



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

<b>Cable length</b>	
<ul style="list-style-type: none"> <li>shielded, max.</li> <li>unshielded, max.</li> </ul>	500 m 300 m
<b>Digital outputs</b>	
Number of digital outputs	2; MOSFET, solid-state (current-sinking/current-sourcing)
<ul style="list-style-type: none"> <li>in groups of</li> </ul>	1
Short-circuit protection	No
<b>Switching capacity of the outputs</b>	
<ul style="list-style-type: none"> <li>with resistive load, max.</li> <li>on lamp load, max.</li> </ul>	0.5 A 5 W
<b>Load resistance range</b>	
<ul style="list-style-type: none"> <li>upper limit</li> </ul>	0.6 $\Omega$
<b>Output voltage</b>	
<ul style="list-style-type: none"> <li>Rated value (DC)</li> <li>for signal "0", max.</li> </ul>	24 V 0.1 V; with 10 kOhm load
<b>Output current</b>	
<ul style="list-style-type: none"> <li>for signal "1" permissible range, max.</li> <li>for signal "0" residual current, max.</li> </ul>	0.5 A 10 $\mu$ A
<b>Cable length</b>	
<ul style="list-style-type: none"> <li>shielded, max.</li> <li>unshielded, max.</li> </ul>	500 m 150 m
<b>Interrupts/diagnostics/status information</b>	
Alarms	Yes
Diagnostics function	Yes
<b>Diagnostics indication LED</b>	
<ul style="list-style-type: none"> <li>for status of the inputs</li> <li>for status of the outputs</li> </ul>	Yes Yes
<b>Standards, approvals, certificates</b>	
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
<b>Ambient conditions</b>	
<b>Free fall</b>	
<ul style="list-style-type: none"> <li>Fall height, max.</li> </ul>	0.3 m; five times, in product package
<b>Ambient temperature during operation</b>	
<ul style="list-style-type: none"> <li>min.</li> <li>max.</li> <li>horizontal installation, min.</li> <li>horizontal installation, max.</li> <li>vertical installation, min.</li> <li>vertical installation, max.</li> </ul>	-20 °C 60 °C -20 °C 60 °C -20 °C 50 °C
<b>Ambient temperature during storage/transportation</b>	
<ul style="list-style-type: none"> <li>min.</li> <li>max.</li> </ul>	-40 °C 70 °C
<b>Air pressure acc. to IEC 60068-2-13</b>	
<ul style="list-style-type: none"> <li>Storage/transport, min.</li> <li>Storage/transport, max.</li> </ul>	660 hPa 1 080 hPa
<b>Relative humidity</b>	
<ul style="list-style-type: none"> <li>Operation at 25 °C without condensation, max.</li> </ul>	95 %
<b>Mechanics/material</b>	
Enclosure material (front)	
<ul style="list-style-type: none"> <li>Plastic</li> </ul>	Yes

Dimensions	
Width	38 mm
Height	62 mm
Depth	21 mm
Weights	
Weight, approx.	40 g
<b>last modified:</b>	1/16/2021 