

Siemens  
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SIMATIC ET 200SP, digital input module, DI 8x NAMUR High Feature, suitable for BU type A0, Color code CC01, channel diagnostics



| General information                                       |                   |
|-----------------------------------------------------------|-------------------|
| Product type designation                                  | DI 8xNAMUR HF     |
| HW functional status                                      | from FS21         |
| Firmware version                                          | V2.0 or higher    |
| • FW update possible                                      | Yes               |
| 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  | V19               |
| • STEP 7 configurable/integrated from version             | V5.5 SP3 / -      |
| • PROFIBUS from GSD version/GSD revision                  | GSD Revision 5    |
| • PROFINET from GSD version/GSD revision                  | GSDML V2.42       |
| Operating mode                                            |                   |
| • DI                                                      | Yes               |
| • Counter                                                 | Yes               |
| • 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.                                 | 70 mA             |
| Encoder supply                                            |                   |
| Number of outputs                                         | 8                 |
| Short-circuit protection                                  | Yes               |
| 24 V encoder supply                                       |                   |
| • 24 V                                                    | No                |
| • Short-circuit protection                                | No                |
| NAMUR encoder supply                                      |                   |
| • 8.2 V                                                   | Yes               |

|                                                                                                                                                                                                                                                                                                                   |                                                                                                                                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Short-circuit protection</li> <li>• Output current per channel, max.</li> <li>• Output current per module, max.</li> </ul>                                                                                                                                               | Yes<br>8 mA<br>64 mA                                                                                                                          |
| <b>Power loss</b>                                                                                                                                                                                                                                                                                                 |                                                                                                                                               |
| Power loss, typ.                                                                                                                                                                                                                                                                                                  | 1.5 W                                                                                                                                         |
| <b>Address area</b>                                                                                                                                                                                                                                                                                               |                                                                                                                                               |
| Address space per module                                                                                                                                                                                                                                                                                          |                                                                                                                                               |
| <ul style="list-style-type: none"> <li>• Address space per module, max.</li> <li>• Inputs</li> <li>• Outputs</li> </ul>                                                                                                                                                                                           | 1 byte<br>42 byte; 1 byte + 1 byte for QI information in DI mode; 42 bytes in Counter mode<br>20 byte; 0 in DI mode; 20 bytes in Counter 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                                                                                                                                 |
| Submodules                                                                                                                                                                                                                                                                                                        |                                                                                                                                               |
| <ul style="list-style-type: none"> <li>• Number of configurable submodules, max.</li> </ul>                                                                                                                                                                                                                       | 1                                                                                                                                             |
| Selection of BaseUnit for connection variants                                                                                                                                                                                                                                                                     |                                                                                                                                               |
| <ul style="list-style-type: none"> <li>• 2-wire connection</li> <li>• 3-wire connection</li> </ul>                                                                                                                                                                                                                | BU type A0<br>BU type A0                                                                                                                      |
| <b>Digital inputs</b>                                                                                                                                                                                                                                                                                             |                                                                                                                                               |
| Number of digital inputs                                                                                                                                                                                                                                                                                          | 8; NAMUR                                                                                                                                      |
| Digital inputs, parameterizable                                                                                                                                                                                                                                                                                   | Yes                                                                                                                                           |
| Source/sink input                                                                                                                                                                                                                                                                                                 | P-reading                                                                                                                                     |
| Pulse extension                                                                                                                                                                                                                                                                                                   | Yes; 0.5 s, 1 s, 2 s                                                                                                                          |
| Edge evaluation                                                                                                                                                                                                                                                                                                   | Yes; rising edge, falling edge, edge change                                                                                                   |
| Signal change flutter                                                                                                                                                                                                                                                                                             | Yes; 2 to 32 signal changes                                                                                                                   |
| Flutter observation window                                                                                                                                                                                                                                                                                        | Yes; 0.5 s, 1 s to 100 s in 1-s steps                                                                                                         |
| Digital input functions, parameterizable                                                                                                                                                                                                                                                                          |                                                                                                                                               |
| <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> </ul> | Yes<br>Yes<br>Yes<br>4; See manual for details<br>5 kHz<br>32 bit<br>Yes                                                                      |
| Input voltage                                                                                                                                                                                                                                                                                                     |                                                                                                                                               |
| <ul style="list-style-type: none"> <li>• Rated value (DC)</li> </ul>                                                                                                                                                                                                                                              | 8.2 V                                                                                                                                         |
| Input current                                                                                                                                                                                                                                                                                                     |                                                                                                                                               |
| for 10 k switched contact                                                                                                                                                                                                                                                                                         |                                                                                                                                               |
| <ul style="list-style-type: none"> <li>— for signal "0", min.</li> <li>— for signal "0", max.</li> <li>— for signal "1", min.</li> <li>— for signal "1", max.</li> </ul>                                                                                                                                          | 0.35 mA<br>1.2 mA<br>2.1 mA<br>7 mA                                                                                                           |
| for unswitched contact                                                                                                                                                                                                                                                                                            |                                                                                                                                               |
| <ul style="list-style-type: none"> <li>— for signal "0", max. (permissible quiescent current)</li> <li>— for signal "1", typ.</li> </ul>                                                                                                                                                                          | 0.5 mA<br>8 mA                                                                                                                                |
| for NAMUR encoders                                                                                                                                                                                                                                                                                                |                                                                                                                                               |
| <ul style="list-style-type: none"> <li>— for signal "0", min.</li> <li>— for signal "0", max.</li> <li>— for signal "1", min.</li> <li>— for signal "1", max.</li> </ul>                                                                                                                                          | 0.35 mA<br>1.2 mA<br>2.1 mA<br>7 mA                                                                                                           |
| Input delay (for rated value of input voltage)                                                                                                                                                                                                                                                                    |                                                                                                                                               |
| <ul style="list-style-type: none"> <li>• tolerated changeover time for changeover contacts</li> </ul>                                                                                                                                                                                                             | 300 ms                                                                                                                                        |
| for standard inputs                                                                                                                                                                                                                                                                                               |                                                                                                                                               |
| <ul style="list-style-type: none"> <li>— parameterizable</li> </ul>                                                                                                                                                                                                                                               | No                                                                                                                                            |
| for NAMUR inputs                                                                                                                                                                                                                                                                                                  |                                                                                                                                               |
| <ul style="list-style-type: none"> <li>— at "0" to "1", max.</li> <li>— at "1" to "0", max.</li> </ul>                                                                                                                                                                                                            | 20 ms; See manual for details<br>20 ms; See manual for details                                                                                |

|                                                                            |                                                                        |
|----------------------------------------------------------------------------|------------------------------------------------------------------------|
| Cable length                                                               |                                                                        |
| • shielded, max.                                                           | 200 m; 50 m for Counter mode                                           |
| <b>Encoder</b>                                                             |                                                                        |
| Connectable encoders                                                       |                                                                        |
| • NAMUR encoder/changeover contact according to EN 60947                   | Yes                                                                    |
| • Single contact / changeover contact unconnected                          | Yes                                                                    |
| • Single contact / changeover contact connected with 10 kΩ                 | Yes                                                                    |
| <b>Interrupts/diagnostics/status information</b>                           |                                                                        |
| Diagnostics function                                                       | Yes                                                                    |
| <b>Alarms</b>                                                              |                                                                        |
| • Diagnostic alarm                                                         | Yes; channel by channel                                                |
| • Hardware interrupt                                                       | Yes; Parameterizable, channels 0 to 7                                  |
| <b>Diagnoses</b>                                                           |                                                                        |
| • Diagnostic information readable                                          | Yes                                                                    |
| • Monitoring the supply voltage                                            | Yes                                                                    |
| — parameterizable                                                          | Yes                                                                    |
| • Monitoring of encoder power supply                                       | No                                                                     |
| • Wire-break                                                               | Yes; channel by channel                                                |
| • Short-circuit                                                            | Yes; channel by channel                                                |
| <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                                                  | Yes; red LED                                                           |
| • 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 load voltage L+                                 | Yes                                                                    |
| • between the channels and the power supply of the electronics             | Yes                                                                    |
| <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) [CO <sub>2</sub> eq]                   | 15.9 kg                                                                |
| — global warming potential, (during production) [CO <sub>2</sub> eq]       | 3.69 kg                                                                |
| — global warming potential, (during operation) [CO <sub>2</sub> eq]        | 12.7 kg                                                                |
| — global warming potential, (after end of life cycle) [CO <sub>2</sub> eq] | -0.495 kg                                                              |
| <b>Ambient conditions</b>                                                  |                                                                        |
| Ambient temperature during operation                                       |                                                                        |
| • horizontal installation, min.                                            | -30 °C                                                                 |
| • horizontal installation, max.                                            | 60 °C                                                                  |
| • vertical installation, min.                                              | -30 °C                                                                 |
| • 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 |
| <b>Dimensions</b>                                                          |                                                                        |
| Width                                                                      | 15 mm                                                                  |
| Height                                                                     | 73 mm                                                                  |
| Depth                                                                      | 58 mm                                                                  |
| <b>Weights</b>                                                             |                                                                        |

|                 |      |
|-----------------|------|
| Weight, approx. | 32 g |
|-----------------|------|

## Classifications

|        | 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   | 10      | EC001599       |
| ETIM   | 9       | EC001599       |
| ETIM   | 8       | EC001599       |
| ETIM   | 7       | EC001599       |
| IDEA   | 4       | 3566           |
| UNSPSC | 15      | 32-15-17-05    |

## Approvals / Certificates

### General Product Approval

[Miscellaneous](#)



[Manufacturer Declaration](#)

[China RoHS](#)



### General Product Approval

[KC](#)



[KC](#)



[FM](#)

[CCC-Ex](#)

### For use in hazardous locations



[Type Examination Certificate](#)



[Miscellaneous](#)



### Maritime application



[NK / Nippon Kaiji Kyokai](#)



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

### Maritime application



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