



Figure similar

SIPLUS S7-1200 SM 1232 based on 6ES7222-1XF32-0XB0 with conformal coating, -40...+70 °C, start up -25 °C, S7-1200, digital output SM 1222, 8 DQ, Relay changeover contact

| General information                          |                                                        |
|----------------------------------------------|--------------------------------------------------------|
| Product type designation                     | SM 1222, DQ 8x relay/2 A                               |
| based on                                     | <a href="#">6ES7222-1XF32-0XB0</a>                     |
| Supply voltage                               |                                                        |
| permissible range, lower limit (DC)          | 20.4 V                                                 |
| permissible range, upper limit (DC)          | 28.8 V                                                 |
| Input current                                |                                                        |
| from backplane bus 5 V DC, max.              | 140 mA                                                 |
| Digital outputs                              |                                                        |
| • from load voltage L+, max.                 | 16.7 mA/relay coil                                     |
| Power loss                                   |                                                        |
| Power loss, typ.                             | 5 W                                                    |
| Digital outputs                              |                                                        |
| Number of digital outputs                    | 8                                                      |
| • in groups of                               | 1                                                      |
| Short-circuit protection                     | No; to be provided externally                          |
| Switching capacity of the outputs            |                                                        |
| • with resistive load, max.                  | 2 A                                                    |
| • on lamp load, max.                         | 30 W with DC, 200 W with AC                            |
| Output voltage                               |                                                        |
| • Rated value (DC)                           | 5 V DC to 30 V DC                                      |
| • Rated value (AC)                           | 5 V AC to 250 V AC                                     |
| Output current                               |                                                        |
| • for signal "1" permissible range, max.     | 2 A                                                    |
| Output delay with resistive load             |                                                        |
| • "0" to "1", max.                           | 10 ms                                                  |
| • "1" to "0", max.                           | 10 ms                                                  |
| Total current of the outputs (per group)     |                                                        |
| horizontal installation                      |                                                        |
| — up to 50 °C, max.                          | 2 A; Current per mass                                  |
| Relay outputs                                |                                                        |
| • Number of relay outputs                    | 8                                                      |
| • Rated supply voltage of relay coil L+ (DC) | 24 V                                                   |
| • Number of operating cycles, max.           | mechanically 10 million, at rated load voltage 100 000 |
| Switching capacity of contacts               |                                                        |
| — with inductive load, max.                  | 2 A                                                    |
| — on lamp load, max.                         | 30 W with DC, 200 W with AC                            |
| — with resistive load, max.                  | 2 A                                                    |
| Cable length                                 |                                                        |

|                                                                     |                                                                                                                                                                                                                                               |
|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • shielded, max.                                                    | 500 m                                                                                                                                                                                                                                         |
| • unshielded, max.                                                  | 150 m                                                                                                                                                                                                                                         |
| <b>Interrupts/diagnostics/status information</b>                    |                                                                                                                                                                                                                                               |
| Diagnostics function                                                | Yes                                                                                                                                                                                                                                           |
| <b>Alarms</b>                                                       |                                                                                                                                                                                                                                               |
| • Diagnostic alarm                                                  | Yes                                                                                                                                                                                                                                           |
| <b>Diagnostics indication LED</b>                                   |                                                                                                                                                                                                                                               |
| • for status of the outputs                                         | Yes                                                                                                                                                                                                                                           |
| • for maintenance                                                   | Yes                                                                                                                                                                                                                                           |
| <b>Potential separation</b>                                         |                                                                                                                                                                                                                                               |
| Potential separation digital outputs                                |                                                                                                                                                                                                                                               |
| • between the channels                                              | Relays                                                                                                                                                                                                                                        |
| • between the channels, in groups of                                | 1                                                                                                                                                                                                                                             |
| • between the channels and backplane bus                            | 1 500 V AC for 1 minute                                                                                                                                                                                                                       |
| <b>Permissible potential difference</b>                             |                                                                                                                                                                                                                                               |
| between different circuits                                          | 750 V AC for 1 minute                                                                                                                                                                                                                         |
| <b>Degree and class of protection</b>                               |                                                                                                                                                                                                                                               |
| IP degree of protection                                             | IP20                                                                                                                                                                                                                                          |
| <b>Standards, approvals, certificates</b>                           |                                                                                                                                                                                                                                               |
| Marine approval                                                     | Yes                                                                                                                                                                                                                                           |
| <b>Ecological footprint</b>                                         |                                                                                                                                                                                                                                               |
| • environmental product declaration                                 | Yes                                                                                                                                                                                                                                           |
| <b>Global warming potential</b>                                     |                                                                                                                                                                                                                                               |
| — global warming potential, (total) [CO2 eq]                        | 68.6 kg                                                                                                                                                                                                                                       |
| — global warming potential, (during production) [CO2 eq]            | 8.16 kg                                                                                                                                                                                                                                       |
| — global warming potential, (during operation) [CO2 eq]             | 60.7 kg                                                                                                                                                                                                                                       |
| — global warming potential, (after end of life cycle) [CO2 eq]      | -0.334 kg                                                                                                                                                                                                                                     |
| <b>Ambient conditions</b>                                           |                                                                                                                                                                                                                                               |
| <b>Ambient temperature during operation</b>                         |                                                                                                                                                                                                                                               |
| • min.                                                              | -40 °C; = Tmin (incl. condensation/frost); start-up @ -25 °C                                                                                                                                                                                  |
| • max.                                                              | 70 °C; = Tmax; Tmax > +60 °C number of simultaneously activated outputs 4 (no adjacent points) for horizontal mounting position                                                                                                               |
| • At cold restart, min.                                             | -25 °C                                                                                                                                                                                                                                        |
| <b>Ambient temperature during storage/transportation</b>            |                                                                                                                                                                                                                                               |
| • min.                                                              | -40 °C                                                                                                                                                                                                                                        |
| • max.                                                              | 70 °C                                                                                                                                                                                                                                         |
| <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) // 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); above 2 000 m max. 132 V AC |
| <b>Relative humidity</b>                                            |                                                                                                                                                                                                                                               |
| • Operation at 25 °C without condensation, max.                     | 95 %                                                                                                                                                                                                                                          |
| • With condensation, tested in accordance with IEC 60068-2-38, max. | 100 %; RH incl. condensation/frost (no commissioning under condensation 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> | Yes; Class 2 for high reliability<br><br>Yes; Type 1 protection<br><br>Yes; Discoloration of coating possible during service life<br><br>Yes; Conformal coating, Class A            |
| <b>connection method</b>                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                     |
| required front connector                                                                                                                                                                                                                                                                                                                                                | Yes                                                                                                                                                                                 |
| <b>Mechanics/material</b>                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                     |
| Enclosure material (front)                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                     |
| <ul style="list-style-type: none"> <li>Plastic</li> </ul>                                                                                                                                                                                                                                                                                                               | Yes                                                                                                                                                                                 |
| <b>Dimensions</b>                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                     |
| Width                                                                                                                                                                                                                                                                                                                                                                   | 45 mm                                                                                                                                                                               |
| Height                                                                                                                                                                                                                                                                                                                                                                  | 100 mm                                                                                                                                                                              |
| Depth                                                                                                                                                                                                                                                                                                                                                                   | 75 mm                                                                                                                                                                               |
| <b>Weights</b>                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                     |
| Weight, approx.                                                                                                                                                                                                                                                                                                                                                         | 310 g                                                                                                                                                                               |
| <b>last modified:</b>                                                                                                                                                                                                                                                                                                                                                   | 10/9/2024                                                                                        |