



Figure similar

SIPLUS ET 200SP DI 8x NAMUR HF TX rail based on 6ES7131-6TF00-0CA0 with conformal coating, -40...+70 °C, OT4 with ST1/2 (+85 °C for 10 minutes), digital input module, suitable for BU type A0, color code CC01, channel diagnostics

General information	
Product type designation	DI 8xNAMUR HF
Firmware version	
• FW update possible	Yes
based on	6ES7131-6TF00-0CA0
usable BaseUnits	BU type A0
Color code for module-specific color-coded label	CC01
Product function	
• I&M data	Yes; I&M0 to I&M3
• Isochronous mode	No
• suitable for operation on PROFINET R1 IMs	Yes
Engineering with	
• STEP 7 TIA Portal configurable/integrated from version	see entry ID: 109746275
Operating mode	
• DI	Yes
• Counter	Yes
• Oversampling	No
• 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, max.	70 mA
Encoder supply	
Number of outputs	8
Short-circuit protection	Yes
24 V encoder supply	
• 24 V	No
• Short-circuit protection	No
NAMUR encoder supply	
• 8.2 V	Yes
• Short-circuit protection	Yes
• Output current per channel, max.	8 mA
• Output current per module, max.	64 mA
Power loss	
Power loss, typ.	1.5 W

Address area	
Address space per module	
• Address space per module, max.	1 byte
• Inputs	42 byte; 1 byte + 1 byte for QI information in DI mode; 42 bytes in Counter mode
• Outputs	20 byte; 0 in DI mode; 20 bytes in Counter mode
Hardware configuration	
Automatic encoding	Yes
• Mechanical coding element	Yes
• Type of mechanical coding element	Type A
Submodules	
• Number of configurable submodules, max.	1
Selection of BaseUnit for connection variants	
• 2-wire connection	BU type A0
• 3-wire connection	BU type A0
Digital inputs	
Number of digital inputs	8; > +60 °C number of simultaneously controllable inputs max. 4 (no adjacent points)
Digital inputs, parameterizable	Yes
Sourcing/sinking input	P-reading
Pulse extension	Yes; 0.5 s, 1 s, 2 s
Edge evaluation	Yes; rising edge, falling edge, edge change
Signal change flutter	Yes; 2 to 32 signal changes
Flutter observation window	Yes; 0.5 s, 1 s to 100 s in 1-s steps
Digital input functions, parameterizable	
• Gate start/stop	Yes
• Freely usable digital input	Yes
• Counter	Yes
— Number, max.	4; See manual for details
— Counting frequency, max.	5 kHz
— Counting width	32 bit
— Counting direction up/down	Yes
Input voltage	
• Rated value (DC)	8.2 V
Input current	
for 10 k switched contact	
— for signal "0", min.	0.35 mA
— for signal "0", max.	1.2 mA
— for signal "1", min.	2.1 mA
— for signal "1", max.	7 mA
for unswitched contact	
— for signal "0", max. (permissible quiescent current)	0.5 mA
— for signal "1", typ.	8 mA
for NAMUR encoders	
— for signal "0", min.	0.35 mA
— for signal "0", max.	1.2 mA
— for signal "1", min.	2.1 mA
— for signal "1", max.	7 mA
Input delay (for rated value of input voltage)	
• tolerated changeover time for changeover contacts	300 ms
for standard inputs	
— parameterizable	No
for NAMUR inputs	
— at "0" to "1", max.	20 ms; See manual for details
— at "1" to "0", max.	20 ms; See manual for details
Cable length	
• shielded, max.	200 m; 50 m for Counter mode
Encoder	
Connectable encoders	

<ul style="list-style-type: none"> • NAMUR encoder/changeover contact according to EN 60947 • Single contact / changeover contact unconnected • Single contact / changeover contact connected with 10 kΩ 	Yes Yes Yes
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
<ul style="list-style-type: none"> • Diagnostic alarm • Hardware interrupt 	Yes; channel by channel Yes; Parameterizable, channels 0 to 7
Diagnoses	
<ul style="list-style-type: none"> • Diagnostic information readable • Monitoring the supply voltage — parameterizable • Monitoring of encoder power supply • Wire break • short-circuit 	Yes Yes Yes No Yes; channel by channel Yes; channel by channel
Diagnostics indication LED	
<ul style="list-style-type: none"> • Monitoring of the supply voltage (PWR-LED) • Channel status display • for channel diagnostics • for module diagnostics 	Yes; green PWR LED Yes; green LED Yes; red LED Yes; green/red DIAG LED
Potential separation	
Potential separation channels	
<ul style="list-style-type: none"> • between the channels • between the channels and backplane bus • Between the channels and load voltage L+ • between the channels and the power supply of the electronics 	No Yes Yes Yes
Isolation	
Isolation tested with	750 V DC (type test) and according to EN 50155 (routine test)
Standards, approvals, certificates	
Suitable for safety functions	No
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 OT4, 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. 	-40 °C; = Tmin (incl. condensation/frost) 70 °C; = Tmax; +85 °C for 10 min (OT4, ST1/ST2 acc. to EN 50155) -40 °C; = Tmin 50 °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			
— 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, *	
— Against mechanical environmental conditions acc. to EN 60721-3-3		Yes; Class 3M8 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0)	
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; *	
— Against mechanical environmental conditions acc. to EN 60721-3-5		Yes; Class 5M2 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0)	
— against mechanical environmental conditions in agriculture acc. to ISO 15003		Yes; level 1 (Location LE) using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0)	
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			
● Coatings for printed circuit board assemblies acc. to EN 61086		Yes; Class 2 for high reliability	
● Protection against fouling acc. to EN 60664-3		Yes; Type 1 protection	
● Electronic equipment on rolling stock acc. to EN 50155		Yes; Class PC2 protective coating acc. to EN 50155:2017	
● Military testing according to MIL-I-46058C, Amendment 7		Yes; Discoloration of coating possible during service life	
● Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A		Yes; Conformal coating, Class A	
Dimensions			
Width		15 mm	
Height		73 mm	
Depth		58 mm	
Weights			
Weight, approx.		32 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	16	27-24-26-04
	eClass	14	27-24-26-04
	eClass	12	27-24-26-04
	eClass	9.1	27-24-26-04
	eClass	9	27-24-26-04
	eClass	8	27-24-26-04
	eClass	7.1	27-24-26-04
	eClass	6	27-24-26-04
	ETIM	10	EC001599

ETIM	9	EC001599
ETIM	8	EC001599
ETIM	7	EC001599
IDEA	4	3566
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval

[Manufacturer Declaration](#)





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General Product Approval

EMV

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