SIEMENS

## Data sheet for SIMOTICS S-1FK7

**Article No. :** **1FK7081-2AC71-1CB2**

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) | 10.0 Nm |
| Rated current | 4.4 A |
| Static torque (60 K) | 10.00 Nm |
| Static torque (100 K) | 12.00 Nm |
| Stall current (60 K) | 4.05 A |
| Stall current (100 K) | 5.00 A |
| Moment of inertia | 23.500 kgcm² |
| Efficiency | 93.0 % |

| Physical constants | |
|---|---|
| Torque constant | 2.40 Nm/A |
| Voltage constant at 20° C | 154.5 V/1000*min$^{-1}$ |
| Winding resistance at 20° C | 1.27 Ω |
| Rotating field inductance | 23.5 mH |
| Electrical time constant | 18.40 ms |
| Mechanical time constant | 1.33 ms |
| Thermal time constant | 45 min |
| Shaft torsional stiffness | 76,000 Nm/rad |
| Net weight of the motor | 15.9 kg |

| Mechanical data | |
|---|---|
| Motor type | Permanent-magnet synchronous motor |
| Motor type | Compact |
| 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 and DE flange IP67 |
| 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 AM24DQI: absolute encoder 24 bits (resolution 16777216, encoder-internal 2048 S/R) + 12 bits multi-turn (traversing range 4096 revolutions) |

| Optimum operating point | |
|---|---|
| Optimum speed | 2,000 rpm |
| Optimum power | 2.1 kW |

| Limiting data | |
|---|---|
| Max. permissible speed (mech.) | 6,000 rpm |
| Max. permissible speed (inverter) | 3,750 rpm |
| Maximum torque | 37.0 Nm |
| Maximum current | 17.2 A |

| Holding brake | |
|---|---|
| Holding brake version | Permanent-magnet brake |
| Holding torque | 22.0 Nm |
| Power supply voltage | DC 24 V ± 10 % |
| Coil current | 0.9 A |
| Opening time | 200 ms |
| Closing time | 60 ms |
| Highest braking work | 1,400 J |

| Recommended Motor Module | |
|---|---|
| Rated inverter current | 5 A |
| Maximum inverter current | 15 A |
| Maximum torque | 33.30 Nm |