



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
<ul style="list-style-type: none"> Counter 	Yes
<ul style="list-style-type: none"> Oversampling 	Yes
<ul style="list-style-type: none"> 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
Encoder supply	
24 V encoder supply	
<ul style="list-style-type: none"> 24 V 	Yes
<ul style="list-style-type: none"> Short-circuit protection 	Yes; per module, electronic
<ul style="list-style-type: none"> Output current, max. 	700 mA
Power loss	
Power loss, typ.	1.5 W
Address area	
Address space per module	

<ul style="list-style-type: none"> • Address space per module, max. 	45 byte
<ul style="list-style-type: none"> • Inputs 	32 byte; 1 byte + 1 byte for QI information in DI mode; 32 bytes in Oversampling mode; 25 bytes in Counter mode
<ul style="list-style-type: none"> • Outputs 	20 byte; In count mode
Hardware configuration	
Automatic encoding	Yes
<ul style="list-style-type: none"> • Mechanical coding element 	Yes
<ul style="list-style-type: none"> • Type of mechanical coding element 	Type A
Selection of BaseUnit for connection variants	
<ul style="list-style-type: none"> • 1-wire connection 	BU type A0
<ul style="list-style-type: none"> • 2-wire connection 	BU type A0
<ul style="list-style-type: none"> • 3-wire connection 	BU type A0 with AUX terminals
<ul style="list-style-type: none"> • 4-wire connection 	BU type A0 + external terminals
Digital inputs	
Number of digital inputs	8
Source/sink input	P-reading
Pulse extension	Yes
<ul style="list-style-type: none"> • Length 	2 s; 50 ms, 100 ms, 200 ms, 500 ms, 1 s, 2 s
Digital input functions, parameterizable	
<ul style="list-style-type: none"> • Gate start/stop 	Yes
<ul style="list-style-type: none"> • Freely usable digital input 	Yes
<ul style="list-style-type: none"> • Counter 	Yes
<ul style="list-style-type: none"> — Number, max. 	4
<ul style="list-style-type: none"> — Counting frequency, max. 	10 kHz
<ul style="list-style-type: none"> — Counting width 	32 bit
<ul style="list-style-type: none"> — Counting direction up/down 	Yes
<ul style="list-style-type: none"> • Digital input with oversampling 	Yes
<ul style="list-style-type: none"> — Number, max. 	8
<ul style="list-style-type: none"> — Values per cycle, max. 	32
<ul style="list-style-type: none"> — Resolution, min. 	7.8125 μ s
Input voltage	
<ul style="list-style-type: none"> • Rated value (DC) 	24 V
<ul style="list-style-type: none"> • for signal "0" 	-30 to +5 V
<ul style="list-style-type: none"> • for signal "1" 	+11 to +30V
Input current	
<ul style="list-style-type: none"> • for signal "1", typ. 	6 mA
Input delay (for rated value of input voltage)	
for standard inputs	
<ul style="list-style-type: none"> — parameterizable 	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"> — parameterizable 	Yes
for technological functions	
<ul style="list-style-type: none"> — parameterizable 	Yes
Cable length	
<ul style="list-style-type: none"> • shielded, max. 	50 m
<ul style="list-style-type: none"> • unshielded, max. 	50 m
Encoder	
Connectable encoders	
<ul style="list-style-type: none"> • 2-wire sensor 	Yes
<ul style="list-style-type: none"> — 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	
<ul style="list-style-type: none"> • Diagnostic alarm 	Yes

• Hardware interrupt	Yes
Diagnoses	
• 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; < 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
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:	2/1/2021 