SIEMENS

## Data sheet 6ES7134-6HD01-0BA1

SIMATIC ET 200SP, ANALOG INPUT MODULE, AI 4XU/I 2-WIRE STANDARD, PACKING UNIT: 1 PIECE, FITS TO BU-TYPE A0, A1, COLOR CODE CC03, MODULE DIAGNOSIS, 16BIT, +/-0,3%


| General information | |
|---|---|
| Product type designation | AI 4x U/I 2-wire |
| HW functional status | From FS02 |
| Firmware version | V2.0 |
| • FW update possible | Yes |
| usable BaseUnits | BU type A0, A1 |
| Color code for module-specific color identification plate | CC03 |
| **Product function** | |
| • I&M data | Yes; I&M0 to I&M3 |
| • Measuring range scalable | No |
| **Engineering with** | |
| • STEP 7 TIA Portal configurable/integrated as of version | V14 / - |
| • STEP 7 configurable/integrated as of version | V5.6 and higher |
| • PCS 7 configurable/integrated as of version | V8.1 SP1 |
| • PROFIBUS as of GSD version/GSD revision | One GSD file each, Revision 3 and 5 and higher |
| • PROFINET as of GSD version/GSD revision | GSDML V2.3 |
| **Operating mode** | |

| | |
|---|---|
| • Oversampling | No |
| • MSI | No |
| **CiR – Configuration in RUN** | |
| Reparameterization possible in RUN | Yes |
| 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, max. | 37 mA; without sensor supply |
| **Encoder supply** | |
| 24 V encoder supply | |
| • 24 V | Yes |
| • Short-circuit protection | Yes |
| • Output current, max. | 20 mA; max. 50 mA per channel for a duration < 10 s |
| **Power loss** | |
| Power loss, typ. | 0.85 W; Without encoder supply voltage |
| **Address area** | |
| Address space per module | |
| • Address space per module, max. | 8 byte; + 1 byte for QI information |
| **Hardware configuration** | |
| Automatic encoding | |
| • Mechanical coding element | Yes |
| Selection of BaseUnit for connection variants | |
| • 2-wire connection | BU type A0, A1 |
| **Analog inputs** | |
| Number of analog inputs | 4; Differential inputs |
| 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) |
| Input ranges (rated values), voltages | |
| • 0 to +10 V | Yes; 15 bit |
| • Input resistance (0 to 10 V) | 120 kΩ |
| • 1 V to 5 V | Yes; 15 bit |
| • Input resistance (1 V to 5 V) | 120 kΩ |

| | |
|---|---|
| • -10 V to +10 V | Yes; 16 bit incl. sign |
| • Input resistance (-10 V to +10 V) | 120 kΩ |
| • -5 V to +5 V | Yes; 16 bit incl. sign |
| • Input resistance (-5 V to +5 V) | 120 kΩ |
| Input ranges (rated values), currents | |
| • 0 to 20 mA | Yes; 15 bit |
| • Input resistance (0 to 20 mA) | 100 Ω; + approx. 0.7 V diode forward voltage |
| • 4 mA to 20 mA | Yes; 15 bit |
| • Input resistance (4 mA to 20 mA) | 100 Ω; + approx. 0.7 V diode forward voltage |
| Cable length | |
| • shielded, max. | 1 000 m; 200 m for voltage measurement |

| Analog value generation for the inputs | |
|---|---|
| Measurement principle | integrating (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 Hz |
| • Conversion time (per channel) | 180 / 60 / 50 ms |
| Smoothing of measured values | |
| • Number of smoothing levels | 4; None; 4/8/16 times |
| • 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 |
| • for current measurement as 4-wire transducer | No |

| Errors/accuracies | |
|---|---|
| Linearity error (relative to input range), (+/-) | 0.01 % |
| Temperature error (relative to input range), (+/-) | 0.005 %/K |
| Crosstalk between the inputs, min. | 50 dB |
| Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) | 0.05 % |
| Operational error limit in overall temperature range | |
| • Voltage, relative to input range, (+/-) | 0.5 % |
| • Current, relative to input range, (+/-) | 0.5 % |
| Basic error limit (operational limit at 25 °C) | |
| • Voltage, relative to input range, (+/-) | 0.3 % |
| • Current, relative to input range, (+/-) | 0.3 % |

| | |
|---|---|
| Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = interference frequency | |
| • Series mode interference (peak value of interference < rated value of input range), min. | 70 dB |
| • Common mode voltage, max. | 10 V |
| • Common mode interference, min. | 90 dB |
| **Isochronous mode** | |
| Isochronous operation (application synchronized up to terminal) | No |
| **Interrupts/diagnostics/status information** | |
| Diagnostics function | Yes |
| Alarms | |
| • Diagnostic alarm | Yes |
| • Limit value alarm | No |
| Diagnostic messages | |
| • Monitoring the supply voltage | Yes |
| • Wire-break | Yes; at 4 to 20 mA |
| • Short-circuit | Yes; with 1 to 5 V or 2-wire mode: Short-circuit of the encoder supply to ground or of an input to the encoder supply |
| • Group error | Yes |
| • Overflow/underflow | Yes |
| Diagnostics indication LED | |
| • Monitoring of the supply voltage (PWR-LED) | Yes; Green LED |
| • Channel status display | Yes; Green LED |
| • for channel diagnostics | No |
| • for module diagnostics | Yes; Green/red LED |
| **Potential separation** | |
| Potential separation channels | |
| • between the channels | Yes; channel group-specific between 2-wire current input group and voltage input group |
| • between the channels and backplane bus | Yes |
| • between the channels and the power supply of the electronics | Yes; only for voltage inputs |
| **Permissible potential difference** | |
| between the inputs (UCM) | 10 V DC |
| **Isolation** | |
| Isolation tested with | 707 V DC (type test) |
| **Standards, approvals, certificates** | |
| Suitable for applications according to AMS 2750 | Yes; Declaration of Conformity, see online support entry 109757262 |
| Suitable for applications according to CQI-9 | Yes |

| Ambient conditions | |
|---|---|
| **Ambient temperature during operation** | |
| • horizontal installation, min. | -30 °C |
| • horizontal installation, max. | 60 °C |
| • vertical installation, min. | -30 °C |
| • vertical installation, max. | 50 °C |
| **Altitude during operation relating to sea level** | |
| • Installation altitude above sea level, max. | 2 000 m; On request: Installation altitudes greater than 2 000 m |

| Dimensions | |
|---|---|
| Width | 15 mm |
| Height | 73 mm |
| Depth | 58 mm |

| Weights | |
|---|---|
| Weight, approx. | 31 g |

**last modified:** 06/11/2019