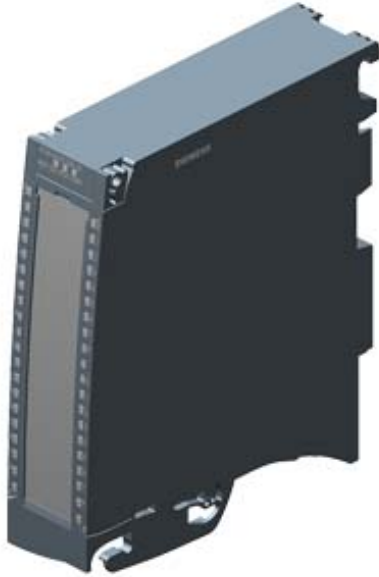


SIMATIC S7-1500, digital output module DQ 32x24 V DC/0.5 A HF; 32 channels in groups of 8; 4 A per group; Single-channel diagnostics; Substitute value: Front connector (screw terminals or push-in) to be ordered separately



General information	
Product type designation	DQ 32x24VDC/0.5A HF
HW functional status	FS02
Firmware version	V1.1.0
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>	Yes
<ul style="list-style-type: none"> <li>• Prioritized startup</li> </ul>	Yes
Engineering with	
<ul style="list-style-type: none"> <li>• STEP 7 TIA Portal configurable/integrated as of version</li> </ul>	V13 SP1 / -
<ul style="list-style-type: none"> <li>• PROFIBUS as of GSD version/GSD revision</li> </ul>	V1.0 / V5.1
<ul style="list-style-type: none"> <li>• PROFINET as of GSD version/GSD revision</li> </ul>	V2.3 / -
Operating mode	
<ul style="list-style-type: none"> <li>• DQ</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• DQ with energy-saving function</li> </ul>	No
<ul style="list-style-type: none"> <li>• PWM</li> </ul>	No
<ul style="list-style-type: none"> <li>• Cam control (switching at comparison values)</li> </ul>	No
<ul style="list-style-type: none"> <li>• Oversampling</li> </ul>	No

- MSO Yes
- Integrated operating cycle counter 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 7 A per group

### Input current

Current consumption, max.	60 mA
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### Output voltage

Rated value (DC)	24 V
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### Power

Power available from the backplane bus	1.1 W
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### Power loss

Power loss, typ.	3.5 W
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### Digital outputs

Type of digital output	Transistor
Number of digital outputs	32
Current-sourcing	Yes
Digital outputs, parameterizable	Yes
Short-circuit protection	Yes; Clocked electronically
• Response threshold, typ.	1 A
Limitation of inductive shutdown voltage to	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 12 kΩ

### Output voltage

- for signal "1", min. L+ (-0.8 V)

### Output current

- for signal "1" rated value 0.5 A
- for signal "1" permissible range, max. 0.5 A
- for signal "0" residual current, max. 0.5 mA

### Output delay with resistive load

- "0" to "1", max. 100 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
<b>Switching frequency</b>	
• with resistive load, max.	100 Hz
• with inductive load, max.	0.5 Hz; According to IEC 60947-5-1, DC-13
• on lamp load, max.	10 Hz
<b>Total current of the outputs</b>	
• Current per channel, max.	0.5 A; see additional description in the manual
• Current per group, max.	4 A; see additional description in the manual
• Current per module, max.	16 A; see additional description in the manual
<b>Cable length</b>	
• shielded, max.	1 000 m
• unshielded, max.	600 m
<b>Isochronous mode</b>	
Execution and activation time (TCO), min.	70 µs
Bus cycle time (TDP), min.	250 µs
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes
Substitute values connectable	Yes
<b>Alarms</b>	
• Diagnostic alarm	Yes
• Maintenance interrupt	Yes
<b>Diagnostic messages</b>	
• Monitoring the supply voltage	Yes
• Wire-break	Yes
• Short-circuit	Yes
• Group error	Yes
<b>Diagnostics indication LED</b>	
• RUN LED	Yes; green LED
• ERROR LED	Yes; red LED
• MAINT LED	Yes; Yellow LED
• Monitoring of the supply voltage (PWR-LED)	Yes; green LED
• Channel status display	Yes; green LED
• for channel diagnostics	Yes; red LED
• for module diagnostics	Yes; red LED
<b>Potential separation</b>	
<b>Potential separation channels</b>	
• between the channels	No
• between the channels, in groups of	8
• between the channels and backplane bus	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	Yes; From FS02
Highest safety class achievable for safety-related tripping of standard modules	
<ul style="list-style-type: none"> <li>• Performance level according to ISO 13849-1</li> <li>• Category according to ISO 13849-1</li> <li>• SILCL according to IEC 62061</li> </ul>	PL d Cat. 3 SILCL 2
Ambient conditions	
Altitude during operation relating to sea level	
<ul style="list-style-type: none"> <li>• Installation altitude above sea level, max.</li> </ul>	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
Dimensions	
Width	35 mm
Height	147 mm
Depth	129 mm
Weights	
Weight, approx.	280 g
<b>last modified:</b>	04/10/2020