



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

Supply voltage	
Load voltage L+	
<ul style="list-style-type: none"> <li>Rated value (DC)</li> </ul>	24 V
<ul style="list-style-type: none"> <li>Reverse polarity protection</li> </ul>	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	
<ul style="list-style-type: none"> <li>0 to 10 V</li> </ul>	Yes
<ul style="list-style-type: none"> <li>1 V to 5 V</li> </ul>	Yes
<ul style="list-style-type: none"> <li>-10 V to +10 V</li> </ul>	Yes
Output ranges, current	
<ul style="list-style-type: none"> <li>0 to 20 mA</li> </ul>	Yes
<ul style="list-style-type: none"> <li>-20 mA to +20 mA</li> </ul>	Yes
<ul style="list-style-type: none"> <li>4 mA to 20 mA</li> </ul>	Yes
Load impedance (in rated range of output)	
<ul style="list-style-type: none"> <li>with voltage outputs, min.</li> </ul>	1 k $\Omega$
<ul style="list-style-type: none"> <li>with voltage outputs, capacitive load, max.</li> </ul>	1 $\mu$ F
<ul style="list-style-type: none"> <li>with current outputs, max.</li> </ul>	500 $\Omega$ ; 600 ohms if common-mode-voltage reduced to <1 V
Cable length	
<ul style="list-style-type: none"> <li>shielded, max.</li> </ul>	200 m
Analog value generation for the outputs	
Integration and conversion time/resolution per channel	
<ul style="list-style-type: none"> <li>Resolution with overrange (bit including sign), max.</li> </ul>	13 bit
<ul style="list-style-type: none"> <li>Conversion time (per channel)</li> </ul>	420 $\mu$ s; 420 $\mu$ s in the ranges 1 to 5 V and 4 to 20 mA; 300 $\mu$ s in all ranges
Settling time	
<ul style="list-style-type: none"> <li>for resistive load</li> </ul>	0.1 ms
<ul style="list-style-type: none"> <li>for capacitive load</li> </ul>	3.5 ms
<ul style="list-style-type: none"> <li>for inductive load</li> </ul>	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
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
<b>last modified:</b>	1/19/2021 