SIEMENS

## Data sheet for SIMOTICS S-1FK7

**Article No. :** **1FK7022-5AK21-1UA0**



Figure similar

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

Item no. :
Consignment no. :
Project :

| Engineering data | |
|---|---|
| Rated speed (100 K) | 6,000 rpm |
| Number of poles | 6 |
| Rated torque (100 K) | 0.6 Nm |
| Rated current | 1.4 A |
| Static torque (60 K) | 0.70 Nm |
| Static torque (100 K) | 0.85 Nm |
| Stall current (60 K) | 1.50 A |
| Stall current (100 K) | 1.80 A |
| Moment of inertia | 0.280 kgcm² |
| Efficiency | 86.0 % |

| Physical constants | |
|---|---|
| Torque constant | 0.46 Nm/A |
| Voltage constant at 20° C | 29.0 V/1000*min⁻¹ |
| Winding resistance at 20° C | 4.20 Ω |
| Rotating field inductance | 9.1 mH |
| Electrical time constant | 2.20 ms |
| Mechanical time constant | 1.70 ms |
| Thermal time constant | 18 min |
| Shaft torsional stiffness | 3,000 Nm/rad |
| Net weight of the motor | 1.8 kg |

| Mechanical data | |
|---|---|
| Motor type | Permanent-magnet synchronous motor |
| Motor type | Compact |
| Shaft height | 28 |
| Cooling | Natural cooling |
| Radial runout tolerance | 0.035 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 | without |
| Holding brake | without holding brake |
| Shaft end | Feather key |
| Encoder system | Resolver R15DQ: resolver 15 bits (resolution 32768, internal multi-pole) |

| Optimum operating point | |
|---|---|
| Optimum speed | 6,000 rpm |
| Optimum power | 0.4 kW |

| Limiting data | |
|---|---|
| Max. permissible speed (mech.) | 10,000 rpm |
| Max. permissible speed (inverter) | 9,990 rpm |
| Maximum torque | 3.4 Nm |
| Maximum current | 8.0 A |

| Recommended Motor Module | |
|---|---|
| Rated inverter current | 2 A |
| Maximum inverter current | 5 A |
| Maximum torque | 2.00 Nm |