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		
 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	V 00 04 00 40 00 01	
— 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 interrunt inpute	
for interrupt inputs — parameterizable	Yes
— parameterizable Cable length	163
shielded, max.	500 m
• unshielded, max.	300 m
Digital outputs	300 111
	10 T 11
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	0.5.4
with resistive load, max.	0.5 A
• on lamp load, max.	5 W
Output voltage	04.1/
Rated value (DC)	24 V
• for signal "0", max.	L+ minus 0.75 V DC with 10k Load
• for signal "1", min.	0,5 V
Output current	0.5.4
• for signal "1" rated value	0.5 A
• for signal "0" regidual gurrant, max.	0.5 A
for signal "0" residual current, max.	75 μA
Output delay with resistive load	00
• "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	0.5.4
— with inductive load, max.	0.5 A
— on lamp load, max.	5 W
— with resistive load, max.	0.5 A
Cable length	F00
• 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	
	V
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