## SIEMENS

## Data sheet

## 6ES7223-1PL32-0XB0



SIMATIC S7-1200, Digital I/O SM 1223, 16 DI/16 DO, 16 DI 24 V DC, Sink/Source, 16 DO, relay 2 A

Figure similar

General information	
Product type designation	SM 1223, DI 16x24 V DC, DQ 16x relay
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.	180 mA
Digital inputs	
<ul> <li>from load voltage L+ (without load), max.</li> </ul>	4 mA/input 11 mA/relay
output voltage / header	
supply voltage of the transmitters / header	
• present	Yes
Power loss	
Power loss, typ.	10 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	
<ul> <li>Type of input voltage</li> </ul>	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	
<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
• in groups of	4
Short-circuit protection	No; to be provided externally
Switching capacity of the outputs	
with resistive load, max.	2 A
<ul> <li>on lamp load, max.</li> </ul>	30 W with DC, 200 W with AC
Output voltage	
Rated value (DC)	5 V DC to 30 V DC
Rated value (AC)	5 V AC to 250 V AC
Output current	
<ul> <li>for signal "1" rated value</li> </ul>	2 A
<ul> <li>for signal "1" permissible range, max.</li> </ul>	2 A
Output delay with resistive load	
• "0" to "1", max.	10 ms
• "1" to "0", max.	10 ms
Total current of the outputs (per group)	
horizontal installation	
— up to 50 °C, max.	8 A; Current per mass
Relay outputs	
Number of relay outputs	16
<ul> <li>Rated supply voltage of relay coil L+ (DC)</li> </ul>	24 V
<ul> <li>Number of operating cycles, max.</li> </ul>	mechanically 10 million, at rated load voltage 100 000
Switching capacity of contacts	
— with inductive load, max.	2 A
— on lamp load, max.	30 W with DC, 200 W with AC
— with resistive load, max.	2 A
Cable length	
<ul> <li>shielded, max.</li> </ul>	500 m
• unshielded, max.	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	
<ul> <li>between the channels, in groups of</li> </ul>	2
Potential separation digital outputs	
<ul> <li>between the channels</li> </ul>	Relays
<ul> <li>between the channels, in groups of</li> </ul>	4
<ul> <li>between the channels and backplane bus</li> </ul>	1 500 V AC for 1 minute
Permissible potential difference	
between different circuits	750 V AC for 1 minute
Degree and class of protection	
IP degree of protection	IP20
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	
<ul> <li>Fall height, max.</li> </ul>	0.3 m; five times, in product package
Ambient temperature during operation	
• min.	-20 °C
• max.	60 °C; Number of simultaneously activated outputs: 8 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 16 at 55 °C horizontal or 45 °C vertical
<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	
required front connector	Yes
Mechanics/material	
Enclosure material (front)	
Plastic	Yes
Dimensions	
Width	70 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	350 g

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