

\*\*\*Spare part\*\*\* SIPLUS S7-1200 CPU 1214C AC/DC/relay -25...+70 °C with conformal coating based on 6ES7214-1BE30-0XB0 .  
compact CPU, AC/DC/relay, onboard I/O: ""14 DI 24 V DC; 10 DO relay 0.5 A 2 AI 0-10 V DC, Power supply: AC 85-264 V AC @ 47-63 Hz, Program/data memory 50 KB



### General information

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

### Supply voltage

Rated value (AC)	
<ul style="list-style-type: none"> <li>120 V AC</li> <li>230 V AC</li> </ul>	Yes
permissible range, lower limit (AC)	85 V
permissible range, upper limit (AC)	264 V

### Line frequency

<ul style="list-style-type: none"> <li>permissible range, lower limit</li> <li>permissible range, upper limit</li> </ul>	47 Hz
	63 Hz

### 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
	5 V
	250 V

### Input current

Current consumption (rated value)	100 mA at 120 V AC; 50 mA at 240 V AC
Current consumption, max.	300 mA at 120 V AC; 150 mA at 240 V AC
Inrush current, max.	20 A; at 264 V

<b>Output current</b>	
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.	14 W

<b>Memory</b>	
Work memory	
<ul style="list-style-type: none"> <li>• integrated</li> </ul>	50 kbyte
<ul style="list-style-type: none"> <li>• expandable</li> </ul>	No
Load memory	
<ul style="list-style-type: none"> <li>• integrated</li> </ul>	2 Mbyte
<ul style="list-style-type: none"> <li>• Plug-in (SIMATIC Memory Card), max.</li> </ul>	24 Mbyte; with SIEMENS Memory Card
Backup	
<ul style="list-style-type: none"> <li>• present</li> </ul>	Yes; Entire project maintenance-free in the integral EEPROM
<ul style="list-style-type: none"> <li>• without battery</li> </ul>	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> </ul>	1 024 byte
<ul style="list-style-type: none"> <li>• Outputs</li> </ul>	1 024 byte
Process image	

- Inputs, adjustable
- Outputs, adjustable

1 kbyte

1 kbyte

## Hardware configuration

Number of modules per system, max.

3 communication modules, no signal board can be used, 8 signal modules

## Time of day

### Clock

- Hardware clock (real-time) Yes
- Backup time 240 h; Typical
- Deviation per day, max.  $\pm 60$  s/month at 25 °C

## Digital inputs

Number of digital inputs

14; Integrated; > +60 °C Number of simultaneously controllable inputs and outputs max. 50 %

- of which inputs usable for technological functions

6; HSC (High Speed Counting)

Source/sink input

Yes

### 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 counter/technological functions

- parameterizable Single phase: 3 @ 100 kHz & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3 @ 30 kHz

### 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; Relay; > +60 °C Number of simultaneously controllable inputs and outputs max. 50%

Short-circuit protection

No; to be provided externally

Switching capacity of the outputs

<ul style="list-style-type: none"> <li>• with resistive load, max.</li> <li>• on lamp load, max.</li> </ul>	2 A 30 W with DC, 200 W with AC
<b>Output delay with resistive load</b>	
<ul style="list-style-type: none"> <li>• "0" to "1", max.</li> <li>• "1" to "0", max.</li> </ul>	10 ms; max. 10 ms; max.
<b>Switching frequency</b>	
<ul style="list-style-type: none"> <li>• of the pulse outputs, with resistive load, max.</li> </ul>	1 Hz
<b>Relay outputs</b>	
<ul style="list-style-type: none"> <li>• Number of relay outputs</li> <li>• Number of operating cycles, max.</li> </ul>	10 mechanically 10 million, at rated load voltage 100 000
<b>Cable length</b>	
<ul style="list-style-type: none"> <li>• shielded, max.</li> <li>• unshielded, max.</li> </ul>	500 m 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>	
<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> <li>• Input resistance (0 to 10 V)</li> </ul>	Yes ≥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>Cable length</b>	
<ul style="list-style-type: none"> <li>• shielded, max.</li> </ul>	100 m; shielded, twisted pair
<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> <li>• Integration time, parameterizable</li> <li>• Conversion time (per channel)</li> </ul>	10 bit Yes 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
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
<b>Potential separation</b>	

<b>Potential separation digital inputs</b>	
• Potential separation digital inputs	No
• between the channels, in groups of	1
<b>Potential separation digital outputs</b>	
• Potential separation digital outputs	Relays
• between the channels	No
• between the channels, in groups of	2
<b>Permissible potential difference</b>	
between different circuits	500 V DC between 24 V DC and 5 V DC
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• 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
<b>Interference immunity to cable-borne interference</b>	
• Interference immunity on supply lines acc. to IEC 61000-4-4	Yes
• Interference immunity on signal cables acc. to IEC 61000-4-4	Yes
<b>Interference immunity against voltage surge</b>	
• on the supply lines acc. to IEC 61000-4-5	Yes
<b>Interference immunity against conducted variable disturbance induced by high-frequency fields</b>	
• Interference immunity against high-frequency radiation acc. to IEC 61000-4-6	Yes
<b>Emission of radio interference acc. to EN 55 011</b>	
• 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
<b>Ambient conditions</b>	
<b>Free fall</b>	
• Fall height, max.	0.3 m; five times, in product package
<b>Ambient temperature during operation</b>	
• horizontal installation, min.	-25 °C; = Tmin

<ul style="list-style-type: none"> <li>horizontal installation, max.</li> </ul>	70 °C; = Tmax; > +60 °C Number of simultaneously controllable inputs and outputs max. 50%; no signal board can be used
<ul style="list-style-type: none"> <li>vertical installation, min.</li> </ul>	-25 °C; = Tmin
<ul style="list-style-type: none"> <li>vertical installation, max.</li> </ul>	45 °C; = Tmax
<b>Ambient temperature during storage/transportation</b>	
<ul style="list-style-type: none"> <li>min.</li> </ul>	-40 °C
<ul style="list-style-type: none"> <li>max.</li> </ul>	70 °C
<b>Altitude during operation relating to sea level</b>	
<ul style="list-style-type: none"> <li>Ambient air temperature-barometric pressure-altitude</li> </ul>	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)
<b>Relative humidity</b>	
<ul style="list-style-type: none"> <li>With condensation, tested in accordance with IEC 60068-2-38, max.</li> </ul>	100 %; RH incl. condensation/frost permitted (no commissioning in bedewed state)
<b>Vibrations</b>	
<ul style="list-style-type: none"> <li>Vibration resistance during operation acc. to IEC 60068-2-6</li> </ul>	2 g (m/s <sup>2</sup> ) wall mounting, 1 g (m/s <sup>2</sup> ) DIN rail
<ul style="list-style-type: none"> <li>Operation, tested according to IEC 60068-2-6</li> </ul>	Yes
<b>Shock testing</b>	
<ul style="list-style-type: none"> <li>tested according to IEC 60068-2-27</li> </ul>	Yes; 15 g (m/s <sup>2</sup> ), 11 ms pulse, 6 shocks in each of 3 axes
<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> </ul>	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
<ul style="list-style-type: none"> <li>to chemically active substances according to EN 60721-3-3</li> </ul>	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!
<ul style="list-style-type: none"> <li>to mechanically active substances according to EN 60721-3-3</li> </ul>	Yes; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!
<b>Configuration</b>	
<b>Programming</b>	
<b>Programming language</b>	
<ul style="list-style-type: none"> <li>LAD</li> </ul>	Yes
<ul style="list-style-type: none"> <li>FBD</li> </ul>	Yes
<ul style="list-style-type: none"> <li>SCL</li> </ul>	Yes
<b>Cycle time monitoring</b>	
<ul style="list-style-type: none"> <li>adjustable</li> </ul>	Yes
<b>Dimensions</b>	
Width	110 mm
Height	100 mm
Depth	75 mm
<b>Weights</b>	

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Weight, approx.

455 g

**last modified:**

05/18/2018