

SIMATIC S7-1200, CPU 1217C, COMPACT CPU, DC/DC/DC, 2 PROFINET PORT ONBOARD I/O: 10 DI 24V DC; 4 DI RS422/485; 6 DO 24V DC; 0,5A; 4 DO RS422/485; 2 AI 0- 10V DC, 2 AQ 0- 20mA; POWER SUPPLY: DC 20.4 - 28.8 V DC, PROGRAM/DATA MEMORY: 150 KB



General information	
Product type designation	CPU 1217C DC/DC/DC
Firmware version	V4.1
Engineering with	
<ul style="list-style-type: none"> <li>Programming package</li> </ul>	STEP 7 V13 SP1 or higher
Display	
with display	No
Supply voltage	
Rated value (DC)	
<ul style="list-style-type: none"> <li>24 V DC</li> </ul>	Yes
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Load voltage L+	
<ul style="list-style-type: none"> <li>Rated value (DC)</li> </ul>	24 V
Input current	
Current consumption (rated value)	600 mA; CPU only
Current consumption, max.	1 600 mA; CPU with all expansion modules
Inrush current, max.	12 A; at 28.8 V DC

Encoder supply	
24 V encoder supply	
<ul style="list-style-type: none"> <li>• 24 V</li> </ul>	L+ minus 4 V DC min.
Power loss	
Power loss, typ.	12 W
Memory	
Type of memory	RAM
Work memory	
<ul style="list-style-type: none"> <li>• integrated</li> </ul>	150 kbyte
<ul style="list-style-type: none"> <li>• expandable</li> </ul>	No
Load memory	
<ul style="list-style-type: none"> <li>• integrated</li> </ul>	4 Mbyte
<ul style="list-style-type: none"> <li>• Plug-in (SIMATIC Memory Card), max.</li> </ul>	with SIMATIC memory card
Backup	
<ul style="list-style-type: none"> <li>• present</li> </ul>	Yes; maintenance-free
<ul style="list-style-type: none"> <li>• without battery</li> </ul>	Yes
CPU processing times	
for bit operations, typ.	0.085 µs; / Operation
for word operations, typ.	1.5 µs; / Operation
for floating point arithmetic, typ.	2.3 µs; / instruction
CPU-blocks	
Number of blocks (total)	DBs, FCs, FBs, counters and timers. The maximum number of addressable blocks ranges from 1 to 65535. There is no restriction, the entire working memory can be used
OB	
<ul style="list-style-type: none"> <li>• Number, max.</li> </ul>	Limited only by RAM for code
Data areas and their retentivity	
retentive data area in total (incl. times, counters, flags), max.	10 kbyte
Flag	
<ul style="list-style-type: none"> <li>• Number, max.</li> </ul>	8 kbyte; Size of bit memory address area
Local data	
<ul style="list-style-type: none"> <li>• per priority class, max.</li> </ul>	16 kbyte; Priority class 1 (program cycle): 16 KB, priority class 2 to 26: 6 KB
Address area	
I/O address area	
<ul style="list-style-type: none"> <li>• Inputs</li> </ul>	1 024 byte
<ul style="list-style-type: none"> <li>• Outputs</li> </ul>	1 024 byte
Process image	
<ul style="list-style-type: none"> <li>• Inputs, adjustable</li> </ul>	1 kbyte

- Outputs, adjustable

1 kbyte

## Hardware configuration

Number of modules per system, max. 3 comm. modules, 1 signal board, 8 signal modules

## Time of day

### Clock

- Hardware clock (real-time clock) Yes
- Backup time 480 h; Typical
- Deviation per day, max. +/- 60 s/month at 25 °C

## Digital inputs

Number of digital inputs 14; Integrated  
 • of which inputs usable for technological functions 6; HSC (High Speed Counting)

integrated channels (DI) 14; Of which, 10x 24 V DC and 4x RS 422/485 differential

m/p-reading Yes

### Number of simultaneously controllable inputs

all mounting positions

— up to 40 °C, max. 14

### Input delay (for rated value of input voltage)

for standard inputs

- parameterizable 0.2 ms, 0.4 ms, 0.8 ms, 1.6 ms, 3.2 ms, 6.4 ms and 12.8 ms, selectable in groups of four
- at "0" to "1", min. 0.2 ms
- at "0" to "1", max. 12.8 ms

for interrupt inputs

— parameterizable Yes

for counter/technological functions

— parameterizable Yes

### Cable length

- shielded, max. 500 m; 50 m for technological functions
- unshielded, max. 300 m; For technological functions: No

## Digital outputs

Number of digital outputs 10  
 • of which high-speed outputs 4; 100 kHz Pulse Train Output

integrated channels (DO) 10; of which, 6x 24 V DC and 4x 1.5 V differential

### Output delay with resistive load

- "0" to "1", max. 1 µs
- "1" to "0", max. 5 µs

## Analog inputs

Number of analog inputs 2

integrated channels (AI) 2; 0 to 10V

<b>Input ranges</b>	
• Voltage	Yes
<b>Input ranges (rated values), voltages</b>	
• 0 to +10 V	Yes
• Input resistance (0 to 10 V)	≥100k ohms
<b>Cable length</b>	
• shielded, max.	100 m; twisted and shielded
<b>Analog outputs</b>	
Number of analog outputs	2
integrated channels (AO)	2; 0 to 20 mA
<b>Output ranges, current</b>	
• 0 to 20 mA	Yes
<b>Analog value generation</b>	
<b>Integration and conversion time/resolution per channel</b>	
• Resolution with overrange (bit including sign), max.	10 bit
• Integration time, parameterizable	Yes
• Conversion time (per channel)	625 μs
<b>Encoder</b>	
<b>Connectable encoders</b>	
• 2-wire sensor	Yes
<b>1. Interface</b>	
Interface type	PROFINET
Physics	Ethernet
Isolated	Yes
automatic detection of transmission rate	Yes
Autonegotiation	Yes
Autocrossing	Yes
<b>Functionality</b>	
• PROFINET IO Controller	Yes
• PROFINET IO Device	Yes; Also simultaneously with IO-Device functionality
<b>PROFINET IO Controller</b>	
• Transmission rate, max.	100 Mbit/s
• Number of connectable IO Devices, max.	16
<b>PROFINET IO Device</b>	
<b>Services</b>	
— Shared device	Yes
— Number of IO Controllers with shared device, max.	2
<b>Protocols</b>	
Supports protocol for PROFINET IO	Yes

PROFIBUS	Yes; CM 1243-5 required
AS-Interface	Yes
Protocols (Ethernet)	
• TCP/IP	Yes
Further protocols	
• MODBUS	Yes
Communication functions	
S7 communication	
• supported	Yes
• as server	Yes
• as client	Yes
Open IE communication	
• TCP/IP	Yes
• ISO-on-TCP (RFC1006)	Yes
• UDP	Yes
Web server	
• supported	Yes
• User-defined websites	Yes
Number of connections	
• overall	16; dynamically
Test commissioning functions	
Status/control	
• Status/control variable	Yes
• Variables	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
Forcing	
• Forcing	Yes
Diagnostic buffer	
• present	Yes
Traces	
• Number of configurable Traces	2; Up to 512 KB of data per trace are possible
Integrated Functions	
Number of counters	6
Counting frequency (counter) max.	1 MHz
Frequency meter	Yes
controlled positioning	Yes
Number of position-controlled positioning axes, max.	8
Number of positioning axes via pulse-direction interface	4; With integrated DO
PID controller	Yes
Number of alarm inputs	4
Number of pulse outputs	4

Limit frequency (pulse)	1 MHz
<b>Potential separation</b>	
Potential separation digital inputs	
• Potential separation digital inputs	No
• between the channels, in groups of	1
Potential separation digital outputs	
• between the channels	No
• between the channels, in groups of	1
<b>EMC</b>	
Interference immunity against discharge of static electricity	
• Interference immunity against discharge of static electricity acc. to IEC 61000-4-2	Yes
— Test voltage at air discharge	8 kV
— Test voltage at contact discharge	6 kV
Interference immunity to cable-borne interference	
• Interference immunity on supply lines acc. to IEC 61000-4-4	Yes
• Interference immunity on signal cables acc. to IEC 61000-4-4	Yes
Interference immunity against voltage surge	
• on the supply lines acc. to IEC 61000-4-5	Yes
Interference immunity against conducted variable disturbance induced by high-frequency fields	
• Interference immunity against high-frequency radiation acc. to IEC 61000-4-6	Yes
Emission of radio interference acc. to EN 55 011	
• Limit class A, for use in industrial areas	Yes; Group 1
• Limit class B, for use in residential areas	Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011
<b>Degree and class of protection</b>	
Degree of protection acc. to EN 60529	
• IP20	Yes
<b>Standards, approvals, certificates</b>	
CE mark	Yes
UL approval	Yes
cULus	Yes
FM approval	Yes
RCM (formerly C-TICK)	Yes
Marine approval	
• Marine approval	Yes
<b>Ambient conditions</b>	
Free fall	

• Drop height, max. (in packaging)	0.3 m; five times, in dispatch package
<b>Ambient temperature during operation</b>	
• min.	-20 °C
• max.	60 °C; Number of simultaneously activated inputs or outputs 7 or 5 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 14 or 10 at 55 °C horizontal or 45 °C vertical
• horizontal installation, min.	-20 °C
• horizontal installation, max.	60 °C
• vertical installation, min.	-20 °C
• vertical installation, max.	50 °C
<b>Ambient temperature during storage/transportation</b>	
• min.	-40 °C
• max.	70 °C
<b>Air pressure acc. to IEC 60068-2-13</b>	
• Operation, min.	795 hPa
• Operation, max.	1 080 hPa
• Storage/transport, min.	660 hPa
• Storage/transport, max.	1 080 hPa
• permissible operating height	-1000 to 2000 m
<b>Relative humidity</b>	
• permissible range (without condensation) at 25 °C	95 %
<b>Vibrations</b>	
• Vibrations	2G wall mounting, 1G DIN rail
• Operation, tested according to IEC 60068-2-6	Yes
<b>Shock test</b>	
• tested according to IEC 60068-2-27	Yes; IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value), duration 11 ms
<b>Extended ambient conditions</b>	
<b>Pollutant concentrations</b>	
— SO2 at RH < 60% without condensation	SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free
<b>Configuration</b>	
<b>Programming</b>	
<b>Programming language</b>	
— LAD	Yes
— FBD	Yes
— SCL	Yes
<b>Cycle time monitoring</b>	
• adjustable	Yes
<b>Dimensions</b>	
Width	150 mm
Height	100 mm

Depth	75 mm
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### Weights

Weight, approx.	500 g
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<b>last modified:</b>	15.10.2015
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