SIEMENS

## Data sheet 6ES7521-7EH00-0AB0



SIMATIC S7-1500, digital input module DI 16x 24...125 V UC HF, 16 channels in groups of 1; input delay 0.05..20 ms; Input type 3 (IEC 61131); Diagnostics, hardware interrupts: Front connector (screw terminals or push-in) to be ordered separately

| | |
|---|---|
| **General information** | |
| Product type designation | DI 16x24 ... 125 V UC HF |
| HW functional status | from FS01 |
| Firmware version | from V1.0.0 |
| ● FW update possible | Yes |
| 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 | V14 / - |
| ● STEP 7 configurable/integrated from version | V5.5 SP3 / - |
| ● PROFIBUS from GSD version/GSD revision | V1.0 / V5.1 |
| ● PROFINET from GSD version/GSD revision | V2.3 / - |
| Operating mode | |
| ● DI | Yes |
| ● Counter | Yes; from V1.1.0; only in DC operation |
| ● Oversampling | No |
| ● MSI | Yes |
| **Supply voltage** | |
| Reverse polarity protection | 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 |
| **Address area** | |
| Address space per module | |
| ● Inputs | 2 byte |
| ● Outputs | 0 byte |
| **Digital inputs** | |
| Number of digital inputs | 16 |
| Digital inputs, parameterizable | Yes |
| Sourcing/sinking input | Yes |
| Input characteristic curve in accordance with IEC 61131, type 3 | Yes; At 24 V DC |
| Pulse extension | No |
| Edge evaluation | No |


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| | |
|---|---|
| Signal change flutter | No |
| Flutter observation window | No |
| Number of simultaneously controllable inputs | |
| ● Number of simultaneously controllable inputs | 16; see additional description in the manual |
| Digital input functions, parameterizable | |
| ● Freely usable digital input | Yes |
| ● 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 |
| ● Digital input with oversampling | No |
| 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 |


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|---|---|
| **Permissible potential difference** | |
| between different circuits | 146 V DC/132 V AC |
| **Isolation** | |
| Isolation tested with | 2 000 V DC |
| **Standards, approvals, certificates** | |
| Siemens Eco Profile (SEP) | Siemens EcoTech |
| 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 |
| safely removing data | No |
| data integrity | No |
| **Ambient conditions** | |
| Ambient temperature during operation | |
| ● horizontal installation, min. | -30 °C; from FS04 |
| ● horizontal installation, max. | 60 °C |
| ● vertical installation, min. | -30 °C; from FS04 |
| ● vertical installation, max. | 40 °C |
| Altitude during operation relating to sea level | |
| ● Installation altitude above sea level, max. | Restrictions for installation altitudes > 2 000 m, see manual |
| Absolute humidity | |
| ● dew point, min. | -60 °C; suitable for dry room applications |
| **Dimensions** | |
| Width | 35 mm |
| Height | 147 mm |
| Depth | 129 mm |
| **Weights** | |
| Weight, approx. | 240 g |

**Classifications**

| | Version | Classification |
|---|---|---|
| eClass | 16 | 27-24-22-04 |
| 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**


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Miscellaneous

Miscellaneous

| General Product Approval | | | | EMV | Maritime application |
|---|---|---|---|---|---|
| | Confirmation | | | | |

| Maritime application | | | | other | |
|---|---|---|---|---|---|
| | | | | Miscellaneous | Confirmation |

| Dangerous goods | Environment |
|---|---|
| Transport Information | Environmental Confirmations |

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