



Figure similar

SIPLUS S7-1200 SM 1278 IO-Link based on 6ES7278-4BD32-0XB0 with conformal coating, -20...+60 °C, signal module SM 1278 4xIO-Link master IO-Link master V1.1

| General information                                                 |                                                                                                                                                                                                                 |
|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product type designation                                            | SM 1278 4xIO-Link master                                                                                                                                                                                        |
| based on                                                            | <a href="#">6ES7278-4BD32-0XB0</a>                                                                                                                                                                              |
| Supply voltage                                                      |                                                                                                                                                                                                                 |
| Rated value (DC)                                                    | 24 V                                                                                                                                                                                                            |
| permissible range, lower limit (DC)                                 | 20.4 V                                                                                                                                                                                                          |
| permissible range, upper limit (DC)                                 | 28.8 V                                                                                                                                                                                                          |
| Power loss                                                          |                                                                                                                                                                                                                 |
| Power loss, typ.                                                    | 1 W                                                                                                                                                                                                             |
| Interrupts/diagnostics/status information                           |                                                                                                                                                                                                                 |
| Diagnostics function                                                | Yes                                                                                                                                                                                                             |
| Degree and class of protection                                      |                                                                                                                                                                                                                 |
| IP degree of protection                                             | IP20                                                                                                                                                                                                            |
| Ambient conditions                                                  |                                                                                                                                                                                                                 |
| Free fall                                                           |                                                                                                                                                                                                                 |
| • Fall height, max.                                                 | 0.3 m; five times, in product package                                                                                                                                                                           |
| Ambient temperature during operation                                |                                                                                                                                                                                                                 |
| • min.                                                              | -20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C                                                                                                                                                      |
| • max.                                                              | 60 °C; = Tmax                                                                                                                                                                                                   |
| • At cold restart, min.                                             | 0 °C                                                                                                                                                                                                            |
| Ambient temperature during storage/transportation                   |                                                                                                                                                                                                                 |
| • min.                                                              | -40 °C                                                                                                                                                                                                          |
| • max.                                                              | 70 °C                                                                                                                                                                                                           |
| 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; 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                 | Yes; Class 3S4 incl. sand, dust, *                                                                                                                                                                              |

| 60721-3-3                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
|-------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------|----------------|--------|----|-------------|--------|----|-------------|--------|-----|-------------|--------|---|-------------|--------|---|-------------|--------|-----|-------------|--------|---|-------------|------|---|----------|------|---|----------|------|---|----------|------|---|------|--------|----|-------------|
| 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
| connection method                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
| required front connector                                                                                                | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
| Mechanics/material                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
| Enclosure material (front)                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
| • Plastic                                                                                                               | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
| Dimensions                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
| Width                                                                                                                   | 45 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
| Height                                                                                                                  | 100 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
| Depth                                                                                                                   | 75 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
| Weights                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
| Weight, approx.                                                                                                         | 150 g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
| Classifications                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
|                                                                                                                         | <table><tr><th></th><th>Version</th><th>Classification</th></tr><tr><td>eClass</td><td>14</td><td>27-24-22-08</td></tr><tr><td>eClass</td><td>12</td><td>27-24-22-08</td></tr><tr><td>eClass</td><td>9.1</td><td>27-24-22-08</td></tr><tr><td>eClass</td><td>9</td><td>27-24-22-08</td></tr><tr><td>eClass</td><td>8</td><td>27-24-22-08</td></tr><tr><td>eClass</td><td>7.1</td><td>27-24-22-08</td></tr><tr><td>eClass</td><td>6</td><td>27-24-22-08</td></tr><tr><td>ETIM</td><td>9</td><td>EC001423</td></tr><tr><td>ETIM</td><td>8</td><td>EC001423</td></tr><tr><td>ETIM</td><td>7</td><td>EC001423</td></tr><tr><td>IDEA</td><td>4</td><td>3564</td></tr><tr><td>UNSPSC</td><td>15</td><td>32-15-17-05</td></tr></table> |                | Version | Classification | eClass | 14 | 27-24-22-08 | eClass | 12 | 27-24-22-08 | eClass | 9.1 | 27-24-22-08 | eClass | 9 | 27-24-22-08 | eClass | 8 | 27-24-22-08 | eClass | 7.1 | 27-24-22-08 | eClass | 6 | 27-24-22-08 | ETIM | 9 | EC001423 | ETIM | 8 | EC001423 | ETIM | 7 | EC001423 | IDEA | 4 | 3564 | UNSPSC | 15 | 32-15-17-05 |
|                                                                                                                         | Version                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Classification |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
| eClass                                                                                                                  | 14                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 27-24-22-08    |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
| eClass                                                                                                                  | 12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 27-24-22-08    |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
| eClass                                                                                                                  | 9.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 27-24-22-08    |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
| eClass                                                                                                                  | 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 27-24-22-08    |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
| eClass                                                                                                                  | 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 27-24-22-08    |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
| eClass                                                                                                                  | 7.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 27-24-22-08    |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
| eClass                                                                                                                  | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 27-24-22-08    |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
| ETIM                                                                                                                    | 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | EC001423       |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
| ETIM                                                                                                                    | 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | EC001423       |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
| ETIM                                                                                                                    | 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | EC001423       |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
| IDEA                                                                                                                    | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3564           |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
| UNSPSC                                                                                                                  | 15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 32-15-17-05    |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
| Approvals / Certificates                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
| General Product Approval                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |
| EMV                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                |         |                |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |   |          |      |   |          |      |   |          |      |   |      |        |    |             |

[Miscellaneous](#)



[Manufacturer Declaration](#)



[KC](#)

EMV

For use in hazardous locations



---

last modified:

5/29/2024 