



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
Color code for module-specific color identification plate	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 analog inputs	
• between the channels	No
• between the channels and backplane bus	Yes

- Between the channels and load voltage L+ - between the channels and the power supply of the electronics	No																																				
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Potential separation channels																																					
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	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																																					
	<table><tr><td></td><td>Version</td><td>Classification</td></tr><tr><td>eClass</td><td>14</td><td>27-24-26-01</td></tr><tr><td>eClass</td><td>12</td><td>27-24-26-01</td></tr><tr><td>eClass</td><td>9.1</td><td>27-24-26-01</td></tr><tr><td>eClass</td><td>9</td><td>27-24-26-01</td></tr><tr><td>eClass</td><td>8</td><td>27-24-26-01</td></tr><tr><td>eClass</td><td>7.1</td><td>27-24-26-01</td></tr><tr><td>eClass</td><td>6</td><td>27-24-26-01</td></tr><tr><td>ETIM</td><td>10</td><td>EC001596</td></tr><tr><td>ETIM</td><td>9</td><td>EC001596</td></tr><tr><td>ETIM</td><td>8</td><td>EC001596</td></tr><tr><td>ETIM</td><td>7</td><td>EC001596</td></tr></table>		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
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