

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	
• 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" -30 to +5V
- for signal "1" +11 to +30V

### Input current

- for signal "0", max. (permissible quiescent current) 1.5 mA
- 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
<b>Encoder signals, absolute encoder (SSI)</b>	
• 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

<b>Potential separation digital inputs</b>	
• Potential separation digital inputs	Yes
<b>Potential separation digital outputs</b>	
• Potential separation digital outputs	Yes

### Degree and class of protection

<b>Degree of protection acc. to EN 60529</b>	
• IP20	Yes

### Ambient conditions

<b>Ambient temperature during operation</b>	
• min.	0 °C
• max.	55 °C
<b>Ambient temperature during storage/transportation</b>	
• min.	-40 °C
• max.	70 °C

### Connection method

required front connector	1x 48-pin
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### Dimensions

Width	50 mm
Height	290 mm
Depth	210 mm

### Weights

Weight, approx.	1 300 g
<b>last modified:</b>	12/24/2018