SIEMENS

Data sheet

6AG1214-1BE30-2XB0

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	
Programming package	STEP 7 Basic V10.5
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
Load voltage L+	
Rated value (DC)	24 V
 permissible range, lower limit (DC) 	5 V
• permissible range, upper limit (DC)	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
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.	14 W
Memory	
Work memory	
• integrated	50 kbyte
• expandable	No
Load memory	
• integrated	2 Mbyte
 Plug-in (SIMATIC Memory Card), max. 	24 Mbyte; with SIEMENS Memory Card
Backup	
• present	Yes; Entire project maintenance-free in the integral EEPROM
without battery	Yes
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	
Number, max.	Limited only by RAM for code
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags),	2 048 byte
max.	
Flag	O laborator O'con of his announce address and
Number, max.	8 kbyte; Size of bit memory address area
Address area	
I/O address area	40041
• Inputs	1 024 byte
Outputs	1 024 byte
Process image	

Inputs, adjustable	1 kbyte
Outputs, adjustable	1 kbyte
Hardware configuration	
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. 	±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 	6; HSC (High Speed Counting)
functions	
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	

	0.4
• with resistive load, max.	2 A
• on lamp load, max.	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	2; > +60 °C Number of simultaneously controllable inputs and
Number of analog inputs	outputs max. 50%
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

Autorospitation Yes Autorossing Yes Functionality PROFINET IO Controller Yes 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 (RFC1008) Yes Web server • User-defined websites Yes Further protocols • MODBUS No Ocommunication functions ST communication • supported Yes Number of connections • forcing Yes • F	automatic detection of transmission rate	Yes
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controlled positioning Yes PID controller Yes Number of alarm inputs 4	Counting frequency (counter) max.	100 kHz
PID controller Yes Number of alarm inputs 4	Frequency measurement	Yes
Number of alarm inputs 4	controlled positioning	Yes
	PID controller	Yes
otential congration	Number of alarm inputs	4
	Potential separation	

Detected and and the district of the control	
Potential separation digital inputs	
 Potential separation digital inputs 	No
• 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	2
Permissible potential difference	
between different circuits	500 V DC between 24 V DC and 5 V DC
EMC	
Interference immunity against discharge of static electri	city
Interference immunity against discharge of	Yes
static electricity acc. to IEC 61000-4-2	
Test voltage at air discharge	8 kV
Test voltage at contact discharge	6 kV
Interference immunity to cable-borne interference	
Interference immunity on supply lines acc. to	Yes
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
Interference immunity against conducted variable distur	bance 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
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
cULus	Yes
Ambient conditions	
Free fall	
● Fall height, max.	0.3 m; five times, in product package
Ambient temperature during operation	
horizontal installation, min.	-25 °C; = Tmin

horizontal installation, max.	70 °C; = Tmax; > +60 °C Number of simultaneously controllable inputs and outputs max. 50%; no signal board can be used
• vertical installation, min	-25 °C; = Tmin
vertical installation, min.	45 °C; = Tmax
vertical installation, max. Ambient temperature during storage (transportation)	45 C, - Illiax
Ambient temperature during storage/transportation	40.00
• min.	-40 °C
• max.	70 °C
Altitude during operation relating to sea level	
 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	
 With condensation, tested in accordance with IEC 60068-2-38, max. 	100 %; RH incl. condensation/frost permitted (no commissioning in bedewed state)
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; 15 g (m/s²), 11 ms pulse, 6 shocks in each of 3 axes
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 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!
 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	
— LAD	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