

SIMATIC S7-1500, Digital output module, DQ32x24 V DC/0.5A BA, 32 channels in groups of 8, 4 A per group incl. push-in front connector



| General information                                       |                     |
|-----------------------------------------------------------|---------------------|
| Product type designation                                  | DQ 32x24VDC/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.                   | 60 mA                                               |
| Output voltage                              |                                                     |
| Rated value (DC)                            | 24 V                                                |
| Power                                       |                                                     |
| Power available from the backplane bus      | 1.15 W                                              |
| Power loss                                  |                                                     |
| Power loss, typ.                            | 3.8 W                                               |
| Digital outputs                             |                                                     |
| Type of digital output                      | Transistor                                          |
| Number of digital outputs                   | 32                                                  |
| 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.                                      | 16 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.       | 280 g                                                                                        |
| Other                 |                                                                                              |
| Note:                 | Supplied incl. 40-pole push-in front connectors                                              |
| <b>last modified:</b> | 05/18/2018  |