

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 FS07
usable BaseUnits	BU type A0, A1
Color code for module-specific color identification plate	CC00
Product function	
<ul style="list-style-type: none"> I&M data 	Yes; I&M0 to I&M3
<ul style="list-style-type: none"> Output range scalable 	No
Engineering with	
<ul style="list-style-type: none"> STEP 7 TIA Portal configurable/integrated as of version 	V11 SP2 / V13
<ul style="list-style-type: none"> STEP 7 configurable/integrated as of version 	V5.5 SP3 / -
<ul style="list-style-type: none"> PCS 7 configurable/integrated as of version 	V8.1 SP1
<ul style="list-style-type: none"> PROFIBUS as of GSD version/GSD revision 	One GSD file each, Revision 3 and 5 and higher
<ul style="list-style-type: none"> PROFINET as of GSD version/GSD revision 	GSDML V2.3
Operating mode	
<ul style="list-style-type: none"> Oversampling 	No
<ul style="list-style-type: none"> MSO 	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.	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

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
Diagnostic messages	
• 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	No
• for module diagnostics	Yes; green/red DIAG LED
Potential separation	
Potential separation channels	
• between the channels	No

- between the channels and backplane bus
- between the channels and the power supply of the electronics

Yes

Yes

Isolation

Isolation tested with 707 V DC (type test)

Ambient conditions

Ambient temperature during operation

- horizontal installation, min. -30 °C
- horizontal installation, max. 60 °C; Observe derating
- vertical installation, min. -30 °C
- vertical installation, max. 50 °C; Observe derating

Altitude during operation relating to sea level

- Installation altitude above sea level, max. 2 000 m; On request: Installation altitudes greater than 2 000 m

Dimensions

Width 15 mm

Height 73 mm

Depth 58 mm

Weights

Weight, approx. 31 g

last modified: 04/17/2020