

SIEMENS

Product data sheet

6ES7211-1AD30-0XB0

SIMATIC S7-1200, CPU 1211C, COMPACT CPU, DC/DC/DC, ONBOARD I/O: 6 DI 24V DC; 4 DO 24 V DC; 2 AI 0 - 10V DC, POWER SUPPLY: DC 20.4 - 28.8 V DC, PROGRAM/DATA MEMORY: 25 KB

Product status

associated programming package STEP 7 Basic V10.5

Supply voltages

Rated value

DC 24 V Yes

permissible range, lower limit (DC) 20.4 V

permissible range, upper limit (DC) 28.8 V

Short-circuit protection 0.0000000000000000E+00

Load voltage L+

Rated value (DC) 24 V

permissible range, lower limit (DC) 20.4 V

permissible range, upper limit (DC) 28.8 V

Current consumption

Current consumption (rated value) 300 mA ; Typical

Current consumption, max. 0.9 A ; 24 VDC

Inrush current, max. 12 A ; 28.8 VDC

Current output to backplane bus (DC 5 V), max. 750 mA ; 5 VDC max. for SM and CM

Current consumption/power loss

Power loss, typ. 8 W

Memory

Usable memory for user data 25 kbyte

RAM

integrated 25 kbyte

expandable No

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 μ s ; / instruction
for word operations, min.	12 μ s ; / instruction
for floating point arithmetic, min.	18 μ s ; / instruction
Data areas and their remanence	
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	
Number of integrated channels (AI)	2
Number of integrated channels (AO)	0
Hardware config.	
Number of modules per system, max.	3 communication modules, 1 signal board
Time	
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
Product function / at the interface 1 / Autocrossover	Yes
CPU/programming	
Configuration software	
STEP 7	STEP 7 Basic V10.5
Programming language	
LAD	Yes
FUP	Yes
Cycle time monitoring	
adjustable	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
Number of simultanneously controllable inputs [nicht versorgt: TAK_ABP289_001_000]	

Number of simultaneously controllable inputs, up to 40 °C	6
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	
programmable	0.2, 0.4, 0.8, 1.6, 3.2, 6.4, 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	
programmable	Yes
for counter/technological functions	
programmable	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
of which, high-speed outputs	2 ; 100 kHz Pulse Train Output
Short-circuit protection of the output	No ; to be provided externally
Limitation of inductive shutdown voltage to	L+ (-48 V)
Switching capacity of the outputs	
with resistive load, max.	0.5 A
on lamp load, max.	5 W
Output voltage	
for signal "0" (DC), max.	0.1 V ; with 10k ohms load
for signal "1", min.	20 V
Output current	
for signal "1" rated value	0.5 A
for signal "0" residual current, max.	0.1 mA
Output delay with resistive load	

"0" to "1", max.	1 μ s ; max.
"1" to "0", max.	5 μ s ; max.
Switching frequency of the pulse outputs, with resistive load, max.	100 kHz
Cable length	
cable length, shielded, max.	500 m
Cable length unshielded, max.	150 m
Analog inputs	
Number of analog inputs	2
cable length, shielded, max.	100 m ; twisted and shielded
Voltage	Yes
Input ranges (rated values), voltages	
0 to +10 V	Yes
Input resistance (0 to 10 V)	100k ohms
Analog value creation	
Integration and conversion time/resolution per channel	
Resolution with overload area (bit including sign), max.	10 bit
Integration time, parameterizable	Yes
Conversion time (per channel)	625 μ s
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
Number of pulse outputs	2
Limit frequency (pulse)	100 kHz
Isolation	

Galvanic isolation, digital inputs	
galvanic isolation, digital inputs	500 VAC for 1 minute
between the channels, in groups of	1
Isolation, digital outputs	
Galvanic isolation, digital outputs	Yes
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	
Inteference immunity against discharge of static electricity to IEC 61000-4-2	Yes
Interference immunity to cable-borne interference	
on the supply lines to IEC 61000-4-4	Yes
Interference immunity on singnal lines to IEC 61000-4-4	Yes
on the supply lines to IEC 61000-4-5	Yes
Interference immunity against high frequency radiation to IEC 61000-4-6	Yes
Emission of radio interferences to EN 55 011 (limit class A)	Yes ; Group 1
Emission of radio interference to EN 55 011 (limit class B)	Yes
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	
IP 20	Yes
Standards, approvals, certificates	
CE symbol	Yes
C-TICK	Yes
cULus	Yes
FM approval	Yes
Dimensions and weight	
Dimensions and weight	
Width	90 mm
Height	100 mm
Depth	75 mm
Weight	
Weight, approx.	370 g
Status	Dec 4, 2009