SIEMENS

Data sheet

6AG1131-6BF01-7BA0



SIPLUS ET 200SP, digital input module, DI 8x DC 24V standard, - 40...+70°C with conformal coating based on 6ES7131-6BF01-0BA0 . 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

Product type designation Firmware version Firm	General information	
FW update possible usable BaseUnits Color code for module-specific color identification plate Product function • I&M data • Isochronus mode 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 Functionsumption, max. 50 mA; All channels are supplied from the encoder supply Encoder supply Number of outputs Output voltage, min. Short-circuit protection Yes • Output voltage, min. 19.2 V Short-circuit protection Yes • Output voltage, min. 19.2 V Short-circuit protection Yes • Output voltage, min. 19.2 V Short-circuit protection Yes • Output current per channel, max. Output voltage, min. 19.2 V Short-circuit protection Yes • Output current per channel, max. Output voltage in max. 700 mA • Output current per channel, max. Power loss, typ. 1 W; 24 V, 8 inputs supplied via encoder supply Address area Address space per module • Inputs 1 byte; + 1 byte for Ql information	Product type designation	DI 8x24 VDC ST
usable BaseUnits Color code for module-specific color identification plate Product function • I&M data • Ischronous mode Operating mode • DI • Counter • Oversampling • MSI Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, lower limit (DC) permissible range, lower limit (DC) Permissible range, upper limit (DC) Reverse polarity protection Ves Input current Current consumption, max. 50 mA; All channels are supplied from the encoder supply Encoder supply Number of outputs Short-circuit protection 24 V encoder supply • 24 V • Short-circuit protection Yes Short-circuit protection • Output current per channel, max. • Output current per channel, max. • Output current per module, max. Power loss Power loss Power loss, typ. 1 W; 24 V, 8 inputs supplied via encoder supply Address area Address space Address space Inputs 1 byte; + 1 byte for Ql information Hardware configuration	Firmware version	
Color code for module-specific color identification plate Product function • I&M data • Isochronous mode No Operating mode • DI • Counter • Oversampling • MSI Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) 28.8 V Reverse polarity protection Current consumption, max. 50 mA; All channels are supplied from the encoder supply Encoder supply Number of outputs Short-circuit protection 24 V v es permissible range, min. Short-circuit protection 24 V encoder supply • 24 V • Short-circuit protection 25 Short-circuit protection 9 Call of the supply 9 Call of the supple of outputs 9 Coutput current per module, max. 9 Output current per channel, max. 9 Output current per module, max. 9 Output curren	 FW update possible 	No
Product function • I&M data • Ischronous mode Operating mode • DI • Counter • Oversampling • MSI No Supply voltage Rated value (DC) permissible range, lover limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) Reverse polarity protection Current consumption, max. Encoder supply Number of outputs Output voltage, min. Short-circuit protection 24 V res Short-circuit protection Yes - Yes; per module 24 V res • Short-circuit protection Output current per channel, max. Output current per module, max. Output current per module, max. Output current per module, max. Output current per module, max. Output current per module, max. Output current per module, max. Output current per module, max. Output current per module, max. Output current per module, max. Output current per module, max. Output current per module, max. Output current per module, max. Output current per module • Inputs 1 byte; + 1 byte for QI information Hardware configuration	usable BaseUnits	BU type A0
	Color code for module-specific color identification plate	CC01
● Isochronous mode 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 Product 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 Output current per channel, max. 700 mA ● Output current per module, max. 700 mA Power loss Power loss Power loss Power loss, typ. 1 W; 24 V, 8 inputs supplied via encoder supply Address space per module ● Inputs 1 byte; + 1 byte for QI information Hardware configuration	Product function	
Operating mode No Oversampling No No Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, lower limit (DC) Reverse polarity protection Pes Input current Current consumption, max. 50 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 encoder supply Output current per channel, max. Output current per channel, max. Output current per module, max. Too mA Output current per module, max. Too mA Output current per module, max. Too mA Output supplied via encoder supply Address area Address space per module I byte; + 1 byte for Ql information	 I&M data 	Yes; I&M0 to I&M3
DI Counter Counter No Oversampling No No Supply voltage Rated value (DC) Permissible range, lower limit (DC) Permissible range, upper lim	Isochronous mode	No
Counter 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 Ves Input current Current consumption, max. 50 mA; All channels are supplied from the encoder supply Encoder supply Number of outputs Short-circuit protection Yes; per module 24 V encoder supply • 24 V Short-circuit protection Yes; per module 24 V encoder supply • 24 V Short-circuit protection Yes • Output current per channel, max. Output current per module, max. 700 mA • Output current per module, max. Power loss Power loss Power loss Power space per module • Inputs I byte; + 1 byte for QI information Hardware configuration	Operating mode	
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 Ves 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 • Short-circuit protection Yes • Output current per channel, max. • Output current per module, max. Power loss Power loss Power loss Power loss, typ. 1 W; 24 V, 8 inputs supplied via encoder supply Address space per module • Inputs 1 byte; + 1 byte for QI information	• DI	Yes
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. 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 • Short-circuit protection Yes • Output current per channel, max. 700 mA • Output current per module, max. Power loss Power loss Power loss, typ. Address space per module • Inputs 1 byte; + 1 byte for Ql information Hardware configuration	 Counter 	No
Rated value (DC) Permissible range, lower limit (DC) Permissible range, upper limit (DC) Permissible range, upper limit (DC) Reverse polarity protection Pes Input current Current consumption, max. 50 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 Yes; per module 24 V Short-circuit protection Output current per channel, max. Output current per module, max. Too mA Output current per module, max. Too mA Power loss Power loss, typ. 1 W; 24 V, 8 inputs supplied via encoder supply Address area Address space per module I byte; + 1 byte for QI information	 Oversampling 	No
Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Yes Input current Current consumption, max. 50 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 Yes; per module 24 V encoder supply • 24 V • Short-circuit protection Output current per channel, max. • Output current per module, max. Too mA Power loss Power loss Power loss, typ. 1 W; 24 V, 8 inputs supplied via encoder supply Address area Address space per module • Inputs 1 byte; + 1 byte for QI information	• MSI	No
permissible range, lower limit (DC) 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 • Short-circuit protection Yes • Output current per channel, max. • Output current per module, max. Power loss Power loss, typ. 1 W; 24 V, 8 inputs supplied via encoder supply Address space per module • Inputs 1 byte; + 1 byte for QI information	Supply voltage	
permissible range, upper limit (DC) Reverse polarity protection Input current Current consumption, max. 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. Output current per module, max. Output current per module, max. Too mA Power loss Power loss, typ. Address space per module • Inputs 1 byte; + 1 byte for QI information Yes Yes 1 byte; + 1 byte for QI information	Rated value (DC)	24 V
Reverse polarity protection 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 24 V encoder supply • 24 V • Short-circuit protection Yes • Output current per channel, max. • Output current per module, max. 700 mA Power loss Power loss, typ. 1 W; 24 V, 8 inputs supplied via encoder supply Address space per module • Inputs 1 byte; + 1 byte for Ql information	permissible range, lower limit (DC)	19.2 V
Input current Current consumption, max. 50 mA; All channels are supplied from the encoder supply Encoder supply Number of outputs 0utput voltage, min. 19.2 V Short-circuit protection 24 V encoder supply • 24 V • Short-circuit protection • Output current per channel, max. • Output current per module, max. 700 mA Power loss Power loss Power loss, typ. 1 W; 24 V, 8 inputs supplied via encoder supply Address area Address space per module • Inputs 1 byte; + 1 byte for QI information	permissible range, upper limit (DC)	28.8 V
Current consumption, max. 50 mA; All channels are supplied from the encoder supply Number of outputs 8 Output voltage, min. Short-circuit protection 24 V encoder supply • 24 V • Short-circuit protection Yes • Output current per channel, max. • Output current per module, max. • Output current per module, max. Power loss Power loss, typ. 1 W; 24 V, 8 inputs supplied via encoder supply Address area Address space per module • Inputs 1 byte; + 1 byte for QI information	Reverse polarity protection	Yes
Number of outputs 8	Input current	
Number of outputs Output voltage, min. Short-circuit protection 24 V encoder supply • 24 V • Short-circuit protection Yes • Output current per channel, max. • Output current per module, max. Power loss Power loss, typ. Address area Address space per module • Inputs 1 byte; + 1 byte for Ql information Hardware configuration	Current consumption, max.	50 mA; All channels are supplied from the encoder supply
Output voltage, min. Short-circuit protection Yes; per module 24 V encoder supply • 24 V • Short-circuit protection Yes • Output current per channel, max. • Output current per module, max. 700 mA Power loss Power loss, typ. 1 W; 24 V, 8 inputs supplied via encoder supply Address area Address space per module • Inputs 1 byte; + 1 byte for QI information Hardware configuration	Encoder supply	
Short-circuit protection 24 V encoder supply 24 V Short-circuit protection Short-circuit protection Short-circuit protection Short-circuit protection Yes Output current per channel, max. Output current per module, max. 700 mA Power loss Power loss, typ. 1 W; 24 V, 8 inputs supplied via encoder supply Address area Address space per module Inputs 1 byte; + 1 byte for Ql information Hardware configuration	Number of outputs	8
24 V Yes 24 V Short-circuit protection Output current per channel, max. Output current per module, max. Output current per module, max. You mA Power loss Power loss, typ. 1 W; 24 V, 8 inputs supplied via encoder supply Address area Address space per module Inputs 1 byte; + 1 byte for QI information Hardware configuration	Output voltage, min.	19.2 V
 24 V Short-circuit protection Output current per channel, max. Output current per module, max. 700 mA Power loss Power loss, typ. 1 W; 24 V, 8 inputs supplied via encoder supply Address area Address space per module Inputs 1 byte; + 1 byte for QI information Hardware configuration	Short-circuit protection	Yes; per module
Short-circuit protection Output current per channel, max. Output current per module, max. Too mA Output current per module, max. Power loss Power loss, typ. 1 W; 24 V, 8 inputs supplied via encoder supply Address area Address space per module Inputs 1 byte; + 1 byte for QI information Hardware configuration	24 V encoder supply	
 Output current per channel, max. Output current per module, max. Power loss Power loss, typ. Address area Address space per module Inputs I byte; + 1 byte for QI information Hardware configuration	• 24 V	Yes
● Output current per module, max. 700 mA Power loss Power loss, typ. 1 W; 24 V, 8 inputs supplied via encoder supply Address area Address space per module ● Inputs 1 byte; + 1 byte for QI information Hardware configuration	 Short-circuit protection 	Yes
Power loss Power loss, typ. 1 W; 24 V, 8 inputs supplied via encoder supply Address area Address space per module Inputs 1 byte; + 1 byte for QI information Hardware configuration	 Output current per channel, max. 	700 mA
Power loss, typ. 1 W; 24 V, 8 inputs supplied via encoder supply Address area Address space per module Inputs 1 byte; + 1 byte for QI information Hardware configuration	 Output current per module, max. 	700 mA
Address area Address space per module Inputs 1 byte; + 1 byte for QI information Hardware configuration	Power loss	
Address space per module	Power loss, typ.	1 W; 24 V, 8 inputs supplied via encoder supply
● Inputs 1 byte; + 1 byte for QI information Hardware configuration	Address area	
Hardware configuration	Address space per module	
	Inputs	1 byte; + 1 byte for QI information
Automatic encoding Yes	Hardware configuration	
	Automatic encoding	Yes

Mechanical coding element	Yes
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
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,	Yes
type 3	
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
at 11011 to 11411, vain	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	1 000 m
shielded, max.unshielded, max.	600 m
·	600 III
Encoder	
Connectable encoders	V
• 2-wire sensor	Yes
 permissible quiescent current (2-wire sensor), max. 	1.5 mA
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	165
Diagnostic alarm	Yes
Diagnoses	165
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-
• Monitoring of encoder power supply	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	. 50; g. 55. 11 64 51 10 LLD
Potential separation channels	
between the channels	No
 between the channels between the channels and backplane bus 	Yes
 between the channels and backplane bus between the channels and the power supply of the 	No
• between the chainless and the power supply of the	INO

electronics	
Isolation	
Isolation tested with	707 V DC (type test)
Ambient conditions	707 V DC (type test)
Ambient temperature during operation	40 °C: - Tmin (incl. condensation/fract)
horizontal installation, min.	-40 °C; = Tmin (incl. condensation/frost)
horizontal installation, max. Altitude during an application and a second and	70 °C; = Tmax
Altitude during operation relating to sea level	F 000 m
Installation altitude above sea level, max. Applicate six temporature became tria processing.	5 000 m
Ambient air temperature-barometric pressure- altitude	Tmin Tmax at 1 140 hPa 795 hPa (-1 000 m +2 000 m) // Tmin (Tmax - 10 K) at 795 hPa 658 hPa (+2 000 m +3 500 m) // Tmin (Tmax -20 K) at 658 hPa 540 hPa (+3 500 m +5 000 m)
Relative humidity	
With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; incl. condensation / frost permitted (no commissioning under condensation conditions)
Resistance	
Coolants and lubricants	
Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air
Use in stationary industrial systems	
 to biologically active substances according to EN 60721-3-3 	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
 to chemically active substances according to EN 60721-3-3 	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
 to mechanically active substances according to EN 60721-3-3 	Yes; Class 3S4 incl. sand, dust, *
 Against mechanical environmental conditions acc. to EN 60721-3-3 	Yes; Class 3M8 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0)
Use on ships/at sea	
 to biologically active substances according to EN 60721-3-6 	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request
 to chemically active substances according to EN 60721-3-6 	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
 to mechanically active substances according to EN 60721-3-6 	Yes; Class 6S3 incl. sand, dust; *
— Against mechanical environmental conditions acc. to EN 60721-3-6	Yes; Class 6M4 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0)
Usage in industrial process technology	
 Against chemically active substances acc. to EN 60654-4 	Yes; Class 3 (excluding trichlorethylene)
 Environmental conditions for process, measuring and control systems acc. to ANSI/ISA- 71.04 	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)
Remark	
 Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04 	* The supplied plug covers must remain in place over the unused interfaces during operation!
Conformal coating	
 Coatings for printed circuit board assemblies acc. to EN 61086 	Yes; Class 2 for high reliability
 Protection against fouling acc. to EN 60664-3 	Yes; Type 1 protection
 Military testing according to MIL-I-46058C, Amendment 7 	Yes; Discoloration of coating possible during service life
 Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A 	Yes; Conformal coating, Class A
Dimensions	
Width	15 mm
Height	73 mm
Depth	58 mm
Weights	
Weight, approx.	28 g
last modified:	12/18/2020 🗗