

SIPLUS S7-1200 CPU 1214C DC/DC/relay for medical exposure with conformal coating based on 6ES7214-1HG31-0XB0 . compact CPU, DC/DC/relay, onboard I/O: "14 DI 24 V DC; 10 DO relay 2 A; 2 AI 0-10 V DC, Power supply: AC 20.4-28.8V DC, Program/data memory 75 KB



Figure similar

General information	
Product type designation	CPU 1214C DC/DC/relay
Engineering with	
<ul style="list-style-type: none"> Programming package 	STEP 7 V11 SP2 or higher
Supply voltage	
Rated value (DC)	Yes
<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) 	24 V
<ul style="list-style-type: none"> permissible range, lower limit (DC) 	5 V
<ul style="list-style-type: none"> permissible range, upper limit (DC) 	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	
• 24 V	Permissible range: 20.4V to 28.8V
Power loss	
Power loss, typ.	12 W
Memory	
Work memory	
• integrated	75 kbyte
• expandable	No
Load memory	
• integrated	4 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
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	10 kbyte
Flag	
• Number, max.	8 kbyte; Size of bit memory address area
Address area	
I/O address area	
• Inputs	1 024 byte
• Outputs	1 024 byte
Process image	
• Inputs, adjustable	1 kbyte
• Outputs, adjustable	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"> • Hardware clock (real-time) • Backup time • Deviation per day, max. 	Yes 480 h; Typical 60 s/month at 25 °C
Digital inputs	
Number of digital inputs	14; Integrated
<ul style="list-style-type: none"> • of which inputs usable for technological functions 	6; HSC (High Speed Counting)
Source/sink input	Yes
Number of simultaneously controllable inputs	
all mounting positions	
— up to 40 °C, max.	14
Input voltage	
<ul style="list-style-type: none"> • Rated value (DC) • for signal "0" • for signal "1" 	24 V 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 & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3 @ 30 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	10; Relays
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	
• "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	10
• Number of operating cycles, max.	mechanically 10 million, at rated load voltage 100 000
Cable length	
• shielded, max.	500 m
• unshielded, max.	150 m
Analog inputs	
Number of analog inputs	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
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	Yes
PROFIBUS	Yes
AS-Interface	Yes
Protocols (Ethernet)	
• TCP/IP	Yes
Open IE communication	
• TCP/IP	Yes
• ISO-on-TCP (RFC1006)	Yes
• UDP	Yes
Web server	
• User-defined websites	Yes
Further protocols	
• MODBUS	Yes
Communication functions	
S7 communication	
• supported	Yes
• as server	Yes
• as client	Yes
Web server	
• supported	Yes
Test commissioning functions	
Status/control	
• Status/control variable	Yes
• Variables	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
Forcing	
• Forcing	Yes
Diagnostic buffer	
• present	Yes
Integrated Functions	
Number of counters	6
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	500V AC for 1 minute
• between the channels, in groups of	1

Potential separation digital outputs	
<ul style="list-style-type: none"> • Potential separation digital outputs • between the channels 	<p>Relays</p> <p>No</p>
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"> • Interference immunity against discharge of static electricity acc. to IEC 61000-4-2 <ul style="list-style-type: none"> — Test voltage at air discharge — Test voltage at contact discharge 	<p>Yes</p> <p>8 kV</p> <p>6 kV</p>
Interference immunity to cable-borne interference	
<ul style="list-style-type: none"> • Interference immunity on supply lines acc. to IEC 61000-4-4 • Interference immunity on signal cables acc. to IEC 61000-4-4 	<p>Yes</p> <p>Yes</p>
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 • Limit class B, for use in residential areas 	<p>Yes; Group 1</p> <p>Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011</p>
Degree and class of protection	
Degree of protection acc. to EN 60529	
<ul style="list-style-type: none"> • IP20 	Yes
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
cULus	Yes
FM approval	Yes
RCM (formerly C-TICK)	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"> • min. • max. • horizontal installation, min. 	<p>-20 °C; = Tmin; Startup @ 0 °C</p> <p>60 °C; = Tmax</p> <p>-20 °C; = Tmin; Startup @ 0 °C</p>

<ul style="list-style-type: none"> horizontal installation, max. 	60 °C; = Tmax
<ul style="list-style-type: none"> vertical installation, min. 	-20 °C; = Tmin; Startup @ 0 °C
<ul style="list-style-type: none"> vertical installation, max. 	50 °C; = Tmax
<ul style="list-style-type: none"> At cold restart, min. 	0 °C
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"> Installation altitude above sea level, max. 	2 000 m
<ul style="list-style-type: none"> Ambient air temperature-barometric pressure-altitude 	Tmin ... Tmax at 1 140 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); above 2 000 m max. 132 V AC
Relative humidity	
<ul style="list-style-type: none"> With condensation, tested in accordance with IEC 60068-2-38, max. 	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
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	
— 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 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
— to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *
Use on ships/at sea	
— to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request
— to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
— to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *
from supply voltage 1L+	
— Note regarding classification of environmental conditions acc. to EN 60721	* The supplied plug covers must remain in place over the unused interfaces during operation!
Configuration	
Programming	
Programming language	

- LAD Yes
- FBD Yes
- SCL Yes

Cycle time monitoring	
• adjustable	Yes

Dimensions

Width	110 mm
Height	100 mm
Depth	75 mm

Weights

Weight, approx.	435 g
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last modified: 05/18/2018