SIEMENS

Data sheet 6ES7134-6HB00-0CA1

SIMATIC ET 200SP, ANALOG INPUT MODULE, AI 2X U/I 2-,4-WIRE HIGH FEAT., FITS TO BU-TYPE A0, A1, COLOR CODE CC05, CHANNEL DIAGNOSIS, 16BIT, +/-0,1%

General information	
Product type designation	ET 200SP, AI 2xU/I 2-/4-wire High Feature, PU 1
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
• Scalable measuring range	No
Engineering with	
• STEP 7 TIA Portal configurable/integrated as of version	V13
• STEP 7 configurable/integrated as of version	V5.5 / -
• PCS 7 configurable/integrated as of version	V8.1 SP1
• PROFIBUS as of GSD version/GSD revision	GSD Revision 5
• PROFINET as of GSD version/GSD revision	GSDML V2.3
Operating mode	
• Oversampling	No

• MSI	Yes
CiR - Configuration in RUN	
Reparameterization possible in RUN	Yes
Calibration possible in RUN	Yes
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
• Short-circuit protection	Yes
• Output current, max.	20 mA; max. 50 mA per channel for a duration < 10 s (two-wire)
Additional 24 V encoder supply	
• Short-circuit protection	Yes; channel by channel
• Output current, max.	100 mA; max. 150 mA for a duration of < 10 s (four-wire)
Power loss	
Power loss, typ.	0.95 W; without sensor supply
Address area	
Address space per module	
• Address space per module, max.	4 byte; + 4 byte for scaling of measured values, + 1 byte for QI information
Hardware configuration	
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
permissible input voltage for voltage input (destruction limit), max.	30 V
permissible input current for current input (destruction limit), max.	50 mA
Analog input with oversampling	No
Standardization of measured values	Yes
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; 15 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; 16 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; 15 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	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 / 300 / 600 / 1 200 / 2 400 / 4 800
• Basic execution time of the module (all channels released)	1 ms
Smoothing of measured values	
• Number of levels	6; none; 2-/4-/8-/16-/32-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 full-scale), (+/-)	0.01 %
Temperature error (relative to full-scale), (+/-)	0.003 %/K
Crosstalk between the inputs, min.	-50 dB
Repeat accuracy in steady state at 25 °C (relative to full-scale), (+/-)	0.01 %
Operational error limit in overall temperature range	

• Voltage, relative to full-scale, (+/-)	0.1 %
• Current, relative to full-scale, (+/-)	0.1 %
Basic error limit (operational limit at 25 °C)	
• Voltage, relative to full-scale, (+/-)	0.05 %; 0.1 % at SFU 4.8 kHz
• Current, relative to full-scale, (+/-)	0.05 %; 0.1 % at SFU 4.8 kHz
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	
Isochronous operation (application synchronized up to terminal)	Yes
Filtering and processing time (TCI), min.	800 µs
Bus cycle time (TDP), min.	1 ms
Jitter, max.	5 µs

Interrupts/diagnostics/status information	
Diagnostics	Yes
Alarms	
• Diagnostic alarm	Yes
• Limit value alarm	Yes; two upper and two lower limit values in each case
Diagnostic messages	
• Monitoring the supply voltage	Yes
• Wire-break	Yes; Measuring range 4 to 20 mA only
• Short-circuit	Yes; channel-by-channel, at 1 to 5 V or for 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 different circuits	75 V DC/60 V AC (base isolation)
between the inputs (UCM)	75 V DC/60 V AC

Isolation

Isolation tested with	707 V DC (type test)
Dimensions	
Width	15 mm
Weights	
Weight, approx.	32 g

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