



SIMATIC ET 200SP, Digital input module, DI 8x 24V DC Standard, type 3 (IEC 61131), sink input, (PNP, P-reading), Packing unit: 1 piece, fits to BU-type A0, Colour Code CC01, input delay time 0,05..20ms, module diagnostics for: short-circuit of sensor supply, wire break, supply voltage

| General information                                       |  |
|---|--|
| Product type designation                                  | DI 8x24 VDC ST   |
| 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 | CC01   |
| Product function  |  |
| • I&M data  | Yes; I&M0 to I&M3  |
| • Isochronous mode  | No   |
| • suitable for operation on PROFINET R1 IMs               | Yes  |
| Engineering with  |  |
| • STEP 7 TIA Portal configurable/integrated from version  | V14  |
| • STEP 7 configurable/integrated from version             | V5.5 SP3 or higher                                       |
| • PCS 7 configurable/integrated from version              | V8.1 SP1   |
| • PCS neo can be configured/integrated from version       | V3.1   |
| • 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  |  |
| • DI  | Yes  |
| • Counter   | No   |
| • Oversampling  | No   |
| • MSI   | 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.                                 | 50 mA; All channels are supplied from the encoder supply |
| Encoder supply  |  |
| Number of outputs   | 8  |
| Output voltage, min.                                      | 19.2 V   |
| Short-circuit protection                                  | Yes; per module  |
| 24 V encoder supply                                       |  |
| • 24 V  | Yes  |
| • Short-circuit protection                                | Yes  |
| • Output current, max.                                    | 700 mA   |
| • Output current per channel, max.                        | 700 mA   |
| • Output current per module, max.                         | 700 mA   |

|   |   |
|---|---|
| <b>Power loss</b>   |   |
| Power loss, typ.  | 1 W; 24 V, 8 inputs supplied via encoder supply   |
| <b>Address area</b>   |   |
| Address space per module  |   |
| • Inputs  | 1 byte; + 1 byte for QI information   |
| <b>Hardware configuration</b>                                   |   |
| 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   |
| • 4-wire connection   | BU type A0 + Potential distributor module   |
| <b>Digital inputs</b>   |   |
| Number of digital inputs  | 8   |
| Digital inputs, parameterizable                                 | Yes   |
| Source/sink input   | P-reading   |
| Input characteristic curve in accordance with IEC 61131, type 3 | Yes   |
| Input voltage   |   |
| • Rated value (DC)  | 24 V  |
| • for signal "0"  | -30 to +5 V   |
| • for signal "1"  | +11 to +30V   |
| Input current   |   |
| • for signal "1", typ.  | 2.5 mA  |
| Input delay (for rated value of input voltage)                  |   |
| for standard inputs   |   |
| — parameterizable   | Yes; 0.05 / 0.1 / 0.4 / 0.8 / 1.6 / 3.2 / 12.8 / 20 ms (in each case + delay of 30 to 500 µs, depending on line length)                             |
| — at "0" to "1", min.   | 0.05 ms   |
| — at "0" to "1", max.   | 20 ms   |
| — at "1" to "0", min.   | 0.05 ms   |
| — at "1" to "0", max.   | 20 ms   |
| Cable length  |   |
| • shielded, max.  | 1 000 m   |
| • unshielded, max.  | 600 m   |
| <b>Encoder</b>  |   |
| Connectable encoders  |   |
| • 2-wire sensor   | Yes   |
| — permissible quiescent current (2-wire sensor), max.           | 1.5 mA  |
| <b>Interrupts/diagnostics/status information</b>                |   |
| Diagnostics function  | Yes   |
| Alarms  |   |
| • Diagnostic alarm  | Yes   |
| Diagnoses   |   |
| • Diagnostic information readable                               | Yes   |
| • Monitoring the supply voltage                                 | Yes   |
| — parameterizable   | Yes   |
| • Monitoring of encoder power supply                            | Yes; Module-by-module, optional protective circuit for preventing wire-break diagnostics in the case of simple encoder contacts: 25 kOhm to 45 kOhm |
| • Wire-break  | Yes; Module-wise  |
| • Short-circuit   | Yes; Module-wise  |
| 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>                                     |   |
| 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   |
| <b>Isolation</b>   |  |
| Isolation tested with  | 707 V DC (type test)   |
| <b>Standards, approvals, certificates</b>                      |  |
| Suitable for safety functions                                  | No   |
| <b>Ecological footprint</b>                                    |  |
| • environmental product declaration                            | Yes  |
| <b>Global warming potential</b>                                |  |
| — global warming potential, (total) [CO2 eq]                   | 15.9 kg  |
| — global warming potential, (during production) [CO2 eq]       | 3.69 kg  |
| — global warming potential, (during operation) [CO2 eq]        | 12.7 kg  |
| — global warming potential, (after end of life cycle) [CO2 eq] | -0.495 kg  |
| <b>Ambient conditions</b>                                      |  |
| <b>Ambient temperature during operation</b>                    |  |
| • 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  |
| <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.  | 28 g   |

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