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
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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	
 from load voltage L+ (without load), max. 	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	
Type of input voltage	DC
Rated value (DC)	24 V
• for signal "0"	5 V DC at 1 mA
for signal "1" Input current	15 V DC at 2.5 mA
· · ·	1 mA
 for signal "0", max. (permissible quiescent current) for signal "1", min. 	1 mA 2.5 mA
• for signal "1", typ.	4 mA
Input delay (for rated value of input voltage)	
input delay (ior rated value or 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
 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	
Cable length shielded, max. 	500 m
-	500 m 150 m
• shielded, max.	
shielded, max.unshielded, max.	
 shielded, max. unshielded, max. Interrupts/diagnostics/status information 	
 shielded, max. unshielded, max. Interrupts/diagnostics/status information Alarms 	150 m
shielded, max. unshielded, max. Interrupts/diagnostics/status information Alarms Diagnostic alarm	150 m
shielded, max. unshielded, max. Interrupts/diagnostics/status information Alarms Diagnostic alarm Diagnostics indication LED	150 m Yes
 shielded, max. unshielded, max. Interrupts/diagnostics/status information Alarms Diagnostic alarm Diagnostics indication LED for status of the inputs for status of the outputs 	150 m Yes Yes
 shielded, max. unshielded, max. Interrupts/diagnostics/status information Alarms Diagnostic alarm Diagnostics indication LED for status of the inputs for status of the outputs Potential separation	150 m Yes Yes
 shielded, max. unshielded, max. Interrupts/diagnostics/status information Alarms Diagnostic alarm Diagnostics indication LED for status of the inputs for status of the outputs Potential separation Potential separation digital inputs 	150 m Yes Yes
 shielded, max. unshielded, max. Interrupts/diagnostics/status information Alarms Diagnostic alarm Diagnostics indication LED for status of the inputs for status of the outputs Potential separation Potential separation digital inputs between the channels, in groups of 	150 m Yes Yes Yes
 shielded, max. unshielded, max. Interrupts/diagnostics/status information Alarms Diagnostic alarm Diagnostics indication LED for status of the inputs for status of the outputs Potential separation Potential separation digital inputs 	150 m Yes Yes Yes
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 shielded, max. unshielded, max. Interrupts/diagnostics/status information Alarms Diagnostic alarm Diagnostics indication LED for status of the inputs for status of the outputs Potential separation Potential separation digital inputs between the channels, in groups of Potential separation digital outputs between the channels between the channels, in groups of between the channels and backplane bus Permissible potential difference between different circuits Degree and class of protection IP degree of protection 	150 m Yes Yes Yes 2 Relays 4 1 500 V AC for 1 minute
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cULus	Yes
FM approval	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
Marine approval	Yes
Ambient conditions	
Free fall	
• Fall height, max.	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
 horizontal installation, min. 	-20 °C
 horizontal installation, max. 	60 °C
 vertical installation, min. 	-20 °C
 vertical installation, max. 	50 °C
permissible temperature change	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	
Storage/transport, min.	660 hPa
Storage/transport, max.	1 080 hPa
Relative humidity	
• Operation at 25 °C without condensation, max.	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.	350 g
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