routing and data record routing, 10/100 Mbit/s Fast Ethernet, 9.6 to 12 Mbit/s PROFIBUS; including electronic manual on CD-ROM German, English, French, Spanish, Italian	<b>6GK1 411-5AB00</b>	<b>PROFIBUS FastConnect bus connector RS485 with 90° cable outlet</b> With insulation displacement technology, max. transmission rate 12 Mbit/s <ul style="list-style-type: none"> <li>• without PG interface</li> <li>• with PG interface</li> </ul>	<b>6ES7 972-0BA51-0XA0</b> <b>6ES7 972-0BB51-0XA0</b>
<b>IE FC RJ45 Plug 180</b> RJ45 plug connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement technology for connecting Industrial Ethernet FC installation cables; with 180° cable outlet; for network components and CPs/CPU's with Industrial Ethernet interface <ul style="list-style-type: none"> <li>• 1 pack = 1 item</li> <li>• 1 pack = 10 items</li> <li>• 1 pack = 50 items</li> </ul>	<b>6GK1 901-1BB10-2AA0</b> <b>6GK1 901-1BB10-2AB0</b> <b>6GK1 901-1BB10-2AE0</b>	<b>PROFIBUS FastConnect RS485 bus connector with angled cable outlet (35°)</b> With insulation displacement technology, max. transmission rate 12 Mbit/s <ul style="list-style-type: none"> <li>• without PG interface</li> <li>• with PG interface</li> </ul>	<b>6ES7 972-0BA60-0XA0</b> <b>6ES7 972-0BB60-0XA0</b>
<b>SCALANCE X204-2 Industrial Ethernet switch</b> with four 10/100 Mbit/s RJ45 ports and two fiber-optic ports	<b>6GK5 204-2BB10-2AA3</b>	<b>PROFIBUS FastConnect bus connector RS485 Plug 180</b> with insulation displacement technology, with 180° cable outlet, for industrial PC, SIMATIC HMI OP, OLM; max. transmission rate 12 Mbit/s	<b>6GK1 500-0FC10</b>
<b>SCALANCE X308-2 Industrial Ethernet Switch</b> 2 x 1000 Mbit/s multimode fiber-optic ports (SC sockets), 1 x 10/100/1000 Mbit/s RJ45 port, 7 x 10/100 Mbit/s RJ45 ports; for glass fiber-optic cables (multimode) up to a max. 750 m.	<b>6GK5 308-2FL00-2AA3</b>	<b>PROFIBUS FastConnect Stripping Tool</b> Preadjusted stripping tool for fast stripping of PROFIBUS FastConnect bus cables	<b>6GK1 905-6AA00</b>
<b>C-PLUG</b> Swap medium for simple replacement of devices in the event of a fault; for storing configuration or engineering and application data; can be used for SIMATIC NET products with C-PLUG slot	<b>6GK1 900-0AB00</b>	<b>S7-300 mounting rail</b> <b>S7-300 PS 307 load power supply</b> 24 V DC	<b>6ES7 390-1AB60-0AA0</b> <b>6ES7 307-1BA00-0AA0</b>
<b>PROFIBUS FC Standard Cable GP</b> Standard type with special design for fast mounting, 2-core, shielded	<b>6XV1 830-0EH10</b>	<b>NCM S7 configuring software for Industrial Ethernet</b> <b>Manual Twisted Pair and fiber-optic networks</b> Paper version Network architecture, components, configurations, installation guidelines <ul style="list-style-type: none"> <li>• German</li> <li>• English</li> </ul>	Delivery with STEP 7 V5  <b>6GK1 970-1BA10-0AA0</b> <b>6GK1 970-1BA10-0AA1</b>
		<b>Manual for PROFIBUS networks</b> Paper version Network architecture, project management, network components, installation <ul style="list-style-type: none"> <li>• German</li> <li>• English</li> </ul>	<b>6GK1 970-5CA20-0AA0</b> <b>6GK1 970-5CA20-0AA1</b>

# Network transitions

## Industrial Ethernet – AS-Interface network transition

### IE/AS-i LINK PN IO

#### Overview



PN	DP-M	DP-S	ASi-M		
●			●		

- Compact network transition, between PROFINET/Industrial Ethernet (PROFINET IO Device) and AS-Interface
- Single and dual AS-Interface master (according to AS-Interface specification V3.0) for connecting 62 AS-Interface slaves each with integral analog-value transmission
- High-performance, integrated analog value transmission
- Integral earth-fault monitoring for the AS-Interface cable
- Simple diagnostics and startup on site using a pixel-graphics display and operator keys or Web interface with standard browser
- Optimum TIA integration via STEP 7, integration in engineering tools from other vendors through PROFINET type file (GSD)
- Vertical integration (standard Web interface) through Industrial Ethernet
- Power supply from the AS-Interface cable or alternatively with 24 V DC
- Module replacement without input of connection parameters (IP address etc.) when using the C-PLUG (optional)

#### Ordering data

#### Order No.

##### IE/AS-i LINK PN IO

Network transition between Industrial Ethernet and AS-Interface; M4 master profile enhanced AS-Interface Specification V3.0; degree of protection IP20; incl. manual on CD-ROM (German, English, French, Spanish, Italian)

- |                              |   |                       |
|------------------------------|---|-----------------------|
| • Single master with display | A | <b>6GK1 411-2AB10</b> |
| • Dual master with display   | A | <b>6GK1 411-2AB20</b> |

##### Accessories

##### SCALANCE X204-2 Industrial Ethernet switch

with four 10/100 Mbit/s RJ45 ports and two fiber-optic ports

**6GK5 204-2BB10-2AA3**

##### SCALANCE X308-2 Industrial Ethernet Switch

2 x 1000 Mbit/s multimode fiber-optic ports (SC sockets), 1 x 10/100/1000 Mbit/s RJ45 port, 7 x 10/100 Mbit/s RJ45 ports; for glass fiber-optic cables (multimode) up to a max. 750 m.

**6GK5 308-2FL00-2AA3**

##### C-PLUG

Swap medium for simple replacement of devices in the event of a fault; for storing configuration or engineering and application data; can be used for SIMATIC NET products with C-PLUG slot

**6GK1 900-0AB00**

##### IE FC RJ45 Plug 90

RJ45 plug-in connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; with 90° cable outlet; e.g. for ET 200S

- |                     |                            |
|---------------------|----------------------------|
| • 1 pack = 1 item   | <b>6GK1 901-1BB20-2AA0</b> |
| • 1 pack = 10 items | <b>6GK1 901-1BB20-2AB0</b> |
| • 1 pack = 50 items | <b>6GK1 901-1BB20-2AE0</b> |

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# Network transitions

## PROFIBUS DP – AS-Interface network transition

DP/AS-i LINK Advanced

### Overview



PN	DP-M	DP-S	ASi-M		
		●	●		

- Compact network transition between PROFIBUS (DP slave) and AS-Interface
- Single and dual AS-Interface master (according to AS-Interface specification V3.0) for connecting 62 AS-Interface slaves each with integral analog-value transmission
- High-performance, integral earth-fault monitoring for the AS-Interface cable
- Simple diagnostics and startup on site using a pixel-graphics display and operator keys or Web interface with standard browser
- Optimum TIA integration through STEP 7, integration into engineering tools of other vendors through PROFIBUS type file (GSD)
- Vertical integration (standard Web interface) through Industrial Ethernet
- Power supply from the AS-Interface cable or alternatively with 24 V DC
- Module replacement without input of connection parameters (PROFIBUS address etc.) when using the C-PLUG (optional)

### Ordering data

### Order No.

#### DP/AS-i LINK Advanced

Network transition between PROFIBUS DP and AS-Interface; M4 master profile enhanced AS-Interface Specification V3.0; degree of protection IP20; incl. manual on CD-ROM (German, English, French, Spanish, Italian)

- |                              |   |                       |
|------------------------------|---|-----------------------|
| • Single master with display | A | <b>6GK1 415-2BA10</b> |
| • Dual master with display   | A | <b>6GK1 415-2BA20</b> |

#### Accessories

#### SCALANCE X204-2 Industrial Ethernet switch

with four 10/100 Mbit/s RJ45 ports and two fiber-optic ports

**6GK5 204-2BB10-2AA3**

#### SCALANCE X308-2 Industrial Ethernet Switch

2 x 1000 Mbit/s multimode fiber-optic ports (SC sockets), 1 x 10/100/1000 Mbit/s RJ45 port, 7 x 10/100 Mbit/s RJ45 ports; for glass fiber-optic cables (multimode) up to a max. 750 m.

**6GK5 308-2FL00-2AA3**

#### C-PLUG

Swap medium for simple replacement of devices in the event of a fault; for storing configuration or engineering and application data; can be used for SIMATIC NET products with C-PLUG slot

**6GK1 900-0AB00**

#### IE FC RJ45 Plug 90

RJ45 plug-in connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; with 90° cable outlet

- |                     |                            |
|---------------------|----------------------------|
| • 1 pack = 1 item   | <b>6GK1 901-1BB20-2AA0</b> |
| • 1 pack = 10 items | <b>6GK1 901-1BB20-2AB0</b> |
| • 1 pack = 50 items | <b>6GK1 901-1BB20-2AE0</b> |

#### PROFIBUS FastConnect RS485 bus connector with angled cable outlet (35°);

With insulation displacement technology, max. transmission rate 12 Mbit/s

- |                        |                            |
|------------------------|----------------------------|
| • without PG interface | <b>6ES7 972-0BA60-0XA0</b> |
| • with PG interface    | <b>6ES7 972-0BB60-0XA0</b> |

A) Subject to export regulations: AL: N and ECCN: EAR99H

# Network transitions

## PROFIBUS DP – AS-Interface network transition

### DP/AS-Interface Link 20E

#### Overview



PN	DP-M	DP-S	ASi-M		
		●	●		

The DP/AS-Interface link 20E connects PROFIBUS DP with AS-Interface. It provides the following functions:

- PROFIBUS DP slave and AS-Interface master
- Up to 62 AS-Interface slaves can be connected and integrated analog value transfer (according to the extended AS-Interface Specification V3.0).
- Supports all AS-Interface master functions in accordance with the extended AS-Interface Specification V3.0, i.e. 4M master profile.
- Supplied from the AS-Interface cable, so no additional power supply is necessary.
- Supports uploading of the AS-Interface configuration in STEP 7 from V5.2.

#### Ordering data

#### Order No.

##### DP/AS-Interface Link 20E

A

**6GK1 415-2AA10**

Network transition between PROFIBUS DP and AS-Interface; degree of protection IP20; incl. manual on CD-ROM (German, English, French, Spanish, Italian)

##### PROFIBUS FC Standard Cable GP

**6XV1 830-0EH10**

Standard type with special design for fast mounting, 2-core, shielded

##### PROFIBUS FastConnect Stripping Tool

**6GK1 905-6AA00**

Pre-adjusted stripping tool for fast stripping of PROFIBUS FastConnect bus cables

##### PROFIBUS FastConnect bus connector RS485 with 90° cable outlet

With insulation displacement technology, max. transmission rate 12 Mbit/s

- without PG interface

**6ES7 972-0BA51-0XA0**

- with PG interface

**6ES7 972-0BB51-0XA0**

##### PROFIBUS FastConnect RS485 bus connector with angled cable outlet (35°)

With insulation displacement technology, max. transmission rate 12 Mbit/s

- without PG interface

**6ES7 972-0BA60-0XA0**

- with PG interface

**6ES7 972-0BB60-0XA0**

##### PROFIBUS FastConnect bus connector RS485 Plug 180

**6GK1 500-0FC10**

With insulation displacement technology with 180° cable outlet, for industrial PC, SIMATIC HMI OP, OLM; max. transmission rate 12 Mbit/s

A) Subject to export regulations: AL: N and ECCN: EAR99H

# Network transitions

## PROFIBUS DP – AS-Interface network transition

DP/AS-i F-Link

### Overview



PN	DP-M	DP-S	ASi-M		
		●	●		

- Compact, safety-oriented network transition between PROFIBUS (DP Slave) and AS-Interface
- Monitoring the inputs of safety-oriented digital AS-i slaves (ASIsafe slaves) and forwarding of data through PROFIsafe. No additional safety-oriented components required for the AS-Interface (e.g. safety monitor)
- AS-i master according to AS-Interface Specification V3.0, M4 master profile for connection of up to 62 AS-i slaves with integrated analog value transfer function
- Direct integration in PROFIBUS networks. Optional integration in PROFINET environments through PROFINET/PROFIBUS network transition (IE/PB Link PN IO) or through SIMATIC S7 315/317/319 F PN/DP or S7-416F-3 PN/DP
- Connection to ET 200S with IM-F-CPU using DP master module is possible
- Optimum TIA integration in STEP 7 using Object Manager, integration in non-Siemens engineering tools using PROFIBUS GSD file.
- Local diagnostics using LEDs and display with control keys

### Ordering data

### Order No.

#### Version

#### DP/AS-i F-Link

Network transition between PROFIBUS DP and AS-Interface for failsafe data transmission from ASIsafe to PROFIBUS DP – PROFIsafe.

M4 master profile according to extended AS-i Specification 3.0, degree of protection IP20

- |                           |   |                       |
|---------------------------|---|-----------------------|
| • Screw terminals         | G | <b>3RK3 141-1CD10</b> |
| • Spring-loaded terminals | G | <b>3RK3 141-2CD10</b> |

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# Network transitions

## PROFIBUS DP – PROFIBUS PA network transition

### DP/PA Link and DP/PA coupler

#### Overview



To create a smooth network transition between PROFIBUS DP and PROFIBUS PA, the SIMATIC product range offers two versions: the DP/PA coupler and the DP/PA link.

The following criteria can be applied when choosing the network transition:

- DP/PA coupler:  
For small quantity frameworks (volumes of data) and low timing requirements; limiting of data transfer rate on the PROFIBUS DP to 45.45 kbit/s
- DP/PA link:  
For large number of stations and high cycle time requirements; data transfer rate on the PROFIBUS DP up to 12 Mbit/s

#### Ordering data

#### Order No.

##### DP/PA coupler

For transition from RS 485 to MBP

- DP/PA coupler Ex [i]

**6ES7 157-0AD82-0XA0**

- DP/PA coupler FDC 157-0, redundant design possible

**6ES7 157-0AC83-0XA0**

##### IM 153-2 High Feature

Interface module for DP/PA Link and Y-Link; for extended temperature range

**6ES7 153-2BA82-0XB0**

#### Accessories

##### PS 307 load power supply

Including connection assembly; 120/230 V AC; 24 V DC

- 2 A; 50 mm wide
- 5 A; 80 mm wide
- 5 A, extended temperature range; 80 mm wide
- 10 A, 200 mm wide

**6ES7 307-1BA00-0AA0**

**6ES7 307-1EA00-0AA0**

**6ES7 307-1EA80-0AA0**

**6ES7 307-1KA01-0AA0**

##### PS 305 load power supply

24/48/60/110 V DC; 24 V DC

- 2 A, extended temperature range; 80 mm wide

**6ES7 305-1BA80-0AA0**

##### Standard profile rails

(without hot swapping function)

- 482 mm wide (19 inches)
- 530 mm wide

**6ES7 390-1AE80-0AA0**

**6ES7 390-1AF30-0AA0**

#### Components for hot swapping and for redundant design

##### Active bus modules for hot swapping

- BM PS/IM  
for one load power supply and one IM 153-2 High Feature module
- BM IM 157  
For two IM 153-2 High Feature modules, for redundant and non-redundant configuration, for extended temperature range, for hot swapping function, permissible operating temperature -25...+60 °C
- BM DP/PA  
For one DP/PA coupler Ex [i] or FDC 157-0, for extended temperature range, for hot swapping function, permissible operating temperature -25 to +60 °C
- BM DP/PA  
For two DP/PA couplers FDC 157-0, for extended temperature range, for hot swapping function, permissible operating temperature -25 to +60 °C

**6ES7 195-7HA00-0XA0**

**6ES7 195-7HD80-0XA0**

**6ES7 195-7HF80-0XA0**

**6ES7 195-7HG80-0XA0**

##### Profile rail for hot swapping

For max. 5 active bus modules

- 482 mm wide (19 inches)
- 530 mm wide
- 620 mm wide

**6ES7 195-1GA00-0XA0**

**6ES7 195-1GF30-0XA0**

**6ES7 195-1GG30-0XA0**

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<u>Variable-Speed Drives</u>			
SINAMICS G110/SINAMICS G120	D 11.1		
Inverter Chassis Units			
SINAMICS G120D			
Distributed Frequency Inverters			
SINAMICS G130 Drive Converter Chassis Units, SINAMICS G150 Drive Converter Cabinet Units	D 11		
SINAMICS GM150/SINAMICS SM150	D 12		
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SIEMOSYN Motors	DA 48		
MICROMASTER 420/430/440 Inverters	DA 51.2		
MICROMASTER 411/COMBIMASTER 411	DA 51.3		
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SIMOVERT MASTERDRIVES Motion Control	DA 65.11		
Synchronous and asynchronous servomotors for SIMOVERT MASTERDRIVES	DA 65.3		
SIMODRIVE 611 universal and POSMO	DA 65.4		
SIMOTION, SINAMICS S120 and Motors for Production Machines	PM 21		
SINAMICS S110	PM 22		
The Basic Positioning Drive			
<u>Low-Voltage Three-Phase-Motors</u>			
IEC Squirrel-Cage Motors	D 81.1		
MOTOX Geared Motors	D 87.1		
<u>Automation Systems for Machine Tools SIMODRIVE</u>		NC 60	
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• Motors			
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<u>Drive and Control Components for Hoisting Equipment</u>		HE 1	
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Flender Standard Couplings	MD 10.1		
<b>Electrical Installation Technology</b>			
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<i>PDF: DELTA Switches and Socket Outlets</i>	ET D1		
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<b>Motion Control</b>		<i>Catalog</i>	
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Automation Systems for Machine Tools			
SINUMERIK & SINAMICS		NC 61	
Automation Systems for Machine Tools			
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SINAMICS S110		PM 22	
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Controls and Distribution – Technical Information		LV 1 T	
SIRIUS, SENTRON, SIVACON			
SICUBE System Cubicles and Cubicle Air-Conditioning		LV 50	
SIDAC Reactors and Filters		LV 60	
SIVACON 8PS Busbar Trunking Systems		LV 70	
<b>Process Instrumentation and Analytics</b>			
Field Instruments for Process Automation		FI 01	
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SIREC Recorders and Accessories		MP 20	
SIPART, Controllers and Software		MP 31	
<i>PDF: Products for Weighing Technology</i>		WT 10	
Process Analytical Instruments		PA 01	
<i>PDF: Process Analytics, Components for the System Integration</i>		PA 11	
<b>SIMATIC HMI</b>			
Human Machine Interface Systems		ST 80	
<b>SIMATIC Industrial Automation Systems</b>			
Products for Totally Integrated Automation and Micro Automation		ST 70	
SIMATIC PCS 7 Process Control System		ST PCS 7	
Add-ons for the SIMATIC PCS 7 Process Control System		ST PCS 7.1	
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SIMATIC Control Systems		ST DA	
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Sensor Technology for Factory Automation		FS 10	
<b>Systems Engineering</b>			
Power supplies SITOP power and LOGO! Power		KT 10.1	
System cabling SIMATIC TOP connect		KT 10.2	
<b>System Solutions</b>			
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<i>PDF: AS 488/TM automation systems</i>		PLT 112	

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[www.siemens.com/automation/simatic-net](http://www.siemens.com/automation/simatic-net)

Service & Support:

[www.siemens.com/automation/service&support](http://www.siemens.com/automation/service&support)

SIMATIC NET Contact persons:

[www.siemens.com/automation/partner](http://www.siemens.com/automation/partner)

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