

SIMATIC DP, Electronics module ET 200SP, F-DQ 8XDC 24V0.5A PP, 15 mm width, up to PL E (ISO 13849) up to SIL 3 (IEC 61508)



General information	
Product type designation	F-DQ 8x24 V DC/0.5 A PP HF
Firmware version	
<ul style="list-style-type: none"> <li>FW update possible</li> </ul>	Yes
usable BaseUnits	BU type A0
Color code for module-specific color identification plate	CC02
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 as of version</li> </ul>	V14 SP1 with HSP 202
<ul style="list-style-type: none"> <li>STEP 7 configurable/integrated as of version</li> </ul>	V5.5 SP4 HF5
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

<b>Input current</b>	
Current consumption (rated value)	75 mA; without load
Current consumption, max.	21 mA; From the backplane bus
<b>Output voltage</b>	
Rated value (DC)	24 V
<b>Power</b>	
Power available from the backplane bus	70 mW
<b>Power loss</b>	
Power loss, typ.	3 W
<b>Address area</b>	
Address space per module	
• Inputs	6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA
• Outputs	6 byte; 5 bytes non-RIOforFA; 6 bytes RIOforFA
<b>Hardware configuration</b>	
Automatic encoding	
• Electronic coding element type F	Yes
<b>Digital outputs</b>	
Number of digital outputs	8
Digital outputs, parameterizable	Yes
Short-circuit protection	Yes
• Response threshold, typ.	Min. 0.7 A
Open-circuit detection	No
Limitation of inductive shutdown voltage to	Typ. -39 V
Controlling a digital input	Yes
<b>Switching capacity of the outputs</b>	
• with resistive load, max.	0.5 A
• on lamp load, max.	2 W
<b>Load resistance range</b>	
• lower limit	48 $\Omega$
• upper limit	12 000 $\Omega$
<b>Output voltage</b>	
• for signal "1", min.	24 V; L+ (-0.5 V)
<b>Output current</b>	
• for signal "1" rated value	0.5 A
• for signal "0" residual current, max.	0.5 mA
<b>Switching frequency</b>	
• with resistive load, max.	30 Hz; Symmetrical
• with inductive load, max.	0.1 Hz; according to IEC 60947-5-1, DC-13, symmetrical
• with capacitive load, max.	2 Hz; Symmetrical
• on lamp load, max.	10 Hz; Symmetrical

Total current of the outputs	
• Current per channel, max.	0.5 A; Note derating data in the manual
• Current per module, max.	3 A; Note derating data in the manual
Total current of the outputs (per module)	
horizontal installation	
— up to 40 °C, max.	3 A
— up to 50 °C, max.	2.5 A
— up to 60 °C, max.	2 A
vertical installation	
— up to 50 °C, max.	2 A
Cable length	
• shielded, max.	100 m
• unshielded, max.	100 m
Interrupts/diagnostics/status information	
Diagnostics function	Yes, "Alarms/diagnostic messages" section in the manual
Substitute values connectable	No
Alarms	
• Diagnostic alarm	Yes
Diagnostics indication LED	
• RUN LED	Yes; Green LED
• ERROR LED	Yes; Red LED
• Monitoring of the supply voltage (PWR-LED)	Yes; Green PWR LED
• Channel status display	Yes; Green LED
• for channel diagnostics	Yes; Red LED
• for module diagnostics	Yes; green/red DIAG LED
Potential separation	
Potential separation channels	
• between the channels	No
• between the channels and backplane bus	Yes
• between the channels and the power supply of the electronics	No
Isolation	
Isolation tested with	707 V DC (type test)
Standards, approvals, certificates	
Suitable for safety functions	Yes
Highest safety class achievable in safety mode	
• Performance level according to ISO 13849-1	PL <sub>e</sub>
• SIL acc. to IEC 61508	SIL 3
Probability of failure (for service life of 20 years and repair time of 100 hours)	
— Low demand mode: PFD <sub>avg</sub> in accordance with SIL3	< 6.00E-05

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

< 2.00E-09 1/h

#### 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

##### Altitude during operation relating to sea level

- Installation altitude above sea level, max. 4 000 m; with derating

#### Dimensions

Width	15 mm
Height	73 mm
Depth	58 mm

#### Weights

Weight, approx.	48 g
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**last modified:** 11/13/2019