



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%

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
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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	
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), (+/-)	0.0030 %/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	
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
Status	Nov 30, 2014