



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	
<ul style="list-style-type: none"> I&M data 	Yes; I&M0 to I&M3
Engineering with	
<ul style="list-style-type: none"> STEP 7 TIA Portal can be configured/integrated as of version 	V12 SP1 / V13
<ul style="list-style-type: none"> STEP 7 can be configured/integrated as of version 	V5.5 SP3 / -
<ul style="list-style-type: none"> PROFIBUS as of GSD version/GSD revision 	GSD Revision 5
<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 	Yes; 1 channel per module
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	
<ul style="list-style-type: none"> 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 μ s
Output ranges, voltage	
<ul style="list-style-type: none"> 0 to 10 V 1 V to 5 V -5 V to +5 V -10 V to +10 V 	Yes; 15 bit Yes; 13 bit Yes; 15 bit incl. sign Yes; 16 bit incl. sign
Output ranges, current	
<ul style="list-style-type: none"> 0 to 20 mA -20 mA to +20 mA 4 mA to 20 mA 	Yes; 15 bit Yes; 16 bit incl. sign Yes; 14 bit
Connection of actuators	
<ul style="list-style-type: none"> for voltage output two-wire connection for voltage output four-wire connection for current output two-wire connection 	Yes Yes Yes
Load impedance (in rated range of output)	
<ul style="list-style-type: none"> with voltage outputs, min. with voltage outputs, capacitive load, max. with current outputs, max. with current outputs, inductive load, max. 	2 k Ω 1 μ F 500 Ω 1 mH
Destruction limits against externally applied voltages and currents	
<ul style="list-style-type: none"> Voltages at the outputs 	30 V
Cable length	
<ul style="list-style-type: none"> shielded, max. 	200 m
Analog value generation for the outputs	
Integration and conversion time/resolution per channel	
<ul style="list-style-type: none"> Resolution with overrange (bit including sign), max. 	16 bit
Settling time	
<ul style="list-style-type: none"> 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
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

Ambient temperature in operation

- horizontal installation, min. 0 °C
- horizontal installation, max. 60 °C
- vertical installation, min. 0 °C
- vertical installation, max. 50 °C

Dimensions

Width 15 mm

Weights

Weight, approx. 31 g

last modified: 12.03.2015