




Figure similar

SIMATIC S7-1500, digital output module DQ 8xAC 230V/5A ST; relay; 8 channels in groups of 1; 5 A per group; diagnostics; substitute value: switching cycle counter for integrated relay, the module supports the safety-oriented shutdown of load groups up to SIL1 according to EN IEC 62061:2021 and Category 2 / PL c according to EN ISO 13849-1:2015. front connector (screw terminals or push-in) to be ordered separately

| General information  |  |
|--|--|
| Product type designation   | DQ 8x230 V AC/5 A ST (relay)                     |
| HW functional status   | From FS02  |
| Firmware version   | V2.1.0   |
| <ul style="list-style-type: none"> <li>FW update possible</li> </ul>                                     | Yes  |
| Product function   |  |
| <ul style="list-style-type: none"> <li>I&amp;M data</li> </ul>   | Yes; I&M0 to I&M3                                |
| <ul style="list-style-type: none"> <li>Isochronous mode</li> </ul>                                       | No   |
| <ul style="list-style-type: none"> <li>Prioritized startup</li> </ul>                                    | Yes  |
| Engineering with   |  |
| <ul style="list-style-type: none"> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul> | V12 / V12  |
| <ul style="list-style-type: none"> <li>STEP 7 configurable/integrated from version</li> </ul>            | V5.5 SP3 / -                                     |
| <ul style="list-style-type: none"> <li>PROFIBUS from GSD version/GSD revision</li> </ul>                 | V1.0 / V5.1                                      |
| <ul style="list-style-type: none"> <li>PROFINET from GSD version/GSD revision</li> </ul>                 | V2.3 / -   |
| Operating mode   |  |
| <ul style="list-style-type: none"> <li>DQ</li> </ul>   | Yes  |
| <ul style="list-style-type: none"> <li>DQ with energy-saving function</li> </ul>                         | No   |
| <ul style="list-style-type: none"> <li>PWM</li> </ul>  | No   |
| <ul style="list-style-type: none"> <li>Oversampling</li> </ul>   | No   |
| <ul style="list-style-type: none"> <li>MSO</li> </ul>  | Yes  |
| <ul style="list-style-type: none"> <li>Integrated operating cycle counter</li> </ul>                     | Yes; FW V2.1.0 or higher                         |
| Supply voltage   |  |
| Rated value (DC)   | 24 V   |
| permissible range, lower limit (DC)  | 19.2 V   |
| permissible range, upper limit (DC)  | 28.8 V   |
| Reverse polarity protection  | Yes  |
| Input current  |  |
| Current consumption, max.  | 80 mA  |
| output voltage / header  |  |
| Rated value (AC)   | 230 V; 24 V DC to 120 V DC / 24 V AC to 230 V AC |
| Power  |  |
| Power available from the backplane bus   | 0.8 W  |
| Power loss   |  |
| Power loss, typ.   | 5 W  |
| Digital outputs  |  |
| Type of digital output   | Relays   |
| Number of digital outputs  | 8  |
| Current-sinking  | Yes  |
| Current-sourcing   | Yes  |

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|--|---|
| Digital outputs, parameterizable   | Yes   |
| Short-circuit protection   | No  |
| Controlling a digital input  | Yes; possible   |
| Size of motor starters according to NEMA, max.   | 5   |
| <b>Switching capacity of the outputs</b>   |   |
| <ul style="list-style-type: none"> <li>• on lamp load, max.</li> </ul>   | 1 500 W; 10 000 operating cycles  |
| <ul style="list-style-type: none"> <li>• Low energy/fluorescent lamps with electronic control gear</li> </ul>        | 10x 58 W (25 000 operating cycles)  |
| <ul style="list-style-type: none"> <li>• Fluorescent tubes, conventionally compensated</li> </ul>                    | 1x 58 W (25 000 operating cycles)   |
| <ul style="list-style-type: none"> <li>• Fluorescent tubes, uncompensated</li> </ul>                                 | 10x 58 W (25 000 operating cycles)  |
| <b>Output current</b>  |   |
| <ul style="list-style-type: none"> <li>• for signal "1" rated value</li> </ul>                                       | 5 A   |
| <ul style="list-style-type: none"> <li>• for signal "1" permissible range, min.</li> </ul>                           | 5 mA; 10 V  |
| <ul style="list-style-type: none"> <li>• for signal "1" permissible range, max.</li> </ul>                           | 8 A; thermal continuous current   |
| <ul style="list-style-type: none"> <li>• for signal "0" residual current, max.</li> </ul>                            | 0 A   |
| <b>Parallel switching of two outputs</b>   |   |
| <ul style="list-style-type: none"> <li>• for logic links</li> </ul>  | Yes   |
| <ul style="list-style-type: none"> <li>• for uprating</li> </ul>   | No  |
| <ul style="list-style-type: none"> <li>• for redundant control of a load</li> </ul>                                  | Yes   |
| <b>Switching frequency</b>   |   |
| <ul style="list-style-type: none"> <li>• with resistive load, max.</li> </ul>  | 2 Hz  |
| <ul style="list-style-type: none"> <li>• with inductive load, max.</li> </ul>  | 0.5 Hz  |
| <ul style="list-style-type: none"> <li>• on lamp load, max.</li> </ul>   | 2 Hz  |
| <b>Total current of the outputs</b>  |   |
| <ul style="list-style-type: none"> <li>• Current per channel, max.</li> </ul>  | 8 A; see additional description in the manual   |
| <ul style="list-style-type: none"> <li>• Current per group, max.</li> </ul>  | 8 A; see additional description in the manual   |
| <ul style="list-style-type: none"> <li>• Current per module, max.</li> </ul>   | 64 A; see additional description in the manual  |
| <b>Relay outputs</b>   |   |
| <ul style="list-style-type: none"> <li>• Number of relay outputs</li> </ul>  | 8   |
| <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>• Current consumption of relays (coil current of all relays), typ.</li> </ul> | 80 mA   |
| <ul style="list-style-type: none"> <li>• external protection for relay outputs</li> </ul>                            | With miniature circuit breaker with characteristic B for: $\cos \varphi$ 1.0: 600 A $\cos \varphi$ 0.5 ... 0.7: 900 A with 8 A Diazed fuse: 1 000 A |
| <ul style="list-style-type: none"> <li>• Contact connection (internal)</li> </ul>                                    | No  |
| <ul style="list-style-type: none"> <li>• Number of operating cycles, max.</li> </ul>                                 | 4 000 000; see additional description in the manual   |
| <ul style="list-style-type: none"> <li>• Relay approved acc. to UL 508</li> </ul>                                    | Yes; 250 V AC/5 A g.p.; 120 V AC TV-4 tungsten; A300, R300  |
| <b>Switching capacity of contacts</b>  |   |
| <ul style="list-style-type: none"> <li>— with inductive load, max.</li> </ul>  | see additional description in the manual  |
| <ul style="list-style-type: none"> <li>— with resistive load, max.</li> </ul>  | see additional description in the manual  |
| <b>Cable length</b>  |   |
| <ul style="list-style-type: none"> <li>• shielded, max.</li> </ul>   | 1 000 m   |
| <ul style="list-style-type: none"> <li>• unshielded, max.</li> </ul>   | 600 m   |
| <b>Interrupts/diagnostics/status information</b>   |   |
| Diagnostics function   | Yes   |
| Substitute values connectable  | Yes   |
| <b>Alarms</b>  |   |
| <ul style="list-style-type: none"> <li>• Diagnostic alarm</li> </ul>   | Yes   |
| <b>Diagnoses</b>   |   |
| <ul style="list-style-type: none"> <li>• Monitoring the supply voltage</li> </ul>                                    | Yes   |
| <ul style="list-style-type: none"> <li>• Wire-break</li> </ul>   | No  |
| <ul style="list-style-type: none"> <li>• Short-circuit</li> </ul>  | No  |
| <b>Diagnostics indication LED</b>  |   |
| <ul style="list-style-type: none"> <li>• RUN LED</li> </ul>  | Yes; green LED  |
| <ul style="list-style-type: none"> <li>• ERROR LED</li> </ul>  | Yes; red LED  |
| <ul style="list-style-type: none"> <li>• MAINT LED</li> </ul>  | Yes; Yellow LED   |
| <ul style="list-style-type: none"> <li>• Monitoring of the supply voltage (PWR-LED)</li> </ul>                       | Yes; green LED  |
| <ul style="list-style-type: none"> <li>• Channel status display</li> </ul>   | Yes; green LED  |
| <ul style="list-style-type: none"> <li>• for channel diagnostics</li> </ul>  | No  |
| <ul style="list-style-type: none"> <li>• for module diagnostics</li> </ul>   | Yes; red LED  |
| <b>Potential separation</b>  |   |
| Potential separation channels  |   |

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|--|--|
| <ul style="list-style-type: none"> <li>• between the channels</li> <li>• between the channels, in groups of</li> <li>• between the channels and backplane bus</li> <li>• Between the channels and load voltage L+</li> </ul> | <p>Yes; Switching of different phases permitted</p> <p>1</p> <p>Yes</p> <p>Yes</p>   |
| <b>Permissible potential difference</b>  |  |
| between different circuits   | 250 V AC between the channels and the supply voltage L+, 250 V AC between the channels and the backplane bus; 250 V AC between the channels (500 V AC when connecting different phases; basic insulation)        |
| <b>Isolation</b>   |  |
| Isolation tested with  | between the channels: 3 100 V DC; between the channels and the backplane bus: 3 100 V DC; between the channels and the supply voltage L+: 3 100 V DC; between the L+ and the backplane bus: 707 V DC (type test) |
| <b>Standards, approvals, certificates</b>  |  |
| Suitable for safety functions  | No   |
| Suitable for safety-related tripping of standard modules   | Yes; From FS03   |
| <b>Highest safety class achievable for safety-related tripping of standard modules</b>   |  |
| <ul style="list-style-type: none"> <li>• Performance level according to ISO 13849-1</li> <li>• Category according to ISO 13849-1</li> </ul>  | <p>PL c</p> <p>Cat. 2</p>  |
| <b>Ambient conditions</b>  |  |
| <b>Ambient temperature during operation</b>  |  |
| <ul style="list-style-type: none"> <li>• horizontal installation, min.</li> <li>• horizontal installation, max.</li> <li>• vertical installation, min.</li> <li>• vertical installation, max.</li> </ul>                     | <p>-30 °C; From FS03</p> <p>60 °C</p> <p>-30 °C; From FS03</p> <p>40 °C</p>  |
| <b>Dimensions</b>  |  |
| Width  | 35 mm  |
| Height   | 147 mm   |
| Depth  | 129 mm   |
| <b>Weights</b>   |  |
| Weight, approx.  | 350 g  |
| <b>last modified:</b>  | 8/16/2023   |