




SIMATIC ET 200SP, digital input module, DI 8x 24 V DC High Speed, Pack quantity: 1 unit, three alternative operating modes: DI, Oversampling, 4x counters, suitable for BU type A0, Color code CC01

| General information  |   |
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| Product type designation   | DI 8x24 V DC HS   |
| HW functional status   | from FS04   |
| Firmware version   | V1.0.2  |
| <ul style="list-style-type: none"> <li>FW update possible</li> </ul>                                     | Yes   |
| usable BaseUnits   | BU type A0  |
| Color code for module-specific color identification plate  | CC01  |
| Product function   |   |
| <ul style="list-style-type: none"> <li>I&amp;M data</li> </ul>   | Yes; I&M0 to I&M3   |
| <ul style="list-style-type: none"> <li>Isochronous mode</li> </ul>                                       | Yes   |
| Engineering with   |   |
| <ul style="list-style-type: none"> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul> | V13 SP1   |
| <ul style="list-style-type: none"> <li>STEP 7 configurable/integrated from version</li> </ul>            | V5.5 SP3 / -  |
| <ul style="list-style-type: none"> <li>PROFIBUS from GSD version/GSD revision</li> </ul>                 | One GSD file each, Revision 3 and 5 and higher                      |
| <ul style="list-style-type: none"> <li>PROFINET from GSD version/GSD revision</li> </ul>                 | GSDML V2.3  |
| Operating mode   |   |
| <ul style="list-style-type: none"> <li>DI</li> </ul>   | Yes   |
| <ul style="list-style-type: none"> <li>Counter</li> </ul>  | Yes   |
| <ul style="list-style-type: none"> <li>Oversampling</li> </ul>   | Yes   |
| <ul style="list-style-type: none"> <li>MSI</li> </ul>  | 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.  | 70 mA; without sensor supply  |
| Encoder supply   |   |
| 24 V encoder supply  |   |
| <ul style="list-style-type: none"> <li>24 V</li> </ul>   | Yes   |
| <ul style="list-style-type: none"> <li>Short-circuit protection</li> </ul>                               | Yes; per module, electronic   |
| <ul style="list-style-type: none"> <li>Output current, max.</li> </ul>                                   | 700 mA  |
| Power loss   |   |
| Power loss, typ.   | 1.5 W   |
| Address area   |   |
| Address space per module   |   |
| <ul style="list-style-type: none"> <li>Address space per module, max.</li> </ul>                         | 45 byte   |
| <ul style="list-style-type: none"> <li>Inputs</li> </ul>   | 32 byte; 1 byte + 1 byte for QI information in DI mode; 32 bytes in |

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| <ul style="list-style-type: none"> <li>• Outputs</li> </ul>  | Oversampling mode; 25 bytes in Counter mode<br>20 byte; In count mode                        |
| <b>Hardware configuration</b>  |  |
| Automatic encoding   | Yes  |
| <ul style="list-style-type: none"> <li>• Mechanical coding element</li> <li>• Type of mechanical coding element</li> </ul>   | Yes<br>Type A  |
| <b>Selection of BaseUnit for connection variants</b>   |  |
| <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<br>BU type A0 + external terminals |
| <b>Digital inputs</b>  |  |
| Number of digital inputs   | 8  |
| Source/sink input  | P-reading  |
| Pulse extension  | Yes  |
| <ul style="list-style-type: none"> <li>• Length</li> </ul>   | 2 s; 50 ms, 100 ms, 200 ms, 500 ms, 1 s, 2 s   |
| <b>Digital input functions, parameterizable</b>  |  |
| <ul style="list-style-type: none"> <li>• Gate start/stop</li> <li>• Freely usable digital input</li> <li>• Counter <ul style="list-style-type: none"> <li>— Number, max.</li> <li>— Counting frequency, max.</li> <li>— Counting width</li> <li>— Counting direction up/down</li> </ul> </li> <li>• Digital input with oversampling <ul style="list-style-type: none"> <li>— Number, max.</li> <li>— Values per cycle, max.</li> <li>— Resolution, min.</li> </ul> </li> </ul> | Yes<br>Yes<br>Yes<br>4<br>10 kHz<br>32 bit<br>Yes<br>Yes<br>8<br>32<br>7.8125 $\mu$ s        |
| <b>Input voltage</b>   |  |
| <ul style="list-style-type: none"> <li>• Rated value (DC)</li> <li>• for signal "0"</li> <li>• for signal "1"</li> </ul>   | 24 V<br>-30 to +5 V<br>+11 to +30V   |
| <b>Input current</b>   |  |
| <ul style="list-style-type: none"> <li>• for signal "1", typ.</li> </ul>   | 6 mA   |
| <b>Input delay (for rated value of input voltage)</b>  |  |
| for standard inputs  |  |
| <ul style="list-style-type: none"> <li>— parameterizable</li> </ul>  | Yes; none / 0.05 / 0.1 / 0.4 / 0.8 / 1.6 / 3.2 / 12.8 / 20 ms                                |
| for interrupt inputs   |  |
| <ul style="list-style-type: none"> <li>— parameterizable</li> </ul>  | Yes  |
| for technological functions  |  |
| <ul style="list-style-type: none"> <li>— parameterizable</li> </ul>  | Yes  |
| <b>Cable length</b>  |  |
| <ul style="list-style-type: none"> <li>• shielded, max.</li> <li>• unshielded, max.</li> </ul>   | 50 m<br>50 m   |
| <b>Encoder</b>   |  |
| <b>Connectable encoders</b>  |  |
| <ul style="list-style-type: none"> <li>• 2-wire sensor <ul style="list-style-type: none"> <li>— permissible quiescent current (2-wire sensor), max.</li> </ul> </li> </ul>   | Yes<br>1.5 mA  |
| <b>Isochronous mode</b>  |  |
| Bus cycle time (TDP), min.   | 125 $\mu$ s  |
| Jitter, max.   | 5 $\mu$ s  |
| <b>Interrupts/diagnostics/status information</b>   |  |
| Diagnostics function   | Yes  |
| <b>Alarms</b>  |  |
| <ul style="list-style-type: none"> <li>• Diagnostic alarm</li> <li>• Hardware interrupt</li> </ul>   | Yes<br>Yes   |
| <b>Diagnoses</b>   |  |
| <ul style="list-style-type: none"> <li>• Diagnostic information readable</li> <li>• Monitoring the supply voltage</li> </ul>   | Yes<br>Yes   |

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| — parameterizable  | Yes  |
| • Monitoring of encoder power supply                           | Yes; Module-wise   |
| • Wire-break   | No   |
| • Short-circuit  | Yes; Module-wise   |
| <b>Diagnostics indication LED</b>                              |  |
| • 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  |
| • 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>Ambient conditions</b>                                      |  |
| <b>Ambient temperature during operation</b>                    |  |
| • horizontal installation, min.                                | -30 °C; < 0 °C as of FS04  |
| • horizontal installation, max.                                | 60 °C  |
| • vertical installation, min.                                  | -30 °C; < 0 °C as of FS04  |
| • 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   |
| <b>last modified:</b>  | 2/1/2021  |