SIEMENS

Data sheet 6ES7223-1BL32-0XB0



SIMATIC S7-1200, DIGITAL I/O SM 1223, 16DI / 16DO, 16DI DC 24 V, SINK/SOURCE, 16DO, TRANSISTOR 0.5A

Supply voltage	
Rated value (DC)	
• 24 V DC	Yes
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	
Power supply to the transmitters	
• present	Yes
Power losses	
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	

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— 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 VDC 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; Typical
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	
• 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

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Aggregate current of 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	
• Alarms	Yes
• Diagnostic alarm	Yes
Diagnostic messages	
• Diagnostic functions	Yes
Diagnostics indication LED	
• for status of the inputs	Yes
• For status of the outputs	Yes
• for maintenance	Yes
• Status indicator digital output (green)	Yes
• Status indicator digital input (green)	Yes

Galvanic isolation	
Galvanic isolation digital inputs	
• between the channels, in groups of	2
Galvanic isolation digital outputs	
• between the channels, in groups of	1
• between the channels and the backplane bus	500 V AC

Degree and class of protection	
Degree of protection to EN 60529	
• IP20	Yes

Standards, approvals, certificates	
CE mark	Yes
CSA approval	Yes
UL approval	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
FM approval	Yes

Ambient conditions

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Free fall	
• Drop height, max. (in packaging)	0.3 m; five times, in dispatch package
Ambient temperature in operation	
• Permissible temperature range	-20 °C to +60 °C horizontal mounting, -20 °C to 50 °C vertical mounting, 95% humidity, non-condensing
• Min.	-20 °C
• max.	60 °C
• Permissible temperature change	5°C to 55°C, 3°C / minute
Storage/transport temperature	
• 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	
• Permissible range (without condensation) at 25 °C	95 %

Connection method	
required front connector	Yes

Mechanics/material	
Type of housing (front)	
• plastic	Yes

Dimensions	
Width	70 mm
Height	100 mm
Depth	75 mm

Weights	
Weight, approx.	310 g

last modified: 12.03.2015

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