

Siemens  
EcoTech



SIMATIC S7-1200 G2: SB 1222 digital output, 8 DO 100 kHz; outputs: 8x DQ 24 V DC 0.1 A sinking/sourcing transistor, 100 kHz



Figure similar

| General information  |   |
|--|---|
| Product type designation   | SB 1222, DQ 8x 24 V DC 100 kHz                                |
| Engineering with   |   |
| <ul style="list-style-type: none"> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul>                       | V20 or higher   |
| 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, typ.  | 30 mA   |
| Digital outputs  |   |
| <ul style="list-style-type: none"> <li>from load voltage L+, max.</li> </ul>   | 15 mA   |
| Power loss   |   |
| Power loss, typ.   | 1 W   |
| Digital outputs  |   |
| Number of digital outputs  | 8   |
| <ul style="list-style-type: none"> <li>in groups of</li> </ul>   | 8   |
| Short-circuit protection   | Yes   |
| Switching capacity of the outputs  |   |
| <ul style="list-style-type: none"> <li>with resistive load, max.</li> </ul>  | 0.1 A   |
| Output voltage   |   |
| <ul style="list-style-type: none"> <li>Rated value (DC)</li> <li>for signal "0", max.</li> <li>for signal "1", min.</li> </ul> | 24 V<br>1 V<br>L+ (-1.5 V)                                    |
| Output current   |   |
| <ul style="list-style-type: none"> <li>for signal "1" rated value</li> </ul>   | 0.1 A   |
| Output delay with resistive load   |   |
| <ul style="list-style-type: none"> <li>"0" to "1", max.</li> <li>"1" to "0", max.</li> </ul>                                   | 1.8 μs<br>1.8 μs  |
| Total current of the outputs (per group)   |   |
| horizontal installation  |   |
| — up to 50 °C, max.  | 0.4 A   |
| Cable length   |   |
| <ul style="list-style-type: none"> <li>shielded, max.</li> <li>unshielded, max.</li> </ul>                                     | 500 m; 500 m shielded, 50 m shielded for PTO outputs<br>150 m |
| Interrupts/diagnostics/status information  |   |

|  |  |
|--|--|
| Diagnostics function   | Yes  |
| <b>Alarms</b>  |  |
| • Diagnostic alarm   | Yes  |
| <b>Diagnoses</b>   |  |
| • Monitoring the supply voltage                                | Yes  |
| <b>Diagnostics indication LED</b>                              |  |
| • DIAG LED   | Yes  |
| • for status of the outputs                                    | Yes  |
| <b>Potential separation</b>                                    |  |
| <b>Potential separation digital outputs</b>                    |  |
| • between the channels   | No   |
| • between the channels, in groups of                           | 8  |
| • Number of potential groups                                   | 1  |
| • between the channels and backplane bus                       | Yes; 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]                   | 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  |
| <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>                    |  |
| • 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 |
| <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-     | 3.5 mm from 5 - 8.4 Hz, 1g from 8.4 - 150 Hz                                 |

|  |   |
|--|---|
| 2-6  |   |
| • 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>Mechanics/material</b>                      |   |
| Enclosure material (front)                     |   |
| • Plastic                                      | Yes   |
| <b>Dimensions</b>                              |   |
| Width  | 15 mm   |
| Height   | 62 mm   |
| Depth  | 63 mm   |
| <b>Weights</b>                                 |   |
| Weight, approx.                                | 29 g  |

| <b>Classifications</b> |        |                |                       |
|------------------------|--------|----------------|-----------------------|
|                        |        | <b>Version</b> | <b>Classification</b> |
|                        | 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**

|   |   |                    |                               |   |                    |
|---|---|--------------------|-------------------------------|---|--------------------|
| <b>General Product Approval</b>   |   |                    |                               |   | <b>EMV</b>         |
|  |  | <a href="#">KC</a> | <a href="#">Miscellaneous</a> |  | <a href="#">KC</a> |

|   |   |   |                          |   |
|---|---|---|--------------------------|---|
| <b>For use in hazardous locations</b>   |   |   | <b>Test Certificates</b> | <b>Environment</b>  |
|  |  |  | <a href="#">CCC-Ex</a>   | <a href="#">Type Test Certificates/Test Report</a>                                    |
| UL  | IECEX   | UL  |                          |  |

**Environment**



last modified: 7/23/2025 