



6ES7223-1BL30-0XB0 S7-1200 DIGITAL I/O, 16DI/16DO

Technical / CAx data

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

**Supply voltages**

**Rated value**

<b>24 V DC</b>	Yes
<b>permissible range, lower limit (DC)</b>	20.4 V
<b>permissible range, upper limit (DC)</b>	28.8 V

**Power supply to the transmitters**

<b>present</b>	Yes
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**Current consumption**

<b>from backplane bus 5 V DC, max.</b>	185 mA
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**Digital inputs**

<b>from load voltage L+ (without load), max.</b>	4 mA; per channel
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**Power losses**

<b>Power loss, typ.</b>	4.5 W
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**Connection method**

<b>required front connector</b>	Yes
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**Digital inputs**

<b>Number of digital inputs</b>	16
<b>in groups of</b>	2

**Number of simultaneously controllable inputs**

**all mounting positions**

<b>Concurrently controllable inputs, up to 40 °C</b>	16
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**horizontal installation**

<b>up to 40 °C, max.</b>	16
<b>up to 50 °C, max.</b>	16

**vertical installation**

<b>up to 40 °C, max.</b>	16
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**Input characteristic curve acc. to IEC 1131, Type 1**

	Yes
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**Input voltage**

<b>Rated value, DC</b>	24 V
<b>for signal "0"</b>	5 VDC at 1 mA
<b>for signal "1"</b>	15 VDC at 2.5 mA

**Input current**

<b>for signal "0", max. (permissible quiescent current)</b>	1 mA
<b>for signal "1", min.</b>	2.5 mA
<b>for signal "1", typ.</b>	4 mA; Typical

**Input delay (for rated value of input voltage)**

**for standard inputs**

<b>parameterizable</b>	Yes; 0.2, 0.4, 0.8, 1.6, 3.2, 6.4, and 12.8 ms, selectable in groups of four
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<b>for interrupt inputs parameterizable</b>	Yes
<b>Cable length</b>	
<b>Cable length, shielded, max.</b>	500 m
<b>Cable length unshielded, max.</b>	300 m
<b>Digital outputs</b>	
<b>Number of digital outputs in groups of</b>	16 1
<b>Short-circuit protection of the output</b>	No; to be provided externally
<b>Limitation of inductive shutdown voltage to</b>	L+ (-48 V)
<b>Switching capacity of the outputs</b>	
<b>with resistive load, max.</b>	0.5 A
<b>on lamp load, max.</b>	5 W
<b>Output voltage</b>	
<b>Rated value (DC)</b>	24 V
<b>for signal "0" (DC), max.</b>	0.1 V; with 10k ohms Load
<b>for signal "1", min.</b>	20 VDC
<b>Output current</b>	
<b>for signal "1" permissible range, max.</b>	0.5 A
<b>for signal "0" residual current, max.</b>	10 $\mu$ A
<b>Output delay with resistive load</b>	
<b>0 to "1", max.</b>	50 $\mu$ s
<b>1 to "0", max.</b>	200 $\mu$ s
<b>Aggregate current of outputs (per group)</b>	
<b>horizontal installation up to 50 °C, max.</b>	8 A; Current per mass
<b>Cable length</b>	
<b>Cable length, shielded, max.</b>	500 m
<b>Cable length unshielded, max.</b>	150 m
<b>Relay outputs</b>	
<b>Switching capacity of contacts</b>	
<b>with inductive load, max.</b>	0.5 A
<b>on lamp load, max.</b>	5 W
<b>with resistive load, max.</b>	0.5 A
<b>Interrupts/diagnostics/status information</b>	
<b>Alarms</b>	
<b>Alarms</b>	Yes
<b>Diagnostic alarm</b>	Yes
<b>Diagnoses</b>	
<b>Diagnostic functions</b>	Yes
<b>Monitoring the supply voltage to the electronics</b>	Yes
<b>Diagnostics indication LED</b>	
<b>Status indicator digital output (green)</b>	Yes
<b>Status indicator digital input (green)</b>	Yes
<b>Galvanic isolation</b>	
<b>Galvanic isolation digital inputs</b>	
<b>between the channels, in groups of</b>	2
<b>Galvanic isolation digital outputs</b>	
<b>between the channels, in groups of</b>	1
<b>between the channels and the backplane bus</b>	500 VAC

<b>Degree of protection</b>	
<b>IP20</b>	Yes
<b>Standards, approvals, certificates</b>	
<b>CE mark</b>	Yes
<b>C-TICK</b>	Yes
<b>FM approval</b>	Yes
<b>Mechanics</b>	
<b>Plastic</b>	Yes
<b>Dimensions and weight</b>	
<b>Dimensions</b>	
<b>Width</b>	70 mm
<b>Height</b>	100 mm
<b>Depth</b>	75 mm
<b>Weight</b>	
<b>Weight, approx.</b>	310 g
<b>Status</b>	Jun 15, 2010