Overview

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

Communications processor for connecting a SIMATIC S7-200 to Industrial Ethernet networks

The CP supports:

- PG/OP communication
- S7 communication
- IT communication

In addition, the CP 243-1 offers e-mail functions and user-created web pages and thus optimally supports maintenance and quality assurance. The Internet functions such as FTP allow connection to the most diverse PC-based systems.

Benefits

get Designed for Industry

- Process information can be accessed simultaneously (password protected) with standard Web browsers; software costs are reduced on the client side
- Low-cost bulk storage for data, statistics and HTML-based machine or plant documentation
- Simple universal linking of PLCs to different computers by means of FTP
- Local and worldwide transmission of event-driven messages by e-mail
- Time and cost savings due to fast and easy configuration, programming and monitoring from a central location via LAN
- Reduction of complexity and savings for networking all automation levels and devices since only Ethernet is required
- Simple startup and easy diagnostics options due to configuration support by STEP 7 Micro/WIN

Application

- The CP 243-1 communications processor is used to connect S7-200 to Industrial Ethernet.
- Distributed plants can be reached over telephone lines or the Internet by using a router and simple diagnostics, signal or user functions can be performed with the help of a web browser. The CP 243-1 is especially suited for plant sections where using PCs for permanent monitoring functions would not be cost-effective.
- PC applications can access the data of an S7-200 via an S7 OPC server. In this way, process data can be easily archived or further processed.
- SIMATIC S7-300 and S7-400 programmable controllers can communicate with a SIMATIC S7-200 with CP 243-1 over Industrial Ethernet which means that the S7-200 can also be used for more complex applications.

Design

The CP 243-1 offers all the advantages of the S7-200 design:

- Compact design in a rugged plastic enclosure
- Terminal strip for connecting the 24 V DC external supply voltage
- LED status display
- Optional DIN rail mounting or direct wall mounting
- RJ45 socket for connection to Industrial Ethernet with automatic data rate detection

2

Function

The CP 243-1 is connected to Industrial Ethernet via an RJ45 interface for 10/100 Mbit/s full/half duplex with autosensing/autonegotiation and autocrossover function.

The CP 243-1 enables communication between an S7-200 module and another S7-200 or S7-300/S7-400 controller via Industrial Ethernet, and access of the S7-200 programming software STEP 7-Micro/WIN to the S7-200 via Industrial Ethernet.

Integration into PC applications is possible by means of the S7-OPC server of the PC software.

IT functions

Simple visualization using Web technology, sending e-mails, and file processing (FTP).
The file system of the CP 243-1 can also be managed through the CPU. It is used as a bulk storage device, a cross-system computer link and a storage location for HTML pages and Java applets. The CP 243-1 has a large file system in which, apart from HTML pages, machine documentation or user guides can also be stored.

Web server;
HTML pages can be downloaded and viewed with standard browsers

Web pages

- For observation of the S7-200 controller: standard pages for system diagnostics and a simple variable editor are supplied.
- Other customer-specific pages can be generated with any HTML tools

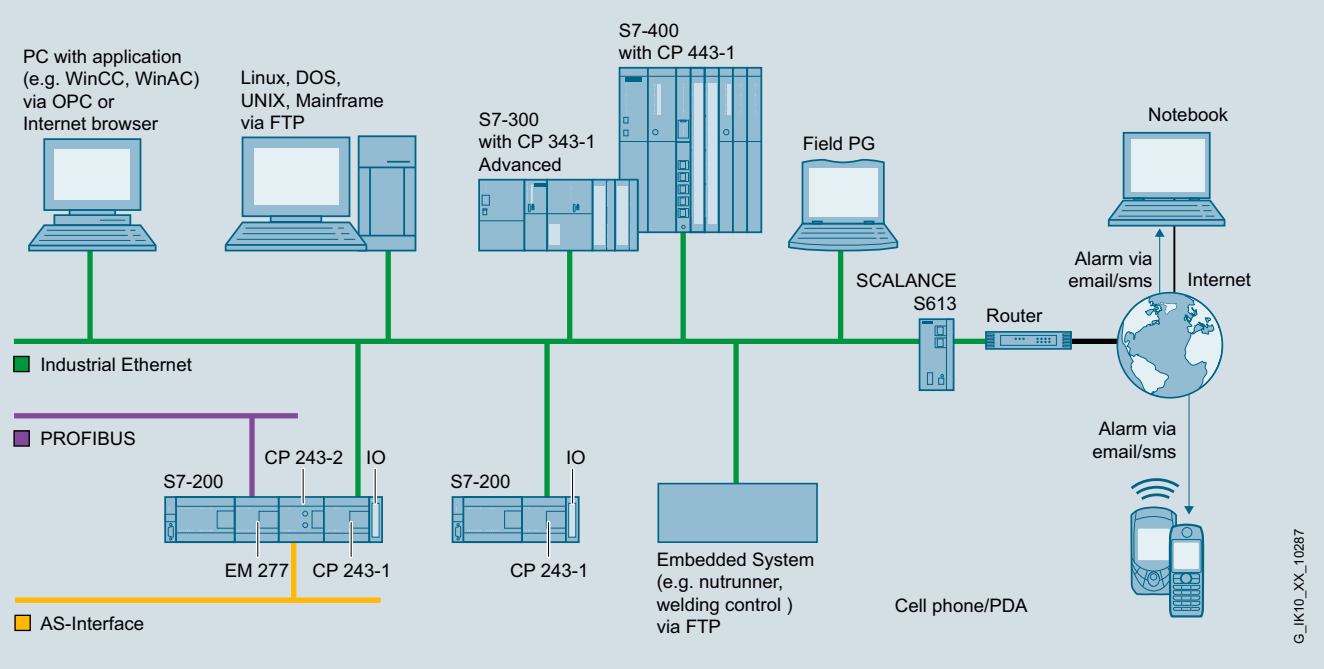
E-mails;
sending of pre-defined e-mails directly from the user program
Variables can be integrated into the text

FTP communication
The CPU can send data blocks as files to other computers or can read or delete the files of other computers (client function). Communication through FTP is possible with most operating systems

Configuration

- STEP 7 Micro/WIN V4.0 SP8 or higher is required for configuring the full functional scope of the CP 243-1.
- The CP 243-1 is supplied with a globally unique MAC address that cannot be changed.

Integration



S7-200 communication options with CP 243-1

Technical specifications

Article No.	6GK7243-1EX01-0XE0
Product-type designation	**CP 243-1**
Transmission rate	
Transfer rate at the interface 1	10 … 100 Mbit/s
Interfaces	
Number of electrical connections	
• at interface 1 in accordance with Industrial Ethernet	1
• for power supply	1
Design of electrical connection	
• at interface 1 in accordance with Industrial Ethernet	RJ45 port
• for power supply	3-pin termnal strip
Supply voltage, current consumption, power loss	
Type of supply voltage	DC
Supply voltage	
• 1 from backplane bus	5 V
• external	24 V
Consumed current from external supply voltage at 24 V with DC	
• typical	0.053 A
• maximum	0.06 A
Resistive loss	1.5 W
Permitted ambient conditions	
Ambient temperature	
• for vertical installation during operating phase	0 … 45 °C
• for horizontal installation during operating phase	0 … 55 °C
• during storage	-40 … +70 °C
• during transport	-40 … +70 °C
Relative humidity at 25 °C without condensation during operating maximum	95 %
Protection class IP	IP20
Design, dimensions and weight	
Module format	Compact module S7-200 double width
Width	71.2 mm
Height	80 mm
Depth	62 mm
Net weight	0.15 kg

Article No.	6GK7243-1EX01-0XE0
Product-type designation	**CP 243-1**
Product properties, functions, components general	
Number of modules	
• per CPU maximum	1
Performance data	
Performance data S7 communication	
Number of possible connections for S7 communication	
• maximum	8
• with PG connections maximum	1
• with PG/OP connections maximum	8
Performance data IT functions	
Number of possible connections	
• as client by means of FTP maximum	1
• as server by means of HTTP maximum	4
• as e-mail client maximum	1
Number of e-mails with 1 024 characters of e-mail client maximum	32
Number of access rights access protections	8
Storage capacity of user memory as flash memory file system	8 Mibyte
Number of possible write cycles flash memory cells	100 000
Product functions management, configuration	
Product function MIB support	No
Protocol is supported SNMP v1	No
Configuration software required	STEP 7-Micro/WIN V4.0 SP8 or higher
Product functions Diagnosis	
Product function Web-based diagnostics	Yes

2

Ordering data

	Article No.
CP 243-1 communications processor 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	**6GK7243-1EX01-0XE0**
Accessories	
IE TP Cord RJ45/RJ45 TP cable 4 x 2 with 2 RJ45 connectors	
• 0.5 m	**6XV1870-3QE50**
• 1 m	**6XV1870-3QH10**
• 2 m	**6XV1870-3QH20**
• 6 m	**6XV1870-3QH60**
SCALANCE X005 Industrial Ethernet Switch for 10/100 Mbit/s; with five 10/100 Mbit/s RJ45 ports for configuring small star and line structures	**6GK5005-0BA00-1AA3**

More information

Selection tools:

To assist in selecting the right Industrial Ethernet switches as well as configuration of modular variants, the SIMATIC NET Selection Tool and the TIA Selection Tool are available at:

SIMATIC NET Selection Tool:

- Online version:
  http://www.siemens.com/snst
- Offline version:
  http://www.siemens.com/snst-download

You will find more information on the topic of Industrial Security on the Internet at:

http://www.siemens.com/industrialsecurity

Note:

For software ordering data, see page 2/584