# SIEMENS

| Data sheet | **6ES7134-6HB00-0DA1** |
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SIMATIC ET 200SP, Analog input module, AI 2x U/I 2-.4-wire High Speed, suitable for BU type A0, A1, Color code CC00, channel diagnostics, 16 bit, +/-0.3%

| General information | |
|---|---|
| Product type designation | AI 2xU/I 2-/4-wire HS |
| HW functional status | from FS21 |
| Firmware version | V2.0.3 |
| ● FW update possible | Yes |
| usable BaseUnits | BU type A0, A1 |
| Color code for module-specific color identification plate | CC00 |
| Product function | |
| ● I&M data | Yes; I&M0 to I&M3 |
| ● Isochronous mode | Yes |
| ● Measuring range scalable | No |
| ● Scalable measured values | No |
| ● Adjustment of measuring range | No |
| Engineering with | |
| ● STEP 7 TIA Portal configurable/integrated from version | V13 SP1 |
| ● STEP 7 configurable/integrated from version | V5.5 SP3 / - |
| ● PROFIBUS from GSD version/GSD revision | One GSD file each, Revision 3 and 5 and higher |
| ● PROFINET from GSD version/GSD revision | GSDML V2.3 |
| Operating mode | |
| ● Oversampling | Yes; 2 channels per module |
| ● MSI | No |
| **CiR - Configuration in RUN** | |
| Reparameterization possible in RUN | No |
| Calibration possible in RUN | 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 (rated value) | 39 mA; without sensor supply |
| **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 |
| **Power loss** | |
| Power loss, typ. | 0.95 W; without sensor supply |
| **Address area** | |
| Address space per module | |

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| ● Address space per module, max. | 4 byte; + 1 byte for QI information (32 bytes in the oversampling operating mode) |

## Hardware configuration

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| 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. | 125 µs |
| Analog input with oversampling | Yes |
| ● Values per cycle, max. | 16 |
| ● Resolution, min. | 50 µs |
| 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; 13 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; 15 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; 14 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

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| Measurement principle | Actual value encryption (successive approximation) |
| Integration and conversion time/resolution per channel | |
| ● Resolution with overrange (bit including sign), max. | 16 bit |
| ● Interference voltage suppression for interference frequency f1 in Hz | No |
| ● Conversion time (per channel) | 10 µs |
| Smoothing of measured values | |
| ● Number of smoothing levels | 7; none; 2-/4-/8-/16-/32-/64-fold |
| ● parameterizable | Yes |

## Encoder

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|---|---|
| Connection of signal encoders | |
| ● for voltage measurement | Yes |
| ● for current measurement as 2-wire transducer | Yes |
| — Burden of 2-wire transmitter, max. | 650 Ω |
| ● for current measurement as 4-wire transducer | Yes |

## Errors/accuracies

| | |
|---|---|
| Linearity error (relative to input range), (+/-) | 0.03 % |
| Temperature error (relative to input range), (+/-) | 0.01 %/K |
| Crosstalk between the inputs, min. | -50 dB |
| Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) | 0.1 % |
| Operational error limit in overall temperature range | |

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|---|---|
| ● Voltage, relative to input range, (+/-) | 0.3 % |
| ● Current, relative to input range, (+/-) | 0.3 % |
| **Basic error limit (operational limit at 25 °C)** | |
| ● Voltage, relative to input range, (+/-) | 0.2 % |
| ● Current, relative to input range, (+/-) | 0.2 % |
| **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. | 80 µs |
| Bus cycle time (TDP), min. | 125 µs; Starting from firmware Version V2.0.1 |
| **Interrupts/diagnostics/status information** | |
| Alarms | |
| ● Diagnostic alarm | Yes |
| ● Limit value alarm | Yes; two upper and two lower limit values in each case |
| Diagnoses | |
| ● Wire-break | Yes; channel-by-channel, at 4 to 20 mA only |
| ● Short-circuit | Yes; channel-by-channel, at 1 to 5 V or for current measuring ranges short-circuit in encoder supply |
| ● Group error | Yes |
| ● Overflow/underflow | 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 | 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) |
| **Ambient conditions** | |
| Ambient temperature during operation | |
| ● horizontal installation, min. | -30 °C; < 0 °C as of FS07 |
| ● horizontal installation, max. | 60 °C |
| ● vertical installation, min. | -30 °C; < 0 °C as of FS07 |
| ● 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 ET 200SP system manual |
| **Dimensions** | |
| Width | 15 mm |
| Height | 73 mm |
| Depth | 58 mm |
| **Weights** | |
| Weight, approx. | 32 g |

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| **last modified:** | 7/13/2024 🔗 |