

SIMATIC S7-1500, digital output module DQ 8x230 V AC/5 A ST; relay; 8 channels in groups of 1; 5 A per group; Diagnostics, substitute value: Front connector (screw terminals or push-in) to be ordered separately



Figure similar

General information	
HW functional status	FS01
Firmware version	V2.0.0
<ul style="list-style-type: none"> <li>FW update possible</li> </ul>	Yes
Product function	
<ul style="list-style-type: none"> <li>I&amp;M data</li> </ul>	Yes; I&M0 to I&M3
Engineering with	
<ul style="list-style-type: none"> <li>STEP 7 TIA Portal configurable/integrated as of version</li> </ul>	V12 / V12
<ul style="list-style-type: none"> <li>STEP 7 configurable/integrated as of version</li> </ul>	V5.5 SP3 / -
<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>Oversampling</li> </ul>	No

- MSO

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

### Input current

Current consumption, max.	80 mA
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### Output voltage

Rated value (AC)	230 V; 24 V DC to 120 V DC / 24 V AC to 230 V AC
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### Power

Power available from the backplane bus	0.8 W
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### Power loss

Power loss, typ.	5 W
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### Digital outputs

Type of digital output	Relays
Number of digital outputs	8
Current-sinking	Yes
Current-sourcing	Yes
Digital outputs, parameterizable	Yes
Short-circuit protection	No
Controlling a digital input	possible
Size of motor starters according to NEMA, max.	5

### Switching capacity of the outputs

<ul style="list-style-type: none"> <li>• on lamp load, max.</li> </ul>	1 500 W; 10 000 operating cycles
<ul style="list-style-type: none"> <li>• Low energy/fluorescent lamps with electronic control gear</li> </ul>	10x 58 W (25 000 operating cycles)
<ul style="list-style-type: none"> <li>• Fluorescent tubes, conventionally compensated</li> </ul>	1x 58 W (25 000 operating cycles)
<ul style="list-style-type: none"> <li>• Fluorescent tubes, uncompensated</li> </ul>	10x 58 W (25 000 operating cycles)

### Output current

<ul style="list-style-type: none"> <li>• for signal "1" rated value</li> </ul>	5 A
<ul style="list-style-type: none"> <li>• for signal "1" permissible range, min.</li> </ul>	5 mA; 10 V
<ul style="list-style-type: none"> <li>• for signal "1" permissible range, max.</li> </ul>	8 A; thermal continuous current
<ul style="list-style-type: none"> <li>• for signal "0" residual current, max.</li> </ul>	0 A

### Parallel switching of two outputs

<ul style="list-style-type: none"> <li>• for logic links</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• for uprating</li> </ul>	No
<ul style="list-style-type: none"> <li>• for redundant control of a load</li> </ul>	Yes

### Switching frequency

<ul style="list-style-type: none"> <li>• with resistive load, max.</li> </ul>	2 Hz
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• with inductive load, max.	0.5 Hz
• on lamp load, max.	2 Hz
<b>Total current of the outputs</b>	
• Current per channel, max.	8 A; see additional description in the manual
• Current per group, max.	8 A; see additional description in the manual
• Current per module, max.	64 A; see additional description in the manual
<b>Relay outputs</b>	
• Number of relay outputs	8
• Rated supply voltage of relay coil L+ (DC)	24 V
• Current consumption of relays (coil current of all relays), typ.	80 mA
• external protection for relay outputs	With miniature circuit breaker with characteristic B for: $\cos \varphi 1.0$ : 600 A $\cos \varphi 0.5 \dots 0.7$ : 900 A with 8 A Diazed fuse: 1 000 A
• Contact connection (internal)	No
• Number of operating cycles, max.	4 000 000; see additional description in the manual
• Relay approved acc. to UL 508	Yes; 250 V AC/5 A g.p.; 120 V AC TV-4 tungsten; A300, R300
<b>Switching capacity of contacts</b>	
— with inductive load, max.	see additional description in the manual
— with resistive load, max.	see additional description in the manual
<b>Cable length</b>	
• shielded, max.	1 000 m
• unshielded, max.	600 m
<b>Isochronous mode</b>	
Isochronous operation (application synchronized up to terminal)	No
<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
<b>Diagnostics indication LED</b>	
• RUN LED	Yes; Green LED
• ERROR LED	Yes; Red LED
• Monitoring of the supply voltage (PWR-LED)	Yes; Green LED
• Channel status display	Yes; Green LED
• for channel diagnostics	No
• for module diagnostics	Yes; Red LED

## Potential separation

Potential separation channels	
• between the channels	Yes; Switching of different phases permitted
• between the channels, in groups of	1
• between the channels and backplane bus	Yes
• Between the channels and load voltage L+	Yes

## Permissible potential difference

between different circuits	250 V AC between the channels and the supply voltage L+; 250 V AC between the channels and the backplane bus; 500 V AC between the channels
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## Isolation

Isolation tested with	Between channels: 3 100 V DC; between channels backplane bus: 3 100 V DC; between L+ and backplane bus: 707 V DC (type test)
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## Standards, approvals, certificates

Suitable for safety functions	No
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## Ambient conditions

Ambient temperature during operation	
• horizontal installation, min.	0 °C
• horizontal installation, max.	60 °C
• vertical installation, min.	0 °C
• vertical installation, max.	40 °C

## Decentralized operation

Prioritized startup	Yes
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## Dimensions

Width	35 mm
Height	147 mm
Depth	129 mm

## Weights

Weight, approx.	350 g
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**last modified:** 08/15/2019