

**Data sheet**

**6ES7522-5HH00-0AB0**

SIMATIC S7-1500, DIGITAL OUTPUT MODULE DQ 16 X 230VAC / 2A ST; RELAY; 16 CHANNELS IN GROUPS OF 2, 4A PER GROUP; DIAGNOSIS; SUBSTITUTE VALUE



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General information	
Product type designation	DQ 16x230VAC/2A ST (relay)
HW functional status	FS01
Firmware version	V1.0.0
<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>	V13 SP1 / -
<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
<ul style="list-style-type: none"> <li>MSO</li> </ul>	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.	150 mA
Power	
Power available from the backplane bus	0.8 W
Power loss	
Power loss, typ.	5 W
Digital outputs	
Number of digital outputs	16
Current-sinking	Yes
Current-sourcing	Yes
Short-circuit protection	No
Controlling a digital input	Yes
Switching capacity of the outputs	
<ul style="list-style-type: none"> <li>on lamp load, max.</li> </ul>	50 W (230 V AC), 5 W (24 V DC)
Output current	
<ul style="list-style-type: none"> <li>for signal "1" rated value</li> <li>for signal "1" permissible range, min.</li> <li>for signal "1" permissible range, max.</li> <li>for signal "0" residual current, max.</li> </ul>	2 A 10 mA; 10 V 2 A; thermal continuous current 0 A
Parallel switching of two outputs	
<ul style="list-style-type: none"> <li>for logic links</li> <li>for uprating</li> <li>for redundant control of a load</li> </ul>	Yes No Yes
Switching frequency	
<ul style="list-style-type: none"> <li>with resistive load, max.</li> <li>with inductive load, max.</li> <li>on lamp load, max.</li> </ul>	1 Hz 0.5 Hz 1 Hz
Total current of the outputs	
<ul style="list-style-type: none"> <li>Current per channel, max.</li> <li>Current per group, max.</li> <li>Current per module, max.</li> </ul>	2 A; see additional description in the manual 2 A; see additional description in the manual 32 A; see additional description in the manual
Relay outputs	
<ul style="list-style-type: none"> <li>Number of relay outputs</li> <li>Rated supply voltage of relay coil L+ (DC)</li> </ul>	16 24 V

<ul style="list-style-type: none"> <li>• Current consumption of relays (coil current of all relays), max.</li> </ul>	150 mA
<ul style="list-style-type: none"> <li>• external protection for relay outputs</li> </ul>	Miniature circuit breaker B10 / B16
<ul style="list-style-type: none"> <li>• Contact connection (internal)</li> </ul>	No
<ul style="list-style-type: none"> <li>• Size of motor starters according to NEMA, max.</li> </ul>	5
<ul style="list-style-type: none"> <li>• Number of operating cycles, max.</li> </ul>	see additional description in the manual
<ul style="list-style-type: none"> <li>• Relay approved acc. to UL 508</li> </ul>	No
<b>Switching capacity of contacts</b>	
— with inductive load, max.	2 A; see additional description in the manual
— with resistive load, max.	2 A; see additional description in the manual
<b>Cable length</b>	
<ul style="list-style-type: none"> <li>• shielded, max.</li> </ul>	1 000 m
<ul style="list-style-type: none"> <li>• unshielded, max.</li> </ul>	600 m
<b>Isochronous mode</b>	
Isochronous operation (application synchronized up to terminal)	No
<b>Interrupts/diagnostics/status information</b>	
Diagnostics	Yes
Substitute values connectable	Yes
<b>Alarms</b>	
<ul style="list-style-type: none"> <li>• Diagnostic alarm</li> </ul>	Yes
<b>Diagnostic messages</b>	
<ul style="list-style-type: none"> <li>• Monitoring the supply voltage</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Wire-break</li> </ul>	No
<ul style="list-style-type: none"> <li>• Short-circuit</li> </ul>	No
<b>Diagnostics indication LED</b>	
<ul style="list-style-type: none"> <li>• RUN LED</li> </ul>	Yes; Green LED
<ul style="list-style-type: none"> <li>• ERROR LED</li> </ul>	Yes; Red LED
<ul style="list-style-type: none"> <li>• Monitoring of the supply voltage (PWR-LED)</li> </ul>	Yes; Green LED
<ul style="list-style-type: none"> <li>• Channel status display</li> </ul>	Yes; Green LED
<ul style="list-style-type: none"> <li>• for channel diagnostics</li> </ul>	No
<ul style="list-style-type: none"> <li>• for module diagnostics</li> </ul>	Yes; Red LED
<b>Potential separation</b>	
<b>Potential separation channels</b>	
<ul style="list-style-type: none"> <li>• between the channels</li> </ul>	No
<ul style="list-style-type: none"> <li>• between the channels, in groups of</li> </ul>	2
<ul style="list-style-type: none"> <li>• between the channels and backplane bus</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Between the channels and load voltage L+</li> </ul>	Yes
<b>Isolation</b>	

Isolation tested with	Between the channels: 2 500 V DC; between the channels and backplane bus: 2 500 V DC; between L+ backplane bus 707 V DC (type test)
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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:** 09.04.2016