

Siemens  
EcoTech



SIMATIC S7-1200 G2: SM 1223 digital I/O, 8 DI/8 DO inputs: 8x DI 24 V DC sink/source outputs: 8x DO, 24 V DC 0.5 A, sourcing transistor



Figure similar

| General information  |   |
|--|---|
| Product type designation   | SM 1223, DI 8x 24 V DC, DQ 8x 24 V DC 0.5A          |
| Supply voltage   |   |
| Rated value (DC)   | 24 V  |
| 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.  | 110 mA  |
| Digital inputs   |   |
| <ul style="list-style-type: none"> <li>from load voltage L+ (without load), max.</li> </ul>  | 4.1 mA; per channel                                 |
| Digital outputs  |   |
| <ul style="list-style-type: none"> <li>from load voltage L+, max.</li> </ul>   | 45 mA   |
| Power loss   |   |
| Power loss, typ.   | 4 W   |
| 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  |   |
| <ul style="list-style-type: none"> <li>Type of input voltage</li> <li>Rated value (DC)</li> <li>for signal "0"</li> <li>for signal "1"</li> </ul>                  | DC<br>24 V<br>5 V DC or 0.5 mA<br>15 V DC at 2.5 mA |
| Input current  |   |
| <ul style="list-style-type: none"> <li>for signal "0", max. (permissible quiescent current)</li> <li>for signal "1", min.</li> <li>for signal "1", typ.</li> </ul> | 1 mA<br>2.5 mA<br>4.1 mA                            |
| 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                                | No  |
| Cable length                                     |   |
| • shielded, max.                                 | 500 m   |
| • unshielded, max.                               | 300 m   |
| <b>Digital outputs</b>                           |   |
| Number of digital outputs                        | 8   |
| • in groups of                                   | 8   |
| Short-circuit protection                         | No; to be provided externally   |
| Limitation of inductive shutdown voltage to      | typ. (L+) -40 V, 1 W dissipation  |
| Switching capacity of the outputs                |   |
| • with resistive load, max.                      | 0.5 A   |
| • on lamp load, max.                             | 5 W   |
| Output voltage                                   |   |
| • Rated value (DC)                               | 24 V  |
| • for signal "0", max.                           | 0.1 V; with 10 kOhm load  |
| • for signal "1", min.                           | 20 V DC   |
| Output current                                   |   |
| • 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   |
| Output delay with resistive load                 |   |
| • "0" to "1", max.                               | 50 µs   |
| • "1" to "0", max.                               | 200 µs  |
| Total current of the outputs (per group)         |   |
| horizontal installation                          |   |
| — up to 50 °C, max.                              | 2 A; Current per mass   |
| Cable length                                     |   |
| • shielded, max.                                 | 500 m   |
| • unshielded, max.                               | 150 m   |
| <b>Interrupts/diagnostics/status information</b> |   |
| Diagnostics function                             | Yes   |
| Alarms   |   |
| • Diagnostic alarm                               | Yes   |
| Diagnoses  |   |
| • Monitoring the supply voltage                  | Yes   |
| Diagnostics indication LED                       |   |
| • DIAG LED                                       | Yes   |
| • for status of the inputs                       | Yes   |
| • for status of the outputs                      | Yes   |
| <b>Potential separation</b>                      |   |
| Potential separation digital inputs              |   |
| • between the channels, in groups of             | 4   |
| • between the channels and backplane bus         | Yes; 707 V DC (type test)   |
| Potential separation digital outputs             |   |
| • between the channels, in groups of             | 8   |
| • between the channels and backplane bus         | Yes; 707 V DC (type test)   |
| <b>Isolation</b>                                 |   |
| Isolation tested with                            | 707 V DC (type test)  |
| <b>Degree and class of protection</b>            |   |
| IP degree of protection                          | IP20  |
| <b>Standards, approvals, certificates</b>        |   |
| Siemens Eco Profile (SEP)                        | Siemens EcoTech   |
| CE mark  | Yes   |
| CSA approval                                     | No  |
| UL approval                                      | Yes   |
| cULus  | Yes   |
| FM approval                                      | No  |

|  |   |
|--|---|
| RCM (formerly C-TICK)  | Yes   |
| KC approval  | Yes   |
| Marine approval  | No  |
| <b>Ecological footprint</b>                                    |   |
| • environmental product declaration                            | Yes; type 2 acc. to ISO 14021   |
| <b>Global warming potential</b>                                |   |
| — global warming potential, (total) [CO2 eq]                   | 40.3 kg   |
| — global warming potential, (during production) [CO2 eq]       | 7.79 kg   |
| — global warming potential, (during operation) [CO2 eq]        | 32.5 kg   |
| — global warming potential, (after end of life cycle) [CO2 eq] | -0.089 kg   |
| <b>Ambient conditions</b>                                      |   |
| <b>Free fall</b>   |   |
| • Fall height, max.  | 0.3 m; five times, in product package   |
| <b>Ambient temperature during operation</b>                    |   |
| • horizontal installation, min.                                | -20 °C  |
| • horizontal installation, max.                                | 60 °C; at max. voltages and max. specification  |
| • vertical installation, min.                                  | -20 °C  |
| • vertical installation, max.                                  | 50 °C; at max. voltages and max. specification  |
| • 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>                     |   |
| • Operation, min.  | 540 hPa   |
| • Operation, max.  | 1 140 hPa   |
| • Storage/transport, min.                                      | 540 hPa   |
| • Storage/transport, max.                                      | 1 140 hPa   |
| <b>Altitude during operation relating to sea level</b>         |   |
| • Installation altitude, min.                                  | -1 000 m  |
| • Installation altitude, max.                                  | 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual                    |
| <b>Relative humidity</b>                                       |   |
| • Operation at 25 °C without condensation, max.                | 95 %  |
| <b>Vibrations</b>  |   |
| • Vibration resistance during operation acc. to IEC 60068-2-6  | 3.5 mm from 5 - 8.4 Hz, 1g from 8.4 - 150 Hz  |
| • Operation, tested according to IEC 60068-2-6                 | Yes   |
| <b>Shock testing</b>   |   |
| • tested according to IEC 60068-2-27                           | Yes; IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value), duration 11 ms |
| <b>Pollutant concentrations</b>                                |   |
| • SO2 at RH < 60% without condensation                         | SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60 % condensation-free                               |
| <b>connection method</b>                                       |   |
| required front connector                                       | No  |
| <b>Mechanics/material</b>                                      |   |
| Enclosure material (front)                                     |   |
| • Plastic  | Yes   |
| <b>Dimensions</b>  |   |
| Width  | 30 mm   |
| Height   | 125 mm  |
| Depth  | 100 mm  |
| <b>Weights</b>   |   |
| Weight, approx.  | 170 g   |
| <b>Classifications</b>   |   |

|        | Version | Classification |
|--------|---------|----------------|
| eClass | 14      | 27-24-22-04    |
| eClass | 12      | 27-24-22-04    |
| eClass | 9.1     | 27-24-22-04    |
| eClass | 9       | 27-24-22-04    |

|        |     |             |
|--------|-----|-------------|
| eClass | 8   | 27-24-22-04 |
| eClass | 7.1 | 27-24-22-04 |
| eClass | 6   | 27-24-22-04 |
| ETIM   | 10  | EC001419    |
| ETIM   | 9   | EC001419    |
| ETIM   | 8   | EC001419    |
| ETIM   | 7   | EC001419    |

Approvals / Certificates

|                          |     |
|--------------------------|-----|
| General Product Approval | EMV |
|--------------------------|-----|



[KC](#)

[Miscellaneous](#)



[KC](#)

|                                |                   |             |
|--------------------------------|-------------------|-------------|
| For use in hazardous locations | Test Certificates | Environment |
|--------------------------------|-------------------|-------------|



[CCC-Ex](#)

[Type Test Certificates/Test Report](#)



Environment



last modified:

10/23/2025