



SIPLUS S7-1200 SM 1226 F-DI 16x24VDC based on 6ES7226-6BA32-0XB0 with conformal coating, -25...+55 °C, F-DI 16x 24 V DC, PROFIsafe, 70 mm width, up to PL e (ISO 13849-1)/ SIL3 (IEC 61508)

| General information | |
|--|---|
| Product type designation | SM 1226, F-DI 16x24 V DC |
| based on | 6ES7226-6BA32-0XB0 |
| Supply voltage | |
| Rated value (DC) | 24 V |
| permissible range, lower limit (DC) | 20.4 V |
| permissible range, upper limit (DC) | 28.8 V |
| power supply according to NEC Class 2 required | No |
| Input current | |
| from backplane bus 5 V DC, max. | 155 mA; Current consumption (SM Bus, 5 V DC): 155 mA |
| Digital inputs | |
| <ul style="list-style-type: none"> from load voltage L+ (without load), max. | 130 mA; 130 mA + 6 mA / input used + any Vs1/Vs2 current used |
| Power loss | |
| Power loss, typ. | 7 W |
| Digital inputs | |
| Number of digital inputs | 16; 16 (1oo1) or 8 (1oo2); Note: You can individually assign each pair of inputs "a.x" and "b.x" as a single (1oo2)-channel or as 2 separate (1oo1)-channels |
| Number of simultaneously controllable inputs | |
| horizontal installation | |
| — up to 50 °C, max. | 16; 16 inputs at 55 °C horizontal |
| vertical installation | |
| — up to 40 °C, max. | 16; 16 inputs at 45 °C vertical |
| Input voltage | |
| <ul style="list-style-type: none"> for signal "0" for signal "1" | -30 V DC to +5 V DC 15 V DC to 30 V DC |
| Input current | |
| <ul style="list-style-type: none"> for signal "0", max. (permissible quiescent current) for signal "1", typ. | 0.5 mA 5 mA |
| Input delay (for rated value of input voltage) | |
| for standard inputs | |
| — parameterizable | Yes; 0.8 / 1.6 / 3.2 / 6.4 / 12.8 ms |
| Cable length | |
| <ul style="list-style-type: none"> shielded, max. unshielded, max. | 200 m; unshielded with input filter time of 1.6 ms to 12.6 ms (With an input delay of 0.8 ms, shielded cables must be used for the digital inputs and the sensor supply) 200 m; Shielded with input filter time of 0.8 ms to 12.6 s (With an input delay of 0.8 ms, shielded cables must be used for the digital inputs and the sensor supply) |
| Interrupts/diagnostics/status information | |
| Diagnostics indication LED | |

| | |
|--|---|
| • for status of the inputs | Yes |
| Degree and class of protection | |
| IP degree of protection | IP20 |
| Standards, approvals, certificates | |
| Highest safety class achievable in safety mode | |
| • Performance level according to ISO 13849-1 | 1-channel, Category 3, PL d; 2-channel, Category 3 or 4, PL e |
| • SIL acc. to IEC 61508 | SIL 2 (single-channel), SIL 3 (two-channel) |
| Probability of failure (for service life of 20 years and repair time of 100 hours) | |
| — Low demand mode: PFDavg in accordance with SIL2 | < 5.00E-04 |
| — Low demand mode: PFDavg in accordance with SIL3 | < 1.00E-05 |
| — High demand/continuous mode: PFH in accordance with SIL2 | < 1.00E-08 1/h |
| — High demand/continuous mode: PFH in accordance with SIL3 | < 1.00E-10 1/h |
| Ambient conditions | |
| Free fall | |
| • Fall height, max. | 0.3 m; five times, in product package |
| Ambient temperature during operation | |
| • min. | -25 °C; = Tmin |
| • max. | 55 °C; = Tmax |
| • permissible temperature change | 5°C to 55°C, 3°C / minute |
| Ambient temperature during storage/transportation | |
| • min. | -40 °C |
| • max. | 70 °C |
| Air pressure acc. to IEC 60068-2-13 | |
| • Storage/transport, min. | 660 hPa |
| • Storage/transport, max. | 1 140 hPa |
| 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) |
| 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 |
| 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 | * The supplied plug covers must remain in place over the unused interfaces during operation! |

ANSI/ISA-71.04

| Conformal coating | |
|---|---|
| <ul style="list-style-type: none"> Coatings for printed circuit board assemblies acc. to EN 61086 Protection against fouling acc. to EN 60664-3 Military testing according to MIL-I-46058C, Amendment 7 Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A | <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> |

| Mechanics/material | |
|--|-----|
| Enclosure material (front) <ul style="list-style-type: none"> Plastic | Yes |

| Dimensions | |
|------------|--------|
| Width | 70 mm |
| Height | 100 mm |
| Depth | 75 mm |

| Weights | |
|-----------------|-------|
| Weight, approx. | 250 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](#)



| General Product Approval | EMV | For use in hazardous locations |
|--------------------------|-----|--------------------------------|
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| For use in hazardous locations | Functional Safety |
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