

SIPLUS ET 200SP -40...+70°C start up temperature: -25°C with conformal coating based on 6ES7132-6BF00-0CA0 . digital output module, DQ 8x 24VDC/0.5A High Feature suitable for BU type A0, Color code CC02, channel diagnostics



| General information   |                       |
|---|-----------------------|
| Product type designation  | DQ 8x24 V DC/0.5 A HF |
| Firmware version  | V1.2                  |
| <ul style="list-style-type: none"> <li>FW update possible</li> </ul>                      | Yes                   |
| usable BaseUnits  | BU type A0            |
| Color code for module-specific color identification plate                                 | CC02                  |
| Product function  |                       |
| <ul style="list-style-type: none"> <li>I&amp;M data</li> </ul>                            | Yes; I&M0 to I&M3     |
| <ul style="list-style-type: none"> <li>Isochronous mode</li> </ul>                        | Yes                   |
| Engineering with  |                       |
| <ul style="list-style-type: none"> <li>PROFIBUS as of GSD version/GSD revision</li> </ul> | GSD Revision 5        |
| <ul style="list-style-type: none"> <li>PROFINET as of GSD version/GSD revision</li> </ul> | GSDML V2.3            |
| Operating mode  |                       |
| <ul style="list-style-type: none"> <li>DQ</li> </ul>                                      | Yes                   |
| <ul style="list-style-type: none"> <li>DQ with energy-saving function</li> </ul>          | No                    |
| <ul style="list-style-type: none"> <li>PWM</li> </ul>                                     | No                    |
| <ul style="list-style-type: none"> <li>Oversampling</li> </ul>                            | No                    |
| <ul style="list-style-type: none"> <li>MSO</li> </ul>                                     | Yes                   |

| Supply voltage  |                                     |
|---|-------------------------------------|
| Rated value (DC)  | 24 V                                |
| permissible range, lower limit (DC)   | 19.2 V                              |
| permissible range, upper limit (DC)   | 28.8 V                              |
| Reverse polarity protection   | Yes                                 |
| Input current   |                                     |
| Current consumption, max.   | 45 mA; without load                 |
| Output voltage  |                                     |
| Rated value (DC)  | 24 V                                |
| Power loss  |                                     |
| Power loss, typ.  | 1 W                                 |
| Address area  |                                     |
| Address space per module  |                                     |
| <ul style="list-style-type: none"> <li>Address space per module, max.</li> </ul>        | 1 byte; + 1 byte for QI information |
| Digital outputs   |                                     |
| Number of digital outputs   | 8                                   |
| Current-sinking   | No                                  |
| Current-sourcing  | Yes                                 |
| Digital outputs, parameterizable  | Yes                                 |
| Short-circuit protection  |                                     |
| <ul style="list-style-type: none"> <li>Response threshold, typ.</li> </ul>              | 0.7 to 1.3 A                        |
| Limitation of inductive shutdown voltage to   | Typ. L+ (-50 V)                     |
| Controlling a digital input   | Yes                                 |
| Switching capacity of the outputs   |                                     |
| <ul style="list-style-type: none"> <li>with resistive load, max.</li> </ul>             | 0.5 A                               |
| <ul style="list-style-type: none"> <li>on lamp load, max.</li> </ul>                    | 5 W                                 |
| Load resistance range   |                                     |
| <ul style="list-style-type: none"> <li>lower limit</li> </ul>                           | 48 $\Omega$                         |
| <ul style="list-style-type: none"> <li>upper limit</li> </ul>                           | 12 k $\Omega$                       |
| Output current  |                                     |
| <ul style="list-style-type: none"> <li>for signal "1" rated value</li> </ul>            | 0.5 A                               |
| <ul style="list-style-type: none"> <li>for signal "0" residual current, max.</li> </ul> | 0.1 mA                              |
| Output delay with resistive load  |                                     |
| <ul style="list-style-type: none"> <li>"0" to "1", typ.</li> </ul>                      | 50 $\mu$ s                          |
| <ul style="list-style-type: none"> <li>"1" to "0", typ.</li> </ul>                      | 100 $\mu$ s                         |
| Parallel switching of two outputs   |                                     |
| <ul style="list-style-type: none"> <li>for uprating</li> </ul>                          | No                                  |
| <ul style="list-style-type: none"> <li>for redundant control of a load</li> </ul>       | Yes                                 |
| Switching frequency   |                                     |
| <ul style="list-style-type: none"> <li>with resistive load, max.</li> </ul>             | 100 Hz                              |

|  |                                  |
|--|----------------------------------|
| • with inductive load, max.                      | 2 Hz                             |
| • on lamp load, max.                             | 10 Hz                            |
| <b>Total current of the outputs</b>              |                                  |
| • Current per channel, max.                      | 0.5 A                            |
| • Current per module, max.                       | 4 A                              |
| <b>Total current of the outputs (per module)</b> |                                  |
| horizontal installation                          |                                  |
| — up to 60 °C, max.                              | 4 A                              |
| vertical installation                            |                                  |
| — up to 60 °C, max.                              | 4 A                              |
| <b>Cable length</b>                              |                                  |
| • shielded, max.                                 | 1 000 m                          |
| • unshielded, max.                               | 600 m                            |
| <b>Isochronous mode</b>                          |                                  |
| Execution and activation time (TCO), min.        | 48 µs                            |
| Bus cycle time (TDP), min.                       | 500 µs                           |
| <b>Interrupts/diagnostics/status information</b> |                                  |
| Diagnostics function                             | Yes                              |
| Substitute values connectable                    | Yes                              |
| <b>Alarms</b>                                    |                                  |
| • Diagnostic alarm                               | Yes                              |
| <b>Diagnostic messages</b>                       |                                  |
| • Monitoring the supply voltage                  | Yes                              |
| • Wire-break                                     | Yes; channel by channel          |
| • Short-circuit                                  | Yes; channel by channel          |
| • Group error                                    | Yes                              |
| <b>Diagnostics indication LED</b>                |                                  |
| • Monitoring of the supply voltage (PWR-LED)     | Yes; green PWR LED               |
| • Channel status display                         | Yes; green LED                   |
| • for channel diagnostics                        | Yes; red LED                     |
| • for module diagnostics                         | Yes; green/red DIAG LED          |
| <b>Potential separation</b>                      |                                  |
| Potential separation channels                    |                                  |
| • between the channels                           | No                               |
| • between the channels and backplane bus         | Yes                              |
| <b>Permissible potential difference</b>          |                                  |
| between different circuits                       | 75 V DC/60 V AC (base isolation) |
| <b>Isolation</b>                                 |                                  |
| Isolation tested with                            | 707 V DC (type test)             |
| <b>Ambient conditions</b>                        |                                  |

|   |  |
|---|--|
| <b>Ambient temperature during operation</b>   |  |
| <ul style="list-style-type: none"> <li>• horizontal installation, min.</li> <li>• horizontal installation, max.</li> <li>• vertical installation, min.</li> <li>• vertical installation, max.</li> </ul>  | <p>-40 °C; = Tmin (incl. condensation/frost)</p> <p>70 °C; = Tmax; &gt; +60 °C max. total current 1.0 A</p> <p>-40 °C; = Tmin</p> <p>50 °C; = Tmax</p>   |
| <b>Altitude during operation relating to sea level</b>  |  |
| <ul style="list-style-type: none"> <li>• Installation altitude above sea level, max.</li> <li>• Ambient air temperature-barometric pressure-altitude</li> </ul>   | <p>5 000 m</p> <p>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)</p>  |
| <b>Relative humidity</b>  |  |
| <ul style="list-style-type: none"> <li>• With condensation, tested in accordance with IEC 60068-2-38, max.</li> </ul>   | <p>100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation</p>   |
| <b>Resistance</b>   |  |
| <b>Coolants and lubricants</b>  |  |
| <ul style="list-style-type: none"> <li>— Resistant to commercially available coolants and lubricants</li> </ul>   | <p>Yes; Incl. diesel and oil droplets in the air</p>   |
| <b>Use in stationary industrial systems</b>   |  |
| <ul style="list-style-type: none"> <li>— to biologically active substances according to EN 60721-3-3</li> <li>— to chemically active substances according to EN 60721-3-3</li> <li>— to mechanically active substances according to EN 60721-3-3</li> <li>— Against mechanical environmental conditions acc. to EN 60721-3-3</li> </ul> | <p>Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request</p> <p>Yes; Class 3C4 (RH &lt; 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *</p> <p>Yes; Class 3S4 incl. sand, dust, *</p> <p>Yes; Class 3M8 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0)</p> |
| <b>Use on ships/at sea</b>  |  |
| <ul style="list-style-type: none"> <li>— to biologically active substances according to EN 60721-3-6</li> <li>— to chemically active substances according to EN 60721-3-6</li> <li>— to mechanically active substances according to EN 60721-3-6</li> <li>— Against mechanical environmental conditions acc. to EN 60721-3-6</li> </ul> | <p>Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request</p> <p>Yes; Class 6C3 (RH &lt; 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *</p> <p>Yes; Class 6S3 incl. sand, dust; *</p> <p>Yes; Class 6M4 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0)</p>                      |
| <b>Usage in industrial process technology</b>   |  |
| <ul style="list-style-type: none"> <li>— Against chemically active substances acc. to EN 60654-4</li> <li>— Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04</li> </ul>   | <p>Yes; Class 3 (excluding trichlorethylene)</p> <p>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)</p>  |
| <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!

#### Conformal coating

- Coatings for printed circuit board assemblies acc. to EN 61086
- Protection against fouling acc. to EN 60664-3
- Military testing according to MIL-I-46058C, Amendment 7
- Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A

Yes; Class 2 for high reliability

Yes; Type 1 protection

Yes; Discoloration of coating possible during service life

Yes; Conformal coating, Class A

#### Dimensions

|        |       |
|--------|-------|
| Width  | 15 mm |
| Height | 73 mm |
| Depth  | 58 mm |

#### Weights

Weight, approx. 30 g

**last modified:** 05/09/2020