

Siemens 6ES7451-3AL00-0AE0 Manual

Brand	Siemens
Product Series	Siemens
Product Type	of output voltage 24 V DC

Description

6ES7451-3AL00-0AE0

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. 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
- 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

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

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