



SIMATIC ET 200SP, Analog input module, AI 2 X SG 4-/6-wire High Speed, two-channel analog input module for strain gauges (full bridges), Color code CC00, Module diagnostics 28/16 bit, 2xLC load cell interface (1-4mV/V), suitable for BU type A0, packing quantity: 1 unit

General information	
Product type designation	AI 2xSG 4-/6-wire HS
HW functional status	01
Firmware version	V1.0.1
• FW update possible	Yes
usable BaseUnits	BU type A0
Color code for module-specific color identification plate	CC00
Product function	
• I&M data	Yes; I&M0 to I&M3
• Isochronous mode	Yes
• Measuring range scalable	Yes
• Scalable measured values	No
• Adjustment of measuring range	Yes; $\pm 0.5 \dots 320 \text{ mV/V}$
Engineering with	
• STEP 7 TIA Portal configurable/integrated from version	V14 SP1
• STEP 7 configurable/integrated from version	V5.6
• PROFIBUS from GSD version/GSD revision	V03.01.105
• PROFINET from GSD version/GSD revision	GSDML V2.33
Operating mode	
• Oversampling	Yes; 2 channels per module
• 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)	70 mA
Encoder supply	
Output voltage (DC)	4.85 V
Short-circuit protection	Yes
Output current	
• Rated value	60 mA; Per channel
Power	
Power consumption from the backplane bus	65 mW
Power loss	

Power loss, typ.	1.5 W
Address area	
Address space per module	
• Address space per module, max.	32 byte
• Inputs	32 byte
• Outputs	8 byte
Hardware configuration	
Automatic encoding	Yes
• Mechanical coding element	Yes
• Type of mechanical coding element	Type A
Analog inputs	
Number of analog inputs	2; Differential inputs
Cycle time (all channels), min.	100 µs
Analog input with oversampling	Yes
• Values per cycle, max.	14
• Resolution, min.	100 µs
Input ranges	
• Strain gauges (full bridges)	Yes
Cable length	
• shielded, max.	500 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.	28 bit; 16 bits with oversampling
• Integration time, parameterizable	Yes
• Interference voltage suppression for interference frequency f1 in Hz	60 / 50 Hz / no
• Conversion time (per channel)	100 µs
Smoothing of measured values	
• IIR low-pass filter frequency	0.01 ... 600 Hz
• IIR low-pass filter ordinal number	1 ... 4
• Notch filter frequency	0.1 ... 1 000 Hz
• Notch filter quality	5.00 ... 250.00
• Average value filter	0.1 ... 655.3 ms
Encoder	
Connection of signal encoders	
• For strain gauges (full bridges) with 4-conductor connection	Yes
• For strain gauges (full bridges) with 6-conductor connection	Yes
• Resistance of full bridge, min.	80 Ω
• Resistance of full bridge, max.	5 000 Ω
Errors/accuracies	
Linearity error (relative to input range), (+/-)	0.025 %
Temperature error (relative to input range), (+/-)	0.0005 %/°C; Strain gauge full bridge, 6-conductor connection
Temperature coefficient, zero point	≤ ±0.25 µV/K
Temperature coefficient, span, 4-wire connection (in relation to end value)	≤ ±5 ppm/K
Temperature coefficient, span, 6-wire connection (in relation to end value)	≤ ±10 ppm/K
Basic error limit (operational limit at 25 °C)	
• Voltage, relative to input range, (+/-)	0.05 %; See manual for details
Isochronous mode	
Filtering and processing time (TCI), min.	87 µs
Bus cycle time (TDP), min.	125 µs
Interrupts/diagnostics/status information	
Diagnostics function	Yes; Diagnostic alarm
Alarms	
• Diagnostic alarm	Yes; Parameterizable
• Limit value alarm	Yes; two upper and two lower limit values in each case

Diagnoses			
Monitoring the supply voltage	Yes		
Wire-break	Yes		
Short-circuit	Yes		
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	No		
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]	42.65 kg		
— global warming potential, (during production) [CO2 eq]	4.6 kg		
— global warming potential, (during operation) [CO2 eq]	38 kg		
— global warming potential, (after end of life cycle) [CO2 eq]	0.05 kg		
Ambient conditions			
Ambient temperature during operation			
horizontal installation, min.	-25 °C		
horizontal installation, max.	60 °C		
vertical installation, min.	-25 °C		
vertical installation, max.	50 °C		
Altitude during operation relating to sea level			
Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 1 K/100 m) at 795 hPa ... 701 hPa (+2 000 m ... +3 000 m)		
Dimensions			
Width	15 mm		
Height	73 mm		
Depth	58 mm		
Weights			
Weight, approx.	30 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



[China RoHS](#)



[KC](#)



For use in hazardous locations

Environment

[EM](#)



[Miscellaneous](#)



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