




SIMATIC S7-1200, Digital output SM 1222, 16 DO, relay 2 A

| General information                                                                          |                                                        |
|----------------------------------------------------------------------------------------------|--------------------------------------------------------|
| Product type designation                                                                     | SM 1222, DQ 16x relay/2 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.                                                              | 135 mA                                                 |
| Digital outputs                                                                              |                                                        |
| <ul style="list-style-type: none"> <li>from load voltage L+, max.</li> </ul>                 | 11 mA/relay coil                                       |
| Power loss                                                                                   |                                                        |
| Power loss, typ.                                                                             | 8.5 W                                                  |
| Digital outputs                                                                              |                                                        |
| Number of digital outputs                                                                    | 16                                                     |
| <ul style="list-style-type: none"> <li>in groups of</li> </ul>                               | 1                                                      |
| Short-circuit protection                                                                     | No; to be provided externally                          |
| Switching capacity of the outputs                                                            |                                                        |
| <ul style="list-style-type: none"> <li>with resistive load, max.</li> </ul>                  | 2 A                                                    |
| <ul style="list-style-type: none"> <li>on lamp load, max.</li> </ul>                         | 30 W with DC, 200 W with AC                            |
| Output current                                                                               |                                                        |
| <ul style="list-style-type: none"> <li>for signal "1" rated value</li> </ul>                 | 2 A                                                    |
| Output delay with resistive load                                                             |                                                        |
| <ul style="list-style-type: none"> <li>"0" to "1", max.</li> </ul>                           | 10 ms                                                  |
| <ul style="list-style-type: none"> <li>"1" to "0", max.</li> </ul>                           | 10 ms                                                  |
| Total current of the outputs (per group)                                                     |                                                        |
| horizontal installation                                                                      |                                                        |
| — up to 50 °C, max.                                                                          | 10 A; Current per mass                                 |
| Relay outputs                                                                                |                                                        |
| <ul style="list-style-type: none"> <li>Number of relay outputs</li> </ul>                    | 16                                                     |
| <ul style="list-style-type: none"> <li>Rated supply voltage of relay coil L+ (DC)</li> </ul> | 24 V                                                   |
| <ul style="list-style-type: none"> <li>Number of operating cycles, max.</li> </ul>           | mechanically 10 million, at rated load voltage 100 000 |
| Switching capacity of contacts                                                               |                                                        |
| — with inductive load, max.                                                                  | 2 A                                                    |
| — on lamp load, max.                                                                         | 30 W with DC, 200 W with AC                            |
| — with resistive load, max.                                                                  | 2 A                                                    |
| Cable length                                                                                 |                                                        |
| <ul style="list-style-type: none"> <li>shielded, max.</li> </ul>                             | 500 m                                                  |
| <ul style="list-style-type: none"> <li>unshielded, max.</li> </ul>                           | 150 m                                                  |

|                                                          |                                                                                                                                                           |
|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Interrupts/diagnostics/status information</b>         |                                                                                                                                                           |
| <b>Alarms</b>                                            |                                                                                                                                                           |
| • Diagnostic alarm                                       | Yes                                                                                                                                                       |
| <b>Diagnostics indication LED</b>                        |                                                                                                                                                           |
| • for status of the outputs                              | Yes                                                                                                                                                       |
| <b>Potential separation</b>                              |                                                                                                                                                           |
| <b>Potential separation digital outputs</b>              |                                                                                                                                                           |
| • between the channels                                   | Relays                                                                                                                                                    |
| • between the channels, in groups of                     | 4                                                                                                                                                         |
| • between the channels and backplane bus                 | 1 500 V AC for 1 minute                                                                                                                                   |
| <b>Permissible potential difference</b>                  |                                                                                                                                                           |
| between different circuits                               | 750 V AC for 1 minute                                                                                                                                     |
| <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>                                         |                                                                                                                                                           |
| • Fall height, max.                                      | 0.3 m; five times, in product package                                                                                                                     |
| <b>Ambient temperature during operation</b>              |                                                                                                                                                           |
| • min.                                                   | -20 °C                                                                                                                                                    |
| • max.                                                   | 60 °C; Number of simultaneously activated outputs: 8 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 16 at 55 °C horizontal or 45 °C vertical |
| • horizontal installation, min.                          | -20 °C                                                                                                                                                    |
| • horizontal installation, max.                          | 60 °C                                                                                                                                                     |
| • vertical installation, min.                            | -20 °C                                                                                                                                                    |
| • vertical installation, max.                            | 50 °C                                                                                                                                                     |
| <b>Ambient temperature during storage/transportation</b> |                                                                                                                                                           |
| • min.                                                   | -40 °C                                                                                                                                                    |
| • max.                                                   | 70 °C                                                                                                                                                     |
| <b>Air pressure acc. to IEC 60068-2-13</b>               |                                                                                                                                                           |
| • Storage/transport, min.                                | 660 hPa                                                                                                                                                   |
| • Storage/transport, max.                                | 1 080 hPa                                                                                                                                                 |
| <b>Relative humidity</b>                                 |                                                                                                                                                           |
| • Operation at 25 °C without condensation, max.          | 95 %                                                                                                                                                      |
| <b>Connection method</b>                                 |                                                                                                                                                           |
| required front connector                                 | Yes                                                                                                                                                       |
| <b>Mechanics/material</b>                                |                                                                                                                                                           |
| <b>Enclosure material (front)</b>                        |                                                                                                                                                           |
| • Plastic                                                | Yes                                                                                                                                                       |
| <b>Dimensions</b>                                        |                                                                                                                                                           |
| Width                                                    | 45 mm                                                                                                                                                     |
| Height                                                   | 100 mm                                                                                                                                                    |
| Depth                                                    | 75 mm                                                                                                                                                     |
| <b>Weights</b>                                           |                                                                                                                                                           |
| Weight, approx.                                          | 260 g                                                                                                                                                     |
| <b>last modified:</b>                                    | 1/16/2021                                                              |