



SIMATIC ET 200SP HA, analog input module, AI 16xI 2-wire HA, suitable for terminal block, H1, P0, color code CC01, channel diagnostics

General information	
Product type designation	AI 16xI 2-wire HA
Firmware version	V1.0
• FW update possible	Yes
Usable terminal block	type H1, N0, H0 (see system manual for details)
Color code for module-specific color-coded label	CC01
Product function	
• I&M data	Yes; I&M0 to I&M3
Engineering with	
• STEP 7 TIA Portal configurable/integrated from version	V18
• STEP 7 configurable/integrated from version	V5.6
• PCS 7 configurable/integrated from version	V9.1 SP2
• PCS neo can be configured/integrated from version	V4.0
• PROFINET from GSD version/GSD revision	GSDML V2.42 2023.01
Operating mode	
• Oversampling	No
• MSI	No
Redundancy	
• Redundancy capability	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)	350 mA
Encoder supply	
Number of outputs	16
Output voltage (DC)	24 V
Output voltage, min.	19.2 V
Short-circuit protection	Yes
24 V encoder supply	
• 24 V	Yes
• Short-circuit protection	Yes; Per output, thermal
• Output current per channel, max.	46 mA
• Output current per module, max.	0.8 A

Power loss	
Power loss, typ.	0.6 W
Address area	
Address space per module	
• Address space per module, max.	34 byte; 32-byte inputs and 2 bytes for QI information
• Inputs	34 byte
Analog inputs	
Number of analog inputs	16
• For current measurement	16
permissible input current for current input (destruction limit), max.	30 mA
Cycle time (all channels), min.	400 ms
Input ranges (rated values), currents	
• 0 to 20 mA	Yes; 16 bit incl. sign
— Input resistance (0 to 20 mA)	250 Ω
• 4 mA to 20 mA	Yes; 16 bit incl. sign
— Input resistance (4 mA to 20 mA)	250 Ω
Cable length	
• shielded, max.	800 m
• unshielded, max.	200 m
Analog value generation for the inputs	
Measurement principle	integrating (Sigma-Delta)
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	16 bit; 15 bit at 0 ... 10 mA and 60 Hz interference suppression
• Integration time, parameterizable	Yes; channel by channel
• Integration time (ms)	16.6 / 20 / 100 ms
Smoothing of measured values	
• parameterizable	Yes; none, weak, medium, strong, channel-by-channel
Encoder	
Connection of signal encoders	
• for current measurement as 2-wire transducer	Yes
Errors/accuracies	
Linearity error (relative to input range), (+/-)	0.01 %
Temperature error (relative to input range), (+/-)	0.005 %/K
Crosstalk between the inputs, min.	60 dB
Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)	0.05 %
Operational error limit in overall temperature range	
• Current, relative to input range, (+/-)	0.5 %
Basic error limit (operational limit at 25 °C)	
• Current, relative to input range, (+/-)	0.3 %
Interrupts/diagnostics/status information	
Alarms	
• Diagnostic alarm	Yes
• Limit value alarm	No
Diagnoses	
• Monitoring the supply voltage	Yes
• Wire break	Yes; channel-by-channel, at 4 to 20 mA only
• Short-circuit	No
• Overflow/Underflow	Yes; channel by channel
Diagnostics indication LED	
• MAINT LED	Yes; Yellow 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	No

- between the channels and backplane bus
- Between the channels and load voltage L+
- between the channels and the power supply of the electronics

Yes
No
No

Isolation

Isolation tested with 1 500 V DC/1 min, type test

Ambient conditions

Ambient temperature during operation

- horizontal installation, min. -40 °C
- horizontal installation, max. 70 °C
- vertical installation, min. -40 °C
- vertical installation, max. 60 °C

Dimensions

Width 22.5 mm
Height 115 mm
Depth 138 mm

Weights

Weight, approx. 148 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

Approvals / Certificates

General Product Approval



General Product Approval

For use in hazardous locations



[Declaration of Conformity](#)



For use in hazardous locations

Maritime application



[Miscellaneous](#)



[CCS \(China Classification Society\)](#)

Environment



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