

Siemens
EcoTech



SIMATIC ET 200SP, Analog input module, AI 2xI 2-/4-wire Standard, Pack quantity: 1 unit, suitable for BU type A0, A1, Color code CC05, Module diagnostics, 16 bit

General information	
Product type designation	AI 2xI 2-/4-wire ST
HW functional status	FS22 or higher
Firmware version	V2.0.0
• FW update possible	Yes
usable BaseUnits	BU type A0, A1
Color code for module-specific color-coded label	CC05
Product function	
• I&M data	Yes; I&M0 to I&M3
• Isochronous mode	No
• Measuring range scalable	No
Engineering with	
• STEP 7 TIA Portal configurable/integrated from version	V21 HSP0492 / integrated as of V21.1
• STEP 7 configurable/integrated from version	V5.7 SP3 HF3 with HSP0348 V2.0 / integrated as of V5.8
• PROFIBUS from GSD version/GSD revision	One GSD file each, Revision 3 and 5 and higher
• PROFINET from GSD version/GSD revision	GSDML V2.45
Operating mode	
• Oversampling	No
• MSI	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)	37.5 mA
Current consumption, max.	245 mA
Encoder supply	
24 V encoder supply	
• 24 V	Yes
• Short-circuit protection	Yes
• Output current, max.	50 mA; Total current for both channels (two-wire)
Additional 24 V encoder supply	

• 24 V • Short-circuit protection • Output current, max.	Yes Yes; module-wise 200 mA; Total current for both channels (four-wire)
Power loss	
Power loss, typ.	0.9 W
Address area	
Address space per module	
• Address space per module, max.	4 byte; + 1 byte for QI information
Hardware configuration	
Automatic encoding	Yes
• Mechanical coding element • Type of mechanical coding element	Yes Type A
Selection of BaseUnit for connection variants	
• 1-wire connection • 2-wire connection • 4-wire connection	BU type A0, A1 BU type A0, A1 BU type A0, A1
Analog inputs	
Number of analog inputs	2
• For current measurement	2
permissible input current for current input (destruction limit), max.	50 mA
Cycle time (all channels), min.	500 µs
Input ranges (rated values), currents	
• 0 to 20 mA — Input resistance (0 to 20 mA) • -20 mA to +20 mA — Input resistance (-20 mA to +20 mA) • 4 mA to 20 mA — Input resistance (4 mA to 20 mA)	Yes; 15 bit 130 Ω; 90 ohms with two wires Yes; 16 bit incl. sign 130 Ω Yes; 15 bit 130 Ω; 90 ohms with two wires
Cable length	
• shielded, max.	1 000 m
Analog value generation for the inputs	
Measurement principle	Sigma Delta
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max. • Integration time, parameterizable • Interference voltage suppression for interference frequency f1 in Hz • Conversion time (per channel)	16 bit Yes 16.6 / 50 / 60 Hz / off 50 ms @ 60 Hz, 60 ms @ 50 Hz, 180 ms @ 16.6 Hz, 500 µs without filter
Smoothing of measured values	
• Number of smoothing levels • parameterizable • Step: None • Step: low • Step: Medium • Step: High	4 Yes Yes; 1x conversion time Yes; 4x conversion time Yes; 8x conversion time Yes; 16x conversion time
Encoder	
Connection of signal encoders	
• for current measurement as 2-wire transducer — Burden of 2-wire transmitter, max. • for current measurement as 4-wire transducer	Yes 650 Ω 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.	-50 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 %
Interference voltage suppression for $f = n \times (f_1 \pm 1 \%)$, f_1 = interference frequency	
• Series mode interference (peak value of interference < rated value of input range), min.	70 dB
• Common mode voltage, max.	10 V
• Common mode interference, min.	90 dB
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
• Diagnostic alarm	Yes
• Limit value alarm	No
Diagnoses	
• Monitoring the supply voltage	Yes
• Wire break	Yes; at 4 to 20 mA
• Short-circuit	Yes; Short-circuit of the 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	No
• for module diagnostics	Yes; green/red DIAG LED
Potential separation	
Potential separation channels	
• between the channels	No
• between the channels and backplane bus	Yes
• between the channels and the power supply of the electronics	Yes
Permissible potential difference	
between the inputs (UCM)	10 Vpp
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
Security	
signed firmware update	Yes; firmware V2.0.0 or higher
Ambient conditions	
Ambient temperature during operation	
• horizontal installation, min.	-30 °C; < 0 °C as of FS04
• horizontal installation, max.	60 °C
• vertical installation, min.	-30 °C; < 0 °C as of FS04
• 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
Absolute humidity	
• dew point, min.	-60 °C; suitable for dry room applications
Dimensions	
Width	15 mm
Height	73 mm
Depth	58 mm

Weights			
Weight, approx.		32 g	
Classifications			
		Version	Classification
	eClass	16	27-24-26-01
	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			
Miscellaneous	Manufacturer Declaration	 EG-Konf.	  UL 
General Product Approval			
Metrological Approval	 RCM	  EG-Konf.	 China RoHS
For use in hazardous locations			
 UL	CCC-Ex	FM	 ATEX  IECEX Type Examination Certificate
For use in hazardous locations		Maritime application	
Miscellaneous	CCC-Ex	 ABS  BUREAU VERITAS  DNV  LRS	
Maritime application			Environment
NK / Nippon Kaiji Kyokai	 RINA  RMRS	CCS (China Classification Society)	KR (Korean Register of Shipping)  EPD
Environment			

last modified:

3/30/2026 