



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	6ES7526-1BH00-0AB0
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
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
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	
• Address space per module, max.	9 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

<ul style="list-style-type: none"> • for signal "0" • for signal "1" 	-30 to +5 V +15 to +30 V
Input current	
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • shielded, max. • unshielded, max. 	1 000 m 500 m
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
<ul style="list-style-type: none"> • Diagnostic alarm • Hardware interrupt 	Yes No
Diagnoses	
<ul style="list-style-type: none"> • Monitoring the supply voltage • Wire-break • Short-circuit • Group error 	Yes No Yes Yes
Diagnostics indication LED	
<ul style="list-style-type: none"> • RUN LED • ERROR LED • Channel status display • for channel diagnostics • for module diagnostics 	Yes; green LED Yes; red LED Yes; green LED Yes; red LED Yes; red LED
Potential separation	
Potential separation channels	
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • Performance level according to ISO 13849-1 • SIL acc. to IEC 61508 • SIL in accordance with EN 50126, 50128, 50129 	PLe SIL 3 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	
<ul style="list-style-type: none"> • EN 50121-3-2 • EN 50121-4 • EN 50121-5 • EN 50124-1 • EN 50125-1 • EN 50125-2 • EN 50125-3 • EN 50155 • EN 61373 • Fire protection acc. to EN 45545-2 	Yes; EMC for rail vehicles Yes; EMC for signal and telecommunications systems Yes; EMC for fixed installations and railway power supply equipment (shielded cables required) Yes; Railway applications - overvoltage category OV2; pollution degree PD2; rated surge voltage UNi = 0.5 kV; UNm = 24 V DC Yes; Rail vehicles - see ambient conditions Yes; Stationary electrical equipment - see ambient conditions Yes; Signal and telecommunications systems - see ambient conditions; vibrations and shocks: Application point outside of tracks (1 m to 3 m away from track) Yes; Rail vehicles - temperature class OT1, ST1/ST2, horizontal mounting position Yes; Rail vehicles - vibrations and shocks: Category 1 Class A/B Yes; For proof of conformity, see Service & Support

Ambient conditions			
Ambient temperature during operation			
<ul style="list-style-type: none">horizontal installation, min.horizontal installation, max.vertical installation, min.vertical installation, max.	-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">Installation altitude above sea level, max.Ambient air temperature-barometric pressure-altitude	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">With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation		
Resistance			
Coolants and lubricants			
<ul style="list-style-type: none">Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air		
Use in stationary industrial systems			
<ul style="list-style-type: none">to biologically active substances according to EN 60721-3-3to chemically active substances according to EN 60721-3-3to mechanically 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 Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); * Yes; Class 3S4 incl. sand, dust, *		
Use on land craft, rail vehicles and special-purpose vehicles			
<ul style="list-style-type: none">to biologically active substances according to EN 60721-3-5to chemically active substances according to EN 60721-3-5to mechanically 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 Yes; Class 5C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); * Yes; Class 5S3 incl. sand, dust; *		
Usage in industrial process technology			
<ul style="list-style-type: none">Against chemically active substances acc. to EN 60654-4Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04	Yes; Class 3 (excluding trichlorethylene) 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			
<ul style="list-style-type: none">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">Coatings for printed circuit board assemblies acc. to EN 61086Protection against fouling acc. to EN 60664-3Electronic equipment on rolling stock acc. to EN 50155Military testing according to MIL-I-46058C, Amendment 7Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A	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		
Dimensions			
Width	35 mm		
Height	147 mm		
Depth	129 mm		
Weights			
Weight, approx.	280 g		
Other			
Note:	for use in railway applications, also observe the product information "SIPLUS extreme RAIL" A5E37661960A, Online Support article 109736776		
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

[Miscellaneous](#)

[Manufacturer Declaration](#)



Functional Safety	Railway
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[Confirmation](#)

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