



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	V1.1.3
• 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
<b>Output ranges, voltage</b>	
• 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
<b>Output ranges, current</b>	
• 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
<b>Connection of actuators</b>	
• for voltage output two-wire connection	Yes
• for voltage output four-wire connection	Yes
• for current output two-wire connection	Yes
<b>Load impedance (in rated range of output)</b>	
• with voltage outputs, min.	2 kΩ
• with voltage outputs, capacitive load, max.	1 μF
• with current outputs, max.	500 Ω
• with current outputs, inductive load, max.	1 mH
<b>Destruction limits against externally applied voltages and currents</b>	
• Voltages at the outputs	30 V
<b>Cable length</b>	
• shielded, max.	1 000 m; 200 m for voltage output
<b>Analog value generation for the outputs</b>	
<b>Integration and conversion time/resolution per channel</b>	
• Resolution with overrange (bit including sign), max.	16 bit
<b>Settling time</b>	
• for resistive load	0.1 ms
• for capacitive load	1 ms
• for inductive load	0.5 ms
<b>Errors/accuracies</b>	
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 %
<b>Operational error limit in overall temperature range</b>	
• Voltage, relative to output range, (+/-)	0.5 %
• Current, relative to output range, (+/-)	0.5 %
<b>Basic error limit (operational limit at 25 °C)</b>	
• Voltage, relative to output range, (+/-)	0.3 %
• Current, relative to output range, (+/-)	0.3 %
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes
Substitute values connectable	Yes
<b>Alarms</b>	
• Diagnostic alarm	Yes
<b>Diagnoses</b>	
• Monitoring the supply voltage	Yes
• Wire-break	Yes; module-by-module, only for output type "current"
• Short-circuit	Yes; module-by-module, only for output type "voltage"
• Group error	Yes
• Overflow/underflow	Yes; Module-wise
<b>Diagnostics indication LED</b>	
• 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																																								
<ul style="list-style-type: none"> <li>• between the channels</li> <li>• between the channels and backplane bus</li> <li>• between the channels and the power supply of the electronics</li> </ul>	No Yes Yes																																							
Isolation																																								
Isolation tested with	707 V DC (type test)																																							
Ambient conditions																																								
Ambient temperature during operation																																								
<ul style="list-style-type: none"> <li>• horizontal installation, min.</li> <li>• horizontal installation, max.</li> <li>• vertical installation, min.</li> <li>• vertical installation, max.</li> </ul>	-30 °C; < 0 °C as of FS07 60 °C; Observe derating -30 °C; < 0 °C as of FS07 50 °C; Observe derating																																							
Altitude during operation relating to sea level																																								
<ul style="list-style-type: none"> <li>• Installation altitude above sea level, max.</li> </ul>	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																																								
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### Approvals / Certificates

#### General Product Approval



[Miscellaneous](#)

[Manufacturer Declaration](#)



[Metrological Approval](#)

#### General Product Approval

#### For use in hazardous locations

[KC](#)



[FM](#)

[CCC-Ex](#)



#### For use in hazardous locations

#### Maritime application



IECEX

[Miscellaneous](#)



ABS



DNV



LRS

Maritime application

Environment

[NK / Nippon Kaiji Kyokai](#)



RINA



RMRS

[CCS \(China Classification Society\)](#)



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