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Data sheet 6ES7526-1BH00-0AB0

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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	

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Automatic encoding	Yes
● Electronic coding element type F	Yes
Digital inputs	
Number of digital inputs	16
Sourcing/sinking 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

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Dimensions	
Width	35 mm
Height	147 mm
Depth	129 mm

Weights	
Weight, approx.	280 g

Classifications

	Version	Classification
eClass	16	27-24-22-04
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	10	EC001419
ETIM	9	EC001419
ETIM	8	EC001419
ETIM	7	EC001419
IDEA	4	3566
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval			Radio Equipment Type Approval Certificate	Test Certificates	other
EAC	KEMA KEUR KEMA	Confirmation	Miscellaneous	Miscellaneous	Confirmation

other		Environment			
产品合格 QC PASS	Miscellaneous	Environmental Confirmations	EPD	Environmental Confirmations	Siemens EcoTech

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