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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)

General information	
Product type designation	F-DI 16x24VDC
Firmware version	
● FW update possible	Yes
Product function	
● I&M data	Yes; I&M0 to I&M3
Engineering with	
● STEP 7 TIA Portal configurable/integrated from version	V13 SP1 with HSP 0086
Operating mode	
● DI	Yes
● MSI	No
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
power supply according to NEC Class 2 required	No
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
● Output current, max.	300 mA; Max. 100 mA when mounted vertically
Power	
Power consumption from the backplane bus	0.9 W
Power loss	
Power loss, typ.	4.6 W
Address area	
Address space per module	
● Inputs	9 byte; S7-300/400F CPU, 8 byte
● Outputs	5 byte; S7-300/400F CPU, 4 byte
Hardware configuration	
Automatic encoding	Yes
● Electronic coding element type F	Yes
Digital inputs	
Number of digital inputs	16

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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 repair time of 100 hours)	
— 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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Classifications

	Version	Classification
eClass	14	27-24-22-04
eClass	12	27-24-22-04
eClass	9.1	27-24-22-04
eClass	9	27-24-22-04
eClass	8	27-24-22-04
eClass	7.1	27-24-22-04
eClass	6	27-24-22-04
ETIM	9	EC001419
ETIM	8	EC001419
ETIM	7	EC001419
IDEA	4	3566
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval	EMV	For use in hazardous locations
EG-Konf., UK CA, UL, RCM	RCM	UL

For use in hazardous locations					
FM	CCC-Ex	IECEx	ATEX	Miscellaneous	Type Examination Certificate

Functional Saftey		Marine / Shipping			
TÜV	Type Examination Certificate	ABS	BUREAU VERITAS	DNV	LRS

Marine / Shipping				Industrial Communication
NK / Nippon Kaiji Kyokai	RINA	CCS (China Classification Society)	KR	PROFIsafe

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