SIEMENS

# Data sheet for SIMOTICS S-1FT7



Figure similar

**Article No. :** 1FT7046-5AF70-1FA3

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

Item no. :
Consignment no. :
Project :

| Engineering data | |
|---|---|
| Rated speed | 3,000 rpm |
| Number of poles | 6 |
| Rated torque (100 K) | 5.6 Nm |
| Rated current | 3.50 A |
| Static torque (60 K) | 6.0 Nm |
| Static torque (100 K) | 7.0 Nm |
| Stall current (60 K) | 3.40 A |
| Stall current (100 K) | 4.00 A |
| Rotor moment of inertia | 7.52 kgcm² |
| Efficiency | 92.0 % |

| Physical constants | |
|---|---|
| Torque constant | 1.75 Nm/A |
| Voltage constant at 20° C | 111.0 V/1000*min$^{-1}$ |
| Winding resistance at 20° C | 1.55 Ω |
| Rotary field inductance | 11.0 mH |
| Electrical time constant | 7.00 ms |
| Mechanical time constant | 1.10 ms |
| Thermal time constant | 35 min |
| Shaft torsional stiffness | 10,300 Nm/rad |
| Net weight of the motor | 9.3 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 R |
| Degree of protection | IP64 |
| 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 AM22DQ: absolute encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + 12 bits multi-turn (traversing range 4096 revolutions) |
| Safety Integrated - Suitable encoder | Yes |
| Electrical connection | Connector turnable |
| Connector size | 1 |

| Optimum operating point | |
|---|---|
| Optimum speed | 3,000 rpm |
| Optimum power | 1.8 kW |

| Limiting data | |
|---|---|
| Max. permissible speed (mech.) | 9,000 rpm |
| Max. permissible speed (inverter) | 5,200 rpm |
| Maximum torque | 31.0 Nm |
| Maximum current | 19.00 A |

| Recommended Motor Module | |
|---|---|
| Rated inverter current | 5.00 A |
| Maximum inverter current | 15.00 A |
| Maximum torque | 24.5 Nm |

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