

Data sheet for SIMOTICS S-1FK7

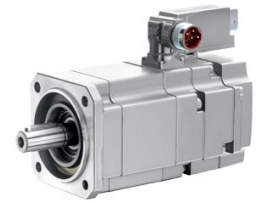


Figure similar

MLFB-Ordering data

1FK7022-5AK71-1JB5

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 | 6 | Motor type | Compact | | |
| Rated torque (100 K) | 0.6 Nm | Shaft height | 28 | | |
| Rated current | 1.4 A | Cooling | Natural cooling | | |
| Static torque (60 K) | 0.70 Nm | Radial runout tolerance | 0.035 mm | | |
| Static torque (100 K) | 0.85 Nm | Concentricity tolerance | 0.08 mm | | |
| Stall current (60 K) | 1.50 A | Axial runout tolerance | 0.08 mm | | |
| Stall current (100 K) | 1.80 A | Vibration severity grade | Grade A | | |
| Moment of inertia | 0.350 kgcm ² | Connector size | 1 | | |
| Efficiency | 86.0 % | Degree of protection | IP65 and DE flange IP67 | | |
| <th colspan="2">Physical constants</th> | | Physical constants | | Design acc. to Code I | IM B5 (IM V1, IM V3) |
| | | Torque constant | 0.46 Nm/A | Temperature monitoring | KTY84 temperature sensor in the stator winding |
| | | Voltage constant at 20° C | 29.0 V/1000*min ⁻¹ | Electrical connectors | Connectors for signals and power rotatable |
| | | Winding resistance at 20° C | 4.20 Ω | Color of the housing | Standard (Anthracite RAL 7016) |
| | | Rotating field inductance | 9.1 mH | Holding brake | with holding brake |
| | | Electrical time constant | 2.20 ms | Shaft end | Feather key |
| | | Mechanical time constant | 1.70 ms | Encoder system | Encoder AM16S/R: absolute encoder 16 S/R, 4096 revolutions multi-turn, with EnDat interface |
| | | Thermal time constant | 18 min | | |
| | | Shaft torsional stiffness | 3000 Nm/rad | | |
| | | Net weight of the motor | 2.0 kg | | |

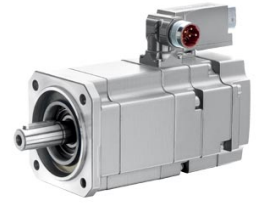


Figure similar

MLFB-Ordering data

1FK7022-5AK71-1JB5

Optimum operating point

| | |
|---------------|----------|
| Optimum speed | 6000 rpm |
| Optimum power | 0.4 kW |

Limiting data

| | |
|-----------------------------------|-----------|
| Max. permissible speed (mech.) | 10000 rpm |
| Max. permissible speed (inverter) | 10000 rpm |
| Maximum torque | 3.4 Nm |
| Maximum current | 8.0 A |

Holding brake

| | |
|-----------------------|------------------------|
| Holding brake version | Permanent-magnet brake |
| Holding torque | 1.0 Nm |
| Power supply voltage | DC 24 V \pm 10 % |
| Coil current | 0.3 A |
| Opening time | 30 ms |
| Closing time | 20 ms |
| Highest braking work | 8 J |

Recommended Motor Module

| | |
|--------------------------|---------|
| Rated inverter current | 3 A |
| Maximum inverter current | 6 A |
| Maximum torque | 2.65 Nm |