Data sheet

6AG1212-1BE40-2XB0

Siemens EcoTech



SIPLUS S7-1200 CPU 1212C AC/DC/relay based on 6ES7212-1BE40-0XB0 with conformal coating, -40...+70 °C, start up -25 °C, signal board: 0, compact CPU, AC/DC/relay, onboard I/O: 8 DI 24 V DC; 6 DQ relay 2 A 2 AI 0-10 V DC, power supply: 85-264 V AC at 47-63 Hz, program/data memory 75 KB



Figure similar

CPU 1212C AC/DC/relay
6ES7212-1BE40-0XB0
see entry ID: 109746275
Yes
Yes
85 V
264 V
47 Hz
63 Hz
80 mA at 120 V AC; 40 mA at 240 V AC
240 mA at 120 V AC; 120 mA at 240 V AC
20 A; at 264 V
1 000 mA; Max. 5 V DC for SM and CM
20.4 to 28.8V
11 W
75 kbyte
1 Mbyte
with SIMATIC memory card
Yes; maintenance-free
Yes

	47 (0 "
for word operations, typ.	1.7 μs; / Operation
for floating point arithmetic, typ.	2.3 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), max.	10 kbyte
Flag	
• Size, max.	4 kbyte; Size of bit memory address area
Local data	
• per priority class, max.	16 kbyte; Priority class 1 (program cycle): 16 KB, priority class 2 to 26: 6 KB
Address area	
Process image	
Inputs, adjustable	1 kbyte
Outputs, adjustable	1 kbyte
Hardware configuration	
Number of modules per system, max.	3 com. modules, no signal board can be used, 2 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	8; Integrated
of which inputs usable for technological functions	4; HSC (High Speed Counting)
Source/sink input	Yes
Number of simultaneously controllable inputs	100
all mounting positions	
— up to 40 °C, max.	8
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	.01504.20.111
• 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 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	6; Relays
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	
• "0" to "1", max.	10 ms; max.
• "1" to "0", max.	10 ms; max.

a of the pulse outsette with recipility to discovery	1 Lla
of the pulse outputs, with resistive load, max.	1 Hz
Relay outputs	
Number of relay outputs	6
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
Isolated	Yes
automatic detection of transmission rate	Yes
Autonegotiation	Yes
Autorossing	Yes
Interface types	103
• RJ 45 (Ethernet)	Yes
Protocols	165
PROFINET IO Controller	Yes
PROFINET TO Controller PROFINET TO Device	Yes
	Yes
Open IE communication	
Web server PROFINET IO Controller	Yes
PROFINET IO Controller	100 Mbit/o
Transmission rate, max. Sandas	100 Mbit/s
Services	40
— Number of connectable IO Devices, max.	16
PROFINET IO Device	
Services	ū.
— Shared device	Yes
Number of IO Controllers with shared device, max.	2
Protocols	
Supports protocol for PROFINET IO	Yes
PROFIsafe	No
PROFIBUS	Yes; CM 1243-5 required
AS-Interface	Yes
Protocols (Ethernet)	
• TCP/IP	Yes
Open IE communication	
• TCP/IP	Yes
• ISO-on-TCP (RFC1006)	Yes
• UDP	Yes
Web server	
• supported	Yes

User-defined websites	Yes
Further protocols	100
• MODBUS	Yes
communication functions / header	
S7 communication	
• supported	Yes
• as server	Yes
• as client	Yes
Number of connections	
overall	16; dynamically
Test commissioning functions	
Status/control	
Status/control variable	Yes
• Variables	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
Forcing	Van
Forcing Diagnostic buffer	Yes
• present	Yes
Traces	,
Number of configurable Traces	2; Up to 512 KB of data per trace are possible
Integrated Functions	
Counter	
Number of counters	4
Counting frequency, max.	100 kHz
Frequency measurement	Yes
controlled positioning	Yes
Number of position-controlled positioning axes, max.	8
PID controller	Yes
Number of alarm inputs	4
Potential separation	
Potential separation digital inputs	
Potential separation digital inputs	500 V AC for 1 minute
between the channels, in groups of Petertial acceptation digital outsute	1
Potential separation digital outputs • Potential separation digital outputs	Polovo
between the channels	Relays No
between the channels, in groups of	2
EMC	
Interference immunity against discharge of static electricity	
Interference immunity against discharge of static	Yes
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	Von
 Interference immunity on supply lines acc. to IEC 61000- 4-4 	Yes
• Interference immunity on signal cables acc. to IEC 61000-	Yes
4-4	
Interference immunity against voltage surge	
 Interference immunity on supply lines acc. to IEC 61000- 4-5 	Yes
Interference immunity against conducted variable disturbance indu	ced by high-frequency fields
Interference immunity against high-frequency radiation	Yes
acc. to IEC 61000-4-6	
Emission of radio interference acc. to EN 55 011	Voc. Croup 1
Limit class A, for use in industrial areas Limit class B, for use in residential areas	Yes; When appropriate measures are used to ensure compliance with the limits
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	
IP degree of protection	IP20
Standards, approvals, certificates	
Ecological footprint	

environmental product declaration	Yes
Global warming potential	
— global warming potential, (total) [CO2 eq]	76.4 kg
global warming potential, (during production) [CO2 eq]	13.8 kg
 — global warming potential, (during operation) [CO2 eq] 	63.4 kg
— global warming potential, (after end of life cycle)[CO2 eq]	-0.885 kg
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.	70 °C; = Tmax; Tmax > +55 °C number of simultaneously switched-on digital inputs 4, digital outputs 3, analog inputs 2 (no adjacent points) with horizontal mounting position; Tmax > +60 °C number of simultaneously switched-on digital inputs 3, digital outputs 2, analog inputs 0 (no adjacent points) with horizontal mounting position
 vertical installation, min. 	-40 °C; = Tmin; Startup @ -25 °C
• 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	V 15000 5 10051 K 1 1 1 K 1 1 1 1 1 1 1 1 1 1 1 1 1 1
 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	
Coolants and lubricants	
 Resistant to commercially available coolants and lubricants 	Yes; Incl. diesel and oil droplets in the air
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; *
Usage in industrial process technology	
 — Against chemically active substances acc. to EN 60654-4 	Yes; Class 3 (excluding trichlorethylene)
 Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04 	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)
Remark	Loo (dall apray) and level Loo (Oil)
Note regarding classification of environmental	* The supplied plug covers must remain in place over the unused interfaces
conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04	during operation!

Conformal coating • Coatings for printed circuit board assemblies acc. to EN Yes; Class 2 for high reliability 61086 • Protection against fouling acc. to EN 60664-3 Yes; Type 1 protection • Military testing according to MIL-I-46058C, Amendment 7 Yes; Discoloration of coating possible during service life Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-Yes; Conformal coating, Class A CC-830A configuration / header configuration / programming / header Programming language -LADYes — FBD Yes Yes - SCL programming / cycle time monitoring / header adjustable Yes Width 90 mm 100 mm Height Depth 75 mm Weights 425 g Weight, approx.

10/9/2024

last modified: