



Figure similar

SIPLUS ET 200SP BA 2xM12 rail based on 6ES7193-6AM00-0AA0 with conformal coating, -40...+70 °C, OT4 with ST1/2 (+85 °C for 10 minutes), BusAdapter 2x M12 push-pull sockets for PROFINET, D-coding, also suitable for standard M12

| General information                                                 |                                                                                                                                                              |
|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product type designation                                            | BA 2x M12 BusAdapter                                                                                                                                         |
| based on                                                            | <a href="#">6ES7193-6AM00-0AA0</a>                                                                                                                           |
| Interfaces                                                          |                                                                                                                                                              |
| Number of PROFINET interfaces                                       | 1; 2 ports (switch) 2x M12                                                                                                                                   |
| Supports protocol for PROFINET IO                                   |                                                                                                                                                              |
| • Number of M12 ports                                               | 2                                                                                                                                                            |
| Cable length                                                        |                                                                                                                                                              |
| — Cu conductors                                                     | 100 m                                                                                                                                                        |
| Standards, approvals, certificates                                  |                                                                                                                                                              |
| 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                                                                                          |
| • 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 OT4, ST1/ST2, horizontal mounting position                                                                            |
| • EN 61373                                                          | Yes; Rail vehicles - vibrations and shocks: Category 1 Class A/B                                                                                             |
| • Fire protection acc. to EN 45545-2                                | Yes; For proof of conformity, see Service & Support                                                                                                          |
| Ambient conditions                                                  |                                                                                                                                                              |
| Ambient temperature during operation                                |                                                                                                                                                              |
| • horizontal installation, min.                                     | -40 °C; = Tmin (incl. condensation/frost)                                                                                                                    |
| • horizontal installation, max.                                     | 70 °C; = Tmax; +85 °C for 10 min (OT4, ST1/ST2 acc. to EN 50155)                                                                                             |
| • vertical installation, min.                                       | -40 °C; = Tmin                                                                                                                                               |
| • vertical installation, max.                                       | 50 °C; = Tmax                                                                                                                                                |
| Altitude during operation relating to sea level                     |                                                                                                                                                              |
| • Installation altitude above sea level, max.                       | 2 000 m                                                                                                                                                      |
| • Ambient air temperature-barometric pressure-altitude              | Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m)                                                                                               |
| Relative humidity                                                   |                                                                                                                                                              |
| • 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                                                                                                                  | 73.5 mm                                                                                                                                                                             |         |                |
| Depth                                                                                                                   | 59 mm                                                                                                                                                                               |         |                |
| Weights                                                                                                                 |                                                                                                                                                                                     |         |                |
| Weight, approx.                                                                                                         | 59 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       |

Approvals / Certificates

General Product Approval

[Manufacturer Declaration](#)





[China RoHS](#)



[China RoHS](#)

|                          |     |         |
|--------------------------|-----|---------|
| General Product Approval | EMV | Railway |
|--------------------------|-----|---------|







[Confirmation](#)

last modified:

7/16/2025 