



SIMATIC ET 200SP, digital output module, DQ 16x 24VDC/0.5A Basic, Pack quantity: 1 unit, suitable for BU type A0, Color code CC00, Module diagnostics

| General information                                       |                                                |
|-----------------------------------------------------------|------------------------------------------------|
| Product type designation                                  | DQ 16x24VDC/0.5A BA                            |
| HW functional status                                      | From FS03                                      |
| 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                                             |
| Engineering with                                          |                                                |
| • STEP 7 TIA Portal configurable/integrated from version  | V14                                            |
| • STEP 7 configurable/integrated from version             | STEP 7 V5.5 or higher                          |
| • 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.                                 | 55 mA; without load                            |
| output voltage / header                                   |                                                |
| Rated value (DC)                                          | 24 V                                           |
| Power loss                                                |                                                |
| Power loss, typ.                                          | 1 W                                            |
| Address area                                              |                                                |
| Address space per module                                  |                                                |
| • Outputs                                                 | 2 byte                                         |
| 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
- 2-wire connection
- 3-wire connection
- 4-wire connection

BU type A0  
 BU type A0 + Potential distributor module  
 BU type A0 + Potential distributor module  
 BU type A0 + Potential distributor module

#### Digital outputs

|                                              |                                       |
|----------------------------------------------|---------------------------------------|
| Type of digital output                       | Source output (PNP, current-sourcing) |
| Number of digital outputs                    | 16                                    |
| Current-sinking                              | No                                    |
| Current-sourcing                             | Yes                                   |
| Digital outputs, parameterizable             | Yes                                   |
| Short-circuit protection                     | Yes                                   |
| • Response threshold, typ.                   | 1.4 A; 0.7 to 1.9 A                   |
| Open-circuit detection                       | No                                    |
| Limitation of inductive shutdown voltage to  | Typ. L+ (-53 V)                       |
| Controlling a digital input                  | Yes                                   |
| Switching capacity of the outputs            |                                       |
| • with resistive load, max.                  | 0.5 A                                 |
| • on lamp load, max.                         | 5 W                                   |
| Load resistance range                        |                                       |
| • lower limit                                | 48 Ω                                  |
| • upper limit                                | 100 kΩ                                |
| Output current                               |                                       |
| • for signal "1" rated value                 | 0.5 A                                 |
| • for signal "0" residual current, max.      | 30 μA                                 |
| Output delay with resistive load             |                                       |
| • "0" to "1", typ.                           | 80 μs; at rated load                  |
| • "0" to "1", max.                           | 150 μs; at rated load                 |
| • "1" to "0", typ.                           | 100 μs; at rated load                 |
| • "1" to "0", max.                           | 200 μs; at rated load                 |
| 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.                  | 2 Hz                                  |
| • on lamp load, max.                         | 10 Hz                                 |
| Total current of the outputs                 |                                       |
| • Current per channel, max.                  | 0.5 A                                 |
| • Current per module, max.                   | 8 A                                   |
| Total current of the outputs (per module)    |                                       |
| horizontal installation                      |                                       |
| — up to 60 °C, max.                          | 8 A                                   |
| vertical installation                        |                                       |
| — up to 50 °C, max.                          | 8 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                                   |
| • Wire-break                                 | No                                    |
| • Short-circuit                              | No                                    |
| • 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                                                |
| <b>Potential separation</b>                                    |                                                                        |
| <b>Potential separation channels</b>                           |                                                                        |
| • between the channels                                         | No                                                                     |
| • between the channels and backplane bus                       | Yes                                                                    |
| <b>Isolation</b>                                               |                                                                        |
| Isolation tested with                                          | 707 V DC (type test)                                                   |
| <b>Standards, approvals, certificates</b>                      |                                                                        |
| Suitable for safety functions                                  | No                                                                     |
| Suitable for safety-related tripping of standard modules       | No                                                                     |
| <b>Ecological footprint</b>                                    |                                                                        |
| • environmental product declaration                            | Yes                                                                    |
| <b>Global warming potential</b>                                |                                                                        |
| — 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                                                              |
| <b>Ambient conditions</b>                                      |                                                                        |
| <b>Ambient temperature during operation</b>                    |                                                                        |
| • horizontal installation, min.                                | -30 °C                                                                 |
| • horizontal installation, max.                                | 60 °C                                                                  |
| • vertical installation, min.                                  | -30 °C                                                                 |
| • vertical installation, max.                                  | 50 °C                                                                  |
| <b>Altitude during operation relating to sea level</b>         |                                                                        |
| • Installation altitude above sea level, max.                  | 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual |
| <b>Dimensions</b>                                              |                                                                        |
| Width                                                          | 15 mm                                                                  |
| Height                                                         | 73 mm                                                                  |
| Depth                                                          | 58 mm                                                                  |
| <b>Weights</b>                                                 |                                                                        |
| Weight, approx.                                                | 30 g                                                                   |
| <b>Classifications</b>                                         |                                                                        |

|        | 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   | 9       | EC001599       |
| ETIM   | 8       | EC001599       |
| ETIM   | 7       | EC001599       |
| IDEA   | 4       | 3566           |
| UNSPSC | 15      | 32-15-17-05    |

|                                 |  |
|---------------------------------|--|
| <b>Approvals / Certificates</b> |  |
| <b>General Product Approval</b> |  |



[Manufacturer Declaration](#)



[KC](#)



For use in hazardous locations



[FM](#)

[CCC-Ex](#)



[Miscellaneous](#)

#### Marine / Shipping



[NK / Nippon Kaiji Kyokai](#)



#### Marine / Shipping

#### Environment



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



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