

Siemens
EcoTech



SIMATIC S7-1200 G2: SB 1223 digital I/O, 4 DI/4 DO 200 kHz; inputs: 4x DI 5 V DC, 200 kHz; outputs: 4x DQ 5 V DC 0.1 A, sinking/sourcing transistor, 200 kHz



Figure similar

General information	
Product type designation	SB 1223, DI 4x 5 V DC/DQ 4x 5 V DC 200 kHz
Engineering with	
• STEP 7 TIA Portal configurable/integrated from version	V20 or higher
Supply voltage	
Rated value (DC)	5 V
permissible range, lower limit (DC)	4.25 V
permissible range, upper limit (DC)	6 V
Input current	
from backplane bus 5 V DC, typ.	60 mA
Digital inputs	
• from load voltage L+ (without load), max.	15 mA; per channel
Digital outputs	
• from load voltage L+, max.	12 mA
Power loss	
Power loss, typ.	1 W
Digital inputs	
Number of digital inputs	4; Current-sourcing
• in groups of	4
Number of simultaneously controllable inputs	
all mounting positions	
— up to 40 °C, max.	4
Input voltage	
• Rated value (DC)	5 V
• for signal "0"	(L+ minus 1.0 V DC) ... L+ (2.2 ... 0 mA)
• for signal "1"	0 V ... (L+ minus 2.0 V DC) (20 ... 5.1 mA)
Input current	
• for signal "0", max. (permissible quiescent current)	2.2 mA
• for signal "1", min.	5.1 mA
• for signal "1", typ.	15 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	

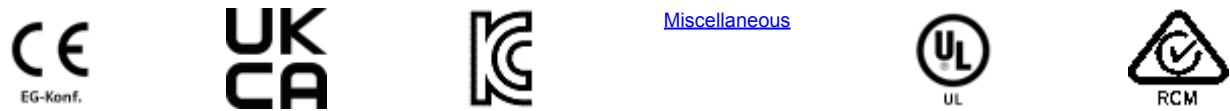
— parameterizable	Yes
for technological functions	
— parameterizable	Yes
Cable length	
• shielded, max.	50 m; shielded, twisted pair
Digital outputs	
Number of digital outputs	4
• in groups of	4
Short-circuit protection	No
Switching capacity of the outputs	
• with resistive load, max.	0.1 A
Output voltage	
• Rated value (DC)	5 V
• for signal "0", max.	0.2 V
• for signal "1", min.	L+ (-0.7 V)
Output current	
• for signal "1" rated value	0.1 A
• for signal "1" permissible range, max.	0.1 A
Output delay with resistive load	
• "0" to "1", max.	500 ns
• "1" to "0", max.	500 ns
Total current of the outputs (per group)	
horizontal installation	
— up to 50 °C, max.	0.2 A
Cable length	
• shielded, max.	50 m; twisted pair
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
• Diagnostic alarm	Yes
Diagnoses	
• Monitoring the supply voltage	Yes
Diagnostics indication LED	
• DIAG LED	Yes
• for status of the inputs	Yes
• for status of the outputs	Yes
Potential separation	
Potential separation digital inputs	
• between the channels	No
• between the channels, in groups of	4
• Number of potential groups	1
• between the channels and backplane bus	Yes; 707 V DC (type test)
Potential separation digital outputs	
• between the channels	No
• between the channels, in groups of	4
• Number of potential groups	1
• between the channels and backplane bus	Yes; 707 V DC (type test)
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.		-20 °C	
• max.		40 °C; at max. voltages and max. specifications	
• horizontal installation, min.		-20 °C	
• horizontal installation, max.		60 °C; at rated voltages, 50 % of max. specification and alternate IO active	
• vertical installation, min.		-20 °C	
• vertical installation, max.		50 °C; at rated voltages, 50 % of max. specification and alternate IO active	
Ambient temperature during storage/transportation			
• min.		-40 °C	
• max.		70 °C	
Air pressure acc. to IEC 60068-2-13			
• Operation, min.		540 hPa	
• Operation, max.		1 140 hPa	
• Storage/transport, min.		540 hPa	
• Storage/transport, max.		1 140 hPa	
Altitude during operation relating to sea level			
• Installation altitude, min.		-1 000 m	
• Installation altitude, max.		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		3.5 mm from 5 - 8.4 Hz, 1g from 8.4 - 150 Hz	
• Operation, tested according to IEC 60068-2-6		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.		28 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](#)

General Product Approval

EMV

For use in hazardous locations

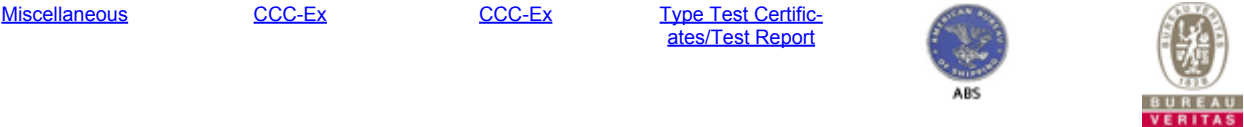


[China RoHS](#)

For use in hazardous locations

Test Certificates

Maritime application



[Miscellaneous](#)

[CCC-Ex](#)

[CCC-Ex](#)

[Type Test Certificates/Test Report](#)

Maritime application

Environment



[NK / Nippon Kaiji Kyokai](#)

[KR \(Korean Register of Shipping\)](#)

Environment



[China RoHS](#)

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