

SIMATIC S7-1200

Central processing units

CPU 1217C

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Ordering data	Article No.		Article No.
S7-1200 automation system, System Manual For SIMATIC S7-1200 and STEP 7 Basic German English French Spanish Italian Chinese	6ES7298-8FA30-8AH0 6ES7298-8FA30-8BH0 6ES7298-8FA30-8CH0 6ES7298-8FA30-8DH0 6ES7298-8FA30-8EH0 6ES7298-8FA30-8KH0		
S7-1200 automation system, Easy Book Brief instructions German English French Spanish Italian Chinese	6ES7298-8FA30-8AQ0 6ES7298-8FA30-8BQ0 6ES7298-8FA30-8CQ0 6ES7298-8FA30-8DQ0 6ES7298-8FA30-8EQ0 6ES7298-8FA30-8KQ0		
		STEP 7 Professional / Basic V13 Target system: SIMATIC S7-1200, S7-1500, S7-300, S7-400, WinAC Requirement: Windows 7 Professional SP1 (64 bit), Windows 7 Enterprise SP1 (64 bit), Windows 7 Ultimate SP1 (64 bit), Windows 8.1 (64 bit), Windows 8.1 Professional (64 bit), Windows 8.1 Enterprise (64 bit), Windows Server 2008 R2 StdE (full installation), Windows Server 2012 StdE (full installation) Form of delivery: German, English, Chinese, Italian, French, Spanish STEP 7 Professional V13, Floating License STEP 7 Professional V13, Floating License, software download incl. license key ¹⁾ E-mail address required for delivery STEP 7 Basic V13, Floating License STEP 7 Basic V13, Floating License, software download incl. license key ¹⁾ E-mail address required for delivery	6ES7822-1AA03-0YA5 6ES7822-1AE03-0YA5 6ES7822-0AA03-0YA5 6ES7822-0AE03-0YA5

¹⁾ For up-to-date information and download availability, see:
<http://www.siemens.com/tia-online-software-delivery>

Overview



- Digital inputs as supplement to the integral I/O of the CPUs
- For flexible adaptation of the controller to the corresponding task
- For subsequent expansion of the system with additional inputs
- From +60 °C to +70 °C, max. 50% of the inputs can be controlled simultaneously

Note:

SIPLUS extreme products are based on Siemens Industry standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme-specific information was added.

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Technical specifications

The technical data correspond to those of the based-on modules apart from the values listed in the table:

Based on	6AG1221-1BF32-2XB0 SM 1221 DI 8x24 VDC	6AG1221-1BF32-4XB0 SM 1221 DI 8x24 VDC	6AG1221-1BH32-2XB0 SM 1221 DI 16x24 VDC	6AG1221-1BH32-4XB0 SM 1221 DI 16x24 VDC
	6ES7221-1BF32-0XB0	6ES7221-1BF32-0XB0	6ES7221-1BH32-0XB0	6ES7221-1BH32-0XB0
Ambient conditions Extended ambient conditions • Relative to ambient temperature-atmospheric pressure-installation altitude • Relative humidity - With condensation, tested in accordance with IEC 60068-2-38, maximum • Resistance - to biologically active substances/conformity with EN 60721-3-3 - to chemically active substances/conformity with EN 60721-3-3 - to mechanically active substances/conformity with EN 60721-3-3				
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)				
100 %; RH incl. condensation/frost (no commissioning under condensation conditions)				
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!				
Yes; Class 3C4 (RH < 75%) 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!				
Yes; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!				
Climatic and mechanical conditions for storage and transport Climatic conditions for storage and transport • Free fall - Drop height, max. (in packaging) • Temperature - Permissible temperature range				
0.3 m; five times, in dispatch package				
-40 °C to +70 °C				
Mechanical and climatic conditions during operation Climatic conditions in operation • Temperature - Min. - max.				
-40 °C; = Tmin; startup @ -25 °C 70 °C; = Tmax; Tmax > +60 °C number of simultaneously activated inputs 4 (no adjacent points) for horizontal mounting position				
-20 °C; = Tmin; startup @ 0 °C 60 °C; = Tmax				
-40 °C; = Tmin; startup @ -25 °C 70 °C; = Tmax; Tmax > +60 °C number of simultaneously activated inputs 8 (no adjacent points) for horizontal mounting position				
-20 °C; = Tmin; startup @ 0 °C 60 °C; = Tmax				

SIMATIC S7-1200

SIPLUS digital modules

SIPLUS SM 1221 digital input modules

Ordering data

Article No.

Article No.

Digital input SIPLUS SM 1221 signal module

(extended temperature range and medial exposure)

8 inputs, 24 V DC, isolated, current sourcing/sinking

- Suitable for areas with extraordinary medial exposure (conformal coating)
- -25 ... +70 °C, from +60 ... +70 °C number of simultaneously controllable inputs and outputs max. 50 %

16 inputs, 24 V DC, isolated, current sourcing/sinking

- Suitable for areas with extraordinary medial exposure (conformal coating)
- -25 ... +70 °C, from +60 ... +70 °C number of simultaneously controllable inputs and outputs max. 50 %

6AG1221-1BF32-4XB0

6AG1221-1BF32-2XB0

6AG1221-1BH32-4XB0

6AG1221-1BH32-2XB0

Accessories

See SIMATIC S7-1200 SM 1221 digital input, catalog ST 70 · 2013, page 3/42

Overview



- Digital outputs as a supplement to the integral I/O of the CPUs
- For flexible adaptation of the controller to the corresponding task
- For subsequent expansion of the system with additional outputs
- From +60 °C to +70 °C, max. 50% of the inputs can be controlled simultaneously

Note:

SIPLUS extreme products are based on Siemens Industry standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme-specific information was added.

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Technical specifications

The technical data correspond to those of the based-on modules apart from the values listed in the table:

Based on	6AG1222-1BF32-2XB0 SM 1222 DQ 8x24 VDC	6AG1222-1BF32-4XB0 SM 1222 DQ 8x24 VDC	6AG1222-1BH32-2XB0 SM 1222 DQ 16x24 VDC	6AG1222-1BH32-4XB0 SM 1222 DQ 16x24 VDC
	6ES7222-1BF32-0XB0	6ES7222-1BF32-0XB0	6ES7222-1BH32-0XB0	6ES7222-1BH32-0XB0
Ambient conditions Extended ambient conditions • Relative to ambient temperature-atmospheric pressure-installation altitude • Relative humidity - With condensation, tested in accordance with IEC 60068-2-38, maximum • Resistance - to biologically active substances/conformity with EN 60721-3-3 - to chemically active substances/conformity with EN 60721-3-3 - to mechanically active substances/conformity with EN 60721-3-3				
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)				
100 %; RH incl. condensation/frost (no commissioning under condensation conditions)				
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!				
Yes; Class 3C4 (RH < 75%) 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!				
Yes; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!				
Climatic and mechanical conditions for storage and transport Climatic conditions for storage and transport • Free fall - Drop height, max. (in packaging) • Temperature - Permissible temperature range				
0.3 m; five times, in dispatch package				
-40 °C to +70 °C				
Mechanical and climatic conditions during operation Climatic conditions in operation • Temperature - Min. - max.				
-40 °C; = Tmin; startup @ -25 °C 70 °C; = Tmax; Tmax > +60 °C number of simultaneously activated outputs 4 (no adjacent points) for horizontal mounting position				
-20 °C; = Tmin; startup @ 0 °C 60 °C; = Tmax				
-40 °C; = Tmin; startup @ -25 °C 70 °C; = Tmax; Tmax > +60 °C number of simultaneously activated outputs 8 (no adjacent points) for horizontal mounting position				
-20 °C; = Tmin; startup @ 0 °C 60 °C; = Tmax				

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SIPLUS digital modules

SIPLUS SM 1222 digital output modules

Technical specifications (continued)

	6AG1222-1HF32-2XB0 SM 1222 DQ 8xRelay	6AG1222-1HF32-4XB0 SM 1222 DQ 8xRelay	6AG1222-1HH32-2XB0 SM 1222 DQ 16xRelay	6AG1222-1HH32-4XB0 SM 1222 DQ 16xRelay
Based on	6ES7222-1HF32-0XB0	6ES7222-1HF32-0XB0	6ES7222-1HH32-0XB0	6ES7222-1HH32-0XB0
Ambient conditions				
Extended ambient conditions				
- Relative to ambient temperature-atmospheric pressure-installation altitude - at cold restart, minimum - Relative humidity - with condensation, maximum	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)			
With condensation, tested in accordance with IEC 60068-2-38, maximum	-25 °C			
- Resistance - to biologically active substances/conformity with EN 60721-3-3 - to chemically active substances/conformity with EN 60721-3-3 - to mechanically active substances/conformity with EN 60721-3-3	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)			
	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)			
	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!			
	Yes; Class 3C4 (RH < 75%) 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!			
	Yes; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!			
Climatic and mechanical conditions for storage and transport				
Climatic conditions for storage and transport				
- Free fall - Drop height, max. (in packaging) - Temperature - Permissible temperature range	0.3 m; five times, in dispatch package			
	-40 °C to +70 °C			
Mechanical and climatic conditions during operation				
Climatic conditions in operation				
- Temperature - Min. - max. - Permissible temperature change	-40 °C; = Tmin; startup @ -25 °C 70 °C; = Tmax; Tmax > +60 °C number of simultaneously activated outputs 4 (no adjacent points) for horizontal mounting position 5°C to 55°C, 3°C / minute	-20 °C; = Tmin; startup @ 0 °C 60 °C; = Tmax	-40 °C; = Tmin; startup @ -25 °C 70 °C; = Tmax; Tmax > +60 °C number of simultaneously activated outputs 8 (no adjacent points) for horizontal mounting position	-20 °C; = Tmin; startup @ 0 °C 60 °C; = Tmax

Ordering data

Article No.

Article No.

Digital output SIPLUS SM 1222 signal module

(Extended temperature range and medial exposure)

8 outputs, 24 V DC; 0.5 A, 5 W, isolated

- Suitable for areas with extraordinary medial exposure (conformal coating)
- 25 ... +70 °C, from +60 ... +70°C number of simultaneously controllable inputs and outputs max. 50 %

16 outputs, 24 V DC; 0.5 A, 5 W, isolated

- Suitable for areas with extraordinary medial exposure (conformal coating)
- 25 ... +70 °C, from +60 ... +70°C number of simultaneously controllable inputs and outputs max. 50 %

6AG1222-1BF32-4XB0

6AG1222-1BF32-2XB0

6AG1222-1BH32-4XB0

6AG1222-1BH32-2XB0

8 outputs, 5 ... 30 V DC/
5 ... 250 V AC, relay 2 A,
30 W DC/200 W AC

- Suitable for areas with extraordinary medial exposure (conformal coating)
- 25 ... +70 °C, from +60 ... +70°C number of simultaneously controllable inputs and outputs max. 50 %

16 outputs, 5 ... 30 V DC/
5 ... 250 V AC, relay 2 A,
30 W DC/200 W AC

- Suitable for areas with extraordinary medial exposure (conformal coating)
- 25 ... +70 °C, from +60 ... +70°C number of simultaneously controllable inputs and outputs max. 50 %

Accessories

6AG1222-1HF32-4XB0

6AG1222-1HF32-2XB0

6AG1222-1HH32-4XB0

6AG1222-1HH32-2XB0

See SIMATIC S7-1200
SM 1222 digital output,
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