6ES7211-1BD30-0XB0 CPU 1211C, 6DI/4DO/2AI

Technical / CAx data

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SIMATIC S7-1200, CPU 1211C, COMPACT CPU, AC/DC/RELAY, ONBOARD I/O: 6 DI 24V DC; 4 DO RELAY 2A; 2 AI 0 - 10V DC, POWER SUPPLY: AC 85 - 264 V AC AT 47 - 63 HZ, PROGRAM/DATA MEMORY: 25 KB

Product version	
associated programming package	STEP 7 Basic V10.5
Supply voltages	
Rated value	
120 V AC	Yes
230 V AC	Yes
permissible range, lower limit (AC)	85 V
permissible range, upper limit (AC)	264 V
permissible frequency range, lower limit	47 Hz
permissible frequency range, upper limit	63 Hz
Current consumption	
Current consumption (rated value)	60 mA @ 120 VAC 30 mA @ 240 VAC
Current consumption, max.	180 mA @ 120 VAC 90 mA @ 240 VAC
Inrush current, max.	20 A; At 264 V
Current output to backplane bus (DC 5 V), max.	750 mA; 5 VDC max. for SM and CM
Power losses	
Power loss, typ.	10 W
Memory	
Usable memory for user data	25 kbyte
Work memory	
integrated	25 kbyte
expandable	No
Load memory	
integrated	1 Mbyte; Load memory expandable using SIEMENS Memory Card
expandable, max.	24 Mbyte; with SIEMENS Memory Card
Backup	
present	Yes; entire project maintenance-free in the integral EEPROM
without battery	Yes
CPU/ blocks	
OB	
Number, max.	Limited only by RAM for code
CPU processing times	
for bit operations, min.	0.1 µs; / instruction
for word operations, min.	12 µs; / instruction
for floating point arithmetic, min.	18 µs; / instruction
Data areas and their retentivity	
retentive data area in total (incl. times, counters, flags), max.	2048 byte

Flag	
Number, max.	4 kbyte; Size of bit memory address area
Address area	
I/O address area	
I/O address area, overall	1024 bytes for inputs / 1024 bytes for outputs
Inputs	1024 byte
Outputs	1024 byte
Process image	
Inputs, adjustable	1 kbyte
Outputs, adjustable	1 kbyte
Digital channels	
integrated channels (DI)	6
integrated channels (DO)	4
Analog channels	
Integrated channels (AI)	2
Number of integrated channels (AO)	0
Hardware configuration	
Number of modules per system, max.	3 communication modules, 1 signal board
Time of day	
Clock	
Hardware clock (real-time clock)	Yes
Backup time	240 h; Typical
Deviation per day, max.	60 s/month @ 25°C
Test commissioning functions	
Status/control	
Status/control variable	Yes
Variables	Inputs/outputs, memory bits, DB, distributed I/Os, timers, counters
Forcing	
Forcing	Yes
Communication functions	
S7 communication	
supported	Yes
as server	Yes
Open IE communication	
TCP/IP	Yes
ISO-on-TCP (RFC1006)	Yes
Number of connections	
overall	15; dynamically
1st interface	
Type of interface	PROFINET
Physics	Ethernet
Isolated	Yes
automatic detection of transmission speed	Yes
Autonegotiation	Yes
Autocrossing	Yes
CPU/ programming	
Configuration software	
STEP 7	STEP 7 Basic V10.5

Programming language	
LAD	Yes
FBD	Yes
Cycle time monitoring	
can be set	Yes
Digital inputs	
Number of digital inputs	6; Integrated
of which, inputs usable for technological functions	3; HSC (High Speed Counting)
m/p-reading	Yes
Input voltage	
Rated value, DC	24 V
for signal "0"	5 VDC at 1 mA
for signal "1"	15 VDC 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, 0.4, 0.8, 1.6, 3.2, 6.4, and 12.8 ms, selectable in 4 groups
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	
Cable length, shielded, max.	500 m; 50 m for technological functions
Cable length unshielded, max.	300 m; For technological functions: No
Digital outputs	
Number of digital outputs	4; Relay
Short-circuit protection of the output	No; to be provided externally
Switching capacity of the outputs	
with resistive load, max.	2 A
on lamp load, max.	30 W DC; 200 W AC
Output delay with resistive load	
0 to "1", max.	10 ms; max.
1 to "0", max.	10 ms; max.
Parallel switching of 2 outputs	
for increased power	No
Switching frequency	
of the pulse outputs, with resistive load, max.	1 Hz
Cable length	
Cable length, shielded, max.	500 m
Cable length unshielded, max.	150 m
Relay outputs	
Number of relay outputs	4
Number of operating cycles	mechanically 10 million, at rated load voltage 100,000
Analog inputs	
Number of analog inputs	2

Number of analog inputs for voltage/current measurement	2
Cable length, shielded, max.	100 m; twisted and shielded
Input ranges	
Voltage	Yes
Input ranges (rated values), voltages	
0 to +10 V	Yes
Input resistance (0 to 10 V)	≥100k ohms
Analog outputs	
Cable length	
	10 m; twisted
Analog value creation	
Integrations 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 supply	
24 V encoder supply	
24 V	permissible range: 20.4 to 28.8 V
Encoder	
Connectable encoders	
2-wire BEROS	Yes
Integrated Functions	
Number of counters	3
Counter frequency (counter) max.	100 kHz
Frequency meter	Yes
controlled positioning	Yes
PID controller	Yes
Number of alarm inputs	4
Operator control and monitoring	
Display	
	No
Galvanic isolation	
Galvanic isolation digital inputs	
Galvanic isolation digital inputs	500 VAC for 1 minute
between the channels, in groups of	1
Galvanic isolation digital outputs	
Galvanic isolation digital outputs	Yes; Relays
between the channels	No
between the channels, in groups of	1
Permissible potential difference	
between different circuits	500 VDC between 24 VDC and 5 VDC
EMC	
Interference immunity against discharge of static electricity	
Interference immunity against discharge of static electricity acc. to IEC 61000-4-2	Yes
	8 kV
Test voltage at contact discharge	6 kV

Interference immunity to cable-borne interference	
on the supply lines acc. to IEC 61000-4-4	Yes
Interference immunity on signal lines acc. to IEC 61000-4-4	Yes
Surge immunity	
on the supply lines acc. to IEC 61000-4-5	Yes
Immunity against conducted interference 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	
Emission of radio interferences acc. to EN 55 011 (limit class A)	Yes; Group 1
Emission of radio interference acc. to EN 55 011 (limit class B)	Yes
Climatic and mechanical conditions for storage and transport	
Climatic conditions for storage and transport	
Free fall	
	0.3 m; five times, in dispatch package
Temperature	
Permissible temperature range	-40 °C to +70 °C
Relative humidity	
Permissible range (without condensation) at 25 °C	95%
Mechanical and climatic conditions during operation	
Climatic conditions in operation	
Temperature	
Permissible temperature range	0 °C to 55 °C horizontal mounting 0 °C to 45 °C vertical mounting 95% non-condensing humidity
	5 °C to 55 °, 3 °C/minute
Air pressure acc. to IEC 60068-2-13	
Permissible air pressure	1080 to 795 hPa
Permissible operating height	-1000m to 2000m
Pollutant concentrations	
	S02: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free
Environmental requirements	
Operating temperature	
Min.	0 °C
max.	55 °C
vertical installation, min.	0 °C
vertical installation, max.	45 °C
horizontal installation, min.	0 °C
horizontal installation, max.	55 °C
Storage/transport temperature	
Min.	-40 °C
max.	70 °C
Air pressure	

Operation, min.	795 hPa
Operation, max.	1080 hPa
Storage/transport, min.	660 hPa
Storage/transport, max.	1080 hPa
Relative humidity	
Operation, max.	95 %; no condensation
Vibrations	
Vibrations	2G wall mounting, 1G DIN rail
Operation, checked according to IEC 60068-2-6	Yes
Shock test	
checked 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
Degree of protection	
IP20	Yes
Standards, approvals, certificates	
CE mark	Yes
C-TICK	Yes
cULus	Yes
FM approval	Yes
Dimensions and weight	
Dimensions	
Width	90 mm
Height	100 mm
Depth	75 mm
Weight	
Weight, approx.	420 g
Status	Jun 14, 2010