## SIEMENS

## Data sheet

## 6ES7134-6HB00-0DA1



SIMATIC ET 200SP, Analog input module, Al 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 FS07   |  |
| Firmware version   |   |  |
| FW update possible   | Yes   |  |
| usable BaseUnits   | BU type A0, A1                                      |  |
| Color code for module-specific color identification plate                      | CC00  |  |
| Product function   |   |  |
| <ul> <li>I&amp;M data</li> </ul>   | Yes; I&M0 to I&M3                                   |  |
| <ul> <li>Isochronous mode</li> </ul>   | Yes   |  |
| <ul> <li>Measuring range scalable</li> </ul>                                   | No  |  |
| <ul> <li>Scalable measured values</li> </ul>                                   | No  |  |
| <ul> <li>Adjustment of measuring range</li> </ul>                              | No  |  |
| Engineering with   |   |  |
| <ul> <li>STEP 7 TIA Portal configurable/integrated from<br/>version</li> </ul> | V13 SP1   |  |
| <ul> <li>STEP 7 configurable/integrated from version</li> </ul>                | V5.5 SP3 / -  |  |
| <ul> <li>PROFIBUS from GSD version/GSD revision</li> </ul>                     | One GSD file each, Revision 3 and 5 and higher      |  |
| <ul> <li>PROFINET from GSD version/GSD revision</li> </ul>                     | GSDML V2.3  |  |
| Operating mode   |   |  |
| Oversampling   | Yes; 2 channels per module                          |  |
| • 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 (rated value)  | 39 mA; without sensor supply                        |  |
| Encoder supply   |   |  |
| 24 V encoder supply  |   |  |
| • 24 V   | Yes; For current measurement                        |  |
| <ul> <li>Short-circuit protection</li> </ul>                                   | Yes   |  |
| <ul> <li>Output current, max.</li> </ul>                                       | 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   |   |  |
| Address space per module, max.   | 4 byte; + 1 byte for QI information (32 bytes in the oversampling operating mode) |  |
| Hardware configuration   |   |  |
| Automatic encoding   | Yes   |  |
| <ul> <li>Mechanical coding element</li> </ul>  | Yes   |  |
| <ul> <li>Type of mechanical coding element</li> </ul>  | Туре А  |  |
| Selection of BaseUnit for connection variants  |   |  |
| 2-wire connection  | BU type A0, A1  |  |
| <ul> <li>4-wire connection</li> </ul>  | BU type A0, A1  |  |
| Analog inputs  |   |  |
| Number of analog inputs  | 2; Differential inputs  |  |
| <ul> <li>For current measurement</li> </ul>  | 2   |  |
| <ul> <li>For voltage measurement</li> </ul>  | 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  |  |
| <ul> <li>Input resistance (-10 V to +10 V)</li> <li>-5 V to +5 V</li> </ul>                  | 75 kΩ   |  |
| - Input resistance (-5 V to +5 V)  | Yes; 15 bit incl. sign<br>75 kΩ   |  |
| Input ranges (rated values), currents  | 10 102  |  |
| • 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   |   |  |
| Measurement principle  | Actual value encryption (successive approximation)                                |  |
| Integration and conversion time/resolution per channel                                       |   |  |
| • Resolution with overrange (bit including sign), max.                                       | 16 bit  |  |
| <ul> <li>Interference voltage suppression for interference<br/>frequency f1 in Hz</li> </ul> | No  |  |
| Conversion time (per channel)  | 10 µs   |  |
| Smoothing of measured values   |   |  |
| <ul> <li>Number of smoothing levels</li> </ul>   | 7; none; 2-/4-/8-/16-/32-/64-fold   |  |
| parameterizable  | Yes   |  |
| Encoder  |   |  |
| Connection of signal encoders  |   |  |
| <ul> <li>for voltage measurement</li> </ul>  | Yes   |  |
| • for current measurement as 2-wire transducer   | Yes   |  |
| — Burden of 2-wire transmitter, max.   | 650 Ω   |  |
| for current measurement as 4-wire transducer Errors/accuracies                               | Yes   |  |
| Linearity error (relative to input range), (+/-)   | 0.03 %  |  |
| Temperature error (relative to input range), (+/-)   | 0.01 %/K  |  |
|  |   |  |

| Creastell, between the invester win                                       |  |
|---|--|
| 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                      |  |
| <ul> <li>Voltage, relative to input range, (+/-)</li> </ul>               | 0.3 %  |
| Current, relative to input range, (+/-)                                   | 0.3 %  |
| Basic error limit (operational limit at 25 °C)                            |  |
| <ul> <li>Voltage, relative to input range, (+/-)</li> </ul>               | 0.2 %  |
| <ul> <li>Current, relative to input range, (+/-)</li> </ul>               | 0.2 %  |
| Interference voltage suppression for $f = n x (f1 + -1 \%), f1 =$         | interference frequency   |
| <ul> <li>Common mode voltage, max.</li> </ul>                             | 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  |
| Diagnostics indication LED  |  |
| <ul> <li>Monitoring of the supply voltage (PWR-LED)</li> </ul>            | Yes; green PWR LED   |
| Channel status display  | Yes; green LED   |
| <ul> <li>for channel diagnostics</li> </ul>                               | Yes; red LED   |
| • for module diagnostics  | Yes; green/red DIAG LED  |
| Potential separation  |  |
| Potential separation channels   |  |
| between the channels  | Yes  |
| <ul> <li>between the channels and backplane bus</li> </ul>                | Yes  |
| <ul> <li>between the channels and the power supply of the</li> </ul>      | Yes  |
| electronics   |  |
| Isolation   |  |
| Isolation tested with   | 707 V DC (type test)   |
| Ambient conditions  |  |
| Ambient temperature during operation                                      |  |
| horizontal installation, min.   | -30 °C   |
| <ul> <li>horizontal installation, max.</li> </ul>                         | -30° C   |
| vertical installation, min.   | -30 °C   |
| 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 |
|   |  |
| Dimensions  | 45   |
| Width   | 15 mm  |
| Height  | 73 mm  |
| Depth   | 58 mm  |
| Weights   |  |
| Weight, approx.   | 32 g   |
| last modified:  | 1/24/2021 🖸  |
| ומסו וווטעווופע.  | 1/24/2021  |
|   |  |