

SIMATIC ET 200SP, DIGITAL OUTPUT MODULE, DQ  
16X24VDC/0.5A STANDARD, PACKING UNIT: 10 PIECES, FITS  
TO BU-TYPE A0, COLOR CODE CC00, MODULE DIAGNOSIS



| General information                                       |                                       |
|-----------------------------------------------------------|---------------------------------------|
| Product type designation                                  | ET 200SP, DQ 16x24VDC/0.5A ST, VPE 10 |
| Firmware version                                          | V1.0                                  |
| • FW update possible                                      | Yes                                   |
| 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                     |
| Engineering with                                          |                                       |
| • STEP 7 TIA Portal configurable/integrated as of version | V11 SP2 / V13                         |
| • STEP 7 configurable/integrated as of version            | V5.5 SP3 / -                          |
| • PROFIBUS as of GSD version/GSD revision                 | GSD Revision 5                        |
| • PROFINET as of GSD version/GSD revision                 | GSDML V2.3                            |
| Operating mode                                            |                                       |
| • DQ                                                      | Yes                                   |
| • DQ with energy-saving function                          | No                                    |
| • PWM                                                     | No                                    |

- Oversampling
- MSO

No

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. | 60 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 |

#### Digital outputs

|                                             |                 |
|---------------------------------------------|-----------------|
| Number of digital outputs                   | 16              |
| Current-sinking                             | No              |
| Current-sourcing                            | Yes             |
| Short-circuit protection                    | Yes             |
| • Response threshold, typ.                  | 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

|                             |       |
|-----------------------------|-------|
| • with resistive load, max. | 0.5 A |
| • on lamp load, max.        | 5 W   |

#### Load resistance range

|               |               |
|---------------|---------------|
| • lower limit | 48 $\Omega$   |
| • upper limit | 12 k $\Omega$ |

#### Output current

|                                         |        |
|-----------------------------------------|--------|
| • for signal "1" rated value            | 0.5 A  |
| • for signal "0" residual current, max. | 0.1 mA |

#### Output delay with resistive load

|                    |             |
|--------------------|-------------|
| • "0" to "1", typ. | 50 $\mu$ s  |
| • "1" to "0", typ. | 100 $\mu$ s |

#### 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 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                     |
| — up to 60 °C, max.                                             | 4 A                     |
| Cable length                                                    |                         |
| • shielded, max.                                                | 1 000 m                 |
| • unshielded, max.                                              | 600 m                   |
| Isochronous mode                                                |                         |
| Isochronous operation (application synchronized up to terminal) | No                      |
| Interrupts/diagnostics/status information                       |                         |
| Diagnostics                                                     | Yes                     |
| Substitute values connectable                                   | Yes                     |
| Alarms                                                          |                         |
| • Diagnostic alarm                                              | Yes                     |
| Diagnostic messages                                             |                         |
| • Monitoring the supply voltage                                 | Yes                     |
| • Wire-break                                                    | Yes; Module-wise        |
| • Short-circuit                                                 | 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

#### Permissible potential difference

between different circuits

75 V DC/60 V AC (base isolation)

#### Isolation

Isolation tested with

707 V DC (type test)

#### Dimensions

Width

15 mm

#### Weights

Weight, approx.

28 g

**last modified:**

24.03.2016