



SIMATIC S7-300, FM 451 POSITIONING MODULE FOR RAPID/ CREEP FEED DRIVE 3 CHANNELS INCL. CONFIG. PACKAGE ON CD

Figure similar

Supply voltage	
Rated value (DC)	
<ul style="list-style-type: none"> • 24 V DC 	Yes
Input current	
Current consumption, max.	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
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" 	-3 to +5V
<ul style="list-style-type: none"> for signal "1" 	+11 to +30V
Input current	
<ul style="list-style-type: none"> for signal "1", typ. 	6 mA
for 2-wire sensor	
<ul style="list-style-type: none"> — for signal "1", typ. 	30 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"> for signal "1", min. 	UP -3 V
Output current	
<ul style="list-style-type: none"> for signal "1" permissible range for 0 to 55 °C, max. 	600 mA; with UPmax
<ul style="list-style-type: none"> for signal "0" residual current, max. 	0.5 mA
Encoder	
Connectable encoders	
<ul style="list-style-type: none"> Incremental encoder (symmetrical) 	Yes
<ul style="list-style-type: none"> Incremental encoder (asymmetrical) 	Yes
<ul style="list-style-type: none"> Absolute encoder (SSI) 	Yes
Encoder signals, incremental encoder (symmetrical)	
<ul style="list-style-type: none"> Trace mark signals 	A, notA, B, notB
<ul style="list-style-type: none"> Zero mark signal 	N, notN
<ul style="list-style-type: none"> Input signal 	5 V difference signal (phys. RS 422)
<ul style="list-style-type: none"> Input frequency, max. 	1 MHz
Encoder signals, incremental encoder (asymmetrical)	
<ul style="list-style-type: none"> Trace mark signals 	A, B
<ul style="list-style-type: none"> Zero mark signal 	N
<ul style="list-style-type: none"> Input voltage 	24 V
<ul style="list-style-type: none"> Input frequency, max. 	50 kHz; for 25 m cable length, 25 kHz for 100 m cable length
<ul style="list-style-type: none"> Cable length, shielded, max. 	100 m
Encoder signals, absolute encoder (SSI)	
<ul style="list-style-type: none"> Input signal 	5 V difference signal (phys. RS 422)
<ul style="list-style-type: none"> Data signal 	DATA, notDATA
<ul style="list-style-type: none"> Clock signal 	CL, notCL
<ul style="list-style-type: none"> Message frame length, parameterizable 	13 or 25 bit serial
<ul style="list-style-type: none"> Clock frequency, max. 	1.25 MHz
<ul style="list-style-type: none"> Gray code 	1
<ul style="list-style-type: none"> Cable length, shielded, max. 	300 m; At max. 156 kbit/s

Galvanic isolation	
Galvanic isolation digital inputs	
• Galvanic isolation digital inputs	Yes
Galvanic isolation digital outputs	
• Galvanic isolation digital outputs	Yes
Degree and class of protection	
Degree of protection to EN 60529	
• IP20	Yes
Ambient conditions	
Ambient temperature in operation	
• Min.	0 °C
• max.	55 °C
Storage/transport temperature	
• Min.	-40 °C
• max.	70 °C
Relative humidity	
• Humidity class F	Yes
Connection method	
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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