

SIMATIC S7-1200, DIGITAL INPUT SM 1221, 8DI, 24V DC, SINK/SOURCE INPUT



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.	105 mA
Digital inputs	
<ul style="list-style-type: none"> <li>• from load voltage L+ (without load), max.</li> </ul>	4 mA; per channel
Output voltage	
Power supply to the transmitters	
<ul style="list-style-type: none"> <li>• present</li> </ul>	Yes
Power loss	
Power loss, typ.	1.5 W
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	
— 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
<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 V DC 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
<b>Input delay (for rated value of input voltage)</b>	
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
<b>Cable length</b>	
• shielded, max.	500 m
• unshielded, max.	300 m
<b>Interrupts/diagnostics/status information</b>	
<b>Alarms</b>	
• Diagnostic alarm	Yes
<b>Diagnostics indication LED</b>	
• for status of the inputs	Yes
<b>Potential separation</b>	
Potential separation digital inputs	
• between the channels, in groups of	2
<b>Degree and class of protection</b>	
Degree of protection acc. 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

### Ambient conditions

#### Free fall

- Fall height, max. 0.3 m; five times, in product package

#### Ambient temperature during 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

#### 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
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### Mechanics/material

Enclosure material (front)	
• Plastic	Yes

### Dimensions

Width	45 mm
Height	100 mm
Depth	75 mm

### Weights

Weight, approx.	170 g
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**last modified:** 10/28/2016