SIEMENS

# Data sheet for SIMOTICS S-1FT7



Figure similar

**Article No. :** 1FT7086-1AH71-1LG1

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

Item no. :
Consignment no. :
Project :

| Engineering data | |
|---|---|
| Rated speed | 4,500 rpm |
| Number of poles | 10 |
| Rated torque (100 K) | 10.0 Nm |
| Rated current | 10.00 A |
| Static torque (60 K) | 23.0 Nm |
| Static torque (100 K) | 28.0 Nm |
| Stall current (60 K) | 18.00 A |
| Stall current (100 K) | 22.40 A |
| Rotor moment of inertia | 63.60 kgcm² |
| Efficiency | 91.0 % |

| Physical constants | |
|---|---|
| Torque constant | 1.25 Nm/A |
| Voltage constant at 20° C | 80.0 V/1000*min$^{-1}$ |
| Winding resistance at 20° C | 0.11 Ω |
| Rotary field inductance | 2.0 mH |
| Electrical time constant | 18.20 ms |
| Mechanical time constant | 1.30 ms |
| Thermal time constant | 60 min |
| Shaft torsional stiffness | 74,000 Nm/rad |
| Net weight of the motor | 31.8 kg |

| Mechanical data | |
|---|---|
| Motor type | Permanent-magnet synchronous motor |
| Motor type | Compact core type |
| Shaft height | 80 |
| Cooling | Natural cooling |
| Radial runout tolerance | 0.050 mm |
| Concentricity tolerance | 0.100 mm |
| Axial runout tolerance | 0.100 mm |
| Vibration severity grade | Grade A |
| Degree of protection | IP65 |
| Design acc. to Code I | IM B5 (compatible with 1FT6) |
| Temperature monitoring | Pt1000 temperature sensor |
| Color of the housing | Standard (pearl dark gray similar to RAL 9023) |
| Shaft end type | Plain shaft |
| Sensor design | Encoder AM24DQI: Absolute encoder 24 bit (resolution 16777216, encoder-internal 2048 S/R) + 12 bit Multiturn (traversing range 4096 revolutions) - with signal connection via M17 rotary plug |
| Safety Integrated - Suitable encoder | Yes |
| Electrical connection | Connector turnable |
| Connector size | 1.5 |

| Optimum operating point | |
|---|---|
| Optimum speed | 4,500 rpm |
| Optimum power | 4.7 kW |

| Limiting data | |
|---|---|
| Max. permissible speed (mech.) | 8,000 rpm |
| Max. permissible speed (inverter) | 7,200 rpm |
| Maximum torque | 120.0 Nm |
| Maximum current | 110.00 A |

| Recommended Motor Module | |
|---|---|
| Rated inverter current | 30.00 A |
| Maximum inverter current | 90.00 A |
| Maximum torque | 100.0 Nm |

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