

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 k Ω
• with voltage outputs, capacitive load, max.	1 μ F
• 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 μ s; 420 μ s in the ranges 1 to 5 V and 4 to 20 mA; 300 μ s 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 %; \pm 10 V, 0 to 10 V, 1 to 5 V
• Current, relative to output range, (+/-)	1 %; \pm 20 mA, 4 to 20 mV
Basic error limit (operational limit at 25 °C)	
• Voltage, relative to output range, (+/-)	0.5 %; \pm 10 V, 0 to 10 V, 1 to 5 V
• Current, relative to output range, (+/-)	0.5 %; \pm 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
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
last modified:	11/19/2019