



Figure similar

SIMATIC S7-300, Digital output SM 322, isolated, 8 DO, 24 V DC, 0.5A (1x 8 DO), Short-circuit protection diagnostics, 1x 20-pole

| Supply voltage                                           |                                 |
|----------------------------------------------------------|---------------------------------|
| Load voltage L+                                          |                                 |
| • Rated value (DC)                                       | 24 V                            |
| • permissible range, lower limit (DC)                    | 20.4 V                          |
| • permissible range, upper limit (DC)                    | 28.8 V                          |
| Input current                                            |                                 |
| from load voltage L+ (without load), max.                | 90 mA                           |
| from backplane bus 5 V DC, max.                          | 70 mA                           |
| Power loss                                               |                                 |
| Power loss, typ.                                         | 5 W                             |
| Digital outputs                                          |                                 |
| Number of digital outputs                                | 8                               |
| Short-circuit protection                                 | Yes; Electronic                 |
| • Response threshold, typ.                               | 0.75 to 1.5 A                   |
| Limitation of inductive shutdown voltage to              | L+ (-45 V)                      |
| Controlling a digital input                              | Yes                             |
| Switching capacity of the outputs                        |                                 |
| • on lamp load, max.                                     | 5 W                             |
| Load resistance range                                    |                                 |
| • lower limit                                            | 48 $\Omega$                     |
| • upper limit                                            | 3 k $\Omega$                    |
| Output voltage                                           |                                 |
| • for signal "1", min.                                   | L+ (-0.8 to -1.6 V)             |
| Output current                                           |                                 |
| • for signal "1" rated value                             | 0.5 A                           |
| • for signal "1" permissible range for 0 to 40 °C, min.  | 10 mA                           |
| • for signal "1" permissible range for 0 to 40 °C, max.  | 0.6 A                           |
| • for signal "1" permissible range for 40 to 60 °C, min. | 10 mA                           |
| • for signal "1" permissible range for 40 to 60 °C, max. | 0.6 A                           |
| • for signal "1" minimum load current                    | 10 mA                           |
| • for signal "0" residual current, max.                  | 0.5 mA                          |
| Output delay with resistive load                         |                                 |
| • "0" to "1", max.                                       | 180 $\mu$ s                     |
| • "1" to "0", max.                                       | 245 $\mu$ s                     |
| Parallel switching of two outputs                        |                                 |
| • for uprating                                           | No                              |
| • for redundant control of a load                        | Outputs with series diodes only |
| Switching frequency                                      |                                 |
| • with resistive load, max.                              | 100 Hz                          |

|                                                           |                      |
|-----------------------------------------------------------|----------------------|
| • with inductive load, max.                               | 2 Hz                 |
| • with inductive load (acc. to IEC 60947-5-1, DC13), max. | 2 Hz                 |
| • on lamp load, max.                                      | 10 Hz                |
| <b>Total current of the outputs (per group)</b>           |                      |
| <b>horizontal installation</b>                            |                      |
| — up to 40 °C, max.                                       | 4 A                  |
| — up to 60 °C, max.                                       | 3 A                  |
| <b>vertical installation</b>                              |                      |
| — up to 40 °C, max.                                       | 4 A                  |
| <b>Cable length</b>                                       |                      |
| • shielded, max.                                          | 1 000 m              |
| • unshielded, max.                                        | 600 m                |
| <b>Interrupts/diagnostics/status information</b>          |                      |
| Diagnostics function                                      | Yes; Parameterizable |
| <b>Alarms</b>                                             |                      |
| • Diagnostic alarm                                        | Yes; Parameterizable |
| <b>Diagnoses</b>                                          |                      |
| • Diagnostic information readable                         | Yes                  |
| • Wire-break                                              | Yes                  |
| • Short-circuit                                           | Yes                  |
| • Fuse blown                                              | No                   |
| • missing load voltage                                    | Yes                  |
| <b>Diagnostics indication LED</b>                         |                      |
| • Rated load voltage PWR (green)                          | No                   |
| • Fuse OK FSG (green)                                     | No                   |
| • Group error SF (red)                                    | Yes                  |
| • Status indicator digital output (green)                 | Yes; per channel     |
| • Channel fault indicator F (red)                         | Yes                  |
| <b>Potential separation</b>                               |                      |
| <b>Potential separation digital outputs</b>               |                      |
| • between the channels, in groups of                      | 8                    |
| • between the channels and backplane bus                  | Yes; Optocoupler     |
| <b>Isolation</b>                                          |                      |
| Isolation tested with                                     | 500 V DC             |
| <b>connection method</b>                                  |                      |
| required front connector                                  | 20-pin               |
| <b>Dimensions</b>                                         |                      |
| Width                                                     | 40 mm                |
| Height                                                    | 125 mm               |
| Depth                                                     | 120 mm               |
| <b>Weights</b>                                            |                      |
| Weight, approx.                                           | 210 g                |

**last modified:** 3/12/2024 