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## Data sheet 6ES7134-6HB00-0CA1



SIMATIC ET 200SP, Analog input module, AI 2x U/I 2-.4-wire High Feat., suitable for BU type A0, A1, Color code CC05, channel diagnostics, 16 bit, +/-0.1%

| | |
|---|---|
| **General information** | |
| Product type designation | AI 2xU/I 2-/4-wire HF |
| HW functional status | FS22 or higher |
| Firmware version | V3.0.0 |
| ● FW update possible | Yes |
| usable BaseUnits | BU type A0, A1 |
| Color code for module-specific color-coded label | CC05 |
| Product function | |
| ● I&M data | Yes; I&M0 to I&M3 |
| ● Isochronous mode | Yes; 250 µs |
| ● Measuring range scalable | Yes |
| Engineering with | |
| ● STEP 7 TIA Portal configurable/integrated from version | V21.1 or higher |
| ● STEP 7 configurable/integrated from version | configurable as of V5.7.3.3 with HSP0348 V3.0 / integrated as of V5.7.5.0 |
| ● PROFIBUS from GSD version/GSD revision | One GSD file each, Revision 3 and 5 and higher |
| ● PROFINET from GSD version/GSD revision | GSDML V2.50 |
| Operating mode | |
| ● Oversampling | No |
| ● MSI | Yes |
| **CiR - Configuration in RUN** | |
| Reparameterization possible in RUN | Yes |
| Calibration possible in RUN | 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) | 39 mA |
| Current consumption, max. | 240 mA |
| **Encoder supply** | |
| 24 V encoder supply | |
| ● 24 V | Yes; For current measurement |
| ● Short-circuit protection | Yes |
| ● Output current, max. | 20 mA; max. 50 mA per channel for a duration < 10 s (two-wire) |
| Additional 24 V encoder supply | |


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| ● 24 V | Yes; for current and voltage measurements |
| ● Short-circuit protection | Yes; channel by channel |
| ● Output current, max. | 100 mA; max. 150 mA for a duration of < 10 s (four-wire) |
| **Power loss** | |
| Power loss, typ. | 0.95 W |
| **Address area** | |
| Address space per module | |
| ● Address space per module, max. | 4 byte; + 4 byte for scaling of measured values, + 1 byte for QI information |
| **Hardware configuration** | |
| Automatic encoding | Yes |
| ● Mechanical coding element | Yes |
| ● Type of mechanical coding element | Type A |
| Selection of BaseUnit for connection variants | |
| ● 2-wire connection | BU type A0, A1 |
| ● 4-wire connection | BU type A0, A1 |
| **Analog inputs** | |
| Number of analog inputs | 2; Differential inputs |
| ● For current measurement | 2 |
| ● For voltage measurement | 2 |
| permissible input voltage for voltage input (destruction limit), max. | 30 V |
| permissible input current for current input (destruction limit), max. | 50 mA |
| Cycle time (all channels), min. | Sum of the basic conversion times and additional processing times (depending on the parameterization of the active channels) |
| Standardization of measured values | Yes |
| Input ranges (rated values), voltages | |
| ● 0 to +10 V | Yes; 15 bit |
| — Input resistance (0 to 10 V) | 75 kΩ |
| ● 1 V to 5 V | Yes; 15 bit |
| — Input resistance (1 V to 5 V) | 75 kΩ |
| ● -10 V to +10 V | Yes; 16 bit incl. sign |
| — Input resistance (-10 V to +10 V) | 75 kΩ |
| ● -5 V to +5 V | Yes; 16 bit incl. sign |
| — Input resistance (-5 V to +5 V) | 75 kΩ |
| Input ranges (rated values), currents | |
| ● 0 to 20 mA | Yes; 15 bit |
| — Input resistance (0 to 20 mA) | 130 Ω |
| ● -20 mA to +20 mA | Yes; 16 bit incl. sign |
| — Input resistance (-20 mA to +20 mA) | 130 Ω |
| ● 4 mA to 20 mA | Yes; 15 bit |
| — Input resistance (4 mA to 20 mA) | 130 Ω |
| Cable length | |
| ● shielded, max. | 1 000 m; 200 m for voltage measurement |
| **Analog value generation for the inputs** | |
| Measurement principle | Sigma Delta |
| Integration and conversion time/resolution per channel | |
| ● Resolution with overrange (bit including sign), max. | 16 bit |
| ● Integration time, parameterizable | Yes |
| ● Interference voltage suppression for interference frequency f1 in Hz | 16.6 / 50 / 60 / 300 / 600 / 1 200 / 2 400 / 4 800 |
| ● Conversion time (per channel) | 68.2 / 23 / 19.2 / 10.45 / 5.40 / 2.85 / 1.6 / 0.9 ms |
| Smoothing of measured values | |
| ● Number of smoothing levels | 6; none; 2-/4-/8-/16-/32-fold |
| ● parameterizable | Yes |
| **Encoder** | |
| Connection of signal encoders | |
| ● for voltage measurement | Yes |
| ● for current measurement as 2-wire transducer | Yes |
| — Burden of 2-wire transmitter, max. | 650 Ω |


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| ● for current measurement as 4-wire transducer | Yes |
| **Errors/accuracies** | |
| Linearity error (relative to input range), (+/-) | 0.01 % |
| Temperature error (relative to input range), (+/-) | 0.003 %/K |
| Crosstalk between the inputs, min. | -50 dB |
| Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) | 0.01 % |
| Operational error limit in overall temperature range | |
| ● Voltage, relative to input range, (+/-) | 0.1 % |
| ● Current, relative to input range, (+/-) | 0.1 % |
| Basic error limit (operational limit at 25 °C) | |
| ● Voltage, relative to input range, (+/-) | 0.05 %; 0.1 % at SFU 4.8 kHz |
| ● Current, relative to input range, (+/-) | 0.05 %; 0.1 % at SFU 4.8 kHz |
| Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = interference frequency | |
| ● Common mode voltage, max. | 35 V |
| ● Common mode interference, min. | 90 dB |
| **Isochronous mode** | |
| Filtering and processing time (TCI), min. | 800 µs |
| Bus cycle time (TDP), min. | 1 ms |
| Jitter, max. | 5 µs |
| **Interrupts/diagnostics/status information** | |
| Diagnostics function | Yes |
| Alarms | |
| ● Diagnostic alarm | Yes |
| ● Limit value alarm | Yes; two upper and two lower limit values in each case |
| Diagnoses | |
| ● Monitoring the supply voltage | Yes |
| ● Wire break | Yes; Measuring range 4 to 20 mA only |
| ● Short-circuit | Yes; channel-by-channel, at 1 to 5 V or for short-circuit in encoder supply |
| ● Overflow/Underflow | Yes |
| 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 | Yes |
| ● between the channels and backplane bus | Yes |
| ● between the channels and the power supply of the electronics | Yes |
| **Isolation** | |
| Isolation tested with | 707 V DC (type test) |
| **Standards, approvals, certificates** | |
| Ecological footprint | |
| ● environmental product declaration | Yes |
| Global warming potential | |
| — global warming potential, (total) [CO2 eq] | 9.32 kg |
| — global warming potential, (during production) [CO2 eq] | 4.97 kg |
| — global warming potential, (during operation) [CO2 eq] | 4.79 kg |
| — global warming potential, (after end of life cycle) [CO2 eq] | -0.449 kg |
| **Security** | |
| signed firmware update | Yes; Firmware V3.0.0 or higher |
| **Ambient conditions** | |
| Ambient temperature during operation | |
| ● horizontal installation, min. | -30 °C; < 0 °C as of FS06 |
| ● horizontal installation, max. | 60 °C |


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| ● vertical installation, min. | -30 °C; < 0 °C as of FS06 |
| ● 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 |
| Absolute humidity | |
| ● dew point, min. | -60 °C; suitable for dry room applications |
| **Dimensions** | |
| Width | 15 mm |
| Height | 73 mm |
| Depth | 58 mm |
| **Weights** | |
| Weight, approx. | 32 g |

**Classifications**

| | Version | Classification |
|---|---|---|
| eClass | 16 | 27-24-26-01 |
| eClass | 14 | 27-24-26-01 |
| eClass | 12 | 27-24-26-01 |
| eClass | 9.1 | 27-24-26-01 |
| eClass | 9 | 27-24-26-01 |
| eClass | 8 | 27-24-26-01 |
| eClass | 7.1 | 27-24-26-01 |
| eClass | 6 | 27-24-26-01 |
| ETIM | 10 | EC001596 |
| ETIM | 9 | EC001596 |
| ETIM | 8 | EC001596 |
| ETIM | 7 | EC001596 |
| IDEA | 4 | 3562 |
| UNSPSC | 15 | 32-15-17-05 |

**Approvals / Certificates**

**General Product Approval**

Manufacturer Declaration

Miscellaneous

**General Product Approval**

Metrological Approval

China RoHS

**For use in hazardous locations**

CCC-Ex

FM

Miscellaneous

| For use in hazardous locations | | Maritime application |
|---|---|---|
| Type Examination Certificate | CCC-Ex | |


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| Maritime application | | | | | Environment |
|---|---|---|---|---|---|
| NK / Nippon Kaiji Kyokai | RINA | RMRS | CCS (China Classification Society) | KR (Korean Register of Shipping) | EPD |

| Environment |
|---|
| Siemens EcoTech |

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