

Siemens
EcoTech



SIMATIC ET 200SP, digital output module DQ 4x24 V DC/2 A standard, source output (PNP, sourcing output) packing unit: 1 unit, suitable for BU type A0, color code CC02, substitute value output, module diagnostics for: short circuit to L+ and M, wire break, supply voltage

| General information | |
|--|---|
| Product type designation | DQ 4x24VDC/2A ST |
| HW functional status | 01 |
| Firmware version | V1.0 |
| • FW update possible | Yes |
| usable BaseUnits | BU type A0 |
| Color code for module-specific color-coded label | CC02 |
| Product function | |
| • I&M data | Yes; I&M0 to I&M3 |
| • Isochronous mode | No |
| Engineering with | |
| • STEP 7 TIA Portal configurable/integrated from version | STEP 7 V19 or higher with HSP0425 / integrated as of TIA Portal V20 |
| • STEP 7 configurable/integrated from version | as of STEP 7 V5.5 SP3 with HSP0230 V11.0 / integrated as of STEP 7 V5.7 SP3 |
| • PROFIBUS from GSD version/GSD revision | One GSD file each, Revision 3 and 5 and higher |
| • PROFINET from GSD version/GSD revision | GSDML V2.43 |
| Operating mode | |
| • DQ | Yes |
| • DQ with energy-saving function | No |
| • PWM | No |
| • Oversampling | No |
| • MSO | No |
| 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. | 20 mA; without load |
| Output voltage | |
| Rated value (DC) | 24 V |
| Power loss | |
| Power loss, typ. | 1 W |
| Address area | |
| Address space per module | |
| • Address space per module, max. | 1 byte; + 1 byte for QI information |

| Hardware configuration | |
|---|--|
| Automatic encoding | Yes |
| • Mechanical coding element | Yes |
| • Type of mechanical coding element | Type A |
| Selection of BaseUnit for connection variants | |
| • 1-wire connection | BU type A0 |
| • 2-wire connection | BU type A0 |
| • 3-wire connection | BU type A0 with AUX terminals or potential distributor module |
| Digital outputs | |
| Type of digital output | Source output (PNP, current-sourcing) |
| Number of digital outputs | 4 |
| Current-sinking | No |
| Current-sourcing | Yes |
| Digital outputs, parameterizable | Yes |
| output type acc. to IEC 61131, type 2 | Yes |
| Short-circuit protection | Yes; Electronic |
| • Response threshold, typ. | 2.8 to 5.2 A |
| Open-circuit detection | Yes |
| Limitation of inductive shutdown voltage to | Typ. L+ (-50 V) |
| Controlling a digital input | Yes; supports input type 3 according to IEC 61131-2 |
| Switching capacity of the outputs | |
| • with resistive load, max. | 2 A |
| • with inductive load, max. | 2 A |
| • on lamp load, max. | 10 W |
| Load resistance range | |
| • lower limit | 12 Ω |
| • upper limit | 3 400 Ω |
| Output current | |
| • for signal "1" rated value | 2 A |
| • for signal "1" permissible range, max. | 2 A |
| • for signal "0" residual current, max. | 0.1 mA |
| Output delay with resistive load | |
| • "0" to "1", typ. | 50 μs |
| • "1" to "0", typ. | 100 μs |
| Parallel switching of two outputs | |
| • for uprating | No |
| • for redundant control of a load | Yes |
| Switching frequency | |
| • with resistive load, max. | 100 Hz |
| • with inductive load, max. | 0.1 Hz; higher frequencies are possible, see Equipment Manual "Maximum permitted switching frequency of inductive loads" |
| • on lamp load, max. | 10 Hz |
| Total current of the outputs | |
| • Current per channel, max. | 2 A |
| • Current per module, max. | 8 A; see Equipment Manual "Derating curve" |
| Total current of the outputs (per module) | |
| horizontal installation | |
| — up to 30 °C, max. | 8 A |
| — 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 |
| Cable length | |
| • shielded, max. | 1 000 m |
| • unshielded, max. | 600 m |
| Interrupts/diagnostics/status information | |

| | | |
|--|--|-----------------------|
| Diagnostics function | Yes | |
| Substitute values connectable | Yes | |
| Alarms | | |
| • Diagnostic alarm | Yes | |
| Diagnoses | | |
| • Monitoring the supply voltage | Yes | |
| — parameterizable | Yes | |
| • Wire-break | Yes; Module-wise | |
| • Short-circuit to M | Yes; Module-wise | |
| • Short-circuit to L+ | Yes; Module-wise | |
| • Group error | Yes | |
| 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 | No | |
| • between the channels and backplane bus | Yes | |
| • Between the channels and load voltage L+ | No | |
| Isolation | | |
| Isolation tested with | 707 V DC (type test) | |
| Standards, approvals, certificates | | |
| Suitable for safety functions | No | |
| Ecological footprint | | |
| • environmental product declaration | Yes | |
| Global warming potential | | |
| — global warming potential, (total) [CO2 eq] | 29.3 kg | |
| — global warming potential, (during production) [CO2 eq] | 3.98 kg | |
| — global warming potential, (during operation) [CO2 eq] | 25.6 kg | |
| — global warming potential, (after end of life cycle) [CO2 eq] | -0.245 kg | |
| Ambient conditions | | |
| Ambient temperature during operation | | |
| • horizontal installation, min. | -30 °C | |
| • horizontal installation, max. | 60 °C | |
| • vertical installation, min. | -30 °C | |
| • vertical installation, max. | 50 °C | |
| Altitude during operation relating to sea level | | |
| • Installation altitude above sea level, max. | 5 000 m; restrictions for installation altitudes > 2 000 m, see ET 200SP system manual | |
| Dimensions | | |
| Width | 15 mm | |
| Height | 73 mm | |
| Depth | 58 mm | |
| Weights | | |
| Weight, approx. | 30 g | |
| Classifications | | |
| | Version | Classification |
| eClass | 14 | 27-24-26-04 |
| eClass | 12 | 27-24-26-04 |
| eClass | 9.1 | 27-24-26-04 |
| eClass | 9 | 27-24-26-04 |
| eClass | 8 | 27-24-26-04 |
| eClass | 7.1 | 27-24-26-04 |

| | | |
|--------|----|-------------|
| eClass | 6 | 27-24-26-04 |
| ETIM | 10 | EC001599 |
| ETIM | 9 | EC001599 |
| ETIM | 8 | EC001599 |
| ETIM | 7 | EC001599 |

Approvals / Certificates

General Product Approval



[Manufacturer Declaration](#)



[Miscellaneous](#)

[China RoHS](#)

General Product Approval

EMV

For use in hazardous locations



[EM](#)

[CCC-Ex](#)

For use in hazardous locations

Maritime application



[Miscellaneous](#)

[Type Examination Certificate](#)



Maritime application



[NK / Nippon Kaiji Kyokai](#)



[CCS \(China Classification Society\)](#)

Maritime application

Environment



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