

Siemens
EcoTech



Figure similar

SIMATIC S7-1200 G2: SB 1223 digital I/O, 4 DI/4 DO 200 kHz; inputs: 4x DI 5 V DC, 200 kHz; outputs: 4x DQ 5 V DC 0.1 A, sinking/sourcing transistor, 200 kHz

| General information | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Product type designation | SB 1223, DI 4x 5 V DC/DQ 4x 5 V DC 200 kHz |
| Engineering with | |
| <ul style="list-style-type: none"> STEP 7 TIA Portal configurable/integrated from version | V20 or higher |
| Supply voltage | |
| Rated value (DC) | 5 V |
| permissible range, lower limit (DC) | 4.25 V |
| permissible range, upper limit (DC) | 6 V |
| Input current | |
| from backplane bus 5 V DC, typ. | 60 mA |
| Digital inputs | |
| <ul style="list-style-type: none"> from load voltage L+ (without load), max. | 15 mA; per channel |
| Digital outputs | |
| <ul style="list-style-type: none"> from load voltage L+, max. | 12 mA |
| Power loss | |
| Power loss, typ. | 1 W |
| Digital inputs | |
| Number of digital inputs | 4; Current-sourcing |
| <ul style="list-style-type: none"> in groups of | 4 |
| Number of simultaneously controllable inputs | |
| all mounting positions | |
| — up to 40 °C, max. | 4 |
| Input voltage | |
| <ul style="list-style-type: none"> Rated value (DC) for signal "0" for signal "1" | 5 V (L+ minus 1.0 V DC) ... L+ (2.2 ... 0 mA) 0 V ... (L+ minus 2.0 V DC) (20 ... 5.1 mA) |
| Input current | |
| <ul style="list-style-type: none"> for signal "0", max. (permissible quiescent current) for signal "1", min. for signal "1", typ. | 2.2 mA 5.1 mA 15 mA |
| Input delay (for rated value of input voltage) | |
| for standard inputs | |
| — parameterizable | Yes; 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 ms |
| for interrupt inputs | |

| | |
|--------------------------------------------------|-------------------------------|
| — Parameterizable | Yes |
| for technological functions | |
| — parameterizable | Yes |
| Cable length | |
| • shielded, max. | 50 m; shielded, twisted pair |
| Digital outputs | |
| Number of digital outputs | 4 |
| • in groups of | 4 |
| Short-circuit protection | No |
| Switching capacity of the outputs | |
| • with resistive load, max. | 0.1 A |
| Output voltage | |
| • Rated value (DC) | 5 V |
| • for signal "0", max. | 0.2 V |
| • for signal "1", min. | L+ (-0.7 V) |
| Output current | |
| • for signal "1" rated value | 0.1 A |
| • for signal "1" permissible range, max. | 0.1 A |
| Output delay with resistive load | |
| • "0" to "1", max. | 500 ns |
| • "1" to "0", max. | 500 ns |
| Total current of the outputs (per group) | |
| horizontal installation | |
| — up to 50 °C, max. | 0.2 A |
| Cable length | |
| • shielded, max. | 50 m; twisted pair |
| Interrupts/diagnostics/status information | |
| 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 |
| Potential separation | |
| Potential separation digital inputs | |
| • between the channels | No |
| • between the channels, in groups of | 4 |
| • Number of potential groups | 1 |
| • between the channels and backplane bus | Yes; 707 V DC (type test) |
| Potential separation digital outputs | |
| • between the channels | No |
| • between the channels, in groups of | 4 |
| • Number of potential groups | 1 |
| • between the channels and backplane bus | Yes; 707 V DC (type test) |
| Standards, approvals, certificates | |
| 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 |
| Ecological footprint | |
| • environmental product declaration | Yes; type 2 acc. to ISO 14021 |

| | | | |
|----------------------------------------------------------------|--------|-------------------------------------------------------------------------------------------|-----------------------|
| Global warming potential | | | |
| — global warming potential, (total) [CO2 eq] | | 9.53 kg | |
| — global warming potential, (during production) [CO2 eq] | | 3.86 kg | |
| — global warming potential, (during operation) [CO2 eq] | | 5.74 kg | |
| — global warming potential, (after end of life cycle) [CO2 eq] | | -0.086 kg | |
| Ambient conditions | | | |
| Free fall | | | |
| • Fall height, max. | | 0.3 m; five times, in product package | |
| Ambient temperature during operation | | | |
| • min. | | -20 °C | |
| • max. | | 40 °C; at max. voltages and max. specifications | |
| • horizontal installation, min. | | -20 °C | |
| • horizontal installation, max. | | 60 °C; at rated voltages, 50 % of max. specification and alternate IO active | |
| • vertical installation, min. | | -20 °C | |
| • vertical installation, max. | | 50 °C; at rated voltages, 50 % of max. specification and alternate IO active | |
| Ambient temperature during storage/transportation | | | |
| • min. | | -40 °C | |
| • max. | | 70 °C | |
| Air pressure acc. to IEC 60068-2-13 | | | |
| • Operation, min. | | 540 hPa | |
| • Operation, max. | | 1 140 hPa | |
| • Storage/transport, min. | | 540 hPa | |
| • Storage/transport, max. | | 1 140 hPa | |
| Altitude during operation relating to sea level | | | |
| • Installation altitude, min. | | -1 000 m | |
| • Installation altitude, max. | | 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual | |
| Relative humidity | | | |
| • Operation at 25 °C without condensation, max. | | 95 % | |
| Vibrations | | | |
| • 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 | |
| Shock testing | | | |
| • 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 | |
| Pollutant concentrations | | | |
| • SO2 at RH < 60% without condensation | | SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60 % condensation-free | |
| Mechanics/material | | | |
| Enclosure material (front) | | | |
| • Plastic | | Yes | |
| Dimensions | | | |
| Width | | 15 mm | |
| Height | | 62 mm | |
| Depth | | 63 mm | |
| Weights | | | |
| Weight, approx. | | 28 g | |
| Classifications | | | |
| | | 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



[Miscellaneous](#)



General Product Approval

EMV

For use in hazardous locations



[China RoHS](#)



For use in hazardous locations

Test Certificates

Maritime application

[Miscellaneous](#)

[CCC-Ex](#)

[CCC-Ex](#)

[Type Test Certificates/Test Report](#)



Maritime application

Environment



[NK / Nippon Kaiji Kyokai](#)



[KR \(Korean Register of Shipping\)](#)



Environment



last modified:

10/23/2025