



Figure similar

SIPLUS ET 200SP DI 8x24 V DC HF based on 6ES7131-6BF00-0CA0 with conformal coating, -40...+70 °C, digital input module, 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                                               |
| based on                                                  | <a href="#">6ES7131-6BF00-0CA0</a>                |
| 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                                        | Yes; 250 µs                                       |
| • suitable for operation on PROFINET R1 IMs               | Yes                                               |
| Engineering with                                          |                                                   |
| • STEP 7 TIA Portal configurable/integrated from version  | see entry ID: 109746275                           |
| 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                                               |
| Input current                                             |                                                   |
| Current consumption (rated value)                         | 20 mA                                             |
| Current consumption, max.                                 | 39 mA                                             |
| Encoder supply                                            |                                                   |
| Number of outputs                                         | 8                                                 |
| Output voltage, min.                                      | 19.2 V                                            |
| Short-circuit protection                                  | Yes                                               |
| 24 V encoder supply                                       |                                                   |
| • 24 V                                                    | Yes                                               |
| • Short-circuit protection                                | Yes; per channel, electronic                      |
| • Output current per channel, max.                        | 700 mA                                            |
| • Output current per module, max.                         | 700 mA                                            |
| Power loss                                                |                                                   |
| Power loss, typ.                                          | 1.5 W; 24 V, 8 inputs supplied via encoder supply |
| Address area                                              |                                                   |

|                                                                 |                                                                                                                                                       |
|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Address space per module                                        |                                                                                                                                                       |
| • Inputs                                                        | 1 byte; + 1 byte for QI information                                                                                                                   |
| <b>Hardware configuration</b>                                   |                                                                                                                                                       |
| Automatic encoding                                              | Yes                                                                                                                                                   |
| • Mechanical coding element                                     | Yes                                                                                                                                                   |
| • Type of mechanical coding element                             | Type A                                                                                                                                                |
| 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 or potential distributor module                                                                                         |
| • 4-wire connection                                             | BU type A0 + Potential distributor module                                                                                                             |
| <b>Digital inputs</b>                                           |                                                                                                                                                       |
| 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                                                                                                                                                   |
| 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 +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                                                                                                                                                 |
| <b>Encoder</b>                                                  |                                                                                                                                                       |
| Connectable encoders                                            |                                                                                                                                                       |
| • 2-wire sensor                                                 | Yes                                                                                                                                                   |
| — permissible quiescent current (2-wire sensor), max.           | 1.5 mA                                                                                                                                                |
| <b>Isochronous mode</b>                                         |                                                                                                                                                       |
| Filtering and processing time (TCI), min.                       | 420 µs                                                                                                                                                |
| Bus cycle time (TDP), min.                                      | 500 µs                                                                                                                                                |
| Jitter, max.                                                    | 8 µs                                                                                                                                                  |
| <b>Interrupts/diagnostics/status information</b>                |                                                                                                                                                       |
| Diagnostics function                                            | Yes                                                                                                                                                   |
| Alarms                                                          |                                                                                                                                                       |
| • Diagnostic alarm                                              | Yes; channel by channel                                                                                                                               |
| • Hardware interrupt                                            | Yes; Parameterizable, channels 0 to 7                                                                                                                 |
| Diagnoses                                                       |                                                                                                                                                       |
| • 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, optional protective circuit for preventing wire-break diagnostics in the case of simple encoder contacts: 25 kOhm to 45 kOhm |
| • Short-circuit                                                 | Yes; channel by channel                                                                                                                               |

|                                                                     |                                                                                                                                                                                                                 |
|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Diagnostics indication LED</b>                                   |                                                                                                                                                                                                                 |
| • 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                                                                                                                                                                                         |
| <b>Potential separation</b>                                         |                                                                                                                                                                                                                 |
| <b>Potential separation channels</b>                                |                                                                                                                                                                                                                 |
| • between the channels                                              | No                                                                                                                                                                                                              |
| • between the channels and backplane bus                            | Yes                                                                                                                                                                                                             |
| • between the channels and the power supply of the electronics      | No                                                                                                                                                                                                              |
| <b>Isolation</b>                                                    |                                                                                                                                                                                                                 |
| Isolation tested with                                               | 707 V DC (type test)                                                                                                                                                                                            |
| <b>Standards, approvals, certificates</b>                           |                                                                                                                                                                                                                 |
| Suitable for safety functions                                       | No                                                                                                                                                                                                              |
| <b>Ecological footprint</b>                                         |                                                                                                                                                                                                                 |
| • environmental product declaration                                 | Yes                                                                                                                                                                                                             |
| <b>Global warming potential</b>                                     |                                                                                                                                                                                                                 |
| — global warming potential, (total) [CO2 eq]                        | 15.9 kg                                                                                                                                                                                                         |
| — global warming potential, (during production) [CO2 eq]            | 3.69 kg                                                                                                                                                                                                         |
| — global warming potential, (during operation) [CO2 eq]             | 12.7 kg                                                                                                                                                                                                         |
| — global warming potential, (after end of life cycle) [CO2 eq]      | -0.495 kg                                                                                                                                                                                                       |
| <b>Ambient conditions</b>                                           |                                                                                                                                                                                                                 |
| <b>Ambient temperature during operation</b>                         |                                                                                                                                                                                                                 |
| • horizontal installation, min.                                     | -40 °C; = Tmin (incl. condensation/frost)                                                                                                                                                                       |
| • horizontal installation, max.                                     | 70 °C; = Tmax; > +60 °C encoder supply output current max. 350 mA per channel                                                                                                                                   |
| • vertical installation, min.                                       | -40 °C; = Tmin                                                                                                                                                                                                  |
| • vertical installation, max.                                       | 50 °C; = Tmax                                                                                                                                                                                                   |
| <b>Altitude during operation relating to sea level</b>              |                                                                                                                                                                                                                 |
| • 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) |
| <b>Relative humidity</b>                                            |                                                                                                                                                                                                                 |
| • With condensation, tested in accordance with IEC 60068-2-38, max. | 100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation                                                                                                               |
| <b>Resistance</b>                                                   |                                                                                                                                                                                                                 |
| <b>Coolants and lubricants</b>                                      |                                                                                                                                                                                                                 |
| — Resistant to commercially available coolants and lubricants       | Yes; Incl. diesel and oil droplets in the air                                                                                                                                                                   |
| <b>Use in stationary industrial systems</b>                         |                                                                                                                                                                                                                 |
| — 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)                                                                                                                                      |
| <b>Use on ships/at sea</b>                                          |                                                                                                                                                                                                                 |
| — 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)                                                                                                                                      |
| <b>Usage in industrial process technology</b>                       |                                                                                                                                                                                                                 |
| — Against chemically active substances acc. to EN                   | Yes; Class 3 (excluding trichlorethylene)                                                                                                                                                                       |

60654-4  
— 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 reliability  
  
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 |
|-----------------|------|

Classifications

|        | Version | Classification |
|--------|---------|----------------|
| eClass | 14      | 27-24-26-04    |
| eClass | 12      | 27-24-26-04    |
| eClass | 9.1     | 27-24-26-04    |
| eClass | 9       | 27-24-26-04    |
| eClass | 8       | 27-24-26-04    |
| eClass | 7.1     | 27-24-26-04    |
| eClass | 6       | 27-24-26-04    |
| ETIM   | 10      | EC001599       |
| ETIM   | 9       | EC001599       |
| ETIM   | 8       | EC001599       |
| ETIM   | 7       | EC001599       |
| IDEA   | 4       | 3566           |
| UNSPSC | 15      | 32-15-17-05    |

Approvals / Certificates

General Product Approval

EMV

[Manufacturer Declaration](#)



[China RoHS](#)



For use in hazardous locations

Maritime application

Environment



[CCC-Ex](#)



last modified:

10/23/2025