

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
<ul style="list-style-type: none"> <li>FW update possible</li> </ul>	No
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
Engineering with	
<ul style="list-style-type: none"> <li>STEP 7 TIA Portal configurable/integrated as of version</li> </ul>	V14
<ul style="list-style-type: none"> <li>STEP 7 configurable/integrated as of version</li> </ul>	V5.5 SP3 or higher
<ul style="list-style-type: none"> <li>PCS 7 configurable/integrated as of version</li> </ul>	V8.1 SP1
<ul style="list-style-type: none"> <li>PROFIBUS as of GSD version/GSD revision</li> </ul>	One GSD file each, Revision 3 and 5 and higher
<ul style="list-style-type: none"> <li>PROFINET as of GSD version/GSD revision</li> </ul>	GSDML V2.3
Operating mode	
<ul style="list-style-type: none"> <li>DI</li> </ul>	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
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### Encoder supply

Number of outputs	8
Output voltage encoder supply, 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

### Power loss

Power loss, typ.	1 W; 24 V, 8 inputs supplied via encoder supply
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### Address area

Address space per module	
• Inputs	1 byte; + 1 byte for QI information

### Hardware configuration

Automatic encoding	Yes
• Mechanical coding element	Yes

### 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 isolation module

### Digital inputs

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

<ul style="list-style-type: none"> <li>Rated value (DC)</li> </ul>	24 V
<ul style="list-style-type: none"> <li>for signal "0"</li> </ul>	-30 to +5V
<ul style="list-style-type: none"> <li>for signal "1"</li> </ul>	+11 to +30V
<b>Input current</b>	
<ul style="list-style-type: none"> <li>for signal "1", typ.</li> </ul>	2.5 mA
<b>Input delay (for rated value of input voltage)</b>	
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
<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>Encoder</b>	
<b>Connectable encoders</b>	
<ul style="list-style-type: none"> <li>2-wire sensor</li> </ul>	Yes
<ul style="list-style-type: none"> <li>— permissible quiescent current (2-wire sensor), max.</li> </ul>	1.5 mA
<b>Isochronous mode</b>	
Isochronous operation (application synchronized up to terminal)	No
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes
<b>Alarms</b>	
<ul style="list-style-type: none"> <li>Diagnostic alarm</li> </ul>	Yes
<b>Diagnostic messages</b>	
<ul style="list-style-type: none"> <li>Diagnostic information readable</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Monitoring the supply voltage</li> </ul>	Yes
<ul style="list-style-type: none"> <li>— parameterizable</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Monitoring of encoder power supply</li> </ul>	Yes; Module-by-module, optional protective circuit for preventing wire-break diagnostics in the case of simple encoder contacts: 25 kOhm to 45 kOhm
<ul style="list-style-type: none"> <li>Wire-break</li> </ul>	Yes; Module-wise
<ul style="list-style-type: none"> <li>Short-circuit</li> </ul>	Yes; Module-wise
<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

- for module diagnostics

Yes; green/red DIAG LED

## Potential separation

### Potential separation channels

- between the channels
- between the channels and backplane bus
- between the channels and the power supply of the electronics

No

Yes

No

## Isolation

Isolation tested with

707 V DC (type test)

## Ambient conditions

### Ambient temperature during operation

- horizontal installation, min.
- horizontal installation, max.
- vertical installation, min.
- vertical installation, max.

-30 °C

60 °C

-30 °C

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.

28 g

**last modified:**

11/20/2019