

SIMATIC S7-1200, Digital I/O SB 1223, 2 DI/2 DO, 2 DI 24 V DC/2 DO 24 V DC



General information

Product type designation SB 1223, DI 2x24 V DC/DQ 2x24 V DC

Supply voltage

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. 50 mA

Output voltage

Power supply to the transmitters

- Supply current, max. 4 mA; per channel

Power loss

Power loss, typ. 1 W

Digital inputs

Number of digital inputs 2; Current-sinking

- in groups of 1

Input characteristic curve in accordance with IEC 61131, type 1 Yes

Number of simultaneously controllable inputs	
all mounting positions	
— up to 40 °C, max.	2
Input voltage	
• Type of input voltage	DC
• Rated value (DC)	24 V
• for signal "0"	0 to 5 V
• for signal "1"	+15 to +30 V
Input current	
• for signal "0", max. (permissible quiescent current)	1 mA
• for signal "1", typ.	0.5 A
Input delay (for rated value of input voltage)	
for standard inputs	
— parameterizable	Yes; 0.2 ms, 0.4 ms, 0.8 ms, 1.6 ms, 3.2 ms, 6.4 ms and 12.8 ms, selectable in groups of four
— at "0" to "1", max.	2 µs
— at "1" to "0", max.	10 µs
for interrupt inputs	
— parameterizable	Yes
for technological functions	
— parameterizable	Yes
Cable length	
• shielded, max.	500 m
• unshielded, max.	300 m
Digital outputs	
Number of digital outputs	2; MOSFET, solid-state (current-sinking/current-sourcing)
• in groups of	1
Short-circuit protection	No
Switching capacity of the outputs	
• with resistive load, max.	0.5 A
• on lamp load, max.	5 W
Load resistance range	
• upper limit	0.6 Ω
Output voltage	
• Rated value (DC)	24 V
• for signal "0", max.	0.1 V; with 10 kOhm load
• for signal "1", min.	20 V
Output current	
• for signal "1" permissible range, max.	0.5 A
• for signal "0" residual current, max.	10 µA
Cable length	

- shielded, max. 500 m
- unshielded, max. 150 m

Interrupts/diagnostics/status information

Alarms	Yes
Diagnostics function	Yes
Diagnostics indication LED	
• for status of the inputs	Yes
• for status of the outputs	Yes

Standards, approvals, certificates

CE mark	Yes
CSA approval	Yes
UL approval	Yes
cULus	Yes
FM approval	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
Marine approval	Yes

Ambient conditions

Free fall	
• Fall height, max.	0.3 m; five times, in product package

Ambient temperature during operation	
• min.	-20 °C
• max.	60 °C
• horizontal installation, min.	-20 °C
• horizontal installation, max.	60 °C
• vertical installation, min.	-20 °C
• vertical installation, max.	50 °C

Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C

Air pressure acc. to IEC 60068-2-13	
• Storage/transport, min.	660 hPa
• Storage/transport, max.	1 080 hPa

Relative humidity	
• Operation at 25 °C without condensation, max.	95 %

Mechanics/material

Enclosure material (front)	
• Plastic	Yes

Dimensions

Width	38 mm
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Height	62 mm
Depth	21 mm
Weights	
Weight, approx.	40 g
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