



Figure similar

SIPLUS S7-1200 SM 1223 16DI/16DQ RLY based on 6ES7223-1PL32-0XB0 with conformal coating, -40...+70 °C, start up -25 °C, digital input/output 16 DI/16 DQ, 16 DI 24 V DC, sink/source, 16 DQ, relay 2 A

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 style="list-style-type: none"> <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	<ul style="list-style-type: none"> <li>product function / supply voltage for transmitters</li> </ul>	Yes
Power loss		
Power loss, typ.	10 W	
Digital inputs		
Number of digital inputs	16	
<ul style="list-style-type: none"> <li>in groups of</li> </ul>	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 style="list-style-type: none"> <li>Type of input voltage</li> <li>Rated value (DC)</li> <li>for signal "0"</li> <li>for signal "1"</li> </ul>	DC 24 V 5 V DC at 1 mA 15 V DC at 2.5 mA	
Input current		
<ul style="list-style-type: none"> <li>for signal "0", max. (permissible quiescent current)</li> <li>for signal "1", min.</li> <li>for signal "1", typ.</li> </ul>	1 mA 2.5 mA 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
<b>Digital outputs</b>	
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
• on lamp load, max.	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	
• for signal "1" rated value	2 A
• for signal "1" permissible range, max.	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
• Rated supply voltage of relay coil L+ (DC)	24 V
• Number of operating cycles, max.	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	
• shielded, max.	500 m
• unshielded, max.	150 m
<b>Interrupts/diagnostics/status information</b>	
Alarms	Yes
Diagnostics function	Yes
Alarms	
• Diagnostic alarm	Yes
Diagnoses	
• Monitoring the supply voltage	Yes
Diagnostics indication LED	
• for status of the inputs	Yes
• for status of the outputs	Yes
• for maintenance	Yes
<b>Potential separation</b>	
Potential separation digital inputs	
• between the channels, in groups of	2
Potential separation digital outputs	
• between the channels	Relays
• between the channels, in groups of	4
• between the channels and backplane bus	1 500 V AC for 1 minute
<b>Permissible potential difference</b>	
between different circuits	750 V AC for 1 minute
<b>Degree and class of protection</b>	
IP degree of protection	IP20

Ambient conditions	
Free fall	
<ul style="list-style-type: none"> <li>Fall height, max.</li> </ul>	0.3 m; five times, in product package
Ambient temperature during operation	
<ul style="list-style-type: none"> <li>min.</li> <li>max.</li> <li>At cold restart, min.</li> </ul>	-40 °C; = Tmin (incl. condensation/frost); start-up @ -25 °C 70 °C; = Tmax; Tmax > +60 °C number of simultaneously activated outputs 8, inputs 8 (no adjacent points) for horizontal mounting position -25 °C
Ambient temperature during storage/transportation	
<ul style="list-style-type: none"> <li>min.</li> <li>max.</li> </ul>	-40 °C 70 °C
Altitude during operation relating to sea level	
<ul style="list-style-type: none"> <li>Installation altitude above sea level, max.</li> <li>Ambient air temperature-barometric pressure-altitude</li> </ul>	2 000 m Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax - 20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m); above 2 000 m max. 132 V AC
Relative humidity	
<ul style="list-style-type: none"> <li>With condensation, tested in accordance with IEC 60068-2-38, max.</li> </ul>	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Resistance	
Coolants and lubricants	
<ul style="list-style-type: none"> <li>Resistant to commercially available coolants and lubricants</li> </ul>	Yes
Use in stationary industrial systems	
<ul style="list-style-type: none"> <li>to biologically active substances according to EN 60721-3-3</li> <li>to chemically active substances according to EN 60721-3-3</li> <li>to mechanically active substances according to EN 60721-3-3</li> </ul>	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); * Yes; Class 3S4 incl. sand, dust, *
Use on ships/at sea	
<ul style="list-style-type: none"> <li>to biologically active substances according to EN 60721-3-6</li> <li>to chemically active substances according to EN 60721-3-6</li> <li>to mechanically active substances according to EN 60721-3-6</li> </ul>	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); * Yes; Class 6S3 incl. sand, dust; *
Usage in industrial process technology	
<ul style="list-style-type: none"> <li>Against chemically active substances acc. to EN 60654-4</li> <li>Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04</li> </ul>	Yes; Class 3 (excluding trichlorethylene) Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)
Remark	
<ul style="list-style-type: none"> <li>Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04</li> </ul>	* The supplied plug covers must remain in place over the unused interfaces during operation!
Conformal coating	
<ul style="list-style-type: none"> <li>Coatings for printed circuit board assemblies acc. to EN 61086</li> <li>Protection against fouling acc. to EN 60664-3</li> <li>Military testing according to MIL-I-46058C, Amendment 7</li> <li>Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A</li> </ul>	Yes; Class 2 for high reliability Yes; Type 1 protection Yes; Discoloration of coating possible during service life Yes; Conformal coating, Class A
connection method / header	
required front connector	Yes
Mechanics/material	
Enclosure material (front) <ul style="list-style-type: none"> <li>Plastic</li> </ul>	Yes
Dimensions	
Width	70 mm
Height	100 mm

Depth	75 mm
<b>Weights</b>	
Weight, approx.	350 g
<b>last modified:</b>	4/1/2022 