

\*\*\*Spare part\*\*\* SIPLUS S7-1200 CPU 1214C DC/DC/DC -25...+70 °C with conformal coating based on 6ES7214-1AE30-0XB0 .  
compact CPU, DC/DC/DC, onboard I/O: 14 DI 24 V DC; 10 DO 24 V DC; 2 AI 0-10 V DC, Power supply: DC 20.4-28.8V DC, Program/data memory 50 KB



### General information

Product type designation	CPU 1214C DC/DC/DC
Engineering with	
<ul style="list-style-type: none"> <li>Programming package</li> </ul>	STEP 7 Basic V10.5

### 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> <li>permissible range, lower limit (DC)</li> <li>permissible range, upper limit (DC)</li> </ul>	24 V 20.4 V 28.8 V

### Input current

Current consumption, max.	1.5 A; 24 V DC
Inrush current, max.	12 A; at 28.8 V

### Output current

for backplane bus (5 V DC), max.	1 600 mA; Max. 5 V DC for SM and CM
<b>Encoder supply</b>	
24 V encoder supply	
<ul style="list-style-type: none"> <li>• 24 V</li> </ul>	Permissible range: 20.4V to 28.8V
<b>Power loss</b>	
Power loss, typ.	12 W
<b>Memory</b>	
Work memory	
<ul style="list-style-type: none"> <li>• integrated</li> <li>• expandable</li> </ul>	50 kbyte No
Load memory	
<ul style="list-style-type: none"> <li>• integrated</li> <li>• Plug-in (SIMATIC Memory Card), max.</li> </ul>	2 Mbyte 24 Mbyte; with SIEMENS Memory Card
Backup	
<ul style="list-style-type: none"> <li>• present</li> <li>• without battery</li> </ul>	Yes; Entire project maintenance-free in the integral EEPROM Yes
<b>CPU processing times</b>	
for bit operations, typ.	0.1 µs; / Operation
for word operations, typ.	12 µs; / Operation
for floating point arithmetic, typ.	18 µs; / Operation
<b>CPU-blocks</b>	
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
<b>Data areas and their retentivity</b>	
Retentive data area (incl. timers, counters, flags), max.	2 048 byte
Flag	
<ul style="list-style-type: none"> <li>• Number, max.</li> </ul>	8 kbyte; Size of bit memory address area
<b>Address area</b>	
I/O address area	
<ul style="list-style-type: none"> <li>• Inputs</li> <li>• Outputs</li> </ul>	1 024 byte 1 024 byte
Process image	
<ul style="list-style-type: none"> <li>• Inputs, adjustable</li> <li>• Outputs, adjustable</li> </ul>	1 kbyte 1 kbyte
<b>Hardware configuration</b>	

Number of modules per system, max.	3 communication modules, no signal board can be used, 8 signal modules
<b>Time of day</b>	
<b>Clock</b>	
<ul style="list-style-type: none"> <li>• Hardware clock (real-time)</li> <li>• Backup time</li> <li>• Deviation per day, max.</li> </ul>	<p>Yes</p> <p>240 h; Typical</p> <p>±60 s/month at 25 °C</p>
<b>Digital inputs</b>	
Number of digital inputs	14; Integrated; > +60 °C Number of simultaneously controllable inputs and outputs max. 50 %
<ul style="list-style-type: none"> <li>• of which inputs usable for technological functions</li> </ul>	6; HSC (High Speed Counting)
Source/sink input	Yes
<b>Input voltage</b>	
<ul style="list-style-type: none"> <li>• Rated value (DC)</li> <li>• for signal "0"</li> <li>• for signal "1"</li> </ul>	<p>24 V</p> <p>5 V DC at 1 mA</p> <p>15 V DC at 2.5 mA</p>
<b>Input current</b>	
<ul style="list-style-type: none"> <li>• for signal "1", typ.</li> </ul>	1 mA
<b>Input delay (for rated value of input voltage)</b>	
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	Single phase: 3 @ 100 kHz & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3 @ 30 kHz
<b>Cable length</b>	
<ul style="list-style-type: none"> <li>• shielded, max.</li> <li>• unshielded, max.</li> </ul>	<p>500 m; 50 m for technological functions</p> <p>300 m; For technological functions: No</p>
<b>Digital outputs</b>	
Number of digital outputs	10; > +60 °C Number of simultaneously controllable inputs and outputs max. 50%
<ul style="list-style-type: none"> <li>• of which high-speed outputs</li> </ul>	2; 100 kHz Pulse Train Output
Short-circuit protection	No; to be provided externally
Limitation of inductive shutdown voltage to	L+ (-48 V)
<b>Switching capacity of the outputs</b>	
<ul style="list-style-type: none"> <li>• with resistive load, max.</li> <li>• on lamp load, max.</li> </ul>	<p>0.5 A</p> <p>5 W</p>

<b>Output voltage</b>	
• for signal "1", min.	20 V
<b>Output current</b>	
• for signal "1" rated value	0.5 A
• for signal "0" residual current, max.	0.1 mA
<b>Output delay with resistive load</b>	
• "0" to "1", max.	1 $\mu$ s
• "1" to "0", max.	5 $\mu$ s
<b>Switching frequency</b>	
• of the pulse outputs, with resistive load, max.	100 kHz
<b>Cable length</b>	
• shielded, max.	500 m
• unshielded, max.	150 m
<b>Analog inputs</b>	
Number of analog inputs	2; > +60 °C Number of simultaneously controllable inputs and outputs max. 50%
<b>Input ranges</b>	
• Voltage	Yes
<b>Input ranges (rated values), voltages</b>	
• 0 to +10 V	Yes
• Input resistance (0 to 10 V)	$\geq 100$ k ohms
<b>Cable length</b>	
• shielded, max.	100 m; twisted and shielded
<b>Analog outputs</b>	
Number of analog outputs	0
<b>Cable length</b>	
• shielded, max.	100 m; shielded, twisted pair
<b>Analog value generation for the inputs</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 $\mu$ s
<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
<b>Protocols</b>	
Supports protocol for PROFINET IO	No
PROFIBUS	No
AS-Interface	No
<b>Protocols (Ethernet)</b>	
• TCP/IP	Yes
<b>Open IE communication</b>	
• TCP/IP	Yes
• ISO-on-TCP (RFC1006)	Yes
<b>Web server</b>	
• User-defined websites	Yes
<b>Further protocols</b>	
• MODBUS	No
<b>Communication functions</b>	
<b>S7 communication</b>	
• supported	Yes
• as server	Yes
<b>Web server</b>	
• supported	Yes
<b>Number of connections</b>	
• overall	15; dynamically
<b>Test commissioning functions</b>	
<b>Status/control</b>	
• Status/control variable	Yes
• Variables	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
<b>Forcing</b>	
• Forcing	Yes
<b>Integrated Functions</b>	
Number of counters	6
Counting frequency (counter) max.	100 kHz
Frequency measurement	Yes
controlled positioning	Yes
PID controller	Yes
Number of alarm inputs	4
Number of pulse outputs	2
Limit frequency (pulse)	100 kHz

Potential separation	
Potential separation digital inputs	
• Potential separation digital inputs	No
• between the channels, in groups of	1
Potential separation digital outputs	
• Potential separation digital outputs	Yes
• between the channels	No
• between the channels, in groups of	2
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	
• 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
Degree and class of protection	
Degree of protection acc. to EN 60529	
• IP20	Yes
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
cULus	Yes
FM approval	No
Ambient conditions	
Free fall	
• Fall height, max.	0.3 m; five times, in product package

<b>Ambient temperature during operation</b>	
<ul style="list-style-type: none"> <li>horizontal installation, min.</li> <li>horizontal installation, max.</li> <li>vertical installation, min.</li> <li>vertical installation, max.</li> </ul>	<p>-25 °C; = Tmin</p> <p>70 °C; = Tmax; &gt; +60 °C Number of simultaneously controllable inputs and outputs max. 50%; no signal board can be used</p> <p>-25 °C; = Tmin</p> <p>45 °C; = Tmax</p>
<b>Ambient temperature during storage/transportation</b>	
<ul style="list-style-type: none"> <li>min.</li> <li>max.</li> </ul>	<p>-40 °C</p> <p>70 °C</p>
<b>Altitude during operation relating to sea level</b>	
<ul style="list-style-type: none"> <li>Ambient air temperature-barometric pressure-altitude</li> </ul>	<p>Tmin ... Tmax at 1 080 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax - 20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)</p>
<b>Relative humidity</b>	
<ul style="list-style-type: none"> <li>With condensation, tested in accordance with IEC 60068-2-38, max.</li> </ul>	<p>100 %; RH incl. condensation/frost permitted (no commissioning in bedewed state)</p>
<b>Vibrations</b>	
<ul style="list-style-type: none"> <li>Vibration resistance during operation acc. to IEC 60068-2-6</li> <li>Operation, tested according to IEC 60068-2-6</li> </ul>	<p>2 g (m/s<sup>2</sup>) wall mounting, 1 g (m/s<sup>2</sup>) DIN rail</p> <p>Yes</p>
<b>Shock testing</b>	
<ul style="list-style-type: none"> <li>tested according to IEC 60068-2-27</li> </ul>	<p>Yes; 15 g (m/s<sup>2</sup>), 11 ms pulse, 6 shocks in each of 3 axes</p>
<b>Resistance</b>	
<b>Use in stationary industrial systems</b>	
<ul style="list-style-type: none"> <li>to biologically active substances according to EN 60721-3-3</li> <li>to chemically active substances according to EN 60721-3-3</li> <li>to mechanically active substances according to EN 60721-3-3</li> </ul>	<p>Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request</p> <p>Yes; Class 3C4 incl. salt spray according to EN 60068-2-52 (degree of severity 3). The supplied connector covers must remain on the unused interfaces during operation!</p> <p>Yes; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!</p>
<b>Configuration</b>	
<b>Programming</b>	
<b>Programming language</b>	
<ul style="list-style-type: none"> <li>LAD</li> <li>FBD</li> <li>SCL</li> </ul>	<p>Yes</p> <p>Yes</p> <p>Yes</p>
<b>Cycle time monitoring</b>	
<ul style="list-style-type: none"> <li>adjustable</li> </ul>	<p>Yes</p>
<b>Dimensions</b>	
Width	110 mm
Height	100 mm

Depth	75 mm
<b>Weights</b>	
Weight, approx.	415 g
<b>last modified:</b>	05/18/2018