## **SIEMENS**

## **Data sheet**

6ES7223-1BL30-0XB0



\*\*\*Spare part\*\*\* SIMATIC S7-1200, Digital I/O SM 1223, 16 DI/16 DO, 16 DI 24 V DC, Sink/Source, 16 DO, transistor 0.5 A

Consultinformation		
General information		
Product type designation	SM 1223, DI 16x24 V DC, DQ 16x24 V DC	
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, max.	185 mA	
Digital inputs		
<ul> <li>from load voltage L+ (without load), max.</li> </ul>	4 mA; per channel	
output voltage / header		
supply voltage of the transmitters / header		
<ul><li>present</li></ul>	Yes	
Power loss		
Power loss, typ.	4.5 W	
Digital inputs		
Number of digital inputs	16	
• in groups of	2	
Input characteristic curve in accordance with IEC 61131, type 1	Yes	
Number of simultaneously controllable inputs		
all mounting positions		
— up to 40 °C, max.	16	
horizontal installation		
— up to 40 °C, max.	16	
— up to 50 °C, max.	16	
vertical installation		
— up to 40 °C, max.	16	
Input voltage		
Type of input voltage	DC	
<ul> <li>Rated value (DC)</li> </ul>	24 V	
• for signal "0"	5 V DC at 1 mA	
• for signal "1"	15 V DC at 2.5 mA	
Input current		
• for signal "0", max. (permissible quiescent current)	1 mA	
• for signal "1", min.	2.5 mA	
• for signal "1", typ.	4 mA	
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	

for interrupt inputs	
— parameterizable	Yes
Cable length	
• shielded, max.	500 m
unshielded, max.	300 m
Digital outputs	000 III
Number of digital outputs	16
• in groups of	1
Short-circuit protection	No; to be provided externally
Limitation of inductive shutdown voltage to	L+ (-48 V)
Switching capacity of the outputs	
with resistive load, max.	0.5 A
• on lamp load, max.	5 W
Output voltage	
Rated value (DC)	24 V
• for signal "0", max.	0.1 V; with 10 kOhm load
• for signal "1", min.	20 V DC
Output current	
for signal "1" rated value	0.5 A
• for signal "1" permissible range, max.	0.5 A
for signal "0" residual current, max.	10 μΑ
Output delay with resistive load	
• "0" to "1", max.	50 μs
• "1" to "0", max.	200 μs
Total current of the outputs (per group)	
horizontal installation	
— up to 50 °C, max.	8 A; Current per mass
Relay outputs	
Switching capacity of contacts	
— with inductive load, max.	0.5 A
— on lamp load, max.	5 W
— with resistive load, max.	0.5 A
Cable length	
• shielded, max.	500 m
• unshielded, max.	150 m
Interrupts/diagnostics/status information	
Alarms	Yes
Diagnostics function	Yes
Alarms	
Diagnostic alarm	Yes
Diagnostics indication LED	
• for status of the inputs	Yes
• for status of the outputs	Yes
for maintenance	Yes
Potential separation	
Potential separation digital inputs	
between the channels, in groups of	2
Potential separation digital outputs	
between the channels, in groups of	1
between the channels and backplane bus	500 V AC
Degree and class of protection	IDOA
IP degree of protection	IP20
Standards, approvals, certificates	V
CE mark	Yes
FM approval	Yes
RCM (formerly C-TICK)	Yes
Ambient conditions	
Free fall	
Fall height, max.  Ambient temperature during operation	0.3 m; five times, in product package

• min.	0°C
• max.	55 °C
<ul> <li>horizontal installation, min.</li> </ul>	0 °C
<ul> <li>horizontal installation, max.</li> </ul>	55 °C
<ul> <li>vertical installation, min.</li> </ul>	0°C
<ul> <li>vertical installation, max.</li> </ul>	45 °C
<ul> <li>permissible temperature change</li> </ul>	5°C to 55°C, 3°C / minute
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
Air pressure acc. to IEC 60068-2-13	
<ul> <li>Storage/transport, min.</li> </ul>	660 hPa
<ul> <li>Storage/transport, max.</li> </ul>	1 080 hPa
Relative humidity	
<ul> <li>Operation at 25 °C without condensation, max.</li> </ul>	95 %
connection method	
required front connector	Yes
Mechanics/material	
Enclosure material (front)	
<ul><li>Plastic</li></ul>	Yes
Dimensions	
Width	70 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	310 g

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last modified: