SIEMENS

## Data sheet 6AG2541-1AD00-4AB0



Figure similar

SIPLUS S7-1500 CM PTP RS232 HF TX rail based on 6ES7541-1AD00-0AB0 with conformal coating, -40…+70 °C, OT4 with ST1/2 (+85 °C for 10 minutes), communications module for serial connection RS-232, Freeport, 3964 (R), USS, MODBUS RTU master, slave, 115200 Kbit/s, 9-pin D-sub plug

| | |
|---|---|
| **General information** | |
| Product type designation | CM PtP RS 232 HF |
| based on | 6ES7541-1AD00-0AB0 |
| Product function | |
| ● I&M data | Yes; I&M 0 |
| ● Fast startup | Yes |
| Engineering with | |
| ● STEP 7 TIA Portal configurable/integrated from version | see entry ID: 109746275 |
| **Installation type/mounting** | |
| Rail mounting | Yes; S7-1500 mounting rail |
| **Input current** | |
| Current consumption (rated value) | 35 mA; From the backplane bus |
| **Power** | |
| Power consumption from the backplane bus | 0.65 W |
| **Power loss** | |
| Power loss, typ. | 0.6 W |
| **Address area** | |
| Address space per module | |
| ● Inputs | 8 byte |
| **Interface types** | |
| RS 232 | |
| ● Transmission rate, max. | 115.2 kbit/s |
| ● Cable length, max. | 15 m |
| ● RS 232 auxiliary signals | RTS, CTS, DTR, DSR, RI, DCD |
| **Protocols** | |
| Integrated protocols | |
| Freeport | |
| — Telegram length, max. | 4 kbyte |
| — Bits per character | 7 or 8 |
| — Number of stop bits | 1 or 2 bit |
| — Parity | None, even, odd, always 1, always 0, any |
| 3964 (R) | |
| — Telegram length, max. | 4 kbyte |
| — Bits per character | 7 or 8 |
| — Number of stop bits | 1 or 2 bit |
| — Parity | None, even, odd, always 1, always 0, any |
| Modbus RTU master | |
| — Address area | 1 to 247, extended 1 to 65535 |


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| | |
|---|---|
| — max. number of devices | 1 |
| Modbus RTU device | |
| — Address area | 1 to 247, extended 1 to 65535 |
| Telegram buffer | |
| ● Buffer memory for telegrams | 8 kbyte |
| ● Number of telegrams which can be buffered | 255 |
| **Interrupts/diagnostics/status information** | |
| Diagnostics function | Yes |
| Alarms | |
| ● Diagnostic alarm | Yes |
| ● Hardware interrupt | No |
| Diagnoses | |
| ● Wire break | Yes |
| Diagnostics indication LED | |
| ● RUN LED | Yes; green LED |
| ● ERROR LED | Yes; red LED |
| ● Receive RxD | Yes; Yellow LED |
| ● Transmit TxD | Yes; Yellow LED |
| **Potential separation** | |
| between backplane bus and interface | Yes |
| **Isolation** | |
| Isolation tested with | 750 V DC (type test) and according to EN 50155 (routine test) |
| **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 (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 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. | 40 °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, * |


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|---|---|
| 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 | |
| ● 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 |
| **Decentralized operation** | |
| to SIMATIC S7-300 | Yes |
| to SIMATIC S7-400 | Yes |
| to SIMATIC S7-1500 | Yes |
| to standard PROFINET controller | Yes |
| **Dimensions** | |
| Width | 35 mm |
| Height | 147 mm |
| Depth | 127 mm |
| **Weights** | |
| Weight, approx. | 0.22 kg |
| **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 | 27-24-22-08 |
| eClass | 14 | 27-24-22-08 |
| eClass | 12 | 27-24-22-08 |
| eClass | 9.1 | 27-24-22-08 |
| eClass | 9 | 27-24-22-08 |
| eClass | 8 | 27-24-22-08 |
| eClass | 7.1 | 27-24-22-08 |
| eClass | 6 | 27-24-22-08 |
| ETIM | 10 | EC001423 |
| ETIM | 9 | EC001423 |
| ETIM | 8 | EC001423 |
| ETIM | 7 | EC001423 |
| IDEA | 4 | 3564 |
| UNSPSC | 15 | 32-15-17-05 |

**Approvals / Certificates**

**General Product Approval**


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Manufacturer Declaration

China RoHS

| General Product Approval | EMV | Railway |
| --- | --- | --- |
| China RoHS | | Confirmation |

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