

SIMATIC ET 200SP, digital output module, DQ 4x 24 V DC/2A High Speed, Pack quantity: 1 unit suitable for BU type A0, Color code CC00, 3 alternative operating modes: DQ, Oversampling, PWM
Module diagnostics



General information	
Product type designation	DQ 4x24 V DC/2 A HS
Firmware version	V1.0.1
<ul style="list-style-type: none"> FW update possible 	Yes
usable BaseUnits	BU type A0
Color code for module-specific color identification plate	CC00
Product function	
<ul style="list-style-type: none"> I&M data 	Yes; I&M0 to I&M3
Engineering with	
<ul style="list-style-type: none"> STEP 7 TIA Portal configurable/integrated as of version 	V13 SP1
<ul style="list-style-type: none"> STEP 7 configurable/integrated as of version 	V5.5 SP3 / -
<ul style="list-style-type: none"> PROFIBUS as of GSD version/GSD revision 	GSD Revision 5
<ul style="list-style-type: none"> PROFINET as of GSD version/GSD revision 	GSDML V2.3
Operating mode	
<ul style="list-style-type: none"> DQ 	Yes
<ul style="list-style-type: none"> DQ with energy-saving function 	Yes; Valve control
<ul style="list-style-type: none"> PWM 	Yes

- Oversampling
- MSO

Yes
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.	50 mA; without load
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Output voltage

Rated value (DC)	24 V
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Power loss

Power loss, typ.	2.5 W; at 24 V, 25 °C, DQ mode, 2 A per channel
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Address area

Address space per module

- Address space per module, max. 1 byte; + 1 byte for QI information
- Inputs 1 byte; With QI
- Outputs 16 byte; Max. in Oversampling mode

Digital outputs

Type of digital output	Source output (PNP, current-sourcing)
Number of digital outputs	4
Current-sinking	No
Current-sourcing	Yes; Push-pull output
Short-circuit protection	Yes
• Response threshold, typ.	6 A
Limitation of inductive shutdown voltage to	M (-1 V)
Controlling a digital input	No

Digital output functions, parameterizable

- PWM output
 - Number, max. 4
 - Cycle duration, parameterizable Yes; 0 ms, 0.2 ms, 0.4 ms, 0.93 ms, 1.33 ms, 4.27 ms, 10.67 ms, 21.33 ms, 34.13 ms, 59.73 ms
 - Resolution of the duty cycle 0.1 %
- Digital output with oversampling
 - Number, max. 4
 - Values per cycle, max. 32
 - Resolution, min. 100 µs

Switching capacity of the outputs

- with resistive load, max. 2 A
- on lamp load, max. 10 W

Load resistance range	
• lower limit	12 Ω
• upper limit	3 400 Ω
Output current	
• for signal "1" rated value	2 A
• for signal "0" residual current, max.	0.1 mA
Output delay with resistive load	
• "0" to "1", max.	1 μ s
• "1" to "0", max.	1 μ s
Parallel switching of two outputs	
• for uprating	No
Switching frequency	
• with resistive load, max.	5 kHz
• with inductive load, max.	5 kHz
• on lamp load, max.	5 kHz
Total current of the outputs	
• Current per channel, max.	2 A
• Current per module, max.	8 A
Total current of the outputs (per module)	
horizontal installation	
— up to 30 °C, max.	8 A; DQ mode
— up to 40 °C, max.	6.9 A; DQ mode
— up to 50 °C, max.	4.7 A; DQ mode
— up to 60 °C, max.	2.5 A; DQ mode
vertical installation	
— up to 30 °C, max.	7.2 A; DQ mode
— up to 40 °C, max.	5.6 A; DQ mode
— up to 50 °C, max.	4 A; DQ mode
— up to 60 °C, max.	4 A; DQ mode
Cable length	
• shielded, max.	50 m
• unshielded, max.	50 m
Isochronous mode	
Isochronous operation (application synchronized up to terminal)	Yes; Operating modes DQ and OVS only
Bus cycle time (TDP), min.	125 μ s
Jitter, max.	1 μ s
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	Yes; Module-wise
• 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)
Dimensions	
Width	15 mm
Height	73 mm
Depth	58 mm
Weights	
Weight, approx.	31 g
last modified:	10/30/2018