



SIMATIC ET 200SP, Analog output module, AQ 4xU/I Standard, suitable for BU type A0, A1, Color code CC00, Module diagnostics, 16 bit, +/-0.3%

General information	
Product type designation	AQ 4xU/I ST
HW functional status	from FS21
Firmware version	
• 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
• Isochronous mode	No
• Output range scalable	No
Engineering with	
• STEP 7 TIA Portal configurable/integrated from version	V11 SP2 / V13
• STEP 7 configurable/integrated from version	V5.5 SP3 / -
• PCS 7 configurable/integrated from version	V8.1 SP1
• PROFIBUS from GSD version/GSD revision	One GSD file each, Revision 3 and 5 and higher
• PROFINET from GSD version/GSD revision	GSDML V2.3
Operating mode	
• Oversampling	No
• MSO	No
CiR - Configuration in RUN	
Reparameterization possible in RUN	No
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.	150 mA
Power loss	
Power loss, typ.	1.5 W
Address area	
Address space per module	
• Address space per module, max.	8 byte; + 1 byte for QI information
Hardware configuration	
Automatic encoding	Yes
• Mechanical coding element	Yes
• Type of mechanical coding element	Type A
Analog outputs	

Number of analog outputs	4
Voltage output, short-circuit current, max.	45 mA
Cycle time (all channels), min.	5 ms
Analog output with oversampling	No
Output ranges, voltage	
• 0 to 10 V	Yes; 15 bit
• 1 V to 5 V	Yes; 13 bit
• -5 V to +5 V	Yes; 15 bit incl. sign
• -10 V to +10 V	Yes; 16 bit incl. sign
Output ranges, current	
• 0 to 20 mA	Yes; 15 bit
• -20 mA to +20 mA	Yes; 16 bit incl. sign
• 4 mA to 20 mA	Yes; 14 bit
Connection of actuators	
• for voltage output two-wire connection	Yes
• for voltage output four-wire connection	Yes
• for current output two-wire connection	Yes
Load impedance (in rated range of output)	
• with voltage outputs, min.	2 k Ω
• with voltage outputs, capacitive load, max.	1 μ F
• with current outputs, max.	500 Ω
• with current outputs, inductive load, max.	1 mH
Destruction limits against externally applied voltages and currents	
• Voltages at the outputs	30 V
Cable length	
• shielded, max.	1 000 m; 200 m for voltage output
Analog value generation for the outputs	
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	16 bit
Settling time	
• for resistive load	0.1 ms
• for capacitive load	1 ms
• for inductive load	0.5 ms
Errors/accuracies	
Linearity error (relative to output range), (+/-)	0.03 %
Temperature error (relative to output range), (+/-)	0.005 %/K
Crosstalk between the outputs, min.	-50 dB
Repeat accuracy in steady state at 25 °C (relative to output range), (+/-)	0.05 %
Operational error limit in overall temperature range	
• Voltage, relative to output range, (+/-)	0.5 %
• Current, relative to output range, (+/-)	0.5 %
Basic error limit (operational limit at 25 °C)	
• Voltage, relative to output range, (+/-)	0.3 %
• Current, relative to output range, (+/-)	0.3 %
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Substitute values connectable	Yes
Alarms	
• Diagnostic alarm	Yes
Diagnoses	
• Monitoring the supply voltage	Yes
• Wire-break	Yes
• Short-circuit	Yes
• Group error	Yes
• Overflow/underflow	Yes; Module-wise
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			
Isolation					
Isolation tested with		707 V DC (type test)			
Ambient conditions					
Ambient temperature during operation					
• horizontal installation, min.		-30 °C; < 0 °C as of FS07			
• horizontal installation, max.		60 °C; Observe derating			
• vertical installation, min.		-30 °C; < 0 °C as of FS07			
• vertical installation, max.		50 °C; Observe derating			
Altitude during operation relating to sea level					
• Installation altitude above sea level, max.		5 000 m; restrictions for installation altitudes > 2 000 m, see ET 200SP system manual			
Dimensions					
Width		15 mm			
Height		73 mm			
Depth		58 mm			
Weights					
Weight, approx.		31 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	9	EC001596		
	ETIM	8	EC001596		
	ETIM	7	EC001596		
	IDEA	4	3562		
	UNSPSC	15	32-15-17-05		
Approvals / Certificates					
General Product Approval					
 EG-Konf.		Manufacturer Declaration	 UL	KC	
For use in hazardous locations					
FM	Miscellaneous	 ATEX	 IECEx		
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