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# Data sheet for SIMOTICS S-1FT7



Figure similar

**Article No. :** 1FT7044-5AK70-1DB1

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

Item no. :
Consignment no. :
Project :

| Engineering data | |
|---|---|
| Rated speed | 6,000 rpm |
| Number of poles | 6 |
| Rated torque (100 K) | 2.0 Nm |
| Rated current | 2.50 A |
| Static torque (60 K) | 4.4 Nm |
| Static torque (100 K) | 5.0 Nm |
| Stall current (60 K) | 4.90 A |
| Stall current (100 K) | 5.70 A |
| Rotor moment of inertia | 6.30 kgcm² |
| Efficiency | 91.0 % |

| Physical constants | |
|---|---|
| Torque constant | 0.89 Nm/A |
| Voltage constant at 20° C | 56.5 V/1000*min$^{-1}$ |
| Winding resistance at 20° C | 0.61 Ω |
| Rotary field inductance | 4.2 mH |
| Electrical time constant | 7.00 ms |
| Mechanical time constant | 1.30 ms |
| Thermal time constant | 35 min |
| Shaft torsional stiffness | 9,500 Nm/rad |
| Net weight of the motor | 8.1 kg |

| Mechanical data | |
|---|---|
| Motor type | Permanent-magnet synchronous motor |
| Motor type | Compact |
| Shaft height | 48 |
| Cooling | Natural cooling |
| Radial runout tolerance | 0.040 mm |
| Concentricity tolerance | 0.080 mm |
| Axial runout tolerance | 0.080 mm |
| Vibration severity grade | Grade A |
| Degree of protection | IP65 |
| Design acc. to Code I | IM B5 (new flange design) |
| Temperature monitoring | Pt1000 temperature sensor |
| Color of the housing | Standard (pearl dark gray similar to RAL 9023) |
| Shaft end type | Fitted key and keyway |
| Sensor design | Encoder IC22DQ: incremental encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + commutation position 11 bits |
| Safety Integrated - Suitable encoder | Yes |
| Electrical connection | Connector turnable |
| Connector size | 1 |

| 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 | 23.0 Nm |
| Maximum current | 30.00 A |

| Recommended Motor Module | |
|---|---|
| Rated inverter current | 9.00 A |
| Maximum inverter current | 27.00 A |
| Maximum torque | 21.9 Nm |

| Holding brake | |
|---|---|
| Holding brake version | Permanent-magnet brake |
| Holding torque | 8.0 Nm |
| Braking torque | 5.0 Nm |
| Power supply voltage | DC 24 V |
| Coil current | 0.60 A |
| Permissible brake work | 270 J |
| Opening time | 90 ms |
| Closing time | 30 ms |

Subject to change. Calculated values may differ from nameplate ratings. © Copyright Siemens