

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
Firmware version	V0.0
FW update possible	No
usable BaseUnits	BU type A0
Color code for module-specific color identification plate	CC00
Product function	
I&M data	Yes; I&M0 to I&M3
Engineering with	
STEP 7 TIA Portal configurable/integrated as of version	V14
STEP 7 configurable/integrated as of version	STEP 7 V5.5 or higher
PROFIBUS as of GSD version/GSD revision	One GSD file each, Revision 3 and 5 and higher
PROFINET as of GSD version/GSD revision	GSDML V2.3
Operating mode	
DQ	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
Output voltage	
Rated value (DC)	24 V
Power loss	
Power loss, typ.	1 W
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
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
Load resistance range	
• lower limit	48 Ω
• upper limit	100 kΩ

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

- | | |
|---------------------------|-------------------------|
| • Channel status display | Yes; Green LED |
| • for channel diagnostics | No |
| • for module diagnostics | Yes; green/red DIAG LED |

Potential separation

Potential separation channels

- | | |
|--|-----|
| • between the channels | No |
| • between the channels and backplane bus | Yes |

Isolation

Isolation tested with	707 V DC (type test)
-----------------------	----------------------

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

- | | |
|--|--|
| • Ambient air temperature-barometric pressure-altitude | On request: Ambient temperatures lower than 0 °C (without condensation) and/or installation altitudes greater than 2 000 m |
|--|--|

Dimensions

Width	15 mm
Height	73 mm
Depth	58 mm

Weights

Weight, approx.	30 g
-----------------	------

last modified:	10/24/2018
-----------------------	------------