



Figure similar

SIPLUS S7-1500 F-DI 16x24VDC HF T1 rail based on 6ES7526-1BH00-0AB0 with conformal coating, -30...+60 °C, OT1 with ST1/2 (+70 °C für 10 minutes), 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
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
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	750 V DC (type test) and according to EN 50155 (routine 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
• SIL in accordance with EN 50126, 50128, 50129	SIL 2; a higher safety integrity level is possible if tested and approved for the specific application under consideration of all local regulations.
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
Railway application	
• EN 50121-3-2	Yes; EMC for rail vehicles
• EN 50121-4	Yes; EMC for signal and telecommunications systems
• EN 50121-5	Yes; EMC for fixed installations and railway power supply equipment (shielded cables required)
• EN 50124-1	Yes; Railway applications - overvoltage category OV2; pollution degree PD2; rated surge voltage UNi = 0.5 kV; UNm = 24 V DC
• EN 50125-1	Yes; Rail vehicles - see ambient conditions
• EN 50125-2	Yes; Stationary electrical equipment - see ambient conditions
• EN 50125-3	Yes; Signal and telecommunications systems - see ambient conditions; vibrations and shocks: Application point outside of tracks (1 m to 3 m away from track)
• EN 50155	Yes; Rail vehicles - temperature class OT1, ST1/ST2, horizontal mounting

<ul style="list-style-type: none"> <li>• EN 61373</li> <li>• Fire protection acc. to EN 45545-2</li> </ul>		position
		Yes; Rail vehicles - vibrations and shocks: Category 1 Class A/B
		Yes; For proof of conformity, see Service & Support
<b>Ambient conditions</b>		
Ambient temperature during operation		
<ul style="list-style-type: none"> <li>• horizontal installation, min.</li> <li>• horizontal installation, max.</li> <li>• vertical installation, min.</li> <li>• vertical installation, max.</li> </ul>		-30 °C; = Tmin (incl. condensation/frost) 60 °C; = Tmax; +70 °C for 10 min (OT1, ST1/ST2 acc. to EN 50155) -30 °C; = Tmin 40 °C; = Tmax
Altitude during operation relating to sea level		
<ul style="list-style-type: none"> <li>• Installation altitude above sea level, max.</li> <li>• Ambient air temperature-barometric pressure-altitude</li> </ul>		2 000 m Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m)
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 in bedewed state), horizontal installation
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 land craft, rail vehicles and special-purpose vehicles		
— to biologically active substances according to EN 60721-3-5		Yes; Class 5B2 mold, fungus and dry rot spores (with the exception of fauna); Class 5B3 on request
— to chemically active substances according to EN 60721-3-5		Yes; Class 5C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
— to mechanically active substances according to EN 60721-3-5		Yes; Class 5S3 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>• Electronic equipment on rolling stock acc. to EN 50155</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; Class PC2 protective coating acc. to EN 50155:2017 Yes; Discoloration of coating possible during service life Yes; Conformal coating, Class A
<b>Dimensions</b>		
Width		35 mm
Height		147 mm
Depth		129 mm
<b>Weights</b>		
Weight, approx.		280 g
<b>Other</b>		
Note:		for use in railway applications, also observe the product information "SIPLUS extreme RAIL" A5E37661960A, Online Support article 109736776
<b>Classifications</b>		
		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	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		EMV

[Manufacturer Declaration](#)



[China RoHS](#)



Functional Safety	Railway
-------------------	---------



[Confirmation](#)

last modified: 6/26/2025