SIEMENS

## Data sheet 6AG1521-7EH00-7AB0

Figure similar

SIPLUS S7-1500 DI 16x 48 V UC/ 125 V based on 6ES7521-7EH00-0AB0 with conformal coating, -40…+70 °C, digital input module, 16 channels in groups of 1; input delay 0.05..20 ms input type 3 (IEC 61131); diagnostics; hardware interrupts

| | |
|---|---|
| **General information** | |
| Product type designation | DI 16x24 ... 125 V UC HF |
| Firmware version | |
| ● FW update possible | Yes |
| based on | 6ES7521-7EH00-0AB0 |
| 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 | |
| ● DI | Yes |
| ● Counter | Yes; from V1.1.0; only in DC operation |
| ● Oversampling | No |
| ● MSI | Yes |
| **Power** | |
| Power consumption from the backplane bus | 1.2 W |
| **Power loss** | |
| Power loss, typ. | 2.2 W; At 24 V DC; 6.0 W at 125 V AC |
| **Digital inputs** | |
| Number of digital inputs | 16; > +60 °C number of simultaneously controllable inputs max. 4 (no adjacent points) |
| Digital inputs, parameterizable | Yes |
| Source/sink input | Yes |
| Input characteristic curve in accordance with IEC 61131, type 3 | Yes; At 24 V DC |
| Digital input functions, parameterizable | |
| ● Counter | Yes; from FS04 |
| — Number, max. | 2; Channel 0 and 1 |
| — Counting frequency, max. | 6 kHz |
| — Counting width | 32 bit |
| — Counting direction up/down | Yes; Up |
| Input voltage | |
| ● Rated value (DC) | 24 V; 48 V, 125 V |
| ● Rated value (AC) | 24 V; 48 V, 125 V (50 - 60 Hz) |
| ● for signal "0" | -5 ... +5 V |
| ● for signal "1" | +11 ... +146 V |
| Input current | |

| | |
|---|---|
| ● for signal "1", typ. | 3 mA; At 24 V DC |
| Input delay (for rated value of input voltage) | |
| for standard inputs | |
| — parameterizable | Yes; 0.05 / 0.1 / 0.4 / 1.6 / 3.2 / 12.8 / 20 ms parameterizable with DC, 20 ms fixed with AC |
| — at "0" to "1", min. | 0.05 ms |
| — at "0" to "1", max. | 20 ms |
| — at "1" to "0", min. | 0.05 ms |
| — at "1" to "0", max. | 20 ms |
| for interrupt inputs | |
| — parameterizable | Yes |
| for technological functions | |
| — parameterizable | No |
| Cable length | |
| ● shielded, max. | 1 000 m |
| ● unshielded, max. | 600 m |
| **Encoder** | |
| Connectable encoders | |
| ● 2-wire sensor | Yes |
| — permissible quiescent current (2-wire sensor), max. | 1.5 mA |
| **Interrupts/diagnostics/status information** | |
| Diagnostics function | Yes |
| Alarms | |
| ● Diagnostic alarm | Yes |
| ● Hardware interrupt | Yes |
| Diagnoses | |
| ● Monitoring the supply voltage | No |
| ● Wire-break | Yes; To I < 550 µA |
| ● 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 | Yes; red LED |
| ● 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 | 146 V DC/132 V AC |
| **Standards, approvals, certificates** | |
| Suitable for safety functions | No |
| Ecological footprint | |
| ● environmental product declaration | Yes |
| Global warming potential | |
| — global warming potential, (total) [CO2 eq] | 18.9 kg |
| — global warming potential, (during production) [CO2 eq] | 12.1 kg |
| — global warming potential, (during operation) [CO2 eq] | 7.66 kg |
| — global warming potential, (after end of life cycle) [CO2 eq] | -1.02 kg |
| **Security** | |
| 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; see Derating BasedOn (e.g. manual), additionally Tmax > 60 °C max. 4 inputs (no adjacent points) |
| 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 ships/at sea | |
| — to biologically active substances according to EN 60721-3-6 | Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request |
| — to chemically active substances according to EN 60721-3-6 | Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); * |
| — to mechanically active substances according to EN 60721-3-6 | Yes; Class 6S3 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 |
| ● 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. | 240 g |

**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

Manufacturer Declaration

China RoHS

KC

### EMV

### EMV

### Maritime application

### Environment

**last modified:** 6/17/2025