

Siemens
EcoTech



SIMATIC S7-1200 G2: SB 1221 digital input, 8 DI 100 kHz; inputs: 8x DI 24 V DC sink/source, 100 kHz

General information	
Product type designation	SB 1221, DI 8x 24 V DC 100 kHz
Engineering with	STEP 7 TIA Portal configurable/integrated from version V20 or higher
Input current	
from backplane bus 5 V DC, typ.	108 mA
Digital inputs	from load voltage L+ (without load), max. 6 mA; per channel
Power loss	
Power loss, typ.	2.4 W
Digital inputs	
Number of digital inputs	8; sink / source
in groups of 8	
Input characteristic curve in accordance with IEC 61131, type 1	Yes
Number of simultaneously controllable inputs	
all mounting positions	
— up to 40 °C, max.	8
Input voltage	
- Rated value (DC) 24 V - for signal "0" 5 V DC or 0.5 mA - for signal "1" 15 V DC at 2.5 mA	
Input current	
- for signal "0", max. (permissible quiescent current) 0.5 mA - for signal "1", min. 3.3 mA - for signal "1", typ. 6 mA	
Input delay (for rated value of input voltage)	
for standard inputs	
— parameterizable	Yes; 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 ms
for interrupt inputs	
— Parameterizable	Yes
for technological functions	
— parameterizable	Yes
Cable length	
- shielded, max. 500 m; 500 m shielded, 50 m shielded for HSC inputs - unshielded, max. 300 m	
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
Diagnostic alarm No	
Diagnoses	
Monitoring the supply voltage No	
Diagnostics indication LED	
- DIAG LED Yes - for status of the inputs Yes	
Potential separation	
Potential separation digital inputs	
between the channels No	

• between the channels, in groups of • Number of potential groups • between the channels and backplane bus	8 1 Yes; 707 V DC (type test)
Degree and class of protection	
IP degree of protection	IP20
Standards, approvals, certificates	
Siemens Eco Profile (SEP)	Siemens EcoTech
CE mark	Yes
CSA approval	No
UL approval	Yes
cULus	Yes
FM approval	No
RCM (formerly C-TICK)	Yes
KC approval	Yes
Marine approval	No
Ecological footprint	
• environmental product declaration	Yes; type 2 acc. to ISO 14021
Global warming potential	
— global warming potential, (total) [CO2 eq]	9.53 kg
— global warming potential, (during production) [CO2 eq]	3.86 kg
— global warming potential, (during operation) [CO2 eq]	5.74 kg
— global warming potential, (after end of life cycle) [CO2 eq]	-0.086 kg
Ambient conditions	
Free fall	
• Fall height, max.	0.3 m; five times, in product package
Ambient temperature during operation	
• min. • max. • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max.	-20 °C 40 °C; at max. voltages and max. specifications -20 °C 60 °C; at rated voltages, 50 % of max. specification and alternate IO active -20 °C 50 °C; at rated voltages, 50 % of max. specification and alternate IO active
Ambient temperature during storage/transportation	
• min. • max.	-40 °C 70 °C
Air pressure acc. to IEC 60068-2-13	
• Operation, min. • Operation, max. • Storage/transport, min. • Storage/transport, max.	540 hPa 1 140 hPa 540 hPa 1 140 hPa
Altitude during operation relating to sea level	
• Installation altitude, min. • Installation altitude, max.	-1 000 m 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
Relative humidity	
• Operation at 25 °C without condensation, max.	95 %
Vibrations	
• Vibration resistance during operation acc. to IEC 60068-2-6 • Operation, tested according to IEC 60068-2-6	3.5 mm from 5 - 8.4 Hz, 1g from 8.4 - 150 Hz Yes
Shock testing	
• tested 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
Pollutant concentrations	
• SO2 at RH < 60% without condensation	SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60 % condensation-free
Mechanics/material	
Enclosure material (front) • plastic	Yes

Dimensions	
Width	15 mm
Height	62 mm
Depth	63 mm
Weights	
Weight, approx.	26 g
Classifications	

		Version	Classification
	eClass	16	27-24-22-04
	eClass	14	27-24-22-04
	eClass	12	27-24-22-04
	eClass	9.1	27-24-22-04
	eClass	9	27-24-22-04
	eClass	8	27-24-22-04
	eClass	7.1	27-24-22-04
	eClass	6	27-24-22-04
	ETIM	10	EC001419
	ETIM	9	EC001419
	ETIM	8	EC001419
	ETIM	7	EC001419

Approvals / Certificates
General Product Approval



[Miscellaneous](#)

[Manufacturer Declaration](#)



General Product Approval



[China RoHS](#)

[Manufacturer Declaration](#)

EMV	For use in hazardous locations
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[Miscellaneous](#)

[CCC-Ex](#)

[CCC-Ex](#)

Test Certificates	Maritime application
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[Type Test Certificates/Test Report](#)



[NK / Nippon Kaiji Kyokai](#)

Maritime application	Environment
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[KR \(Korean Register of Shipping\)](#)



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