

SIPLUS ET 200SP DI 8x24VDC HF -40...+70°C with conformal coating based on 6ES7131-6BF00-0CA0 . digital input module, DI 8x 24 V DC High Feature, suitable for BU type A0, Color code CC01, channel diagnostics



General information	
Product type designation	DI 8x24 V DC HF
Firmware version	V2.0
• FW update possible	Yes
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
Engineering with	
• PROFIBUS as of GSD version/GSD revision	GSD Revision 5
• PROFINET as of GSD version/GSD revision	GSDML V2.3
Operating mode	
• DI	Yes
• Counter	No
• Oversampling	No
• MSI	Yes
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

Encoder supply

24 V encoder supply

- | | |
|----------------------------|------------------------------|
| • 24 V | Yes |
| • Short-circuit protection | Yes; per channel, electronic |
| • Output current, max. | 700 mA; Per channel |

Power loss

- | | |
|------------------|-------|
| Power loss, typ. | 1.5 W |
|------------------|-------|

Address area

Address space per module

- | | |
|----------------------------------|---|
| • Address space per module, max. | 8 byte; 2 channels per submodule + QI information |
|----------------------------------|---|

Hardware configuration

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 + external terminals |

Digital inputs

- | | |
|---|--|
| Number of digital inputs | 8 |
| Source/sink input | P-reading |
| Input characteristic curve in accordance with IEC 61131, type 1 | Yes |
| Input characteristic curve in accordance with IEC 61131, type 2 | No |
| Input characteristic curve in accordance with IEC 61131, type 3 | Yes |
| Pulse extension | Yes; Pulse duration from 4 µs |
| • Length | 2 s; 50 ms, 100 ms, 200 ms, 500 ms, 1 s, 2 s |
| Edge evaluation | Yes; rising edge, falling edge, edge change |

Input voltage

- | | |
|--------------------|-------------|
| • Rated value (DC) | 24 V |
| • for signal "0" | -30 to +5V |
| • 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)
for interrupt inputs	
— parameterizable	Yes
for technological functions	
— parameterizable	No
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
Isochronous mode	
Isochronous operation (application synchronized up to terminal)	Yes
Filtering and processing time (TCI), min.	420 µs
Bus cycle time (TDP), min.	500 µs
Jitter, max.	8 µs
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
• Diagnostic alarm	Yes; channel by channel
• Hardware interrupt	Yes; Parameterizable, channels 0 to 7
Diagnostic messages	
• Diagnostic information readable	Yes
• Monitoring the supply voltage	Yes
— parameterizable	Yes
• Monitoring of encoder power supply	Yes; channel by channel
• Wire-break	Yes; channel by channel
• Short-circuit	Yes; channel by channel
Diagnostics indication LED	
• Monitoring of the supply voltage (PWR-LED)	Yes; Green PWR LED
• Channel status display	Yes; Green LED
• for channel diagnostics	Yes; Red LED
• for module diagnostics	Yes; green/red DIAG LED
Potential separation	
Potential separation channels	
• between the channels	No

- between the channels and backplane bus
- between the channels and the power supply of the electronics

Yes

No

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.
- horizontal installation, max.

-40 °C; = Tmin (incl. condensation/frost)

70 °C; = Tmax; > +60 °C encoder supply output current max. 350 mA per channel

Altitude during operation relating to sea level

- Installation altitude above sea level, max.
- Ambient air temperature-barometric pressure-altitude

5 000 m

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 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation

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
- to chemically active substances according to EN 60721-3-3
- to mechanically active substances according to EN 60721-3-3
- Against mechanical environmental conditions acc. to EN 60721-3-3

Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request

Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *

Yes; Class 3S4 incl. sand, dust, *

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
- to chemically active substances according to EN 60721-3-6
- to mechanically active substances according to EN 60721-3-6
- Against mechanical environmental conditions acc. to EN 60721-3-6

Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request

Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *

Yes; Class 6S3 incl. sand, dust; *

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 • Protection against fouling acc. to EN 60664-3 • Military testing according to MIL-I-46058C, Amendment 7 • Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A	Yes; Class 2 for high availability Yes; Type 1 protection Yes; Discoloration of coating possible during service life Yes; Conformal coating, Class A
Dimensions	
Width	15 mm
Height	73 mm
Depth	58 mm
Weights	
Weight, approx.	28 g
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