## SIEMENS

## Data sheet

## 6ES7223-1BL32-1XB0



SIMATIC S7-1200, Digital I/O SM 1223, 16 DI/16 DO, 16 DI 24 V DC; sourcing/sinking input, 16 DO, sourcing (sinking output), NPN transistor 0.5 A

General information		
Product type designation	SM 1223, DI 16x24 V DC, DO 16x 24 V DC Sink	
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>product function / supply voltage for transmitters</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,	Yes	
type 1		
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		
<ul> <li>Type of input voltage</li> </ul>	DC	
<ul> <li>Rated value (DC)</li> </ul>	24 V	
<ul> <li>for signal "0"</li> </ul>	5 V DC at 1 mA	
● for signal "1"	15 V DC at 2.5 mA	
Input current		
<ul> <li>for signal "0", max. (permissible quiescent current)</li> </ul>	1 mA	
<ul> <li>for signal "1", min.</li> </ul>	2.5 mA	
<ul> <li>for signal "1", typ.</li> </ul>	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	
Number of digital outputs	16; Transistor current sinking
• in groups of	1
Short-circuit protection	Yes; 1 to 3.5 A
Limitation of inductive shutdown voltage to	Typ 45 V
Switching capacity of the outputs	
with resistive load, max.	0.5 A
<ul> <li>on lamp load, max.</li> </ul>	5 W
Output voltage	
Rated value (DC)	24 V
<ul> <li>for signal "0", max.</li> </ul>	L+ minus 0.75 V DC with 10k Load
• for signal "1", min.	0,5 V
Output current	
<ul> <li>for signal "1" rated value</li> </ul>	0.5 A
• for signal "1" permissible range, max.	0.5 A
<ul> <li>for signal "0" residual current, max.</li> </ul>	75 μΑ
Output delay with resistive load	
• "0" to "1", max.	20 µs
• "1" to "0", max.	350 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	
<ul> <li>shielded, max.</li> </ul>	500 m
<ul> <li>unshielded, max.</li> </ul>	150 m
Interrupts/diagnostics/status information	
Alarms	
Diagnostic alarm	Yes
Diagnostics indication LED	
<ul> <li>for status of the inputs</li> </ul>	Yes
<ul> <li>for status of the outputs</li> </ul>	Yes
Potential separation	
Potential separation digital inputs	
between the channels, in groups of	2
Potential separation digital outputs	
<ul> <li>between the channels, in groups of</li> </ul>	1
<ul> <li>between the channels and backplane bus</li> </ul>	500 V AC
Degree and class of protection	
IP degree of protection	IP20
Standards, approvals, certificates	
	N
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	
	0.3 m; five times, in product package

• min.	-20 °C
• max.	60 °C
<ul> <li>horizontal installation, min.</li> </ul>	-20 °C
<ul> <li>horizontal installation, max.</li> </ul>	60 °C
<ul> <li>vertical installation, min.</li> </ul>	-20 °C
<ul> <li>vertical installation, max.</li> </ul>	50 °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 / header	
required front connector	Yes
Mechanics/material	
Enclosure material (front)	
Plastic	Yes
Dimensions	
Width	70 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	310 g
last modified:	4/1/2022 🖸