

SIMATIC ET 200SP, digital output module, DQ 16x 24VDC/0.5A  
 Basic, Pack quantity: 10 units, suitable for BU type A0, Color code  
 CC00, Module diagnostics



General information	
Product type designation	DQ 16x 24 V DC/0.5 A BA, PU 10
HW functional status	From FS03
Firmware version	V0.0
<ul style="list-style-type: none"> <li>FW update possible</li> </ul>	No
usable BaseUnits	BU type A0
Color code for module-specific color identification plate	CC00
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
Engineering with	
<ul style="list-style-type: none"> <li>STEP 7 TIA Portal configurable/integrated as of version</li> </ul>	V14
<ul style="list-style-type: none"> <li>STEP 7 configurable/integrated as of version</li> </ul>	STEP 7 V5.5 or higher
<ul style="list-style-type: none"> <li>PROFIBUS as of GSD version/GSD revision</li> </ul>	One GSD file each, Revision 3 and 5 and higher
<ul style="list-style-type: none"> <li>PROFINET as of GSD version/GSD revision</li> </ul>	GSDML V2.3
Operating mode	
<ul style="list-style-type: none"> <li>DQ</li> </ul>	Yes

• DQ with energy-saving function	No
• PWM	No
• Oversampling	No
• MSO	No

### 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.	55 mA; without load
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### Output voltage

Rated value (DC)	24 V
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### Power loss

Power loss, typ.	1 W
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### Address area

Address space per module	
• Outputs	2 byte

### Hardware configuration

Automatic encoding	Yes
• Mechanical coding element	Yes

### Selection of BaseUnit for connection variants

• 1-wire connection	BU type A0
• 2-wire connection	BU type A0 + Potential isolation module
• 3-wire connection	BU type A0 + Potential isolation module
• 4-wire connection	BU type A0 + Potential isolation module

### Digital outputs

Type of digital output	Source output (PNP, current-sourcing)
Number of digital outputs	16
Current-sinking	No
Current-sourcing	Yes
Digital outputs, parameterizable	Yes
Short-circuit protection	Yes
• Response threshold, typ.	1.4 A; 0.7 to 1.9 A
Open-circuit detection	No
Limitation of inductive shutdown voltage to	Typ. 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

<b>Load resistance range</b>	
• lower limit	48 Ω
• upper limit	100 kΩ
<b>Output current</b>	
• for signal "1" rated value	0.5 A
• for signal "0" residual current, max.	30 μA
<b>Output delay with resistive load</b>	
• "0" to "1", typ.	80 μs; at rated load
• "0" to "1", max.	150 μs; at rated load
• "1" to "0", typ.	100 μs; at rated load
• "1" to "0", max.	200 μs; at rated load
<b>Parallel switching of two outputs</b>	
• for uprating	No
• for redundant control of a load	Yes
<b>Switching frequency</b>	
• with resistive load, max.	100 Hz
• with inductive load, max.	2 Hz
• on lamp load, max.	10 Hz
<b>Total current of the outputs</b>	
• Current per channel, max.	0.5 A
• Current per module, max.	8 A
<b>Total current of the outputs (per module)</b>	
horizontal installation	
— up to 60 °C, max.	8 A
vertical installation	
— up to 50 °C, max.	8 A
<b>Cable length</b>	
• shielded, max.	1 000 m
• unshielded, max.	600 m
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes
Substitute values connectable	Yes
<b>Alarms</b>	
• Diagnostic alarm	Yes
<b>Diagnostic messages</b>	
• Monitoring the supply voltage	Yes
• Wire-break	No
• Short-circuit	No
• Group error	Yes
<b>Diagnostics indication LED</b>	
• Monitoring of the supply voltage (PWR-LED)	Yes; green PWR LED

- Channel status display
- for channel diagnostics
- for module diagnostics

Yes; green LED  
 No  
 Yes; green/red DIAG LED

### Potential separation

#### Potential separation channels

- between the channels
- between the channels and backplane bus

No  
 Yes

### Isolation

Isolation tested with 707 V DC (type test)

### Standards, approvals, certificates

Suitable for safety functions No

Suitable for safety-related tripping of standard modules No

### Ambient conditions

#### Ambient temperature during operation

- horizontal installation, min. -30 °C
- horizontal installation, max. 60 °C
- vertical installation, min. -30 °C
- vertical installation, max. 50 °C

#### Altitude during operation relating to sea level

- Installation altitude above sea level, max. 2 000 m; On request: Installation altitudes greater than 2 000 m

### Dimensions

Width 15 mm

Height 73 mm

Depth 58 mm

### Weights

Weight, approx. 30 g

**last modified:** 05/28/2020