MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

SIEMENS

6ES7131-6BF01-0BA0

DI 8X24 V DC STANDARD DIGITAL INPUT MODULE

Used with the applicable SIMATIC ET 200SP configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Siemens manufacturer documentation

SIEMENS

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
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
● 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

Subject to change without notice
© Copyright Siemens

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

Subject to change without notice
© Copyright Siemens

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 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

last modified: 8/23/2023

Subject to change without notice
© Copyright Siemens