

## 6ES7223-1BH32-0XB0

Digital I/O SM 1223, 8 DI / 8 DO

### Technical data



SIMATIC S7-1200, Digital I/O SM 1223, 8 DI/8 DO, 8 DI 24 V DC, Sink/Source, 8 DO, transistor 0.5 A

| General information  |   |
|--|---|
| Product type designation   | SM 1223, DI 8x24 V DC, DQ 8x24 V DC   |
| 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.  | 145 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 loss   |   |
| Power loss, typ.   | 2.5 W   |
| Digital inputs   |   |
| Number of digital inputs   | 8   |
| <ul style="list-style-type: none"> <li>in groups of</li> </ul>   | 2   |
| 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 at 1 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 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  | Yes   |
| Cable length   |   |
| <ul style="list-style-type: none"> <li>shielded, max.</li> <li>unshielded, max.</li> </ul>   | 500 m<br>300 m  |
| Digital outputs  |   |
| Number of digital outputs  | 8   |
| <ul style="list-style-type: none"> <li>in groups of</li> </ul>   | 1   |
| Short-circuit protection   | No; to be provided externally   |
| Limitation of inductive shutdown voltage to  | L+ (-48 V)  |
| Switching capacity of the outputs  |   |
| <ul style="list-style-type: none"> <li>with resistive load, max.</li> <li>on lamp load, max.</li> </ul>  | 0.5 A<br>5 W  |
| 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>0.1 V; with 10 kOhm load<br>20 V DC  |
| <b>Output current</b>  |  |
| <ul style="list-style-type: none"> <li>for signal "1" rated value</li> <li>for signal "1" permissible range, max.</li> <li>for signal "0" residual current, max.</li> </ul>  | 0.5 A<br>0.5 A<br>10 µA  |
| <b>Output delay with resistive load</b>  |  |
| <ul style="list-style-type: none"> <li>"0" to "1", max.</li> <li>"1" to "0", max.</li> </ul>   | 50 µs<br>200 µs  |
| <b>Total current of the outputs (per group)</b>  |  |
| horizontal installation  |  |
| — up to 50 °C, max.  | 4 A; Current per mass  |
| <b>Cable length</b>  |  |
| <ul style="list-style-type: none"> <li>shielded, max.</li> <li>unshielded, max.</li> </ul>   | 500 m<br>150 m   |
| <b>Interrupts/diagnostics/status information</b>   |  |
| <b>Alarms</b>  |  |
| <ul style="list-style-type: none"> <li>Diagnostic alarm</li> </ul>   | Yes  |
| <b>Diagnostics indication LED</b>  |  |
| <ul style="list-style-type: none"> <li>for status of the inputs</li> <li>for status of the outputs</li> </ul>  | Yes<br>Yes   |
| <b>Potential separation</b>  |  |
| <b>Potential separation digital inputs</b>   |  |
| <ul style="list-style-type: none"> <li>between the channels, in groups of</li> </ul>   | 2  |
| <b>Potential separation digital outputs</b>  |  |
| <ul style="list-style-type: none"> <li>between the channels, in groups of</li> <li>between the channels and backplane bus</li> </ul>   | 1<br>500 V AC  |
| <b>Standards, approvals, certificates</b>  |  |
| CE mark  | Yes  |
| CSA approval   | Yes  |
| UL approval  | Yes  |
| cULus  | Yes  |
| FM approval  | Yes  |
| RCM (formerly C-TICK)  | Yes  |
| KC approval  | Yes  |
| Marine approval  | Yes  |
| <b>Ambient conditions</b>  |  |
| <b>Free fall</b>   |  |
| <ul style="list-style-type: none"> <li>Fall height, max.</li> </ul>  | 0.3 m; five times, in product package  |
| <b>Ambient temperature during operation</b>  |  |
| <ul style="list-style-type: none"> <li>min.</li> <li>max.</li> <li>horizontal installation, min.</li> <li>horizontal installation, max.</li> <li>vertical installation, min.</li> <li>vertical installation, max.</li> <li>permissible temperature change</li> </ul> | -20 °C<br>60 °C<br>-20 °C<br>60 °C<br>-20 °C<br>50 °C<br>5°C to 55°C, 3°C / minute |
| <b>Ambient temperature during storage/transportation</b>   |  |
| <ul style="list-style-type: none"> <li>min.</li> <li>max.</li> </ul>   | -40 °C<br>70 °C  |
| <b>Air pressure acc. to IEC 60068-2-13</b>   |  |
| <ul style="list-style-type: none"> <li>Storage/transport, min.</li> <li>Storage/transport, max.</li> </ul>   | 660 hPa<br>1 080 hPa   |
| <b>Relative humidity</b>   |  |
| <ul style="list-style-type: none"> <li>Operation at 25 °C without condensation, max.</li> </ul>  | 95 %   |
| <b>Connection method</b>   |  |
| required front connector   | Yes  |
| <b>Mechanics/material</b>  |  |
| <b>Enclosure material (front)</b>  |  |
| <ul style="list-style-type: none"> <li>Plastic</li> </ul>  | Yes  |
| <b>Dimensions</b>  |  |
| Width  | 45 mm  |
| Height   | 100 mm   |
| Depth  | 75 mm  |
| <b>Weights</b>   |  |
| Weight, approx.  | 210 g  |
| <b>last modified:</b>  | 1/16/2021  |