

6ES7223-1PL32-0XB0

Digital I/O SM 1223, 16DI/16DO

Technical data



SIMATIC S7-1200, Digital I/O SM 1223, 16 DI/16 DO, 16 DI 24 V DC, Sink/Source, 16 DO, 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"> from load voltage L+ (without load), max. 	4 mA/input 11 mA/relay
Output voltage	
Power supply to the transmitters	
<ul style="list-style-type: none"> present 	Yes
Power loss	
Power loss, typ.	10 W
Digital inputs	
Number of digital inputs	16
<ul style="list-style-type: none"> 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 style="list-style-type: none"> Type of input voltage Rated value (DC) for signal "0" for signal "1" 	DC 24 V 5 V DC at 1 mA 15 V DC at 2.5 mA
Input current	
<ul style="list-style-type: none"> for signal "0", max. (permissible quiescent current) for signal "1", min. for signal "1", typ. 	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	
<ul style="list-style-type: none"> shielded, max. unshielded, max. 	500 m 300 m
Digital outputs	
Number of digital outputs	16
<ul style="list-style-type: none"> in groups of 	4
Short-circuit protection	No; to be provided externally
Switching capacity of the outputs	
<ul style="list-style-type: none"> with resistive load, max. on lamp load, max. 	2 A 30 W with DC, 200 W with AC
Output voltage	
<ul style="list-style-type: none"> Rated value (AC) 	5 V AC to 250 V AC

Output current	
<ul style="list-style-type: none"> for signal "1" rated value 	2 A
<ul style="list-style-type: none"> for signal "1" permissible range, max. 	2 A
Output delay with resistive load	
<ul style="list-style-type: none"> "0" to "1", max. 	10 ms
<ul style="list-style-type: none"> "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	
<ul style="list-style-type: none"> Number of relay outputs 	16
<ul style="list-style-type: none"> Rated supply voltage of relay coil L+ (DC) 	24 V
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> shielded, max. 	500 m
<ul style="list-style-type: none"> unshielded, max. 	150 m
Interrupts/diagnostics/status information	
Alarms	
<ul style="list-style-type: none"> Diagnostic alarm 	Yes
Diagnostics indication LED	
<ul style="list-style-type: none"> for status of the inputs 	Yes
<ul style="list-style-type: none"> for status of the outputs 	Yes
Potential separation	
Potential separation digital inputs	
<ul style="list-style-type: none"> between the channels, in groups of 	2
Potential separation digital outputs	
<ul style="list-style-type: none"> between the channels 	Relays
<ul style="list-style-type: none"> between the channels, in groups of 	4
<ul style="list-style-type: none"> between the channels and backplane bus 	1 500 V AC for 1 minute
Permissible potential difference	
between different circuits	750 V AC for 1 minute
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 style="list-style-type: none"> Fall height, max. 	0.3 m; five times, in product package
Ambient temperature during operation	
<ul style="list-style-type: none"> min. 	-20 °C
<ul style="list-style-type: none"> 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 style="list-style-type: none"> horizontal installation, min. 	-20 °C
<ul style="list-style-type: none"> horizontal installation, max. 	60 °C
<ul style="list-style-type: none"> vertical installation, min. 	-20 °C
<ul style="list-style-type: none"> vertical installation, max. 	50 °C
<ul style="list-style-type: none"> permissible temperature change 	5°C to 55°C, 3°C / minute
Ambient temperature during storage/transportation	
<ul style="list-style-type: none"> min. 	-40 °C
<ul style="list-style-type: none"> max. 	70 °C
Air pressure acc. to IEC 60068-2-13	
<ul style="list-style-type: none"> Storage/transport, min. 	660 hPa
<ul style="list-style-type: none"> Storage/transport, max. 	1 080 hPa
Relative humidity	
<ul style="list-style-type: none"> Operation at 25 °C without condensation, max. 	95 %
Connection method	
required front connector	Yes
Mechanics/material	
Enclosure material (front)	
<ul style="list-style-type: none"> Plastic 	Yes
Dimensions	
Width	70 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	350 g
last modified:	1/16/2021

