



SIMATIC DP, Electronics module f. ET200SP, F-RQ 1x 24 V DC/24..230VAC/5A ST, 20 mm overall width, 1 relay output (2 NO) Summation output current 5 A, load voltage 24 V DC and 24.. 230 V AC, Can be used up to PL E (ISO 13849-1: 2008)/ SIL 3 (IEC 61508: 2010) if control takes place by (e.g. 6ES7136-6DB00-0CA0) F-DQ

General information	
Product type designation	F-RQ 24 ... 48VDC/24 ... 230VAC/5A ST
usable BaseUnits	BU type F0
Color code for module-specific color identification plate	CC42
Product function	
<ul style="list-style-type: none"> <li>I&amp;M data</li> </ul>	Yes; I&M0 to I&M3
Engineering with	
<ul style="list-style-type: none"> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul>	V13
<ul style="list-style-type: none"> <li>STEP 7 configurable/integrated from version</li> </ul>	V5.5 SP4 and higher
<ul style="list-style-type: none"> <li>PROFINET from GSD version/GSD revision</li> </ul>	V2.31
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 supply according to NEC Class 2 required	No
Power	
Power available from the backplane bus	100 mW
Power loss	
Power loss, typ.	1 W
Address area	
Address space per module	
<ul style="list-style-type: none"> <li>Inputs</li> </ul>	1 byte
Hardware configuration	
Automatic encoding	Yes
<ul style="list-style-type: none"> <li>Mechanical coding element</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Type of mechanical coding element</li> </ul>	type C
Digital outputs	
Type of digital output	Relays
Number of digital outputs	1
Limitation of inductive shutdown voltage to	No
Controlling a digital input	Yes
Switching capacity of the outputs	
<ul style="list-style-type: none"> <li>with resistive load, max.</li> </ul>	5 A
<ul style="list-style-type: none"> <li>on lamp load, max.</li> </ul>	25 W
Switching frequency	
<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>	0.1 Hz; See data in manual
<ul style="list-style-type: none"> <li>with inductive load (acc. to IEC 60947-5-1, DC13),</li> </ul>	0.1 Hz

max.	
<ul style="list-style-type: none"> <li>with inductive load (acc. to IEC 60947-5-1, AC15), max.</li> </ul>	2 Hz
<b>Total current of the outputs (per module)</b>	
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>	
<ul style="list-style-type: none"> <li>Number of relay outputs</li> <li>Rated supply voltage of relay coil L+ (DC)</li> <li>Current consumption of relays (coil current of all relays), max.</li> <li>external protection for relay outputs</li> <li>Relay approved acc. to UL 508</li> </ul>	1; 2 NO contacts 24 V 70 mA yes; 6 A, see data in manual Yes; Pilot Duty B300, R300
<b>Switching capacity of contacts</b>	
— 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>	
<ul style="list-style-type: none"> <li>shielded, max.</li> <li>unshielded, max.</li> <li>Control cable (input), max.</li> </ul>	500 m; for load contacts 300 m; for load contacts 10 m
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes
<b>Diagnostics indication LED</b>	
<ul style="list-style-type: none"> <li>RUN LED</li> <li>Channel status display</li> </ul>	Yes; green/red DIAG LED Yes; green LED
<b>Potential separation</b>	
<b>Potential separation channels</b>	
<ul style="list-style-type: none"> <li>between the channels</li> <li>between the channels and backplane bus</li> <li>between the channels and the power supply of the electronics</li> </ul>	Yes; for SELV / PELV only Yes Yes
<b>Permissible potential difference</b>	
between channels and backplane bus/supply voltage	250 V AC (reinforced insulation)
<b>Isolation</b>	
Isolation tested with	2 545 V DC/2 s (routine test)
Overvoltage category	III
<b>tested with</b>	
<ul style="list-style-type: none"> <li>between channels and backplane bus/supply voltage</li> <li>between backplane bus and supply voltage</li> </ul>	DC 2 545 V 2 s (routine test), impulse voltage test DC 7 200 V / 5 positive and 5 negative pulses (type test) 707 V DC (type test)
<b>Standards, approvals, certificates</b>	
Suitable for safety functions	Yes
<b>Highest safety class achievable in safety mode</b>	
<ul style="list-style-type: none"> <li>Performance level according to ISO 13849-1</li> <li>Category according to ISO 13849-1</li> <li>SIL acc. to IEC 61508</li> </ul>	PLe 4 SIL 3
<b>Probability of failure (for service life of 20 years and repair time of 100 hours)</b>	
— Low demand mode: PFDavg in accordance with SIL2	< 1.00E-04, function test 1x per year
— Low demand mode: PFDavg in accordance	< 1.00E-05, function test 1x per month

with SIL3

— High demand/continuous mode: PFH in accordance with SIL2

— High demand/continuous mode: PFH in accordance with SIL3

< 1.00E-08 1/h, function test 1x per year

< 6.00E-09 1/h, function test 1x per month

#### Ambient conditions

##### Ambient temperature during operation

- horizontal installation, min. 0 °C
- horizontal installation, max. 60 °C
- vertical installation, min. 0 °C
- vertical installation, max. 50 °C

#### Dimensions

Width	20 mm
Height	73 mm
Depth	58 mm

#### Weights

Weight, approx. 56 g

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