

SIMATIC S7-1500, Digital output module, DQ16x24 V DC/0.5A BA, 16 channels in groups of 8, 4 A per group incl. push-in front connector



| General information                                       |                     |
|---|---------------------|
| Product type designation                                  | DQ 16x24VDC/0.5A BA |
| HW functional status                                      | FS01                |
| Firmware version  | V1.0.0              |
| • FW update possible                                      | Yes                 |
| Product function  |                     |
| • I&M data  | Yes; I&M0 to I&M3   |
| Engineering with  |                     |
| • STEP 7 TIA Portal configurable/integrated as of version | V13 / V13           |
| • STEP 7 configurable/integrated as of version            | V5.5 SP3 / -        |
| • PROFIBUS as of GSD version/GSD revision                 | V1.0 / V5.1         |
| • PROFINET as of GSD version/GSD revision                 | V2.3 / -            |
| Operating mode  |                     |
| • DQ  | Yes                 |
| • DQ with energy-saving function                          | No                  |
| • PWM   | No                  |
| • Oversampling  | No                  |
| • MSO   | Yes                 |

|   |   |
|---|---|
| Supply voltage                              |   |
| Rated value (DC)                            | 24 V  |
| permissible range, lower limit (DC)         | 20.4 V  |
| permissible range, upper limit (DC)         | 28.8 V  |
| Reverse polarity protection                 | Yes; through internal protection with 7 A per group |
| Input current                               |   |
| Current consumption, max.                   | 30 mA   |
| Output voltage                              |   |
| Rated value (DC)                            | 24 V  |
| Power                                       |   |
| Power available from the backplane bus      | 1.15 W  |
| Power loss                                  |   |
| Power loss, typ.                            | 2.2 W   |
| Digital outputs                             |   |
| Type of digital output                      | Transistor  |
| Number of digital outputs                   | 16  |
| Current-sourcing                            | Yes   |
| Short-circuit protection                    | Yes   |
| • Response threshold, typ.                  | 1 A   |
| Limitation of inductive shutdown voltage to | L+ (-53 V)  |
| Controlling a digital input                 | Yes   |
| Switching capacity of the outputs           |   |
| • with resistive load, max.                 | 0.5 A   |
| • on lamp load, max.                        | 5 W   |
| Load resistance range                       |   |
| • lower limit                               | 48 $\Omega$   |
| • upper limit                               | 12 k $\Omega$                                       |
| Output voltage                              |   |
| • for signal "1", min.                      | L+ (-0.8 V)   |
| Output current                              |   |
| • for signal "1" rated value                | 0.5 A   |
| • for signal "1" permissible range, max.    | 0.5 A   |
| • for signal "0" residual current, max.     | 0.5 mA  |
| Output delay with resistive load            |   |
| • "0" to "1", max.                          | 100 $\mu$ s   |
| • "1" to "0", max.                          | 500 $\mu$ s   |
| Parallel switching of two outputs           |   |
| • for logic links                           | Yes   |
| • for uprating                              | No  |
| • for redundant control of a load           | Yes   |

|   |   |
|---|---|
| Switching frequency   |   |
| • with resistive load, max.                                     | 100 Hz  |
| • with inductive load, max.                                     | 0.5 Hz; According to IEC 60947-5-1, DC-13       |
| • on lamp load, max.  | 10 Hz   |
| Total current of the outputs                                    |   |
| • Current per channel, max.                                     | 0.5 A; see additional description in the manual |
| • Current per group, max.                                       | 4 A; see additional description in the manual   |
| • Current per module, max.                                      | 8 A; see additional description in the manual   |
| Cable length  |   |
| • shielded, max.  | 1 000 m   |
| • unshielded, max.  | 600 m   |
| Isochronous mode  |   |
| Isochronous operation (application synchronized up to terminal) | No  |
| Interrupts/diagnostics/status information                       |   |
| Diagnostics function  | No  |
| Substitute values connectable                                   | No  |
| Alarms  |   |
| • Diagnostic alarm  | No  |
| Diagnostic messages   |   |
| • Monitoring the supply voltage                                 | No  |
| • Wire-break  | No  |
| • Short-circuit   | No  |
| • Group error   | No  |
| Diagnostics indication LED                                      |   |
| • RUN LED   | Yes; Green LED                                  |
| • ERROR LED   | Yes; Red LED                                    |
| • Monitoring of the supply voltage (PWR-LED)                    | Yes; Green LED                                  |
| • Channel status display  | Yes; Green LED                                  |
| • for channel diagnostics                                       | No  |
| • for module diagnostics  | No  |
| Potential separation  |   |
| Potential separation channels                                   |   |
| • between the channels  | No  |
| • between the channels, in groups of                            | 8   |
| • between the channels and backplane bus                        | Yes   |
| Isolation   |   |
| Isolation tested with   | 707 V DC (type test)                            |
| Decentralized operation   |   |
| Prioritized startup   | Yes   |

| Dimensions            |   |
|-----------------------|---|
| Width                 | 25 mm   |
| Height                | 147 mm  |
| Depth                 | 129 mm  |
| Weights               |   |
| Weight, approx.       | 230 g   |
| Other                 |   |
| Note:                 | Supplied incl. 40-pole push-in front connectors |
| <b>last modified:</b> | 05/03/2018                                      |