SIEMENS

Data sheet 6ES7223-7AF50-0XB0

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	

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— 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

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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	S02: < 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

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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





China RoHS

EMV



For use in hazardous locations





For use in hazardous locations

Miscellaneous

CCC-Ex

CCC-Ex

Test Certificates

Type Test Certific-ates/Test Report

Maritime application





Maritime application





NK / Nippon Kaiji Ky-okai



KR (Korean Register of Shipping)

Environment



Environment



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