

# SIEMENS

## Product data sheet

## 6AG1214-1HE30-5XB0



SIPLUS S7-1200 CPU 1214C DC/DC/RLY -25 ... +55 DEGREES C WITH CONFORMAL COATING SIGNAL BOARD USEABLE BASED ON 6ES7214-1HE30-0XB0 . COMPACT CPU, DC/DC/RLY, ONBOARD I/O: 14 DI 24V DC; 10 DO RELAY 0,5A; 2 AI 0 - 10V DC, POWER SUPPLY: AC 20.4 - 28.8 V DC, PROGRAM/DATA MEMORY: 50 KB

General information	
Engineering with	
Programming package	STEP 7 Basic V10.5
Display	
integrated	No
Supply voltage	
24 V DC	Yes
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
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)	500 mA ; Typical

Current consumption, max.	1.2 A ; 24 V DC
Inrush current, max.	12 A ; at 28.8 V
<b>Encoder supply</b>	
24 V encoder supply	
24 V	Permissible range: 20.4 to 28.8 V
<b>Output current</b>	
Current output to backplane bus (DC 5 V), max.	1600 mA ; 5 VDC max. for SM and CM
<b>Power losses</b>	
Power loss, typ.	12 W
<b>Memory</b>	
Usable memory for user data	50 kbyte
<b>Work memory</b>	
integrated	50 kbyte
expandable	No
<b>Load memory</b>	
integrated	2 Mbyte
expandable, max.	24 Mbyte ; with SIEMENS Memory Card
<b>Backup</b>	
present	Yes ; Entire project maintenance-free in the integral EEPROM
without battery	Yes
<b>CPU processing times</b>	
for bit operations, min.	0.1 $\mu$ s ; / Operation
for word operations, min.	12 $\mu$ s ; / Operation
for floating point arithmetic, min.	18 $\mu$ s ; / Operation
<b>CPU-blocks</b>	
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
<b>OB</b>	
Number, max.	Limited only by RAM for code
<b>Data areas and their retentivity</b>	
retentive data area in total (incl. times, counters, flags), max.	2048 byte

<b>Flag</b>	
Number, max.	8 kbyte ; Size of bit memory address area
<b>Address area</b>	
<b>I/O address area</b>	
I/O address area, overall	1024 bytes for inputs / 1024 bytes for outputs
Inputs	1024 byte
Outputs	1024 byte
<b>Process image</b>	
Inputs, adjustable	1 kbyte
Outputs, adjustable	1 kbyte
<b>Hardware configuration</b>	
Number of modules per system, max.	3 comm. modules, 1 signal board, 8 signal modules
<b>Time of day</b>	
<b>Clock</b>	
Hardware clock (real-time clock)	Yes
Deviation per day, max.	+/- 60 s/month at 25 °C
Backup time	240 h ; Typical
<b>Digital inputs</b>	
Number/binary inputs	14 ; integrated
of which, inputs usable for technological functions	6 ; HSC (High Speed Counting)
integrated channels (DI)	14
m/p-reading	Yes
<b>Input voltage</b>	
Rated value, DC	24 V
for signal "0"	5 V DC at 1 mA.
for signal "1"	15 VDC at 2.5 mA.
<b>Input current</b>	
for signal "1", typ.	1 mA
<b>Input delay (for rated value of input voltage)</b>	
<b>for standard inputs</b>	
Parameterizable	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	
Parameterizable	Yes
for counter/technological functions	
Parameterizable	Single phase: 3 @ 100 kHz & 3 @ 30 kHz differential: 3 @ 80 kHz & 3 @ 30 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/binary outputs	10 ; Relay
integrated channels (DO)	10
Functionality/short-circuit strength	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
Relay outputs	
Number of relay outputs	10
Number of operating cycles, max.	mechanically 10 million, at rated load voltage 100,000
Cable length	
Cable length, shielded, max.	500 m
Cable length unshielded, max.	150 m
Analog inputs	
Integrated channels (AI)	2
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

<b>Cable length</b>	
Cable length, shielded, max.	100 m ; twisted and shielded
<b>Analog outputs</b>	
Integrated channels (AO)	0
<b>Cable length</b>	
Cable length, shielded, max.	100 m ; Shielded, twisted wire pair
<b>Analog value creation</b>	
<b>Integrations and conversion time/ resolution per channel</b>	
Resolution with overrange (bit including sign), max.	10 bit
Integration time, parameterizable	Yes
Conversion time (per channel)	625 µs
<b>Encoder</b>	
<b>Connectable encoders</b>	
2-wire sensor	Yes
<b>1st interface</b>	
Type of interface	PROFINET
Physics	Ethernet
Isolated	Yes
Automatic detection of transmission speed	Yes
Autonegotiation	Yes
Autocrossing	Yes
<b>Functionality</b>	
PROFINET IO Controller	Yes
<b>Communication functions</b>	
<b>S7 communication</b>	
supported	Yes
as server	Yes
<b>Open IE communication</b>	
TCP/IP	Yes
ISO-on-TCP (RFC1006)	Yes
<b>Web server</b>	
supported	Yes
User-defined websites	Yes

<b>Number of connections</b>	
overall	15 ; dynamically
<b>Test commissioning functions</b>	
<b>Status/control</b>	
Status/control variable	Yes
Variables	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
<b>Forcing</b>	
Forcing	Yes
<b>Integrated Functions</b>	
Number of counters	6
Counter frequency (counter) max.	100 kHz
Frequency meter	Yes
controlled positioning	Yes
PID controller	Yes
Number of alarm inputs	4
<b>Galvanic isolation</b>	
<b>Galvanic isolation digital inputs</b>	
Galvanic isolation digital inputs	No
between the channels, in groups of	1
<b>Galvanic isolation digital outputs</b>	
Galvanic isolation digital outputs	Relay
between the channels	No
between the channels, in groups of	1
<b>Permissible potential difference</b>	
between different circuits	500 V DC between 24 V DC and 5 V DC
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
Interference immunity against discharge of static electricity acc. to IEC 61000-4-2	Yes
Test voltage at air discharge	8 kV
Test voltage at contact discharge	6 kV
<b>Interference immunity to cable-borne interference</b>	
on the supply lines acc. to IEC 61000-4-4	Yes

Interference immunity on signal lines acc. to IEC 61000-4-4	Yes
<b>Surge immunity</b>	
on the supply lines acc. to IEC 61000-4-5	Yes
<b>Immunity against conducted interference induced by high-frequency fields</b>	
Interference immunity against high-frequency radiation acc. to IEC 61000-4-6	Yes
<b>Emission of radio interference acc. to EN 55 011</b>	
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 ; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011
<b>Degree and class of protection</b>	
IP20	Yes
<b>Standards, approvals, certificates</b>	
CE mark	Yes
UL approval	Yes
cULus	Yes
<b>Ambient conditions</b>	
<b>Operating temperature</b>	
vertical installation, min.	-25 °C ; = Tmin
vertical installation, max.	45 °C ; = Tmax
horizontal installation, min.	-25 °C ; = Tmin
horizontal installation, max.	55 °C ; = Tmax
<b>Vibrations</b>	
Vibrations	2G panel mount, 1G DIN rail mount
Operation, checked according to IEC 60068-2-6	Yes
<b>Shock test</b>	
checked according to IEC 60068-2-27	Yes ; 15 G, 11 ms pulse, 6 shocks in each of 3 axes
<b>Extended ambient conditions</b>	
Relative to ambient temperature-atmospheric pressure-installation altitude	Tmin ... Tmax at 1080 hPa ... 795 hPa (-1000 m ... +2000 m) // Tmin ... (Tmax - 10K) at 795 hPa ... 658 hPa (+2000 m ... +3500 m) // Tmin ... (Tmax - 20K) at 658 hPa ... 540 hPa (+3500 m ... +5000 m)

<b>Relative humidity</b>	
with condensation / maximum	100 % ; Relative humidity, incl. condensation / frost permitted (no commissioning under condensation conditions)
<b>Resistance</b>	
to biologically active substances / conformity with EN 60721-3-3	Yes ; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna). The supplied connector covers must remain on the unused interfaces during operation!
to chemically active substances / conformity with 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 / conformity with EN 60721-3-3	Yes ; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!
<b>Climatic and mechanical conditions for storage and transport</b>	
<b>Climatic conditions for storage and transport</b>	
<b>Free fall</b>	
Drop height, max. (in packaging)	0.3 m ; five times, in dispatch package
<b>Temperature</b>	
Permissible temperature range	-40 °C to +70 °C
<b>Configuration</b>	
<b>programming</b>	
<b>Programming language</b>	
LAD	Yes
FBD	Yes
SCL	Yes
<b>Cycle time monitoring</b>	
adjustable	Yes
<b>Dimensions</b>	
Width	110 mm
Height	100 mm
Depth	75 mm
<b>Weight</b>	
Weight, approx.	435 g



Status

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