

Product type designation

CP 443-1 Advanced

COMMUNICATIONS PROCESSOR CP 443-1 ADVANCED FOR CONNECTING SIMATIC S7-400CPU TO INDUSTRIAL ETHERNET: PROFINET IO-CONTROLLER WITH RT AND IRT, MRP, PROFINET CBA, TCP/IP,ISO,UDP,S7-COM,S5-COMP.COM.(SEND/RECEIVE).FETCH/WRITE WITH AND W/O RFC1006,MULTICAST, DIAGNOSTIC EXPANSIONS,SNMP, DHCP, FTP CLIENT/SERVER,E-MAIL, DATA STORAGE ON C-PLUG, PROFINET-SS 4XRJ45(10/100 MBIT) SWITCHED, GIGABIT-SS 1XRJ45 (10/100/1000 MBIT)



Transmission rate

Transfer rate	
<ul style="list-style-type: none"> at the 1st interface 	10 ... 1000 Mbit/s
<ul style="list-style-type: none"> at the 2nd interface 	10 ... 100 Mbit/s

Interfaces

Number of interfaces / acc. to Industrial Ethernet	5
Number of electrical connections	
<ul style="list-style-type: none"> at the 1st interface / acc. to Industrial Ethernet 	1
<ul style="list-style-type: none"> at the 2nd interface / acc. to Industrial Ethernet 	4
Type of electrical connection	
<ul style="list-style-type: none"> at the 1st interface / acc. to Industrial Ethernet 	RJ45 port
<ul style="list-style-type: none"> 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
Supply voltage	5 V

Relative symmetrical tolerance / at DC	
<ul style="list-style-type: none"> • at 5 V 	5 %
Consumed current	
<ul style="list-style-type: none"> • from backplane bus / at DC / at 5 V / typical 	1.8 A
Power loss [W]	9 W

Permitted ambient conditions

Ambient temperature	
<ul style="list-style-type: none"> • during operation 	0 ... 60 °C
<ul style="list-style-type: none"> • during storage 	-40 ... +70 °C
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • per CPU / maximum 	14
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • as user data per ISO connection / for open communication / by means of SEND/RECEIVE blocks / maximum 	8 Kibyte
<ul style="list-style-type: none"> • as user data per ISO on TCP connection / for open communication / by means of SEND/RECEIVE blocks / maximum 	8 Kibyte
<ul style="list-style-type: none"> • as user data per TCP connection / for open communication / by means of SEND/RECEIVE blocks / maximum 	8 Kibyte
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • by means of T blocks / maximum 	64

Amount of data	
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • maximum 	128
<ul style="list-style-type: none"> • with PG connections / maximum 	2
<ul style="list-style-type: none"> • with OP connections / maximum 	30
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • as client / by means of FTP / maximum 	20
<ul style="list-style-type: none"> • as server / by means of FTP / maximum 	10
<ul style="list-style-type: none"> • as server / by means of HTTP / maximum 	4
<ul style="list-style-type: none"> • as e-mail client / maximum 	1
Amount of data / as user data for email / maximum	8 Kibyte
Storage capacity / of the user memory	
<ul style="list-style-type: none"> • as flash memory file system 	30 Miabyte
<ul style="list-style-type: none"> • as RAM 	16 Miabyte
<ul style="list-style-type: none"> • 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	128
Number of external PN IO lines / with PROFINET / per rack	4
Amount of data	
<ul style="list-style-type: none"> • as user data for input variables / as PROFINET IO controller / maximum 	4 Kibyte
<ul style="list-style-type: none"> • as user data for input variables / as PROFINET IO controller / maximum 	4 Kibyte
<ul style="list-style-type: none"> • as user data for input variables per PN IO device / as PROFINET IO controller / maximum 	1433 byte

<ul style="list-style-type: none"> • as user data for output variables per PN IO device / as PROFINET IO controller / maximum 	1433 byte
<ul style="list-style-type: none"> • as user data for input variables per PN IO device / for each sub-module as PROFINET IO controller / maximum 	240 byte
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • as user data for digital inputs / with PROFINET CBA / maximum 	8 Kibyte
<ul style="list-style-type: none"> • as user data for digital outputs / with PROFINET CBA / maximum 	8 Kibyte
<ul style="list-style-type: none"> • as user data for arrays and data types / in the case of acyclic transmission / with PROFINET CBA / maximum 	8 Kibyte
<ul style="list-style-type: none"> • as user data for arrays and data types / with PROFINET CBA / with cyclical transfer / maximum 	250 byte
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • as user data for remote interconnections with input variables / in the case of acyclic transmission / with PROFINET CBA 	8 Kibyte
<ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • 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
Product function / MIB support	Yes
Protocol / is supported <ul style="list-style-type: none"> • SNMP v1 • DCP • LLDP 	Yes Yes Yes
Configuration software <ul style="list-style-type: none"> • required 	STEP 7 V5.4 SP4 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
- Parallel Redundancy Protocol (PRP)/operation in the PRP-network Yes

Protocol / is supported / Media Redundancy Protocol (MRP) Yes

Product functions / Security

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 <http://www.siemens.com/snst>
- to website: Industrial communication <http://www.siemens.com/simatic-net>
- to website: Industry Mall <https://mall.industry.siemens.com>
- to website: Information and Download Center <http://www.siemens.com/industry/infocenter>
- to website: Image database <http://automation.siemens.com/bilddb>
- to website: CAx Download Manager <http://www.siemens.com/cax>
- to website: Industry Online Support <https://support.industry.siemens.com>

Security information

Security information

Siemens provides products and solutions with industrial security functions that support the secure operation of plants, solutions, machines, equipment and/or networks. They are important components in a holistic industrial security concept. With this in mind, Siemens' products and solutions undergo continuous development. Siemens recommends strongly that you regularly check for product updates. For the secure operation of Siemens products and solutions, it is necessary to take suitable preventive action (e.g. cell protection concept) and integrate each component into a holistic, state-of-the-art industrial security concept. Third-party products that may be in use should also be considered. For more information about industrial security, visit <http://www.siemens.com/industrialsecurity>. To stay informed about product updates as they occur, sign up for a product-specific newsletter. For more information, visit <http://support.automation.siemens.com>. (V3.4)

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