SIEMENS

Data sheet

6ES7134-6HB00-0CA1



SIMATIC ET 200SP, Analog input module, AI 2x U/I 2-.4-wire High Feat., suitable for BU type A0, A1, Color code CC05, channel diagnostics, 16 bit, +/-0.1%

General information		
Product type designation	AI 2xU/I 2-/4-wire HF	
HW functional status	From FS06	
Firmware version		
• 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	
Isochronous mode	Yes	
 Measuring range scalable 	No	
Engineering with		
STEP 7 TIA Portal configurable/integrated from version	V13	
 STEP 7 configurable/integrated from version 	V5.5 / -	
 PCS 7 configurable/integrated from version 	V8.1 SP1	
 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	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		
Automatic encoding	Yes	
Mechanical coding element	Yes	
Type of mechanical coding element	Туре А	
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	
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 κΩ	
• -5 V to +5 V	Yes; 16 bit incl. sign	
— Input resistance (-5 V to +5 V)	75 κΩ	
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	
Integration time (ms)	67.5 / 22.5 / 18.75 / 10 / 5 / 2.5 / 1.25 / 0.625 ms	
 Basic conversion time, including integration time (ms) 	68.03 / 22.83 / 19.03 / 10.28 / 5.23 / 2.68 / 1.43 / 0.730 ms	
Interference voltage suppression for interference frequency f1 in Hz	16.6 / 50 / 60 / 300 / 600 / 1 200 / 2 400 / 4 800	
Conversion time (per channel)	68.2 / 23 / 19.2 / 10.45 / 5.40 / 2.85 / 1.6 / 0.9 ms	
 Basic execution time of the module (all channels released) 	1 ms	
Smoothing of measured values		
 Number of smoothing 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 input range), (+/-)	0.01 %	

Crosstalk between the inputs, min.	-50 dB
Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)	0.01 %
Operational error limit in overall temperature range	
 Voltage, relative to input range, (+/-) 	0.1 %
 Current, relative to input range, (+/-) 	0.1 %
Basic error limit (operational limit at 25 °C)	
 Voltage, relative to input range, (+/-) 	0.05 %; 0.1 % at SFU 4.8 kHz
 Current, relative to input range, (+/-) 	0.05 %; 0.1 % at SFU 4.8 kHz
Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = inter	rference frequency
 Common mode voltage, max. 	35 V
Common mode interference, min.	90 dB
Isochronous mode	
Filtering and processing time (TCI), min.	800 µs
Bus cycle time (TDP), min.	1 ms
Jitter, max.	5 µs
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
Diagnostic alarm	Yes
Limit value alarm	Yes; two upper and two lower limit values in each case
Diagnoses	
 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 	Yes
electronics	
Isolation	
Isolation tested with	707 V DC (type test)
Ambient conditions	
Ambient temperature during operation	
 horizontal installation, min. 	-30 °C; < 0 °C as of FS06
 horizontal installation, max. 	0° 00
 vertical installation, min. 	-30 °C; < 0 °C as of FS06
 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
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