SIEMENS

Data sheet 6ES7134-6HB00-0CA1

Siemens EcoTech

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-coded label	CC03
Product function	
● I&M data	Yes; I&M0 to I&M3
● Isochronous mode	Yes; 250 µs
● 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	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
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
● 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 %
Temperature error (relative to input range), (+/-)	0.003 %/K
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 = interference 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 electronics	Yes
Isolation	
Isolation tested with	707 V DC (type test)
Standards, approvals, certificates	
Ecological footprint	
• environmental product declaration	Yes
Global warming potential	
— global warming potential, (total) [CO2 eq]	9.32 kg
— global warming potential, (during production) [CO2 eq]	4.97 kg
— global warming potential, (during operation) [CO2 eq]	4.79 kg
— global warming potential, (after end of life cycle) [CO2 eq]	-0.449 kg
Ambient conditions	
Ambient temperature during operation	
• horizontal installation, min.	-30 °C; < 0 °C as of FS06

● horizontal installation, max.	60 °C
● 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

Classifications

	Version	Classification
eClass	14	27-24-26-01
eClass	12	27-24-26-01
eClass	9.1	27-24-26-01
eClass	9	27-24-26-01
eClass	8	27-24-26-01
eClass	7.1	27-24-26-01
eClass	6	27-24-26-01
ETIM	10	EC001596
ETIM	9	EC001596
ETIM	8	EC001596
ETIM	7	EC001596
IDEA	4	3562
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval

Manufacturer Declaration | UKCA | CE EG-Konf. | Miscellaneous | China RoHS | UL

General Product Approval | **For use in hazardous locations**

KC | Metrological Approval | RCM | UL | CCC-Ex | FM

For use in hazardous locations | **Maritime application**

ATEX | IECEx | Miscellaneous | Type Examination Certificate | ABS | BUREAU VERITAS

Maritime application

DNV | LRS | NK / Nippon Kaiji Kyokai | RINA | RMRS | CCS (China Classification Society)

Maritime application | **Environment**

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