SIEMENS

Data sheet 6ES7134-6HB00-0DA1

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 FS07
Firmware version	
● 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	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
● 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	
● Address space per module, max.	4 byte; + 1 byte for QI information (32 bytes in the oversampling operating mode)
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.	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	
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	
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	
● 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
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
● 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.	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
Dimensions	
Width	15 mm
Height	73 mm
Depth	58 mm
Weights	
Weight, approx.	32 g

last modified: 1/24/2021