SIEMENS

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 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

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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
● 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