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
Diagnostic messages	
• 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

Permissible potential difference	
between the inputs (UCM)	75 V DC/60 V AC

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 manual

Dimensions	
Width	15 mm
Height	73 mm
Depth	58 mm

Weights	
Weight, approx.	32 g

last modified: 07/10/2020