

## Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7100-2AF71-1BB0

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

### Engineering data

Rated speed (100 K) 3000 rpm

Number of poles 8

Rated torque (100 K) 12.0 Nm

Rated current 8.0 A

Static torque (60 K) 14.90 Nm

Static torque (100 K) 18.0 Nm

Stall current (60 K) 9.00 A

Stall current (100 K) 11.10 A

Moment of inertia 62.000 kgcm<sup>2</sup>

Efficiency 92.0 %

### Physical constants

Torque constant 1.62 Nm/A

Voltage constant at 20° C 104.5 V/1000\*min<sup>-1</sup>

Winding resistance at 20° C 0.32 Ω

Rotating field inductance 7.3 mH

Electrical time constant 22.50 ms

Mechanical time constant 2.00 ms

Thermal time constant 55 min

Shaft torsional stiffness 135000 Nm/rad

Net weight of the motor 21.0 kg

### Mechanical data

Motor type Permanent-magnet synchronous motor

Motor type Compact

Shaft height 100

Cooling Natural cooling

Radial runout tolerance 0.050 mm

Concentricity tolerance 0.10 mm

Axial runout tolerance 0.10 mm

Vibration severity grade Grade A

Connector size 1

Degree of protection IP64

Design acc. to Code I IM B5 (IM V1, IM V3)

Temperature monitoring Pt1000 temperature sensor

Electrical connectors Connectors for signals and power rotatable

Color of the housing Standard (Anthracite RAL 7016)

Holding brake with holding brake

Shaft extension Feather key

Encoder system Encoder AS24DQI: absolute encoder single-turn 24 bits



Figure similar

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1FK7100-2AF71-1BB0

### Optimum operating point

Optimum speed	3000 rpm
Optimum power	3.8 kW

### Limiting data

Max. permissible speed (mech.)	5000 rpm
Max. permissible speed (inverter)	5000 rpm
Maximum torque	55.0 Nm
Maximum current	37.0 A

### Holding brake

Holding brake version	Permanent-magnet brake
Holding torque	23.0 Nm
Power supply voltage	DC 24 V $\pm$ 10 %
Coil current	1.0 A
Opening time	300 ms
Closing time	70 ms
Highest braking work	3380 J

### Recommended Motor Module

Rated inverter current	18 A
Maximum inverter current	54 A
Maximum torque	55.00 Nm