



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"> • 5 V 	Yes
<ul style="list-style-type: none"> • Output current, max. 	210 mA
<ul style="list-style-type: none"> • Cable length, max. 	35 m; at max. 210 mA
24 V encoder supply	
<ul style="list-style-type: none"> • 24 V 	Yes
<ul style="list-style-type: none"> • Output current, max. 	300 mA
<ul style="list-style-type: none"> • Cable length, max. 	100 m; at max. 300 mA
Absolute encoder (SSI) encoder supply	
<ul style="list-style-type: none"> • Absolute encoder (SSI) 	Yes
<ul style="list-style-type: none"> • Type of output voltage 	24 V DC
<ul style="list-style-type: none"> • Output current, max. 	300 mA
<ul style="list-style-type: none"> • Cable length, max. 	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"> • Rated value (DC) 	24 V
<ul style="list-style-type: none"> • for signal "0" 	-30 to +5 V
<ul style="list-style-type: none"> • for signal "1" 	+11 to +30V
Input current	
<ul style="list-style-type: none"> • for signal "0", max. (permissible quiescent current) 	1.5 mA
<ul style="list-style-type: none"> • for signal "1", typ. 	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	

• for signal "1", min.	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
• 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	
required front connector	1x 48-pin
Dimensions	
Width	50 mm
Height	290 mm
Depth	210 mm
Weights	
Weight, approx.	1 300 g
last modified:	12/18/2020 