SIEMENS

Data sheet 6ES7223-7BF50-0XB0

Siemens EcoTech

SIMATIC S7-1200 G2: SB 1223 digital I/O, 4 DI/4 DO 100 kHz; inputs: 4 x DI 24 V DC sink/source, 100 kHz; outputs: 4 x DQ 24 V DC 0.1 A sinking/sourcing transistor, 100 kHz



General information	
Product type designation	SB 1223, DI 4x 24 V DC/DQ 4x 24 V DC 100 kHz
Engineering with	
● STEP 7 TIA Portal configurable/integrated from version	V20 or higher
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Input current	
from backplane bus 5 V DC, typ.	48 mA
Digital inputs	
● from load voltage L+ (without load), max.	6 mA; per channel
Digital outputs	
● from load voltage L+, max.	15 mA
Power loss	
Power loss, typ.	1.7 W
Digital inputs	
Number of digital inputs	4; sink / source
● in groups of	4
Input characteristic curve in accordance with IEC 61131, type 1	Yes
Number of simultaneously controllable inputs	
all mounting positions	
— up to 40 °C, max.	4
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	

Subject to change without notice
© Copyright Plcally

— 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
Digital outputs	
Number of digital outputs	4
● in groups of	4
Short-circuit protection	Yes
Switching capacity of the outputs	
● with resistive load, max.	0.1 A
Output voltage	
● Rated value (DC)	24 V
● for signal "0", max.	1 V
● for signal "1", min.	L+ (-1.5 V)
Output current	
● for signal "1" rated value	0.1 A
Output delay with resistive load	
● "0" to "1", max.	1.8 µs
● "1" to "0", max.	1.8 µs
Total current of the outputs (per group)	
horizontal installation	
— up to 50 °C, max.	0.2 A
Cable length	
● shielded, max.	500 m; 500 m shielded, 50 m shielded for PTO outputs
● unshielded, max.	150 m
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)
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

© Copyright Plcally

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	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

© Copyright Plcally

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	Environment
Miscellaneous	CCC-Ex	CCC-Ex	Type Test Certific-ates/Test Report		

Environment



last modified: 10/23/2025

© Copyright Plcally