Data sheet

6ES7526-1BH00-0AB0



SIMATIC S7-1500, F digital input module, F-DI 16x 24 V DC PROFIsafe; 35 mm width; up to PL E (ISO 13849-1)/ SIL 3 (IEC 61508)

Product type designation F-DI 16x24VDC Firmware version Frout function Frout function Firmware version Frout function Firmware version Frout function Frout function Firmware version Frout function Frout function Firmware version Frout function Firmware version	General information	
FW update possible Product function ● I&M data Engineering with ● STEP 7 TIA Portal configurable/integrated from version Operating mode ● DI Yes Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) permissible range upper limit (DC) permissible range to upper limit (DC) permissibl	Product type designation	F-DI 16x24VDC
Product function • I&M data Engineering with • STEP 7 TIA Portal configurable/integrated from version Operating mode • DI Yes Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) 28.8 V Reverse polarity protection Current consumption (rated value) Current consumption (rated value) Current consumption, max. 60 mA; without load Encoder supply Number of outputs 4 Short-circuit protection Yes; Electronic (response threshold 0.7 A to 1.8 A) 24 V es; min. L+ (-1.5 V) • Short-circuit protection • Output current, max. Power Power available from the backplane bus Power loss, typ. Address space Address space per module • Inputs • Outputs • 1	Firmware version	
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● STEP 7 TIA Portal configurable/integrated from version Operating mode ● DI 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 (rated value) 50 mA; without load Current consumption, max. 60 mA; without load Encoder supply Number of outputs 4 Short-circuit protection Yes; Electronic (response threshold 0.7 A to 1.8 A) 24 V encoder supply ● 24 V Yes; min. L+ (-1.5 V) ● Short-circuit protection Yes; min. L+ (-1.5 V) ● Short-circuit protection Yes; min. L+ (-1.5 V) ● Short-circuit protection Yes ● Output current, max. 300 mA; Max. 100 mA when mounted vertically Power Power loss Power loss Power loss, typ. 4.6 W Address area Address space per module ● Inputs 9 byte; S7-300/400F CPU, 8 byte ● Outputs Hardware configuration Automatic encoding	I&M data	Yes; I&M0 to I&M3
version Operating mode	Engineering with	
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Current consumption (rated value)	permissible range, upper limit (DC)	28.8 V
Current consumption (rated value) Current consumption, max. 60 mA; without load Encoder supply Number of outputs Short-circuit protection 24 V encoder supply • 24 V Short-circuit protection Yes; Electronic (response threshold 0.7 A to 1.8 A) 24 V encoder supply • 24 V Short-circuit protection Output current, max. 300 mA; Max. 100 mA when mounted vertically Power Power available from the backplane bus Power loss Power loss, typ. 4.6 W Address area Address space per module • Inputs • Outputs 9 byte; S7-300/400F CPU, 8 byte • Outputs Hardware configuration Automatic encoding Yes	Reverse polarity protection	Yes
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Number of outputs Short-circuit protection 24 V encoder supply • 24 V • Short-circuit protection Short-circuit protection • Output current, max. Power Power available from the backplane bus Power loss Power loss Power loss, typ. Address area Address space per module • Inputs • Outputs • Outputs Poutputs • Outputs Address Strain	Current consumption, max.	60 mA; without load
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Power loss, typ. Address area Address space per module Inputs Outputs Outputs Automatic encoding 4.6 W 4.6 W 4.6 W 4.6 W 4.6 W 4.6 W 9 byte; S7-300/400F CPU, 8 byte 9 byte; S7-300/400F CPU, 8 byte 5 byte; S7-300/400F CPU, 4 byte	Power available from the backplane bus	0.9 W
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Hardware configuration Automatic encoding Yes	• Inputs	9 byte; S7-300/400F CPU, 8 byte
Automatic encoding Yes	 Outputs 	5 byte; S7-300/400F CPU, 4 byte
	Hardware configuration	
Electronic coding element type F Yes	Automatic encoding	Yes
	 Electronic coding element type F 	Yes

Digital inputs	
Number of digital inputs	16
Source/sink input	Yes; P-reading
Input characteristic curve in accordance with IEC 61131, type 1	Yes
Input voltage	
Rated value (DC)	24 V
• for signal "0"	-30 to +5 V
• for signal "1"	+15 to +30 V
Input current	
• for signal "1", typ.	3.7 mA
Input delay (for rated value of input voltage)	
for standard inputs	
— parameterizable	Yes
— at "0" to "1", min.	0.4 ms
— at "0" to "1", max.	20 ms
— at "1" to "0", min.	0.4 ms
— at "1" to "0", max.	20 ms
Cable length	
• shielded, max.	1 000 m
• unshielded, max.	500 m
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
Diagnostic alarm	Yes
Hardware interrupt	No
Diagnoses	
Monitoring the supply voltage	Yes
Wire-break	No
Short-circuit	Yes
Group error	Yes
Diagnostics indication LED	
• RUN LED	Yes; green LED
• ERROR LED	Yes; red LED
 Channel status display 	Yes; green LED
 for channel diagnostics 	Yes; red LED
• for module diagnostics	Yes; red LED
Potential separation	
Potential separation channels	
between the channels and backplane bus	Yes
Isolation	
Isolation tested with	707 V DC (type test)
Standards, approvals, certificates	
Suitable for safety functions	Yes
Highest safety class achievable in safety mode	
Performance level according to ISO 13849-1	PLe
SIL acc. to IEC 61508	SIL 3
Probability of failure (for service life of 20 years and repart	
Low demand mode: PFDavg in accordance with SIL3	< 5.00E-05
High demand/continuous mode: PFH in accordance with SIL3	< 1.00E-09 1/h
Ambient conditions	
Ambient temperature during operation	
horizontal installation, min.	0 °C
horizontal installation, max.	60 °C
 vertical installation, min. 	0 °C
vertical installation, max.	40 °C

Dimensions		
Width	35 mm	
Height	147 mm	
Depth	129 mm	
Weights		
Weight, approx.	280 g	

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