

SIMATIC S7-1200, DIGITAL INPUT SM 1221, 16 DI, 24VDC, SINK/SOURCE INPUT



| Supply voltage  |                   |
|---|-------------------|
| 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.   | 130 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 losses  |                   |
| Power loss, typ.  | 2.5 W             |
| Digital inputs  |                   |
| Number of digital inputs  | 16                |
| <ul style="list-style-type: none"> <li>In groups of</li> </ul>                              | 4                 |
| 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.                                    | 16  |
| horizontal installation                                |   |
| — up to 40 °C, max.                                    | 16  |
| — up to 50 °C, max.                                    | 16  |
| vertical installation                                  |   |
| — up to 40 °C, max.                                    | 16  |
| <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>  |   |
| 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>                                    |   |
| • Cable length, shielded, max.                         | 500 m   |
| • Cable length unshielded, max.                        | 300 m   |
| <b>Digital outputs</b>                                 |   |
| Number of digital outputs                              | 0   |
| short-circuit protection                               | No  |
| <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 maintenance                                      | Yes   |
| • Status indicator digital input (green)               | Yes   |
| <b>Galvanic isolation</b>                              |   |
| Galvanic isolation digital inputs                      |   |

- between the channels, in groups of 4

## 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

Marine approval

- Marine approval Yes

## Climatic and mechanical conditions for storage and transport

Climatic conditions for storage and transport

Free fall

- Drop height, max. (in packaging) 0.3 m; five times, in dispatch package

Temperature

- Permissible temperature range -40 °C to +70 °C

Air pressure acc. to IEC 60068-2-13

- Permissible air pressure 1080 to 660 hPa

Relative humidity

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

## Mechanical and climatic conditions during operation

Climatic conditions in operation

Temperature

- Min. -20 °C
- max. 60 °C
- Permissible temperature change 5°C to 55°C, 3°C / minute

## 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. 210 g

last modified:

14.10.2014