



SIMATIC DP, ELECTRON. MODULE FOR ET200SP, F-RQ 1X24VDC/24..230VAC/5A ST, 20MM WIDTH, 1 RELAY OUTPUT (2 NO-CONTACTS) TOTAL OUTPUT CURRENT 5A, RATED VOLTAGE DC 24V AND AC 24 .. 230V, USEABLE UP TO PL E (ISO13849-1: 2008)/ SIL 3 (IEC61508: 2010) IF CONTROLLED BY A F-DQ (E.G. 6ES7136-6DB00-0CA0)

| General information                                       |                               |
|-----------------------------------------------------------|-------------------------------|
| Product type designation                                  | F-RQ 1x24VDC/24 ... 230VAC/5A |
| usable BaseUnits                                          | BU type F0, BU20-P8+A4+0B     |
| Color code for module-specific color identification plate | CC42                          |
| Product function                                          |                               |
| • I&M data                                                | Yes; I&M0 to I&M3             |
| Engineering with                                          |                               |
| • STEP 7 TIA Portal configurable/integrated as of version | V13                           |
| • STEP 7 configurable/integrated as of version            | V5.5 SP4 and higher           |
| Supply voltage                                            |                               |
| Rated value (DC)                                          | 24 V; Coil voltage            |
| permissible range, lower limit (DC)                       | 20.4 V                        |
| permissible range, upper limit (DC)                       | 28.8 V                        |
| Power                                                     |                               |
| Power available from the backplane bus                    | 100 mW                        |
| Power loss                                                |                               |

|                                                                    |                                          |
|--------------------------------------------------------------------|------------------------------------------|
| Power loss, typ.                                                   | 1 W                                      |
| <b>Address area</b>                                                |                                          |
| Address space per module                                           |                                          |
| • Inputs                                                           | 1 byte                                   |
| <b>Digital outputs</b>                                             |                                          |
| Number of digital outputs                                          | 1                                        |
| Limitation of inductive shutdown voltage to                        | No                                       |
| Controlling a digital input                                        | Yes                                      |
| Switching capacity of the outputs                                  |                                          |
| • with resistive load, max.                                        | 5 A                                      |
| • on lamp load, max.                                               | 25 W                                     |
| Switching frequency                                                |                                          |
| • with resistive load, max.                                        | 2 Hz                                     |
| • with inductive load, max.                                        | 0.1 Hz; See data in manual               |
| • with inductive load (acc. to IEC 60947-5-1, DC13), max.          | 0.1 Hz                                   |
| • with inductive load (acc. to IEC 60947-5-1, AC15), max.          | 2 Hz                                     |
| Total current of the outputs (per module)                          |                                          |
| horizontal installation                                            |                                          |
| — up to 40 °C, max.                                                | 5 A; Note derating data in the manual    |
| — up to 50 °C, max.                                                | 4 A; Note derating data in the manual    |
| — up to 60 °C, max.                                                | 3 A; Note derating data in the manual    |
| vertical installation                                              |                                          |
| — up to 50 °C, max.                                                | 3 A; Note derating data in the manual    |
| <b>Relay outputs</b>                                               |                                          |
| • Number of relay outputs                                          | 1; 2 NO contacts                         |
| • Rated supply voltage of relay coil L+ (DC)                       | 24 V                                     |
| • Current consumption of relays (coil current of all relays), max. | 70 mA                                    |
| • external protection for relay outputs                            | yes; 6 A, see data in manual             |
| • Relay approved acc. to UL 508                                    | Yes; Pilot Duty B300, R300               |
| Switching capacity of contacts                                     |                                          |
| — with inductive load, max.                                        | see additional description in the manual |
| — with resistive load, max.                                        | see additional description in the manual |
| — Thermal continuous current, max.                                 | 5 A                                      |
| — Switching current, min.                                          | 1 mA                                     |
| — Switching current after exceeding 300 mA, min.                   | 10 mA                                    |
| — Switching current after exceeding 300 mA, max.                   | 5 A                                      |
| — Rated switching voltage (DC)                                     | 24 V                                     |

|                                                                |                                                                                                             |
|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| — Rated switching voltage (AC)                                 | 230 V                                                                                                       |
| <b>Cable length</b>                                            |                                                                                                             |
| • shielded, max.                                               | 500 m; for load contacts                                                                                    |
| • unshielded, max.                                             | 300 m; for load contacts                                                                                    |
| • Control cable (input), max.                                  | 10 m                                                                                                        |
| <b>Interrupts/diagnostics/status information</b>               |                                                                                                             |
| Diagnostics function                                           | yes, firmware update                                                                                        |
| <b>Diagnostics indication LED</b>                              |                                                                                                             |
| • RUN LED                                                      | Yes; green/red DIAG LED                                                                                     |
| • Channel status display                                       | Yes; Green LED                                                                                              |
| <b>Potential separation</b>                                    |                                                                                                             |
| <b>Potential separation channels</b>                           |                                                                                                             |
| • between the channels                                         | Yes; for SELV / PELV only                                                                                   |
| • between the channels and backplane bus                       | Yes                                                                                                         |
| • between the channels and the power supply of the electronics | Yes                                                                                                         |
| <b>Permissible potential difference</b>                        |                                                                                                             |
| between channels and backplane bus/supply voltage              | 250 V AC (reinforced insulation)                                                                            |
| between backplane bus and supply voltage                       | 75 V DC/60 V AC                                                                                             |
| <b>Isolation</b>                                               |                                                                                                             |
| Isolation tested with                                          | 2 545 V DC/2 s (routine test)                                                                               |
| Overvoltage category                                           | III                                                                                                         |
| <b>tested with</b>                                             |                                                                                                             |
| • between channels and backplane bus/supply voltage            | DC 2545 V 2 s (routine test), impulse voltage test DC 7200 V / 5 positive and 5 negative pulses (type test) |
| • between backplane bus and supply voltage                     | 707 V DC (type test)                                                                                        |
| <b>Dimensions</b>                                              |                                                                                                             |
| Width                                                          | 20 mm                                                                                                       |
| <b>Weights</b>                                                 |                                                                                                             |
| Weight, approx.                                                | 56 g                                                                                                        |
| <b>last modified:</b>                                          | 10/28/2016                                                                                                  |