## **SIEMENS**

## **Data sheet**

6ES7522-1BL01-0AB0



SIMATIC S7-1500, digital output module DQ 32x24V DC/0.5A HF; 32 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

General information		
Product type designation	DQ 32x24VDC/0.5A HF	
HW functional status	From FS02	
Firmware version	V1.1.0	
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	
<ul> <li>PROFINET from GSD version/GSD revision</li> </ul>	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.	60 mA	
output voltage / header		
Rated value (DC)	24 V	
Power		
Power available from the backplane bus	1.1 W	
Power loss		
Power loss, typ.	3.5 W	
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	
<ul> <li>with resistive load, max.</li> </ul>	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
<ul><li>for signal "1" permissible range, max.</li></ul>	0.5 A
<ul><li>for signal "0" residual current, max.</li></ul>	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
Switching frequency	
with resistive load, max.	100 Hz
<ul><li>with inductive load, max.</li></ul>	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.	16 A; see additional description in the manual
Cable length	
• 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	
Monitoring the supply voltage	Yes
Wire-break	Yes
Short-circuit	Yes
Group error	Yes
Diagnostics indication LED	160
RUN LED	Vac: green LED
• RUN LED • ERROR LED	Yes; green LED Yes; red LED
MAINT LED	
	Yes; Yellow LED
Monitoring of the supply voltage (PWR-LED)     Channel status display.	Yes; green LED
Channel status display     for channel dispraction	Yes; green LED
<ul> <li>for channel diagnostics</li> </ul>	Yes; red LED
	V UED
for module diagnostics	Yes; red LED
Potential separation	Yes; red LED
Potential separation  Potential separation channels	
Potential separation	Yes; red LED  No 8

Isolation   Isolation tested with   707 V DC (type test)	<ul> <li>between the channels and backplane bus</li> </ul>	Yes	
Standards, approvals, certificates  Suitable for safety functions  Suitable for safety-related tripping of standard modules  Yes; From FS02  Highest safety class achievable for safety-related tripping of standard modules  • Performance level according to ISO 13849-1  • Category according to ISO 13849-1  • Category according to ISO 13849-1  • SIL acc. to IEC 62061  • ISIL 2  • remark on safety-oriented shutdown  https://support.industry.siemens.com/cs/de/en/view/39198632  product functions / security / header  signed firmware update  data integrity  No  Ambient conditions  Ambient temperature during operation  • horizontal installation, min.  • horizontal installation, max.  • vertical installation, max.  • vertical installation, max.  40 °C  Altitude during operation relating to sea level  • Installation altitude above sea level, max.  5 000 m; Restrictions for installation altitudes > 2 000 m, see manual  Dimensions  Width  147 mm  Depth  Weights	Isolation		
Suitable for safety functions  Suitable for safety-related tripping of standard modules  Performance level according to ISO 13849-1  • Category according to ISO 13849-1  • Cat. 3  •	Isolation tested with	707 V DC (type test)	
Suitable for safety-related tripping of standard modules  Highest safety class achievable for safety-related tripping of standard modules  Performance level according to ISO 13849-1  Cat. 3  SIL acc. to IEC 62061  Intervilva y according to ISO 13849-1  PL d  Cat. 3  SIL acc. to IEC 62061  Intervilva y according to ISO 13849-1  PL d  Cat. 3  SIL acc. to IEC 62061  SIL 2  Permark on safety-oriented shutdown  Intervilva y intervilva	Standards, approvals, certificates		
Highest safety class achievable for safety-related tripping of standard modules  • Performance level according to ISO 13849-1 PL d  • Category according to ISO 13849-1 Cat. 3  • SIL acc. to IEC 62061 SIL 2  • remark on safety-oriented shutdown https://support.industry.siemens.com/cs/de/en/view/39198632  product functions / security / header  signed firmware update No data integrity No  Ambient conditions  Ambient temperature during operation  • horizontal installation, min30 °C; From FS03 • horizontal installation, max. 60 °C • vertical installation, min30 °C; From FS03 • vertical installation, max. 40 °C  Altitude during operation relating to sea level  • Installation altitude above sea level, max. 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual  Dimensions  Width 35 mm  Height 147 mm  Depth 129 mm  Weights	Suitable for safety functions	No	
Performance level according to ISO 13849-1 Cat. 3 Category according to ISO 13849-1 SIL acc. to IEC 62061 Premark on safety-oriented shutdown Introst/support.industry.siemens.com/cs/de/en/view/39198632  Product functions / security / header signed firmware update data integrity No  Ambient conditions  Ambient temperature during operation Phorizontal installation, min. Phorizontal installation, max. Perform FS03 Portical installation, max. Portical installation, max. Portical installation altitude above sea level Plastallation altitude above sea level	Suitable for safety-related tripping of standard modules	Yes; From FS02	
Category according to ISO 13849-1 SIL acc. to IEC 62061 SIL 2 Integrated installation, min. Vertical installation, min. Vertical installation, max.  Altitude during operation relating to sea level  Installation altitude above sea level, max.  Dimensions  Width  Depth  Cat. 3 SIL 2 SIL 2 Integrity SIL 2 Integrity Integrity Integrity No  No  Antitude during operation  Cat. 3 SIL 2 SIL 2 Integrity Integri	Highest safety class achievable for safety-related tripping of standa	rd modules	
SIL 2  remark on safety-oriented shutdown  https://support.industry.siemens.com/cs/de/en/view/39198632  product functions / security / header  signed firmware update	<ul> <li>Performance level according to ISO 13849-1</li> </ul>	PL d	
remark on safety-oriented shutdown     product functions / security / header  signed firmware update     data integrity     No  Ambient conditions  Ambient temperature during operation      horizontal installation, min.     horizontal installation, max.     horizontal installation, min.     vertical installation, min.     vertical installation, max.      vertical installation, max.      vertical installation reactions  Altitude during operation relating to sea level     Installation altitude above sea level, max.  Dimensions  Width     Height     Depth     129 mm  Weights	<ul> <li>Category according to ISO 13849-1</li> </ul>	Cat. 3	
signed firmware update data integrity  No  Ambient conditions  Ambient temperature during operation  • horizontal installation, min. • horizontal installation, max. • horizontal installation, min. • vertical installation, min. • vertical installation, max. • vertical installation, max.  • vertical installation at the description of the stallation of the stallation at the stal	<ul> <li>SIL acc. to IEC 62061</li> </ul>	SIL 2	
signed firmware update  data integrity  No  Ambient conditions  Ambient temperature during operation  • horizontal installation, min. • horizontal installation, max. • horizontal installation, min. • vertical installation, min. • vertical installation, max. 40 °C  Altitude during operation relating to sea level • Installation altitude above sea level, max.  5 000 m; Restrictions for installation altitudes > 2 000 m, see manual  Dimensions  Width 35 mm  Height 147 mm  Depth 129 mm  Weights	<ul> <li>remark on safety-oriented shutdown</li> </ul>	https://support.industry.siemens.com/cs/de/en/view/39198632	
data integrity  Ambient conditions  Ambient temperature during operation  • horizontal installation, min. • horizontal installation, max. 60 °C • vertical installation, min. • vertical installation, max. 40 °C  Altitude during operation relating to sea level • Installation altitude above sea level, max.  5 000 m; Restrictions for installation altitudes > 2 000 m, see manual  Dimensions  Width 35 mm  Height 147 mm  Depth 129 mm  Weights	product functions / security / header		
Ambient conditions  Ambient temperature during operation  • horizontal installation, min. • horizontal installation, max. 60 °C • vertical installation, min. • vertical installation, max. 40 °C  Altitude during operation relating to sea level • Installation altitude above sea level, max.  Dimensions  Width 35 mm  Height 147 mm  Depth 129 mm  Weights	signed firmware update	No	
Ambient temperature during operation  • horizontal installation, min. • horizontal installation, max. • horizontal installation, max. • vertical installation, min. • vertical installation, max. • vertical installation, max.  • vertical installation, max.  • vertical installation, max.  • vertical installation altitude during operation relating to sea level • Installation altitude above sea level, max.  • Installation altitude above sea level, max.  • S 000 m; Restrictions for installation altitudes > 2 000 m, see manual  Dimensions  Width  • Ja mm  Depth  129 mm  Weights	data integrity	No	
<ul> <li>horizontal installation, min.</li> <li>horizontal installation, max.</li> <li>vertical installation, min.</li> <li>vertical installation, max.</li> <li>vertical installation, max.</li> <li>Vertical installation, max.</li> <li>Altitude during operation relating to sea level</li> <li>Installation altitude above sea level, max.</li> <li>Installation altitude above sea level, max.</li> <li>5 000 m; Restrictions for installation altitudes &gt; 2 000 m, see manual</li> <li>Dimensions</li> <li>Width</li> <li>35 mm</li> <li>Height</li> <li>147 mm</li> <li>Depth</li> <li>129 mm</li> <li>Weights</li> </ul>	Ambient conditions		
<ul> <li>horizontal installation, max.</li> <li>vertical installation, min.</li> <li>vertical installation, max.</li> <li>vertical installation, max.</li> <li>Altitude during operation relating to sea level         <ul> <li>Installation altitude above sea level, max.</li> <li>5 000 m; Restrictions for installation altitudes &gt; 2 000 m, see manual</li> </ul> </li> <li>Dimensions         <ul> <li>Width</li> <li>Height</li> <li>147 mm</li> <li>Depth</li> <li>129 mm</li> </ul> </li> <li>Weights</li> </ul>	Ambient temperature during operation		
<ul> <li>vertical installation, min.</li> <li>vertical installation, max.</li> <li>C; From FS03</li> <li>vertical installation, max.</li> <li>C</li> <li>Altitude during operation relating to sea level</li> <li>Installation altitude above sea level, max.</li> <li>5 000 m; Restrictions for installation altitudes &gt; 2 000 m, see manual</li> <li>Dimensions</li> <li>Width</li> <li>Height</li> <li>Depth</li> <li>147 mm</li> <li>Depth</li> <li>Depth</li> <li>Weights</li> </ul>	<ul> <li>horizontal installation, min.</li> </ul>	-30 °C; From FS03	
<ul> <li>◆ vertical installation, max.</li> <li>Altitude during operation relating to sea level</li> <li>◆ Installation altitude above sea level, max.</li> <li>5 000 m; Restrictions for installation altitudes &gt; 2 000 m, see manual</li> <li>Dimensions</li> <li>Width</li> <li>Height</li> <li>Depth</li> <li>147 mm</li> <li>Depth</li> <li>Depth</li> <li>129 mm</li> <li>Weights</li> </ul>	<ul> <li>horizontal installation, max.</li> </ul>	60 °C	
Altitude during operation relating to sea level  ● Installation altitude above sea level, max. 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual  Dimensions  Width 35 mm  Height 147 mm  Depth 129 mm  Weights	<ul> <li>vertical installation, min.</li> </ul>	-30 °C; From FS03	
● Installation altitude above sea level, max. 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual  Dimensions  Width 35 mm  Height 147 mm  Depth 129 mm  Weights	<ul> <li>vertical installation, max.</li> </ul>	40 °C	
Dimensions           Width         35 mm           Height         147 mm           Depth         129 mm           Weights	Altitude during operation relating to sea level		
Width         35 mm           Height         147 mm           Depth         129 mm           Weights	<ul> <li>Installation altitude above sea level, max.</li> </ul>	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual	
Height 147 mm  Depth 129 mm  Weights	Dimensions		
Depth 129 mm Weights	Width	35 mm	
Weights	Height	147 mm	
	Depth	129 mm	
Weight, approx. 280 g	Weights		
	Weight, approx.	280 g	

3/12/2024

last modified: