

SIMATIC S7-1200, DIGITAL I/O SM 1223, 8DI / 8DO, 8DI DC 24 V, SINK/SOURCE, 8DO, TRANSISTOR 0.5A



### Supply voltage

Rated value (DC)	
<ul style="list-style-type: none"> <li>• 24 V DC</li> </ul>	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.	145 mA
<b>Digital inputs</b>	
<ul style="list-style-type: none"> <li>• from load voltage L+ (without load), max.</li> </ul>	4 mA; per channel

### Output voltage

<b>Power supply to the transmitters</b>	
<ul style="list-style-type: none"> <li>• present</li> </ul>	Yes

### Power losses

Power loss, typ.	2.5 W
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### Digital inputs

Number of digital inputs	8
<ul style="list-style-type: none"> <li>• In groups of</li> </ul>	2
Input characteristic curve in accordance with IEC 61131, type 1	Yes
<b>Number of simultaneously controllable inputs</b>	
all mounting positions	
<ul style="list-style-type: none"> <li>— up to 40 °C, max.</li> </ul>	8
horizontal installation	

— up to 40 °C, max.	8
— up to 50 °C, max.	8
<b>vertical installation</b>	
— up to 40 °C, max.	8
<b>Input voltage</b>	
• 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
<b>Input current</b>	
• for signal "0", max. (permissible quiescent current)	1 mA
• for signal "1", min.	2.5 mA
• for signal "1", typ.	4 mA; Typical
<b>Input delay (for rated value of input voltage)</b>	
<b>for standard inputs</b>	
— 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
<b>for interrupt inputs</b>	
— Parameterizable	Yes
<b>Cable length</b>	
• shielded, max.	500 m
• Unshielded, max.	300 m
<b>Digital outputs</b>	
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)
<b>Switching capacity of the outputs</b>	
• with resistive load, max.	0.5 A
• on lamp load, max.	5 W
<b>Output voltage</b>	
• Rated value (DC)	24 V
• for signal "0", max.	0.1 V; with 10 kOhm load
• for signal "1", min.	20 V DC
<b>Output current</b>	
• 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
<b>Output delay with resistive load</b>	
• "0" to "1", max.	50 µs
• "1" to "0", max.	200 µs

<b>Aggregate current of outputs (per group)</b>	
horizontal installation	
— up to 50 °C, max.	4 A; Current per mass
<b>Relay outputs</b>	
Switching capacity of contacts	
— with inductive load, max.	0.5 A
— on lamp load, max.	5 W
— with resistive load, max.	0.5 A
<b>Cable length</b>	
• shielded, max.	500 m
• Unshielded, max.	150 m
<b>Interrupts/diagnostics/status information</b>	
<b>Alarms</b>	
• Alarms	Yes
• Diagnostic alarm	Yes
<b>Diagnostic messages</b>	
• Diagnostic functions	Yes
• Monitoring the supply voltage	Yes
<b>Diagnostics indication LED</b>	
• 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
<b>Potential separation</b>	
<b>Potential separation digital inputs</b>	
• between the channels, in groups of	2
<b>Potential separation digital outputs</b>	
• between the channels, in groups of	1
• between the channels and the backplane bus	500 V AC
<b>Degree and class of protection</b>	
Degree of protection to EN 60529	
• IP20	Yes
<b>Standards, approvals, certificates</b>	
CE mark	Yes
CSA approval	Yes
UL approval	Yes
cULus	Yes
FM approval	Yes
RCM (formerly C-TICK)	Yes

<b>Marine approval</b>	
• Marine approval	Yes
<b>Ambient conditions</b>	
<b>Free fall</b>	
• Drop height, max. (in packaging)	0.3 m; five times, in dispatch package
<b>Ambient temperature in operation</b>	
• 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
<b>Ambient temperature during storage/transportation</b>	
• Min.	-40 °C
• max.	70 °C
<b>Air pressure acc. to IEC 60068-2-13</b>	
• Storage/transport, min.	660 hPa
• Storage/transport, max.	1 080 hPa
<b>Relative humidity</b>	
• Permissible range (without condensation) at 25 °C	95 %
<b>Connection method</b>	
required front connector	Yes
<b>Mechanics/material</b>	
Type of housing (front)	
• plastic	Yes
<b>Dimensions</b>	
Width	45 mm
Height	100 mm
Depth	75 mm
<b>Weights</b>	
Weight, approx.	210 g
<b>last modified:</b>	20.04.2015