



SIPLUS S7-1500 F-DI 16x24 V DC based on 6ES7526-1BH00-0AB0 with conformal coating, -30...+60 °C, F digital input module, 35 mm overall width; up to PL E (ISO13849-1)/ SIL 3 (IEC 61508)

General information	
Product type designation	F-DI 16x24VDC
Firmware version	
• FW update possible	Yes
based on	<a href="#">6ES7526-1BH00-0AB0</a>
Product function	
• I&M data	Yes; I&M0 to I&M3
Engineering with	
• STEP 7 TIA Portal configurable/integrated from version	see entry ID: 109746275
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
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

<b>Digital inputs</b>	
Number of digital inputs	16
Sourcing/sinking input	Yes; P-reading
Input characteristic curve in accordance with IEC 61131, type 1	Yes
<b>Input voltage</b>	
• Rated value (DC)	24 V
• for signal "0"	-30 to +5 V
• for signal "1"	+15 to +30 V
<b>Input current</b>	
• for signal "1", typ.	3.7 mA
<b>Input delay (for rated value of input voltage)</b>	
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
<b>Cable length</b>	
• shielded, max.	1 000 m
• unshielded, max.	500 m
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes
<b>Alarms</b>	
• Diagnostic alarm	Yes
• Hardware interrupt	No
<b>Diagnoses</b>	
• Monitoring the supply voltage	Yes
• Wire-break	No
• Short-circuit	Yes
• Group error	Yes
<b>Diagnostics indication LED</b>	
• 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
<b>Potential separation</b>	
<b>Potential separation channels</b>	
• between the channels and backplane bus	Yes
<b>Isolation</b>	
Isolation tested with	707 V DC (type test)
<b>Standards, approvals, certificates</b>	
Suitable for safety functions	Yes
<b>Highest safety class achievable in safety mode</b>	
• Performance level according to ISO 13849-1	PLe
• SIL acc. to IEC 61508	SIL 3
<b>Probability of failure (for service life of 20 years and repair time of 100 hours)</b>	
— 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
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• horizontal installation, min.	-30 °C; = Tmin (incl. condensation/frost)
• horizontal installation, max.	60 °C; = Tmax
• vertical installation, min.	-30 °C; = Tmin
• vertical installation, max.	40 °C; = Tmax
<b>Altitude during operation relating to sea level</b>	
• Installation altitude above sea level, max.	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual

Relative humidity																																											
<ul style="list-style-type: none"><li>• With condensation, tested in accordance with IEC 60068-2-38, max.</li></ul>	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)																																										
Resistance																																											
Coolants and lubricants																																											
— Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air																																										
Use in stationary industrial systems																																											
— to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request																																										
— to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *																																										
— to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *																																										
Use on ships/at sea																																											
— to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request																																										
— to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *																																										
— to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *																																										
Usage in industrial process technology																																											
— Against chemically active substances acc. to EN 60654-4	Yes; Class 3 (excluding trichlorethylene)																																										
— Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)																																										
Remark																																											
— Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04	* The supplied plug covers must remain in place over the unused interfaces during operation!																																										
Conformal coating																																											
<ul style="list-style-type: none"><li>• Coatings for printed circuit board assemblies acc. to EN 61086</li><li>• Protection against fouling acc. to EN 60664-3</li><li>• Military testing according to MIL-I-46058C, Amendment 7</li><li>• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A</li></ul>	Yes; Class 2 for high reliability  Yes; Type 1 protection Yes; Discoloration of coating possible during service life Yes; Conformal coating, Class A																																										
Dimensions																																											
Width	35 mm																																										
Height	147 mm																																										
Depth	129 mm																																										
Weights																																											
Weight, approx.	280 g																																										
Classifications																																											
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