



SIMATIC ET 200SP, Digital output module, DQ 8x 24V DC/0.5A Basic, Source output (PNP,P-switching) Packing unit: 10 pieces, fits to BU-type A0, Colour Code CC02, substitute value output, module diagnostics for: supply voltage

| General information                                       |                                                |
|-----------------------------------------------------------|------------------------------------------------|
| Product type designation                                  | DQ 8x24VDC/0.5A BA                             |
| HW functional status                                      | From FS02                                      |
| Firmware version                                          | V0.0                                           |
| • FW update possible                                      | No                                             |
| usable BaseUnits                                          | BU type A0                                     |
| Color code for module-specific color identification plate | 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  | V14                                            |
| • STEP 7 configurable/integrated from version             | V5.5 SP3                                       |
| • PROFIBUS from GSD version/GSD revision                  | One GSD file each, Revision 3 and 5 and higher |
| • PROFINET from GSD version/GSD revision                  | GSDML V2.3                                     |
| 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.                                 | 45 mA; without load                            |
| output voltage / header                                   |                                                |
| 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                                         |
| Hardware configuration                                    |                                                |
| Automatic encoding                                        | Yes                                            |
| • Mechanical coding element                               | Yes                                            |
| • Type of mechanical coding element                       | Type A                                         |
| Selection of BaseUnit for connection variants             |                                                |

|                                                                                                                                                              |                                                                                                                                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• 1-wire connection</li> <li>• 2-wire connection</li> <li>• 3-wire connection</li> <li>• 4-wire connection</li> </ul> | BU type A0<br>BU type A0<br>BU type A0 with AUX terminals or potential distributor module<br>BU type A0 + Potential distributor module |
| <b>Digital outputs</b>                                                                                                                                       |                                                                                                                                        |
| Type of digital output                                                                                                                                       | Source output (PNP, current-sourcing)                                                                                                  |
| Number of digital outputs                                                                                                                                    | 8                                                                                                                                      |
| Current-sourcing                                                                                                                                             | Yes                                                                                                                                    |
| Digital outputs, parameterizable                                                                                                                             | Yes                                                                                                                                    |
| Short-circuit protection                                                                                                                                     | Yes; per channel, electronic                                                                                                           |
| <ul style="list-style-type: none"> <li>• Response threshold, typ.</li> </ul>                                                                                 | 1 A                                                                                                                                    |
| Limitation of inductive shutdown voltage to                                                                                                                  | Typ. L+ (-50 V)                                                                                                                        |
| Controlling a digital input                                                                                                                                  | Yes                                                                                                                                    |
| <b>Switching capacity of the outputs</b>                                                                                                                     |                                                                                                                                        |
| <ul style="list-style-type: none"> <li>• with resistive load, max.</li> </ul>                                                                                | 0.5 A                                                                                                                                  |
| <ul style="list-style-type: none"> <li>• on lamp load, max.</li> </ul>                                                                                       | 5 W                                                                                                                                    |
| <b>Load resistance range</b>                                                                                                                                 |                                                                                                                                        |
| <ul style="list-style-type: none"> <li>• lower limit</li> </ul>                                                                                              | 48 Ω                                                                                                                                   |
| <ul style="list-style-type: none"> <li>• upper limit</li> </ul>                                                                                              | 100 kΩ                                                                                                                                 |
| <b>Output current</b>                                                                                                                                        |                                                                                                                                        |
| <ul style="list-style-type: none"> <li>• for signal "1" rated value</li> </ul>                                                                               | 0.5 A                                                                                                                                  |
| <ul style="list-style-type: none"> <li>• for signal "1" permissible range, max.</li> </ul>                                                                   | 0.5 A                                                                                                                                  |
| <ul style="list-style-type: none"> <li>• for signal "0" residual current, max.</li> </ul>                                                                    | 10 μA                                                                                                                                  |
| <b>Output delay with resistive load</b>                                                                                                                      |                                                                                                                                        |
| <ul style="list-style-type: none"> <li>• "0" to "1", max.</li> </ul>                                                                                         | 100 μs; at rated load                                                                                                                  |
| <ul style="list-style-type: none"> <li>• "1" to "0", max.</li> </ul>                                                                                         | 150 μs; at rated load                                                                                                                  |
| <b>Parallel switching of two outputs</b>                                                                                                                     |                                                                                                                                        |
| <ul style="list-style-type: none"> <li>• for uprating</li> </ul>                                                                                             | No                                                                                                                                     |
| <ul style="list-style-type: none"> <li>• for redundant control of a load</li> </ul>                                                                          | Yes                                                                                                                                    |
| <b>Switching frequency</b>                                                                                                                                   |                                                                                                                                        |
| <ul style="list-style-type: none"> <li>• with resistive load, max.</li> </ul>                                                                                | 100 Hz                                                                                                                                 |
| <ul style="list-style-type: none"> <li>• with inductive load, max.</li> </ul>                                                                                | 2 Hz                                                                                                                                   |
| <ul style="list-style-type: none"> <li>• on lamp load, max.</li> </ul>                                                                                       | 10 Hz                                                                                                                                  |
| <b>Total current of the outputs</b>                                                                                                                          |                                                                                                                                        |
| <ul style="list-style-type: none"> <li>• Current per channel, max.</li> </ul>                                                                                | 0.5 A                                                                                                                                  |
| <ul style="list-style-type: none"> <li>• Current per module, max.</li> </ul>                                                                                 | 4 A                                                                                                                                    |
| <b>Total current of the outputs (per module)</b>                                                                                                             |                                                                                                                                        |
| horizontal installation                                                                                                                                      |                                                                                                                                        |
| — up to 60 °C, max.                                                                                                                                          | 4 A                                                                                                                                    |
| vertical installation                                                                                                                                        |                                                                                                                                        |
| — up to 50 °C, max.                                                                                                                                          | 4 A                                                                                                                                    |
| <b>Cable length</b>                                                                                                                                          |                                                                                                                                        |
| <ul style="list-style-type: none"> <li>• shielded, max.</li> </ul>                                                                                           | 1 000 m                                                                                                                                |
| <ul style="list-style-type: none"> <li>• unshielded, max.</li> </ul>                                                                                         | 600 m                                                                                                                                  |
| <b>Interrupts/diagnostics/status information</b>                                                                                                             |                                                                                                                                        |
| Diagnostics function                                                                                                                                         | Yes                                                                                                                                    |
| Substitute values connectable                                                                                                                                | Yes                                                                                                                                    |
| <b>Alarms</b>                                                                                                                                                |                                                                                                                                        |
| <ul style="list-style-type: none"> <li>• Diagnostic alarm</li> </ul>                                                                                         | Yes                                                                                                                                    |
| <b>Diagnoses</b>                                                                                                                                             |                                                                                                                                        |
| <ul style="list-style-type: none"> <li>• Monitoring the supply voltage</li> </ul>                                                                            | Yes                                                                                                                                    |
| <ul style="list-style-type: none"> <li>• Wire-break</li> </ul>                                                                                               | No                                                                                                                                     |
| <ul style="list-style-type: none"> <li>• Short-circuit</li> </ul>                                                                                            | No                                                                                                                                     |
| <ul style="list-style-type: none"> <li>• Group error</li> </ul>                                                                                              | Yes                                                                                                                                    |
| <b>Diagnostics indication LED</b>                                                                                                                            |                                                                                                                                        |
| <ul style="list-style-type: none"> <li>• Monitoring of the supply voltage (PWR-LED)</li> </ul>                                                               | Yes; green PWR LED                                                                                                                     |
| <ul style="list-style-type: none"> <li>• Channel status display</li> </ul>                                                                                   | Yes; green LED                                                                                                                         |
| <ul style="list-style-type: none"> <li>• for channel diagnostics</li> </ul>                                                                                  | No                                                                                                                                     |
| <ul style="list-style-type: none"> <li>• for module diagnostics</li> </ul>                                                                                   | Yes; green/red DIAG LED                                                                                                                |
| <b>Potential separation</b>                                                                                                                                  |                                                                                                                                        |

|                                                                |                                                                        |
|----------------------------------------------------------------|------------------------------------------------------------------------|
| Potential separation channels                                  |                                                                        |
| • between the channels                                         | No                                                                     |
| • between the channels and backplane bus                       | Yes                                                                    |
| • between the channels and the power supply of the electronics | 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       | Yes; see FAQ Entry ID: 39198632                                        |
| Ecological footprint                                           |                                                                        |
| • environmental product declaration                            | Yes                                                                    |
| Global warming potential                                       |                                                                        |
| — global warming potential, (total) [CO2 eq]                   | 20.4 kg                                                                |
| — global warming potential, (during production) [CO2 eq]       | 3.16 kg                                                                |
| — global warming potential, (during operation) [CO2 eq]        | 17.5 kg                                                                |
| — global warming potential, (after end of life cycle) [CO2 eq] | -0.221 kg                                                              |
| Highest safety class achievable in safety mode                 |                                                                        |
| • Performance level according to ISO 13849-1                   | PL d                                                                   |
| • SIL acc. to IEC 61508                                        | SIL 2                                                                  |
| Ambient conditions                                             |                                                                        |
| Ambient temperature during operation                           |                                                                        |
| • horizontal installation, min.                                | -30 °C; < 0 °C as of FS02                                              |
| • horizontal installation, max.                                | 60 °C                                                                  |
| • vertical installation, min.                                  | -30 °C; < 0 °C as of FS02                                              |
| • 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 manual |
| Dimensions                                                     |                                                                        |
| Width                                                          | 15 mm                                                                  |
| Height                                                         | 73 mm                                                                  |
| Depth                                                          | 58 mm                                                                  |
| Weights                                                        |                                                                        |
| Weight, approx.                                                | 30 g                                                                   |

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