

SIMATIC ET 200SP, ANALOG INPUT MODULE, AI 2XU
STANDARD PACKING UNIT: 1 PIECE, FITS TO BU-TYPE A0, A1,
COLOR CODE CC00, MODULE DIAGNOSIS, 16BIT



General information	
Product type designation	ET 200SP, AI 2xU Standard
Firmware version	V1.0
• FW update possible	Yes
usable BaseUnits	BU type A0, A1
Color code for module-specific color identification plate	CC00
Product function	
• I&M data	Yes; I&M0 to I&M3
• Measuring range scalable	No
Engineering with	
• STEP 7 TIA Portal configurable/integrated as of version	V13 SP1
• STEP 7 configurable/integrated as of version	V5.5 SP3 / -
• PROFIBUS as of GSD version/GSD revision	GSD Revision 5
• PROFINET as of GSD version/GSD revision	GSDML V2.3
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, max.	37 mA
Encoder supply	
24 V encoder supply	
• 24 V	No
Additional 24 V encoder supply	
• 24 V	No
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
Analog inputs	
Number of analog inputs	2
permissible input voltage for voltage input (destruction limit), max.	30 V
Cycle time (all channels), min.	500 µs
Input ranges (rated values), voltages	
• 0 to +10 V	Yes; 15 bit
• Input resistance (0 to 10 V)	180 kΩ
• 1 V to 5 V	Yes; 15 bit
• Input resistance (1 V to 5 V)	180 kΩ
• -10 V to +10 V	Yes; 16 bit incl. sign
• Input resistance (-10 V to +10 V)	180 kΩ
• -5 V to +5 V	Yes; 16 bit incl. sign
• Input resistance (-5 V to +5 V)	180 kΩ
Cable length	
• shielded, max.	200 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, 250 µs without filter
Smoothing of measured values	
• Number of smoothing levels • parameterizable • Step: None • Step: low • Step: Medium • Step: High	4 Yes Yes; 1 x cycle time Yes; 4 x cycle time Yes; 8 x cycle time Yes; 16 x cycle time
Encoder	
Connection of signal encoders	
• for voltage measurement	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	
• Voltage, relative to input range, (+/-)	0.5 %
Basic error limit (operational limit at 25 °C)	
• Voltage, 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. • Common mode voltage, max. • Common mode interference, min.	70 dB 10 V 90 dB
Isochronous mode	
Isochronous operation (application synchronized up to terminal)	No
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
• Diagnostic alarm • Limit value alarm	Yes No
Diagnostic messages	

• Monitoring the supply voltage • Wire-break • Short-circuit • Group error • Overflow/underflow	Yes No Yes; at 1 to 5 V Yes Yes
Diagnostics indication LED	
• Monitoring of the supply voltage (PWR-LED) • Channel status display • for channel diagnostics • for module diagnostics	Yes; green PWR LED Yes; Green LED No Yes; green/red DIAG LED
Potential separation	
Potential separation channels	
• between the channels • between the channels and backplane bus • between the channels and the power supply of the electronics	No Yes Yes
Permissible potential difference	
between the inputs (UCM)	10 Vpp
Isolation	
Isolation tested with	707 V DC (type test)
Dimensions	
Width	15 mm
Height	73 mm
Depth	58 mm
Weights	
Weight, approx.	31 g
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