



Figure similar

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

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 +5 V
• 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.
- for signal "0" residual current, max.

600 mA; with UPmax
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 Yes
- 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

Classifications

	Version	Classification
eClass	14	27-24-22-05
eClass	12	27-24-22-05
eClass	9.1	27-24-22-05
eClass	9	27-24-22-05
eClass	8	27-24-22-05
eClass	7.1	27-24-22-05
eClass	6	27-24-22-05
ETIM	10	EC001422
ETIM	9	EC001422

ETIM	8	EC001422
ETIM	7	EC001422
IDEA	4	3567
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval



[Miscellaneous](#)



[China RoHS](#)



[KC](#)

General Product Approval	EMV	For use in hazardous locations
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[FM](#)

For use in hazardous locations	Maritime application
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[Type Examination Certificate](#)



Maritime application



[NK / Nippon Kaiji Kyokai](#)



[CCS \(China Classification Society\)](#)

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