SIEMENS

Data sheet   **6ES7131-6BF00-0CA0**

Figure similar

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

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
● Isochronous mode	Yes
Engineering with	
● STEP 7 TIA Portal configurable/integrated from version	V13 SP1 / -
● STEP 7 configurable/integrated from version	V5.5 / -
● PCS 7 configurable/integrated from version	V8.1 SP1
● 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	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, 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	

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● Inputs	1 byte; + 1 byte for QI information

Hardware configuration

Automatic encoding	Yes
● Mechanical coding element	Yes
● Type of mechanical coding element	Type A
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 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
Pulse extension	Yes; Pulse duration from 4 µs
● 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 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

Isochronous mode

Filtering and processing time (TCI), min.	420 µs
Bus cycle time (TDP), min.	500 µs
Jitter, max.	8 µs

Interrupts/diagnostics/status information

Diagnostics function	Yes
Alarms	
● Diagnostic alarm	Yes; channel by channel
● Hardware interrupt	Yes; Parameterizable, channels 0 to 7
Diagnoses	
● 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; < 0 °C as of FS07
● horizontal installation, max.	60 °C
● vertical installation, min.	-30 °C; < 0 °C as of FS07
● 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

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