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Data sheet 6ES7131-6BF00-0DA0

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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
● FW update possible	Yes
usable BaseUnits	BU type A0
Color code for module-specific color-coded label	CC01
Product function	
● I&M data	Yes; I&M0 to I&M3
● Isochronous mode	Yes; 125 µs
● suitable for operation on PROFINET R1 IMs	Yes
Engineering with	
● STEP 7 TIA Portal configurable/integrated from version	V13 SP1
● STEP 7 configurable/integrated from version	V5.5 SP3 / -
● PCS 7 configurable/integrated from version	V10.0
● PCS neo can be configured/integrated from version	V3.1.1
● 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	Yes
● Oversampling	Yes
● 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.	70 mA; without sensor supply
Encoder supply	
24 V encoder supply	
● 24 V	Yes
● Short-circuit protection	Yes; per module, electronic
● Output current, max.	700 mA
Power loss	

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Power loss, typ.	1.5 W
Address area	
Address space per module	
● Address space per module, max.	45 byte
● Inputs	32 byte; 1 byte + 1 byte for QI information in DI mode; 32 bytes in Oversampling mode; 25 bytes in Counter mode
● Outputs	20 byte; In count mode
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
Sourcing/sinking input	P-reading
Pulse extension	Yes
● Length	2 s; 50 ms, 100 ms, 200 ms, 500 ms, 1 s, 2 s
Digital input functions, parameterizable	
● Gate start/stop	Yes
● Freely usable digital input	Yes
● Counter	Yes
— Number, max.	4
— Counting frequency, max.	10 kHz
— Counting width	32 bit
— Counting direction up/down	Yes
● Digital input with oversampling	Yes
— Number, max.	8
— Values per cycle, max.	32
— Resolution, min.	7.8125 µs
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.	6 mA
Input delay (for rated value of input voltage)	
for standard inputs	
— parameterizable	Yes; none / 0.05 / 0.1 / 0.4 / 0.8 / 1.6 / 3.2 / 12.8 / 20 ms
for interrupt inputs	
— parameterizable	Yes
for technological functions	
— parameterizable	Yes
Cable length	
● shielded, max.	50 m
● unshielded, max.	50 m
Encoder	
Connectable encoders	
● 2-wire sensor	Yes
— permissible quiescent current (2-wire sensor), max.	1.5 mA
Isochronous mode	
Bus cycle time (TDP), min.	125 µs
Jitter, max.	5 µs
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	

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● Diagnostic alarm	Yes
● Hardware interrupt	Yes
Diagnoses	
● 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
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 FS04
● horizontal installation, max.	60 °C
● vertical installation, min.	-30 °C; < 0 °C as of FS04
● 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
Absolute humidity	
● dew point, min.	-60 °C; suitable for dry room applications
Dimensions	
Width	15 mm
Height	73 mm
Depth	58 mm
Weights	
Weight, approx.	28 g
Classifications	

	Version	Classification
eClass	16	27-24-26-04
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

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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

China RoHS

Manufacturer Declaration

For use in hazardous locations

FM

CCC-Ex

Type Examination Certificate

For use in hazardous locations

Miscellaneous

CCC-Ex

Maritime application

Maritime application

NK / Nippon Kaiji Kyokai

CCS (China Classification Society)

KR (Korean Register of Shipping)

Environment

Environment

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