



SIMATIC S7-400, analog output SM 432, isolated 8 AO; resolution 13 bit, U/I

| Supply voltage                                         |                                                                            |
|--------------------------------------------------------|----------------------------------------------------------------------------|
| Load voltage L+                                        |                                                                            |
| • Rated value (DC)                                     | 24 V                                                                       |
| • Reverse polarity protection                          | Yes                                                                        |
| Input current                                          |                                                                            |
| from supply and load voltage L+ (without load), max.   | 200 mA; at rated load: max. 400 mA                                         |
| from backplane bus 5 V DC, max.                        | 150 mA                                                                     |
| Power loss                                             |                                                                            |
| Power loss, typ.                                       | 9 W                                                                        |
| Analog outputs                                         |                                                                            |
| Number of analog outputs                               | 8                                                                          |
| Voltage output, short-circuit protection               | Yes                                                                        |
| Voltage output, short-circuit current, max.            | 30 mA                                                                      |
| Current output, no-load voltage, max.                  | 19 V                                                                       |
| Output ranges, voltage                                 |                                                                            |
| • 0 to 10 V                                            | Yes                                                                        |
| • 1 V to 5 V                                           | Yes                                                                        |
| • -10 V to +10 V                                       | Yes                                                                        |
| Output ranges, current                                 |                                                                            |
| • 0 to 20 mA                                           | Yes                                                                        |
| • -20 mA to +20 mA                                     | Yes                                                                        |
| • 4 mA to 20 mA                                        | Yes                                                                        |
| Load impedance (in rated range of output)              |                                                                            |
| • with voltage outputs, min.                           | 1 kΩ                                                                       |
| • with voltage outputs, capacitive load, max.          | 1 μF                                                                       |
| • with current outputs, max.                           | 500 Ω; 600 ohms if common-mode-voltage reduced to <1 V                     |
| Cable length                                           |                                                                            |
| • shielded, max.                                       | 200 m                                                                      |
| Analog value generation for the outputs                |                                                                            |
| Integration and conversion time/resolution per channel |                                                                            |
| • Resolution with overrange (bit including sign), max. | 13 bit                                                                     |
| • Conversion time (per channel)                        | 420 μs; 420 μs in the ranges 1 to 5 V and 4 to 20 mA; 300 μs in all ranges |
| Settling time                                          |                                                                            |
| • for resistive load                                   | 0.1 ms                                                                     |
| • for capacitive load                                  | 3.5 ms                                                                     |
| • for inductive load                                   | 0.5 ms                                                                     |
| Errors/accuracies                                      |                                                                            |
| Operational error limit in overall temperature range   |                                                                            |
| • Voltage, relative to output range, (+/-)             | 0.5 %; ±10 V, 0 to 10 V, 1 to 5 V                                          |
| • Current, relative to output range, (+/-)             | 1 %; ±20 mA, 4 to 20 mV                                                    |

|                                                |                                                                                                                                                                                                                                                           |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Basic error limit (operational limit at 25 °C) |                                                                                                                                                                                                                                                           |
| • Voltage, relative to output range, (+/-)     | 0.5 %; ±10 V, 0 to 10 V, 1 to 5 V                                                                                                                                                                                                                         |
| • Current, relative to output range, (+/-)     | 0.5 %; ±20 mA, 0 to 20 mA                                                                                                                                                                                                                                 |
| Interrupts/diagnostics/status information      |                                                                                                                                                                                                                                                           |
| Diagnostics function                           | No                                                                                                                                                                                                                                                        |
| Potential separation                           |                                                                                                                                                                                                                                                           |
| Potential separation analog outputs            |                                                                                                                                                                                                                                                           |
| • between the channels                         | No                                                                                                                                                                                                                                                        |
| • between the channels and backplane bus       | Yes                                                                                                                                                                                                                                                       |
| • Between the channels and load voltage L+     | Yes                                                                                                                                                                                                                                                       |
| Isolation                                      |                                                                                                                                                                                                                                                           |
| Isolation tested with                          | 2 120 V DC between bus and L+/M; 2 120 V DC between bus and analog section; 500 V DC between bus and local ground; 500 V DC between analog section and L+/M; 2 120 V DC between analog section and local ground; 2 120 V DC between L+/M and local ground |
| Dimensions                                     |                                                                                                                                                                                                                                                           |
| Width                                          | 25 mm                                                                                                                                                                                                                                                     |
| Height                                         | 290 mm                                                                                                                                                                                                                                                    |
| Depth                                          | 210 mm                                                                                                                                                                                                                                                    |
| Weights                                        |                                                                                                                                                                                                                                                           |
| Weight, approx.                                | 650 g                                                                                                                                                                                                                                                     |
| Classifications                                |                                                                                                                                                                                                                                                           |

|        | Version | Classification |
|--------|---------|----------------|
| eClass | 14      | 27-24-22-01    |
| eClass | 12      | 27-24-22-01    |
| eClass | 9.1     | 27-24-22-01    |
| eClass | 9       | 27-24-22-01    |
| eClass | 8       | 27-24-22-01    |
| eClass | 7.1     | 27-24-22-01    |
| eClass | 6       | 27-24-22-01    |
| ETIM   | 9       | EC001420       |
| ETIM   | 8       | EC001420       |
| ETIM   | 7       | EC001420       |
| IDEA   | 4       | 3562           |
| UNSPSC | 15      | 32-15-17-05    |

#### Approvals / Certificates

##### General Product Approval

[Miscellaneous](#)



[KC](#)

[Metrological Approval](#)

|                          |     |                                |
|--------------------------|-----|--------------------------------|
| General Product Approval | EMV | For use in hazardous locations |
|--------------------------|-----|--------------------------------|



[FM](#)

|                                |                   |
|--------------------------------|-------------------|
| For use in hazardous locations | Marine / Shipping |
|--------------------------------|-------------------|



[Type Examination Certificate](#)



## Marine / Shipping



[NK / Nippon Kaiji Ky-  
okai](#)



## Marine / Shipping

[CCS \(China Classifica-  
tion Society\)](#)

last modified:

3/12/2024 