SIEMENS

Data sheet

6ES7223-1BL32-0XB0



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

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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	
 from load voltage L+ (without load), max. 	4 mA; per channel
output voltage / header	
supply voltage of the transmitters / header	
 product function / supply voltage for transmitters 	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
 Rated value (DC) 	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	
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	24.)/
 Rated value (DC) for signal "0", max. 	24 V 0.1 V: with 10 kOhm lood
• for signal "1", min.	0.1 V; with 10 kOhm load 20 V DC
Output current	20 V DC
for signal "1" rated value	0.5 A
 for signal "1" permissible range, max. 	0.5 A
 for signal "0" residual current, max. 	10 µA
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	
Diagnostic alarm	Yes
Diagnostics indication LED	
for status of the inputs	Yes
for status of the outputs	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	
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	
 Fall height, max. 	0.3 m; five times, in product package

Ambient temperature during operation	
• min.	-20 °C
• max.	60 °C
 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.	310 g
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