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Data sheet 6ES7223-1BH32-0XB0



SIMATIC S7-1200, Digital I/O SM 1223, 8 DI/8 DO, 8 DI 24 V DC, Sink/Source, 8 DO, transistor 0.5 A

General information	
Product type designation	SM 1223, DI 8x24 V DC, DQ 8x24 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.	145 mA
Digital inputs	
● from load voltage L+ (without load), max.	4 mA; per channel
output voltage / header	
supply voltage of the transmitters / header	
● present	Yes
Power loss	
Power loss, typ.	2.5 W
Digital inputs	
Number of digital inputs	8
● 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.	8
horizontal installation	
— up to 40 °C, max.	8
— up to 50 °C, max.	8
vertical installation	
— up to 40 °C, max.	8
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

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for interrupt inputs	
— parameterizable	Yes
Cable length	
● shielded, max.	500 m
● unshielded, max.	300 m
Digital outputs	
Number of digital outputs	8
● 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	
● Rated value (DC)	24 V
● for signal "0", max.	0.1 V; with 10 kOhm load
● for signal "1", min.	20 V DC
Output current	
● 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.	4 A; Current per mass
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

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● 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	
required front connector	Yes
Mechanics/material	
Enclosure material (front)	
● Plastic	Yes
Dimensions	
Width	45 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	210 g

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