

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	
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
Engineering with	
<ul style="list-style-type: none"> <li>STEP 7 TIA Portal configurable/integrated as of version</li> </ul>	V13 SP1
<ul style="list-style-type: none"> <li>STEP 7 configurable/integrated as of version</li> </ul>	V5.5 SP3 / -
<ul style="list-style-type: none"> <li>PROFIBUS as of GSD version/GSD revision</li> </ul>	GSD Revision 5
<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
<ul style="list-style-type: none"> <li>Counter</li> </ul>	Yes

- Oversampling Yes
- 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; without sensor supply
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### Encoder supply

24 V encoder supply	
• 24 V	Yes
• Short-circuit protection	Yes; per module, electronic
• Output current, max.	700 mA

### Power loss

Power loss, typ.	1.5 W
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### Address area

Address space per module	
• Address space per module, max.	45 byte
• Inputs	32 byte; 1 byte + 1 byte for QI information in DI mode; 32 bytes in Oversampling mode; 25 bytes in Counter mode
• Outputs	20 byte; In count mode

### Hardware configuration

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
• 4-wire connection	BU type A0 + external terminals

### Digital inputs

Number of digital inputs	8
Source/sink input	P-reading
Pulse extension	Yes
• Length	2 s; 50 ms, 100 ms, 200 ms, 500 ms, 1 s, 2 s
Digital input functions, parameterizable	
• Gate start/stop	Yes
• Freely usable digital input	Yes
• Counter	Yes
— Number, max.	4
— Counting frequency, max.	10 kHz

— Counting width	32 bit
— Counting direction up/down	Yes
• Digital input with oversampling	Yes
— Number, max.	8
— Values per cycle, max.	32
— Resolution, min.	7.8125 $\mu$ s
<b>Input voltage</b>	
• Rated value (DC)	24 V
• for signal "0"	-30 to +5V
• for signal "1"	+11 to +30V
<b>Input current</b>	
• for signal "1", typ.	6 mA
<b>Input delay (for rated value of input voltage)</b>	
for standard inputs	
— parameterizable	Yes; none / 0.05 / 0.1 / 0.4 / 0.8 / 1.6 / 3.2 / 12.8 / 20 ms
for interrupt inputs	
— parameterizable	Yes
for technological functions	
— parameterizable	Yes
<b>Cable length</b>	
• shielded, max.	50 m
• unshielded, max.	50 m
<b>Encoder</b>	
<b>Connectable encoders</b>	
• 2-wire sensor	Yes
— permissible quiescent current (2-wire sensor), max.	1.5 mA
<b>Isochronous mode</b>	
Isochronous operation (application synchronized up to terminal)	Yes
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>	
• Diagnostic alarm	Yes
• Hardware interrupt	Yes
<b>Diagnostic messages</b>	
• Diagnostic information readable	Yes
• Monitoring the supply voltage	Yes
— 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
• horizontal installation, max.	60 °C
• vertical installation, min.	-30 °C
• vertical installation, max.	50 °C
<b>Altitude during operation relating to sea level</b>	
• Installation altitude above sea level, max.	2 000 m; On request: Installation altitudes greater than 2 000 m
<b>Dimensions</b>	
Width	15 mm
Height	73 mm
Depth	58 mm
<b>Weights</b>	
Weight, approx.	28 g
<b>last modified:</b>	06/26/2019