



SIMATIC ET 200SP, Analog output module, AQ 2xI Standard, Pack quantity: 1 unit, suitable for BU type A0, A1, Color code CC00, Module diagnostics, 16 bit

| General information                                      |                                     |
|----------------------------------------------------------|-------------------------------------|
| Product type designation                                 | AQ 2xI ST                           |
| HW functional status                                     | from FS21                           |
| Firmware version                                         | V1.0.2                              |
| • FW update possible                                     | Yes                                 |
| usable BaseUnits                                         | BU type A0, A1                      |
| Color code for module-specific color-coded label         | CC00                                |
| Product function                                         |                                     |
| • I&M data                                               | Yes; I&M0 to I&M3                   |
| • Isochronous mode                                       | No                                  |
| • Output range scalable                                  | No                                  |
| Engineering with                                         |                                     |
| • STEP 7 TIA Portal configurable/integrated from version | V13 SP1 / -                         |
| • STEP 7 configurable/integrated from version            | V5.5 SP3 / -                        |
| • PROFIBUS from GSD version/GSD revision                 | GSD Revision 5                      |
| • PROFINET from GSD version/GSD revision                 | GSDML V2.3                          |
| Operating mode                                           |                                     |
| • Oversampling                                           | No                                  |
| • MSO                                                    | No                                  |
| CiR - Configuration in RUN                               |                                     |
| Reparameterization possible in RUN                       | No                                  |
| 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.                                | 110 mA                              |
| Power loss                                               |                                     |
| Power loss, typ.                                         | 1.5 W                               |
| Address area                                             |                                     |
| Address space per module                                 |                                     |
| • Address space per module, max.                         | 4 byte; + 1 byte for QI information |
| Hardware configuration                                   |                                     |
| Automatic encoding                                       | Yes                                 |
| • Mechanical coding element                              | Yes                                 |
| • Type of mechanical coding element                      | Type A                              |
| Analog outputs                                           |                                     |

|                                                                            |                         |
|----------------------------------------------------------------------------|-------------------------|
| Number of analog outputs                                                   | 2                       |
| Cycle time (all channels), min.                                            | 1 ms                    |
| Analog output with oversampling                                            | No                      |
| 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 current output two-wire connection                                   | Yes                     |
| Load impedance (in rated range of output)                                  |                         |
| • 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                 |
| 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; Typical value   |
| • 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                     |
| Diagnoses                                                                  |                         |
| • Monitoring the supply voltage                                            | Yes                     |
| • Wire break                                                               | Yes                     |
| • Group error                                                              | Yes                     |
| • Overflow/Underflow                                                       | Yes; module-wise        |
| 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                                   | Yes                     |
| • between the channels and the power supply of the electronics             | Yes                     |
| Isolation                                                                  |                         |
| Isolation tested with                                                      | 707 V DC (type test)    |
| Standards, approvals, certificates                                         |                         |
| Ecological footprint                                                       |                         |

|                                                                |           |
|----------------------------------------------------------------|-----------|
| • environmental product declaration                            | Yes       |
| <b>Global warming potential</b>                                |           |
| — global warming potential, (total) [CO2 eq]                   | 28.6 kg   |
| — global warming potential, (during production) [CO2 eq]       | 5.33 kg   |
| — global warming potential, (during operation) [CO2 eq]        | 23.6 kg   |
| — global warming potential, (after end of life cycle) [CO2 eq] | -0.343 kg |

#### Ambient conditions

|                                                        |                                                                                        |
|--------------------------------------------------------|----------------------------------------------------------------------------------------|
| <b>Ambient temperature during operation</b>            |                                                                                        |
| • horizontal installation, min.                        | -30 °C; < 0 °C as of FS03                                                              |
| • horizontal installation, max.                        | 60 °C                                                                                  |
| • vertical installation, min.                          | -30 °C; < 0 °C as of FS03                                                              |
| • vertical installation, max.                          | 50 °C                                                                                  |
| <b>Altitude during operation relating to sea level</b> |                                                                                        |
| • Installation altitude above sea level, max.          | 5 000 m; restrictions for installation altitudes > 2 000 m, see ET 200SP System Manual |
| <b>Absolute humidity</b>                               |                                                                                        |
| • dew point, min.                                      | -60 °C; suitable for dry room applications                                             |

#### Dimensions

|        |       |
|--------|-------|
| Width  | 15 mm |
| Height | 73 mm |
| Depth  | 58 mm |

#### Weights

|                 |      |
|-----------------|------|
| Weight, approx. | 31 g |
|-----------------|------|

#### Classifications

|        | Version | Classification |
|--------|---------|----------------|
| eClass | 14      | 27-24-26-01    |
| eClass | 12      | 27-24-26-01    |
| eClass | 9.1     | 27-24-26-01    |
| eClass | 9       | 27-24-26-01    |
| eClass | 8       | 27-24-26-01    |
| eClass | 7.1     | 27-24-26-01    |
| eClass | 6       | 27-24-26-01    |
| ETIM   | 10      | EC001596       |
| ETIM   | 9       | EC001596       |
| ETIM   | 8       | EC001596       |
| ETIM   | 7       | EC001596       |
| IDEA   | 4       | 3562           |
| UNSPSC | 15      | 32-15-17-05    |

#### Approvals / Certificates

|                                 |                          |
|---------------------------------|--------------------------|
| <b>General Product Approval</b> | <b>Test Certificates</b> |
|---------------------------------|--------------------------|



[Type Test Certificates/Test Report](#)

|                          |              |                    |
|--------------------------|--------------|--------------------|
| <b>Test Certificates</b> | <b>other</b> | <b>Environment</b> |
|--------------------------|--------------|--------------------|

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