

SIMATIC ET 200SP, digital input module, DI 8x 24 V DC High Feature, input type 3 (IEC 61131), sink input, (PNP, sink input)
 Packing unit: 1 unit, suitable for BU type A0, color code CC01, input delay 0.05..20 ms; Channel diagnostics for: Encoder power supply short circuit, wire break, supply voltage, channel fault LED



Figure similar

General information	
Product type designation	DI 8x24 V DC HF
HW functional status	From FS07
Firmware version	
• 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
Engineering with	
• STEP 7 TIA Portal configurable/integrated as of version	V13 SP1 / -
• STEP 7 configurable/integrated as of version	V5.5 / -
• PCS 7 configurable/integrated as of version	V8.1 SP1
• PROFIBUS as of GSD version/GSD revision	One GSD file each, Revision 3 and 5 and higher
• PROFINET as of GSD version/GSD revision	GSDML V2.3

Operating mode	
• DI	Yes
• Counter	No
• Oversampling	No
• MSI	Yes

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

Encoder supply	
Number of outputs	8
Output voltage encoder supply, min.	19.2 V
Short-circuit protection	Yes

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

Power loss	
Power loss, typ.	1.5 W; 24 V, 8 inputs supplied via encoder supply

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

Hardware configuration	
Automatic encoding	Yes
• Mechanical coding element	Yes

Submodules	
• Number of configurable submodules, max.	4

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

Pulse extension	Yes; Pulse duration from 4 μ s
• Length	2 s; 50 ms, 100 ms, 200 ms, 500 ms, 1 s, 2 s
Edge evaluation	Yes; rising edge, falling edge, edge change
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.	2.5 mA
Input delay (for rated value of input voltage)	
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 μ s, 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
Cable length	
• shielded, max.	1 000 m
• unshielded, max.	600 m
Encoder	
Connectable encoders	
• 2-wire sensor	Yes
— permissible quiescent current (2-wire sensor), max.	1.5 mA
Isochronous mode	
Isochronous operation (application synchronized up to terminal)	Yes
Filtering and processing time (TCI), min.	420 μ s
Bus cycle time (TDP), min.	500 μ s
Jitter, max.	8 μ s
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
• Diagnostic alarm	Yes; channel by channel
• Hardware interrupt	Yes; Parameterizable, channels 0 to 7
Diagnostic messages	
• Diagnostic information readable	Yes
• Monitoring the supply voltage	Yes
— parameterizable	Yes
• Monitoring of encoder power supply	Yes; channel by channel

• Wire-break	Yes; Channel by channel, optional protective circuit for preventing wire-break diagnostics in the case of simple encoder contacts: 25 kOhm to 45 kOhm
• Short-circuit	Yes; channel by channel

Diagnostics indication LED	
• 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

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: 02/04/2020