



SIPLUS ET 200SP RQ 4x24VDC/2A CO ST based on 6ES7132-6GD51-0BA0 with conformal coating, -40...+70 °C, signal relay module, suitable for BU type A0, color code CC00, substitute value output, module diagnostics for: supply voltage

| General information                                       |                             |
|-----------------------------------------------------------|-----------------------------|
| Product type designation                                  | RQ CO 4x24VDC/2A ST         |
| Firmware version                                          | V0.0                        |
| • FW update possible                                      | No                          |
| usable BaseUnits                                          | BU type A0                  |
| Color code for module-specific color identification plate | CC00                        |
| Product function                                          |                             |
| • I&M data                                                | Yes; I&M0 to I&M3           |
| • Isochronous mode                                        | No                          |
| Operating mode                                            |                             |
| • DQ                                                      | Yes                         |
| • DQ with energy-saving function                          | No                          |
| • PWM                                                     | No                          |
| • Oversampling                                            | No                          |
| • MSO                                                     | No                          |
| Redundancy                                                |                             |
| • Redundancy capability                                   | 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 (rated value)                         | 50 mA                       |
| Power loss                                                |                             |
| Power loss, typ.                                          | 1.2 W                       |
| Address area                                              |                             |
| Address space per module                                  |                             |
| • Inputs                                                  | + 1 byte for QI information |
| • Outputs                                                 | 1 byte                      |
| Hardware configuration                                    |                             |
| Automatic encoding                                        | Yes                         |
| • Mechanical coding element                               | Yes                         |
| Digital outputs                                           |                             |
| Type of digital output                                    | Relays                      |
| Number of digital outputs                                 | 4                           |
| Current-sinking                                           | Yes                         |
| Current-sourcing                                          | Yes                         |
| Digital outputs, parameterizable                          | Yes                         |

|                                                                    |                                           |
|--------------------------------------------------------------------|-------------------------------------------|
| Short-circuit protection                                           | No                                        |
| Parallel switching of two outputs                                  |                                           |
| • for logic links                                                  | Yes                                       |
| • for uprating                                                     | No                                        |
| • for redundant control of a load                                  | Yes                                       |
| Switching frequency                                                |                                           |
| • with resistive load, max.                                        | 2 Hz                                      |
| Total current of the outputs                                       |                                           |
| • Current per channel, max.                                        | 2 A                                       |
| • Current per module, max.                                         | 8 A                                       |
| Total current of the outputs (per module)                          |                                           |
| horizontal installation                                            |                                           |
| — up to 40 °C, max.                                                | 8 A                                       |
| — up to 50 °C, max.                                                | 6 A                                       |
| — up to 60 °C, max.                                                | 4 A                                       |
| vertical installation                                              |                                           |
| — up to 30 °C, max.                                                | 8 A                                       |
| — up to 40 °C, max.                                                | 6 A                                       |
| — up to 50 °C, max.                                                | 4 A; in all other mounting positions      |
| Relay outputs                                                      |                                           |
| • Number of relay outputs                                          | 4                                         |
| • Rated supply voltage of relay coil L+ (DC)                       | 24 V                                      |
| • Current consumption of relays (coil current of all relays), max. | 40 mA                                     |
| Switching capacity of contacts                                     |                                           |
| — with resistive load, max.                                        | 2 A                                       |
| — Thermal continuous current, max.                                 | 2 A                                       |
| — Switching current, min.                                          | 1 mA; 5 V DC                              |
| — Rated switching voltage (DC)                                     | 24 V                                      |
| — Rated switching voltage (AC)                                     | 24 V                                      |
| Cable length                                                       |                                           |
| • shielded, max.                                                   | 1 000 m                                   |
| • unshielded, max.                                                 | 200 m                                     |
| Interrupts/diagnostics/status information                          |                                           |
| Diagnostics function                                               | Yes                                       |
| Substitute values connectable                                      | Yes                                       |
| Alarms                                                             |                                           |
| • Diagnostic alarm                                                 | Yes                                       |
| Diagnoses                                                          |                                           |
| • Monitoring the supply voltage                                    | Yes                                       |
| • Wire-break                                                       | No                                        |
| • Short-circuit                                                    | No                                        |
| Diagnostics indication LED                                         |                                           |
| • Monitoring of the supply voltage (PWR-LED)                       | Yes; green PWR LED                        |
| • Channel status display                                           | Yes; green LED                            |
| • for channel diagnostics                                          | No                                        |
| • for module diagnostics                                           | Yes; green/red DIAG LED                   |
| Potential separation                                               |                                           |
| Potential separation channels                                      |                                           |
| • between the channels                                             | Yes                                       |
| • between the channels and backplane bus                           | Yes                                       |
| • between the channels and the power supply of the electronics     | Yes                                       |
| Isolation                                                          |                                           |
| Isolation tested with                                              | 707 V DC (type test)                      |
| Standards, approvals, certificates                                 |                                           |
| Suitable for safety functions                                      | No                                        |
| Ambient conditions                                                 |                                           |
| Ambient temperature during operation                               |                                           |
| • horizontal installation, min.                                    | -40 °C; = Tmin (incl. condensation/frost) |

|                                                                                                                         |                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • horizontal installation, max.                                                                                         | 70 °C; = Tmax; see Derating BasedOn (e.g. manual), additionally Tmax > 60 °C max. aggregate current 2 A per group                                                                                               |
| <b>Altitude during operation relating to sea level</b>                                                                  |                                                                                                                                                                                                                 |
| • 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) |
| <b>Relative humidity</b>                                                                                                |                                                                                                                                                                                                                 |
| • With condensation, tested in accordance with IEC 60068-2-38, max.                                                     | 100 %; incl. condensation / frost permitted (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)                                                                                                                                    |
| — 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, *                                                                                                                                                                              |
| — Against mechanical environmental conditions acc. to EN 60721-3-3                                                      | Yes; Class 3M8 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0)                                                                                                                                      |
| <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; *                                                                                                                                                                              |
| — Against mechanical environmental conditions acc. to EN 60721-3-6                                                      | Yes; Class 6M4 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0)                                                                                                                                      |
| <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>                                                                                                |                                                                                                                                                                                                                 |
| • 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                                                                                                                                                                                 |
| <b>Dimensions</b>                                                                                                       |                                                                                                                                                                                                                 |
| Width                                                                                                                   | 15 mm                                                                                                                                                                                                           |
| Height                                                                                                                  | 73 mm                                                                                                                                                                                                           |
| Depth                                                                                                                   | 58 mm                                                                                                                                                                                                           |
| <b>Weights</b>                                                                                                          |                                                                                                                                                                                                                 |
| Weight, approx.                                                                                                         | 30 g                                                                                                                                                                                                            |
| <b>last modified:</b>                                                                                                   | 1/17/2021                                                                                                                    |