

SIMATIC S7-1200, DIGITAL I/O SM 1223, 8DI AC / 8DO RLY, 8DI  
120/230 V AC, 8DO, RELAY 2A



### 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.	120 mA
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### Output voltage

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

### Power losses

Power loss, typ.	7.5 W
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### Digital inputs

Number of digital inputs	8
<ul style="list-style-type: none"> <li>• In groups of</li> </ul>	4
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	AC
• Rated value (AC)	120/230V AC
• for signal "0"	20 V AC at 1 mA
• for signal "1"	79 V AC 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.	9 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	8
• In groups of	4
short-circuit protection	No; to be provided externally
Switching capacity of the outputs	
• with resistive load, max.	2 A
• on lamp load, max.	30 W with DC, 200 W with AC
Output voltage	
• Rated value (DC)	5 V DC to 30 V DC
• Rated value (AC)	5 V AC to 250 V AC
Output current	
• for signal "1" permissible range, max.	2 A
Output delay with resistive load	
• "0" to "1", max.	10 ms
• "1" to "0", max.	10 ms
Aggregate current of outputs (per group)	
horizontal installation	
— up to 50 °C, max.	8 A; Current per mass
Relay outputs	
• Number of relay outputs	8
• Rated input voltage of relay coil L+ (DC)	24 V

• Number of operating cycles, max.	mechanically 10 million, at rated load voltage 100,000
<b>Switching capacity of contacts</b>	
— with inductive load, max.	2 A
— on lamp load, max.	30 W with DC, 200 W with AC
— with resistive load, max.	2 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
<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	Relays
• between the channels, in groups of	2
• between the channels and the backplane bus	1500 V AC for 1 minute
<b>Permissible potential difference</b>	
between different circuits	750 V AC for 1 minute
<b>Degree and class of protection</b>	
<b>Degree of protection to EN 60529</b>	
• 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
Marine approval	

- Marine approval

Yes

## Ambient conditions

### 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; Number of simultaneously activated outputs: 4 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 at 55 °C horizontal or 45 °C vertical
- 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

- Permissible range (without condensation) at 25 °C 95 %

## Connection method

required front connector

Yes

## Mechanics/material

### Type of housing (front)

- plastic Yes

## Dimensions

Width	45 mm
Height	100 mm
Depth	75 mm

## Weights

Weight, approx. 230 g

**last modified:** 20.04.2015