SIEMENS

Product data sheet 6ES7214-1BE30-0XB0

SIMATIC S7-1200, CPU 1214C, COMPACT CPU, AC/DC/RLY, ONBOARD I/O: 14 DI 24V DC; 10 DO RELAY 0,5A; 2 AI 0 - 10V DC, POWER SUPPLY: AC 85 - 264 V AC @ 47 - 63 HZ, PROGRAM/DATA MEMORY: 50 KB

Product status	
associated programming package	STEP 7 Basic V10.5
Supply voltages	
Rated value	
AC 120 V	Yes
AC 230 V	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
Short-circuit protection	0.0000000000000000E+00
Load voltage L+	
Rated value (DC)	24 V
permissible range, lower limit (DC)	5 V
permissible range, upper limit (DC)	250 V
Current consumption	
Current consumption (rated value)	100 mA @ 120 VAC 50 mA @ 240 VAC
Current consumption, max.	300 mA @ 120 VAC 150 mA @ 240 VAC
Inrush current, max.	20 A ; At 264 V
Current output to backplane bus (DC 5 V), max.	1600 mA ; 5 VDC max. for SM and CM
Current consumption/power loss	
Power loss, typ.	14 W
Memory	
Usable memory for user data	50 kbyte
RAM	
integrated	50 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 µs ; / instruction
for word operations, min.	12 µs ; / instruction
for floating point arithmetic, min.	18 µs ; / instruction
Data areas and their remanence	
Retentive data area in total (incl. times, counters, flags), max.	2048 byte
Flag	
Number, max.	8 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)	14
integrated channels (DO)	10
Analog channels	
Number of integrated channels (AI)	2
Number of integrated channels (AO)	0
Hardware config.	
Number of modules per system, max.	3 comm. modules, 1 signal board, 8 signal modules
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	14 ; Integrated
of which, inputs usable for technological functions	6 ; 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	14
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 " to "1", min.	0.2 ms
at "0" to "1", max.	12.8 ms
for interrupt inputs	
programmable	Yes
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	10 ; 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.
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	10
Number of operating cycles	mechanically 10 million, at rated load voltage 100,000
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 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	6
Counter frequency (counter) max.	100 kHz
Frequency meter	Yes
controlled positioning	Yes
PID controller	Yes
Number of alarm inputs	4
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	Relays
between the channels	No

between the channels, in groups of	2
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 termperature	
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 panel mount, 1G DIN rail mount
Operation checked according to IEC 60068-2-6	Yes
Shock test	
checked according to IEC 60068-2-27	Yes ; 15 G, 11 ms pulse, 6 shocks in each of 3 axes
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	110 mm
Height	100 mm
Depth	75 mm
Weight	
Weight, approx.	455 g
Status	Dec 4, 2009