Data sheet



Figure similar

SIPLUS S7-1200 CPU 1214C AC/DC/relay -40...+60 °C with conformal coating Signal board usable based on 6ES7214-1BG31-0XB0 . compact CPU, AC/DC/relay, onboard I/O: "14 DI 24 V DC; 10 DO relay 2 A; 2 AI 0-10 V DC, Power supply: AC 85-264 V AC @ 47-63 Hz, Program/data memory 75 KB

General information	
Product type designation	CPU 1214C AC/DC/relay
Engineering with	
Programming package	STEP 7 V11 SP2 or higher
Supply voltage	
Rated value (AC)	
• 120 V AC	Yes
• 230 V AC	Yes
permissible range, lower limit (AC)	85 V
permissible range, upper limit (AC)	264 V
Line frequency	
 permissible range, lower limit 	47 Hz
• permissible range, upper limit	63 Hz
Input current	
Current consumption (rated value)	100 mA at 120 V AC; 50 mA at 240 V AC
Inrush current, max.	20 A; at 264 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
■ 24 V	remissible range. 20.4V to 20.0V
Power loss	
Power loss, typ.	14 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),	10 kbyte
max.	
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	
Hardware clock (real-time)	Yes
Backup time	480 h; Typical
 Deviation per day, max. 	60 s/month at 25 °C
Digital inputs	
Number of digital inputs	14; Integrated
 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	
• 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	Yes; Single phase : 3 at 100 kHz & 3 at 30 kHz, differential: 3 at 80 kHz & 3 at 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; Relays
Short-circuit protection	No; to be provided externally
Switching capacity of the outputs	
with resistive load, max.	2 A
• on lamp load, max.	30 W with DC, 200 W with AC
Output delay with resistive load	40
• "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), 	10 bit
max.	
• 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

AS-Interface Yes Protocols (Ethernet) • TCP/IP • TCP/IP • TCP/IP • ISO-on-TCP (RFC1006) • UDP Ves Web server • User-defined websites Further protocols • MODBUS • MODBUS Communication functions S7 communication • supported • as server • as client • supported • as server • supported • Yes Test commissioning functions Status/control • Status/control variable • Variables Forcing • Forcing • Forcing • Forcing • Prosent Number of counters Counting frequency (counter) max. Frequency measurement Yes Counting to protocol Ves Potential separation Potential separation Potential separation digital inputs • Potential separation digital inputs • Potential separation digital inputs • Potential separation digital inputs	PROFIBUS	Yes
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Potential separation digital inputs 500V AC for 1 minute	· · · · · · · · · · · · · · · · · · ·	
· standard again report		500V AC for 1 minute
	between the channels, in groups of	
Potential separation digital outputs		
Potential separation digital outputs Relays		Relays

between the channels
between the channels, in groups of
2

Permissible potential difference

between different circuits 500 V DC between 24 V DC and 5 V DC

Interference immunity against discharge of static electricity • Interference immunity against discharge of static electricity acc. to IEC 61000-4-2 — Test voltage at air discharge 8 kV

Test voltage at contact discharge6 kV

Interference immunity to cable-borne interference

• Interference immunity on supply lines acc. to IEC 61000-4-4

• 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

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

Yes

Standards, approvals, certificates CF mark

<u></u>	
UL approval	Yes
cULus	Yes
FM approval	Yes
RCM (formerly C-TICK)	Yes

Ambient conditions

Free fall

• Fall height, max. 0.3 m; five times, in product package

Ambient temperature during operation

• min. -40 °C; = Tmin; Startup @ -25 °C

• max. 60 °C

• horizontal installation, min. -40 °C; = Tmin; Startup @ -25 °C

• horizontal installation, max. 60 °C

• conditional transfer Hotelery constra	-40 °C; = Tmin; Startup @ -25 °C
• vertical installation, min.	
 vertical installation, max. 	50 °C; = Tmax
At cold restart, min.	-25 °C
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
Altitude during operation relating to sea level	
 Installation altitude above sea level, max. 	2 000 m
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	
 With condensation, tested in accordance with IEC 60068-2-38, max. 	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Vibrations	
 Vibration resistance during operation acc. to IEC 60068-2-6 	2 g (m/s²) wall mounting, 1 g (m/s²) DIN rail
 Operation, tested according to IEC 60068-2-6 	Yes
Shock testing	
• 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	
	Yes

— FBD	Yes
— SCL	Yes
Cycle time monitoring	
adjustable	Yes
Dimensions	
Width	110 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	455 g
last modified:	05/18/2018