



SIPLUS ET 200SP BA 2xFC TX rail based on 6ES7193-6AF00-0AA0 with conformal coating, -40...+70 °C, OT4 with ST1/2 (+85 °C for 10 minutes), BusAdapter 2x FastConnect connections for PROFINET

General information	
Product type designation	BA 2xFC
based on	6ES7193-6AF00-0AA0
Interfaces	
Number of PROFINET interfaces	1; 2 port (switch) 2x FC
Supports protocol for PROFINET IO	
<ul style="list-style-type: none"> Number of FC (FastConnect) connections 	2
Cable length	
— Cu conductors	100 m
Standards, approvals, certificates	
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 	<p>Yes; EMC for rail vehicles</p> <p>Yes; EMC for signal and telecommunications systems</p> <p>Yes; EMC for fixed installations and railway power supply equipment</p> <p>Yes; Railway applications - overvoltage category OV2; pollution degree PD2; rated surge voltage UNi = 0.5 kV; UNm = 24 V DC</p> <p>Yes; Rail vehicles - see ambient conditions</p> <p>Yes; Stationary electrical equipment - see ambient conditions</p> <p>Yes; Signal and telecommunications systems - see ambient conditions; vibrations and shocks: Application point outside of tracks (1 m to 3 m away from track)</p> <p>Yes; Rail vehicles - temperature class OT4, ST1/ST2, horizontal mounting position</p> <p>Yes; Rail vehicles - vibrations and shocks: Category 1 Class A/B</p> <p>Yes; For proof of conformity, see Service & Support</p>
Ambient conditions	
Ambient temperature during operation	
<ul style="list-style-type: none"> horizontal installation, min. horizontal installation, max. vertical installation, min. vertical installation, max. 	<p>-40 °C; = Tmin (incl. condensation/frost)</p> <p>70 °C; = Tmax; +85 °C for 10 min (OT4, ST1/ST2 acc. to EN 50155)</p> <p>-40 °C; = Tmin</p> <p>50 °C; = Tmax</p>
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 	<p>2 000 m</p> <p>Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m)</p>
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	20 mm	
Height	69.5 mm	
Depth	59 mm	
Weights		
Weight, approx.	53 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	27-24-26-92
eClass	12	27-24-26-92
eClass	9.1	27-24-26-92
eClass	9	27-24-26-92
eClass	8	27-24-26-92
eClass	7.1	27-24-26-92
eClass	6	27-24-26-92
ETIM	10	EC002584
ETIM	9	EC002584
ETIM	8	EC002584
ETIM	7	EC002584
IDEA	4	3552

Approvals / Certificates

General Product Approval

[Manufacturer Declaration](#)[China RoHS](#)

General Product Approval

EMV

Railway

[China RoHS](#)[Confirmation](#)

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