

## Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7081-2AH71-1QH2

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

### Engineering data

Rated speed (100 K) 4500 rpm

Number of poles 8

Rated torque (100 K) 3.8 Nm

Rated current 4.9 A

Static torque (60 K) 10.00 Nm

Static torque (100 K) 12.0 Nm

Stall current (60 K) 10.60 A

Stall current (100 K) 13.10 A

Moment of inertia 23.500 kgcm<sup>2</sup>

Efficiency 93.0 %

### Physical constants

Torque constant 0.92 Nm/A

Voltage constant at 20° C 59.0 V/1000\*min<sup>-1</sup>

Winding resistance at 20° C 0.19 Ω

Rotating field inductance 3.4 mH

Electrical time constant 17.90 ms

Mechanical time constant 1.36 ms

Thermal time constant 45 min

Shaft torsional stiffness 76000 Nm/rad

Net weight of the motor 15.9 kg

### Mechanical data

Motor type Permanent-magnet synchronous motor

Motor type Compact

Shaft height 80

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 IP65 and DE flange IP67

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 Plain shaft

Encoder system Encoder AS20DQI: absolute encoder single-turn 20 bits



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### Optimum operating point

Optimum speed	3000 rpm
Optimum power	2.8 kW

### Limiting data

Max. permissible speed (mech.)	6000 rpm
Max. permissible speed (inverter)	6000 rpm
Maximum torque	37.0 Nm
Maximum current	45.0 A

### Holding brake

Holding brake version	Permanent-magnet brake
Holding torque	22.0 Nm
Power supply voltage	DC 24 V $\pm$ 10 %
Coil current	0.9 A
Opening time	200 ms
Closing time	60 ms
Highest braking work	1400 J

### Recommended Motor Module

Rated inverter current	18 A
Maximum inverter current	54 A
Maximum torque	37.00 Nm