

\*\*\*Spare part\*\*\* SIPLUS S7-1200 CPU 1214C DC/DC/relay for medial exposure with conformal coating based on 6ES7214-1HE30-0XB0 . compact CPU, DC/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 20.4-28.8V DC, Program/data memory 50 KB



### General information

Product type designation	CPU 1214C DC/DC/relay
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> </ul>	24 V
<ul style="list-style-type: none"> <li>permissible range, lower limit (DC)</li> </ul>	5 V
<ul style="list-style-type: none"> <li>permissible range, upper limit (DC)</li> </ul>	250 V

### Input current

Current consumption (rated value)	500 mA; Typical
Current consumption, max.	1.2 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
Encoder supply	
24 V encoder supply	
<ul style="list-style-type: none"> <li>• 24 V</li> </ul>	Permissible range: 20.4V to 28.8V
Power loss	
Power loss, typ.	12 W
Memory	
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
CPU processing times	
for bit operations, typ.	0.1 $\mu$ s; / Operation
for word operations, typ.	12 $\mu$ s; / Operation
for floating point arithmetic, typ.	18 $\mu$ s; / Operation
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 (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
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
<ul style="list-style-type: none"> <li>• Outputs, adjustable</li> </ul>	1 kbyte

Hardware configuration	
Number of modules per system, max.	3 comm. modules, 1 signal board, 8 signal modules
Time of day	
Clock	
<ul style="list-style-type: none"> <li>• Hardware clock (real-time)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Backup time</li> </ul>	240 h; Typical
<ul style="list-style-type: none"> <li>• Deviation per day, max.</li> </ul>	±60 s/month at 25 °C
Digital inputs	
Number of digital inputs	14; Integrated
<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
Input voltage	
<ul style="list-style-type: none"> <li>• Rated value (DC)</li> </ul>	24 V
<ul style="list-style-type: none"> <li>• for signal "0"</li> </ul>	5 V DC at 1 mA
<ul style="list-style-type: none"> <li>• for signal "1"</li> </ul>	15 V DC at 2.5 mA
Input current	
<ul style="list-style-type: none"> <li>• for signal "1", typ.</li> </ul>	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	
<ul style="list-style-type: none"> <li>• shielded, max.</li> </ul>	500 m; 50 m for technological functions
<ul style="list-style-type: none"> <li>• unshielded, max.</li> </ul>	300 m; For technological functions: No
Digital outputs	
Number of digital outputs	10; Relays
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> </ul>	2 A
<ul style="list-style-type: none"> <li>• on lamp load, max.</li> </ul>	30 W with DC, 200 W with AC
Output delay with resistive load	
<ul style="list-style-type: none"> <li>• "0" to "1", max.</li> </ul>	10 ms; max.
<ul style="list-style-type: none"> <li>• "1" to "0", max.</li> </ul>	10 ms; max.

<b>Switching frequency</b>	
• of the pulse outputs, with resistive load, max.	1 Hz
<b>Relay outputs</b>	
• Number of relay outputs	10
• Number of operating cycles, max.	mechanically 10 million, at rated load voltage 100 000
<b>Cable length</b>	
• shielded, max.	500 m
• unshielded, max.	150 m
<b>Analog inputs</b>	
Number of analog inputs	2
<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	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 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
<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	1
<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.	0 °C; = Tmin
• horizontal installation, max.	55 °C; = Tmax
• vertical installation, min.	0 °C; = Tmin
• vertical installation, max.	45 °C; = Tmax
• permissible temperature change	5°C to 55°C, 3°C / minute
<b>Ambient temperature during storage/transportation</b>	
• min.	-40 °C

• max.	70 °C
<b>Altitude during operation relating to sea level</b>	
• Ambient air temperature-barometric pressure-altitude	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>	
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost permitted (no commissioning in bedewed state)
<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; 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>	
— to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
— to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 incl. salt spray. The supplied connector covers must remain on the unused interfaces during operation!
— to mechanically active substances according to EN 60721-3-3	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>	
— LAD	Yes
— FBD	Yes
— SCL	Yes
<b>Cycle time monitoring</b>	
• adjustable	Yes
<b>Dimensions</b>	
Width	110 mm
Height	100 mm
Depth	75 mm
<b>Weights</b>	
Weight, approx.	435 g
<b>last modified:</b>	05/18/2018