6ES7523-1BL00-0AA0

Data sheet



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	

Digital inputs, parameterizable	No
Digital inputs, parameterizable	No D reading
Source/sink input	P-reading
Input characteristic curve in accordance with IEC 61131, type 3	Yes
Input voltage	
Rated value (DC)	24 V
• for signal "0"	-30 to +5 V
• for signal "1"	+11 to +30V
Input current	
• 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", max. — at "1" to "0", min.	3 ms
— at "1" to "0", max.	4 ms
for interrupt inputs	
— parameterizable	No
— parameterizable Cable length	
• shielded, max.	1 000 m
snielded, max.unshielded, max.	600 m
unsnielded, max. Digital outputs	
	Transistor
Type of digital output	Transistor
Number of digital outputs	16
Current-sourcing	Yes
Digital outputs, parameterizable	No Voc
Short-circuit protection	Yes
Response threshold, typ.	1 A
Limitation of inductive shutdown voltage to	L+ (-53 V)
Controlling a digital input	Yes
Switching capacity of the outputs	05.4
with resistive load, max.	0.5 A
• on lamp load, max.	5 W
Load resistance range	10.0
• 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	
• "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
• with inductive load, max.	0.5 Hz
• 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	
• shielded, max.	1 000 m

• 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	V 150
• RUN LED	Yes; green LED
ERROR LED Maritarian of the country well-see (DMD LED)	Yes; red LED
Monitoring of the supply voltage (PWR-LED)	Yes; green LED
Channel status display	Yes; green LED
• for channel diagnostics	No 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
remark on safety-oriented shutdown	https://support.industry.siemens.com/cs/de/de/view/39198632
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	
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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