

Siemens  
EcoTech



SIMATIC ET 200SP, Digital output module, DQ 16x 24V DC/0.5A Standard, Source output (PNP,P-switching) Packing unit: 1 piece, fits to BU-type A0, Colour Code CC00, substitute value output, module diagnostics for: short-circuit to L+ and ground, wire break, supply voltage

| General information                                      |                                                        |
|----------------------------------------------------------|--------------------------------------------------------|
| Product type designation                                 | DQ 16x24VDC/0.5 ST                                     |
| HW functional status                                     | from FS21                                              |
| Firmware version                                         | V0.0                                                   |
| • FW update possible                                     | No                                                     |
| usable BaseUnits                                         | BU type A0                                             |
| Color code for module-specific color-coded label         | CC00                                                   |
| 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 TIA V14 with HSP0222 / integrated as of TIA V15 |
| • STEP 7 configurable/integrated from version            | V5.5 SP3 with HSP0230 V7.0 / integrated as of V5.6 SP1 |
| • PCS 7 configurable/integrated from version             | V8.1 SP1                                               |
| • PROFIBUS from GSD version/GSD revision                 | One GSD file each, Revision 3 and 5 and higher         |
| • PROFINET from GSD version/GSD revision                 | GSDML V2.3                                             |
| 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.                                | 30 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.                         | 2 byte; + 2 bytes for QI information                   |

|                                                      |                                                                                                                          |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| <b>Hardware configuration</b>                        |                                                                                                                          |
| Automatic encoding                                   | Yes                                                                                                                      |
| • Mechanical coding element                          | Yes                                                                                                                      |
| • Type of mechanical coding element                  | Type A                                                                                                                   |
| <b>Selection of BaseUnit for connection variants</b> |                                                                                                                          |
| • 1-wire connection                                  | BU type A0                                                                                                               |
| • 2-wire connection                                  | BU type A0 with AUX terminals or potential distributor module                                                            |
| • 3-wire connection                                  | BU type A0 with AUX terminals or potential distributor module                                                            |
| <b>Digital outputs</b>                               |                                                                                                                          |
| Type of digital output                               | Source output (PNP, current-sourcing)                                                                                    |
| Number of digital outputs                            | 16                                                                                                                       |
| Current-sinking                                      | No                                                                                                                       |
| Current-sourcing                                     | Yes                                                                                                                      |
| Digital outputs, parameterizable                     | Yes                                                                                                                      |
| output type acc. to IEC 61131, type 0.5              | Yes                                                                                                                      |
| Short-circuit protection                             | Yes; Electronic                                                                                                          |
| • Response threshold, typ.                           | 1 A; 0.7 to 1.3 A                                                                                                        |
| Open-circuit detection                               | Yes                                                                                                                      |
| Limitation of inductive shutdown voltage to          | Typ. L+ (-50 V)                                                                                                          |
| Controlling a digital input                          | Yes                                                                                                                      |
| <b>Switching capacity of the outputs</b>             |                                                                                                                          |
| • with resistive load, max.                          | 0.5 A                                                                                                                    |
| • with inductive load, max.                          | 0.5 A                                                                                                                    |
| • on lamp load, max.                                 | 5 W                                                                                                                      |
| <b>Load resistance range</b>                         |                                                                                                                          |
| • lower limit                                        | 48 Ω                                                                                                                     |
| • upper limit                                        | 12 kΩ                                                                                                                    |
| <b>Output current</b>                                |                                                                                                                          |
| • for signal "1" rated value                         | 0.5 A                                                                                                                    |
| • for signal "1" permissible range, max.             | 0.5 A                                                                                                                    |
| • for signal "0" residual current, max.              | 0.1 mA                                                                                                                   |
| <b>Output delay with resistive load</b>              |                                                                                                                          |
| • "0" to "1", typ.                                   | 50 μs                                                                                                                    |
| • "1" to "0", typ.                                   | 100 μs                                                                                                                   |
| <b>Parallel switching of two outputs</b>             |                                                                                                                          |
| • for uprating                                       | No                                                                                                                       |
| • for redundant control of a load                    | Yes                                                                                                                      |
| <b>Switching frequency</b>                           |                                                                                                                          |
| • 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                                                                                                                    |
| <b>Total current of the outputs</b>                  |                                                                                                                          |
| • Current per channel, max.                          | 0.5 A                                                                                                                    |
| • Current per module, max.                           | 8 A; see Equipment Manual "Derating curve"                                                                               |
| <b>Total current of the outputs (per module)</b>     |                                                                                                                          |
| 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                                                                                                                      |
| <b>Cable length</b>                                  |                                                                                                                          |
| • shielded, max.                                     | 1 000 m                                                                                                                  |
| • unshielded, max.                                   | 600 m                                                                                                                    |
| <b>Interrupts/diagnostics/status information</b>     |                                                                                                                          |
| Diagnostics function                                 | Yes                                                                                                                      |

|                                                                |                                                                                        |         |                |
|----------------------------------------------------------------|----------------------------------------------------------------------------------------|---------|----------------|
| Substitute values connectable                                  | Yes                                                                                    |         |                |
| Alarms                                                         |                                                                                        |         |                |
| • Diagnostic alarm                                             | Yes                                                                                    |         |                |
| Diagnoses                                                      |                                                                                        |         |                |
| • Monitoring the supply voltage                                | Yes                                                                                    |         |                |
| • Wire break                                                   | Yes; module-wise                                                                       |         |                |
| • Short-circuit to ground                                      | 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                                                                                     |         |                |
| Suitable for safety-related tripping of standard modules       | 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; < 0 °C as of FS03                                                              |         |                |
| • horizontal installation, max.                                | 60 °C                                                                                  |         |                |
| • vertical installation, min.                                  | -30 °C; < 0 °C as of FS03                                                              |         |                |
| • 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 |         |                |
| Absolute humidity                                              |                                                                                        |         |                |
| • dew point, min.                                              | -60 °C; suitable for dry room applications                                             |         |                |
| Dimensions                                                     |                                                                                        |         |                |
| Width                                                          | 15 mm                                                                                  |         |                |
| Height                                                         | 73 mm                                                                                  |         |                |
| Depth                                                          | 58 mm                                                                                  |         |                |
| Weights                                                        |                                                                                        |         |                |
| Weight, approx.                                                | 30 g                                                                                   |         |                |
| Classifications                                                |                                                                                        |         |                |
|                                                                |                                                                                        | Version | Classification |
|                                                                | eClass                                                                                 | 16      | 27-24-26-04    |
|                                                                | 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    |
| IDEA   | 4   | 3566        |
| UNSPSC | 15  | 32-15-17-05 |

## Approvals / Certificates

### General Product Approval

[Miscellaneous](#)

[Manufacturer Declaration](#)



### General Product Approval



[China RoHS](#)

### EMV

### For use in hazardous locations



[FM](#)

[CCC-Ex](#)



[Type Examination Certificate](#)

### For use in hazardous locations

### Maritime application



[Miscellaneous](#)

[CCC-Ex](#)



### Maritime application



[NK / Nippon Kaiji Kyokai](#)



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

[KR \(Korean Register of Shipping\)](#)

### Environment



last modified:

3/10/2026