



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 | |
| from load voltage L+ (without load), max. | 4 mA ; per channel |
| Output voltage | |
| Power supply to the transmitters | |
| present | Yes |
| Power losses | |
| Power loss, typ. | 2.5 W |
| Digital inputs | |
| Number of digital inputs | 16 |
| In groups of | 4 |
| Input characteristic curve in accordance with IEC 61131, type 1 | Yes |
| Number of simultaneously controllable inputs | |

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| 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 |
| Input voltage | |
| 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 |
| Input current | |
| for signal "0", max. (permissible quiescent current) | 1 mA |
| for signal "1", min. | 2.5 mA |
| for signal "1", typ. | 4 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 | |
| Cable length, shielded, max. | 500 m |
| Cable length unshielded, max. | 300 m |
| Digital outputs | |
| Number of digital outputs | 0 |
| short-circuit protection | No |
| Interrupts/diagnostics/status information | |
| Alarms | |
| Alarms | Yes |
| Diagnostic alarm | Yes |
| Diagnostic messages | |
| Diagnostic functions | Yes |
| Diagnostics indication LED | |
| for status of the inputs | Yes |
| for maintenance | Yes |
| Status indicator digital input (green) | Yes |

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|---|--|
| Galvanic isolation | |
| Galvanic isolation digital inputs | |
| between the channels, in groups of | 4 |
| Degree and class of protection | |
| IP20 | Yes |
| Standards, approvals, certificates | |
| CE mark | Yes |
| RCM (formerly C-TICK) | Yes |
| FM 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) at 25 °C | 95 % |
| Mechanical and climatic conditions during operation | |
| Climatic conditions in operation | |
| Temperature | |
| Permissible temperature range | 0 °C to 55 °C horizontal installation, 0 °C to 45 °C vertical installation |
| 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 |
| Status | Sep 8, 2014 |