

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)	24 V
Input current	
Current consumption, typ.	550 mA
Encoder supply	
5 V encoder supply	
• 5 V	Yes
• Output current, max.	210 mA
• Cable length, max.	35 m; at max. 210 mA
24 V encoder supply	
• 24 V	Yes
• Output current, max.	300 mA
• Cable length, max.	100 m; at max. 300 mA
Absolute encoder (SSI) encoder supply	
• Absolute encoder (SSI)	Yes
• Type of output voltage	24 V DC

- Output current, max. 300 mA
- 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

- Rated value (DC) 24 V
- for signal "0" -3 to +5V
- for signal "1" +11 to +30V

Input current

- for signal "1", typ. 6 mA

for 2-wire sensor

- 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

- 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 signal 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
Degree and class of protection	
Degree of protection acc. to EN 60529	
• IP20	Yes
Ambient conditions	
Ambient temperature during operation	
• min.	0 °C
• max.	55 °C
Ambient temperature during storage/transportation	
• 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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