SIEMENS

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	
Product type designation	ET 200SP, AQ 2xU/I High Speed
Firmware version	V2.0.1
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 configurable/integrated as of version	V13 SP1
• STEP 7 configurable/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; 2 channels per module
• MSO	No
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
Reverse polarity protection	Yes

Input current

Current consumption (rated value)	45 mA; without load

Power loss

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
Analog output with oversampling	Yes
• Values per cycle, max.	16
• Resolution, min.	45 µs; (2 channels), 35 µs (1 channel)

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 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	
• shielded, max.	1 000 m; 200 m for voltage output

Analog value generation for the outputs

Settling time	
• for resistive load	0.05 ms
• for capacitive load	0.05 ms; Max. 47 nF and 20 m cable length
• for inductive load	0.05 ms

Errors/accuracies

Output ripple (relative to output range, 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 range), (+/-)	0.03 %
Operational error limit in overall temperature range	
• Voltage, relative to output range, (+/-)	0.2 %
• Current, relative to output range, (+/-)	0.2 %
Basic error limit (operational limit at 25 °C)	
• Voltage, relative to output range, (+/-)	0.1 %
• Current, relative to output range, (+/-)	0.1 %

Isochronous mode

Isochronous operation (application synchronized up to terminal)	Yes
Execution and activation time (TCO), min.	70 µs
Bus cycle time (TDP), min.	125 µs

Interrupts/diagnostics/status information

Diagnostics	Yes
Substitute values connectable	Yes
Alarms	
• Diagnostic alarm	Yes
Diagnostic messages	
• 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"
• 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	Yes; Red LED
● for module diagnostics	Yes; green/red DIAG LED

Potential separation

Potential separation channels

● between the channels	No
● between the channels and backplane bus	Yes
● between the channels and the power supply of the electronics	Yes

Permissible potential difference

between different circuits	75 V DC/60 V AC (base isolation)

Isolation

Isolation tested with	707 V DC (type test)

Ambient conditions

Ambient temperature during 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:	14.05.2016

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