



SIMATIC S7-1200, CPU 1211C, compact CPU, DC/DC/relay, onboard I/O:  
6 DI 24 V DC; 4 DO relay 2A; 2 AI 0-10 V DC, Power supply: AC 20.4-28.8V DC, Program/data memory 30 KB

General information	
Product type designation	CPU 1211C DC/DC/relay
Engineering with	
• Programming package	STEP 7 V11 SP2 or higher
Supply voltage	
Rated value (DC)	
• 24 V DC	Yes
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Load voltage L+	
• Rated value (DC)	24 V
• permissible range, lower limit (DC)	20.4 V
• permissible range, upper limit (DC)	28.8 V
Input current	
Current consumption (rated value)	300 mA; Typical
Current consumption, max.	0.9 A; 24 V DC
Inrush current, max.	12 A; at 28.8 V DC
Output current	
for backplane bus (5 V DC), max.	750 mA; Max. 5 V DC for SM and CM
Encoder supply	
24 V encoder supply	
• 24 V	Permissible range: 20.4V to 28.8V
Power loss	
Power loss, typ.	8 W
Memory	
Work memory	
• integrated	30 kbyte
• expandable	No
Load memory	
• integrated	1 Mbyte
Backup	
• present	Yes; maintenance-free
• without battery	Yes
CPU processing times	
for bit operations, typ.	0.085 µs; / instruction
for word operations, typ.	1.7 µs; / instruction
for floating point arithmetic, typ.	2.5 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	
• Number, max.	Limited only by RAM for code
<b>Data areas and their retentivity</b>	
Retentive data area (incl. timers, counters, flags), max.	10 kbyte
Flag	
• Size, max.	4 kbyte; Size of bit memory address area
<b>Address area</b>	
I/O address area	
• Inputs	1 024 byte
• Outputs	1 024 byte
Process image	
• Inputs, adjustable	1 kbyte
• Outputs, adjustable	1 kbyte
<b>Hardware configuration</b>	
Number of modules per system, max.	3 communication modules, 1 signal board
<b>Time of day</b>	
Clock	
• Hardware clock (real-time)	Yes
• Backup time	480 h; Typical
• Deviation per day, max.	±60 s/month at 25 °C
<b>Digital inputs</b>	
Number of digital inputs	6; Integrated
• of which inputs usable for technological functions	3; HSC (High Speed Counting)
Source/sink input	Yes
Number of simultaneously controllable inputs	
all mounting positions	
— up to 40 °C, max.	6
Input voltage	
• Rated value (DC)	24 V
• for signal "0"	5 V DC at 1 mA
• for signal "1"	15 V DC at 2.5 mA
Input current	
• for signal "1", typ.	1 mA
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 technological functions	
— parameterizable	Single phase : 3 @ 100 kHz, differential: 3 @ 80 kHz
Cable length	
• shielded, max.	500 m; 50 m for technological functions
• unshielded, max.	300 m; for technological functions: No
<b>Digital outputs</b>	
Number of digital outputs	4; Relays
Short-circuit protection	No; to be provided externally
Switching capacity of the outputs	
• with resistive load, max.	2 A
• on lamp load, max.	30 W with DC, 200 W with AC
Output delay with resistive load	
• "0" to "1", max.	10 ms; max.
• "1" to "0", max.	10 ms; max.
Switching frequency	
• of the pulse outputs, with resistive load, max.	1 Hz
Relay outputs	
• Number of relay outputs	4
• Number of operating cycles, max.	mechanically 10 million, at rated load voltage 100 000
Cable length	

<ul style="list-style-type: none"> <li>• shielded, max.</li> </ul>	500 m
<ul style="list-style-type: none"> <li>• unshielded, max.</li> </ul>	150 m
<b>Analog inputs</b>	
Number of analog inputs	2
<ul style="list-style-type: none"> <li>• For voltage/current measurement</li> </ul>	2
<b>Input ranges</b>	
<ul style="list-style-type: none"> <li>• Voltage</li> </ul>	Yes
<b>Input ranges (rated values), voltages</b>	
<ul style="list-style-type: none"> <li>• 0 to +10 V</li> </ul>	Yes
<ul style="list-style-type: none"> <li>— Input resistance (0 to 10 V)</li> </ul>	≥100k ohms
<b>Cable length</b>	
<ul style="list-style-type: none"> <li>• shielded, max.</li> </ul>	100 m; twisted and shielded
<b>Analog outputs</b>	
Number of analog outputs	0
<b>Analog value generation for the inputs</b>	
<b>Integration and conversion time/resolution per channel</b>	
<ul style="list-style-type: none"> <li>• Resolution with overrange (bit including sign), max.</li> </ul>	10 bit
<ul style="list-style-type: none"> <li>• Integration time, parameterizable</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Conversion time (per channel)</li> </ul>	625 μs
<b>Encoder</b>	
<b>Connectable encoders</b>	
<ul style="list-style-type: none"> <li>• 2-wire sensor</li> </ul>	Yes
<b>1. Interface</b>	
Interface type	PROFINET
Isolated	Yes
automatic detection of transmission rate	Yes
Autonegotiation	Yes
Autocrossing	Yes
<b>Interface types</b>	
<ul style="list-style-type: none"> <li>• RJ 45 (Ethernet)</li> </ul>	Yes
<b>Protocols</b>	
<ul style="list-style-type: none"> <li>• PROFINET IO Controller</li> </ul>	Yes
<b>Protocols</b>	
Supports protocol for PROFINET IO	Yes
PROFIsafe	No
PROFIBUS	Yes
AS-Interface	Yes
<b>Protocols (Ethernet)</b>	
<ul style="list-style-type: none"> <li>• TCP/IP</li> </ul>	Yes
<b>Open IE communication</b>	
<ul style="list-style-type: none"> <li>• TCP/IP</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• ISO-on-TCP (RFC1006)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• UDP</li> </ul>	Yes
<b>Web server</b>	
<ul style="list-style-type: none"> <li>• supported</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• User-defined websites</li> </ul>	Yes
<b>Further protocols</b>	
<ul style="list-style-type: none"> <li>• MODBUS</li> </ul>	Yes
<b>communication functions / header</b>	
<b>S7 communication</b>	
<ul style="list-style-type: none"> <li>• supported</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• as server</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• as client</li> </ul>	Yes
<b>Test commissioning functions</b>	
<b>Status/control</b>	
<ul style="list-style-type: none"> <li>• Status/control variable</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Variables</li> </ul>	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
<b>Forcing</b>	
<ul style="list-style-type: none"> <li>• Forcing</li> </ul>	Yes
<b>Diagnostic buffer</b>	
<ul style="list-style-type: none"> <li>• present</li> </ul>	Yes

Integrated Functions	
Frequency measurement	Yes
controlled positioning	Yes
PID controller	Yes
Number of alarm inputs	4
Potential separation	
Potential separation digital inputs	
<ul style="list-style-type: none"> <li>Potential separation digital inputs</li> <li>between the channels, in groups of</li> </ul>	500V AC for 1 minute 1
Potential separation digital outputs	
<ul style="list-style-type: none"> <li>Potential separation digital outputs</li> <li>between the channels</li> </ul>	Relays No
Permissible potential difference	
between different circuits	500 V DC between 24 V DC and 5 V DC
EMC	
Interference immunity against discharge of static electricity	
<ul style="list-style-type: none"> <li>Interference immunity against discharge of static electricity acc. to IEC 61000-4-2 <ul style="list-style-type: none"> <li>— Test voltage at air discharge</li> <li>— Test voltage at contact discharge</li> </ul> </li> </ul>	Yes 8 kV 6 kV
Interference immunity to cable-borne interference	
<ul style="list-style-type: none"> <li>Interference immunity on supply lines acc. to IEC 61000-4-4</li> <li>Interference immunity on signal cables acc. to IEC 61000-4-4</li> </ul>	Yes Yes
Interference immunity against voltage surge	
<ul style="list-style-type: none"> <li>Interference immunity on supply lines acc. to IEC 61000-4-5</li> </ul>	Yes
Interference immunity against conducted variable disturbance induced by high-frequency fields	
<ul style="list-style-type: none"> <li>Interference immunity against high-frequency radiation acc. to IEC 61000-4-6</li> </ul>	Yes
Emission of radio interference acc. to EN 55 011	
<ul style="list-style-type: none"> <li>Limit class A, for use in industrial areas</li> <li>Limit class B, for use in residential areas</li> </ul>	Yes; Group 1 Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011
Degree and class of protection	
IP degree of protection	IP20
Standards, approvals, certificates	
CE mark	Yes
CSA approval	Yes
UL approval	Yes
cULus	Yes
FM approval	Yes
RCM (formerly C-TICK)	Yes
Marine approval	Yes
Ambient conditions	
Free fall	
<ul style="list-style-type: none"> <li>Fall height, max.</li> </ul>	0.3 m; five times, in product package
Ambient temperature during operation	
<ul style="list-style-type: none"> <li>min.</li> <li>max.</li> <li>horizontal installation, min.</li> <li>horizontal installation, max.</li> <li>vertical installation, min.</li> <li>vertical installation, max.</li> </ul>	-20 °C 60 °C -20 °C 60 °C -20 °C 50 °C
Ambient temperature during storage/transportation	
<ul style="list-style-type: none"> <li>min.</li> <li>max.</li> </ul>	-40 °C 70 °C
Air pressure acc. to IEC 60068-2-13	
<ul style="list-style-type: none"> <li>Operation, min.</li> <li>Operation, max.</li> <li>Storage/transport, min.</li> <li>Storage/transport, max.</li> </ul>	795 hPa 1 080 hPa 660 hPa 1 080 hPa

<b>Altitude during operation relating to sea level</b>	
• Installation altitude, min.	-1 000 m
• Installation altitude, max.	2 000 m
<b>Relative humidity</b>	
• Operation, max.	95 %; no condensation
<b>Vibrations</b>	
• Vibration resistance during operation acc. to IEC 60068-2-6	2 g (m/s <sup>2</sup> ) wall mounting, 1 g (m/s <sup>2</sup> ) DIN rail
• Operation, tested according to IEC 60068-2-6	Yes
<b>Shock testing</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>Pollutant concentrations</b>	
• SO <sub>2</sub> at RH < 60% without condensation	SO <sub>2</sub> : < 0.5 ppm; H <sub>2</sub> S: < 0.1 ppm; RH < 60% condensation-free
<b>configuration / header</b>	
configuration / programming / header	
Programming language	
— LAD	Yes
— FBD	Yes
— SCL	Yes
programming / cycle time monitoring / header	
• adjustable	Yes
<b>Dimensions</b>	
Width	90 mm
Height	100 mm
Depth	75 mm
<b>Weights</b>	
Weight, approx.	380 g
<b>last modified:</b>	4/1/2022 