



SIMATIC S7-400, positioning module FM 451 for rapid/slow traverse drives, 3 channels incl. configuration package on CD

Figure similar

Supply voltage	
Rated value (DC)	24 V
Input current	
Current consumption, typ.	550 mA
Encoder supply	
5 V encoder supply	
<ul style="list-style-type: none"> <li>• 5 V</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Output current, max.</li> </ul>	210 mA
<ul style="list-style-type: none"> <li>• Cable length, max.</li> </ul>	35 m; at max. 210 mA
24 V encoder supply	
<ul style="list-style-type: none"> <li>• 24 V</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Output current, max.</li> </ul>	300 mA
<ul style="list-style-type: none"> <li>• Cable length, max.</li> </ul>	100 m; at max. 300 mA
Absolute encoder (SSI) encoder supply	
<ul style="list-style-type: none"> <li>• Absolute encoder (SSI)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Type of output voltage</li> </ul>	24 V DC
<ul style="list-style-type: none"> <li>• Output current, max.</li> </ul>	300 mA
<ul style="list-style-type: none"> <li>• Cable length, max.</li> </ul>	300 m; At max. 156 kbit/s
Power loss	
Power loss, typ.	3.6 W
Digital inputs	
Number of digital inputs	12; 4 per axis
Functions	Reference cams, reversing cams, flying actual value setting, start/stop positioning
Input voltage	
<ul style="list-style-type: none"> <li>• Rated value (DC)</li> </ul>	24 V
<ul style="list-style-type: none"> <li>• for signal "0"</li> </ul>	-30 to +5 V
<ul style="list-style-type: none"> <li>• for signal "1"</li> </ul>	+11 to +30V
Input current	
<ul style="list-style-type: none"> <li>• for signal "0", max. (permissible quiescent current)</li> </ul>	1.5 mA
<ul style="list-style-type: none"> <li>• for signal "1", typ.</li> </ul>	9 mA
Digital outputs	
Number of digital outputs	12; 4 per axis
Functions	Rapid traverse, creep, run right, run left
Short-circuit protection	Yes
Output voltage	
<ul style="list-style-type: none"> <li>• for signal "1", min.</li> </ul>	UP -3 V
Output current	

- for signal "1" permissible range for 0 to 55 °C, max. 600 mA; with UPmax
- for signal "0" residual current, max. 0.5 mA

## Encoder

Connectable encoders	
• Incremental encoder (symmetrical)	Yes
• Incremental encoder (asymmetrical)	Yes
• Absolute encoder (SSI)	Yes
Encoder signals, incremental encoder (symmetrical)	
• Trace mark signals	A, notA, B, notB
• Zero mark signal	N, notN
• Input voltage	5 V difference signal (phys. RS 422)
• Input frequency, max.	1 MHz
Encoder signals, incremental encoder (asymmetrical)	
• Trace mark signals	A, B
• Zero mark signal	N
• Input voltage	24 V
• Input frequency, max.	50 kHz; for 25 m cable length, 25 kHz for 100 m cable length
• Cable length, shielded, max.	100 m
Encoder signals, absolute encoder (SSI)	
• Input signal	5 V difference signal (phys. RS 422)
• Data signal	DATA, notDATA
• Clock signal	CL, notCL
• Telegram length, parameterizable	13 or 25 bit serial
• Clock frequency, max.	1.25 MHz
• Gray code	1
• Cable length, shielded, max.	300 m; At max. 156 kbit/s
Potential separation	
Potential separation digital inputs	
• Potential separation digital inputs	Yes
Potential separation digital outputs	
• Potential separation digital outputs	Yes
Ambient conditions	
Ambient temperature during operation	
• min.	0 °C
• max.	55 °C
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
connection method / header	
required front connector	1x 48-pin
Dimensions	
Width	50 mm
Height	290 mm
Depth	210 mm
Weights	
Weight, approx.	1 300 g
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