

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"> FW update possible 	Yes
usable BaseUnits	BU type A0
Color code for module-specific color identification plate	CC01
Product function	
<ul style="list-style-type: none"> I&M data 	Yes; I&M0 to I&M3
<ul style="list-style-type: none"> Isochronous mode 	Yes
Engineering with	
<ul style="list-style-type: none"> STEP 7 TIA Portal configurable/integrated from version 	V13 SP1
<ul style="list-style-type: none"> STEP 7 configurable/integrated from version 	V5.5 SP3 / -
<ul style="list-style-type: none"> PROFIBUS from GSD version/GSD revision 	One GSD file each, Revision 3 and 5 and higher
<ul style="list-style-type: none"> PROFINET from GSD version/GSD revision 	GSDML V2.3
Operating mode	
<ul style="list-style-type: none"> DI 	Yes

• Counter	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

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
• 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 μ s
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.	6 mA
Input delay (for rated value of input voltage)	
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
Cable length	
• shielded, max.	50 m
• unshielded, max.	50 m
Encoder	
Connectable encoders	
• 2-wire sensor	Yes
— permissible quiescent current (2-wire sensor), max.	1.5 mA
Isochronous mode	
Bus cycle time (TDP), min.	125 μ s
Jitter, max.	5 μ s
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
• Diagnostic alarm	Yes
• Hardware interrupt	Yes
Diagnostic messages	
• 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
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
Potential separation	
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
Isolation	
Isolation tested with	707 V DC (type test)
Standards, approvals, certificates	
Suitable for safety functions	No
Ambient conditions	
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
Dimensions	
Width	15 mm
Height	73 mm
Depth	58 mm
Weights	
Weight, approx.	28 g
last modified:	06/11/2020