

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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