

SIMATIC S7-1500, Digital output module DQ 8x24 V DC/2A HF; 8 channels in groups of 8; 8A per group; diagnostics; Substitute value



Figure similar

General information	
Product type designation	DQ 8x24VDC/2A HF
HW functional status	FS01
Firmware version	V2.1.0
• FW update possible	Yes
Product function	
• I&M data	Yes; I&M0 to I&M3
Engineering with	
• STEP 7 TIA Portal configurable/integrated as of version	V13 SP1 / -
• STEP 7 configurable/integrated as of version	V5.5 SP3 / -
• PROFIBUS as of GSD version/GSD revision	V1.0 / V5.1
• PROFINET as of GSD version/GSD revision	V2.3 / -
Operating mode	
• DQ	Yes
• DQ with energy-saving function	Yes; with an application
• PWM	Yes

• Oversampling • MSO	No Yes
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; through internal protection with 10 A per group
Input current	
Current consumption, max.	40 mA; 20 mA per group, no output is activated.
Output voltage	
Rated value (DC)	24 V
Power	
Power available from the backplane bus	0.9 W
Power loss	
Power loss, typ.	5.6 W; 6.8 W for PWM operation
Digital outputs	
Type of digital output	Transistor
Number of digital outputs	8
Current-sourcing	Yes
Short-circuit protection	Yes
• Response threshold, typ.	3 A
Limitation of inductive shutdown voltage to	-17 V
Controlling a digital input	Yes
Digital output functions, parameterizable	
• Freely usable digital output • PWM output — Number, max. — Cycle duration, parameterizable — ON period, min. — ON period, max. — Resolution of the duty cycle — Minimum pulse duration	Yes Yes 2 Yes; 2 ... 100 ms continuous 0 % 100 % 0.1 % 300 µs
Switching capacity of the outputs	
• on lamp load, max.	10 W
Load resistance range	
• lower limit • upper limit	12 Ω 4 kΩ
Output voltage	
• for signal "1", min.	L+ (-0.8 V)
Output current	

• for signal "1" rated value	2 A
• for signal "1" permissible range, max.	2.4 A; Note derating specification for PWM operation
• for signal "0" residual current, max.	0.5 mA
Output delay with resistive load	
• "0" to "1", typ.	80 µs
• "0" to "1", max.	100 µs
• "1" to "0", typ.	300 µs
• "1" to "0", max.	500 µs
Parallel switching of two outputs	
• for logic links	Yes
• for uprating	No
• for redundant control of a load	Yes
Switching frequency	
• with resistive load, max.	100 Hz; With PWM operation: 500 Hz
• with inductive load, max.	0.5 Hz; According to IEC 60947-5-1, DC-13; max. 500 Hz with PWM operation only with external circuit; see additional description in the manual
• on lamp load, max.	10 Hz
Total current of the outputs	
• Current per channel, max.	2 A; see additional description in the manual
• Current per group, max.	8 A; see additional description in the manual
• Current per module, max.	16 A; see additional description in the manual
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	Yes
• Group error	Yes
Diagnostics indication LED	
• RUN LED	Yes; Green LED
• ERROR LED	Yes; Red LED
• Monitoring of the supply voltage (PWR-LED)	Yes; Green LED

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| • Channel status display | Yes; Green LED |
| • for channel diagnostics | Yes; Red LED |
| • for module diagnostics | Yes; Red LED |

Potential separation

Potential separation channels

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| • between the channels | No |
| • between the channels, in groups of | 4 |
| • between the channels and backplane bus | Yes |

Isolation

Isolation tested with	707 V DC (type test)
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Decentralized operation

Prioritized startup	Yes
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Dimensions

Width	35 mm
Height	147 mm
Depth	129 mm

Weights

Weight, approx.	240 g
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last modified:	05/18/2018 
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