

## Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7044-4CH71-1RH2

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

### Engineering data

Rated speed (100 K) 4500 rpm

Number of poles 6

Rated torque (100 K) 3.0 Nm

Rated current 3.9 A

Static torque (60 K) 3.75 Nm

Static torque (100 K) 4.5 Nm

Stall current (60 K) 4.35 A

Stall current (100 K) 5.40 A

Moment of inertia 1.620 kgcm<sup>2</sup>

Efficiency 91.0 %

### Physical constants

Torque constant 0.83 Nm/A

Voltage constant at 20° C 53.0 V/1000\*min<sup>-1</sup>

Winding resistance at 20° C 0.81 Ω

Rotating field inductance 10.2 mH

Electrical time constant 12.50 ms

Mechanical time constant 0.44 ms

Thermal time constant 45 min

Shaft torsional stiffness 7900 Nm/rad

Net weight of the motor 8.0 kg

### Mechanical data

Motor type Permanent-magnet synchronous motor

Motor type High Dynamic

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 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 AM20DQI: absolute encoder 20 bits (resolution 1048576, encoder-internal 512 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)



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### Optimum operating point

Optimum speed	4500 rpm
Optimum power	1.4 kW

### Limiting data

Max. permissible speed (mech.)	9000 rpm
Max. permissible speed (inverter)	9000 rpm
Maximum torque	13.0 Nm
Maximum current	16.4 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	9 A
Maximum inverter current	27 A
Maximum torque	13.00 Nm