

## Data sheet

## 6ES7131-6BF00-0DA0

Siemens  
EcoTech



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"> <li>FW update possible</li> </ul>	Yes
usable BaseUnits	BU type A0
Color code for module-specific color-coded label	CC01
Product function	
<ul style="list-style-type: none"> <li>I&amp;M data</li> </ul>	Yes; I&M0 to I&M3
<ul style="list-style-type: none"> <li>Isochronous mode</li> </ul>	Yes; 125 µs
<ul style="list-style-type: none"> <li>suitable for operation on PROFINET R1 IMs</li> </ul>	Yes
Engineering with	
<ul style="list-style-type: none"> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul>	V13 SP1
<ul style="list-style-type: none"> <li>STEP 7 configurable/integrated from version</li> </ul>	V5.5 SP3 / -
<ul style="list-style-type: none"> <li>PCS 7 configurable/integrated from version</li> </ul>	V10.0
<ul style="list-style-type: none"> <li>PCS neo can be configured/integrated from version</li> </ul>	V3.1.1
<ul style="list-style-type: none"> <li>PROFIBUS from GSD version/GSD revision</li> </ul>	One GSD file each, Revision 3 and 5 and higher
<ul style="list-style-type: none"> <li>PROFINET from GSD version/GSD revision</li> </ul>	GSDML V2.3
Operating mode	
<ul style="list-style-type: none"> <li>DI</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Counter</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Oversampling</li> </ul>	Yes
<ul style="list-style-type: none"> <li>MSI</li> </ul>	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"> <li>24 V</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Short-circuit protection</li> </ul>	Yes; per module, electronic
<ul style="list-style-type: none"> <li>Output current, max.</li> </ul>	700 mA
Power loss	

Power loss, typ.	1.5 W
<b>Address area</b>	
Address space per module	
<ul style="list-style-type: none"> <li>Address space per module, max.</li> </ul>	45 byte
<ul style="list-style-type: none"> <li>Inputs</li> </ul>	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"> <li>Outputs</li> </ul>	20 byte; In count mode
<b>Hardware configuration</b>	
Automatic encoding	Yes
<ul style="list-style-type: none"> <li>Mechanical coding element</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Type of mechanical coding element</li> </ul>	Type A
Selection of BaseUnit for connection variants	
<ul style="list-style-type: none"> <li>1-wire connection</li> </ul>	BU type A0
<ul style="list-style-type: none"> <li>2-wire connection</li> </ul>	BU type A0
<ul style="list-style-type: none"> <li>3-wire connection</li> </ul>	BU type A0 with AUX terminals or potential distributor module
<ul style="list-style-type: none"> <li>4-wire connection</li> </ul>	BU type A0 + Potential distributor module
<b>Digital inputs</b>	
Number of digital inputs	8
Sourcing/sinking input	P-reading
Pulse extension	Yes
<ul style="list-style-type: none"> <li>Length</li> </ul>	2 s; 50 ms, 100 ms, 200 ms, 500 ms, 1 s, 2 s
Digital input functions, parameterizable	
<ul style="list-style-type: none"> <li>Gate start/stop</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Freely usable digital input</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Counter</li> </ul>	Yes
<ul style="list-style-type: none"> <li>— Number, max.</li> </ul>	4
<ul style="list-style-type: none"> <li>— Counting frequency, max.</li> </ul>	10 kHz
<ul style="list-style-type: none"> <li>— Counting width</li> </ul>	32 bit
<ul style="list-style-type: none"> <li>— Counting direction up/down</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Digital input with oversampling</li> </ul>	Yes
<ul style="list-style-type: none"> <li>— Number, max.</li> </ul>	8
<ul style="list-style-type: none"> <li>— Values per cycle, max.</li> </ul>	32
<ul style="list-style-type: none"> <li>— Resolution, min.</li> </ul>	7.8125 $\mu$ s
Input voltage	
<ul style="list-style-type: none"> <li>Rated value (DC)</li> </ul>	24 V
<ul style="list-style-type: none"> <li>for signal "0"</li> </ul>	-30 to +5 V
<ul style="list-style-type: none"> <li>for signal "1"</li> </ul>	+11 to +30V
Input current	
<ul style="list-style-type: none"> <li>for signal "1", typ.</li> </ul>	6 mA
Input delay (for rated value of input voltage)	
for standard inputs	
<ul style="list-style-type: none"> <li>— parameterizable</li> </ul>	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"> <li>— parameterizable</li> </ul>	Yes
for technological functions	
<ul style="list-style-type: none"> <li>— parameterizable</li> </ul>	Yes
Cable length	
<ul style="list-style-type: none"> <li>shielded, max.</li> </ul>	50 m
<ul style="list-style-type: none"> <li>unshielded, max.</li> </ul>	50 m
<b>Encoder</b>	
Connectable encoders	
<ul style="list-style-type: none"> <li>2-wire sensor</li> </ul>	Yes
<ul style="list-style-type: none"> <li>— permissible quiescent current (2-wire sensor), max.</li> </ul>	1.5 mA
<b>Isochronous mode</b>	
Bus cycle time (TDP), min.	125 $\mu$ s
Jitter, max.	5 $\mu$ s
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes
Alarms	

• Diagnostic alarm	Yes	
• Hardware interrupt	Yes	
<b>Diagnoses</b>		
• 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	
<b>Diagnostics indication LED</b>		
• 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	
<b>Potential separation</b>		
<b>Potential separation channels</b>		
• between the channels	No	
• between the channels and backplane bus	Yes	
• between the channels and the power supply of the electronics	No	
<b>Isolation</b>		
Isolation tested with	707 V DC (type test)	
<b>Standards, approvals, certificates</b>		
Suitable for safety functions	No	
<b>Ecological footprint</b>		
• environmental product declaration	Yes	
<b>Global warming potential</b>		
— 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	
<b>Ambient conditions</b>		
<b>Ambient temperature during operation</b>		
• 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	
<b>Altitude during operation relating to sea level</b>		
• Installation altitude above sea level, max.	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual	
<b>Dimensions</b>		
Width	15 mm	
Height	73 mm	
Depth	58 mm	
<b>Weights</b>		
Weight, approx.	28 g	
<b>Classifications</b>		
	<b>Version</b>	<b>Classification</b>
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](#)

[China RoHS](#)



General Product Approval

For use in hazardous locations



[FM](#)

[CCC-Ex](#)



For use in hazardous locations

Maritime application



[Type Examination Certificate](#)

[Miscellaneous](#)



Maritime application



[NK / Nippon Kaiji Kyokai](#)



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



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