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

General information	
Product type designation	DI 8x24 VDC ST
Firmware version	
● 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
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 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
Address area	
Address space per module	
● Inputs	1 byte; + 1 byte for QI information
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, 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	No

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electronics	
Isolation	
Isolation tested with	707 V DC (type test)
Ambient conditions	
Ambient temperature during operation	
● horizontal installation, min.	-40 °C; = Tmin (incl. condensation/frost)
● horizontal installation, max.	70 °C; = Tmax
Altitude during operation relating to sea level	
● Installation altitude above sea level, max.	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
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