

Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7042-3BK71-1BH0

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

| Engineering data | | Mechanical data | | | |
|--|-------------------------|-----------------------------|------------------------------------|------------------------|---|
| Rated speed (100 K) | 6000 rpm | Motor type | Permanent-magnet synchronous motor | | |
| Number of poles | 8 | Motor type | High Inertia | | |
| Rated torque (100 K) | 1.5 Nm | Shaft height | 48 | | |
| Rated current | 2.5 A | Cooling | Natural cooling | | |
| Static torque (60 K) | 2.50 Nm | Radial runout tolerance | 0.040 mm | | |
| Static torque (100 K) | 3.0 Nm | Concentricity tolerance | 0.08 mm | | |
| Stall current (60 K) | 3.55 A | Axial runout tolerance | 0.08 mm | | |
| Stall current (100 K) | 4.40 A | Vibration severity grade | Grade A | | |
| Moment of inertia | 5.400 kgcm ² | Connector size | 1 | | |
| Efficiency | 89.0 % | Degree of protection | IP64 | | |
| <th colspan="2">Physical constants</th> <td>Design acc. to Code I</td> <td>IM B5 (IM V1, IM V3)</td> | | Physical constants | | Design acc. to Code I | IM B5 (IM V1, IM V3) |
| | | Torque constant | 0.68 Nm/A | Temperature monitoring | Pt1000 temperature sensor |
| | | Voltage constant at 20° C | 44.5 V/1000*min ⁻¹ | Electrical connectors | Connectors for signals and power rotatable |
| | | Winding resistance at 20° C | 1.15 Ω | Color of the housing | Standard (Anthracite RAL 7016) |
| | | Rotating field inductance | 8.6 mH | Holding brake | with holding brake |
| | | Electrical time constant | 7.50 ms | Shaft extension | Plain shaft |
| | | Mechanical time constant | 3.80 ms | Encoder system | Encoder AS24DQI: absolute encoder single-turn 24 bits |
| | | Thermal time constant | 30 min | | |
| | | Shaft torsional stiffness | 10900 Nm/rad | | |
| | | Net weight of the motor | 5.8 kg | | |



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Optimum operating point

| | |
|---------------|----------|
| Optimum speed | 5000 rpm |
| Optimum power | 1.0 kW |

Limiting data

| | |
|-----------------------------------|----------|
| Max. permissible speed (mech.) | 9000 rpm |
| Max. permissible speed (inverter) | 9000 rpm |
| Maximum torque | 10.5 Nm |
| Maximum current | 15.3 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 | 5 A |
| Maximum inverter current | 15 A |
| Maximum torque | 10.30 Nm |