



SIMATIC S7-1200, Digital output SM 1222, 16 DO, 24 V DC, transistor 0.5 A

| General information                         |                               |
|---------------------------------------------|-------------------------------|
| Product type designation                    | SM 1222, DQ 16x24 V DC/0.5 A  |
| Supply voltage                              |                               |
| 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.             | 140 mA                        |
| Power loss                                  |                               |
| Power loss, typ.                            | 2.5 W                         |
| Digital outputs                             |                               |
| Number of digital outputs                   | 16                            |
| • in groups of                              | 1                             |
| Short-circuit protection                    | No; to be provided externally |
| Limitation of inductive shutdown voltage to | typ. (L+) -48 V               |
| 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 "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.                         | 8 A; Current per mass         |
| Cable length                                |                               |
| • shielded, max.                            | 500 m                         |
| • unshielded, max.                          | 150 m                         |
| Interrupts/diagnostics/status information   |                               |
| Alarms                                      |                               |
| • Diagnostic alarm                          | Yes                           |
| Diagnostics indication LED                  |                               |
| • for status of the outputs                 | Yes                           |
| Potential separation                        |                               |
| Potential separation digital outputs        |                               |

|                                                                                                                                                                                                                                                                                    |                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| <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>Degree and class of protection</b>                                                                                                                                                                                                                                              |                                                                                    |
| IP degree of protection                                                                                                                                                                                                                                                            | IP20                                                                               |
| <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>                                                                                                                                                                                                                                                          |                                                                                    |
| Free fall                                                                                                                                                                                                                                                                          |                                                                                    |
| <ul style="list-style-type: none"> <li>• Fall height, max.</li> </ul>                                                                                                                                                                                                              | 0.3 m; five times, in product package                                              |
| Ambient temperature during operation                                                                                                                                                                                                                                               |                                                                                    |
| <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 |
| Ambient temperature during storage/transportation                                                                                                                                                                                                                                  |                                                                                    |
| <ul style="list-style-type: none"> <li>• min.</li> <li>• max.</li> </ul>                                                                                                                                                                                                           | -40 °C<br>70 °C                                                                    |
| Air pressure acc. to IEC 60068-2-13                                                                                                                                                                                                                                                |                                                                                    |
| <ul style="list-style-type: none"> <li>• Storage/transport, min.</li> <li>• Storage/transport, max.</li> </ul>                                                                                                                                                                     | 660 hPa<br>1 080 hPa                                                               |
| Relative humidity                                                                                                                                                                                                                                                                  |                                                                                    |
| <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>                                                                                                                                                                                                                                                          |                                                                                    |
| Enclosure material (front) <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.                                                                                                                                                                                                                                                                    | 220 g                                                                              |

last modified:

8/23/2023 