SIEMENS

Data sheet

6ES7521-1BL00-0AB0



SIMATIC S7-1500, digital input module DI 32x24 V DC HF, 32 channels in groups of 16; of which 2 inputs as counters can be used; input delay 0.05..20 ms input type 3 (IEC 61131); diagnostics; hardware interrupts: front connector (screw terminals or push-in) to be ordered separately

Figure similar

General information		
Product type designation	DI 32x24VDC HF	
HW functional status	from FS04	
Firmware version	V2.2.1	
 FW update possible 	Yes	
Product function		
 I&M data 	Yes; I&M0 to I&M3	
 Isochronous mode 	Yes	
Prioritized startup	Yes	
Engineering with		
 STEP 7 TIA Portal configurable/integrated from version 	V13 SP1 / -	
 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 	Yes	
 Oversampling 	No	
• MSI	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	
Input current		
Current consumption, max.	40 mA; 20 mA per group with 24 V DC supply	
Power		
Power available from the backplane bus	1.1 W	
Power loss		
Power loss, typ.	4.2 W	
Digital inputs		
Number of digital inputs	32	
Digital inputs, parameterizable	Yes	
Source/sink input	P-reading	
Input characteristic curve in accordance with IEC 61131, type 3	Yes	
Digital input functions, parameterizable		

• Seake startstop		v
- Counting frequency, max,	Gate start/stop	Yes
Number, max		Yes
Counting victoring width Counting direction updown Up Post victoring width Counting direction updown Up	Counter	
Counting width Counting direction up/down Up Input vertage Rated value (DC)	— Number, max.	2
Countring direction up/down Up	 Counting frequency, max. 	6 kHz; FS04 and FW V2.2.1 or higher
Input/voltage	 Counting width 	32 bit
Rated value (DC)	 Counting direction up/down 	Up
• for signal "0" + 110 + 30V • for signal "1" + 110 + 30V Input current "1", typ. Input delay (for rated value of input voitage) for standard inputs	Input voltage	
For signal "1"	 Rated value (DC) 	24 V
Input cleary (for rated value of input voltage)	• for signal "0"	-30 to +5 V
for signal "1" typ 2.5 mA	• for signal "1"	+11 to +30V
Input delay (for rated value of input voltage) for standard inputs	Input current	
Input delay (for rated value of input voltage) for standard inputs	• for signal "1", typ.	2.5 mA
for standard inputs — parameterizable — at "0" to "1", min. — at "1" to "0", min. — at "1" to "0", max. 20 ms — at "1" to "0", max. 20 ms for interrupt inputs — parameterizable — parameterizable — parameterizable		
parameterizable at "0" to "1", min.		
- at "0" to "1", min.	— parameterizable	Yes; 0.05 / 0.1 / 0.4 / 1.6 / 3.2 / 12.8 / 20 ms
- at "0" to "1", max.	·	
at "1" to "0", min at "1" to "0", max. 20 ms for interrupt inputs parameterizable Yes for technological functions parameterizable Yes Cable length shelded, max 1000 m unshielded, max 600 m Encoder Connectable encoders 2-wire sensor yes permissible quiescent current (2-wire sensor), max. Isochronous mode Filtering and processing time (TCI), min 250 µs Bus cycle time (TDP), min 250 µs Interruptsidiagnosticsfatus information Diagnostic struction Yes Alarms Diagnostic struction Yes Hardware interrupt Yes Monitoring the supply voltage Yes Wire-break Yes; to I < 350 µA Short-circuit No Diagnostic sindication LED RUN LED RUN LED RUN LED RUN LED RUN LED Monitoring of the supply voltage (PWR-LED) Yes; green LED Channel status display Yes; green LED Channel status display Yes; green LED Or channel status display Yes; red LED Or channel status display Yes; red LED For module diagnostics For module diagnostics For module diagnostics Detvenel the channels Detvenel the channels Detvenel the channels and backplane bus Detvene the channels and backplane bus Detvened		
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For interrupt inputs		
Filter		
for technological functions — parameterizable Yes Cable length • shielded, max. • unshielded, max. • 2-wire sensor — permissible quiescent current (2-wire sensor), max. Isochronous mode Isochronous mode Isochronous mode Isochronous mode Interrupts/diagnostics/status information Diagnostics function Alarms • Diagnostic slarm • Hardware interrupt Yes Uniformation Ibagnostics indication LED • Wire-break • Short-circuit No Diagnostics indication LED • RRN LED • RRN LED • RRN LED • Channel status display • Channel status display • Channel status display • Fes: green LED • For channel diagnostics • Fes: red LED • Deternal separation Potential separation channels • Detween the channels in groups of • Detween the channels in groups of • Detween the channels and backplane bus • Detween the channels and the power supply of the electronics Isolation		Vos
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• unshielded, max. 600 m Connectable encoders	•	4 000
Encoder Connectable encoders • 2-wire sensor — permissible quiescent current (2-wire sensor), max. Isochronous mode Filtering and processing time (TCI), min. 80 μs; At 50 μs filter time Bus cycle time (TDP), min. 250 μs Interrupts/diagnostics/status information Diagnostics function Yes Alarms • Diagnostic alarm Yes • Hardware interrupt Yes • Wire-break Yes; to I < 350 μA • Short-circuit No Diagnostics indication LED • RUN LED Yes; green LED • ERROR LED Yes; green LED • Monitoring of the supply voltage (PWR-LED) Yes; green LED • Channel status display Yes; green LED • Channel status display Yes; green LED • To channel diagnostics Yes; red LED • To module diagnostics Yes; red LED Potential separation Potential separation channels • between the channels in groups of 16 • between the channels and backplane bus • between the channels and the power supply of the electronics Isolation		
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Bus cycle time (TDP), min. Interrupts/diagnostics/status information		
Diagnostics function		
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Diagnoses • Monitoring the supply voltage • Wire-break • Short-circuit No Diagnostics indication LED • RUN LED • RUN LED • ERROR LED • Monitoring of the supply voltage (PWR-LED) • Channel status display • for channel diagnostics • for module diagnostics • for module diagnostics • between the channels • between the channels and backplane bus • between the channels and the power supply of the electronics Isolation	 Diagnostic alarm 	Yes
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between the channels and the power supply of the electronics Isolation No		
electronics Isolation		
Isolation		No
	electronics	
Isolation tested with 707 V DC (type test)	11-41	

Standards, approvals, certificates	
Suitable for safety functions	No
Ambient conditions	
Ambient temperature during operation	
 horizontal installation, min. 	-30 °C; From FS05
 horizontal installation, max. 	60 °C
 vertical installation, min. 	-30 °C; From FS05
 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	
Weight, approx.	260 g
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