SIEMENS

## Data sheet 6AG2522-5EH00-4AB0

Figure similar

SIPLUS S7-1500 DQ 16x110VDC ST TX rail based on 6ES7522-5EH00-0AB0 with conformal coating, -40…+70 °C, OT4 with ST1/2 (+85 °C for 10 minutes), digital output module, 0.5 A; 16 channels in groups of 1, 0.5 A per group; substitute value; observe derating

| | |
|---|---|
| **General information** | |
| Product type designation | DQ 16x110VDC ST |
| Firmware version | |
| ● FW update possible | Yes |
| based on | 6ES7522-5EH00-0AB0 |
| Product function | |
| ● I&M data | Yes; I&M0 to I&M3 |
| ● Isochronous mode | No |
| ● Prioritized startup | Yes |
| Engineering with | |
| ● STEP 7 TIA Portal configurable/integrated from version | see entry ID: 109746275 |
| Operating mode | |
| ● DQ | Yes |
| ● DQ with energy-saving function | No |
| ● PWM | No |
| ● Cam control (switching at comparison values) | No |
| ● Oversampling | No |
| ● MSO | Yes |
| ● Integrated operating cycle counter | Yes; FW V1.1.0 or higher |
| **output voltage / header** | |
| Rated value (DC) | 24 V; 48 V, 72 V, 96 V, 110 V, 125 V |
| Rated value (AC) | 24 V; 48 V (50 - 60 Hz) |
| **Power** | |
| Power consumption from the backplane bus | 2 W |
| **Power loss** | |
| Power loss, typ. | 3.8 W |
| **Digital outputs** | |
| Type of digital output | Transistor |
| Number of digital outputs | 16; > +60 °C max. 0.25 A per output |
| Current-sinking | Yes |
| Current-sourcing | Yes |
| Digital outputs, parameterizable | Yes |
| Limitation of inductive shutdown voltage to | 200 V (suppressor diode) |
| Controlling a digital input | Yes |
| Switching capacity of the outputs | |
| ● with resistive load, max. | 0.5 A |
| ● on lamp load, max. | 40 W; At 125 V DC, 10 W at 48 V UC, 5 W at 24 V UC |
| Output voltage | |
| ● for signal "1", min. | L+ (-1.0 V) |

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| Output current | |
| ● for signal "1" rated value | 0.5 A |
| ● for signal "1" permissible range, max. | 0.6 A |
| Output delay with resistive load | |
| ● "0" to "1", max. | 5 ms |
| ● "1" to "0", max. | 5 ms |
| Parallel switching of two outputs | |
| ● for logic links | Yes |
| ● for uprating | No |
| ● for redundant control of a load | Yes |
| Switching frequency | |
| ● with resistive load, max. | 25 Hz |
| ● with inductive load, max. | 0.5 Hz |
| ● on lamp load, max. | 10 Hz |
| Total current of the outputs | |
| ● Current per channel, max. | 0.5 A |
| ● Current per group, max. | 0.5 A |
| ● Current per module, max. | 8 A |
| Cable length | |
| ● shielded, max. | 1 000 m |
| ● unshielded, max. | 600 m |
| **Interrupts/diagnostics/status information** | |
| Diagnostics function | No |
| Substitute values connectable | Yes |
| Alarms | |
| ● Diagnostic alarm | No |
| ● Maintenance interrupt | Yes |
| Diagnoses | |
| ● Monitoring the supply voltage | No |
| ● Wire-break | No |
| ● Short-circuit | No |
| Diagnostics indication LED | |
| ● RUN LED | Yes; green LED |
| ● ERROR LED | Yes; red LED |
| ● Monitoring of the supply voltage (PWR-LED) | No |
| ● Channel status display | Yes; green LED |
| ● for channel diagnostics | No |
| ● for module diagnostics | Yes; red LED |
| **Potential separation** | |
| Potential separation channels | |
| ● between the channels | Yes |
| ● between the channels, in groups of | 1 |
| ● between the channels and backplane bus | Yes |
| **Permissible potential difference** | |
| between different circuits | 125 V DC/48 V AC |
| **Isolation** | |
| Isolation tested with | 2 000 V DC (type test) and according to EN 50155 (routine test) |
| **Standards, approvals, certificates** | |
| Suitable for safety functions | No |
| Suitable for safety-related tripping of standard modules | Yes; From FS02 |
| Ecological footprint | |
| ● environmental product declaration | Yes |
| Global warming potential | |
| — global warming potential, (total) [CO2 eq] | 43.8 kg |
| — global warming potential, (during production) [CO2 eq] | 9.5 kg |
| — global warming potential, (during operation) [CO2 eq] | 34.5 kg |
| — global warming potential, (after end of life cycle) [CO2 eq] | -0.231 kg |
| Highest safety class achievable for safety-related tripping of standard modules | |

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| ● Performance level according to ISO 13849-1 | PL d |
| ● Category according to ISO 13849-1 | Cat. 3 |
| ● SILCL according to IEC 62061 | SILCL 2 |
| 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 OV3 (channels to backplane bus and ground); OV2 (between the channels); pollution degree PD2; rated impulse voltage UNi = 1.5 kV; UNm = 125 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 |
| **product functions / security / header** | |
| signed firmware update | Yes |
| data integrity | No |
| **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, * |
| 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 |

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| ● 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 | 35 mm |
| Height | 147 mm |
| Depth | 129 mm |
| **Weights** | |
| Weight, approx. | 230 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 | 10 | EC001419 |
| ETIM | 9 | EC001419 |
| ETIM | 8 | EC001419 |
| ETIM | 7 | EC001419 |
| IDEA | 4 | 3566 |
| UNSPSC | 15 | 32-15-17-05 |

**Approvals / Certificates**

| General Product Approval | | | | | EMV |
|---|---|---|---|---|---|
| CE EG-Konf. | UKCA | Manufacturer Declaration | China RoHS | UL | KC |

| EMV | Railway | Environment |
|---|---|---|
| RCM | Confirmation | EPD |

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