

Spare part SIPLUS S7-1200 CPU 1211C DC/DC/relay -25...+70 °C with conformal coating based on 6ES7211-1HD30-0XB0 .
compact CPU, DC/DC/RY, onboard I/O: 6 DI 24 V DC 4 DO relay
0.5A 2 AI 0-10 V DC Power supply: AC 20.4-28.8V DC Program/data
memory 25 KB

General information

Product type designation	CPU 1211C DC/DC/relay
Engineering with	
<ul style="list-style-type: none"> Programming package 	STEP 7 Basic V10.5

Supply voltage

Rated value (DC)	
<ul style="list-style-type: none"> 24 V DC 	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"> Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) 	24 V 20.4 V 28.8 V

Input current

Current consumption (rated value)	300 mA; Typical
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
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Encoder supply

24 V encoder supply	
<ul style="list-style-type: none"> 24 V 	Permissible range: 20.4V to 28.8V

Power loss

Power loss, typ.	8 W
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Memory

Work memory	
<ul style="list-style-type: none"> integrated expandable 	25 kbyte No
Load memory	
<ul style="list-style-type: none"> integrated Plug-in (SIMATIC Memory Card), max. 	1 Mbyte; Load memory expandable using SIEMENS Memory Card 24 Mbyte; with SIEMENS Memory Card

Backup	
<ul style="list-style-type: none"> • present • without battery 	<p>Yes; Entire project maintenance-free in the integral EEPROM</p> <p>Yes</p>
CPU processing times	
for bit operations, typ.	0.1 µs; / Operation
for word operations, typ.	12 µs; / Operation
for floating point arithmetic, typ.	18 µs; / 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"> • Number, max. 	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"> • Number, max. 	4 kbyte; Size of bit memory address area
Address area	
I/O address area	
<ul style="list-style-type: none"> • Inputs • Outputs 	<p>1 024 byte</p> <p>1 024 byte</p>
Process image	
<ul style="list-style-type: none"> • Inputs, adjustable • Outputs, adjustable 	<p>1 kbyte</p> <p>1 kbyte</p>
Hardware configuration	
Number of modules per system, max.	3 communication modules, no signal board can be used
Time of day	
Clock	
<ul style="list-style-type: none"> • Hardware clock (real-time) • Backup time • Deviation per day, max. 	<p>Yes</p> <p>240 h; Typical</p> <p>±60 s/month at 25 °C</p>
Digital inputs	
Number of digital inputs	6; Integrated; > +60 °C Number of simultaneously controllable inputs and outputs max. 50 %
<ul style="list-style-type: none"> • of which inputs usable for technological functions 	3; HSC (High Speed Counting)
Source/sink input	Yes
Input voltage	
<ul style="list-style-type: none"> • Rated value (DC) 	24 V

<ul style="list-style-type: none"> • for signal "0" • for signal "1" 	5 V DC at 1 mA 15 V DC at 2.5 mA
Input current	
<ul style="list-style-type: none"> • 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, differential: 3 @ 80 kHz
Cable length	
<ul style="list-style-type: none"> • shielded, max. • unshielded, max. 	500 m; 50 m for technological functions 300 m; For technological functions: No
Digital outputs	
Number of digital outputs	4; 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"> • with resistive load, max. • on lamp load, max. 	2 A 30 W with DC, 200 W with AC
Output delay with resistive load	
<ul style="list-style-type: none"> • "0" to "1", max. • "1" to "0", max. 	10 ms; max. 10 ms; max.
Parallel switching of two outputs	
<ul style="list-style-type: none"> • for uprating 	No
Switching frequency	
<ul style="list-style-type: none"> • of the pulse outputs, with resistive load, max. 	1 Hz
Relay outputs	
<ul style="list-style-type: none"> • Number of relay outputs • Number of operating cycles, max. 	4 mechanically 10 million, at rated load voltage 100 000
Cable length	
<ul style="list-style-type: none"> • shielded, max. • unshielded, max. 	500 m 150 m
Analog inputs	
Number of analog inputs	2; > +60 °C Number of simultaneously controllable inputs and outputs max. 50%
<ul style="list-style-type: none"> • For voltage/current measurement 	2
Input ranges	

• Voltage	Yes
Input ranges (rated values), voltages	
• 0 to +10 V	Yes
• Input resistance (0 to 10 V)	≥100k ohms
Cable length	
• shielded, max.	100 m; twisted and shielded
Analog outputs	
Number of analog outputs	0
Cable length	
• shielded, max.	100 m; shielded, twisted pair
Analog value generation for the inputs	
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	10 bit
• Integration time, parameterizable	Yes
• Conversion time (per channel)	625 μs
Encoder	
Connectable encoders	
• 2-wire sensor	Yes
1. Interface	
Interface type	PROFINET
Physics	Ethernet
Isolated	Yes
automatic detection of transmission rate	Yes
Autonegotiation	Yes
Autocrossing	Yes
Functionality	
• PROFINET IO Controller	Yes
Protocols	
Supports protocol for PROFINET IO	No
PROFIBUS	No
AS-Interface	No
Protocols (Ethernet)	
• TCP/IP	Yes
Open IE communication	
• TCP/IP	Yes
• ISO-on-TCP (RFC1006)	Yes
Web server	
• User-defined websites	Yes
Further protocols	
• MODBUS	No

Communication functions	
S7 communication	
• supported	Yes
• as server	Yes
Web server	
• supported	Yes
Number of connections	
• overall	15; dynamically
Test commissioning functions	
Status/control	
• Status/control variable	Yes
• Variables	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
Forcing	
• Forcing	Yes
Integrated Functions	
Number of counters	3
Counting frequency (counter) max.	100 kHz
Frequency measurement	Yes
controlled positioning	Yes
PID controller	Yes
Number of alarm inputs	4
Potential separation	
Potential separation digital inputs	
• Potential separation digital inputs	No; 500V AC for 1 minute
• between the channels, in groups of	1
Potential separation digital outputs	
• Potential separation digital outputs	Relays
• between the channels	No
• between the channels, in groups of	1
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	

<ul style="list-style-type: none"> • Interference immunity on supply lines acc. to IEC 61000-4-4 	Yes
<ul style="list-style-type: none"> • Interference immunity on signal cables acc. to IEC 61000-4-4 	Yes
Interference immunity against voltage surge	
<ul style="list-style-type: none"> • on the supply lines acc. to IEC 61000-4-5 	Yes
Interference immunity against conducted variable disturbance induced by high-frequency fields	
<ul style="list-style-type: none"> • Interference immunity against high-frequency radiation acc. to IEC 61000-4-6 	Yes
Emission of radio interference acc. to EN 55 011	
<ul style="list-style-type: none"> • Limit class A, for use in industrial areas 	Yes; Group 1
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • IP20 	Yes
Standards, approvals, certificates	
UL approval	Yes
cULus	Yes
Ambient conditions	
Free fall	
<ul style="list-style-type: none"> • Fall height, max. 	0.3 m; five times, in product package
Ambient temperature during operation	
<ul style="list-style-type: none"> • horizontal installation, min. 	-25 °C; = Tmin
<ul style="list-style-type: none"> • horizontal installation, max. 	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"> • vertical installation, min. 	-25 °C; = Tmin
<ul style="list-style-type: none"> • vertical installation, max. 	45 °C; = Tmax
Ambient temperature during storage/transportation	
<ul style="list-style-type: none"> • min. 	-40 °C
<ul style="list-style-type: none"> • max. 	70 °C
Altitude during operation relating to sea level	
<ul style="list-style-type: none"> • 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)
Relative humidity	
<ul style="list-style-type: none"> • With condensation, tested in accordance with IEC 60068-2-38, max. 	100 %; RH incl. condensation/frost permitted (no commissioning in bedewed state)
Vibrations	
<ul style="list-style-type: none"> • Vibration resistance during operation acc. to IEC 60068-2-6 	2 g (m/s ²) wall mounting, 1 g (m/s ²) DIN rail
<ul style="list-style-type: none"> • Operation, tested according to IEC 60068-2-6 	Yes

Shock testing	
<ul style="list-style-type: none"> • 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
Resistance	
Use in stationary industrial systems	
<ul style="list-style-type: none"> — 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
<ul style="list-style-type: none"> — to chemically active substances according to EN 60721-3-3 	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"> — 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!
Configuration	
Programming	
Programming language	
<ul style="list-style-type: none"> — LAD 	Yes
<ul style="list-style-type: none"> — FBD 	Yes
Cycle time monitoring	
<ul style="list-style-type: none"> • adjustable 	Yes
Dimensions	
Width	90 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	380 g
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