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## Data sheet 6AG1521-1BL00-7AB0

SIPLUS S7-1500 DI 32X24VDC HF -40 ... +70°C with conformal coating based on. Digital input module DI 32x24V DC HF, 32 channels in groups of 16 Input delay 0.05..20 ms Input type 3 (IEC 61131) diagnostics Hardware interrupts



Figure similar

| General information | |
|---|---|
| Product type designation | DI 32x24VDC HF |
| HW functional status | E01 |
| Firmware version | V1.0.0 |
| **Product function** | |
| • I&M data | Yes; I&M0 to I&M3 |
| • Isochronous mode | Yes |
| • Fast startup | Yes; 500 ms |
| **Engineering with** | |
| • STEP 7 TIA Portal configurable/integrated from version | V12 / V12 |
| • STEP 7 configurable/integrated from version | V5.5 SP3 / - |

| Supply voltage | |
|---|---|
| Rated value (DC) | 24 V |
| permissible range, lower limit (DC) | 19.2 V |
| permissible range, upper limit (DC) | 28.8 V |
| Reverse polarity protection | Yes |


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| | |
|---|---|
| **Input current** | |
| Current consumption, max. | 40 mA; 20 mA per group with 24 V DC supply |
| **Power** | |
| Power available from the backplane bus | 1.1 W |
| **Power loss** | |
| Power loss, typ. | 4.2 W |
| **Digital inputs** | |
| Number of digital inputs | 32; > +60 °C, number of simultaneously controllable inputs max. 16 |
| Source/sink input | P-reading |
| Input characteristic curve in accordance with IEC 61131, type 3 | Yes |
| Input voltage | |
| • Rated value (DC) | 24 V |
| • for signal "0" | -30 to +5 V |
| • for signal "1" | +11 to +30V |
| Input current | |
| • for signal "1", typ. | 2.5 mA |
| 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 |
| — 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 |
| 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 |
| **Isochronous mode** | |
| Filtering and processing time (TCI), min. | 80 µs; At 50 µs filter time |
| Bus cycle time (TDP), min. | 250 µs |
| **Interrupts/diagnostics/status information** | |
| Diagnostics function | Yes |


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| | |
|---|---|
| **Alarms** | |
| • Diagnostic alarm | Yes |
| • Hardware interrupt | Yes |
| **Diagnostic messages** | |
| • Monitoring the supply voltage | Yes |
| • Wire-break | Yes; to I < 350 µA |
| • Short-circuit | No |
| • Fuse blown | No |
| **Diagnostics indication LED** | |
| • RUN LED | Yes; green LED |
| • ERROR LED | Yes; red LED |
| • Monitoring of the supply voltage (PWR-LED) | Yes; green LED |
| • 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 | 16 |
| • between the channels and backplane bus | Yes |
| • between the channels and the power supply of the electronics | No |

## Permissible potential difference

| | |
|---|---|
| between different circuits | 75 V DC/60 V AC (base isolation) |

## Isolation

| | |
|---|---|
| Isolation tested with | 707 V DC (type test) |

## Standards, approvals, certificates

| | |
|---|---|
| Suitable for safety functions | No |

## Ambient conditions

| | |
|---|---|
| **Ambient temperature during operation** | |
| • horizontal installation, min. | -40 °C; = Tmin (incl. condensation/frost) |
| • horizontal installation, max. | 70 °C; = Tmax; > +60 °C number of simultaneously controllable inputs max. 16 |
| • 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. | 5 000 m |
| • Ambient air temperature-barometric pressure-altitude | Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m) |


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| | |
|---|---|
| Relative humidity | |
| • With condensation, tested in accordance with IEC 60068-2-38, max. | 100 %; RH incl. condensation/frost (no commissioning under condensation conditions) |
| 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 |


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| Weights | |
|---|---|
| Weight, approx. | 260 g |

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