

SIMATIC S7-1200

Central processing units

CPU 1211C

Overview



- The clever compact solution
- With 10 integral input/outputs
- Expandable by:
 - 1 signal board (SB) or communication board (CB)
 - Max. 3 communication modules (CM)

Technical specifications

	6ES7211-1BE40-0XB0 CPU 1211C AC/DC/relay	6ES7211-1AE40-0XB0 CPU 1211C DC/DC/DC	6ES7211-1HE40-0XB0 CPU 1211C DC/DC/relay
Supply voltage			
24 V DC		Yes	Yes
120 V AC	Yes		
230 V AC	Yes		
Encoder supply			
24 V encoder supply			
• 24 V	Permissible range: 20.4 to 28.8 V	Permissible range: 20.4 to 28.8 V	Permissible range: 20.4 to 28.8 V
Power losses			
Power loss, typ.	10 W	8 W	8 W
Memory			
Work memory			
• integrated	30 kbyte	30 kbyte	30 kbyte
Load memory			
• integrated	1 Mbyte	1 Mbyte	1 Mbyte
• Plug-in (SIMATIC Memory Card), max.	2 Gbyte; with SIMATIC memory card	2 Gbyte; with SIMATIC memory card	2 Gbyte; with SIMATIC memory card
Backup			
• without battery	Yes	Yes	Yes
CPU processing times			
for bit operations, typ.	0.085 µs; / Operation	0.085 µs; / Operation	0.085 µs; / Operation
for word operations, typ.	1.7 µs; / Operation	1.7 µs; / Operation	1.7 µs; / Operation
for floating point arithmetic, typ.	2.3 µs; / Operation	2.3 µs; / Operation	2.3 µs; / Operation
Data areas and their retentivity			
Flag			
• Number, max.	4 kbyte; Size of bit memory address area	4 kbyte; Size of bit memory address area	4 kbyte; Size of bit memory address area
Address area			
Process image			
• Inputs, adjustable	1 kbyte	1 kbyte	1 kbyte
• Outputs, adjustable	1 kbyte	1 kbyte	1 kbyte
Time of day			
Clock			
• Hardware clock (real-time clock)	Yes	Yes	Yes

Technical specifications (continued)

	6ES7211-1BE40-0XB0 CPU 1211C AC/DC/relay	6ES7211-1AE40-0XB0 CPU 1211C DC/DC/DC	6ES7211-1HE40-0XB0 CPU 1211C DC/DC/relay
Digital inputs			
Number of digital inputs	6; integrated	6; integrated	6; integrated
• of which, inputs usable for technological functions	6; HSC (High Speed Counting)	6; HSC (High Speed Counting)	6; HSC (High Speed Counting)
Digital outputs			
Number of digital outputs	4; Relays	4	4; Relays
• of which high-speed outputs		4; 100 kHz Pulse Train Output	
Analog inputs			
Integrated channels (AI)	2; 0 to 10 V	2; 0 to 10 V	2; 0 to 10 V
Input ranges			
• Voltage	Yes	Yes	Yes
1st interface			
Interface type	PROFINET	PROFINET	PROFINET
Physics	Ethernet	Ethernet	Ethernet
Functionality			
• PROFINET IO Device	Yes	Yes	Yes
• PROFINET IO Controller	Yes	Yes	Yes
Communication functions			
S7 communication			
• supported	Yes	Yes	Yes
Open IE communication			
• TCP/IP	Yes	Yes	Yes
• ISO-on-TCP (RFC1006)	Yes	Yes	Yes
• UDP	Yes	Yes	Yes
Web server			
• supported	Yes	Yes	Yes
Integrated Functions			
Number of counters	6	6	6
Counter frequency (counter) max.	100 kHz	100 kHz	100 kHz
Frequency meter	Yes	Yes	Yes
controlled positioning	Yes	Yes	Yes
PID controller	Yes	Yes	Yes
Number of alarm inputs	4	4	4
Number of pulse outputs		4	
Limit frequency (pulse)		100 kHz	
Ambient conditions			
Operating temperature			
• Min.	-20 °C	-20 °C	-20 °C
• max.	60 °C	60 °C	60 °C
Configuration			
programming			
• Programming language			
- LAD	Yes	Yes	Yes
- FBD	Yes	Yes	Yes
- SCL	Yes	Yes	Yes
Dimensions			
Width	90 mm	90 mm	90 mm
Height	100 mm	100 mm	100 mm
Depth	75 mm	75 mm	75 mm
Weights			
Weight, approx.	420 g	370 g	380 g

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CPU 1211C

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Ordering data

Article No.

Article No.

CPU 1211C

Compact CPU, AC/DC/relay;
integral program/data memory
25 KB, load memory 1 MB;
wide-range power supply
85 ... 264 V AC;
Boolean execution times
0.1 µs per operation;
6 digital inputs, 4 digital outputs
(relays), 2 analog inputs;
expandable by up to
3 communication modules and
1 signal board/communication
board;
digital inputs can be used
as HSC at 100 kHz

6ES7211-1BE40-0XB0

Compact CPU, DC/DC/DC;
integrated program/data memory
25 KB, load memory 1 MB;
power supply 24 V DC;
Boolean execution times
0.1 µs per operation;
6 digital inputs, 4 digital outputs,
2 analog inputs;
expandable by up to
3 communication modules and
1 signal board/communication
board;
digital inputs can be used
as HSC at 100 kHz,
24 V DC digital outputs can be
used as pulse outputs (PTO) or
pulse-width modulated outputs
(PWM) at 100 kHz

6ES7211-1AE40-0XB0

Compact CPU, DC/DC/relay;
integrated program/data memory
25 KB, load memory 1 MB;
power supply 24 V DC;
Boolean execution times
0.1 µs per operation;
6 digital inputs, 4 digital outputs
(relays), 2 analog inputs;
expandable by up to
3 communication modules and
1 signal board/communication
board;
digital inputs can be used
as HSC at 100 kHz

6ES7211-1HE40-0XB0

SB 1221 signal board

4 inputs, 5 V DC, 200 kHz
4 inputs, 24 V DC, 200 kHz

6ES7221-3AD30-0XB0

6ES7221-3BD30-0XB0

SB 1222 signal board

4 outputs, 5 V DC, 0.1 A, 200 kHz
4 outputs, 24 V DC, 0.1 A, 200 kHz

6ES7222-1AD30-0XB0

6ES7222-1BD30-0XB0

SB 1223 signal board

2 inputs, 24 V DC,
IEC type 1 current sinking;
2 x 24 V DC transistor outputs,
0.5 A, 5 W;
can be used as HSC
at up to 30 kHz

6ES7223-0BD30-0XB0

2 inputs, 5 V DC, 200 kHz
2 outputs 5 V DC, 0.1 A, 200 kHz

6ES7223-3AD30-0XB0

2 inputs, 24 V DC, 200 kHz
2 outputs 24 V DC, 0.1 A, 200 kHz

6ES7223-3BD30-0XB0

SB 1231 signal board

1 analog input, ±10 V with 12 bits
or 0 ... 20 mA with 11 bits

6ES7231-4HA30-0XB0

SB 1231 thermocouple signal board

1 input +/- 80 mV, resolution 15 bits
+ sign, thermocouples type J, K

6ES7231-5QA30-0XB0

SB 1231 RTD signal board

1 input for resistance temperature
sensors Pt 100, Pt 200, Pt 500,
Pt 1000, resolution 15 bits + sign

6ES7231-5PA30-0XB0

SB 1232 signal board

1 analog output, ±10 V with 12 bits
or 0 to 20 mA with 11 bits

6ES7232-4HA30-0XB0

CB 1241 RS485 communication board

For point-to-point connection,
with 1 RS485 interface

6ES7241-1CH30-1XB0

Simulator (optional)

8 input switches,
for CPU 1211C / CPU 1212C

6ES7274-1XF30-0XA0

SIMATIC Memory Card (optional)

4 MB
12 MB
24 MB
2 GB

6ES7954-8LC02-0AA0

6ES7954-8LE02-0AA0

6ES7954-8LF02-0AA0

6ES7954-8LP01-0AA0

Terminal block (spare part)

For CPU 1211C/1212C

For DI, with 14 screws,
tin-plated; 4 units

6ES7292-1AH30-0XA0

For DO, with 8 screws,
tin-plated; 4 units

6ES7292-1AP30-0XA0

For AI, with 3 screws,
tin-plated; 4 units

6ES7292-1BC30-0XA0

RJ45 cable grip

4 items per pack
Single port

6ES7290-3AA30-0XA0

Front flap set (spare part)

For CPU 1211C/1212C

6ES7291-1AA30-0XA0

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CPU 1214C

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Ordering data

Article No.

Article No.

CPU 1214C

Compact CPU, AC/DC/relay;
integral program/data memory
50 KB, load memory 2 MB;
wide-range power supply
85 ... 264 V AC;
Boolean execution times
0.1 µs per operation;
14 digital inputs, 10 digital outputs
(relays), 2 analog inputs;
expandable by up to
3 communication modules,
8 signal modules and 1 signal
board/communication board;
digital inputs can be used
as HSC at 100 kHz

6ES7214-1BG40-0XB0

Compact CPU, DC/DC/DC;
integrated program/data memory
50 KB, load memory 2 MB;
power supply 24 V DC;
Boolean execution times
0.1 µs per operation;
14 digital inputs, 10 digital outputs,
2 analog inputs;
expandable by up to
3 communication modules,
8 signal modules, and 1 signal
board/communication board;
digital inputs can be used
as HSC at 100 kHz,
24 V DC digital outputs can be
used as pulse outputs (PTO) or
pulse-width modulated outputs
(PWM) at 100 kHz

6ES7214-1AG40-0XB0

Compact CPU, DC/DC/relay;
integrated program/data memory
50 KB, load memory 2 MB;
power supply 24 V DC;
Boolean execution times
0.1 µs per operation;
14 digital inputs, 10 digital outputs
(relays), 2 analog inputs;
expandable by up to
3 communication modules,
8 signal modules, and 1 signal
board/communication board;
digital inputs can be used
as HSC at 100 kHz

6ES7214-1HG40-0XB0

SB 1221 signal board

4 inputs, 5 V DC, 200 kHz

6ES7221-3AD30-0XB0

4 inputs, 24 V DC, 200 kHz

6ES7221-3BD30-0XB0

SB 1222 signal board

4 outputs, 5 V DC, 0.1 A, 200 kHz

6ES7222-1AD30-0XB0

4 outputs, 24 V DC, 0.1 A, 200 kHz

6ES7222-1BD30-0XB0

SB 1223 signal board

2 inputs, 24 V DC,
IEC type 1 current sinking;
2 x 24 V DC transistor outputs,
0.5 A, 5 W;
can be used as HSC
at up to 30 kHz

6ES7223-0BD30-0XB0

2 inputs, 5 V DC, 200 kHz
2 outputs 5 V DC, 0.1 A, 200 kHz

6ES7223-3AD30-0XB0

2 inputs, 24 V DC, 200 kHz
2 outputs 24 V DC, 0.1 A, 200 kHz

6ES7223-3BD30-0XB0

SB 1231 signal board

1 analog input, ±10 V with 12 bits
or 0 ... 20 mA with 11 bits

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SB 1231 thermocouple signal board

1 input +/- 80 mV, resolution 15 bits
+ sign, thermocouples type J, K

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SB 1231 RTD signal board

1 input for resistance temperature
sensors Pt 100, Pt 200, Pt 500,
Pt 1000, resolution 15 bits + sign

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SB 1232 signal board

1 analog output, ±10 V with 12 bits
or 0 to 20 mA with 11 bits

6ES7232-4HA30-0XB0

CB 1241 RS485 communication board

For point-to-point connection,
with 1 RS485 interface

6ES7241-1CH30-1XB0

Simulator (optional)

14 input switches, for CPU 1214C

6ES7274-1XH30-0XA0

SIMATIC Memory Card (optional)

4 MB

6ES7954-8LC02-0AA0

12 MB

6ES7954-8LE02-0AA0

24 MB

6ES7954-8LF02-0AA0

2 GB

6ES7954-8LP01-0AA0

Extension cable for two-tier configuration

For connecting digital/analog signal
modules; length 2 m

6ES7290-6AA30-0XA0

Terminal block (spare part)

For CPU 1214C

For DI, with 20 screws, tin-plated;
4 units

6ES7292-1AV30-0XA0

For DO, with 12 screws, tin-plated;
4 units

6ES7292-1AM30-0XA0

For AI, with 3 screws, tin-plated;
4 units

6ES7292-1BC30-0XA0

RJ45 cable grip

4 items per pack

Single port

6ES7290-3AA30-0XA0

Front flap set (spare part)

For CPU 1214C

6ES7291-1AB30-0XA0