



Figure similar

SIPLUS S7-1500 DI 16x230V AC BA based on 6ES7521-1FH00-0AA0 with conformal coating, -40...+70 °C, digital input module, 16 channels in groups of 4; input delay 20 ms; input type 1 (IEC 61131)

| General information   |   |
|---|---|
| Product type designation  | DI 16x230VAC BA   |
| Firmware version  |   |
| • FW update possible  | Yes   |
| based on  | <a href="#">6ES7521-1FH00-0AA0</a>                                |
| 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   | No  |
| • MSI   | Yes   |
| Power   |   |
| Power consumption from the backplane bus                        | 1 W   |
| Power loss  |   |
| Power loss, typ.  | 4.9 W   |
| Digital inputs  |   |
| Number of digital inputs  | 16; > +60 °C, number of simultaneously controllable inputs max. 8 |
| Digital inputs, parameterizable                                 | No  |
| Sourcing/sinking input  | P-reading   |
| Input characteristic curve in accordance with IEC 61131, type 1 | Yes   |
| Input voltage   |   |
| • Rated value (AC)  | 230 V; 120/230 V AC, 50/60 Hz                                     |
| • for signal "0"  | 0V AC to 40V AC   |
| • for signal "1"  | 79V AC to 264V AC   |
| Input current   |   |
| • for signal "1", typ.  | 11 mA; At 230 V AC/50 Hz and 6.5 mA at 120 V AC/50 Hz             |
| Input delay (for rated value of input voltage)                  |   |
| for standard inputs   |   |
| — parameterizable   | No  |
| — at "0" to "1", max.   | 25 ms   |
| — at "1" to "0", max.   | 25 ms   |
| for interrupt inputs  |   |
| — Parameterizable   | No  |
| for technological functions                                     |   |

|  |  |
|--|--|
| — parameterizable  | No   |
| <b>Cable length</b>  |  |
| • shielded, max.   | 1 000 m  |
| • unshielded, max.   | 600 m  |
| <b>Encoder</b>   |  |
| <b>Connectable encoders</b>                                    |  |
| • 2-wire sensor  | Yes  |
| — permissible quiescent current (2-wire sensor), max.          | 2 mA   |
| <b>Interrupts/diagnostics/status information</b>               |  |
| Diagnostics function   | No   |
| <b>Alarms</b>  |  |
| • Diagnostic alarm   | No   |
| • Hardware interrupt   | No   |
| <b>Diagnoses</b>   |  |
| • Monitoring the supply voltage                                | No   |
| • Wire break   | No   |
| • Short-circuit  | No   |
| <b>Diagnostics indication LED</b>                              |  |
| • 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   |
| <b>Potential separation</b>                                    |  |
| <b>Potential separation channels</b>                           |  |
| • between the channels   | No   |
| • between the channels, in groups of                           | 4  |
| • between the channels and backplane bus                       | Yes  |
| <b>Permissible potential difference</b>                        |  |
| between different circuits                                     | 250 V AC between the channels and the backplane bus; 500 V AC between the channels |
| <b>Isolation</b>   |  |
| Isolation tested with  | 3 100 V DC   |
| <b>Standards, approvals, certificates</b>                      |  |
| Suitable for safety functions                                  | No   |
| <b>Ecological footprint</b>                                    |  |
| • environmental product declaration                            | Yes  |
| <b>Global warming potential</b>                                |  |
| — 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   |
| <b>Security</b>  |  |
| signed firmware update   | No   |
| data integrity   | No   |
| <b>Ambient conditions</b>                                      |  |
| <b>Ambient temperature during operation</b>                    |  |
| • horizontal installation, min.                                | -40 °C; = Tmin (incl. condensation/frost)  |
| • horizontal installation, max.                                | 70 °C; = Tmax; > +60 °C number of simultaneously controllable inputs max. 8        |
| • vertical installation, min.                                  | -40 °C; = Tmin   |
| • vertical installation, max.                                  | 40 °C; = Tmax  |
| <b>Altitude during operation relating to sea level</b>         |  |
| • 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)                     |
| <b>Relative humidity</b>                                       |  |
| • With condensation, tested in accordance with IEC 60068-      | 100 %; RH incl. condensation/frost (no commissioning under condensation)           |

|   |   |                       |
|---|---|-----------------------|
| 2-38, max.  | conditions)   |                       |
| <b>Resistance</b>   |   |                       |
| <b>Coolants and lubricants</b>  |   |                       |
| — Resistant to commercially available coolants and lubricants   | Yes; Incl. diesel and oil droplets in the air   |                       |
| <b>Use in stationary industrial systems</b>   |   |                       |
| — 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, *  |                       |
| <b>Use on ships/at sea</b>  |   |                       |
| — 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; *  |                       |
| <b>Usage in industrial process technology</b>   |   |                       |
| — 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) |                       |
| <b>Remark</b>   |   |                       |
| — 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!  |                       |
| <b>Conformal coating</b>  |   |                       |
| <ul style="list-style-type: none"> <li>• Coatings for printed circuit board assemblies acc. to EN 61086</li> <li>• Protection against fouling acc. to EN 60664-3</li> <li>• Military testing according to MIL-I-46058C, Amendment 7</li> <li>• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A</li> </ul> | <p>Yes; Class 2 for high reliability</p> <p>Yes; Type 1 protection</p> <p>Yes; Discoloration of coating possible during service life</p> <p>Yes; Conformal coating, Class A</p>     |                       |
| <b>Dimensions</b>   |   |                       |
| Width   | 35 mm   |                       |
| Height  | 147 mm  |                       |
| Depth   | 129 mm  |                       |
| <b>Weights</b>  |   |                       |
| Weight, approx.   | 200 g   |                       |
| <b>Classifications</b>  |   |                       |
|   | <b>Version</b>  | <b>Classification</b> |
| 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           |
| <b>Approvals / Certificates</b>   |   |                       |
| <b>General Product Approval</b>   |   |                       |



[Manufacturer Declaration](#)

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General Product Approval

EMV

Maritime application

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Environment



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