SIEMENS

## Data sheet for SIMOTICS S-1FK7

**Article No. :** **1FK7101-2AC71-1RB1**



Figure similar

Client order no. :
Order no. :
Offer no. :
Remarks :

Item no. :
Consignment no. :
Project :

| Engineering data | |
|---|---|
| Rated speed (100 K) | 2,000 rpm |
| Number of poles | 8 |
| Rated torque (100 K) | 20.5 Nm |
| Rated current | 9.7 A |
| Static torque (60 K) | 22.50 Nm |
| Static torque (100 K) | 27.00 Nm |
| Stall current (60 K) | 10.00 A |
| Stall current (100 K) | 12.30 A |
| Moment of inertia | 87.000 kgcm² |
| Efficiency | 93.0 % |

| Physical constants | |
|---|---|
| Torque constant | 2.15 Nm/A |
| Voltage constant at 20° C | 144.5 V/1000*min$^{-1}$ |
| Winding resistance at 20° C | 0.34 Ω |
| Rotating field inductance | 8.5 mH |
| Electrical time constant | 25.00 ms |
| Mechanical time constant | 1.62 ms |
| Thermal time constant | 60 min |
| Shaft torsional stiffness | 116,000 Nm/rad |
| Net weight of the motor | 27.5 kg |

| Mechanical data | |
|---|---|
| Motor type | Permanent-magnet synchronous motor |
| Motor type | Compact |
| Shaft height | 100 |
| 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 | M40 |
| 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 | Feather key |
| Encoder system | Encoder AM20DQI: absolute encoder 20 bits (resolution 1048576, encoder-internal 512 S/R) + 12 bits multi-turn (traversing range 4096 revolutions) |

| Optimum operating point | |
|---|---|
| Optimum speed | 2,000 rpm |
| Optimum power | 4.3 kW |

| Limiting data | |
|---|---|
| Max. permissible speed (mech.) | 5,000 rpm |
| Max. permissible speed (inverter) | 4,000 rpm |
| Maximum torque | 80.0 Nm |
| Maximum current | 40.5 A |

| Holding brake | |
|---|---|
| Holding brake version | Permanent-magnet brake |
| Holding torque | 43.0 Nm |
| Power supply voltage | DC 24 V ± 10 % |
| Coil current | 1.0 A |
| Opening time | 300 ms |
| Closing time | 70 ms |
| Highest braking work | 3,380 J |

| Recommended Motor Module | |
|---|---|
| Rated inverter current | 18 A |
| Maximum inverter current | 54 A |
| Maximum torque | 80.00 Nm |