



SIMATIC ET 200SP, Digital input module, DI 16x 24V DC Standard, type 3 (IEC 61131), sink input, (PNP, P-reading), Packing unit: 1 Piece, fits to BU-type A0, Colour Code CC00, input delay time 0,05..20ms, diagnostics wire break, diagnostics supply voltage

General information	
Product type designation	DI 16x24VDC ST
HW functional status	From FS02
Firmware version	V0.0
<ul style="list-style-type: none"> FW update possible 	No
usable BaseUnits	BU type A0
Color code for module-specific color-coded label	CC00
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 	No
<ul style="list-style-type: none"> suitable for operation on PROFINET R1 IMs 	Yes
Engineering with	
<ul style="list-style-type: none"> STEP 7 TIA Portal configurable/integrated from version 	V14
<ul style="list-style-type: none"> STEP 7 configurable/integrated from version 	V5.5 SP3
<ul style="list-style-type: none"> PCS 7 configurable/integrated from version 	V8.1 SP1
<ul style="list-style-type: none"> PCS neo can be configured/integrated from version 	from V1.0.0
<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 	No
<ul style="list-style-type: none"> Oversampling 	No
<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.	90 mA
Encoder supply	
24 V encoder supply	
<ul style="list-style-type: none"> 24 V 	No
Power loss	
Power loss, typ.	1.7 W
Address area	

Address space per module	
• Inputs	2 byte; + 2 bytes for QI information
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 + Potential distributor module
• 3-wire connection	BU type A0 + Potential distributor module
• 4-wire connection	BU type A0 + Potential distributor module
Digital inputs	
Number of digital inputs	16
Digital inputs, parameterizable	Yes
Sourcing/sinking input	P-reading
Input characteristic curve in accordance with IEC 61131, type 3	Yes
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 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
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
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
• Diagnostic alarm	Yes
Diagnoses	
• Diagnostic information readable	Yes
• Monitoring the supply voltage	Yes
— parameterizable	Yes
• Monitoring of encoder power supply	No
• Wire break	Yes; Module-by-module, optional protective circuit for preventing wire-break diagnostics in the case of simple encoder contacts: 25 kOhm to 45 kOhm
• Short-circuit	No
• Group error	Yes
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
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Isolation

Isolation tested with	707 V DC (type test)
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Standards, approvals, certificates

Suitable for safety functions	No
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Ecological footprint

• environmental product declaration	Yes
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Global warming potential

— global warming potential, (total) [CO2 eq]	21 kg
— global warming potential, (during production) [CO2 eq]	4.25 kg
— global warming potential, (during operation) [CO2 eq]	17.5 kg
— global warming potential, (after end of life cycle) [CO2 eq]	-0.743 kg

Ambient conditions

Ambient temperature during operation

• horizontal installation, min.	-30 °C; < 0 °C as of FS02
• horizontal installation, max.	60 °C
• vertical installation, min.	-30 °C; < 0 °C as of FS02
• 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
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Absolute humidity

• dew point, min.	-60 °C; suitable for dry room applications
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Dimensions

Width	15 mm
Height	73 mm
Depth	58 mm

Weights

Weight, approx.	28 g
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Classifications

	Version	Classification
eClass	14	27-24-26-04
eClass	12	27-24-26-04
eClass	9.1	27-24-26-04
eClass	9	27-24-26-04
eClass	8	27-24-26-04
eClass	7.1	27-24-26-04
eClass	6	27-24-26-04
ETIM	10	EC001599
ETIM	9	EC001599
ETIM	8	EC001599
ETIM	7	EC001599
IDEA	4	3566
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval



[Miscellaneous](#)

[Manufacturer Declaration](#)



General Product Approval	For use in hazardous locations
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[China RoHS](#)



For use in hazardous locations

[EM](#)

[CCC-Ex](#)



[Type Examination Certificate](#)



[Miscellaneous](#)

For use in hazardous locations

Maritime application

[CCC-Ex](#)



[NK / Nippon Kaiji Kyokai](#)

Maritime application

Environment



[CCS \(China Classification Society\)](#)

[KR \(Korean Register of Shipping\)](#)



last modified:

2/1/2026