## **SIEMENS**

## **Data sheet**

6ES7522-1BH01-0AB0



SIMATIC S7-1500, digital output module DQ16x24 V DC/0.5A HF; 16 channels in groups of 8; 4 A per group; single-channel diagnostics; substitute value: switching cycle counter for connected actuators. the module supports the safety-oriented shutdown of load groups up to SIL2 according to EN IEC 62061:2021 and Category 3 / PL d according to EN ISO 13849-1:2015. front connector (screw terminals or push-in) to be ordered separately

Figure similar

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General information	
Product type designation	DQ 16x24VDC/0.5A HF
HW functional status	From FS02
Firmware version	V1.1.0
FW update possible	Yes
Product function	
I&M data	Yes; I&M0 to I&M3
<ul> <li>Isochronous mode</li> </ul>	Yes
Prioritized startup	Yes
Engineering with	
<ul> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul>	V13 SP1 / -
<ul> <li>STEP 7 configurable/integrated from version</li> </ul>	V5.5 SP3 / -
<ul> <li>PROFIBUS from GSD version/GSD revision</li> </ul>	V1.0 / V5.1
PROFINET from GSD version/GSD revision	V2.3 / -
Operating mode	
• DQ	Yes
<ul> <li>DQ with energy-saving function</li> </ul>	No
• PWM	No
<ul> <li>Cam control (switching at comparison values)</li> </ul>	No
<ul><li>Oversampling</li></ul>	No
• MSO	Yes
Integrated operating cycle counter	Yes
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; through internal protection with 7 A per group
Input current	
Current consumption, max.	30 mA
output voltage / header	
Rated value (DC)	24 V
Power	
Power available from the backplane bus	1.1 W
Power loss	
Power loss, typ.	2 W
Digital outputs	
Type of digital output	Transistor
Number of digital outputs	16

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	400
• "0" to "1", max.	100 μs
• "1" to "0", max.	500 µs
Parallel switching of two outputs	V
• for logic links	Yes
• for uprating	No
for redundant control of a load	Yes
Switching frequency	400 11
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
Total current of the outputs	
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.	8 A; see additional description in the manual
Cable length	4.000
• shielded, max.	1 000 m
• unshielded, max.	600 m
Isochronous mode	
Execution and activation time (TCO), min.	70 μs
Bus cycle time (TDP), min.	250 μs
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Substitute values connectable	Yes
Alarms	
Diagnostic alarm	Yes
Maintenance interrupt	Yes
Diagnoses	
<ul> <li>Monitoring the supply voltage</li> </ul>	Yes
<ul><li>Wire-break</li></ul>	Yes
Short-circuit	Yes
Group error	Yes
Diagnostics indication LED	
• RUN LED	Yes; green LED
• ERROR LED	Yes; red LED
MAINT LED	Yes; Yellow LED
<ul> <li>Monitoring of the supply voltage (PWR-LED)</li> </ul>	Yes; green LED
<ul> <li>Channel status display</li> </ul>	Yes; green LED
<ul> <li>for channel diagnostics</li> </ul>	Yes; red LED
<ul> <li>for module diagnostics</li> </ul>	Yes; red LED
Potential separation	
Potential separation channels	
between the channels	No
<ul> <li>between the channels, in groups of</li> </ul>	8
between the channels and backplane bus	Yes
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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> <li>Performance level according to ISO 13849-1</li> </ul>	PL d	
<ul> <li>Category according to ISO 13849-1</li> </ul>	Cat. 3	
<ul> <li>SIL acc. to IEC 62061</li> </ul>	SIL 2	
Ambient conditions		
Ambient temperature during operation		
<ul> <li>horizontal installation, min.</li> </ul>	-30 °C; From FS03	
<ul> <li>horizontal installation, max.</li> </ul>	60 °C	
<ul> <li>vertical installation, min.</li> </ul>	-30 °C; From FS03	
<ul> <li>vertical installation, max.</li> </ul>	40 °C	
Altitude during operation relating to sea level		
<ul> <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.	230 g	
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