



SIMATIC ET 200SP, ANALOG OUTPUT MODULE, AQ 2 X U/I HIGH SPEED, FITS TO BU-TYPE A0, A1, COLOR CODE CC00, CHANNEL DIAGNOSIS, 16BIT, +/-0,3%

Product type designation	
General information	
Firmware version	V1.1
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
Engineering with	
• STEP 7 TIA Portal can be configured/integrated as of version	V12 SP1 / V13
• STEP 7 can be configured/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	Yes
— Values per cycle max.	16
— Resolution min.	250 µs
CiR - Configuration in RUN	
Reparameterization possible in RUN	Yes
Calibration possible in RUN	Yes
Supply voltage	
Rated value (DC)	24 V

permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
Input current	
Current consumption (rated value)	45 mA; without load
Power losses	
Power loss, typ.	0.9 W
Address area	
Address space per module	
• Address space per module, max.	4 byte; + 1 byte for QI information (32 bytes in the oversampling operating mode)
Analog outputs	
Number of analog outputs	2
Voltage output, short-circuit protection	Yes
Voltage output, short-circuit current, max.	45 mA
Cycle time (all channels), min.	125 µs
Output ranges, voltage	
• 0 to 10 V	Yes; 15 bit
• 1 to 5 V	Yes; 13 bit
• -5 to +5 V	Yes; 15 bit incl. sign
• -10 to +10 V	Yes; 16 bit incl. sign
Output ranges, current	
• 0 to 20 mA	Yes; 15 bit
• -20 to +20 mA	Yes; 16 bit incl. sign
• 4 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 kΩ
• with voltage outputs, capacitive load, max.	1 µF
• 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	
• Cable length, shielded, max.	200 m
Analog value creation	
Integration and conversion time/resolution per channel	
Settling time	

• for resistive load	0.05 ms
• for capacitive load	0.05 ms
• for inductive load	0.05 ms

Errors/accuracies

Output ripple (based on output area, bandwidth 0 to 50 kHz), (+/-)	0.02 %
Linearity error (relative to output range), (+/-)	0.03 %
Temperature error (relative to output range), (+/-)	0.003 %/K
Crosstalk between the outputs, max.	-50 dB
Repeat accuracy in steady state at 25 °C (relative to output area), (+/-)	0.03 %
Operational limit in overall temperature range	
• Voltage, relative to output area, (+/-)	0.2 %
• Current, relative to output area, (+/-)	0.2 %
Basic error limit (operational limit at 25 °C)	
• Voltage, relative to output area, (+/-)	0.1 %
• Current, relative to output area, (+/-)	0.1 %

Isochronous mode

Isochronous operation (application synchronized up to terminal)	Yes
Execution and activation time (TCO), min.	130 µs
Bus cycle time (TDP), min.	250 µs

Interrupts/diagnostics/status information

Substitute values connectable	Yes
Alarms	
• Diagnostic alarm	Yes
Diagnostic messages	
• Diagnostics	Yes
• Monitoring the supply voltage	Yes
• Wire break	Yes; channel-by-channel, only for output type "current"
• Short circuit	Yes; channel-by-channel, only for output type "voltage"
• 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	Yes; Red LED
• for module diagnostics	Yes; green/red DIAG LED

Galvanic isolation

Electrical isolation channels	
• between the channels	No
• between the channels and the backplane bus	Yes

- between the channels and the supply voltage of the electronics

Yes

Permissible potential difference

between different circuits

75 V DC/60 V AC (base isolation)

Isolation

Isolation checked with

707 V DC (type test)

Ambient conditions

Operating temperature

- horizontal installation, min.
- horizontal installation, max.
- vertical installation, min.
- vertical installation, max.

0 °C

60 °C

0 °C

50 °C

Extended ambient conditions

Relative humidity

Resistance

Connection method

ET-Connection

Dimensions

Width

15 mm

Weights

Weight, approx.

31 g

last modified:

13.12.2014