6ES7131-6BF01-2AA0

Data sheet



SIMATIC ET 200SP, Digital input module, DI 8x 24V DC Basic, type 2 (IEC 61131), sink input, (PNP, P-reading), Packing unit: 10 pieces, fits to BU-type A0, Colour Code CC01, input delay time 0,05..20ms, module diagnostics for: supply voltage

Product type designation HW functional status FS03 FFW03 FW update possible usable BaseUnits Color code for module-specific color identification plate Product function • I&M data • Isochronous mode Engineering with • STEP 7 TIA Portal configurable/integrated from version • FRO FIBUS from GSD version/GSD revision • PROFIBUS from GSD version FRO Previous P	General information	
Firmware version Fiv update possible usable BaseUnits Color code for module-specific color identification plate Product function I&M data Isochronous mode Engineering with STEP 7 TIA Portal configurable/integrated from version FROFIBUS from GSD version/CSD revision PROFIBUS from GSD version/CSD revision PROFIBUS from GSD version/GSD from GSD version/GSD from GSD from GSD version/GSD from GSD from	Product type designation	DI 8x24VDC BA
FW update possible usable BaseUnits Color code for module-specific color identification plate Product function I&M data	HW functional status	FS03
usable BaseUnits Color code for module-specific color identification plate Product function • I&M data • Isochronous mode Engineering with • STEP 7 TIA Portal configurable/integrated from version • PROFIBUS from GSD version/GSD revision • PROFIBUS from GSD version/GSD revision • PROFIBUS from GSD version/GSD revision • PROFINET from GSD version/GSD revision • PROFINET from GSD version/GSD revision • Oversampling • Oversampling • No • MSI Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) permissible range vipper limit (DC) Reverse polarity protection Current consumption, max. For MA; All channels are supplied from the encoder supply Encoder supply Number of outputs Short-circuit protection Yes • Output voltage, min. Supply voltage, min. Short-circuit protection Yes • Output current per channel, max. Yes • Output current per channel, max. 70 mA Yes • Output current per channel, max.	Firmware version	V0.0
Color code for module-specific color identification plate Product function • I&M data • Isochronous mode Engineering with • STEP 7 TIA Portal configurable/integrated from version • STEP 7 tonfigurable/integrated from version • STEP 7 configurable/integrated from version • STEP 7 configurable/integrated from version • PROFIBUS from GSD version/GSD revision • PROFINET from GSD version/GSD revision • PROFINET from GSD version/GSD revision © PROFINET from GSD version/GSD revision • DI Yes • Ounter No • Oversampling • MSI Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) Reverse polarity protection Yes Input current Current consumption, max. 70 mA; All channels are supplied from the encoder supply Encoder supply Number of outputs Output voltage, min. 19.2 V Short-circuit protection Yes; per module 24 V encoder supply • 24 V • Short-circuit protection Yes • Output current per channel, max. 700 mA	 FW update possible 	No
Product function • I&M data • Isochronous mode Engineering with • STEP 7 TIA Portal configurable/integrated from version • STEP 7 configurable/integrated from version • PROFIBUS from GSD version/GSD revision • PROFINET from GSD version/GSD revision • PROFINET from GSD version/GSD revision • PROFINET from GSD version/GSD revision • DI • Counter • No • Oversampling • MSI Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) permissible range value value (DC) permissible range value value (DC) permissible range value v	usable BaseUnits	BU type A0
Isochronous mode Isochronous mode Isochronous mode Ingineering with Isochronous mode Ingineering with Isochronous mode Ingineering with Isochronous mode Isochronous mode Ingineering with Isochronous mode mode mode mode mode mode mode mode	Color code for module-specific color identification plate	CC01
● Isochronous mode Engineering with ● STEP 7 TIA Portal configurable/integrated from version ● STEP 7 configurable/integrated from version ● PROFIBUS from GSD version/GSD revision ● PROFINET from GSD version/GSD revision ● PROFINET from GSD version/GSD revision ● PROFINET from GSD version/GSD revision Operating mode ● DI ● Counter ● Oversampling ● MSI No Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) Reverse polarity protection Facurent consumption, max. Current consumption, max. 70 mA; All channels are supplied from the encoder supply Encoder supply Number of outputs Output voltage, min. Short-circuit protection Yes ● Output voltage ricuit protection Yes Permissible range very permissible from the encoder supply Facurent consumption, max. 70 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 e Short-circuit protection Yes Output current per channel, max. 70 mA	Product function	
Engineering with STEP 7 TIA Portal configurable/integrated from version STEP 7 configurable/integrated from version STEP 7 configurable/integrated from version One GSD file each, Revision 3 and 5 and higher STEP 7 configurable/integrated from version One GSD file each, Revision 3 and 5 and higher SDML V2.3 Operating mode Output v2.3 Operating mode Oversampling No Oversampling	 I&M data 	Yes; I&M0 to I&M3
STEP 7 TIA Portal configurable/integrated from version STEP 7 configurable/integrated from version PROFIBUS from GSD version/GSD revision PROFIBUS from GSD version/GSD revision PROFIBUET from GSD version/GSD revision PROFIBUET from GSD version/GSD revision PROFIBUET from GSD version/GSD revision Operating mode DI Permissible range, User limit (DC) Permissible r	 Isochronous mode 	No
version • STEP 7 configurable/integrated from version • PROFIBUS from GSD version/GSD revision • PROFIBUS from GSD version/GSD revision • PROFINET from GSD version/GSD revision GSDML V2.3 Operating mode • DI • Counter • Oversampling • MSI Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) Reverse polarity protection Faculty protection Current consumption, max. For MA; All channels are supplied from the encoder supply Encoder supply Number of outputs Short-circuit protection Yes; per module 24 V Yes • Short-circuit protection Yes • Output current Current consumption, max. For MA; All channels are supplied from the encoder supply Place of outputs Short-circuit protection Yes; per module 24 V Yes • Short-circuit protection Yes • Output current per channel, max.	Engineering with	
PROFIBUS from GSD version/GSD revision PROFINET from GSD version/GSD revision PROFINET from GSD version/GSD revision Operating mode DI Yes Counter No Oversampling MSI No Supply voltage Rated value (DC) Permissible range, lower limit (DC) Permissible range, upper limit (DC) Permissible range, upper limit (DC) Reverse polarity protection Yes Input current Current consumption, max. To mA; All channels are supplied from the encoder supply Encoder supply Number of outputs Output voltage, min. Short-circuit protection Yes; per module 24 V Yes Short-circuit protection Yes From March		V14
PROFINET from GSD version/GSD revision Operating mode DI Outlet Outlet Oversampling Mo MSI Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection To mA; All channels are supplied from the encoder supply Encoder supply Number of outputs Output voltage, min. Short-circuit protection Yes; per module 24 V Yes Short-circuit protection Yes Output current 70 mA; All channels are supplied from the encoder supply Pumber of outputs Short-circuit protection Yes; per module 24 V Yes; per module 24 V Yes Short-circuit protection Yes Output current per channel, max.	 STEP 7 configurable/integrated from version 	V5.5 SP3 / -
Operating mode DI Operating mode Counter No Oversampling No MSI No Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) Reverse polarity protection Yes Input current Current consumption, max. 70 mA; All channels are supplied from the encoder supply Encoder supply Number of outputs Output voltage, min. Short-circuit protection Yes; per module 24 V encoder supply • 24 V • Short-circuit protection Yes • Output current protection Yes Output current per channel, max.	 PROFIBUS from GSD version/GSD revision 	One GSD file each, Revision 3 and 5 and higher
DI Counter Counter No Oversampling No MSI No Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) Reverse polarity protection Yes Input current Current consumption, max. 70 mA; All channels are supplied from the encoder supply Encoder supply Number of outputs Output voltage, min. 19.2 V Short-circuit protection Yes; per module 24 V encoder supply • 24 V • Short-circuit protection Yes • Output current per channel, max. 70 mA	 PROFINET from GSD version/GSD revision 	GSDML V2.3
Counter Oversampling MSI No MSI No Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) Reverse polarity protection Yes Input current Current consumption, max. 70 mA; All channels are supplied from the encoder supply Encoder supply Number of outputs Output voltage, min. 19.2 V Short-circuit protection Yes; per module 24 V encoder supply • 24 V • Short-circuit protection Yes Short-circuit protection Yes Output current per channel, max. 700 mA	Operating mode	
Oversampling MSI MSI No Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) Reverse polarity protection Yes Input current Current consumption, max. 70 mA; All channels are supplied from the encoder supply Encoder supply Number of outputs Output voltage, min. 19.2 V Short-circuit protection Yes; per module 24 V encoder supply • 24 V • Short-circuit protection Yes Short-circuit protection Yes Output current per channel, max. 700 mA	• DI	Yes
MSI Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Reverse polarity protection Yes Input current Current consumption, max. 70 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 • Short-circuit protection Yes • Output current per channel, max. 700 mA	Counter	No
Rated value (DC) Permissible range, lower limit (DC) Permissible range, upper limit (DC) Reverse polarity protection Permissible range, upper limit (DC) Reverse polarity protection Yes Input current Current consumption, max. 70 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 • Short-circuit protection Yes • Output current per channel, max. 70 mA	 Oversampling 	No
Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Yes Input current Current consumption, max. 70 mA; All channels are supplied from the encoder supply Encoder supply Number of outputs Output voltage, min. Short-circuit protection 24 V encoder supply • 24 V • Short-circuit protection • Output current per channel, max. 24 V permissible range, lower limit (DC) 19.2 V 8 9 yes; per module Yes • Output current per channel, max. 700 mA	• MSI	No
permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Yes Input current Current consumption, max. 70 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 • Short-circuit protection Short-circuit protection Yes • Output current per channel, max. 700 mA	Supply voltage	
permissible range, upper limit (DC) Reverse polarity protection Yes Input current Current consumption, max. 70 mA; All channels are supplied from the encoder supply Encoder supply Number of outputs 0utput voltage, min. Short-circuit protection 24 V encoder supply • 24 V • Short-circuit protection Short-circuit protection Yes • Output current per channel, max. Yes • Output current per channel, max.	Rated value (DC)	24 V
Reverse polarity protection Input current Current consumption, max. 70 mA; All channels are supplied from the encoder supply Encoder supply Number of outputs Output voltage, min. Short-circuit protection 24 V encoder supply • 24 V • Short-circuit protection Short-circuit protection Yes Yes • Output current per channel, max. 700 mA	permissible range, lower limit (DC)	19.2 V
Input current Current consumption, max. 70 mA; All channels are supplied from the encoder supply Encoder supply Number of outputs Output voltage, min. Short-circuit protection 24 V encoder supply • 24 V • Short-circuit protection • Output current per channel, max. 700 mA	permissible range, upper limit (DC)	28.8 V
Current consumption, max. 70 mA; All channels are supplied from the encoder supply Encoder supply Number of outputs 8 Output voltage, min. Short-circuit protection 24 V encoder supply • 24 V • Short-circuit protection • Output current per channel, max. 700 mA	Reverse polarity protection	Yes
Encoder supply Number of outputs Output voltage, min. Short-circuit protection 24 V encoder supply • 24 V • Short-circuit protection • Short-circuit protection • Output current per channel, max. See Supply Yes Output current per channel, max.	Input current	
Number of outputs Output voltage, min. Short-circuit protection 24 V encoder supply • 24 V • Short-circuit protection • Output current per channel, max. 8 19.2 V Yes; per module Yes Yes Yes • Output current per channel, max.	Current consumption, max.	70 mA; All channels are supplied from the encoder supply
Output voltage, min. Short-circuit protection 24 V encoder supply • 24 V • Short-circuit protection • Short-circuit protection • Output current per channel, max. 19.2 V Yes; per module Yes Yes 700 mA	Encoder supply	
Short-circuit protection 24 V encoder supply • 24 V • Short-circuit protection • Output current per channel, max. Yes; per module Yes Yes Yes 700 mA	Number of outputs	8
24 V encoder supply • 24 V Yes • Short-circuit protection Yes • Output current per channel, max. 700 mA	Output voltage, min.	19.2 V
 24 V Short-circuit protection Output current per channel, max. Yes 700 mA	Short-circuit protection	Yes; per module
 Short-circuit protection Output current per channel, max. 700 mA 	24 V encoder supply	
Output current per channel, max. 700 mA	• 24 V	Yes
	Short-circuit protection	Yes
Output current per module, max. 700 mA	 Output current per channel, max. 	700 mA
	 Output current per module, max. 	700 mA

Power loss	
Power loss, typ.	1.6 W; 24 V, 8 inputs supplied via encoder supply
Address area	
Address space per module	
Inputs	1 byte
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
4-wire connection	BU type A0 + Potential distributor module
Digital inputs	Bo type no in otential distributor module
	8
Number of digital inputs	Yes
Digital inputs, parameterizable	
Source/sink input Input characteristic curve in accordance with IEC 61131,	P-reading Yes
type 1	1 63
Input characteristic curve in accordance with IEC 61131, type 2	Yes
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	
	6.8 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	20 1115
•	1 000 m
• shielded, max.	
• unshielded, max.	600 m
Encoder	
Connectable encoders	V
• 2-wire sensor	Yes
 permissible quiescent current (2-wire sensor), max. 	2 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 	No
Wire-break	No
Short-circuit	No
Group error	Yes
Diagnostics indication LED	
g	

 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)
Ambient conditions	
Ambient temperature during operation	
 horizontal installation, min. 	-30 °C; < 0 °C as of FS03
 horizontal installation, max. 	60 °C
 vertical installation, min. 	-30 °C; < 0 °C as of FS03
 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

2/6/2021

last modified: