

## Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7042-2AC71-1CB0

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

### Engineering data

Rated speed (100 K) 2000 rpm

Number of poles 8

Rated torque (100 K) 2.8 Nm

Rated current 1.6 A

Static torque (60 K) 2.50 Nm

Static torque (100 K) 3.0 Nm

Stall current (60 K) 1.30 A

Stall current (100 K) 1.61 A

Moment of inertia 3.200 kgcm<sup>2</sup>

Efficiency 88.0 %

### Physical constants

Torque constant 1.86 Nm/A

Voltage constant at 20° C 122.0 V/1000\*min<sup>-1</sup>

Winding resistance at 20° C 8.60 Ω

Rotating field inductance 64.0 mH

Electrical time constant 7.40 ms

Mechanical time constant 2.15 ms

Thermal time constant 30 min

Shaft torsional stiffness 11400 Nm/rad

Net weight of the motor 5.3 kg

### Mechanical data

Motor type Permanent-magnet synchronous motor

Motor type Compact

Shaft height 48

Cooling Natural cooling

Radial runout tolerance 0.040 mm

Concentricity tolerance 0.08 mm

Axial runout tolerance 0.08 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 AM24DQI: absolute encoder 24 bits (resolution 16777216, encoder-internal 2048 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)



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### Optimum operating point

Optimum speed	2000 rpm
Optimum power	0.6 kW

### Limiting data

Max. permissible speed (mech.)	9000 rpm
Max. permissible speed (inverter)	4750 rpm
Maximum torque	10.5 Nm
Maximum current	5.6 A

### Holding brake

Holding brake version	Permanent-magnet brake
Holding torque	4.0 Nm
Power supply voltage	DC 24 V $\pm$ 10 %
Coil current	0.5 A
Opening time	70 ms
Closing time	30 ms
Highest braking work	150 J

### Recommended Motor Module

Rated inverter current	3 A
Maximum inverter current	9 A
Maximum torque	10.50 Nm