

Product type designation

CP 443-1 Advanced

Communications processor CP 443-1 Advanced 1x 10/100/1000 Mbit/s, 4x 10/100 Mbit/s (IE switch) RJ45 ports; ISO; TCP; UDP; PROFINET IO controller; S7 communication; Open Communication (SEND/RECEIVE); S7 routing; IP configuration via DHCP/block; IP Access Control List; Time synchronization; extended web diagnostics; Fast Startup; PROFINET support; IP routing; FTP; Web server; E-mail; PROFINET CBA, security



Transmission rate

Transfer rate

- at the 1st interface 10 ... 1000 Mbit/s
- at the 2nd interface 10 ... 100 Mbit/s

Interfaces

Number of interfaces / acc. to Industrial Ethernet	5
Number of electrical connections	
• at the 1st interface / acc. to Industrial Ethernet	1
• at the 2nd interface / acc. to Industrial Ethernet	4
Type of electrical connection	
• at the 1st interface / acc. to Industrial Ethernet	RJ45 port
• at the 2nd interface / acc. to Industrial Ethernet	RJ45 port
design of the removable storage / C-PLUG	Yes

Supply voltage, current consumption, power loss

Type of voltage / of the supply voltage	DC
Supply voltage / 1 / from backplane bus	5 V
Relative symmetrical tolerance / at DC	

• at 5 V	5 %
Consumed current	
• from backplane bus / at DC / at 5 V / typical	1.8 A
Power loss [W]	9 W

Ambient conditions

Ambient temperature	
• during operation	0 ... 60 °C
• during storage	-40 ... +70 °C
• during transport	-40 ... +70 °C
Relative humidity	
• at 25 °C / without condensation / during operation / maximum	95 %
Protection class IP	IP20

Design, dimensions and weight

Module format	Compact module S7-400 single width
Width	25 mm
Height	290 mm
Depth	210 mm
Net weight	0.7 kg

Product properties, functions, components / general

Number of units	
• per CPU / maximum	14
• Note	max. 4 as PN IO ctrl.

Performance data / open communication

Number of possible connections / for open communication / by means of SEND/RECEIVE blocks / maximum	64
Amount of data	
• as user data per ISO connection / for open communication / by means of SEND/RECEIVE blocks / maximum	8 Kibyte
• as user data per ISO on TCP connection / for open communication / by means of SEND/RECEIVE blocks / maximum	8 Kibyte
• as user data per TCP connection / for open communication / by means of SEND/RECEIVE blocks / maximum	8 Kibyte
• as user data per UDP connection / for open IE communication / by means of SEND/RECEIVE blocks / maximum	2 Kibyte
Number of possible connections / for open communication	
• by means of T blocks / maximum	64

Amount of data	
• as user data per ISO on TCP connection / for open communication / by means of T blocks / maximum	1452 byte

Performance data / S7 communication

Number of possible connections / for S7 communication	
• maximum	128
• with PG connections / maximum	2
• Note	when using several CPUs

Performance data / multi-protocol mode

Number of active connections / with multi-protocol mode	128
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Performance data / IT functions

Number of possible connections	
• as client / by means of FTP / maximum	20
• as server / by means of FTP / maximum	10
Number of possible connections	
• as server / by means of HTTP / maximum	4
• as e-mail client / maximum	1
Amount of data / as user data for email / maximum	8 Kibyte
Storage capacity / of the user memory	
• as flash memory file system	30 Mibyte
• as RAM	16 Mibyte
• additionally buffered as RAM via central backup battery	512 Kibyte
Number of possible write cycles / of the flash memory cells	100000

Performance data / PROFINET communication / as PN IO-Controller

Product function / PROFINET IO controller	Yes
Number of PN IO devices / on PROFINET IO controller / usable / total	128
Number of PN IO IRT devices / on PROFINET IO controller / usable	64
Number of external PN IO lines / with PROFINET / per rack	4
Amount of data	
• as user data for input variables / as PROFINET IO controller / maximum	4 Kibyte
• as user data for input variables / as PROFINET IO controller / maximum	4 Kibyte
• as user data for input variables per PN IO device / as PROFINET IO controller / maximum	1433 byte

• as user data for output variables per PN IO device / as PROFINET IO controller / maximum	1433 byte
• as user data for input variables per PN IO device / for each sub-module as PROFINET IO controller / maximum	240 byte
• as user data for output variables per PN IO device / for each sub-module as PROFINET IO controller / maximum	240 byte

Performance data / PROFINET CBA

Number of remote connection partners / with PROFINET CBA	64
Number of connections / with PROFINET CBA / total	600
Amount of data	
• as user data for digital inputs / with PROFINET CBA / maximum	8 Kibyte
• as user data for digital outputs / with PROFINET CBA / maximum	8 Kibyte
• as user data for arrays and data types / in the case of acyclic transmission / with PROFINET CBA / maximum	8 Kibyte
• as user data for arrays and data types / with PROFINET CBA / with cyclical transfer / maximum	250 byte
• as user data for arrays and data types / with PROFINET CBA / in the case of local interconnection / maximum	2400 byte

Performance data / PROFINET CBA / remote connection / with acyclic transmission

Refresh time / of the remote interconnections / in the case of acyclic transmission / with PROFINET CBA	100 ms
Number of remote connections to input variables / in the case of acyclic transmission / with PROFINET CBA / maximum	150
Number of remote connections to output variables / in the case of acyclic transmission / with PROFINET CBA / maximum	150
Amount of data	
• as user data for remote interconnections with input variables / in the case of acyclic transmission / with PROFINET CBA	8 Kibyte
• as user data for remote interconnections with output variables / in the case of acyclic transmission / with PROFINET CBA	8 Kibyte

Performance data / PROFINET CBA / remote connection / with cyclic transmission

Refresh time / of the remote interconnections / with PROFINET CBA / with cyclical transfer	10 ms
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Number of remote connections to input variables / with PROFINET CBA / with cyclical transfer / maximum	250
Number of remote connections to output variables / with PROFINET CBA / with cyclical transfer / maximum	250
Amount of data • as user data for remote interconnections with input variables / with PROFINET CBA / with cyclical transfer / maximum • as user data for remote interconnections with output variables / with PROFINET CBA / with cyclical transfer / maximum	2000 byte 2000 byte

Performance data / PROFINET CBA / HMI variables via PROFINET / acyclic

Number of connectable HMI stations / for HMI variables / in the case of acyclic transmission / with PROFINET CBA	3
Refresh time / of the HMI variables / in the case of acyclic transmission / with PROFINET CBA	500 ms
Number of HMI variables / in the case of acyclic transmission / with PROFINET CBA / maximum	200
Amount of data / as user data for HMI variables / in the case of acyclic transmission / with PROFINET CBA / maximum	8 Kibyte

Performance data / PROFINET CBA / device-internal connections

Number of internal connections / with PROFINET CBA / maximum	300
Amount of data / of the internal connections / with PROFINET CBA / maximum	2400 byte

Performance data / PROFINET CBA / connections to constants

Number of connections with constants / with PROFINET CBA / maximum	500
Amount of data / as user data for interconnections with constants / with PROFINET CBA / maximum	4000 byte

Performance data / PROFINET CBA / PROFIBUS proxy functionality

Product function / with PROFINET CBA / PROFIBUS proxy functionality	No
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Product functions / management, configuration

Product function / MIB support	Yes
Protocol / is supported • SNMP v1 • SNMP v3 • DCP • LLDP	Yes Yes Yes Yes

Configuration software	
• required	STEP 7 V5.5 SP3 or higher / STEP 7 Professional V12 (TIA Portal) or higher
• for PROFINET CBA / required	SIMATIC iMap V3.0 SP1 and higher
Product functions / Diagnosis	
Product function / Web-based diagnostics	Yes
Product functions / switch	
Product feature / Switch	Yes
Product function	
• switch-managed	No
• with IRT / PROFINET IO switch	Yes
• Configuration with STEP 7	Yes
Product functions / Redundancy	
Product function	
• Ring redundancy	Yes
• Redundancy manager	Yes
Protocol / is supported / Media Redundancy Protocol (MRP)	Yes
Product functions / Security	
Firewall version	stateful inspection
Product function / with VPN connection	IPSec
Type of encryption algorithms / with VPN connection	AES-256, AES-192, AES-128, 3DES-168, DES-56
Type of authentication procedure / with VPN connection	Preshared key (PSK), X.509v3 certificates
Type of hashing algorithms / with VPN connection	MD5, SHA-1
Number of possible connections / with VPN connection	32
Product function	
• password protection for Web applications	Yes
• ACL - IP-based	Yes
• ACL - IP-based for PLC/routing	Yes
• switch-off of non-required services	Yes
• Blocking of communication via physical ports	Yes
• log file for unauthorized access	No
Product functions / Time	
Product function / SICLOCK support	Yes
Product function / pass on time synchronization	Yes
Protocol / is supported	
• NTP	Yes
Further Information / Internet Links	
Internet-Link	

- to website: Selector SIMATIC NET SELECTION TOOL
- to website: Industrial communication
- to website: Industry Mall
- to website: Information and Download Center
- to website: Image database
- to website: CAX Download Manager
- to website: Industry Online Support

<http://www.siemens.com/snst>

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

<https://mall.industry.siemens.com>

<http://www.siemens.com/industry/infocenter>

<http://automation.siemens.com/bilddb>

<http://www.siemens.com/cax>

<https://support.industry.siemens.com>

Security information

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