SIEMENS

Data sheet

6ES7523-1BL00-0AA0



SIMATIC S7-1500 digital input/output module, DI16x 24VDC BA, 16 channels in groups of 16, input delay typ. 3.2 ms input type 3 (IEC 61131), DQ16XDC 24V/0.5A BA; 16 channels in groups of 8; 4 A per group; the module supports the safety-oriented shutdown of load groups up to SIL2 according to EN IEC 62061:2021 and Category 2 / PL c according to EN ISO 13849-1:2015. delivery including front connector push-in,

General information	
Product type designation	DI 16x24VDC / DQ16x24VDC/0.5A BA
HW functional status	From FS01
Firmware version	V1.0.0
 FW update possible 	Yes
Product function	
● I&M data	Yes; I&M0 to I&M3
 Isochronous mode 	No
 Prioritized startup 	Yes
Engineering with	
 STEP 7 TIA Portal configurable/integrated from version 	V13 / V13
 STEP 7 configurable/integrated from version 	V5.5 SP3 / -
 PROFIBUS from GSD version/GSD revision 	V1.0 / V5.1
 PROFINET from GSD version/GSD revision 	V2.3 / -
Operating mode	
• DI	Yes
Counter	No
• DQ	Yes
 DQ with energy-saving function 	No
• PWM	No
Oversampling	No
• MSI	Yes
• MSO	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.	3.45 W
Digital inputs	
Number of digital inputs	16

Source/sink input P-reading Input characteristic curve in accordance with IEC 61131, type 3 Yes Input voltage - Input voltage 24 V • Rated value (DC) 24 V • for signal "0" -30 to +5 V • for signal "1" +11 to +30V Input current 2.7 mA • for signal "1", typ. 2.7 mA Input delay (for rated value of input voltage) - • for standard inputs - - parameterizable No - at "0" to "1", min. 3 ms - at "0" to "1", max. 4 ms - at "1" to "0", min. 3 ms - at "1" to "0", min. 3 ms - at "1" to "0", min. 3 ms - at "1" to "0", min. 4 ms - at "1" to "0", min. 5 ms - at "1" to "0", min. 5 ms - parameterizable No - parameterizable No - at "1" to "0", max. 4 ms - parameterizable No Cable length - • shielded, max. <th>Digital inputs, parameterizable</th> <th>No</th>	Digital inputs, parameterizable	No
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type 3		
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 • for signal "1" + 010 + 5 V • for signal "1", typ. • for signa		24 V
• (or signal '1', 'pp.+ 11 to +30'input current- (or signal '1', 'pp.• (or signal '1', 'pp.2.7 mAinput class' (for rated value of input voltage)-• - parameterizableNo at '0' to '1'', 'max.4 ms at '0' to '1'', 'max.4 ms at '1' to '0', 'max.600 mCable Ingib parameterizableNo parameterizableNo parameterizableNo- parameterizable- (and 'and 'and 'and 'and '		
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Controlling a digital input Yes Switching capacity of the outputs	Response threshold, typ.	
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Switching frequency • with resistive load, max. • with inductive load, max. • with inductive load, max. • on lamp load, max. • on lamp load, max. 10 Hz Total current of the outputs • Current per channel, max. • Current per group, max. • Current per module, max.		
• with resistive load, max.100 Hz• with inductive load, max.0.5 Hz• on lamp load, max.10 HzTotal 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 manualCable length		Yes
• with inductive load, max.0.5 Hz• on lamp load, max.10 HzTotal 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 manualCable length		
• on lamp load, max.10 HzTotal current of the outputs0.5 A; see additional description in the manual• 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 manualCable length		
Total current of the outputs • Current per channel, max. • Current per group, max. • Current per module, max. • Current per module, max. • Current per module, max. • Cable length		
 Current per channel, max. Current per group, max. Current per module, max. Current per module, max. Cable length 0.5 A; see additional description in the manual A; see additional description in the manual 		10 Hz
Current per group, max. Current per module, max. A; see additional description in the manual A; see additional description in the manual Cable length	· ·	
Current per module, max. 8 A; see additional description in the manual Cable length		
Cable length		
		δ A; see additional description in the manual
• shielded, max. 1 000 m	-	1 000 m
	• smelaea, max.	1 000 111

• unshielded, max.	600 m
Encoder	
Connectable encoders	
• 2-wire sensor	Yes
permissible quiescent current (2-wire sensor),	1.5 mA
max.	
Interrupts/diagnostics/status information	
Diagnostics function	No
Substitute values connectable	No
Alarms	
Diagnostic alarm	No
 Maintenance interrupt 	No
Hardware interrupt	No
Diagnoses	
 Monitoring the supply voltage 	No
• Wire-break	No
Short-circuit	No
Group error	No
Diagnostics indication LED	
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	No
Potential separation	
Potential separation channels	
 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-related tripping of standard modules	Yes; From FS03
Highest safety class achievable for safety-related tripping of	
Performance level according to ISO 13849-1	PL d
Category according to ISO 13849-1	Cat. 3
• SIL acc. to IEC 62061	SIL 2
Ambient conditions	
Ambient temperature during operation	
horizontal installation, min.	-30 °C; from FS04
 horizontal installation, max. 	60 °C
 vertical installation, min. 	-30 °C; from FS04
 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	
	25 mm
Width	25 mm
Height	147 mm
Depth	129 mm
Weights	
Weight, approx.	280 g
Other	
Note:	Supplied incl. 40-pole push-in front connectors
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