

Data sheet

6ES7131-6BF01-0BA0



SIMATIC ET 200SP, Digital input module, DI 8x 24V DC Standard, type 3 (IEC 61131), sink input, (PNP, P-reading), Packing unit: 1 piece, fits to BU-type A0, Colour Code CC01, input delay time 0,05..20ms, module diagnostics for: short-circuit of sensor supply, wire break, supply voltage

General information	
Product type designation	DI 8x24 VDC ST
HW functional status	From FS02
Firmware version	V0.0
• FW update possible	No
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
• Isochronous mode	No
• suitable for operation on PROFINET R1 IMs	Yes
Engineering with	
• STEP 7 TIA Portal configurable/integrated from version	V14
• STEP 7 configurable/integrated from version	V5.5 SP3 or higher
• PCS 7 configurable/integrated from version	V8.1 SP1
• PCS neo can be configured/integrated from version	V3.1
• PROFIBUS from GSD version/GSD revision	One GSD file each, Revision 3 and 5 and higher
• PROFINET from GSD version/GSD revision	GSDML V2.3
Operating mode	
• DI	Yes
• Counter	No
• Oversampling	No
• 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.	50 mA; All channels are supplied from the encoder supply
Encoder supply	
Number of outputs	8
Output voltage, min.	19.2 V
Short-circuit protection	Yes; per module
24 V encoder supply	
• 24 V	Yes
• Short-circuit protection	Yes
• Output current, max.	700 mA
• Output current per channel, max.	700 mA

• Output current per module, max.	700 mA
Power loss	
Power loss, typ.	1 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
• 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 or potential distributor module
• 4-wire connection	BU type A0 + Potential distributor 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
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	Yes; Module-by-module, optional protective circuit for preventing wire-break diagnostics in the case of simple encoder contacts: 25 kOhm to 45 kOhm
• Wire-break	Yes; Module-wise
• 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

Ecological footprint	
• environmental product declaration	Yes

Global warming potential	
— global warming potential, (total) [CO2 eq]	15.9 kg
— global warming potential, (during production) [CO2 eq]	3.69 kg
— global warming potential, (during operation) [CO2 eq]	12.7 kg
— global warming potential, (after end of life cycle) [CO2 eq]	-0.495 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

Dimensions	
Width	15 mm
Height	73 mm
Depth	58 mm

Weights	
Weight, approx.	28 g

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	



[Manufacturer Declaration](#)

[Miscellaneous](#)



[KC](#)

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

[CCC-Ex](#)



For use in hazardous locations

Maritime application

[Miscellaneous](#)

[Type Examination Certificate](#)



Maritime application

Environment

[NK / Nippon Kaiji Kyokai](#)



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



Environment



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