

Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7081-3BF71-1QH1

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) 8.7 Nm

Rated current 6.8 A

Static torque (60 K) 10.00 Nm

Static torque (100 K) 12.00 Nm

Stall current (60 K) 7.10 A

Stall current (100 K) 8.70 A

Moment of inertia 52.000 kgcm²

Efficiency 93.0 %

Physical constants

Torque constant 1.38 Nm/A

Voltage constant at 20° C 88.5 V/1000*min⁻¹

Winding resistance at 20° C 0.42 Ω

Rotating field inductance 7.7 mH

Electrical time constant 18.20 ms

Mechanical time constant 3.30 ms

Thermal time constant 45 min

Shaft torsional stiffness 71000 Nm/rad

Net weight of the motor 18.2 kg

Mechanical data

Motor type Permanent-magnet synchronous motor

Motor type High Inertia

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

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 end 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 | 30.0 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 | 9 A |
| Maximum inverter current | 27 A |
| Maximum torque | 34.10 Nm |