SIEMENS

# Data sheet for SIMOTICS S-1FK7

**Article No. :** **1FK7044-4CH71-1DB0**



Figure similar

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

Item no. :
Consignment no. :
Project :

| Engineering data | |
|---|---|
| Rated speed (100 K) | 4,500 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) | 4.50 Nm |
| Stall current (60 K) | 4.35 A |
| Stall current (100 K) | 5.40 A |
| Moment of inertia | 1.620 kgcm² |
| Efficiency | 91.0 % |

| Physical constants | |
|---|---|
| Torque constant | 0.83 Nm/A |
| Voltage constant at 20° C | 53.0 V/1000*min⁻¹ |
| 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 | 7,900 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 | M23 |
| Degree of protection | IP64 |
| 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 IC22DQ: incremental encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + commutation position 11 bits |

| Optimum operating point | |
|---|---|
| Optimum speed | 4,500 rpm |
| Optimum power | 1.4 kW |

| Limiting data | |
|---|---|
| Max. permissible speed (mech.) | 9,000 rpm |
| Max. permissible speed (inverter) | 9,000 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 ± 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 |